

# 2020 System Operation and Remedial Action Progress Griggs-Walnut Ground Water Plume Superfund Site

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Prepared for  
Joint Superfund Project  
Las Cruces, New Mexico

Prepared by



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## 1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this annual operation and maintenance (O&M) report for the Griggs-Walnut Ground Water Plume Superfund Site (the GWP site) on behalf of the Joint Superfund Project (JSP), which consists of the City of Las Cruces (CLC) and Doña Ana County (DAC). This report summarizes the progress made during the eighth year of operation of the groundwater remedy at the GWP site and addresses the requirements of Paragraphs 22, 30, and 34, and their subsections, of the statement of work (SOW) associated with the Consent Decree dated July 30, 2020 entered in the case styled *City of Las Cruces et al. v. United States of America et al* (Consent Decree) for the operation and maintenance (O&M) phase of the Remedial Action (RA) issued to the CLC and DAC pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) by the U.S. Environmental Protection Agency (EPA) Region 6 (*Civ. No. 17-00809-JCH-GBW (D.N.M)*).

The original modified administrative order addressing the RA (Docket No. 06-02-11) was issued in 2011, and only covered the construction phase of the RA. The subsequent UAO issued in 2017 (CERCLA Docket No. 06-05-07) was an update to the original modified administrative order. The Consent Decree supersedes the most recent UAO. The O&M activities discussed in this report were completed under this Consent Decree and the updated site-specific plans approved in 2018.

### 1.1 Background

The GWP site is located in Las Cruces, New Mexico (Figure 1). In 1993, perchloroethene (PCE, also known as tetrachloroethene), a chlorinated solvent commonly used as a degreaser and a dry-cleaning agent, was detected in CLC municipal drinking water supply wells CLC 21 and CLC 27 during routine sampling performed by the New Mexico Environment Department (NMED). PCE was subsequently detected in supply well CLC 18 in 1995. In 2000, PCE was first detected in CLC 24 at a concentration slightly less than 1 microgram per liter ( $\mu\text{g/L}$ ). In October 2001, PCE was detected in CLC 24 at a concentration of 1.60  $\mu\text{g/L}$ .

The GWP site was added to the EPA National Priorities List (NPL) of Superfund sites on June 14, 2001. At the time of listing, PCE had been detected in one CLC municipal drinking water supply well (CLC 18) at a concentration above the maximum contaminant level (MCL) of 5  $\mu\text{g/L}$  for PCE established by the Safe Drinking Water Act (SDWA). PCE had been detected in four additional CLC municipal wells (CLC 19, 21, 24, and 27) at concentrations below the MCL. Each well with

PCE detections was taken offline between 1996 and 2006 before PCE detections exceeded the MCL, and no water with PCE concentrations above the MCL was ever delivered to customers. The maximum PCE concentration reported in the plume was 70 µg/L, detected in CLC 18 in 2012. CLC 19, 21, and 24 are all currently off-line; CLC 18 and CLC 27 are part of the RA as described in this section.

The remedial investigation (RI) and feasibility study (FS) were performed by CH2M Hill under contract to the EPA (CH2M Hill, 2006a and 2006b). The Proposed Plan was prepared in December 2006 and the record of decision (ROD) was issued by EPA on June 14, 2007 (U.S. EPA, 2007). These documents set forth the selected remedy for the GWP site, which is Enhanced Groundwater Extraction with Treatment (Remedial Alternative 4 from the FS). Construction of the remedy began in September 2011. On June 13, 2012, a final inspection was completed and signed off on by representatives from EPA, NMED, DBS&A, CLC, and Highland Enterprises (the construction contractor). A preliminary close-out report was approved by EPA on July 20, 2012, officially accepting the remedy's construction. As described in detail in Section 4, the FLUTE wells from the original monitoring network were replaced in 2021.

The JSP has been operating the GWP groundwater remediation system since August 2012. Figure 2 provides a map of the location of remediation system components. The remediation system consists of pumping contaminated groundwater from wells CLC 18 and CLC 27 to a centralized treatment facility at CLC 18. The treatment facility consists of a metal building, raw water and treated water equalization tanks, a low-profile, stacked-tray air stripper system, and a disinfection system. Water is pumped from CLC 18 and CLC 27 to a raw water equalization tank through 6-inch polyvinyl chloride (PVC) water lines. Transfer pumps convey water through the low-profile, stacked-tray air stripper units to a treated water equalization tank. Prior to treatment, an anti-scalant is injected into the raw water stream to mitigate scale within the air strippers.

The treatment facility can accommodate a total hydraulic flow of 500 gallons per minute (gpm), which is greater than the current combined total flow from the two extraction wells of less than 330 gpm (when both wells are running). The treated water is disinfected and then pumped through an 8-inch transmission line to tie into the existing distribution system at CLC 27. The treated water is conveyed to the Upper Griggs Reservoir through an existing 10-inch waterline and mixes in the reservoir with water from other municipal supply wells; it is then distributed into the CLC water supply system. Figure 3 provides a process flow diagram for the treatment process.

As detailed in the ROD, the remedial action objectives (RAOs) for the GWP site are as follows:

- RAO #1: Prevent human exposure to contaminated groundwater with PCE concentrations above the MCL (5 µg/L).
- RAO #2: Maintain capture of the PCE-contaminated groundwater plume above the MCL (5 µg/L).
- RAO #3: Restore groundwater to its beneficial use as a drinking water supply with PCE concentrations no greater than the MCL (5 µg/L).

As defined in the ROD, prior to remedial action, the groundwater plume was located generally between East Griggs Avenue and East Hadley Avenue, extending east to near Interstate 25 (I-25) and west to beyond North Solano Drive in Las Cruces. The extent of the plume at the beginning of the RA is shown in Figure 4. The property uses in this area are predominantly recreational, light industrial/commercial, and residential.

## 1.2 Purpose

The purpose of this report is to summarize the 2020 progress that has been made in addressing groundwater contamination at the GWP site. As required in Paragraph 34 of the SOW, this report includes the following:

- Description of progress made toward achieving performance standards
- System operating performance evaluation
- Groundwater hydrologic evaluation
- Groundwater quality evaluation
- Summary of permitting and regulatory activities
- Summary of problems or difficulties encountered and how they were or will be resolved

This report also describes the current status of deliverables required by the Consent Decree and any actions taken or future plans. A groundwater monitoring evaluation report (Appendix A) and groundwater remediation optimization report (Appendix B) are included as required by Paragraphs 22 and 30, respectively, of the SOW; these reports address the content required in the third and fourth bullets above. The evaluation presented in this report will provide EPA with the information necessary to determine whether the remedial approach undertaken continues to be successful in achieving the RAOs.

## 2. Progress Made Toward Meeting Remediation Goals

This section describes progress made toward achieving the RAOs as set forth in the ROD. During 2020, the groundwater extraction and treatment system was operated on behalf of the JSP by the Las Cruces Utilities (LCU) staff. To achieve progress and to meet requirements, the following tasks were completed:

- Groundwater extraction wells CLC 18 and CLC 27 were operated on a daily basis. CLC 18 was operated at 90 gpm for 8 hours a day, from 8:00 a.m. to 4:00 p.m. CLC 27 was operated at 237 gpm for 24 hours a day.
- The groundwater treatment system was operated on a 24 hour per day, 7 day a week (24/7) basis.
- CLC 18 and CLC 27 were sampled monthly for PCE.
- Raw (extracted) and finished (treated) water were sampled monthly for PCE.
- Exhaust air from AS-1 and AS-2 was sampled for monitoring of PCE concentration.
- Periodic maintenance and minor repairs were conducted per manufacturer's recommendations for equipment related to the extraction wells, conveyance system, and treatment system.
- Groundwater monitoring was conducted as described in Appendix C.

During this reporting period, the extraction and treatment system operated for more than 99 percent of the time.

### 2.1 Progress Toward Attaining Performance Standards

The performance standards for this project include substantive requirements, criteria, and limitations that are specified in the ROD, the Consent Decree, the Consent Decree's SOW, the EPA-approved final remedial design, and other EPA-approved submissions, including the RA work plan. The JSP has met all substantive requirements to date, including submitting all documents required by the SOW from the Consent Decree. The JSP has consistently operated the remediation system to extract PCE-contaminated water and treat it to concentrations below the MCL.

The uranium concentrations in CLC 18 and CLC 27 remain below the EPA MCL of 30 µg/L. Arsenic concentrations in CLC 18 and CLC 27 also remain below the EPA MCL of 10 µg/L. No additional treatment to remove these constituents is required at this time. Although PCE degradation products (i.e., trichloroethene [TCE], cis-1,2-dichloroethene [DCE], and trans-1,2-DCE), benzene, and uranium were discussed in the ROD, the only remediation goal established was the SDWA MCL of 5 µg/L for PCE. Arsenic is also known to leach from FLUTE liners and has previously been detected at higher concentrations in the FLUTE wells (Cherry et al., 2007; DBS&A, 2019b). Progress toward the remedial goal is being achieved through the removal of PCE from groundwater by extraction and treatment.

## 2.2 Progress Toward Remedial Action Objectives

As outlined in the site ROD, the RAOs for groundwater at the GWP site were established in accordance with the *Presumptive Response Strategy and Ex Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites* (U.S. EPA, 1996), and are provided in Section 1.1.

To address RAO #1 (prevent human exposure to contaminated groundwater with PCE concentrations above the MCL of 5 µg/L), the JSP previously worked with the New Mexico Office of the State Engineer (OSE) to put a new well drilling moratorium in place for the area in and adjacent to the PCE plume at the GWP site. The CLC has also ceased pumping wells within the plume that are not part of the extraction system for the GWP site. These two measures, combined with treatment, are effectively addressing RAO #1.

Pumping of CLC 27 and CLC 18 is meeting RAO #2 (maintain capture of the PCE-contaminated groundwater plume above the MCL of 5 µg/L) by capturing contaminated groundwater with PCE concentrations above 5 µg/L. Groundwater elevation and concentration data provide evidence that the PCE plume is decreasing in mass and that remedial progress is being made (Appendices A and B). Figure 9 of Appendix A shows the March/April 2021 water level elevation contours for the Shallow Zone (previously referred to as the upper hydrogeologic zone, UHZ) overlaid on the accompanying PCE concentrations in the Shallow Zone. The previously-referred to Lower Hydrologic Zone (LHZ) is subdivided into the Intermediate Zone and Deep Zone, as defined in Section 4.1. Figure 10 of Appendix A shows the March/April 2021 water level elevation contours for the Intermediate Zone overlaid on the corresponding PCE concentrations. Figure 11 of Appendix A shows the March/April 2021 water level elevation contours for the Deep Zone overlaid on the corresponding PCE concentrations. These figures and additional numerical modeling discussed in Appendices A and B indicate that the area of groundwater containing PCE concentrations above the MCL is being captured by the pumping of CLC 27 and

CLC 18 in each of these vertical zones. Progress toward restoring groundwater to beneficial use as a drinking water supply (RAO #3) continues through removal of PCE mass from the aquifer. As discussed in Section 3.1, approximately 15.8 pounds of PCE was removed from the GWP in 2020, bringing the total PCE mass removed from the GWP since system startup to approximately 102 pounds.

### **3. System Monitoring and Operations Summary**

This section provides a detailed description of the extraction and treatment system monitoring and laboratory analytical results. Total groundwater volumes extracted and total PCE mass removed for the period are also provided. The following subsections provide a more detailed summary and evaluation of the system operation and scheduled and unscheduled maintenance completed by LCU staff.

#### **3.1 Treated Groundwater**

Figure 1 provides a layout of the GWP site wells and treatment facility. Figure 2 provides a map of the treatment facility and extraction wells locations. LCU staff continued to perform remediation system process water and effluent air sampling per the current sampling and analysis plan (SAP) (DBS&A, 2019a) through 2020.

Remediation system sampling has included monitoring the extracted and treated groundwater for volatile organic compounds (VOCs) on a monthly basis and for metals once a year. The volume of water extracted and treated is also recorded. To ensure that air quality standards are not exceeded during the removal of VOCs via air stripping, air quality samples are also collected from the air stream that exits the GWP site. Tables 1 and 2 summarize the analytes that are being monitored.

Table 3 summarizes the frequency of remediation system sampling. Table 4 lists the alternative remediation system sampling locations. Table 5 summarizes the monthly volume pumped from CLC 18 and CLC 27 as reported to the OSE, as well as the monthly measured PCE concentration in each well. Appendix D summarizes daily volumes pumped and treated for each well. Appendix E provides laboratory analytical reports for remediation system sampling.



To determine the mass removed each month, the mass of PCE leaving the system (as measured after treatment) is subtracted from the mass of PCE entering the system (as measured from the extraction wells):

$$\text{Raw Water PCE Mass} - \text{Finished Water PCE Mass} = \text{Mass Removed}$$

The mass entering the system monthly is determined by calculating a weighted average to consider the pumping strategy at CLC 18, as it only ran 8 hours per day:

$$\text{Raw Water PCE Mass} = \frac{\text{Conc}_{\text{CLC18}} * \text{Vol}_{\text{CLC18}} + \text{Conc}_{\text{CLC27}} * \text{Vol}_{\text{CLC27}}}{\text{Vol}_{\text{CLC18}} + \text{Vol}_{\text{CLC27}}}$$

This allows the mass removal calculation to be completed based on data for samples taken directly from the well, along with known volumes of extracted water. An alternative would consider the raw water concentration measured in the treatment building after the pump, which includes irregular mixing and impacts of volatilization in the storage tank, and is subject to variation in concentration depending on when the sample is collected (e.g., whether or not CLC 18 is running).

The mass exiting the system is determined by multiplying the treated water volume (calculated as the sum of the volume pumped from CLC 18 and the volume pumped from CLC 27) by the measured finished water concentration. Where the finished water concentration is below detection limits (all samples to date), the concentration is set to half of the detection limit for the purposes of the mass removal calculation:

$$\begin{aligned} \text{Finished Water PCE Mass} &= \text{Conc}_{\text{treated}} * \text{Vol}_{\text{treated}} \\ &= \text{Half the Detection Limit} * \text{Vol}_{\text{CLC18+CLC27}} \end{aligned}$$

This method of mass removal calculation has been used in all previous annual reports. Table 6 summarizes the weighted concentration of PCE in the raw water before treatment. Table 6 also provides finished water PCE concentrations and monthly totals of the treated water volume. In 2020, 15.8 pounds of PCE was removed. It should be noted that the raw volume and finished volume measurements will not match due to time differences between readings for the OSE and supervisory control and data acquisition (SCADA) system downloads, storage, and demand; therefore, for the purposes of all calculations, the volumes used were the volumes measured at the wellheads.

The combined weighted concentration of PCE entering the treatment system remained relatively constant throughout the reporting period, with a minimum concentration of 13.0 µg/L in

December 2020 and a maximum concentration of 16.7 µg/L in October 2020 (Figure 5). CLC 18 PCE concentrations ranged from a maximum of 6.4 µg/L in February to a minimum of 5.2 µg/L in December, with an average of 5.8 µg/L over the year. The average PCE concentration in CLC 27 was 15.0, similar to the last annual report value of 14.9 µg/L. The maximum reported value in CLC 27 was 18 µg/L in October. The minimum value was 14 µg/L in December.

The treatment system is operating as designed and is effectively removing PCE; the finished water laboratory analytical results over the reporting period were all below the detection limit of 0.15 µg/L (Table 6).

### 3.2 Air Emissions

All of the contaminants removed from groundwater are assumed to be released to the atmosphere. Potential air emissions from the air strippers were calculated based on the raw and finished water PCE concentrations. The NMED Air Quality Bureau emissions standards for a no permit required (NPR) designation are 10 pounds per hour and 10 tons per year. The pounds-per-hour emission rate is calculated by dividing the calculated monthly mass of PCE removed in pounds by the number of hours in a month. The emission rate in tons per year was calculated by summing the calculated mass of PCE removed for the calendar year. The results of these calculations are summarized in Tables 7 and 8. The calculated emission rate for PCE is  $7.9 \times 10^{-3}$  tons per year, well below limits, and the NPR designation is still valid. Confirmation air samples are collected to verify these results; PCE concentrations in air samples have consistently been below detection limits.

### 3.3 Summary of Operations

In 2020, the remediation system had only a handful of operational shutdowns. The two extraction wells, CLC 18 and CLC 27, pumped a combined volume of 139,759,715 gallons of contaminated water. The daily volumes pumped, per well and combined, are tabulated in Appendix D; the total volume treated each month is provided in Table 6.

Table 9 provides monthly runtimes and percent runtime for each of the two extraction wells. The system operated for at least 99 percent of the time during the reporting period. Runtimes are based on 24/7 operation of CLC 27. All other components of the treatment system cycle on and off as the raw and finished water tank levels reach their high and low set points. The use of CLC 27 operation as an indicator of remediation system runtime assumes that if water is coming

into the system, it is being treated and leaving the system. It is possible that one or more pieces of equipment may be down while still pumping and treating water from CLC 27.

CLC 27 operated for 8,738.5 hours out of a possible 8,784 hours during the reporting period. CLC 18 operated for 2,908 hours during the year at a pumping rate of almost 90 gpm. Based on monthly maintenance memoranda from LCU staff and hours recorded by the SCADA system, the system was down for a total of 45.5 hours. Outages and shutdowns occurred on only 17 out of 366 days. Scheduled periodic maintenance was performed on the treatment system and required shutting down the system for only a few hours each time.

### **3.4 Summary of Maintenance Records**

Regular semiannual maintenance was performed on the treatment system in July 2020. The following recorded unscheduled maintenance actions were performed:

- Rebuilt 6-inch Cla-Val valve (Cla-Val is a brand name).

In addition to maintenance on the remediation system, damaged FLUTE liners were removed in preparation for the replacement project as discussed in Section 4.1.

## **4. Groundwater Monitoring and Evaluation**

During 2020, LCU staff continued to measure depth to groundwater in the appropriate wells on a monthly and quarterly schedule as prescribed in the SAP (DBS&A, 2019a), and continued to collect samples from the extraction wells and treatment system each month (Figures 5 and 6). The annual monitoring event (groundwater water quality sampling and water level measurement) for 2020 was completed in March and April 2021 in accordance with the SAP conditionally approved by EPA on March 21, 2021 (full description of SAP iterations related to updating for new wells is provided in Appendix C). The groundwater sampling was delayed to allow collection of water samples from the new wells installed in early 2021. This sampling event was considered a five-year monitoring event as defined in the SAP, as the EPA is currently working on a five-year review. Figures 7, 8, and 9 show the PCE plume delineations within the Shallow, Intermediate, and Deep Zones. A report summarizing the activities and data collection of the annual monitoring event is provided as Appendix C. Monitor well elevations were provided by CLC in 2018 for all wells in the groundwater monitoring network. A survey of the new wells was completed after construction in 2021 and used the same survey reference points

to provide consistency between surveys. The combination of these two datasets was used as the basis of “monitoring point elevation” to calculate groundwater elevations in this report.

## 4.1 FLUTe Well Update

During the 2018 sampling event and subsequent testing, DBS&A and John Shomaker & Associates, Inc. (JSAI) identified that the liner integrity of the FLUTe wells at the site had been compromised (documented in Appendix F of DBS&A, 2019a). After discussions with EPA and NMED, a work plan detailing the implementation plan for FLUTe well replacement was submitted to EPA on March 13, 2020 (DBS&A, 2020). The work plan describes the conversion of the existing FLUTe wells to depth-discrete monitor wells and the installation of seven new conventional depth-discrete monitor wells co-located with the existing FLUTe wells. The work plan was conditionally approved via letter on April 10, 2020 with comments. A final work plan addressing comments was submitted on May 18, 2020, and was approved by EPA on May 22, 2020. On August 7, 2020, draft versions of the construction drawings and specifications were provided to EPA for review. With comments, the construction package was approved by EPA on August 26, 2020. Once the project had been awarded for construction, the JSP provided an updated schedule to EPA on December 17, 2020, which was approved on December 18, 2020.

During well video logging in the first phase of construction, a few discrepancies on port elevations were identified, and proposed changes to screen intervals and the Shallow/Intermediate/Deep Zone designations were proposed in a memorandum to EPA on February 5, 2021. Previous annual reports used correct port elevations as reported in CH2M Hill reports, while the replacement design documents were based on CH2M Hill as-built reports that misreported port elevations. The requested changes were approved by EPA in a letter dated February 23, 2021. This letter also changed the boundary between the Intermediate and Deep Zones of the LHZ. These zones are currently defined as follows:

- Shallow (S) wells: Screened interval elevation range 3,800 to 3,850 feet above mean sea level (feet msl), (formerly UHZ)
- Intermediate (I) wells: Screened interval elevation range 3,685 to 3,800 feet msl (formerly LHZ)
- Deep (D) wells: Screened interval elevation range 3,475 to 3,685 feet msl (formerly LHZ)

These designations will be used in this report and moving forward.

As approved in the construction drawings, the FLUTE wells were retrofitted with single-point monitor wells, and seven new monitor wells were installed in 2021. A full description of the replacement project is provided in the as-built report (DBS&A, 2021).

Independent of the FLUTE well replacement work plan, CLC worked with NMED and EPA to receive approval to plug and abandon FLUTE well GWMW-03 to facilitate construction of CLC facilities on that property. EPA approved the request, and work to abandon GWMW-03 was started in February 2020 and completed in summer 2020.

## **4.2 Groundwater Hydrologic and Water Quality Evaluation**

Based on water quality data in conventional wells and current hydrologic conditions, the actual plume footprint is not expected to have changed dramatically from previous years; however, plume definition has improved since completion of the FLUTE replacement project. A full description of changes in the plume in the Shallow, Intermediate, and Deep Zones is provided in Appendix A.

As discussed above, splitting the LHZ into an Intermediate and Deep Zone is a relatively new revision to the site conceptual model that corresponds to monitor well replacement. The general shape and extent of the Intermediate Zone and Deep Zone plumes are consistent with the LHZ plume defined in previous years.

Due to the depth intervals assigned to the S/I/D designations, the screened interval of well GWMW-15S now lies within the Intermediate Zone, and this well is plotted on the Intermediate Zone map. GWMW-15I is now classified as a Deep Zone well along with GWMW-15D, and is the only well in the GWMW-15 cluster with a PCE concentration above the MCL. Thus, the Intermediate Zone plume is not shown on Figure 8 extending to GWMW-15I. The apparent movement of the plume boundary in the Intermediate Zone is merely a reflection of the change in well designation, rather than an actual change in the location or extent of the plume.

It should also be noted that GWMW-09 was shown in the 2018 annual report as outside the 5 µg/L isoconcentration contour due to detections below the MCL in each the FLUTE ports. These data were rejected based on the suspicion of cross-contamination between the FLUTE sampling ports. The well was not sampled in 2019. Based on the sampling results from newly installed replacement wells GWMW-09D1 and GWMW-09D2, this location lies within the 5 µg/L contour in the Deep Zone. These results are consistent with sampling completed prior to likely

FLUTe liner failure (i.e., 2017), where PCE concentrations in lower ports of GMMW-09 were above the MCL.

JSAI has updated the groundwater model for the GWP site based on all data collected. The groundwater model updates and their results are summarized in Appendices A and B.

#### **4.2.1 Groundwater Monitoring Program Evaluation**

A groundwater monitoring program evaluation report is provided as Appendix A. The purpose of the evaluation report is to evaluate the effectiveness of the groundwater sampling and monitoring network in assessing the extent of the plume and the overall progress being made in operating the remedy to achieve the RAOs and remedial goals set forth in the ROD. The evaluation report includes hydrogeologic cross sections, with vertical extent of the plume defined for each hydrogeologic zone (Figures 4, 5, and 6 of Appendix A), time-series graphs showing contaminant concentrations for each monitoring and extraction well (Appendix D of Appendix A), and horizontal extent of the PCE plume in each hydrogeologic zone (Figures 9, 10, and 11 of Appendix A).

#### **4.2.2 Horizontal and Vertical Plume Evaluation**

Table 10 lists sampling wells required by the SAP and the number of samples collected during this period of operation, including all wells completed as part of the FLUTe well replacement program. One round of groundwater sampling occurred during this reporting period in March and April 2021 in addition to the monthly CLC process water sampling. Table 11 summarizes the results from the March and April 2021 annual groundwater sampling event. Historical PCE results are summarized in Table 12. Complete analytical reports, details regarding well conditions and samples collected, and field notes for the sampling event are included in the groundwater monitoring report (Appendix C).

Definition of the vertical and horizontal extents of the PCE plumes in the Shallow Zone (former UHZ) and Intermediate/Deep Zones (former LHZ) has improved with the completion of the FLUTe well replacement program. PCE is the only COC at the GWP site, and was detected at or above the MCL of 5 µg/L in samples from wells CLC 18, CLC 27, GMMW-01I, GMMW-09D2, GMMW-10I, GMMW-15I, GMMW-16D, and MW-SF10. PCE was also detected at a concentration slightly above the MCL in the duplicate sample from well GMMW-09D1. The maximum PCE detection was 26 µg/L in the sample from well GMMW-10I. Figures 7, 8, and 9 show PCE concentrations with Shallow, Intermediate, and Deep Zone plume delineations,

respectively. The duplicate sample result from well GMMW-09D1 is used for plume definition in Figure 9.

#### **4.2.2.1 Horizontal Delineation**

The Shallow PCE plume (PCE > 5 µg/L) is similar in shape and extent to previous years, and remains generally well constrained by the current monitoring network except for the area cross-gradient and north of well MW-SF10 (Figure 7).

The PCE plume is less well defined in the Intermediate Zone than in the Shallow or Deep Zones. The plume extent in the Intermediate Zone is constrained to the east by well GMMW-15S (which is perforated at the boundary of the Shallow and Intermediate Zones) and to the southwest by GMMW-11I. There are no dedicated Intermediate Zone monitor wells located north or south of the inferred PCE plume (Figure 8). Production wells CLC 21 and Paz Park well are located north of the impacted monitor wells and screened partially within the Intermediate Zone. Sampling of CLC 21 from 1991 to 2006 indicated PCE concentrations below 5 µg/L in all but 4 of 86 reported results, with the most recent exceedance in May 2003 (CH2MHill, 2006a). PCE was not detected in 12 samples collected from the Paz Park well between 1998 and 2017. Future sampling of CLC 21 could improve delineation of the PCE plume in this area.

The horizontal extent of the PCE plume in the Deep Zone is defined by wells GMMW-08D, GMMW-01D, GMMW-11D, and CLC 26 (Figure 9). PCE was not detected in Deep Zone production well CLC 26, indicating that the plume does not extend that far south. Well GMMW-15D provides a vertical constraint on the depth of the PCE plume within the Deep Zone, although the horizontal extent remains undefined east of the GMMW-15 well cluster due to detection at GMMW-15I (classified as a Deep Zone well). Production wells CLC 21, Paz Park, and CLC 19 are located north and south of the inferred PCE plume as depicted on Figure 9, and are screened within the Deep Zone. A total of 61 sampling events were reported for CLC 19 between 1994 and 2005; PCE concentration was below 5 µg/L during all but one of these events (January 2004) (CH2MHill, 2006a). Historical results from CLC 21 are similar, with 4 exceedances out of 86 samples collected between 1991 and 2006 (CH2MHill, 2006a). PCE was not detected in the 12 samples collected from the Paz Park well between 1998 and 2017. Sampling of these wells may improve delineation of the Deep Zone plume in this area.

#### **4.2.2.2 Vertical Delineation**

Installation of the new FLUTE replacement wells has improved delineation of the base of the impacted aquifer in certain locations including at well nests GMMW-01, GMMW-10, and



GWMW-15 (Appendix A Figures 4, 5, and 6). However, in the area of the highest PCE concentrations, north of production well CLC 27, the deepest monitor wells (GWMW-16D and GWMW-09D2) contain PCE concentrations above the MCL. The depth of the impacted aquifer in this area thus remains undefined. Although the PCE plume in the Intermediate and Deep Zones is not fully constrained, the hydraulic gradients throughout this area are directed toward extraction well CLC 27 (Appendix A).

#### **4.2.2.3 Other Constituents**

TCE and vinyl chloride were the only PCE degradation products detected in groundwater at the GWP site. Analytical results for cis-1,2-DCE and trans-1,2-DCE were below reporting limits for all samples collected during the annual monitoring event. TCE was detected in GWMW-16-D at a concentration of 1.3 µg/L in 2021, well below the 5 µg/L MCL for TCE. Vinyl chloride was detected in GWMW-01D at a concentration of 2.7 µg/L in 2021, above the federal MCL of 2 µg/L. This is the first detection of vinyl chloride in a sample from a site well. Well GWMW-01D is a retrofitted well installed in a former FLUTE well casing, and this is the first sample collected from the retrofitted installation. The JSP will closely continue to assess results from this location under the long-term monitoring program.

Fuel hydrocarbons continue to be detected in a limited number of samples. Benzene was detected in primary samples from wells GWMW-01D, GWMW-09D2, and GWMW-10D. Benzene concentrations exceeded the federal MCL in samples from Deep Zone monitor wells GWMW-01D (120 µg/L) and GWMW-10D (21 µg/L); this was the first occurrence of benzene at concentrations above the MCL at each of these locations, although previous FLUTE well sampling results had indicated low concentrations of benzene. As indicated above, a remediation goal was not established for benzene at the GWP site, as petroleum hydrocarbons are not associated with the CERCLA release and fall under the purview of the New Mexico Petroleum Storage Tank regulations (NMAC 20.5). Toluene was detected in samples from wells GWMW-01D, GWMW-01I, GWMW-06S, GWMW-09D1, GWMW-09D2, GWMW-10I, and GWMW-10D. Naphthalene and acetone were also detected in the sample from well GWMW-10D. Toluene, naphthalene, and acetone concentrations were all below federal MCLs. Benzene and other petroleum hydrocarbon concentrations will continue to be monitored as part of the long-term monitoring program.

The remaining compounds detected were disinfection byproducts, including bromodichloromethane, bromomethane, chloromethane, and chloroform. These compounds



were detected in samples from GMMW-01D and GMMW-08S, as well as the equipment blanks; the detections most likely result from cleaning of the equipment.

### **4.2.3 Hydraulic Gradients**

Based on water levels, water quality data in conventional wells, and current hydrologic conditions, hydraulic gradients and the plume footprint have not dramatically changed since 2019. Better quantification of the plume location and hydraulic gradients has been provided by the new FLUTE replacement wells, as discussed above. In general, groundwater flow directions are well-defined in the GWP area by the existing monitoring network in the Shallow, Intermediate, and Deep Zones.

As stated in Section 3, groundwater elevations in regional wells were measured monthly and quarterly according to the SAP, and measurement of groundwater elevations of the GWP site's monitor wells occurred in March and April 2021 as part of the groundwater sampling event. In Appendices A and B, JSAI uses the water level data to define potentiometric surface contour maps for local and regional groundwater gradients at the GWP site. Also included in JSAI's reports are the pumping water levels over the reporting period for the two extraction wells.

As in previous years, the overall regional horizontal hydraulic gradient is fairly flat, with local gradients generally directed towards active extraction wells (Figure 8 of Appendix A). Groundwater flow in the Shallow Zone in the GWP vicinity is primarily eastward with a localized cone of depression evident around extraction well CLC18. Horizontal gradients in the Intermediate and Deep Zones are generally southward toward a depression formed around CLC 27. Based on water level contours provided by JSAI, the PCE plume in the Intermediate and Deep Zones lies entirely within the capture zone of extraction well CLC 27.

The Shallow Zone is typically bounded by a basal clay layer. Where this layer is present, the hydraulic head difference between the Shallow Zone and underlying aquifer zones is approximately 5 to 8 feet, and a downward vertical hydraulic head gradient is present between the Shallow Zone and the underlying Intermediate and Deep Zones (Appendix A). PCE in Shallow Zone groundwater not captured at CLC 18 is believed to move eastward before infiltrating vertically where the clay later is not present, in the vicinity of the GMMW-09 well cluster.

### 4.3 Optimization Assessment

JSAI completed an assessment of the groundwater extraction well network performance (Appendix B) to evaluate whether modification of system operations is warranted to more efficiently and effectively proceed with contaminant mass capture and removal. As described in JSAI's report, the current remediation system configuration is adequate. JSAI's evaluation indicates the following:

- Due to declining PCE concentrations at CLC 18, reduced runtime of CLC 18 to six hours per day two days a week is recommended.
- CLC 27 pumping continues to efficiently remove PCE. No changes to pumping at this well are recommended at this time
- New extraction wells are not required at this time.
- Cessation of municipal pumping at CLC 61 (March 2019) to minimize the potential for vertical and southern movement of the plume has resulted in water level elevation increase on the southern side of the plume, strengthening the CLC 27 capture zone to the south.

These points are discussed in greater detail in Appendix B.

## 5. Permitting and Regulatory Activities

The SOW requires an annual meeting to discuss the results of the previous year's annual report. Due to COVID-related travel restrictions, a review meeting was not held in 2020, although several conference calls were held with the JSP, EPA, and NMED to discuss details of the FLUTE well replacement.

As discussed in previous reports, the FLUTE well liners were determined to be compromised (DBS&A, 2019b), and the JSP prepared a report analyzing FLUTE well replacement options (DBS&A, 2019c). EPA issued a letter dated February 14, 2020 that approved the use of Alternative 7 from the evaluation for FLUTE well replacement and abandonment of GWMW-03. The JSP submitted a work plan in March 2020 (DBS&A, 2020) to replace the FLUTE wells by converting each FLUTE well casing to a single-point monitor well and installing discretely screened co-located conventional monitor wells. After discussion with EPA and NMED, a final work plan was issued on May 18, 2020, which was approved by EPA on May 22, 2020. Construction drawings and specifications were developed for the replacement project and

submitted to EPA on August 10, 2020; EPA approved these submittals on August 26, 2020 with a few required edits.

In accordance with the institutional control implementation and assurance plan (ICIAP) (DBS&A, 2018a), the JSP is required to contact OSE to verify that no well permits have been issued within the well permitting moratorium area defined by the plume's boundary in 2007 with an additional 500-foot buffer. No new wells have been permitted within the moratorium area. The JSP has also contacted the NMED Ground Water Quality Bureau (GWQB) and the NMED Petroleum Storage Tank Bureau (PSTB) to determine if any new releases have been reported in the plume footprint. No new releases have been reported. The letters to and responses from OSE, GWQB, and PSTB are provided in Appendix F.

## 6. Difficulties Encountered

Overall, the remediation system is operating at high performance and is well maintained by LCU staff. Minor repairs and downtime are summarized in Sections 3.3 and 3.4. This section details major challenges encountered over the reporting period and their completed or intended solutions.

### 6.1 Wells Dry During Sampling

During the annual groundwater sampling event, monitor well MW-5 was dry or contained inadequate volume to sample; therefore, groundwater level measurements and/or samples could not be collected. It was expected that this well would become dry as the remediation system operates due to water table drawdown caused by pumping of extraction wells. The JSP will continue to attempt to collect groundwater level measurements and/or samples from this well for two additional reporting periods. If no sample is able to be collected after the two additional reporting periods, the JSP will propose that this monitor well be removed from the groundwater monitoring plan. MW-3 and MW-4 were considered dry in 2019 and were removed from the sampling list for the 2020 annual monitoring event.

### 6.2 Sampling Techniques

Per EPA request, two low-flow sampling methods (Hydrasleeve and bladder pump) were used to collect samples to verify the validity of the Hydrasleeve sampling method for a subset of wells within the plume footprint. Wells GWMW-01S, GWMW-09S, GWMW-10I, and GWMW-16D

were double sampled using a Hydrasleeve followed by low-flow sampling with a bladder pump. Hydrasleeves were deployed for a minimum of 24 hours prior to retrieval. The bladder pump samples were collected immediately following the completion of Hydrasleeve sampling. In addition, GMMW-011 was sampled via Hydrasleeve twice, as described in Appendix C. In all cases, the PCE concentrations detected in the Hydrasleeve samples were equal to or greater than those detected in the bladder pump samples (Table 12), demonstrating that Hydrasleeve is an effective sampling method at the GWP site.

MWSF-10 was originally proposed as a sampling location for the Hydrasleeve/bladder pump comparison sampling. DBS&A personnel attempted to sample MWSF-10 with the bladder pump on March 31, 2021, but the bladder pump became stuck down the well at approximately 100 feet below ground surface (bgs). Several attempts were made to get the pump farther down the well, but all were unsuccessful. There may be a bend in the casing that is preventing the pump from going down the well, as Hydrasleeve sampling was completed without incident. Because MW-SF10 could not be sampled, GMMW-09S was sampled with the bladder pump instead.

During the March/April 2021 groundwater sampling, a representative of the JSP's Quality Assurance Manager (QAM) performed an audit of groundwater sampling tasks completed by the sampling teams. The QAM observed and documented compliance between the methods prescribed in the SAP and the methods used by the sampling team.

## **7. Data Validation and Verification**

All data collected for this project undergo a series of review checks to ensure sufficient quality and conformity to the project's data objectives. The data validation and data verification process are important steps used to determine the integrity, suitability, and usability of the data. Data validation and verification were performed to confirm that the data collected via sampling and field measurements are as complete as possible and meet the site-specific data requirements and data quality objectives of the project, as described in the pre-achievement O&M plan (DBS&A, 2018b). Additionally, the SAP provides guidance on indicators of data quality. The data quality indicators are summarized in Table 13.

A report detailing the results of the data validation and verification effort is provided as Appendix G. The data validation report confirms that the air and water samples collected as part of the system monitoring and the subsequent analytical results are of sufficient quality and

therefore meet the project quality control (QC) criteria; groundwater monitoring data are also generally found to meet the project QC criteria.

## 8. Conclusions

Significant progress has been made toward achieving RAOs, as follows:

- Through the end of 2020, a total of 1,019,464,093 gallons of groundwater has been extracted from the dissolved-phase plume at the GWP site.
- More than 100 pounds of PCE has been removed from the extracted groundwater, including approximately 15.8 pounds removed in 2020.
- COCs have not been detected in the treated groundwater that has been returned to the public water supply distribution system at Griggs Reservoir.
- Four wells were sampled with two low flow sampling methods—Hydrasleeve and bladder pump—to determine if Hydrasleeve is an effective sampling method at the GWP site. In all cases, the PCE concentrations detected in the Hydrasleeve samples were equal to or greater than those detected in the bladder pump samples (Table 11), demonstrating that Hydrasleeve is an effective sampling method at the GWP site.
- Groundwater elevation contours are similar to recent years, showing a cone of depression around CLC 27. The shallow PCE plume (PCE > 5 µg/L) is similar in shape to previous years. This is the first year with Intermediate and Deep Zone data to delineate these plumes separately; generally speaking, the Intermediate/Deep Zone plumes have a similar footprint to previous years (e.g., 2017) prior to FLUTe liner failure.
- Groundwater elevation monitoring and groundwater modeling indicate that the area of groundwater containing detections of PCE in both the Shallow Zone (formerly UHZ) and Intermediate/Deep Zones (formerly LHZ) can be captured by remediation wells CLC 18 and CLC 27.

### 8.1 Status of Deliverables Required by the Consent Decree

As required by the previous consent decree, the pre-achievement O&M plan (including all appended plans) was revised in October 2018. The plan and all appendices were approved by EPA in a letter dated November 19, 2018. After the Consent Decree was finalized in July 2020, the O&M plan was reviewed to determine if any updates were required to remain in compliance

with the most recent SOW; none were identified and the plan was not updated. Updates to the health and safety plan to address COVID-related safety concerns were completed in July 2020, and SAP revisions to address the FLUTE replacement well program were completed in spring 2021 as described in Appendix C.

The 2019 annual report was submitted as required by the previous SOW on April 3, 2020. After addressing EPA comments, the final report was issued on August 12, 2020 and approved by EPA in December 2020. The SOW requires an annual meeting to discuss the annual report; however, this meeting was not held in 2020 due to COVID-related travel restrictions. Several calls were held during this time period with EPA and NMED to discuss the FLUTE well replacement program.

As required by the SOW, all plans associated with the pre-achievement O&M plan were reviewed during preparation of this annual report. The only plan requiring changes this year is the HASP, which will be edited to reflect current COVID-related guidance.

## **8.2 Summary of Completed and Planned Work**

The following work has been completed to achieve effective O&M of the remedy:

- Pumping strategy was modified per JSAI's recommendations in the 2019 annual report to enhance capture of the PCE groundwater plume.
- The monitor well network was sampled in accordance with the requirements in the 2020 Consent Decree (effective July 30, 2020) and the 2021 SAP.
- The JSP QAM's representative conducted an audit of the sampling team's techniques and provided feedback on sampling techniques and clarification on items in the site-specific SAP, as needed.
- The FLUTE well replacement project was completed in March 2021.

## **8.3 Recommendations**

The JSP proposes the following to improve monitoring and remediation system efficacy:

- Continue to schedule future sampling to occur prior to the coldest season in Las Cruces (December–February) to avoid sampling difficulties and freezing conditions.

- Continue to monitor PCE mass removal rate at CLC 27 to determine the effect of the 2020 increase in pumping.

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Cherry, J.A., B.L. Parker, and C. Keller. 2007. A new depth-discrete multilevel monitoring approach for fractured rock. *Ground Water Monitoring and Remediation* 27(2): 57–70.

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U.S. Environmental Protection Agency (U.S. EPA). 1996. *Presumptive response strategy and ex-situ treatment technologies for contaminated ground water at CERCLA sites, Final guidance*. EPA 540-R-96-023. October 1996.

U.S. EPA. 2007. *Record of decision, Griggs and Walnut Ground Water Plume Superfund Site*. June 2007. Available at <<http://www.donaanacounty.org/superfund/docs/GWPROD.pdf>>.

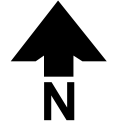
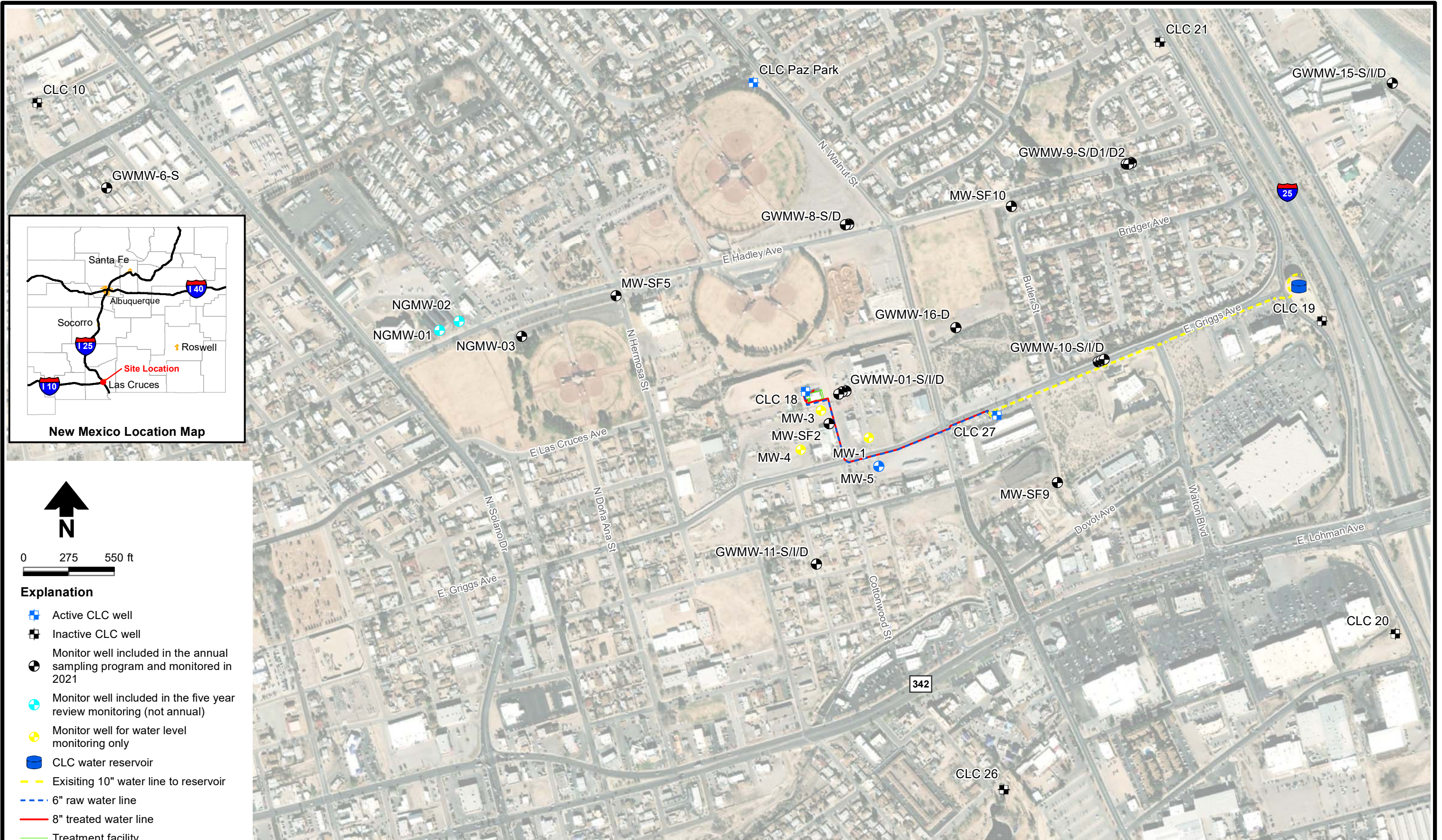


# Figures

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\\SS6AB01\DATA\PROJECTS\ES13.0251\_CLC\_ENVIRONMENTAL\_SERVICES\GIS\IMXD\SIREPORTS\2020\_ANNUAL\F1\_PROJECT\_AREA\_MAP\IMXD



0 275 550 ft

**Explanation**

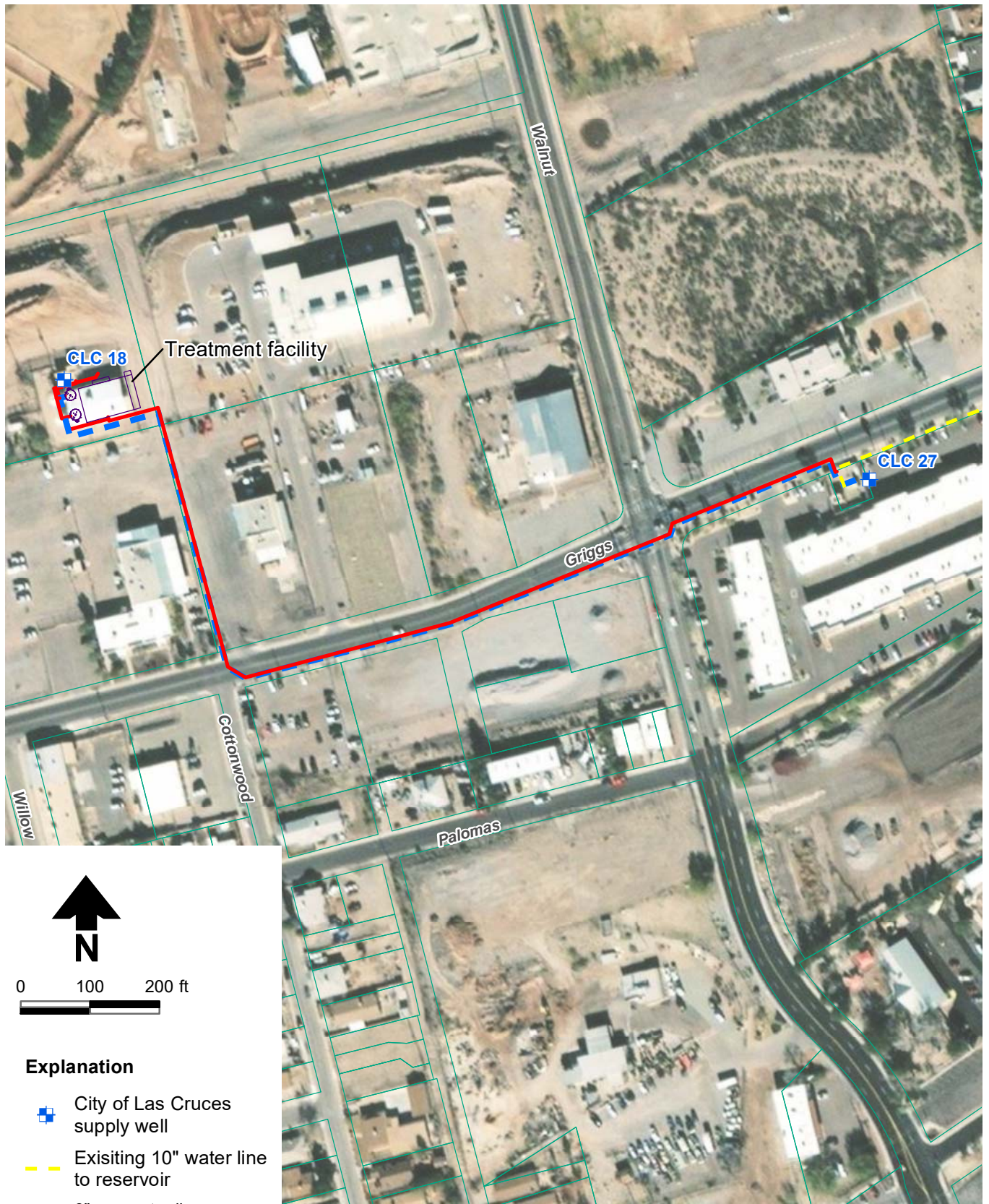
- Active CLC well
- Inactive CLC well
- Monitor well included in the annual sampling program and monitored in 2021
- Monitor well included in the five year review monitoring (not annual)
- Monitor well for water level monitoring only
- CLC water reservoir
- Existing 10" water line to reservoir
- 6" raw water line
- 8" treated water line
- Treatment facility

Source: Maxar, Vivid 12/20/2019

**GRIGGS-WALNUT GROUND WATER PLUME SITE  
REMEDIAL ACTION  
Project Area Map**






Figure 1





Source: Maxar, Vivid 12/20/2019

**Explanation**

-  City of Las Cruces supply well
-  Existing 10" water line to reservoir
-  6" raw water line
-  8" treated water line
-  City of Las Cruces parcel boundary

GRIGGS-WALNUT GROUND WATER PLUME SITE  
 REMEDIAL ACTION  
**Groundwater Extraction Site**



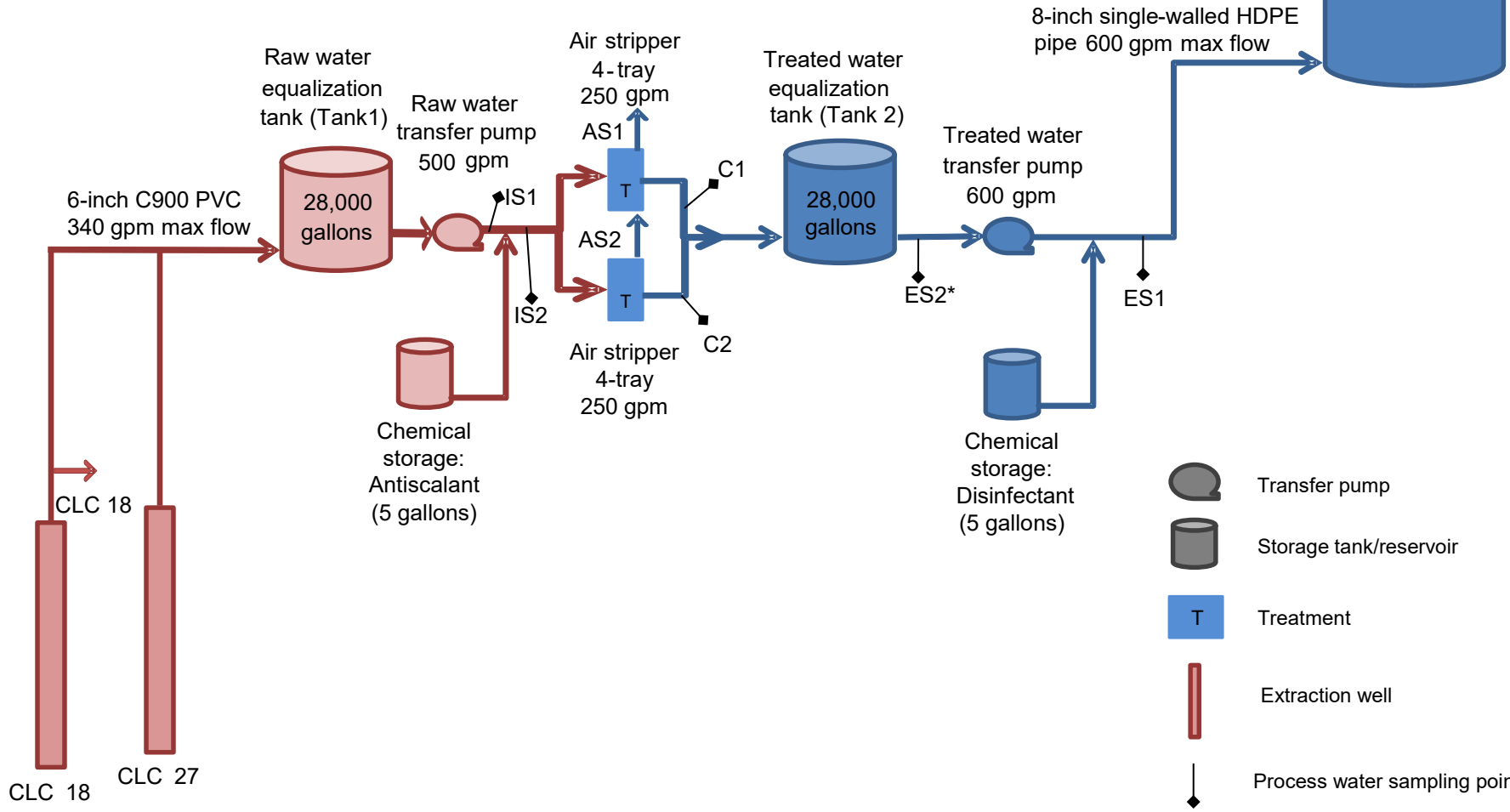
**DBS & A**  
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 6/15/2021 JN DB21.1068

Figure 2

### Extraction Wells

### Treatment

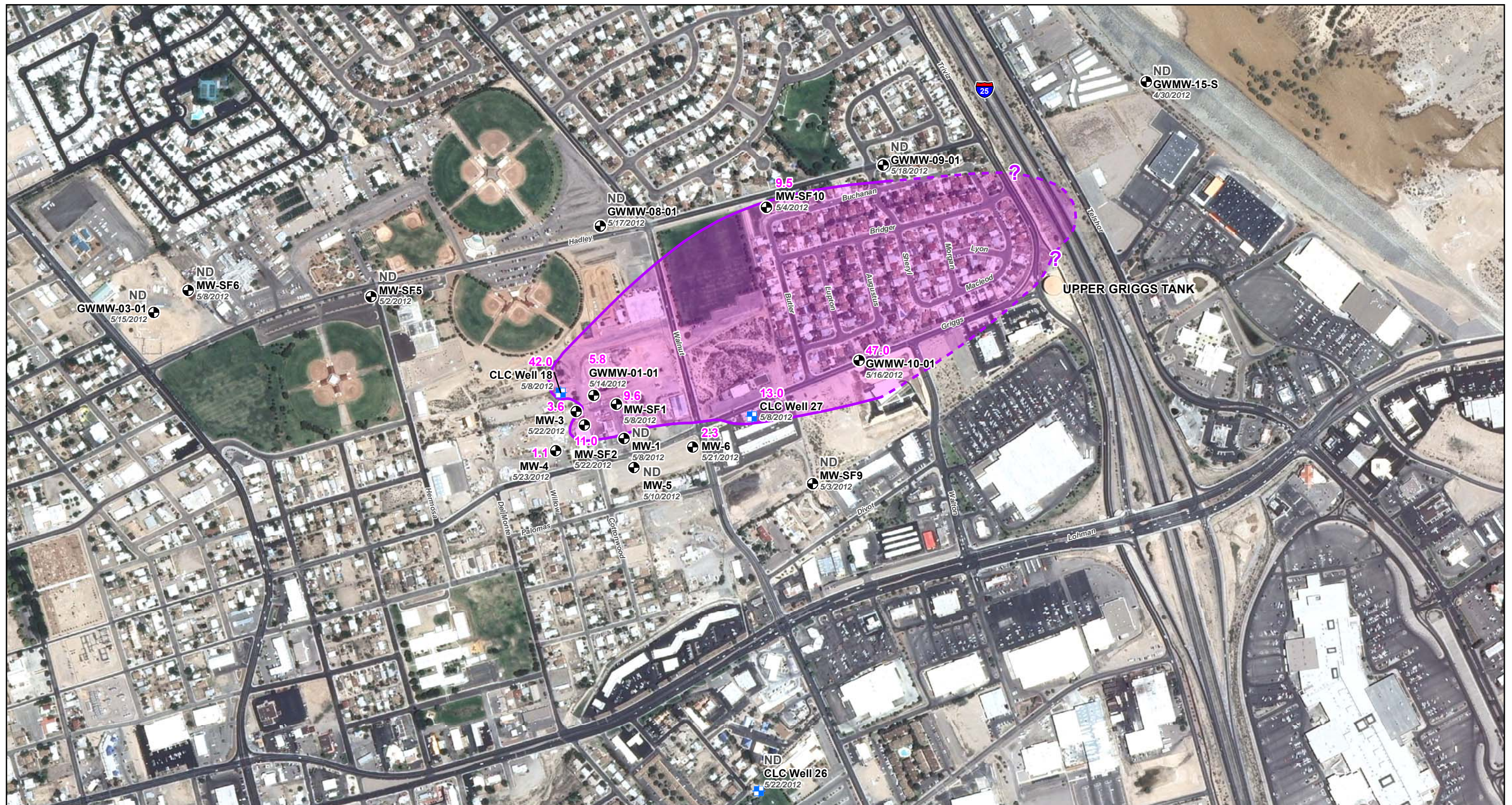
### Upper Griggs Reservoir



GRIGGS-WALNUT GROUND WATER PLUME SUPERFUND SITE  
 REMEDIAL ACTION  
**Remediation System Process Flow**

Figure 3





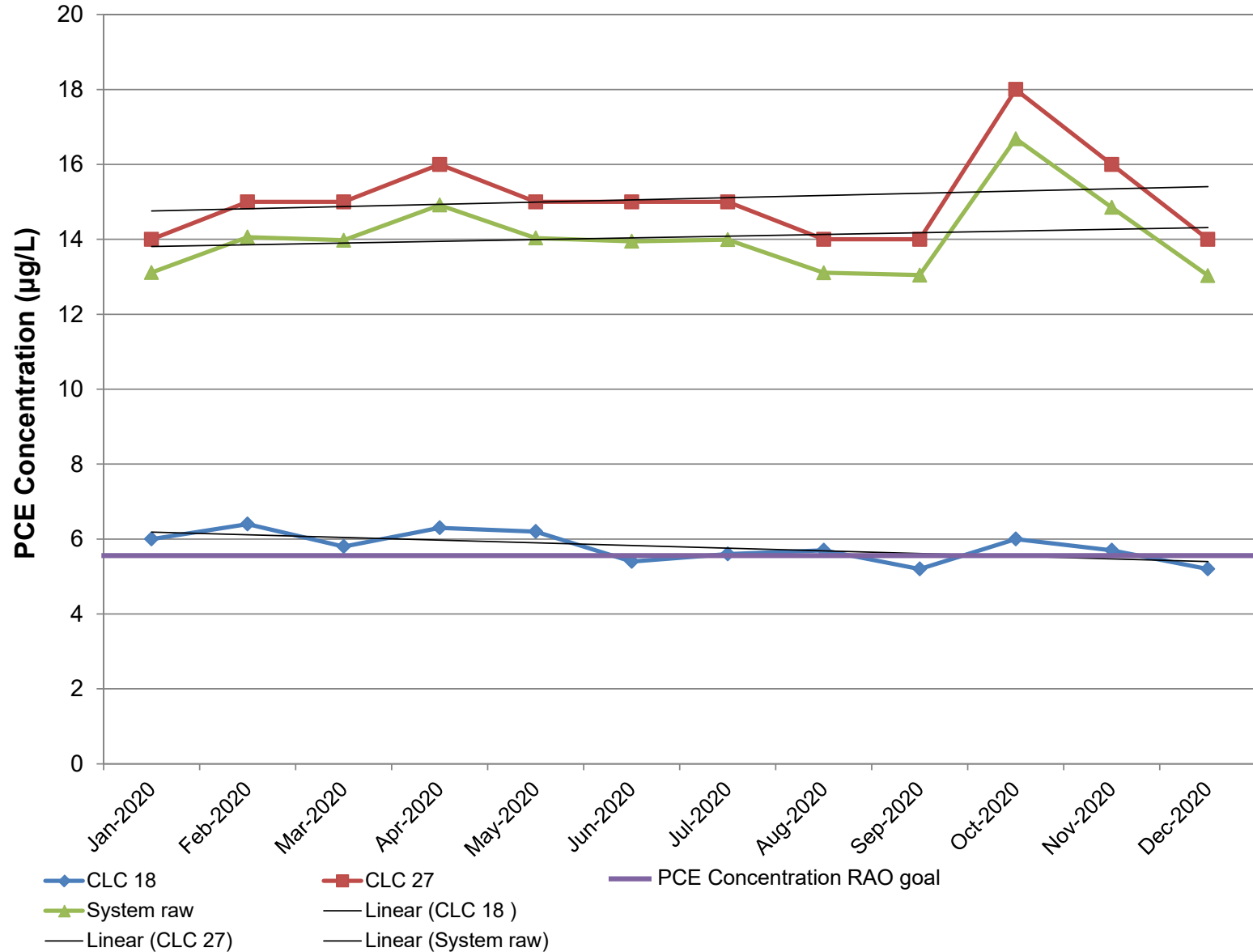
**Explanation**

- Monitor well
- + CLC supply well
- PCE in groundwater, May 2012 (dashed where inferred)
- 2.3 Concentration (µg/L)
- MW-6 Well designation (port number)
- 5/21/2012 Sample date

Note: 1. ND = Not detected above reporting limit  
 2. Plume reflects PCE concentrations as expressed in wells completed across the water table and in the shallowest port in the GWMW wells (Port 1).

National Agricultural Imagery Program  
 August 2009. Downloaded from RGIS.

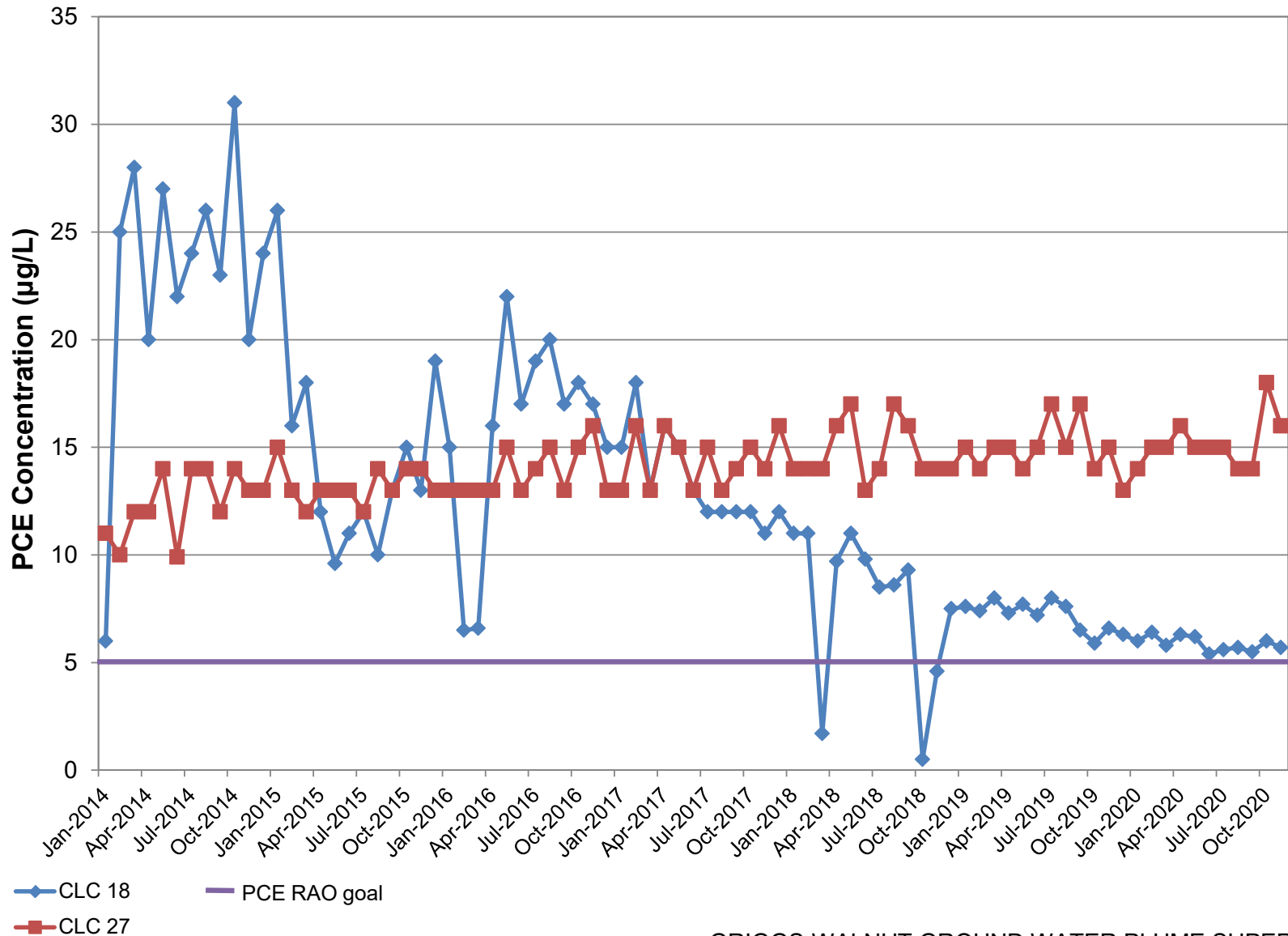




Note: The PCE remedial action objective (RAO) goal is for concentrations to be  $\leq 5$  µg/L for drinking water.

GRIGGS-WALNUT GROUND WATER PLUME SUPERFUND SITE  
 REMEDIAL ACTION  
**Remediation System PCE Concentration**

Figure 5



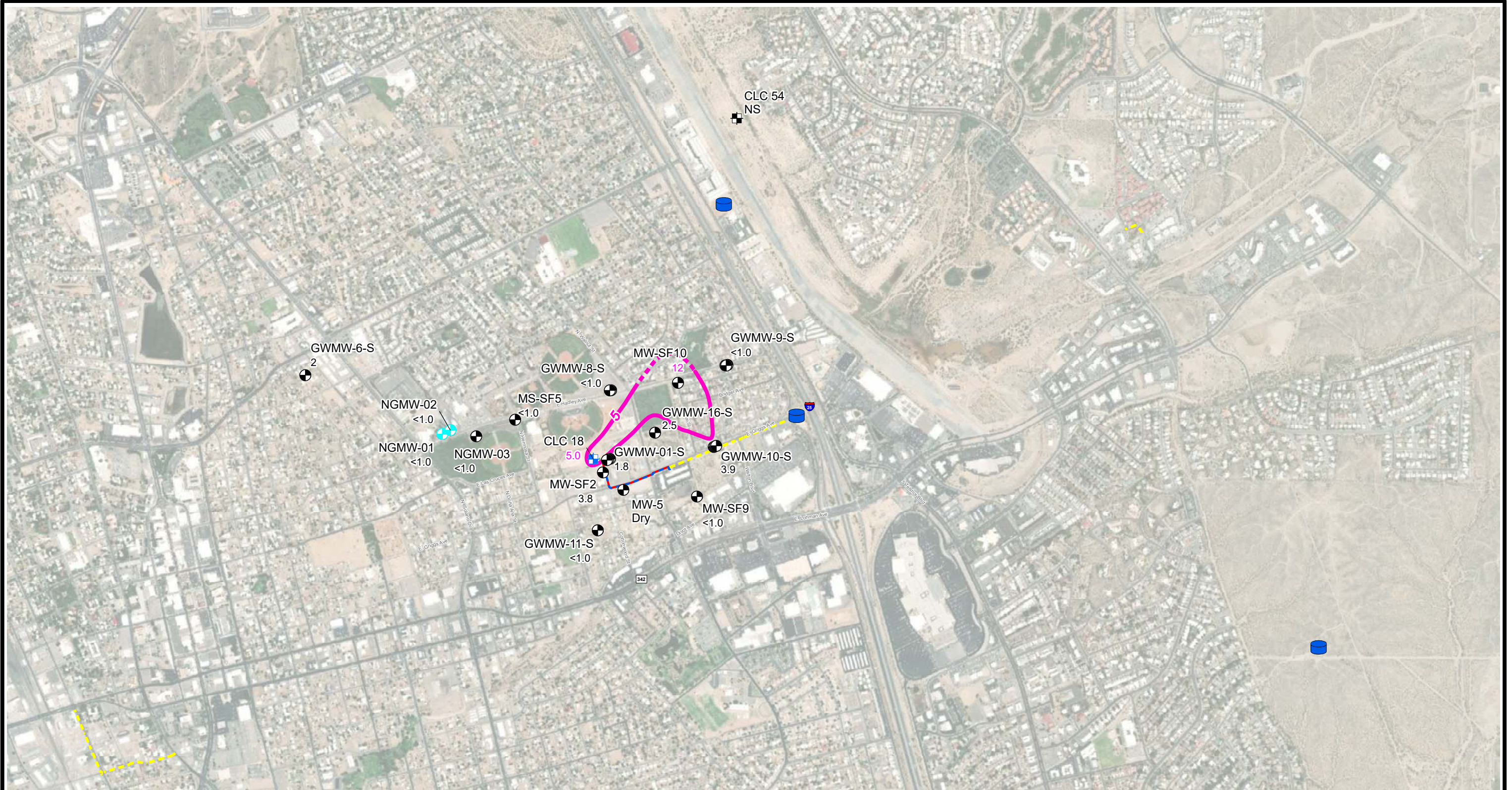
Note: The PCE remedial action objective (RAO) goal is for concentrations to be ≤5 µg/L for drinking water.

GRIGGS-WALNUT GROUND WATER PLUME SUPERFUND SITE  
 REMEDIAL ACTION  
**Monthly PCE Concentration in CLC 18 and CLC 27**  
 January 2014–December 2020

Figure 6



\\SS6AB\DATA\PROJECTS\13.0251\_CLC\_ENVIRONMENTAL\_SERVICES\GIS\MXD\REPORTS\2020\_ANNUAL\F07\_PCE\_IN\_SHALLOW\_ZONE\_GROUNDWATER\_MARCH\_APRIL\_2021.MXD



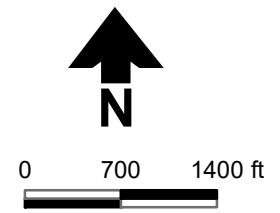
Source: Maxar, Vivid 12/20/2019

**Explanation**

- Monitor well included in the annual sampling program and monitored in 2021
- Active CLC well
- Monitor well included in the five year review monitoring (not annual)

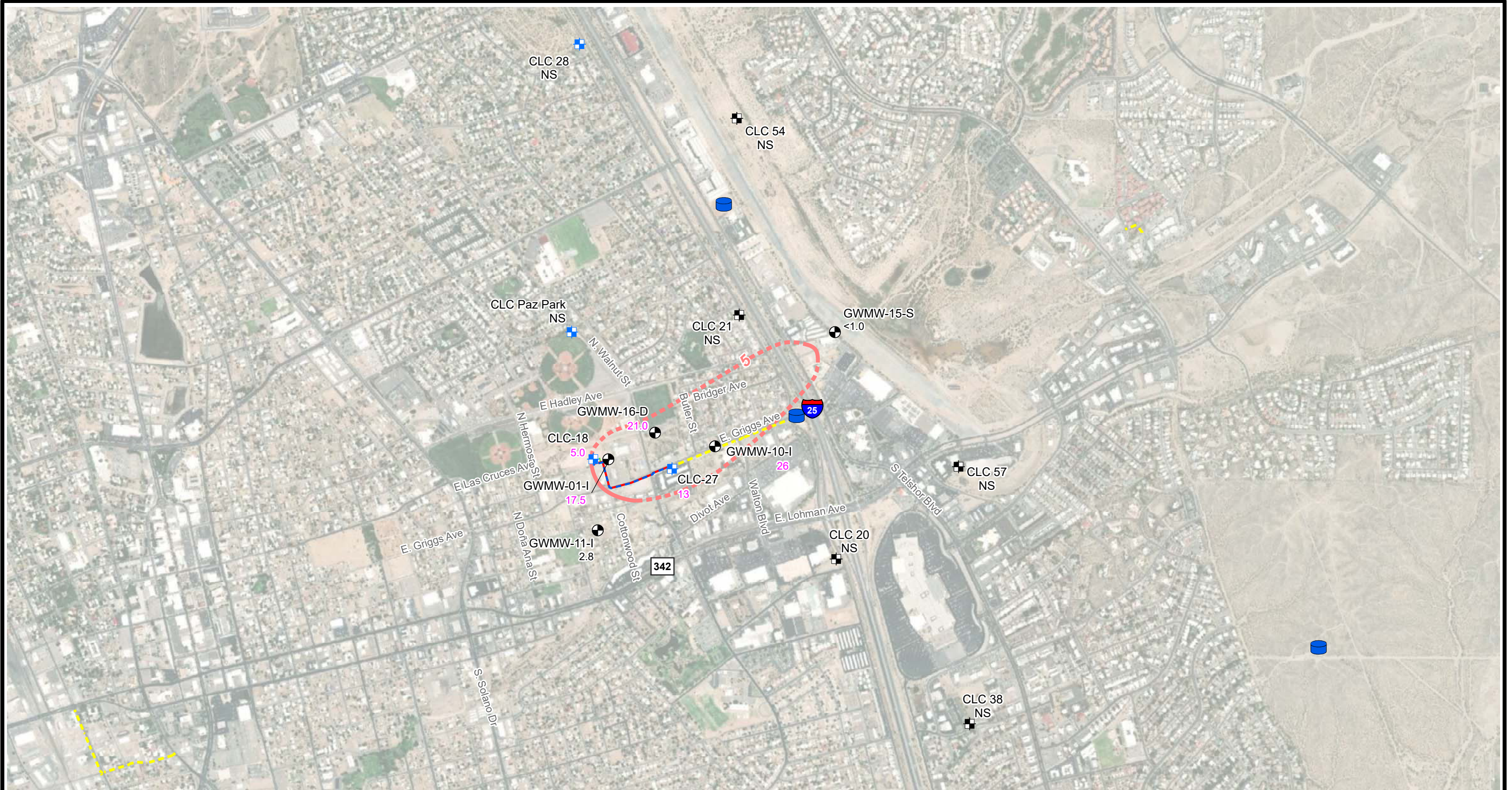
- Existing 10" water line to reservoir
- 6" raw water line
- 8" treated water line
- City of Las Cruces water reservoir

- Approximate boundary of PCE plume within shallow aquifer layer (3,800 to 3,850 ft msl), dashed where inferred

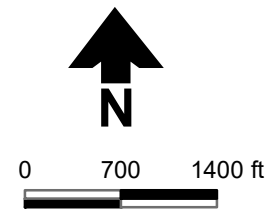




\\SS6ABQIDATA\PROJECTS\13.0251\_CLC\_ENVIRONMENTAL\_SERVICES\GIS\MXD\REPORTS\2020\_ANNUAL\F08\_PCE\_IN\_INTERMEDIATE\_ZONE\_GROUNDWATER\_MARCH\_APRIL\_2021.MXD



Source: Maxar, Vivid 12/20/2019



**Explanation**

- Active CLC well
  - Inactive CLC well
  - Monitor well included in the annual sampling program and monitored in 2021
- Note: GWMW-01-I PCE value is an average of two primary sample results from consecutive days

- Existing 10" water line to reservoir
- 6" raw water line
- 8" treated water line
- City of Las Cruces water reservoir

- Approximate boundary of PCE plume within intermediate aquifer layer (3,675 to 3,800 ft msl), dashed where inferred

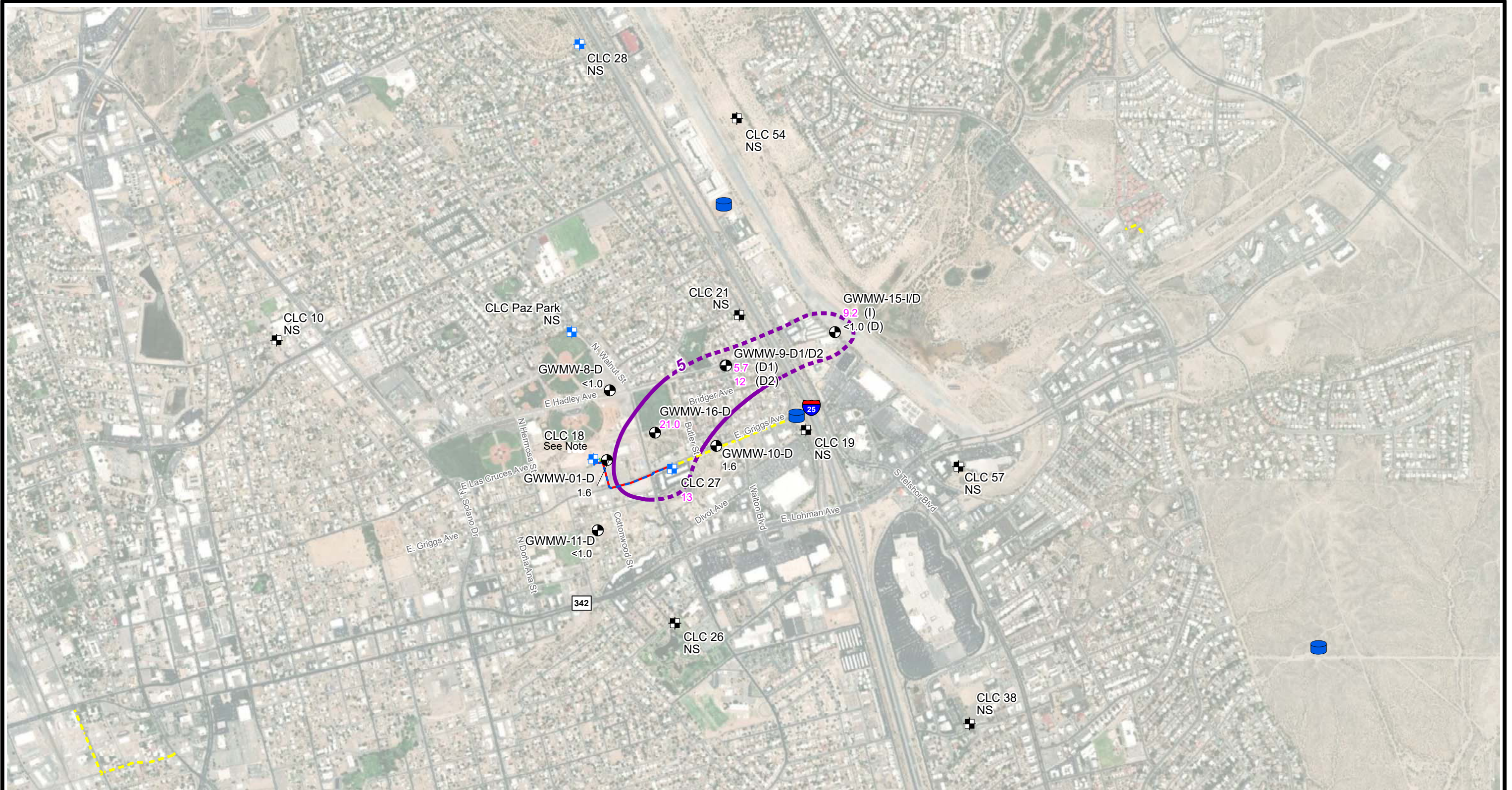
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4/26/2022 JN DB21.1068

GRIGGS-WALNUT GROUND WATER PLUME SITE  
REMEDIAL ACTION  
**PCE in Intermediate Zone Groundwater, March/April 2021**

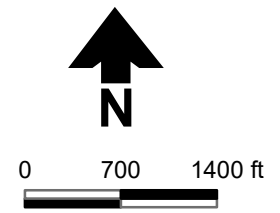
Figure 8



\\SS6ABQ\DATA\PROJECTS\13.0251\_CLC\_ENVIRONMENTAL\_SERVICES\GIS\MXD\REPORTS\2020\_ANNUAL\F09\_PCE\_IN\_DEEP\_ZONE\_GROUNDWATER\_MARCH\_APRIL\_2021.MXD



Source: Maxar, Vivid 12/20/2019



**Explanation**

- Monitor well included in the annual sampling program and monitored in 2021
  - Active CLC well
  - Inactive CLC well
- Note: CLC 18 screen is in deep zone, however thick gravel envelope allows for commingling of shallow and intermediate zones

- Existing 10" water line to reservoir
- 6" raw water line
- 8" treated water line
- City of Las Cruces water reservoir

- Approximate boundary of PCE plume within deep aquifer layer (3,475 to 3,675 ft msl), dashed where inferred

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4/26/2022 JN DB21.1068

GRIGGS-WALNUT GROUND WATER PLUME SITE  
REMEDIAL ACTION  
**PCE in Deep Zone Groundwater, March/April 2021**

Figure 9



# Tables

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**Table 1. Air Analytical Method and NMED Air Quality No Permit Required Emissions Standards**

Emission	Analytical Method	Maximum Rate	
		lb/hr	ton/yr
Air	8260B	10	10

lb/hr = Pounds per hour  
ton/yr = Tons per year

**Table 2. Groundwater Analytical Methodologies and Screening Levels**

Analyte Class	Analytical Method	Concentration (µg/L)			
		Method Detection Limit <sup>a</sup>	Hall Environmental PQL	EPA MCL	NMWQCC Standard <sup>b</sup>
Benzene	8260B	0.062	1.0	5	5
PCE	8260B	0.13	1.0	5	5
TCE	8260B	0.11	1.0	5	5
1,1-DCE	8260B	0.081	1.0	7	7
cis-1,2-DCE	8260B	0.20	1.0	70	70
trans-1,2-DCE	8260B	0.18	1.0	100	100
MTBE	8260B	0.24	1.0	6.2 <sup>c</sup>	NA
Vinyl chloride	8260B	0.18	1.0	2	2
Arsenic	200.8, ICPMS	0.5	1.0	10	10 <sup>d</sup>
Arsenic speciation	E1632	2	2.0	10	10 <sup>d</sup>
Uranium	200.8, ICPMS	0.5	1.0	30	30 <sup>d</sup>

<sup>a</sup> Method detection limit does not imply reporting limit.

<sup>b</sup> Standards are from 20.6.2.3103 NMAC, effective December 2018.

<sup>c</sup> EPA Region 6 medium-specific screening level (MSSL)

<sup>d</sup> NMWQCC groundwater standards for arsenic and uranium apply to dissolved (filtered) concentrations.

µg/L = Micrograms per liter

EPA = U.S. Environmental Protection Agency

MCL = Maximum contaminant level

NMWQCC = New Mexico Water Quality Control Commission

ICPMS = Inductively coupled plasma mass spectrometry

PCE = Perchloroethene

TCE = Trichloroethene

DCE = Dichloroethene

NA = Not applicable

PQL = Practical quantitation limit

**Table 3. Remediation System Sampling Frequency**

Sample Location	Sample Matrix	Sample Point	Sample Method	Sample Analyses	Large Operational Change Sample Collection Schedule <sup>a</sup>	Normal Operation Sampling and Monitoring Schedule
CLC 18 wellhead	Groundwater	CLC18	Grab	EPA 8260B for VOCs	Sample after first hour of operation. Once per day for days 2 through 6 of system operation.	Sample once per month.
CLC 27 wellhead	Groundwater	CLC27	Grab	EPA 8260B for VOCs	Sample after first hour of operation. Once per day for days 2 through 6 of system operation.	Sample once per month.
Pump P-1 discharge	Groundwater	IS1	Grab	EPA 8260B for VOCs	Sample after first hour of operation of pump P-1. Every other day for first 6 days of operation.	Sample once per month.
Treated water downstream of chlorine disinfection	Groundwater	ES1	Grab	EPA 8260B for VOCs	Sample after first 2 hours of operation of pump P-1. Once per day for days 2 through 6 of system operation.	Sample once per month or as directed.
C-1 treated water	Groundwater	C1	Grab	EPA 8260B for VOCs	Sample after first 2 hours of operation of pump P-1. Once per day for days 2 through 6 of system operation.	Sample quarterly.
C-2 treated water	Groundwater	C2	Grab	EPA 8260B for VOCs	Sample after first 2 hours of operation of pump P-1. Once per day for days 2 through 6 of system operation.	Sample quarterly.
C-1 air stripper emissions	Air	AS1	Grab	EPA 8260B for VOCs	Sample every other day for the first 6 days.	Sample quarterly.
C-2 air stripper emissions	Air	AS2	Grab	EPA 8260B for VOCs	Sample every other day for the first 6 days.	Sample quarterly.

<sup>a</sup> For any large operational change the system will remain offline until startup is completed and normal operation is verified.

VOCs = Volatile organic compounds

**Table 4. Alternative Remediation System Sampling Locations**

Sample Location	Sample Matrix	Sample Point
Raw water transfer pump after anti-scalant injection	Groundwater	IS2
Tank 2 treated water	Groundwater	ES2

**Table 5. Monthly Volume and PCE Concentration of Extracted Groundwater**

Month	CLC 18		CLC 27	
	Groundwater Extracted (gallons)	Raw PCE Concentration (µg/L)	Groundwater Extracted (gallons)	Raw PCE Concentration (µg/L)
January 2020	1,310,372	6.0	10,502,136	14.0
February 2020	1,225,058	6.4	9,978,586	15.0
March 2020	1,323,830	5.8	10,578,467	15.0
April 2020	1,272,162	6.3	10,094,512	16.0
May 2020	1,306,150	6.2	10,610,522	15.0
June 2020	1,259,269	5.4	10,237,204	15.0
July 2020	1,260,009	5.6	10,493,500	15.0
August 2020	1,263,230	5.7	10,469,111	14.0
September 2020	1,248,991	5.2	10,255,895	14.0
October 2020	1,290,422	6.0	10,499,958	18.0
November 2020	1,263,314	5.7	10,082,385	16.0
December 2020	1,309,696	5.2	10,624,935	14.0
Total	15,332,503		124,427,212	

PCE = Perchloroethene  
µg/L = Micrograms per liter

**Table 6. PCE Mass Removed**

Month	PCE Concentration (µg/L)		Volume Treated (gallons)	Mass of PCE Removed (pounds)
	Raw	Finished		
January 2020	13.1	<1	11,812,508	1.2
February 2020	14.1	<1	11,203,644	1.3
March 2020	14.0	<1	11,902,297	1.3
April 2020	14.9	<1	11,366,675	1.4
May 2020	14.0	<1	11,916,672	1.3
June 2020	13.9	<1	11,496,473	1.3
July 2020	14.0	<1	11,753,509	1.3
August 2020	13.1	<1	11,732,341	1.2
September 2020	13.0	<1	11,504,885	1.2
October 2020	16.7	<1	11,790,380	1.6
November 2020	14.9	<1	11,345,700	1.4
December 2020	13.0	<1	11,934,631	1.2
<b>Total</b>			<b>139,759,715</b>	<b>15.8</b>

Note: For mass removal calculations, non-detect results (<1 µg/L) are assumed to be one-half of the detection limit.

PCE = Perchloroethene

µg/L = Micrograms per liter

ND = Not detected



**Table 7. Calculated Air Emissions in 2020**

Month	Calculated Air Emissions (lb/hr)	Calculated PCE Indoor Air Concentration ( $\mu\text{g}/\text{m}^3$ )
January 2020	0.002	0.0005
February 2020	0.002	0.0005
March 2020	0.002	0.0005
April 2020	0.002	0.0005
May 2019	0.002	0.0005
June 2020	0.002	0.0005
July 2020	0.002	0.0005
August 2020	0.002	0.0005
September 2020	0.002	0.0005
October 2020	0.002	0.0005
November 2020	0.002	0.0005
December 2020	0.002	0.0005

Note: For a conservative calculation, it is assumed that all mass removed based on water samples is discharged into the air.

PCE = Perchloroethene

lb/hr = Pounds per hour

**Table 8. Calculated Air Emissions, 2013–2020**

Contaminant of Concern	Calculated Air Emissions (tons per year)							
	2013	2014	2015	2016	2017	2018	2019	2020
PCE	$4.76 \times 10^{-3}$	$5.93 \times 10^{-3}$	$5.45 \times 10^{-3}$	$5.54 \times 10^{-3}$	$5.52 \times 10^{-3}$	$6.74 \times 10^{-3}$	$7.59 \times 10^{-3}$	$7.91 \times 10^{-3}$

**Table 9. Monthly Runtime, 2020**

Month	Total Runtime (hours)	Percent Runtime (%)
January 2020	729.9	98.1%
February 2020	691.5	99.4%
March 2020	743.0	99.9%
April 2020	719.5	99.9%
May 2019	742.6	99.8%
June 2020	718.0	99.7%
July 2020	733.0	98.5%
August 2020	733.0	98.5%
September 2020	720.0	100.0%
October 2020	742.0	99.7%
November 2020	720.0	100.0%
December 2020	744.0	100.0%
Total	8,736.5	99.46%

Note: Runtimes are based on the operation of CLC 27 (essentially 24/7). All other components of the treatment system cycle on and off with tank levels. The use of CLC 27 operation assumes that if water is coming into the system, it is being treated and leaving the system. It is possible that one or more pieces of equipment may be down, but if CLC 27 is operating, water is being treated and the overall system is operating.

**Table 10. Groundwater Monitoring Program Monitor Well Network**  
Page 1 of 2

Sample Location <sup>a</sup>	No. of Samples Collected	Hydrogeologic Zone	Required Number of Samples	Notes
CLC 18	1	Shallow/ Intermediate/ Deep <sup>b</sup>	1	Sample collected represents the Shallow Zone (see Appendix A)
CLC 26	1	Deep	1	
CLC 27	1	Deep	1	
GMMW-01S	2	Shallow	1	Number of samples includes low flow sampling double samples
GMMW-01I	2	Intermediate	1	Includes separate samples collected a day apart
GMMW-01D	1	Deep	1	
GMMW-06S	1	Shallow	1	
GMMW-08S	1	Shallow	1	
GMMW-08D	2	Deep	1	Number of samples includes duplicates
GMMW-09S	2	Shallow	1	Number of samples low flow sampling double samples
GMMW-09D1	2	Deep	1	Number of samples includes duplicates
GMMW-09D2	1	Deep	1	
GMMW-10S	1	Shallow	1	
GMMW-10I	2	Intermediate	1	Number of samples includes low-flow sampling double samples
GMMW-10D	2	Deep	1	Number of samples includes duplicates
GMMW-11-S	1	Shallow	1	
GMMW-11-I	2	Intermediate	1	Number of samples includes duplicates
GMMW-11-D	1	Deep	1	
GMMW-15-S	1	Intermediate	1	Recent change in zone designations places this well in the Intermediate Zone
GMMW-15-I	1	Deep	1	Recent change in zone designations places this well in the Deep Zone
GMMW-15-D	1	Deep	1	

<sup>a</sup> Well designation indicates that the well is screened in the following corresponding zones (except where noted):

- S = Shallow
- I = Intermediate
- D = Deep

<sup>b</sup> Well screen is in deep zone; however, thick gravel envelope allows for commingling of Shallow and Intermediate Zones.

**Table 10. Groundwater Monitoring Program Monitor Well Network**  
**Page 2 of 2**

Sample Location <sup>a</sup>	No. of Samples Collected	Hydrogeologic Zone	Required Number of Samples	Notes
GMMW-16-S	1	Shallow	1	
GMMW-16-D	2	Intermediate/ Deep	1	Number of samples includes low-flow sampling double samples; well is screened across the Intermediate/Deep Zone boundary
MW-5	0	Shallow	1	Dry
MW-SF2	1	Shallow	1	
MW-SF5	1	Shallow	1	
MW-SF9	1	Shallow	1	
MW-SF10	1	Shallow	1	
NGMW-01	1	Shallow	1	
NGMW-02	1	Shallow	1	
NGMW-03	1	Shallow	1	

<sup>a</sup> Well designation indicates that the well is screened in the following corresponding zones (except where noted):

- S = Shallow
- I = Intermediate
- D = Deep

<sup>b</sup> Well screen is in deep zone; however, thick gravel envelope allows for commingling of Shallow and Intermediate Zones.

**Table 11. Groundwater Analytical Results, March/April 2021**  
Page 1 of 2

Sample ID	Hydrologic Zone Designation	Concentration (µg/L)													
		MEK (2-Butanone)	2-Methyl-naphthalene	Acetone	Benzene	Ethylbenzene	Isopropyl-benzene	MTBE	Naphthalene	n-Propyl-benzene	PCE	Toluene	TCE	cis-1,2-DCE	trans-1,2-DCE
<i>EPA MCL</i>		<i>NS</i>	<i>NS</i>	<i>NS</i>	5	700	<i>NS</i>	6.2 <sup>a</sup>	<i>NS</i>	<i>NS</i>	5	1,000	5	70	100
<i>NMWQCC Standard<sup>b</sup></i>		<i>NS</i>	30 <sup>c</sup>	<i>NS</i>	5	700	<i>NS</i>	100	30 <sup>c</sup>	<i>NS</i>	5	1,000	5	70	100
CLC 18	Shallow/Intermediate/Deep <sup>d</sup>	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>5.0</b>	<1	<1	<1	<1
CLC 26	Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
CLC 27	Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>13</b>	<1	<1	<1	<1
GMMW-01S	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	1.8	<1	<1	<1	<1
GMMW-01S (BP)	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
GMMW-011 (Day 1)	Intermediate	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>15</b>	<1	<1	<1	<1
GMMW-011 (Day 2)	Intermediate	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>20</b>	2.0	<1	<1	<1
GMMW-01D	Deep	<10	<4	13	<b>120</b>	<1	<1	<1	11	<1	1.6	13	<1	<1	<1
GMMW-06S	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	2.0	18	<1	<1	<1
GMMW-08S	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
GMMW-08D	Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
GMMW-08D (Dup)	Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
GMMW-09S	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	1.8	<1	<1	<1
GMMW-09S (BP)	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	3.0	<1	<1	<1
GMMW-09D1	Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	3.4	6.6	<1	<1	<1
GMMW-09D1 (Dup)	Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>5.7</b>	<1	<1	<1	<1
GMMW-09D2	Deep	<10	<4	<10	2.6	<1	<1	<1	<2	<1	<b>12</b>	<1	<1	<1	<1
GMMW-10S	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	3.9	<1	<1	<1	<1
GMMW-10I	Intermediate	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>26</b>	4.5	<1	<1	<1
GMMW-10I (BP)	Intermediate	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>13</b>	<1	<1	<1	<1
GMMW-10D	Deep	<10	<4	<10	<b>21</b>	<1	<1	<1	<2	<1	1.6	2.5	<1	<1	<1
GMMW-10D (Dup)	Deep	<10	<4	30	<b>22</b>	<1	<1	<1	<2	<1	1.6	2.6	<1	<1	<1

**Bold** indicates that value exceeds the applicable U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) or New Mexico Water Quality Control Commission (NMWQCC) standard.

Note: The analyses for CLC 18 and CLC 27 included dissolved arsenic and dissolved uranium, total arsenic and total uranium, arsenic speciation, and field parameters (no organic analyses were analyzed for these wells). The rest of the groundwater samples (and all of the duplicate samples) collected in were analyzed for volatile organic compounds (VOCs) using EPA method 8260B, in addition to field parameters.

Note: For wells with a Day 1 and Day 2 sample, the sample results were averaged for use in the plume maps.

<sup>a</sup> EPA Region 6 medium-specific screening level (MSSL).

<sup>b</sup> Standards from 20.6.2.3103 NMAC, effective December 2018.

<sup>c</sup> Standard for total naphthalene plus monomethylnaphthalenes.

<sup>d</sup> Well CLC 18 screen is in deep zone; however, thick gravel envelope allows for commingling of Shallow and Intermediate Zones. See Appendix A for discussion.

µg/L = Micrograms per liter

NS = No applicable standard

— = No sample collected within the reporting period; well dry at time of sampling

**Table 11. Groundwater Analytical Results, March/April 2021**  
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Sample ID	Hydrologic Zone Designation	Concentration (µg/L)													
		MEK (2-Butanone)	2-Methyl-naphthalene	Acetone	Benzene	Ethylbenzene	Isopropyl-benzene	MTBE	Naphthalene	n-Propyl-benzene	PCE	Toluene	TCE	cis-1,2-DCE	trans-1,2-DCE
<i>EPA MCL</i>		NS	NS	NS	5	700	NS	6.2 <sup>a</sup>	NS	NS	5	1,000	5	70	100
<i>NMWQCC Standard<sup>b</sup></i>		NS	30 <sup>c</sup>	NS	5	700	NS	100	30 <sup>c</sup>	NS	5	1,000	5	70	100
GWMW-11S	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
GWMW-11I	Intermediate	<10	<4	<10	<1	<1	<1	<1	<2	<1	2.8	<1	<1	<1	<1
GWMW-11I (Dup)	Intermediate	<10	<4	<10	<1	<1	<1	<1	<2	<1	2.6	<1	<1	<1	<1
GWMW-11D	Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
GWMW-15S	Intermediate	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
GWMW-15I	Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>9.2</b>	<1	<1	<1	<1
GWMW-15D	Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
GWMW-16S	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	2.5	<1	<1	<1	<1
GWMW-16D	Intermediate/Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>21</b>	<1	1.3	<1	<1
GWMW-16D (BP)	Intermediate/Deep	<10	<4	<10	<1	<1	<1	<1	<2	<1	2.9	<1	<1	<1	<1
MW-5	Shallow	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-SF2	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	3.8	<1	<1	<1	<1
MW-SF5	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
MW-SF9	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
MW-SF10	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<b>12</b>	<1	<1	<1	<1
NGMW-01	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
NGMW-02	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
NGMW-03	Shallow	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1

**Bold** indicates that value exceeds the applicable U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) or New Mexico Water Quality Control Commission (NMWQCC) standard.

Note: The analyses for CLC 18 and CLC 27 included dissolved arsenic and dissolved uranium, total arsenic and total uranium, arsenic speciation, and field parameters (no organic analyses were analyzed for these wells). The rest of the groundwater samples (and all of the duplicate samples) collected in were analyzed for volatile organic compounds (VOCs) using EPA method 8260B, in addition to field parameters.

Note: For wells with a Day 1 and Day 2 sample, the sample results were averaged for use in the plume maps.

<sup>a</sup> EPA Region 6 medium-specific screening level (MSSL).

<sup>b</sup> Standards from 20.6.2.3103 NMAC, effective December 2018.

<sup>c</sup> Standard for total naphthalene plus monomethylnaphthalenes.

<sup>d</sup> Well CLC 18 screen is in deep zone; however, thick gravel envelope allows for commingling of Shallow and Intermediate Zones. See Appendix A for discussion.

µg/L = Micrograms per liter

NS = No applicable standard

— = No sample collected within the reporting period; well dry at time of sampling

**Table 12. PCE Results for Annual Groundwater Sampling, 2012–2020**  
Page 1 of 4

Well	PCE Concentration (µg/L)							
	2012	2013	2014	2015	2016	2018	2019	2020 <sup>a</sup>
CLC Paz Park Well	<1	<1	<1	<1	<1	NS	NS <sup>b</sup>	NS
CLC 18	<b>56</b>	2.7	<b>6</b>	<b>13</b>	<b>15</b>	1.4	6.6 <sup>c</sup>	<b>5.1</b>
CLC 20	NS	<1	<1	<1	<1	NS	<1	NS
CLC 26	<1	<1	<1	<1	<1	<1	<1	<1
CLC 27	<b>13</b>	<b>14</b>	<b>11</b>	<b>14</b>	<b>13</b>	<b>13</b>	<b>13</b> <sup>c</sup>	<b>13</b>
CLC 57	NS	<1	<1	<1	<1	NS	<1	NS
CLC 61	NS	NS	NS	NS	NS	NS	<1	NS
GMMW-01-S	NS	NS	NS	NS	NS	NS	NS	1.8
GMMW-01-I	NS	NS	NS	NS	NS	NS	NS	<b>20</b> <sup>g</sup>
GMMW-01-D	NS	NS	NS	NS	NS	NS	NS	1.6
GMMW-01-01	<b>5.8</b>	<b>11</b>	1.3	3.8	<b>9.8</b>	5 Rf	NS <sup>d</sup>	NS
GMMW-01-02	<1	<1	<1	<1	NS	5.3 Rf	NS <sup>d</sup>	NS
GMMW-01-03	2.7	3.2	2	1.6	<b>7</b>	4.3 Rf	NS <sup>d</sup>	NS
GMMW-01-04	<1	<1	<1	<1	<1	3.7 Rf	NS <sup>d</sup>	NS
GMMW-01-05	3.2	<1	<1	<1	<1	2.3 Rf	NS <sup>d</sup>	NS
GMMW-01-06	<b>11</b>	<b>14</b>	<b>8</b>	2.4	4.7	<1 Rf	NS <sup>d</sup>	NS
GMMW-01-07	3.2	3.6	2.3	<1	<1	<1 Rf	NS <sup>d</sup>	NS
GMMW-03-01	<1	<1	<1	<1	<1	<1 Rf	NS <sup>d</sup>	NS
GMMW-03-02	<1	<1	<1	<1	<1	<1 Rf	NS <sup>d</sup>	NS
GMMW-03-03	<1	<1	<1	<1	NS	<1 Rf	NS <sup>d</sup>	NS
GMMW-03-04	NS	<1	<1	NS	NS	NS	NS <sup>d</sup>	NS
GMMW-03-05	<1	<1	<1	NS	<1	NS	NS <sup>d</sup>	NS
GMMW-03-06	<1	<1	<1	<1	<1	NS	NS <sup>d</sup>	NS
GMMW-06-S	NS	NS	NS	NS	NS	NS	NS	2.0
GMMW-06-01	NS	NS	NS	NS	NS	<1 Rf	NS <sup>d</sup>	NS
GMMW-06-02	NS	NS	NS	NS	NS	<1 Rf	NS <sup>d</sup>	NS
GMMW-08-S	NS	NS	NS	NS	NS	NS	NS	<1
GMMW-08-D	NS	NS	NS	NS	NS	NS	NS	<1
GMMW-08-03	<1	<1	<1	<1	<1	<1 Rf	NS <sup>d</sup>	NS
GMMW-08-04	<1	<1	<1	<1	<1	<1 Rf	NS <sup>d</sup>	NS
GMMW-08-05	<1	<1	<1	<1	<1	<1 Rf	NS <sup>d</sup>	NS
GMMW-08-06	<1	<1	<1	<1	<1	<1 Rf	NS <sup>d</sup>	NS

Footnote explanations and definitions are provided at the end of the table.



**Table 12. PCE Results for Annual Groundwater Sampling, 2012-2020**  
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Well	PCE Concentration (µg/L)							
	2012	2013	2014	2015	2016	2018	2019	2020 <sup>a</sup>
GWMW-08-07	<1	<1	<1	<1	<1	<1 Rf	NS <sup>d</sup>	NS
GWMW-09-S	NS	NS	NS	NS	NS	NS	NS	<1
GWMW-09-D1	NS	NS	NS	NS	NS	NS	NS	<b>5.7</b>
GWMW-09-D2	NS	NS	NS	NS	NS	NS	NS	<b>12</b>
GWMW-09-01	<1	< <b>10</b>	<1	<1	<1	<1 Rf	NS <sup>d</sup>	NS
GWMW-09-02	1.3	< <b>20</b>	<1	<1	<b>13</b>	<1 Rf	NS <sup>d</sup>	NS
GWMW-09-03	<1	< <b>10</b>	1	<b>5.1</b>	<b>9.2</b>	<1 Rf	NS <sup>d</sup>	NS
GWMW-09-04	1.2	<1	<b>7.9</b>	<b>11</b>	<b>19</b>	<1 Rf	NS <sup>d</sup>	NS
GWMW-09-05	1.7	< <b>10</b>	1.5	<b>16</b>	<1	1.6 Rf	NS <sup>d</sup>	NS
GWMW-09-06	<1	< <b>10</b>	<1	<1	<1	2 Rf	NS <sup>d</sup>	NS
GWMW-09-07	<1	< <b>10</b>	<1	<1	<b>5.1</b>	<1 Rf	NS <sup>d</sup>	NS
GWMW-10-S	NS	NS	NS	NS	NS	NS	NS	3.9
GWMW-10-I	NS	NS	NS	NS	NS	NS	NS	<b>26</b>
GWMW-10-D	NS	NS	NS	NS	NS	NS	NS	1.6
GWMW-10-01	<b>47</b>	<1	<b>26</b>	1.2	<b>17</b>	8.3 Rf	NS <sup>d</sup>	NS
GWMW-10-02	<b>14</b>	<b>7.1</b>	<b>11</b>	4.4	<b>18</b>	12 Rf	NS <sup>d</sup>	NS
GWMW-10-03	<b>45</b>	<b>42</b>	<b>25</b>	1.8	<b>16</b>	11 Rf	NS <sup>d</sup>	NS
GWMW-10-04	4.5	3.7	1.3	1.2	<b>13</b>	11 Rf	NS <sup>d</sup>	NS
GWMW-10-05	<1	<1	<1	<1	<b>9</b>	10 Rf	NS <sup>d</sup>	NS
GWMW-10-06	<1	<1	<1	<1	<b>7.3</b>	9.6 Rf	NS <sup>d</sup>	NS
GWMW-10-07	<1	<1	<1	4.2	<b>7.5</b>	<b>9.5</b>	NS <sup>d</sup>	NS
GWMW-11-S	<1	<1	<1	<1	<1	<1	<1	<1
GWMW-11-I	<1	<1	<1	2	1.8	4.3	3.3	2.8
GWMW-11-D	<1	<1	<1	<1	<1	<1	<1	<1
GWMW-15-S	<1	<1	<1	<1	<1	<1	<1	<1
GWMW-15-I	2.3	<1	1.1	<b>6.1</b>	<b>5.6</b>	<b>19</b>	<b>17</b>	<b>9.2</b>
GWMW-15-D	<1	<1	<1	<1	<1	1.1	<1	<1
GWMW-16-S	NS	NS	NS	1.6	4.9	<b>5.1</b>	<b>8.7</b>	2.5
GWMW-16-D	NS	NS	NS	3.1	5.0	<b>16</b>	<b>15</b>	<b>21</b>
MW-1	< <b>10</b>	<5	<1	2.1	2.9	NS	NS <sup>e</sup>	NS
MW-3	3.6	2.4	<1	NS	NS	NS	NS <sup>e</sup>	NS
MW-4	1.1	4.2	1.6	NS	NS	NS	NS <sup>e</sup>	NS

Footnote explanations and definitions are provided at the end of the table.

**Table 12. PCE Results for Annual Groundwater Sampling, 2012–2020**  
Page 3 of 4

Well	PCE Concentration (µg/L)							
	2012	2013	2014	2015	2016	2018	2019	2020 <sup>a</sup>
MW-5	<1	<1	<1	NS	NS	NS	NS (dry)	NS (dry)
MW-6	2.3	NS	NS	NS	NS	NS	NS <sup>b</sup>	NS
MW-SF1	<b>9.6</b>	NS	NS	NS	NS	NS	NS <sup>b</sup>	NS
MW-SF2	<b>11</b>	<b>7.5</b>	NS	NS	NS	NS	3.3 (dry)	3.8
MW-SF4	NS	NS	<1	NS	NS	NS	NS <sup>b</sup>	NS
MW-SF5	<1	<1	<1	1.1	1.1	NS	<1	<1
MW-SF6	<1	<1	<1	<1	<1	NS	NS <sup>b</sup>	NS
MW-SF9	<1	<1	<1	<1	<1	<1	<1	<1
MW-SF10	<b>9.5</b>	<b>12</b>	NS	<b>23</b>	<b>21</b>	<b>16</b>	<b>11</b>	<b>12</b>
NGMW-01	NS	NS	NS	NS	NS	NS	NS	<1
NGMW-01-01	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-01-02	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-01-03	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-01-04	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-01-05	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-01-06	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-01-07	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-02	NS	NS	NS	NS	NS	NS	NS	<1
NGMW-02-01	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-02-02	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-02-03	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-02-04	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-02-05	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-02-06	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-02-07	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-03	NS	NS	NS	NS	NS	NS	<1 <sup>f</sup>	<1
NGMW-03-01	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-03-02	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-03-03	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-03-04	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-03-05	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-03-06	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS

Footnote explanations and definitions are provided at the end of the table.

**Table 12. PCE Results for Annual Groundwater Sampling, 2012–2020**  
**Page 4 of 4**

Well	PCE Concentration (µg/L)							
	2012	2013	2014	2015	2016	2018	2019	2020 <sup>a</sup>
NGMW-03-07	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS
NGMW-03-08	NS	NS	NS	NS	NS	<1	NS <sup>b</sup>	NS

**Bold** indicates that value exceeds the applicable U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) or New Mexico Water Quality Control Commission (NMWQCC) standard of 5 micrograms per liter (µg/L).

<sup>a</sup> Due to replacement of FLUTE wells, 2020 annual groundwater sampling was conducted in March/April 2021.

<sup>b</sup> Not included for annual sampling in the sampling and analysis plan (SAP).

<sup>c</sup> Sample collected as part of monthly system sampling.

<sup>d</sup> FLUTE well not sampled due to loss of liner integrity.

<sup>e</sup> Not sampled because the SAP indicates that well is included for water level monitoring only

<sup>f</sup> SAP specifies collection of one sample from NGMW-03, but does not specify which interval. A grab sample was collected from near the top of screen.

<sup>g</sup> Two primary samples were collected during the 2020 sampling event. Posted PCE value is the higher of the two results (Table 11).

PCE = Perchloroethene

NS = Not sampled

Rf = Rejected, the data are unusable. FLUTE well liner lacks integrity.

**Table 13. Data Quality Indicators**

Indicator Parameter	Analytical Parameter	QC Sample	Acceptance Criteria for Laboratory Analysis
Accuracy (percent recovery)	VOCs	MS, MSD Blanks	50 to 150 percent recovery Less than CRQL
Precision (RPD)	VOCs	MS, MSD Field duplicates	30 percent RPD 50 percent RPD
Sensitivity (quantification limits)	Analytical tests	MS, MD, MSD Field duplicates	Per Table 2
Completeness	The objective for data completeness is 90 percent.		
Representativeness	The sampling network analytical methods for this site are designed to provide data that are representative of site conditions.		
Comparability	The use of standard published sampling and analytical methods and the use of QC samples will ensure data of known quality. These data can be compared to other data of known quality.		

QC = Quality control

VOC = Volatile organic compound

MS = Matrix spike

MD = Matrix duplicate

MSD = Matrix spike duplicate

CRQL = Contract-required quantitation limit

RPD = Relative percent difference

Appendix A  
Groundwater Program  
Evaluation Report

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**CALENDAR YEAR 2020**  
**GROUNDWATER PROGRAM**  
**EVALUATION REPORT**  
**GRIGGS AND WALNUT**  
**GROUNDWATER PLUME**  
**SUPERFUND SITE**  
**LAS CRUCES, NEW MEXICO**

prepared for



**REVISED**  
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**CALENDAR YEAR 2020  
GROUNDWATER PROGRAM  
EVALUATION REPORT  
GRIGGS AND WALNUT GROUNDWATER PLUME  
SUPERFUND SITE, LAS CRUCES, NEW MEXICO**

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City of Las Cruces  
New Mexico



and

Doña Ana County  
New Mexico



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**CALENDAR YEAR 2020 GROUNDWATER PROGRAM EVALUATION REPORT  
GRIGGS AND WALNUT GROUNDWATER PLUME SUPERFUND SITE  
LAS CRUCES, NEW MEXICO**

**EXECUTIVE SUMMARY**

John Shomaker & Associates, Inc. (JSAI) was subcontracted by Daniel B. Stephens & Associates, Inc. (DBS&A) to assist with the groundwater monitoring program annual evaluation for the Griggs and Walnut tetrachloroethene (PCE) plume for the Griggs and Walnut Joint Superfund Project (JSP), currently consisting of Doña Ana County and City of Las Cruces (CLC).

The purpose of the annual evaluation of Griggs and Walnut Site groundwater monitoring program is to ensure that sufficient groundwater data are being collected to assess whether operation of the extraction and treatment system is making adequate progress toward achieving the Remedial Action Objectives and Remedial Goals.

Calendar year 2020 data sources from the monitoring program include water-level data, water-quality data, groundwater-pumping data, and extraction well operational data. Calendar year 2020 data were not collected from the FLUTE wells due to compromised liners identified by (DBS&A, 2019). The FLUTE wells were replaced during the winter of 2020-21 and sampled during March and April 2021.

The two distinct hydrogeologic zones, the Upper Hydrogeologic Zone (UHZ) and the Lower Hydrogeologic Zone (LHZ), are primarily differentiated by the clay zone and water-level elevations measured in nested monitoring wells screened at different depths. Expanded zone definition is now used at the site to include three zones: "Shallow" which is generally the UHZ, "Intermediate" which is the upper portion of the LHZ, and "Deep" the lower portion of the LHZ. The UHZ and LHZ are not hydraulically connected across the Site where the clay zone is present, but the UHZ and LHZ are hydraulically connected across the Site where the clay zone is discontinuous or absent. The geologic model revised by JSAI (2019) defines the clay layer extent, better explains the observed horizontal and vertical groundwater flow mechanisms, PCE plume distribution, and PCE plume capture by extraction wells in the UHZ and LHZ (see Figs. 2 through 6). Results from the FLUTE well replacement program confirmed the current Site Conceptual Model.

When considering the Site monitoring network and Las Cruces Utilities (LCU) regional monitoring network, there are adequate water-level data collected to evaluate groundwater flow direction in the UHZ (Fig. 9) and LHZ (Fig. 11). The hydraulic gradient across the Site is fairly flat, as defined by the 3,840- and 3,830-ft water-level elevation contours (Fig. 8), with a cone of depression shown at extraction well CLC 27. The replacement of selected FLUTE wells has further improved the water-level monitoring network.



Discontinued pumping from CLC 61 in March 2019 reversed the effect of past pumping effects on vertical hydraulic gradients and potential plume migration to the south. Pumping from CLC 27 has regained better plume capture to the south, as illustrated by the LHZ water-level elevation contours on Figure 9.

The Site telescope mesh refinement (TMR) model (JSAI, 2017) was updated with data collected from 2017 through 2020 and satisfactorily calibrated. Findings indicate when CLC 61 stopped pumping in March 2019, it decreased the rate of downward vertical groundwater flow where the clay layer is absent, particularly in the area of GWMW-15, CLC 19, CLC 20, and CLC 24.

The replacement of the FLUTE wells with conventional monitoring wells has allowed for definition of the vertical and horizontal extent of the UHZ PCE plume by the Groundwater Monitoring network. Three PCE plume maps were constructed for the Shallow, Intermediate, and Deep Zones (Figs. 9, 10, and 11). The Shallow Zone at CLC 18 is nearly completely removed, and the Intermediate and Deep Zone PCE plume in the LHZ has significantly decreased in size. The concentration of elevated PCE concentrations in the LHZ decreases with respect to depth from the intermediate to the Deep Zone. Additional sampling events are needed to confirm the first sampling event results from the new monitoring network, particularly at GWMW-01(I).

Monitoring data from extraction wells CLC 18 and CLC 27 allow for performance evaluation and adequate calculation of PCE plume removal (see JSAI companion report titled *Calendar Year 2020 Optimization Assessment Report Griggs and Walnut Groundwater Plume Superfund Site, Las Cruces, New Mexico*).

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- Figure 7. Bar graph of annual pumping from wells in the Griggs and Walnut Site area, Las Cruces, New Mexico.
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- Figure 9. Aerial photograph showing water-level elevation contours and PCE concentrations for the Shallow Hydrogeologic Zone, Griggs and Walnut Site, Las Cruces, New Mexico.
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- Figure 11. Aerial photograph showing water-level elevation contours and PCE concentrations for the Deep Hydrogeologic Zone, Griggs and Walnut Site, Las Cruces, New Mexico.
- Figure 12. Graph of PCE concentration versus specific conductance values for the 2021 monitoring event, Griggs and Walnut Site, New Mexico.
- Figure 13. Topographic map showing telescope mesh refinement (TMR) groundwater-flow model grid, Griggs and Walnut Site, Las Cruces, New Mexico.
- Figure 14. Map showing telescope mesh refinement (TMR) groundwater-flow model with Griggs and Walnut Site monitoring network, Las Cruces, New Mexico.
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**(follow illustrations)**

- Appendix A. Griggs and Walnut Site plume monitoring point survey data
- Appendix B. Hydrographs for Griggs and Walnut Site plume monitoring network wells and selected City of Las Cruces wells
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**ABBREVIATIONS/ACRONYMS**

ac-ft/yr	acre-feet per year
CLC	City of Las Cruces
D	Deep Zone
DBS&A	Daniel B. Stephens & Associates, Inc.
EPA	Environmental Protection Agency
ft bgl	feet below ground level
GHB	general head boundaries
gpm	gallons per minute
gpm/ft	gallons per minute per feet
I	Intermediate Zone
JSAI	John Shomaker & Associates, Inc.
JSP	Joint Superfund Project
LCU	Las Cruces Utilities
LHZ	Lower Hydrogeologic Zone (Intermediate and Deep Zones)
kg	kilograms
ME	mean error
NMED	New Mexico Environment Department
NMOSE	New Mexico Office of the State Engineer
PCE	tetrachloroethene
Q/s	specific capacity
RMSE	root-mean-squared error
ROD	Record of Decision
S	Shallow Zone
SCM	Site Conceptual Model
SOW	Statement of Work
TMR	telescope mesh refinement
UHZ	Upper Hydrogeologic Zone (Shallow Zone)
µg/L	micrograms per liter

**GROUNDWATER PROGRAM EVALUATION REPORT  
GRIGGS AND WALNUT GROUNDWATER PLUME SUPERFUND SITE  
LAS CRUCES, NEW MEXICO**

**1.0 INTRODUCTION**

John Shomaker & Associates, Inc. (JSAI) was subcontracted by Daniel B. Stephens & Associates, Inc. (DBS&A) to assist with the assessment of the Griggs and Walnut tetrachloroethene (PCE) plume (“the Site”) and efficiency of the associated pump and treat system. This analysis was conducted for the Griggs and Walnut Joint Superfund Project (JSP), which currently consists of Doña Ana County and the City of Las Cruces (CLC). A location map is presented as Figure 1.

**1.1 Background**

The New Mexico Environment Department (NMED) first identified PCE contamination in 1993 in wells CLC 21 and CLC 27 (Fig. 1). NMED detected PCE in CLC 19 in 1994 and in CLC 18 in 1995. The Site was added to EPA’s National Priorities List (NPL) on June 14, 2001 (66 Federal Register 32235 [June 14, 2001]) based on data collected by NMED between 1993 and 2001. The Remedial Investigation began in 2002.

The EPA Remedial Investigation and Feasibility Study (RI/FS) was completed in 2006, the EPA Record of Decision (ROD) was issued in 2007, and EPA approved the remedial design in 2010. The Site pump and treat system began during September 2012, and it has been operated almost continuously for the last 9 years.

As defined in the EPA 2020 Statement of Work (SOW), the JSP shall perform Pre-Achievement Operation and Maintenance until the Remedial Action Objectives and Remedial Goals are attained. An annual evaluation of the groundwater monitoring program is required to be completed as part of the Annual Operation and Maintenance report. Past JSAI annual evaluation reports are summarized in this report.

Due to the failure of liners for several FLUTE wells (DBS&A, 2020), a replacement well program was implemented in the Fall of 2020 so data representative of site conditions can be obtained. The replacement well program is summarized in Table 1. The replacement program involved installation of conventional shallow and intermediate depth monitoring wells, and conversion of the original multi-port FLUTE well into a conventional deep monitoring well.

**Table 1. Summary of FLUTE well replacement program**

original FLUTE wells	port ID	depth of screen interval (ft bgl)	new monitoring well replacement of FLUTE well	depth of screen interval (ft bgl)
GWMW-01	1	210 - 220	GWMW-01S	210 - 230
	2	270 - 280		
	3	330 - 340	GWMW-01I	330 - 340
	4	420 - 430		
	5	460 - 470	GWMW-01D	550 - 560
	6	515 - 525		
	7	550 - 560		
GWMW-06	1	100 - 110	GWMW-06S	100 - 110
	2	165 - 175		
GWMW-08	1	190 - 200	GWMW-08S	190 - 210
	2	255 - 265		
	3	305 - 315		
	4	380 - 390		
	5	430 - 440		
	6	490 - 500	GWMW-08D	490 - 500
	7	535 - 545		
GWMW-09	1	240 - 250	GWMW-09S	210 - 230
	2	295 - 305		
	3	355 - 365		
	4	410 - 420	GWMW-09D1	410 - 420
	5	480 - 490	GWMW-09D2	550 - 560
	6	550 - 560		
	7	630 - 640		
GWMW-10	1	250 - 260	GWMW-10S	236 - 256
	2	320 - 330		
	3	370 - 380	GWMW-10I	370 - 380
	4	440 - 450		
	5	505 - 515		
	6	560 - 570	GWMW-10D	550 - 560
	7	620 - 630		

ft bgl - feet below ground level  
 S,I,D - designate shallow, intermediate, and deep



## 1.2 Purpose

The purpose of the annual evaluation of the Site groundwater monitoring program is to ensure that sufficient groundwater data are being collected to assess whether operation of the extraction and treatment system is making adequate progress toward achieving the Remedial Action Objectives and Remedial Goals.

## 2.0 DATA SOURCES

Data sources include geologic logs from the RI/FS and subsequent monitoring well drilling projects, water-level data, water-quality data, groundwater-pumping data, and extraction well operational data. Site data are collected by Las Cruces Utilities (LCU) and DBS&A. The following is a summary of data collected and JSAI's review of data collected as part of the evaluation of the groundwater monitoring program. Site monitoring point locations are shown on Figure 1.

### 2.1 Site Conceptual Model

The EPA RI/FS and JSAI (2006) Site Conceptual Model included an Upper Hydrogeologic Zone (UHZ) and a Lower Hydrologic Zone (LHZ). The LHZ was further divided into Upper and Lower units (Upper LHZ and Lower LHZ). The two distinct hydrogeologic zones, the UHZ and the LHZ, are primarily differentiated by a clay layer and water-level elevations measured in nested monitoring wells screened at different depths. The clay layer is known to impede vertical movement of groundwater and facilitate lateral movement of groundwater at the water table in the UHZ.

Top and bottom elevations of the clay layer were used to develop a three-dimensional geologic model of the Site. A map showing the confining clay layer extent and top of clay elevation contours is presented as Figure 2. A map showing the thickness of the clay unit is presented as Figure 3. Lithologic log analysis from the new conventional monitoring wells did not change the dimensions or thickness of the clay layer.

The groundwater program evaluation analysis uses the current definition of the Site conceptual model hydrogeologic zones and corresponding elevations (DBS&A, 2021), which is as follows:

- Shallow Zone wells: screened interval range 3,800 to 3,850 feet above mean sea level (ft amsl), also referred to as the Upper Hydrogeologic Zone (UHZ)
- Intermediate Zone wells: screened interval elevation range 3,685 to 3,800 ft amsl, also referred to as the Upper portion of the Lower Hydrogeologic Zone (LHZ)
- Deep Zone wells: screened interval elevation range 3,475 to 3,685 ft amsl, also referred to as the Lower portion of the LHZ

The UHZ (Shallow) and LHZ (Intermediate and Deep) are not hydraulically connected across the Site where the clay zone is present, but the UHZ (Shallow) and LHZ (Intermediate and Deep) are hydraulically connected across the Site where the clay zone is discontinuous or absent. The geologic model revised by JSAI (2019) defines the clay layer extent, and better explains the observed horizontal and vertical groundwater flow mechanisms, PCE plume distribution, and PCE plume capture by extraction wells in the UHZ (Shallow) and LHZ (Intermediate and Deep) (see Figs. 2 through 6). Results from the FLUTE well replacement program confirmed the current Site Conceptual Model.

Cross-sections presented as Figures 4, 5, and 6 show that the thickness and extent of the low-permeability silt and clay beds that divide the Shallow Zone from the Intermediate Zone have influenced the lateral and vertical distribution of PCE in groundwater. At CLC 18, the clay layer separating the Shallow and Intermediate Zones creates a hydraulic barrier to vertical flow (Figs. 4, 5, and 6). East of GWMW-16(S,D), the clay layer transitions to silt and sand allowing for vertical groundwater flow from the Shallow to the Intermediate and Deep Zones under downward head-gradient conditions, which may be influenced by regional pumping. The clay layer dividing Shallow from Intermediate Zone is shaped like a bowl with CLC 18 near the low point (Fig. 2).

## 2.2 Groundwater-Level Data

Currently, there are two types of groundwater-level data collected at the Site: 1) from conventional monitoring wells, and 2) from CLC water supply wells (active and inactive). The multi-port FLUTE wells have been replaced with conventional monitoring wells.

As identified in earlier annual evaluations by JSAI (2017), the measuring point elevations for many of the wells used to develop groundwater flow elevation contours for the Site were previously estimated from topographic data and therefore subject to error. Given the relatively flat hydraulic gradient across the Site, it was imperative that all measuring points were surveyed. The JSP had most groundwater-level measuring locations re-surveyed in 2018. New surveyed measuring points have been established for the conventional monitoring wells that replaced the multiport FLUTE wells. Results are summarized in Table 3, and survey data are presented in Appendix A.

Groundwater-level monitoring frequency specified in the SOW requires monthly measurements from the extraction wells, quarterly monitoring from inactive City wells, and annual measurements from the remaining monitoring network. As a result of the LCU groundwater monitoring program, monitoring frequency at CLC 18, CLC 27, GWMW-16(S,D), and the regional monitoring network has exceeded the SOW requirements.

### **2.2.1 Site Monitoring Network**

Locations for wells in the Site monitoring network are shown on Figure 1 and listed in Table 2. The GWMW paired wells (GWMW-01, GWMW-08, GWMW-09, GWMW-10, GWMW-11, GWMW-15, and GWMW-16) help define the horizontal and vertical extent of the PCE plume, and the vertical head difference between the Shallow, Intermediate, and Deep Zones. For GWMW paired wells in the monitoring network, Shallow Zone typically is completed above the confining clay layer (where present), and the Intermediate and Deep are below the clay layer (where present).

For the spring 2021 monitoring event, there are 19 monitoring wells used to monitor the UHZ (Shallow) (Table 3); however, several have gone dry (MW-1, MW-3, MW-4, and MW-5) as the UHZ (Shallow) is dewatered. There are approximately 16 wells used to monitor the LHZ (Intermediate and Deep). Paired conventional monitoring wells are primarily used for developing the Site groundwater-level elevation contours. Hydrographs for monitoring network wells are presented in Appendix B.

### **2.2.2 Regional Monitoring Network**

LCU developed a regional groundwater-level monitoring program in 2011. Under the monitoring program, groundwater-level data have been collected at CLC supply wells based on a defined methodology and QA/QC process. Since mid-2011, the monitoring program has used a consistent methodology for collecting hand-measurements of groundwater levels from the majority of CLC active and inactive supply wells on a monthly basis, and transducers have also recorded water levels on an hourly basis in twelve inactive wells. JSAI performs an annual QA/QC analysis of LCU collected water-level data. CLC groundwater-level data help define the regional groundwater-level elevation contours surrounding the Site. A summary of the spring 2021 groundwater-level data is provided in Table 3, and selected hydrographs are presented in Appendix B.

**Table 2. Summary of site monitoring network**

well**	northing (NMSP NAD 83, ft)	easting (NMSP NAD 83, ft)	surveyed measuring point elevation (ft amsl)	screen interval	type well	hydro- geologic zone	monitoring data
CLC 10	480,788.00	1,478,435.00	3,939.42	281 - 381	inactive	D	LCU wl
CLC 18	479,033.01	1,483,114.82	4,039.59	380 - 516.5	extraction	S/I/D*	wl, wq
CLC 19	479,464.64	1,486,241.12	4,064.77	402 - 675	inactive	I/D	LCU wl
CLC 20	477,570.53	1,486,690.77	4,074.51	380 - 673	inactive	D	wl, wq
CLC 21	481,161.95	1,485,245.75	4,075.25	366 - 612	inactive	I/D	LCU wl
CLC 24	475,131.30	1,486,440.09	4,041.01	381 - 591	inactive	D	LCU wl
CLC 26	476,624.54	1,484,299.63	4,014.15	410 - 700	standby	D	wl, wq
CLC 27	478,884.10	1,484,258.63	4,057.12	455 - 524	extraction	D	wl, wq
CLC 28	485,134.00	1,482,913.00	4,062.65	421 - 738	inactive	D	LCU wl
CLC 38	475,113.92	1,488,619.25	4,103.31	320 - 780	inactive	I/D	LCU wl
CLC 54	484,049.79	1,485,225.99	4,111.23	272 - 480	inactive	S/I/D	LCU wl
CLC 57	478,920.91	1,488,486.58	4,132.14	408 - 516	inactive	I/D	wl, wq
CLC 60	475,323.34	1,480,636.27	3,942.35	350 - 690	inactive	D	LCU wl
CLC 61	476,052.51	1,486,352.59	4,041.37	600 - 1,050	active	D	LCU wl
GWMW-01S	479,037.04	1,483,354.28	4,038.69	210 - 230	monitoring	S	wl, wq
GWMW-01I	479,031.28	1,483,330.09	4,038.96	330 - 340	monitoring	I	wl, wq
GWMW-01D	479,017.94	1,483,311.09	4,038.29	550 - 560	monitoring	D	wl, wq
GWMW-06S	480,268.97	1,478,869.86	3,946.78	100 - 110	monitoring	S	wl, wq
GWMW-08S	480,048.70	1,483,371.14	4,020.09	190 - 210	monitoring	S	wl, wq
GWMW-8D	480,044.88	1,483,351.73	4,019.85	490 - 500	monitoring	D	wl, wq
GWMW-09S	480,421.60	1,485,085.00	4,051.10	210 - 230	monitoring	S	wl, wq
GWMW-09D1	480,413.76	1,485,054.43	4,050.79	410 - 420	monitoring	D	wl, wq
GWMW-09D2	480,413.19	1,485,068.27	4,051.11	550 - 560	monitoring	D	wl, wq
GWMW-10S	479,213.78	1,484,883.41	4,063.84	236 - 256	monitoring	S	wl, wq
GWMW-10I	479,221.57	1,484,902.26	4,063.95	370 - 380	monitoring	I	wl, wq
GWMW-10D	479,228.62	1,484,920.89	4,064.60	550 - 560	monitoring	D	wl, wq
GWMW-11S	477,982.10	1,483,180.70	4,022.72	190 - 205	monitoring	S	wl, wq
GWMW-11I	477,982.40	1,483,180.50	4,022.74	299 - 314	monitoring	I	wl, wq
GWMW-11D	477,982.50	1,483,180.80	4,022.67	525 - 540	monitoring	D	wl, wq
GWMW-15S	480,920.00	1,486,661.60	4,081.03	289 - 304	monitoring	I	wl, wq
GWMW-15I	480,920.10	1,486,661.20	4,081.06	460 - 475	monitoring	D	wl, wq
GWMW-15D	480,919.90	1,486,661.20	4,081.03	581 - 596	monitoring	D	wl, wq
GWMW-16S	479,474.88	1,484,021.82	4,033.07	185 - 205	monitoring	S	wl, wq
GWMW-16D	479,469.58	1,484,002.31	4,032.73	350 - 370	monitoring	I/D	wl, wq
MW-1	478,754.90	1,483,492.60	4,037.14	187 - 197	monitoring	S	dry
MW-3	478,919.20	1,483,203.60	4,034.56	180 - 190	monitoring	S	dry
MW-4	478,681.50	1,483,079.60	4,031.59	175 - 185	monitoring	S	dry
MW-5	478,579.70	1,483,553.90	4,036.24	182 - 192	monitoring	S	dry
MW-SF2	478,837.80	1,483,252.90	4,035.71	184 - 199	monitoring	S	wl, wq
MW-SF5	479,614.90	1,481,960.00	3,995.63	138 - 153	monitoring	S	wl, wq
MW-SF9	478,481.90	1,484,636.70	4,032.35	188 - 203	monitoring	S	wl, wq
MW-SF10	480,157.00	1,484,357.30	4,038.66	194 - 204	monitoring	S	wl, wq
Paz Park	480,910.66	1,482,797.07	4,012.60	260 - 370	irrigation	D	LCU wl
NGMW-01	479,405.24	1,480,889.09	3,975.48	115 - 165	monitoring	S	wl, wq
NGMW-02	479,459.44	1,481,007.09	3,980.79	115 - 165	monitoring	S	wl, wq
NGMW-03	479,368.81	1,481,387.33	3,985.11	210 - 230	monitoring	S	wl, wq

\* screen is in Deep Zone; however, thick gravel envelope allows for comingling of Shallow and Intermediate Zones

\*\* City well screen intervals and depth based on most current records from Las Cruces Utilities

S, I, D - Shallow, Intermediate, and Deep Zones

ft amsl - feet above mean sea level

wl - water level

wq - water quality

LCU - Las Cruces Utilities

nm - not measured



**Table 3. Summary of site monitoring point reference elevations and spring 2021 water-level data from the monitoring network**

well	type well	hydrogeologic zone	measurement date	2019 depth to water (ft bmp)	2019 water-level elevation (ft amsl)	2021 measurement date	2020-21 depth to water (ft bmp)	2020-21 water-level elevation (ft amsl)	water level change 2019 to 2020-21 (ft) positive = decline; negative = rise
CLC 10	inactive	D	11/7/2019	96.2	3,843.22	4/28/2021	95.60	3,843.82	-0.60
CLC 18	extraction	S/I/D	1/10/2020	211.61	3,837.98	4/2/2021	212.73	3,836.86	1.12
CLC 19	inactive	I/D	11/19/2019	227.3	3,837.47	1/12/2021	225.00	3,839.77	-2.30
CLC 20	inactive	D	1/10/2020	237.1	3,837.41	4/4/2021	237.90	3,836.61	0.80
CLC 21	inactive	I/D	11/19/2019	237.7	3,837.55	4/6/2021	236.8	3,838.45	-0.90
CLC 24	inactive	D	11/14/2019	207.3	3,833.71	1/25/2021	207.71	3,833.30	0.41
CLC 26	standby	D	1/10/2020	176.9	3,837.25	3/30/2021	177.22	3,836.93	0.32
CLC 27	extraction	D	1/10/2020	270	3,787.12	4/2/2021	274.12	3,783.00	4.12
CLC 28	inactive	D	11/20/2019	224.7	3,836.95	4/12/2021	226.00	3,835.65	1.30
CLC 38	inactive	I/D	11/4/2019	265.7	3,836.19	4/20/2021	265.00	3,836.89	-0.70
CLC 54	inactive	S/I/D	11/14/2019	274.3	3,836.93	4/13/2021	269.60	3,841.63	-4.70
CLC 57	inactive	I/D	1/10/2020	294.5	3,837.64	4/13/2021	293.20	3,838.94	-1.30
CLC 60	inactive	D	11/7/2019	106.3	3,836.05	4/28/2021	114.80	3,827.55	8.50
CLC 61	active	D	1/10/2020	201.84	3,839.53	4/16/2021	205.00	3,836.37	3.16
GWMW-01S	MW	S	nm	nm	nm	4/1/2021	194.45	3,844.24	nm
GWMW-01I	MW	I	nm	nm	nm	4/1/2021	201.81	3,837.15	nm
GWMW-01D	MW	D	nm	nm	nm	4/1/2021	202.06	3,836.23	nm
GWMW-06S	MW	S	nm	nm	nm	3/31/2021	96.13	3,850.65	nm
GWMW-08S	MW	S	nm	nm	nm	3/31/2021	174.70	3,845.39	nm
GWMW-8D	MW	D	nm	nm	nm	3/31/2021	181.31	3,838.54	nm
GWMW-09S	MW	S	nm	nm	nm	4/1/2021	209.26	3,841.84	nm
GWMW-09D1	MW	D	nm	nm	nm	4/1/2021	211.45	3,839.34	nm
GWMW-09D2	MW	D	nm	nm	nm	4/1/2021	211.50	3,839.61	nm
GWMW-10S	MW	S	nm	nm	nm	4/2/2021	222.26	3,841.58	nm
GWMW-10I	MW	I	nm	nm	nm	4/2/2021	226.70	3,837.25	nm
GWMW-10D	MW	D	nm	nm	nm	4/2/2021	227.78	3,836.82	nm
GWMW-11S	MW	S	1/10/2020	178.68	3,844.04	3/31/2021	178.49	3,844.23	-0.19
GWMW-11I	MW	I	1/10/2020	184.76	3,837.98	3/31/2021	185.62	3,837.12	0.86
GWMW-11D	MW	D	1/10/2020	185.13	3,837.54	3/31/2021	186.12	3,836.55	0.99
GWMW-15S	MW	I	1/9/2020	241.14	3,839.89	4/1/2021	240.28	3,840.75	-0.86
GWMW-15I	MW	D	1/9/2020	241.60	3,839.46	4/1/2021	240.72	3,840.34	-0.88
GWMW-15D	MW	D	1/9/2020	241.58	3,839.45	4/1/2021	240.71	3,840.32	-0.87
GWMW-16S	MW	S	1/10/2020	189.71	3,843.02	4/2/2021	189.38	3,843.35	-0.33
GWMW-16D	MW	I/D	1/10/2020	195.26	3,837.81	4/2/2021	195.21	3,837.86	-0.05
MW-1	MW	S	1/9/2020	193.33	3,843.81	4/1/2021	dry	dry	dry
MW-3	MW	S	1/9/2020	dry	dry	4/1/2021	dry	dry	dry
MW-4	MW	S	1/9/2020	dry	dry	4/1/2021	dry	dry	dry
MW-5	MW	S	1/14/2020	dry	dry	4/1/2021	dry	dry	dry
MW-SF2	MW	S	1/9/2020	191.69	3,844.02	4/2/2021	191.51	3,844.20	-0.18
MW-SF5	MW	S	1/9/2020	148.98	3,846.65	3/31/2021	149.05	3,846.58	0.07
MW-SF9	MW	S	1/10/2020	191.03	3,841.32	3/31/2021	190.40	3,841.95	-0.63
MW-SF10	MW	S	1/9/2020	195.35	3,843.31	3/31/2021	194.97	3,843.69	-0.38
Paz Park	irrigation	D	11/20/2019	175	3,837.60	4/3/2021	174.0	3,838.60	-1.00
NGMW-01	MW	S	1/9/2020	127.42	3,848.06	3/31/2021	127.73	3,847.75	0.31
NGMW-02	MW	S	1/9/2020	132.75	3,848.04	3/31/2021	133.02	3,847.77	0.27
NGMW-03	MW	S	1/9/2020	137.54	3,847.57	3/31/2021	137.83	3,847.28	0.29

S, I, D - Shallow, Intermediate, and Deep Zones  
nm - not measured

ft amsl - feet above mean sea level  
ft bmp - feet below measuring point

### 2.3 Pumping Data

The New Mexico Office of the State Engineer (NMOSE) requires metered monthly pumping for all LCU supply wells, including Site extraction wells CLC 18 and CLC 27. Meters are required by the NMOSE to be calibrated, and metered volumes reported to the NMOSE. Other than extraction wells CLC 18 and CLC 27, there were no active pumping wells in the Site area during 2020. Average monthly and annual pumping rates for 2018 and 2019 are summarized in Table 4. Site area pumping data from 1958 to current are presented in Appendix C.

CLC 18 was pumped according to a designed schedule for 2020. Prior to March 2018, the designed schedule was 4 hrs/day at a rate of 180 gallons per minute (gpm). The pump for CLC 18 was replaced during the first week of March 2018, and the designed schedule was changed to 8 hrs/day at a rate of 90 gpm. Based on the designed schedule for optimum UHZ (Shallow) plume extraction, average monthly pumping rate for CLC 18 is about 29 gpm.

CLC 27 was pumped almost continuously for the last several years; the rate slightly increased each year (Table 4). The pump was replaced in the first week of March 2018 and average monthly pumping rate increased from about 150 gpm to 220 gpm. The pumping rate was increased to 237 gpm in 2020. CLC 27 primarily extracts the Intermediate and Deep Zones PCE plume, and secondarily, the Shallow PCE plume where the clay layer is absent.

CLC 61 was taken out of operation in March 2019 in order to reduce the potential for vertical and horizontal migration of the Intermediate and Deep PCE plume outside of the CLC 27 capture zone.

### 2.4 Monitoring Network Water-Quality Data

All spring 2021 Site monitoring network groundwater-quality data were collected by DBS&A (2021). The primary constituent of concern for the Site is PCE. Field measurements of specific conductance have been used in the past in the evaluation of the monitoring system and understanding the nature and extent of the Shallow Zone PCE plume. Planning for FLUTE well replacement began in early 2020, which included development of well replacement specifications, drilling contractor bid package, drilling contractor selection, and final contract approval. The selected drilling contractor completed the project by March 2021. For these reasons, data from the monitoring well network were not collected during 2020. A summary of the Site monitoring network and detected PCE concentrations is presented as Table 5. Time-series graphs of PCE concentration are presented in Appendix D.

**Table 4. Summary of 2018, 2019, and 2020 pumping for the Griggs and Walnut Site area**

month	CLC 18 average (gpm)			CLC 27 average (gpm)			Paz Park average (gpm)			CLC 61 average (gpm)		
	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
Jan	30.4	28.8	29.4	152	222	235.3	0	0	0.40	36	1060	0
Feb	31.3	28.4	30.4	148	225	247.5	0	2.1	0	916	1179	0
Mar	24.8	29.8	29.7	181	216	237.0	7	10.4	0	1,224	467	0
Apr	28.1	29.3	29.5	212	227	233.7	28	39.4	0	1,241	0	0
May	29.1	29.6	29.3	185	228	237.7	35	43.7	0	1,251	0	0
Jun	28.9	28.6	29.2	206	226	237.0	28	33.3	0	1,257	0	0
Jul	29.3	29.4	28.2	220	226	235.1	28	0	0	1,244	0	0
Aug	29.2	29	28.3	209	220	234.5	21	0	0	1,221	0	0
Sep	29	28.6	28.9	227	224	237.4	28	0	0	1,227	0	0
Oct	29.5	27.7	28.9	228	239	235.2	7	0	0	1,193	0	0
Nov	29.7	28.4	29.2	226	236	233.4	0	0	0	1,215	0	0
Dec	29.2	28.3	29.3	214	238	238.0	0	0	0	441	0	0
annual	29.0	28.8	29.2	201	227	236.8	15	10.7	0.03	1,039	226	0

gpm - gallons per minute

**Table 5. Summary of monitoring well network and PCE data summary**

sample location <sup>1</sup>	depth of screen interval (ft bgl)	type well	hydrogeologic zone	RI/FS 2005 PCE (µg/L)	remedial design 2009 PCE (µg/L)	system startup 2012 PCE (µg/L)	2016 PCE (µg/L)	2017 PCE (µg/L)	2018 PCE (µg/L)	2019 PCE (µg/L)	2021 PCE (µg/L)
CLC 18	315 - 516	extraction	S/I/D	35	48	42	13	15	7.6	6.6	5.0
CLC 20*	380 - 673	supply	D	---	---	2.3	<1.0	< 1.0	NR	< 1.0	< 1.0
CLC 26	410 - 700	supply	D	---	---	<1.0	<1.0	< 1.0	---	< 1.0	< 1.0
CLC 27	430 - 524	extraction	D	---	11	5.8	14	13	15	13	13.0
CLC 57*	408 - 516	supply	D	---	---	<1.0	<1.0	< 1.0	NR	<1.0	< 1.0
GWMW-01S (P1)	210 - 230	monitoring	S	5.3	---	5.8	3.8	9.8	5.0Rf	---	1.8
GWMW-01I (P3)	330 - 340	monitoring	I	1	---	2.7	1.6	7	4.3Rf	---	17.5 **
GWMW-01D (P7)	550 - 560	monitoring	D	2.1	---	3.2	<1.0	< 1.0	<1.0Rf	---	1.6
GWMW-06S (P1)	100 - 110	monitoring	S	10	---	---	---	---	<1.0Rf	---	2.0
GWMW-08S (P1)	190 - 210	monitoring	S	---	---	---	---	---	---	---	< 1.0
GWMW-08D (P6)	490 - 500	monitoring	D	<0.5	---	<1.0	<1.0	< 1.0	<1.0Rf	---	< 1.0
GWMW-09S (P1)	210 - 230	monitoring	S	0.6	<1.0	<1.0	<1.0	<1.0	<1.0	---	<1.0
GWMW-09D1 (P4)	410 - 420	monitoring	D	16	29	1.2	11	9.2	<1.0Rf	---	5.7
GWMW-09D2 (P6)	550 - 560	monitoring	D	0.2	<1.0	<1.0	<1.0	<1.0	2.0Rf	---	12.0
GWMW-10S (P1)	236 - 256	monitoring	S	3.2	31.0	47.0	1.2	5.1	8.3Rf	---	3.9
GWMW-10I (P3)	370 - 380	monitoring	I	16.0	46.0	45.0	1.8	16.0	11.0Rf	---	26.0
GWMW-10D (P6)	550 - 560	monitoring	D	0.4	<1.0	<1.0	<1.0	7.3	9.6Rf	---	1.6
GWMW-11(S)	190 - 205	monitoring	S	<0.5	<1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	<1.0
GWMW-11(I)	299 - 314	monitoring	I	<0.5	<1.0	<1.0	2	1.8	4.3	3.3	2.8
GWMW-11(D)	525 - 540	monitoring	D	<0.5	<1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	<1.0
GWMW-15(S)	289 - 304	monitoring	S/I	18	2.6	<1.0	<1.0	< 1.0	<1.0	<1.0	<1.0
GWMW-15(I)	460 - 475	monitoring	I	<0.5	<1.0	2.6	6.1	5.6	19	17	9.2
GWMW-15(D)	581 - 596	monitoring	D	<0.5	<1.0	<1.0	<1.0	< 1.0	1.1	<1.0	<1.0
GWMW-16(S)	185 - 205	monitoring	S	---	---	---	1.6	4.9	5.1	8.7	2.5
GWMW-16(D)	350 - 370	monitoring	I	---	---	---	3.1	5	16	15	21.0
MW-1*	187 - 197	monitoring	S	0.2	---	<5.0	2.1	2.9	---	---	dry
MW-3*	180 - 190	monitoring	S	6.4	---	2.4	---	---	---	---	dry
MW-4*	175 - 185	monitoring	S	1	---	4.2	---	---	---	---	dry
MW-5	182 - 192	monitoring	S	0.5	---	<1.0	---	---	---	---	dry
MW-SF2	184 - 199	monitoring	S	8.3	---	7.4	---	---	---	3.3	3.8
MW-SF5	138 - 153	monitoring	S	1.7	---	<1.0	1.1	< 1.0	---	<1.0	<1.0
MW-SF9	188 - 203	monitoring	S	<0.5	---	<1.0	<1.0	< 1.0	<1.0	<1.0	<1.0
MW-SF10	194 - 204	monitoring	S	17	---	10	23	21	16	11	12.0
NGMW-01	115 - 165	monitoring	S	---	---	---	---	---	<1.0	---	<1.0
NGMW-02	115 - 165	monitoring	S	---	---	---	---	---	<1.0	---	<1.0
NGMW-03	115 - 165	monitoring	S	---	---	---	---	---	<1.0	<1.0	<1.0

<sup>1</sup> replaced FLUTE well have corresponding port denoted as (P#) for comparison of previous results for same interval

\* - water-level data only SOW, table 1

\*\* average of two sample results; during the sampling event see DBSA (2021)

S, I, D - Shallow, Intermediate, and Deep Zones

RI/FS - EPA Remedial Investigation and Feasibility Study

PCE - tetrachloroethene

R - PCE results rejected, shown for information only

ft amsl - feet above mean sea level

ft bgl - feet below ground level

µg/L - micrograms per liter



Past analyses have used general chemistry and specific conductance groundwater data compiled from the monitoring network to examine the correlation between elevated specific conductance and PCE concentrations (JSAI, 2019). The correlation between specific conductance and PCE has previously been used as one basis for estimating PCE concentrations and mass removal from CLC 18 (JSAI, 2013; JSAI, 2016; JSAI, 2019). Almost all wells with elevated specific conductance also have detectable concentrations of PCE; however, there are some monitoring points that have elevated specific conductance and no detectable PCE. All wells with specific conductance values less than 800  $\mu\text{S}/\text{cm}$  do not have detectable PCE concentrations (JSAI, 2019). The primary conclusion is that groundwater with elevated specific conductance represents water originating from the Shallow Zone, and groundwater with relatively low specific conductance ( $< 800 \mu\text{S}/\text{cm}$ ) is representative of Deep Zone not impacted by the PCE plume.

## **2.5 CLC 18 and CLC 27 Operational Data**

As part of the remedial design, in 2010 CLC 18 and CLC 27 were modified by performing partial plugback so pumping would occur from the upper screen section where the PCE plume is present without clean groundwater contributions from the lower screen section. Following modifications, step-drawdown pumping tests and water-quality analyses were performed on CLC 18 and CLC 27 (JSAI, 2011).

Since start up, groundwater level, metered diversions, and PCE concentration data have been collected from CLC 18 and CLC 27. A specific conductance sensor was installed on the CLC 18 discharge line and connected to an LCU Supervisory Control and Data Acquisition (SCADA) system. The specific conductance data were used to optimize the pumping cycle for CLC 18. Since 2018, CLC 18 specific conductance data have been collected every 15 minutes. CLC 18 and CLC 27 also have flow meters and transducers that are connected to the LCU SCADA system. Pumping and non-pumping groundwater-level data were collected on 15-minute intervals, which are verified by monthly hand-measured monthly water levels.

Transducers were installed in GWMW-16(S,D) (see Appendix B hydrographs). GWMW-16(S) shows water level responses from pumping CLC 18.

### 3.0 HYDROGEOLOGIC ANALYSIS

Some modifications to the original Site Conceptual Model (SCM) developed by EPA for the RI/FS were made by JSAI (2019). These changes in the SCM inform how the groundwater monitoring program is evaluated and whether operation of the extraction and treatment system is making adequate progress toward achieving the Remedial Action Objectives and Remedial Goals.

#### 3.1 Hydrostratigraphic Units

The distinct Site hydrogeologic zones, the Shallow, Intermediate and Deep, are primarily differentiated by the clay zone and groundwater elevations measured in nested monitoring wells screened at different depths. The Shallow, Intermediate, and Deep are not hydraulically connected across the Site where the clay zone is present; however, the Shallow, Intermediate, and Deep are hydraulically connected across the Site where the clay zone is absent (see Table 6). It was previously assumed the UHZ (shallow) and LHZ (Intermediate and Deep) were hydraulically connected across the Site, but in varying degree of hydraulic communication (EPA, 2006).

Updates to the SCM are illustrated by new developed clay layer elevation and thickness contours (Figs. 2 and 3) and hydrogeologic cross-sections (Figs. 4, 5, and 6). Figure 2 shows the elevation of the top of clay layer and clay-layer depression at CLC 18. A preferential flow path is defined as the topographic lows in the top of clay layer that form a channel trending from GWMW-03 to CLC 18, and then to MW-SF10 (Fig. 2). Clay layer topographic highs likely limit groundwater flow in the Shallow, particularly where the top of clay is near the water table.

The thickness and extent of the low-permeability silt and clay beds that divide the Shallow from the Intermediate and Deep have influenced the lateral and vertical distribution of PCE in groundwater (Fig. 4). At CLC 18, the clay layer separating the Shallow and Intermediate creates a hydraulic barrier to vertical flow. East of GWMW-16(S,D), the clay layer transitions to silt and sand allowing for vertical groundwater flow from the Shallow to Deep under downward head-gradient conditions influenced by pumping CLC 27 and other regional municipal wells completed in the Deep Zone.

**Table 6. Summary of head difference between Shallow and Deep Hydrogeologic Zones measured in well pairs**

well	hydrogeologic zone	spring 2021 water level elevation (ft amsl)	head difference <sup>1</sup> (ft)
GWMW-01S GWMW-01D	Shallow <sup>2</sup> Deep	3,844.24 3,836.23	8.01
GWMW-08S GWMW-08D	Shallow <sup>2</sup> Deep	3,845.39 3,838.54	6.85
GWMW-09S GWMW-09D2	Shallow <sup>2</sup> Deep	3,841.84 3,839.61	2.23
GWMW-10S GWMW-10D	Shallow <sup>2</sup> Deep	3,841.58 3,836.82	4.76
GWMW-11S GWMW-11D	Shallow <sup>2</sup> Deep	3,844.23 3,836.55	7.68
GWMW-15S GWMW-15D	Intermediate <sup>3</sup> Deep	3,840.75 3,840.32	0.43
GWMW-16S GWMW-16D	Shallow <sup>2</sup> Intermediate	3,843.35 3,837.86	5.49

<sup>1</sup> Positive number indicates a higher head in the Upper than the Lower Hydrogeologic Zone.

<sup>2</sup> Clay layer between Shallow and Deep Hydrogeologic Zone is present.

<sup>3</sup> Clay layer between Shallow and Deep Hydrogeologic Zone is not present.

ft amsl - feet above mean sea level

### 3.2 Groundwater Flow

Groundwater flow has been predominantly west to east across the Site since PCE was first detected (JSAI, 2006). The PCE plume moves from west to east in the Shallow Zone until it is able to migrate vertically into the Intermediate and Deep, except where the cone of depression has formed around CLC 18. The Shallow, Intermediate, and Deep eastward groundwater flow was previously established, at least in part, by a cone of depression caused by municipal well pumping along the I-25 corridor (CLC 18, CLC 19, CLC 20, CLC 21, CLC 24, CLC 26, and CLC 27) that occurred between 1960 and 2000 (JSAI, 2006).

The north to south oriented groundwater trough caused by pumping along the I-25 corridor has varied in size with total pumping rate. Groundwater flow on the east side of this groundwater trough has been to the west toward the pumping center. Figure 7 presents a bar graph of annual CLC pumping since 1958.

### **3.2.1 Horizontal Flow Direction**

Regional groundwater elevation contours and direction of flow for December 2020 data are presented on Figure 8. The hydraulic gradient across the regional vicinity of the Site remains fairly gentle (0.003 to 0.0004 ft/ft), as defined by the 3,840- and 3,830-ft water-level elevation contours (Fig. 8), with a cone of depression shown at CLC 27.

Current (spring 2021) groundwater-level elevation contours for the UHZ (Shallow) at the Site are presented on Figure 9. Groundwater flow in the Shallow Zone at the Site is generally toward the east with a localized cone of depression induced by extraction at CLC 18.

Current (spring 2021) groundwater-level elevation contours for the Intermediate and Deep Zones at the Site are presented on Figures 10 and 11. Groundwater flow in the Intermediate and Deep Zones is toward the cone of depression formed by extraction at CLC 27. Groundwater flow at GWMW-15 is to the southwest toward CLC 27 (Fig. 10). Regional groundwater elevation contours (Fig. 8) also show westbound direction of flow at GWMW-15S.

### **3.2.2 Vertical Head Gradient**

The head difference between the Shallow and Deep is about 5 to 8 ft where the clay layer is present, and less where the clay layer is thin or absent (Table 6). Past groundwater-level data (2002 to 2006) from the multi-port FLUTE wells also revealed a similar distribution of head differences due to the clay layer (see hydrographs in Appendix B); however, groundwater-level data from the conventional monitoring wells are considered more accurate as compared to the FLUTE wells for the purpose of evaluating the groundwater vertical gradient.

The vertical downward head gradient is the primary mechanism that allows drainage through the gravel pack and capture of the Shallow Zone at extraction well CLC 18 (Fig. 4). The lack of vertical head gradient near GWMW-09 and GWMW-15 indicates there is no impedance of groundwater flow between the Shallow, Intermediate, and Deep Zones, thereby allowing extraction well CLC 27 to capture the PCE plume in all zones.



CLC 61 is screened much deeper (600 to 1,000 ft) than other wells in the area and when significantly pumped may induce vertical groundwater flow where the clay layer is absent along the I-25 corridor, particularly in the area of GWMW-10, GWMW-15, CLC 19, and CLC 20. The effect of CLC 61 pumping is not apparent from groundwater-level elevation contouring analysis (JSAI, 2019). However, the groundwater-level effects of CLC 61 pumping have become apparent through more detailed monitoring of water level trends from CLC 19, CLC 20, CLC 24, and CLC 26 over the past few years (See Table 3 and Appendix B), where drawdown (water-level decline) and recovery (water-level rise) cycles in Site wells are easily correlated to CLC 61 pumping. Since start up in 2012, CLC 61 pumping is the only significant pumping in the Site area other than pumping from CLC 18 and CLC 27 (Fig. 7). CLC 61 has not been pumped since March 2019 (Table 4).

### 3.3 Water Level Trends

Hydrographs are presented in Appendix B. Non-pumping water levels have been declining at extraction wells CLC 18 and CLC 27 with an average decline rate of 1.1 feet per year (ft/yr) (Figs. B1 and B2). Hydrographs for inactive municipal wells within and surrounding the GWP site are presented as Figures B3 through B14. The average rate of water level decline ranges from 0.2 to 0.5 ft/yr for the areas surrounding the extraction well pumping.

Hydrographs comparing water level measurements from the FLUTE well ports and the FLUTE replacement wells are presented as Figures B15 through B19. Measured water levels from the conventional replacement monitoring wells are more reliable, and show fewer erratic trends than the former FLUTE wells. Hydrographs for GWMW-11, GWMW-15, and GWMW-16 illustrate the maintained head difference between the Shallow and Deep (see Figs. B20 through B22).

During 2020, transducers were installed in GWMW-16(S,D). A hydrograph comparing extraction well CLC 18 transducer data to GWMW-16(S,D) transducer data is presented as Figure B25. During the month of March 2020, a response to CLC 18 pumping cycles can be observed at GWMW-16(S). Longer term water level trends for GWMW-16(S,D) show seasonal variation (Fig. B26). More data are needed to interpret the seasonal variation at GWMW-16(S,D).

### 3.4 Geochemical Characteristics

A correlation was previously made between specific conductance and PCE concentrations at CLC 18 (JSAI, 2013). In the past, continuous monitoring of specific conductance at CLC 18 has been used to optimize capture of the Shallow Zone PCE plume (see JSAI companion report titled *Calendar Year 2020 Optimization Assessment Report Griggs and Walnut Groundwater Plume Superfund Site, Las Cruces, New Mexico*).

Specific conductance and PCE data were compiled for the 2019 and 2021 monitoring event from the Site monitoring network and CLC 18 to track the relationship between the two parameters. As shown on Figure 12, there is a wide range of specific conductance values from the monitoring network (390 to 2,140  $\mu\text{S}/\text{cm}$ ). At the Site monitoring wells, low specific conductance ( $<1,000 \mu\text{S}/\text{cm}$ ) results in non-detectable PCE, and elevated specific conductance can be associated with non-detectable PCE and detectable PCE concentrations. CLC 18 PCE concentrations have been decreasing (Table 5); however, specific conductance concentrations representative of the Shallow Zone have remained the same (as expected). As the Shallow Zone PCE plume is removed by CLC 18 pumping, the correlation between specific conductance and PCE concentration has changed so that the equivalent specific conductance values are now associated with lower PCE concentrations. For example, at a specific conductance of 1,700  $\mu\text{S}/\text{cm}$ , PCE concentrations from 2020 were approximately 5 to 6  $\mu\text{g}/\text{L}$ , as compared to greater than 20  $\mu\text{g}/\text{L}$  for years prior to 2014.

### 3.5 PCE Plume

Since remedial system start up in 2012, the Site PCE plume has been decreasing in size and concentration (see Table 5 and graphs in Appendix D). Prior to system start up PCE concentrations were commonly above 20  $\mu\text{g}/\text{L}$ , and most all 2021 results were below 17  $\mu\text{g}/\text{L}$ . Notable decreases in PCE concentrations during spring 2021 sampling event were observed at GWMW-11(I), GWMW-15(I), and GWMW-16(S) (Table 5).

Spring 2021 PCE concentrations are shown with the groundwater elevation contours on Figures 9, 10, and 11 for the Shallow, Intermediate, and Deep Zones. The extent of the PCE plume displayed on Figures 9, 10, and 11 is well constrained by the new monitoring network.

### 3.5.1 Horizontal Extent

The estimated PCE plume horizontal extent above the clay layer in the Shallow Zone is confined to an area between CLC 18 and MW-SF10 (Fig. 9). Monitoring wells MW-SF-2, MW-SF10, GWMW-9(S), GWMW-10(S), and GWMW-16(S) define the Shallow Zone PCE extent. PCE concentrations at extraction CLC 18 and in Shallow monitoring wells (MW and MW-SF series) have significantly decreased over time (see graphs in Appendix D), indicating the Shallow Zone plume is decreasing in concentration and size.

The horizontal extent in the Intermediate and Deep Zones is currently defined by monitoring wells GWMW-9(D1,D2), GWMW-11(I), GWMW-16(D), and GWMW-15(I). The highest concentrations observed in the Intermediate Zone) are at GWMW-1(I), and GWMW-10(I) (Fig. 10). It is still difficult to determine from the available data if the PCE concentrations at GWMW-15(I) are part of or isolated from the primary plume mass in the Intermediate and Deep Zones. The PCE plume decreases with respect to depth from the Intermediate to the Deep Zones, particularly at GWMW-09, and GWMW-10 (see Figs 10 and 11).

### 3.5.2 Vertical Extent

The estimated vertical extent of the PCE plume in the Shallow Zone is controlled by the confining clay layer where it is present. Due to downward gradient from pumping CLC 27, the Shallow Zone PCE plume vertically migrates to the Intermediate and Deep Zones where the clay layer is absent (Fig. 4). The best indicator of vertical movement of the plume due to downward gradient is the observed changes in PCE concentration over the last few years at GWMW-15(S) and GWMW-15(I). GWMW-15(S) PCE concentration was 18 µg/L in 2005, but below 5 µg/L by 2009. GWMW-15(I) PCE concentration was below 5 µg/L in 2005, but increased to 19 µg/L between system start up in 2012 to 2019 (see Fig. D8 in Appendix D). GWMW-15(I) PCE concentration for spring 2021 has decreased to 9.2 µg/L. Given the time frame for GWMW-15, the rate of vertical plume movement during this time period was on average 19 ft/yr or 0.05 ft/day at this location. Spring 2021 PCE concentrations were non-detect at GWMW-15(D) (Table 5).

There is a possibility that replacement monitoring wells with significant downward head gradients, such as GWMW-01(S,I,D) and GWMW-08(S,D), experienced comingling of Shallow, Intermediate, and Deep groundwater between the time the FLUTe well was cleaned out and recompleted as a deep monitoring well. During the spring 2021 sampling, elevated specific conductance are noted in GWMW-01(I,D) and GWMW-08(D), where lower specific conductance is expected. Representation of the spring 2021 results for these wells will be confirmed by the next sampling event.

### 3.6 Site Conceptual Model Summary

The revised geologic model by JSAI (2019) has identified preferential flow pathways on top of the clay layer (Fig. 2) that explain the movement of the Shallow Zone PCE plume toward extraction well CLC 18 and MW-SF10. The Shallow Zone PCE plume is nearly removed around CLC 18 and the remaining plume is within the capture zone of CLC 27.

Eastward groundwater flow was established by municipal pumping that began in the 1960s (Fig. 7). The PCE plume at CLC 18 previously migrated east to southeast until intercepted by municipal well pumping (CLC 19 and CLC 21). Pumping at wells CLC 54 and CLC 57, between 1988 to 2002, may have caused the eastward migration of the PCE plume to GWMW-15; however, it is possible the observed PCE concentrations at GWMW-15(S,I) are related to a separate source.

The vertical extent of PCE plume in the Shallow Zone is controlled by the confining clay layer; however, due to downward gradient, the Shallow Zone PCE plume vertically migrates to the Intermediate and Deep Zones where the clay layer is absent. CLC 18 captures the PCE in the Shallow Zone above the clay layer, where CLC 27 captures the PCE plume in the Shallow Zone where the clay layer is absent and in the Intermediate and Deep Zones.

## 4.0 NUMERICAL MODEL UPDATE

The Griggs and Walnut groundwater-flow and solute-transport model (JSAI, 2006) was used for the EPA Remedial Investigation and Feasibility Study (EPA, 2006). The model was updated in 2009 (JSAI, 2009). Additional model updates have been made from 2017 through 2019 and are summarized in this report.

The discontinued pumping from municipal wells surrounding the Site has resulted in a reduction in the need for using the full extent of the original model, and model-simulated pumping outside of the plume area. Using the original model, the Site telescope mesh refinement (TMR) model was constructed (JSAI, 2017). Area of the telescope mesh refinement is shown on Figure 13. The main objective of the TMR model was to better simulate local hydraulic influences of the clay layer on plume capture that could not be made with the original model.



The TMR model consists of the original five model layers with 66 rows and 66 columns, and model cell dimensions of 200 by 200 ft. The TMR model grid with the Site monitoring network are shown on Figure 14. Visual MODFLOW Pro (Waterloo Hydrogeologic, 2011) software was used to run the MODFLOW model.

It was assumed that year-2012 Site conditions, prior to pumping CLC 18 and CLC 27, represented a steady-state condition. The steady-state condition was simulated by adding general head boundaries (GHB) for groundwater inflow at the northwest corner of Layer 1 and groundwater outflow along the north, west, and south sides of Layer 5. Previous additional calibration measures included the following:

1. Reduced hydraulic conductivity of the clay layer in Layer 2 from 1 ft/day to 0.01 ft/day
2. Reduced specific yield from 0.15 to 0.10
3. Increased hydraulic conductivity in Layer 4 from 5 to 10 ft/day

The model update consisted of incorporation of annual pumping data and all available water-level data for calibration. Measured model input data were extended through the end of 2020. Appendix C lists the simulated annual pumping from wells CLC 18, CLC 27, and CLC 61 in terms of averaged rate per modeled stress period. The only pumping simulated in the model for 2020 includes CLC 18 from Layer 1, CLC 27 from Layer 3. Transient groundwater-flow simulations included the time period from May 2012 to May 2029. Future transient groundwater-flow simulations will be expanded to 2034 to accommodate the 14-year period from the revised SOW effective date of June 30, 2020.

#### **4.1 TMR Model Calibration**

Several common statistical measures for comparing observed hydraulic heads with simulated hydraulic heads were used to assess the new calibration of the groundwater flow model: root-mean-squared error (RMSE), mean absolute error (MAE), mean error (ME), correlation coefficient ( $r$ ), and coefficient of determination ( $r^2$ ). All of these statistics are well known and are defined elsewhere (e.g., Anderson and Woessner, 1992; Davis, 1986). The normalized RMSE (ratio of RMSE to total range in observed heads) is also considered. For perfect calibrations, the RMSE, MAE, and ME tend to zero, whereas  $r$  and  $r^2$  tend to one. The correlation coefficient and the coefficient of determination measure the linear relationship between simulated and observed hydraulic heads. The closer  $r$  and  $r^2$  are to one, the better the fit between the observed and modeled data.

Groundwater-head calibration results are shown on the hydrographs in Appendix E and calibration results are also presented in Figure 15. The model-simulated heads reasonably matched observed heads in the Upper and Lower Hydrogeologic Zones. A total of 51 available data points was used to compare measured water levels for the 11 active calibration target locations. The histogram on Figure 15 shows that 92% (47 out of 51) of the absolute residual values are less than 2 ft and that 100% (51 out of 51) are less than 5 ft. Calibration statistics are summarized in Table 7.

The model shows an acceptable correlation between observed and simulated water levels ( $r^2 = 0.943$ ) with a normalized RMSE of 10.8 percent. The RMSE is a measurement of the spread of residuals (differences between simulated and observed values). If the normalized RMSE is small—typically less than 10 to 15 %—then a “good” calibration is generally indicated (ESI, 2011) and the remaining errors are considered to be a negligible part of the overall model response (Anderson and Woessner, 1992).

**Table 7. Summary of model calibration statistics for historical transient simulation 2012 to 2020**

<b>statistics of calibration targets</b>	<b>result</b>
number of targets	58
range in observed head	14.37
mean observed head	3,841.4
maximum residual (ft)	4.1
minimum residual (ft)	-1.8
RMSE (ft)	1.48
standard deviation of residual error (ft)	1.4
bias (mean error in ft)	0.58
normalized RMSE	0.15
R-squared	0.90

RMSE - root-mean-squared error

## 5.0 EFFECTIVENESS OF MONITORING NETWORK

Primary data from the monitoring network include measured groundwater levels, metered pumping, and PCE concentration from collected samples. The SOW (EPA, 2020) requires monthly water-level monitoring from CLC 18 and CLC 27, quarterly water-level monitoring from inactive City wells in the Site area, and annual water-level monitoring from the monitoring well network. Groundwater-level monitoring and metered pumping from the extraction wells and active and inactive City wells are performed monthly by LCU; however, most City wells have transducers with daily data collection. Groundwater-quality data are collected from the monitoring network annually.

The effectiveness of the monitoring system is based on the ability to characterize and monitor the contaminated groundwater plume over time. Two general categories for characterizing the groundwater plume include defining the groundwater flow direction and defining the extent of the PCE plume.

### 5.1 Groundwater Flow Direction

The water-level monitoring program provides a robust dataset for determining groundwater flow direction in the Shallow Zone and in the Intermediate and Deep Zones on a regional and local scale; water-level interpretation has significantly improved with FLUTE well replacement. Time-series water-level data are critical for calibration of the model used to assess remedial progress and effectiveness of the monitoring network. There are adequate groundwater-level data for characterizing the groundwater plume and defining the groundwater flow direction as shown on Figures 9, 10, and 11, and by the hydrographs in Appendix B.

### 5.2 Defining Extent of PCE Plume

The PCE plume in the Shallow Zone is well defined by the modified monitoring network, and additional monitoring points are not needed at this time to characterize the plume or define the extent. However, additional sampling events are needed to confirm the spring 2021 sampling event and to develop trends from the FLUTE well replacements.

The PCE plume in the Deep Zone is currently defined. The extent of elevated PCE concentrations in the Intermediate at GWMW-15(I) is not well defined; however, GWMW-15 is on the upgradient side of the PCE plume and groundwater flow at this location is toward

extraction well CLC 27 (Fig. 10). The extent of the PCE plume downgradient and southeast of GWMW-10 is not well defined by the monitoring network, as shown on Figure 10; however, the direction of groundwater flow is toward CLC 27. The vertical extent of the Deep Zone PCE plume is otherwise defined by GWMW-11 and GWMW-15. Cessation of pumping at CLC 61 (March 2019) minimized the potential for induced vertical PCE plume movement (see Fig. 10). Model simulations indicated the cessation of pumping from CLC 61 will cause the water level of the southern edge of the Deep Zone PCE plume to rebound so it is more readily captured and extracted by CLC 27 pumping, and the current dataset validates the model results.

## 6.0 SUMMARY OF FINDINGS

The three hydrogeologic zones, Shallow, Intermediate, and Deep, are primarily differentiated by the clay zone and water-level elevations measured in nested monitoring wells screened at different depths. The Shallow Zone is not hydraulically connected across the Site to the Intermediate or Deep Zones where the clay zone is present, and but the Shallow, Intermediate, and Deep Zones are hydraulically connected across the Site where the clay zone is absent. It was previously thought the shallow, Intermediate, and Deep Zones were hydraulically connected across the Site, but in varying degree of hydraulic communication (EPA, 2006). The revised geologic model by JSAI (2019) defined the clay layer extent, which better explains the observed horizontal and vertical groundwater flow mechanisms, PCE plume distribution, and PCE plume capture by extraction wells (see Figs. 2 through 11).

When considering the current Site monitoring network and LCU regional monitoring network, there are adequate groundwater-level data collected to evaluate groundwater flow direction in the Shallow Zone (Fig. 9), Intermediate Zone (Fig. 10), and Deep Zone (Fig. 11). The hydraulic gradient across the Site is fairly gentle, as defined by the 3,840- and 3,830-ft water-level elevation contours (Fig. 8), with a cone of depression shown at CLC 27.

Given the relatively gentle hydraulic gradient, the re-surveying of measuring point elevations in early 2019 (Table 2; Appendix A) provides better confidence in the water-level elevation contouring efforts; for example, 1-ft water-level contour intervals are now possible for creating Figures 9, 10, and 11.

The Site telescope mesh refinement (TMR) model (JSAI, 2017) was updated with data collected from 2017 to 2020 and satisfactorily calibrated. Pumping from CLC 61 was also added to the model calibration and simulations by JSAI (2019). CLC 61 is screened deeper (600 to 1,000 ft) than all other wells in the area and when significantly pumped (as observed in 2018) has the potential to induce vertical groundwater flow where the clay layer is absent, particularly in the area of GWMW-10, GWMW-15, CLC 19, and CLC 20.

The vertical and horizontal extent of the Shallow Zone PCE plume is defined by the revised groundwater monitoring network as a result of the FLUTE well replacement program. The Intermediate and Deep Zone PCE plume is not completely defined down-gradient and southeast of GWMW-10; however, groundwater in this area is toward extraction well CLC 27 (see Fig. 10). Model simulations indicated the cessation of pumping from CLC 61 caused the water level of the southern edge of the Deep Zone PCE plume to rebound so it is more readily captured and extracted by CLC 27 pumping.

There is a possibility that replacement monitoring wells with significant downward head gradients, such as GWMW-01(S,I,D) and GWMW-08(S,D), experienced comingling of Shallow, Intermediate, and Deep Zones groundwater between the time the FLUTE well was cleaned out and recompleted as a deep monitoring well. During the spring 2021 sampling, elevated specific conductance was noted in GWMW-01(I,D) and GWMW-08(D), where lower specific conductance is expected. Representation of the spring 2021 results for these wells will be confirmed by the next sampling event.

Monitoring data from CLC 18 and CLC 27 allow for performance evaluation and adequate calculation of PCE plume removal (see JSAI companion report titled *Optimization Assessment Report 2020 Griggs and Walnut Groundwater Plume Superfund Site, Las Cruces, New Mexico*).

## 7.0 RECOMMENDATIONS

The following recommendations are based on review of all Site monitoring data, analysis of data, and results from the updated TMR groundwater flow model calibration.

1. Maintain CLC 27 average pumping rate between 225 and 240 gpm.
2. Additional data from the revised monitoring network will help establish a better understanding of the remedial progress.



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**ILLUSTRATIONS**



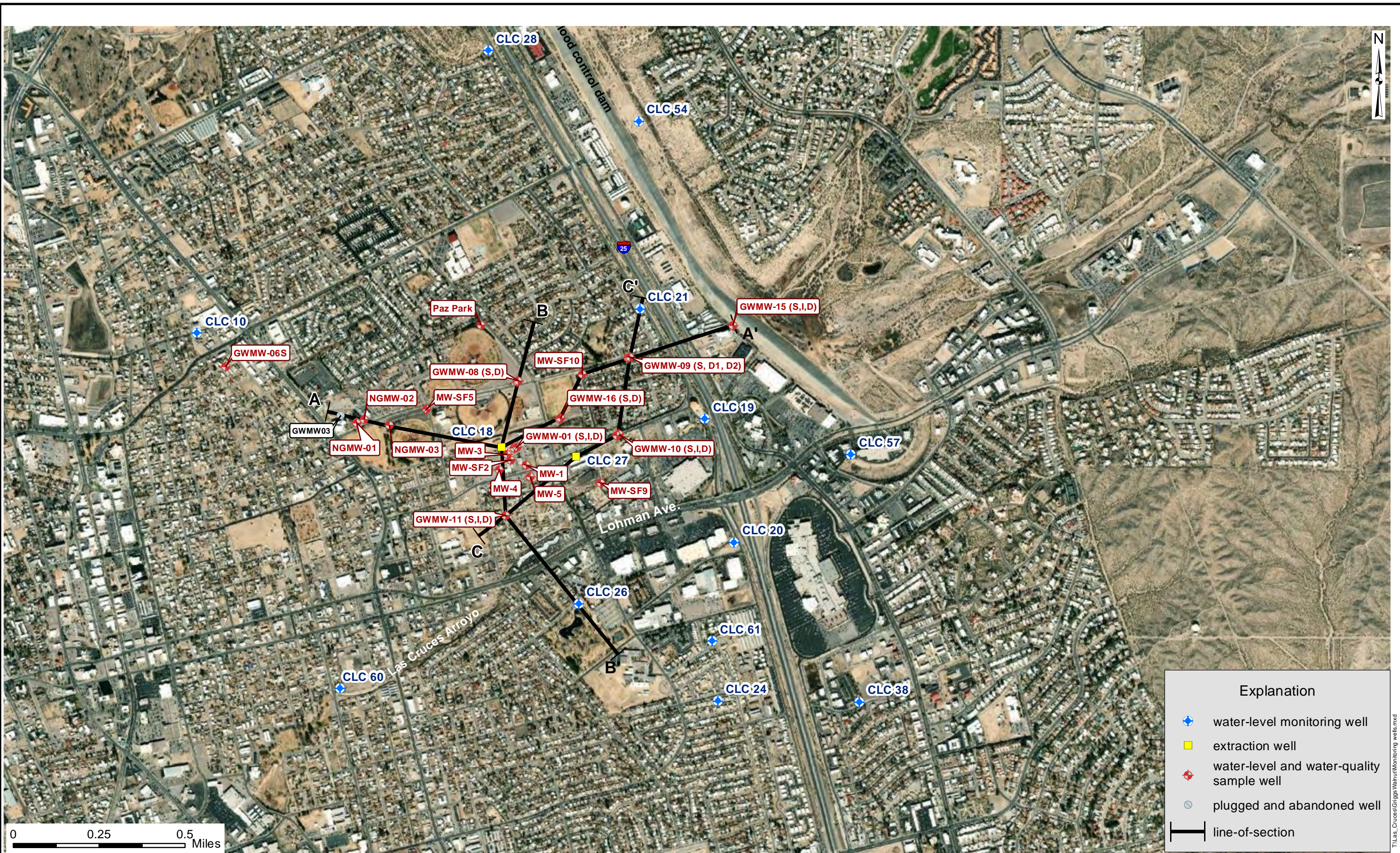
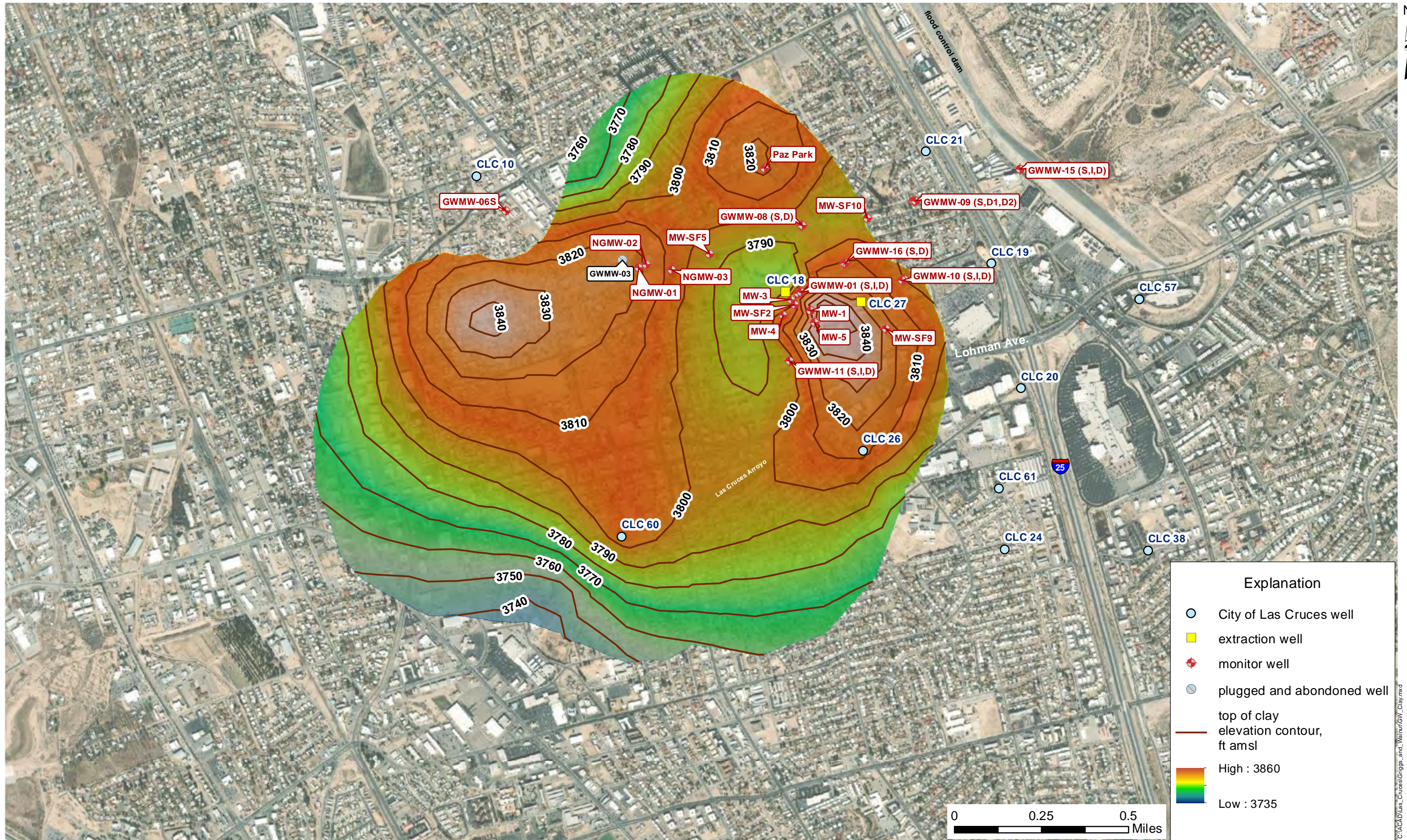
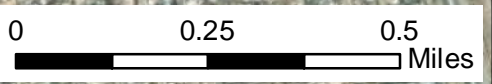


Figure 1. Aerial photograph of the Griggs and Walnut Site showing monitoring network, City of Las Cruces, New Mexico.





Explanation	
	City of Las Cruces well
	extraction well
	monitor well
	plugged and abandoned well
	top of clay elevation contour, ft amsl
	High : 3860 Low : 3735



Aerial photography source: DigitalGlobe July 2017

Figure 2. Aerial photograph of the Griggs and Walnut Site showing top of clay layer elevation contours and clay layer extent, Las Cruces, New Mexico.



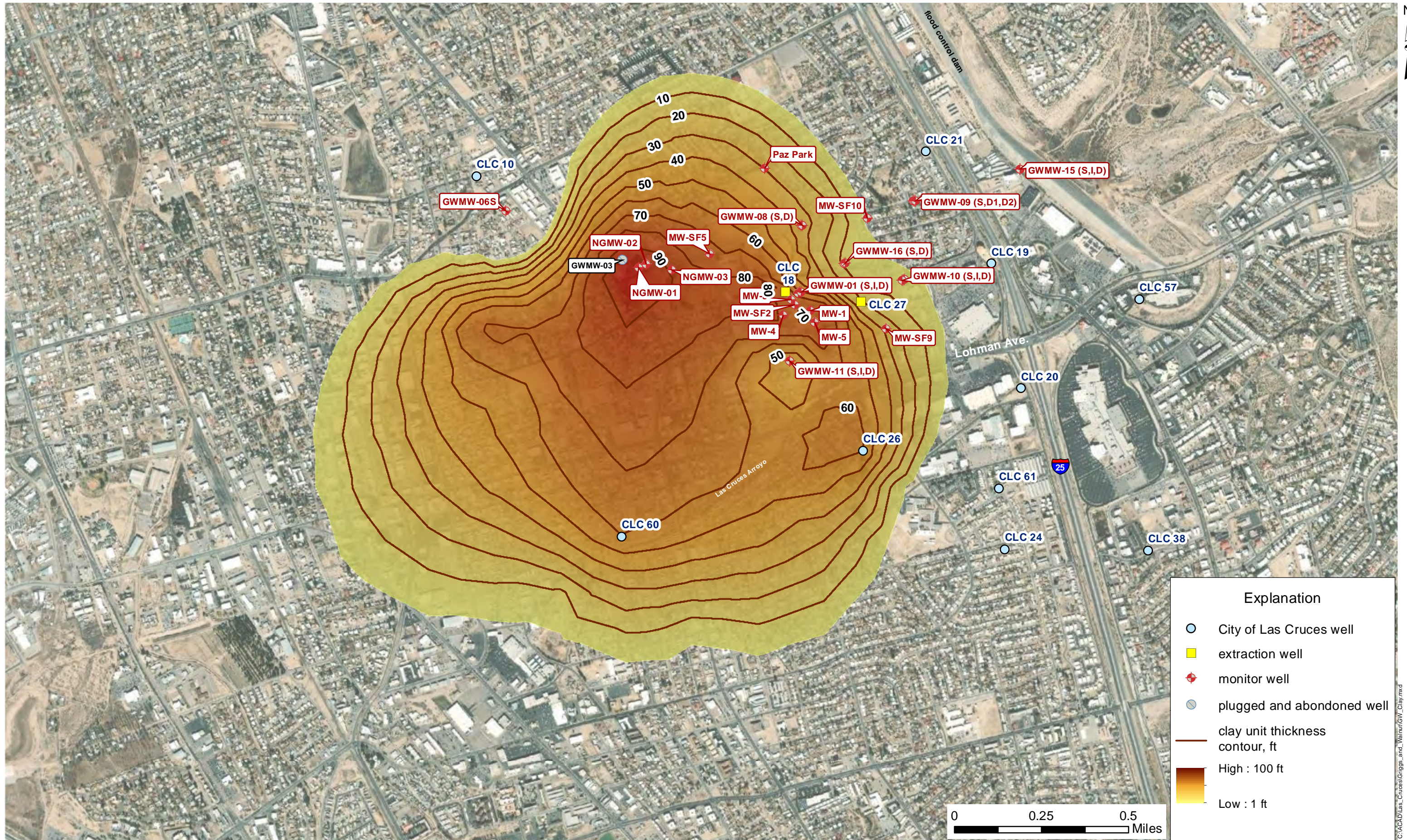
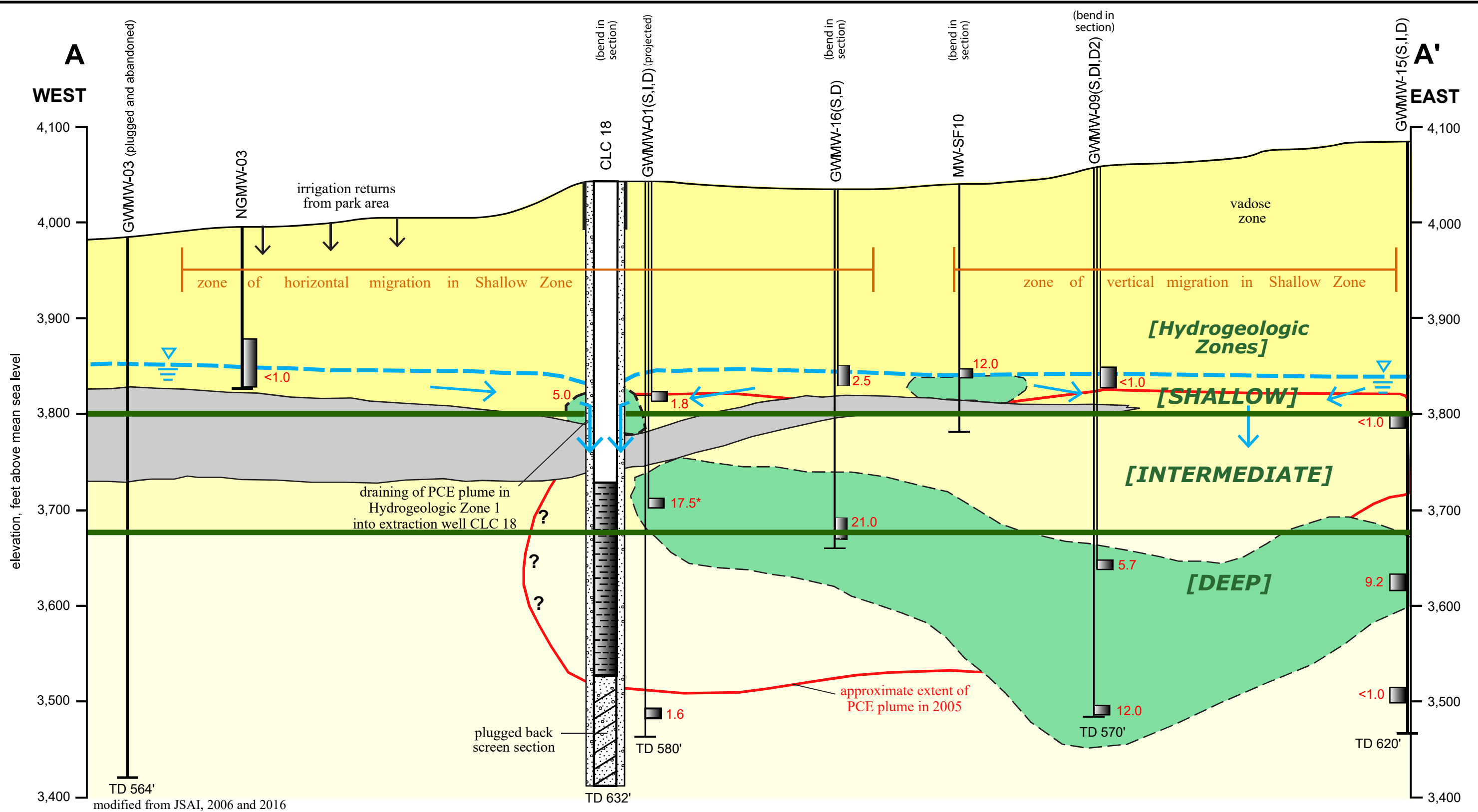


Figure 3. Aerial photograph of the Griggs and Walnut Site showing clay layer extent and thickness contours, Las Cruces, New Mexico.

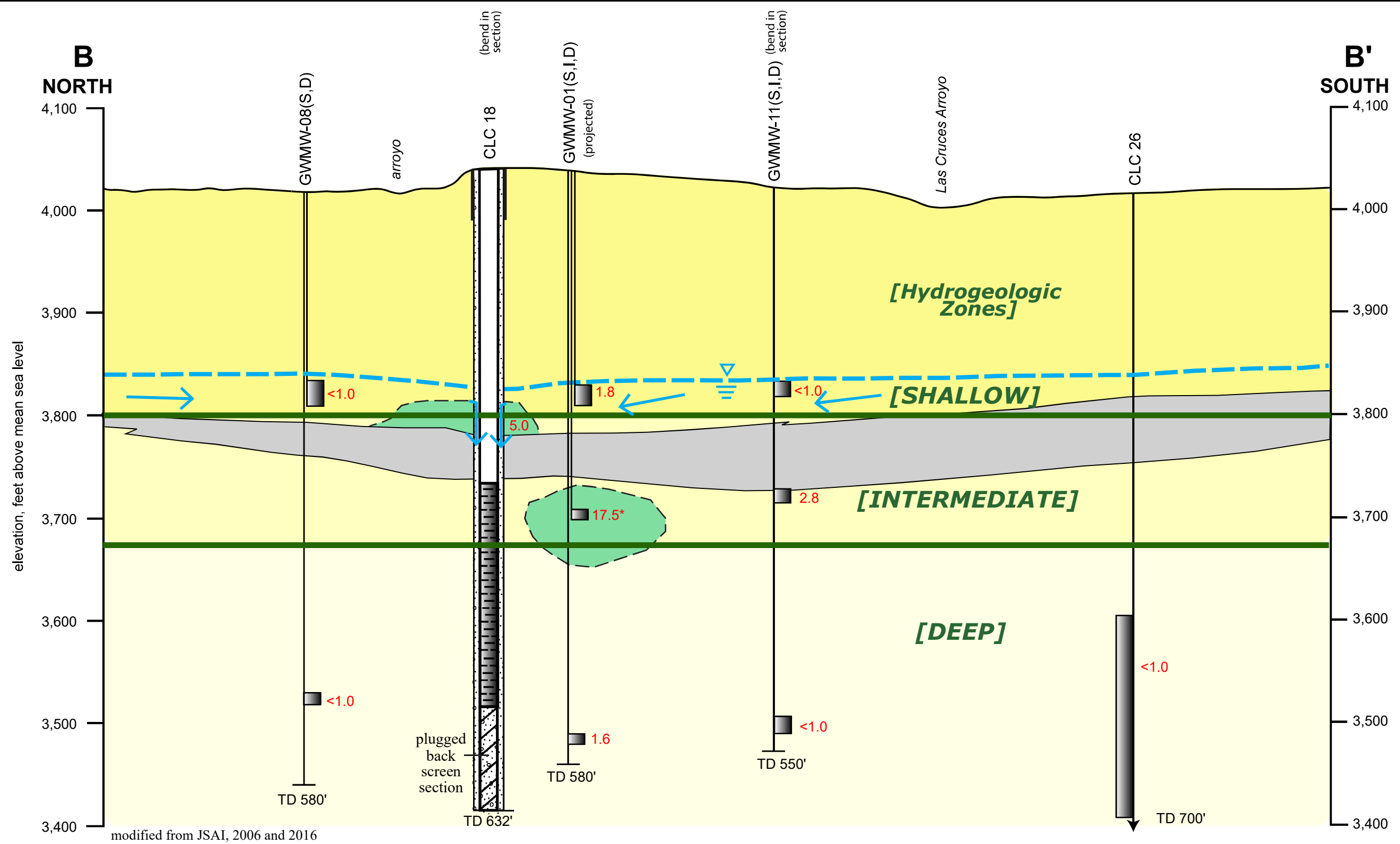




modified from JSAI, 2006 and 2016

EXPLANATION	
	predominantly sand, silt, and clay
	predominantly sand and gravel
	PCE concentrations >5 µg/L (spring 2021)
	approximate water table
	dashed where inferred (wells not to horizontal scale)
	screen section
	direction of flow
2.3	PCE concentration, µg/L (spring 2021)
(S,I,D)	shallow, intermediate, and deep
*	averaged PCE result from 2 samples during the sampling event (DBSA, 2021)

Figure 4. Hydrogeologic cross-section A-A' with spring 2021 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.



modified from JSAI, 2006 and 2016

EXPLANATION			
	predominantly sand, silt, and clay		screen section
	predominantly sand and gravel		approximate water table
	PCE concentrations >5 µg/L (2021)	2.8	PCE concentration, µg/L (spring 2021)
	direction of flow	(S,I,D)	shallow, intermediate, and deep
	dashed where inferred (wells not to horizontal scale)	*	averaged PCE result from 2 samples during the sampling event (DBSA, 2021)

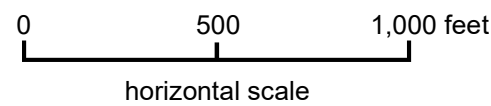
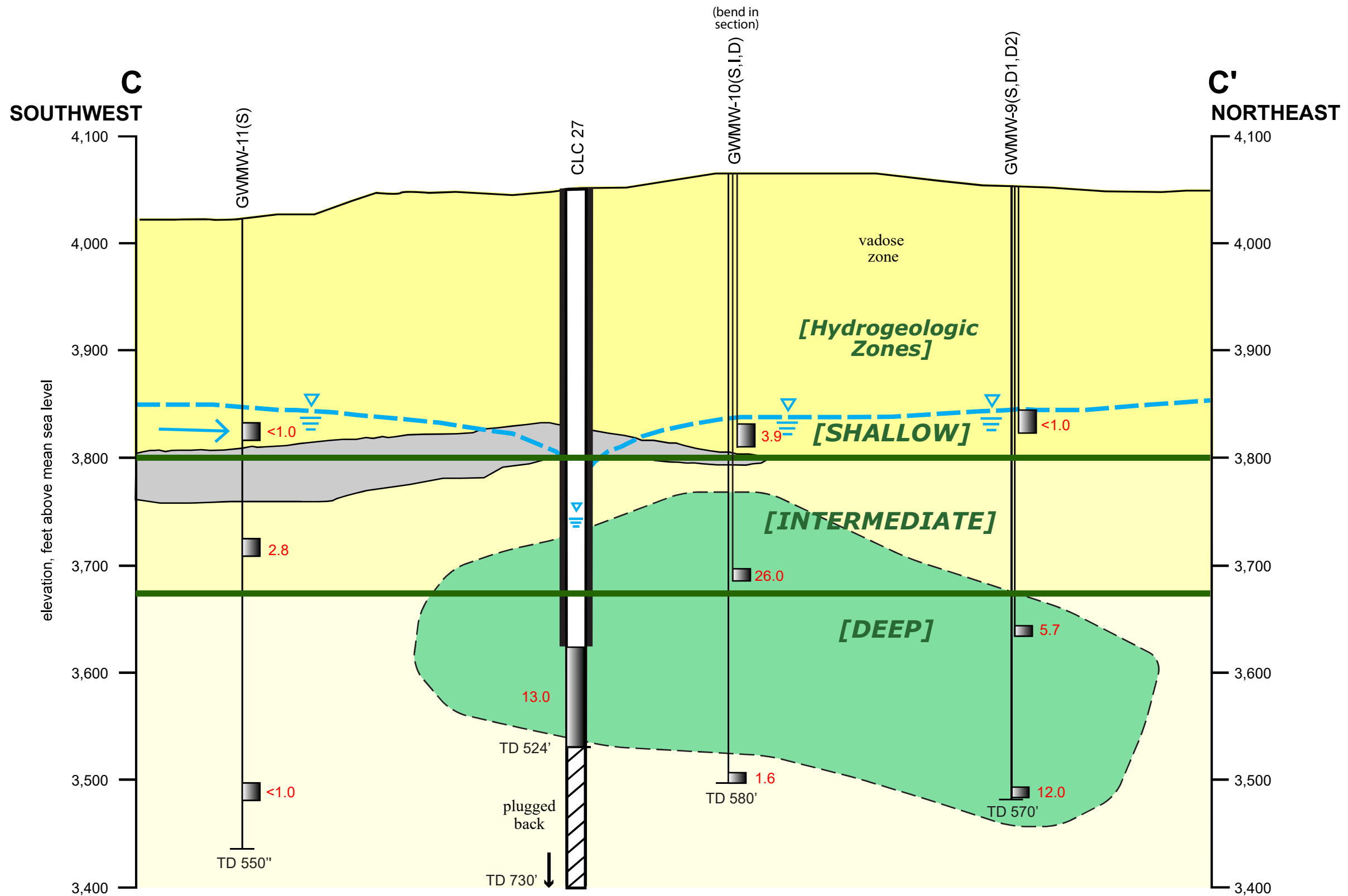


Figure 5. Hydrogeologic cross-section B-B' with spring 2021 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.



EXPLANATION	
	predominantly sand, silt, and clay
	predominantly sand and gravel
	PCE concentrations >5 µg/L (2021)
	direction of flow (wells not to horizontal scale)
	screen section
	approximate water table
2.8	PCE concentration, µg/L (spring 2021)
(S,I,D)	shallow, intermediate, and deep

Figure 6. Hydrogeologic cross-section C-C' with spring 2021 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.



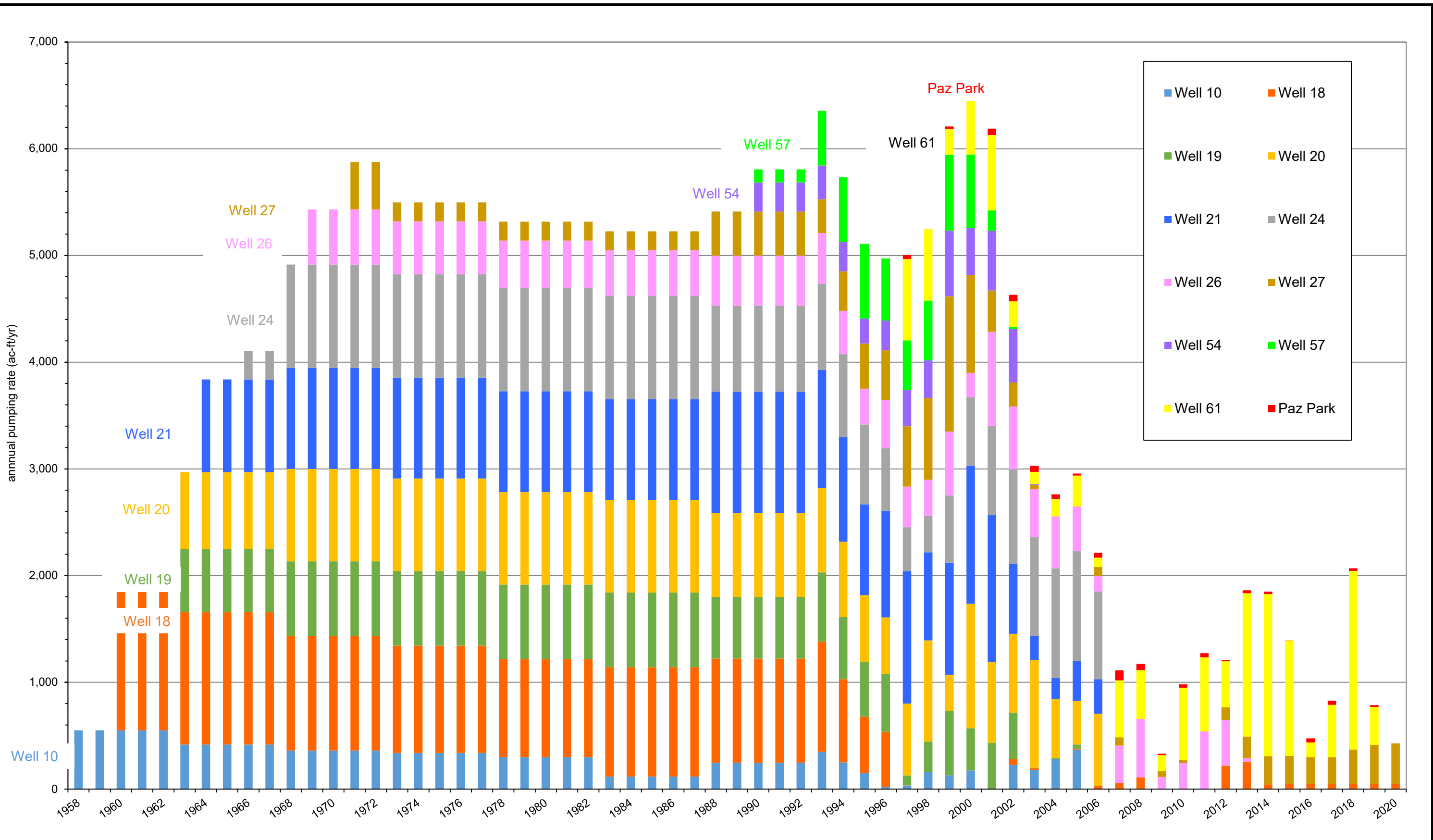


Figure 7. Bar graph of annual pumping from wells in the Griggs and Walnut site area, Las Cruces, New Mexico.



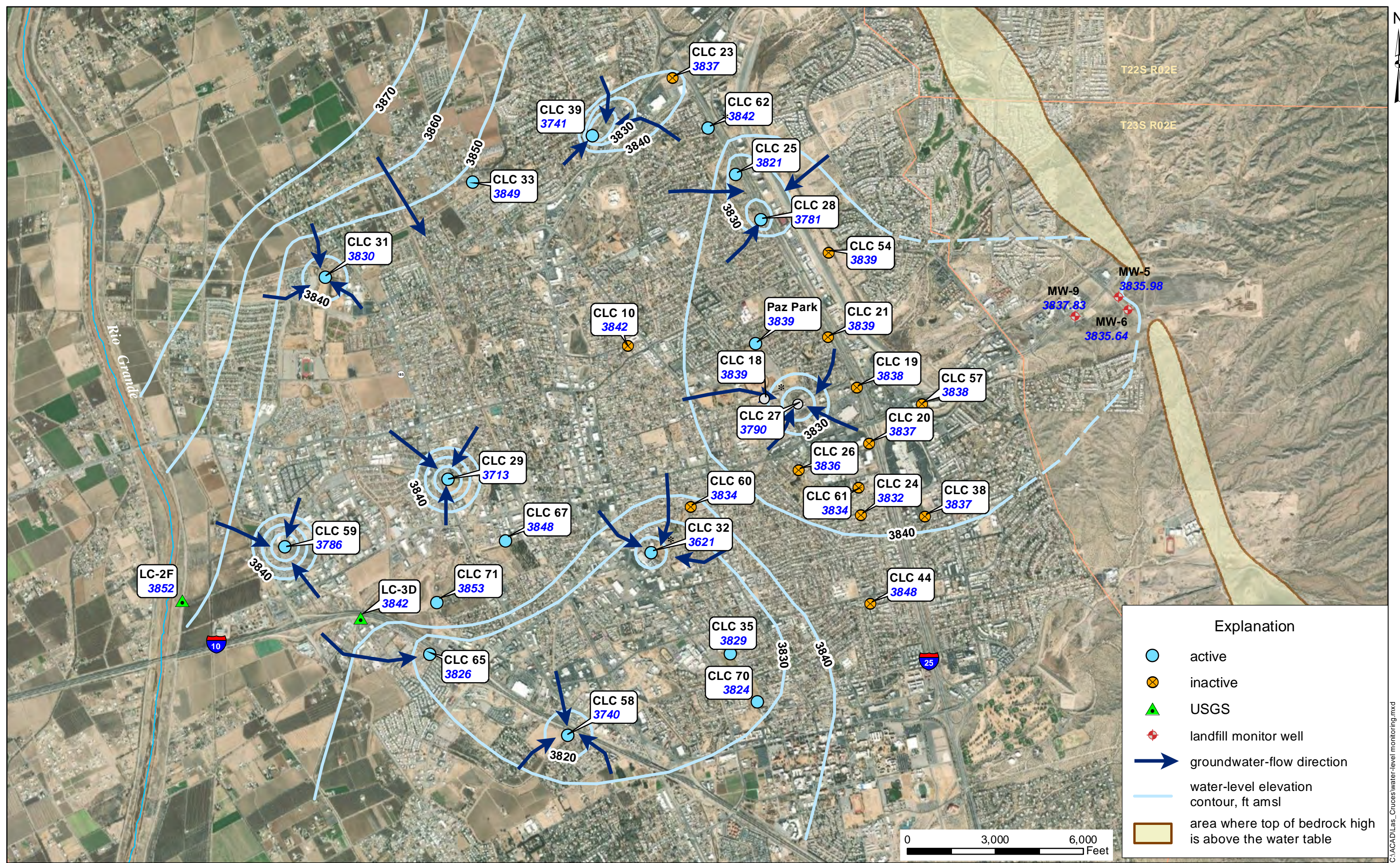


Figure 8. Aerial photograph showing December 2020 water-level elevation contours, City of Las Cruces, New Mexico.



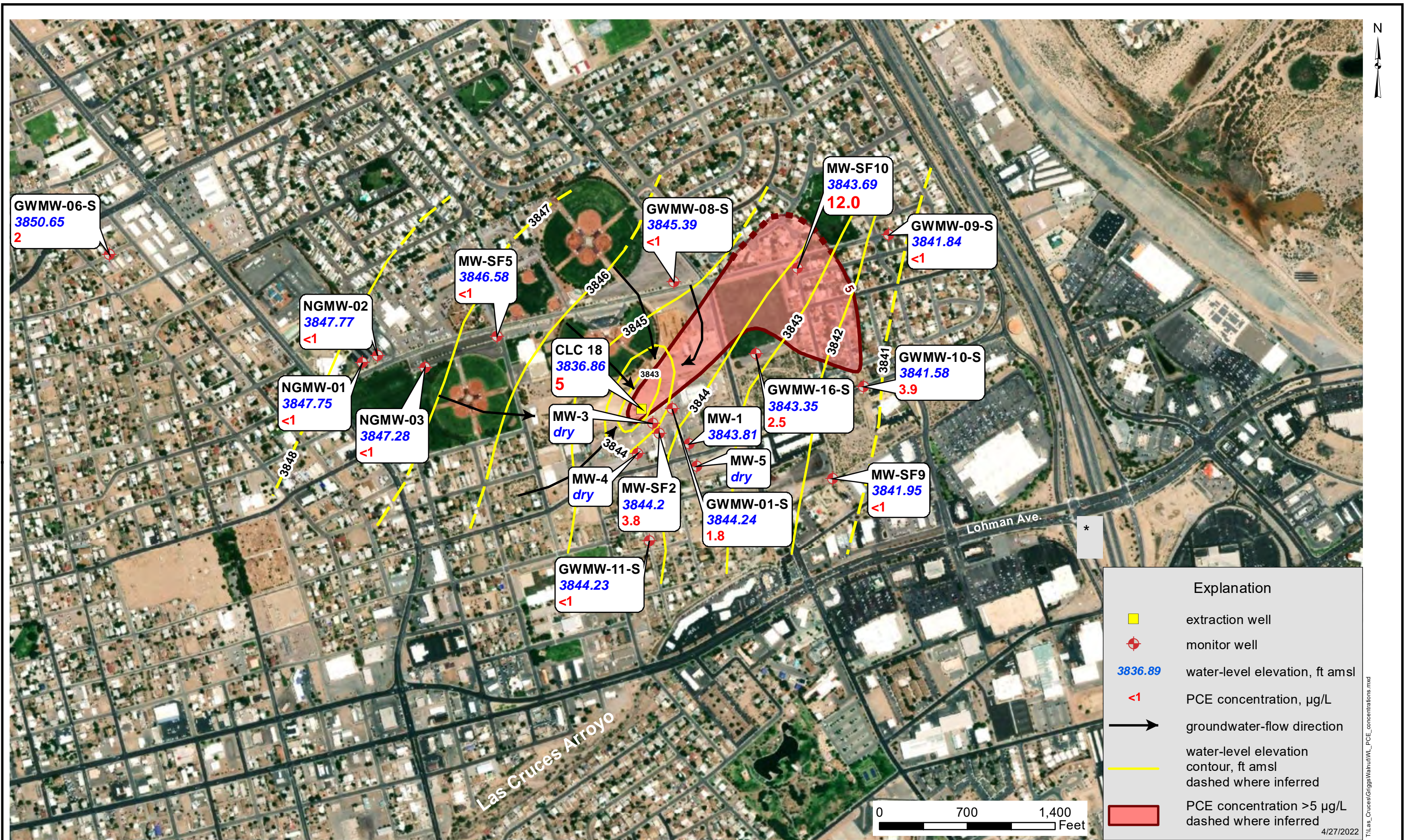


Figure 9. Aerial photograph showing water-level elevation contours and PCE concentrations for the Shallow Hydrogeologic Zone, Griggs and Walnut Site, Las Cruces, New Mexico.



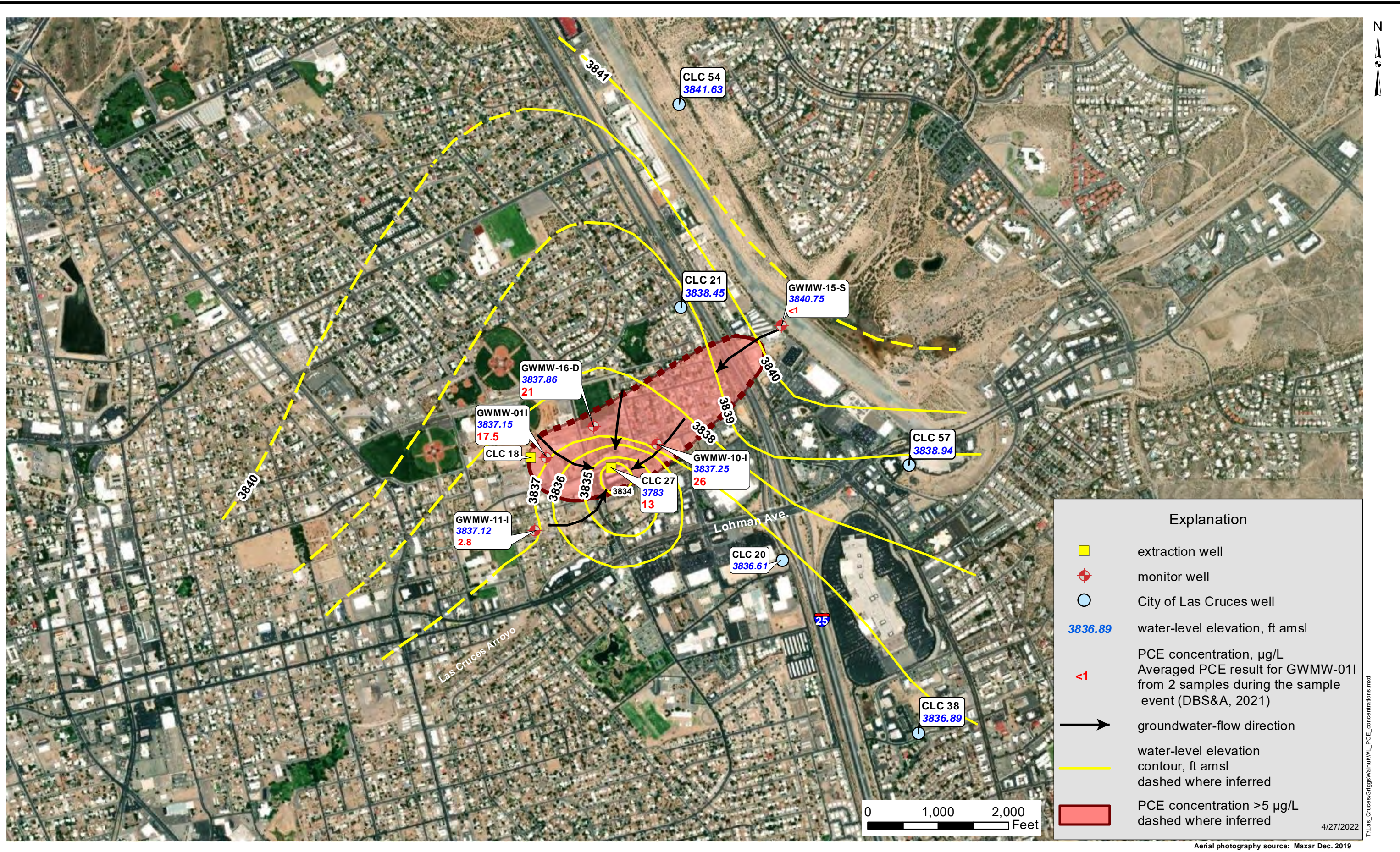


Figure 10. Aerial photograph showing water-level elevation contours and PCE concentrations for the Intermediate Hydrogeologic Zone, Griggs and Walnut Site, Las Cruces, New Mexico.



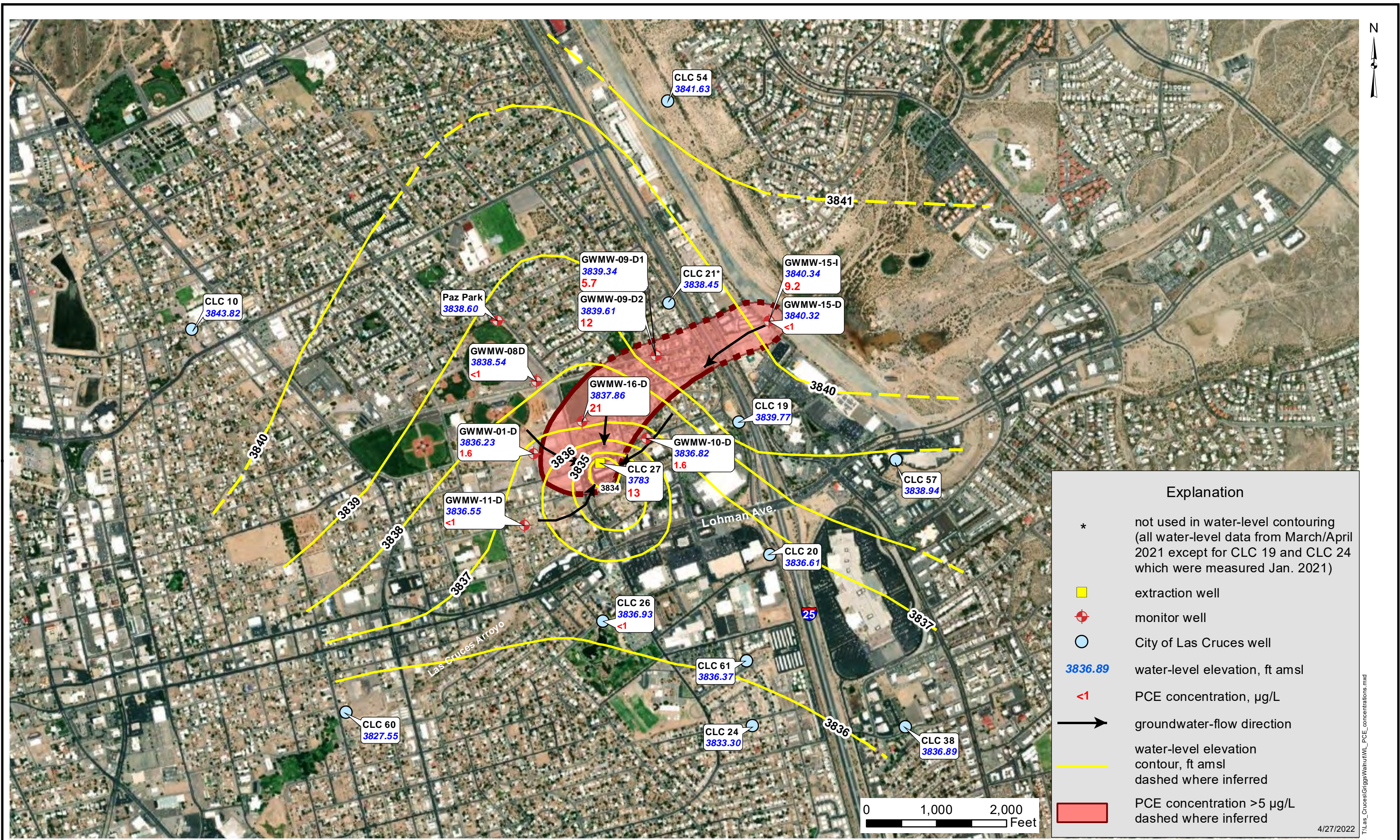


Figure 11. Aerial photograph showing water-level elevation contours and PCE concentrations for the Deep Hydrogeologic Zone, Griggs and Walnut Site, Las Cruces, New Mexico.



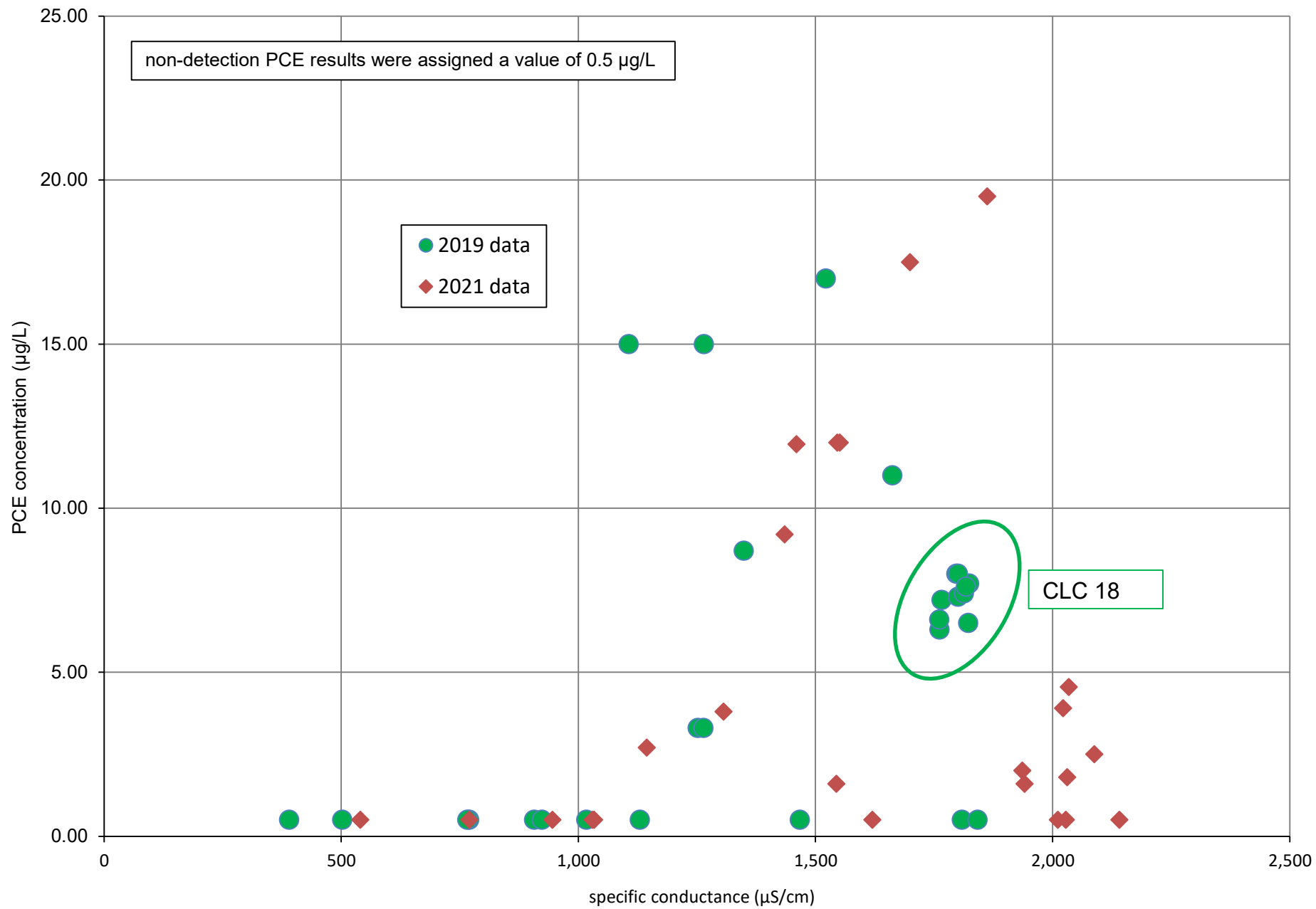
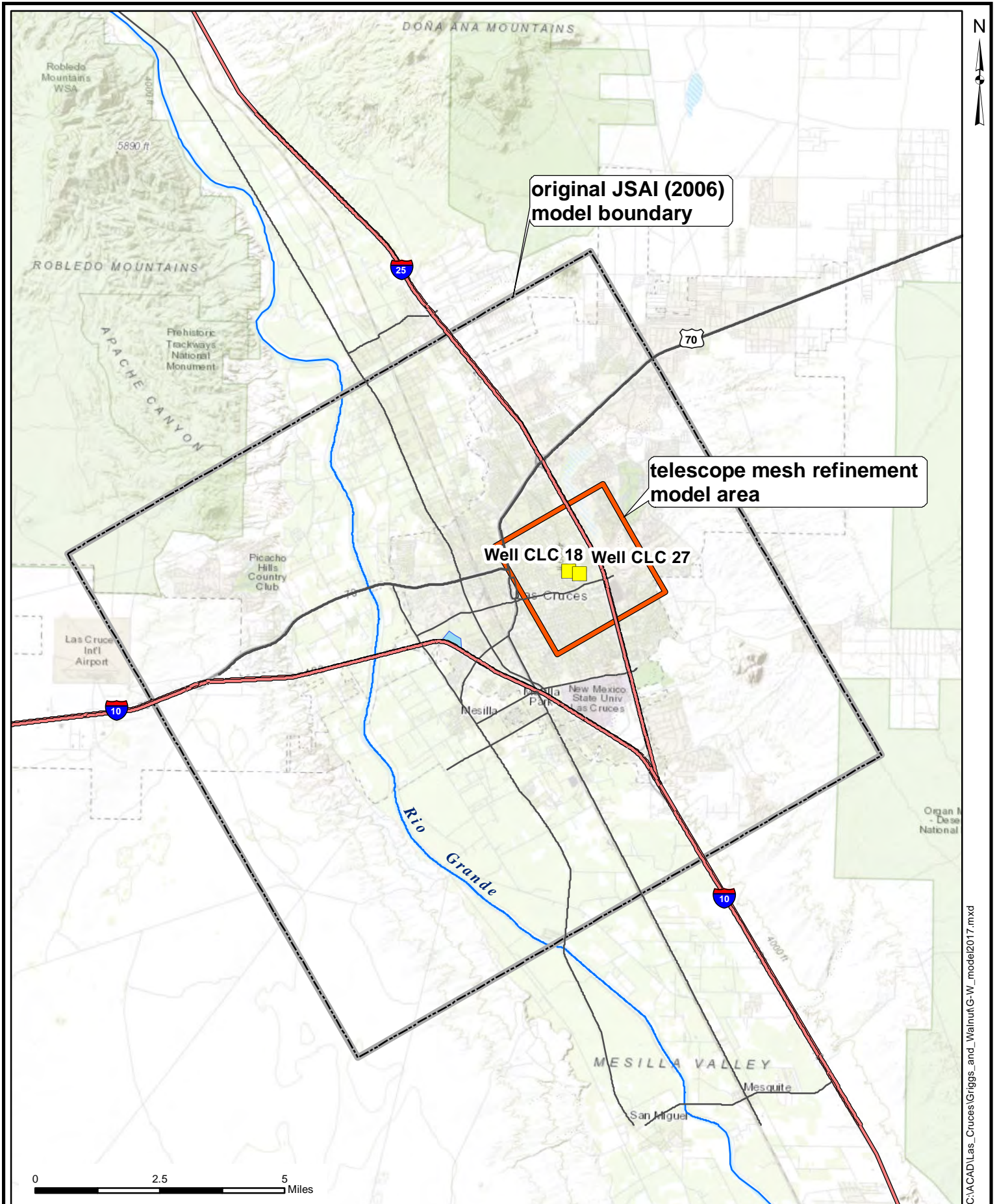


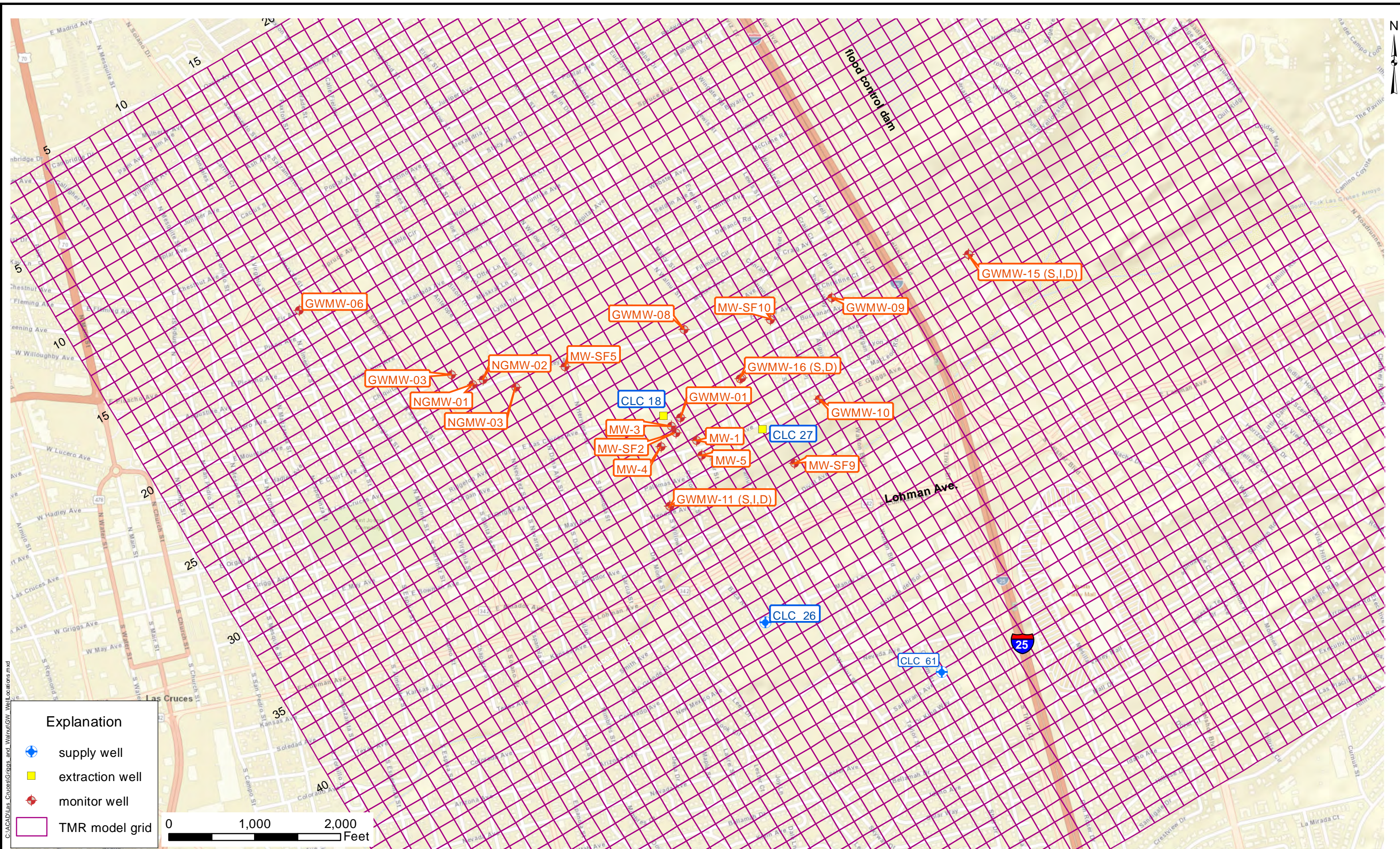
Figure 12. Graph of PCE concentration versus specific conductance values for the 2021 monitoring event, Griggs and Walnut Site, Las Cruces, New Mexico..



C:\ACAD\Las\_Cruces\Griggs\_and\_Walnut\G-W\_model\2017.mxd

Figure 13. Topographic map showing telescope mesh refinement (TMR) groundwater-flow model grid, Griggs and Walnut Site, Las Cruces, New Mexico.





Aerial photography source: DigitalGlobe July 2017

Figure 14. Map showing telescope mesh refinement (TMR) groundwater-flow model with Griggs and Walnut Site monitoring network, Las Cruces, New Mexico.



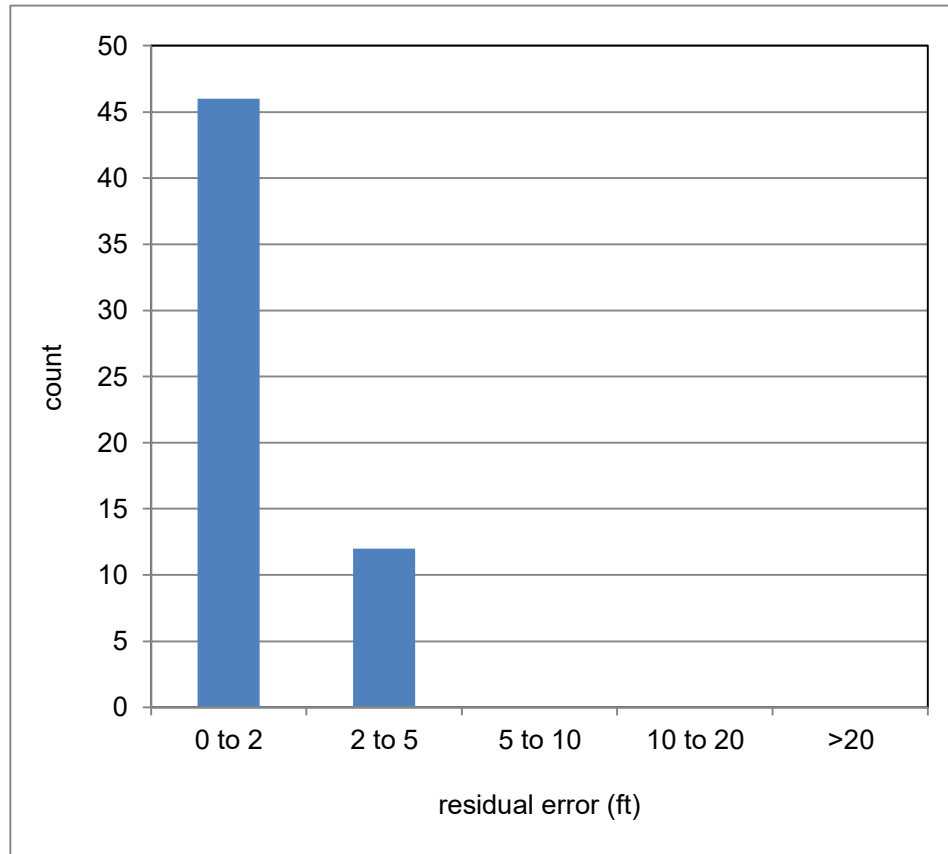
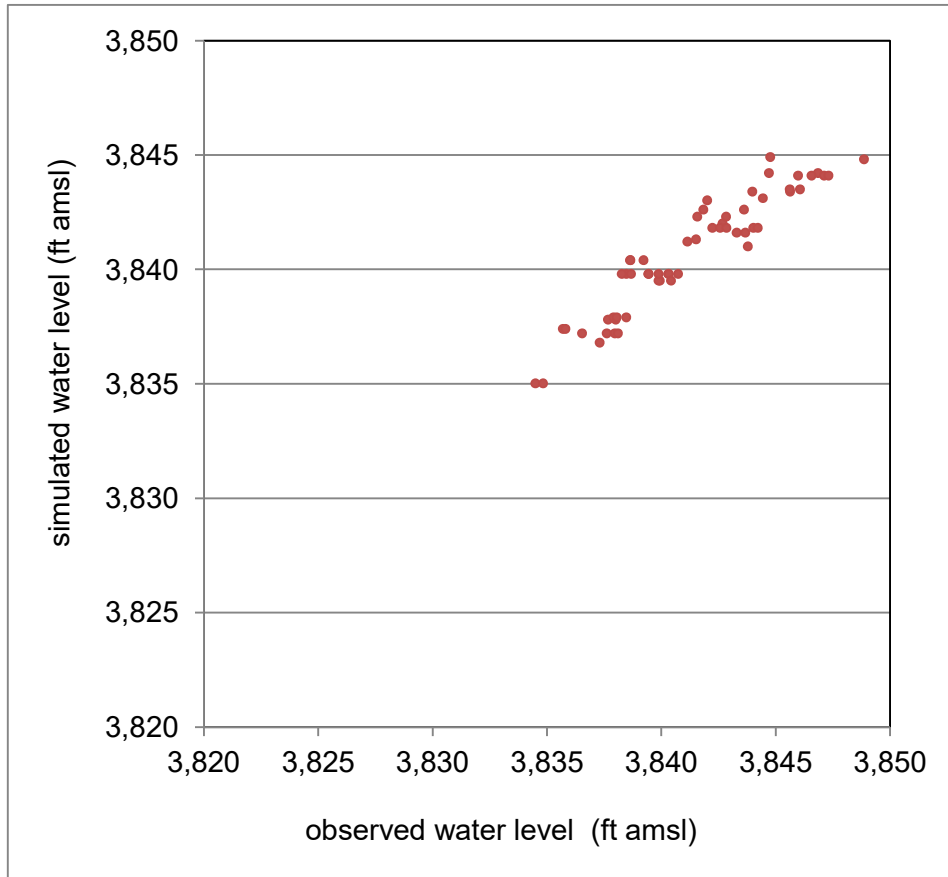


Figure 15. Bar graph showing distribution of model-calibrated residual error in heads.

**APPENDICES**



**Appendix A.**

**Griggs and Walnut Site plume  
monitoring point survey data**

**Table A1. Groundwater Monitoring Wells**

<b>Well Number</b>	<b>Northing</b>	<b>Easting</b>	<b>Ground Surface Elevation (ft)</b>	<b>Sampling Tube Elevation (ft)</b>	<b>Depth: Ground Surface to Sampling Tube (in.)</b>	<b>Number of Sampling Tubes</b>	<b>Features</b>
01	479,017.53	1,483,311.09	4,038.00	4,036.27	-21	7	Inside manhole w/24" dia. manhole
03	479,519.93	1,480,644.34	3,976.68	3,975.81	-10	6	Inside manhole w/26" dia. manhole
08	480,044.39	1,483,353.06	4,020.26	4,019.52	-9	7	Inside manhole w/26" dia. manhole
09	480,413.04	1,485,067.28	4,051.39	4,051.14	-3	7	Inside manhole w/26" dia. manhole
10	479,228.44	1,484,920.87	4,064.84	4,064.51	-4	7	Inside manhole w/26" dia. manhole
11I	477,984.90	1,483,175.33	4,022.92	4,022.74	-2	1	Inside manhole w/12" steel casing
11S	477,984.59	1,483,175.29		4,022.72	-2	1	
11D	477,984.86	1,483,175.08		4,022.67	-3	1	
15I	480,905.12	1,486,668.80	4,081.31	4,081.06	-3	1	Inside manhole w/12" steel casing
15S	480,905.28	1,486,669.21		4,081.03	-3	1	
15D	480,905.52	1,486,668.84		4,081.03	-3	1	
16S	479,474.88	1,484,021.82	4,031.16	4,033.07	23	1	Protected by concrete bollards
16D	479,469.58	1,484,002.31	4030.85	4032.73	23	1	Protected by concrete bollards

**Table A1. Groundwater Monitoring Wells**

Well Number	Northing	Easting	Ground Surface Elevation (ft)	Sampling Tube Elevation (ft)	Depth: Ground Surface to Sampling Tube (in.)	Features
01	478,753.86	1,483,492.59	4,037.75	4,037.14	-7.3	12" Steel Casing
02	478,838.36	1,483,484.65	4,038.34	4,037.50	-10.1	10" PVC Casing
03	478,918.61	1,483,204.12	4,034.70	4,034.56	-1.7	7" Steel Casing
04	478,680.95	1,483,079.97	4032.11	4,031.59	-6.2	8" Steel Casing
05	478,579.21	1,483,554.43	4,038.26	4,036.24	-24.2	3" Steel Casing
06	478,704.09	1,483,909.93	4,044.85	4,044.47	-4.5	2.5" PVC Casing/Con. Collar
SF1	478,963.50	1,483,448.56	4,038.34	4,037.15	-14.3	6" Steel Casing
SF2	478,837.25	1,483,253.30	4,035.87	4,035.71	-1.9	Missing Lid
SF3	478,740.97	1,482,894.63	4,028.16	4,027.51	-7.8	Plastic Casing
SF4	478,932.59	1,482,728.53	4,026.12	4,025.60	-6.2	
SF5	479,614.56	1,481,960.51	3,996.39	3,995.63	-9.1	7" Cover from Sampling Tube
SF6	479,654.01	1,480,848.85	3979.25	3,978.61	-7.7	
SF9	478,481.44	1,484,637.01	4,032.86	4,032.35	-6.1	12" Steel Casing
SF10	480,156.45	1,484,357.61	4,038.96	4,038.66	-3.6	12 Steel Casing



**Table A1. Groundwater Monitoring Wells**

<b>Well Number</b>	<b>Northing</b>	<b>Easting</b>	<b>Concrete Floor at Well (ft)</b>	<b>Features</b>
CLC PAZ	480,910.66	1,482,797.07	4,012.60	-
Well 10	480,788.00	1,478,435.00	3,938.42	12-in tall pedestal
Well 18	479,033.01	1,483,114.82	4,037.59	24-in tall pedestal
Well 19	479,464.64	1,486,241.12	4,063.52	15-in tall pedestal
Well 20	477,570.53	1,486,690.77	4,073.34	14-in tall pedestal
Well 21	481,161.95	1,485,245.75	4,075.25	-
Well 24	475,131.30	1,486,440.09	4,041.01	-
Well 26	476,624.54	1,484,299.63	4,013.15	12-in tall pedestal
Well 27	478,884.10	1,484,258.63	4,055.62	18-in tall pedestal
Well 28	486,674.38	1,482,030.76	4,061.65	12-in tall pedestal
Well 38	475,113.92	1,488,619.25	4,101.89	17-in tall pedestal
Well 54	484,049.79	1,485,225.99	4,109.4	22-in tall pedestal
Well 57	478,920.91	1,488,486.58	4,129.72	29-in tall pedestal
Well 60	475,323.34	1,480,636.27	3,940.18	26-in tall pedestal
Well 61	476,052.51	1,486,352.59	4,040.12	15-in tall pedestal

03/29/2021

Kelly Jayne, CFM, P.E.  
Daniel B. Stephens & Associates, Inc.  
13949 West Colfax Avenue, Suite 220  
Lakewood, CO 80401

Emailed to: [kjayne@geo-logic.com](mailto:kjayne@geo-logic.com) on date of letter.

RE: Griggs-Walnut Ground Water Plume Site

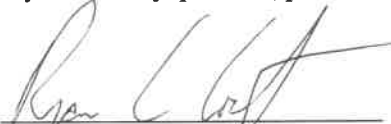
Atkins Engineering Associates, Inc. (AEA) has completed the Monitor Well survey at the Griggs-Walnut Ground Water Plume Site, Las Cruces, NM 88001. The table on the following page summarizes the coordinate and elevation data for the Monitor Well locations and elevations, top-of-casing (TOC) north side and center top of well vault, located at the Griggs-Walnut Ground Water Plume Site.

Horizontal coordinates are in US Survey Feet NAD 83 (2011) (EPOCH:2010.0000) New Mexico State Plane Central Grid Coordinates and New Mexico State Plane Central Grid Coordinates scaled to ground. The combined scale factor used is 1.002620486515057215.

Orthometric Heights for Monitor Well Locations were established by GPS observations referenced to previously used benchmark with a PID of "CX1966". A TBM "WAL" was set in a more centrally located area to be used in future as a check in location and is a set 3" aluminum cap and is referenced to the NGS published Benchmark set by the City of Las Cruces and designated "GPS 14" with a PID of "CX1966" and a published Orthometric Elevation of 4001 feet (NAVD88). For the purposes of this survey the Orthometric Elevation of "CX1966" was referenced as 4000.6 based on earlier monitor well survey data provided. This was honored in order to tie the newer data set to existing data set.

Attached to this email is a .xlsx spreadsheet of the table above.

If you have any questions, please contact me at (575) 624-2420 or [ryan@atkinseng.com](mailto:ryan@atkinseng.com)

  
\_\_\_\_\_  
Ryan C. Cortez, PS 22761

3/29/2021  
\_\_\_\_\_  
Date (Signed)



Description	State Plane Central Grid		State Plane Central Grid		TOC Elevation (USft)	Vault Top Elevation (USft)
	Northing (USft)	Easting (USft)	Latitude (DD)	Longitude (DD)		
GWMW-01-S	479037.04	1483354.28	32.31593331	-106.75842520	4038.69	4039.85
GWMW-01-I	479031.28	1483330.09	32.31591716	-106.75850341	4038.96	4039.75
GWMW-01-D	479017.94	1483311.09	32.31588025	-106.75856471	4038.29	4038.56
GWMW-6-S	480268.97	1478869.86	32.31926030	-106.77296062	3946.78	3947.54
GWMW-8-S	480048.70	1483371.14	32.31871437	-106.75838615	4020.09	4020.46
GWMW-8-D	480044.88	1483351.73	32.31870361	-106.75844893	4019.85	4020.17
GWMW-9-S	480421.60	1485085.00	32.31976161	-106.75284391	4051.10	4051.65
GWMW-9-D1	480413.76	1485054.43	32.31973967	-106.75294275	4050.79	4051.34
GWMW-9-D2	480413.19	1485068.27	32.31973828	-106.75289794	4051.11	4051.36
GWMW-10-S	479213.78	1484883.41	32.31643898	-106.75347812	4063.84	4064.47
GWMW-10-I	479221.57	1484902.26	32.31646063	-106.75341722	4063.95	4064.70
GWMW-10-D	479228.62	1484920.89	32.31648025	-106.75335702	4064.60	4064.84
CX1966	482269.20	1482127.94	32.32480175	-106.76244487	4000.60	--
CX1963	475662.54	1487719.61	32.30671365	-106.74424432	4093.60	--
TBM "WAL"	479683.91	1483699.55	32.31771592	-106.75731748	4027.14	--

Description	State Plane Central Ground		State Plane Central Ground		TOC Elevation (USft)	Vault Top Elevation (USft)
	Northing (USft)	Easting (USft)	Latitude (DD)	Longitude (DD)		
GWMW-01-S	479036.97	1483354.12	32.31593312	-106.75842571	4038.69	4039.85
GWMW-01-I	479031.21	1483329.93	32.31591696	-106.75850394	4038.96	4039.75
GWMW-01-D	479017.86	1483310.91	32.31588004	-106.75856528	4038.29	4038.56
GWMW-6-S	480269.22	1478868.52	32.31926098	-106.77296495	3946.78	3947.54
GWMW-8-S	480048.89	1483370.98	32.31871489	-106.75838667	4020.09	4020.46
GWMW-8-D	480045.08	1483351.57	32.31870415	-106.75844945	4019.85	4020.17
GWMW-9-S	480421.90	1485085.29	32.31976243	-106.75284299	4051.10	4051.65
GWMW-9-D1	480414.05	1485054.72	32.31974048	-106.75294183	4050.79	4051.34
GWMW-9-D2	480413.48	1485068.56	32.31973909	-106.75289701	4051.11	4051.36
GWMW-10-S	479213.75	1484883.65	32.31643891	-106.75347734	4063.84	4064.47
GWMW-10-I	479221.55	1484902.50	32.31646057	-106.75341643	4063.95	4064.70
GWMW-10-D	479228.60	1484921.13	32.31648020	-106.75335623	4064.60	4064.84
CX1966	482269.98	1482127.46	32.32480390	-106.76244643	4000.60	--
CX1963	475661.69	1487720.49	32.30671133	-106.74424146	4093.60	--
TBM "WAL"	479684.01	1483699.48	32.31771620	-106.75731771	4027.14	--





FID	Descriptio	Northing	Easting	TOC_Elevat	Vault_Elev	Latitude	Longitude
0	GWMW-01-S	479036.9715	1483354.122	4038.69	4039.85	32.31593312	-106.7584257
1	GWMW-01-I	479031.2063	1483329.926	4038.96	4039.75	32.31591696	-106.7585039
2	GWMW-01-D	479017.8643	1483310.913	4038.29	4038.56	32.31588004	-106.7585653
3	GWMW-6-S	480269.2216	1478868.524	3946.78	3947.54	32.31926098	-106.7729649
4	GWMW-8-S	480048.8924	1483370.982	4020.09	4020.46	32.31871489	-106.7583867
5	GWMW-8-D	480045.0755	1483351.571	4019.85	4020.17	32.31870415	-106.7584494
6	GWMW-9-S	480421.897	1485085.288	4051.1	4051.65	32.31976243	-106.752843
7	GWMW-9-D1	480414.0543	1485054.717	4050.79	4051.34	32.31974048	-106.7529418
8	GWMW-9-D2	480413.484	1485068.561	4051.11	4051.36	32.31973909	-106.752897
9	GWMW-10-S	479213.7535	1484883.651	4063.84	4064.47	32.31643891	-106.7534773
10	GWMW-10-I	479221.5456	1484902.503	4063.95	4064.7	32.31646057	-106.7534164
11	GWMW-10-D	479228.5983	1484921.134	4064.6	4064.84	32.3164802	-106.7533562
12	CX1966	482269.9828	1482127.459	4000.6	0	32.3248039	-106.7624464
13	CX1963	475661.6926	1487720.49	4093.6	0	32.30671133	-106.7442415
14	TBMWAL	479684.0133	1483699.479	4027.14	0	32.3177162	-106.7573177

**Appendix B.**

**Hydrographs for Griggs and Walnut Site plume monitoring network wells  
and selected City of Las Cruces wells**

**Appendix B.**

- Figure B1. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Well 18.
- Figure B2. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Well 27.
- Figure B3. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Well 61.
- Figure B4. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Paz Park Well.
- Figure B5. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Well 26.
- Figure B6. Graph of water-level data collected by the City of Las Cruces for Well 21, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).
- Figure B7. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 19, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).
- Figure B8. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 20, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).
- Figure B9. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 21, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).
- Figure B10. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 24, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).
- Figure B11. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 38, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).
- Figure B12. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 54, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).
- Figure B13. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 57, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).



- Figure B14. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 60, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).
- Figure B15. Graph of GWMW-01 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.
- Figure B16. Graph of GWMW-03 (Ports 1 through 6 and inside liner) observed water levels, Griggs and Walnut site.
- Figure B17. Graph of GWMW-08 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.
- Figure B18. Graph of GWMW-09 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.
- Figure B19. Graph of GWMW-10 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.
- Figure B20. Graph of GWMW-11 (S, I, D) (shallow, intermediate, and deep) observed water levels, Griggs and Walnut site.
- Figure B21. Graph of GWMW-15 (S, I, D) (shallow, intermediate, and deep) observed water levels, Griggs and Walnut site.
- Figure B22. Graph of GWMW-16 (S, D) (shallow and deep) observed water levels, Griggs and Walnut site.
- Figure B23. Graph of MW-1 through MW-5 observed water levels, Griggs and Walnut site.
- Figure B24. Graph of observed water levels for selected MW-SF series monitor wells, Griggs and Walnut site.
- Figure B25. Graph of GWMW-16(S,D) and CLC 18 transducer water level data for March 25 through 31, 2020.
- Figure B26. Graph of GWMW-16(S,D) transducer water level data for 2020.

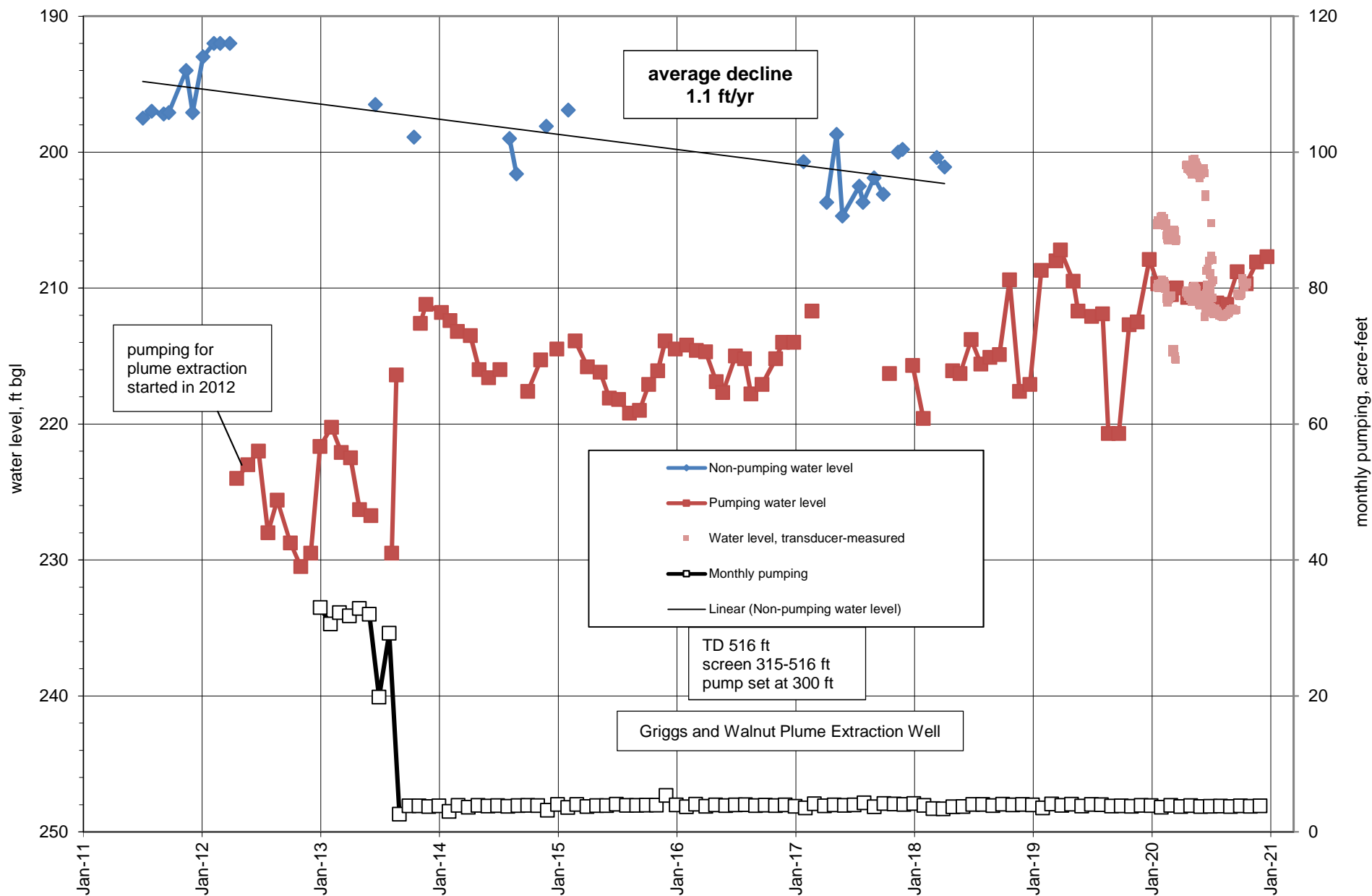


Figure B1. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Well 18.

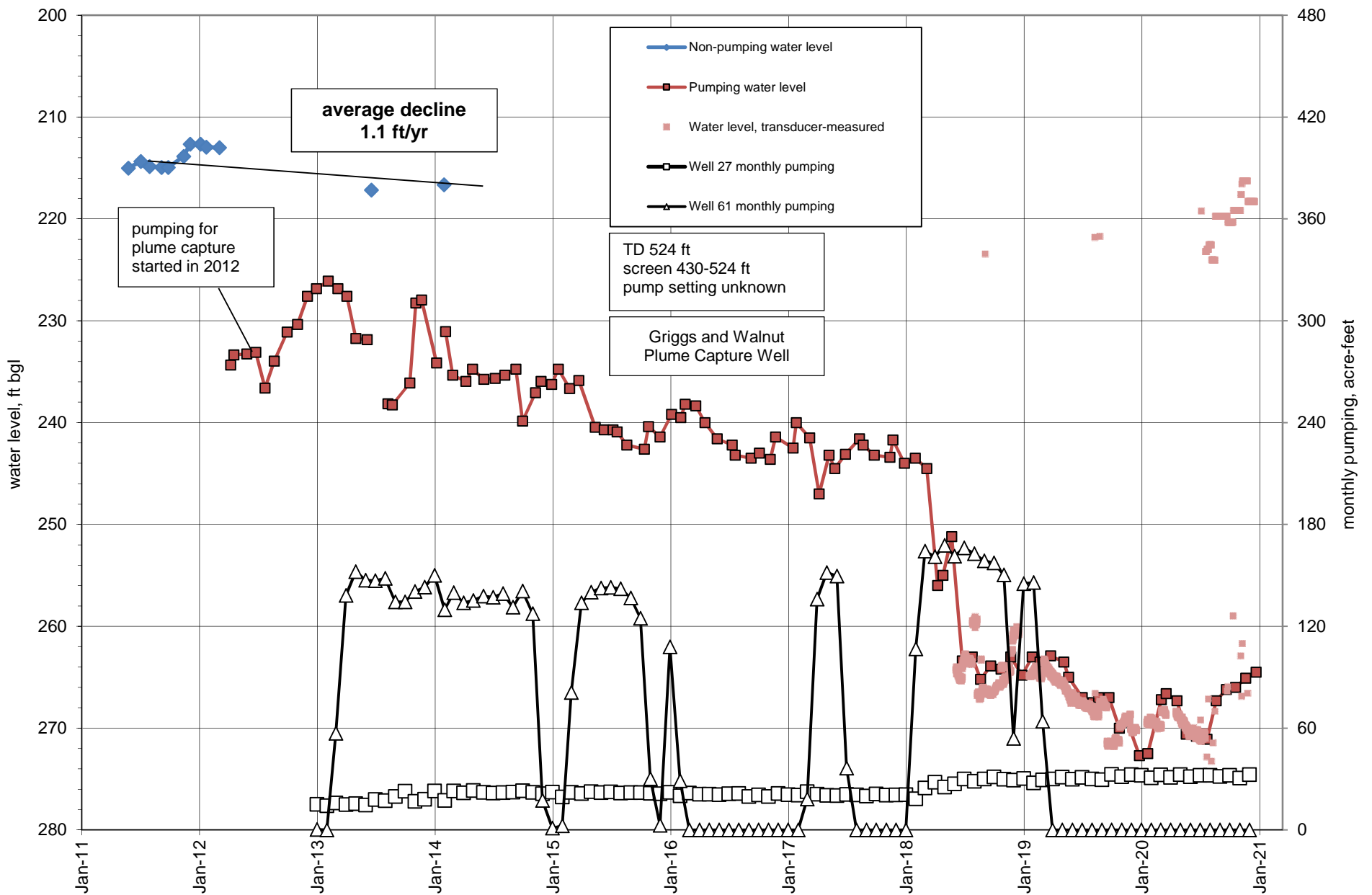


Figure B2. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Well 27.



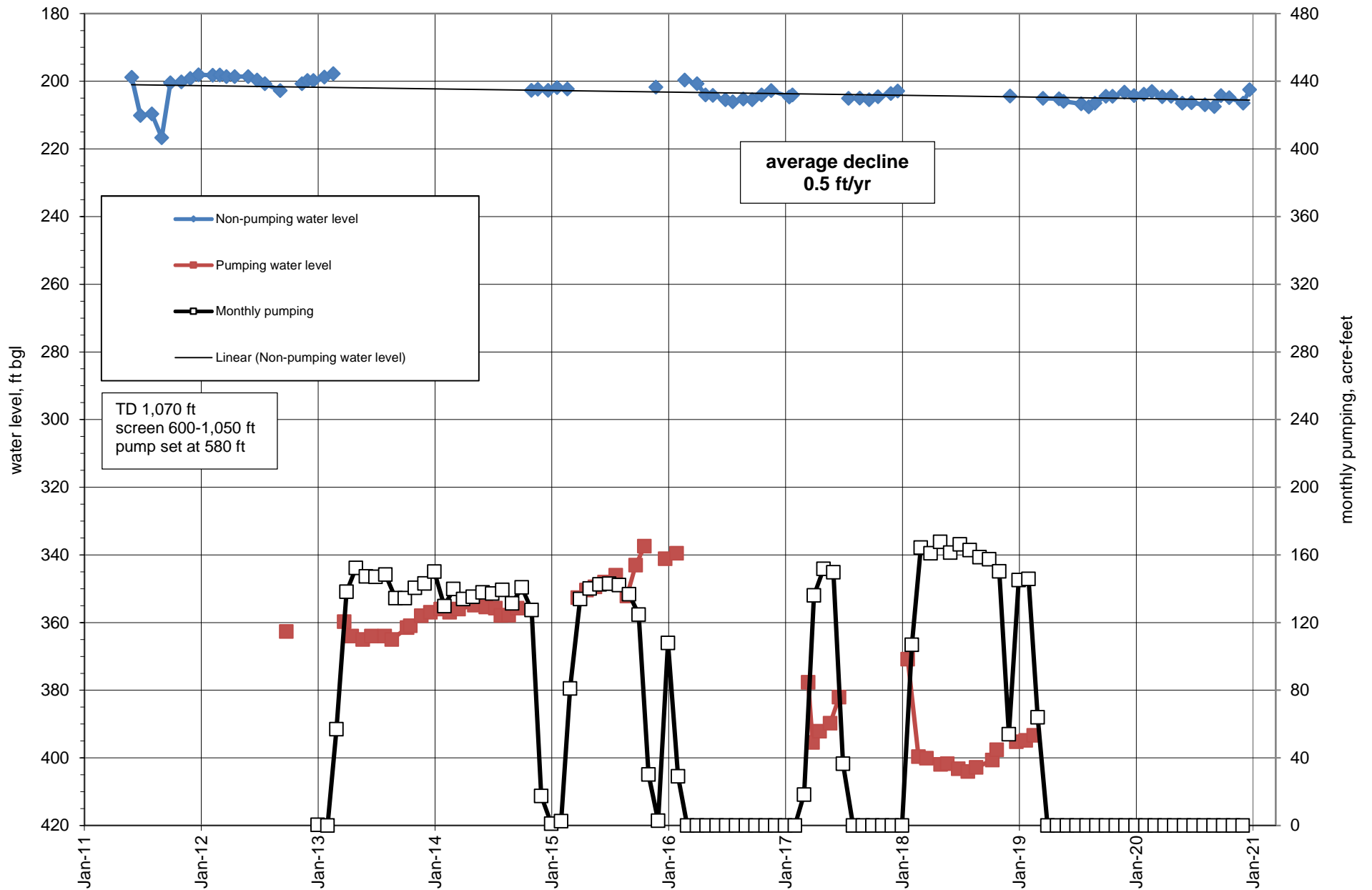


Figure B3. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Well 61.

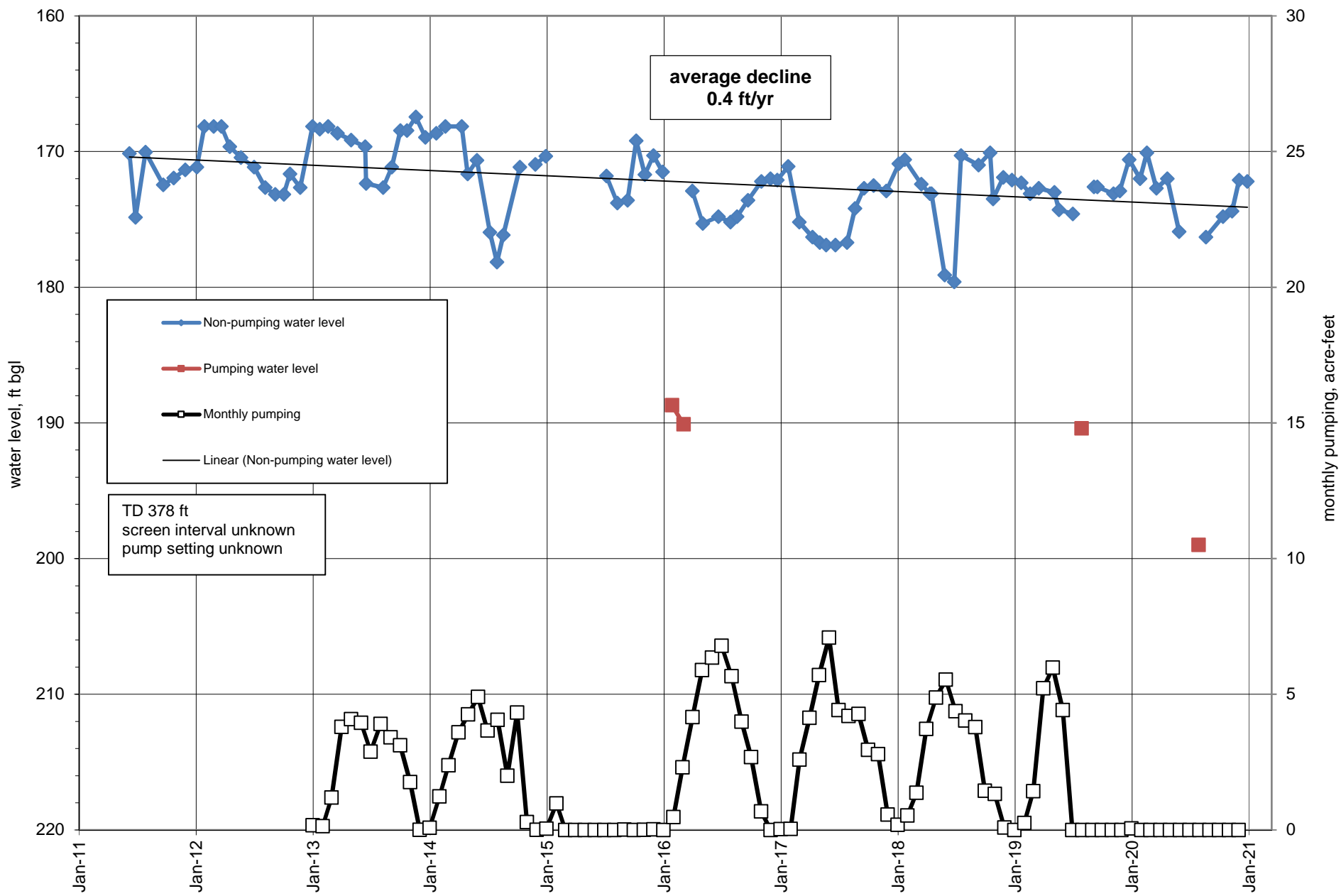


Figure B4. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Paz Park Well.

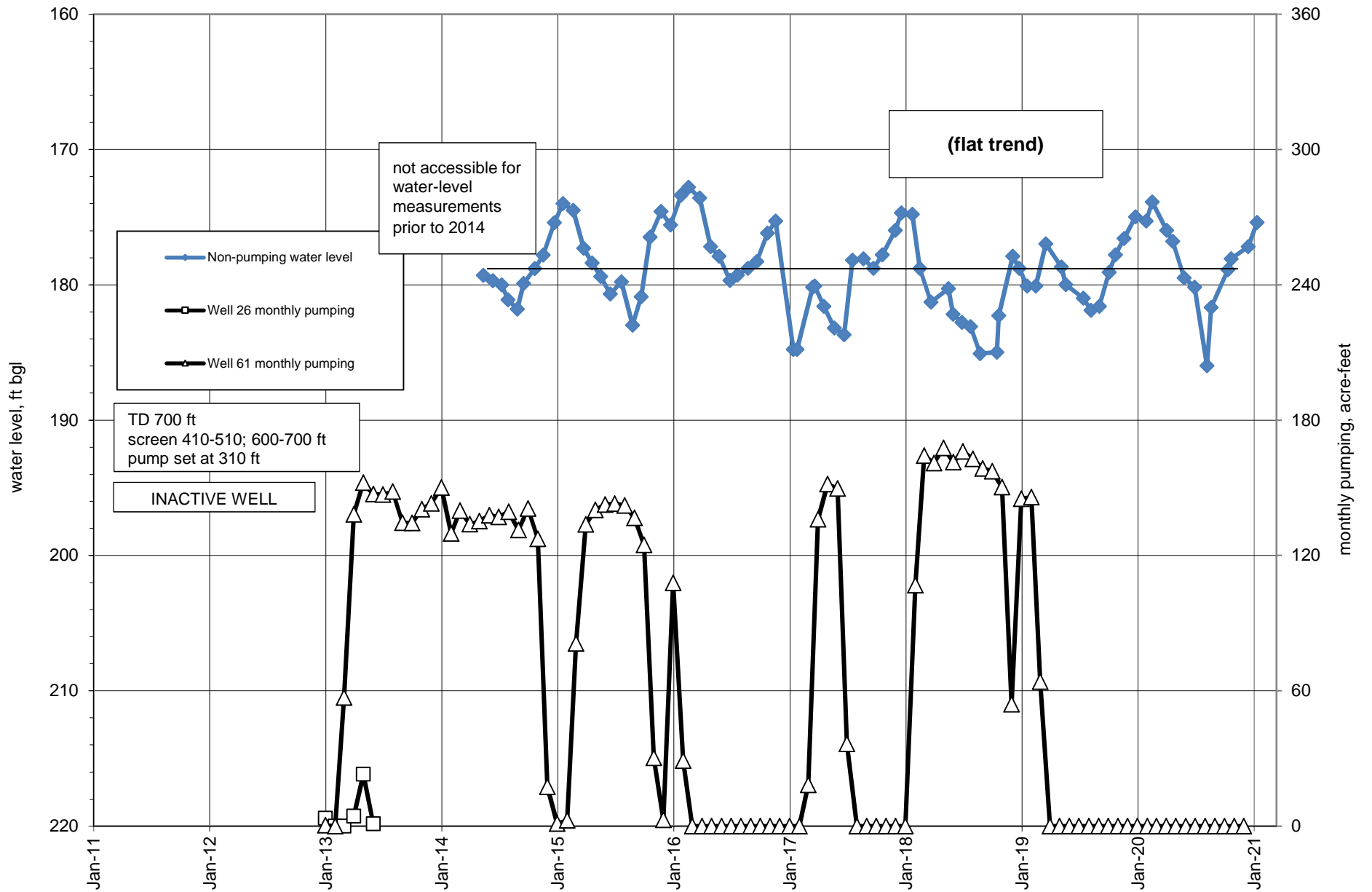


Figure B5. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Well 26.



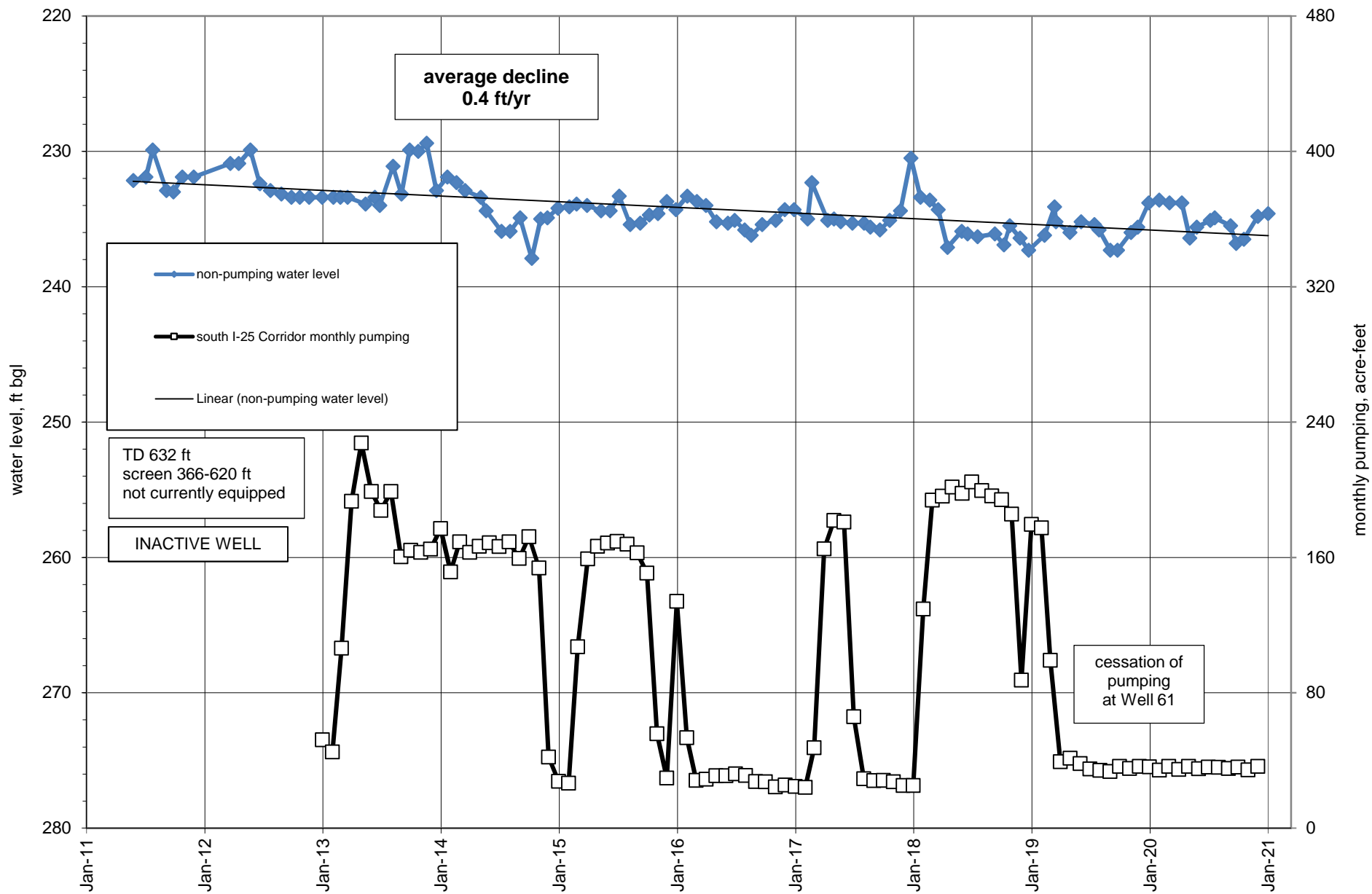


Figure B6. Graph of water-level data collected by the City of Las Cruces for Well 21, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

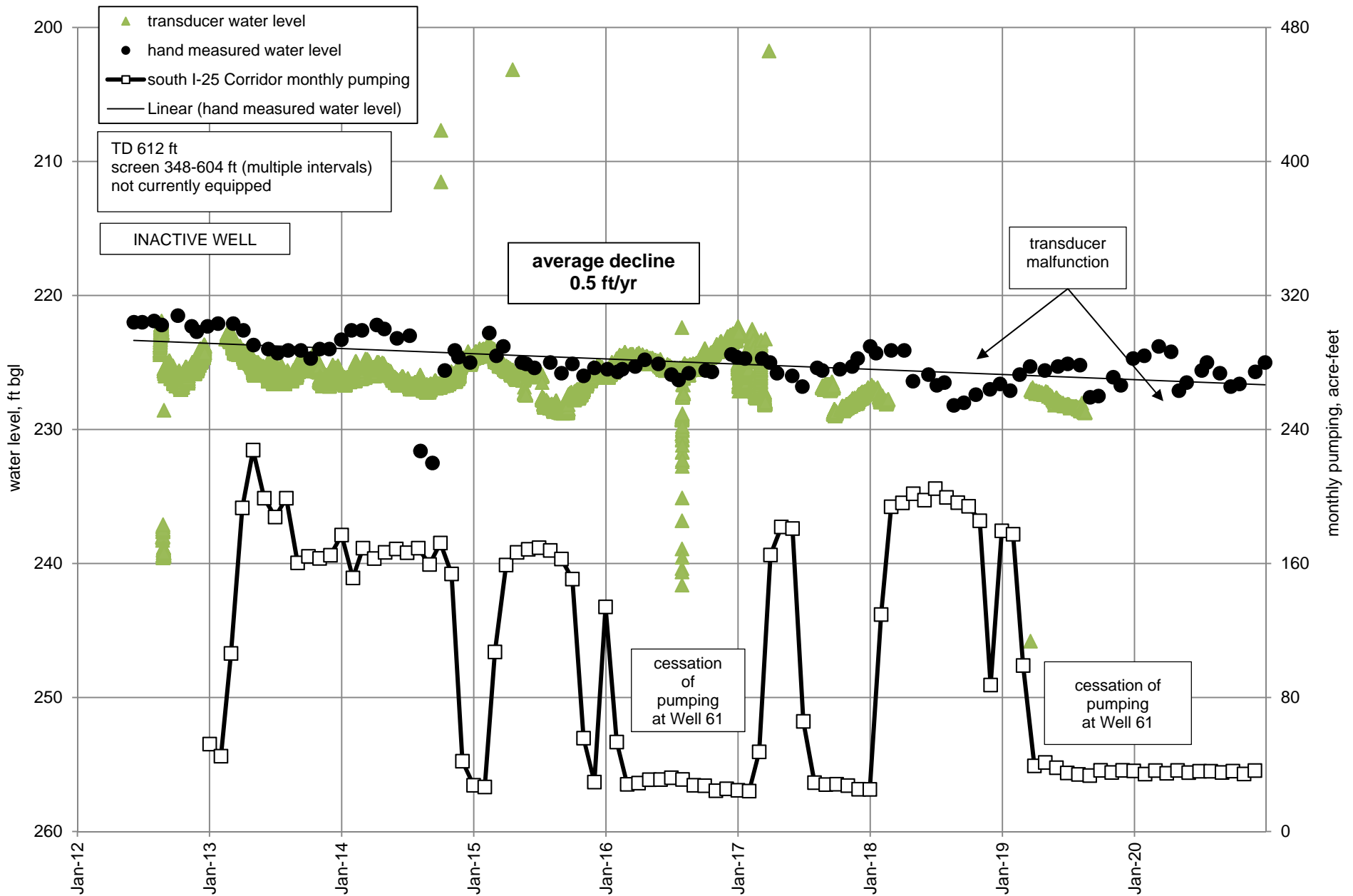


Figure B7. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 19, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

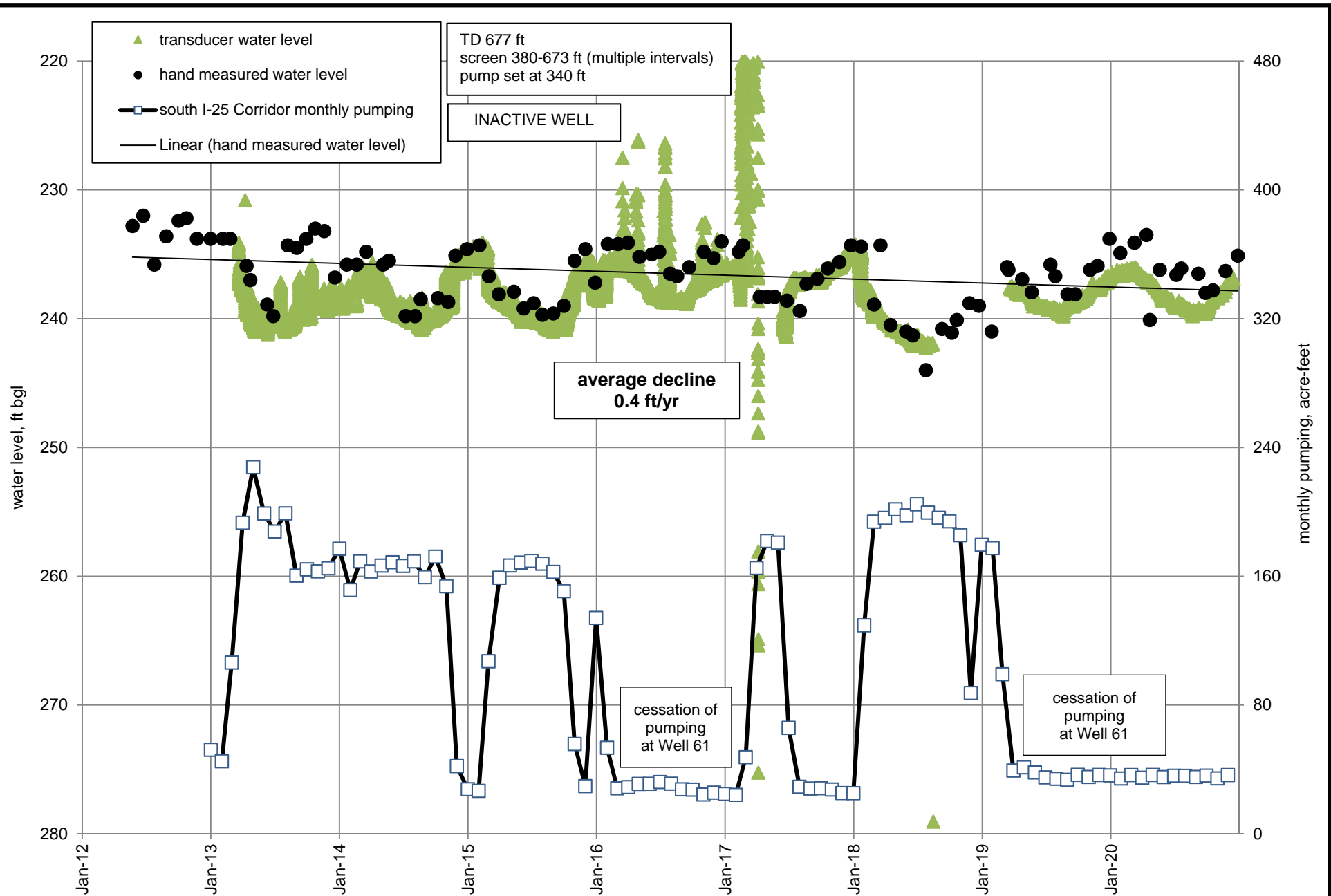


Figure B8. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 20, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).



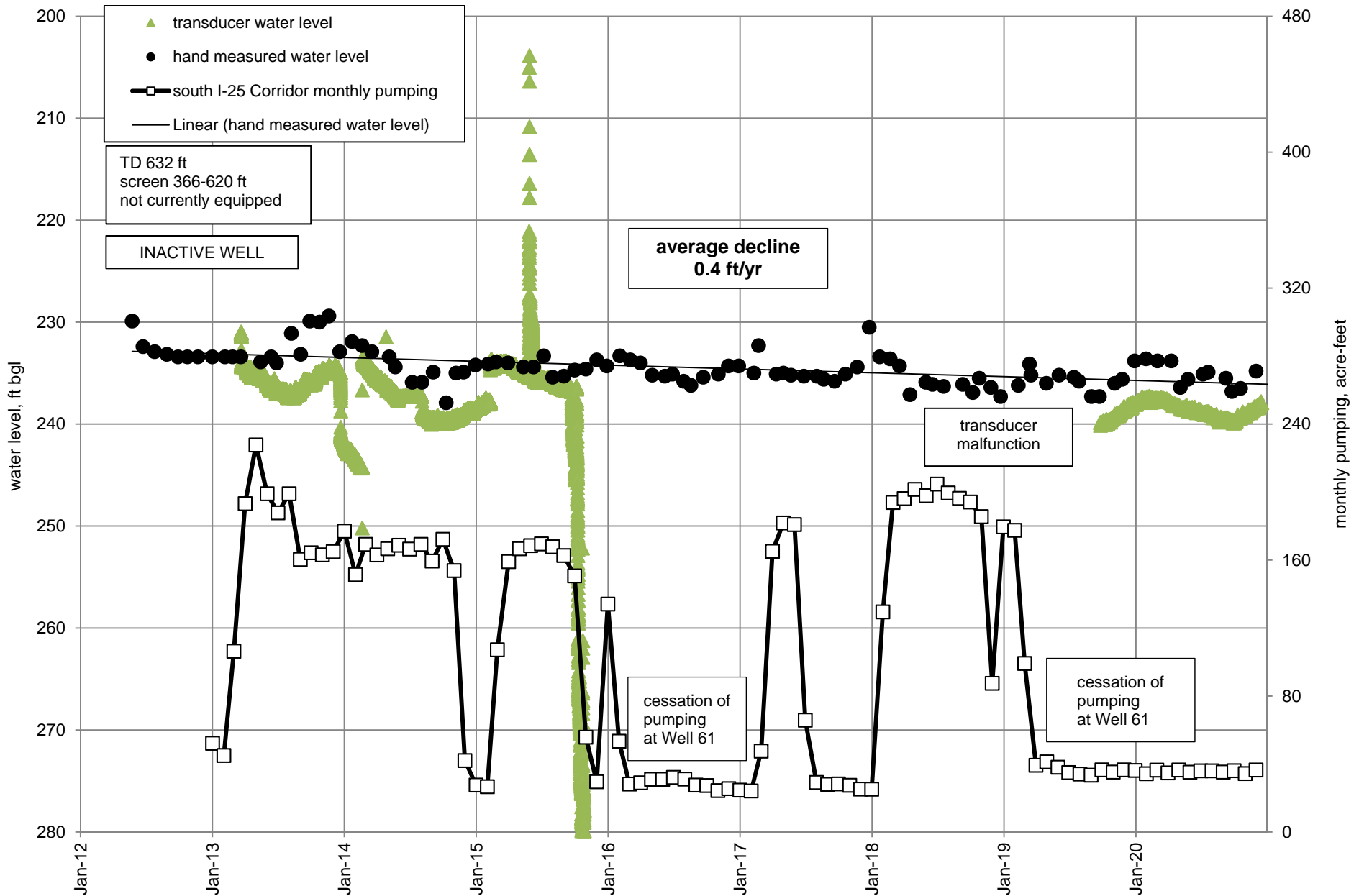


Figure B9. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 21, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

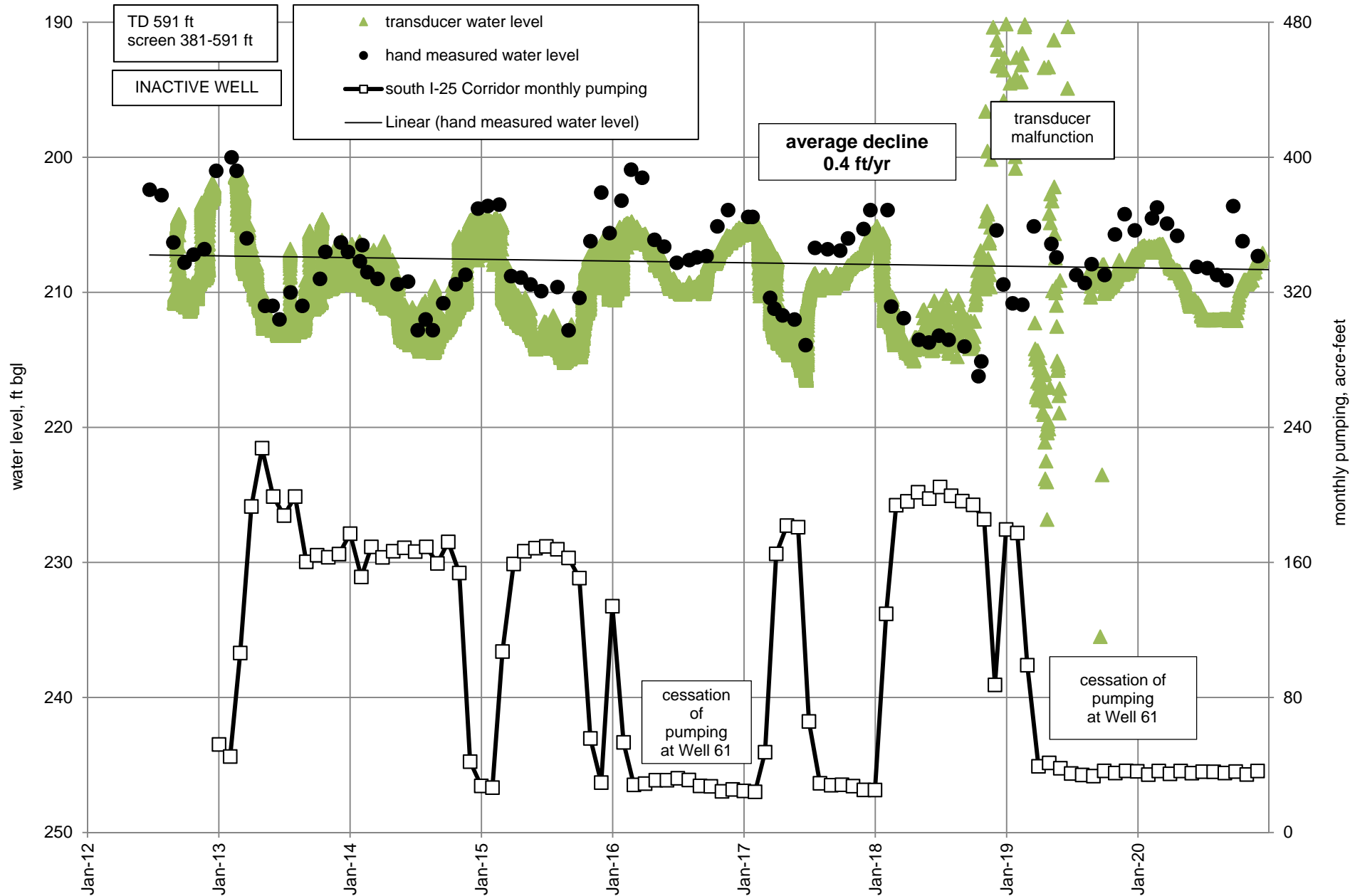


Figure B10. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 24, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

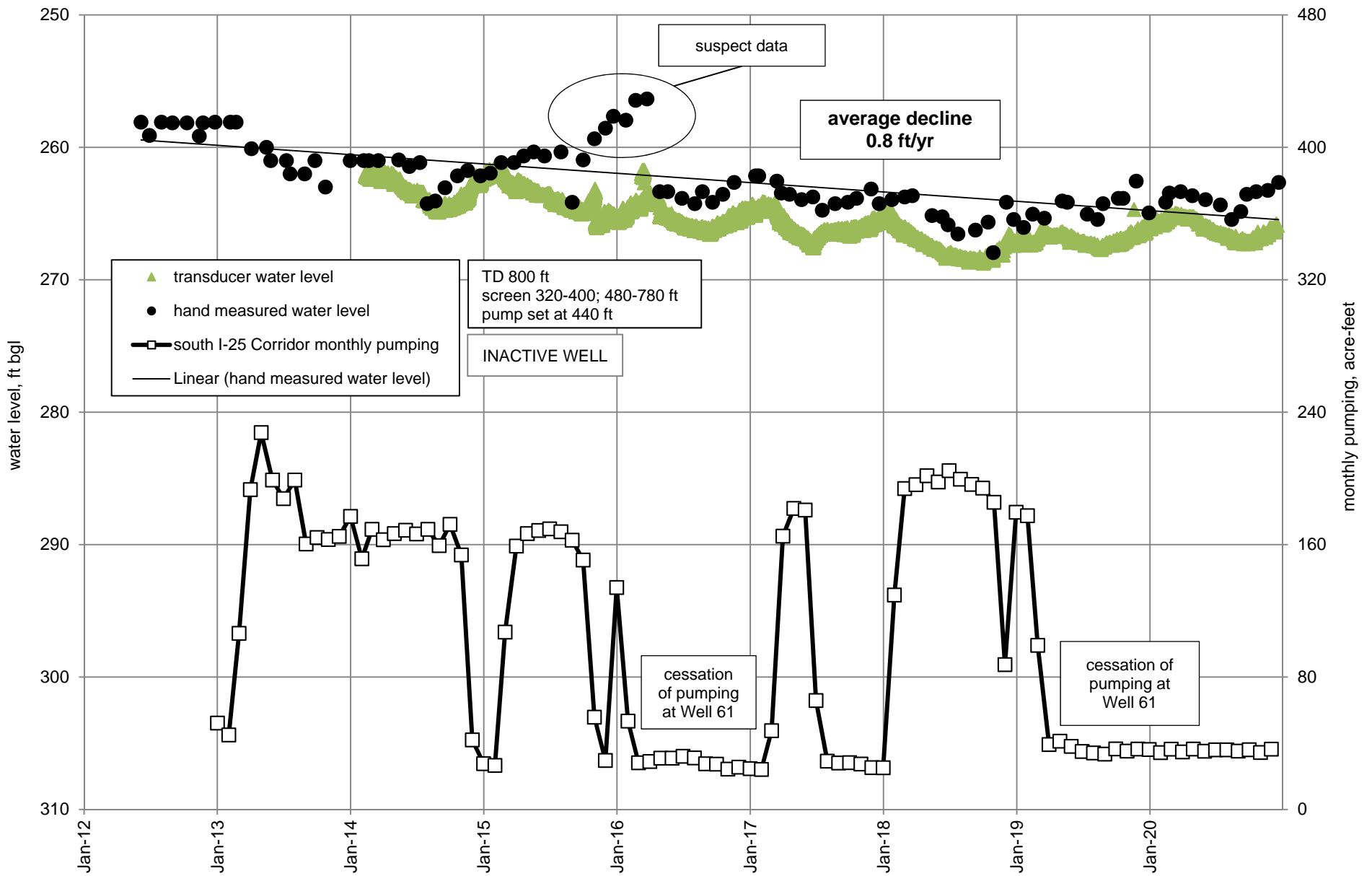


Figure B11. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 38, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).



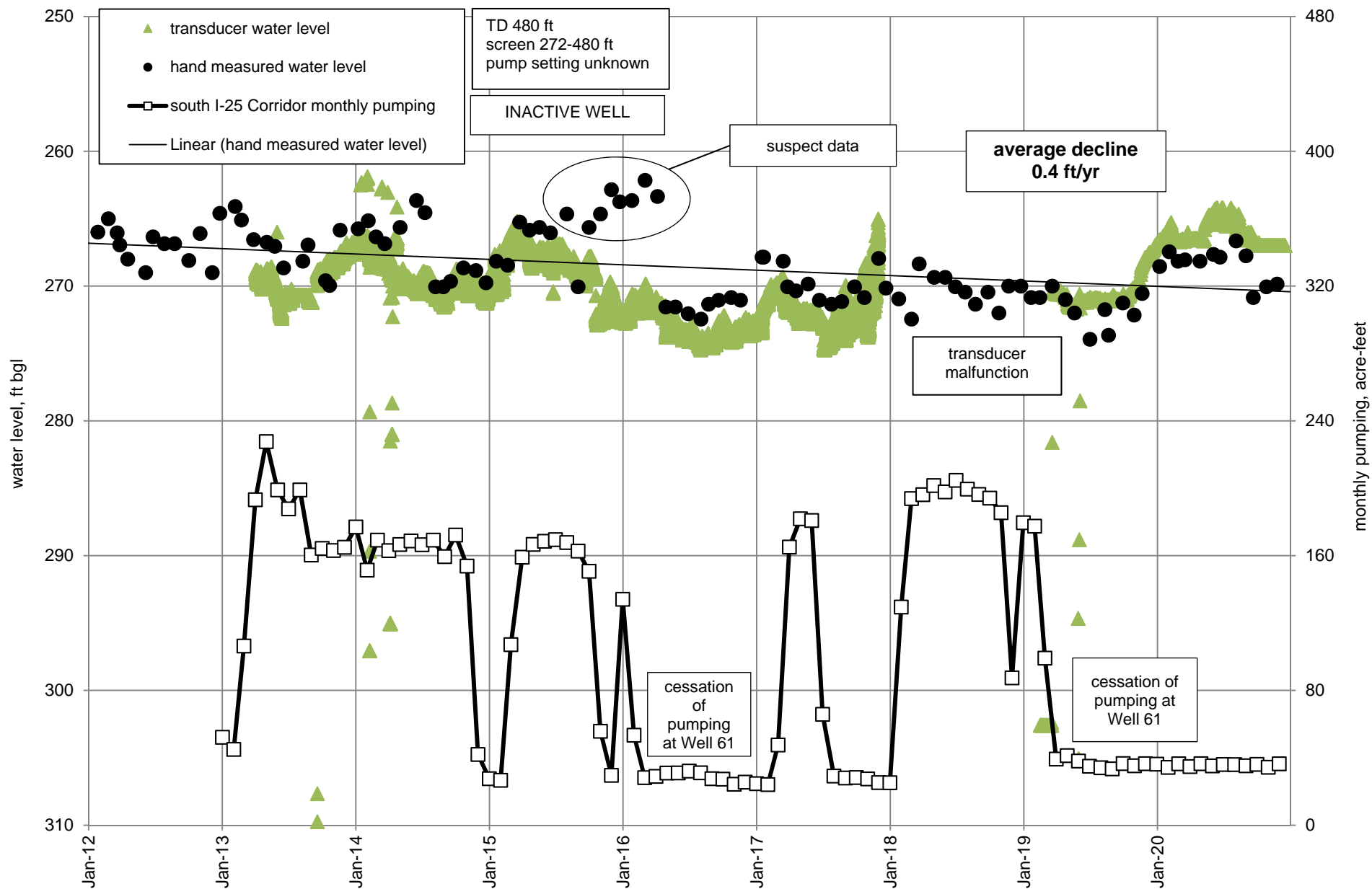


Figure B12. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 54, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

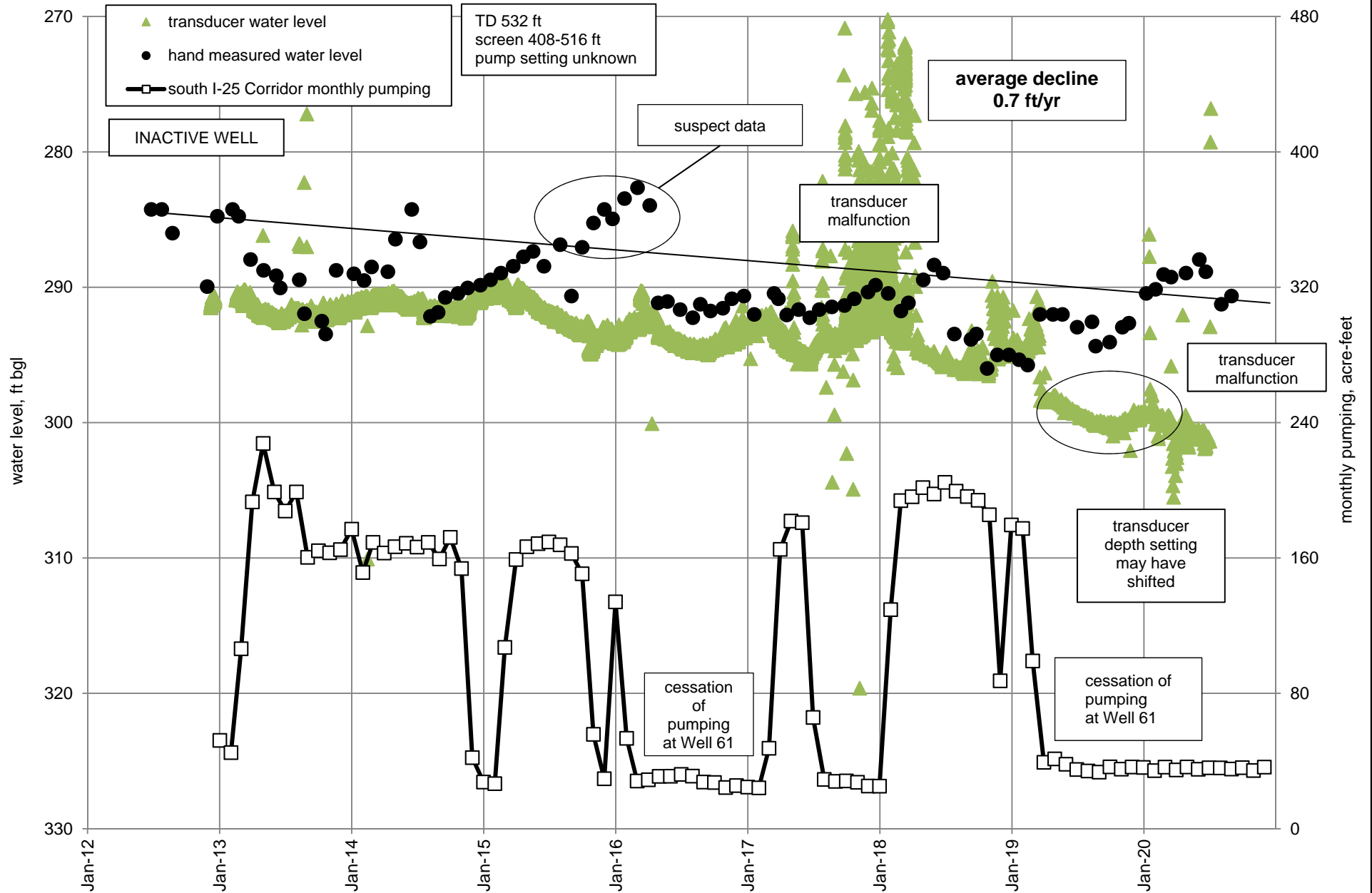


Figure B13. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 57, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

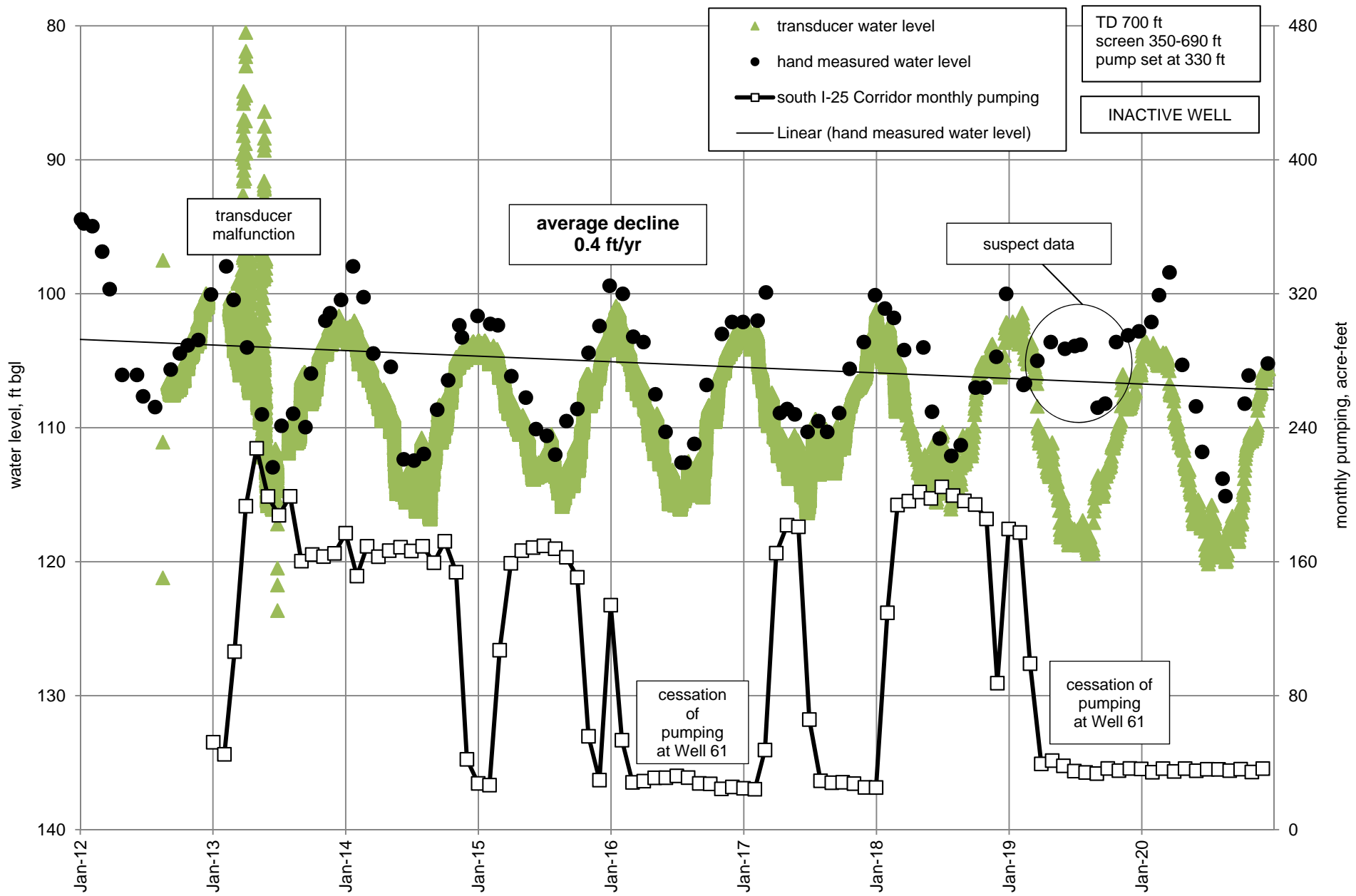


Figure B14. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for Well 60, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).



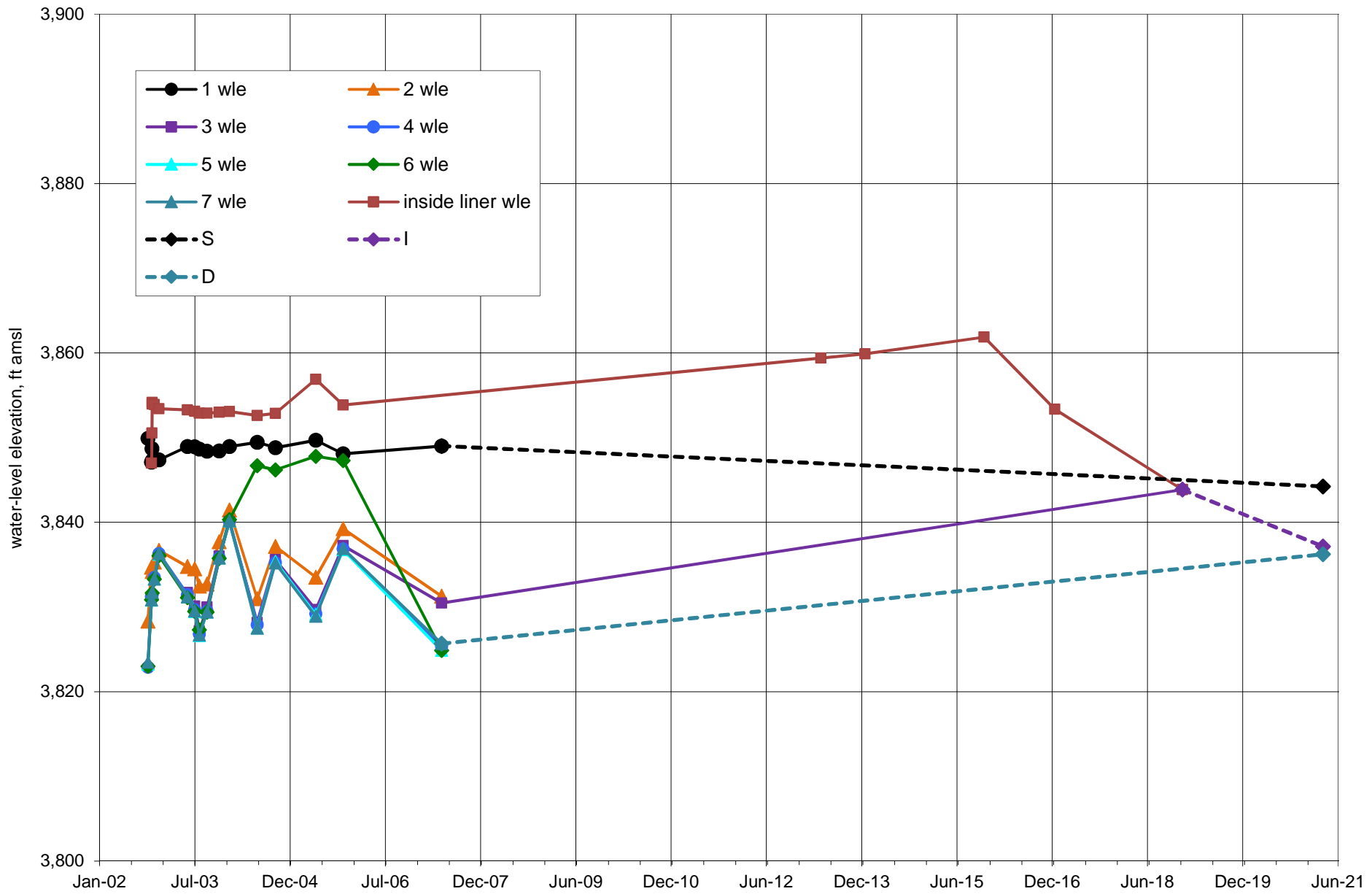


Figure B15. Graph of GWMW-01 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.

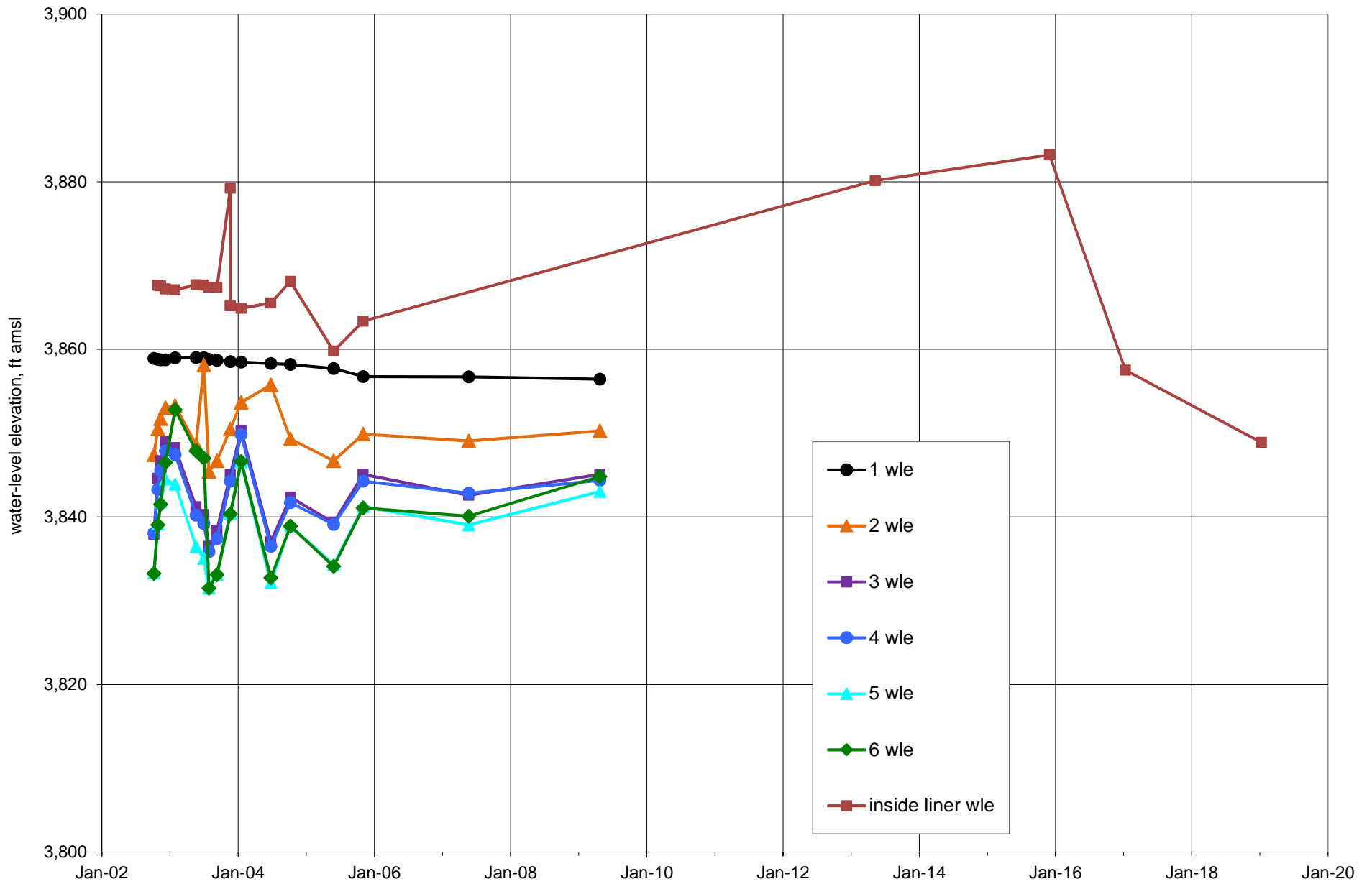


Figure B16. Graph of GWMW-03 (Ports 1 through 6 and inside liner) observed water levels, Griggs and Walnut site.

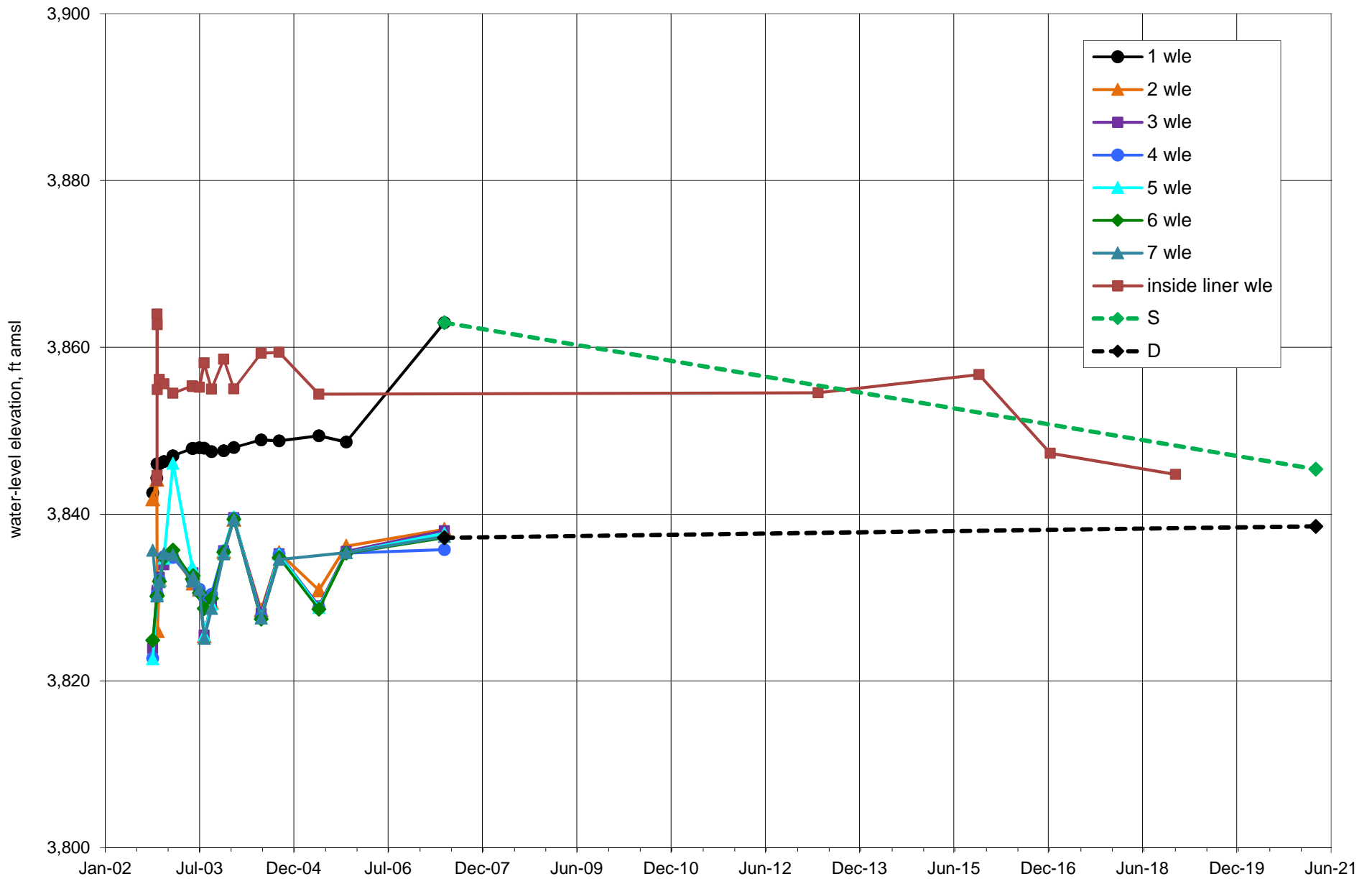


Figure B17. Graph of GWMW-08 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.



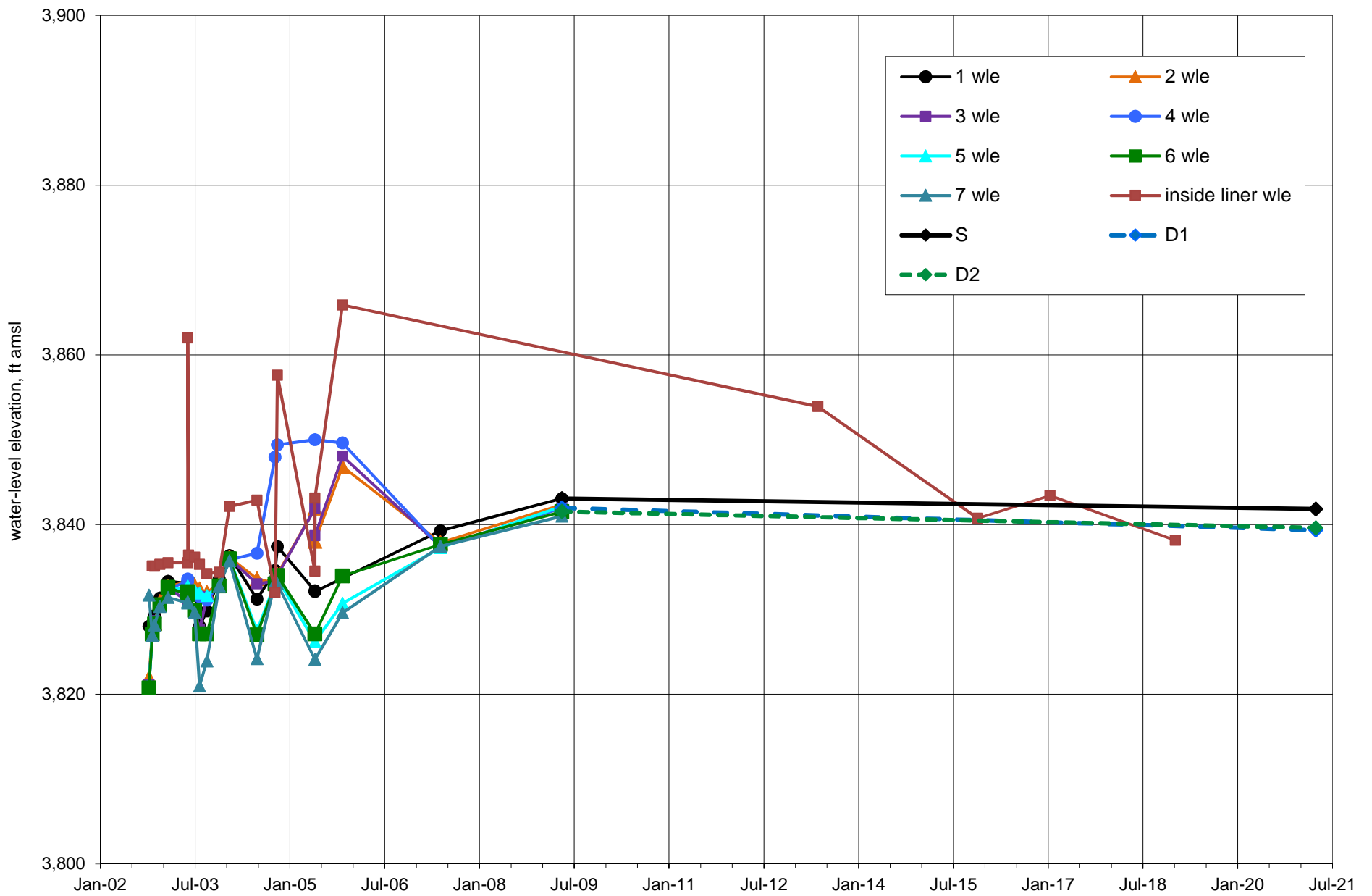


Figure B18. Graph of GWMW-09 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.

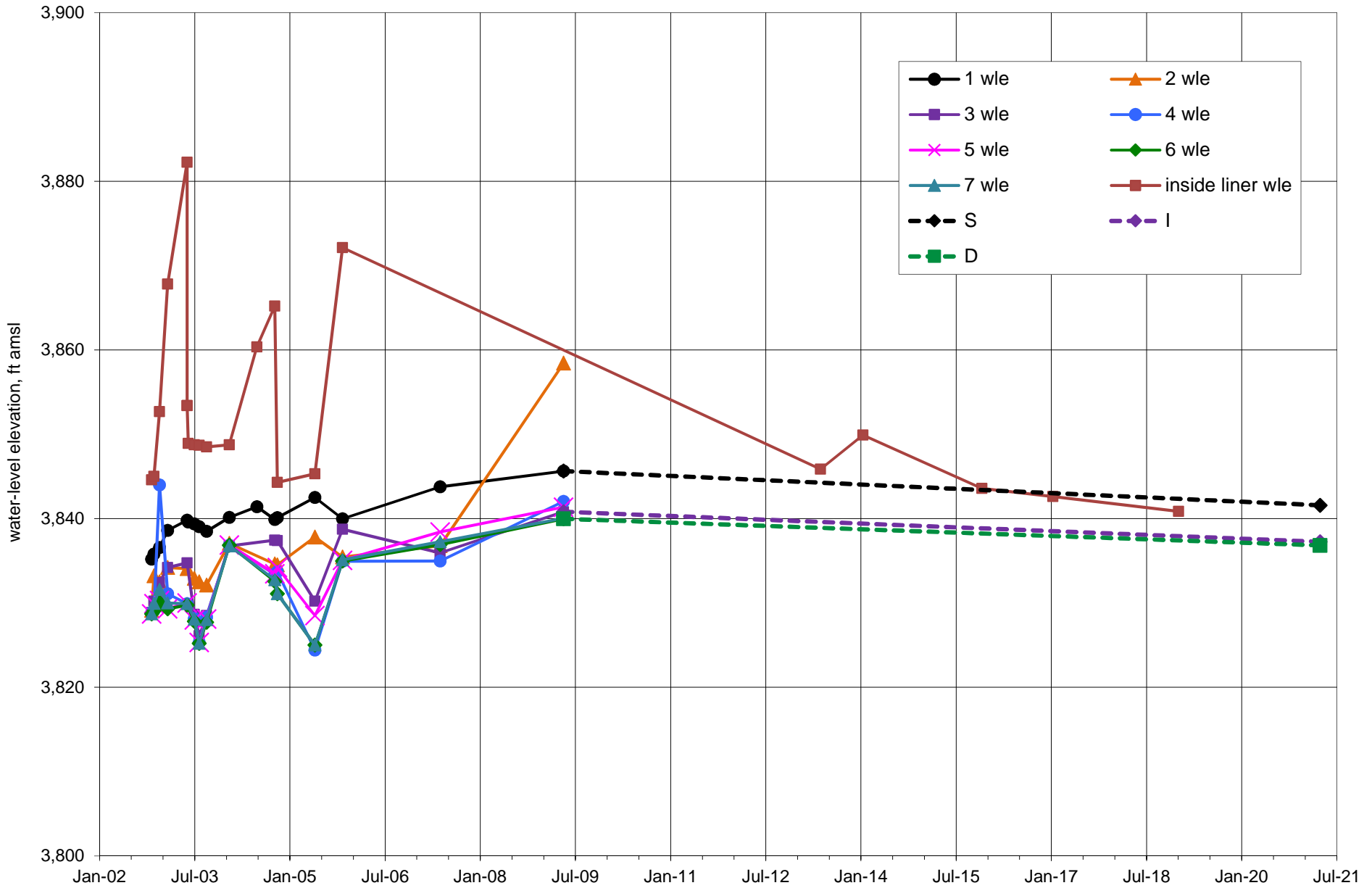


Figure B19. Graph of GWMW-10 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.

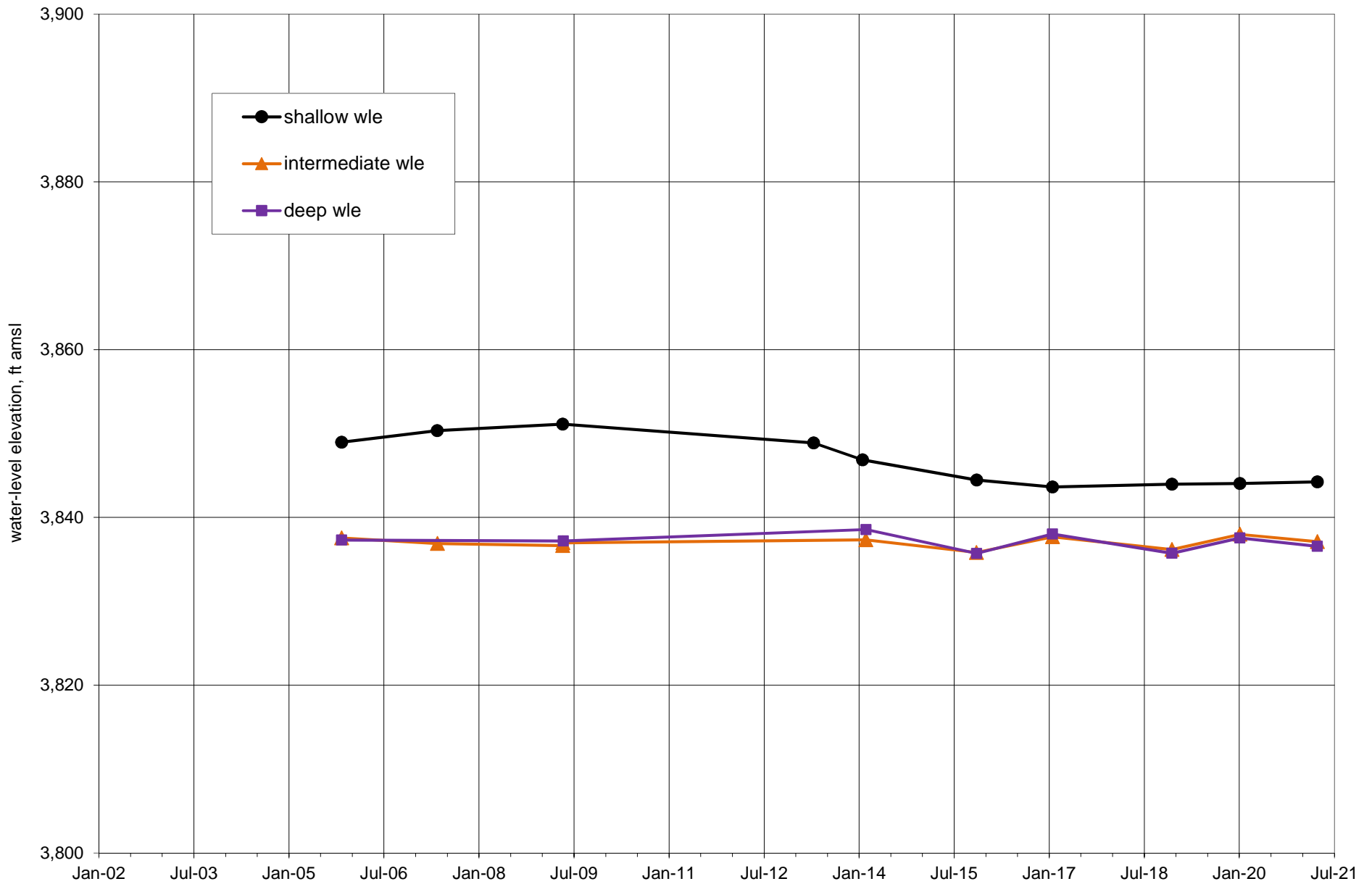


Figure B20. Graph of GMMW-11 (S, I, D) (shallow, intermediate, and deep) observed water levels, Griggs and Walnut site.



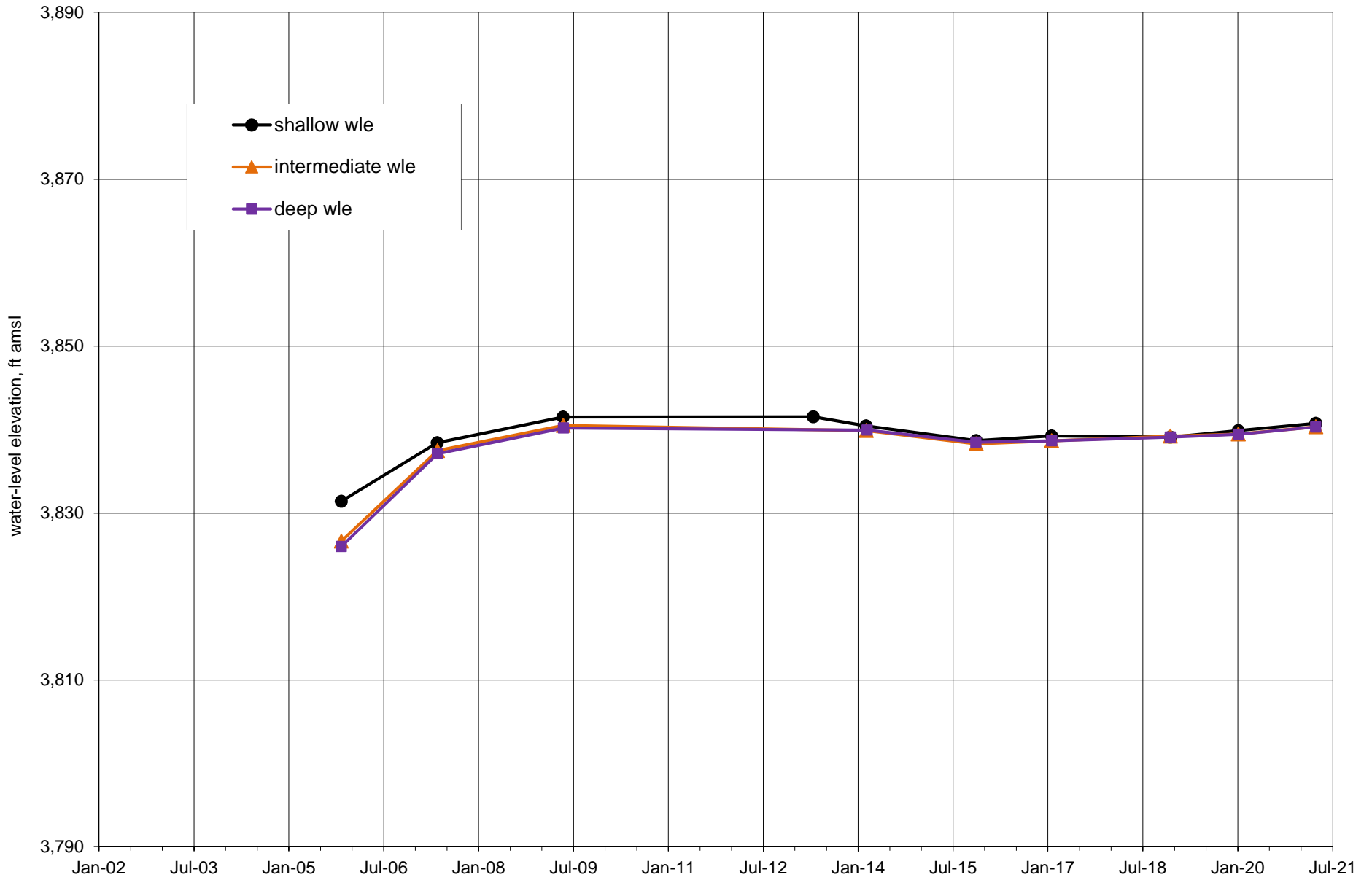


Figure B21. Graph of GMMW-15 (S, I, D) (shallow, intermediate, and deep) observed water levels, Griggs and Walnut site.

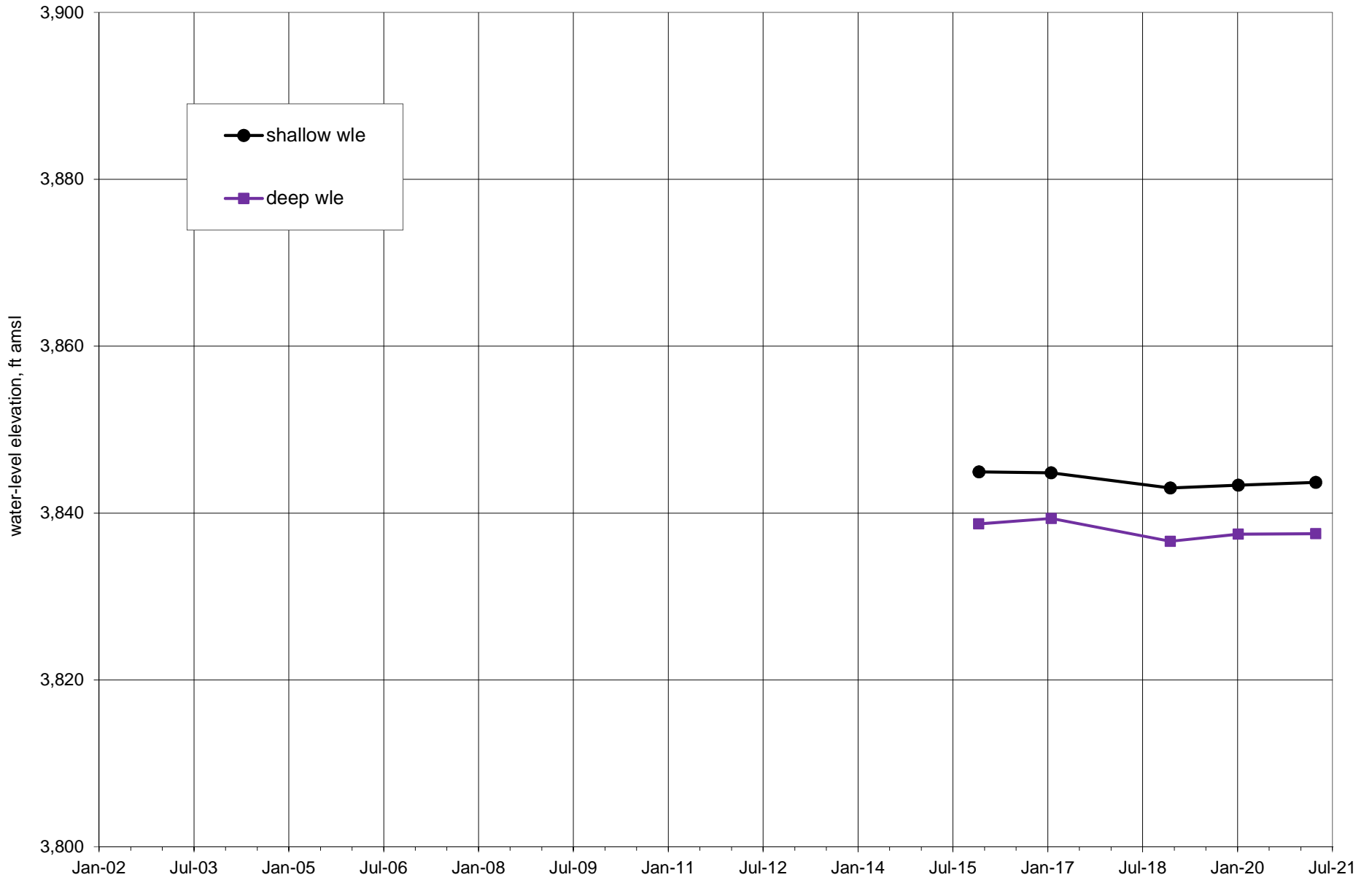


Figure B22. Graph of GWMW-16 (S, D) (shallow and deep) observed water levels, Griggs and Walnut site.

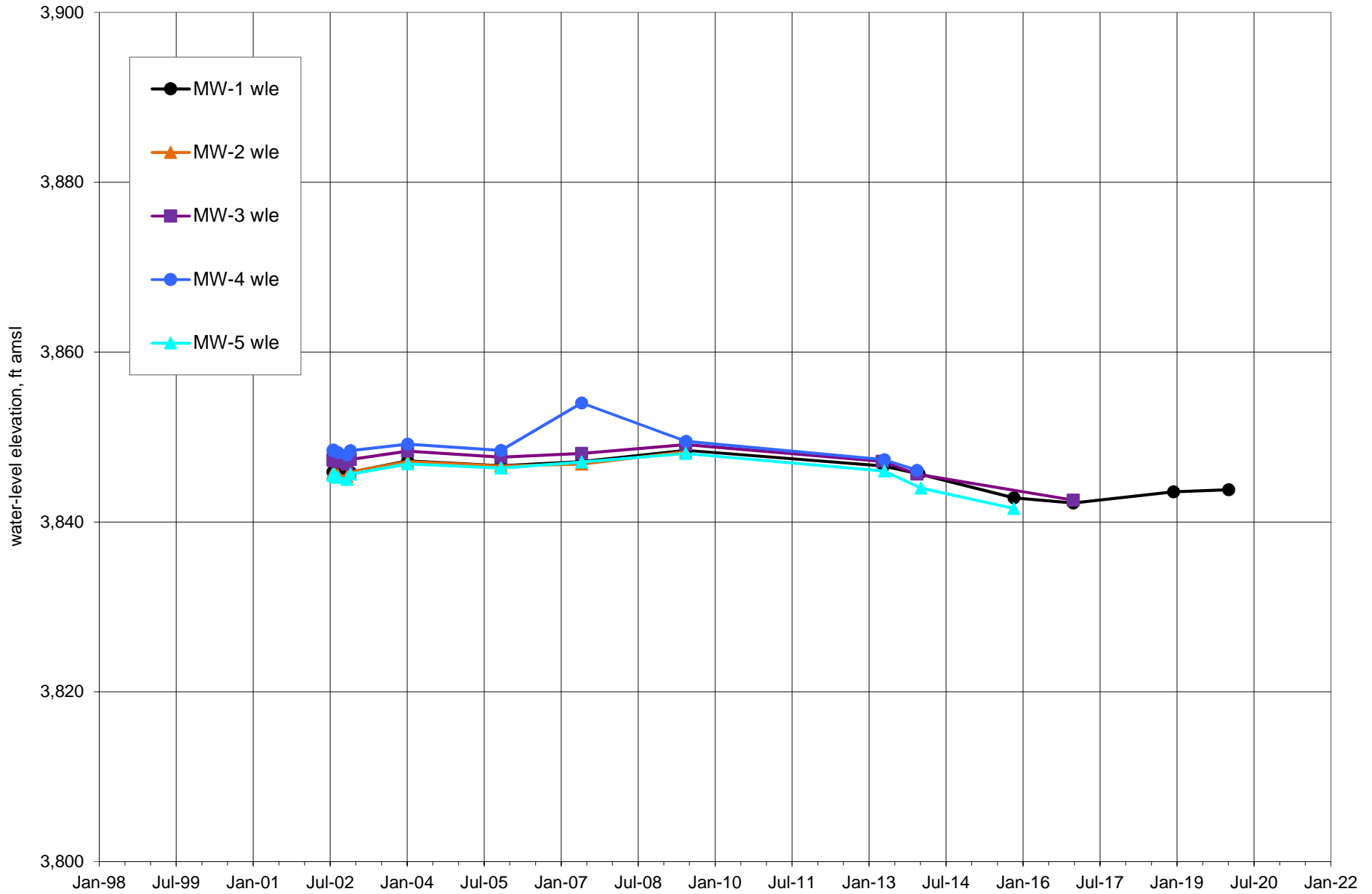


Figure B23. Graph of MW-1 through MW-5 observed water levels, Griggs and Walnut site.



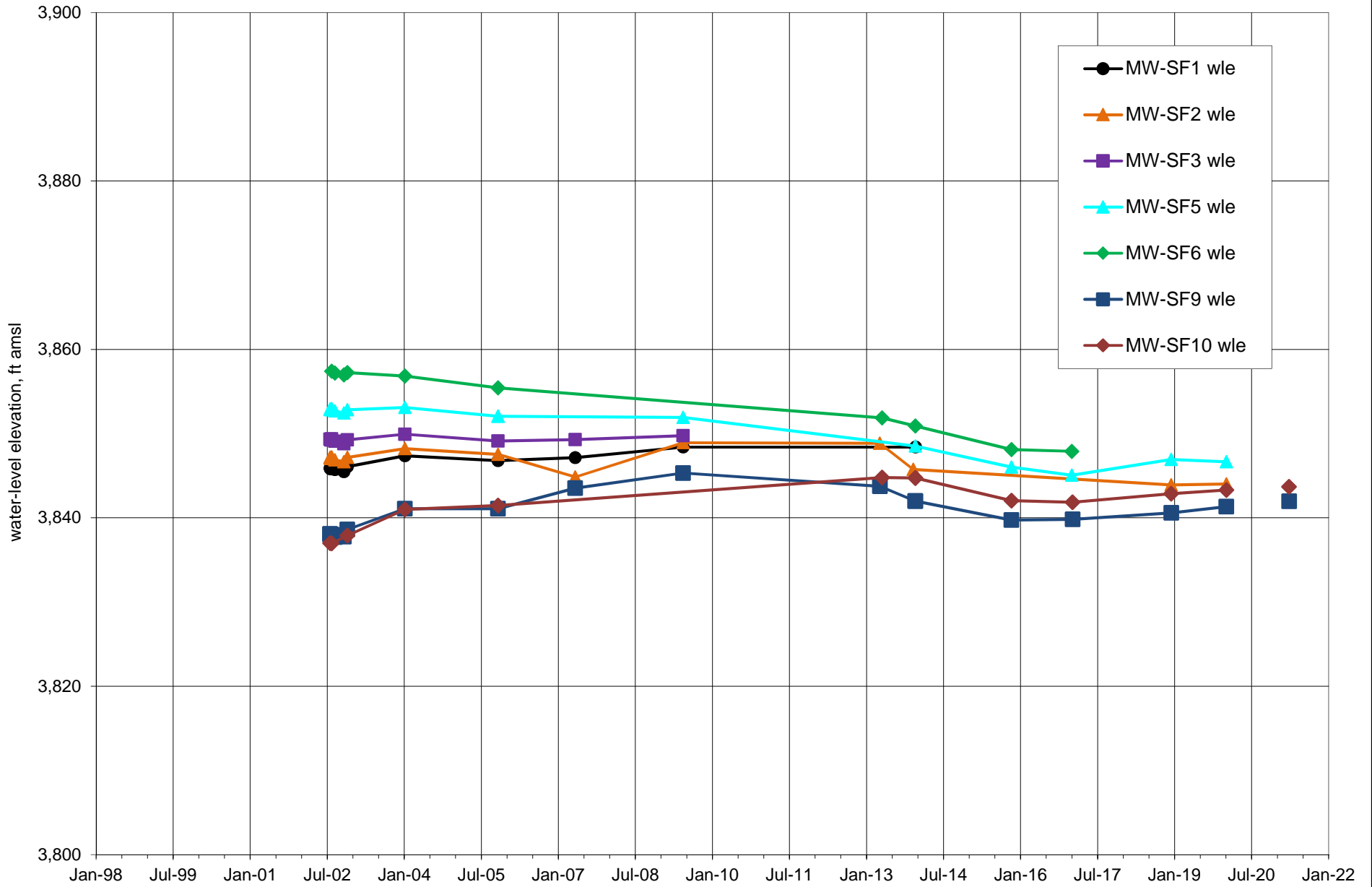


Figure B24. Graph of observed water levels for selected MW-SF series monitor wells, Griggs and Walnut site.

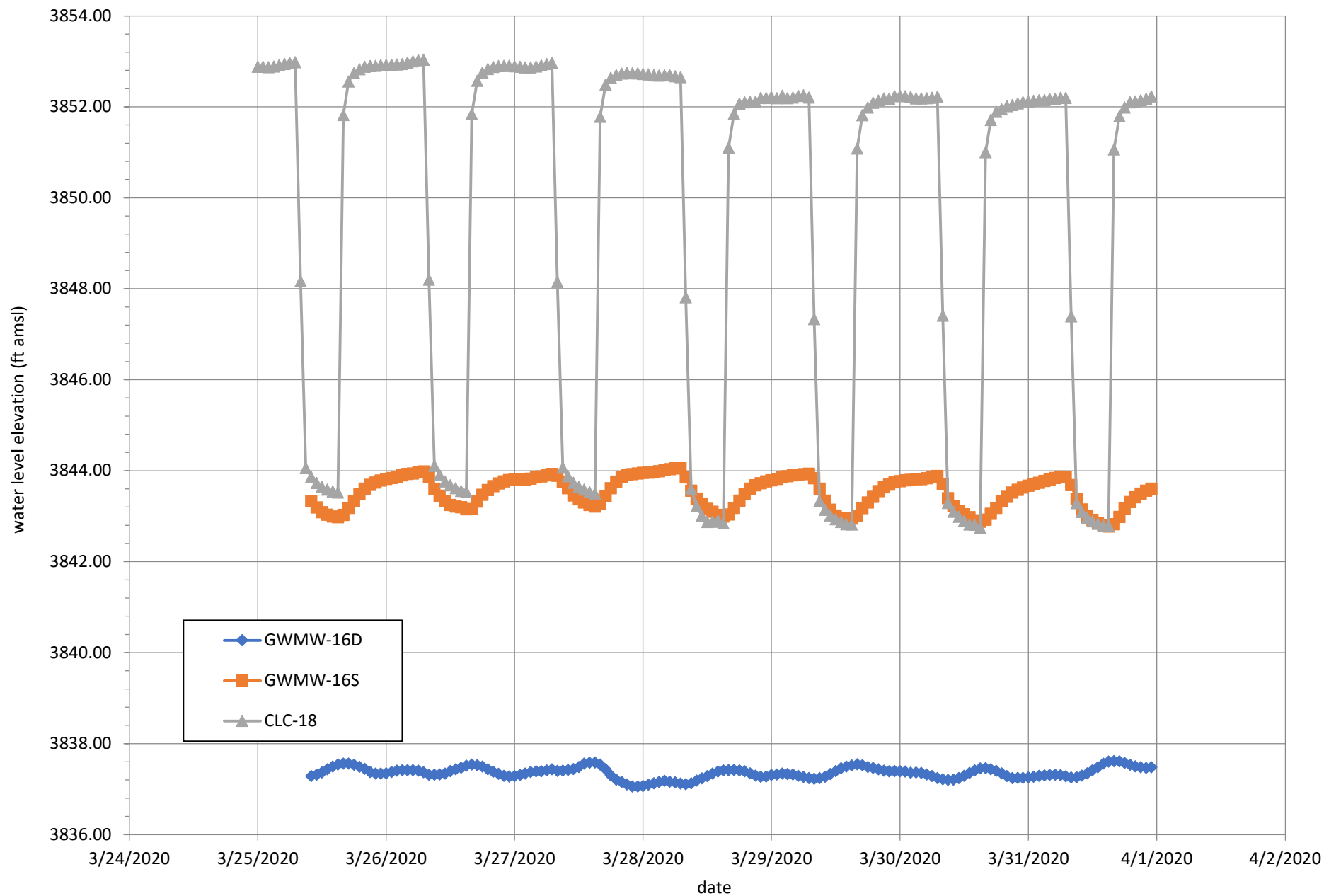


Figure B25. Graph of GWMW-16(S,D) and CLC 18 transducer water level data for March 25 through 31, 2020.

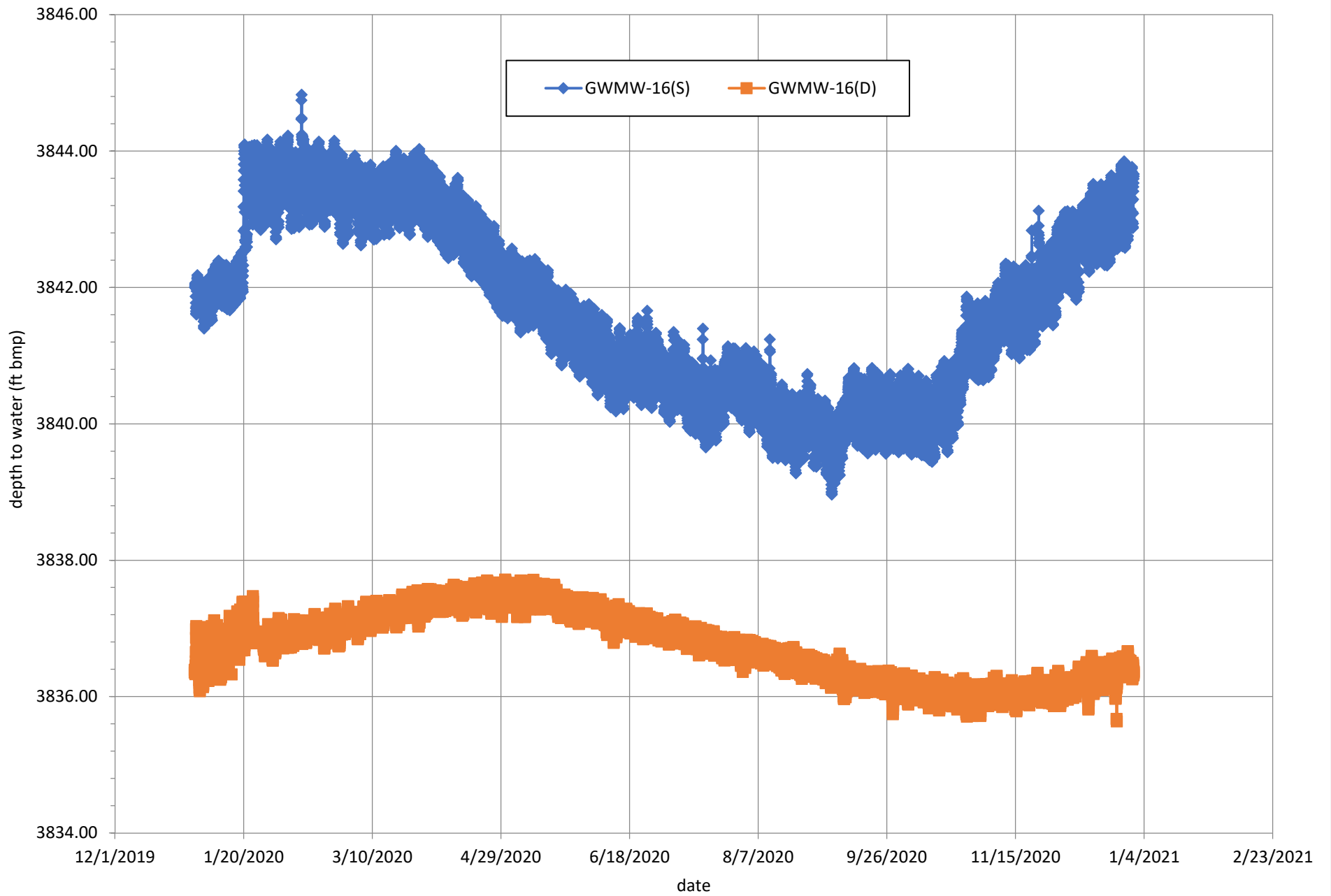


Figure B26. Graph of GWMW-16(S,D) transducer water level data for 2020.



**Appendix C.**

**Summary of Griggs and Walnut Site plume area pumping data**

**Table C1. Summary of Griggs and Walnut plume area pumping data**

year	CLC 10	CLC 18	CLC 19	CLC 20	CLC 21	CLC 24	CLC 26	CLC 27	CLC 54	CLC 57	CLC 61	Paz Park	east pumping (ac-ft/yr)	source
1958	550	0	0	0	0	0	0	0	0	0	0	0	0	JSAI (2006)
1959	550	0	0	0	0	0	0	0	0	0	0	0	0	JSAI (2006)
1960	550	1,470	0	0	0	0	0	0	0	0	0	0	1,470	JSAI (2006)
1961	550	1,470	0	0	0	0	0	0	0	0	0	0	1,470	JSAI (2006)
1962	550	1,470	0	0	0	0	0	0	0	0	0	0	1,470	JSAI (2006)
1963	417	1,240	592	721	0	0	0	0	0	0	0	0	2,552	JSAI (2006)
1964	417	1,240	592	721	869	0	0	0	0	0	0	0	3,421	JSAI (2006)
1965	417	1,240	592	721	869	0	0	0	0	0	0	0	3,421	JSAI (2006)
1966	417	1,240	592	721	869	268	0	0	0	0	0	0	3,689	JSAI (2006)
1967	417	1,240	592	721	869	268	0	0	0	0	0	0	3,689	JSAI (2006)
1968	361	1,073	699	866	946	969	0	0	0	0	0	0	4,554	JSAI (2006)
1969	361	1,073	699	866	946	969	518	0	0	0	0	0	5,072	JSAI (2006)
1970	361	1,073	699	866	946	969	518	0	0	0	0	0	5,072	JSAI (2006)
1971	361	1,073	699	866	946	969	518	443	0	0	0	0	5,515	JSAI (2006)
1972	361	1,073	699	866	946	969	518	443	0	0	0	0	5,515	JSAI (2006)
1973	338	1,006	699	866	946	969	495	177	0	0	0	0	5,158	JSAI (2006)
1974	338	1,006	699	866	946	969	495	177	0	0	0	0	5,158	JSAI (2006)
1975	338	1,006	699	866	946	969	495	177	0	0	0	0	5,158	JSAI (2006)
1976	338	1,006	699	866	946	969	495	177	0	0	0	0	5,158	JSAI (2006)
1977	338	1,006	699	866	946	969	495	177	0	0	0	0	5,158	JSAI (2006)
1978	299	918	699	866	946	969	442	177	0	0	0	0	5,017	JSAI (2006)
1979	299	918	699	866	946	969	442	177	0	0	0	0	5,017	JSAI (2006)
1980	299	918	699	866	946	969	442	177	0	0	0	0	5,017	JSAI (2006)
1981	299	918	699	866	946	969	442	177	0	0	0	0	5,017	JSAI (2006)
1982	299	918	699	866	946	969	442	177	0	0	0	0	5,017	JSAI (2006)
1983	117	1,025	699	866	946	969	427	177	0	0	0	0	5,109	JSAI (2006)
1984	117	1,025	699	866	946	969	427	177	0	0	0	0	5,109	JSAI (2006)
1985	117	1,025	699	866	946	969	427	177	0	0	0	0	5,109	JSAI (2006)
1986	117	1,025	699	866	946	969	427	177	0	0	0	0	5,109	JSAI (2006)
1987	117	1,025	699	866	946	969	427	177	0	0	0	0	5,109	JSAI (2006)
1988	246	977	578	787	1,136	807	468	413	0	0	0	0	5,166	JSAI (2006)
1989	246	977	578	787	1,136	807	468	413	0	0	0	0	5,166	JSAI (2006)
1990	246	977	578	787	1,136	807	468	413	272	123	0	0	5,561	JSAI (2006)
1991	246	977	578	787	1,136	807	468	413	272	123	0	0	5,561	JSAI (2006)
1992	246	977	578	787	1,136	807	468	413	272	123	0	0	5,561	JSAI (2006)
1993	349	1,031	649	791	1,107	807	475	318	315	514	0	0	6,006	LCU metered data
1994	250	779	582	707	980	777	406	371	274	608	0	0	5,484	LCU metered data
1995	150	528	515	623	852	747	337	423	233	702	0	0	4,961	LCU metered data
1996	20	517	542	531	1,000	585	449	467	281	582	0	0	4,953	LCU metered data
1997	33	0	94	673	1,240	414	380	565	344	462	762	39	4,934	LCU metered data
1998	159	0	285	949	826	340	340	766	352	560	671	0	5,090	LCU metered data
1999	129	0	602	340	1,052	628	599	1,269	615	711	243	21	6,058	LCU metered data
2000	174	0	395	1,166	1,296	641	228	916	438	691	561	45	6,333	LCU metered data
2001	0	0	434	755	1,379	837	880	386	559	193	706	60	6,128	LCU metered data
2002	226	58	430	741	655	887	588	224	500	20	241	61	4,344	LCU metered data
2003	179	17	4	1,008	225	929	447	37	10	0	116	56	2,794	LCU metered data
2004	281	1	7	555	196	1,027	487	0	0	0	161	47	2,434	LCU metered data
2005	369	8	39	408	376	1,028	419	0	0	0	289	19	2,567	LCU metered data
2006	0	29	0	676	324	822	145	85	0	0	87	45	2,168	LCU metered data
2007	0	57	0	0	0	0	350	77	0	0	534	94	1,018	LCU metered data
2008	0	110	0	0	0	0	548	0	0	0	456	58	1,114	LCU metered data
2009	0	0	0	0	0	0	113	55	0	0	150	12	318	LCU metered data
2010	0	0	0	0	0	0	242	31	0	0	676	32	949	LCU metered data
2011	0	0	0	0	0	0	540	0	0	0	694	39	1,234	LCU metered data
2012	0	218	0	0	0	0	428	120	0	0	430	14	1,196	LCU metered data
2013	0	255	0	0	0	0	33	204	0	0	1,343	28	1,835	LCU metered data
2014	0	44	0	0	0	0	0	264	0	0	1,520	21	1,828	LCU metered data
2015	0	48	0	0	0	0	0	262	0	0	1,081	1	1,391	LCU metered data
2016	0	47	0	0	0	0	0	252	0	0	137	39	436	LCU metered data
2017	0	47	0	0	0	0	0	250	0	0	492	39	789	LCU metered data
2018	0	47	0	0	0	0	0	324	0	0	1,673	24	2,044	LCU metered data
2019	0	47	0	0	0	0	0	367	0	0	355	17	768	LCU metered data
2020	0	45	0	0	0	0	0	382	0	0	0	0	428	LCU metered data

JSAI - John Shomaker & Associates, Inc.

LCU - Las Cruces Utilities

ac-ft/yr - acre-feet per year

**Appendix D.**

**Time-series graphs of Griggs and Walnut Site PCE concentration**

**Appendix D.**

- Figure D1. Graph showing PCE concentrations versus time for CLC 18 and CLC 27, Griggs and Walnut site.
- Figure D2. Graph of GWMW-01 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.
- Figure D3. Graph of GWMW-03 (Ports 1 through 6) observed PCE concentrations, Griggs and Walnut site.
- Figure D4. Graph of GWMW-08 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.
- Figure D5. Graph of GWMW-09 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.
- Figure D6. Graph of GWMW-10 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.
- Figure D7. Graph of GWMW-11(S,I,D) (shallow, intermediate, and deep) observed PCE concentrations, Griggs and Walnut site.
- Figure D8. Graph of GWMW-15(S,I,D) (shallow, intermediate, and deep) observed PCE concentrations, Griggs and Walnut site.
- Figure D9. Graph of GWMW-16(S,D) (shallow and deep) observed PCE concentrations, Griggs and Walnut site.
- Figure D10. Graph of DACTD Monitoring Wells (PTSB) MW-1 through MW-5 observed PCE concentrations, Griggs and Walnut site.
- Figure D10a. Graph of DACTD Monitoring Wells (PTSB) MW-1 through MW-5 observed PCE concentrations, Griggs and Walnut site.
- Figure D11. Graph of observed PCE concentrations for selected MW-SF-series monitor wells, Griggs and Walnut site.
- Figure D12. Graph of observed PCE concentrations for selected MW-SF5, MW-SF6, and MW-SF9 monitor wells, Griggs and Walnut site.
- Figure D13. Graph of observed PCE concentrations for MW-SF2 monitor well, Griggs and Walnut site.
- Figure D14. Graph of observed PCE concentrations for MW-SF10 monitor well, Griggs and Walnut site.



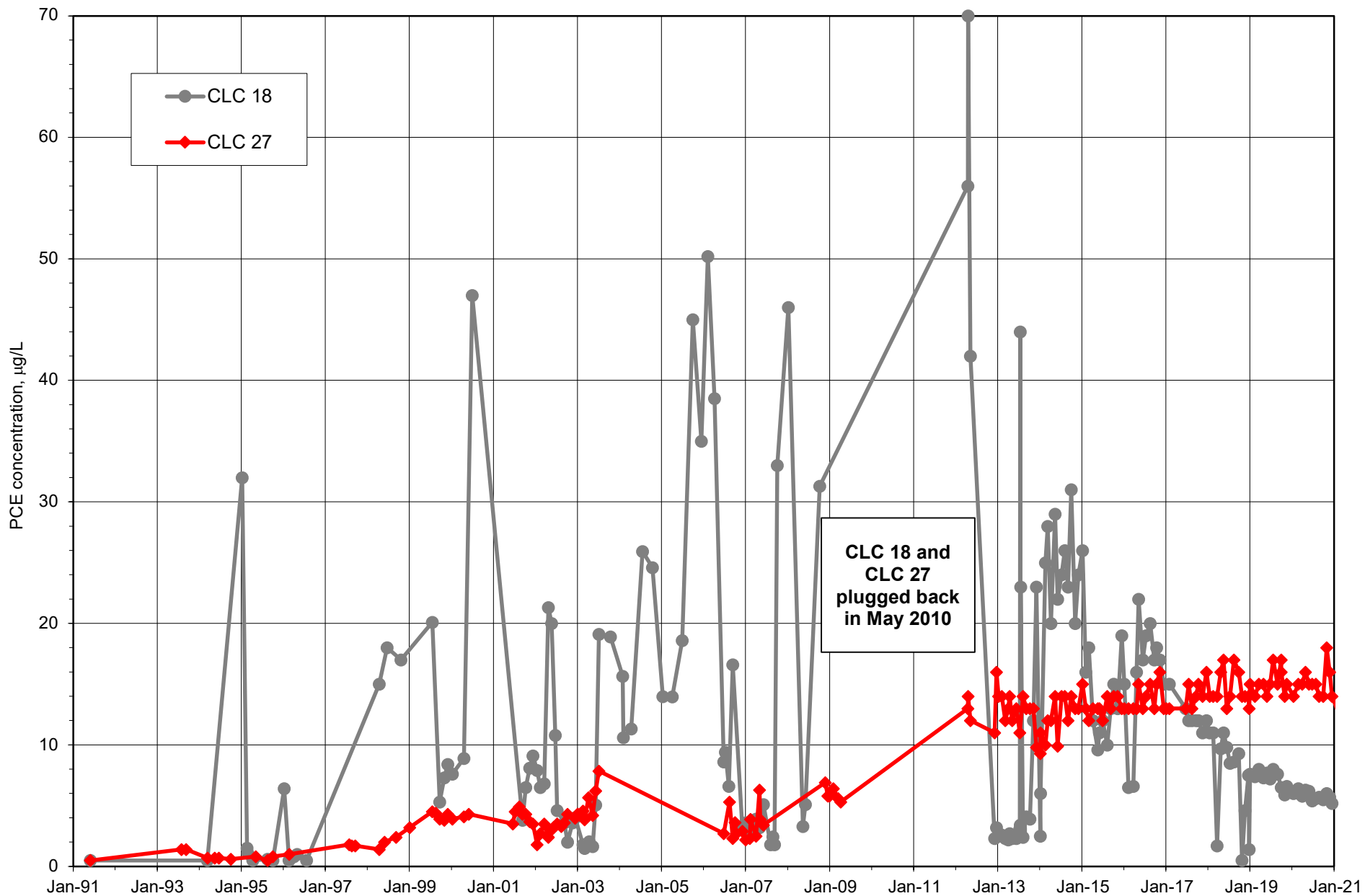


Figure D1. Graph showing PCE concentrations versus time for CLC 18 and CLC 27, Griggs and Walnut site.

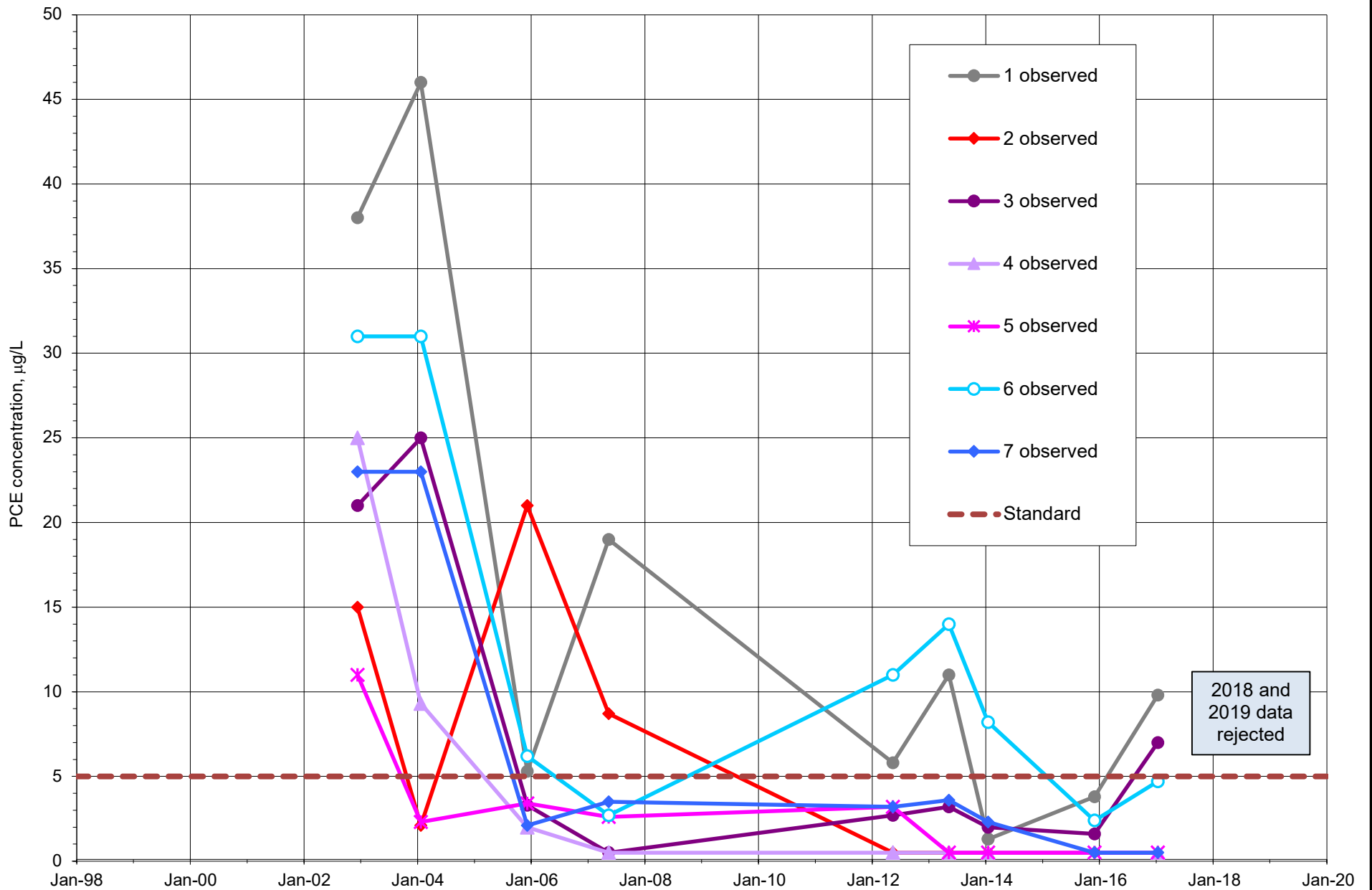


Figure D2. Graph of GWMW-01 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.

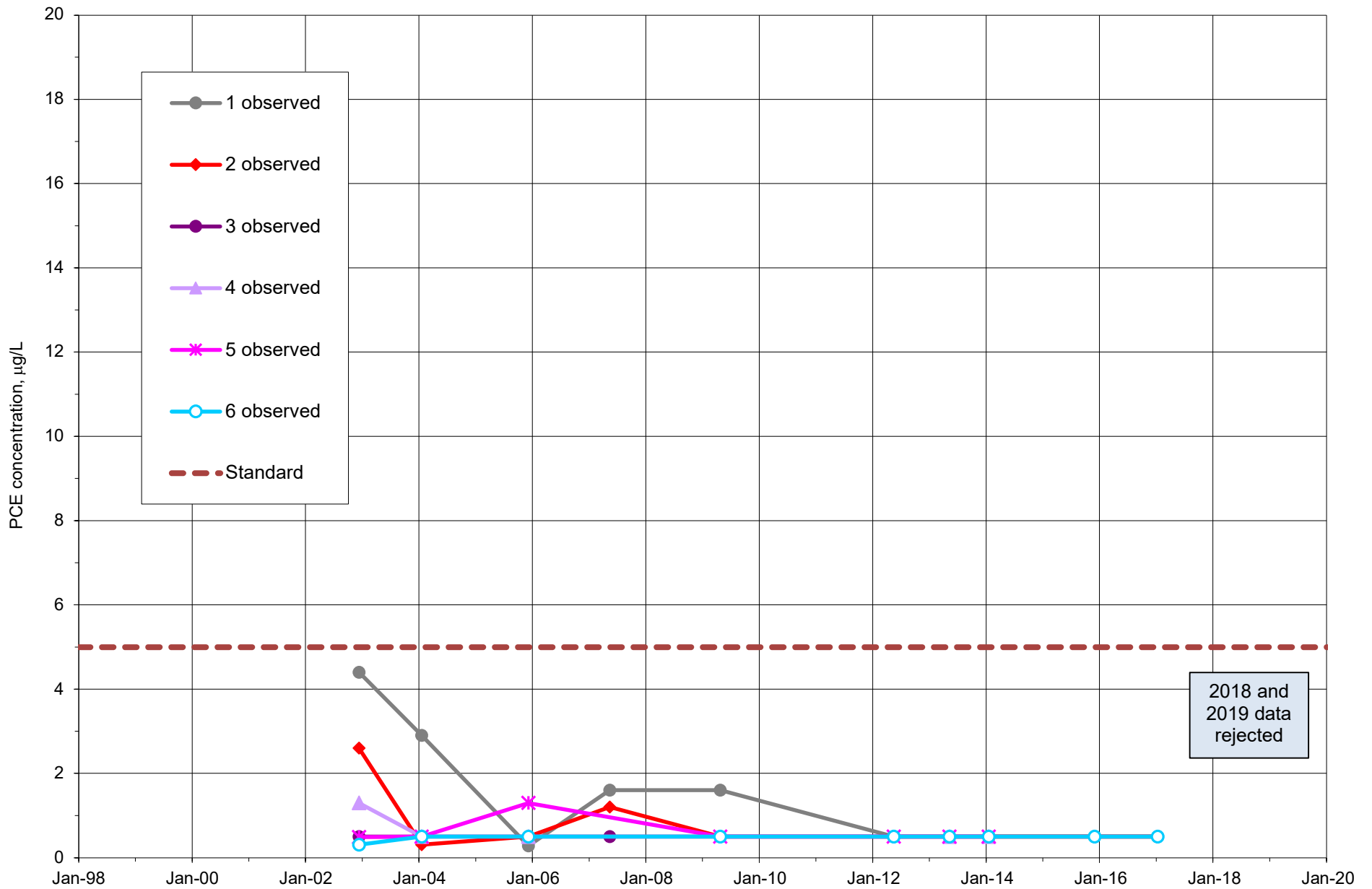


Figure D3. Graph of GWMW-03 (Ports 1 through 6) observed PCE concentrations, Griggs and Walnut site.

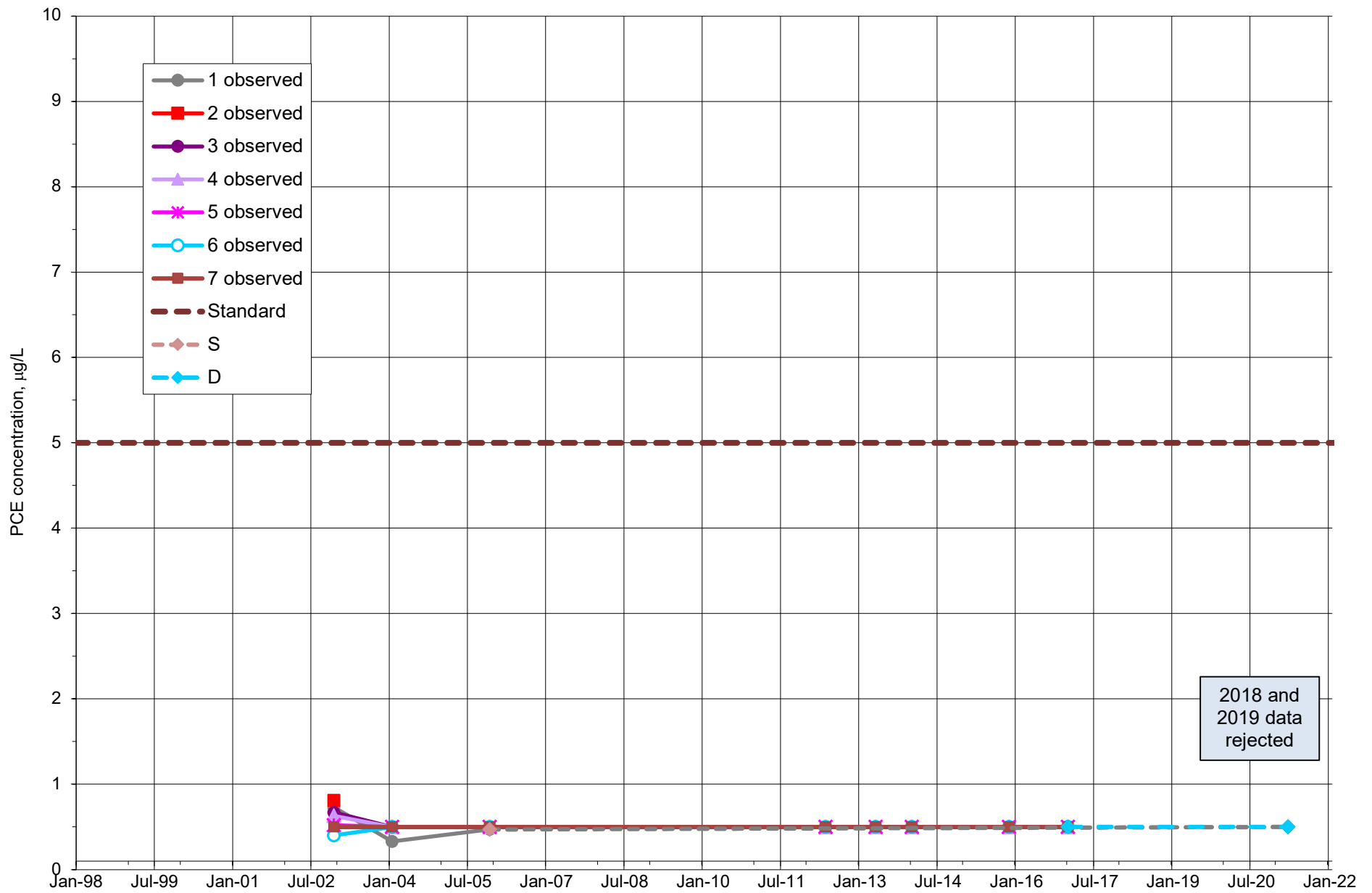


Figure D4. Graph of GWMW-08 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.



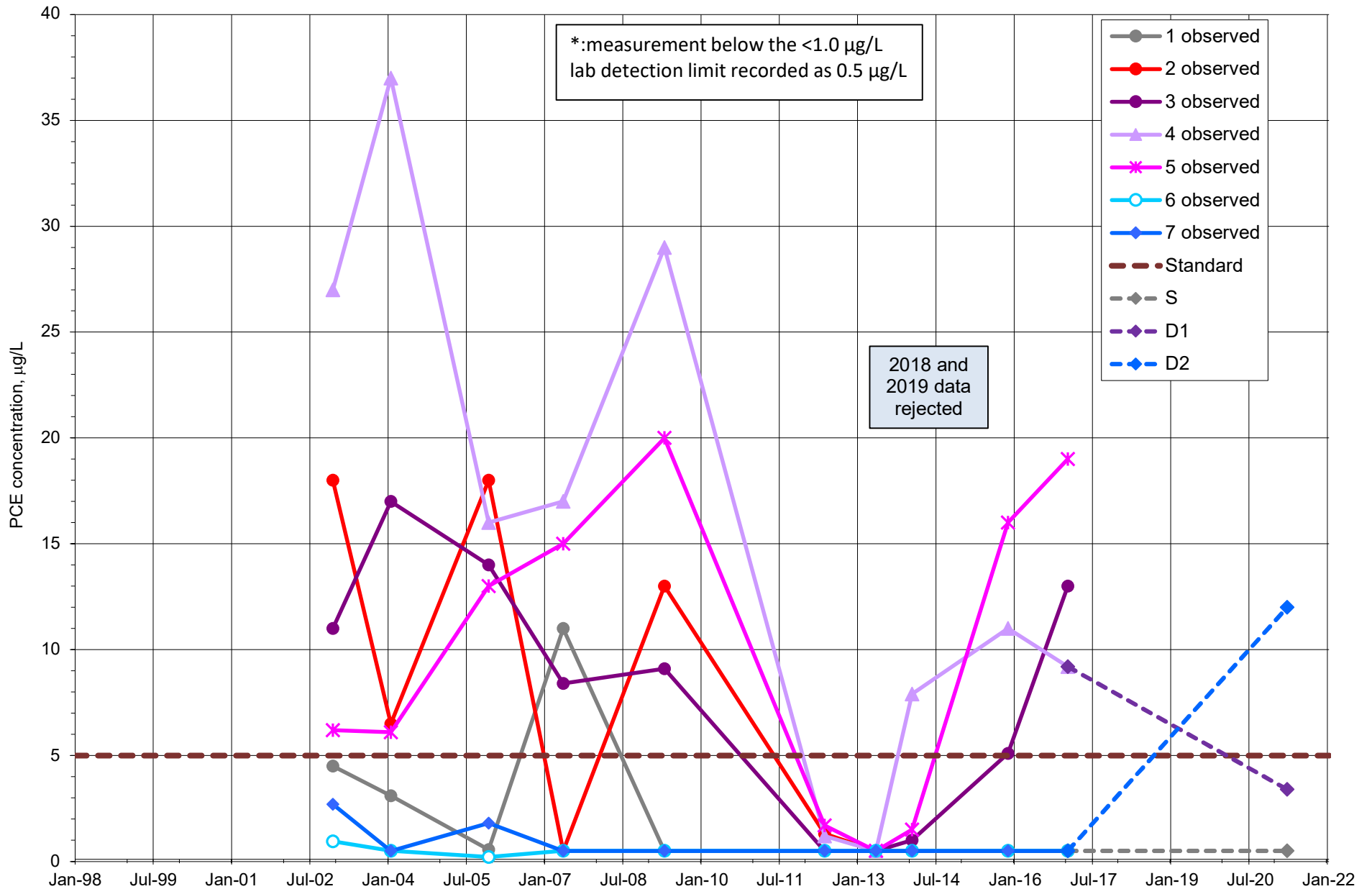


Figure D5. Graph of GWMW-09 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.

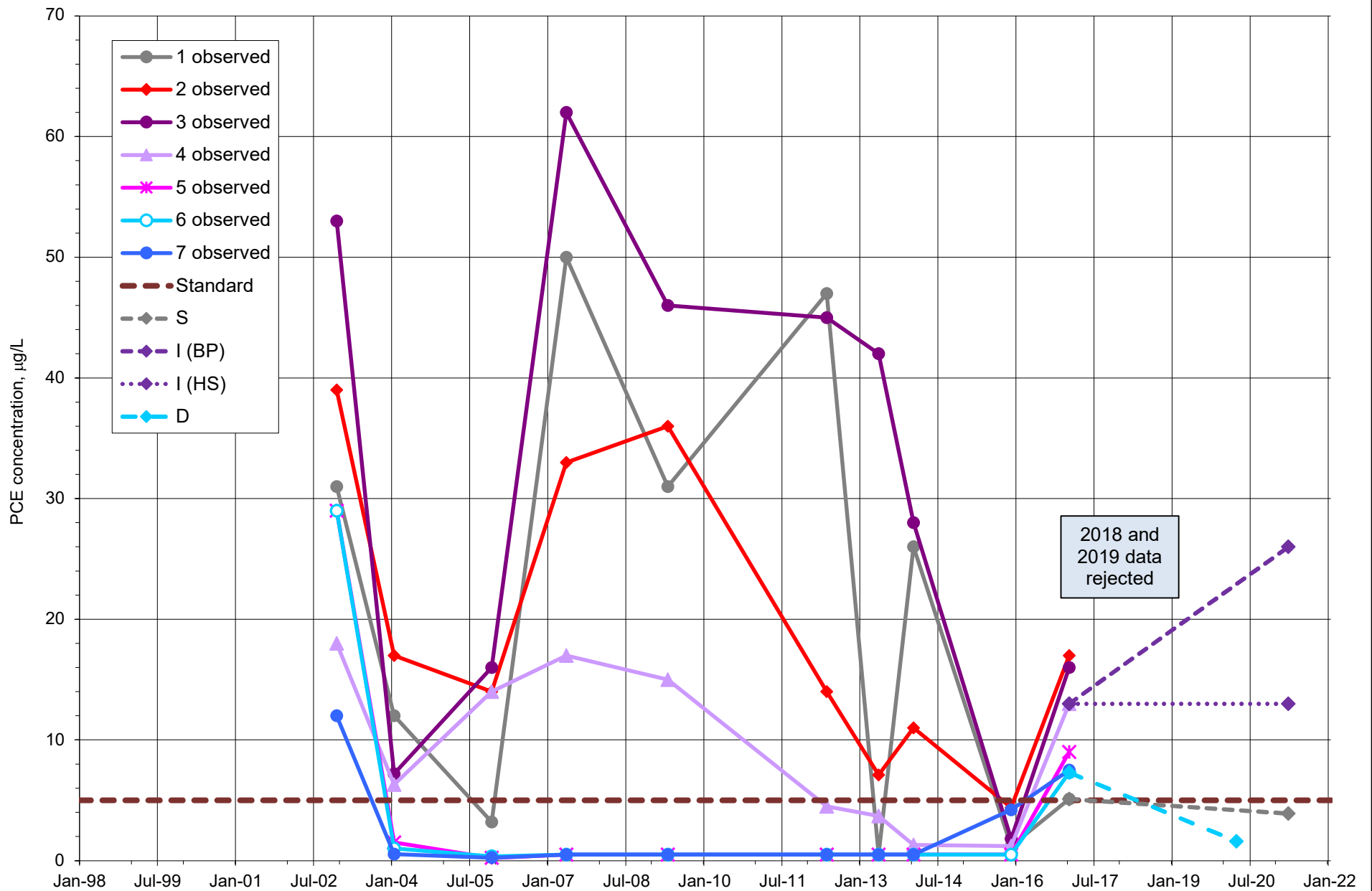


Figure D6. Graph of GWMW-10 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.

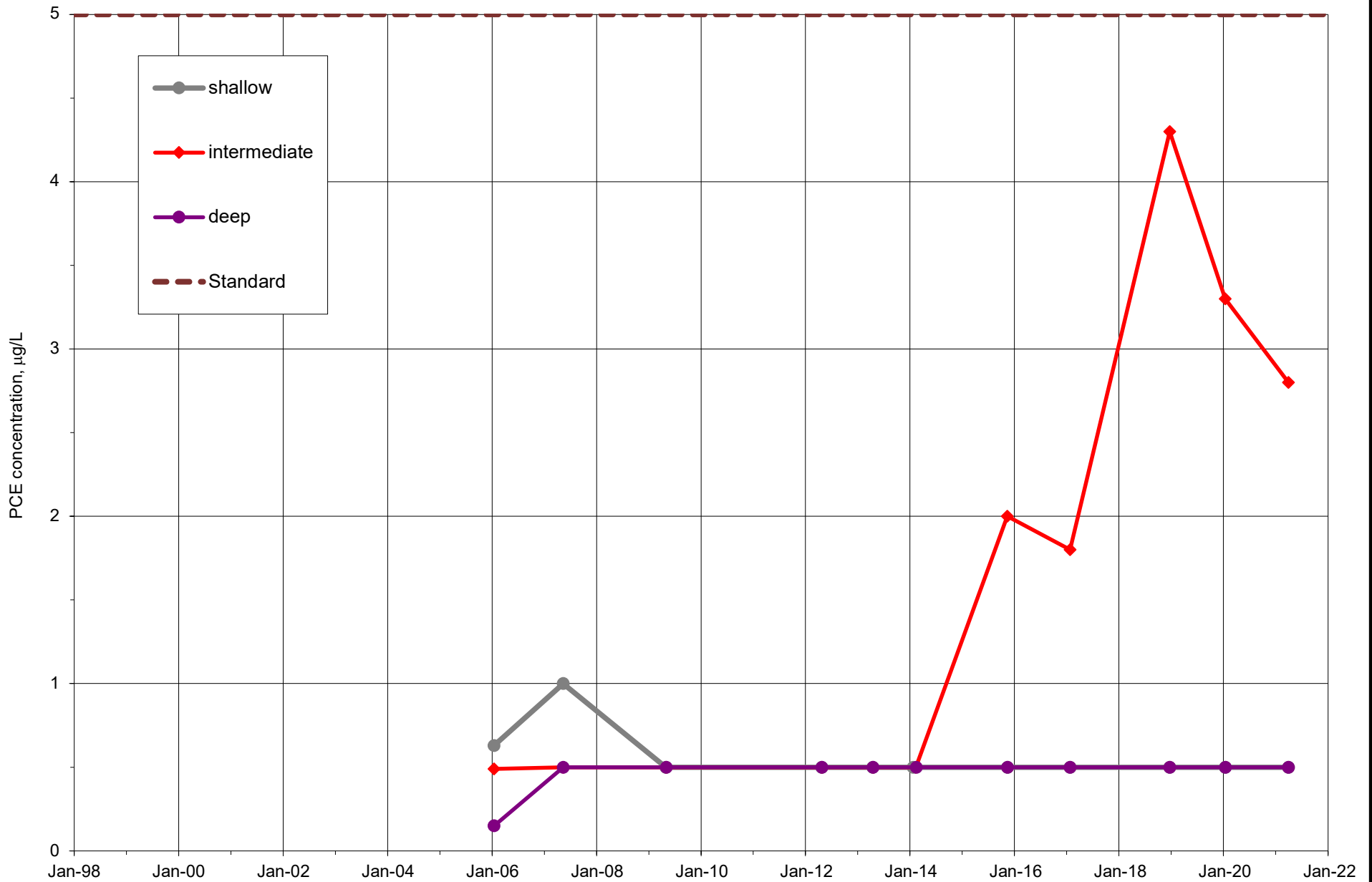


Figure D7. Graph of GWMW-11(S,I,D) (shallow, intermediate, and deep) observed PCE concentrations, Griggs and Walnut site.

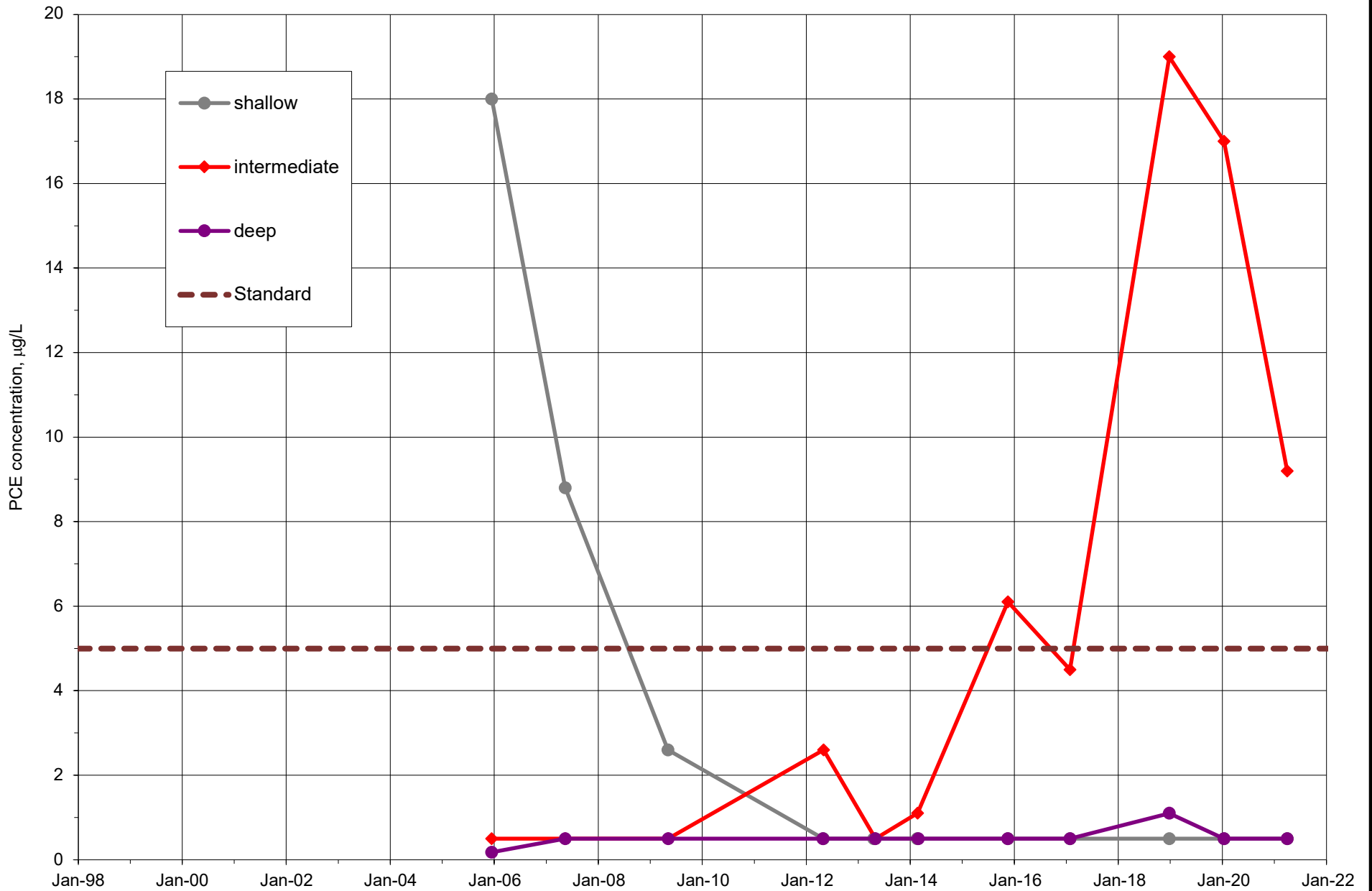


Figure D8. Graph of GWMW-15(S,I,D) (shallow, intermediate, and deep) observed PCE concentrations, Griggs and Walnut site.



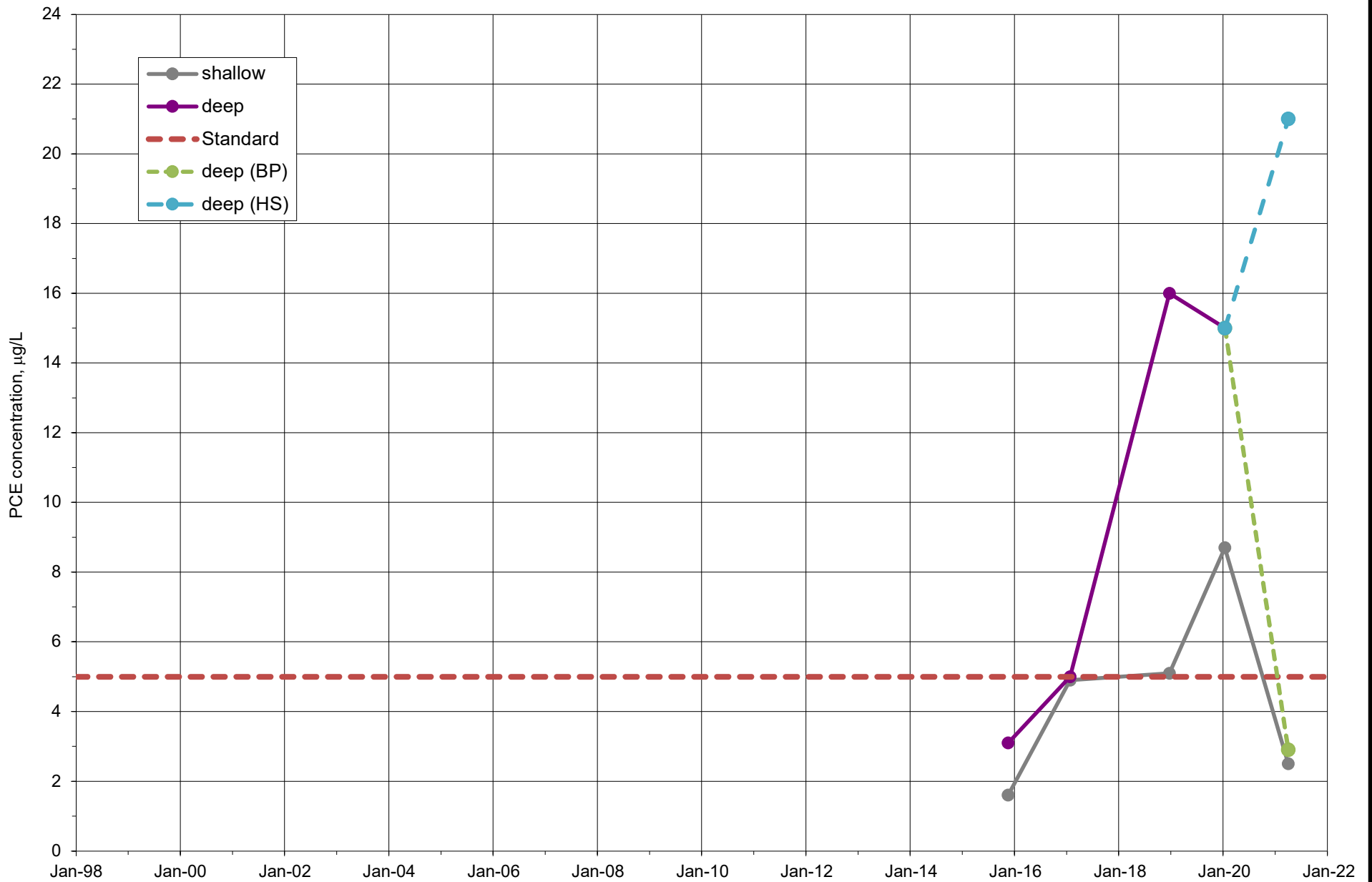


Figure D9. Graph of GWMW-16(S,D) (shallow and deep) observed PCE concentrations, Griggs and Walnut site.

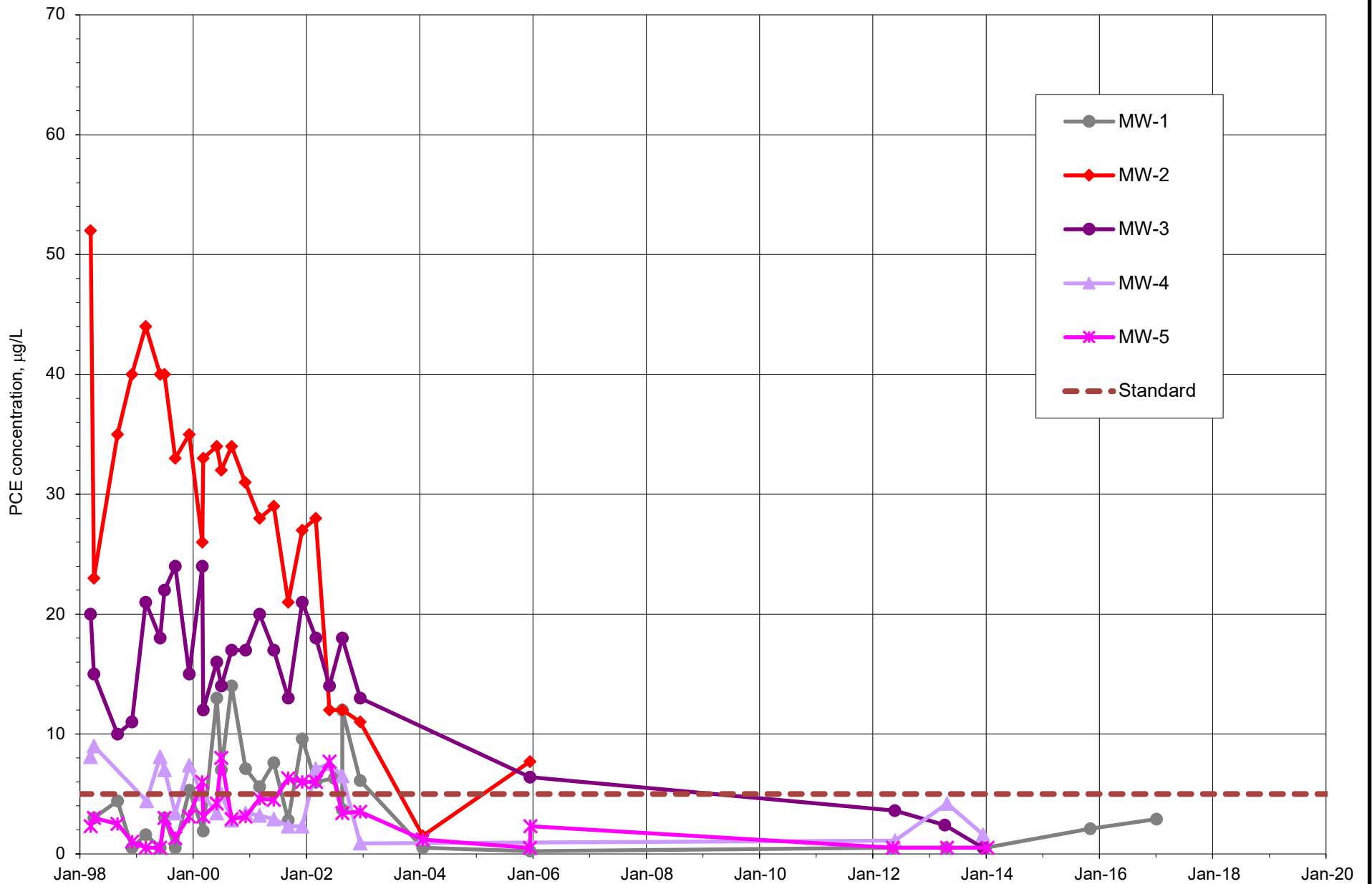


Figure D10. Graph of DACTD Monitoring Wells (PTSB) MW-1 through MW-5 observed PCE concentrations, Griggs and Walnut site.

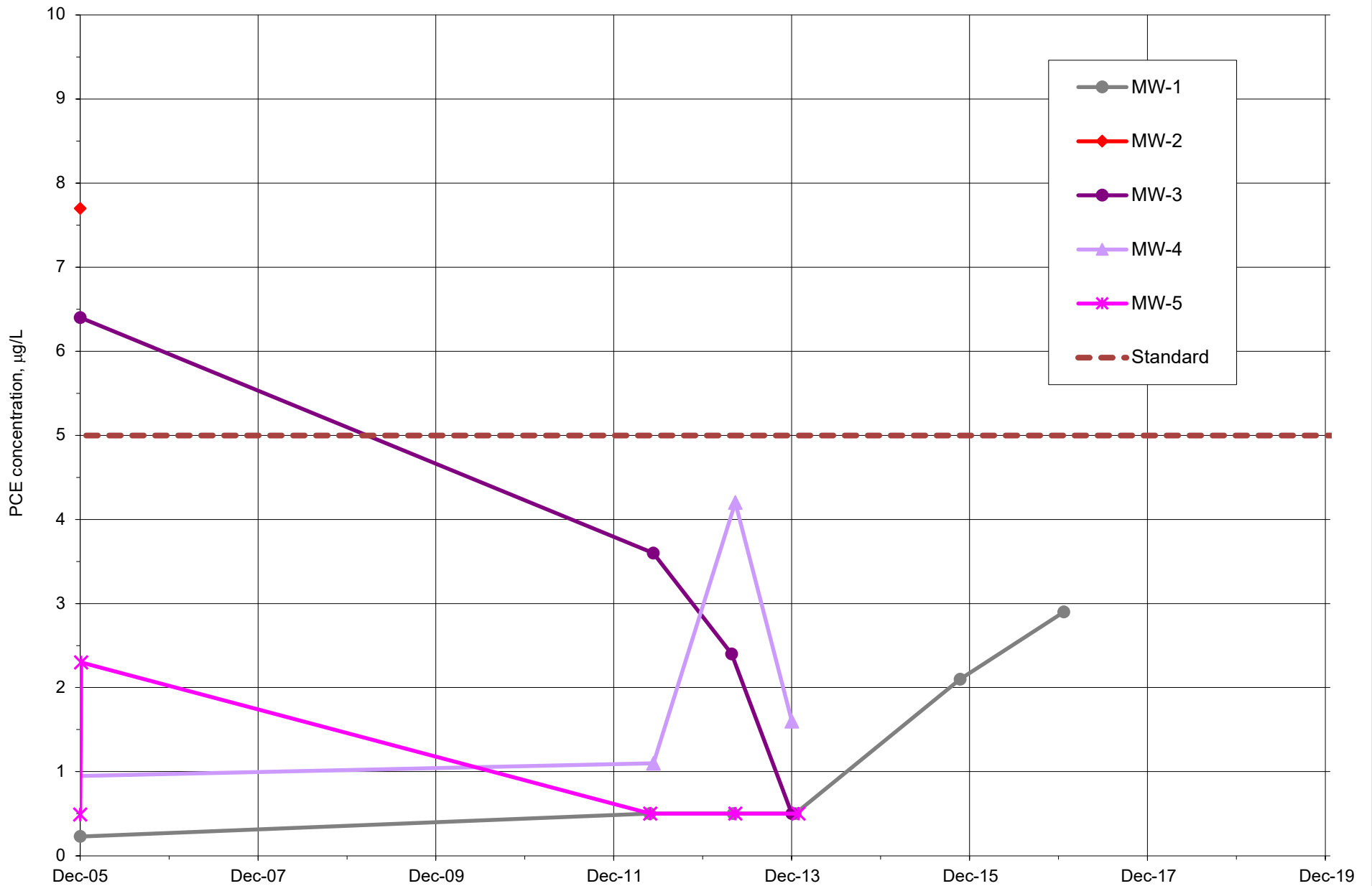


Figure D10a. Graph of DACTD Monitoring Wells (PTSB) MW-1 through MW-5 observed PCE concentrations, Griggs and Walnut site.

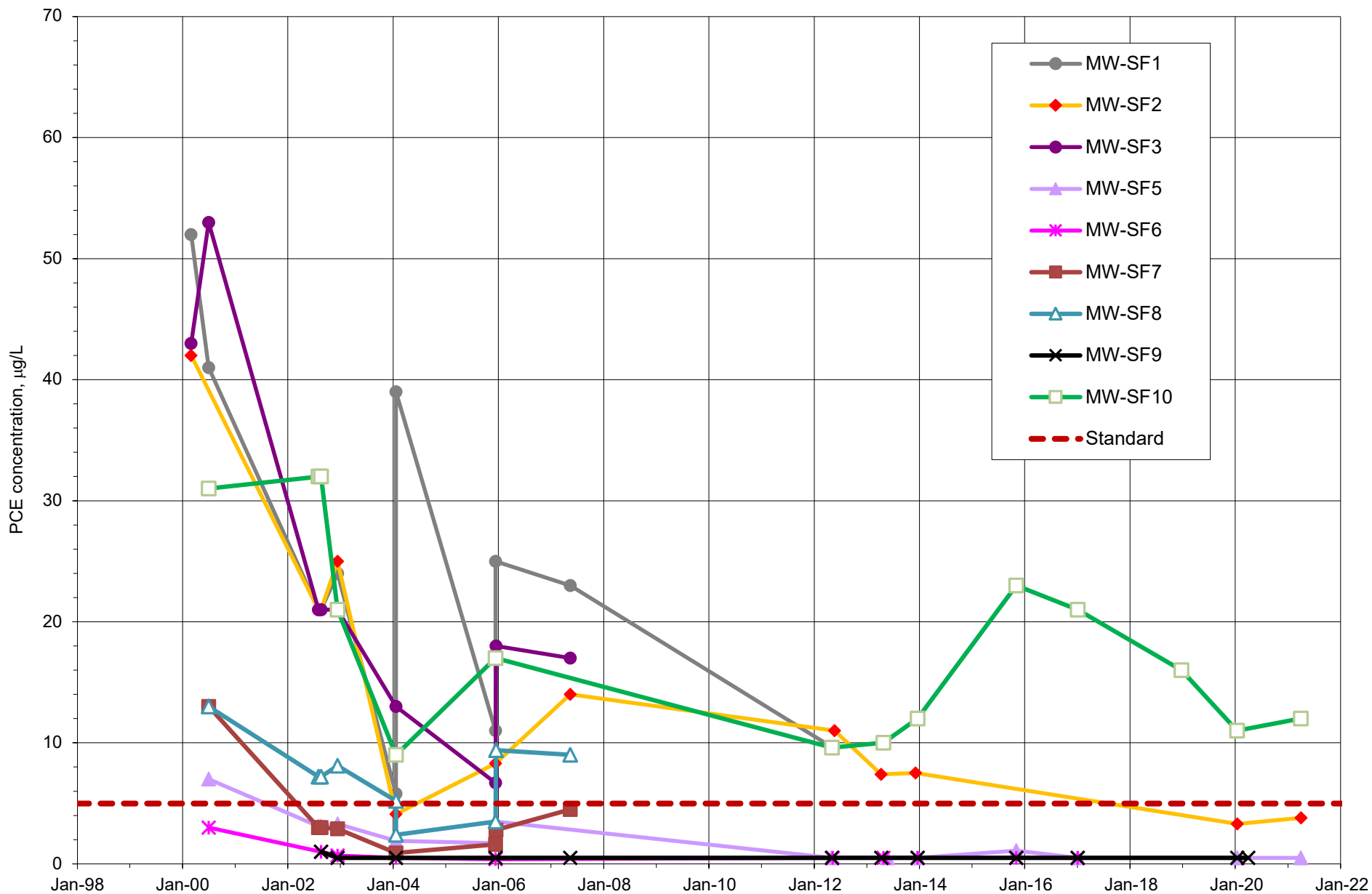


Figure D11. Graph of observed PCE concentrations for selected MW-SF-series monitor wells, Griggs and Walnut site.



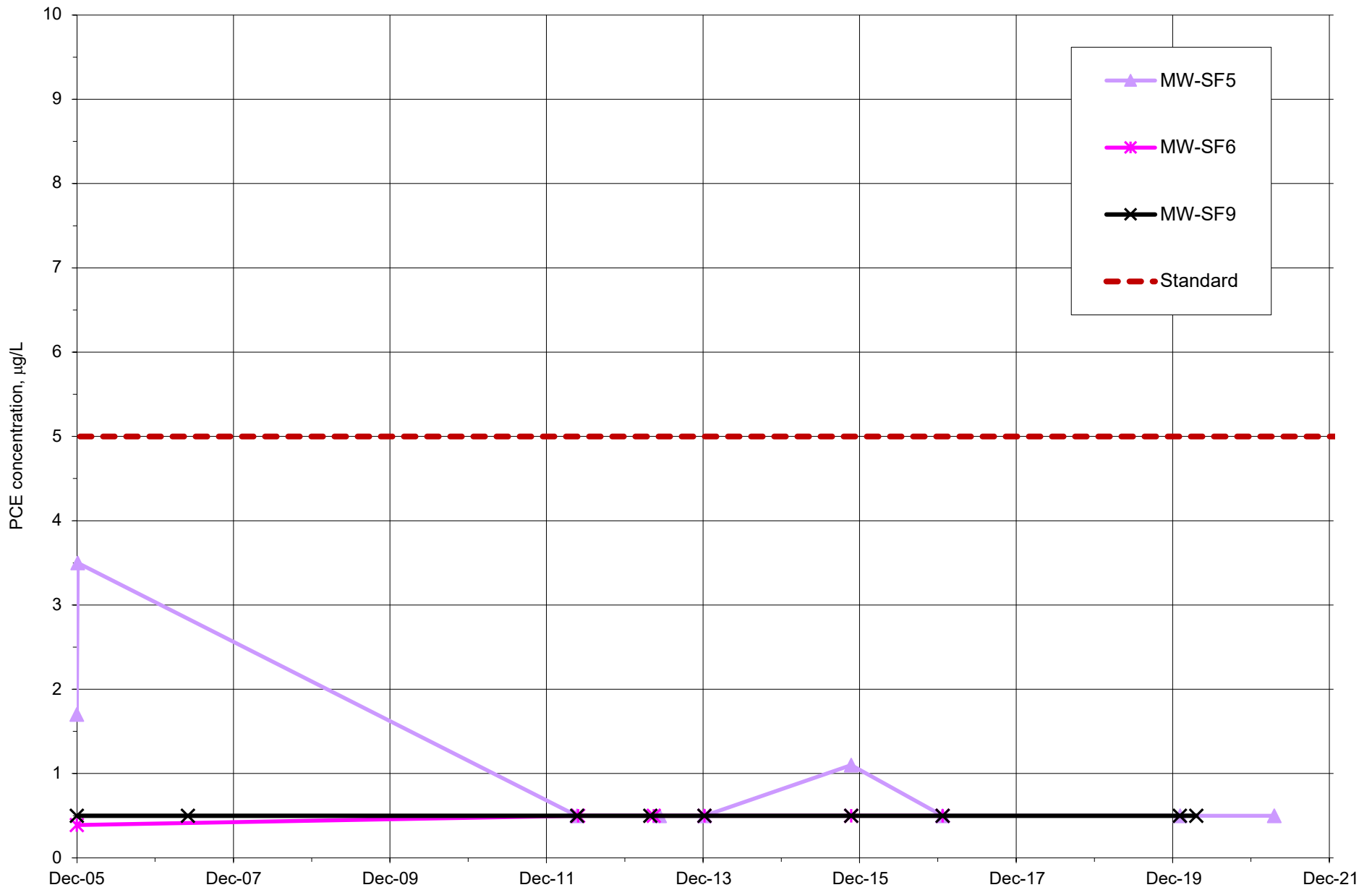


Figure D12. Graph of observed PCE concentrations for selected MW-SF5, MW-SF6, and MW-SF9 monitor wells, Griggs and Walnut site.

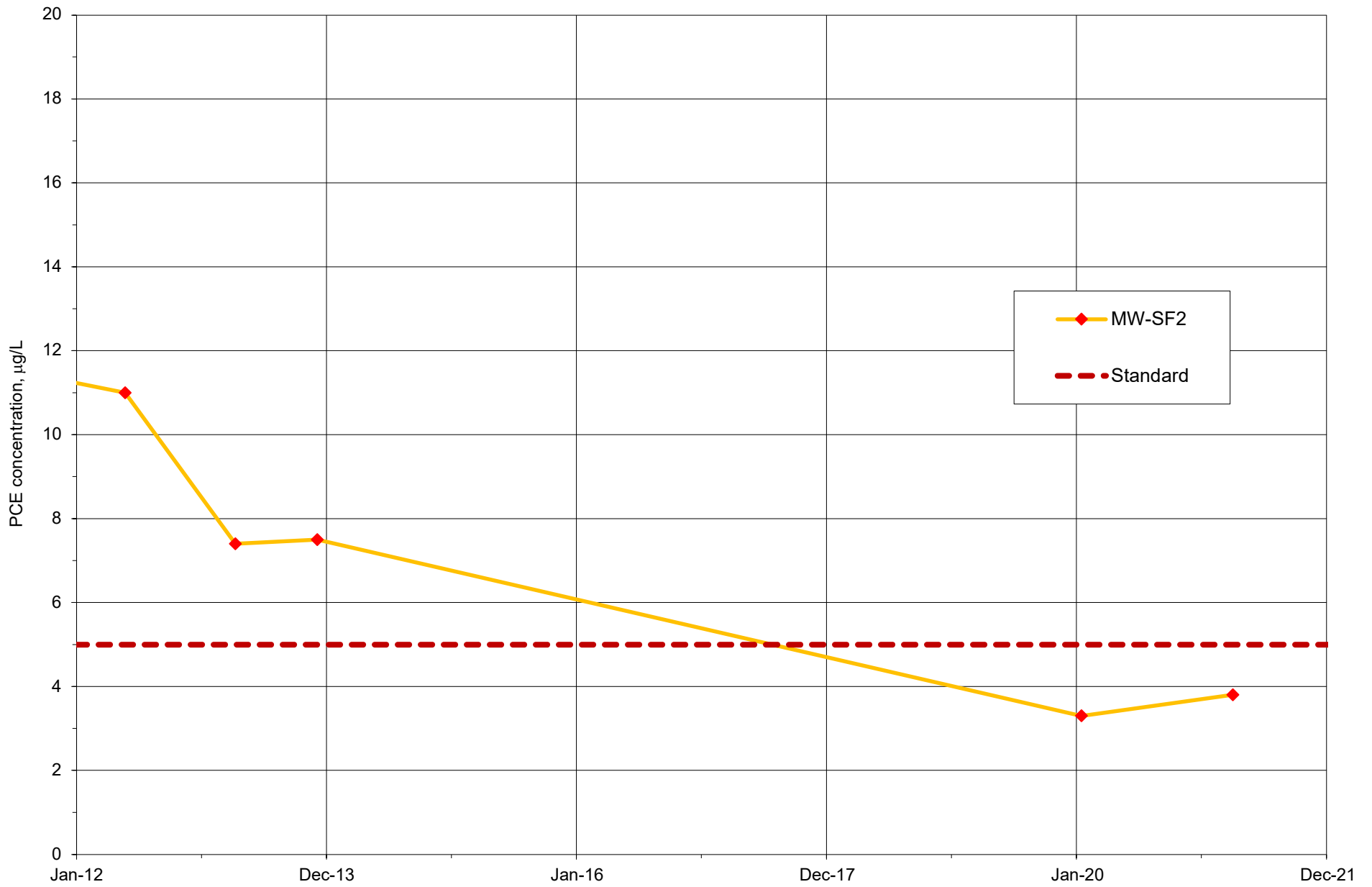


Figure D13. Graph of observed PCE concentrations for MW-SF2 monitor well, Griggs and Walnut site.

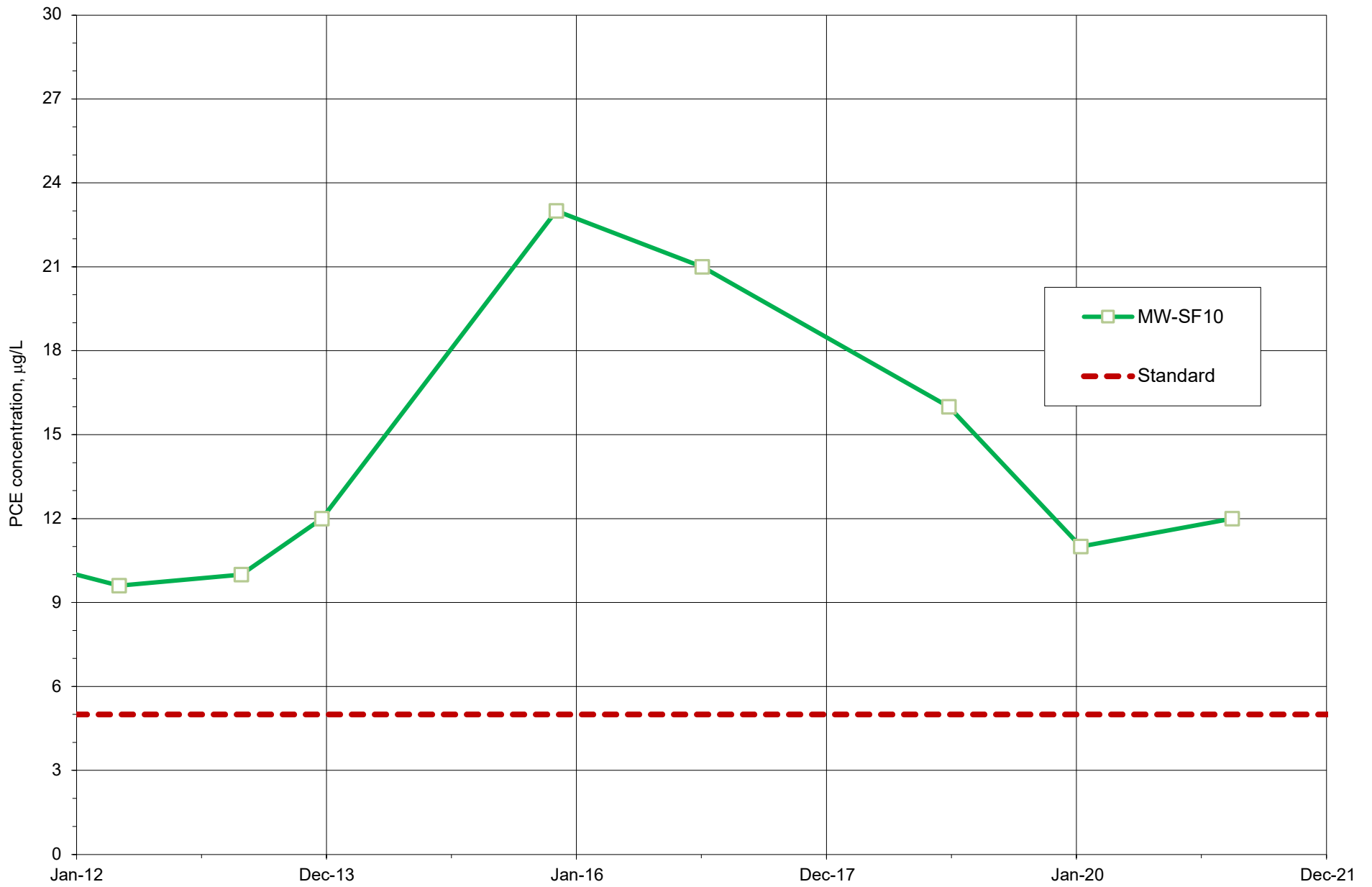


Figure D14. Graph of observed PCE concentrations for MW-SF10 monitor well, Griggs and Walnut site.

**Appendix E.**

**Griggs and Walnut Site time-series model-calibration graphs**



**Appendix E.**

Figure E1. Graph of City of Las Cruces Well 18 observed and model-simulated water levels, Griggs and Walnut site.

Figure E2. Graph of City of Las Cruces Well 27 observed and model-simulated water levels, Griggs and Walnut site.

Figure E3. Graph of City of Las Cruces Well 18 and Well 27 observed and model-simulated water levels, Griggs and Walnut site.

Figure E4. Graph of GWMW11 (shallow, intermediate, and deep) observed and model-simulated water levels, Griggs and Walnut site.

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Figure E6. Graph of MW-1 through MW-5 observed and model simulated water levels, Griggs and Walnut site.

Figure E7. Graph of MW-SF1 through MW-SF10 observed and model-simulated water levels, Griggs and Walnut site.

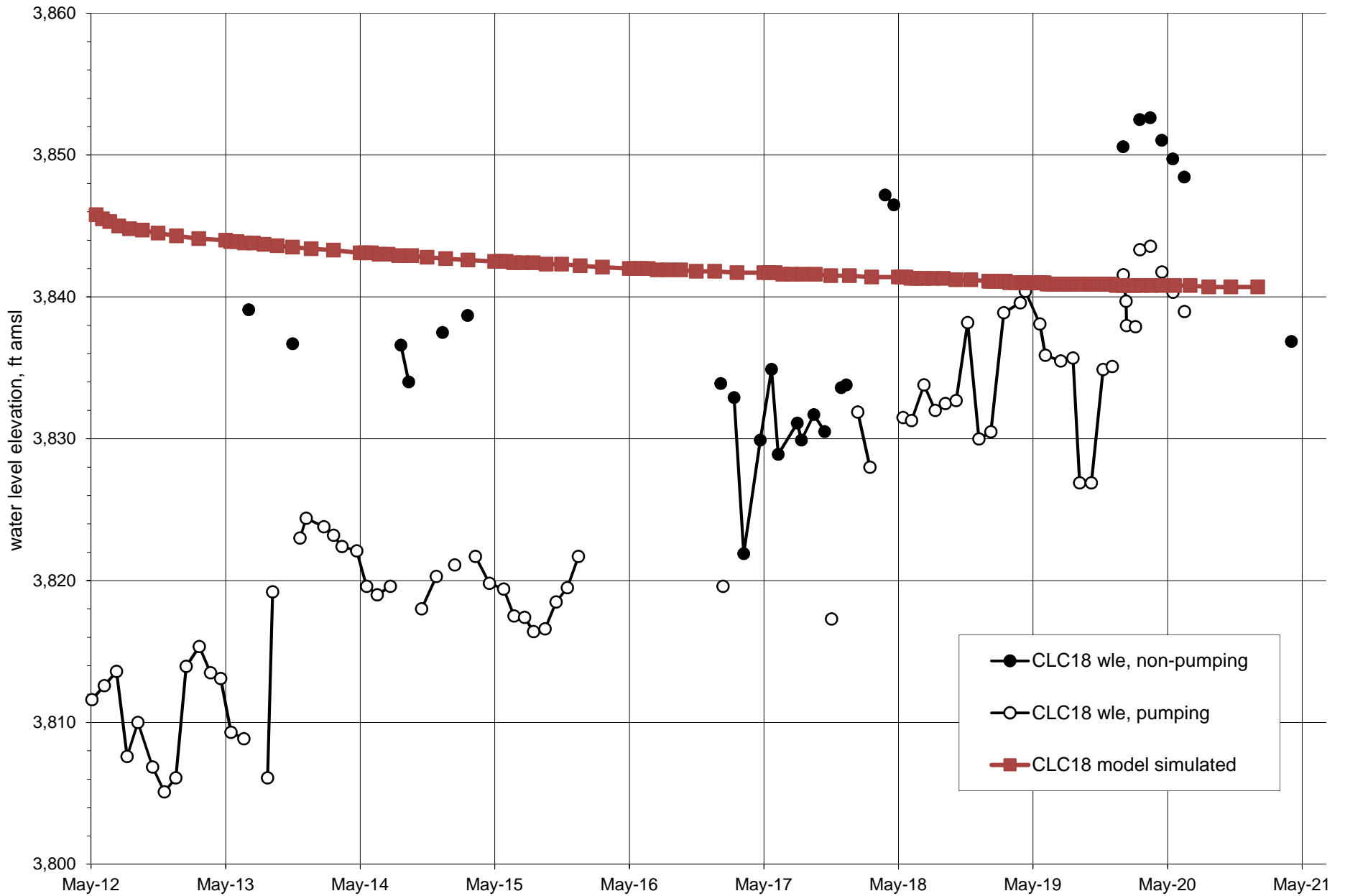


Figure E1. Graph of City of Las Cruces Well 18 observed and model-simulated water levels, Griggs and Walnut site.

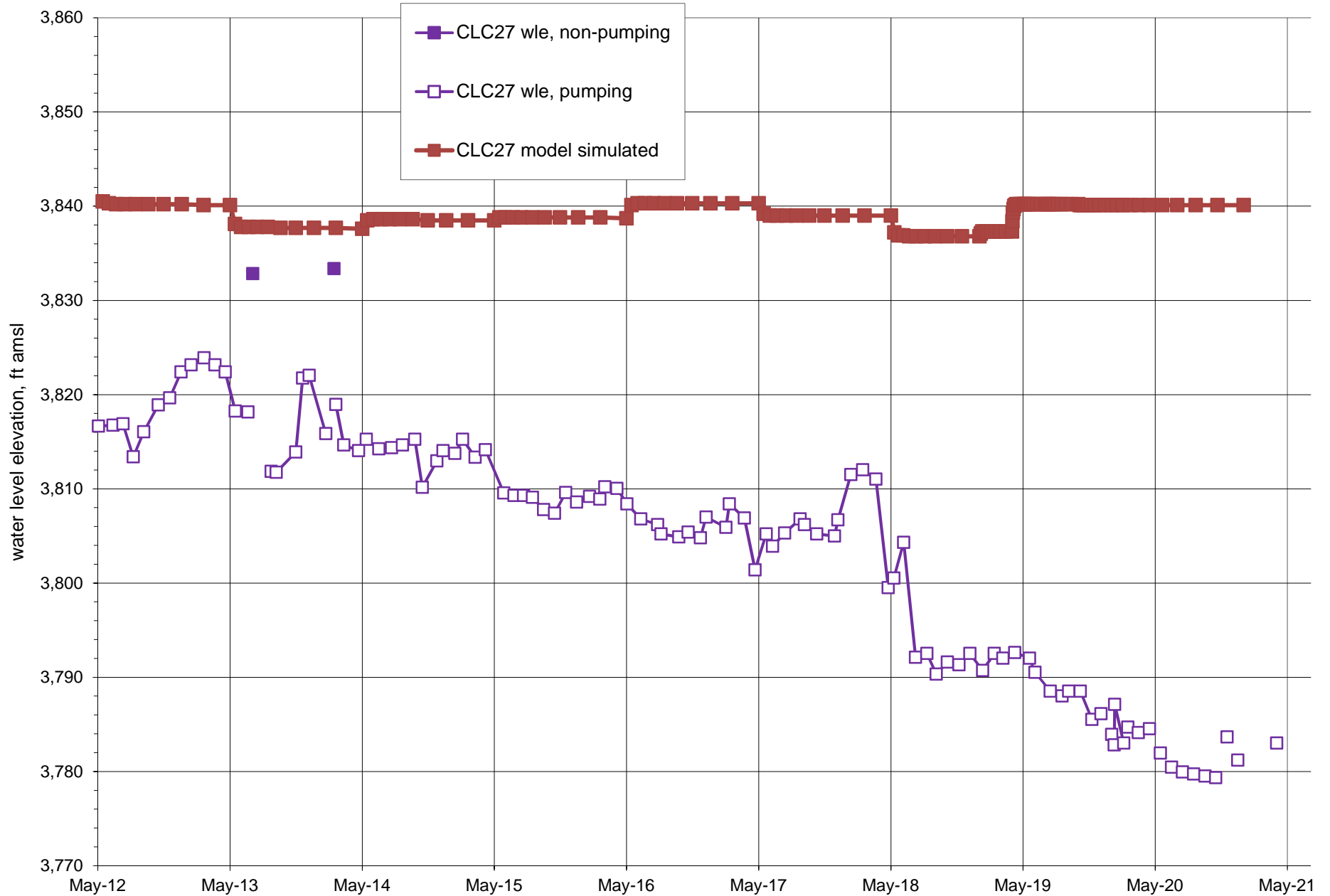


Figure E2. Graph of City of Las Cruces Well 27 observed and model-simulated water levels, Griggs and Walnut site.

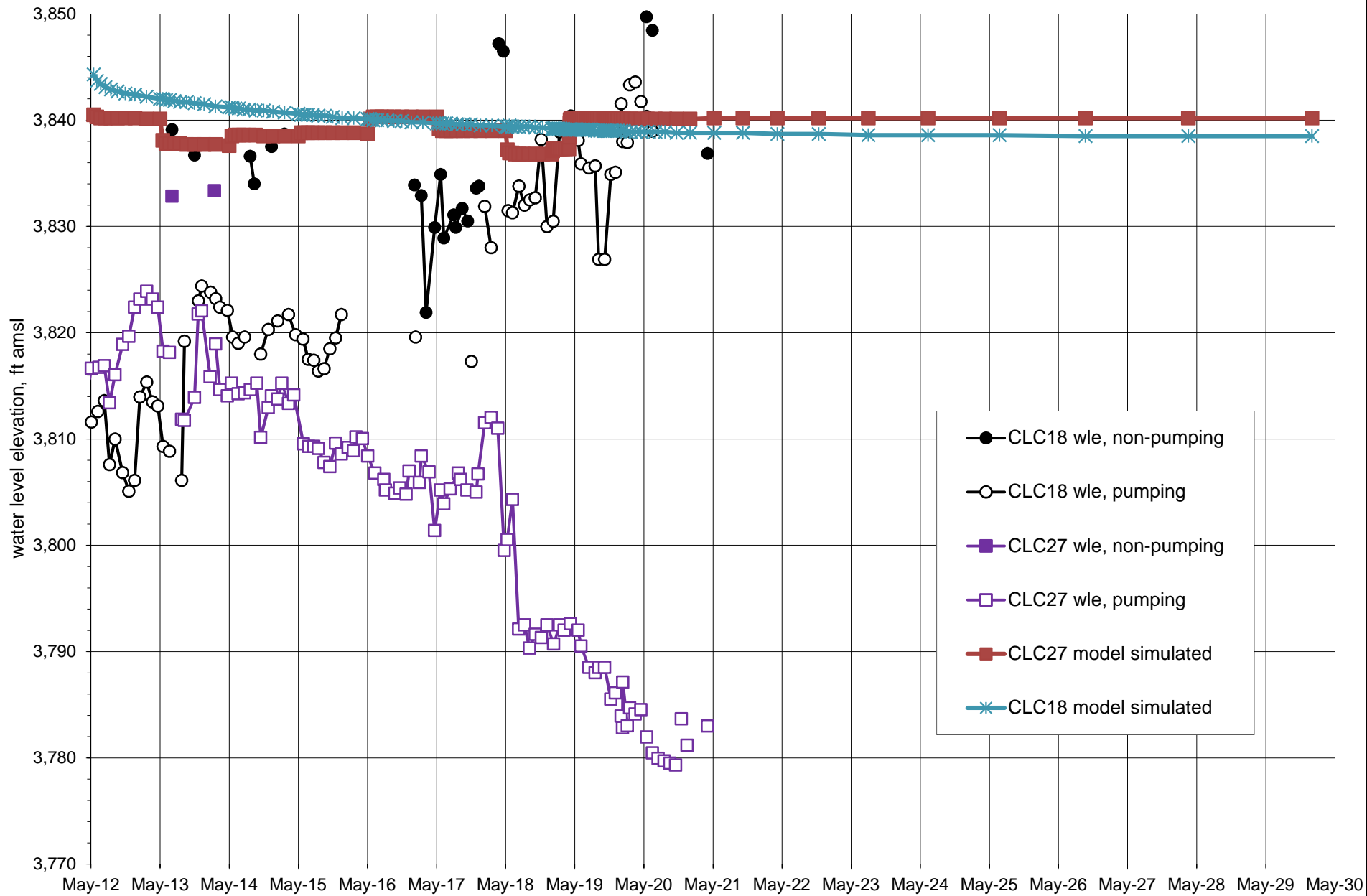


Figure E3. Graph of City of Las Cruces Well 18 and Well 27 observed and model-simulated water levels, Griggs and Walnut site.



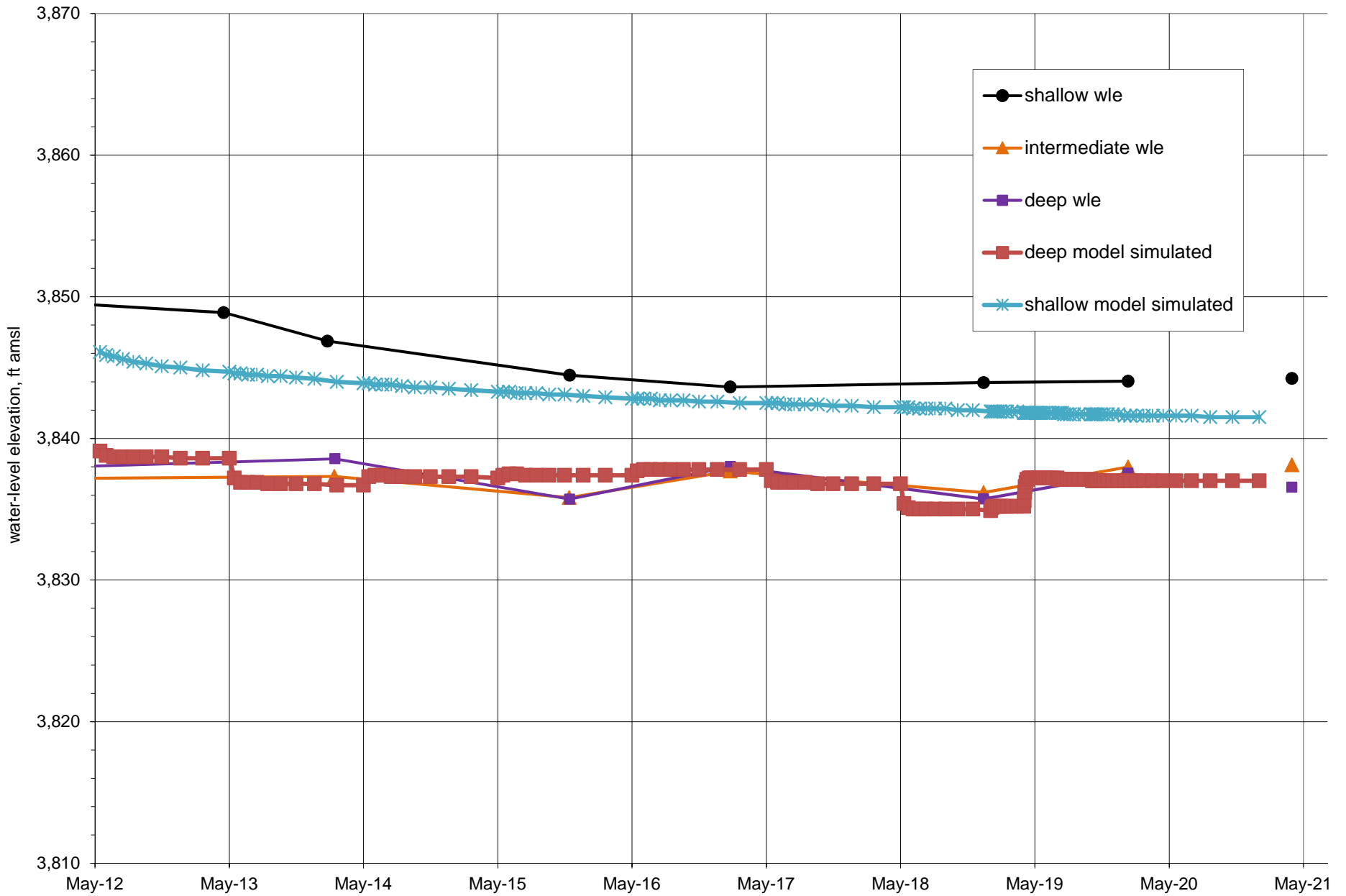


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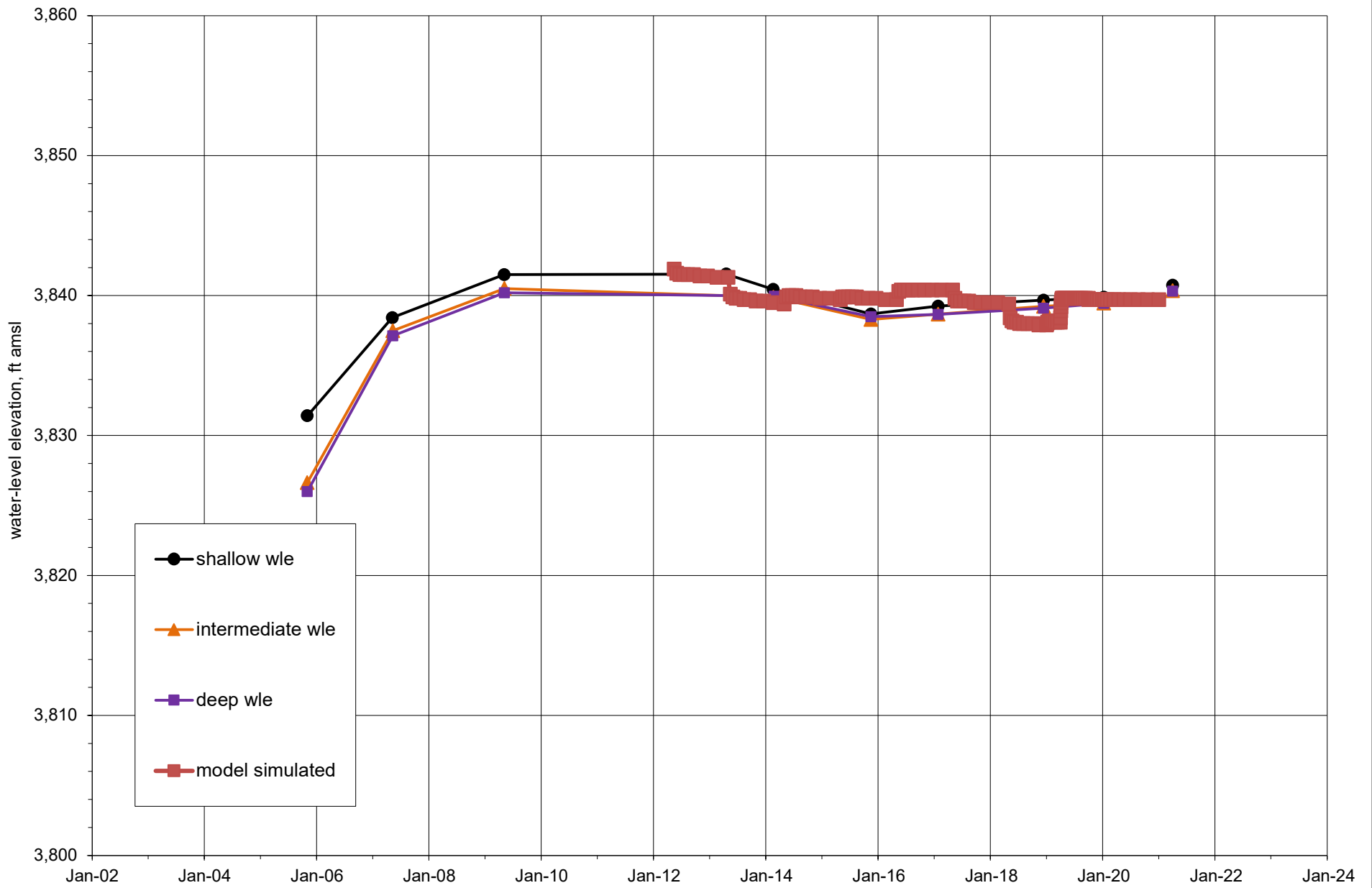


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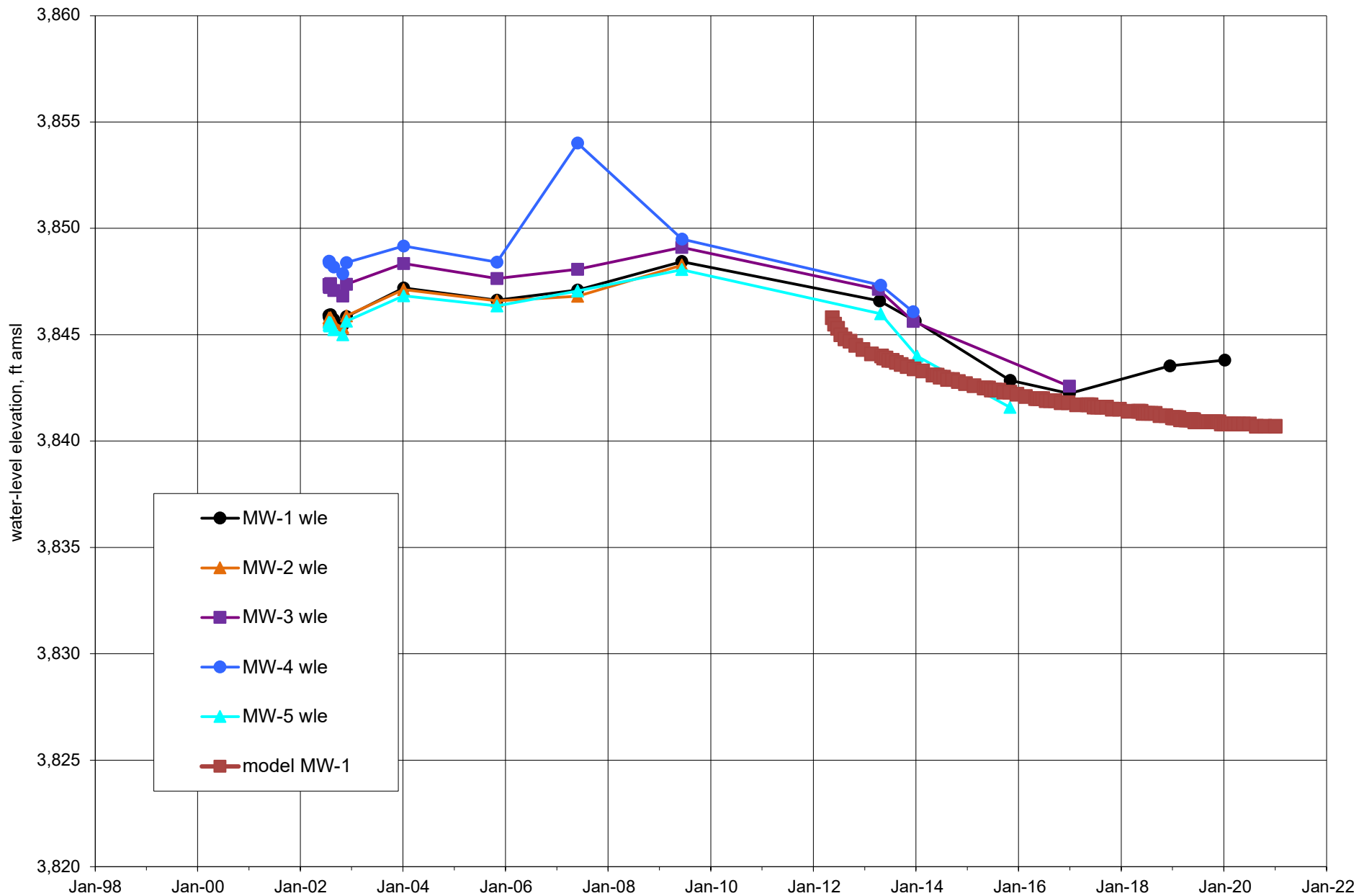


Figure E6. Graph of MW-1 through MW-5 observed and model simulated water levels, Griggs and Walnut site.

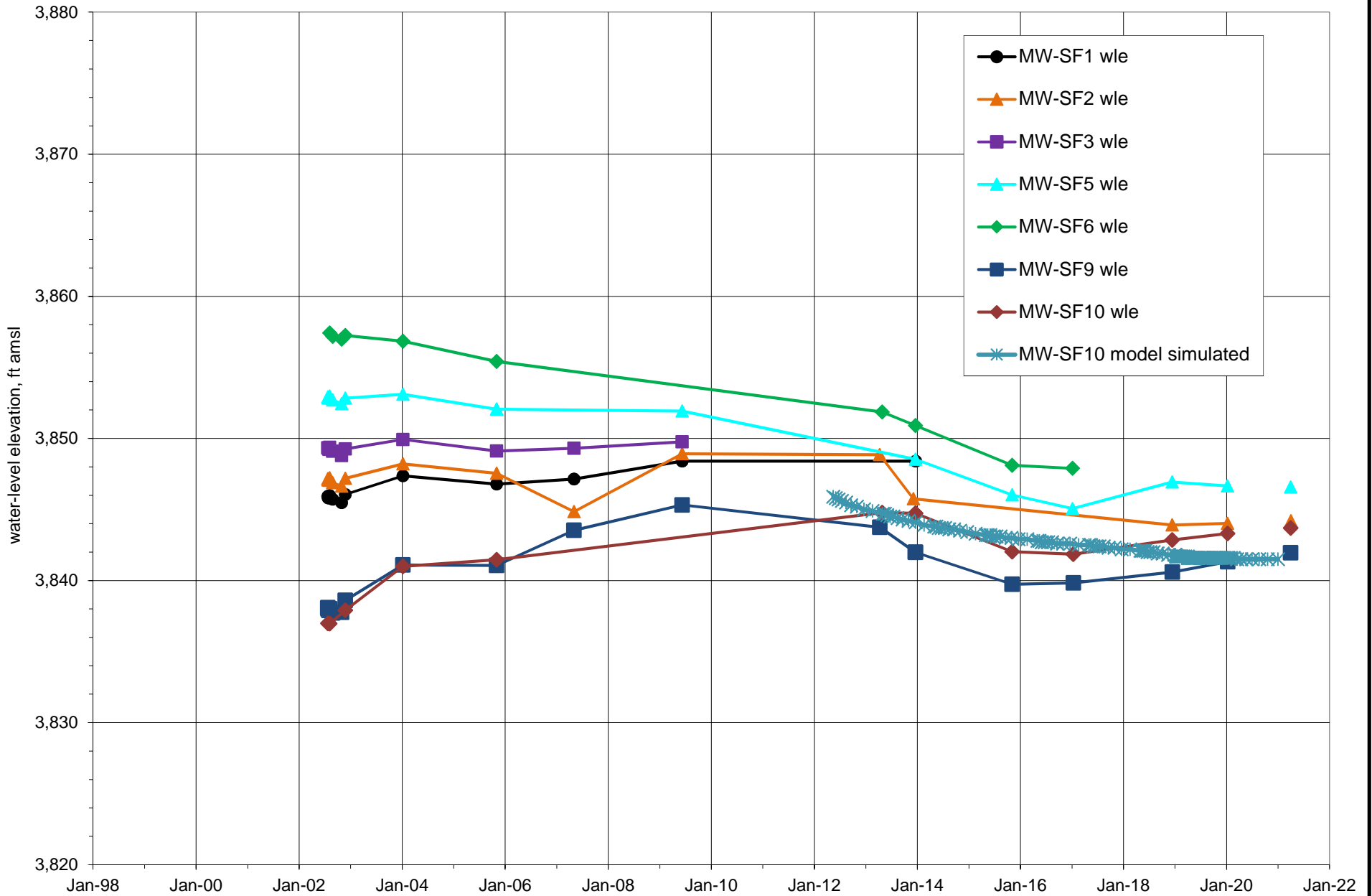


Figure E7. Graph of MW-SF1 through MW-SF10 observed and model-simulated water levels, Griggs and Walnut site.



Appendix B

Groundwater Remediation  
Optimization Report

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REVISED NOVEMBER 2021  
2nd REVISION APRIL 2022

**CALENDAR YEAR 2020  
OPTIMIZATION  
ASSESSMENT REPORT  
GRIGGS AND WALNUT  
GROUNDWATER PLUME  
SUPERFUND SITE  
LAS CRUCES, NEW MEXICO**

prepared for



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**CALENDAR YEAR 2020  
OPTIMIZATION ASSESSMENT REPORT  
GRIGGS AND WALNUT GROUNDWATER PLUME  
SUPERFUND SITE  
LAS CRUCES, NEW MEXICO**

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and

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New Mexico



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**CALENDAR YEAR 2020 OPTIMIZATION ASSESSMENT REPORT  
GRIGGS AND WALNUT GROUNDWATER PLUME SUPERFUND SITE,  
LAS CRUCES, NEW MEXICO**

**EXECUTIVE SUMMARY**

The purpose of the annual performance evaluation of Griggs and Walnut Site groundwater extraction wells is to assess whether operation of the extraction and treatment system is making adequate progress toward achieving the Remedial Action Objectives and Remedial Goals, and to ensure the Joint Superfund Project (JSP) is removing the mass of contaminants in the aquifer in an effective manner, each year, as part of the Operation and Maintenance reporting requirements specified in the Statement of Work (EPA, 2020).

The last several years of Griggs and Walnut capture pumping and data collection have provided evidence that the plume is decreasing in mass and remedial progress is being made. The first sampling event from the FLUTE well replacement program has confirmed that the plume is decreasing in mass and remedial progress is being made. The capture efficiency for extraction well CLC 18 has been optimized to capture the Shallow Zone (formerly known as the Upper Hydrogeologic Zone) plume. Tetrachloroethene (PCE) concentrations from CLC 18 have consistently shown a decreasing trend in captured plume concentration, along with monitoring from the Shallow Zone showing declining PCE concentrations. PCE concentrations from CLC 27 have been relatively consistent (13 to 17 µg/L) as the pumping rate increases.

As a result of optimization, CLC 18 has been operated consistently since 2014 (Fig. 2). Additional hydraulic analysis indicates CLC 18, which is completed in the Intermediate and Deep Zones (formerly known as the Lower Hydrogeologic Zone) but captures groundwater from the Shallow Zone, is more efficient at capturing the Shallow Zone PCE plume than a hypothetical capture well completed within the Shallow Zone above the clay layer.

Results from the performance analysis presented in Table 2, show that CLC 27 is capable of pumping rates up to 400 gallons per minute (gpm) for the duration of the remedial cleanup period, if needed. Therefore, CLC 27 is able to accommodate increased pumping rate if needed for containment and capture of the PCE plume. No additional extraction wells are needed for containment and capture of the - PCE plume.

Extraction wells CLC 18 and CLC 27 combined have a mass removal rate of 7.0 kg/yr under the current optimization pumping program. This mass removal rate is expected to decline as the PCE plume shrinks and decreases in concentration.

The updated groundwater modeling predicts the extraction system capturing sufficient PCE to reach the remediation goals within the 14-year time period. With relatively constant PCE concentrations and pumping, CLC 27 is well suited for plume containment, capture, and cleanup with the remaining time period.

Based on the assessment of 2020 operational data, John Shomaker & Associates, Inc. (JSAI) recommends decreased pumping from CLC 18 from 8 hrs/day at 90 gpm to 8 hrs/day at 90 gpm for 2 days/week, and maintaining an average pumping rate between 230 and 250 gpm from CLC 27.



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**ABBREVIATIONS**

ac-ft/yr	acre-feet per year
CLC	City of Las Cruces
DBS&A	Daniel B. Stephens & Associates, Inc.
EPA	Environmental Protection Agency
ft bgl	feet below ground level
gpm	gallons per minute
gpm/ft	gallons per minute per feet
JSAI	John Shomaker & Associates, Inc.
JSP	Joint Superfund Project
LCU	Las Cruces Utilities
LHZ	Lower Hydrogeologic Zone (Intermediate and Deep Zones)
kg	kilograms
ME	mean error
PCE	tetrachloroethene
Q/s	specific capacity
RI/FS	EPA Remedial Investigation and Feasibility Study
ROD	Record of Decision
SOW	Statement of Work
TMR	telescope mesh refinement
UHZ	Upper Hydrogeologic Zone (Shallow Zone)
µg/L	micrograms per liter

**CALENDAR YEAR 2020 OPTIMIZATION ASSESSMENT REPORT,  
GRIGGS AND WALNUT GROUNDWATER PLUME SUPERFUND SITE,  
LAS CRUCES, NEW MEXICO**

**1.0 INTRODUCTION**

John Shomaker & Associates, Inc. (JSAI) was subcontracted by Daniel B. Stephens & Associates, Inc. (DBS&A) to assist with the assessment of the Griggs and Walnut tetrachloroethene (PCE) plume (“the Site”), and efficiency of the associated pump and treat system. This analysis was conducted for the Griggs and Walnut Joint Superfund Project (JSP), which consists of Doña Ana County and City of Las Cruces (CLC). The primary project goals were to evaluate calendar year 2020 remedial progress and plume extraction well optimization. The Griggs and Walnut Site area is presented in Figure 1.

**1.1 Background**

The EPA Record of Decision (ROD) for the Griggs and Walnut Superfund Site was issued in 2007, and was based on implementation of a pump and treat system that would remediate the PCE plume in a 14-year time period. The EPA approved the remedial design in 2010. The Griggs and Walnut pump and treat system began operation during September 2012, and it has been operated nearly continuous for the last 9 years. As defined in the EPA, 2020 issued Statement of Work (SOW), the remediation goals are to be measured 14 years from the Effective Date of the SOW (July 30, 2020 to June 7, 2031).

The SOW requires an annual evaluation of the groundwater monitoring program and an annual optimization assessment of the extraction wells. This annual optimization assessment of the extraction wells is part of the Pre-Achievement Operation and Maintenance requirements defined in the SOW (EPA, 2020). The annual optimization assessment of the extraction wells is to be performed until the Remedial Action Objectives and Remedial Goals are attained. Past annual performance evaluation reports by JSAI are summarized in this report.

**1.2 Purpose**

The purpose of the annual performance evaluation of Site groundwater extraction wells is to assess whether operation of the extraction and treatment system is making adequate progress toward achieving the Remedial Action Objectives and Remedial Goals, and to ensure the JSP is removing the mass of contaminants in the aquifer in an effective manner each year as part of the Operation and Maintenance reporting requirements specified in the SOW (EPA, 2020).

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## 2.0 EXTRACTION WELL PERFORMANCE

Extraction wells CLC 18 and CLC 27 are former municipal wells converted into remedial extraction wells. As part of the remedial design, CLC 18 and CLC 27 were modified in 2010 by partial plugback of the lower screen sections so pumping would focus on removal of the plume mass observed in the upper screen sections (JSAI, 2011).

The extraction well performance analysis uses the current definition of the Site conceptual model hydrogeologic zones and corresponding elevations (DBS&A, 2021), which is as follows:

- Shallow wells: screened interval range 3,800 to 3,850 feet above mean sea level (ft amsl), also referred to as the Upper Hydrogeologic Zone (UHZ)
- Intermediate wells: screened interval elevation range 3,685 to 3,800 ft amsl, also referred to as the Upper portion of the Lower Hydrogeologic Zone (LHZ)
- Deep wells: screened interval elevation range 3,475 to 3,685 ft amsl, also referred to as the Lower portion of the LHZ

Time-series graphs of PCE concentration and pumping from CLC 18 and CLC 27 are presented as Figures 2 and 3, respectively. CLC 18 was actively pumped and blended with municipal supply until 1998 (Fig. 2), and CLC 27 was actively pumped for municipal supply until 2003 (Fig. 3). Between the timing of the EPA Remedial Investigation and Feasibility Study (RI/FS) and remedial design, CLC 18 and CLC 27 were used for plume containment until the remediation system was in place. Plume extraction by pumping CLC 18 and CLC 27 has specifically been a component of Remedial Action occurring from 2012 to present (Figs. 2 and 3). CLC 18 captures the Shallow Zone PCE plume (Fig. 4), and CLC 27 captures the Intermediate and Deep Zone PCE plume where the clay layer is present, and from the Shallow, Intermediate, and Deep Zones where the clay layer is absent (Fig. 5).

### 2.1 CLC 18

After system start-up, during the 4th quarter of 2012, CLC 18 yielded lower-than-expected PCE concentrations. PCE concentrations in water produced from CLC 18 decreased from 70 micrograms per liter ( $\mu\text{g/L}$ ) to 2.3  $\mu\text{g/L}$  between April and December 2012 (Fig. 2).

In 2013, JSAI reviewed the daily meter readings and the PCE concentration trends and performed diagnostic pumping tests on CLC 18. It was determined that PCE concentrations from CLC 18 are influenced by well hydraulics, the CLC 18 pumping rate and pumping schedule. Through testing it was identified that the higher PCE groundwater at CLC 18 originated from the Shallow Zone, which recharges the Intermediate and Deep Zones by downward flow through the gravel pack when CLC 18 is not pumping. Under active-pumping conditions CLC 18 captures high PCE groundwater that drained from the Shallow Zone to the Intermediate and Deep Zones adjacent to the well.

In the vicinity of CLC 18, the PCE plume in the Shallow Zone has a much higher specific conductance than the Intermediate or Deep Zones. Use of the more frequently collected specific conductance measurements as a surrogate for PCE plume in the Shallow Zone allowed the optimization of CLC 18 pumping schedule to maximize capture from the Shallow Zone. The correlations between PCE and specific conductance for 2014, 2017-2018, 2019, and 2020 are shown graphically as Figure 6. It was determined through testing that the Deep Zone at CLC 18 did not contain PCE concentrations greater than 5 µg/L.

### **2.1.1 Operational Constraints**

In 2014, JSAI recommended refinement of the pumping from CLC 18 by implementing daily pumping cycles followed by recovery. This cyclic pumping was determined to be more effective for capture of the PCE plume in the Shallow Zone. Between 2013 and 2018, CLC 18 operated by pumping at a rate of 170 gallons per minute (gpm) for 4 hrs/day, which averages about 28 gpm. During March 2018, the submersible pump was replaced, and operating rate was reduced to 90 gpm with an 8 hrs/day pumping cycle and still averages 28 gpm as before. Specific conductance measurements were used to determine the pumping cycle that would capture groundwater resembling the Shallow Zone (higher specific conductance resembles capture from the Shallow Zone and lower specific conductance resembles capture from the Deep Zone). Figure 7 is a graph of specific conductance measured during the 8-hr pumping cycle at 90 gpm for January 2019, 2020, and 2021. As a result of optimization, CLC 18 has been operated at an average rate of about 28 gpm (45 acre-feet per year (ac-ft/yr)) since 2014 (Fig. 2). The purpose of the reduced operating rate and increased pumping duration is to provide flexibility with pumping duration.



Initial sampling results from GWMW-01(I) indicates the PCE plume in the Intermediate Zone is migrating towards CLC 18 (see Fig. 4). Although additional confirmation samples are needed from the newly constructed GWMW-01(S,I,D) monitoring wells, it will be important to maintain CLC 18 as the primary extraction well for the Shallow Zone and CLC 27 as the primary extraction well for the Shallow, Intermediate, and Deep Zones where the clay layer is less pronounced to the east of GWMW-16. Pumping from CLC 18 may need to be reduced to meet those objectives.

### 2.1.2 Performance Analysis

Even with the optimized pumping schedule to maximize mass removal from the Shallow Zone, the PCE concentrations from CLC 18 have decreased since the system has been in operation as the plume has been remediated (Fig. 2; Table 1). PCE concentrations have dropped from 70  $\mu\text{g/L}$  in 2012 to 5  $\mu\text{g/L}$  in January 2021 (Fig. 2; Table 1). Correlation between specific conductance and PCE concentrations indicate the shift to lower PCE concentrations. The corresponding PCE concentration for a given specific conductance has decreased steadily (Fig. 6). The 2020 dataset indicates the PCE concentration is about 6  $\mu\text{g/L}$  at the beginning of each 8-hr pumping cycle.

CLC 18 transducer recorded water levels show a consistent 10-ft drawdown during the 90 gpm pumping cycles. Specific capacity of CLC 18 has averaged about 9 gpm/ft of drawdown. A hydrograph of CLC 18 2020 water levels is presented as Figure 8.

Additional hydraulic analysis indicates CLC 18 is more efficient at capturing the Shallow Zone PCE plume than a hypothetical capture well completed to the top of the clay layer. Due to the limited saturated thickness and declining water level, a hypothetical capture well completed to the top of the clay layer ( $Q/s = 1.8$  gpm/ft of drawdown) would not have enough water column to operate a pump after 1 year of pumping 30 gpm. CLC 18 is located in a low spot of the clay layer (JSAI, 2019), and will capture the Shallow Zone PCE plume until it is dewatered or below the EPA Drinking Water Standard of 5  $\mu\text{g/L}$ .

**Table 1. Summary of PCE concentrations observed in extraction wells CLC 18 and CLC 27**

year	extraction well CLC 18		extraction well CLC 27	
	average PCE concentration (µg/L)	range in detection PCE concentrations (µg/L)	average PCE concentration (µg/L)	range in detection PCE concentrations (µg/L)
2001 to 2006	13.2	1.5 to 50.0	3.9	1.8 to 7.9
2007 to 2011	9.6	1.8 to 46.0	4.7	2.2 to 6.9
2012	34.7	2.3 to 70.0	7.6	2.2 to 16.0
2013	7.9	2.2 to 44.0	12.5	9.8 to 14.0
2014	21.6	2.5 to 31.0	12.2	9.3 to 14.0
2015	14.6	9.6 to 26.0	13.3	12.0 to 15.0
2016	15.8	6.5 to 22.0	13.8	13.0 to 16.0
2017	12.4	11.0 to 15.0	14.0	13.0 to 16.0
2018	7.3	1.7 to 11.0	14.6	13.0 to 17.0
2019	7.2	5.9 to 7.7	15.0	13.0 to 17.0
2020 <sup>a</sup>	5.8	5.0 to 6.2	15.3	13.0 to 18.0

<sup>a</sup> includes January 2021

PCE - tetrachloroethene

µg/L - micrograms per liter

## 2.2 CLC 27

At system startup during the 4th quarter of 2012, CLC 27 PCE concentrations were consistent with the average concentration observed within the plume. PCE concentrations in water extracted from CLC 27 remained fairly constant at about 12 µg/L during the first 2 years of system operation. From 2012 to 2015, the PCE concentration continued to slowly increase as the pumping rate was increased (Fig. 3; Table 1). CLC 27 PCE concentrations were fairly stable in 2020 (Fig. 3).

CLC 27 is adequately capturing the PCE plume in the Intermediate and Deep Zones, as indicated by the cone of depression (JSAI, 2021). PCE concentrations at CLC 27 represent the average concentration of the plume mass.

### 2.2.1 Operational Constraints

From 2013 to 2017, the pumping rate from CLC 27 averaged 153 gpm (246 ac-ft/yr; Fig. 3). JSAI (2016) previously recommended increasing the pumping rate from CLC 27 to 200 gpm; however, it was determined that a new pump would be required to increase the pumping to a rate greater than 160 gpm. During March 2018, a replacement pump was installed, and the pumping rate was increased to 200 gpm, then 220 gpm (324 ac-ft/yr; Fig. 3). In October 2019, the pumping rate was increased to 240 gpm. CLC 27 pumping in 2020 averaged 237 gpm (382 ac-ft/yr).

### 2.2.2 Performance Analysis

Pumping tests were performed on CLC 27 in 2010 after partial plugback and conversion to a remedial extraction well. The specific capacity was 7.6 gpm/ft of drawdown when pumping at a rate of 169 gpm (JSAI, 2011).

From 2012 through 2018, CLC 27 pumping water levels declined at a rate of 2.2 ft/yr while pumping at an average rate of 152 gpm. After March 2018, the pumping rate was increased to 200 gpm and the pumping water level dropped from 245 to 265 feet below ground level (ft bgl). In 2018, a transducer was installed to track pumping and non-pumping water levels to assist with performance analysis. A hydrograph of CLC 27 water levels is presented as Figure 9. Year 2020 specific capacity averaged 4.75 gpm/ft of drawdown at 228 gpm.

The performance of CLC 27 can be assessed by projecting pumping levels for the anticipated duration of the cleanup (14 years) for a range of given pumping rates. The maximum pumping level for operation is 400 ft bgl when considering a maximum pump setting depth of 425 ft bgl, and 25 ft of head needed for maintaining pump operation. A summary of calculated maximum pumping levels for a range of pumping rates is presented in Table 2.

Results from the performance analysis presented in Table 2 show that CLC 27 is capable of pumping rates up to 400 gpm for the duration of the cleanup period. Therefore, CLC 27 is able to accommodate an increase in pumping rate if needed for containment and capture of the PCE plume. No additional extraction wells are needed for containment and capture of the PCE plume at this time based on available data and groundwater modeling.

**Table 2. Calculated extraction well CLC 27 pumping water level for given pumping rate**

<b>pumping rate (gpm)</b>	<b>non-pumping water level <sup>1</sup> (ft bgl)</b>	<b>specific capacity <sup>2</sup> (gpm/ft)</b>	<b>short-term drawdown <sup>3</sup> (ft)</b>	<b>long-term drawdown <sup>4</sup> 14 years (ft)</b>	<b>regional water-level <sup>5</sup> decline (ft)</b>	<b>calculated pumping water level (ft bgl)</b>
200	225	5.0	40.0	25.0	14.0	304
225	225	4.8	46.9	28.2	14.0	311
250	225	4.7	47.2	31.3	14.0	318
275	225	4.6	53.2	34.4	14.0	327
300	225	4.5	66.7	37.5	14.0	343
325	225	4.4	73.9	40.7	14.0	354
350	225	4.3	81.4	43.8	14.0	364
375	225	4.2	89.3	46.9	14.0	375
400	225	4.1	97.6	50.1	14.0	387

<sup>1</sup> estimated non-pumping water level for 2020

<sup>2</sup> specific capacity for each pumping rate based on 2020 data and performance testing by JSAI (2011)

<sup>3</sup> short-term drawdown is calculated from specific capacity

<sup>4</sup> long-term drawdown is calculated from transmissivity

<sup>5</sup> regional water-level declines based on Las Cruces Utilities (LCU) regional water-level data

gpm - gallons per minute

ft bgl - feet below ground level

gpm/ft - gallons per minute per foot of drawdown



### 3.0 PCE MASS REMOVAL RATES

One objective of performance evaluation is to optimize the remediation system to maximize contaminant removal per unit of groundwater pumped and to minimize remediation time. The PCE mass in the groundwater plume previously was estimated to range from 110 to 160 kilograms (kg) relative to years 2005 to 2007 (EPA, 2006).

#### 3.1 CLC 18 PCE Mass Removal Rate

During 2020, CLC 18 was pumping at an average rate of 29 gpm. Past PCE mass removal from CLC 18 was calculated based on two methods: (1) use of direct PCE measurements only, and (2) based on a correlation between specific conductance and PCE to estimate PCE concentrations when only specific conductance data are available (Fig 6). As the Shallow Zone plume is removed and only lower PCE concentrations remain, the correlation between specific conductance and PCE becomes less reliable. Mass-removal estimates based on PCE measurements only (Method 1) is more direct and is not subject to error based on variability in the specific conductance-PCE correlation; however, use of the specific-conductance PCE correlation (Method 2) has the benefit of better quantifying short-term PCE concentration variability due to more frequent specific-conductance data measurement (Fig. 7). Mass removal calculations using Method 1 are presented in DBS&A (2021) and are also used in this report.

During 2020, CLC 18 had an average PCE mass removal rate of 0.011 kg/month (Fig. 10; Table 3) when considering revised Method 2. The consistency of the mass removal rate is due to the optimized pumping cycles maximizing contaminant removal per unit of Shallow groundwater pumped. The PCE mass removal rate started to significantly drop during Fall 2019 (Table 3). The decrease in PCE mass removal rates from 2019 to 2020 were a result of the decreasing Shallow PCE plume concentrations and revision to the specific conductance–PCE correlation. A total of 0.135 kg PCE was removed during 2020 from pumping at CLC 18 (Table 4). These calculated mass-removal rates for CLC 18 are significantly less than the calculations based on PCE-data only (Method 1), which indicate a mass removal of 0.30 kg (DBS&A, 2021).

**Table 3. Summary of calculated monthly PCE mass removal rate from extraction wells CLC 18 and CLC 27**

month	extraction well CLC 18		extraction well CLC 27	
	PCE removed (kg)	average rate (gpm)	PCE removed (kg)	average rate (gpm)
Jan-18	0.039	30	0.196	152
Feb-18	0.035	31	0.330	148
Mar-18	0.040	25	0.588	181
Apr-18	0.050	28	0.567	212
May-18	0.052	29	0.425	185
Jun-18	0.044	29	0.445	206
Jul-18	0.045	29	0.470	220
Aug-18	0.046	29	0.616	209
Sep-18	0.045	29	0.836	227
Oct-18	0.048	29	0.504	228
Nov-18	0.047	30	0.450	226
Dec-18	0.047	29	0.576	214
Jan-19	0.034	25	0.306	223
Feb-19	0.051	30	0.720	225
Mar-19	0.047	31	0.657	219
Apr-19	0.046	30	0.730	229
May-19	0.038	30	0.524	228
Jun-19	0.034	29	0.577	227
Jul-19	0.034	30	0.547	227
Aug-19	0.044	29	0.688	221
Sep-19	0.034	30	0.715	226
Oct-19	0.029	30	0.554	240
Nov-19	0.022	30	0.386	238
Dec-19	0.028	30	0.462	240
Jan-20	0.011	29.4	0.535	235.3
Feb-20	0.010	30.4	0.549	247.5
Mar-20	0.011	29.7	0.580	237.0
Apr-20	0.011	29.5	0.594	233.7
May-20	0.011	29.3	0.580	237.7
Jun-20	0.011	29.2	0.562	237.0
Jul-20	0.011	28.2	0.576	235.1
Aug-20	0.011	28.3	0.535	234.5
Sep-20	0.012	28.9	0.526	237.4
Oct-20	0.013	28.9	0.694	235.2
Nov-20	0.013	29.2	0.590	233.4
Dec-20	0.010	29.3	0.544	238.0

PCE - tetrachloroethene

kg - kilograms

gpm - gallons per minute

**Table 4. Summary of annual PCE mass removal rates from extraction wells CLC 18 and CLC 27 for years 2017 through 2020**

PCE removed (kg)		
	CLC 18	CLC 27
2017 total	0.441 <sup>a</sup>	4.395
2018 total	0.536 <sup>a</sup>	6.002
2019 total	0.440 <sup>a</sup>	6.866
2020 total	0.135 <sup>b</sup>	6.866

<sup>a</sup> - total for CLC 18 calculated using the previously reported method 2

<sup>b</sup> - total for CLC 18 calculated using the revised method 2

PCE - tetrachloroethene

kg - kilograms

### 3.2 CLC 27 PCE Mass Removal Rate

During 2020, CLC 27 was pumped nearly continuous. Using PCE concentration values shown on Figure 3 and metered pumping, the mass of PCE removed by CLC 27 for each month was calculated. During 2020, CLC 27 had an average PCE mass removal rate of 0.59 kg/month (Fig. 11; Table 3). The consistency of the mass removal rate is due to the continuous pumping and relatively consistent PCE concentrations maximizing contaminant removal per unit of groundwater pumped. Installation of a larger replacement pump during March 2018 changed the pumping capacity and PCE mass removal rate. This change appears to have significantly increased the annual PCE mass removal rate from 2017 (Table 4). A total of 7.123 kg PCE was removed during 2020 pumping (Table 4). In comparison, the PCE mass removal was about 4.4 kg for 2017.

Pumping at an average annual rate of 230 gpm with a PCE concentration of 15 µg/L would result in a PCE mass removal rate of 6.9 kg/yr. Extraction wells CLC 18 and CLC 27 combined have a mass removal rate of 7 kg/yr under the current optimization pumping program, which indicates decommissioning CLC 18 when PCE concentrations remain below 5 µg/L will not significantly change the mass removal rate.

## 4.0 TMR NUMERICAL MODEL

Details regarding the telescope mesh refinement (TMR) model, model update, and calibration are available in the companion JSAI (2021) report. The TMR model was calibrated to the available groundwater-level data considering the annual pumping rates from CLC 18, CLC 27, and CLC 61. Figure 12 is a bar graph showing the annual pumping rates by well. Model simulations included the historical transient period (system operations from 2012 through current), and future period (remainder of the 14-year cleanup period specified in the EPA Record of Decision (ROD) and SOW (EPA, 2020)). Particle tracking was simulated for the historical and for most of the future periods. Model-simulated results are presented in Figures 13 through 17.

### 4.1 Plume Containment Analysis

Model simulations indicate that the northern and western extents of both the upper and lower plume are well contained through the use of the existing capture system. The southern and eastern extents of the upper plume are also contained as CLC 27 captures what lays outside of the CLC 18 zone of influence (Figs. 14 through 16).

Model simulations indicate that the eastern extent of the lower plume is also well contained, although modeled groundwater velocities in this area are low, averaging approximately 0.12 ft/day; this reduces the capture system's effectiveness and leaves the area susceptible to being influenced by additional pumping sources. It should be noted that the eastern extent of the lower plume at GWMW-15 is located across a channel of high conductivity (see Fig. 13). If the channel extends farther east than currently simulated, the eastern extents of the lower plume may be more effectively captured by CLC 27.

Modeling simulations indicated that pumping of CLC 61 previously had an effect on the capture system's efficiency at the eastern and southern extents of the lower plume (JSAI, 2019). However, cessation of pumping CLC 61 (March 2019) has minimized the potential for vertical and southern movement of the lower PCE plume. The cessation of pumping CLC 61 has also contributed to the water level in the areas of GWMW-15 and GWMW-11 rebounding to where the plume will be hydraulically pushed upward and more readily captured at CLC 27. PCE measurements collected in April 2021 indicate that concentrations in GWMW-15(S,I,D) and GWMW-11(S,I,D) are decreasing from 2019 values as the eastern and southern extents of the lower plume are now more easily captured by CLC 27.



## 4.2 Plume Capture Analysis

The modeled capture zone of CLC 27 is approximately 2,300 ft from north to south and 2,300 ft from east to west in 2019 (JSAI, 2020). By 2029, the capture zone increases by 50 percent to approximately 3,500 ft from north to south and 3,600 ft from east to west. For CLC 18, the 2019 modeled capture zone is approximately 1,700 ft from north to south and 1,800 ft from east to west. By 2028, the capture zone for CLC 18 increases by 70 percent to approximately 2,300 ft from north to south and 2,900 ft from east to west.

The upper plume in 2020 measures approximately 1,000 ft from north to south and 2,000 ft from east to west (JSAI, 2021), and is completely within the capture zone created by extraction wells CLC 18 and CLC 27. The lower plume measures approximately 1,000 ft from north to south and 4,600 ft from east to west with the eastern extent outside of CLC 27's immediate capture zone. However, particle tracking shows that the eastern extent of the plume is still progressing towards CLC 27 in 2029, but not yet captured due to the slow groundwater velocities in that area.

## 4.3 Optimization Analysis

Optimization includes removing the mass of contaminants in the aquifer in an effective and efficient manner. CLC 18 has been optimized with the current pumping schedule, and monitoring data suggest the Shallow Zone PCE plume is decreasing in size and near completion of achieving less than 5 µg/L PCE above the clay layer (JSAI, 2021). It is recommended to reduce the pumping from CLC 18 to 2 days/week with each daily pumping cycle of 8 hrs at 90 gpm. It may be appropriate to discontinue pumping at CLC 18 if PCE concentrations are below 5 µg/L for six consecutive months and no upward trend in concentration is observed.

The PCE removal rate for CLC 27 increases with increased pumping rate (see Table 4). However, it is possible that further increasing the pumping from CLC 27 could increase the capture of clean groundwater. Therefore, JSAI recommends maintaining the current CLC 27 pumping rate so the effects from the previous increase can be evaluated with additional monitoring data from the FLUTE well replacements.

## 5.0 EFFECTIVENESS OF EXTRACTION WELLS

The updated groundwater modeling predicts the extraction system is capturing sufficient PCE to reach the remediation goals within the 14-year time period, provided that pumping from extraction CLC 27 is optimized annually for PCE mass removal.

### 5.1 Remedial Objectives

The remedial objective is to remove the mass of PCE in the aquifer in an effective and efficient manner. Estimated current mass of PCE plume, calculated by estimating the plume volume from spatial extents and zone thickness, is approximately 53 kg and the current removal rate is about 7 kg/yr. Modeling simulations indicate that the remedial objective can be achieved. Monitoring data provide evidence that the concentrations across the Site are decreasing as the system continues to operate (JSAI, 2021).

### 5.2 Remedial Goals

The remedial goal is to achieve cleanup of PCE contaminants in the groundwater within the 14-year time period measured from the effective date of the revised SOW (June 7, 2020). There are approximately an additional 13 years to achieve the remedial goals.

The majority of the plume mass is where the Shallow, Intermediate, and Deep Zones are hydraulically connected and the PCE plume is captured by extraction CLC 27. CLC 18 has captured the remaining plume on top of the clay layer in Shallow Zone that does not flow east into the extraction CLC 27 capture zone. CLC 18 PCE concentrations were around 70 µg/L during startup (2012), and have decreased to about 6 µg/L, which indicates the UHZ in the vicinity of CLC 18 is approaching cleanup concentration of 5 µg/L. Cleanup time under the current system operation is difficult to estimate due to the variability with estimating PCE plume mass. The replacement of the rejected FLUTE wells has helped better define the PCE plume mass, but additional sampling events are needed to confirm the first round of results. As the plume decreases in size, mass removal rates will likely decline over time, and the improved monitoring network will help better evaluate cleanup time.

The updated Site Conceptual Model (JSAI, 2019) coupled with a significant decrease in local pumping has changed the system requirements to achieve remedial goals. With increasing PCE concentrations and with increased pumping, extraction CLC 27 is well suited for plume containment, capture, and cleanup within the remaining time period.

## 6.0 SUMMARY OF FINDINGS

As a result of optimization, CLC 18 has been operated consistently since 2014 (Fig. 2). Additional hydraulic analysis indicates CLC 18 is more efficient at capturing the Shallow Zone PCE plume than a hypothetical capture well completed to the top of the clay layer. Remediation of the Shallow PCE plume in the vicinity of CLC 18 is near complete (Figs. 2 and 4).

Results from the performance analysis presented in Table 1 show that CLC 27 is capable of pumping rates up to 400 gpm for the duration of the cleanup period, if needed. There is no other pumping in the area to compete with extraction well pumping, which allows for better hydraulic controls for plume capture. Nevertheless, CLC 27 is able to accommodate increased pumping rate if needed for containment and capture of the PCE plume. No additional extraction wells are needed for containment and capture of the PCE at this time. No changes to CLC 27 are recommended until at least three sampling events have been completed for the FLUTE well replacement network.

Pumping at an average annual rate of 230 gpm with a PCE concentration of 15  $\mu\text{g/L}$  would result in a PCE mass removal rate of 6.9 kg/yr. Extraction wells CLC 18 and CLC 27 combined have a mass removal rate of 7.0 kg/yr under the current optimization pumping program.

The updated groundwater modeling by predicts the extraction system is capturing sufficient PCE to reach the remediation goals within the 14-year time period, provided that pumping from extraction CLC 27 is optimized every year to maintain or increase PCE mass removal. With PCE concentrations resembling the plume with increased pumping, extraction CLC 27 is well suited for plume containment, capture, and cleanup with the remaining time period.

## 7.0 RECOMMENDATIONS

The purpose of the annual performance evaluation of the Griggs and Walnut Site groundwater extraction wells is to assess whether operation of the extraction and treatment system is making adequate progress toward achieving the Remedial Action Objectives and Remedial Goals, and to ensure the JSP is removing the mass of contaminants in the aquifer in an effective manner, each year, as part of the Operation and Maintenance reporting requirements specified in the SOW (EPA, 2020). The following recommendations are for the year 2021.

1. Reduce the CLC 18 pumping schedule. Specific conductance and PCE concentration data would suggest the daily pumping duration can be reduced to two days per week with each day pumping 90 gpm for 8 hours. Continue cessation of pumping from CLC 61.
2. Maintain an average pumping rate between 225 to 240 gpm for extraction well CLC 27. The existing pump should be able to sustain an average rate of 230 to 240 gpm.

## 8.0 REFERENCES

- [DBS&A] Daniel B. Stephens & Associates, Inc., 2021, 2020 System Operation and Remedial Action Progress, Griggs-Walnut Ground Water Plume Superfund Site: consultant's reports prepared for Joint Superfund Project Las Cruces, New Mexico, 21 p. plus figures, tables, and appendices.
- [EPA] U.S. Environmental Protection Agency, 2006, Remedial investigation report, Griggs and Walnut Ground Water Plume Superfund Site, Las Cruces, Doña Ana County, New Mexico, EPA ID NM0002271286: prepared by CH2M Hill, Inc.
- [EPA] U.S. Environmental Protection Agency, 2017, Appendix B, Statement of Work Griggs and Walnut Ground Water Plume Superfund Site, Las Cruces, New Mexico: EPA CERCLA Docket No. 06-07-17, 15 p.
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- [JSAI] John Shomaker & Associates, Inc., 2015, Recommendations for the optimization of PCE capture from Wells 18 and 27: consultant's technical memorandum prepared by JSAI for City of Las Cruces, January 2015.
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- [JSAI] John Shomaker & Associates, Inc., 2020, Calendar year 2019 groundwater program evaluation report Griggs and Walnut groundwater plume superfund site, Las Cruces, New Mexico: consultant's report prepared by JSAI for the Griggs and Walnut Joint Superfund Project, August 2020.
- [JSAI] John Shomaker & Associates, Inc., 2021, Calendar year 2020 groundwater program evaluation report Griggs and Walnut groundwater plume superfund site, Las Cruces, New Mexico: consultant's report prepared by JSAI for the Griggs and Walnut Joint Superfund Project, June 2021.



**ILLUSTRATIONS**



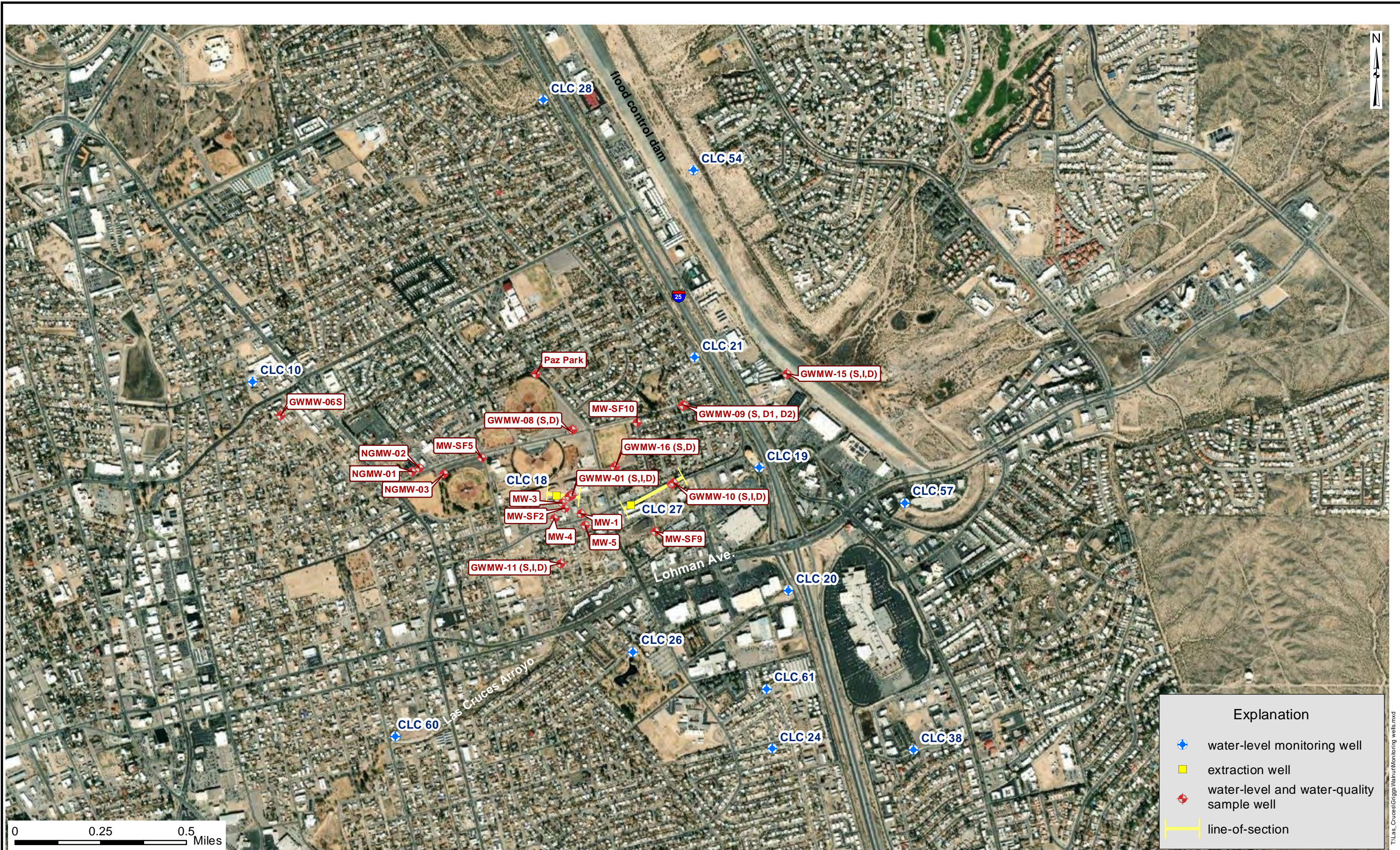


Figure 1. Aerial photograph of the Griggs and Walnut Site showing monitoring network, City of Las Cruces, New Mexico.



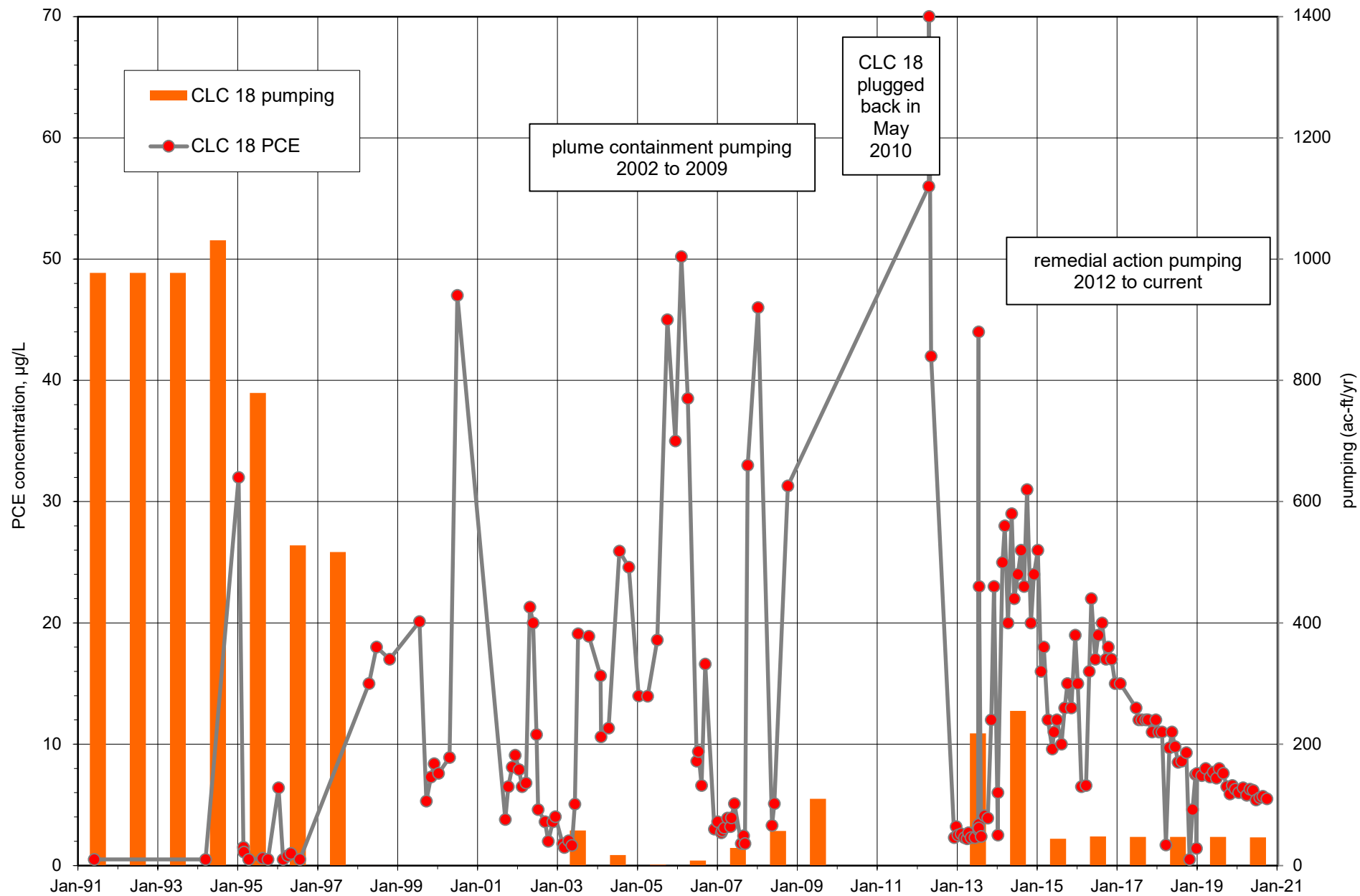


Figure 2. Graph showing PCE concentrations and pumping versus time for CLC 18, Griggs and Walnut Site, Las Cruces, New Mexico.

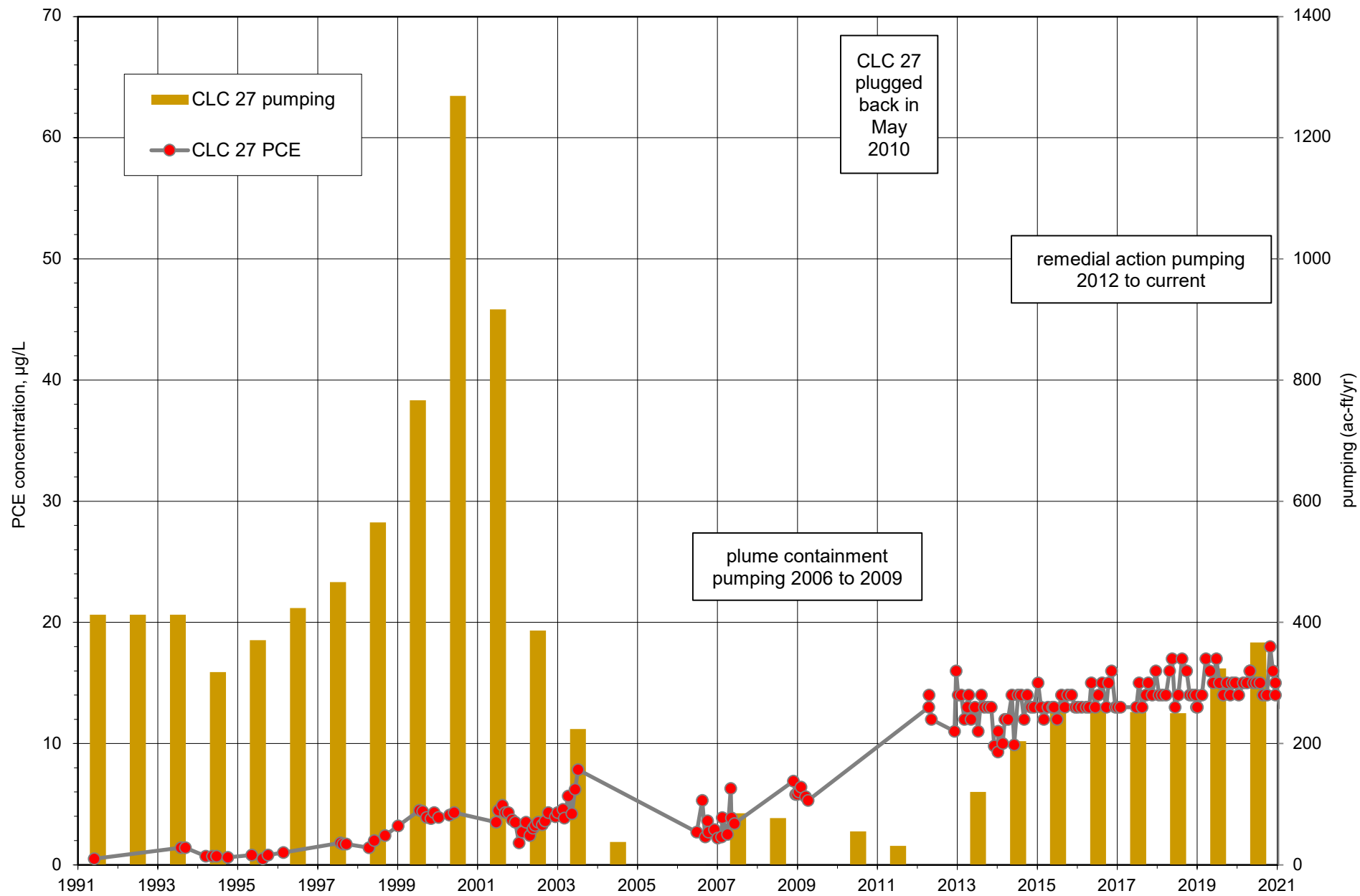


Figure 3. Graph showing PCE concentrations and pumping versus time for CLC 27, Griggs and Walnut Site, Las Cruces, New Mexico.

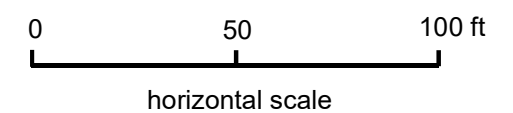
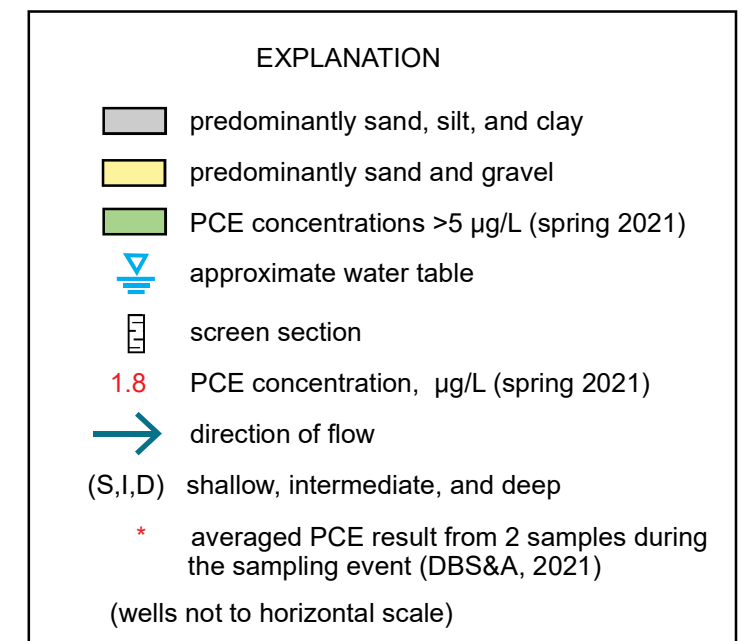
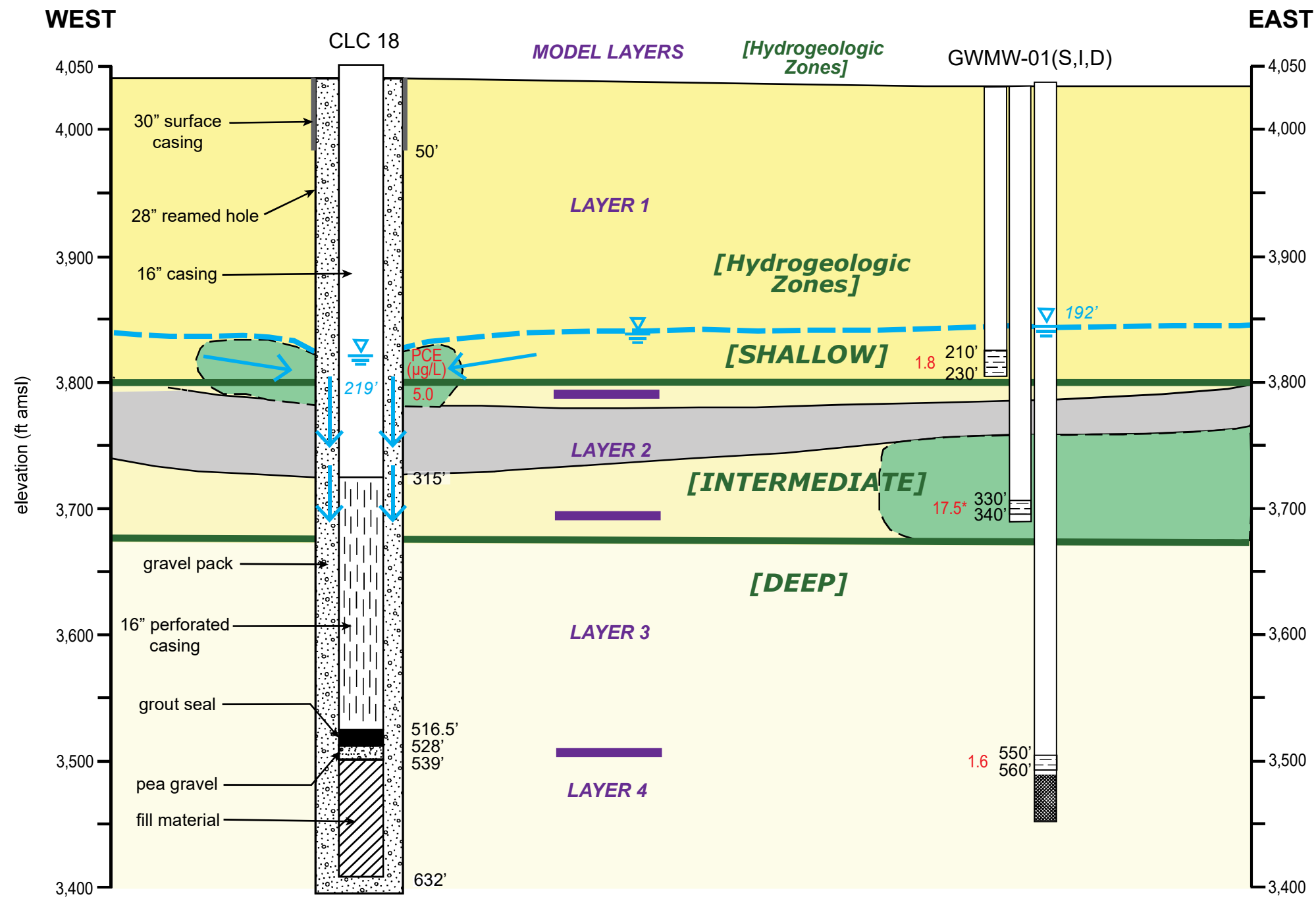
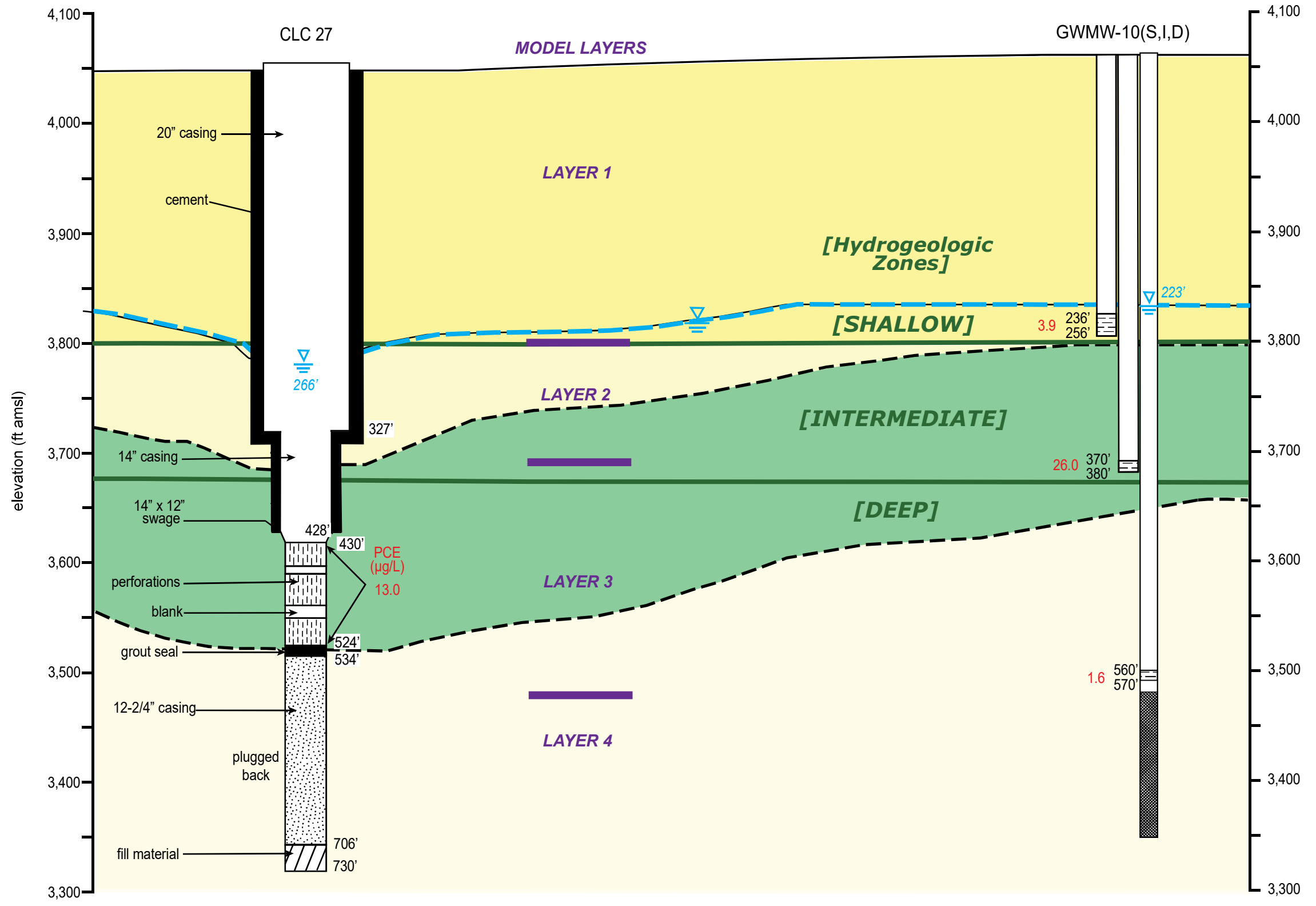


Figure 4. Hydrogeologic cross-section between CLC 18 and GWMW-01 showing well completion details and distribution of spring 2021 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.



NORTHWEST

SOUTHEAST



EXPLANATION	
	predominantly sand, silt, and clay
	predominantly sand and gravel
	PCE concentrations >5 μg/L (spring 2021)
	approximate water table
	screen section
	PCE concentration, μg/L (spring 2021)
(S,I,D)	shallow, intermediate, and deep (wells not to horizontal scale)

Figure 5. Hydrogeologic cross-section between CLC 27 and GWMW-10 showing well completion details and distribution of spring 2021 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.

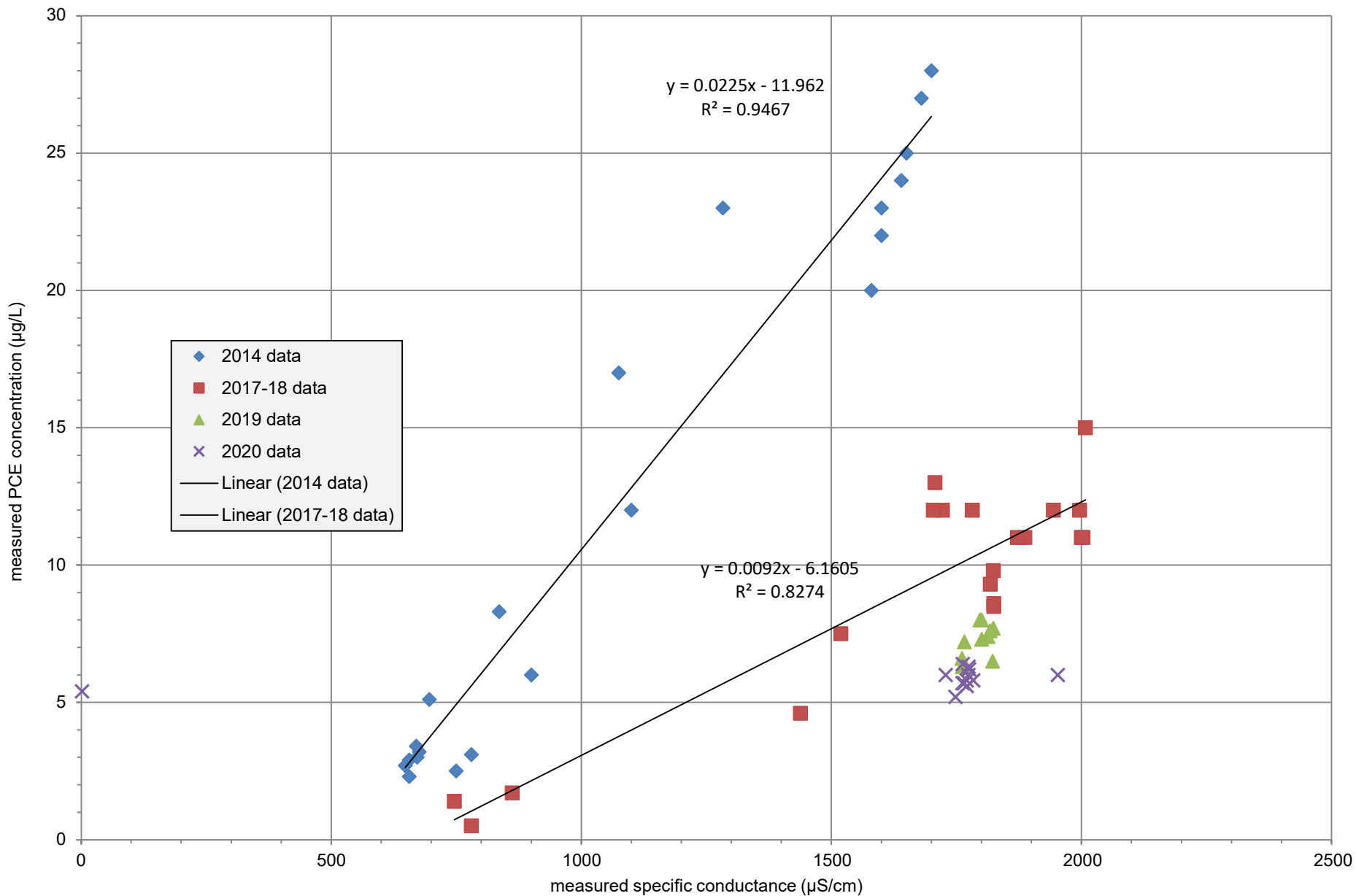


Figure 6. Graph showing correlation between specific conductance and PCE at extraction well CLC 18, Griggs and Walnut Site, Las Cruces, New Mexico.

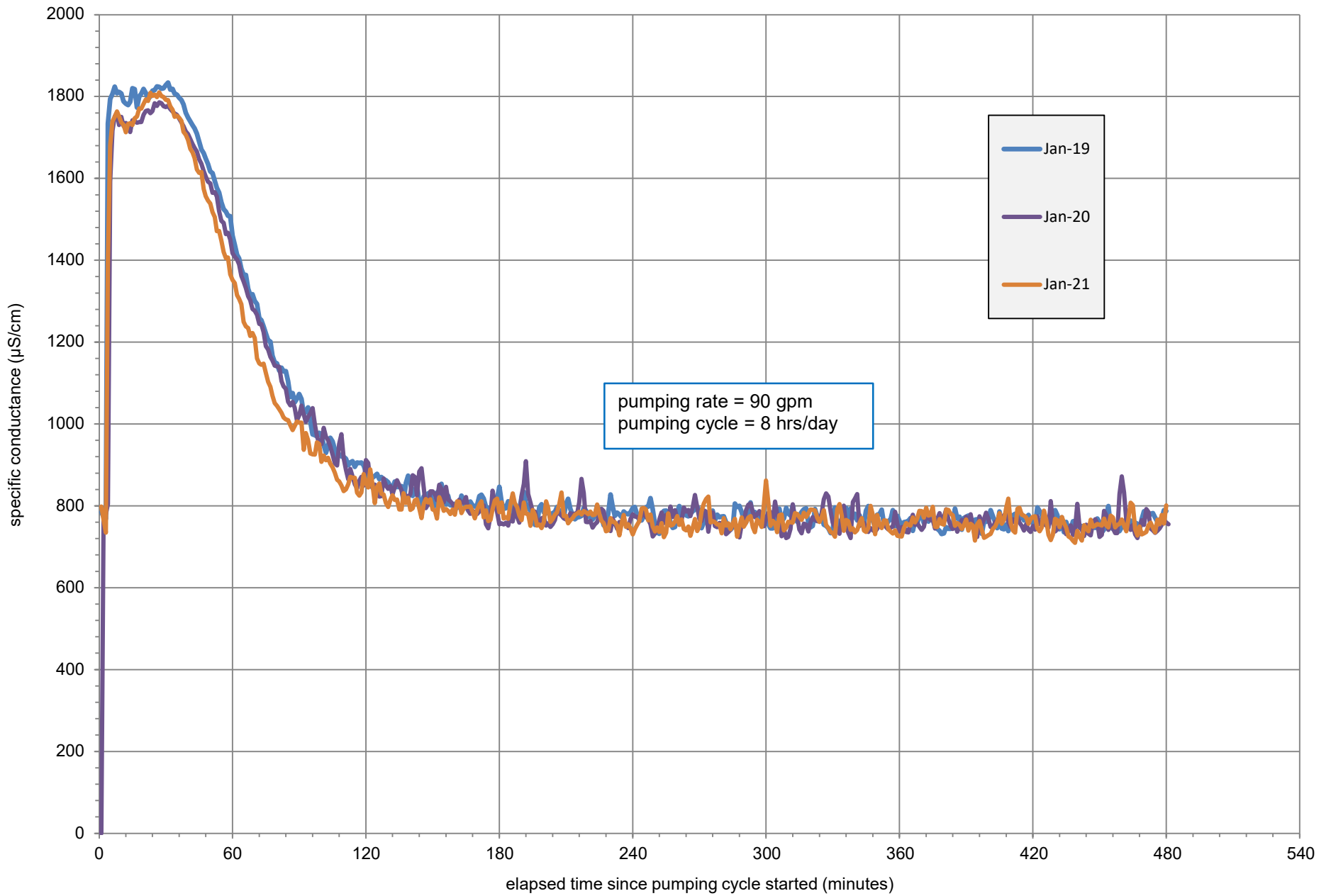


Figure 7. Graph of specific conductance for extraction well CLC 18 pumping cycle, Griggs and Walnut Site, Las Cruces, New Mexico.

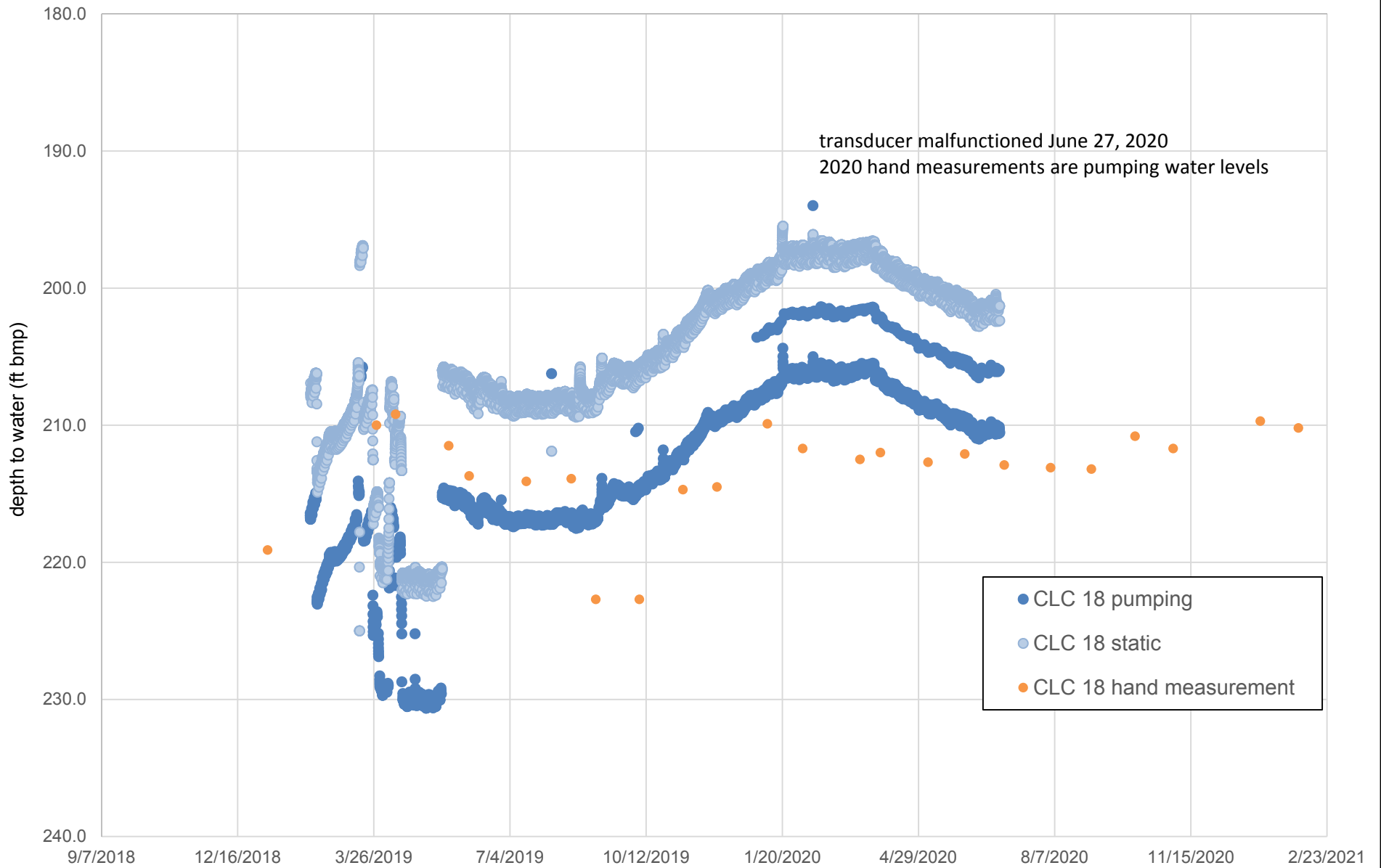


Figure 8. Graph showing non-pumping and pumping water levels for extraction well CLC 18, Griggs and Walnut Site, Las Cruces, New Mexico.



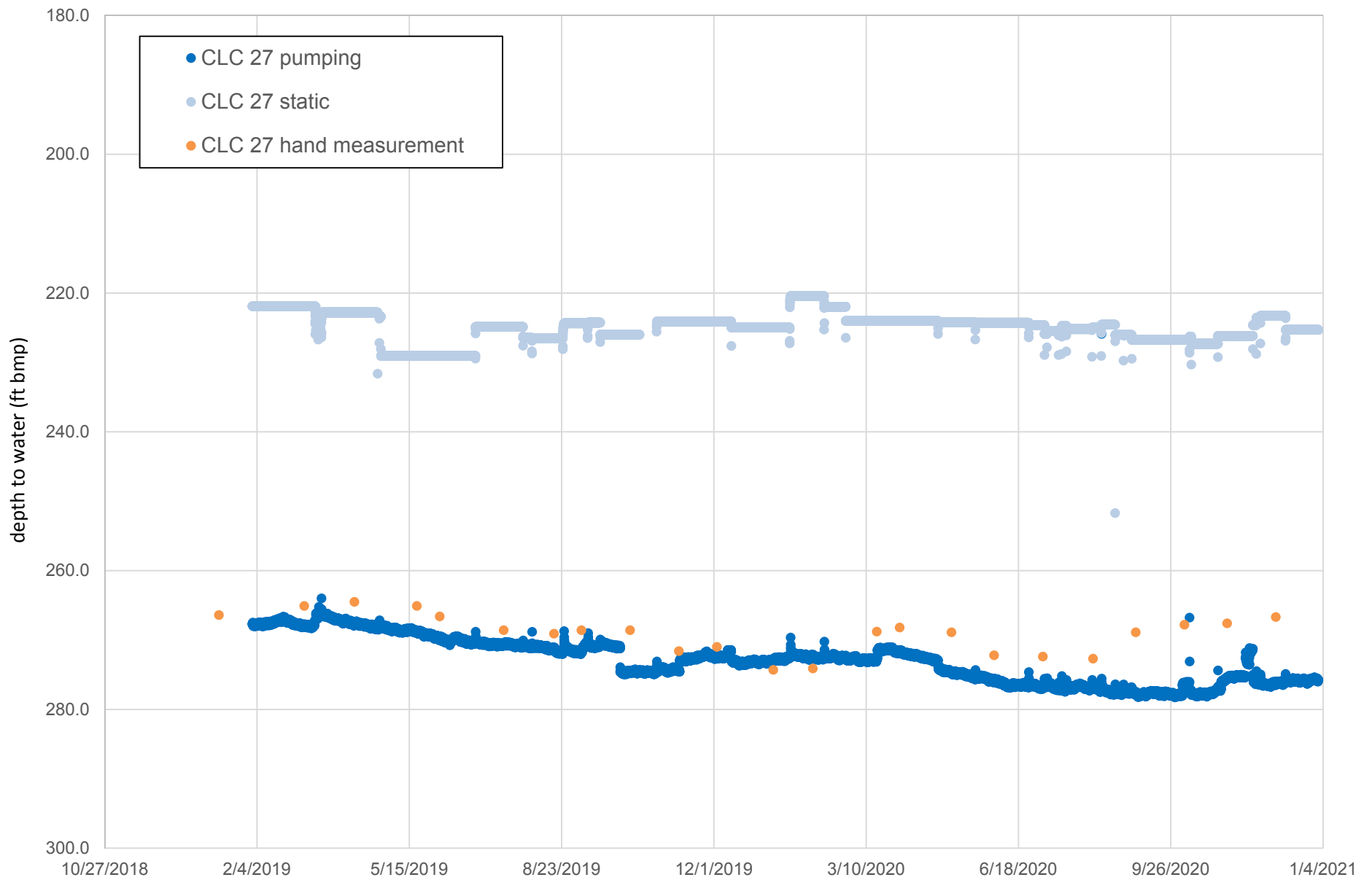


Figure 9. Graph showing non-pumping and pumping water levels for extraction well CLC 27, Griggs and Walnut Site, Las Cruces, New Mexico.

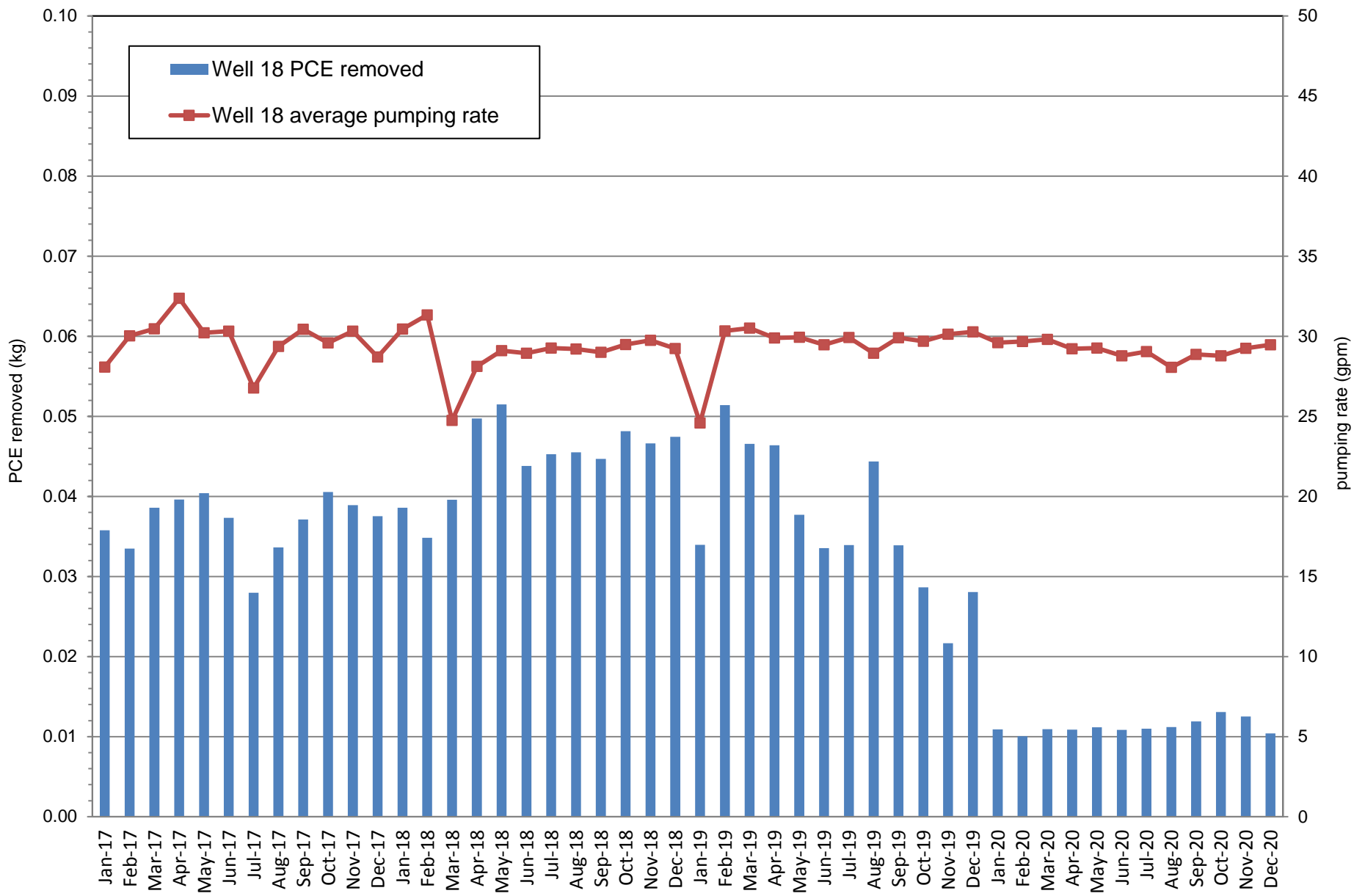


Figure 10. Graph of extraction well CLC 18 monthly pumping from 2017 through 2020 and PCE mass removal rate, Griggs and Walnut Site, Las Cruces, New Mexico.

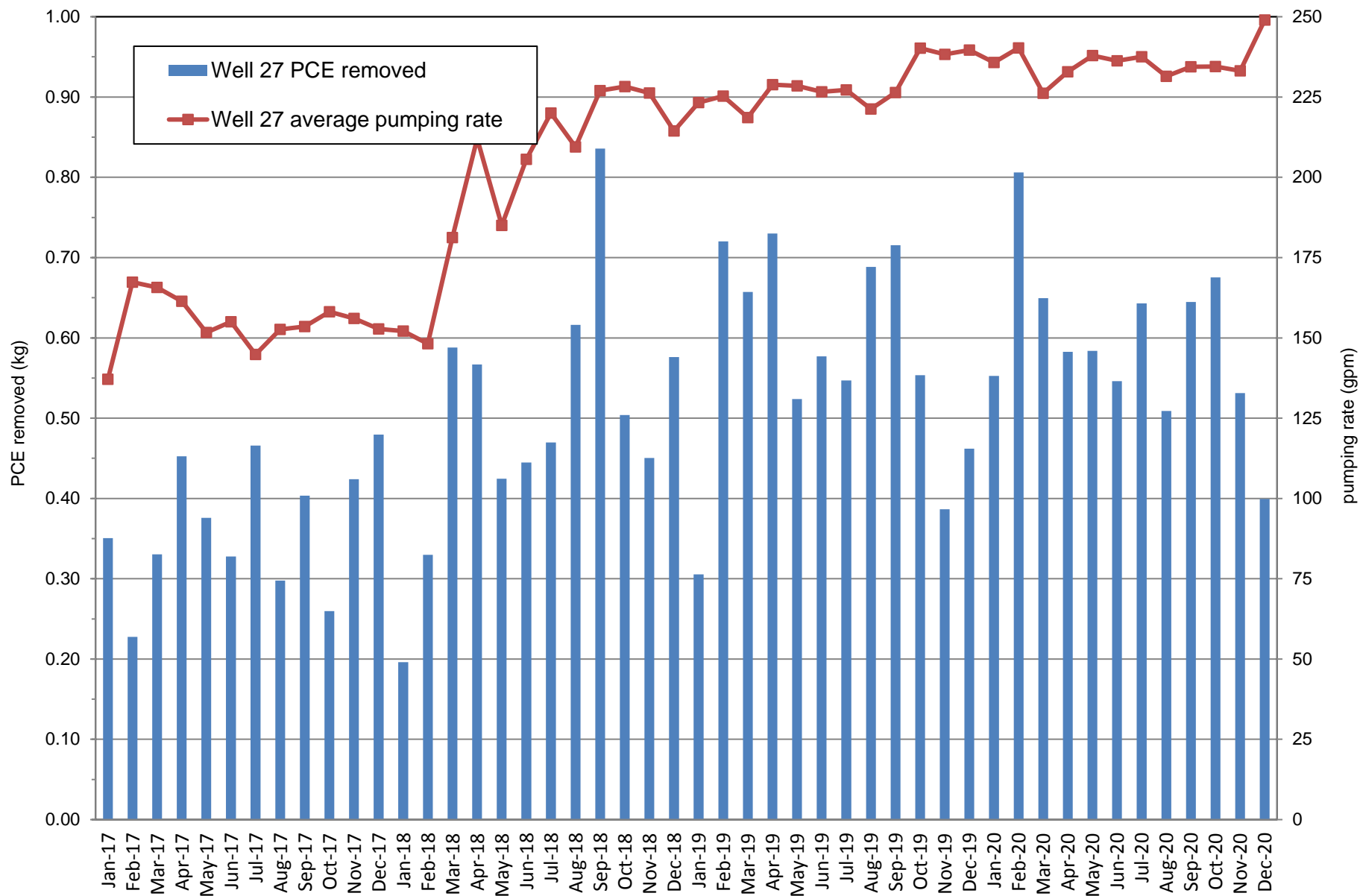


Figure 11. Graph of extraction well CLC 27 monthly pumping from 2017 through 2020 and PCE mass removal rate, Griggs and Walnut Site, Las Cruces, New Mexico.

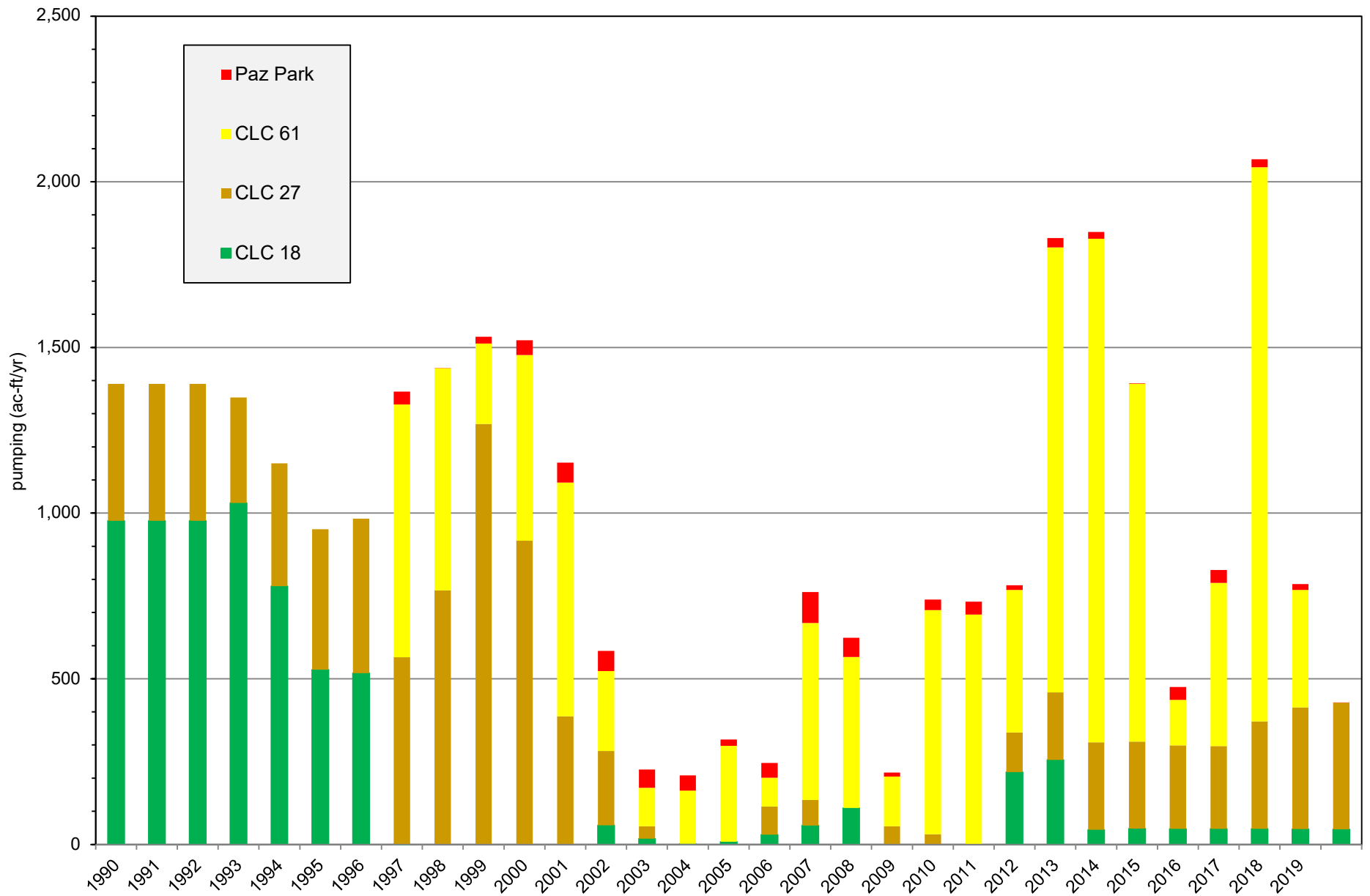


Figure 12. Bar graph of model-simulated annual pumping from 2012 to current, Griggs and Walnut Site, Las Cruces, New Mexico.

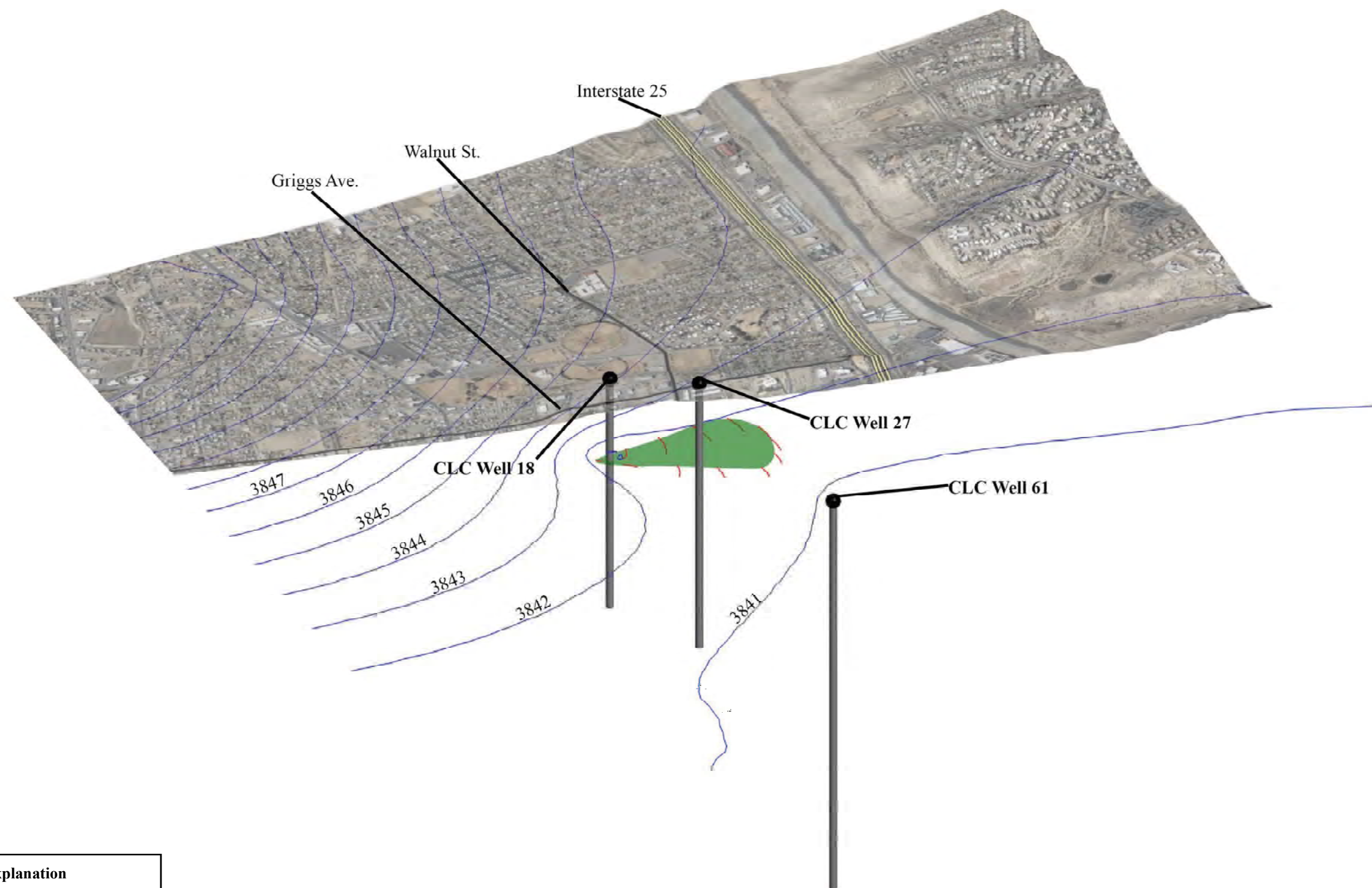




Explanation	
<span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90; border: 1px solid black;"></span>	upper plume
<span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, #008000 2px, #008000 4px); border: 1px solid black;"></span>	lower plume
<span style="display: inline-block; width: 15px; height: 10px; background-color: #FF6347; border: 1px solid black;"></span>	$K \geq 10$
<span style="display: inline-block; width: 15px; height: 10px; background-color: #6A5ACD; border: 1px solid black;"></span>	$K < 10$

Figure 13. Illustration showing aerial photograph overlay, model Layer 3 hydraulic conductivity zones with 2020 upper and lower PCE plume extents. Griggs and Walnut Site, Las Cruces, New Mexico.








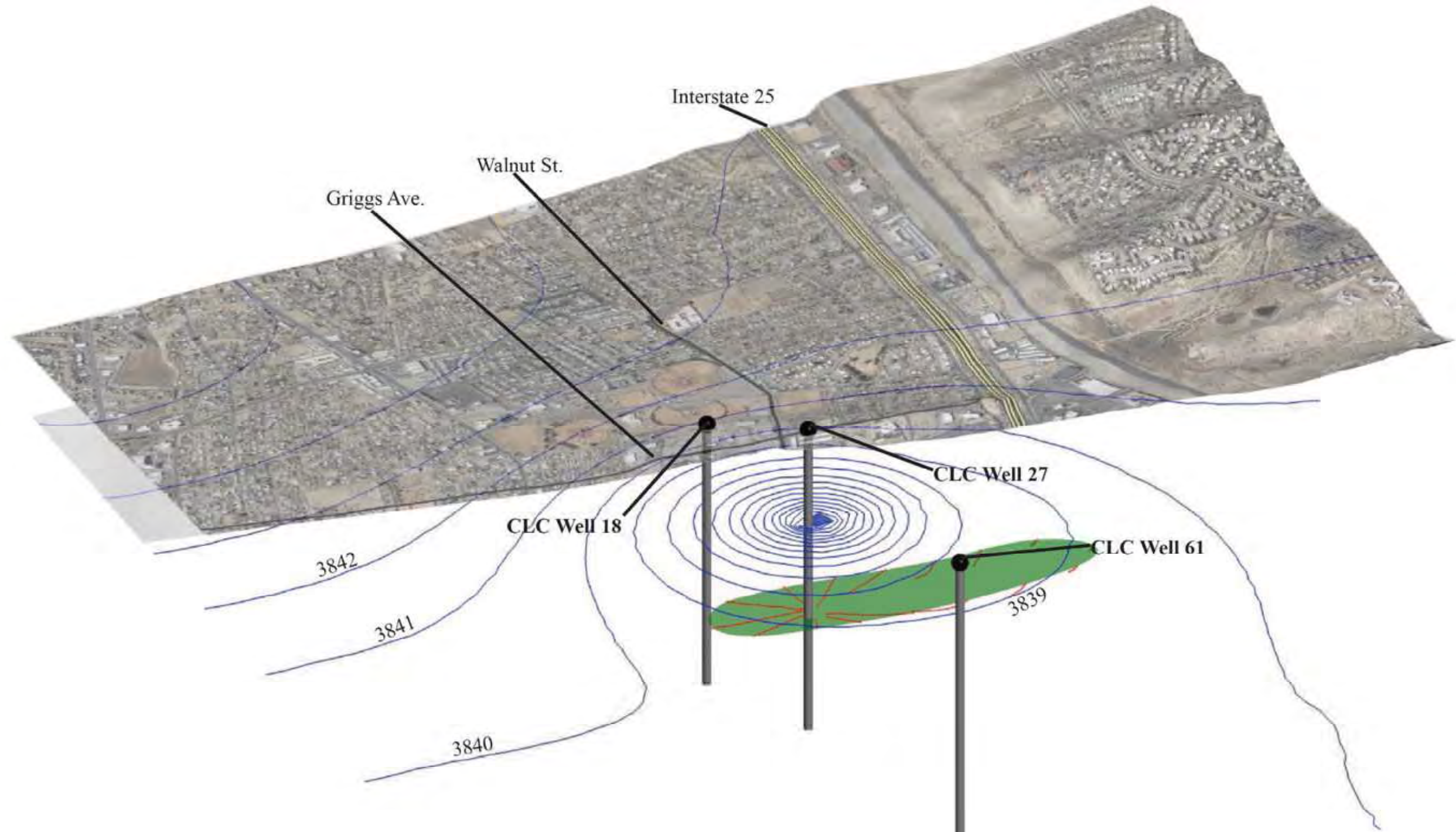
Explanation	
	1-ft contour intervals
	particles (1-yr intervals)
	upper plume
Note: 5x vertical exaggeration	

Figure 14. Aerial photograph and 2020 model-simulated heads in Layer 1, showing capture zone for extraction well CLC 18 simulated by particle tracking, Griggs and Walnut Site, Las Cruces, New Mexico.






Explanation	
	1-ft contour intervals
	particles (1-yr intervals)
	lower plume
Note: 5x vertical exaggeration	

Figure 15. Aerial photograph and 2020 model-simulated heads in Layer 3, showing and capture zone for extraction well CLC 27 simulated by particle tracking, Griggs and Walnut Site, Las Cruces, New Mexico.



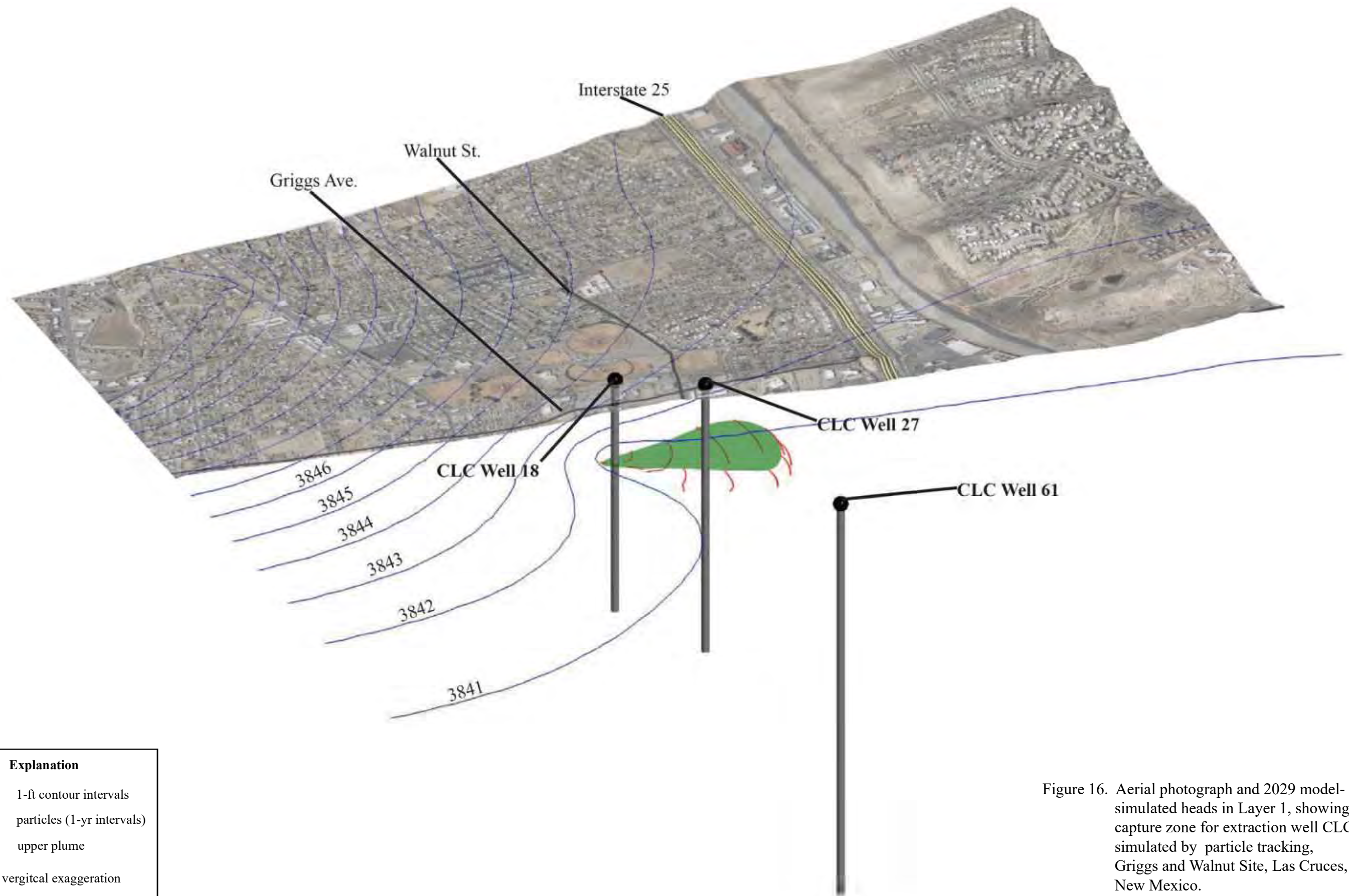
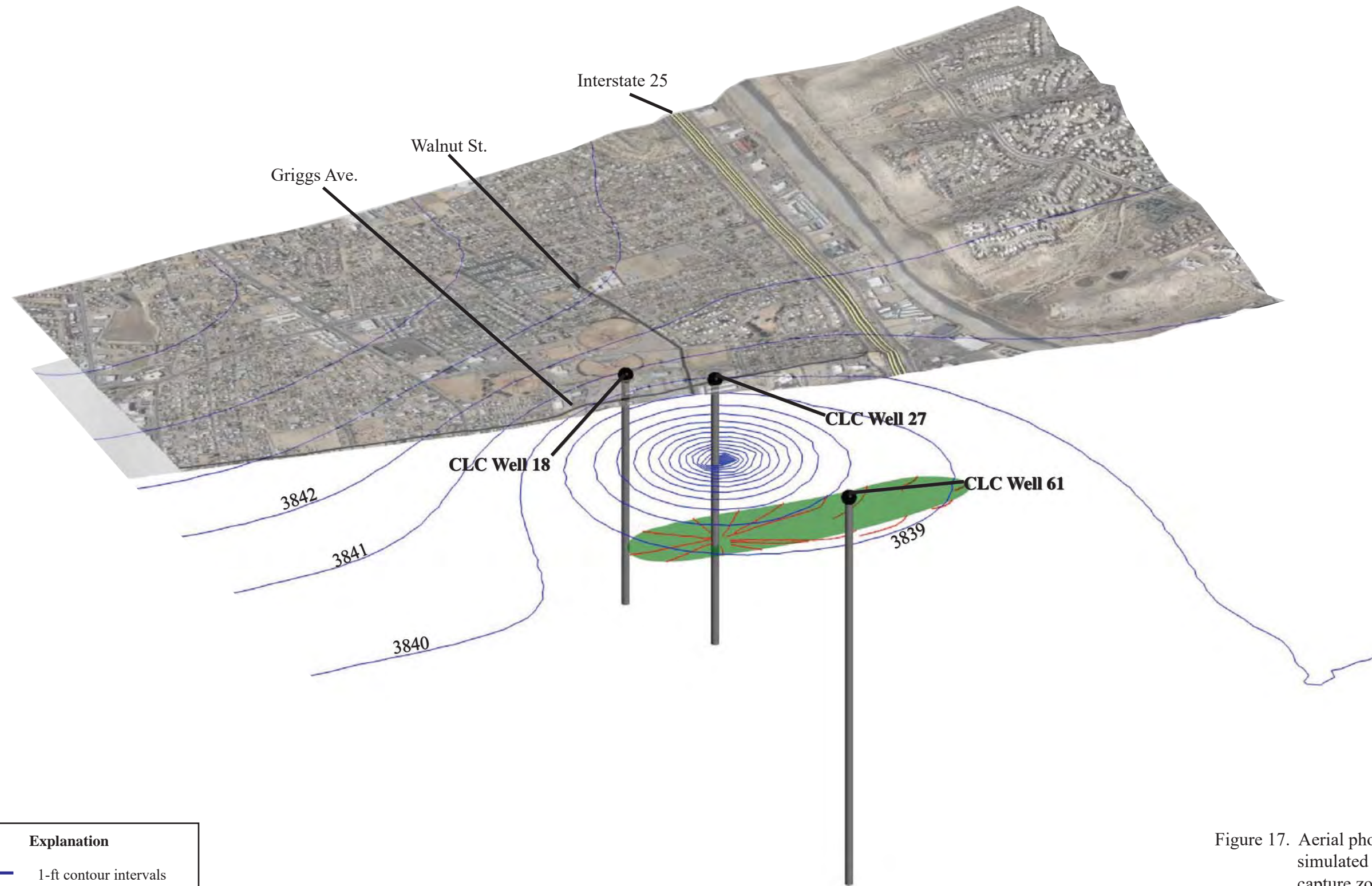


Figure 16. Aerial photograph and 2029 model-simulated heads in Layer 1, showing capture zone for extraction well CLC 18 simulated by particle tracking, Griggs and Walnut Site, Las Cruces, New Mexico.






Explanation	
	1-ft contour intervals
	particles (1-yr intervals)
	lower plume
Note: 5x vertical exaggeration	

Figure 17. Aerial photograph and 2029 model-simulated heads in Layer 3, showing capture zone for extraction well CLC 27 simulated by particle tracking, Griggs and Walnut Site, Las Cruces, New Mexico.



Appendix C

Sampling Report with  
Laboratory Report for  
Annual Groundwater  
Monitoring Event

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## Groundwater Sampling Activities March and April 2021

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In January through March 2021, the FLUTE wells were replaced with conventional wells. The most recent sampling and analysis plan (SAP) prior to this groundwater sampling event was dated April 3, 2019. On March 3, 2021, an updated draft SAP was submitted to U.S. Environmental Protection Agency (EPA) that incorporated the new wells with proposed sampling methods. In a response letter dated March 19, 2021, the EPA deemed the draft SAP “conditionally acceptable” provided the Joint Superfund Program (JSP) add a second low-flow sampling method to a subset of wells within the plume core to verify Hydrasleeve sampling accuracy, and also update some figures and language regarding process system sampling. Low-flow sampling with a bladder pump was completed on 4 wells in the plume footprint to address EPA comments, and after several rounds of comments, the final updated SAP was sent to EPA on April 26, 2021 and approved by EPA in a letter dated April 27, 2021. As described in the SAP, a five-year review monitoring event was completed, as a five-year review is being completed by EPA in 2021.

Daniel B. Stephens & Associates, Inc. (DBS&A) measured groundwater elevations and collected groundwater samples from wells at the Griggs-Walnut Ground Water Plume Superfund Site (the GWP site) on March 29 through April 2, 2021. Groundwater elevations were measured site-wide on March 29 through 31, 2021, and groundwater samples were collected on March 31 through April 2, 2021. A total of 30 wells were sampled (Table 1), and water levels were measured in 4 additional wells (MW-1, MW-3, MW-4, and MW-5). MW-5 was on the list for sampling, but was dry. A total of 4 wells sampled by Hydrasleeve (GMMW-01S, GMMW-09S, GMMW-10I, and GMMW-16D) were additionally sampled with a bladder pump to compare results between sampling methods per EPA’s request. These wells were selected to cover a range of construction methods and depth intervals. The sampling methods are shown on Table 2. Because two results were available for these 4 wells, the results from the Hydrasleeve samples were used throughout this report.

**Table 1. Groundwater Samples Collected, March/April 2021**

Sample Type	Number of Samples	Analyses <sup>a</sup>	Well ID
Monitor wells	27	VOCs by EPA method 8260B	GWMW-01S, GWMW-01I, GWMW-01D, GWMW-06S, GWMW-08S, GWMW-08D, GWMW-09S, GWMW-09D1, GWMW-09D2, GWMW-10S, GWMW-10I, GWMW-10D, GWMW-11I, GWMW-11S, GWMW-11D, GWMW-15I, GWMW-15S, GWMW-15D, GWMW-16S, GWMW-16D MW-SF2, MW-SF5, MW-SF9, MW-SF10, NGMW-01, NGMW-02, and NGMW-03
City of Las Cruces production wells	1	VOCs by EPA method 8260B	CLC 26
City of Las Cruces production wells	2	Arsenic (total and dissolved), uranium (total and dissolved), and field parameters	CLC 18 and CLC 27
Duplicate	3	VOCs by EPA method 8260B	GWMW-08D, GWMW-09D1, and GWMW-10D
MS/MSD	2	VOCs by EPA method 8260B	NGMW-01 (1 MS and 1 MSD)
Field blank	4	VOCs by EPA method 8260B	Not applicable
Equipment blank	3	VOCs by EPA method 8260B	Not applicable
Trip blank	2	VOCs by EPA method 8260B	Not applicable

<sup>a</sup> Field parameters measured included pH, temperature, and specific conductance.

VOCs = Volatile organic compounds

EPA = U.S. Environmental Protection Agency

MS = Matrix spike

MSD = Matrix spike duplicate

**Table 2. Sampling Methods, March/April 2021**

Sampling Method	Number of Samples	Well ID
Hydrasleeve	27	GWMW-01I, GWMW-01D, GWMW-06S, GWMW-08S, GWMW-08D, GWMW-09D1, GWMW-09D2, GWMW-10S, GWMW-10D, GWMW-11I, GWMW-11S, GWMW-11D, GWMW-15I, GWMW-15S, GWMW-15D, GWMW-16S, MW-SF2, MW-SF5, MW-SF9, MW-SF10, NGMW-01, NGMW-02, and NGMW-03
Grab (dedicated pump)	1	CLC 18 and CLC 27
Bladder pump	5	CLC 26, GWMW-01S, GWMW-09S, GWMW-10I, GWMW-16D

In addition to the double sampling for comparison of low-flow methods, 2 Hydrasleeve samples were collected from GWMW-01I (a former FLUTE well location). Comparison of the head difference between the new wells at GWMW-01 indicated a strong vertical gradient at this location (see Table 5 in Appendix A). As the FLUTE liners have been compromised since at least 2019 and they were removed in June 2020, there has been an indeterminate but significant amount of time where the hydraulic gradient may have caused tetrachloroethene (PCE) contaminated groundwater from higher elevations to flow to lower elevations in this well. The FLUTE retrofit wells were developed twice during construction (before and after retrofit) in an attempt to clear any cross-contaminated water. In an attempt to flush any remaining water, the first sample at GWMW-01 was collected on April 1, 2021, when the extraction system was running normally (CLC 27 continuously, CLC 18 for 8 hours a day). Then CLC 18 was run for 24 consecutive hours to draw water away from GWMW-01. After CLC 18 had been pumping for 24 hours, a second sample was collected from GWMW-11I on April 2, 2021. The 2 samples have the same nomenclature (GWMW-01I\_HS), but were collected a day apart. The results for these 2 samples were functionally the same (20 micrograms per liter [µg/L] PCE and 15 µg/L PCE). These results indicate that either (1) cross-port contamination may not be an issue or (2) one day of extra pumping at CLC 18 is insufficient to clear water from GWMW-01I. The samples collected in fall 2021 should provide additional information regarding PCE concentrations in this area.

In compliance with the SAP (DBS&A, 2021), equipment blanks were collected at a frequency of 1 per day when non-dedicated sampling equipment was used (i.e., when the bladder pump was used for sampling). Field blanks were filled using deionized water. Trip blanks were included in



each cooler that was delivered to the analytical laboratory (Hall Environmental Analysis Laboratory in Albuquerque, New Mexico).

Sampling was documented on a field sheet (Attachment 1) that noted date, well identification, sample identification, sample time, field personnel, casing diameter/type, depth to water, water level indicator, water quality meter, sampling method/equipment type, comments, and field parameter values (temperature, pH, and specific conductance). Measured water levels are summarized in Table 3. Field parameter measurements are summarized in Table 4. Project activities were also recorded in the project's bound field notebook (Attachment 2). Sample identification numbers from the SAP were used (e.g., GMMW11-I).

Per manufacturer guidance, all Hydrasleeves were deployed at least 24 hours prior to sampling to enable groundwater re-equilibration within the water column. Following a minimum 24-hour re-equilibration period, samples were collected by pulling each Hydrasleeve at a rate of more than 1 foot per second to ensure opening of the sleeve's check valve, allowing groundwater from the targeted screen interval to enter the sleeve. Purge water was put into a labeled container on-site, and was later disposed of at the City's wastewater treatment plant (WWTP). The graduated rope and weights were lowered back into the monitor wells after sampling to be used again during the next sampling event.

**Table 3. Groundwater Level Measurements and Elevations, March/April 2021**  
Page 1 of 2

Well ID	Date	Zone	Depth to Water (feet)	Total Well Depth (feet)	Surveyed Measuring Point Elevation (feet msl)	Groundwater Elevation (feet msl)
CLC 18	4/2/2021	S/I/D <sup>a</sup>	212.73	517	4,039.59	3,826.86
CLC 26	3/30/2021	Deep	177.22	700	4,014.15	3,836.93
CLC 27	4/2/2021	Deep	274.12	524	4,057.12	3,783.00
GMMW-01D	4/1/2021	Deep	202.06	566	4,038.29	3,836.23
GMMW-01I	4/1-4/2/2021	Intermediate	201.81	346	4,038.96	3,837.15
GMMW-01S	4/1/2021	Shallow	194.45	230	4,038.69	3,844.24
GMMW-06S	3/31/2021	Shallow	96.13	130	3,946.78	3,850.65
GMMW-08D	3/31/2021	Deep	181.31	506	4,019.85	3,838.54
GMMW-08S	3/31/2021	Shallow	174.70	210	4,020.09	3,845.39
GMMW-09D1	4/1/2021	Deep	211.45	426	4,050.79	3,839.34
GMMW-09D2	4/1/2021	Deep	211.50	565	4,051.11	3,839.61
GMMW-09S	4/1/2021	Shallow	209.26	228	4,051.1	3,841.84
GMMW-10D	4/2/2021	Deep	227.78	575	4,064.6	3,836.82
GMMW-10I	4/2/2021	Intermediate	226.70	386	4,063.95	3,837.25
GMMW-10S	4/2/2021	Shallow	222.26	257	4,063.84	3,841.58
GMMW-11D	3/31/2021	Deep	186.12	540	4,022.67	3,836.55
GMMW-11I	3/31/2021	Intermediate	185.62	314	4,022.74	3,837.12
GMMW-11S	3/31/2021	Shallow	178.49	205	4,022.72	3,844.23

<sup>a</sup> S/I/D = Shallow/ Intermediate/ Deep Zones. CLC18 is screened in the Deep Zone; however, thick gravel envelope allows commingling of Shallow and Intermediate Zones.

<sup>b</sup> Screened interval in GMMW-16D straddles the Intermediate and Deep Zones

msl = Above mean sea level

**Table 3. Groundwater Level Measurements and Elevations, March/April 2021**  
Page 2 of 2

Well ID	Date	Zone	Depth to Water (feet)	Total Well Depth (feet)	Surveyed Measuring Point Elevation (feet msl)	Groundwater Elevation (feet msl)
GMMW-15D	4/1/2021	Deep	240.71	595	4,081.03	3,840.32
GMMW-15I	4/1/2021	Deep	240.72	475	4,081.06	3,840.34
GMMW-15S	4/1/2021	Intermediate	240.28	304	4,081.03	3,840.75
GMMW-16D	4/2/2021	I/D <sup>b</sup>	195.21	370	4,032.73	3,837.52
GMMW-16S	4/2/2021	Shallow	189.38	205	4,033.07	3,843.69
MW-SF10	3/31/2021	Shallow	194.97	204	4,038.66	3,843.69
MW-SF2	4/2/2021	Shallow	191.51	200	4,035.71	3,844.20
MW-SF5	3/31/2021	Shallow	149.05	153	3,995.63	3,846.58
MW-SF9	4/1/2021	Shallow	190.40	203	4,032.35	3,841.95
NGMW-01	3/31/2021	Shallow	127.73	170	3,975.48	3,847.75
NGMW-02	3/31/2021	Shallow	133.02	170	3,980.79	3,847.77
NGMW-03	3/31/2021	Shallow	137.83	170	3,985.11	3,847.28

<sup>a</sup> S/I/D = Shallow/ Intermediate/ Deep Zones. CLC18 is screened in the Deep Zone; however, thick gravel envelope allows commingling of Shallow and Intermediate Zones.

<sup>b</sup> Screened interval in GMMW-16D straddles the Intermediate and Deep Zones

msl = Above mean sea level

**Table 4. Field Parameter Data, March/April 2021**  
Page 1 of 2

Well ID	Date	Time	Zone <sup>a</sup>	pH	Specific Conductance (μS/cm)	Temperature (°C)
CLC 18	4/02/2021	11:42	Deep	7.19	778	20.0
CLC 26	3/30/2021	17:32	Deep	7.45	1,599	22.0
CLC 27	4/02/2021	12:10	Deep	7.19	1,106	22.4
GMMW01-D	4/01/2021		Deep	7.16	1,941	19.4
GMMW01-I	4/01/2021		Intermediate	7.17	1,699	20.3
GMMW01-S	4/01/2021		Shallow	6.99	2,031	20.4
GMMW06-S	3/31/2021		Shallow	7.49	1,936	20.6
GMMW08-D	3/31/2021		Deep	7.17	2,141	19.3
GMMW08-S	3/31/2021		Shallow	6.77	2,011	18.6
GMMW09-D1	4/01/2021		Deep	7.26	2,034	20.9
GMMW09-D2	4/01/2021		Deep	1.84	1,551	21.9
GMMW09-S	4/01/2021		Shallow	7.36	2,028	21.4
GMMW10-D	4/02/2021		Deep	7.33	1,544	23.3
GMMW10-I	4/02/2021		Intermediate	6.70	1,862	23.3
GMMW10-S	4/02/2021		Shallow	7.00	2,022	21.1
GMMW-11D	3/31/2021	15:14	Deep	7.64	540	19.9
GMMW-11I	3/31/2021	16:45	Intermediate	7.35	1,144	19.4

<sup>a</sup> Zone information for most wells is from Table A-3 in the groundwater monitoring plan (DBS&A, 2018a, Appendix A). Zone information for MW-SF2, CLC 20, and CLC 57 is from Appendix A of DBS&A (2019a).

μS/cm = Microsiemens per centimeter

UHZ = Upper hydrogeologic zone

LHZ = Lower hydrogeologic zone



**Table 4. Field Parameter Data, March/April 2021**  
Page 2 of 2

Well ID	Date	Time	Zone <sup>a</sup>	pH	Specific Conductance (μS/cm)	Temperature (°C)
GMMW-11S	3/31/2021	15:31	Shallow	7.23	1,620	20.5
GMMW-15D	4/01/2021	10:30	Deep	7.14	770	20.4
GMMW-15I	4/01/2021	11:47	Intermediate	7.31	1,435	20.3
GMMW-15S	4/01/2021	17:37	Shallow	7.36	1,030	21.4
GMMW-16D	4/02/2021	10:40	Deep	7.21	1,460	21.5
GMMW-16S	4/02/2021	09:40	Shallow	6.95	2,088	22.1
MW-SF10	3/31/2021	13:10	Shallow	7.27	1,546	21.6
MW-SF2	4/02/2021	14:43	Shallow	NM	1,306	20.2
MW-SF5	3/31/2021	17:35	Shallow	7.15	1,033	21.3
MW-SF9	4/01/2021	16:30	Shallow	7.35	945	20.8
NGMW-01	3/31/2021		Shallow	7.38	2,328	19.7
NGMW-02	3/31/2021		Shallow	7.35	2,225	21.2
NGMW-03	3/31/2021	15:50	Shallow	7.27	2,187	21.2

<sup>a</sup> Zone information for most wells is from Table A-3 in the groundwater monitoring plan (DBS&A, 2018a, Appendix A). Zone information for MW-SF2, CLC 20, and CLC 57 is from Appendix A of DBS&A (2019a).

μS/cm = Microsiemens per centimeter

UHZ = Upper hydrogeologic zone

LHZ = Lower hydrogeologic zone

As part of the five-year review sampling, one inactive CLC supply well was sampled (CLC 26). It is important to note that supply wells often have long or multiple screened intervals that pull water from across multiple layers within an aquifer. In contrast, wells that are designed for the purpose of groundwater monitoring are typically constructed with small, discrete screened intervals to provide a more distinct sense of water quality within a specific area of the aquifer. Potential data quality limitations related to the longer screened intervals in CLC supply wells include the following:

- *Dilution:* The primary limitation in collecting groundwater samples from supply wells is dilution of contaminants. A supply well will extract water from throughout the aquifer at a high rate of flow, mixing water from potentially contaminated intervals with water from uncontaminated intervals. To minimize these effects, CLC 26 was sampled with a low-flow pump set at a target elevation within the screen interval to correspond to the known elevation of PCE contamination in the aquifer.
- *Preferential flow from low pressure zones:* It is conceivable that a portion of the aquifer exhibiting higher contaminant concentrations may pass unobserved due to uncontaminated water flowing from portions of the aquifer with higher hydraulic conductivity.
- *Proximity to known contamination:* CLC 26 is not located near the observed and assumed boundaries of the PCE plume, and has not historically exhibited detectable concentrations of PCE.

The SAP calls for sampling wells in order from the least to most contaminated. We attempted to follow this directive, but many limitations (e.g., traffic control availability, site accessibility limitations, unknown anticipated PCE concentrations in new wells, coordination with others to access wells, bladder pump difficulties) made sampling from least to most contaminated across the entire plume difficult. At a minimum, well clusters (e.g., GMMW-01S/I/D) were sampled from anticipated least to most contaminated. With the exception of the bladder pump used to sample wells CLC 26, GMMW-01S, GMMW-09S, GMMW-10I, and GMMW-16D, no sampling equipment was reused during the March/April 2021 sampling event.

The laboratory analytical report is provided in Attachment 3. Well-specific notes from the sampling event include the following:

1. GMMW-15S/I/D was buried by sand and gravel again this year, but it was quickly located by its proximity to stacked rocks placed by DBS&A field staff last year in a line near the well.

2. DBS&A field staff also coordinated with CLC staff for access to the three CLC wells and GWMW-16S/D.
3. MW-5 requires a special ERGO brand key to open the manhole cover. CLC water production staff did not have a key, and DBS&A field staff were unable to find keys for sale from the manufacturer. To avoid troubling CLC water treatment plant staff who reportedly have a key for this manhole, DBS&A field staff removed the manhole cover using needle-nosed vice grips.
4. The lid of MW-3 is broken and will not bolt down, and the vault is full of sediment. We recommend that this monitor well be properly plugged and abandoned, particularly as it is a dry well.
5. MW-SF9 was buried under sediment again this year and a stockpile of concrete debris was positioned directly adjacent to it. DBS&A field staff were able to find the well because of two traffic cones and rocks that were placed around it last year. This well would have been inaccessible if the stockpiled concrete had been positioned only 2 feet farther east. We recommend that CLC personnel working at this location be trained to avoid burying MW-SF9.
6. DBS&A attempted to sample MW-SF10 with the bladder pump as part of the confirmatory low-flow sampling requested by EPA. There appears to be a curve in the PVC obstructing the bladder pump. Hydrasleeve sampling and water level tagging were completed without incident, so it is not believed that the casing is obstructed.
7. None of the wells gauged in March/April 2021 had oil/product on the water surface.
8. Per CLC employees, water levels are always measured from the top of a 2-inch black metal riser pipe at CLC 18 (as opposed to a smaller opening on the well plate where readings might normally be taken). Based on this information, the water level measurement was taken from beneath the black cap.

Attachment 1

Sampling Field Sheets

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**GROUNDWATER ELEVATION DATA SHEET**

Project Name: Griggs Walnut

Sampler: V. Mungen, J. Torres

Project #: DB21.1068.00 Ph 1 Task 2

Sample Date: 3/29/21

Project Manager: K. Jayne

Sheet # 1 of 3

	Well ID	Depth to NAPL	Depth to Water	Total Depth	Comments: (well dia., sampled, condition)
3/29/21	<del>GW008-S</del>				
09:38	<del>GW008-S</del> (A)	—	174.70	269.5	4" diameter PVC, 205' tether Depth 2.9" x 36" Hydr sleeve
09:41	GW008-D	—	181.31	505.6	3" PVC, 500' tether 1.9" x 38" Hydr sleeve
10:58	MWSF5	—	149.05	153.35	2" PVC, 1.75" x 18"
11:19	NGMW03	—	137.83	170'	4" PVC 150' tether 2.9" x 36" sleeve
12:15	NGMW02	—	133.02	170'	4" PVC 150' tether 2.9" x 36" sleeve
12:40	NGMW01	—	127.73	170	4" PVC 150' tether 2.9" Hydr sleeve
13:40	MWSF9	—	190.40	203.03	2" PVC 200' tether 1.9" Hydr sleeve
14:08	GW008-065	—	96.13	130'	6" steel 120' tether 2.9" x 36" sleeve
14:35	MWSF02	—	191.51	200'	2" PVC, 200' tether 1.9" x 18" sleeve
14:47	MW-03	—	Dry	189.70	WL only
14:57	MW-04	—	Dry	183.41	WL only
15:06	MW-1		193.18	193.99 <sup>YM</sup>	WL only
15:24	GW008-1-S	—	178.49	205	3" PVC 200' tether 1.9" x 36" sleeve
15:36	GW008-1-D	—	186.12	540	3" PVC
15:45	GW008-1-I		185.62	314.1	3" PVC

Comments:



**GROUNDWATER ELEVATION DATA SHEET**

Project Name: Griggs Walnut

Sampler: J. Araya I. Torres

Project #: DB21.1068.00 Ph 1 Task 2

Sample Date: 3/29/21 + 3/30/21 + 3/31/21

Project Manager: K. Jayne

Sheet # 2 of 3

3/29/21

Well ID	Depth to NAPL	Depth to Water	Total Depth	Comments: (well dia., sampled, condition)
1640 MW-5	—	Dry	191.8	Used sledge, needle-nosed vice grips + pry bar to open
1706 MW-5F-10	—	194.97	204.44	2" PVC 1.75" x 18" Hydrostone w/ 202' tether
3/30/21 0819 GWMW-01A	—	202.06	566.02	3" PVC 1.9" x 38" Hydrostone w/ 560' tether
0843 GWMW-01I	—	201.81	346	5" PVC 2.9" x 36" sleeve w/ 340' tether
0904 GWMW-01S	—	194.45	230	4" PVC, 205' tether 2.9" x 36" sleeve
1021 CLC-26	—	177.22	700	Bladder pump only
1438 GWMW-16-D	—	195.21	370	4" PVC 365' tether 2.9" x 36" sleeve
1441 GWMW-16-S	—	189.38	205	4" PVC 200' tether 2.9" x 36" sleeve
1620 GWMW-15-S	—	240.28	304.2	3" PVC 288' tether 1.9" x 38" sleeve
1642 GWMW-15-D	—	240.71	595.6	3" PVC 590' tether 1.9" x 38" sleeve
1700 GWMW-15-I	—	240.72	475.0	3" PVC 540' tether 1.9" x 38" sleeve 470' tether
3/31/21 0830 GWMW-09-S	—	209.26	227.9	2.9" x 36" sleeve 220' tether Eastern most well
0841 GWMW-09-D1	—	211.45	425.63	420' tether Western most well
0859 GWMW-09-D2	—	211.50	565	560' tether Outer well
0948 GWMW-10-S	—	222.26	256.68	4" PVC 250' tether Eastern most well

Comments:



Daniel B. Stephens & Associates, Inc.

### GROUNDWATER ELEVATION DATA SHEET

Project Name: Griggs Walnut

Sampler: Y. Rogge, I. Torres

Project #: DB21.1068.00 Ph 1 Task 2

Sample Date: 3-31-21 & 4-2-21

Project Manager: K. Jayne

Sheet # 3 of 3

Well ID	Depth to NAPL	Depth to Water	Total Depth	Comments: (well dia., sampled, condition)
0951 GWM10-I	—	226.70	386.47	5" PVC, 380' total
0954 GWM10-D	—	227.78	574.53	3" PVC 570
0815 CLC18	—	212.73		inside CLC Building pumping 88 gpm for 24 hours
0908 CLC27	—	274.12		pumping 288 gpm 24/7

0951  
0954  
4-2-21

Comments:

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**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: 4-2-21  
 Sample Time: 0815

Well #: CLC18

Well Diameter: \_\_\_\_\_ (inches)      Height of Water Column: \_\_\_\_\_ (feet)  
 Depth to NAPL: \_\_\_\_\_ (feet btoc)      Casing Volume: \_\_\_\_\_ (gal)  
 Depth to Water: 212.73 (feet btoc)      Purge Volume: 500 ml 1 L (gal)  
 Total Depth of Well: \_\_\_\_\_ (feet)      Purge Method: Spigot

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

08:19  
 Hack  
 50200  
  
 08:20  
 VSI Pro  
 plus

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial Reading on well		19.4	795.500	—		
1						
2	7.19 <del>7.0</del>	20.00	778	132.3	2.76	Non-turbid
3						

Sample Description: Grab - 1 - HD 3 250 ml  
Boer pump 24 hours 1 - HCL 500 ml  
For Groundwater test From spigot

88  
 gpm

Physical Observations: strong perc odor, Non-turbid  
pump switched to "auto" mode after sample containers filled  
should run until 16:00 - then off automatically

Analytical Method(s): As + U by 200.8 ; As speciation SM 314B



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: ~~3-28-21~~  
 Sample Time: 1327

Well #: CLC-26

Screen 410' - 510'

Well Diameter: \_\_\_\_\_ (inches)      Height of Water Column: \_\_\_\_\_ (feet)

Depth to NAPL: \_\_\_\_\_ (feet btoc)      Casing Volume: \_\_\_\_\_ (gal)

Depth to Water: 177.20 (feet btoc)      Purge Volume: 2.1 (gal)

Total Depth of Well: 700 (feet)      Purge Method: 1.66" x 36" bladder pump

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

	Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
1230	Initial	6.77	22.1	1530	189.3	1.84	Non turbid
1248	1	7.07	23.2	1572	58.3	0.77	"
1302	2	7.42	20.6	1600	4.3	0.45	"
		7.43	21.7	1592	4.8	0.41	"
1303	3	7.45	22.0	1599	3.0	0.36	"

Sample Description: 3 VOA vials, Non turbid

Physical Observations: 90 second fill, 30 second discharge w/ Greiner Bladder Pump  
275 psi, Non turbid

Analytical Method(s): 8260B  
1405 - Equimat Blank - EBI





**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne  
 Sampler: Y. Morgan & I. Torres  
 Sample Date: 4-2-21  
 Sample Time: 0910

Well #: CLC 27

Well Diameter: \_\_\_\_\_ (inches)      Height of Water Column: \_\_\_\_\_ (feet)  
 Depth to NAPL: \_\_\_\_\_ (feet btoc)      Casing Volume: \_\_\_\_\_ (gal)  
 Depth to Water: 274.12 (feet btoc)      Purge Volume: 2.2 gal (gal)  
 Total Depth of Well: \_\_\_\_\_ (feet)      Purge Method: Spigot - Grab

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.19	22.4	1106	86.0	1.60	—
1						
2						
3						

Sample Description: 238 gpm Totalizer 674969 USKG  
Grab sample from spigot purging 24/7  
1 250 ml plastic HNO<sub>3</sub>, 1 500ml plastic HCl  
 Physical Observations: Non turbid, No odor

Analytical Method(s): As + W by 200.8, As speciation SM314B



**GROUNDWATER MONITORING DATA SHEET**

*Hydrastave & Bladder Pump*

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 3-30-21 - Deploy Sleere  
 Sample Date: 4-1-21  
 Sample Time: 5832 - H 5  
 0948 - 8P  
 SC001 209.66 - 229.66

Well #: GWMW01-S  
 Well Diameter: 4" (inches)  
 Depth to NAPL: — (feet btoc)  
 Depth to Water: 194.45 (feet btoc)  
 Total Depth of Well: 230 (feet)

Height of Water Column: 35.55 (feet)  
 Casing Volume: — (gal)  
 Purge Volume: 3.1 L - Hydrastave pump + 10 gallons - Bladder (gal)  
 Purge Method: Hydrastave

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
<i>Hydrastave 0832</i> initial 4' Sleere	6.61	19.5	1972	166.3	2.18	very turbid
<i>Pump 0903</i> pump 1	6.89	20.7	2021	134.5	5.45	not turbid
<i>0915</i> pump 2	6.93	20.4	2022	-12.6	0.69	" "
<i>0921</i> pump 2	6.97	20.3	2022	-42.6	0.78	med. turbid
<i>0933</i> pump 2	6.98	20.4	2020	-48.6	1.28	SL "
<i>0945</i> pump 3	6.99	20.4	2031	-48.2	1.02	SL turbid
<i>0948</i> 10 gallons						

Sample Description: Hydrastave - very turbid w/ more turbidity @ bottom of sleere, 3 VOA; Bladder pump Fill time = 22 Discharge Time = 15 seconds. pump set @ 225' BTOC

Physical Observations: tether 225' BTOC for new Hydrastave (2.9" x 36") on new tether (weight @ 0914 on 3-30-21 @ 0915

Analytical Method(s): 8260B x 2 1 set for Hydrastave  
also did Field Blank (FB2) 1 set for Bladder pump  
w/ OZ water



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: <sup>Deploy Hydroscave 3/30/21</sup> 4-1-21  
 Sample Time: 10:23 - H51  
 4-2-21 10:30 - GWMW01-I-H52  
 Screen 330.64 - 340.64

Well #: GWMW01-I  
 Well Diameter: 4" 5" (inches)  
 Depth to NAPL: \_\_\_\_\_ (feet btoc)  
 Depth to Water: 201.81 (feet btoc)  
 Total Depth of Well: 346 (feet)

Height of Water Column: 144.19 (feet)  
 Casing Volume: \_\_\_\_\_ (gal)  
 Purge Volume: 3.1L / 3.1L (gal)  
 Purge Method: Hydroscave - twice

**Note:**

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial H51	6.95	19.3	1617	67.6	1.71	Non-turbid
1						
H52	7.17	20.3	1699	92.0	1.17	Non-turbid
3						

Sample Description: Collect 1 sleeve on 4-1-21, then deploy new sleeve to collect 2nd sample on 4-2-21; 2nd pm  
Collect 2nd sleeve on 4-2-21 - GWMW01-I-H52 - 300A

Physical Observations: 0855 on 3/30/21 - deploy 29"x36" Hydroscave to 340' deep w/ new tether, weight (2002) & hardware  
2nd Hydroscave (29"x36") deploy 4-1-21 @ 10:30 using dedicated tether to 340' deep.

Analytical Method(s): 8260B

CLL-18 pump on @ 0800 on 4-1-21 - ran continuously until 0830 4-2-21 on manual mode. Then switched to auto mode to carriage pump until 1600 4-2-21



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: <sup>Dup by Hydrosave @ 3/30/21</sup> 4-1-21  
 Sample Time: 10:47

Well #: GW MW 01 - A

*Eastern most of 61 tris*

Screen 550 - 560

Well Diameter: 3" (inches)

Height of Water Column: 363.96 (feet)

Depth to NAPL: — (feet btoc)

Casing Volume: — (gal)

Depth to Water: 202.06 (feet btoc)

Purge Volume: 3.4 L (gal)

Total Depth of Well: 550 - 566.00 (feet)

Purge Method: Hydrosave 1.9" x 38"

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

4-1-21  
10:47

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.66	19.4	1941	177.1	1.69	Non-turbid
1						
2						
3						

Sample Description: 3 volt vials, Hydrosave had some turbidity @ bottom, No turbidity in upper half where sample collected

Physical Observations: Depth 1.9" x 38" Hydrosave w/ new tether + weight to 560' BToc on 3/30/21 @ 0837

Analytical Method(s): 8260B



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: 3-29-21 - deploy Hydrosense  
 3-31-21  
 Sample Time: 1723

Well #: GWMW-065  
 Well Diameter: 6" (inches)      Screen 110-120  
 Height of Water Column: 33, 87' (feet)  
 Depth to NAPL:                      (feet btoc)      Casing Volume:                      (gal)  
 Depth to Water: 9613 (feet btoc)      Purge Volume: 3.1 L (gal)  
 Total Depth of Well: 130 (feet)      Purge Method: Hydrosense

Note: Screen from 120' BToc  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
1723 Initial	7.49	20.6	1936	-157.2	1.72	Turbid
1						
2						
3						

Sample Description: 3 VOA r.t.s - Dark gray w/ anoxic odor

Physical Observations: 120' BToc New tether w/ new 2.9" x 36" Hydrosense & new weight / hardware p 1420 on 3-29-21 @ 1420

Analytical Method(s): 8260B





GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs Walnut
Project #: DB21.1068.00 Ph 1 Task 2
Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres
Sample Date: 3-29-21 - Deploy date
Sample Time: 3-31-21 11:00

Well #: GWMW08-5
Well Diameter: 4" (inches)
Depth to NAPL: - (feet btoc)
Depth to Water: 174.70 (feet btoc)
Total Depth of Well: 209.5 (feet)
Height of Water Column: 34.8 (feet)
Casing Volume: - (gal)
Purge Volume: 3.1 L (gal)
Purge Method: Hydrasleeve

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

1100

Table with 7 columns: Casing Volume, pH, Temp (°C), Conductivity (µS/cm), ORP (mv), D.O. (mg/L), Turbidity (NTU). Rows include Initial and 1, 2, 3.

Sample Description: lower half of sleeve - turbid, upper half slightly turbid - No odor 3 VOA vials

Physical Observations: Deploy 29" x 36" Hydrasleeve w/ 2002 weight - new tether & hardware @ 10:20 on 3-29-21 to tether depth 205'

Analytical Method(s): 8260B



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: <sup>3-29-21</sup> 3-31-21 <sup>Deploy Hydrosleeve</sup>  
 Sample Time: 11:30 - 2 samples (Dup)

Well #: GWMW08-D  
 Well Diameter: 3" (inches)  
 Depth to NAPL: — (feet btoc)  
 Depth to Water: 181.31 (feet btoc)  
 Total Depth of Well: 505.6' (feet)

screen interval - 490-500'  
 Height of Water Column: 324.29 (feet)  
 Casing Volume: — (gal)  
 Purge Volume: 1.0 L (gal)  
 Purge Method: Hydrosleeve

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
<i>11:30</i> Initial	7.17	19.2	2141	192.8	1.33	Turbid ↓
1						
2						
3						

Sample Description: 3 VOA vials + 3 VOA vials for GWMW08-D Dup  
upper half of Hydrosleeve non turbid, lower half turbid

Place letter back in well, clip stuck c ~200' deep - removed

Physical Observations: Deploy 1.9" x 38" Hydrosleeve w/ 20 oz weight +  
new letter/hardware to depth of 500' @ 10:30 on 3-29-21

Analytical Method(s): 8260B



Hydrastroke  
and  
Bladder Pump

**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
Project #: DB21.1068.00 Ph 1 Task 2  
Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
Sample Date: 3-31-21 - deploy 5:00  
4-1-21  
Sample Time: 4:50-1206 BP-1458

Well #: GWMW09-5 - Easternmost of trio  
Well Diameter: 4 (inches) Height of Water Column: 25.74 (feet) <sup>screen - 207.55 - 207.55</sup>  
Depth to NAPL: — (feet btoc) Casing Volume: — (gal)  
Depth to Water: 209.26 (feet btoc) Purge Volume: BP - 2.0 gal (gal)  
Total Depth of Well: 227.4 <sup>235</sup> (feet) Purge Method: Hydrastroke, then Bladder pump

Note:  
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

4-1-21  
GWMW09-5  
-HS  
1206  
BP 1236  
Mechanical delays  
1354  
1452  
2.0  
gallons  
1458

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial HS	7.37	20.3	1978	123.3	2.64	Turbid
1 BP	7.20	22.1	1975	273.1	3.20	Turbid
2	7.38	21.3	1965	45.7	1.03	Slightly turbid
	7.46	21.5	1998	46.1	1.58	" "
3	7.36	21.4	2028	49.6	1.36	Slightly turbid

- collecting bladder pump sample hole instead of MW SF10 - had obstruction

Sample Description: GWMW09-5-HS-3V0A, 260B, Hydrastroke

- Bladder pump delay w/ ball valves sticking

GWMW09-5-BP-3V0A, 2-gallon purge

Physical Observations: Tether 220' w/ New 29" x 36" Hydrastroke

New 20oz weight deployed 3-31-21 @ 0835. Bladder pump @

220' BToc

Analytical Method(s): 260B x 2 1 Hydrastroke Sample

1 Bladder Pump

1500 - ER2 - Equipment Blank of Bladder Pump after decar



GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs Walnut

Sampler: Y. Morgan & I. Torres

Project #: DB21.1068.00 Ph 1 Task 2

Sample Date: 4-1-21  
Sample Time: 1618  
GWMW09-D1  
GWMW09-D1-DUP

Project Manager: K. Jayne

↓ Duplicate

westernmost of trio

Well #: GWMW-09D1

Screen = 410.27 - 420.27

Well Diameter: 5 (inches) Height of Water Column: (feet)

Depth to NAPL: (feet btoc) Casing Volume: (gal)

Depth to Water: 211.45 (feet btoc) Purge Volume: 3.1 L (gal)

Total Depth of Well: 425.63 (feet) Purge Method: Hydrovac

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

1618

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.26	20.9	2034	117.5	1.20	Turbid
1						
2						
3						

Sample Description: ~~From Griggs~~ GWMW09-D1 & GWMW09-D1-DUP - each w/ 310A vials  
Turbid samples

Physical Observations: 420' taller w/ new Hydrovac (36" x 9"), new weight & hardware @ 0850 3-31-21

Analytical Method(s): 8260B





### GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs Walnut

Sampler: Y. Morgan & I. Torres

Project #: DB21.1068.00 Ph 1 Task 2

Sample Date: 3-31-21 - deploy HydroStave

4-1-21

Project Manager: K. Jayne

Sample Time: 1548

Well #: Gwml 09D2 - center of trio

Screens: 550-560

Well Diameter: 3" (inches)

Height of Water Column: 353.5 (feet)

Depth to NAPL: — (feet btoc)

Casing Volume: — (gal)

Depth to Water: 21.50 (feet btoc)

Purge Volume: — (gal)

Total Depth of Well: 565 (feet)

Purge Method: HydroStave

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

#### Groundwater Parameters:

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
1548 Initial	7.84	21.9	1551	107.1	1.01	Slightly turbid
1						
2						
3						

Sample Description: 3 VOA vials - slightly turbid  
Did NOT leave dedicated tether - knots in rope.

Physical Observations: Tether 560' BToc - new tether, HydroStave  
(1.9" x 38") & weight - deployed 3-31-21 @ 0905

Analytical Method(s): 8260B





**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: <sup>3-31-21 - deploy Hydroscaver</sup> 4-2-21  
 Sample Time: 11:30 For 3 samples:  
 GWMW10-S, MSD, MSD

Well #: GWMW10-S <sup>Easternmost well of trio</sup> MSD & MSD

Screen 236.33 - 251.73

Well Diameter: 4" (inches)

Height of Water Column: \_\_\_\_\_ (feet)

Depth to NAPL: \_\_\_\_\_ (feet btoc)

Casing Volume: \_\_\_\_\_ (gal)

Depth to Water: 220.26 (feet btoc)

Purge Volume: 3.1 L (gal)

Total Depth of Well: 256.68 (feet)

Purge Method: Hydroscaver

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.00	21.1	2022	81.2	1.79	slightly turbid
1						
2						
3					"MSD"	

Sample Description: 3 VOA vials + 3 VOA + 3 VOA - all from  
Collect sample + matrix spike + matrix spike duplicate <sup>"MSD" "MSD" "MSD"</sup> Hydroscaver

Physical Observations: Tether e 250' BTOC, New tether, Hydroscaver  
2.9" x 36", weight, deployed 3-31-21 @ 10:02

Analytical Method(s): 8260B - all 3 samples



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & J. Torres  
 Sample Date: <sup>3-31-21</sup> 4-2-21 *deploy Hydrokone*  
 Sample Time: ~~#25~~ - GWMW10-I  
 GWMW10-I-HS-1305 GWMW10-I-BP-140s

Well #: GWMW10-I Screen 371.09 - 381.09  
 Well Diameter: 5" (inches) Height of Water Column: 159.77 (feet)  
 Depth to NAPL: — (feet btoc) Casing Volume: — (gal)  
 Depth to Water: 226.70 (feet btoc) Purge Volume: 3.1 L HS, 3 gallons w/ BP (gal)  
 Total Depth of Well: 386.47 (feet) Purge Method: Hydrokone 2.9" x 36"

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

4-2-21

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.15	21.1	1800	108.3	1.12	Non-turbid
Hydrokone	7.06	25.6	1791	243.9	1.29	turbid
1	6.93	23.9	1806	178.3	1.79	slightly turbid
2	6.79	23.3	1887	113.4	1.64	" "
3	6.74	23.2	1864	35.8	1.26	" "
4	6.72	23.3	1862	24.2	1.18	" "
5	6.72	23.1	1862	19.4	0.97	" "
6	6.70	23.3	1855	16.0	0.82	very slightly turbid

1305  
 Bladder Pump 1339  
 1346  
 1353  
 1401  
 1412  
 1418  
 1421  
 3 gallons

Sample Description: GWMW10-I-HS 3VOA vials, then immediately deploy bladder pump to 380' BTOC. Controller set @ 200 psi ((380' ÷ 2) + 10) 60 sec. Fill, 30 sec. Discharge. Increase to 70 sec fill & 35 sec discharge

Physical Observations: Tether = 380' BTOC, 2.9" x 36" Hydrokone w/ 20 oz weight - all new, deployed 3-31-21 @ 1013  
Bladder Pump set @ 380' BTOC, BP - 3 gallon purge

Analytical Method(s): 8206B  
Hydrokone was slightly turbid @ top and very turbid at bottom



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Depth: HS-3-31-21  
 Sample Date: 4-2-21  
 Sample Time: GWMW10-D } 11:55  
 GWMW10-D-DUP } 11:55

Well #: GWMW10-D

Screen 560-570

Well Diameter: 3" (inches)

Height of Water Column: 346.75 (feet)

Depth to NAPL: - (feet btoc)

Casing Volume: - (gal)

Depth to Water: 227.78 (feet btoc)

Purge Volume: 3.14 + 5.00 (gal)

Total Depth of Well: 574.53 (feet)

Purge Method: Hydrastave 1.9" x 36"  
1.9 x 36"

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.33	23.3	1544	929	0.91	Slightly turbid
1						
2						
3						

11:55

Sample Description: 3 VOA vials + 3 VOA vials for duplicate  
GWMW10-D + GWMW10-D-DUP - slightly turbid

Physical Observations: 570' BIOC - better new w/ new Hydrastave  
(1.9" x 36") w/ 1 lb weight + new hardware deployed 3-31-21  
1024 used shorter screen because no more 36" screens in stock

Analytical Method(s): 8260 B



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: 3-29-21 <sup>3-29-21 deploy Hydr sleeve</sup>  
 Sample Time: 1802

Well #: GWMW11-5  
 Well Diameter: 3" (inches)  
 Depth to NAPL: — (feet btoc)  
 Depth to Water: 178.49 (feet btoc)  
 Total Depth of Well: 205 (feet)

Screen 185, 205, 265  
 Height of Water Column: 265 (feet)  
 Casing Volume: — (gal)  
 Purge Volume: 3 FL 1 L (gal)  
 Purge Method: Hydr sleeve

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

1802

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.23	20.5	1620	-81.6	0.25	Slight
1						
2						
3						

Sample Description: 3 vials - Light gray turbidity @ bottom

Physical Observations: 1.9m x 38" Hydr sleeve - New w/ new fetter & dedicated weight/hardware @ 200' @ 15:30 3-29-21

Analytical Method(s): 2260B



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne  
 Sampler: Y. Morgan & I. Torres  
 Sample Date: 3-29-21 - deploy Hydrasteeve  
 Sample Time: 1835  
 Well #: GWMW11-I ↓ GWMW11-I-Dup  
 Well Diameter: 3" (inches) 299.1' - 314.1' - screen  
 Depth to NAPL: — (feet btoc) Height of Water Column: 128.48 (feet)  
 Depth to Water: 185.62 (feet btoc) Casing Volume: — (gal)  
 Total Depth of Well: 314.10 (feet) Purge Volume: 1L (gal)  
Purge Method: Hydrasteeve

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

1835

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.35	12.4	1144	-153.1	1.54	Slight
1						
2						
3						

Sample Description: 3 volt vias, black flaking particles, slight anoxic odor

Also collected Duplicate GWMW11-I-Dup @ 1835 - 3 volt  
 Physical Observations: @ 310' BTOC set new Hydrasteeve (1.9" x 38") w/ dedicated filter, new weight @ 1602 3-29-21

Analytical Method(s): 8260B





**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: <sup>3-29-21 - deploy Hydroserve</sup> 3-31-21  
 Sample Time: 1815

Well #: GWMW 11-D  
 Well Diameter: 3" (inches)  
 Depth to NAPL: — (feet btoc)  
 Depth to Water: 186.12 (feet btoc)  
 Total Depth of Well: 540 (feet)

Screen interval - 525-540  
 Height of Water Column: 353.82 (feet)  
 Casing Volume: — (gal)  
 Purge Volume: 1 L (gal)  
 Purge Method: Hydroserve

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.64	19.9	539.9	-181.1	0.74	Slight
1						
2						
3						

1815

Sample Description: 3 VOA vials, dark gray particles  
e bottom, moderate metal odor, anoxic

Physical Observations: 1550 on 3-29-21 deploy Hydroserve (new 1.9" x 30")  
w/ 540' tether (dedicated) + new weight

Analytical Method(s): 8260B



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: 4-1-21  
 Sample Time: 18:00

Well #: GWMW15-5

Screen 289.2 - 304.2

Well Diameter: 3" (inches)

Height of Water Column: 63.90 (feet)

Depth to NAPL: — (feet btoc)

Casing Volume: — (gal)

Depth to Water: 240.28 (feet btoc)

Purge Volume: 1 L (gal)

Total Depth of Well: 304.2 (feet)

Purge Method: Hydrastore

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

4-1-21  
 18:00

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.36	26.4	1030	-25.2	2.31	Non-turbid
1						
2						
3						

Sample Description: 3 VOA vials - no odor/color/turbidity

Physical Observations: feeder length 298' BTOC - New Hydrastore & dedicated weight w/ dedicated feeder deployed 3-30-21 c/1639 1.9" x 38" skew

Analytical Method(s): 8260 B



### GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs Walnut  
Project #: DB21.1068.00 Ph 1 Task 2  
Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
Sample Date: 4-1-21  
Sample Time: 1823

Well #: GW15-I Screen Interval 460' - 475'  
Well Diameter: 3" (inches) Height of Water Column: 234.72 (feet)  
Depth to NAPL:        (feet btoc) Casing Volume:        (gal)  
Depth to Water: 240.72 (feet btoc) Purge Volume: 1L (gal)  
Total Depth of Well: 475' (feet) Purge Method: Hydrastave 1.9" x 38"

Note:  
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

#### Groundwater Parameters:

4-1-21  
1823

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.31	20.3	1435	-126.8	1.35	Non turbid
1						
2						
3						

Sample Description: 3 VOLS - Non turbid, no odor

Physical Observations: 470' tether (dedicated) w/ dedicated weight & hardware & new Hydrastave (1.9" x 38") deployed 3:30 PM 4/1/21

Analytical Method(s): 860B  
18:40 Also collect Field Blank (FB3) w/ DI water, 3 VOLS, 82608



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: ~~3-30-21~~ 4-1-21 *deploy Hydrastave*  
 Sample Time: 18:11

Well #: GW15-~~15~~ D  
 Well Diameter: 3" (inches)  
 Depth to NAPL:          (feet btoc)  
 Depth to Water: 240.71 (feet btoc)  
 Total Depth of Well: 595.6 (feet)

~~468-475~~ *pm*           
 Screen interval: 580.6 - 595.6  
 Height of Water Column: 354.89 (feet)  
 Casing Volume:          (gal)  
 Purge Volume: TL (gal)  
 Purge Method: Hydrastave 1.9" x 38"

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

4-1-21  
18:11

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.14	20.4	770	-248.2	0.56	Slightly
1						
2						
3						

Sample Description: 3 vial vials - ~~dark~~ slightly turbid, strong malodor (anoxic?)  
turned yellow when preserved w/ HgCl. Tether is stained in middle  
interval - dark gray but not stained at top or bottom

Physical Observations: Tether 590 (BTOC) - New 1.9" x 38"  
Hydrastave, new 2002 weight, dedicated tether  
deployed 3-30-21 @ 1655

Analytical Method(s): g260B



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: <sup>3-30-21</sup> 4-7-21 - deploy Hydrosense  
 Sample Time: 1546

Well #: ~~GMW~~ Gwmw16-5

Well Diameter: 4" (inches)

Height of Water Column: 15.62 (feet)

Depth to NAPL: — (feet btoc)

Casing Volume: — (gal)

Depth to Water: 189.38 (feet btoc)

Purge Volume: 3.1L (gal)

Total Depth of Well: 205 (feet)

Purge Method: Hydrosense 2.9" x 36"

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

4-7-21  
1546

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	6.95	22.1	2088	111.8	1.53	Very turbid
1						
2						
3						

Sample Description: 3 VOA vials - very turbid, reddish brown

Physical Observations: Tetter (deducted) 200' BTOL w/ 2.9" x 36" Hydrosense & new weight. Deploy @ 1530 on 3-30-21.

Analytical Method(s): 8260B

1540 Collect ~~FB-4~~ FB4 - Field Blank 4 - 3 VOA vials, 8260B





Hydrastroke & Bladder Pump

GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: 3-30-21 - deploy Hydrastroke  
 4-2-21  
 Sample Time: 15:59 - GWMW16-D-HS  
 17:57 - GWMW16-D-RP

Well #: GWMW16-D  
 Well Diameter: 4 (inches)  
 Depth to NAPL: — (feet btoc)  
 Depth to Water: 195.21 (feet btoc)  
 Total Depth of Well: 370 (feet)

Screen 350-370  
 Height of Water Column: 174.79 (feet)  
 Casing Volume: — (gal)  
 Purge Volume: HS = 3.12, RP = 2.0 (gal)  
 Purge Method: Hydrastroke 2.9" x 36"

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

4-2-21  
 Hydrastroke  
 15:59  
 1701  
 1709  
 1715  
 1724  
 1737  
 1743

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial Hydrastroke	7.08	21.7	1477	133.9	1.34	Non turbid
Bladder pump	7.13	23.3	1472	219.0	1.20	Non-turbid
	7.04	24.3	1456	194.4	1.32	" "
	6.98	23.7	1467	182.3	0.79	" "
	6.95	23.0	1462	165.1	0.52	" "
	6.92	21.9	1453	149.4	0.51	" "
	7.43	21.9	1462	100.2	0.43	" "

2 gal  
 0.5 gal

1751  
 1755  
 Sample Description: 3 PDA visits - Hydrastroke, Non turbid

Bladder pump 195 psi, Fill time 70 seconds, discharge time 30 seconds, set @ 365' BTOC

Physical Observations: e 1450 on 3-22-21 - deploy 2.9" x 36" Hydrastroke w/ debrided tether (365' BTOC) + new 20 oz weight.

Note: e 1740 bladder pump started pumping air w/ water - destabilized readings

Analytical Method(s): 8260B maybe air leak (N) in bladder?

Collect BP sample e 17:57 - w/ N cylinder nearly empty

Note: Bladder pump tubings & rope were severely wrapped around dedicated cable (transducer?) in well. Dispose of Hydrastroke tether - tangled



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: 3-29-21 - deploy sleeve  
 0955  
 Sample Time: 4-2-21

Well #: ~~MW-SFOA~~ <sup>MW-SF2</sup>

Well Diameter: 2" (inches)      Height of Water Column: 8.5' (feet)  
 Depth to NAPL: — (feet btoc)      Casing Volume: — (gal)  
 Depth to Water: 191.51 (feet btoc)      Purge Volume: 500 mL (gal)  
 Total Depth of Well: 200' (feet)      Purge Method: Hydrasave

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	20.7	20.2	1376	96.1	2.23	turbid
1						
2						
3						

Sample Description: 3 VOA vials - turbid

Physical Observations: 1.75" x 18" Hydrasave deployed @ 1445 on 3-29-21 w/ dedicated tether, weight, hardware @ bottom of well

Analytical Method(s): 8260.B



### GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs Walnut  
Project #: DB21.1068.00 Ph 1 Task 2  
Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
Sample Date: 3-29-21 <sup>3-29-21</sup> deploy Hydrosleeve  
Sample Time: 12:12

Well #: ~~MW SF5~~ MW SF5

Well Diameter: 2" (inches)      Height of Water Column: 4.3' (feet)  
Depth to NAPL: — (feet btoc)      Casing Volume: — (gal)  
Depth to Water: 149.05 (feet btoc)      Purge Volume: 500 mL (gal)  
Total Depth of Well: 153.35 (feet)      Purge Method: Hydrosleeve

Note:  
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

#### Groundwater Parameters:

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.15	21.3	1833	170.5	2.57	Slight
1						
2						
3						

12:12

12:00

Sample Description: 3 VOA vials - Full Hydrosleeve

Physical Observations: Deploy 1.75" x 18" (500 mL) Hydrosleeve on dedicated tether & weight @ 11:09 3-29-21 to bottom of well

Analytical Method(s): 8260B



### GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: 4-1-21  
 Sample Time: 1725

Well #: MWSF9

Well Diameter: 2" (inches)      Height of Water Column: 12.9 (feet)  
 Depth to NAPL: — (feet btoc)      Casing Volume: — (gal)  
 Depth to Water: 190.40 (feet btoc)      Purge Volume: 1 Liter (gal)  
 Total Depth of Well: 203.03 (feet)      Purge Method: Hydroprobe

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
1725 Initial	7.35	20.8	945	126.5	1.47	very slightly turbid
1						
2						
3						

Sample Description: 3 vial vials - slightly turbid  
Gate locked yesterday & today. Finally accessed view hole in fence.

Physical Observations: 1.9" x 38" Hydroprobe set @ 200' (top of screen)  
weight on bottom, used dedicated teflon & hardware - 3-29-21 @ 1350

Analytical Method(s): 8260B



GROUNDWATER MONITORING DATA SHEET

Sampled w/ Hydrosleeve & bladder pump  
 Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne  
 MWSF10  
 Well #: ~~MW-SF-10~~  
 Well Diameter: 2" (inches)  
 Depth to NAPL: - (feet btoc)  
 Depth to Water: 194.97 (feet btoc)  
 Total Depth of Well: 204.44 (feet)  
 Sampler: Y. Morgan & I. Torres  
 Sample Date: 3-29-21 - Hydrosleeve  
 3-30-21  
 Sample Time: MWSF10 - HS 15:30  
 MWSF10 - BP - No Sample  
 Height of Water Column: 9.47 (feet)  
 Casing Volume: - (gal)  
 Purge Volume: HS 500 ML EYR (gal)  
 Purge Method: Hydrosleeve

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Hydrosleeve Initial	7.27	21.6	1586	174.0	4.05	
1						
2						
3						

Sample Description: 3 VOA vials - HS sample - Turbid  
 Tried to sample w/ bladder pump - but obstruction @ 700' BTOC  
 prevented 1.66" pump from going in 2" PVC - probably a bend. Pump is 36" long  
 Physical Observations: 1.75" x 18" Hydrosleeve deployed @ 1714 on 3-29-21  
 Set @ 20' BTOC w/ digital tether & weight

Analytical Method(s): 8260B





### GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs Walnut  
Project #: DB21.1068.00 Ph 1 Task 2  
Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
Sample Date: <sup>Depth Scribe 3-29-21</sup> 3-31-21  
Sample Time: 1345 For 3 Samples

Well #: NGMW01 <sup>NGMW01 - MS  
NGMW01 - MSD</sup>

Well Diameter: 4" (inches) Height of Water Column: 42.27 (feet)

Depth to NAPL: — (feet btoc) Casing Volume: — (gal)

Depth to Water: 127.73 (feet btoc) Purge Volume: 3.1 L (gal)

Total Depth of Well: 170 (feet) Purge Method: Hydrosave 2.9" x 36"

Note:  
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

#### Groundwater Parameters:

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
1345 Initial	7.38	19.7	2328	2137	3.49	Slight
1						
2						
3						

Sample Description: 3 V&A vials + 3 VOA + 3 VOA  
(MS) (MSD)

Physical Observations: 149' new letter w/ new 29" x 36" Hydrosave, new weight & hardware - depth e1315 3/29/21

Analytical Method(s): 826 B  
Also collected MS (3 VOA) & MSD (3 VOA)



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: <sup>Hydrusleeve</sup> 3-29-21  
 Sample Time: 1325

Well #: NGMWD2  
 Well Diameter: 4 (inches)      Height of Water Column: 36.98 (feet)  
 Depth to NAPL:        (feet btoc)      Casing Volume:        (gal)  
 Depth to Water: 133.02 (feet btoc)      Purge Volume: 3.1 L (gal)  
 Total Depth of Well: 170 (feet)      Purge Method: Hydrusleeve

Note:  
 One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

1325

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.35	21.2	2225	198 191.8	2.23	Slight
1						
2						
3						

Sample Description: 3 VOA vials - slightly turbid

Physical Observations: 12:30 3-29-21 deploy 2.9" x 36" Hydrusleeve  
w/ new tether, sleeve weight c 150' BTOC. PDB removed & temp  
stored in bag. will re-deploy after sample

Analytical Method(s): 8260B



**GROUNDWATER MONITORING DATA SHEET**

Project Name: Griggs Walnut  
 Project #: DB21.1068.00 Ph 1 Task 2  
 Project Manager: K. Jayne

Sampler: Y. Morgan & I. Torres  
 Sample Date: <sup>Deploy HydroSaver</sup> 3-29-21  
 3-31-21  
 Sample Time: 1250

Well #: NG MW-03

Screen 115 - 165

Well Diameter: 4" (inches)

Height of Water Column: 30.17 (feet)

Depth to NAPL: — (feet btoc)

Casing Volume: — (gal)

Depth to Water: 137.83 (feet btoc)

Purge Volume: 3.1 L (gal)

Total Depth of Well: 170 (feet)

Purge Method: HydroSaver

Note:

One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

**Groundwater Parameters:**

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
1250 Initial	7.27	21.2	2187	140.5	4.40	slight
1						
2						
3						

Sample Description: 3 vol, sl. turbid, No odor  
Replaced PDBs & dedicated HydroSaver tether

Physical Observations: using dedicated tether (152') w/ new 29" x 30" HydroSaver  
& new weight/clip @ 11:48 @ 3/29/21. PDBs still in well  
on separate tether

Analytical Method(s): 8260B

# Attachment 2

## Field Notes

---

Griggs-Walnut, York Morgan DBSA, 1-23-20  
Denver, Clear - 58° calm

- Chain of custody, prep cooler, prep 2 boxes of bladder pump gear for return to Gesteck
- 1000 - Ship samples & pump @ UPS store
- 1045 - Deliver 10 gallons of purge/deson water from Griggs-Walnut to Lorenzo @ WTP.
- 1100 - Denver to Silver City
- 1305 - Arrive Silver City

~~YJR Note~~

Griggs-Walnut, DBS + A 3-29-21

York Morgan <sup>(PM)</sup>, Israel Torres MT.  
High 77°, Low 54° Clear

Startup, Water levels, deploy Hydrastores

- 0600 - Y. Morgan leaves Silver City
- 0800 - Arrive @ Hampton Inn - meet Israel Torres - To GWMW-15 for tailgate safety - Did not gauge well or deploy Hydrastores because it is near bottom of 1st sampling order
- 0900 To GWMW-08 - Review HAP
- GWMW-085 - 4" diameter - screen 190'-210'
- Deploy 2.9" x 36" Hydrastore (3.1 L) w/ 20 oz weight - tether length 205' @ 10:20.
- 10:30 deploy 1.9" x 38" (1.3 L) w/ 20 oz weight - tether length 500' @ GWMW-08 D
- MWSP5 @ 11:09 deploy 1.75" x 18" (500 mg) Hydrastore to bottom of well (153.35')
- 11:30 - PDBS still in NGRW03 - Call K. Jayne. Leave them in well 1 more year. Temp removed & placed in plastic bag until after Hydrastore is sampled - Keep PDB line in truck temporarily
- 1148 - Deploy 2.9" x 36" Hydrastore @ NGRW03 w/ dedicated tether & new weight @ 152' BTOC.



(Cont.)  
Griggs Walnut York Mogan, Israel Torres 3-29-21  
70%, mostly clear, Light wind

12:30 - Deploy e NGmw02 - new  
2.9" x 36" Hydrasleeve w/ new  
fether, weight & hardware to  
depth of 152'. removed PDBs  
& temp stored in plastic bag  
because not enough space for

2.9" sleeve if bags are in well.  
1250. Call Pascal (575-621-4259)  
e CLC. will meet chuck e CLC 26  
e 10:00 tomorrow.

1315 - Deploy New Hydrasleeve (2.9" x 36")  
w/ new weight & fether e 149' BTOC.

Temporarily remove PDBs & store in  
garbage bag to avoid sleeve tangles.

- 1333 - MWSF9 covered in  
4" sediment & large concrete debris.

Found it via Cores left last year

- 1350. Deploy e mwsf9 - new  
Hydrasleeve (1.9" x 38") w/ dedicated  
fether & hardware e 200' BTOC  
w/ weight on bottom.

- 1420. Deploy new 2.9" x 36" Hydrasleeve  
e Gwmw-065 e 120' BTOC w/  
new sleeve, fether, weight, hardware

(Cont.)  
Griggs-Walnut P. Mogan, I. Torres 3-29-21  
75% mostly clear, Light wind

- 1420 - I. Torres called Heather  
Barnes re: Gwmw-065 - well has  
Flange & steel casing e top

- 1445: Deploy 1.9" x 1.75" Hydrasleeve  
e MWSFO2 w/ dedicated 200' fether  
and weight. Short water column.  
Set weight on bottom of well

- Israel re-threaded female fittings  
on vault e MWSFO2

- Gauge 3 w/ only wells  
mw-3, 4 & 1

- Gwmw11-5 - dispose of dedicated  
fether - faded graduations

- 1530 deploy new hydrasleeve  
1.9" x 38" e Gwmw11 e 200'  
deep w/ new fether, dedicated weight

- 1550 e Gwmw11-D set new

1.9" x 38" Hydrasleeve e 540' on  
dedicated fether w/ new weight

- 1602 - Gwmw11-I - deploy new  
1.9" x 38" Hydrasleeve e 310' BTOC w/  
dedicated fether, new weight

- 1640 use needle-nose vice grips, sledge  
hammer & crowbar to open MWS lid - dry  
vice grips pull up & turn clockwise to open



Griggs - Walnut, Y. Morgan + I Torres (Cont.)  
3-29-21  
75° Partly cloudy, Light wind

1714 - Deploy Hydrosleeve (1.75" x 18")  
e 002' BTOC e mw-SF 10  
with bedrock tether + weight.

1735 - Leave site to store  
for ice, Ziploc, trash bags,

1800 - Hotel check in  
4 XL boxes e desk - pump,  
Controller, tubing - break down,  
Inventory, load in truck

1830-1900 - QA Field Forms, review  
SAP

~~Griggs  
3-29-21~~

Israel Torres IT  
Griggs. Walnut, <sup>IM</sup> Note Morgan 3-30-21  
Low 50°, High 79°, Mostly clear

0730 - meet I. Torres e hotel lot +  
plan for day

0800 - check in w/ Doña Ana  
County Fleet Facility  
- Tailgate Safety

0837 - Deploy 1.9" x 38" Hydrosleeve  
e Gwmw01 D to 560' w/  
new tether, weight + hardware

0855 - Deploy 2.9" x 36" Hydrosleeve  
e Gwmw01 I to 340' deep BTOC  
w/ new tether, weight, + hardware

Note: Gwmw01 D - Eastern most  
Gwmw01 I - ~30' west - in center  
Gwmw01 S - Western most ~30'  
west of I.

0915 - Deploy 2.9" x 36" sleeve e  
Gwmw01 S w/ new tether (225')  
and weight

0930 - To Prexair for Nitrogen  
Cylinder + regulator for bladder pump

1000 - meet Chuck (CLC) @ CLC. He  
w/ Mike Israel to 2 stores for  
regulator fittings.

- Prexair sold me the wrong regulator -  
piece it together to work eventually



Griggs-Walnut, I. Torres conts  
V. Morgan 3-30-21  
Very windy, clear, 77°

- CLC-26 - Frankshoot Pump,  
90 second intake, 30 second discharge  
(9M Fil)

@ 270 psi w/ Geotech bladder pump  
set @ 460' w/ 2 rods (air &  
water) of new tubing & 3/16"  
yellow Nylon rope to hold 1.66" x 36"  
pump.

1307 - Collect 3 VOA sample CLC-26

- Thorough decon of pump - inside & out

1405 - Equipment Blank 1 (EB1)

collected by pouring DI water on/through  
pump & collecting in 3 VOA vials

- 1445 - Check off site

- 1450 - collect ~~in~~ Deploy 2.9" x 36"

Hydrasleeve @ Gwmmw 16D w/  
dedicated tether & new weight - 365'  
BTOC

- 1530 - deploy new 2.9" x 36" Hydrasleeve  
@ Gwmmw 16S @ 205

BTOC w/ dedicated tether, new weight

- To prearr for more N - refill &

New heavy duty regulator

- To Gwmmw 15

Griggs-Walnut V. Morgan I. Torres 3-30-21

Very windy (40 mph gusts) Clear 77°

- 1639 - deploy new Hydrasleeve (1.9" x 38")

@ Gwmmw 15-S @ 298' BTOC w/  
dedicated tether & weight

- 1655 - deploy new Hydrasleeve (1.9" x 38")

@ Gwmmw 15-D @ 590' BTOC  
w/ dedicated tether & new weight

- 1712 - deploy new Hydrasleeve

@ Gwmmw 15-I @ 470'

w/ dedicated tether & weight & hardware  
hardware to depth of 470'.

- QA Lists & Notes

- Cooler Contents

1 - well rocs

1 - Equipment Blank

1 - Trip Blank

- 1740 - Leave site to Home Depot

-> To Home Depot for buckets

(clean new for decon) & pulley  
system for

- To dumpster to dispose of tubing

- 1900 - Finish for day - hotel

~~John B~~



Griggs - Walnut V. Marga I. Torres 3-31-21

Low 47°, High 69° Clear

- 0730 - meet Southwest Safety crew in parking lot of hotel. They have been up since 0430. Didn't know plan. Didn't have my phone #. Tailgate Safety
- 0740 setting up @ 09 on Hickey. Traffic Control
- Map shows only 1 location for Gwmw09 S, D1, & D2 & wells are not labeled
- use sand to jog bottom & determine which well is which after calling geologist & PM.
- 09S is easternmost well
- 09D1 is westernmost
- 09D2 is center
- 0935 Deploy Hydrasleeve @ Gwmw09 S w/ tetter = 220' BTAC - new tetter, sleeve (2.9" x 36") & weight
- 0950 Deploy Hydrasleeve @ Gwmw-09W to depth of 420' BTAC w/ new tetter, weight (20oz) & sleeve (2.9" x 36")
- 0905 Deploy Hydrasleeve @ Gwmw-09D2 to depth of 560' BTAC w/ new tetter, weight, sleeve (2.9" x 36")

Griggs - Walnut V. Marga, I. Torres 3-2-21

50°, Clear, Calm

- 0912 - Leave Gwmw09 cluster
- Traffic control moving cones
- 1002 - deploy new Hydrasleeve (2.9" x 36") @ Gwmw10-S w/ new tetter 250' BTAC & new weight - 20 oz.
- 1013 - deploy new Hydrasleeve (2.9" x 36") @ Gwmw10-I w/ new tetter @ 380' BTAC & new weight - 20 oz
- 1024 - deploy new Hydrasleeve (1.9" x 18") (did not have any more 38" sleeves) @ Gwmw10-D w/ 570' BTAC tetter & decan'd 12oz weight.
- 1100 - collect Gwmw08-S 3 VOA vials for 8260B from Hydrasleeve
- 1130 - collect Gwmw08-D & Gwmw08-D-DUP - both are 3 VOA vials for 8260B from 1 Hydrasleeve
- For all wells - leaving tetter & weight & hard wire in well for next fire - unless tetter tangles
- 12:12 - collect MWSF-5 - 3 VOA, 8260B from 18" x 1.75" sleeve that was full when recovered
- 1230 - collect FBI - DI water in 3 VOA for 8260B



Griggs Walnut I. Torres V. Raza <sup>Cont.</sup> 3-31-21

70°, clear, calm

1252 - collect NGRW03 - 3 vials

8260B From Hydrosleeve

- replace PDBs

- ~~return to MWSF5 to replace PDBs~~ PM

1325 - collect NGRW02 - 3 vials

8260B From Hydrosleeve

- replace PDBs

1345 - collect NGRW01

MS (matrix spike) +

MSD (Matrix Spike Duplicate)

each is 3 vial vials = 9 total

8260B + MS/MSD, from 29" x 36" Hydrosleeve

1410 - Gate locked @ MWSF9

- to MWSF10 to set up

pump + reel

1500-1523 - A. Ewing onsite for manager audit & safety review

15:30 - collect MWSF10-145 -

Hydrosleeve, 3 vials, 8260B

- immediately set up pump in same well @ same depth, bladder

- bladder pump stuck @ 2100' BTR

in MWSF10 - pump is 1.66" +

PVC is 2" - probably a bend preventing

Griggs Walnut V. Raza, I. Torres <sup>Cont.</sup> 3-31-21

75°, clear, lt wind

36" pump from going down well.

Try 10 times - no progress

- 1630 K. Jayne call - sample

GWRW09 - S w/ bladder pump instead - tomorrow.

- K.J. also asks us to sample GWRW01D now, deploy another stove + resample Friday.

- 1650 County building/gate locked no access to GWRW01D

- 1723 - collect GWRW-06S, 3 vials.

8260B w/ Hydrosleeve

- 1807 collect GWRW11-S, 3 vial vials,

8260B Hydrosleeve

- 1815 collect GWRW11-D, 3 vial vials

8260B, Hydrosleeves

- 1835 collect GWRW11-I DUP

+ GWRW11-I, both 3 vial vials

8260B, From Hydrosleeve

- 1900 Leave site

- 1930 - Finish disposing of

tubing + etc @ dumpster.

plus accounting

V. Raza



Griggs - Walnut V. Marge, I. Torres 4-1-21  
Low 49°, High 65°

Bladder pump wells remaining

Approx. Tubing
245

GWmw-015  
At 5 FT 0 Blockage

GWmw-16D 385

GWmw-10I 400

GWmw-09S (instead of  
mwsf10) 245 ✓

0700 - tubing inventory - to  
store for ice

0730 - meet I. Torres & A. Ewing -  
Tailgate safety, prep, tell traffic  
crew to setup @ GWmw09 and wait.  
need to get samples @ GWmw-01  
this morning

0930 - collect FB2 - 3 VOA

DI water 8260B

0832 - collect GWmw 01-S - HS

Hydrasave, 3 VOA 8260B

- setup bladder pump @ 01-S -  
very turbid at first

0948 - collect GWmw 01-S BP

after readings on YSI Fairly stable.

N cylinder running low so had to

sample - 3 VOA 8260B

via 36" bladder pump

Griggs - Walnut V. Marge, I. Torres 4-1-21  
60°, Clear, 5-10 mph wind

- Thorough 3-stage decon of  
bladder pump. Dispose of tubing

- 1010 - A. Ewing off site

- 1023 - collect GWmw 01-I - HS

2.9" Hydrasave, 3 VOA 8260B

needed to collect this morning per

K. Jayne

- 1030 - deploy new Hydrasave

@ GWmw 01-I to collect

tomorrow after pumping

- 1047 - collect GWmw 01-D -

1.9" Hydrasave, 3 VOA, 8260B

- To prepair for new N  
cylinder

- Go to 09 & traffic control

not here despite having call

morning to set up +

5 minutes

- 1206 - collect GWmw 09-S - HS

2.9" x 36" Hydrasave, 3 VOA, 8260B

then immediately deploy bladder pump to

220' BTDC

- Numerous problems w/ bladder  
pump failing - Troubleshoot w/



Grogs-Walnut, 4M, I.T. 4-1-21  
65°, Partly cloudy, 10-20 mph wind  
2 techs & Gestech. N cylinder  
going low. Finally collect 3 VOA  
vials.

PSI Formula for bladder pump  
 $T/2 + 10$

1458 - Collect Gwmw09-S\_BP  
3 VOA, 8260B, Bladder pump  
after 2.0 gal purge &  
numerous starts/stops

1520 - Collect EBD - Equipment  
Blank after thorough decon  
of bladder pump - 3 VOA vials  
of DI rinse. 8260B

1548 - Collect Gmw09-D2

Hydasteer 1.9" x 38" 8260B, 3 VOA

- 1618 Collect Gwmw09-D1  
& Gwmw09-D1 - DUP

via 2.9" x 36" Hydasteer, 3 VOA's +  
3 VOA's, 8260B

- 1635 - To repair for N cylinder

- Traffic Control - will come back  
tomorrow for 10 tris. Not enough  
time today for 3 sweets plus  
bladder is compromised.

Grogs-Walnut, 4M, I.T. 4-1-21  
70°, Partly cloudy, 10 mph  
Cost

- 1700 - to dumpster w/ tubing & Plastic

- 1725 - Collect MWSF9 - 1.9" Hydasteer,  
3 VOA's, 8260B - gate locked stick.  
Slipped through hole in fence.

- 1800 - Collect Gwmw15-S

1.9" x 38" Hydasteer, 3 VOA's, 8260B

- 1811 - Collect Gwmw15-D

1.9" x 38" Hydasteer, 3 VOA's, 8260B  
strong malodor. Tetter white &  
top and bottom but dark gray in  
middle interval

- 1823 - Collect Gwmw15-I

Hydasteer 1.9" x 38" 3 VOA 8260B

- 1840 - Collect Field Blank FB3  
8260B 3 VOA, DI water

- 1900 - 'Hotel'

~~John Pys~~



Griggs-Walnut V. Morgan, I Torres <sup>IT</sup> 4-2-21  
- Low 52° High 75° clear

- 0730 - Prod, Tailgate Safety  
0800 - meet Chuck (CLC) @ CLC-18  
0815 - Collect CLC-18 2 Plastic  
Containers 250 mL H<sub>2</sub>O<sub>3</sub>,  
500 mL HCL From spiget  
grab sample  
- CLC18 has been pumping  
24 hours to enable GWMW01  
test - 88 gpm  
switched to "auto" mode after  
sample collected. Should run  
until 16:00.  
- CLC 27 pumping 24/7  
238 gpm Totalizer: 3 vOA.  
674969 45 KG. Collect CLC 27 0815  
- 0955 Collect MWSFA 8260B  
3 vOA, 8260B 18" x 1.9"  
Hydrascave - Sampled out  
of preferred order due to  
locked gates  
- CLC 8 pumping since 0800 4-1-21  
10:30 - Collect GWMW01-I HS2  
Hydrascave, 3 vOA, 8260B This is  
a Post-pumping - 24 hours sample

Griggs-Walnut, V. Morgan, I Torres 4-2-21  
70° clear, calm

- 11:30 - Collect GWMW10-5  
3 vOA, Hydrascave 29" x 36" 8260B  
Also collect Matrix Spike 2' (MS2)  
& Matrix Spike Duplicate from  
same Hydrascave (MS02)  
both 3 vOA, 8260B  
11:55 - Collect GWMW10-D +  
Field duplicate GWMW10-D-DWP  
both 3 vOA vials 8260B from  
18" x 1.9" Hydrascave  
- pickup new bladder @ hotel  
arrived from Geotech UPS overnight.  
- installing new bladder on pump w/ new  
fittings & rental tools  
- 1235 collect Equipment Blank (EB3)  
- 1305 Collect GWMW10-I HS  
29" x 36" Hydrascave, 3 vOA, 8260B  
then immediately deploy bladder pump  
to 380' BTOC.  
Bladder pump control set @ 200 PSI  
(380' TD ÷ 2) + 10 = 200  
60 sec Fill, 30 sec discharge - bump up to:  
70 sec Fill, 35 sec discharge  
Purged 45 minutes until stable meter  
readings



Griggs-Walnut Y. Morgan, I. Torres 4.2.21  
75°, Lt wind, clear (cont.)

1425 - Collect GWMW10-I\_BP

Bladder pump, 3 VOA's, 8260B

1540 - Collect FB4 Field Blk 4

DI water in 3 VOA vials w/  
8260B

1546 - Collect GWMW16-S - Hydrastore  
3 VOA's, 8260B (2.9" x 36")

1559 - Collect GWMW16-D\_HS

Hydrastore (2.9" x 36"), 3 VOA's, 8260B

then deploy bladder pump ASAP

to same depth as Hydrastore - 365' BTOE

Note: Completed through 3-stage decom  
of bladder pump after sampling

GWMW10-I\_BP

1757 - Collected GWMW16-D\_BP

Bladder pump, 3 VOA's, 8260B

collected after 8.0 gal purge. VS I  
readings were nearly stable but then  
pump started purging air (leaky bladder?)

w/ water. Collected sample w/  
N cylinder nearly empty. Tubing  
& rope from BP were severely wrapped  
around dedicated cable in well.

Dedicate HS ~~to~~ tether disposed of

(4m)

Griggs-Walnut Y. Morgan, I. Torres 4.2.21  
75°, Sunset, Lt wind cont.

because of huge tangle -  
weight & clip in well.

- Final decom of pump

- Pack gear

- Dispose of tubing/plastic

- 1900 hotel

~~Use pump~~



Griggs - Walnut V. Pagan I. Torres 4-3-21

75°, clear, 10 mph wind

- 0730 - ice, check out hotel
- 0800 - meet Israel in parking lot  
to QA labels on samples &  
to complete chains. Split gear.  
He will return load ups &  
take samples to Hall
- 1030 - Leave hotel
- 1230 - Arrive Silver City

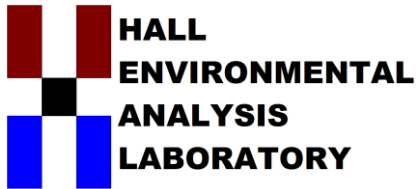
~~Griggs~~



Attachment 3

Laboratory Analytical Report

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Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

April 15, 2021

Kelly Jayne

Daniel B. Stephens & Assoc.  
6020 Academy NE Suite 100  
Albuquerque, NM 87109  
TEL: (505) 822-9400  
FAX (505) 822-8877

RE: Griggs Walnut Annual GW

OrderNo.: 2104131

Dear Kelly Jayne:

Hall Environmental Analysis Laboratory received 48 sample(s) on 4/5/2021 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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** CLC18

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 8:15:00 AM

**Lab ID:** 2104131-001

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA 200.8: METALS</b>							Analyst: <b>bcv</b>
Arsenic	0.0014	0.0010		mg/L	1	4/7/2021 11:34:39 AM	A76508
Uranium	0.012	0.00050		mg/L	1	4/7/2021 11:34:39 AM	A76508

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** CLC26

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/30/2021 1:27:00 PM

**Lab ID:** 2104131-002

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 12:35:06 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 12:35:06 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 12:35:06 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 12:35:06 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** CLC26

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/30/2021 1:27:00 PM

**Lab ID:** 2104131-002

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 12:35:06 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 12:35:06 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 12:35:06 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 12:35:06 PM	R76595
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	4/9/2021 12:35:06 PM	R76595
Surr: 4-Bromofluorobenzene	89.0	70-130		%Rec	1	4/9/2021 12:35:06 PM	R76595
Surr: Dibromofluoromethane	106	70-130		%Rec	1	4/9/2021 12:35:06 PM	R76595
Surr: Toluene-d8	108	70-130		%Rec	1	4/9/2021 12:35:06 PM	R76595

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



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** CLC27

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 9:10:00 AM

**Lab ID:** 2104131-003

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA 200.8: METALS</b>							Analyst: <b>bcv</b>
Arsenic	0.0013	0.0010		mg/L	1	4/7/2021 11:37:21 AM	A76508
Uranium	0.023	0.00050		mg/L	1	4/7/2021 11:37:21 AM	A76508

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW01-S\_BP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 9:48:00 AM

**Lab ID:** 2104131-004

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 1:03:40 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 1:03:40 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 1:03:40 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 1:03:40 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW01-S\_BP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 9:48:00 AM

**Lab ID:** 2104131-004

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 1:03:40 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 1:03:40 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 1:03:40 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 1:03:40 PM	R76595
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	4/9/2021 1:03:40 PM	R76595
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	1	4/9/2021 1:03:40 PM	R76595
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/9/2021 1:03:40 PM	R76595
Surr: Toluene-d8	103	70-130		%Rec	1	4/9/2021 1:03:40 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW01-S\_HS

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 8:32:00 AM

Lab ID: 2104131-005

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 1:32:16 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 1:32:16 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 1:32:16 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 1:32:16 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW01-S\_HS

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 8:32:00 AM

**Lab ID:** 2104131-005

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 1:32:16 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 1:32:16 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Tetrachloroethene (PCE)	1.8	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 1:32:16 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 1:32:16 PM	R76595
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	4/9/2021 1:32:16 PM	R76595
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	4/9/2021 1:32:16 PM	R76595
Surr: Dibromofluoromethane	102	70-130		%Rec	1	4/9/2021 1:32:16 PM	R76595
Surr: Toluene-d8	106	70-130		%Rec	1	4/9/2021 1:32:16 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW01-I\_HS1

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 10:23:00 AM

Lab ID: 2104131-006

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 2:00:50 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 2:00:50 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 2:00:50 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 2:00:50 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW01-I\_HS1

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 10:23:00 AM

Lab ID: 2104131-006

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 2:00:50 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 2:00:50 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Tetrachloroethene (PCE)	15	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 2:00:50 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 2:00:50 PM	R76595
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	4/9/2021 2:00:50 PM	R76595
Surr: 4-Bromofluorobenzene	89.0	70-130		%Rec	1	4/9/2021 2:00:50 PM	R76595
Surr: Dibromofluoromethane	99.3	70-130		%Rec	1	4/9/2021 2:00:50 PM	R76595
Surr: Toluene-d8	99.0	70-130		%Rec	1	4/9/2021 2:00:50 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW01-I\_HS2

Project: Griggs Walnut Annual GW

Collection Date: 4/2/2021 10:30:00 AM

Lab ID: 2104131-007

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Toluene	2.0	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 2:29:27 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 2:29:27 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 2:29:27 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 2:29:27 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW01-I\_HS2

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 10:30:00 AM

**Lab ID:** 2104131-007

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 2:29:27 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 2:29:27 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Tetrachloroethene (PCE)	20	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 2:29:27 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 2:29:27 PM	R76595
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	4/9/2021 2:29:27 PM	R76595
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	4/9/2021 2:29:27 PM	R76595
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/9/2021 2:29:27 PM	R76595
Surr: Toluene-d8	103	70-130		%Rec	1	4/9/2021 2:29:27 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW01-D

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 10:47:00 AM

Lab ID: 2104131-008

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	120	10		µg/L	10	4/12/2021 6:31:33 PM	E76616
Toluene	13	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Naphthalene	11	2.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Acetone	13	10		µg/L	1	4/9/2021 2:58:02 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 2:58:02 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 2:58:02 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 2:58:02 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW01-D

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 10:47:00 AM

**Lab ID:** 2104131-008

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 2:58:02 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 2:58:02 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Styrene	2.3	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Tetrachloroethene (PCE)	1.6	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Vinyl chloride	2.7	1.0		µg/L	1	4/9/2021 2:58:02 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 2:58:02 PM	R76595
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	4/9/2021 2:58:02 PM	R76595
Surr: 4-Bromofluorobenzene	86.0	70-130		%Rec	1	4/9/2021 2:58:02 PM	R76595
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/9/2021 2:58:02 PM	R76595
Surr: Toluene-d8	104	70-130		%Rec	1	4/9/2021 2:58:02 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW06-S

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 5:23:00 PM

**Lab ID:** 2104131-009

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Toluene	18	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 3:26:35 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 3:26:35 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 3:26:35 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 3:26:35 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW06-S

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 5:23:00 PM

**Lab ID:** 2104131-009

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 3:26:35 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 3:26:35 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Tetrachloroethene (PCE)	2.0	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 3:26:35 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 3:26:35 PM	R76595
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	4/9/2021 3:26:35 PM	R76595
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	4/9/2021 3:26:35 PM	R76595
Surr: Dibromofluoromethane	106	70-130		%Rec	1	4/9/2021 3:26:35 PM	R76595
Surr: Toluene-d8	104	70-130		%Rec	1	4/9/2021 3:26:35 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW08-S

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 11:00:00 AM

**Lab ID:** 2104131-010

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 3:55:11 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Bromodichloromethane	1.7	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 3:55:11 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 3:55:11 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 3:55:11 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW08-S

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 11:00:00 AM

**Lab ID:** 2104131-010

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 3:55:11 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 3:55:11 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 3:55:11 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 3:55:11 PM	R76595
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	4/9/2021 3:55:11 PM	R76595
Surr: 4-Bromofluorobenzene	90.9	70-130		%Rec	1	4/9/2021 3:55:11 PM	R76595
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/9/2021 3:55:11 PM	R76595
Surr: Toluene-d8	99.7	70-130		%Rec	1	4/9/2021 3:55:11 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW08-D

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 11:30:00 AM

**Lab ID:** 2104131-011

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 4:23:45 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 4:23:45 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 4:23:45 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 4:23:45 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW08-D

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 11:30:00 AM

**Lab ID:** 2104131-011

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 4:23:45 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 4:23:45 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 4:23:45 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 4:23:45 PM	R76595
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/9/2021 4:23:45 PM	R76595
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	4/9/2021 4:23:45 PM	R76595
Surr: Dibromofluoromethane	103	70-130		%Rec	1	4/9/2021 4:23:45 PM	R76595
Surr: Toluene-d8	107	70-130		%Rec	1	4/9/2021 4:23:45 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW09-S\_HS

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 12:06:00 PM

**Lab ID:** 2104131-012

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Toluene	1.8	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 4:52:24 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 4:52:24 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 4:52:24 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 4:52:24 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW09-S\_HS

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 12:06:00 PM

Lab ID: 2104131-012

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 4:52:24 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 4:52:24 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 4:52:24 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 4:52:24 PM	R76595
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	1	4/9/2021 4:52:24 PM	R76595
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	4/9/2021 4:52:24 PM	R76595
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/9/2021 4:52:24 PM	R76595
Surr: Toluene-d8	101	70-130		%Rec	1	4/9/2021 4:52:24 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW09-S\_BP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 2:58:00 PM

**Lab ID:** 2104131-013

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Toluene	3.0	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 5:20:57 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 5:20:57 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 5:20:57 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 5:20:57 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW09-S\_BP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 2:58:00 PM

**Lab ID:** 2104131-013

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 5:20:57 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 5:20:57 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 5:20:57 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 5:20:57 PM	R76595
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	4/9/2021 5:20:57 PM	R76595
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	4/9/2021 5:20:57 PM	R76595
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/9/2021 5:20:57 PM	R76595
Surr: Toluene-d8	108	70-130		%Rec	1	4/9/2021 5:20:57 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW09-D1

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 4:18:00 PM

**Lab ID:** 2104131-014

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Toluene	6.6	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 5:49:29 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 5:49:29 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 5:49:29 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 5:49:29 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW09-D1

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 4:18:00 PM

**Lab ID:** 2104131-014

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 5:49:29 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 5:49:29 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Tetrachloroethene (PCE)	3.4	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 5:49:29 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 5:49:29 PM	R76595
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/9/2021 5:49:29 PM	R76595
Surr: 4-Bromofluorobenzene	92.3	70-130		%Rec	1	4/9/2021 5:49:29 PM	R76595
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/9/2021 5:49:29 PM	R76595
Surr: Toluene-d8	101	70-130		%Rec	1	4/9/2021 5:49:29 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW09-D1\_DUP

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 4:18:00 PM

Lab ID: 2104131-015

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 6:18:08 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 6:18:08 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 6:18:08 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 6:18:08 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW09-D1\_DUP

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 4:18:00 PM

Lab ID: 2104131-015

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 6:18:08 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 6:18:08 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Tetrachloroethene (PCE)	5.7	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 6:18:08 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 6:18:08 PM	R76595
Surr: 1,2-Dichloroethane-d4	116	70-130		%Rec	1	4/9/2021 6:18:08 PM	R76595
Surr: 4-Bromofluorobenzene	87.6	70-130		%Rec	1	4/9/2021 6:18:08 PM	R76595
Surr: Dibromofluoromethane	107	70-130		%Rec	1	4/9/2021 6:18:08 PM	R76595
Surr: Toluene-d8	104	70-130		%Rec	1	4/9/2021 6:18:08 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW09-D2

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 3:48:00 PM

**Lab ID:** 2104131-016

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	2.6	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 6:46:45 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 6:46:45 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 6:46:45 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 6:46:45 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW09-D2

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 3:48:00 PM

**Lab ID:** 2104131-016

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 6:46:45 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 6:46:45 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Tetrachloroethene (PCE)	12	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 6:46:45 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 6:46:45 PM	R76595
Surr: 1,2-Dichloroethane-d4	119	70-130		%Rec	1	4/9/2021 6:46:45 PM	R76595
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	4/9/2021 6:46:45 PM	R76595
Surr: Dibromofluoromethane	108	70-130		%Rec	1	4/9/2021 6:46:45 PM	R76595
Surr: Toluene-d8	101	70-130		%Rec	1	4/9/2021 6:46:45 PM	R76595

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW10-S

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 11:30:00 AM

**Lab ID:** 2104131-017

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 7:15:18 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 7:15:18 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 7:15:18 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 7:15:18 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW10-S

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 11:30:00 AM

**Lab ID:** 2104131-017

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 7:15:18 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 7:15:18 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Tetrachloroethene (PCE)	3.9	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 7:15:18 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 7:15:18 PM	R76595
Surr: 1,2-Dichloroethane-d4	114	70-130		%Rec	1	4/9/2021 7:15:18 PM	R76595
Surr: 4-Bromofluorobenzene	93.8	70-130		%Rec	1	4/9/2021 7:15:18 PM	R76595
Surr: Dibromofluoromethane	110	70-130		%Rec	1	4/9/2021 7:15:18 PM	R76595
Surr: Toluene-d8	100	70-130		%Rec	1	4/9/2021 7:15:18 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW10-I\_BP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 2:25:00 PM

**Lab ID:** 2104131-018

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 8:41:09 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 8:41:09 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 8:41:09 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 8:41:09 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW10-I\_BP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 2:25:00 PM

**Lab ID:** 2104131-018

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 8:41:09 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 8:41:09 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Tetrachloroethene (PCE)	13	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 8:41:09 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 8:41:09 PM	R76595
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	4/9/2021 8:41:09 PM	R76595
Surr: 4-Bromofluorobenzene	88.9	70-130		%Rec	1	4/9/2021 8:41:09 PM	R76595
Surr: Dibromofluoromethane	107	70-130		%Rec	1	4/9/2021 8:41:09 PM	R76595
Surr: Toluene-d8	106	70-130		%Rec	1	4/9/2021 8:41:09 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW10-I\_HS

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 1:05:00 PM

**Lab ID:** 2104131-019

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Toluene	4.5	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 9:09:59 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 9:09:59 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 9:09:59 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 9:09:59 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW10-I\_HS

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 1:05:00 PM

**Lab ID:** 2104131-019

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 9:09:59 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 9:09:59 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Tetrachloroethene (PCE)	26	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 9:09:59 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 9:09:59 PM	R76595
Surr: 1,2-Dichloroethane-d4	113	70-130		%Rec	1	4/9/2021 9:09:59 PM	R76595
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	4/9/2021 9:09:59 PM	R76595
Surr: Dibromofluoromethane	106	70-130		%Rec	1	4/9/2021 9:09:59 PM	R76595
Surr: Toluene-d8	103	70-130		%Rec	1	4/9/2021 9:09:59 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW10-D

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 11:55:00 AM

**Lab ID:** 2104131-020

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	21	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Toluene	2.5	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 9:38:31 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 9:38:31 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 9:38:31 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 9:38:31 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW10-D

Project: Griggs Walnut Annual GW

Collection Date: 4/2/2021 11:55:00 AM

Lab ID: 2104131-020

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 9:38:31 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 9:38:31 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Tetrachloroethene (PCE)	1.6	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 9:38:31 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 9:38:31 PM	R76595
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	4/9/2021 9:38:31 PM	R76595
Surr: 4-Bromofluorobenzene	91.7	70-130		%Rec	1	4/9/2021 9:38:31 PM	R76595
Surr: Dibromofluoromethane	103	70-130		%Rec	1	4/9/2021 9:38:31 PM	R76595
Surr: Toluene-d8	106	70-130		%Rec	1	4/9/2021 9:38:31 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW10-D\_DUP

Project: Griggs Walnut Annual GW

Collection Date: 4/2/2021 11:55:00 AM

Lab ID: 2104131-021

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	22	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Toluene	2.6	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Acetone	30	10		µg/L	1	4/9/2021 10:07:06 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 10:07:06 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 10:07:06 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 10:07:06 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW10-D\_DUP

Project: Griggs Walnut Annual GW

Collection Date: 4/2/2021 11:55:00 AM

Lab ID: 2104131-021

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 10:07:06 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 10:07:06 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Tetrachloroethene (PCE)	1.6	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 10:07:06 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 10:07:06 PM	R76595
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	4/9/2021 10:07:06 PM	R76595
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	1	4/9/2021 10:07:06 PM	R76595
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/9/2021 10:07:06 PM	R76595
Surr: Toluene-d8	103	70-130		%Rec	1	4/9/2021 10:07:06 PM	R76595

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW11-S

Project: Griggs Walnut Annual GW

Collection Date: 3/31/2021 6:02:00 PM

Lab ID: 2104131-022

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Toluene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Ethylbenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Naphthalene	ND	2.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
2-Methylnaphthalene	ND	4.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Acetone	ND	10		µg/L	1	4/9/2021 10:35:47 PM	R76595
Bromobenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Bromoform	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Bromomethane	ND	3.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
2-Butanone	ND	10		µg/L	1	4/9/2021 10:35:47 PM	R76595
Carbon disulfide	ND	10		µg/L	1	4/9/2021 10:35:47 PM	R76595
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Chlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Chloroethane	ND	2.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Chloroform	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Chloromethane	ND	3.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
2-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
4-Chlorotoluene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Dibromomethane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,2-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,3-Dichloropropane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
2,2-Dichloropropane	ND	2.0		µg/L	1	4/9/2021 10:35:47 PM	R76595

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW11-S

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 6:02:00 PM

**Lab ID:** 2104131-022

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Hexachlorobutadiene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
2-Hexanone	ND	10		µg/L	1	4/9/2021 10:35:47 PM	R76595
Isopropylbenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
4-Isopropyltoluene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2021 10:35:47 PM	R76595
Methylene Chloride	ND	3.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
n-Butylbenzene	ND	3.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
n-Propylbenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
sec-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Styrene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
tert-Butylbenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Vinyl chloride	ND	1.0		µg/L	1	4/9/2021 10:35:47 PM	R76595
Xylenes, Total	ND	1.5		µg/L	1	4/9/2021 10:35:47 PM	R76595
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/9/2021 10:35:47 PM	R76595
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	4/9/2021 10:35:47 PM	R76595
Surr: Dibromofluoromethane	104	70-130		%Rec	1	4/9/2021 10:35:47 PM	R76595
Surr: Toluene-d8	105	70-130		%Rec	1	4/9/2021 10:35:47 PM	R76595

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW11-I

Project: Griggs Walnut Annual GW

Collection Date: 3/31/2021 6:35:00 PM

Lab ID: 2104131-023

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Toluene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Ethylbenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Naphthalene	ND	2.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Acetone	ND	10		µg/L	1	4/12/2021 7:26:07 PM	E76616
Bromobenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Bromodichloromethane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Bromoform	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Bromomethane	ND	3.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
2-Butanone	ND	10		µg/L	1	4/12/2021 7:26:07 PM	E76616
Carbon disulfide	ND	10		µg/L	1	4/12/2021 7:26:07 PM	E76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Chlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Chloroethane	ND	2.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Chloroform	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Chloromethane	ND	3.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Dibromochloromethane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Dibromomethane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/12/2021 7:26:07 PM	E76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW11-I

Project: Griggs Walnut Annual GW

Collection Date: 3/31/2021 6:35:00 PM

Lab ID: 2104131-023

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
2-Hexanone	ND	10		µg/L	1	4/12/2021 7:26:07 PM	E76616
Isopropylbenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/12/2021 7:26:07 PM	E76616
Methylene Chloride	ND	3.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
n-Butylbenzene	ND	3.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
n-Propylbenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Styrene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Tetrachloroethene (PCE)	2.8	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Vinyl chloride	ND	1.0		µg/L	1	4/12/2021 7:26:07 PM	E76616
Xylenes, Total	ND	1.5		µg/L	1	4/12/2021 7:26:07 PM	E76616
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	4/12/2021 7:26:07 PM	E76616
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/12/2021 7:26:07 PM	E76616
Surr: Dibromofluoromethane	111	70-130		%Rec	1	4/12/2021 7:26:07 PM	E76616
Surr: Toluene-d8	96.2	70-130		%Rec	1	4/12/2021 7:26:07 PM	E76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW11-I\_DUP

Project: Griggs Walnut Annual GW

Collection Date: 3/31/2021 6:35:00 PM

Lab ID: 2104131-024

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Toluene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Ethylbenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Naphthalene	ND	2.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Acetone	ND	10		µg/L	1	4/12/2021 7:53:23 PM	E76616
Bromobenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Bromodichloromethane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Bromoform	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Bromomethane	ND	3.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
2-Butanone	ND	10		µg/L	1	4/12/2021 7:53:23 PM	E76616
Carbon disulfide	ND	10		µg/L	1	4/12/2021 7:53:23 PM	E76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Chlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Chloroethane	ND	2.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Chloroform	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Chloromethane	ND	3.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Dibromochloromethane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Dibromomethane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/12/2021 7:53:23 PM	E76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW11-I\_DUP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 6:35:00 PM

**Lab ID:** 2104131-024

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
2-Hexanone	ND	10		µg/L	1	4/12/2021 7:53:23 PM	E76616
Isopropylbenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/12/2021 7:53:23 PM	E76616
Methylene Chloride	ND	3.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
n-Butylbenzene	ND	3.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
n-Propylbenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Styrene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Tetrachloroethene (PCE)	2.6	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Vinyl chloride	ND	1.0		µg/L	1	4/12/2021 7:53:23 PM	E76616
Xylenes, Total	ND	1.5		µg/L	1	4/12/2021 7:53:23 PM	E76616
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	4/12/2021 7:53:23 PM	E76616
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	4/12/2021 7:53:23 PM	E76616
Surr: Dibromofluoromethane	110	70-130		%Rec	1	4/12/2021 7:53:23 PM	E76616
Surr: Toluene-d8	102	70-130		%Rec	1	4/12/2021 7:53:23 PM	E76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW11-D

Project: Griggs Walnut Annual GW

Collection Date: 3/31/2021 6:15:00 PM

Lab ID: 2104131-025

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Toluene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Ethylbenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Naphthalene	ND	2.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Acetone	ND	10		µg/L	1	4/12/2021 8:20:37 PM	E76616
Bromobenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Bromodichloromethane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Bromoform	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Bromomethane	ND	3.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
2-Butanone	ND	10		µg/L	1	4/12/2021 8:20:37 PM	E76616
Carbon disulfide	ND	10		µg/L	1	4/12/2021 8:20:37 PM	E76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Chlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Chloroethane	ND	2.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Chloroform	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Chloromethane	ND	3.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Dibromochloromethane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Dibromomethane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/12/2021 8:20:37 PM	E76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW11-D

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 6:15:00 PM

**Lab ID:** 2104131-025

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
2-Hexanone	ND	10		µg/L	1	4/12/2021 8:20:37 PM	E76616
Isopropylbenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/12/2021 8:20:37 PM	E76616
Methylene Chloride	ND	3.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
n-Butylbenzene	ND	3.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
n-Propylbenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Styrene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Vinyl chloride	ND	1.0		µg/L	1	4/12/2021 8:20:37 PM	E76616
Xylenes, Total	ND	1.5		µg/L	1	4/12/2021 8:20:37 PM	E76616
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	4/12/2021 8:20:37 PM	E76616
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/12/2021 8:20:37 PM	E76616
Surr: Dibromofluoromethane	111	70-130		%Rec	1	4/12/2021 8:20:37 PM	E76616
Surr: Toluene-d8	100	70-130		%Rec	1	4/12/2021 8:20:37 PM	E76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW15-S

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 6:00:00 PM

Lab ID: 2104131-026

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Toluene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Ethylbenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Naphthalene	ND	2.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Acetone	ND	10		µg/L	1	4/12/2021 8:47:50 PM	E76616
Bromobenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Bromodichloromethane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Bromoform	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Bromomethane	ND	3.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
2-Butanone	ND	10		µg/L	1	4/12/2021 8:47:50 PM	E76616
Carbon disulfide	ND	10		µg/L	1	4/12/2021 8:47:50 PM	E76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Chlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Chloroethane	ND	2.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Chloroform	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Chloromethane	ND	3.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Dibromochloromethane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Dibromomethane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/12/2021 8:47:50 PM	E76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW15-S

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 6:00:00 PM

**Lab ID:** 2104131-026

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
2-Hexanone	ND	10		µg/L	1	4/12/2021 8:47:50 PM	E76616
Isopropylbenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/12/2021 8:47:50 PM	E76616
Methylene Chloride	ND	3.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
n-Butylbenzene	ND	3.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
n-Propylbenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Styrene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Vinyl chloride	ND	1.0		µg/L	1	4/12/2021 8:47:50 PM	E76616
Xylenes, Total	ND	1.5		µg/L	1	4/12/2021 8:47:50 PM	E76616
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	4/12/2021 8:47:50 PM	E76616
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/12/2021 8:47:50 PM	E76616
Surr: Dibromofluoromethane	110	70-130		%Rec	1	4/12/2021 8:47:50 PM	E76616
Surr: Toluene-d8	98.2	70-130		%Rec	1	4/12/2021 8:47:50 PM	E76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW15-I

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 6:23:00 PM

Lab ID: 2104131-027

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Toluene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Naphthalene	ND	2.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Acetone	ND	10		µg/L	1	4/12/2021 11:30:54 PM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Bromoform	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Bromomethane	ND	3.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
2-Butanone	ND	10		µg/L	1	4/12/2021 11:30:54 PM	F76616
Carbon disulfide	ND	10		µg/L	1	4/12/2021 11:30:54 PM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Chloroethane	ND	2.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Chloroform	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Chloromethane	ND	3.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/12/2021 11:30:54 PM	F76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW15-I

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 6:23:00 PM

Lab ID: 2104131-027

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
2-Hexanone	ND	10		µg/L	1	4/12/2021 11:30:54 PM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/12/2021 11:30:54 PM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Styrene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Tetrachloroethene (PCE)	9.2	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/12/2021 11:30:54 PM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/12/2021 11:30:54 PM	F76616
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/12/2021 11:30:54 PM	F76616
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	4/12/2021 11:30:54 PM	F76616
Surr: Dibromofluoromethane	111	70-130		%Rec	1	4/12/2021 11:30:54 PM	F76616
Surr: Toluene-d8	104	70-130		%Rec	1	4/12/2021 11:30:54 PM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW15-D

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 6:11:00 PM

**Lab ID:** 2104131-028

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Toluene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Naphthalene	ND	2.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Acetone	ND	10		µg/L	1	4/12/2021 11:58:07 PM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Bromoform	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Bromomethane	ND	3.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
2-Butanone	ND	10		µg/L	1	4/12/2021 11:58:07 PM	F76616
Carbon disulfide	ND	10		µg/L	1	4/12/2021 11:58:07 PM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Chloroethane	ND	2.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Chloroform	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Chloromethane	ND	3.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/12/2021 11:58:07 PM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW15-D

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 6:11:00 PM

**Lab ID:** 2104131-028

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
2-Hexanone	ND	10		µg/L	1	4/12/2021 11:58:07 PM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/12/2021 11:58:07 PM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Styrene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/12/2021 11:58:07 PM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/12/2021 11:58:07 PM	F76616
Surr: 1,2-Dichloroethane-d4	114	70-130		%Rec	1	4/12/2021 11:58:07 PM	F76616
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/12/2021 11:58:07 PM	F76616
Surr: Dibromofluoromethane	114	70-130		%Rec	1	4/12/2021 11:58:07 PM	F76616
Surr: Toluene-d8	99.2	70-130		%Rec	1	4/12/2021 11:58:07 PM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** Trip Blank

**Project:** Griggs Walnut Annual GW

**Collection Date:**

**Lab ID:** 2104131-029

**Matrix:** TRIP BLANK

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 12:25:21 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 12:25:21 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 12:25:21 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 12:25:21 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** Trip Blank

**Project:** Griggs Walnut Annual GW

**Collection Date:**

**Lab ID:** 2104131-029

**Matrix:** TRIP BLANK

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 12:25:21 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 12:25:21 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 12:25:21 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 12:25:21 AM	F76616
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	4/13/2021 12:25:21 AM	F76616
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/13/2021 12:25:21 AM	F76616
Surr: Dibromofluoromethane	113	70-130		%Rec	1	4/13/2021 12:25:21 AM	F76616
Surr: Toluene-d8	103	70-130		%Rec	1	4/13/2021 12:25:21 AM	F76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW16-S

Project: Griggs Walnut Annual GW

Collection Date: 4/2/2021 3:46:00 PM

Lab ID: 2104131-030

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 12:52:25 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 12:52:25 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 12:52:25 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 12:52:25 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW16-S

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 3:46:00 PM

**Lab ID:** 2104131-030

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 12:52:25 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 12:52:25 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Tetrachloroethene (PCE)	2.5	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 12:52:25 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 12:52:25 AM	F76616
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/13/2021 12:52:25 AM	F76616
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/13/2021 12:52:25 AM	F76616
Surr: Dibromofluoromethane	113	70-130		%Rec	1	4/13/2021 12:52:25 AM	F76616
Surr: Toluene-d8	99.0	70-130		%Rec	1	4/13/2021 12:52:25 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW16-D\_BP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 5:57:00 PM

**Lab ID:** 2104131-031

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 1:19:31 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 1:19:31 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 1:19:31 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 1:19:31 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW16-D\_BP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 5:57:00 PM

**Lab ID:** 2104131-031

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 1:19:31 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 1:19:31 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Tetrachloroethene (PCE)	2.9	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 1:19:31 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 1:19:31 AM	F76616
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	4/13/2021 1:19:31 AM	F76616
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/13/2021 1:19:31 AM	F76616
Surr: Dibromofluoromethane	115	70-130		%Rec	1	4/13/2021 1:19:31 AM	F76616
Surr: Toluene-d8	97.7	70-130		%Rec	1	4/13/2021 1:19:31 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW16-D\_HS

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 3:59:00 PM

**Lab ID:** 2104131-032

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 1:46:37 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 1:46:37 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 1:46:37 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 1:46:37 AM	F76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW16-D\_HS

Project: Griggs Walnut Annual GW

Collection Date: 4/2/2021 3:59:00 PM

Lab ID: 2104131-032

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 1:46:37 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 1:46:37 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Tetrachloroethene (PCE)	21	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Trichloroethene (TCE)	1.3	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 1:46:37 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 1:46:37 AM	F76616
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	4/13/2021 1:46:37 AM	F76616
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	4/13/2021 1:46:37 AM	F76616
Surr: Dibromofluoromethane	107	70-130		%Rec	1	4/13/2021 1:46:37 AM	F76616
Surr: Toluene-d8	99.3	70-130		%Rec	1	4/13/2021 1:46:37 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MWSF2

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 9:55:00 AM

**Lab ID:** 2104131-033

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 2:13:43 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 2:13:43 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 2:13:43 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 2:13:43 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MWSF2

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 9:55:00 AM

**Lab ID:** 2104131-033

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 2:13:43 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 2:13:43 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Tetrachloroethene (PCE)	3.8	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 2:13:43 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 2:13:43 AM	F76616
Surr: 1,2-Dichloroethane-d4	114	70-130		%Rec	1	4/13/2021 2:13:43 AM	F76616
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/13/2021 2:13:43 AM	F76616
Surr: Dibromofluoromethane	113	70-130		%Rec	1	4/13/2021 2:13:43 AM	F76616
Surr: Toluene-d8	97.7	70-130		%Rec	1	4/13/2021 2:13:43 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MWSF5

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 12:12:00 PM

**Lab ID:** 2104131-034

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 2:40:59 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 2:40:59 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 2:40:59 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 2:40:59 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MWSF5

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 12:12:00 PM

**Lab ID:** 2104131-034

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 2:40:59 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 2:40:59 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 2:40:59 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 2:40:59 AM	F76616
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	4/13/2021 2:40:59 AM	F76616
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/13/2021 2:40:59 AM	F76616
Surr: Dibromofluoromethane	108	70-130		%Rec	1	4/13/2021 2:40:59 AM	F76616
Surr: Toluene-d8	99.7	70-130		%Rec	1	4/13/2021 2:40:59 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MWSF9

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 5:25:00 PM

**Lab ID:** 2104131-035

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 3:08:14 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 3:08:14 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 3:08:14 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 3:08:14 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MWSF9

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 5:25:00 PM

**Lab ID:** 2104131-035

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 3:08:14 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 3:08:14 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 3:08:14 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 3:08:14 AM	F76616
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/13/2021 3:08:14 AM	F76616
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/13/2021 3:08:14 AM	F76616
Surr: Dibromofluoromethane	108	70-130		%Rec	1	4/13/2021 3:08:14 AM	F76616
Surr: Toluene-d8	97.2	70-130		%Rec	1	4/13/2021 3:08:14 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** MWSF10\_HS

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 3:30:00 PM

**Lab ID:** 2104131-036

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 3:35:26 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 3:35:26 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 3:35:26 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 3:35:26 AM	F76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MWSF10\_HS

Project: Griggs Walnut Annual GW

Collection Date: 3/31/2021 3:30:00 PM

Lab ID: 2104131-036

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 3:35:26 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 3:35:26 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Tetrachloroethene (PCE)	12	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 3:35:26 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 3:35:26 AM	F76616
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/13/2021 3:35:26 AM	F76616
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	4/13/2021 3:35:26 AM	F76616
Surr: Dibromofluoromethane	110	70-130		%Rec	1	4/13/2021 3:35:26 AM	F76616
Surr: Toluene-d8	101	70-130		%Rec	1	4/13/2021 3:35:26 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** NGMW01

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 1:45:00 PM

**Lab ID:** 2104131-037

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 4:02:38 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 4:02:38 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 4:02:38 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 4:02:38 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** NGMW01

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 1:45:00 PM

**Lab ID:** 2104131-037

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 4:02:38 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 4:02:38 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 4:02:38 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 4:02:38 AM	F76616
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	4/13/2021 4:02:38 AM	F76616
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/13/2021 4:02:38 AM	F76616
Surr: Dibromofluoromethane	106	70-130		%Rec	1	4/13/2021 4:02:38 AM	F76616
Surr: Toluene-d8	99.4	70-130		%Rec	1	4/13/2021 4:02:38 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** NGMW02

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 1:25:00 PM

**Lab ID:** 2104131-038

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 4:29:49 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 4:29:49 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 4:29:49 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 4:29:49 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** NGMW02

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 1:25:00 PM

**Lab ID:** 2104131-038

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 4:29:49 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 4:29:49 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 4:29:49 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 4:29:49 AM	F76616
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	4/13/2021 4:29:49 AM	F76616
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/13/2021 4:29:49 AM	F76616
Surr: Dibromofluoromethane	109	70-130		%Rec	1	4/13/2021 4:29:49 AM	F76616
Surr: Toluene-d8	98.5	70-130		%Rec	1	4/13/2021 4:29:49 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** NGMW03

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 12:52:00 PM

**Lab ID:** 2104131-039

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 4:57:02 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 4:57:02 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 4:57:02 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 4:57:02 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** NGMW03

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 12:52:00 PM

**Lab ID:** 2104131-039

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 4:57:02 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 4:57:02 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 4:57:02 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 4:57:02 AM	F76616
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	4/13/2021 4:57:02 AM	F76616
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	4/13/2021 4:57:02 AM	F76616
Surr: Dibromofluoromethane	108	70-130		%Rec	1	4/13/2021 4:57:02 AM	F76616
Surr: Toluene-d8	101	70-130		%Rec	1	4/13/2021 4:57:02 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** GWMW08-D\_DUP

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 11:30:00 AM

**Lab ID:** 2104131-040

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 5:24:15 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 5:24:15 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 5:24:15 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Chloroform	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 5:24:15 AM	F76616

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: GWMW08-D\_DUP

Project: Griggs Walnut Annual GW

Collection Date: 3/31/2021 11:30:00 AM

Lab ID: 2104131-040

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 5:24:15 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 5:24:15 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 5:24:15 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 5:24:15 AM	F76616
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	4/13/2021 5:24:15 AM	F76616
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	4/13/2021 5:24:15 AM	F76616
Surr: Dibromofluoromethane	106	70-130		%Rec	1	4/13/2021 5:24:15 AM	F76616
Surr: Toluene-d8	99.4	70-130		%Rec	1	4/13/2021 5:24:15 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** EB1

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/30/2021 2:05:00 PM

**Lab ID:** 2104131-041

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Toluene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Ethylbenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Naphthalene	ND	2.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Acetone	ND	10		µg/L	1	4/12/2021 6:58:47 PM	E76616
Bromobenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Bromodichloromethane	1.5	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Bromoform	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Bromomethane	ND	3.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
2-Butanone	ND	10		µg/L	1	4/12/2021 6:58:47 PM	E76616
Carbon disulfide	ND	10		µg/L	1	4/12/2021 6:58:47 PM	E76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Chlorobenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Chloroethane	ND	2.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Chloroform	9.8	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Chloromethane	ND	3.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Dibromochloromethane	1.1	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Dibromomethane	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/12/2021 6:58:47 PM	E76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** EB1

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/30/2021 2:05:00 PM

**Lab ID:** 2104131-041

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
2-Hexanone	ND	10		µg/L	1	4/12/2021 6:58:47 PM	E76616
Isopropylbenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/12/2021 6:58:47 PM	E76616
Methylene Chloride	ND	3.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
n-Butylbenzene	ND	3.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
n-Propylbenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Styrene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Vinyl chloride	ND	1.0		µg/L	1	4/12/2021 6:58:47 PM	E76616
Xylenes, Total	ND	1.5		µg/L	1	4/12/2021 6:58:47 PM	E76616
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/12/2021 6:58:47 PM	E76616
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/12/2021 6:58:47 PM	E76616
Surr: Dibromofluoromethane	110	70-130		%Rec	1	4/12/2021 6:58:47 PM	E76616
Surr: Toluene-d8	102	70-130		%Rec	1	4/12/2021 6:58:47 PM	E76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** EB2

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 3:20:00 PM

**Lab ID:** 2104131-042

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Toluene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Naphthalene	ND	2.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Acetone	ND	10		µg/L	1	4/13/2021 5:51:18 AM	F76616
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Bromodichloromethane	1.8	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Bromoform	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Bromomethane	ND	3.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
2-Butanone	ND	10		µg/L	1	4/13/2021 5:51:18 AM	F76616
Carbon disulfide	ND	10		µg/L	1	4/13/2021 5:51:18 AM	F76616
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Chloroethane	ND	2.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Chloroform	7.9	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Chloromethane	ND	3.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Dibromochloromethane	1.2	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 5:51:18 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** EB2

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 3:20:00 PM

**Lab ID:** 2104131-042

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
2-Hexanone	ND	10		µg/L	1	4/13/2021 5:51:18 AM	F76616
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 5:51:18 AM	F76616
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Styrene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 5:51:18 AM	F76616
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 5:51:18 AM	F76616
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	4/13/2021 5:51:18 AM	F76616
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/13/2021 5:51:18 AM	F76616
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/13/2021 5:51:18 AM	F76616
Surr: Toluene-d8	100	70-130		%Rec	1	4/13/2021 5:51:18 AM	F76616

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** EB3

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 12:35:00 PM

**Lab ID:** 2104131-043

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Toluene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Naphthalene	ND	2.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Acetone	ND	10		µg/L	1	4/13/2021 12:45:11 PM	A76648
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Bromodichloromethane	1.8	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Bromoform	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Bromomethane	ND	3.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
2-Butanone	ND	10		µg/L	1	4/13/2021 12:45:11 PM	A76648
Carbon disulfide	ND	10		µg/L	1	4/13/2021 12:45:11 PM	A76648
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Chloroethane	ND	2.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Chloroform	7.8	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Chloromethane	ND	3.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Dibromochloromethane	1.2	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 12:45:11 PM	A76648

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** EB3

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 12:35:00 PM

**Lab ID:** 2104131-043

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
2-Hexanone	ND	10		µg/L	1	4/13/2021 12:45:11 PM	A76648
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 12:45:11 PM	A76648
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Styrene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 12:45:11 PM	A76648
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 12:45:11 PM	A76648
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	4/13/2021 12:45:11 PM	A76648
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/13/2021 12:45:11 PM	A76648
Surr: Dibromofluoromethane	109	70-130		%Rec	1	4/13/2021 12:45:11 PM	A76648
Surr: Toluene-d8	101	70-130		%Rec	1	4/13/2021 12:45:11 PM	A76648

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: FB1

Project: Griggs Walnut Annual GW

Collection Date: 3/31/2021 12:20:00 PM

Lab ID: 2104131-044

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Toluene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Naphthalene	ND	2.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Acetone	ND	10		µg/L	1	4/13/2021 1:12:16 PM	A76648
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Bromodichloromethane	1.7	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Bromoform	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Bromomethane	ND	3.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
2-Butanone	ND	10		µg/L	1	4/13/2021 1:12:16 PM	A76648
Carbon disulfide	ND	10		µg/L	1	4/13/2021 1:12:16 PM	A76648
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Chloroethane	ND	2.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Chloroform	11	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Chloromethane	ND	3.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Dibromochloromethane	1.2	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 1:12:16 PM	A76648

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** FB1

**Project:** Griggs Walnut Annual GW

**Collection Date:** 3/31/2021 12:20:00 PM

**Lab ID:** 2104131-044

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
2-Hexanone	ND	10		µg/L	1	4/13/2021 1:12:16 PM	A76648
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 1:12:16 PM	A76648
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Styrene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 1:12:16 PM	A76648
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 1:12:16 PM	A76648
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/13/2021 1:12:16 PM	A76648
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/13/2021 1:12:16 PM	A76648
Surr: Dibromofluoromethane	106	70-130		%Rec	1	4/13/2021 1:12:16 PM	A76648
Surr: Toluene-d8	96.0	70-130		%Rec	1	4/13/2021 1:12:16 PM	A76648

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 2104131

Date Reported: 4/15/2021

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: FB2

Project: Griggs Walnut Annual GW

Collection Date: 4/1/2021 9:30:00 AM

Lab ID: 2104131-045

Matrix: AQUEOUS

Received Date: 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Toluene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Naphthalene	ND	2.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Acetone	ND	10		µg/L	1	4/13/2021 1:39:18 PM	A76648
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Bromodichloromethane	1.8	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Bromoform	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Bromomethane	ND	3.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
2-Butanone	ND	10		µg/L	1	4/13/2021 1:39:18 PM	A76648
Carbon disulfide	ND	10		µg/L	1	4/13/2021 1:39:18 PM	A76648
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Chloroethane	ND	2.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Chloroform	11	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Chloromethane	ND	3.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Dibromochloromethane	1.2	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 1:39:18 PM	A76648

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** FB2

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 9:30:00 AM

**Lab ID:** 2104131-045

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
2-Hexanone	ND	10		µg/L	1	4/13/2021 1:39:18 PM	A76648
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 1:39:18 PM	A76648
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Styrene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 1:39:18 PM	A76648
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 1:39:18 PM	A76648
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	4/13/2021 1:39:18 PM	A76648
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/13/2021 1:39:18 PM	A76648
Surr: Dibromofluoromethane	108	70-130		%Rec	1	4/13/2021 1:39:18 PM	A76648
Surr: Toluene-d8	97.9	70-130		%Rec	1	4/13/2021 1:39:18 PM	A76648

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** FB3

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 6:40:00 PM

**Lab ID:** 2104131-046

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Toluene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Naphthalene	ND	2.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Acetone	ND	10		µg/L	1	4/13/2021 2:06:16 PM	A76648
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Bromodichloromethane	2.0	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Bromoform	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Bromomethane	ND	3.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
2-Butanone	ND	10		µg/L	1	4/13/2021 2:06:16 PM	A76648
Carbon disulfide	ND	10		µg/L	1	4/13/2021 2:06:16 PM	A76648
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Chloroethane	ND	2.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Chloroform	9.8	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Chloromethane	ND	3.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Dibromochloromethane	1.4	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 2:06:16 PM	A76648

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** FB3

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/1/2021 6:40:00 PM

**Lab ID:** 2104131-046

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
2-Hexanone	ND	10		µg/L	1	4/13/2021 2:06:16 PM	A76648
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 2:06:16 PM	A76648
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Styrene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 2:06:16 PM	A76648
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 2:06:16 PM	A76648
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	4/13/2021 2:06:16 PM	A76648
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/13/2021 2:06:16 PM	A76648
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/13/2021 2:06:16 PM	A76648
Surr: Toluene-d8	96.8	70-130		%Rec	1	4/13/2021 2:06:16 PM	A76648

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** FB4

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 3:40:00 PM

**Lab ID:** 2104131-047

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Toluene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Naphthalene	ND	2.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Acetone	ND	10		µg/L	1	4/13/2021 2:33:20 PM	A76648
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Bromodichloromethane	1.7	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Bromoform	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Bromomethane	ND	3.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
2-Butanone	ND	10		µg/L	1	4/13/2021 2:33:20 PM	A76648
Carbon disulfide	ND	10		µg/L	1	4/13/2021 2:33:20 PM	A76648
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Chloroethane	ND	2.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Chloroform	6.9	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Chloromethane	ND	3.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Dibromochloromethane	1.2	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 2:33:20 PM	A76648

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** FB4

**Project:** Griggs Walnut Annual GW

**Collection Date:** 4/2/2021 3:40:00 PM

**Lab ID:** 2104131-047

**Matrix:** AQUEOUS

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
2-Hexanone	ND	10		µg/L	1	4/13/2021 2:33:20 PM	A76648
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 2:33:20 PM	A76648
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Styrene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 2:33:20 PM	A76648
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 2:33:20 PM	A76648
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/13/2021 2:33:20 PM	A76648
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	4/13/2021 2:33:20 PM	A76648
Surr: Dibromofluoromethane	110	70-130		%Rec	1	4/13/2021 2:33:20 PM	A76648
Surr: Toluene-d8	100	70-130		%Rec	1	4/13/2021 2:33:20 PM	A76648

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** Trip Blank

**Project:** Griggs Walnut Annual GW

**Collection Date:**

**Lab ID:** 2104131-048

**Matrix:** TRIP BLANK

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
Benzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Toluene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Ethylbenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Naphthalene	ND	2.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
2-Methylnaphthalene	ND	4.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Acetone	ND	10		µg/L	1	4/13/2021 3:00:22 PM	A76648
Bromobenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Bromodichloromethane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Bromoform	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Bromomethane	ND	3.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
2-Butanone	ND	10		µg/L	1	4/13/2021 3:00:22 PM	A76648
Carbon disulfide	ND	10		µg/L	1	4/13/2021 3:00:22 PM	A76648
Carbon Tetrachloride	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Chlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Chloroethane	ND	2.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Chloroform	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Chloromethane	ND	3.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
2-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
4-Chlorotoluene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
cis-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Dibromochloromethane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Dibromomethane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,1-Dichloroethane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,1-Dichloroethene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,2-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,3-Dichloropropane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
2,2-Dichloropropane	ND	2.0		µg/L	1	4/13/2021 3:00:22 PM	A76648

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 2104131

Date Reported: 4/15/2021

**CLIENT:** Daniel B. Stephens & Assoc.

**Client Sample ID:** Trip Blank

**Project:** Griggs Walnut Annual GW

**Collection Date:**

**Lab ID:** 2104131-048

**Matrix:** TRIP BLANK

**Received Date:** 4/5/2021 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>BRM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Hexachlorobutadiene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
2-Hexanone	ND	10		µg/L	1	4/13/2021 3:00:22 PM	A76648
Isopropylbenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
4-Isopropyltoluene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
4-Methyl-2-pentanone	ND	10		µg/L	1	4/13/2021 3:00:22 PM	A76648
Methylene Chloride	ND	3.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
n-Butylbenzene	ND	3.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
n-Propylbenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
sec-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Styrene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
tert-Butylbenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
trans-1,2-DCE	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Trichlorofluoromethane	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Vinyl chloride	ND	1.0		µg/L	1	4/13/2021 3:00:22 PM	A76648
Xylenes, Total	ND	1.5		µg/L	1	4/13/2021 3:00:22 PM	A76648
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	4/13/2021 3:00:22 PM	A76648
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/13/2021 3:00:22 PM	A76648
Surr: Dibromofluoromethane	106	70-130		%Rec	1	4/13/2021 3:00:22 PM	A76648
Surr: Toluene-d8	102	70-130		%Rec	1	4/13/2021 3:00:22 PM	A76648

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



# ANALYTICAL SUMMARY REPORT

April 15, 2021

Hall Environmental  
4901 Hawkins St NE Ste D  
Albuquerque, NM 87109-4372

Work Order: H21040101  
Project Name: Not Indicated

Energy Laboratories Inc Helena MT received the following 2 samples for Hall Environmental on 4/6/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H21040101-001	2104131-001B CLC18	04/02/21 8:15	04/06/21	Aqueous	Metals by ICP/ICPMS, Dissolved Arsenic Speciation, Total
H21040101-002	2104131-003B CLC27	04/02/21 9:10	04/06/21	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** Hall Environmental  
**Project:** Not Indicated  
**Lab ID:** H21040101-001  
**Client Sample ID:** 2104131-001B CLC18

**Report Date:** 04/15/21  
**Collection Date:** 04/02/21 08:15  
**Date Received:** 04/06/21  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPECIATED, TOTAL</b>							
Arsenic-III	ND	ug/L		5		E1632AM	04/14/21 13:14 /iej
Arsenic-V	ND	ug/L		5		E1632AM	04/14/21 13:14 /iej

**Report Definitions:** RL - Analyte Reporting Limit  
QCL - Quality Control Limit

MCL - Maximum Contaminant Level  
ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** Hall Environmental  
**Project:** Not Indicated  
**Lab ID:** H21040101-002  
**Client Sample ID:** 2104131-003B CLC27

**Report Date:** 04/15/21  
**Collection Date:** 04/02/21 09:10  
**Date Received:** 04/06/21  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPECIATED, TOTAL</b>							
Arsenic-III	ND	ug/L		5		E1632AM	04/14/21 13:50 /iej
Arsenic-V	ND	ug/L		5		E1632AM	04/14/21 13:50 /iej

**Report Definitions:** RL - Analyte Reporting Limit  
QCL - Quality Control Limit

MCL - Maximum Contaminant Level  
ND - Not detected at the Reporting Limit (RL)



## QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Hall Environmental

Work Order: H21040101

Report Date: 04/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E1632AM</b>										Analytical Run: ARSENIC SPECIATION_210414A
<b>Lab ID: ICV_10r</b>	2	Initial Calibration Verification Standard								04/14/21 12:14
Arsenic-III		26.7	ug/L	5.0	107	87.6	114			
Arsenic-V		27.4	ug/L	5.0	109	87	116			
<b>Lab ID: CCV_11r</b>	2	Continuing Calibration Verification Standard								04/14/21 12:26
Arsenic-III		50.9	ug/L	5.0	102	85	115			
Arsenic-V		51.2	ug/L	5.0	102	85	115			
<b>Method: E1632AM</b>										Batch: R164043
<b>Lab ID: MBLK_13r</b>	2	Method Blank								Run: ARSENIC SPECIATION_2104 04/14/21 12:50
Arsenic-III		ND	ug/L	0.7						
Arsenic-V		ND	ug/L	0.5						
<b>Lab ID: LCS_14r</b>	2	Laboratory Control Sample								Run: ARSENIC SPECIATION_2104 04/14/21 13:02
Arsenic-III		51.8	ug/L	5.0	104	85	115			
Arsenic-V		49.2	ug/L	5.0	98	85	115			
<b>Lab ID: H21040101-001A MS</b>	2	Sample Matrix Spike								Run: ARSENIC SPECIATION_2104 04/14/21 13:26
Arsenic-III		51.6	ug/L	5.0	103	78	121			
Arsenic-V		51.6	ug/L	5.0	99	78	121			
<b>Lab ID: H21040101-001A MSD</b>	2	Sample Matrix Spike Duplicate								Run: ARSENIC SPECIATION_2104 04/14/21 13:38
Arsenic-III		54.7	ug/L	5.0	109	78	121	5.8	20	
Arsenic-V		52.1	ug/L	5.0	100	78	121	1.0	20	

**Qualifiers:**

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



# Work Order Receipt Checklist

Hall Environmental

H21040101

Login completed by: Wanda Johnson

Date Received: 4/6/2021

Reviewed by: BL2000\sdull

Received by: RAT

Reviewed Date: 4/9/2021

Carrier name: FedEx Express

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	0.2°C Blue Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

Arsenic Speciation samples were preserved with 2 mL of 1:10 hydrochloric acid in the laboratory. In accordance with the method requirements, these samples must be held for 48 hours prior to analysis. 4/9/2021 sld





**CHAIN OF CUSTODY RECORD**

PAGE: 1 OF 1

Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
 TEL: 505-345-3975  
 FAX: 505-345-4107  
 Website: clients.hallenvironmental.com

SUB CONTRACTOR: Energy Labs - Helena      COMPANY: Energy Laboratories      PHONE: (877) 472-0711      FAX:      ADDRESS: 3161 E Lyndale Ave      ACCOUNT #:      EMAIL:      CITY, STATE, ZIP: Helena, MT 59604

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2104131-001B	CLC18	500PL-HCL	Aqueous	4/2/2021 8:15:00 AM	1	Arsenic Speciation
2	2104131-003B	CLC27	500PL-HCL	Aqueous	4/2/2021 9:10:00 AM	1	Arsenic Speciation

H21040101

**SPECIAL INSTRUCTIONS / COMMENTS:**

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Retinquished By: <i>[Signature]</i>	Date: 4/5/2021	Time: 1:10 PM	Received By: <i>[Signature]</i>	Date: _____	Time: _____
Retinquished By: <i>[Signature]</i>	Date: _____	Time: _____	Received By: <i>[Signature]</i>	Date: _____	Time: _____
Retinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____

TAT:  Standard       RUSH       Next BD       2nd BD       3rd BD

REPORT TRANSMITTAL DESIRED:  HARD COPY (extra cost)       FAX       EMAIL       ONLINE

FOR LAB USE ONLY

Temp of samples: 0.2 °C      Attempt to Cool? *Blue Ice*

Comments: *For SA Exp ND TB WSEW1 S*

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2104131

15-Apr-21

**Client:** Daniel B. Stephens & Assoc.

**Project:** Griggs Walnut Annual GW

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA 200.8: Metals</b>								
Client ID: <b>PBW</b>	Batch ID: <b>A76508</b>	RunNo: <b>76508</b>								
Prep Date:	Analysis Date: <b>4/7/2021</b>	SeqNo: <b>2710743</b>			Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Uranium	ND	0.00050								

Sample ID: <b>LCSLL</b>	SampType: <b>LCSLL</b>	TestCode: <b>EPA 200.8: Metals</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>A76508</b>	RunNo: <b>76508</b>								
Prep Date:	Analysis Date: <b>4/7/2021</b>	SeqNo: <b>2710744</b>			Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	100	50	150			
Uranium	0.00050	0.00050	0.0005000	0	101	50	150			

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>EPA 200.8: Metals</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>A76508</b>	RunNo: <b>76508</b>								
Prep Date:	Analysis Date: <b>4/7/2021</b>	SeqNo: <b>2710745</b>			Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.8	85	115			
Uranium	0.012	0.00050	0.01250	0	97.8	85	115			

**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#: 2104131

15-Apr-21

**Client:** Daniel B. Stephens & Assoc.

**Project:** Griggs Walnut Annual GW

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>R76595</b>		RunNo: <b>76595</b>							
Prep Date:	Analysis Date: <b>4/9/2021</b>		SeqNo: <b>2714086</b>				Units: <b>µg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	87.1	70	130			
Toluene	20	1.0	20.00	0	98.9	70	130			
Chlorobenzene	18	1.0	20.00	0	92.0	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	95.4	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	85.0	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.8	70	130			
Surr: Dibromofluoromethane	9.3		10.00		93.1	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R76595</b>		RunNo: <b>76595</b>							
Prep Date:	Analysis Date: <b>4/9/2021</b>		SeqNo: <b>2714087</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								

**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#: 2104131

15-Apr-21

Client: Daniel B. Stephens &amp; Assoc.

Project: Griggs Walnut Annual GW

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R76595</b>	RunNo: <b>76595</b>								
Prep Date:	Analysis Date: <b>4/9/2021</b>	SeqNo: <b>2714087</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

### 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#: 2104131

15-Apr-21

**Client:** Daniel B. Stephens & Assoc.

**Project:** Griggs Walnut Annual GW

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R76595</b>	RunNo: <b>76595</b>								
Prep Date:	Analysis Date: <b>4/9/2021</b>	SeqNo: <b>2714087</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.3	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: <b>2104131-017ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>GMMW10-S</b>	Batch ID: <b>R76595</b>	RunNo: <b>76595</b>								
Prep Date:	Analysis Date: <b>4/9/2021</b>	SeqNo: <b>2714103</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.2	70	130			
Toluene	21	1.0	20.00	0.2932	103	70	130			
Chlorobenzene	19	1.0	20.00	0	95.8	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	90.4	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		115	70	130			
Surr: 4-Bromofluorobenzene	8.9		10.00		89.4	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.7	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID: <b>2104131-017amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>GMMW10-S</b>	Batch ID: <b>R76595</b>	RunNo: <b>76595</b>								
Prep Date:	Analysis Date: <b>4/9/2021</b>	SeqNo: <b>2714104</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	86.7	70	130	7.23	20	
Toluene	19	1.0	20.00	0.2932	95.9	70	130	7.18	20	
Chlorobenzene	18	1.0	20.00	0	89.9	70	130	6.38	20	
1,1-Dichloroethene	20	1.0	20.00	0	99.0	70	130	10.3	20	
Trichloroethene (TCE)	16	1.0	20.00	0	81.0	70	130	11.0	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130	0	0	
Surr: 4-Bromofluorobenzene	8.8		10.00		88.0	70	130	0	0	
Surr: Dibromofluoromethane	9.8		10.00		97.8	70	130	0	0	
Surr: Toluene-d8	10		10.00		105	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#: 2104131

15-Apr-21

**Client:** Daniel B. Stephens & Assoc.

**Project:** Griggs Walnut Annual GW

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: E76616		RunNo: 76616						
Prep Date:		Analysis Date: 4/12/2021		SeqNo: 2715000			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.8	70	130			
Toluene	19	1.0	20.00	0	97.3	70	130			
Chlorobenzene	19	1.0	20.00	0	95.8	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	91.4	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.1	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Sample ID: 100ng lcs2		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: F76616		RunNo: 76616						
Prep Date:		Analysis Date: 4/12/2021		SeqNo: 2715001			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	20	1.0	20.00	0	99.1	70	130			
Chlorobenzene	19	1.0	20.00	0	95.9	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	97.8	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.7	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID: 2104131-037a ms		SampType: MS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: NGMW01		Batch ID: F76616		RunNo: 76616						
Prep Date:		Analysis Date: 4/13/2021		SeqNo: 2715024			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	20	1.0	20.00	0	99.3	70	130			
Chlorobenzene	19	1.0	20.00	0	95.2	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	94.1	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.3	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	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#: 2104131

15-Apr-21

**Client:** Daniel B. Stephens & Assoc.

**Project:** Griggs Walnut Annual GW

Sample ID: <b>2104131-037a msd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>NGMW01</b>	Batch ID: <b>F76616</b>	RunNo: <b>76616</b>								
Prep Date:	Analysis Date: <b>4/13/2021</b>	SeqNo: <b>2715025</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130	3.20	20	
Toluene	19	1.0	20.00	0	93.4	70	130	6.07	20	
Chlorobenzene	18	1.0	20.00	0	91.5	70	130	3.90	20	
1,1-Dichloroethene	18	1.0	20.00	0	90.7	70	130	3.66	20	
Trichloroethene (TCE)	20	1.0	20.00	0	98.7	70	130	0.355	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		108	70	130	0	0	
Surr: Toluene-d8	9.6		10.00		96.1	70	130	0	0	

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>E76616</b>	RunNo: <b>76616</b>								
Prep Date:	Analysis Date: <b>4/12/2021</b>	SeqNo: <b>2715032</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								

**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#: 2104131

15-Apr-21

Client: Daniel B. Stephens &amp; Assoc.

Project: Griggs Walnut Annual GW

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>E76616</b>	RunNo: <b>76616</b>								
Prep Date:	Analysis Date: <b>4/12/2021</b>	SeqNo: <b>2715032</b> Units: <b>µg/L</b>								
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								
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								

### 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#: 2104131

15-Apr-21

**Client:** Daniel B. Stephens & Assoc.

**Project:** Griggs Walnut Annual GW

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>E76616</b>	RunNo: <b>76616</b>								
Prep Date:	Analysis Date: <b>4/12/2021</b>	SeqNo: <b>2715032</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID: <b>mb2</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>F76616</b>	RunNo: <b>76616</b>								
Prep Date:	Analysis Date: <b>4/12/2021</b>	SeqNo: <b>2715033</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								

**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#: 2104131

15-Apr-21

**Client:** Daniel B. Stephens & Assoc.

**Project:** Griggs Walnut Annual GW

Sample ID: <b>mb2</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>F76616</b>	RunNo: <b>76616</b>								
Prep Date:	Analysis Date: <b>4/12/2021</b>	SeqNo: <b>2715033</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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		110	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#: 2104131

15-Apr-21

**Client:** Daniel B. Stephens & Assoc.

**Project:** Griggs Walnut Annual GW

Sample ID: <b>mb2</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>F76616</b>	RunNo: <b>76616</b>								
Prep Date:	Analysis Date: <b>4/12/2021</b>	SeqNo: <b>2715033</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	9.7		10.00		97.0	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>A76648</b>	RunNo: <b>76648</b>								
Prep Date:	Analysis Date: <b>4/13/2021</b>	SeqNo: <b>2715902</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	20	1.0	20.00	0	98.4	70	130			
Chlorobenzene	19	1.0	20.00	0	92.8	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	94.6	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>A76648</b>	RunNo: <b>76648</b>								
Prep Date:	Analysis Date: <b>4/13/2021</b>	SeqNo: <b>2715940</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								

**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#: 2104131

15-Apr-21

Client: Daniel B. Stephens &amp; Assoc.

Project: Griggs Walnut Annual GW

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>A76648</b>	RunNo: <b>76648</b>								
Prep Date:	Analysis Date: <b>4/13/2021</b>	SeqNo: <b>2715940</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

### 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#: 2104131

15-Apr-21

**Client:** Daniel B. Stephens & Assoc.

**Project:** Griggs Walnut Annual GW

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	10		10.00		104	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		99.9	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: Daniel B. Stephens & Assoc.

Work Order Number: 2104131

RcptNo: 1

Received By: Erin Melendrez 4/5/2021 9:40:00 AM

Completed By: Erin Melendrez 4/5/2021 10:42:30 AM

Reviewed By: JR 4/5/21

**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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA   
 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  
 (<2 or >12 unless noted)  
 Adjusted? no  
 Checked by: cmw 4/5/21

**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				
2	4.4	Good				

# Chain-of-Custody Record

Client: Daniel B. Stephens & Associates

Turn-Around Time:  
 Standard     Rush

Mailing Address: 6000 Academy Rd NE Suite 100  
Albuquerque, NM 87109

Project Name: Griggs-Walnut Annual GW

Phone #: 505-688-4201

Project #: DB21-1068.00 Ph1 T2

email or Fax#: K.Jayne@geo-logic.com

Project Manager: Kelly Jayne

QA/QC Package:  
 Standard     Level 4 (Full Validation)

Accreditation:     Az Compliance  
 NELAC     Other

Sampler: V. Morgan, I. Torres  
 On Ice:     Yes     No

EDD (Type)

# of Coolers: 2  
 Cooler Temp (including CF): 4.6 ± 0 (CF) = 4.6 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
4-2-21	0815	GW	CLC18	2 plastic	HCl/HNO3	-001
3-30-21	1327	GW	CLC26	3 vials	HgCl2	-002
4-2-21	0910	GW	CLC27	2 plastic	HCl/HNO3	-003
4-1-21	0948		GW MW01-S-BP	3 vial	HgCl2	-004
4-1-21	0832		GW MW01-S-HS			-005
4-1-21	1023		GW MW01-I-HS1			-006
4-2-21	1030		GW MW01-I-HS2			-007
4-1-21	1047		GW MW01-D			-008
3-31-21	1723		GW MW06-S			-009
3-31-21	11:00		GW MW08-S			-010
3-31-21	11:30		GW MW08-D			-011
4-1-21	12:06		GW MW09-S-HS			-012

## 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) <u>8260-B</u>	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Arsenic + Vanadium <u>800.8</u>	As Speciation <u>5M314B</u>				
										X	X				
							X								
									X	X					
							X								
							X								
							X								
							X								
							X								
							X								

Date: <u>4/15/21</u>	Time: <u>0931</u>	Relinquished by:	Received by:	Via: <u>COO</u>	Date: <u>4/15/21</u>	Time: <u>0940</u>
Date:	Time:	Relinquished by:	Received by:	Via:	Date:	Time:

Remarks: Page 1 of 5    See PQLs + MDLs  
Cooler #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:

Phone #:

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:  
Griggs - Walnut

Project #:  
DBD1.106800 PH1 T2

Project Manager:  
K. Jayne

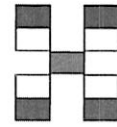
Sampler: V. Moya I. Torres

On Ice:     Yes       No

# of Coolers: 2

Cooler Temp (including CF): 4.6 ± 0 (CF) = 4.6 (°C)

Container Type and #	Preservative Type	HEAL No.
<u>3 VOA</u>	<u>HgCl2</u>	<u>2104131</u>
	<u>4.4 ± 0 (CF) = 4.4</u>	



## 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) <u>8260 B</u>	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Matrix Spike	Matrix Spike Duplicate
4-1-21	1458	GW	GWMW09-S_BP	3 VOA	HgCl2	-013								X				
4-1-21	1618		GWMW09-D1			-014								X				
4-1-21	1618		GWMW09-D1_DUP			-015								X				
4-1-21	1548		GWMW09-D2			-016								X				
4-2-21	1130		GWMW10-S			-017								X				
"	1130		GWMW10-S_MSA2			-018 17						(M)		X		X		
"	1130		GWMW10-S_MSA2			-019 17						(M)		X			X	
"	1425		GWMW10-I_BP			-020 18								X				
"	1305		GWMW10-I_HS			-021 19								X				
"	1155		GWMW10-D			-022 20								X				
"	1155		GWMW10-D_DUP			-023 21								X				
3-31-21	1802		GWMW11-S			-024 22								X				

Date: 4/15/21 Time: 0931 Relinquished by: \_\_\_\_\_

Received by: [Signature] Via: COO Date: 4/15/21 Time: 0940

Remarks: Page 2 of 5      See PQLs & MDLs  
Cooler #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: NBS & A

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance

NELAC  Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
3-31-21	1835	GW	GWMW11-I	3 Vol	HgCl <sub>2</sub>	-02523
"	1835	GW	GWMW11-I-DUP	↓	↓	-02624
"	1815	"	GWMW11-D	↓	↓	-02725
4-1-21	1800	"	GWMW15-S	↓	↓	-02826
"	1823	"	GWMW15-I	↓	↓	-02927
"	1811	"	GWMW15-D	↓	↓	-03028
LAB			Trip Blank	2 Vols	HgCl <sub>2</sub>	-03129

Date: 04/05/21 Time: 0931 Relinquished by: [Signature]

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_

Turn-Around Time:

Standard  Rush

Project Name:

Griggs - Walnut

Project #:

DB21.1068.00 PH1 T2

Project Manager:

Sampler:

On Ice:  Yes  No

# of Coolers: 2

Cooler Temp (including CF): 4.6 + 0 (CF) = 4.6 (°C)

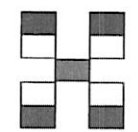
4.4 + 0 (CF) = 4.4

HEAL No. 2104131

Container Type and #	Preservative Type	HEAL No.
3 Vol	HgCl <sub>2</sub>	-02523
↓	↓	-02624
↓	↓	-02725
↓	↓	-02826
↓	↓	-02927
↓	↓	-03028
2 Vols	HgCl <sub>2</sub>	-03129

Received by: [Signature] Via: CDO Date: 4/5/21 Time: 0940

Received by: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_



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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) <u>8260B</u>	8270 (Semi-VOA)	Total Coliform (Present/Absent)
							X		
							X		
							X		
							X		
							X		
							X		
							X		

Remarks: Page 3 of 5 See PRLs & MDLs  
Cooler #1 of 2

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# Chain-of-Custody Record

Client: DBS & A

Mailing Address:

Phone #:

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:

Griggs - Walnut

Project #:

DB21-1068.00 PH1 T2

Project Manager:

K. Jayne

Sampler: YM IT

On Ice:  Yes  No

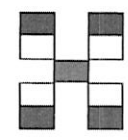
# of Coolers: 2

Cooler Temp (including CF): 4.6 ± 0 (CF) = 4.6 (°C)

4.4 ± 0 (CF) = 4.4

HEAL No. 2104131

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
4-20-21	1546	GW	GWMW16-S	3 YOA	HgCl2	-030
"	1757		GWMW16-D-BP	↓	↓	-031
"	1559		GWMW16-D-HS	↓	↓	-032
"	0955		MWSF2	↓	↓	-033
3-31-21	1212		MWSF5	↓	↓	-034
4-1-21	1725		MWSF9	↓	↓	-035
<del>MWSF10-BP (YA)</del>						
3-31-21	1530	GW	MWSF10-HS	3 YOA	HgCl2	-036
"	1345		NGMW01	↓	↓	-037
"	1345		NGMW01-MS	↓	↓	↓
"	1345		NGMW01-MSD	↓	↓	↓
"	1325		NGMW02	↓	↓	-038



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### 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) <u>8260B</u>	8270 (Semi-VOA)	Total Coliform (Present/Absent)	<u>Matrix Spike</u>	<u>Matrix Spike Duplicate</u>
							X				
							X				
							X				
							X				
							X				
							X				
							X				
							X				
							X		X		
							X			X	

Date: 04/15/21 Time: 0931 Relinquished by: [Signature]

Received by: [Signature] Via: CDO Date: 4/15/21 Time: 0940

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_

Received by: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Remarks: Page 4 of 5 See MBLs + PQLs  
Cooler #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 noted on the analytical report.



# Chain-of-Custody Record

Client: DBS & A

Mailing Address:

Phone #:

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:

Griggs - Walnut

Project #:

DB21.1068.00 Ph1 T2

Project Manager:

K. Jayne

Sampler: ym + JT

On Ice:     Yes       No

# of Coolers: 2

Cooler Temp (including CF): 4.6 ± 0.0 (CF) = 4.6 (°C)

4.4 ± 0.0 (CF) = 4.4

Container Type and #    Preservative Type    HEAL No.

3 VOA    HgCl<sub>2</sub>    -039

↓    ↓    -040

↓    ↓    -041

↓    ↓    -042

↓    ↓    -043

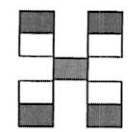
↓    ↓    -044

↓    ↓    -045

↓    ↓    -046

↓    ↓    -047

2 VOA    HgCl<sub>2</sub>    -048



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

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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) <u>8260B</u>	8270 (Semi-VOA)	Total Coliform (Present/Absent)										
							X												
							X												
							X												
							X												
							X												
							X												
							X												
							X												
							X												

Date: 4/15/21 Time: 0931 Relinquished by: \_\_\_\_\_

Received by: [Signature] Via: COO Date: 4/15/21 Time: 0940

Remarks: Page 5 of 5      See MDLs & PQLs  
Cooler # 2 of 2      DI = Deionized water

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 notated on the analytical report.

Appendix D

Daily Operational Data

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**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
January 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
01/01/2020	393,423	409,431
01/02/2020	396,285	402,085
01/03/2020	394,854	405,758
01/04/2020	396,429	400,374
01/05/2020	397,478	395,052
01/06/2020	395,379	405,696
01/07/2020	392,106	416,348
01/08/2020	397,936	397,054
01/09/2020	396,352	408,126
01/10/2020	395,150	407,155
01/11/2020	390,310	411,259
01/12/2020	393,533	393,551
01/13/2020	395,201	404,899
01/14/2020	384,991	395,795
01/15/2020	386,571	411,588
01/16/2020	401,382	398,364
01/17/2020	367,382	381,117
01/18/2020	349,696	362,033
01/19/2020	250,046	271,696
01/20/2020	242,059	239,384
01/21/2020	390,933	407,883
01/22/2020	403,363	401,445
01/23/2020	392,098	409,044
01/24/2020	395,416	409,016
01/25/2020	396,032	408,911
01/26/2020	397,954	405,379
01/27/2020	396,482	407,362
01/28/2020	397,615	406,578
01/29/2020	396,343	407,651
01/30/2020	397,751	405,495
01/31/2020	396,116	407,559
<b>Totals:</b>	<b>11,876,666</b>	<b>12,193,082</b>

**Griggs/Walnut Treatment Facility  
Well Runtime Hours  
January 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
01/01/2020	8.0	42,691	24.0	345,755
01/02/2020	8.0	42,580	24.0	345,272
01/03/2020	8.0	42,635	24.0	345,514
01/04/2020	8.0	42,631	24.0	345,360
01/05/2020	8.0	42,593	24.0	345,223
01/06/2020	8.0	42,669	24.0	345,497
01/07/2020	8.0	42,617	24.0	345,334
01/08/2020	8.0	42,610	24.0	345,543
01/09/2020	8.0	42,710	24.0	345,432
01/10/2020	8.0	42,623	24.0	344,596
01/11/2020	8.0	42,663	24.0	343,721
01/12/2020	8.0	42,590	24.0	343,785
01/13/2020	8.0	42,722	24.0	343,841
01/14/2020	8.0	42,654	24.0	343,691
01/15/2020	8.0	42,640	24.0	343,633
01/16/2020	8.0	42,603	24.0	343,439
01/17/2020	8.0	42,685	24.0	343,646
01/18/2020	8.0	42,714	24.0	343,501
01/19/2020	8.0	42,721	20.6	295,452
01/20/2020	5.4	29,147	13.3	191,707
01/21/2020	8.0	42,751	24.0	346,489
01/22/2020	8.0	42,841	24.0	346,497
01/23/2020	8.0	42,795	24.0	346,297
01/24/2020	8.0	42,769	24.0	346,604
01/25/2020	8.0	42,850	24.0	346,767
01/26/2020	8.0	42,799	24.0	346,543
01/27/2020	8.0	42,817	24.0	346,682
01/28/2020	8.0	42,839	24.0	346,705
01/29/2020	8.0	42,873	24.0	346,689
01/30/2020	8.0	42,742	24.0	346,455
01/31/2020	8.0	42,797	24.0	346,468
<b>Totals:</b>	<b>245.4</b>	<b>1,310,372</b>	<b>729.9</b>	<b>10,502,136</b>

**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
February 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
02/01/2020	404,859	404,495
02/02/2020	390,291	407,288
02/03/2020	393,545	406,054
02/04/2020	396,912	406,386
02/05/2020	397,586	408,233
02/06/2020	398,958	405,755
02/07/2020	392,245	407,602
02/08/2020	399,663	406,343
02/09/2020	394,679	407,714
02/10/2020	396,226	403,108
02/11/2020	314,036	333,309
02/12/2020	408,638	400,262
02/13/2020	390,199	407,903
02/14/2020	400,960	400,112
02/15/2020	391,097	417,151
02/16/2020	407,641	400,793
02/17/2020	391,009	407,414
02/18/2020	402,382	401,459
02/19/2020	392,941	409,367
02/20/2020	395,706	407,786
02/21/2020	394,892	408,863
02/22/2020	397,445	405,776
02/23/2020	396,535	407,361
02/24/2020	397,707	405,793
02/25/2020	396,580	404,558
02/26/2020	391,154	406,188
02/27/2020	398,707	408,251
02/28/2020	399,546	405,826
02/29/2020	393,890	407,985
<b>Totals:</b>	<b>11,426,030</b>	<b>11,709,134</b>

**Griggs/Walnut Treatment Facility  
Well Runtime Hours  
February 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
02/01/2020	8.0	42,756	24.0	346,280
02/02/2020	8.0	42,719	24.0	346,130
02/03/2020	8.0	42,662	24.0	346,239
02/04/2020	8.0	42,782	24.0	346,414
02/05/2020	8.0	42,757	24.0	346,249
02/06/2020	8.0	42,803	24.0	346,244
02/07/2020	8.0	42,663	24.0	346,092
02/08/2020	8.0	42,699	24.0	346,123
02/09/2020	8.0	42,737	24.0	346,173
02/10/2020	8.0	42,698	24.0	346,118
02/11/2020	5.4	28,864	19.8	286,777
02/12/2020	8.0	42,814	24.0	346,655
02/13/2020	8.0	42,849	24.0	346,766
02/14/2020	8.0	42,775	24.0	346,730
02/15/2020	8.0	42,728	24.0	346,667
02/16/2020	8.0	42,722	24.0	346,395
02/17/2020	8.0	42,735	24.0	346,598
02/18/2020	8.0	42,800	24.0	346,694
02/19/2020	8.0	42,697	24.0	346,315
02/20/2020	8.0	42,658	24.0	346,144
02/21/2020	8.0	42,643	24.0	345,873
02/22/2020	8.0	42,665	24.0	345,969
02/23/2020	8.0	42,725	24.0	346,169
02/24/2020	8.0	42,683	24.0	346,194
02/25/2020	8.0	42,741	23.7	341,714
02/26/2020	8.0	42,705	24.0	346,258
02/27/2020	8.0	42,654	24.0	346,177
02/28/2020	8.0	42,644	24.0	346,080
02/29/2020	8.0	42,681	24.0	346,353
<b>Totals:</b>	<b>229.4</b>	<b>1,225,058</b>	<b>691.5</b>	<b>9,978,586</b>



**Griggs/Walnut Treatment Facility**  
**Raw and Finished Water Daily Gallons**  
**March 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
03/01/2020	398,605	405,838
03/02/2020	398,061	409,431
03/03/2020	399,188	406,483
03/04/2020	399,020	406,612
03/05/2020	402,021	401,948
03/06/2020	393,190	409,138
03/07/2020	392,944	414,136
03/08/2020	386,976	382,676
03/09/2020	397,820	403,301
03/10/2020	398,950	406,998
03/11/2020	396,601	415,608
03/12/2020	401,917	404,680
03/13/2020	390,858	403,580
03/14/2020	403,194	405,482
03/15/2020	395,412	405,031
03/16/2020	397,036	408,228
03/17/2020	390,809	401,575
03/18/2020	378,301	402,561
03/19/2020	388,969	391,274
03/20/2020	386,371	396,029
03/21/2020	386,989	395,498
03/22/2020	387,584	394,749
03/23/2020	385,586	396,998
03/24/2020	387,994	392,923
03/25/2020	385,919	395,760
03/26/2020	386,987	394,454
03/27/2020	387,183	394,216
03/28/2020	387,215	393,675
03/29/2020	387,046	394,405
03/30/2020	386,786	394,944
03/31/2020	387,144	395,008
<b>Totals:</b>	<b>12,152,676</b>	<b>12,423,238</b>

**Griggs/Walnut Treatment Facility  
Well Runtime Hours  
March 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
03/01/2020	8.0	42,677	24.0	346,271
03/02/2020	8.0	42,645	24.0	346,143
03/03/2020	8.0	42,675	24.0	346,224
03/04/2020	8.0	42,695	24.0	346,220
03/05/2020	8.0	42,650	24.0	346,182
03/06/2020	8.0	42,652	24.0	346,159
03/07/2020	8.0	42,658	24.0	346,012
03/08/2020	8.0	42,664	23.0	331,723
03/09/2020	8.0	42,671	24.0	346,074
03/10/2020	8.0	42,682	24.0	346,089
03/11/2020	8.0	42,700	24.0	346,158
03/12/2020	8.0	42,728	24.0	345,985
03/13/2020	8.0	42,714	24.0	345,990
03/14/2020	8.0	42,688	24.0	345,872
03/15/2020	8.0	42,698	24.0	346,034
03/16/2020	8.0	42,724	24.0	346,090
03/17/2020	8.0	42,756	24.0	341,406
03/18/2020	8.0	42,767	24.0	337,542
03/19/2020	8.0	42,790	24.0	337,282
03/20/2020	8.0	42,763	24.0	337,063
03/21/2020	8.0	42,723	24.0	336,957
03/22/2020	8.0	42,733	24.0	336,997
03/23/2020	8.0	42,727	24.0	336,739
03/24/2020	8.0	42,647	24.0	336,491
03/25/2020	8.0	42,739	24.0	336,456
03/26/2020	8.0	42,761	24.0	336,531
03/27/2020	8.0	42,742	24.0	336,281
03/28/2020	8.0	42,713	24.0	336,044
03/29/2020	8.0	42,639	24.0	336,257
03/30/2020	8.0	42,671	24.0	336,586
03/31/2020	8.0	42,740	24.0	336,610
<b>Totals:</b>	<b>248.0</b>	<b>1,323,830</b>	<b>743.0</b>	<b>10,578,467</b>

**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
April 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
04/01/2020	386,171	395,740
04/02/2020	386,960	394,707
04/03/2020	386,191	395,005
04/04/2020	386,372	393,704
04/05/2020	386,111	395,294
04/06/2020	386,485	394,862
04/07/2020	386,386	392,134
04/08/2020	384,277	392,871
04/09/2020	385,393	396,784
04/10/2020	386,228	391,688
04/11/2020	384,021	393,055
04/12/2020	385,884	395,288
04/13/2020	386,569	391,005
04/14/2020	390,008	388,506
04/15/2020	389,745	396,169
04/16/2020	375,271	397,046
04/17/2020	388,269	385,768
04/18/2020	389,133	396,335
04/19/2020	382,210	400,929
04/20/2020	382,630	390,774
04/21/2020	384,994	392,651
04/22/2020	386,147	391,911
04/23/2020	385,236	392,480
04/24/2020	384,898	393,396
04/25/2020	385,608	392,160
04/26/2020	388,217	387,014
04/27/2020	387,976	409,238
04/28/2020	394,786	404,723
04/29/2020	394,299	402,099
04/30/2020	394,335	401,581
<b>Totals:</b>	<b>11,600,811</b>	<b>11,844,914</b>

**Griggs/Walnut Treatment Facility**  
**Well Runtime Hours**  
**April 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
04/01/2020	8.0	42,682	24.0	336,445
04/02/2020	8.0	42,648	24.0	336,415
04/03/2020	8.0	42,610	24.0	336,177
04/04/2020	8.0	42,584	24.0	335,882
04/05/2020	8.0	42,538	24.0	335,602
04/06/2020	8.0	42,529	24.0	335,624
04/07/2020	8.0	42,498	24.0	335,531
04/08/2020	8.0	42,490	24.0	335,448
04/09/2020	8.0	42,513	24.0	335,606
04/10/2020	8.0	42,482	24.0	335,427
04/11/2020	8.0	42,496	24.0	335,391
04/12/2020	8.0	42,562	24.0	335,564
04/13/2020	8.0	42,434	24.0	335,271
04/14/2020	8.0	42,391	24.0	335,131
04/15/2020	8.0	42,416	24.0	335,188
04/16/2020	8.0	42,399	24.0	334,945
04/17/2020	8.0	42,372	24.0	334,808
04/18/2020	8.0	42,350	24.0	334,883
04/19/2020	8.0	42,353	24.0	335,181
04/20/2020	8.0	42,303	24.0	335,129
04/21/2020	8.0	42,314	24.0	335,148
04/22/2020	8.0	42,331	24.0	335,245
04/23/2020	8.0	42,240	24.0	335,309
04/24/2020	8.0	42,308	24.0	335,266
04/25/2020	8.0	42,291	24.0	335,182
04/26/2020	8.0	42,247	23.5	335,123
04/27/2020	8.0	42,218	24.0	343,522
04/28/2020	8.0	42,252	24.0	343,405
04/29/2020	8.0	42,140	24.0	343,327
04/30/2020	8.0	42,173	24.0	343,337
<b>Totals:</b>	<b>240.0</b>	<b>1,272,162</b>	<b>719.5</b>	<b>10,094,512</b>

**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
May 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
05/01/2020	393,783	401,816
05/02/2020	394,046	401,558
05/03/2020	393,542	400,975
05/04/2020	395,113	399,289
05/05/2020	393,815	396,490
05/06/2020	392,151	402,545
05/07/2020	394,237	402,508
05/08/2020	394,061	402,266
05/09/2020	393,864	401,637
05/10/2020	393,089	401,384
05/11/2020	395,055	402,339
05/12/2020	393,915	400,881
05/13/2020	392,737	401,271
05/14/2020	395,638	395,364
05/15/2020	395,282	402,617
05/16/2020	388,521	400,111
05/17/2020	392,884	402,928
05/18/2020	393,273	400,742
05/19/2020	395,274	396,005
05/20/2020	378,316	374,021
05/21/2020	387,304	402,096
05/22/2020	390,172	404,817
05/23/2020	393,735	401,743
05/24/2020	394,052	401,201
05/25/2020	393,755	400,408
05/26/2020	393,741	397,915
05/27/2020	392,021	402,335
05/28/2020	394,139	400,933
05/29/2020	393,858	400,328
05/30/2020	393,349	399,514
05/31/2020	393,390	399,249
<b>Totals:</b>	<b>12,178,111</b>	<b>12,397,287</b>

**Griggs/Walnut Treatment Facility  
Well Runtime Hours  
May 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
05/01/2020	8.0	42,261	24.0	343,209
05/02/2020	8.0	42,211	24.0	343,175
05/03/2020	8.0	42,215	24.0	343,158
05/04/2020	8.0	42,169	24.0	343,675
05/05/2020	8.0	42,201	24.0	343,683
05/06/2020	8.0	42,136	24.0	343,242
05/07/2020	8.0	42,193	24.0	343,284
05/08/2020	8.0	42,056	24.0	343,217
05/09/2020	8.0	42,165	24.0	343,025
05/10/2020	8.0	42,202	24.0	342,922
05/11/2020	8.0	42,179	24.0	342,706
05/12/2020	8.0	42,123	24.0	342,831
05/13/2020	8.0	42,255	24.0	342,948
05/14/2020	8.0	42,189	24.0	342,871
05/15/2020	8.0	42,098	24.0	342,633
05/16/2020	8.0	42,159	24.0	342,624
05/17/2020	8.0	42,147	24.0	342,465
05/18/2020	8.0	42,166	24.0	342,520
05/19/2020	8.0	42,184	24.0	342,701
05/20/2020	8.0	42,115	22.6	322,745
05/21/2020	8.0	42,074	24.0	343,064
05/22/2020	8.0	42,058	24.0	342,946
05/23/2020	8.0	42,056	24.0	342,811
05/24/2020	8.0	42,071	24.0	342,905
05/25/2020	8.0	42,031	24.0	342,874
05/26/2020	8.0	42,079	24.0	342,794
05/27/2020	8.0	42,058	24.0	342,651
05/28/2020	8.0	42,107	24.0	342,901
05/29/2020	8.0	42,031	24.0	342,656
05/30/2020	8.0	42,080	24.0	342,675
05/31/2020	8.0	42,081	24.0	342,613
<b>Totals:</b>	<b>248.0</b>	<b>1,306,150</b>	<b>742.6</b>	<b>10,610,522</b>



**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
June 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
06/01/2020	393,553	399,465
06/02/2020	393,668	399,432
06/03/2020	392,817	396,440
06/04/2020	391,285	401,601
06/05/2020	392,897	400,633
06/06/2020	393,238	399,467
06/07/2020	394,445	393,341
06/08/2020	388,940	403,498
06/09/2020	391,553	399,115
06/10/2020	391,893	398,746
06/11/2020	392,155	399,701
06/12/2020	391,808	397,627
06/13/2020	392,608	399,755
06/14/2020	392,264	398,149
06/15/2020	391,438	397,362
06/16/2020	392,267	398,186
06/17/2020	392,164	398,351
06/18/2020	391,922	397,700
06/19/2020	392,239	398,463
06/20/2020	392,027	397,906
06/21/2020	391,662	397,404
06/22/2020	395,676	392,676
06/23/2020	388,059	400,604
06/24/2020	362,001	366,326
06/25/2020	396,231	395,232
06/26/2020	392,396	401,016
06/27/2020	394,315	397,984
06/28/2020	393,003	401,467
06/29/2020	393,556	397,934
06/30/2020	392,353	401,662
<b>Totals:</b>	<b>11,744,431</b>	<b>11,927,240</b>

**Griggs/Walnut Treatment Facility**  
**Well Runtime Hours**  
**June 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
06/01/2020	8.0	42,036	24.0	342,571
06/02/2020	8.0	42,101	24.0	342,697
06/03/2020	8.0	42,038	24.0	342,493
06/04/2020	8.0	42,088	24.0	342,608
06/05/2020	8.0	42,012	24.0	342,419
06/06/2020	8.0	42,019	24.0	342,204
06/07/2020	8.0	41,983	24.0	342,162
06/08/2020	8.0	41,976	24.0	342,074
06/09/2020	8.0	41,929	24.0	341,674
06/10/2020	8.0	41,904	24.0	341,838
06/11/2020	8.0	41,977	24.0	342,018
06/12/2020	8.0	41,913	24.0	341,780
06/13/2020	8.0	41,955	24.0	341,935
06/14/2020	8.0	41,977	24.0	341,853
06/15/2020	8.0	41,982	24.0	341,539
06/16/2020	8.0	41,999	24.0	341,321
06/17/2020	8.0	41,977	24.0	341,601
06/18/2020	8.0	41,971	24.0	341,675
06/19/2020	8.0	41,926	24.0	341,725
06/20/2020	8.0	41,926	24.0	341,667
06/21/2020	8.0	41,977	24.0	341,716
06/22/2020	8.0	41,951	24.0	341,648
06/23/2020	8.0	41,972	24.0	341,554
06/24/2020	8.0	41,937	22.0	312,036
06/25/2020	8.0	41,977	24.0	343,568
06/26/2020	8.0	41,934	24.0	343,526
06/27/2020	8.0	41,975	24.0	343,528
06/28/2020	8.0	41,992	24.0	343,384
06/29/2020	8.0	41,937	24.0	343,213
06/30/2020	8.0	41,928	24.0	343,180
<b>Totals:</b>	<b>240.0</b>	<b>1,259,269</b>	<b>718.0</b>	<b>10,237,204</b>

**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
July 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
07/01/2020	392,680	400,287
07/02/2020	393,219	400,207
07/03/2020	392,441	400,585
07/04/2020	391,754	401,760
07/05/2020	393,676	390,762
07/06/2020	379,472	384,685
07/07/2020	391,507	399,658
07/08/2020	389,884	403,082
07/09/2020	393,421	400,442
07/10/2020	392,747	400,385
07/11/2020	391,724	400,658
07/12/2020	395,090	398,502
07/13/2020	391,159	394,417
07/14/2020	360,895	370,180
07/15/2020	389,279	393,142
07/16/2020	332,703	327,561
07/17/2020	404,613	393,690
07/18/2020	384,626	403,203
07/19/2020	343,461	333,541
07/20/2020	391,326	404,371
07/21/2020	386,616	405,248
07/22/2020	391,024	399,579
07/23/2020	392,459	404,235
07/24/2020	392,214	401,427
07/25/2020	394,132	402,684
07/26/2020	394,737	396,374
07/27/2020	392,431	404,444
07/28/2020	396,135	400,467
07/29/2020	392,572	402,740
07/30/2020	390,527	402,954
07/31/2020	392,181	401,026
<b>Totals:</b>	<b>12,010,704</b>	<b>12,222,293</b>

**Griggs/Walnut Treatment Facility  
Well Runtime Hours  
July 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
07/01/2020	8.0	41,877	24.0	342,838
07/02/2020	8.0	41,906	24.0	342,997
07/03/2020	8.0	41,855	24.0	342,924
07/04/2020	8.0	41,880	24.0	342,964
07/05/2020	8.0	41,921	23.0	335,921
07/06/2020	8.0	41,922	23.0	329,703
07/07/2020	8.0	41,995	24.0	344,192
07/08/2020	8.0	42,004	24.0	343,818
07/09/2020	8.0	41,900	24.0	343,574
07/10/2020	8.0	41,844	24.0	343,688
07/11/2020	8.0	41,853	24.0	343,381
07/12/2020	8.0	41,873	24.0	343,286
07/13/2020	8.0	41,856	24.0	343,220
07/14/2020	7.0	35,622	22.0	319,307
07/15/2020	8.0	41,818	24.0	343,481
07/16/2020	5.0	23,852	20.0	286,716
07/17/2020	8.0	41,778	24.0	343,597
07/18/2020	8.0	41,775	24.0	343,646
07/19/2020	5.0	28,323	21.0	299,307
07/20/2020	8.0	41,792	24.0	343,320
07/21/2020	8.0	41,775	24.0	343,101
07/22/2020	8.0	41,815	24.0	342,952
07/23/2020	8.0	41,803	24.0	342,566
07/24/2020	8.0	41,729	24.0	342,642
07/25/2020	8.0	41,839	24.0	342,966
07/26/2020	8.0	41,893	24.0	343,079
07/27/2020	8.0	41,881	24.0	343,060
07/28/2020	8.0	41,952	24.0	343,167
07/29/2020	8.0	41,913	24.0	342,847
07/30/2020	8.0	41,907	24.0	342,552
07/31/2020	8.0	41,858	24.0	342,687
<b>Totals:</b>	<b>241.0</b>	<b>1,260,009</b>	<b>733.0</b>	<b>10,493,500</b>

**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
August 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
08/01/2020	391,609	398,661
08/02/2020	393,430	400,021
08/03/2020	393,710	402,105
08/04/2020	390,579	401,897
08/05/2020	365,332	361,932
08/06/2020	388,611	399,757
08/07/2020	390,864	397,730
08/08/2020	393,340	398,807
08/09/2020	393,035	401,950
08/10/2020	391,845	398,141
08/11/2020	309,938	298,464
08/12/2020	388,584	406,220
08/13/2020	391,701	399,804
08/14/2020	389,121	397,797
08/15/2020	396,766	392,206
08/16/2020	400,419	403,519
08/17/2020	391,758	400,729
08/18/2020	386,811	402,445
08/19/2020	388,549	396,887
08/20/2020	368,411	362,234
08/21/2020	389,832	402,950
08/22/2020	386,774	400,951
08/23/2020	391,926	393,267
08/24/2020	388,168	398,819
08/25/2020	390,335	395,558
08/26/2020	384,942	380,917
08/27/2020	395,603	391,752
08/28/2020	388,869	397,740
08/29/2020	395,101	388,215
08/30/2020	390,958	401,252
08/31/2020	369,585	375,482
<b>Totals:</b>	<b>11,976,505</b>	<b>12,148,208</b>

**Griggs/Walnut Treatment Facility  
Well Runtime Hours  
August 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
08/01/2020	8.0	41,853	24.0	342,589
08/02/2020	8.0	41,853	24.0	342,611
08/03/2020	8.0	41,817	24.0	342,495
08/04/2020	8.0	41,824	24.0	342,110
08/05/2020	7.0	35,887	22.0	315,327
08/06/2020	8.0	41,898	24.0	343,599
08/07/2020	8.0	41,801	24.0	343,183
08/08/2020	8.0	41,792	24.0	343,285
08/09/2020	8.0	41,776	24.0	343,181
08/10/2020	8.0	41,738	24.0	342,982
08/11/2020	5.0	25,498	19.0	270,137
08/12/2020	8.0	41,732	24.0	343,437
08/13/2020	8.0	41,709	24.0	343,274
08/14/2020	8.0	41,715	24.0	343,019
08/15/2020	8.0	41,688	24.0	342,923
08/16/2020	8.0	41,702	24.0	342,934
08/17/2020	8.0	41,655	24.0	342,858
08/18/2020	8.0	41,680	24.0	342,924
08/19/2020	8.0	41,664	24.0	342,563
08/20/2020	7.0	36,698	22.0	315,867
08/21/2020	8.0	41,617	24.0	343,041
08/22/2020	8.0	41,602	24.0	342,657
08/23/2020	8.0	41,636	24.0	342,933
08/24/2020	8.0	41,619	24.0	342,917
08/25/2020	8.0	41,698	24.0	343,019
08/26/2020	8.0	41,668	23.0	327,039
08/27/2020	8.0	41,702	24.0	342,851
08/28/2020	8.0	41,636	24.0	342,590
08/29/2020	8.0	41,650	24.0	342,728
08/30/2020	8.0	41,660	24.0	342,186
08/31/2020	7.0	38,761	23.0	325,850
<b>Totals:</b>	<b>242.0</b>	<b>1,263,230</b>	<b>733.0</b>	<b>10,469,111</b>



**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
September 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
09/01/2020	394,755	391,226
09/02/2020	388,832	396,260
09/03/2020	396,638	387,823
09/04/2020	385,589	393,965
09/05/2020	396,074	387,740
09/06/2020	379,113	396,217
09/07/2020	395,503	386,226
09/08/2020	388,433	395,395
09/09/2020	389,665	392,243
09/10/2020	394,842	387,504
09/11/2020	385,659	396,278
09/12/2020	395,881	388,900
09/13/2020	387,773	395,727
09/14/2020	389,504	393,112
09/15/2020	391,086	393,423
09/16/2020	391,856	393,046
09/17/2020	390,528	391,269
09/18/2020	389,329	393,633
09/19/2020	392,341	391,762
09/20/2020	394,779	388,778
09/21/2020	388,489	394,475
09/22/2020	389,671	392,799
09/23/2020	392,806	391,212
09/24/2020	387,882	395,363
09/25/2020	393,021	390,519
09/26/2020	390,338	391,509
09/27/2020	389,629	395,203
09/28/2020	390,747	392,714
09/29/2020	394,273	387,514
09/30/2020	387,298	393,790
<b>Totals:</b>	<b>11,722,333</b>	<b>11,765,624</b>

**Griggs/Walnut Treatment Facility**  
**Well Runtime Hours**  
**September 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
09/01/2020	8.0	41,642	24.0	342,509
09/02/2020	8.0	41,585	24.0	342,318
09/03/2020	8.0	41,597	24.0	341,969
09/04/2020	8.0	41,512	24.0	341,773
09/05/2020	8.0	41,546	24.0	341,824
09/06/2020	8.0	41,539	24.0	341,752
09/07/2020	8.0	41,528	24.0	341,951
09/08/2020	8.0	41,638	24.0	342,274
09/09/2020	8.0	41,533	24.0	341,802
09/10/2020	8.0	41,503	24.0	341,528
09/11/2020	8.0	41,601	24.0	341,904
09/12/2020	8.0	41,633	24.0	341,885
09/13/2020	8.0	41,683	24.0	341,747
09/14/2020	8.0	41,634	24.0	341,984
09/15/2020	8.0	41,673	24.0	342,006
09/16/2020	8.0	41,664	24.0	342,037
09/17/2020	8.0	41,686	24.0	341,906
09/18/2020	8.0	41,644	24.0	341,848
09/19/2020	8.0	41,673	24.0	341,950
09/20/2020	8.0	41,687	24.0	341,910
09/21/2020	8.0	41,649	24.0	341,867
09/22/2020	8.0	41,710	24.0	341,977
09/23/2020	8.0	41,705	24.0	341,922
09/24/2020	8.0	41,716	24.0	341,904
09/25/2020	8.0	41,682	24.0	341,797
09/26/2020	8.0	41,706	24.0	341,787
09/27/2020	8.0	41,738	24.0	341,676
09/28/2020	8.0	41,647	24.0	341,391
09/29/2020	8.0	41,602	24.0	341,369
09/30/2020	8.0	41,634	24.0	341,329
<b>Totals:</b>	<b>240.0</b>	<b>1,248,991</b>	<b>720.0</b>	<b>10,255,895</b>

**Griggs/Walnut Treatment Facility**  
**Raw and Finished Water Daily Gallons**  
**October 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
10/01/2020	389,135	392,015
10/02/2020	389,736	390,921
10/03/2020	388,110	386,846
10/04/2020	391,663	379,324
10/05/2020	369,592	386,916
10/06/2020	384,868	381,071
10/07/2020	387,124	378,515
10/08/2020	359,968	377,955
10/09/2020	388,741	383,988
10/10/2020	382,700	386,247
10/11/2020	392,305	397,690
10/12/2020	393,011	391,462
10/13/2020	393,341	388,914
10/14/2020	395,970	390,264
10/15/2020	383,424	372,107
10/16/2020	387,798	389,950
10/17/2020	394,666	387,210
10/18/2020	393,988	385,664
10/19/2020	394,172	380,980
10/20/2020	382,973	371,839
10/21/2020	390,448	388,099
10/22/2020	394,102	383,545
10/23/2020	394,604	384,206
10/24/2020	393,043	377,244
10/25/2020	383,392	374,287
10/26/2020	389,754	278,556
10/27/2020	386,812	376,288
10/28/2020	396,845	390,358
10/29/2020	388,541	378,594
10/30/2020	386,310	376,757
10/31/2020	385,230	375,504
<b>Totals:</b>	<b>12,032,365</b>	<b>11,783,316</b>

**Griggs/Walnut Treatment Facility  
Well Runtime Hours  
October 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
10/01/2020	8.0	41,667	24.0	341,397
10/02/2020	8.0	41,644	24.0	341,260
10/03/2020	8.0	41,675	24.0	338,645
10/04/2020	8.0	41,645	24.0	332,392
10/05/2020	8.0	41,645	24.0	332,088
10/06/2020	8.0	41,672	24.0	331,960
10/07/2020	8.0	41,641	24.0	331,851
10/08/2020	7.0	39,008	23.0	323,524
10/09/2020	8.0	41,650	23.0	333,514
10/10/2020	8.0	41,609	24.0	341,674
10/11/2020	8.0	41,524	24.0	341,469
10/12/2020	8.0	41,473	24.0	341,230
10/13/2020	8.0	41,545	24.0	341,071
10/14/2020	8.0	41,589	24.0	341,431
10/15/2020	8.0	41,649	24.0	341,514
10/16/2020	8.0	41,573	24.0	341,370
10/17/2020	8.0	41,683	24.0	341,451
10/18/2020	8.0	41,654	24.0	341,363
10/19/2020	8.0	41,620	24.0	341,304
10/20/2020	8.0	41,665	24.0	341,156
10/21/2020	8.0	41,713	24.0	341,302
10/22/2020	8.0	41,741	24.0	341,437
10/23/2020	8.0	41,742	24.0	341,599
10/24/2020	8.0	41,796	24.0	341,620
10/25/2020	8.0	41,864	24.0	341,668
10/26/2020	8.0	41,869	24.0	341,653
10/27/2020	8.0	41,936	24.0	336,180
10/28/2020	8.0	41,958	24.0	342,596
10/29/2020	8.0	41,976	24.0	337,697
10/30/2020	8.0	42,006	24.0	336,433
10/31/2020	8.0	41,990	24.0	336,108
<b>Totals:</b>	<b>247.0</b>	<b>1,290,422</b>	<b>742.0</b>	<b>10,499,958</b>

**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
November 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
11/01/2020	401,199	383,325
11/02/2020	401,199	383,325
11/03/2020	384,674	375,781
11/04/2020	384,028	376,145
11/05/2020	383,628	376,145
11/06/2020	383,655	374,919
11/07/2020	384,329	373,716
11/08/2020	384,563	374,203
11/09/2020	384,563	374,203
11/10/2020	384,365	373,616
11/11/2020	383,917	373,616
11/12/2020	383,894	373,685
11/13/2020	384,164	373,685
11/14/2020	384,164	373,479
11/15/2020	374,713	366,326
11/16/2020	372,697	364,088
11/17/2020	369,200	360,497
11/18/2020	360,500	356,334
11/19/2020	402,178	390,047
11/20/2020	402,178	390,047
11/21/2020	386,375	375,758
11/22/2020	395,738	383,415
11/23/2020	395,738	383,415
11/24/2020	403,258	384,643
11/25/2020	403,258	384,643
11/26/2020	396,738	386,679
11/27/2020	397,225	386,679
11/28/2020	397,225	384,476
11/29/2020	389,484	389,387
11/30/2020	396,533	389,387
<b>Totals:</b>	<b>11,655,379</b>	<b>11,335,664</b>

**Griggs/Walnut Treatment Facility  
Well Runtime Hours  
November 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
11/01/2020	8.0	42,000	24.0	348,652
11/02/2020	8.0	42,000	24.0	348,652
11/03/2020	8.0	41,987	24.0	333,851
11/04/2020	8.0	41,989	24.0	333,995
11/05/2020	8.0	41,989	24.0	333,905
11/06/2020	8.0	41,979	24.0	334,434
11/07/2020	8.0	42,052	24.0	334,877
11/08/2020	8.0	42,077	24.0	335,025
11/09/2020	8.0	42,077	24.0	334,708
11/10/2020	8.0	42,075	24.0	334,260
11/11/2020	8.0	42,114	24.0	334,244
11/12/2020	8.0	42,114	24.0	334,348
11/13/2020	8.0	42,111	24.0	334,384
11/14/2020	8.0	42,147	24.0	334,398
11/15/2020	8.0	42,147	24.0	323,324
11/16/2020	8.0	42,144	24.0	322,861
11/17/2020	8.0	42,102	24.0	320,110
11/18/2020	8.0	42,136	24.0	313,129
11/19/2020	8.0	42,136	24.0	339,571
11/20/2020	8.0	42,104	24.0	339,862
11/21/2020	8.0	42,153	24.0	339,955
11/22/2020	8.0	42,153	24.0	341,177
11/23/2020	8.0	42,123	24.0	341,177
11/24/2020	8.0	42,155	24.0	337,206
11/25/2020	8.0	42,205	24.0	342,434
11/26/2020	8.0	42,227	24.0	342,581
11/27/2020	8.0	42,227	24.0	342,656
11/28/2020	8.0	42,206	24.0	342,426
11/29/2020	8.0	42,193	24.0	342,069
11/30/2020	8.0	42,193	24.0	342,115
<b>Totals:</b>	<b>240.0</b>	<b>1,263,314</b>	<b>720.0</b>	<b>10,082,385</b>



**Griggs/Walnut Treatment Facility  
Raw and Finished Water Daily Gallons  
December 2020**

<b>Date</b>	<b>Raw Water</b>	<b>Finished Water</b>
12/01/2020	396,533	385,779
12/02/2020	395,080	383,111
12/03/2020	397,311	391,452
12/04/2020	397,311	391,452
12/05/2020	397,050	379,344
12/06/2020	394,376	394,225
12/07/2020	398,415	394,225
12/08/2020	398,415	377,991
12/09/2020	391,261	395,732
12/10/2020	391,261	395,732
12/11/2020	372,999	367,833
12/12/2020	392,020	396,650
12/13/2020	397,976	396,650
12/14/2020	397,976	379,286
12/15/2020	390,568	396,437
12/16/2020	395,926	396,437
12/17/2020	395,926	380,839
12/18/2020	388,497	394,939
12/19/2020	396,727	394,939
12/20/2020	396,727	381,653
12/21/2020	389,469	395,813
12/22/2020	395,030	395,813
12/23/2020	395,030	380,708
12/24/2020	388,657	390,991
12/25/2020	397,086	390,991
12/26/2020	397,086	385,458
12/27/2020	390,000	391,406
12/28/2020	396,310	391,406
12/29/2020	396,310	385,957
12/30/2020	389,491	390,950
12/31/2020	396,707	390,950
<b>Totals:</b>	<b>12,213,528</b>	<b>12,065,149</b>

**Griggs/Walnut Treatment Facility**  
**Well Runtime Hours**  
**December 2020**

	Well 18		Well 27	
Date	Hours	Total Gallons	Hours	Total Gallons
12/01/2020	8.0	42,191	24.0	342,357
12/02/2020	8.0	42,247	24.0	342,357
12/03/2020	8.0	42,299	24.0	342,439
12/04/2020	8.0	42,329	24.0	342,586
12/05/2020	8.0	42,329	24.0	342,598
12/06/2020	8.0	42,302	24.0	342,566
12/07/2020	8.0	42,302	24.0	342,551
12/08/2020	8.0	42,260	24.0	342,223
12/09/2020	8.0	42,260	24.0	342,364
12/10/2020	8.0	42,253	24.0	342,401
12/11/2020	7.0	38,670	24.0	342,724
12/12/2020	8.0	42,306	24.0	343,169
12/13/2020	8.0	42,328	24.0	343,106
12/14/2020	8.0	42,352	24.0	342,983
12/15/2020	8.0	42,366	24.0	342,969
12/16/2020	8.0	42,366	24.0	342,850
12/17/2020	8.0	42,346	24.0	342,733
12/18/2020	8.0	42,419	24.0	343,027
12/19/2020	8.0	42,419	24.0	343,092
12/20/2020	8.0	42,394	24.0	343,137
12/21/2020	8.0	42,419	24.0	343,092
12/22/2020	8.0	42,419	24.0	342,837
12/23/2020	8.0	42,414	24.0	342,591
12/24/2020	8.0	42,409	24.0	342,591
12/25/2020	8.0	42,488	24.0	342,828
12/26/2020	8.0	42,488	24.0	342,828
12/27/2020	8.0	42,485	24.0	342,934
12/28/2020	8.0	42,485	24.0	343,081
12/29/2020	8.0	42,440	24.0	342,905
12/30/2020	8.0	42,434	24.0	342,695
12/31/2020	8.0	42,475	24.0	342,323
<b>Totals:</b>	<b>247.0</b>	<b>1,309,696</b>	<b>744.0</b>	<b>10,624,935</b>

Appendix E

Laboratory Reports for  
Remediation System  
Sampling

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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)

January 20, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2001691

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 1/17/2020 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 2001691

Date Reported: 1/20/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200116

Project: Joint Superfund Project Monthly Analysis

Collection Date: 1/16/2020 8:12:00 AM

Lab ID: 2001691-001

Matrix: DRINKING W

Received Date: 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
Benzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Toluene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Ethylbenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Naphthalene	ND	2.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
2-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Acetone	ND	10		µg/L	1	1/19/2020 6:39:00 PM	R65894
Bromobenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Bromodichloromethane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Bromoform	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Bromomethane	ND	3.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
2-Butanone	ND	10		µg/L	1	1/19/2020 6:39:00 PM	R65894
Carbon disulfide	ND	10		µg/L	1	1/19/2020 6:39:00 PM	R65894
Carbon Tetrachloride	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Chlorobenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Chloroethane	ND	2.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Chloroform	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Chloromethane	ND	3.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
2-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
4-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
cis-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Dibromochloromethane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Dibromomethane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,1-Dichloroethane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,1-Dichloroethene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,2-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,3-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
2,2-Dichloropropane	ND	2.0		µg/L	1	1/19/2020 6:39:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18-200116

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 1/16/2020 8:12:00 AM

**Lab ID:** 2001691-001

**Matrix:** DRINKING W

**Received Date:** 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Hexachlorobutadiene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
2-Hexanone	ND	10		µg/L	1	1/19/2020 6:39:00 PM	R65894
Isopropylbenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
4-Isopropyltoluene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
4-Methyl-2-pentanone	ND	10		µg/L	1	1/19/2020 6:39:00 PM	R65894
Methylene Chloride	ND	3.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
n-Butylbenzene	ND	3.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
n-Propylbenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
sec-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Styrene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
tert-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Tetrachloroethene (PCE)	6.0	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
trans-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Trichlorofluoromethane	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Vinyl chloride	ND	1.0		µg/L	1	1/19/2020 6:39:00 PM	R65894
Xylenes, Total	ND	1.5		µg/L	1	1/19/2020 6:39:00 PM	R65894
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%Rec	1	1/19/2020 6:39:00 PM	R65894
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	1/19/2020 6:39:00 PM	R65894
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	1/19/2020 6:39:00 PM	R65894
Surr: Toluene-d8	94.5	70-130		%Rec	1	1/19/2020 6:39:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200116

Project: Joint Superfund Project Monthly Analysis

Collection Date: 1/16/2020 8:49:00 AM

Lab ID: 2001691-002

Matrix: DRINKING W

Received Date: 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
Benzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Toluene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Ethylbenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Naphthalene	ND	2.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
2-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Acetone	ND	10		µg/L	1	1/19/2020 7:03:00 PM	R65894
Bromobenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Bromodichloromethane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Bromoform	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Bromomethane	ND	3.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
2-Butanone	ND	10		µg/L	1	1/19/2020 7:03:00 PM	R65894
Carbon disulfide	ND	10		µg/L	1	1/19/2020 7:03:00 PM	R65894
Carbon Tetrachloride	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Chlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Chloroethane	ND	2.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Chloroform	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Chloromethane	ND	3.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
2-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
4-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
cis-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Dibromochloromethane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Dibromomethane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,1-Dichloroethane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,1-Dichloroethene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,2-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,3-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
2,2-Dichloropropane	ND	2.0		µg/L	1	1/19/2020 7:03:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 27-200116

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 1/16/2020 8:49:00 AM

**Lab ID:** 2001691-002

**Matrix:** DRINKING W

**Received Date:** 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Hexachlorobutadiene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
2-Hexanone	ND	10		µg/L	1	1/19/2020 7:03:00 PM	R65894
Isopropylbenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
4-Isopropyltoluene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
4-Methyl-2-pentanone	ND	10		µg/L	1	1/19/2020 7:03:00 PM	R65894
Methylene Chloride	ND	3.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
n-Butylbenzene	ND	3.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
n-Propylbenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
sec-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Styrene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
tert-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Tetrachloroethene (PCE)	14	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
trans-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Trichlorofluoromethane	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Vinyl chloride	ND	1.0		µg/L	1	1/19/2020 7:03:00 PM	R65894
Xylenes, Total	ND	1.5		µg/L	1	1/19/2020 7:03:00 PM	R65894
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	1/19/2020 7:03:00 PM	R65894
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	1/19/2020 7:03:00 PM	R65894
Surr: Dibromofluoromethane	96.7	70-130		%Rec	1	1/19/2020 7:03:00 PM	R65894
Surr: Toluene-d8	95.1	70-130		%Rec	1	1/19/2020 7:03:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1-200116

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 1/16/2020 8:17:00 AM

**Lab ID:** 2001691-003

**Matrix:** DRINKING W

**Received Date:** 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Toluene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Ethylbenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Naphthalene	ND	2.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
2-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Acetone	ND	10		µg/L	1	1/19/2020 7:26:00 PM	R65894
Bromobenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Bromodichloromethane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Bromoform	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Bromomethane	ND	3.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
2-Butanone	ND	10		µg/L	1	1/19/2020 7:26:00 PM	R65894
Carbon disulfide	ND	10		µg/L	1	1/19/2020 7:26:00 PM	R65894
Carbon Tetrachloride	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Chlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Chloroethane	ND	2.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Chloroform	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Chloromethane	ND	3.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
2-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
4-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
cis-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Dibromochloromethane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Dibromomethane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,1-Dichloroethane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,1-Dichloroethene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,2-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,3-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
2,2-Dichloropropane	ND	2.0		µg/L	1	1/19/2020 7:26:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1-200116

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 1/16/2020 8:17:00 AM

**Lab ID:** 2001691-003

**Matrix:** DRINKING W

**Received Date:** 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Hexachlorobutadiene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
2-Hexanone	ND	10		µg/L	1	1/19/2020 7:26:00 PM	R65894
Isopropylbenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
4-Isopropyltoluene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
4-Methyl-2-pentanone	ND	10		µg/L	1	1/19/2020 7:26:00 PM	R65894
Methylene Chloride	ND	3.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
n-Butylbenzene	ND	3.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
n-Propylbenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
sec-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Styrene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
tert-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Tetrachloroethene (PCE)	12	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
trans-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Trichlorofluoromethane	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Vinyl chloride	ND	1.0		µg/L	1	1/19/2020 7:26:00 PM	R65894
Xylenes, Total	ND	1.5		µg/L	1	1/19/2020 7:26:00 PM	R65894
Surr: 1,2-Dichloroethane-d4	96.9	70-130		%Rec	1	1/19/2020 7:26:00 PM	R65894
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	1/19/2020 7:26:00 PM	R65894
Surr: Dibromofluoromethane	94.5	70-130		%Rec	1	1/19/2020 7:26:00 PM	R65894
Surr: Toluene-d8	96.0	70-130		%Rec	1	1/19/2020 7:26:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C1-200116

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 1/16/2020 8:19:00 AM

**Lab ID:** 2001691-004

**Matrix:** DRINKING W

**Received Date:** 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Toluene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Ethylbenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Naphthalene	ND	2.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
2-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Acetone	ND	10		µg/L	1	1/19/2020 7:49:00 PM	R65894
Bromobenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Bromodichloromethane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Bromoform	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Bromomethane	ND	3.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
2-Butanone	ND	10		µg/L	1	1/19/2020 7:49:00 PM	R65894
Carbon disulfide	ND	10		µg/L	1	1/19/2020 7:49:00 PM	R65894
Carbon Tetrachloride	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Chlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Chloroethane	ND	2.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Chloroform	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Chloromethane	ND	3.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
2-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
4-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
cis-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Dibromochloromethane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Dibromomethane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,1-Dichloroethane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,1-Dichloroethene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,2-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,3-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
2,2-Dichloropropane	ND	2.0		µg/L	1	1/19/2020 7:49:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C1-200116

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 1/16/2020 8:19:00 AM

**Lab ID:** 2001691-004

**Matrix:** DRINKING W

**Received Date:** 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Hexachlorobutadiene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
2-Hexanone	ND	10		µg/L	1	1/19/2020 7:49:00 PM	R65894
Isopropylbenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
4-Isopropyltoluene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
4-Methyl-2-pentanone	ND	10		µg/L	1	1/19/2020 7:49:00 PM	R65894
Methylene Chloride	ND	3.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
n-Butylbenzene	ND	3.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
n-Propylbenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
sec-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Styrene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
tert-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
trans-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Trichlorofluoromethane	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Vinyl chloride	ND	1.0		µg/L	1	1/19/2020 7:49:00 PM	R65894
Xylenes, Total	ND	1.5		µg/L	1	1/19/2020 7:49:00 PM	R65894
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%Rec	1	1/19/2020 7:49:00 PM	R65894
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	1/19/2020 7:49:00 PM	R65894
Surr: Dibromofluoromethane	94.7	70-130		%Rec	1	1/19/2020 7:49:00 PM	R65894
Surr: Toluene-d8	95.1	70-130		%Rec	1	1/19/2020 7:49:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200116

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 1/16/2020 8:22:00 AM

**Lab ID:** 2001691-005

**Matrix:** DRINKING W

**Received Date:** 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Toluene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Ethylbenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Naphthalene	ND	2.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
2-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Acetone	ND	10		µg/L	1	1/19/2020 8:13:00 PM	R65894
Bromobenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Bromodichloromethane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Bromoform	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Bromomethane	ND	3.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
2-Butanone	ND	10		µg/L	1	1/19/2020 8:13:00 PM	R65894
Carbon disulfide	ND	10		µg/L	1	1/19/2020 8:13:00 PM	R65894
Carbon Tetrachloride	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Chlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Chloroethane	ND	2.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Chloroform	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Chloromethane	ND	3.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
2-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
4-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
cis-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Dibromochloromethane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Dibromomethane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,1-Dichloroethane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,1-Dichloroethene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,2-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,3-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
2,2-Dichloropropane	ND	2.0		µg/L	1	1/19/2020 8:13:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200116

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 1/16/2020 8:22:00 AM

**Lab ID:** 2001691-005

**Matrix:** DRINKING W

**Received Date:** 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Hexachlorobutadiene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
2-Hexanone	ND	10		µg/L	1	1/19/2020 8:13:00 PM	R65894
Isopropylbenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
4-Isopropyltoluene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
4-Methyl-2-pentanone	ND	10		µg/L	1	1/19/2020 8:13:00 PM	R65894
Methylene Chloride	ND	3.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
n-Butylbenzene	ND	3.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
n-Propylbenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
sec-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Styrene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
tert-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
trans-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Trichlorofluoromethane	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Vinyl chloride	ND	1.0		µg/L	1	1/19/2020 8:13:00 PM	R65894
Xylenes, Total	ND	1.5		µg/L	1	1/19/2020 8:13:00 PM	R65894
Surr: 1,2-Dichloroethane-d4	96.6	70-130		%Rec	1	1/19/2020 8:13:00 PM	R65894
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	1/19/2020 8:13:00 PM	R65894
Surr: Dibromofluoromethane	94.0	70-130		%Rec	1	1/19/2020 8:13:00 PM	R65894
Surr: Toluene-d8	96.5	70-130		%Rec	1	1/19/2020 8:13:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200116

Project: Joint Superfund Project Monthly Analysis

Collection Date: 1/16/2020 8:25:00 AM

Lab ID: 2001691-006

Matrix: DRINKING W

Received Date: 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
Benzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Toluene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Ethylbenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Naphthalene	ND	2.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
2-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Acetone	ND	10		µg/L	1	1/19/2020 8:36:00 PM	R65894
Bromobenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Bromodichloromethane	2.0	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Bromoform	1.9	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Bromomethane	ND	3.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
2-Butanone	ND	10		µg/L	1	1/19/2020 8:36:00 PM	R65894
Carbon disulfide	ND	10		µg/L	1	1/19/2020 8:36:00 PM	R65894
Carbon Tetrachloride	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Chlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Chloroethane	ND	2.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Chloroform	1.2	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Chloromethane	ND	3.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
2-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
4-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
cis-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Dibromochloromethane	3.0	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Dibromomethane	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,1-Dichloroethane	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,1-Dichloroethene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,2-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,3-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
2,2-Dichloropropane	ND	2.0		µg/L	1	1/19/2020 8:36:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200116

Project: Joint Superfund Project Monthly Analysis

Collection Date: 1/16/2020 8:25:00 AM

Lab ID: 2001691-006

Matrix: DRINKING W

Received Date: 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
1,1-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Hexachlorobutadiene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
2-Hexanone	ND	10		µg/L	1	1/19/2020 8:36:00 PM	R65894
Isopropylbenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
4-Isopropyltoluene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
4-Methyl-2-pentanone	ND	10		µg/L	1	1/19/2020 8:36:00 PM	R65894
Methylene Chloride	ND	3.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
n-Butylbenzene	ND	3.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
n-Propylbenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
sec-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Styrene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
tert-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
trans-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Trichlorofluoromethane	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Vinyl chloride	ND	1.0		µg/L	1	1/19/2020 8:36:00 PM	R65894
Xylenes, Total	ND	1.5		µg/L	1	1/19/2020 8:36:00 PM	R65894
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%Rec	1	1/19/2020 8:36:00 PM	R65894
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	1/19/2020 8:36:00 PM	R65894
Surr: Dibromofluoromethane	93.1	70-130		%Rec	1	1/19/2020 8:36:00 PM	R65894
Surr: Toluene-d8	106	70-130		%Rec	1	1/19/2020 8:36:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200116 DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 1/16/2020 8:26:00 AM

Lab ID: 2001691-007

Matrix: DRINKING W

Received Date: 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
Benzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Toluene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Ethylbenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Naphthalene	ND	2.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
2-Methylnaphthalene	ND	4.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Acetone	ND	10		µg/L	1	1/19/2020 8:59:00 PM	R65894
Bromobenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Bromodichloromethane	2.1	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Bromoform	2.0	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Bromomethane	ND	3.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
2-Butanone	ND	10		µg/L	1	1/19/2020 8:59:00 PM	R65894
Carbon disulfide	ND	10		µg/L	1	1/19/2020 8:59:00 PM	R65894
Carbon Tetrachloride	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Chlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Chloroethane	ND	2.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Chloroform	1.3	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Chloromethane	ND	3.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
2-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
4-Chlorotoluene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
cis-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Dibromochloromethane	2.9	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Dibromomethane	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,1-Dichloroethane	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,1-Dichloroethene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,2-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,3-Dichloropropane	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
2,2-Dichloropropane	ND	2.0		µg/L	1	1/19/2020 8:59:00 PM	R65894

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 2001691

Date Reported: 1/20/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200116 DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 1/16/2020 8:26:00 AM

Lab ID: 2001691-007

Matrix: DRINKING W

Received Date: 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
1,1-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Hexachlorobutadiene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
2-Hexanone	ND	10		µg/L	1	1/19/2020 8:59:00 PM	R65894
Isopropylbenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
4-Isopropyltoluene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
4-Methyl-2-pentanone	ND	10		µg/L	1	1/19/2020 8:59:00 PM	R65894
Methylene Chloride	ND	3.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
n-Butylbenzene	ND	3.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
n-Propylbenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
sec-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Styrene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
tert-Butylbenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
trans-1,2-DCE	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Trichlorofluoromethane	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Vinyl chloride	ND	1.0		µg/L	1	1/19/2020 8:59:00 PM	R65894
Xylenes, Total	ND	1.5		µg/L	1	1/19/2020 8:59:00 PM	R65894
Surr: 1,2-Dichloroethane-d4	97.8	70-130		%Rec	1	1/19/2020 8:59:00 PM	R65894
Surr: 4-Bromofluorobenzene	86.6	70-130		%Rec	1	1/19/2020 8:59:00 PM	R65894
Surr: Dibromofluoromethane	95.3	70-130		%Rec	1	1/19/2020 8:59:00 PM	R65894
Surr: Toluene-d8	96.1	70-130		%Rec	1	1/19/2020 8:59:00 PM	R65894

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#: 2001691

20-Jan-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

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>R65894</b>		RunNo: <b>65894</b>							
Prep Date:	Analysis Date: <b>1/19/2020</b>		SeqNo: <b>2262839</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	9.6		10.00		96.4	70	130			

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R65894</b>		RunNo: <b>65894</b>							
Prep Date:	Analysis Date: <b>1/19/2020</b>		SeqNo: <b>2263155</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								

**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#: 2001691

20-Jan-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R65894</b>	RunNo: <b>65894</b>								
Prep Date:	Analysis Date: <b>1/19/2020</b>	SeqNo: <b>2263155</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

### 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#: 2001691

20-Jan-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R65894</b>		RunNo: <b>65894</b>							
Prep Date:	Analysis Date: <b>1/19/2020</b>		SeqNo: <b>2263155</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	9.6		10.00		95.8	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: **City of Las Cruces**      Work Order Number: **2001691**      RcptNo: **1**

Received By: **Leah Baca**      1/17/2020 8:43:00 AM

Completed By: **Isaiah Ortiz**      1/17/2020 11:21:31 AM

Reviewed By: *DM 1/17/20*

*Leah Baca*  
*I-Ortiz*

**Chain of Custody**

1. Is Chain of Custody sufficiently 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
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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA
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: *JR 1/17/20*

**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	1.2	Good	Not Present			



# Chain-of-Custody Record

Client: City of Las Cruces

Mailing Address: Water Quality Laboratory  
P.O. Box 20000  
Las Cruces, N.M. 88004

Phone #: 575-528-3609

email or Fax#: lguerria@las-cruces.org

QA/QC Package:  
 Standard     Level 4 (Full Validation)

Accreditation  
 NELAP     Other \_\_\_\_\_

EDD (Type) EXCELL

Turn-Around Time:  
 Standard     Rush

Project Name:  
Joint Superfund Project  
Monthly Analysis

Project #:  
CRC JSP Briggs Walnut

Project Manager:  
Luis Guerra (575) 528-3609

Sampler: Yadun Bujon

On Ice:  Yes     No

Sample Temperature: 1.3-0.1 = 1.2



## 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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VGA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)	
01-16-20	0812	DRINKING WATER	CRC 18-200116	3-40ml Vials	HgCl <sub>2</sub>	2001691-001										X			
	0849		CRC 27-200116			-002										X			
	0817		CRC IS1-200116			-003										X			
	0819		CRC C1-200116			-004										X			
	0822		CRC C2-200116			-005										X			
	0825		CRC ES1-200116			-006										X			
01-16-20	0826	DRINKING WATER	CRC ES1-200116 Dup	3-40ml Vials	HgCl <sub>2</sub>	-007										X			

Date: 01/14/20 Time: 1500 Relinquished by: Yadun Bujon Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Remarks: Send Results to:  
Luis Guerra lguerria@las-cruces.org

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_ Received by: Joshua Rosenblatt jrosenblat@las-cruces.org Date: 1/17/20 Time: 8:43  
(Send invoice to CRC c/o Luis Guerra)

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)

January 24, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2001692

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 1/17/2020 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 2001692

Date Reported: 1/24/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS1-200116

Project: Joint Superfund Project Monthly Analysis

Collection Date: 1/16/2020 8:33:00 AM

Lab ID: 2001692-001

Matrix: AIR

Received Date: 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Toluene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Ethylbenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Naphthalene	ND	0.20		µg/L	1	1/23/2020 1:47:08 PM	A66039
1-Methylnaphthalene	ND	0.40		µg/L	1	1/23/2020 1:47:08 PM	A66039
2-Methylnaphthalene	ND	0.40		µg/L	1	1/23/2020 1:47:08 PM	A66039
Acetone	ND	1.0		µg/L	1	1/23/2020 1:47:08 PM	A66039
Bromobenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Bromodichloromethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Bromoform	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Bromomethane	ND	0.20		µg/L	1	1/23/2020 1:47:08 PM	A66039
2-Butanone	ND	1.0		µg/L	1	1/23/2020 1:47:08 PM	A66039
Carbon disulfide	ND	1.0		µg/L	1	1/23/2020 1:47:08 PM	A66039
Carbon tetrachloride	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Chlorobenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Chloroethane	ND	0.20		µg/L	1	1/23/2020 1:47:08 PM	A66039
Chloroform	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Chloromethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
2-Chlorotoluene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
4-Chlorotoluene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
cis-1,2-DCE	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	1/23/2020 1:47:08 PM	A66039
Dibromochloromethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Dibromomethane	ND	0.20		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,2-Dichlorobenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,3-Dichlorobenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,4-Dichlorobenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Dichlorodifluoromethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,1-Dichloroethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,1-Dichloroethene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,2-Dichloropropane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,3-Dichloropropane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
2,2-Dichloropropane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039

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 2001692

Date Reported: 1/24/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS1-200116

Project: Joint Superfund Project Monthly Analysis

Collection Date: 1/16/2020 8:33:00 AM

Lab ID: 2001692-001

Matrix: AIR

Received Date: 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Hexachlorobutadiene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
2-Hexanone	ND	1.0		µg/L	1	1/23/2020 1:47:08 PM	A66039
Isopropylbenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
4-Isopropyltoluene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
4-Methyl-2-pentanone	ND	1.0		µg/L	1	1/23/2020 1:47:08 PM	A66039
Methylene chloride	ND	0.30		µg/L	1	1/23/2020 1:47:08 PM	A66039
n-Butylbenzene	ND	0.30		µg/L	1	1/23/2020 1:47:08 PM	A66039
n-Propylbenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
sec-Butylbenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Styrene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
tert-Butylbenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Tetrachloroethene (PCE)	0.11	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
trans-1,2-DCE	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,1,1-Trichloroethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,1,2-Trichloroethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Trichloroethene (TCE)	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Trichlorofluoromethane	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
1,2,3-Trichloropropane	ND	0.20		µg/L	1	1/23/2020 1:47:08 PM	A66039
Vinyl chloride	ND	0.10		µg/L	1	1/23/2020 1:47:08 PM	A66039
Xylenes, Total	ND	0.15		µg/L	1	1/23/2020 1:47:08 PM	A66039
Surr: Dibromofluoromethane	106	70-130		%Rec	1	1/23/2020 1:47:08 PM	A66039
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%Rec	1	1/23/2020 1:47:08 PM	A66039
Surr: Toluene-d8	103	70-130		%Rec	1	1/23/2020 1:47:08 PM	A66039
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	1/23/2020 1:47:08 PM	A66039

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 2001692

Date Reported: 1/24/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC AS2-200116

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 1/16/2020 8:37:00 AM

**Lab ID:** 2001692-002

**Matrix:** AIR

**Received Date:** 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Toluene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Ethylbenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Naphthalene	ND	0.20		µg/L	1	1/23/2020 2:16:39 PM	A66039
1-Methylnaphthalene	ND	0.40		µg/L	1	1/23/2020 2:16:39 PM	A66039
2-Methylnaphthalene	ND	0.40		µg/L	1	1/23/2020 2:16:39 PM	A66039
Acetone	ND	1.0		µg/L	1	1/23/2020 2:16:39 PM	A66039
Bromobenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Bromodichloromethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Bromoform	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Bromomethane	ND	0.20		µg/L	1	1/23/2020 2:16:39 PM	A66039
2-Butanone	ND	1.0		µg/L	1	1/23/2020 2:16:39 PM	A66039
Carbon disulfide	ND	1.0		µg/L	1	1/23/2020 2:16:39 PM	A66039
Carbon tetrachloride	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Chlorobenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Chloroethane	ND	0.20		µg/L	1	1/23/2020 2:16:39 PM	A66039
Chloroform	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Chloromethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
2-Chlorotoluene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
4-Chlorotoluene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
cis-1,2-DCE	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	1/23/2020 2:16:39 PM	A66039
Dibromochloromethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Dibromomethane	ND	0.20		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,2-Dichlorobenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,3-Dichlorobenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,4-Dichlorobenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Dichlorodifluoromethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,1-Dichloroethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,1-Dichloroethene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,2-Dichloropropane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,3-Dichloropropane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
2,2-Dichloropropane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039

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 2001692

Date Reported: 1/24/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS2-200116

Project: Joint Superfund Project Monthly Analysis

Collection Date: 1/16/2020 8:37:00 AM

Lab ID: 2001692-002

Matrix: AIR

Received Date: 1/17/2020 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Hexachlorobutadiene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
2-Hexanone	ND	1.0		µg/L	1	1/23/2020 2:16:39 PM	A66039
Isopropylbenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
4-Isopropyltoluene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
4-Methyl-2-pentanone	ND	1.0		µg/L	1	1/23/2020 2:16:39 PM	A66039
Methylene chloride	ND	0.30		µg/L	1	1/23/2020 2:16:39 PM	A66039
n-Butylbenzene	ND	0.30		µg/L	1	1/23/2020 2:16:39 PM	A66039
n-Propylbenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
sec-Butylbenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Styrene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
tert-Butylbenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Tetrachloroethene (PCE)	0.12	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
trans-1,2-DCE	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,1,1-Trichloroethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,1,2-Trichloroethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Trichloroethene (TCE)	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Trichlorofluoromethane	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
1,2,3-Trichloropropane	ND	0.20		µg/L	1	1/23/2020 2:16:39 PM	A66039
Vinyl chloride	ND	0.10		µg/L	1	1/23/2020 2:16:39 PM	A66039
Xylenes, Total	ND	0.15		µg/L	1	1/23/2020 2:16:39 PM	A66039
Surr: Dibromofluoromethane	101	70-130		%Rec	1	1/23/2020 2:16:39 PM	A66039
Surr: 1,2-Dichloroethane-d4	86.6	70-130		%Rec	1	1/23/2020 2:16:39 PM	A66039
Surr: Toluene-d8	109	70-130		%Rec	1	1/23/2020 2:16:39 PM	A66039
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	1/23/2020 2:16:39 PM	A66039

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		

**Sample Log-In Check List**

Client Name: **City of Las Cruces**      Work Order Number: **2001692**      RcptNo: **1**

Received By: **Leah Baca**      1/17/2020 8:43:00 AM  
 Completed By: **Isaiah Ortiz**      1/17/2020 11:37:25 AM  
 Reviewed By: *om 1/20/19*

*Leah Baca*  
*I-Ort*

**Chain of Custody**

1. Is Chain of Custody sufficiently 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   
 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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA   
 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: *JR 1/17/20*

**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"/>		

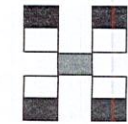
16. Additional remarks:  
 17. **Cooler Information**



# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package:  
 Standard       Level 4 (Full Validation)  
 Accreditation  
 NELAP       Other \_\_\_\_\_  
 EDD (Type) EXCEL

Turn-Around Time:  
 Standard       Rush  
 Project Name:  
Joint Superfund Project  
Monthly Analysis  
 Project #:  
CRC JSF Griggs Walnut  
 Project Manager:  
Luis Guerra (575) 528-3609  
 Sampler: Yadira Rojas  
 On Ice:  Yes       No  
 Sample Temperature: N/A



## 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)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA) VSC	8270 (Semi-VOA)								Air Bubbles (Y or N)	
									X										
									X										

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
1/14/20	0833	Air	CRC AS1-200116	Tidler Bag	NONE	200169Z-001
1/14/20	0837	Air	CRC AS2-200116	Tidler Bag	NONE	-002

Date: <u>01/14/20</u>	Time: <u>1500</u>	Relinquished by: <u>Yadira Rojas</u>	Received by:	Date	Time	Remarks: <u>Send Results to:</u> <u>Luis Guerra: lguerra@las-cruces.org</u>
Date:	Time:	Relinquished by:	Received by: <u>Paul Fed Ex</u>	Date: <u>1/17/20</u>	Time: <u>8:43</u>	Remarks: <u>Joshua Rosblatt: jrosblatt@las-cruces.org</u> <u>(Send invoice to CRC c/o Luis Guerra)</u>

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)

March 06, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX:

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2002D14

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 2/27/2020 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 2002D14

Date Reported: 3/6/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** AS1-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:35:00 AM

**Lab ID:** 2002D14-001

**Matrix:** AIR

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Toluene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Ethylbenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Naphthalene	ND	0.20		µg/L	1	3/5/2020 12:06:39 PM	A67060
1-Methylnaphthalene	ND	0.40		µg/L	1	3/5/2020 12:06:39 PM	A67060
2-Methylnaphthalene	ND	0.40		µg/L	1	3/5/2020 12:06:39 PM	A67060
Acetone	ND	1.0		µg/L	1	3/5/2020 12:06:39 PM	A67060
Bromobenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Bromodichloromethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Bromoform	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Bromomethane	ND	0.20		µg/L	1	3/5/2020 12:06:39 PM	A67060
2-Butanone	ND	1.0		µg/L	1	3/5/2020 12:06:39 PM	A67060
Carbon disulfide	ND	1.0		µg/L	1	3/5/2020 12:06:39 PM	A67060
Carbon tetrachloride	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Chlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Chloroethane	ND	0.20		µg/L	1	3/5/2020 12:06:39 PM	A67060
Chloroform	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Chloromethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
2-Chlorotoluene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
4-Chlorotoluene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
cis-1,2-DCE	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	3/5/2020 12:06:39 PM	A67060
Dibromochloromethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Dibromomethane	ND	0.20		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,2-Dichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,3-Dichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,4-Dichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Dichlorodifluoromethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,1-Dichloroethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,1-Dichloroethene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,2-Dichloropropane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,3-Dichloropropane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
2,2-Dichloropropane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060

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 2002D14

Date Reported: 3/6/2020

CLIENT: City of Las Cruces

Client Sample ID: AS1-200226

Project: Joint Superfund Project Monthly Analysis

Collection Date: 2/26/2020 8:35:00 AM

Lab ID: 2002D14-001

Matrix: AIR

Received Date: 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Hexachlorobutadiene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
2-Hexanone	ND	1.0		µg/L	1	3/5/2020 12:06:39 PM	A67060
Isopropylbenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
4-Isopropyltoluene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
4-Methyl-2-pentanone	ND	1.0		µg/L	1	3/5/2020 12:06:39 PM	A67060
Methylene chloride	ND	0.30		µg/L	1	3/5/2020 12:06:39 PM	A67060
n-Butylbenzene	ND	0.30		µg/L	1	3/5/2020 12:06:39 PM	A67060
n-Propylbenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
sec-Butylbenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Styrene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
tert-Butylbenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Tetrachloroethene (PCE)	0.24	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
trans-1,2-DCE	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,1,1-Trichloroethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,1,2-Trichloroethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Trichloroethene (TCE)	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Trichlorofluoromethane	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
1,2,3-Trichloropropane	ND	0.20		µg/L	1	3/5/2020 12:06:39 PM	A67060
Vinyl chloride	ND	0.10		µg/L	1	3/5/2020 12:06:39 PM	A67060
Xylenes, Total	ND	0.15		µg/L	1	3/5/2020 12:06:39 PM	A67060
Surr: Dibromofluoromethane	112	70-130		%Rec	1	3/5/2020 12:06:39 PM	A67060
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	1	3/5/2020 12:06:39 PM	A67060
Surr: Toluene-d8	98.0	70-130		%Rec	1	3/5/2020 12:06:39 PM	A67060
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	3/5/2020 12:06:39 PM	A67060

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 2002D14

Date Reported: 3/6/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** AS2-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:38:00 AM

**Lab ID:** 2002D14-002

**Matrix:** AIR

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Toluene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Ethylbenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Naphthalene	ND	0.20		µg/L	1	3/5/2020 12:36:30 PM	A67060
1-Methylnaphthalene	ND	0.40		µg/L	1	3/5/2020 12:36:30 PM	A67060
2-Methylnaphthalene	ND	0.40		µg/L	1	3/5/2020 12:36:30 PM	A67060
Acetone	ND	1.0		µg/L	1	3/5/2020 12:36:30 PM	A67060
Bromobenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Bromodichloromethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Bromoform	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Bromomethane	ND	0.20		µg/L	1	3/5/2020 12:36:30 PM	A67060
2-Butanone	ND	1.0		µg/L	1	3/5/2020 12:36:30 PM	A67060
Carbon disulfide	ND	1.0		µg/L	1	3/5/2020 12:36:30 PM	A67060
Carbon tetrachloride	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Chlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Chloroethane	ND	0.20		µg/L	1	3/5/2020 12:36:30 PM	A67060
Chloroform	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Chloromethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
2-Chlorotoluene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
4-Chlorotoluene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
cis-1,2-DCE	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	3/5/2020 12:36:30 PM	A67060
Dibromochloromethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Dibromomethane	ND	0.20		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,2-Dichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,3-Dichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,4-Dichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Dichlorodifluoromethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,1-Dichloroethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,1-Dichloroethene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,2-Dichloropropane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,3-Dichloropropane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
2,2-Dichloropropane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060

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
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	S	% Recovery outside of range due to dilution or matrix		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2002D14

Date Reported: 3/6/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** AS2-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:38:00 AM

**Lab ID:** 2002D14-002

**Matrix:** AIR

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Hexachlorobutadiene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
2-Hexanone	ND	1.0		µg/L	1	3/5/2020 12:36:30 PM	A67060
Isopropylbenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
4-Isopropyltoluene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
4-Methyl-2-pentanone	ND	1.0		µg/L	1	3/5/2020 12:36:30 PM	A67060
Methylene chloride	ND	0.30		µg/L	1	3/5/2020 12:36:30 PM	A67060
n-Butylbenzene	ND	0.30		µg/L	1	3/5/2020 12:36:30 PM	A67060
n-Propylbenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
sec-Butylbenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Styrene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
tert-Butylbenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Tetrachloroethene (PCE)	0.22	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
trans-1,2-DCE	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,1,1-Trichloroethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,1,2-Trichloroethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Trichloroethene (TCE)	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Trichlorofluoromethane	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
1,2,3-Trichloropropane	ND	0.20		µg/L	1	3/5/2020 12:36:30 PM	A67060
Vinyl chloride	ND	0.10		µg/L	1	3/5/2020 12:36:30 PM	A67060
Xylenes, Total	ND	0.15		µg/L	1	3/5/2020 12:36:30 PM	A67060
Surr: Dibromofluoromethane	111	70-130		%Rec	1	3/5/2020 12:36:30 PM	A67060
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	1	3/5/2020 12:36:30 PM	A67060
Surr: Toluene-d8	96.5	70-130		%Rec	1	3/5/2020 12:36:30 PM	A67060
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	3/5/2020 12:36:30 PM	A67060

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		

**Sample Log-In Check List**

Client Name: **City of Las Cruces** Work Order Number: **2002D14** RcptNo: **1**

Received By: **Yazmine Garduno** **2/27/2020 8:45:00 AM** *[Signature]*  
 Completed By: **Erin Melendrez** **2/29/2020 12:58:56 PM** *[Signature]*  
 Reviewed By: **DAD 3/2/20**

**Chain of Custody**

1. Is Chain of Custody sufficiently 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   
 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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA   
 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: *[Signature]* 03/02/20

**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**

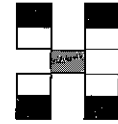
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good				



# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCELL

Turn-Around Time:  
 Standard  Rush  
 Project Name:  
Joint Superfund Project  
Monthly Analysis  
 Project #:  
Chc JP Griggs Walnut  
 Project Manager:  
Luis Guerra (575) 528-3609  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 Sample Temperature: N/A



## 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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOC) VDC	8270 (Semi-VOC)	Air Bubbles (Y or N)	
2-26-20	0835	AIR	AS1-201226	Tedler Bag	NONE	2002D14 -001										X			
2-26-20	0838	AIR	AS2-200226	Tedler Bag	NONE	-002										X			

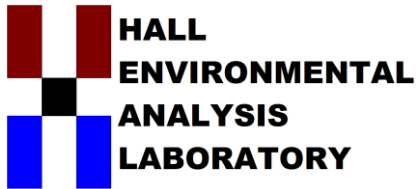
Date: 2-26-20 Time: 1500 Relinquished by: Yadira Reyna

Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: VNE Date: 2/27/20 Time: 0945

Remarks: Send Results to:  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenblatt: jrosenblatt@las-cruces.org  
(Send invoice to one of Luis Guerra)

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)

March 04, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2002D15

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 2/27/2020 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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:11:00 AM

**Lab ID:** 2002D15-001

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Toluene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Ethylbenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Naphthalene	ND	2.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
2-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Acetone	ND	10		µg/L	1	3/3/2020 7:52:00 PM	W66973
Bromobenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Bromodichloromethane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Bromoform	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Bromomethane	ND	3.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
2-Butanone	ND	10		µg/L	1	3/3/2020 7:52:00 PM	W66973
Carbon disulfide	ND	10		µg/L	1	3/3/2020 7:52:00 PM	W66973
Carbon Tetrachloride	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Chlorobenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Chloroethane	ND	2.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Chloroform	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Chloromethane	ND	3.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
2-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
4-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
cis-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Dibromochloromethane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Dibromomethane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,1-Dichloroethane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,1-Dichloroethene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,2-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,3-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
2,2-Dichloropropane	ND	2.0		µg/L	1	3/3/2020 7:52:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:11:00 AM

**Lab ID:** 2002D15-001

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Hexachlorobutadiene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
2-Hexanone	ND	10		µg/L	1	3/3/2020 7:52:00 PM	W66973
Isopropylbenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
4-Isopropyltoluene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
4-Methyl-2-pentanone	ND	10		µg/L	1	3/3/2020 7:52:00 PM	W66973
Methylene Chloride	ND	3.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
n-Butylbenzene	ND	3.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
n-Propylbenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
sec-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Styrene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
tert-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Tetrachloroethene (PCE)	6.4	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
trans-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Trichlorofluoromethane	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Vinyl chloride	ND	1.0		µg/L	1	3/3/2020 7:52:00 PM	W66973
Xylenes, Total	ND	1.5		µg/L	1	3/3/2020 7:52:00 PM	W66973
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	1	3/3/2020 7:52:00 PM	W66973
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	3/3/2020 7:52:00 PM	W66973
Surr: Dibromofluoromethane	94.3	70-130		%Rec	1	3/3/2020 7:52:00 PM	W66973
Surr: Toluene-d8	99.9	70-130		%Rec	1	3/3/2020 7:52:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 27-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:50:00 AM

**Lab ID:** 2002D15-002

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Toluene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Ethylbenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Naphthalene	ND	2.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
2-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Acetone	ND	10		µg/L	1	3/3/2020 8:16:00 PM	W66973
Bromobenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Bromodichloromethane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Bromoform	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Bromomethane	ND	3.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
2-Butanone	ND	10		µg/L	1	3/3/2020 8:16:00 PM	W66973
Carbon disulfide	ND	10		µg/L	1	3/3/2020 8:16:00 PM	W66973
Carbon Tetrachloride	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Chlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Chloroethane	ND	2.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Chloroform	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Chloromethane	ND	3.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
2-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
4-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
cis-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Dibromochloromethane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Dibromomethane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,1-Dichloroethane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,1-Dichloroethene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,2-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,3-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
2,2-Dichloropropane	ND	2.0		µg/L	1	3/3/2020 8:16:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 27-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:50:00 AM

**Lab ID:** 2002D15-002

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Hexachlorobutadiene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
2-Hexanone	ND	10		µg/L	1	3/3/2020 8:16:00 PM	W66973
Isopropylbenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
4-Isopropyltoluene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
4-Methyl-2-pentanone	ND	10		µg/L	1	3/3/2020 8:16:00 PM	W66973
Methylene Chloride	ND	3.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
n-Butylbenzene	ND	3.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
n-Propylbenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
sec-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Styrene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
tert-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Tetrachloroethene (PCE)	15	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
trans-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Trichlorofluoromethane	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Vinyl chloride	ND	1.0		µg/L	1	3/3/2020 8:16:00 PM	W66973
Xylenes, Total	ND	1.5		µg/L	1	3/3/2020 8:16:00 PM	W66973
Surr: 1,2-Dichloroethane-d4	97.9	70-130		%Rec	1	3/3/2020 8:16:00 PM	W66973
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	3/3/2020 8:16:00 PM	W66973
Surr: Dibromofluoromethane	96.4	70-130		%Rec	1	3/3/2020 8:16:00 PM	W66973
Surr: Toluene-d8	101	70-130		%Rec	1	3/3/2020 8:16:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:18:00 AM

**Lab ID:** 2002D15-003

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Toluene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Ethylbenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Naphthalene	ND	2.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
2-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Acetone	ND	10		µg/L	1	3/3/2020 8:39:00 PM	W66973
Bromobenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Bromodichloromethane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Bromoform	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Bromomethane	ND	3.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
2-Butanone	ND	10		µg/L	1	3/3/2020 8:39:00 PM	W66973
Carbon disulfide	ND	10		µg/L	1	3/3/2020 8:39:00 PM	W66973
Carbon Tetrachloride	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Chlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Chloroethane	ND	2.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Chloroform	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Chloromethane	ND	3.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
2-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
4-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
cis-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Dibromochloromethane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Dibromomethane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,1-Dichloroethane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,1-Dichloroethene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,2-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,3-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
2,2-Dichloropropane	ND	2.0		µg/L	1	3/3/2020 8:39:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:18:00 AM

**Lab ID:** 2002D15-003

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Hexachlorobutadiene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
2-Hexanone	ND	10		µg/L	1	3/3/2020 8:39:00 PM	W66973
Isopropylbenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
4-Isopropyltoluene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
4-Methyl-2-pentanone	ND	10		µg/L	1	3/3/2020 8:39:00 PM	W66973
Methylene Chloride	ND	3.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
n-Butylbenzene	ND	3.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
n-Propylbenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
sec-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Styrene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
tert-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Tetrachloroethene (PCE)	12	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
trans-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Trichlorofluoromethane	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Vinyl chloride	ND	1.0		µg/L	1	3/3/2020 8:39:00 PM	W66973
Xylenes, Total	ND	1.5		µg/L	1	3/3/2020 8:39:00 PM	W66973
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	3/3/2020 8:39:00 PM	W66973
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	3/3/2020 8:39:00 PM	W66973
Surr: Dibromofluoromethane	96.1	70-130		%Rec	1	3/3/2020 8:39:00 PM	W66973
Surr: Toluene-d8	101	70-130		%Rec	1	3/3/2020 8:39:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1-200226 DUP

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:19:00 AM

**Lab ID:** 2002D15-004

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Toluene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Ethylbenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Naphthalene	ND	2.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
2-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Acetone	ND	10		µg/L	1	3/3/2020 9:03:00 PM	W66973
Bromobenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Bromodichloromethane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Bromoform	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Bromomethane	ND	3.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
2-Butanone	ND	10		µg/L	1	3/3/2020 9:03:00 PM	W66973
Carbon disulfide	ND	10		µg/L	1	3/3/2020 9:03:00 PM	W66973
Carbon Tetrachloride	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Chlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Chloroethane	ND	2.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Chloroform	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Chloromethane	ND	3.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
2-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
4-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
cis-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Dibromochloromethane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Dibromomethane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,1-Dichloroethane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,1-Dichloroethene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,2-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,3-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
2,2-Dichloropropane	ND	2.0		µg/L	1	3/3/2020 9:03:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1-200226 DUP

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:19:00 AM

**Lab ID:** 2002D15-004

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Hexachlorobutadiene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
2-Hexanone	ND	10		µg/L	1	3/3/2020 9:03:00 PM	W66973
Isopropylbenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
4-Isopropyltoluene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
4-Methyl-2-pentanone	ND	10		µg/L	1	3/3/2020 9:03:00 PM	W66973
Methylene Chloride	ND	3.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
n-Butylbenzene	ND	3.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
n-Propylbenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
sec-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Styrene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
tert-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Tetrachloroethene (PCE)	12	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
trans-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Trichlorofluoromethane	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Vinyl chloride	ND	1.0		µg/L	1	3/3/2020 9:03:00 PM	W66973
Xylenes, Total	ND	1.5		µg/L	1	3/3/2020 9:03:00 PM	W66973
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%Rec	1	3/3/2020 9:03:00 PM	W66973
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	3/3/2020 9:03:00 PM	W66973
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	3/3/2020 9:03:00 PM	W66973
Surr: Toluene-d8	101	70-130		%Rec	1	3/3/2020 9:03:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C1-200226

Project: Joint Superfund Project Monthly Analysis

Collection Date: 2/26/2020 8:23:00 AM

Lab ID: 2002D15-005

Matrix: AQUEOUS

Received Date: 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Toluene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Ethylbenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Naphthalene	ND	2.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
2-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Acetone	ND	10		µg/L	1	3/3/2020 9:27:00 PM	W66973
Bromobenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Bromodichloromethane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Bromoform	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Bromomethane	ND	3.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
2-Butanone	ND	10		µg/L	1	3/3/2020 9:27:00 PM	W66973
Carbon disulfide	ND	10		µg/L	1	3/3/2020 9:27:00 PM	W66973
Carbon Tetrachloride	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Chlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Chloroethane	ND	2.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Chloroform	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Chloromethane	ND	3.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
2-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
4-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
cis-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Dibromochloromethane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Dibromomethane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,1-Dichloroethane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,1-Dichloroethene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,2-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,3-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
2,2-Dichloropropane	ND	2.0		µg/L	1	3/3/2020 9:27:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C1-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:23:00 AM

**Lab ID:** 2002D15-005

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Hexachlorobutadiene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
2-Hexanone	ND	10		µg/L	1	3/3/2020 9:27:00 PM	W66973
Isopropylbenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
4-Isopropyltoluene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
4-Methyl-2-pentanone	ND	10		µg/L	1	3/3/2020 9:27:00 PM	W66973
Methylene Chloride	ND	3.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
n-Butylbenzene	ND	3.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
n-Propylbenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
sec-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Styrene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
tert-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
trans-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Trichlorofluoromethane	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Vinyl chloride	ND	1.0		µg/L	1	3/3/2020 9:27:00 PM	W66973
Xylenes, Total	ND	1.5		µg/L	1	3/3/2020 9:27:00 PM	W66973
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%Rec	1	3/3/2020 9:27:00 PM	W66973
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	3/3/2020 9:27:00 PM	W66973
Surr: Dibromofluoromethane	95.8	70-130		%Rec	1	3/3/2020 9:27:00 PM	W66973
Surr: Toluene-d8	102	70-130		%Rec	1	3/3/2020 9:27:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:27:00 AM

**Lab ID:** 2002D15-006

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Toluene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Ethylbenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Naphthalene	ND	2.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
2-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Acetone	ND	10		µg/L	1	3/3/2020 9:51:00 PM	W66973
Bromobenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Bromodichloromethane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Bromoform	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Bromomethane	ND	3.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
2-Butanone	ND	10		µg/L	1	3/3/2020 9:51:00 PM	W66973
Carbon disulfide	ND	10		µg/L	1	3/3/2020 9:51:00 PM	W66973
Carbon Tetrachloride	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Chlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Chloroethane	ND	2.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Chloroform	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Chloromethane	ND	3.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
2-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
4-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
cis-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Dibromochloromethane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Dibromomethane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,1-Dichloroethane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,1-Dichloroethene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,2-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,3-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
2,2-Dichloropropane	ND	2.0		µg/L	1	3/3/2020 9:51:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:27:00 AM

**Lab ID:** 2002D15-006

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Hexachlorobutadiene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
2-Hexanone	ND	10		µg/L	1	3/3/2020 9:51:00 PM	W66973
Isopropylbenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
4-Isopropyltoluene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
4-Methyl-2-pentanone	ND	10		µg/L	1	3/3/2020 9:51:00 PM	W66973
Methylene Chloride	ND	3.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
n-Butylbenzene	ND	3.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
n-Propylbenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
sec-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Styrene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
tert-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
trans-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Trichlorofluoromethane	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Vinyl chloride	ND	1.0		µg/L	1	3/3/2020 9:51:00 PM	W66973
Xylenes, Total	ND	1.5		µg/L	1	3/3/2020 9:51:00 PM	W66973
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%Rec	1	3/3/2020 9:51:00 PM	W66973
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	3/3/2020 9:51:00 PM	W66973
Surr: Dibromofluoromethane	94.2	70-130		%Rec	1	3/3/2020 9:51:00 PM	W66973
Surr: Toluene-d8	101	70-130		%Rec	1	3/3/2020 9:51:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1-200226

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 2/26/2020 8:30:00 AM

**Lab ID:** 2002D15-007

**Matrix:** AQUEOUS

**Received Date:** 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Toluene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Ethylbenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Naphthalene	ND	2.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
2-Methylnaphthalene	ND	4.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Acetone	ND	10		µg/L	1	3/3/2020 10:15:00 PM	W66973
Bromobenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Bromodichloromethane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Bromoform	4.9	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Bromomethane	ND	3.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
2-Butanone	ND	10		µg/L	1	3/3/2020 10:15:00 PM	W66973
Carbon disulfide	ND	10		µg/L	1	3/3/2020 10:15:00 PM	W66973
Carbon Tetrachloride	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Chlorobenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Chloroethane	ND	2.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Chloroform	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Chloromethane	ND	3.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
2-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
4-Chlorotoluene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
cis-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Dibromochloromethane	1.3	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Dibromomethane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,1-Dichloroethane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,1-Dichloroethene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,2-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,3-Dichloropropane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
2,2-Dichloropropane	ND	2.0		µg/L	1	3/3/2020 10:15:00 PM	W66973

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 2002D15

Date Reported: 3/4/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200226

Project: Joint Superfund Project Monthly Analysis

Collection Date: 2/26/2020 8:30:00 AM

Lab ID: 2002D15-007

Matrix: AQUEOUS

Received Date: 2/27/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Hexachlorobutadiene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
2-Hexanone	ND	10		µg/L	1	3/3/2020 10:15:00 PM	W66973
Isopropylbenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
4-Isopropyltoluene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
4-Methyl-2-pentanone	ND	10		µg/L	1	3/3/2020 10:15:00 PM	W66973
Methylene Chloride	ND	3.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
n-Butylbenzene	ND	3.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
n-Propylbenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
sec-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Styrene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
tert-Butylbenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
trans-1,2-DCE	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Trichlorofluoromethane	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Vinyl chloride	ND	1.0		µg/L	1	3/3/2020 10:15:00 PM	W66973
Xylenes, Total	ND	1.5		µg/L	1	3/3/2020 10:15:00 PM	W66973
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	3/3/2020 10:15:00 PM	W66973
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	3/3/2020 10:15:00 PM	W66973
Surr: Dibromofluoromethane	94.9	70-130		%Rec	1	3/3/2020 10:15:00 PM	W66973
Surr: Toluene-d8	98.8	70-130		%Rec	1	3/3/2020 10:15:00 PM	W66973

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#: 2002D15

04-Mar-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

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>W66973</b>	RunNo: <b>66973</b>								
Prep Date:	Analysis Date: <b>3/3/2020</b>	SeqNo: <b>2304505</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.0	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	15	1.0	20.00	0	75.3	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	89.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.7	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.3	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.6	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>W66973</b>	RunNo: <b>66973</b>								
Prep Date:	Analysis Date: <b>3/3/2020</b>	SeqNo: <b>2304506</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								

**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#: 2002D15

04-Mar-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>W66973</b>		RunNo: <b>66973</b>							
Prep Date:	Analysis Date: <b>3/3/2020</b>		SeqNo: <b>2304506</b>		Units: <b>µg/L</b>					
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								
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								

### 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#: 2002D15

04-Mar-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>W66973</b>		RunNo: <b>66973</b>							
Prep Date:	Analysis Date: <b>3/3/2020</b>		SeqNo: <b>2304506</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.2	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.3	70	130			
Surr: Toluene-d8	10		10.00		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: **City of Las Cruces**

Work Order Number: **2002D15**

RcptNo: 1

Received By: **Yazmine Garduno** **2/27/2020 8:45:00 AM**

*Yazmine Garduno*

Completed By: **Erin Melendrez** **2/29/2020 1:03:04 PM**

*Erin Melendrez*

Reviewed By: **DAD 3/2/20**

**Chain of Custody**

1. Is Chain of Custody sufficiently 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
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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA
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: *mjg 03/02*

**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:

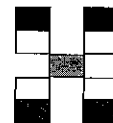
**Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good				

# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: lguerrero@las-cruces.org  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCEL

Turn-Around Time:  
 Standard  Rush  
 Project Name: Joint Superfund Project Monthly Analysis  
 Project #: J  
CRC JSP Briggs Walnut  
 Project Manager: Luis Guerra (575) 528-3609  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 Sample Temperature: 0.4-0.5-0.1



## 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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)	
12-26-20	0811	Drinking Water	CRC 18-200226	3-20ml Vials	HgCl <sub>2</sub>	2002D15 -001										X			
	1829		CRC 27-200226			-002										X			
	0818		CRC ISI-200226			-003										X			
	0819		CRC ISI-200226 DUP			-004										X			
	1823		CRC C1-200226			-005										X			
	1827		CRC C2-200226			-006										X			
12-26-20	1830	Drinking Water	CRC ESI-200226	8-20ml Vials	HgCl <sub>2</sub>	-007										X			

Date: 2/24/20 Time: 1500 Relinquished by: Yadira Reyna Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Remarks: Send Results to:  
luis.guerra@las-cruces.org  
Joshua P. Sonblatt: jsonblatt@las-cruces.org  
(Send invoice to CRC c/o Luis Guerra)

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)

April 10, 2020

Luis Guerra

City of Las Cruces

PO Box 20000

Las Cruces, NM 88004

TEL: (575) 528-3604

FAX:

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2004040

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 4/1/2020 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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:07:00 AM

Lab ID: 2004040-001

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944

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 2004040

Date Reported: 4/10/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18-200331

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 3/31/2020 8:07:00 AM

**Lab ID:** 2004040-001

**Matrix:** AQUEOUS

**Received Date:** 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Tetrachloroethene (PCE)	5.8	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 11:38:00 AM	R67944
Surr: 1,2-Dichloroethane-d4	97.8	70-130		%Rec	1	4/6/2020 11:38:00 AM	R67944
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	4/6/2020 11:38:00 AM	R67944
Surr: Dibromofluoromethane	98.1	70-130		%Rec	1	4/6/2020 11:38:00 AM	R67944
Surr: Toluene-d8	100	70-130		%Rec	1	4/6/2020 11:38:00 AM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200331-Dup

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:09:00 AM

Lab ID: 2004040-002

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200331-Dup

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:09:00 AM

Lab ID: 2004040-002

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Tetrachloroethene (PCE)	5.8	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 12:48:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	97.5	70-130		%Rec	1	4/6/2020 12:48:00 PM	R67944
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	4/6/2020 12:48:00 PM	R67944
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	4/6/2020 12:48:00 PM	R67944
Surr: Toluene-d8	98.8	70-130		%Rec	1	4/6/2020 12:48:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:31:00 AM

Lab ID: 2004040-003

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:31:00 AM

Lab ID: 2004040-003

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Tetrachloroethene (PCE)	12	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 1:12:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	97.5	70-130		%Rec	1	4/6/2020 1:12:00 PM	R67944
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	4/6/2020 1:12:00 PM	R67944
Surr: Dibromofluoromethane	98.7	70-130		%Rec	1	4/6/2020 1:12:00 PM	R67944
Surr: Toluene-d8	99.7	70-130		%Rec	1	4/6/2020 1:12:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:34:00 AM

Lab ID: 2004040-004

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:34:00 AM

Lab ID: 2004040-004

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 1:35:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	97.2	70-130		%Rec	1	4/6/2020 1:35:00 PM	R67944
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	4/6/2020 1:35:00 PM	R67944
Surr: Dibromofluoromethane	97.9	70-130		%Rec	1	4/6/2020 1:35:00 PM	R67944
Surr: Toluene-d8	98.5	70-130		%Rec	1	4/6/2020 1:35:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C2-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:37:00 AM

Lab ID: 2004040-005

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200331

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 3/31/2020 8:37:00 AM

**Lab ID:** 2004040-005

**Matrix:** AQUEOUS

**Received Date:** 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 1:58:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%Rec	1	4/6/2020 1:58:00 PM	R67944
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	4/6/2020 1:58:00 PM	R67944
Surr: Dibromofluoromethane	98.5	70-130		%Rec	1	4/6/2020 1:58:00 PM	R67944
Surr: Toluene-d8	98.0	70-130		%Rec	1	4/6/2020 1:58:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:23:00 AM

Lab ID: 2004040-006

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:23:00 AM

Lab ID: 2004040-006

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Tetrachloroethene (PCE)	15	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 2:21:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	4/6/2020 2:21:00 PM	R67944
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	4/6/2020 2:21:00 PM	R67944
Surr: Dibromofluoromethane	95.7	70-130		%Rec	1	4/6/2020 2:21:00 PM	R67944
Surr: Toluene-d8	99.9	70-130		%Rec	1	4/6/2020 2:21:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:39:00 AM

Lab ID: 2004040-007

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Bromodichloromethane	2.9	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Bromoform	2.0	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Chloroform	2.1	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Dibromochloromethane	3.3	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944

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.**

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:39:00 AM

Lab ID: 2004040-007

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 2:45:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	4/6/2020 2:45:00 PM	R67944
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	4/6/2020 2:45:00 PM	R67944
Surr: Dibromofluoromethane	99.1	70-130		%Rec	1	4/6/2020 2:45:00 PM	R67944
Surr: Toluene-d8	99.5	70-130		%Rec	1	4/6/2020 2:45:00 PM	R67944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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#: 2004040

10-Apr-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

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>R67944</b>	RunNo: <b>67944</b>								
Prep Date:	Analysis Date: <b>4/6/2020</b>	SeqNo: <b>2347890</b> Units: <b>µg/L</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
Chlorobenzene	22	1.0	20.00	0	110	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.2	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.7	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.0	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R67944</b>	RunNo: <b>67944</b>								
Prep Date:	Analysis Date: <b>4/6/2020</b>	SeqNo: <b>2347926</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								

### 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#: 2004040

10-Apr-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R67944</b>		RunNo: <b>67944</b>							
Prep Date:	Analysis Date: <b>4/6/2020</b>		SeqNo: <b>2347926</b>		Units: <b>µg/L</b>					
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								
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								

### 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#: 2004040

10-Apr-20

**Client:** City of Las Cruces

**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R67944</b>	RunNo: <b>67944</b>								
Prep Date:	Analysis Date: <b>4/6/2020</b>	SeqNo: <b>2347926</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.7	70	130			
Surr: Toluene-d8	10		10.00		100	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: City of Las Cruces

Work Order Number: 2004040

RcptNo: 1

Received By: Juan Rojas

4/1/2020 9:25:00 AM

*Juan Rojas*

Completed By: John Caldwell

4/1/2020 2:09:50 PM

*John Caldwell*

Reviewed By: *LB*

*4/1/2020*  
*4/2/2020*  
*LB*

### Chain of Custody

1. Is Chain of Custody sufficiently 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
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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA
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 4/2/20*

### 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:

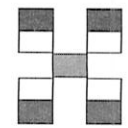
### 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.2	Good				

# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 20000  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCEL

Turn-Around Time:  
 Standard  Rush  
 Project Name:  
Joint Superfund Project  
Monthly Analysis  
 Project #:  
0  
CRE JP Griggs Wilmet  
 Project Manager:  
Luis Guerra (575) 528-3609  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 Sample Temperature: 0.2-0.2



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

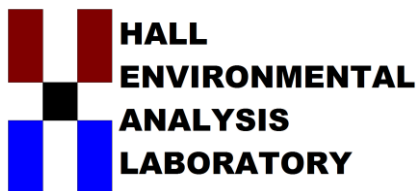
Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MPO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOC) / 8270 (Semi-VOC)	Air Bubbles (Y or N)
03-31-20	0807	Plum water	CRE 18-200331	3-20ml Vials	HgCl <sub>2</sub>	2001040 -001									X		
	0809		CRE 18-200331-DUP			-002									X		
	0831		CRE ISI-200331			-003									X		
	0834		CRE C1-200331			-004									X		
	0837		CRE C2-200331			-005									X		
	0823		CRE 27-200331			-006									X		
03-31-20	0839	Plum water	CRE ESI-200331	3-40ml Vials	HgCl <sub>2</sub>	-007									X		

Date: 3/31/20 Time: 1500 Relinquished by: Yadira Reyna  
 Received by: [Signature] Date: 4/1/20 Time: 9:15 Remarks: Send Results to:  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_  
 Received by: [Signature] Date: \_\_\_\_\_ Time: \_\_\_\_\_ Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenthal: jrosenthal@las-cruces.org  
(Send invoice to cre c/o Luis Guerra)

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)

April 14, 2020

Luis Guerra

City of Las Cruces

PO Box 20000

Las Cruces, NM 88004

TEL: (575) 528-3604

FAX:

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2004042

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/1/2020 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 2004042

Date Reported: 4/14/2020

CLIENT: City of Las Cruces

Client Sample ID: AS1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:41:00 AM

Lab ID: 2004042-001

Matrix: AIR

Received Date: 4/1/2020 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Toluene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Ethylbenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Naphthalene	ND	0.20		µg/L	1	4/12/2020 1:40:31 PM	W68063
1-Methylnaphthalene	ND	0.40		µg/L	1	4/12/2020 1:40:31 PM	W68063
2-Methylnaphthalene	ND	0.40		µg/L	1	4/12/2020 1:40:31 PM	W68063
Acetone	ND	1.0		µg/L	1	4/12/2020 1:40:31 PM	W68063
Bromobenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Bromodichloromethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Bromoform	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Bromomethane	ND	0.20		µg/L	1	4/12/2020 1:40:31 PM	W68063
2-Butanone	ND	1.0		µg/L	1	4/12/2020 1:40:31 PM	W68063
Carbon disulfide	ND	1.0		µg/L	1	4/12/2020 1:40:31 PM	W68063
Carbon tetrachloride	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Chlorobenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Chloroethane	ND	0.20		µg/L	1	4/12/2020 1:40:31 PM	W68063
Chloroform	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Chloromethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
2-Chlorotoluene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
4-Chlorotoluene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
cis-1,2-DCE	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	4/12/2020 1:40:31 PM	W68063
Dibromochloromethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Dibromomethane	ND	0.20		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,2-Dichlorobenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,3-Dichlorobenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,4-Dichlorobenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Dichlorodifluoromethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,1-Dichloroethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,1-Dichloroethene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,2-Dichloropropane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,3-Dichloropropane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
2,2-Dichloropropane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2004042

Date Reported: 4/14/2020

CLIENT: City of Las Cruces

Client Sample ID: AS1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:41:00 AM

Lab ID: 2004042-001

Matrix: AIR

Received Date: 4/1/2020 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Hexachlorobutadiene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
2-Hexanone	ND	1.0		µg/L	1	4/12/2020 1:40:31 PM	W68063
Isopropylbenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
4-Isopropyltoluene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
4-Methyl-2-pentanone	ND	1.0		µg/L	1	4/12/2020 1:40:31 PM	W68063
Methylene chloride	ND	0.30		µg/L	1	4/12/2020 1:40:31 PM	W68063
n-Butylbenzene	ND	0.30		µg/L	1	4/12/2020 1:40:31 PM	W68063
n-Propylbenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
sec-Butylbenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Styrene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
tert-Butylbenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Tetrachloroethene (PCE)	0.18	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
trans-1,2-DCE	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,1,1-Trichloroethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,1,2-Trichloroethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Trichloroethene (TCE)	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Trichlorofluoromethane	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
1,2,3-Trichloropropane	ND	0.20		µg/L	1	4/12/2020 1:40:31 PM	W68063
Vinyl chloride	ND	0.10		µg/L	1	4/12/2020 1:40:31 PM	W68063
Xylenes, Total	ND	0.15		µg/L	1	4/12/2020 1:40:31 PM	W68063
Surr: Dibromofluoromethane	110	70-130		%Rec	1	4/12/2020 1:40:31 PM	W68063
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	4/12/2020 1:40:31 PM	W68063
Surr: Toluene-d8	98.5	70-130		%Rec	1	4/12/2020 1:40:31 PM	W68063
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	4/12/2020 1:40:31 PM	W68063

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2004042

Date Reported: 4/14/2020

CLIENT: City of Las Cruces

Client Sample ID: AS1-200331 Dup

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:42:00 AM

Lab ID: 2004042-002

Matrix: AIR

Received Date: 4/1/2020 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Toluene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Ethylbenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Naphthalene	ND	0.20		µg/L	1	4/12/2020 2:10:12 PM	W68063
1-Methylnaphthalene	ND	0.40		µg/L	1	4/12/2020 2:10:12 PM	W68063
2-Methylnaphthalene	ND	0.40		µg/L	1	4/12/2020 2:10:12 PM	W68063
Acetone	ND	1.0		µg/L	1	4/12/2020 2:10:12 PM	W68063
Bromobenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Bromodichloromethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Bromoform	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Bromomethane	ND	0.20		µg/L	1	4/12/2020 2:10:12 PM	W68063
2-Butanone	ND	1.0		µg/L	1	4/12/2020 2:10:12 PM	W68063
Carbon disulfide	ND	1.0		µg/L	1	4/12/2020 2:10:12 PM	W68063
Carbon tetrachloride	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Chlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Chloroethane	ND	0.20		µg/L	1	4/12/2020 2:10:12 PM	W68063
Chloroform	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Chloromethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
2-Chlorotoluene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
4-Chlorotoluene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
cis-1,2-DCE	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	4/12/2020 2:10:12 PM	W68063
Dibromochloromethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Dibromomethane	ND	0.20		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,2-Dichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,3-Dichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,4-Dichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Dichlorodifluoromethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,1-Dichloroethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,1-Dichloroethene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,2-Dichloropropane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,3-Dichloropropane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
2,2-Dichloropropane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2004042

Date Reported: 4/14/2020

CLIENT: City of Las Cruces

Client Sample ID: AS1-200331 Dup

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:42:00 AM

Lab ID: 2004042-002

Matrix: AIR

Received Date: 4/1/2020 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Hexachlorobutadiene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
2-Hexanone	ND	1.0		µg/L	1	4/12/2020 2:10:12 PM	W68063
Isopropylbenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
4-Isopropyltoluene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
4-Methyl-2-pentanone	ND	1.0		µg/L	1	4/12/2020 2:10:12 PM	W68063
Methylene chloride	ND	0.30		µg/L	1	4/12/2020 2:10:12 PM	W68063
n-Butylbenzene	ND	0.30		µg/L	1	4/12/2020 2:10:12 PM	W68063
n-Propylbenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
sec-Butylbenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Styrene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
tert-Butylbenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Tetrachloroethene (PCE)	0.21	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
trans-1,2-DCE	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,1,1-Trichloroethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,1,2-Trichloroethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Trichloroethene (TCE)	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Trichlorofluoromethane	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
1,2,3-Trichloropropane	ND	0.20		µg/L	1	4/12/2020 2:10:12 PM	W68063
Vinyl chloride	ND	0.10		µg/L	1	4/12/2020 2:10:12 PM	W68063
Xylenes, Total	ND	0.15		µg/L	1	4/12/2020 2:10:12 PM	W68063
Surr: Dibromofluoromethane	107	70-130		%Rec	1	4/12/2020 2:10:12 PM	W68063
Surr: 1,2-Dichloroethane-d4	96.7	70-130		%Rec	1	4/12/2020 2:10:12 PM	W68063
Surr: Toluene-d8	96.2	70-130		%Rec	1	4/12/2020 2:10:12 PM	W68063
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/12/2020 2:10:12 PM	W68063

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2004042

Date Reported: 4/14/2020

CLIENT: City of Las Cruces

Client Sample ID: AS2-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:45:00 AM

Lab ID: 2004042-003

Matrix: AIR

Received Date: 4/1/2020 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Toluene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Ethylbenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Naphthalene	ND	0.20		µg/L	1	4/12/2020 2:39:52 PM	W68063
1-Methylnaphthalene	ND	0.40		µg/L	1	4/12/2020 2:39:52 PM	W68063
2-Methylnaphthalene	ND	0.40		µg/L	1	4/12/2020 2:39:52 PM	W68063
Acetone	ND	1.0		µg/L	1	4/12/2020 2:39:52 PM	W68063
Bromobenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Bromodichloromethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Bromoform	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Bromomethane	ND	0.20		µg/L	1	4/12/2020 2:39:52 PM	W68063
2-Butanone	ND	1.0		µg/L	1	4/12/2020 2:39:52 PM	W68063
Carbon disulfide	ND	1.0		µg/L	1	4/12/2020 2:39:52 PM	W68063
Carbon tetrachloride	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Chlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Chloroethane	ND	0.20		µg/L	1	4/12/2020 2:39:52 PM	W68063
Chloroform	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Chloromethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
2-Chlorotoluene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
4-Chlorotoluene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
cis-1,2-DCE	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	4/12/2020 2:39:52 PM	W68063
Dibromochloromethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Dibromomethane	ND	0.20		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,2-Dichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,3-Dichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,4-Dichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Dichlorodifluoromethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,1-Dichloroethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,1-Dichloroethene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,2-Dichloropropane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,3-Dichloropropane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
2,2-Dichloropropane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2004042

Date Reported: 4/14/2020

CLIENT: City of Las Cruces

Client Sample ID: AS2-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:45:00 AM

Lab ID: 2004042-003

Matrix: AIR

Received Date: 4/1/2020 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Hexachlorobutadiene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
2-Hexanone	ND	1.0		µg/L	1	4/12/2020 2:39:52 PM	W68063
Isopropylbenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
4-Isopropyltoluene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
4-Methyl-2-pentanone	ND	1.0		µg/L	1	4/12/2020 2:39:52 PM	W68063
Methylene chloride	ND	0.30		µg/L	1	4/12/2020 2:39:52 PM	W68063
n-Butylbenzene	ND	0.30		µg/L	1	4/12/2020 2:39:52 PM	W68063
n-Propylbenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
sec-Butylbenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Styrene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
tert-Butylbenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Tetrachloroethene (PCE)	0.27	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
trans-1,2-DCE	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,1,1-Trichloroethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,1,2-Trichloroethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Trichloroethene (TCE)	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Trichlorofluoromethane	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
1,2,3-Trichloropropane	ND	0.20		µg/L	1	4/12/2020 2:39:52 PM	W68063
Vinyl chloride	ND	0.10		µg/L	1	4/12/2020 2:39:52 PM	W68063
Xylenes, Total	ND	0.15		µg/L	1	4/12/2020 2:39:52 PM	W68063
Surr: Dibromofluoromethane	112	70-130		%Rec	1	4/12/2020 2:39:52 PM	W68063
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%Rec	1	4/12/2020 2:39:52 PM	W68063
Surr: Toluene-d8	96.3	70-130		%Rec	1	4/12/2020 2:39:52 PM	W68063
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/12/2020 2:39:52 PM	W68063

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





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: City of Las Cruces      Work Order Number: 2004042      RcptNo: 1

Received By: **Desiree Dominguez**      4/1/2020 11:30:00 AM  
 Completed By: **John Caldwell**      4/1/2020 2:14:59 PM  
 Reviewed By: **DAD 4/2/20**

*[Signature]*  
*[Signature]*

### Chain of Custody

1. Is Chain of Custody sufficiently 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   
 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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA   
 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: *[Signature]*

### 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	N/A	Good				





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)

May 01, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2004B90

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 5 sample(s) on 4/29/2020 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 2004B90

Date Reported: 5/1/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18 - 200428

Project: Joint Superfund Project Monthly Analysis

Collection Date: 4/28/2020 8:11:00 AM

Lab ID: 2004B90-001

Matrix: AQUEOUS

Received Date: 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Toluene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Ethylbenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Naphthalene	ND	2.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
2-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Acetone	ND	10		µg/L	1	4/30/2020 3:31:50 AM	R68533
Bromobenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Bromodichloromethane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Bromoform	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Bromomethane	ND	3.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
2-Butanone	ND	10		µg/L	1	4/30/2020 3:31:50 AM	R68533
Carbon disulfide	ND	10		µg/L	1	4/30/2020 3:31:50 AM	R68533
Carbon Tetrachloride	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Chlorobenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Chloroethane	ND	2.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Chloroform	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Chloromethane	ND	3.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
2-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
4-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
cis-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Dibromochloromethane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Dibromomethane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,1-Dichloroethane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,1-Dichloroethene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,2-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,3-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
2,2-Dichloropropane	ND	2.0		µg/L	1	4/30/2020 3:31:50 AM	R68533

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.

CLIENT: City of Las Cruces

Client Sample ID: CLC 18 - 200428

Project: Joint Superfund Project Monthly Analysis

Collection Date: 4/28/2020 8:11:00 AM

Lab ID: 2004B90-001

Matrix: AQUEOUS

Received Date: 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Hexachlorobutadiene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
2-Hexanone	ND	10		µg/L	1	4/30/2020 3:31:50 AM	R68533
Isopropylbenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
4-Isopropyltoluene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
4-Methyl-2-pentanone	ND	10		µg/L	1	4/30/2020 3:31:50 AM	R68533
Methylene Chloride	ND	3.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
n-Butylbenzene	ND	3.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
n-Propylbenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
sec-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Styrene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
tert-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Tetrachloroethene (PCE)	6.3	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
trans-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Trichlorofluoromethane	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Vinyl chloride	ND	1.0		µg/L	1	4/30/2020 3:31:50 AM	R68533
Xylenes, Total	ND	1.5		µg/L	1	4/30/2020 3:31:50 AM	R68533
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	4/30/2020 3:31:50 AM	R68533
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	4/30/2020 3:31:50 AM	R68533
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/30/2020 3:31:50 AM	R68533
Surr: Toluene-d8	97.3	70-130		%Rec	1	4/30/2020 3:31:50 AM	R68533

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2004B90

Date Reported: 5/1/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 27 - 200428

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 4/28/2020 8:46:00 AM

**Lab ID:** 2004B90-002

**Matrix:** AQUEOUS

**Received Date:** 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Toluene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Ethylbenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Naphthalene	ND	2.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
2-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Acetone	ND	10		µg/L	1	4/30/2020 4:01:45 AM	R68533
Bromobenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Bromodichloromethane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Bromoform	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Bromomethane	ND	3.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
2-Butanone	ND	10		µg/L	1	4/30/2020 4:01:45 AM	R68533
Carbon disulfide	ND	10		µg/L	1	4/30/2020 4:01:45 AM	R68533
Carbon Tetrachloride	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Chlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Chloroethane	ND	2.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Chloroform	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Chloromethane	ND	3.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
2-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
4-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
cis-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Dibromochloromethane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Dibromomethane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,1-Dichloroethane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,1-Dichloroethene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,2-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,3-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
2,2-Dichloropropane	ND	2.0		µg/L	1	4/30/2020 4:01:45 AM	R68533

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 2004B90

Date Reported: 5/1/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27 - 200428

Project: Joint Superfund Project Monthly Analysis

Collection Date: 4/28/2020 8:46:00 AM

Lab ID: 2004B90-002

Matrix: AQUEOUS

Received Date: 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Hexachlorobutadiene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
2-Hexanone	ND	10		µg/L	1	4/30/2020 4:01:45 AM	R68533
Isopropylbenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
4-Isopropyltoluene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
4-Methyl-2-pentanone	ND	10		µg/L	1	4/30/2020 4:01:45 AM	R68533
Methylene Chloride	ND	3.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
n-Butylbenzene	ND	3.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
n-Propylbenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
sec-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Styrene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
tert-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Tetrachloroethene (PCE)	16	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
trans-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Trichlorofluoromethane	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Vinyl chloride	ND	1.0		µg/L	1	4/30/2020 4:01:45 AM	R68533
Xylenes, Total	ND	1.5		µg/L	1	4/30/2020 4:01:45 AM	R68533
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	4/30/2020 4:01:45 AM	R68533
Surr: 4-Bromofluorobenzene	95.1	70-130		%Rec	1	4/30/2020 4:01:45 AM	R68533
Surr: Dibromofluoromethane	104	70-130		%Rec	1	4/30/2020 4:01:45 AM	R68533
Surr: Toluene-d8	101	70-130		%Rec	1	4/30/2020 4:01:45 AM	R68533

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 2004B90

Date Reported: 5/1/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27 - 200428 DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 4/28/2020 8:48:00 AM

Lab ID: 2004B90-003

Matrix: AQUEOUS

Received Date: 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Toluene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Ethylbenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Naphthalene	ND	2.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
2-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Acetone	ND	10		µg/L	1	4/30/2020 4:30:56 AM	R68533
Bromobenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Bromodichloromethane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Bromoform	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Bromomethane	ND	3.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
2-Butanone	ND	10		µg/L	1	4/30/2020 4:30:56 AM	R68533
Carbon disulfide	ND	10		µg/L	1	4/30/2020 4:30:56 AM	R68533
Carbon Tetrachloride	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Chlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Chloroethane	ND	2.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Chloroform	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Chloromethane	ND	3.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
2-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
4-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
cis-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Dibromochloromethane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Dibromomethane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,1-Dichloroethane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,1-Dichloroethene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,2-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,3-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
2,2-Dichloropropane	ND	2.0		µg/L	1	4/30/2020 4:30:56 AM	R68533

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 2004B90

Date Reported: 5/1/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27 - 200428 DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 4/28/2020 8:48:00 AM

Lab ID: 2004B90-003

Matrix: AQUEOUS

Received Date: 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Hexachlorobutadiene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
2-Hexanone	ND	10		µg/L	1	4/30/2020 4:30:56 AM	R68533
Isopropylbenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
4-Isopropyltoluene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
4-Methyl-2-pentanone	ND	10		µg/L	1	4/30/2020 4:30:56 AM	R68533
Methylene Chloride	ND	3.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
n-Butylbenzene	ND	3.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
n-Propylbenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
sec-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Styrene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
tert-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Tetrachloroethene (PCE)	16	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
trans-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Trichlorofluoromethane	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Vinyl chloride	ND	1.0		µg/L	1	4/30/2020 4:30:56 AM	R68533
Xylenes, Total	ND	1.5		µg/L	1	4/30/2020 4:30:56 AM	R68533
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	4/30/2020 4:30:56 AM	R68533
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	4/30/2020 4:30:56 AM	R68533
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/30/2020 4:30:56 AM	R68533
Surr: Toluene-d8	98.0	70-130		%Rec	1	4/30/2020 4:30:56 AM	R68533

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 2004B90

Date Reported: 5/1/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1 - 200428

Project: Joint Superfund Project Monthly Analysis

Collection Date: 4/28/2020 8:33:00 AM

Lab ID: 2004B90-004

Matrix: AQUEOUS

Received Date: 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Toluene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Ethylbenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Naphthalene	ND	2.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
2-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Acetone	ND	10		µg/L	1	4/30/2020 5:00:23 AM	R68533
Bromobenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Bromodichloromethane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Bromoform	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Bromomethane	ND	3.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
2-Butanone	ND	10		µg/L	1	4/30/2020 5:00:23 AM	R68533
Carbon disulfide	ND	10		µg/L	1	4/30/2020 5:00:23 AM	R68533
Carbon Tetrachloride	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Chlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Chloroethane	ND	2.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Chloroform	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Chloromethane	ND	3.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
2-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
4-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
cis-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Dibromochloromethane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Dibromomethane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,1-Dichloroethane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,1-Dichloroethene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,2-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,3-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
2,2-Dichloropropane	ND	2.0		µg/L	1	4/30/2020 5:00:23 AM	R68533

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 2004B90

Date Reported: 5/1/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1 - 200428

Project: Joint Superfund Project Monthly Analysis

Collection Date: 4/28/2020 8:33:00 AM

Lab ID: 2004B90-004

Matrix: AQUEOUS

Received Date: 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Hexachlorobutadiene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
2-Hexanone	ND	10		µg/L	1	4/30/2020 5:00:23 AM	R68533
Isopropylbenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
4-Isopropyltoluene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
4-Methyl-2-pentanone	ND	10		µg/L	1	4/30/2020 5:00:23 AM	R68533
Methylene Chloride	ND	3.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
n-Butylbenzene	ND	3.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
n-Propylbenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
sec-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Styrene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
tert-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Tetrachloroethene (PCE)	11	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
trans-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Trichlorofluoromethane	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Vinyl chloride	ND	1.0		µg/L	1	4/30/2020 5:00:23 AM	R68533
Xylenes, Total	ND	1.5		µg/L	1	4/30/2020 5:00:23 AM	R68533
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	4/30/2020 5:00:23 AM	R68533
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	4/30/2020 5:00:23 AM	R68533
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/30/2020 5:00:23 AM	R68533
Surr: Toluene-d8	104	70-130		%Rec	1	4/30/2020 5:00:23 AM	R68533

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 2004B90

Date Reported: 5/1/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1 - 200428

Project: Joint Superfund Project Monthly Analysis

Collection Date: 4/28/2020 8:38:00 AM

Lab ID: 2004B90-005

Matrix: AQUEOUS

Received Date: 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Toluene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Ethylbenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Naphthalene	ND	2.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
2-Methylnaphthalene	ND	4.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Acetone	ND	10		µg/L	1	4/30/2020 5:29:49 AM	R68533
Bromobenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Bromodichloromethane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Bromoform	4.6	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Bromomethane	ND	3.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
2-Butanone	ND	10		µg/L	1	4/30/2020 5:29:49 AM	R68533
Carbon disulfide	ND	10		µg/L	1	4/30/2020 5:29:49 AM	R68533
Carbon Tetrachloride	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Chlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Chloroethane	ND	2.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Chloroform	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Chloromethane	ND	3.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
2-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
4-Chlorotoluene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
cis-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Dibromochloromethane	2.3	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Dibromomethane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,1-Dichloroethane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,1-Dichloroethene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,2-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,3-Dichloropropane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
2,2-Dichloropropane	ND	2.0		µg/L	1	4/30/2020 5:29:49 AM	R68533

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 2004B90

Date Reported: 5/1/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1 - 200428

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 4/28/2020 8:38:00 AM

**Lab ID:** 2004B90-005

**Matrix:** AQUEOUS

**Received Date:** 4/29/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Hexachlorobutadiene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
2-Hexanone	ND	10		µg/L	1	4/30/2020 5:29:49 AM	R68533
Isopropylbenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
4-Isopropyltoluene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
4-Methyl-2-pentanone	ND	10		µg/L	1	4/30/2020 5:29:49 AM	R68533
Methylene Chloride	ND	3.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
n-Butylbenzene	ND	3.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
n-Propylbenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
sec-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Styrene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
tert-Butylbenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
trans-1,2-DCE	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Trichlorofluoromethane	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Vinyl chloride	ND	1.0		µg/L	1	4/30/2020 5:29:49 AM	R68533
Xylenes, Total	ND	1.5		µg/L	1	4/30/2020 5:29:49 AM	R68533
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	4/30/2020 5:29:49 AM	R68533
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	4/30/2020 5:29:49 AM	R68533
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/30/2020 5:29:49 AM	R68533
Surr: Toluene-d8	99.4	70-130		%Rec	1	4/30/2020 5:29:49 AM	R68533

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#: 2004B90

01-May-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R68533</b>	RunNo: <b>68533</b>								
Prep Date:	Analysis Date: <b>4/29/2020</b>	SeqNo: <b>2371308</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#: 2004B90

01-May-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R68533</b>		RunNo: <b>68533</b>							
Prep Date:	Analysis Date: <b>4/29/2020</b>		SeqNo: <b>2371308</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	9.5		10.00		94.8	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.3	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.2	70	130			
Surr: Toluene-d8	10		10.00		102	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>R68533</b>		RunNo: <b>68533</b>							
Prep Date:	Analysis Date: <b>4/29/2020</b>		SeqNo: <b>2371311</b>		Units: <b>µg/L</b>					
Benzene	18	1.0	20.00	0	89.8	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	20	1.0	20.00	0	102	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#: 2004B90

01-May-20

Client: City of Las Cruces

Project: Joint Superfund Project Monthly Analysis

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>R68533</b>	RunNo: <b>68533</b>								
Prep Date:	Analysis Date: <b>4/29/2020</b>	SeqNo: <b>2371311</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19	1.0	20.00	0	95.6	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	88.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.5	70	130			
Surr: Toluene-d8	10		10.00		101	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: **City of Las Cruces**      Work Order Number: **2004B90**      RcptNo: **1**

Received By: **Isaiah Ortiz**      4/29/2020 10:00:00 AM

Completed By: **Desiree Dominguez**      4/29/2020 11:10:29 AM

Reviewed By: *LB*      4/29/20

*I-Ox*  
*DD*

**Chain of Custody**

1. Is Chain of Custody sufficiently 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
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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA
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: *SPA 4/29/20*

**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:

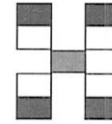
**Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Not Present			

# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCELL

Turn-Around Time:  
 Standard  Rush  
 Project Name:  
Joint Superfund Project  
Monthly Analysis  
 Project #:  
CLC JSP Griggs Walnut  
 Project Manager:  
Luis Guerra (575) 528-3609  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 Sample Temperature: 0.6 + 0.0 = 0.6°



## 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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA) VBC	8270 (Semi-VOA)	Air Bubbles (Y or N)
4-28-20	0811	DRINKING WATER	CLC 18-200428	3-40ml Vials	HgCl <sub>2</sub>	2004B90 -001										X		
	0846		CLC 27-200428	2-40 ml Vials		-002										X		
	0948		CLC 27-200428 DUP	2-40 ml Vials		-003										X		
	0833		CLC ESI-200428	3-40 ml Vials		-004										X		
4-28-20	0838	DRINKING WATER	CLC ESI-200428	3-40 ml Vials	HgCl <sub>2</sub>	-005										X		

Date: 4/28/20 Time: 1500 Relinquished by: Yadira Reyna

Received by: IO FedEx Date: 4/29/20 Time: 1000  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: 1500

Remarks: Send Results to:  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenthal: jrosenthal@las-cruces.org  
(Send invoice to cre o/p Luis Guerra)

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 noted 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)

April 10, 2020

Luis Guerra

City of Las Cruces

PO Box 20000

Las Cruces, NM 88004

TEL: (575) 528-3604

FAX:

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2004040

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 4/1/2020 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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:07:00 AM

Lab ID: 2004040-001

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:07:00 AM

Lab ID: 2004040-001

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 11:38:00 AM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Tetrachloroethene (PCE)	5.8	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 11:38:00 AM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 11:38:00 AM	R67944
Surr: 1,2-Dichloroethane-d4	97.8	70-130		%Rec	1	4/6/2020 11:38:00 AM	R67944
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	4/6/2020 11:38:00 AM	R67944
Surr: Dibromofluoromethane	98.1	70-130		%Rec	1	4/6/2020 11:38:00 AM	R67944
Surr: Toluene-d8	100	70-130		%Rec	1	4/6/2020 11:38:00 AM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200331-Dup

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:09:00 AM

Lab ID: 2004040-002

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200331-Dup

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:09:00 AM

Lab ID: 2004040-002

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 12:48:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Tetrachloroethene (PCE)	5.8	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 12:48:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 12:48:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	97.5	70-130		%Rec	1	4/6/2020 12:48:00 PM	R67944
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	4/6/2020 12:48:00 PM	R67944
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	4/6/2020 12:48:00 PM	R67944
Surr: Toluene-d8	98.8	70-130		%Rec	1	4/6/2020 12:48:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:31:00 AM

Lab ID: 2004040-003

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:31:00 AM

Lab ID: 2004040-003

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 1:12:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Tetrachloroethene (PCE)	12	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 1:12:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 1:12:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	97.5	70-130		%Rec	1	4/6/2020 1:12:00 PM	R67944
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	4/6/2020 1:12:00 PM	R67944
Surr: Dibromofluoromethane	98.7	70-130		%Rec	1	4/6/2020 1:12:00 PM	R67944
Surr: Toluene-d8	99.7	70-130		%Rec	1	4/6/2020 1:12:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:34:00 AM

Lab ID: 2004040-004

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:34:00 AM

Lab ID: 2004040-004

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 1:35:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 1:35:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 1:35:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	97.2	70-130		%Rec	1	4/6/2020 1:35:00 PM	R67944
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	4/6/2020 1:35:00 PM	R67944
Surr: Dibromofluoromethane	97.9	70-130		%Rec	1	4/6/2020 1:35:00 PM	R67944
Surr: Toluene-d8	98.5	70-130		%Rec	1	4/6/2020 1:35:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C2-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:37:00 AM

Lab ID: 2004040-005

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200331

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 3/31/2020 8:37:00 AM

**Lab ID:** 2004040-005

**Matrix:** AQUEOUS

**Received Date:** 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 1:58:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 1:58:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 1:58:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%Rec	1	4/6/2020 1:58:00 PM	R67944
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	4/6/2020 1:58:00 PM	R67944
Surr: Dibromofluoromethane	98.5	70-130		%Rec	1	4/6/2020 1:58:00 PM	R67944
Surr: Toluene-d8	98.0	70-130		%Rec	1	4/6/2020 1:58:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:23:00 AM

Lab ID: 2004040-006

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Bromodichloromethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Bromoform	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Chloroform	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Dibromochloromethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 27-200331

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 3/31/2020 8:23:00 AM

**Lab ID:** 2004040-006

**Matrix:** AQUEOUS

**Received Date:** 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 2:21:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Tetrachloroethene (PCE)	15	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 2:21:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 2:21:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	4/6/2020 2:21:00 PM	R67944
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	4/6/2020 2:21:00 PM	R67944
Surr: Dibromofluoromethane	95.7	70-130		%Rec	1	4/6/2020 2:21:00 PM	R67944
Surr: Toluene-d8	99.9	70-130		%Rec	1	4/6/2020 2:21:00 PM	R67944

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 2004040

Date Reported: 4/10/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:39:00 AM

Lab ID: 2004040-007

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Toluene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Ethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Naphthalene	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2-Methylnaphthalene	ND	4.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Acetone	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Bromobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Bromodichloromethane	2.9	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Bromoform	2.0	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Bromomethane	ND	3.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2-Butanone	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Carbon disulfide	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Carbon Tetrachloride	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Chlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Chloroethane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Chloroform	2.1	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Chloromethane	ND	3.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
4-Chlorotoluene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
cis-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Dibromochloromethane	3.3	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Dibromomethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1-Dichloroethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1-Dichloroethene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,3-Dichloropropane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2,2-Dichloropropane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944

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.

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200331

Project: Joint Superfund Project Monthly Analysis

Collection Date: 3/31/2020 8:39:00 AM

Lab ID: 2004040-007

Matrix: AQUEOUS

Received Date: 4/1/2020 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Hexachlorobutadiene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
2-Hexanone	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Isopropylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
4-Isopropyltoluene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
4-Methyl-2-pentanone	ND	10		µg/L	1	4/6/2020 2:45:00 PM	R67944
Methylene Chloride	ND	3.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
n-Butylbenzene	ND	3.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
n-Propylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
sec-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Styrene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
tert-Butylbenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
trans-1,2-DCE	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Trichlorofluoromethane	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Vinyl chloride	ND	1.0		µg/L	1	4/6/2020 2:45:00 PM	R67944
Xylenes, Total	ND	1.5		µg/L	1	4/6/2020 2:45:00 PM	R67944
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	4/6/2020 2:45:00 PM	R67944
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	4/6/2020 2:45:00 PM	R67944
Surr: Dibromofluoromethane	99.1	70-130		%Rec	1	4/6/2020 2:45:00 PM	R67944
Surr: Toluene-d8	99.5	70-130		%Rec	1	4/6/2020 2:45:00 PM	R67944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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#: 2004040

10-Apr-20

**Client:** City of Las Cruces

**Project:** Joint Superfund Project Monthly Analysis

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>R67944</b>	RunNo: <b>67944</b>								
Prep Date:	Analysis Date: <b>4/6/2020</b>	SeqNo: <b>2347890</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
Chlorobenzene	22	1.0	20.00	0	110	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.2	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.7	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.0	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R67944</b>	RunNo: <b>67944</b>								
Prep Date:	Analysis Date: <b>4/6/2020</b>	SeqNo: <b>2347926</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								

**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#: 2004040

10-Apr-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R67944</b>	RunNo: <b>67944</b>								
Prep Date:	Analysis Date: <b>4/6/2020</b>	SeqNo: <b>2347926</b> Units: <b>µg/L</b>								
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								
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								

### 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#: 2004040

10-Apr-20

**Client:** City of Las Cruces

**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R67944</b>	RunNo: <b>67944</b>								
Prep Date:	Analysis Date: <b>4/6/2020</b>	SeqNo: <b>2347926</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.7	70	130			
Surr: Toluene-d8	10		10.00		100	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: City of Las Cruces

Work Order Number: 2004040

RcptNo: 1

Received By: Juan Rojas

4/1/2020 9:25:00 AM

*Juan Rojas*

Completed By: John Caldwell

4/1/2020 2:09:50 PM

*John Caldwell*

Reviewed By: *LB*

*4/1/2020*  
*4/2/2020*  
*LB*

**Chain of Custody**

1. Is Chain of Custody sufficiently 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
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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA
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 4/2/20*

**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:

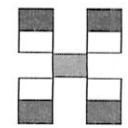
**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.2	Good				

# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 20000  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCEL

Turn-Around Time:  
 Standard  Rush  
 Project Name:  
Joint Superfund Project  
Monthly Analysis  
 Project #:  
0  
CRE JP Griggs Wilmet  
 Project Manager:  
Luis Guerra (575) 528-3609  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 Sample Temperature: 0.2-0.2



**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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MPO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOC)	8270 (Semi-VOC)	Air Bubbles (Y or N)	
03-31-20	0807	Plumbly water	CRE 18-200331	3-20ml Vials	HgCl <sub>2</sub>	2001040 -001										X			
	0809		CRE 18-200331-DUP			-002										X			
	0831		CRE ISI-200331			-003										X			
	0834		CRE C1-200331			-004										X			
	0837		CRE C2-200331			-005										X			
	0823		CRE 27-200331			-006										X			
03-31-20	0839	Plumbly water	CRE ESI-200331	3-40ml Vials	HgCl <sub>2</sub>	-007										X			

Date: 3/31/20 Time: 1500 Relinquished by: Yadira Reyna  
 Received by: [Signature] Date: 4/1/20 Time: 9:25 Remarks: Send Results to:  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_ Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenthal: jrosenthal@las-cruces.org  
(Send invoice to CRE c/o Luis Guerra)

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 08, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX:

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2005C84

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 5/29/2020 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 2005C84

Date Reported: 6/8/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:14:00 AM

**Lab ID:** 2005C84-001

**Matrix:** AQUEOUS

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Toluene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Ethylbenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Naphthalene	ND	2.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
2-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Acetone	ND	10		µg/L	1	6/2/2020 1:36:20 PM	R69341
Bromobenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Bromodichloromethane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Bromoform	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Bromomethane	ND	3.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
2-Butanone	ND	10		µg/L	1	6/2/2020 1:36:20 PM	R69341
Carbon disulfide	ND	10		µg/L	1	6/2/2020 1:36:20 PM	R69341
Carbon Tetrachloride	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Chlorobenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Chloroethane	ND	2.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Chloroform	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Chloromethane	ND	3.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
2-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
4-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
cis-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Dibromochloromethane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Dibromomethane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,1-Dichloroethane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,1-Dichloroethene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,2-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,3-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
2,2-Dichloropropane	ND	2.0		µg/L	1	6/2/2020 1:36:20 PM	R69341

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 2005C84

Date Reported: 6/8/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:14:00 AM

**Lab ID:** 2005C84-001

**Matrix:** AQUEOUS

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Hexachlorobutadiene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
2-Hexanone	ND	10		µg/L	1	6/2/2020 1:36:20 PM	R69341
Isopropylbenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
4-Isopropyltoluene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
4-Methyl-2-pentanone	ND	10		µg/L	1	6/2/2020 1:36:20 PM	R69341
Methylene Chloride	ND	3.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
n-Butylbenzene	ND	3.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
n-Propylbenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
sec-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Styrene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
tert-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Tetrachloroethene (PCE)	6.2	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
trans-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Trichlorofluoromethane	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Vinyl chloride	ND	1.0		µg/L	1	6/2/2020 1:36:20 PM	R69341
Xylenes, Total	ND	1.5		µg/L	1	6/2/2020 1:36:20 PM	R69341
Surr: 1,2-Dichloroethane-d4	93.6	70-130		%Rec	1	6/2/2020 1:36:20 PM	R69341
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	6/2/2020 1:36:20 PM	R69341
Surr: Dibromofluoromethane	101	70-130		%Rec	1	6/2/2020 1:36:20 PM	R69341
Surr: Toluene-d8	99.6	70-130		%Rec	1	6/2/2020 1:36:20 PM	R69341

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 2005C84

Date Reported: 6/8/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 27-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:27:00 AM

**Lab ID:** 2005C84-002

**Matrix:** AQUEOUS

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Toluene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Ethylbenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Naphthalene	ND	2.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
2-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Acetone	ND	10		µg/L	1	6/2/2020 2:04:55 PM	R69341
Bromobenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Bromodichloromethane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Bromoform	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Bromomethane	ND	3.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
2-Butanone	ND	10		µg/L	1	6/2/2020 2:04:55 PM	R69341
Carbon disulfide	ND	10		µg/L	1	6/2/2020 2:04:55 PM	R69341
Carbon Tetrachloride	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Chlorobenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Chloroethane	ND	2.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Chloroform	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Chloromethane	ND	3.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
2-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
4-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
cis-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Dibromochloromethane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Dibromomethane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,1-Dichloroethane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,1-Dichloroethene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,2-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,3-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
2,2-Dichloropropane	ND	2.0		µg/L	1	6/2/2020 2:04:55 PM	R69341

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 2005C84

Date Reported: 6/8/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200528

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:27:00 AM

Lab ID: 2005C84-002

Matrix: AQUEOUS

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Hexachlorobutadiene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
2-Hexanone	ND	10		µg/L	1	6/2/2020 2:04:55 PM	R69341
Isopropylbenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
4-Isopropyltoluene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
4-Methyl-2-pentanone	ND	10		µg/L	1	6/2/2020 2:04:55 PM	R69341
Methylene Chloride	ND	3.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
n-Butylbenzene	ND	3.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
n-Propylbenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
sec-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Styrene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
tert-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Tetrachloroethene (PCE)	15	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
trans-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Trichlorofluoromethane	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Vinyl chloride	ND	1.0		µg/L	1	6/2/2020 2:04:55 PM	R69341
Xylenes, Total	ND	1.5		µg/L	1	6/2/2020 2:04:55 PM	R69341
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	6/2/2020 2:04:55 PM	R69341
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	6/2/2020 2:04:55 PM	R69341
Surr: Dibromofluoromethane	97.3	70-130		%Rec	1	6/2/2020 2:04:55 PM	R69341
Surr: Toluene-d8	103	70-130		%Rec	1	6/2/2020 2:04:55 PM	R69341

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 2005C84

Date Reported: 6/8/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200528

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:34:00 AM

Lab ID: 2005C84-003

Matrix: AQUEOUS

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Toluene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Ethylbenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Naphthalene	ND	2.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
2-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Acetone	ND	10		µg/L	1	6/2/2020 3:30:38 PM	R69341
Bromobenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Bromodichloromethane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Bromoform	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Bromomethane	ND	3.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
2-Butanone	ND	10		µg/L	1	6/2/2020 3:30:38 PM	R69341
Carbon disulfide	ND	10		µg/L	1	6/2/2020 3:30:38 PM	R69341
Carbon Tetrachloride	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Chlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Chloroethane	ND	2.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Chloroform	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Chloromethane	ND	3.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
2-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
4-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
cis-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Dibromochloromethane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Dibromomethane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,1-Dichloroethane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,1-Dichloroethene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,2-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,3-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
2,2-Dichloropropane	ND	2.0		µg/L	1	6/2/2020 3:30:38 PM	R69341

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 2005C84

Date Reported: 6/8/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:34:00 AM

**Lab ID:** 2005C84-003

**Matrix:** AQUEOUS

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Hexachlorobutadiene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
2-Hexanone	ND	10		µg/L	1	6/2/2020 3:30:38 PM	R69341
Isopropylbenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
4-Isopropyltoluene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
4-Methyl-2-pentanone	ND	10		µg/L	1	6/2/2020 3:30:38 PM	R69341
Methylene Chloride	ND	3.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
n-Butylbenzene	ND	3.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
n-Propylbenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
sec-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Styrene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
tert-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Tetrachloroethene (PCE)	11	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
trans-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Trichlorofluoromethane	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Vinyl chloride	ND	1.0		µg/L	1	6/2/2020 3:30:38 PM	R69341
Xylenes, Total	ND	1.5		µg/L	1	6/2/2020 3:30:38 PM	R69341
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	6/2/2020 3:30:38 PM	R69341
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	6/2/2020 3:30:38 PM	R69341
Surr: Dibromofluoromethane	107	70-130		%Rec	1	6/2/2020 3:30:38 PM	R69341
Surr: Toluene-d8	93.4	70-130		%Rec	1	6/2/2020 3:30:38 PM	R69341

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 2005C84

Date Reported: 6/8/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C1-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:36:00 AM

**Lab ID:** 2005C84-004

**Matrix:** AQUEOUS

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Toluene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Ethylbenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Naphthalene	ND	2.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
2-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Acetone	ND	10		µg/L	1	6/2/2020 3:59:11 PM	R69341
Bromobenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Bromodichloromethane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Bromoform	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Bromomethane	ND	3.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
2-Butanone	ND	10		µg/L	1	6/2/2020 3:59:11 PM	R69341
Carbon disulfide	ND	10		µg/L	1	6/2/2020 3:59:11 PM	R69341
Carbon Tetrachloride	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Chlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Chloroethane	ND	2.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Chloroform	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Chloromethane	ND	3.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
2-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
4-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
cis-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Dibromochloromethane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Dibromomethane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,1-Dichloroethane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,1-Dichloroethene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,2-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,3-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
2,2-Dichloropropane	ND	2.0		µg/L	1	6/2/2020 3:59:11 PM	R69341

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 2005C84

Date Reported: 6/8/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C1-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:36:00 AM

**Lab ID:** 2005C84-004

**Matrix:** AQUEOUS

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Hexachlorobutadiene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
2-Hexanone	ND	10		µg/L	1	6/2/2020 3:59:11 PM	R69341
Isopropylbenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
4-Isopropyltoluene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
4-Methyl-2-pentanone	ND	10		µg/L	1	6/2/2020 3:59:11 PM	R69341
Methylene Chloride	ND	3.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
n-Butylbenzene	ND	3.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
n-Propylbenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
sec-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Styrene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
tert-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
trans-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Trichlorofluoromethane	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Vinyl chloride	ND	1.0		µg/L	1	6/2/2020 3:59:11 PM	R69341
Xylenes, Total	ND	1.5		µg/L	1	6/2/2020 3:59:11 PM	R69341
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%Rec	1	6/2/2020 3:59:11 PM	R69341
Surr: 4-Bromofluorobenzene	88.3	70-130		%Rec	1	6/2/2020 3:59:11 PM	R69341
Surr: Dibromofluoromethane	110	70-130		%Rec	1	6/2/2020 3:59:11 PM	R69341
Surr: Toluene-d8	102	70-130		%Rec	1	6/2/2020 3:59:11 PM	R69341

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 2005C84

Date Reported: 6/8/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C1-200528 DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:38:00 AM

Lab ID: 2005C84-005

Matrix: AQUEOUS

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Toluene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Ethylbenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Naphthalene	ND	2.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
2-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Acetone	ND	10		µg/L	1	6/2/2020 4:27:44 PM	R69341
Bromobenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Bromodichloromethane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Bromoform	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Bromomethane	ND	3.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
2-Butanone	ND	10		µg/L	1	6/2/2020 4:27:44 PM	R69341
Carbon disulfide	ND	10		µg/L	1	6/2/2020 4:27:44 PM	R69341
Carbon Tetrachloride	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Chlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Chloroethane	ND	2.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Chloroform	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Chloromethane	ND	3.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
2-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
4-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
cis-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Dibromochloromethane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Dibromomethane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,1-Dichloroethane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,1-Dichloroethene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,2-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,3-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
2,2-Dichloropropane	ND	2.0		µg/L	1	6/2/2020 4:27:44 PM	R69341

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 2005C84

Date Reported: 6/8/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C1-200528 DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:38:00 AM

Lab ID: 2005C84-005

Matrix: AQUEOUS

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Hexachlorobutadiene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
2-Hexanone	ND	10		µg/L	1	6/2/2020 4:27:44 PM	R69341
Isopropylbenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
4-Isopropyltoluene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
4-Methyl-2-pentanone	ND	10		µg/L	1	6/2/2020 4:27:44 PM	R69341
Methylene Chloride	ND	3.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
n-Butylbenzene	ND	3.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
n-Propylbenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
sec-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Styrene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
tert-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
trans-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Trichlorofluoromethane	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Vinyl chloride	ND	1.0		µg/L	1	6/2/2020 4:27:44 PM	R69341
Xylenes, Total	ND	1.5		µg/L	1	6/2/2020 4:27:44 PM	R69341
Surr: 1,2-Dichloroethane-d4	98.6	70-130		%Rec	1	6/2/2020 4:27:44 PM	R69341
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	6/2/2020 4:27:44 PM	R69341
Surr: Dibromofluoromethane	101	70-130		%Rec	1	6/2/2020 4:27:44 PM	R69341
Surr: Toluene-d8	97.9	70-130		%Rec	1	6/2/2020 4:27:44 PM	R69341

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 2005C84

Date Reported: 6/8/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:41:00 AM

**Lab ID:** 2005C84-006

**Matrix:** AQUEOUS

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Toluene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Ethylbenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Naphthalene	ND	2.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
2-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Acetone	ND	10		µg/L	1	6/2/2020 4:56:15 PM	R69341
Bromobenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Bromodichloromethane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Bromoform	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Bromomethane	ND	3.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
2-Butanone	ND	10		µg/L	1	6/2/2020 4:56:15 PM	R69341
Carbon disulfide	ND	10		µg/L	1	6/2/2020 4:56:15 PM	R69341
Carbon Tetrachloride	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Chlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Chloroethane	ND	2.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Chloroform	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Chloromethane	ND	3.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
2-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
4-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
cis-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Dibromochloromethane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Dibromomethane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,1-Dichloroethane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,1-Dichloroethene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,2-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,3-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
2,2-Dichloropropane	ND	2.0		µg/L	1	6/2/2020 4:56:15 PM	R69341

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		



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Analytical Report

Lab Order 2005C84

Date Reported: 6/8/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:41:00 AM

**Lab ID:** 2005C84-006

**Matrix:** AQUEOUS

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Hexachlorobutadiene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
2-Hexanone	ND	10		µg/L	1	6/2/2020 4:56:15 PM	R69341
Isopropylbenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
4-Isopropyltoluene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
4-Methyl-2-pentanone	ND	10		µg/L	1	6/2/2020 4:56:15 PM	R69341
Methylene Chloride	ND	3.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
n-Butylbenzene	ND	3.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
n-Propylbenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
sec-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Styrene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
tert-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
trans-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Trichlorofluoromethane	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Vinyl chloride	ND	1.0		µg/L	1	6/2/2020 4:56:15 PM	R69341
Xylenes, Total	ND	1.5		µg/L	1	6/2/2020 4:56:15 PM	R69341
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	6/2/2020 4:56:15 PM	R69341
Surr: 4-Bromofluorobenzene	93.3	70-130		%Rec	1	6/2/2020 4:56:15 PM	R69341
Surr: Dibromofluoromethane	106	70-130		%Rec	1	6/2/2020 4:56:15 PM	R69341
Surr: Toluene-d8	98.7	70-130		%Rec	1	6/2/2020 4:56:15 PM	R69341

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
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Analytical Report

Lab Order 2005C84

Date Reported: 6/8/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200528

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:44:00 AM

Lab ID: 2005C84-007

Matrix: AQUEOUS

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Toluene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Ethylbenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Naphthalene	ND	2.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
2-Methylnaphthalene	ND	4.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Acetone	ND	10		µg/L	1	6/2/2020 5:24:48 PM	R69341
Bromobenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Bromodichloromethane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Bromoform	5.6	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Bromomethane	ND	3.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
2-Butanone	ND	10		µg/L	1	6/2/2020 5:24:48 PM	R69341
Carbon disulfide	ND	10		µg/L	1	6/2/2020 5:24:48 PM	R69341
Carbon Tetrachloride	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Chlorobenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Chloroethane	ND	2.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Chloroform	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Chloromethane	ND	3.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
2-Chlorotoluene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
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cis-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Dibromochloromethane	2.4	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Dibromomethane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,1-Dichloroethane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,1-Dichloroethene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,2-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,3-Dichloropropane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
2,2-Dichloropropane	ND	2.0		µg/L	1	6/2/2020 5:24:48 PM	R69341

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 2005C84

Date Reported: 6/8/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:44:00 AM

**Lab ID:** 2005C84-007

**Matrix:** AQUEOUS

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Hexachlorobutadiene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
2-Hexanone	ND	10		µg/L	1	6/2/2020 5:24:48 PM	R69341
Isopropylbenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
4-Isopropyltoluene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
4-Methyl-2-pentanone	ND	10		µg/L	1	6/2/2020 5:24:48 PM	R69341
Methylene Chloride	ND	3.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
n-Butylbenzene	ND	3.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
n-Propylbenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
sec-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Styrene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
tert-Butylbenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
trans-1,2-DCE	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Trichlorofluoromethane	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Vinyl chloride	ND	1.0		µg/L	1	6/2/2020 5:24:48 PM	R69341
Xylenes, Total	ND	1.5		µg/L	1	6/2/2020 5:24:48 PM	R69341
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	6/2/2020 5:24:48 PM	R69341
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	6/2/2020 5:24:48 PM	R69341
Surr: Dibromofluoromethane	108	70-130		%Rec	1	6/2/2020 5:24:48 PM	R69341
Surr: Toluene-d8	99.5	70-130		%Rec	1	6/2/2020 5:24:48 PM	R69341

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#: 2005C84

08-Jun-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R69341</b>	RunNo: <b>69341</b>								
Prep Date:	Analysis Date: <b>6/2/2020</b>	SeqNo: <b>2404977</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#: 2005C84

08-Jun-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R69341</b>		RunNo: <b>69341</b>							
Prep Date:	Analysis Date: <b>6/2/2020</b>		SeqNo: <b>2404977</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	9.7		10.00		97.1	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.8	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.5	70	130			
Surr: Toluene-d8	10		10.00		103	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>R69341</b>		RunNo: <b>69341</b>							
Prep Date:	Analysis Date: <b>6/2/2020</b>		SeqNo: <b>2404979</b>		Units: <b>µg/L</b>					
Benzene	19	1.0	20.00	0	97.5	70	130			
Toluene	21	1.0	20.00	0	106	70	130			
Chlorobenzene	20	1.0	20.00	0	102	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#: 2005C84

08-Jun-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

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>R69341</b>		RunNo: <b>69341</b>							
Prep Date:	Analysis Date: <b>6/2/2020</b>		SeqNo: <b>2404979</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.6	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.9	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.5	70	130			
Surr: Toluene-d8	10		10.00		102	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: **City of Las Cruces**      Work Order Number: **2005C84**      RcptNo: **1**

Received By: **Andy Freeman**      5/29/2020 11:50:00 AM

Completed By: **Desiree Dominguez**      5/29/2020 1:36:03 PM

Reviewed By: **DAD 5/29/20**

*Andy Freeman*  
*Desiree Dominguez*

**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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA
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

**IO**  
**5/29/20**

# 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:	<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**

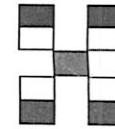
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Not Present			



# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package:  Standard  Level 4 (Full Validation)  
 Accreditation:  Az Compliance  NELAC  Other  
 EDD (Type) EXCELL

Turn-Around Time:  
 Standard  Rush  
 Project Name: Joint Superfund Project Monthly Analysis  
 Project #: CRC JSP Briggs Walnut  
 Project Manager: Luis Guerra (575) 528-3609  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 # of Coolers: 1  
 Cooler Temp (including CF): 2.4-0 = 2.4 (°C)



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com  
 4901 Hawkins NE - Albuquerque, NM 87109  
 Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

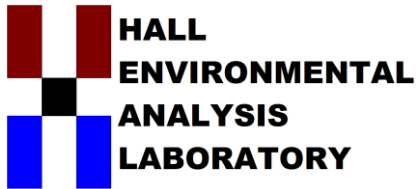
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
5-28-20	0814	DRINKING WATER	CRC 18-200528	3-40ml Vials	HgCl <sub>2</sub>	2005084
	0827		CRC 27-200528			
	0834		CRC ESI-200528			
	0836		CRC C1-200528			
	0838		CRC C1-200528 DUP			
	0841		CRC C2-200528			
5-28-20	0844	DRINKING WATER	CRC ESI-200528	3-40ml Vials	HgCl <sub>2</sub>	

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) VOC	8270 (Semi-VOA)	Total Coliform (Present/Absent)
							X		
							X		
							X		
							X		
							X		
							X		
							X		

Date: 5/28/20 Time: 1500 Relinquished by: Yadira Reyna  
 Received by: [Signature] Via: FedEx Date: 5/29/20 Time: 09:13  
 Date: 5/29/20 Time: 1131 Relinquished by: [Signature]  
 Received by: [Signature] Date: 5/29/2020 Time: 1158

Remarks: Send Results to:  
Luis Guerra: lguerra@las-cruces.org  
Joshua Remblat: jrosblat@las-cruces.org  
(Send invoice to CRC c/o Luis Guerra)

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 03, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2005C85

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/29/2020 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 2005C85

Date Reported: 6/3/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS1-200528

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:46:00 AM

Lab ID: 2005C85-001

Matrix: AIR

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Toluene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Ethylbenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Naphthalene	ND	0.20		µg/L	1	5/31/2020 2:15:23 PM	W69284
1-Methylnaphthalene	ND	0.40		µg/L	1	5/31/2020 2:15:23 PM	W69284
2-Methylnaphthalene	ND	0.40		µg/L	1	5/31/2020 2:15:23 PM	W69284
Acetone	ND	1.0		µg/L	1	5/31/2020 2:15:23 PM	W69284
Bromobenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Bromodichloromethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Bromoform	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Bromomethane	ND	0.20		µg/L	1	5/31/2020 2:15:23 PM	W69284
2-Butanone	ND	1.0		µg/L	1	5/31/2020 2:15:23 PM	W69284
Carbon disulfide	ND	1.0		µg/L	1	5/31/2020 2:15:23 PM	W69284
Carbon tetrachloride	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Chlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Chloroethane	ND	0.20		µg/L	1	5/31/2020 2:15:23 PM	W69284
Chloroform	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Chloromethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
2-Chlorotoluene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
4-Chlorotoluene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
cis-1,2-DCE	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	5/31/2020 2:15:23 PM	W69284
Dibromochloromethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Dibromomethane	ND	0.20		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,2-Dichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,3-Dichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,4-Dichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Dichlorodifluoromethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,1-Dichloroethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,1-Dichloroethene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,2-Dichloropropane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,3-Dichloropropane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
2,2-Dichloropropane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284

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 2005C85

Date Reported: 6/3/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC AS1-200528

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 5/28/2020 8:46:00 AM

**Lab ID:** 2005C85-001

**Matrix:** AIR

**Received Date:** 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Hexachlorobutadiene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
2-Hexanone	ND	1.0		µg/L	1	5/31/2020 2:15:23 PM	W69284
Isopropylbenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
4-Isopropyltoluene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
4-Methyl-2-pentanone	ND	1.0		µg/L	1	5/31/2020 2:15:23 PM	W69284
Methylene chloride	ND	0.30		µg/L	1	5/31/2020 2:15:23 PM	W69284
n-Butylbenzene	ND	0.30		µg/L	1	5/31/2020 2:15:23 PM	W69284
n-Propylbenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
sec-Butylbenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Styrene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
tert-Butylbenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Tetrachloroethene (PCE)	0.21	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
trans-1,2-DCE	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,1,1-Trichloroethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,1,2-Trichloroethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Trichloroethene (TCE)	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Trichlorofluoromethane	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
1,2,3-Trichloropropane	ND	0.20		µg/L	1	5/31/2020 2:15:23 PM	W69284
Vinyl chloride	ND	0.10		µg/L	1	5/31/2020 2:15:23 PM	W69284
Xylenes, Total	ND	0.15		µg/L	1	5/31/2020 2:15:23 PM	W69284
Surr: Dibromofluoromethane	95.0	70-130		%Rec	1	5/31/2020 2:15:23 PM	W69284
Surr: 1,2-Dichloroethane-d4	90.2	70-130		%Rec	1	5/31/2020 2:15:23 PM	W69284
Surr: Toluene-d8	94.7	70-130		%Rec	1	5/31/2020 2:15:23 PM	W69284
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	5/31/2020 2:15:23 PM	W69284

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 2005C85

Date Reported: 6/3/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS2-200528

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:49:00 AM

Lab ID: 2005C85-002

Matrix: AIR

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Toluene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Ethylbenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Naphthalene	ND	0.20		µg/L	1	5/31/2020 2:44:48 PM	W69284
1-Methylnaphthalene	ND	0.40		µg/L	1	5/31/2020 2:44:48 PM	W69284
2-Methylnaphthalene	ND	0.40		µg/L	1	5/31/2020 2:44:48 PM	W69284
Acetone	ND	1.0		µg/L	1	5/31/2020 2:44:48 PM	W69284
Bromobenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Bromodichloromethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Bromoform	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Bromomethane	ND	0.20		µg/L	1	5/31/2020 2:44:48 PM	W69284
2-Butanone	ND	1.0		µg/L	1	5/31/2020 2:44:48 PM	W69284
Carbon disulfide	ND	1.0		µg/L	1	5/31/2020 2:44:48 PM	W69284
Carbon tetrachloride	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Chlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Chloroethane	ND	0.20		µg/L	1	5/31/2020 2:44:48 PM	W69284
Chloroform	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Chloromethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
2-Chlorotoluene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
4-Chlorotoluene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
cis-1,2-DCE	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	5/31/2020 2:44:48 PM	W69284
Dibromochloromethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Dibromomethane	ND	0.20		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,2-Dichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,3-Dichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,4-Dichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Dichlorodifluoromethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,1-Dichloroethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,1-Dichloroethene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,2-Dichloropropane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,3-Dichloropropane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
2,2-Dichloropropane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284

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 2005C85

Date Reported: 6/3/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS2-200528

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:49:00 AM

Lab ID: 2005C85-002

Matrix: AIR

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Hexachlorobutadiene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
2-Hexanone	ND	1.0		µg/L	1	5/31/2020 2:44:48 PM	W69284
Isopropylbenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
4-Isopropyltoluene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
4-Methyl-2-pentanone	ND	1.0		µg/L	1	5/31/2020 2:44:48 PM	W69284
Methylene chloride	ND	0.30		µg/L	1	5/31/2020 2:44:48 PM	W69284
n-Butylbenzene	ND	0.30		µg/L	1	5/31/2020 2:44:48 PM	W69284
n-Propylbenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
sec-Butylbenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Styrene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
tert-Butylbenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Tetrachloroethene (PCE)	0.31	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
trans-1,2-DCE	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,1,1-Trichloroethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,1,2-Trichloroethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Trichloroethene (TCE)	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Trichlorofluoromethane	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
1,2,3-Trichloropropane	ND	0.20		µg/L	1	5/31/2020 2:44:48 PM	W69284
Vinyl chloride	ND	0.10		µg/L	1	5/31/2020 2:44:48 PM	W69284
Xylenes, Total	ND	0.15		µg/L	1	5/31/2020 2:44:48 PM	W69284
Surr: Dibromofluoromethane	98.1	70-130		%Rec	1	5/31/2020 2:44:48 PM	W69284
Surr: 1,2-Dichloroethane-d4	96.5	70-130		%Rec	1	5/31/2020 2:44:48 PM	W69284
Surr: Toluene-d8	95.1	70-130		%Rec	1	5/31/2020 2:44:48 PM	W69284
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	5/31/2020 2:44:48 PM	W69284

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 2005C85

Date Reported: 6/3/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS2-200528 DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:50:00 AM

Lab ID: 2005C85-003

Matrix: AIR

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Toluene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Ethylbenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Naphthalene	ND	0.20		µg/L	1	5/31/2020 3:14:13 PM	W69284
1-Methylnaphthalene	ND	0.40		µg/L	1	5/31/2020 3:14:13 PM	W69284
2-Methylnaphthalene	ND	0.40		µg/L	1	5/31/2020 3:14:13 PM	W69284
Acetone	ND	1.0		µg/L	1	5/31/2020 3:14:13 PM	W69284
Bromobenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Bromodichloromethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Bromoform	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Bromomethane	ND	0.20		µg/L	1	5/31/2020 3:14:13 PM	W69284
2-Butanone	ND	1.0		µg/L	1	5/31/2020 3:14:13 PM	W69284
Carbon disulfide	ND	1.0		µg/L	1	5/31/2020 3:14:13 PM	W69284
Carbon tetrachloride	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Chlorobenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Chloroethane	ND	0.20		µg/L	1	5/31/2020 3:14:13 PM	W69284
Chloroform	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Chloromethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
2-Chlorotoluene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
4-Chlorotoluene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
cis-1,2-DCE	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	5/31/2020 3:14:13 PM	W69284
Dibromochloromethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Dibromomethane	ND	0.20		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,2-Dichlorobenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,3-Dichlorobenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,4-Dichlorobenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Dichlorodifluoromethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,1-Dichloroethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,1-Dichloroethene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,2-Dichloropropane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,3-Dichloropropane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
2,2-Dichloropropane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284

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 2005C85

Date Reported: 6/3/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS2-200528 DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 5/28/2020 8:50:00 AM

Lab ID: 2005C85-003

Matrix: AIR

Received Date: 5/29/2020 11:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Hexachlorobutadiene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
2-Hexanone	ND	1.0		µg/L	1	5/31/2020 3:14:13 PM	W69284
Isopropylbenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
4-Isopropyltoluene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
4-Methyl-2-pentanone	ND	1.0		µg/L	1	5/31/2020 3:14:13 PM	W69284
Methylene chloride	ND	0.30		µg/L	1	5/31/2020 3:14:13 PM	W69284
n-Butylbenzene	ND	0.30		µg/L	1	5/31/2020 3:14:13 PM	W69284
n-Propylbenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
sec-Butylbenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Styrene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
tert-Butylbenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Tetrachloroethene (PCE)	0.41	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
trans-1,2-DCE	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,1,1-Trichloroethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,1,2-Trichloroethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Trichloroethene (TCE)	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Trichlorofluoromethane	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
1,2,3-Trichloropropane	ND	0.20		µg/L	1	5/31/2020 3:14:13 PM	W69284
Vinyl chloride	ND	0.10		µg/L	1	5/31/2020 3:14:13 PM	W69284
Xylenes, Total	ND	0.15		µg/L	1	5/31/2020 3:14:13 PM	W69284
Surr: Dibromofluoromethane	98.4	70-130		%Rec	1	5/31/2020 3:14:13 PM	W69284
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	1	5/31/2020 3:14:13 PM	W69284
Surr: Toluene-d8	95.4	70-130		%Rec	1	5/31/2020 3:14:13 PM	W69284
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	5/31/2020 3:14:13 PM	W69284

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		

**Sample Log-In Check List**

Client Name: City of Las Cruces

Work Order Number: 2005C85

RcptNo: 1

Received By: Andy Freeman 5/29/2020 11:50:00 AM

Completed By: Desiree Dominguez 5/29/2020 1:44:53 PM

Reviewed By: DAD 5/29/20

*Andy Freeman*  
*Desiree Dominguez*

**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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA
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.)

*IG*  
*5/29/20*

# 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:	_____		

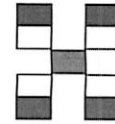
16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	Good	Not Present			

# Chain-of-Custody Record

Turn-Around Time:  
 Standard     Rush



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client: City of Las Cruces  
 Water Quality Laboratory  
 Mailing Address: P.O. Box 20090  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package:  
 Standard     Level 4 (Full Validation)

Project Name:  
Joint Superfund Project  
Monthly Analysis

Project #:  
CRC JSP Griggs Walnut

Project Manager:  
Luis Guerra (575) 528-3609

Accreditation:     Az Compliance  
 NELAC     Other

Sampler: Jadira Reyna  
 On Ice:     Yes     No

EDD (Type) EXCELL

# of Coolers: ( )  
 Cooler Temp (including CF): 7.4-0 = 7.4 (°C)

### 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 (AOA) VOC	8270 (Semi-VOA)	Total Coliform (Present/Absent)													
							X															
							X															
							X															

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
5/28/20	0846	AIR	CRC A51-200528	FedEx Bag	NONE	-001
	0849	AIR	CRC A52-200528	FedEx Bag	NONE	-002
5/28/20	0857	AIR	CRC A52-200528 DUP	FedEx Bag	NONE	-003

Date: 5/28/20 Time: 1500 Relinquished by: Jadira Reyna  
 Date: 5/29/20 Time: 1131 Relinquished by: MOJ...

Received by: [Signature] Via: FedEx Date: 5/29/20 Time: 09:13  
 Received by: [Signature] Via: [Signature] Date: 5/29/2020 Time: 1150

Remarks: Send Results to:  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenblatt: jrosenblatt@las-cruces.org  
Send invoice to all of Luis Guerra

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: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

July 07, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3635  
FAX: (575) 528-3513

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2006E06

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/26/2020 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", written in a cursive style.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200625

Project: Joint Superfund Project Monthly Analysis

Collection Date: 6/25/2020 8:10:00 AM

Lab ID: 2006E06-001

Matrix: AQUEOUS

Received Date: 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	0.23	1.0		µg/L	1	7/2/2020 11:12:00 PM
Toluene	ND	0.20	1.0		µg/L	1	7/2/2020 11:12:00 PM
Ethylbenzene	ND	0.21	1.0		µg/L	1	7/2/2020 11:12:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,2-Dichloroethane (EDC)	ND	0.22	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	7/2/2020 11:12:00 PM
Naphthalene	ND	0.28	2.0		µg/L	1	7/2/2020 11:12:00 PM
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	7/2/2020 11:12:00 PM
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	7/2/2020 11:12:00 PM
Acetone	ND	2.3	10		µg/L	1	7/2/2020 11:12:00 PM
Bromobenzene	ND	0.28	1.0		µg/L	1	7/2/2020 11:12:00 PM
Bromodichloromethane	ND	0.20	1.0		µg/L	1	7/2/2020 11:12:00 PM
Bromoform	ND	0.31	1.0		µg/L	1	7/2/2020 11:12:00 PM
Bromomethane	ND	1.6	3.0		µg/L	1	7/2/2020 11:12:00 PM
2-Butanone	ND	1.1	10		µg/L	1	7/2/2020 11:12:00 PM
Carbon disulfide	ND	0.44	10		µg/L	1	7/2/2020 11:12:00 PM
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	7/2/2020 11:12:00 PM
Chlorobenzene	ND	0.14	1.0		µg/L	1	7/2/2020 11:12:00 PM
Chloroethane	ND	0.38	2.0		µg/L	1	7/2/2020 11:12:00 PM
Chloroform	ND	0.13	1.0		µg/L	1	7/2/2020 11:12:00 PM
Chloromethane	ND	0.40	3.0		µg/L	1	7/2/2020 11:12:00 PM
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	7/2/2020 11:12:00 PM
4-Chlorotoluene	ND	0.51	1.0		µg/L	1	7/2/2020 11:12:00 PM
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	7/2/2020 11:12:00 PM
cis-1,3-Dichloropropene	ND	0.36	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	7/2/2020 11:12:00 PM
Dibromochloromethane	ND	0.28	1.0		µg/L	1	7/2/2020 11:12:00 PM
Dibromomethane	ND	0.31	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,4-Dichlorobenzene	ND	0.21	1.0		µg/L	1	7/2/2020 11:12:00 PM
Dichlorodifluoromethane	ND	0.44	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,1-Dichloroethane	ND	0.27	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,1-Dichloroethene	ND	0.13	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,2-Dichloropropane	ND	0.13	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	7/2/2020 11:12:00 PM
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	7/2/2020 11:12:00 PM
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	7/2/2020 11:12:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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		

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200625

Project: Joint Superfund Project Monthly Analysis

Collection Date: 6/25/2020 8:10:00 AM

Lab ID: 2006E06-001

Matrix: AQUEOUS

Received Date: 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Hexachlorobutadiene	ND	0.33	1.0		µg/L	1	7/2/2020 11:12:00 PM
2-Hexanone	ND	1.8	10		µg/L	1	7/2/2020 11:12:00 PM
Isopropylbenzene	ND	0.18	1.0		µg/L	1	7/2/2020 11:12:00 PM
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	7/2/2020 11:12:00 PM
4-Methyl-2-pentanone	ND	1.1	10		µg/L	1	7/2/2020 11:12:00 PM
Methylene Chloride	ND	0.40	3.0		µg/L	1	7/2/2020 11:12:00 PM
n-Butylbenzene	ND	0.25	3.0		µg/L	1	7/2/2020 11:12:00 PM
n-Propylbenzene	ND	0.18	1.0		µg/L	1	7/2/2020 11:12:00 PM
sec-Butylbenzene	ND	0.61	1.0		µg/L	1	7/2/2020 11:12:00 PM
Styrene	ND	0.13	1.0		µg/L	1	7/2/2020 11:12:00 PM
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	7/2/2020 11:12:00 PM
Tetrachloroethene (PCE)	5.4	0.36	1.0		µg/L	1	7/2/2020 11:12:00 PM
trans-1,2-DCE	ND	0.49	1.0		µg/L	1	7/2/2020 11:12:00 PM
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,2,3-Trichlorobenzene	ND	0.13	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,1,1-Trichloroethane	ND	0.30	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,1,2-Trichloroethane	ND	0.19	1.0		µg/L	1	7/2/2020 11:12:00 PM
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	7/2/2020 11:12:00 PM
Trichlorofluoromethane	ND	0.092	1.0		µg/L	1	7/2/2020 11:12:00 PM
1,2,3-Trichloropropane	ND	0.44	2.0		µg/L	1	7/2/2020 11:12:00 PM
Vinyl chloride	ND	0.20	1.0		µg/L	1	7/2/2020 11:12:00 PM
Xylenes, Total	ND	0.55	1.5		µg/L	1	7/2/2020 11:12:00 PM
Surr: 1,2-Dichloroethane-d4	99.8	0	70-130		%Rec	1	7/2/2020 11:12:00 PM
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	7/2/2020 11:12:00 PM
Surr: Dibromofluoromethane	97.8	0	70-130		%Rec	1	7/2/2020 11:12:00 PM
Surr: Toluene-d8	101	0	70-130		%Rec	1	7/2/2020 11:12:00 PM

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.

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200625

Project: Joint Superfund Project Monthly Analysis

Collection Date: 6/25/2020 8:21:00 AM

Lab ID: 2006E06-002

Matrix: AQUEOUS

Received Date: 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	0.23	1.0		µg/L	1	7/2/2020 11:35:00 PM
Toluene	ND	0.20	1.0		µg/L	1	7/2/2020 11:35:00 PM
Ethylbenzene	ND	0.21	1.0		µg/L	1	7/2/2020 11:35:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,2-Dichloroethane (EDC)	ND	0.22	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	7/2/2020 11:35:00 PM
Naphthalene	ND	0.28	2.0		µg/L	1	7/2/2020 11:35:00 PM
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	7/2/2020 11:35:00 PM
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	7/2/2020 11:35:00 PM
Acetone	ND	2.3	10		µg/L	1	7/2/2020 11:35:00 PM
Bromobenzene	ND	0.28	1.0		µg/L	1	7/2/2020 11:35:00 PM
Bromodichloromethane	ND	0.20	1.0		µg/L	1	7/2/2020 11:35:00 PM
Bromoform	ND	0.31	1.0		µg/L	1	7/2/2020 11:35:00 PM
Bromomethane	ND	1.6	3.0		µg/L	1	7/2/2020 11:35:00 PM
2-Butanone	ND	1.1	10		µg/L	1	7/2/2020 11:35:00 PM
Carbon disulfide	ND	0.44	10		µg/L	1	7/2/2020 11:35:00 PM
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	7/2/2020 11:35:00 PM
Chlorobenzene	ND	0.14	1.0		µg/L	1	7/2/2020 11:35:00 PM
Chloroethane	ND	0.38	2.0		µg/L	1	7/2/2020 11:35:00 PM
Chloroform	ND	0.13	1.0		µg/L	1	7/2/2020 11:35:00 PM
Chloromethane	ND	0.40	3.0		µg/L	1	7/2/2020 11:35:00 PM
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	7/2/2020 11:35:00 PM
4-Chlorotoluene	ND	0.51	1.0		µg/L	1	7/2/2020 11:35:00 PM
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	7/2/2020 11:35:00 PM
cis-1,3-Dichloropropene	ND	0.36	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	7/2/2020 11:35:00 PM
Dibromochloromethane	ND	0.28	1.0		µg/L	1	7/2/2020 11:35:00 PM
Dibromomethane	ND	0.31	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,4-Dichlorobenzene	ND	0.21	1.0		µg/L	1	7/2/2020 11:35:00 PM
Dichlorodifluoromethane	ND	0.44	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,1-Dichloroethane	ND	0.27	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,1-Dichloroethene	ND	0.13	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,2-Dichloropropane	ND	0.13	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	7/2/2020 11:35:00 PM
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	7/2/2020 11:35:00 PM
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	7/2/2020 11:35:00 PM

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.

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200625

Project: Joint Superfund Project Monthly Analysis

Collection Date: 6/25/2020 8:21:00 AM

Lab ID: 2006E06-002

Matrix: AQUEOUS

Received Date: 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Hexachlorobutadiene	ND	0.33	1.0		µg/L	1	7/2/2020 11:35:00 PM
2-Hexanone	ND	1.8	10		µg/L	1	7/2/2020 11:35:00 PM
Isopropylbenzene	ND	0.18	1.0		µg/L	1	7/2/2020 11:35:00 PM
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	7/2/2020 11:35:00 PM
4-Methyl-2-pentanone	ND	1.1	10		µg/L	1	7/2/2020 11:35:00 PM
Methylene Chloride	ND	0.40	3.0		µg/L	1	7/2/2020 11:35:00 PM
n-Butylbenzene	ND	0.25	3.0		µg/L	1	7/2/2020 11:35:00 PM
n-Propylbenzene	ND	0.18	1.0		µg/L	1	7/2/2020 11:35:00 PM
sec-Butylbenzene	ND	0.61	1.0		µg/L	1	7/2/2020 11:35:00 PM
Styrene	ND	0.13	1.0		µg/L	1	7/2/2020 11:35:00 PM
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	7/2/2020 11:35:00 PM
Tetrachloroethene (PCE)	15	0.36	1.0		µg/L	1	7/2/2020 11:35:00 PM
trans-1,2-DCE	ND	0.49	1.0		µg/L	1	7/2/2020 11:35:00 PM
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,2,3-Trichlorobenzene	ND	0.13	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,1,1-Trichloroethane	ND	0.30	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,1,2-Trichloroethane	ND	0.19	1.0		µg/L	1	7/2/2020 11:35:00 PM
Trichloroethene (TCE)	0.28	0.20	1.0	J	µg/L	1	7/2/2020 11:35:00 PM
Trichlorofluoromethane	ND	0.092	1.0		µg/L	1	7/2/2020 11:35:00 PM
1,2,3-Trichloropropane	ND	0.44	2.0		µg/L	1	7/2/2020 11:35:00 PM
Vinyl chloride	ND	0.20	1.0		µg/L	1	7/2/2020 11:35:00 PM
Xylenes, Total	ND	0.55	1.5		µg/L	1	7/2/2020 11:35:00 PM
Surr: 1,2-Dichloroethane-d4	97.9	0	70-130		%Rec	1	7/2/2020 11:35:00 PM
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	7/2/2020 11:35:00 PM
Surr: Dibromofluoromethane	96.3	0	70-130		%Rec	1	7/2/2020 11:35:00 PM
Surr: Toluene-d8	100	0	70-130		%Rec	1	7/2/2020 11:35:00 PM

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.

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200625

Project: Joint Superfund Project Monthly Analysis

Collection Date: 6/25/2020 8:31:00 AM

Lab ID: 2006E06-003

Matrix: AQUEOUS

Received Date: 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	0.23	1.0		µg/L	1	7/2/2020 11:59:00 PM
Toluene	ND	0.20	1.0		µg/L	1	7/2/2020 11:59:00 PM
Ethylbenzene	ND	0.21	1.0		µg/L	1	7/2/2020 11:59:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,2-Dichloroethane (EDC)	ND	0.22	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	7/2/2020 11:59:00 PM
Naphthalene	ND	0.28	2.0		µg/L	1	7/2/2020 11:59:00 PM
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	7/2/2020 11:59:00 PM
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	7/2/2020 11:59:00 PM
Acetone	ND	2.3	10		µg/L	1	7/2/2020 11:59:00 PM
Bromobenzene	ND	0.28	1.0		µg/L	1	7/2/2020 11:59:00 PM
Bromodichloromethane	ND	0.20	1.0		µg/L	1	7/2/2020 11:59:00 PM
Bromoform	ND	0.31	1.0		µg/L	1	7/2/2020 11:59:00 PM
Bromomethane	ND	1.6	3.0		µg/L	1	7/2/2020 11:59:00 PM
2-Butanone	ND	1.1	10		µg/L	1	7/2/2020 11:59:00 PM
Carbon disulfide	ND	0.44	10		µg/L	1	7/2/2020 11:59:00 PM
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	7/2/2020 11:59:00 PM
Chlorobenzene	ND	0.14	1.0		µg/L	1	7/2/2020 11:59:00 PM
Chloroethane	ND	0.38	2.0		µg/L	1	7/2/2020 11:59:00 PM
Chloroform	ND	0.13	1.0		µg/L	1	7/2/2020 11:59:00 PM
Chloromethane	ND	0.40	3.0		µg/L	1	7/2/2020 11:59:00 PM
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	7/2/2020 11:59:00 PM
4-Chlorotoluene	ND	0.51	1.0		µg/L	1	7/2/2020 11:59:00 PM
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	7/2/2020 11:59:00 PM
cis-1,3-Dichloropropene	ND	0.36	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	7/2/2020 11:59:00 PM
Dibromochloromethane	ND	0.28	1.0		µg/L	1	7/2/2020 11:59:00 PM
Dibromomethane	ND	0.31	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,4-Dichlorobenzene	ND	0.21	1.0		µg/L	1	7/2/2020 11:59:00 PM
Dichlorodifluoromethane	ND	0.44	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,1-Dichloroethane	ND	0.27	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,1-Dichloroethene	ND	0.13	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,2-Dichloropropane	ND	0.13	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	7/2/2020 11:59:00 PM
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	7/2/2020 11:59:00 PM
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	7/2/2020 11:59:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2006E06

Date Reported: 7/7/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1-200625

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 6/25/2020 8:31:00 AM

**Lab ID:** 2006E06-003

**Matrix:** AQUEOUS

**Received Date:** 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
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**EPA METHOD 8260B: VOLATILES**

Analyst: RAA

Hexachlorobutadiene	ND	0.33	1.0		µg/L	1	7/2/2020 11:59:00 PM
2-Hexanone	ND	1.8	10		µg/L	1	7/2/2020 11:59:00 PM
Isopropylbenzene	ND	0.18	1.0		µg/L	1	7/2/2020 11:59:00 PM
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	7/2/2020 11:59:00 PM
4-Methyl-2-pentanone	ND	1.1	10		µg/L	1	7/2/2020 11:59:00 PM
Methylene Chloride	ND	0.40	3.0		µg/L	1	7/2/2020 11:59:00 PM
n-Butylbenzene	ND	0.25	3.0		µg/L	1	7/2/2020 11:59:00 PM
n-Propylbenzene	ND	0.18	1.0		µg/L	1	7/2/2020 11:59:00 PM
sec-Butylbenzene	ND	0.61	1.0		µg/L	1	7/2/2020 11:59:00 PM
Styrene	ND	0.13	1.0		µg/L	1	7/2/2020 11:59:00 PM
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	7/2/2020 11:59:00 PM
Tetrachloroethene (PCE)	11	0.36	1.0		µg/L	1	7/2/2020 11:59:00 PM
trans-1,2-DCE	ND	0.49	1.0		µg/L	1	7/2/2020 11:59:00 PM
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,2,3-Trichlorobenzene	ND	0.13	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,1,1-Trichloroethane	ND	0.30	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,1,2-Trichloroethane	ND	0.19	1.0		µg/L	1	7/2/2020 11:59:00 PM
Trichloroethene (TCE)	0.25	0.20	1.0	J	µg/L	1	7/2/2020 11:59:00 PM
Trichlorofluoromethane	ND	0.092	1.0		µg/L	1	7/2/2020 11:59:00 PM
1,2,3-Trichloropropane	ND	0.44	2.0		µg/L	1	7/2/2020 11:59:00 PM
Vinyl chloride	ND	0.20	1.0		µg/L	1	7/2/2020 11:59:00 PM
Xylenes, Total	ND	0.55	1.5		µg/L	1	7/2/2020 11:59:00 PM
Surr: 1,2-Dichloroethane-d4	99.1	0	70-130		%Rec	1	7/2/2020 11:59:00 PM
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	7/2/2020 11:59:00 PM
Surr: Dibromofluoromethane	95.9	0	70-130		%Rec	1	7/2/2020 11:59:00 PM
Surr: Toluene-d8	101	0	70-130		%Rec	1	7/2/2020 11:59:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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		

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200625

Project: Joint Superfund Project Monthly Analysis

Collection Date: 6/25/2020 8:35:00 AM

Lab ID: 2006E06-004

Matrix: AQUEOUS

Received Date: 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	0.23	1.0		µg/L	1	7/3/2020 12:23:00 AM
Toluene	ND	0.20	1.0		µg/L	1	7/3/2020 12:23:00 AM
Ethylbenzene	ND	0.21	1.0		µg/L	1	7/3/2020 12:23:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,2-Dichloroethane (EDC)	ND	0.22	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	7/3/2020 12:23:00 AM
Naphthalene	ND	0.28	2.0		µg/L	1	7/3/2020 12:23:00 AM
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	7/3/2020 12:23:00 AM
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	7/3/2020 12:23:00 AM
Acetone	ND	2.3	10		µg/L	1	7/3/2020 12:23:00 AM
Bromobenzene	ND	0.28	1.0		µg/L	1	7/3/2020 12:23:00 AM
Bromodichloromethane	ND	0.20	1.0		µg/L	1	7/3/2020 12:23:00 AM
Bromoform	ND	0.31	1.0		µg/L	1	7/3/2020 12:23:00 AM
Bromomethane	ND	1.6	3.0		µg/L	1	7/3/2020 12:23:00 AM
2-Butanone	ND	1.1	10		µg/L	1	7/3/2020 12:23:00 AM
Carbon disulfide	ND	0.44	10		µg/L	1	7/3/2020 12:23:00 AM
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	7/3/2020 12:23:00 AM
Chlorobenzene	ND	0.14	1.0		µg/L	1	7/3/2020 12:23:00 AM
Chloroethane	ND	0.38	2.0		µg/L	1	7/3/2020 12:23:00 AM
Chloroform	ND	0.13	1.0		µg/L	1	7/3/2020 12:23:00 AM
Chloromethane	ND	0.40	3.0		µg/L	1	7/3/2020 12:23:00 AM
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	7/3/2020 12:23:00 AM
4-Chlorotoluene	ND	0.51	1.0		µg/L	1	7/3/2020 12:23:00 AM
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	7/3/2020 12:23:00 AM
cis-1,3-Dichloropropene	ND	0.36	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	7/3/2020 12:23:00 AM
Dibromochloromethane	ND	0.28	1.0		µg/L	1	7/3/2020 12:23:00 AM
Dibromomethane	ND	0.31	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,4-Dichlorobenzene	ND	0.21	1.0		µg/L	1	7/3/2020 12:23:00 AM
Dichlorodifluoromethane	ND	0.44	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,1-Dichloroethane	ND	0.27	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,1-Dichloroethene	ND	0.13	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,2-Dichloropropane	ND	0.13	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	7/3/2020 12:23:00 AM
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	7/3/2020 12:23:00 AM
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	7/3/2020 12:23:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2006E06

Date Reported: 7/7/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1-200625

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 6/25/2020 8:35:00 AM

**Lab ID:** 2006E06-004

**Matrix:** AQUEOUS

**Received Date:** 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Hexachlorobutadiene	ND	0.33	1.0		µg/L	1	7/3/2020 12:23:00 AM
2-Hexanone	ND	1.8	10		µg/L	1	7/3/2020 12:23:00 AM
Isopropylbenzene	ND	0.18	1.0		µg/L	1	7/3/2020 12:23:00 AM
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	7/3/2020 12:23:00 AM
4-Methyl-2-pentanone	ND	1.1	10		µg/L	1	7/3/2020 12:23:00 AM
Methylene Chloride	ND	0.40	3.0		µg/L	1	7/3/2020 12:23:00 AM
n-Butylbenzene	ND	0.25	3.0		µg/L	1	7/3/2020 12:23:00 AM
n-Propylbenzene	ND	0.18	1.0		µg/L	1	7/3/2020 12:23:00 AM
sec-Butylbenzene	ND	0.61	1.0		µg/L	1	7/3/2020 12:23:00 AM
Styrene	ND	0.13	1.0		µg/L	1	7/3/2020 12:23:00 AM
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	7/3/2020 12:23:00 AM
Tetrachloroethene (PCE)	ND	0.36	1.0		µg/L	1	7/3/2020 12:23:00 AM
trans-1,2-DCE	ND	0.49	1.0		µg/L	1	7/3/2020 12:23:00 AM
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,2,3-Trichlorobenzene	ND	0.13	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,1,1-Trichloroethane	ND	0.30	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,1,2-Trichloroethane	ND	0.19	1.0		µg/L	1	7/3/2020 12:23:00 AM
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	7/3/2020 12:23:00 AM
Trichlorofluoromethane	ND	0.092	1.0		µg/L	1	7/3/2020 12:23:00 AM
1,2,3-Trichloropropane	ND	0.44	2.0		µg/L	1	7/3/2020 12:23:00 AM
Vinyl chloride	ND	0.20	1.0		µg/L	1	7/3/2020 12:23:00 AM
Xylenes, Total	ND	0.55	1.5		µg/L	1	7/3/2020 12:23:00 AM
Surr: 1,2-Dichloroethane-d4	97.0	0	70-130		%Rec	1	7/3/2020 12:23:00 AM
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	7/3/2020 12:23:00 AM
Surr: Dibromofluoromethane	95.3	0	70-130		%Rec	1	7/3/2020 12:23:00 AM
Surr: Toluene-d8	101	0	70-130		%Rec	1	7/3/2020 12:23:00 AM

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.

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200625 DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 6/25/2020 8:36:00 AM

Lab ID: 2006E06-005

Matrix: AQUEOUS

Received Date: 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	0.23	1.0		µg/L	1	7/3/2020 12:46:00 AM
Toluene	ND	0.20	1.0		µg/L	1	7/3/2020 12:46:00 AM
Ethylbenzene	ND	0.21	1.0		µg/L	1	7/3/2020 12:46:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.39	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,2,4-Trimethylbenzene	ND	0.12	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,3,5-Trimethylbenzene	ND	0.18	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,2-Dichloroethane (EDC)	ND	0.22	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,2-Dibromoethane (EDB)	ND	0.30	1.0		µg/L	1	7/3/2020 12:46:00 AM
Naphthalene	ND	0.28	2.0		µg/L	1	7/3/2020 12:46:00 AM
1-Methylnaphthalene	ND	0.84	4.0		µg/L	1	7/3/2020 12:46:00 AM
2-Methylnaphthalene	ND	0.69	4.0		µg/L	1	7/3/2020 12:46:00 AM
Acetone	ND	2.3	10		µg/L	1	7/3/2020 12:46:00 AM
Bromobenzene	ND	0.28	1.0		µg/L	1	7/3/2020 12:46:00 AM
Bromodichloromethane	ND	0.20	1.0		µg/L	1	7/3/2020 12:46:00 AM
Bromoform	ND	0.31	1.0		µg/L	1	7/3/2020 12:46:00 AM
Bromomethane	ND	1.6	3.0		µg/L	1	7/3/2020 12:46:00 AM
2-Butanone	ND	1.1	10		µg/L	1	7/3/2020 12:46:00 AM
Carbon disulfide	ND	0.44	10		µg/L	1	7/3/2020 12:46:00 AM
Carbon Tetrachloride	ND	0.18	1.0		µg/L	1	7/3/2020 12:46:00 AM
Chlorobenzene	ND	0.14	1.0		µg/L	1	7/3/2020 12:46:00 AM
Chloroethane	ND	0.38	2.0		µg/L	1	7/3/2020 12:46:00 AM
Chloroform	ND	0.13	1.0		µg/L	1	7/3/2020 12:46:00 AM
Chloromethane	ND	0.40	3.0		µg/L	1	7/3/2020 12:46:00 AM
2-Chlorotoluene	ND	0.13	1.0		µg/L	1	7/3/2020 12:46:00 AM
4-Chlorotoluene	ND	0.51	1.0		µg/L	1	7/3/2020 12:46:00 AM
cis-1,2-DCE	ND	0.39	1.0		µg/L	1	7/3/2020 12:46:00 AM
cis-1,3-Dichloropropene	ND	0.36	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,2-Dibromo-3-chloropropane	ND	0.59	2.0		µg/L	1	7/3/2020 12:46:00 AM
Dibromochloromethane	ND	0.28	1.0		µg/L	1	7/3/2020 12:46:00 AM
Dibromomethane	ND	0.31	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,2-Dichlorobenzene	ND	0.15	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,3-Dichlorobenzene	ND	0.16	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,4-Dichlorobenzene	ND	0.21	1.0		µg/L	1	7/3/2020 12:46:00 AM
Dichlorodifluoromethane	ND	0.44	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,1-Dichloroethane	ND	0.27	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,1-Dichloroethene	ND	0.13	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,2-Dichloropropane	ND	0.13	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,3-Dichloropropane	ND	0.18	1.0		µg/L	1	7/3/2020 12:46:00 AM
2,2-Dichloropropane	ND	0.26	2.0		µg/L	1	7/3/2020 12:46:00 AM
1,1-Dichloropropene	ND	0.18	1.0		µg/L	1	7/3/2020 12:46:00 AM

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 2006E06

Date Reported: 7/7/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1-200625 DUP

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 6/25/2020 8:36:00 AM

**Lab ID:** 2006E06-005

**Matrix:** AQUEOUS

**Received Date:** 6/26/2020 10:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Hexachlorobutadiene	ND	0.33	1.0		µg/L	1	7/3/2020 12:46:00 AM
2-Hexanone	ND	1.8	10		µg/L	1	7/3/2020 12:46:00 AM
Isopropylbenzene	ND	0.18	1.0		µg/L	1	7/3/2020 12:46:00 AM
4-Isopropyltoluene	ND	0.20	1.0		µg/L	1	7/3/2020 12:46:00 AM
4-Methyl-2-pentanone	ND	1.1	10		µg/L	1	7/3/2020 12:46:00 AM
Methylene Chloride	ND	0.40	3.0		µg/L	1	7/3/2020 12:46:00 AM
n-Butylbenzene	ND	0.25	3.0		µg/L	1	7/3/2020 12:46:00 AM
n-Propylbenzene	ND	0.18	1.0		µg/L	1	7/3/2020 12:46:00 AM
sec-Butylbenzene	ND	0.61	1.0		µg/L	1	7/3/2020 12:46:00 AM
Styrene	ND	0.13	1.0		µg/L	1	7/3/2020 12:46:00 AM
tert-Butylbenzene	ND	0.24	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,1,1,2-Tetrachloroethane	ND	0.27	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,1,2,2-Tetrachloroethane	ND	0.27	2.0		µg/L	1	7/3/2020 12:46:00 AM
Tetrachloroethene (PCE)	ND	0.36	1.0		µg/L	1	7/3/2020 12:46:00 AM
trans-1,2-DCE	ND	0.49	1.0		µg/L	1	7/3/2020 12:46:00 AM
trans-1,3-Dichloropropene	ND	0.34	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,2,3-Trichlorobenzene	ND	0.13	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,2,4-Trichlorobenzene	ND	0.24	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,1,1-Trichloroethane	ND	0.30	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,1,2-Trichloroethane	ND	0.19	1.0		µg/L	1	7/3/2020 12:46:00 AM
Trichloroethene (TCE)	ND	0.20	1.0		µg/L	1	7/3/2020 12:46:00 AM
Trichlorofluoromethane	ND	0.092	1.0		µg/L	1	7/3/2020 12:46:00 AM
1,2,3-Trichloropropane	ND	0.44	2.0		µg/L	1	7/3/2020 12:46:00 AM
Vinyl chloride	ND	0.20	1.0		µg/L	1	7/3/2020 12:46:00 AM
Xylenes, Total	ND	0.55	1.5		µg/L	1	7/3/2020 12:46:00 AM
Surr: 1,2-Dichloroethane-d4	98.2	0	70-130		%Rec	1	7/3/2020 12:46:00 AM
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	7/3/2020 12:46:00 AM
Surr: Dibromofluoromethane	95.7	0	70-130		%Rec	1	7/3/2020 12:46:00 AM
Surr: Toluene-d8	101	0	70-130		%Rec	1	7/3/2020 12:46:00 AM

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#: 2006E06

07-Jul-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

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>R70092</b>	RunNo: <b>70092</b>								
Prep Date:	Analysis Date: <b>7/2/2020</b>	SeqNo: <b>2435211</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	89.9	70	130			
Toluene	19	1.0	20.00	0	96.2	70	130			
Chlorobenzene	20	1.0	20.00	0	98.4	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	88.5	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	83.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.7	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R70092</b>	RunNo: <b>70092</b>								
Prep Date:	Analysis Date: <b>7/2/2020</b>	SeqNo: <b>2435212</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								

**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#: 2006E06

07-Jul-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R70092</b>	RunNo: <b>70092</b>								
Prep Date:	Analysis Date: <b>7/2/2020</b>	SeqNo: <b>2435212</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

### 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#: 2006E06

07-Jul-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R70092</b>		RunNo: <b>70092</b>							
Prep Date:	Analysis Date: <b>7/2/2020</b>		SeqNo: <b>2435212</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.2	70	130			
Surr: Toluene-d8	10		10.00		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: **City of Las Cruces**      Work Order Number: **2006E06**      RcptNo: 1

Received By: **Scott Anderson**      6/26/2020 10:00:00 AM

Completed By: **Emily Mocho**      6/26/2020 11:09:24 AM

Reviewed By: *gm 6/26/20*

**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
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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA
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: *SPA 6.26.20*

**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**

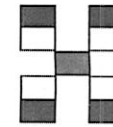
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.1	Good	Not Present			

# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: PO. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)

Accreditation:  Az Compliance  
 NELAC  Other \_\_\_\_\_  
 EDD (Type) EXCELL

Turn-Around Time:  
 Standard  Rush  
 Project Name: Joint Superfund Project  
Monthly Analysis  
 Project #:  
CRC JSP Griggs Walnut  
 Project Manager:  
Luis Guerra (575) 528-3609  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 # of Coolers: 1  
 Cooler Temp (including CF): 5.1 - 0 = 5.1 (°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 / 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) VOC	8270 (Semi-VOA)	Total Coliform (Present/Absent)				
4-25-20	0810	Drinking Water	CRC 18-200625	3-10ml Vials	HgCl <sub>2</sub>	2006ED6 -001								X						
	0821		CRC 27-200625			-002								X						
	0831		CRC I61-200625			-003								X						
	0835		CRC E51-200625			-004								X						
4-25-20	0836	Drinking Water	CRC E51-200625 DUP	3-10ml Vials	HgCl <sub>2</sub>	-005								X						

Date: 4-25-20 Time: 1500 Relinquished by: Yadira Reyna  
 Received by: SPA Via: FDEx Date: 6-23-20 Time: 10:00 Remarks: Send Results to:  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_ Received by: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenblatt: jrosenblatt@las-cruces.org  
(Send invoice to CRC c/o Luis Guerra)

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: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

July 30, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX:

RE: CLC Joint Superfund Project

OrderNo.: 2007E46

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/29/2020 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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200728

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:12:00 AM

Lab ID: 2007E46-001

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Toluene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Ethylbenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Naphthalene	ND	2.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1-Methylnaphthalene	ND	4.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
2-Methylnaphthalene	ND	4.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Acetone	ND	10		µg/L	1	7/29/2020 9:32:51 PM	W70712
Bromobenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Bromodichloromethane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Bromoform	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Bromomethane	ND	3.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
2-Butanone	ND	10		µg/L	1	7/29/2020 9:32:51 PM	W70712
Carbon disulfide	ND	10		µg/L	1	7/29/2020 9:32:51 PM	W70712
Carbon Tetrachloride	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Chlorobenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Chloroethane	ND	2.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Chloroform	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Chloromethane	ND	3.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
2-Chlorotoluene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
4-Chlorotoluene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
cis-1,2-DCE	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Dibromochloromethane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Dibromomethane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,1-Dichloroethane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,1-Dichloroethene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,2-Dichloropropane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,3-Dichloropropane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
2,2-Dichloropropane	ND	2.0		µg/L	1	7/29/2020 9:32:51 PM	W70712

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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200728

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:12:00 AM

Lab ID: 2007E46-001

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Hexachlorobutadiene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
2-Hexanone	ND	10		µg/L	1	7/29/2020 9:32:51 PM	W70712
Isopropylbenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
4-Isopropyltoluene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
4-Methyl-2-pentanone	ND	10		µg/L	1	7/29/2020 9:32:51 PM	W70712
Methylene Chloride	ND	3.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
n-Butylbenzene	ND	3.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
n-Propylbenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
sec-Butylbenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Styrene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
tert-Butylbenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Tetrachloroethene (PCE)	5.6	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
trans-1,2-DCE	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Trichlorofluoromethane	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Vinyl chloride	ND	1.0		µg/L	1	7/29/2020 9:32:51 PM	W70712
Xylenes, Total	ND	1.5		µg/L	1	7/29/2020 9:32:51 PM	W70712
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	1	7/29/2020 9:32:51 PM	W70712
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	7/29/2020 9:32:51 PM	W70712
Surr: Dibromofluoromethane	102	70-130		%Rec	1	7/29/2020 9:32:51 PM	W70712
Surr: Toluene-d8	101	70-130		%Rec	1	7/29/2020 9:32:51 PM	W70712

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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200728

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:22:00 AM

Lab ID: 2007E46-002

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Toluene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Ethylbenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Naphthalene	ND	2.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1-Methylnaphthalene	ND	4.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
2-Methylnaphthalene	ND	4.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Acetone	ND	10		µg/L	1	7/29/2020 10:02:22 PM	W70712
Bromobenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Bromodichloromethane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Bromoform	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Bromomethane	ND	3.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
2-Butanone	ND	10		µg/L	1	7/29/2020 10:02:22 PM	W70712
Carbon disulfide	ND	10		µg/L	1	7/29/2020 10:02:22 PM	W70712
Carbon Tetrachloride	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Chlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Chloroethane	ND	2.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Chloroform	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Chloromethane	ND	3.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
2-Chlorotoluene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
4-Chlorotoluene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
cis-1,2-DCE	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Dibromochloromethane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Dibromomethane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,1-Dichloroethane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,1-Dichloroethene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,2-Dichloropropane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,3-Dichloropropane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
2,2-Dichloropropane	ND	2.0		µg/L	1	7/29/2020 10:02:22 PM	W70712

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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200728

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:22:00 AM

Lab ID: 2007E46-002

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Hexachlorobutadiene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
2-Hexanone	ND	10		µg/L	1	7/29/2020 10:02:22 PM	W70712
Isopropylbenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
4-Isopropyltoluene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
4-Methyl-2-pentanone	ND	10		µg/L	1	7/29/2020 10:02:22 PM	W70712
Methylene Chloride	ND	3.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
n-Butylbenzene	ND	3.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
n-Propylbenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
sec-Butylbenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Styrene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
tert-Butylbenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Tetrachloroethene (PCE)	15	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
trans-1,2-DCE	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Trichlorofluoromethane	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Vinyl chloride	ND	1.0		µg/L	1	7/29/2020 10:02:22 PM	W70712
Xylenes, Total	ND	1.5		µg/L	1	7/29/2020 10:02:22 PM	W70712
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	7/29/2020 10:02:22 PM	W70712
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	7/29/2020 10:02:22 PM	W70712
Surr: Dibromofluoromethane	101	70-130		%Rec	1	7/29/2020 10:02:22 PM	W70712
Surr: Toluene-d8	100	70-130		%Rec	1	7/29/2020 10:02:22 PM	W70712

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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200728

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:48:00 AM

Lab ID: 2007E46-003

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Toluene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Ethylbenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Naphthalene	ND	2.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1-Methylnaphthalene	ND	4.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
2-Methylnaphthalene	ND	4.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Acetone	ND	10		µg/L	1	7/29/2020 10:32:25 PM	W70712
Bromobenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Bromodichloromethane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Bromoform	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Bromomethane	ND	3.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
2-Butanone	ND	10		µg/L	1	7/29/2020 10:32:25 PM	W70712
Carbon disulfide	ND	10		µg/L	1	7/29/2020 10:32:25 PM	W70712
Carbon Tetrachloride	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Chlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Chloroethane	ND	2.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Chloroform	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Chloromethane	ND	3.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
2-Chlorotoluene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
4-Chlorotoluene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
cis-1,2-DCE	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Dibromochloromethane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Dibromomethane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,1-Dichloroethane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,1-Dichloroethene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,2-Dichloropropane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,3-Dichloropropane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
2,2-Dichloropropane	ND	2.0		µg/L	1	7/29/2020 10:32:25 PM	W70712

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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200728

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:48:00 AM

Lab ID: 2007E46-003

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Hexachlorobutadiene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
2-Hexanone	ND	10		µg/L	1	7/29/2020 10:32:25 PM	W70712
Isopropylbenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
4-Isopropyltoluene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
4-Methyl-2-pentanone	ND	10		µg/L	1	7/29/2020 10:32:25 PM	W70712
Methylene Chloride	ND	3.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
n-Butylbenzene	ND	3.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
n-Propylbenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
sec-Butylbenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Styrene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
tert-Butylbenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Tetrachloroethene (PCE)	11	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
trans-1,2-DCE	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Trichlorofluoromethane	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Vinyl chloride	ND	1.0		µg/L	1	7/29/2020 10:32:25 PM	W70712
Xylenes, Total	ND	1.5		µg/L	1	7/29/2020 10:32:25 PM	W70712
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%Rec	1	7/29/2020 10:32:25 PM	W70712
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	7/29/2020 10:32:25 PM	W70712
Surr: Dibromofluoromethane	101	70-130		%Rec	1	7/29/2020 10:32:25 PM	W70712
Surr: Toluene-d8	104	70-130		%Rec	1	7/29/2020 10:32:25 PM	W70712

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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200728

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:53:00 AM

Lab ID: 2007E46-004

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Toluene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Ethylbenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Naphthalene	ND	2.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1-Methylnaphthalene	ND	4.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
2-Methylnaphthalene	ND	4.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Acetone	ND	10		µg/L	1	7/29/2020 11:01:46 PM	W70712
Bromobenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Bromodichloromethane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Bromoform	4.3	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Bromomethane	ND	3.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
2-Butanone	ND	10		µg/L	1	7/29/2020 11:01:46 PM	W70712
Carbon disulfide	ND	10		µg/L	1	7/29/2020 11:01:46 PM	W70712
Carbon Tetrachloride	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Chlorobenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Chloroethane	ND	2.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Chloroform	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Chloromethane	ND	3.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
2-Chlorotoluene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
4-Chlorotoluene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
cis-1,2-DCE	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Dibromochloromethane	1.8	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Dibromomethane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,1-Dichloroethane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,1-Dichloroethene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,2-Dichloropropane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,3-Dichloropropane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
2,2-Dichloropropane	ND	2.0		µg/L	1	7/29/2020 11:01:46 PM	W70712

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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200728

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:53:00 AM

Lab ID: 2007E46-004

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Hexachlorobutadiene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
2-Hexanone	ND	10		µg/L	1	7/29/2020 11:01:46 PM	W70712
Isopropylbenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
4-Isopropyltoluene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
4-Methyl-2-pentanone	ND	10		µg/L	1	7/29/2020 11:01:46 PM	W70712
Methylene Chloride	ND	3.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
n-Butylbenzene	ND	3.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
n-Propylbenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
sec-Butylbenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Styrene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
tert-Butylbenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
trans-1,2-DCE	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Trichlorofluoromethane	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Vinyl chloride	ND	1.0		µg/L	1	7/29/2020 11:01:46 PM	W70712
Xylenes, Total	ND	1.5		µg/L	1	7/29/2020 11:01:46 PM	W70712
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%Rec	1	7/29/2020 11:01:46 PM	W70712
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	7/29/2020 11:01:46 PM	W70712
Surr: Dibromofluoromethane	103	70-130		%Rec	1	7/29/2020 11:01:46 PM	W70712
Surr: Toluene-d8	102	70-130		%Rec	1	7/29/2020 11:01:46 PM	W70712

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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1 200728 DUP

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:54:00 AM

Lab ID: 2007E46-005

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Toluene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Ethylbenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Naphthalene	ND	2.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1-Methylnaphthalene	ND	4.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
2-Methylnaphthalene	ND	4.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Acetone	ND	10		µg/L	1	7/30/2020 12:59:37 AM	W70712
Bromobenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Bromodichloromethane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Bromoform	4.6	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Bromomethane	ND	3.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
2-Butanone	ND	10		µg/L	1	7/30/2020 12:59:37 AM	W70712
Carbon disulfide	ND	10		µg/L	1	7/30/2020 12:59:37 AM	W70712
Carbon Tetrachloride	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Chlorobenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Chloroethane	ND	2.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Chloroform	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Chloromethane	ND	3.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
2-Chlorotoluene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
4-Chlorotoluene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
cis-1,2-DCE	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Dibromochloromethane	1.9	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Dibromomethane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,1-Dichloroethane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,1-Dichloroethene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,2-Dichloropropane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,3-Dichloropropane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
2,2-Dichloropropane	ND	2.0		µg/L	1	7/30/2020 12:59:37 AM	W70712

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 2007E46

Date Reported: 7/30/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1 200728 DUP

Project: CLC Joint Superfund Project

Collection Date: 7/28/2020 8:54:00 AM

Lab ID: 2007E46-005

Matrix: DRINKING W

Received Date: 7/29/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Hexachlorobutadiene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
2-Hexanone	ND	10		µg/L	1	7/30/2020 12:59:37 AM	W70712
Isopropylbenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
4-Isopropyltoluene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
4-Methyl-2-pentanone	ND	10		µg/L	1	7/30/2020 12:59:37 AM	W70712
Methylene Chloride	ND	3.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
n-Butylbenzene	ND	3.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
n-Propylbenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
sec-Butylbenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Styrene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
tert-Butylbenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
trans-1,2-DCE	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Trichlorofluoromethane	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Vinyl chloride	ND	1.0		µg/L	1	7/30/2020 12:59:37 AM	W70712
Xylenes, Total	ND	1.5		µg/L	1	7/30/2020 12:59:37 AM	W70712
Surr: 1,2-Dichloroethane-d4	97.5	70-130		%Rec	1	7/30/2020 12:59:37 AM	W70712
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	7/30/2020 12:59:37 AM	W70712
Surr: Dibromofluoromethane	103	70-130		%Rec	1	7/30/2020 12:59:37 AM	W70712
Surr: Toluene-d8	104	70-130		%Rec	1	7/30/2020 12:59:37 AM	W70712

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#: 2007E46

30-Jul-20

**Client:** City of Las Cruces  
**Project:** CLC Joint Superfund Project

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: W70712	RunNo: 70712								
Prep Date:	Analysis Date: 7/29/2020	SeqNo: 2460832	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	90.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.1	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: mb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: W70712	RunNo: 70712								
Prep Date:	Analysis Date: 7/29/2020	SeqNo: 2460833	Units: µg/L							
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								

**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#: 2007E46

30-Jul-20

**Client:** City of Las Cruces  
**Project:** CLC Joint Superfund Project

Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>W70712</b>	RunNo: <b>70712</b>								
Prep Date:	Analysis Date: <b>7/29/2020</b>	SeqNo: <b>2460833</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

### 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#: 2007E46

30-Jul-20

**Client:** City of Las Cruces  
**Project:** CLC Joint Superfund Project

Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>W70712</b>		RunNo: <b>70712</b>							
Prep Date:	Analysis Date: <b>7/29/2020</b>		SeqNo: <b>2460833</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.7	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.2	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130			
Surr: Toluene-d8	10		10.00		102	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: **City of Las Cruces**      Work Order Number: **2007E46**      RcptNo: 1

Received By: **Cheyenne Cason**      7/29/2020 8:45:00 AM

Completed By: **Emily Mocho**      7/29/2020 8:58:17 AM

Reviewed By: **DAD 7/29/20**

**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
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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA
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: SPA 7.29.20

**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:

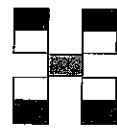
**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Not Present			

# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20060  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCELL

Turn-Around Time:  
 Standard  Rush  
 Project Name:  
Joint Superfund Project  
Monthly Analysis  
 Project #:  
CRC-JSP Briggs Walnut  
 Project Manager:  
Luis Guerra (575) 528-3609  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 Sample Temperature: 1.5 @ 11



## 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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOC)	8270 (Semi-VOC)	Air Bubbles (Y or N)
7-25-20	0812	Drinking Water	CRC 18-200728	3-40ml Vials	HgCl <sub>2</sub>	2007E46 -001										X		
	0822		CRC 27-200728			-002										X		
	0848		CRC JSP-200728			-003										X		
	0853		CRC ESI-200728			-004										X		
7-28-20	0854	Drinking Water	CRC ESI-200728 DUP	3-40ml Vials	HgCl <sub>2</sub>	-005										X		

Date: 7-28-20 Time: 1500 Relinquished by: Yadira Reyna  
 Received by: Chris Sedas 7/29/20 Date: 7/29/20 Time: 0845  
 Remarks: Send results to:  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenblatt: jrosenblatt@las-cruces.org  
(Send UNDOICE to CRC c/o Luis Guerra)

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: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

August 31, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX:

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2008E14

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/26/2020 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 2008E14

Date Reported: 8/31/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC18-200825

Project: Joint Superfund Project Monthly Analysis

Collection Date: 8/25/2020 8:11:00 AM

Lab ID: 2008E14-001

Matrix: DRINKING W

Received Date: 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Toluene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Ethylbenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Naphthalene	ND	2.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Acetone	ND	10		µg/L	1	8/27/2020 8:00:00 PM	R71424
Bromobenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Bromodichloromethane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Bromoform	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Bromomethane	ND	3.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
2-Butanone	ND	10		µg/L	1	8/27/2020 8:00:00 PM	R71424
Carbon disulfide	ND	10		µg/L	1	8/27/2020 8:00:00 PM	R71424
Carbon Tetrachloride	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Chlorobenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Chloroethane	ND	2.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Chloroform	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Chloromethane	ND	3.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
2-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
4-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
cis-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Dibromochloromethane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Dibromomethane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,1-Dichloroethane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,1-Dichloroethene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,2-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,3-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
2,2-Dichloropropane	ND	2.0		µg/L	1	8/27/2020 8:00:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC18-200825

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 8/25/2020 8:11:00 AM

**Lab ID:** 2008E14-001

**Matrix:** DRINKING W

**Received Date:** 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Hexachlorobutadiene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
2-Hexanone	ND	10		µg/L	1	8/27/2020 8:00:00 PM	R71424
Isopropylbenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
4-Isopropyltoluene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
4-Methyl-2-pentanone	ND	10		µg/L	1	8/27/2020 8:00:00 PM	R71424
Methylene Chloride	ND	3.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
n-Butylbenzene	ND	3.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
n-Propylbenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
sec-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Styrene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
tert-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Tetrachloroethene (PCE)	5.7	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
trans-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Trichlorofluoromethane	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Vinyl chloride	ND	1.0		µg/L	1	8/27/2020 8:00:00 PM	R71424
Xylenes, Total	ND	1.5		µg/L	1	8/27/2020 8:00:00 PM	R71424
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	8/27/2020 8:00:00 PM	R71424
Surr: 4-Bromofluorobenzene	98.3	70-130		%Rec	1	8/27/2020 8:00:00 PM	R71424
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/27/2020 8:00:00 PM	R71424
Surr: Toluene-d8	93.8	70-130		%Rec	1	8/27/2020 8:00:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC27-200825

Project: Joint Superfund Project Monthly Analysis

Collection Date: 8/25/2020 8:33:00 AM

Lab ID: 2008E14-002

Matrix: DRINKING W

Received Date: 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Toluene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Ethylbenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Naphthalene	ND	2.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Acetone	ND	10		µg/L	1	8/27/2020 9:12:00 PM	R71424
Bromobenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Bromodichloromethane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Bromoform	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Bromomethane	ND	3.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
2-Butanone	ND	10		µg/L	1	8/27/2020 9:12:00 PM	R71424
Carbon disulfide	ND	10		µg/L	1	8/27/2020 9:12:00 PM	R71424
Carbon Tetrachloride	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Chlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Chloroethane	ND	2.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Chloroform	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Chloromethane	ND	3.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
2-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
4-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
cis-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Dibromochloromethane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Dibromomethane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,1-Dichloroethane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,1-Dichloroethene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,2-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,3-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
2,2-Dichloropropane	ND	2.0		µg/L	1	8/27/2020 9:12:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC27-200825

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 8/25/2020 8:33:00 AM

**Lab ID:** 2008E14-002

**Matrix:** DRINKING W

**Received Date:** 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Hexachlorobutadiene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
2-Hexanone	ND	10		µg/L	1	8/27/2020 9:12:00 PM	R71424
Isopropylbenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
4-Isopropyltoluene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
4-Methyl-2-pentanone	ND	10		µg/L	1	8/27/2020 9:12:00 PM	R71424
Methylene Chloride	ND	3.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
n-Butylbenzene	ND	3.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
n-Propylbenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
sec-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Styrene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
tert-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Tetrachloroethene (PCE)	14	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
trans-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Trichlorofluoromethane	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Vinyl chloride	ND	1.0		µg/L	1	8/27/2020 9:12:00 PM	R71424
Xylenes, Total	ND	1.5		µg/L	1	8/27/2020 9:12:00 PM	R71424
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	8/27/2020 9:12:00 PM	R71424
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	1	8/27/2020 9:12:00 PM	R71424
Surr: Dibromofluoromethane	107	70-130		%Rec	1	8/27/2020 9:12:00 PM	R71424
Surr: Toluene-d8	95.9	70-130		%Rec	1	8/27/2020 9:12:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200825

Project: Joint Superfund Project Monthly Analysis

Collection Date: 8/25/2020 8:15:00 AM

Lab ID: 2008E14-003

Matrix: DRINKING W

Received Date: 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Toluene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Ethylbenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Naphthalene	ND	2.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Acetone	ND	10		µg/L	1	8/27/2020 9:36:00 PM	R71424
Bromobenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Bromodichloromethane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Bromoform	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Bromomethane	ND	3.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
2-Butanone	ND	10		µg/L	1	8/27/2020 9:36:00 PM	R71424
Carbon disulfide	ND	10		µg/L	1	8/27/2020 9:36:00 PM	R71424
Carbon Tetrachloride	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Chlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Chloroethane	ND	2.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Chloroform	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Chloromethane	ND	3.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
2-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
4-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
cis-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Dibromochloromethane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Dibromomethane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,1-Dichloroethane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,1-Dichloroethene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,2-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,3-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
2,2-Dichloropropane	ND	2.0		µg/L	1	8/27/2020 9:36:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200825

Project: Joint Superfund Project Monthly Analysis

Collection Date: 8/25/2020 8:15:00 AM

Lab ID: 2008E14-003

Matrix: DRINKING W

Received Date: 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Hexachlorobutadiene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
2-Hexanone	ND	10		µg/L	1	8/27/2020 9:36:00 PM	R71424
Isopropylbenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
4-Isopropyltoluene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
4-Methyl-2-pentanone	ND	10		µg/L	1	8/27/2020 9:36:00 PM	R71424
Methylene Chloride	ND	3.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
n-Butylbenzene	ND	3.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
n-Propylbenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
sec-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Styrene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
tert-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Tetrachloroethene (PCE)	11	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
trans-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Trichlorofluoromethane	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Vinyl chloride	ND	1.0		µg/L	1	8/27/2020 9:36:00 PM	R71424
Xylenes, Total	ND	1.5		µg/L	1	8/27/2020 9:36:00 PM	R71424
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	8/27/2020 9:36:00 PM	R71424
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	8/27/2020 9:36:00 PM	R71424
Surr: Dibromofluoromethane	107	70-130		%Rec	1	8/27/2020 9:36:00 PM	R71424
Surr: Toluene-d8	95.0	70-130		%Rec	1	8/27/2020 9:36:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C1-200825

Project: Joint Superfund Project Monthly Analysis

Collection Date: 8/25/2020 8:17:00 AM

Lab ID: 2008E14-004

Matrix: DRINKING W

Received Date: 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Toluene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Ethylbenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Naphthalene	ND	2.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Acetone	ND	10		µg/L	1	8/27/2020 10:00:00 PM	R71424
Bromobenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Bromodichloromethane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Bromoform	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Bromomethane	ND	3.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
2-Butanone	ND	10		µg/L	1	8/27/2020 10:00:00 PM	R71424
Carbon disulfide	ND	10		µg/L	1	8/27/2020 10:00:00 PM	R71424
Carbon Tetrachloride	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Chlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Chloroethane	ND	2.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Chloroform	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Chloromethane	ND	3.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
2-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
4-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
cis-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Dibromochloromethane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Dibromomethane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,1-Dichloroethane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,1-Dichloroethene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,2-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,3-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
2,2-Dichloropropane	ND	2.0		µg/L	1	8/27/2020 10:00:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C1-200825

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 8/25/2020 8:17:00 AM

**Lab ID:** 2008E14-004

**Matrix:** DRINKING W

**Received Date:** 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Hexachlorobutadiene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
2-Hexanone	ND	10		µg/L	1	8/27/2020 10:00:00 PM	R71424
Isopropylbenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
4-Isopropyltoluene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
4-Methyl-2-pentanone	ND	10		µg/L	1	8/27/2020 10:00:00 PM	R71424
Methylene Chloride	ND	3.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
n-Butylbenzene	ND	3.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
n-Propylbenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
sec-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Styrene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
tert-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
trans-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Trichlorofluoromethane	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Vinyl chloride	ND	1.0		µg/L	1	8/27/2020 10:00:00 PM	R71424
Xylenes, Total	ND	1.5		µg/L	1	8/27/2020 10:00:00 PM	R71424
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	8/27/2020 10:00:00 PM	R71424
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	8/27/2020 10:00:00 PM	R71424
Surr: Dibromofluoromethane	107	70-130		%Rec	1	8/27/2020 10:00:00 PM	R71424
Surr: Toluene-d8	95.6	70-130		%Rec	1	8/27/2020 10:00:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200825

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 8/25/2020 8:56:00 AM

**Lab ID:** 2008E14-005

**Matrix:** DRINKING W

**Received Date:** 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Toluene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Ethylbenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Naphthalene	ND	2.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Acetone	ND	10		µg/L	1	8/27/2020 10:24:00 PM	R71424
Bromobenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Bromodichloromethane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Bromoform	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Bromomethane	ND	3.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
2-Butanone	ND	10		µg/L	1	8/27/2020 10:24:00 PM	R71424
Carbon disulfide	ND	10		µg/L	1	8/27/2020 10:24:00 PM	R71424
Carbon Tetrachloride	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Chlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Chloroethane	ND	2.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Chloroform	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Chloromethane	ND	3.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
2-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
4-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
cis-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Dibromochloromethane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Dibromomethane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,1-Dichloroethane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,1-Dichloroethene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,2-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,3-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
2,2-Dichloropropane	ND	2.0		µg/L	1	8/27/2020 10:24:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200825

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 8/25/2020 8:56:00 AM

**Lab ID:** 2008E14-005

**Matrix:** DRINKING W

**Received Date:** 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Hexachlorobutadiene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
2-Hexanone	ND	10		µg/L	1	8/27/2020 10:24:00 PM	R71424
Isopropylbenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
4-Isopropyltoluene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
4-Methyl-2-pentanone	ND	10		µg/L	1	8/27/2020 10:24:00 PM	R71424
Methylene Chloride	ND	3.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
n-Butylbenzene	ND	3.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
n-Propylbenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
sec-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Styrene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
tert-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
trans-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Trichlorofluoromethane	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Vinyl chloride	ND	1.0		µg/L	1	8/27/2020 10:24:00 PM	R71424
Xylenes, Total	ND	1.5		µg/L	1	8/27/2020 10:24:00 PM	R71424
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	8/27/2020 10:24:00 PM	R71424
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	8/27/2020 10:24:00 PM	R71424
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/27/2020 10:24:00 PM	R71424
Surr: Toluene-d8	95.4	70-130		%Rec	1	8/27/2020 10:24:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC C2-200825DUP

Project: Joint Superfund Project Monthly Analysis

Collection Date: 8/25/2020 8:57:00 AM

Lab ID: 2008E14-006

Matrix: DRINKING W

Received Date: 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Toluene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Ethylbenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Naphthalene	ND	2.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Acetone	ND	10		µg/L	1	8/27/2020 10:48:00 PM	R71424
Bromobenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Bromodichloromethane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Bromoform	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Bromomethane	ND	3.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
2-Butanone	ND	10		µg/L	1	8/27/2020 10:48:00 PM	R71424
Carbon disulfide	ND	10		µg/L	1	8/27/2020 10:48:00 PM	R71424
Carbon Tetrachloride	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Chlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Chloroethane	ND	2.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Chloroform	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Chloromethane	ND	3.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
2-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
4-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
cis-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Dibromochloromethane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Dibromomethane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,1-Dichloroethane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,1-Dichloroethene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,2-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,3-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
2,2-Dichloropropane	ND	2.0		µg/L	1	8/27/2020 10:48:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2-200825DUP

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 8/25/2020 8:57:00 AM

**Lab ID:** 2008E14-006

**Matrix:** DRINKING W

**Received Date:** 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Hexachlorobutadiene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
2-Hexanone	ND	10		µg/L	1	8/27/2020 10:48:00 PM	R71424
Isopropylbenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
4-Isopropyltoluene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
4-Methyl-2-pentanone	ND	10		µg/L	1	8/27/2020 10:48:00 PM	R71424
Methylene Chloride	ND	3.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
n-Butylbenzene	ND	3.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
n-Propylbenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
sec-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Styrene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
tert-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
trans-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Trichlorofluoromethane	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Vinyl chloride	ND	1.0		µg/L	1	8/27/2020 10:48:00 PM	R71424
Xylenes, Total	ND	1.5		µg/L	1	8/27/2020 10:48:00 PM	R71424
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	8/27/2020 10:48:00 PM	R71424
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	8/27/2020 10:48:00 PM	R71424
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/27/2020 10:48:00 PM	R71424
Surr: Toluene-d8	94.6	70-130		%Rec	1	8/27/2020 10:48:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1-200825

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 8/25/2020 9:00:00 AM

**Lab ID:** 2008E14-007

**Matrix:** DRINKING W

**Received Date:** 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
Benzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Toluene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Ethylbenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Naphthalene	ND	2.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Acetone	ND	10		µg/L	1	8/27/2020 11:12:00 PM	R71424
Bromobenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Bromodichloromethane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Bromoform	3.8	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Bromomethane	ND	3.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
2-Butanone	ND	10		µg/L	1	8/27/2020 11:12:00 PM	R71424
Carbon disulfide	ND	10		µg/L	1	8/27/2020 11:12:00 PM	R71424
Carbon Tetrachloride	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Chlorobenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Chloroethane	ND	2.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Chloroform	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Chloromethane	ND	3.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
2-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
4-Chlorotoluene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
cis-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Dibromochloromethane	1.8	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Dibromomethane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,1-Dichloroethane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,1-Dichloroethene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,2-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,3-Dichloropropane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
2,2-Dichloropropane	ND	2.0		µg/L	1	8/27/2020 11:12:00 PM	R71424

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 2008E14

Date Reported: 8/31/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1-200825

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 8/25/2020 9:00:00 AM

**Lab ID:** 2008E14-007

**Matrix:** DRINKING W

**Received Date:** 8/26/2020 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: RAA
1,1-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Hexachlorobutadiene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
2-Hexanone	ND	10		µg/L	1	8/27/2020 11:12:00 PM	R71424
Isopropylbenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
4-Isopropyltoluene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
4-Methyl-2-pentanone	ND	10		µg/L	1	8/27/2020 11:12:00 PM	R71424
Methylene Chloride	ND	3.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
n-Butylbenzene	ND	3.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
n-Propylbenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
sec-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Styrene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
tert-Butylbenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
trans-1,2-DCE	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Trichlorofluoromethane	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Vinyl chloride	ND	1.0		µg/L	1	8/27/2020 11:12:00 PM	R71424
Xylenes, Total	ND	1.5		µg/L	1	8/27/2020 11:12:00 PM	R71424
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	8/27/2020 11:12:00 PM	R71424
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	8/27/2020 11:12:00 PM	R71424
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/27/2020 11:12:00 PM	R71424
Surr: Toluene-d8	95.1	70-130		%Rec	1	8/27/2020 11:12:00 PM	R71424

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#: 2008E14

31-Aug-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

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>R71424</b>	RunNo: <b>71424</b>								
Prep Date:	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494093</b> Units: <b>µg/L</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	120	70	130			
Toluene	22	1.0	20.00	0	112	70	130			
Chlorobenzene	23	1.0	20.00	0	115	70	130			
1,1-Dichloroethene	24	1.0	20.00	0	119	70	130			
Trichloroethene (TCE)	23	1.0	20.00	0	116	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.3	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.6		10.00		96.5	70	130			

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R71424</b>	RunNo: <b>71424</b>								
Prep Date:	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494133</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								

### 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#: 2008E14

31-Aug-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R71424</b>	RunNo: <b>71424</b>								
Prep Date:	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494133</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

### 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#: 2008E14

31-Aug-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R71424</b>	RunNo: <b>71424</b>								
Prep Date:	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494133</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.8	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.5		10.00		95.1	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: clients.hallenvironmental.com

# Sample Log-In Check List

Client Name: City of Las Cruces      Work Order Number: 2008E14      RcptNo: 1

Received By: **Cheyenne Cason**      8/26/2020 9:15:00 AM  
 Completed By: **Juan Rojas**      8/26/2020 12:17:56 PM  
 Reviewed By: *LB*      *8/26/20*

*Juan Rojas*

**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       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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA   
 10. Were any sample containers received broken?      Yes       No       *CW 8/26/20*  
 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: *JRC 8/26/20*

**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:

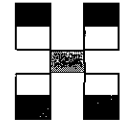
**Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	-0.2	Good				

# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: lguerra@las-cruces.org  
 QA/QC Package  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCELL

Turn-Around Time:  
 Standard  Rush \_\_\_\_\_  
 Project Name:  
Joint Superfund Project  
Monthly Analysis  
 Project #:  
CLC JSP Griggs Walnut  
 Project Manager:  
Luis Guerra (575) 528-3609  
 Sampler: Yadur Bujon  
 On Ice:  Yes  No  
 Sample Temperature: 0.4 + 0.2 = 0.2



## 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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOC)	8270 (Semi-VOC)	Air Bubbles (Y or N)	
8-25-20	0811	Drinking Water	CLC18-200825	3-40ml Vials	HgCl <sub>2</sub>	7005E14 -001										X			
	0833		CLC27-200825			-002										X			
	0815		CLC IS1-200825			7003										X			
	0817		CLC C1-200825			-004										X			
	0856		CLC C2-200825			-005										X			
	0857		CLC C2-200825 DUP			-006										X			
8-25-20	0900	Drinking Water	CLC ES1-200825	3-40ml Vials	HgCl <sub>2</sub>	-007										X			

Date: 8-25-20 Time: 1500 Relinquished by: Yadur Bujon  
 Received by: CLC Fedler Date: 8/26/20 Time: 8:45 AM  
 Remarks: Send results to: not frozen  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenblatt: jrosenblatt@las-cruces.org  
(Send invoice to CLC c/o Luis Guerra)

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 noted on the analytical report.



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

November 03, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX:

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2010D35

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/30/2020 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 2010D35

Date Reported: 11/3/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18-201029

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 10/29/2020 8:08:00 AM

**Lab ID:** 2010D35-001

**Matrix:** DRINKING W

**Received Date:** 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Toluene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Ethylbenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Naphthalene	ND	2.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
2-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Acetone	ND	10		µg/L	1	10/31/2020 11:31:00 AM	R73051
Bromobenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Bromodichloromethane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Bromoform	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Bromomethane	ND	3.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
2-Butanone	ND	10		µg/L	1	10/31/2020 11:31:00 AM	R73051
Carbon disulfide	ND	10		µg/L	1	10/31/2020 11:31:00 AM	R73051
Carbon Tetrachloride	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Chlorobenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Chloroethane	ND	2.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Chloroform	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Chloromethane	ND	3.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
2-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
4-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
cis-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Dibromochloromethane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Dibromomethane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,1-Dichloroethane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,1-Dichloroethene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,2-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,3-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
2,2-Dichloropropane	ND	2.0		µg/L	1	10/31/2020 11:31:00 AM	R73051

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 2010D35

Date Reported: 11/3/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18-201029

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 10/29/2020 8:08:00 AM

**Lab ID:** 2010D35-001

**Matrix:** DRINKING W

**Received Date:** 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Hexachlorobutadiene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
2-Hexanone	ND	10		µg/L	1	10/31/2020 11:31:00 AM	R73051
Isopropylbenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
4-Isopropyltoluene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
4-Methyl-2-pentanone	ND	10		µg/L	1	10/31/2020 11:31:00 AM	R73051
Methylene Chloride	ND	3.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
n-Butylbenzene	ND	3.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
n-Propylbenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
sec-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Styrene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
tert-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Tetrachloroethene (PCE)	6.0	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
trans-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Trichlorofluoromethane	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Vinyl chloride	ND	1.0		µg/L	1	10/31/2020 11:31:00 AM	R73051
Xylenes, Total	ND	1.5		µg/L	1	10/31/2020 11:31:00 AM	R73051
Surr: 1,2-Dichloroethane-d4	89.0	70-130		%Rec	1	10/31/2020 11:31:00 AM	R73051
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	10/31/2020 11:31:00 AM	R73051
Surr: Dibromofluoromethane	96.9	70-130		%Rec	1	10/31/2020 11:31:00 AM	R73051
Surr: Toluene-d8	102	70-130		%Rec	1	10/31/2020 11:31:00 AM	R73051

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 2010D35

Date Reported: 11/3/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 27-201029

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 10/29/2020 8:27:00 AM

**Lab ID:** 2010D35-002

**Matrix:** DRINKING W

**Received Date:** 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Toluene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Ethylbenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Naphthalene	ND	2.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
2-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Acetone	ND	10		µg/L	1	10/31/2020 12:44:00 PM	R73051
Bromobenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Bromodichloromethane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Bromoform	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Bromomethane	ND	3.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
2-Butanone	ND	10		µg/L	1	10/31/2020 12:44:00 PM	R73051
Carbon disulfide	ND	10		µg/L	1	10/31/2020 12:44:00 PM	R73051
Carbon Tetrachloride	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Chlorobenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Chloroethane	ND	2.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Chloroform	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Chloromethane	ND	3.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
2-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
4-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
cis-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Dibromochloromethane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Dibromomethane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,1-Dichloroethane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,1-Dichloroethene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,2-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,3-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
2,2-Dichloropropane	ND	2.0		µg/L	1	10/31/2020 12:44:00 PM	R73051

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 2010D35

Date Reported: 11/3/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-201029

Project: Joint Superfund Project Monthly Analysis

Collection Date: 10/29/2020 8:27:00 AM

Lab ID: 2010D35-002

Matrix: DRINKING W

Received Date: 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Hexachlorobutadiene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
2-Hexanone	ND	10		µg/L	1	10/31/2020 12:44:00 PM	R73051
Isopropylbenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
4-Isopropyltoluene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
4-Methyl-2-pentanone	ND	10		µg/L	1	10/31/2020 12:44:00 PM	R73051
Methylene Chloride	ND	3.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
n-Butylbenzene	ND	3.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
n-Propylbenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
sec-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Styrene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
tert-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Tetrachloroethene (PCE)	18	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
trans-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Trichlorofluoromethane	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Vinyl chloride	ND	1.0		µg/L	1	10/31/2020 12:44:00 PM	R73051
Xylenes, Total	ND	1.5		µg/L	1	10/31/2020 12:44:00 PM	R73051
Surr: 1,2-Dichloroethane-d4	88.2	70-130		%Rec	1	10/31/2020 12:44:00 PM	R73051
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	10/31/2020 12:44:00 PM	R73051
Surr: Dibromofluoromethane	97.3	70-130		%Rec	1	10/31/2020 12:44:00 PM	R73051
Surr: Toluene-d8	103	70-130		%Rec	1	10/31/2020 12:44:00 PM	R73051

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 2010D35

Date Reported: 11/3/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-201029

Project: Joint Superfund Project Monthly Analysis

Collection Date: 10/29/2020 8:14:00 AM

Lab ID: 2010D35-003

Matrix: DRINKING W

Received Date: 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Toluene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Ethylbenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Naphthalene	ND	2.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
2-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Acetone	ND	10		µg/L	1	10/31/2020 1:09:00 PM	R73051
Bromobenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Bromodichloromethane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Bromoform	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Bromomethane	ND	3.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
2-Butanone	ND	10		µg/L	1	10/31/2020 1:09:00 PM	R73051
Carbon disulfide	ND	10		µg/L	1	10/31/2020 1:09:00 PM	R73051
Carbon Tetrachloride	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Chlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Chloroethane	ND	2.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Chloroform	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Chloromethane	ND	3.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
2-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
4-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
cis-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Dibromochloromethane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Dibromomethane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,1-Dichloroethane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,1-Dichloroethene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,2-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,3-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
2,2-Dichloropropane	ND	2.0		µg/L	1	10/31/2020 1:09:00 PM	R73051

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.**

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-201029

Project: Joint Superfund Project Monthly Analysis

Collection Date: 10/29/2020 8:14:00 AM

Lab ID: 2010D35-003

Matrix: DRINKING W

Received Date: 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Hexachlorobutadiene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
2-Hexanone	ND	10		µg/L	1	10/31/2020 1:09:00 PM	R73051
Isopropylbenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
4-Isopropyltoluene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
4-Methyl-2-pentanone	ND	10		µg/L	1	10/31/2020 1:09:00 PM	R73051
Methylene Chloride	ND	3.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
n-Butylbenzene	ND	3.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
n-Propylbenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
sec-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Styrene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
tert-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Tetrachloroethene (PCE)	13	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
trans-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Trichlorofluoromethane	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Vinyl chloride	ND	1.0		µg/L	1	10/31/2020 1:09:00 PM	R73051
Xylenes, Total	ND	1.5		µg/L	1	10/31/2020 1:09:00 PM	R73051
Surr: 1,2-Dichloroethane-d4	89.8	70-130		%Rec	1	10/31/2020 1:09:00 PM	R73051
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	10/31/2020 1:09:00 PM	R73051
Surr: Dibromofluoromethane	99.3	70-130		%Rec	1	10/31/2020 1:09:00 PM	R73051
Surr: Toluene-d8	103	70-130		%Rec	1	10/31/2020 1:09:00 PM	R73051

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 2010D35

Date Reported: 11/3/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-201029Dup

Project: Joint Superfund Project Monthly Analysis

Collection Date: 10/29/2020 8:16:00 AM

Lab ID: 2010D35-004

Matrix: DRINKING W

Received Date: 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
Benzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Toluene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Ethylbenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Naphthalene	ND	2.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
2-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Acetone	ND	10		µg/L	1	10/31/2020 1:33:00 PM	R73051
Bromobenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Bromodichloromethane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Bromoform	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Bromomethane	ND	3.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
2-Butanone	ND	10		µg/L	1	10/31/2020 1:33:00 PM	R73051
Carbon disulfide	ND	10		µg/L	1	10/31/2020 1:33:00 PM	R73051
Carbon Tetrachloride	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Chlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Chloroethane	ND	2.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Chloroform	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Chloromethane	ND	3.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
2-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
4-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
cis-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Dibromochloromethane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Dibromomethane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,1-Dichloroethane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,1-Dichloroethene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,2-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,3-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
2,2-Dichloropropane	ND	2.0		µg/L	1	10/31/2020 1:33:00 PM	R73051

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.****CLIENT:** City of Las Cruces**Client Sample ID:** CLC IS1-201029Dup**Project:** Joint Superfund Project Monthly Analysis**Collection Date:** 10/29/2020 8:16:00 AM**Lab ID:** 2010D35-004**Matrix:** DRINKING W**Received Date:** 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Hexachlorobutadiene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
2-Hexanone	ND	10		µg/L	1	10/31/2020 1:33:00 PM	R73051
Isopropylbenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
4-Isopropyltoluene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
4-Methyl-2-pentanone	ND	10		µg/L	1	10/31/2020 1:33:00 PM	R73051
Methylene Chloride	ND	3.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
n-Butylbenzene	ND	3.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
n-Propylbenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
sec-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Styrene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
tert-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Tetrachloroethene (PCE)	13	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
trans-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Trichlorofluoromethane	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Vinyl chloride	ND	1.0		µg/L	1	10/31/2020 1:33:00 PM	R73051
Xylenes, Total	ND	1.5		µg/L	1	10/31/2020 1:33:00 PM	R73051
Surr: 1,2-Dichloroethane-d4	89.6	70-130		%Rec	1	10/31/2020 1:33:00 PM	R73051
Surr: 4-Bromofluorobenzene	89.1	70-130		%Rec	1	10/31/2020 1:33:00 PM	R73051
Surr: Dibromofluoromethane	99.6	70-130		%Rec	1	10/31/2020 1:33:00 PM	R73051
Surr: Toluene-d8	104	70-130		%Rec	1	10/31/2020 1:33:00 PM	R73051

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2010D35

Date Reported: 11/3/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1-201029

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 10/29/2020 8:19:00 AM

**Lab ID:** 2010D35-005

**Matrix:** DRINKING W

**Received Date:** 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
Benzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Toluene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Ethylbenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Naphthalene	ND	2.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
2-Methylnaphthalene	ND	4.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Acetone	ND	10		µg/L	1	10/31/2020 1:58:00 PM	R73051
Bromobenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Bromodichloromethane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Bromoform	4.5	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Bromomethane	ND	3.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
2-Butanone	ND	10		µg/L	1	10/31/2020 1:58:00 PM	R73051
Carbon disulfide	ND	10		µg/L	1	10/31/2020 1:58:00 PM	R73051
Carbon Tetrachloride	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Chlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Chloroethane	ND	2.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Chloroform	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Chloromethane	ND	3.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
2-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
4-Chlorotoluene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
cis-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Dibromochloromethane	1.7	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Dibromomethane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,1-Dichloroethane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,1-Dichloroethene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,2-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,3-Dichloropropane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
2,2-Dichloropropane	ND	2.0		µg/L	1	10/31/2020 1:58:00 PM	R73051

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 2010D35

Date Reported: 11/3/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1-201029

**Project:** Joint Superfund Project Monthly Analysis

**Collection Date:** 10/29/2020 8:19:00 AM

**Lab ID:** 2010D35-005

**Matrix:** DRINKING W

**Received Date:** 10/30/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>CCM</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Hexachlorobutadiene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
2-Hexanone	ND	10		µg/L	1	10/31/2020 1:58:00 PM	R73051
Isopropylbenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
4-Isopropyltoluene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
4-Methyl-2-pentanone	ND	10		µg/L	1	10/31/2020 1:58:00 PM	R73051
Methylene Chloride	ND	3.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
n-Butylbenzene	ND	3.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
n-Propylbenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
sec-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Styrene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
tert-Butylbenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
trans-1,2-DCE	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Trichlorofluoromethane	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Vinyl chloride	ND	1.0		µg/L	1	10/31/2020 1:58:00 PM	R73051
Xylenes, Total	ND	1.5		µg/L	1	10/31/2020 1:58:00 PM	R73051
Surr: 1,2-Dichloroethane-d4	89.5	70-130		%Rec	1	10/31/2020 1:58:00 PM	R73051
Surr: 4-Bromofluorobenzene	86.9	70-130		%Rec	1	10/31/2020 1:58:00 PM	R73051
Surr: Dibromofluoromethane	97.8	70-130		%Rec	1	10/31/2020 1:58:00 PM	R73051
Surr: Toluene-d8	103	70-130		%Rec	1	10/31/2020 1:58:00 PM	R73051

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#: 2010D35

03-Nov-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

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>R73051</b>	RunNo: <b>73051</b>								
Prep Date:	Analysis Date: <b>10/31/2020</b>	SeqNo: <b>2568097</b> Units: <b>µg/L</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Chlorobenzene	23	1.0	20.00	0	116	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	90.4	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	97.5	70	130			
Surr: 1,2-Dichloroethane-d4	8.9		10.00		88.7	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.8	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.9	70	130			
Surr: Toluene-d8	9.6		10.00		96.4	70	130			

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R73051</b>	RunNo: <b>73051</b>								
Prep Date:	Analysis Date: <b>10/31/2020</b>	SeqNo: <b>2568098</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								

### 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#: 2010D35

03-Nov-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R73051</b>	RunNo: <b>73051</b>								
Prep Date:	Analysis Date: <b>10/31/2020</b>	SeqNo: <b>2568098</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

### 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#: 2010D35

03-Nov-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R73051</b>	RunNo: <b>73051</b>								
Prep Date:	Analysis Date: <b>10/31/2020</b>	SeqNo: <b>2568098</b>			Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.4	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.3	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.9	70	130			
Surr: Toluene-d8	10		10.00		103	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: **City of Las Cruces**

Work Order Number: **2010D35**

RcptNo: **1**

Received By: **Cheyenne Cason** 10/30/2020 9:53:00 AM

Completed By: **Erin Melendrez** 10/30/2020 10:05:43 AM

Reviewed By: *JE 10/30/20*

**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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA   
 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: *SGL 10/30/20*

**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**

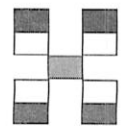
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.3	Good				



# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: 575-528-3630  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCELL

Turn-Around Time:  
 Standard  Rush  
 Project Name:  
Joint Superfund Project  
Monthly Analysis  
 Project #:  
CCL JSP Griggs Walnut  
 Project Manager:  
Luis Guerra (575) 528-3409  
 Sampler: Yadira Ruyra  
 On Ice:  Yes  No  
 Sample Temperature: 5.4-0.125.3



## 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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOC) VOC	8270 (Semi-VOC)	Air Bubbles (Y or N)	
10-24-20	0808	Drinking Water	CCL 18-201029	3-40ml Vials	Hg Cl <sub>2</sub>	2010D35-001										X			
10-29-20	0827		CCL 27-201029			-002										X			
10-29-20	0814		CCL IS1-201029			-003										X			
10-29-20	0816		CCL ES1-201029 DUP			-004										X			
10-29-20	0819	Drinking Water	CCL ES1-201029	3-40ml Vials	Hg Cl <sub>2</sub>	-005										X			

Date: 10-29-20 Time: 1520 Relinquished by: Yadira Ruyra  
 Received by: CCL Sedco Date: 10/30/20 Time: 0955  
 Remarks: Send results to:  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenblatt: jrosenblatt@las-cruces.org  
(Send invoice to CCL c/o Luis Guerra)

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: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

October 06, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX:

RE: CLC Joint Superfund Project

OrderNo.: 2010102

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/1/2020 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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200930

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-001

Matrix: DRINKING W

Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Toluene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Ethylbenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Naphthalene	ND	2.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Acetone	ND	10		µg/L	1	10/3/2020 1:03:31 AM	W72362
Bromobenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Bromoform	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Bromomethane	ND	3.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
2-Butanone	ND	10		µg/L	1	10/3/2020 1:03:31 AM	W72362
Carbon disulfide	ND	10		µg/L	1	10/3/2020 1:03:31 AM	W72362
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Chlorobenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Chloroethane	ND	2.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Chloroform	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Chloromethane	ND	3.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Dibromomethane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2020 1:03:31 AM	W72362

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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200930

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-001

Matrix: DRINKING W Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
2-Hexanone	ND	10		µg/L	1	10/3/2020 1:03:31 AM	W72362
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2020 1:03:31 AM	W72362
Methylene Chloride	ND	3.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Styrene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Tetrachloroethene (PCE)	5.2	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Vinyl chloride	ND	1.0		µg/L	1	10/3/2020 1:03:31 AM	W72362
Xylenes, Total	ND	1.5		µg/L	1	10/3/2020 1:03:31 AM	W72362
Surr: 1,2-Dichloroethane-d4	98.7	70-130		%Rec	1	10/3/2020 1:03:31 AM	W72362
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	10/3/2020 1:03:31 AM	W72362
Surr: Dibromofluoromethane	107	70-130		%Rec	1	10/3/2020 1:03:31 AM	W72362
Surr: Toluene-d8	101	70-130		%Rec	1	10/3/2020 1:03:31 AM	W72362

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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200930 DUP

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-002

Matrix: DRINKING W

Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Toluene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Ethylbenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Naphthalene	ND	2.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Acetone	ND	10		µg/L	1	10/3/2020 2:29:02 AM	W72362
Bromobenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Bromoform	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Bromomethane	ND	3.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
2-Butanone	ND	10		µg/L	1	10/3/2020 2:29:02 AM	W72362
Carbon disulfide	ND	10		µg/L	1	10/3/2020 2:29:02 AM	W72362
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Chlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Chloroethane	ND	2.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Chloroform	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Chloromethane	ND	3.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Dibromomethane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2020 2:29:02 AM	W72362

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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-200930 DUP

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-002

Matrix: DRINKING W

Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
2-Hexanone	ND	10		µg/L	1	10/3/2020 2:29:02 AM	W72362
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2020 2:29:02 AM	W72362
Methylene Chloride	ND	3.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Styrene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Tetrachloroethene (PCE)	5.5	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Vinyl chloride	ND	1.0		µg/L	1	10/3/2020 2:29:02 AM	W72362
Xylenes, Total	ND	1.5		µg/L	1	10/3/2020 2:29:02 AM	W72362
Surr: 1,2-Dichloroethane-d4	91.3	70-130		%Rec	1	10/3/2020 2:29:02 AM	W72362
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	10/3/2020 2:29:02 AM	W72362
Surr: Dibromofluoromethane	108	70-130		%Rec	1	10/3/2020 2:29:02 AM	W72362
Surr: Toluene-d8	101	70-130		%Rec	1	10/3/2020 2:29:02 AM	W72362

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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200930

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-003

Matrix: DRINKING W

Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Toluene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Ethylbenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Naphthalene	ND	2.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Acetone	ND	10		µg/L	1	10/3/2020 2:57:36 AM	W72362
Bromobenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Bromoform	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Bromomethane	ND	3.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
2-Butanone	ND	10		µg/L	1	10/3/2020 2:57:36 AM	W72362
Carbon disulfide	ND	10		µg/L	1	10/3/2020 2:57:36 AM	W72362
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Chlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Chloroethane	ND	2.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Chloroform	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Chloromethane	ND	3.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Dibromomethane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2020 2:57:36 AM	W72362

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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-200930

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-003

Matrix: DRINKING W

Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
2-Hexanone	ND	10		µg/L	1	10/3/2020 2:57:36 AM	W72362
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2020 2:57:36 AM	W72362
Methylene Chloride	ND	3.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Styrene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Tetrachloroethene (PCE)	14	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Vinyl chloride	ND	1.0		µg/L	1	10/3/2020 2:57:36 AM	W72362
Xylenes, Total	ND	1.5		µg/L	1	10/3/2020 2:57:36 AM	W72362
Surr: 1,2-Dichloroethane-d4	91.5	70-130		%Rec	1	10/3/2020 2:57:36 AM	W72362
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	10/3/2020 2:57:36 AM	W72362
Surr: Dibromofluoromethane	104	70-130		%Rec	1	10/3/2020 2:57:36 AM	W72362
Surr: Toluene-d8	108	70-130		%Rec	1	10/3/2020 2:57:36 AM	W72362

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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200930

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-004

Matrix: DRINKING W

Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Toluene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Ethylbenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Naphthalene	ND	2.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Acetone	ND	10		µg/L	1	10/3/2020 3:26:09 AM	W72362
Bromobenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Bromoform	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Bromomethane	ND	3.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
2-Butanone	ND	10		µg/L	1	10/3/2020 3:26:09 AM	W72362
Carbon disulfide	ND	10		µg/L	1	10/3/2020 3:26:09 AM	W72362
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Chlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Chloroethane	ND	2.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Chloroform	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Chloromethane	ND	3.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Dibromomethane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2020 3:26:09 AM	W72362

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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-200930

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-004

Matrix: DRINKING W

Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
2-Hexanone	ND	10		µg/L	1	10/3/2020 3:26:09 AM	W72362
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2020 3:26:09 AM	W72362
Methylene Chloride	ND	3.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Styrene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Tetrachloroethene (PCE)	12	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Vinyl chloride	ND	1.0		µg/L	1	10/3/2020 3:26:09 AM	W72362
Xylenes, Total	ND	1.5		µg/L	1	10/3/2020 3:26:09 AM	W72362
Surr: 1,2-Dichloroethane-d4	94.3	70-130		%Rec	1	10/3/2020 3:26:09 AM	W72362
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	10/3/2020 3:26:09 AM	W72362
Surr: Dibromofluoromethane	108	70-130		%Rec	1	10/3/2020 3:26:09 AM	W72362
Surr: Toluene-d8	104	70-130		%Rec	1	10/3/2020 3:26:09 AM	W72362

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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200930

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-005

Matrix: DRINKING W

Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
Benzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Toluene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Ethylbenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Naphthalene	ND	2.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Acetone	ND	10		µg/L	1	10/3/2020 3:54:42 AM	W72362
Bromobenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Bromodichloromethane	1.1	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Bromoform	4.0	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Bromomethane	ND	3.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
2-Butanone	ND	10		µg/L	1	10/3/2020 3:54:42 AM	W72362
Carbon disulfide	ND	10		µg/L	1	10/3/2020 3:54:42 AM	W72362
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Chlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Chloroethane	ND	2.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Chloroform	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Chloromethane	ND	3.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Dibromochloromethane	3.5	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Dibromomethane	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2020 3:54:42 AM	W72362

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 2010102

Date Reported: 10/6/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-200930

Project: CLC Joint Superfund Project

Collection Date: 9/30/2020

Lab ID: 2010102-005

Matrix: DRINKING W

Received Date: 10/1/2020 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: DJF
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
2-Hexanone	ND	10		µg/L	1	10/3/2020 3:54:42 AM	W72362
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2020 3:54:42 AM	W72362
Methylene Chloride	ND	3.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Styrene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Vinyl chloride	ND	1.0		µg/L	1	10/3/2020 3:54:42 AM	W72362
Xylenes, Total	ND	1.5		µg/L	1	10/3/2020 3:54:42 AM	W72362
Surr: 1,2-Dichloroethane-d4	89.2	70-130		%Rec	1	10/3/2020 3:54:42 AM	W72362
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	10/3/2020 3:54:42 AM	W72362
Surr: Dibromofluoromethane	111	70-130		%Rec	1	10/3/2020 3:54:42 AM	W72362
Surr: Toluene-d8	104	70-130		%Rec	1	10/3/2020 3:54:42 AM	W72362

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#: 2010102

06-Oct-20

**Client:** City of Las Cruces  
**Project:** CLC Joint Superfund Project

Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>W72362</b>	RunNo: <b>72362</b>								
Prep Date:	Analysis Date: <b>10/2/2020</b>	SeqNo: <b>2538149</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#: 2010102

06-Oct-20

**Client:** City of Las Cruces  
**Project:** CLC Joint Superfund Project

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>W72362</b>		RunNo: <b>72362</b>							
Prep Date:	Analysis Date: <b>10/2/2020</b>		SeqNo: <b>2538149</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	9.6		10.00		95.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	10		10.00		104	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>W72362</b>		RunNo: <b>72362</b>							
Prep Date:	Analysis Date: <b>10/2/2020</b>		SeqNo: <b>2538158</b>		Units: <b>µg/L</b>					
Benzene	18	1.0	20.00	0	88.7	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	20	1.0	20.00	0	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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2010102

06-Oct-20

**Client:** City of Las Cruces  
**Project:** CLC Joint Superfund Project

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>W72362</b>		RunNo: <b>72362</b>							
Prep Date:	Analysis Date: <b>10/2/2020</b>		SeqNo: <b>2538158</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19	1.0	20.00	0	92.9	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	88.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.9		10.00		98.9	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 |   |

**Sample Log-In Check List**

Client Name: **City of Las Cruces**

Work Order Number: **2010102**

RcptNo: **1**

Received By: **Juan Rojas** 10/1/2020 9:50:00 AM *Juan Rojas*

Completed By: **Emily Mocho** 10/1/2020 4:06:05 PM

Reviewed By: *JR 10/2/20*  
*JR 10/2/20*

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  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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA
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: *CM 10/2/20*

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:

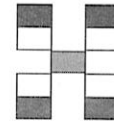
17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	-3.6	Good	Not Present			

# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3409  
 email or Fax#: 575-528-3430  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCELL

Turn-Around Time:  
 Standard  Rush  
 Project Name:  
Joint Superfund Project  
Monthly Analysis  
 Project #:  
CRC JSP Griggs Walnut  
 Project Manager:  
Luis Guerra (575) 528-3409  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 Sample Temperature: -3.3-0.3=-3.6



## 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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOC), VOC	8270 (Semi-VOC)	Air Bubbles (Y or N)	
9-30-20		DRINKING WATER	CRC 18-200930	3-40ml Vials	HgCl <sub>2</sub>	2010102 001										X			
			CRC 18-200930 DUP			002										X			
			CRC 27-200930			003										X			
			CRC IS1-200930			004										X			
9-30-20		DRINKING WATER	CRC ES1-200930	3-40ml Vials	HgCl <sub>2</sub>	005										X			

Date: 9-30-20 Time: 1500 Relinquished by: Yadira Reyna  
 Received by: [Signature] Date: 10/1/20 Time: 9:50  
 Remarks: Send results to:  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenblatt: jrosenblatt@las-cruces.org  
(Send invoice to CRC c/o Luis Guerra)

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: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

December 02, 2020

Luis Guerra  
City of Las Cruces  
PO Box 20000  
Las Cruces, NM 88004  
TEL: (575) 528-3604  
FAX:

RE: CLC Joint Superfund Project Monthly Analysis

OrderNo.: 2011C64

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/25/2020 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 2011C64

Date Reported: 12/2/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS1 201124

Project: CLC Joint Superfund Project Monthly An

Collection Date: 11/24/2020 8:31:00 AM

Lab ID: 2011C64-001

Matrix: AIR

Received Date: 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Toluene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Ethylbenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Naphthalene	ND	0.20		µg/L	1	11/30/2020 12:14:46 PM	R73689
1-Methylnaphthalene	ND	0.40		µg/L	1	11/30/2020 12:14:46 PM	R73689
2-Methylnaphthalene	ND	0.40		µg/L	1	11/30/2020 12:14:46 PM	R73689
Acetone	ND	1.0		µg/L	1	11/30/2020 12:14:46 PM	R73689
Bromobenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Bromodichloromethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Bromoform	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Bromomethane	ND	0.20		µg/L	1	11/30/2020 12:14:46 PM	R73689
2-Butanone	ND	1.0		µg/L	1	11/30/2020 12:14:46 PM	R73689
Carbon disulfide	ND	1.0		µg/L	1	11/30/2020 12:14:46 PM	R73689
Carbon tetrachloride	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Chlorobenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Chloroethane	ND	0.20		µg/L	1	11/30/2020 12:14:46 PM	R73689
Chloroform	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Chloromethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
2-Chlorotoluene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
4-Chlorotoluene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
cis-1,2-DCE	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	11/30/2020 12:14:46 PM	R73689
Dibromochloromethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Dibromomethane	ND	0.20		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,2-Dichlorobenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,3-Dichlorobenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,4-Dichlorobenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Dichlorodifluoromethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,1-Dichloroethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,1-Dichloroethene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,2-Dichloropropane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,3-Dichloropropane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
2,2-Dichloropropane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689

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 2011C64

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC AS1 201124

**Project:** CLC Joint Superfund Project Monthly An

**Collection Date:** 11/24/2020 8:31:00 AM

**Lab ID:** 2011C64-001

**Matrix:** AIR

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Hexachlorobutadiene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
2-Hexanone	ND	1.0		µg/L	1	11/30/2020 12:14:46 PM	R73689
Isopropylbenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
4-Isopropyltoluene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
4-Methyl-2-pentanone	ND	1.0		µg/L	1	11/30/2020 12:14:46 PM	R73689
Methylene chloride	ND	0.30		µg/L	1	11/30/2020 12:14:46 PM	R73689
n-Butylbenzene	ND	0.30		µg/L	1	11/30/2020 12:14:46 PM	R73689
n-Propylbenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
sec-Butylbenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Styrene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
tert-Butylbenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Tetrachloroethene (PCE)	0.20	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
trans-1,2-DCE	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,1,1-Trichloroethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,1,2-Trichloroethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Trichloroethene (TCE)	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Trichlorofluoromethane	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
1,2,3-Trichloropropane	ND	0.20		µg/L	1	11/30/2020 12:14:46 PM	R73689
Vinyl chloride	ND	0.10		µg/L	1	11/30/2020 12:14:46 PM	R73689
Xylenes, Total	ND	0.15		µg/L	1	11/30/2020 12:14:46 PM	R73689
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/30/2020 12:14:46 PM	R73689
Surr: 1,2-Dichloroethane-d4	91.4	70-130		%Rec	1	11/30/2020 12:14:46 PM	R73689
Surr: Toluene-d8	96.8	70-130		%Rec	1	11/30/2020 12:14:46 PM	R73689
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/30/2020 12:14:46 PM	R73689

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 2011C64

Date Reported: 12/2/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS1 201124 DUP

Project: CLC Joint Superfund Project Monthly An

Collection Date: 11/24/2020 8:32:00 AM

Lab ID: 2011C64-002

Matrix: AIR

Received Date: 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Toluene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Ethylbenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Naphthalene	ND	0.20		µg/L	1	11/30/2020 1:37:10 PM	R73689
1-Methylnaphthalene	ND	0.40		µg/L	1	11/30/2020 1:37:10 PM	R73689
2-Methylnaphthalene	ND	0.40		µg/L	1	11/30/2020 1:37:10 PM	R73689
Acetone	ND	1.0		µg/L	1	11/30/2020 1:37:10 PM	R73689
Bromobenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Bromodichloromethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Bromoform	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Bromomethane	ND	0.20		µg/L	1	11/30/2020 1:37:10 PM	R73689
2-Butanone	ND	1.0		µg/L	1	11/30/2020 1:37:10 PM	R73689
Carbon disulfide	ND	1.0		µg/L	1	11/30/2020 1:37:10 PM	R73689
Carbon tetrachloride	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Chlorobenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Chloroethane	ND	0.20		µg/L	1	11/30/2020 1:37:10 PM	R73689
Chloroform	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Chloromethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
2-Chlorotoluene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
4-Chlorotoluene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
cis-1,2-DCE	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	11/30/2020 1:37:10 PM	R73689
Dibromochloromethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Dibromomethane	ND	0.20		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,2-Dichlorobenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,3-Dichlorobenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,4-Dichlorobenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Dichlorodifluoromethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,1-Dichloroethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,1-Dichloroethene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,2-Dichloropropane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,3-Dichloropropane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
2,2-Dichloropropane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689

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 2011C64

Date Reported: 12/2/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC AS1 201124 DUP

Project: CLC Joint Superfund Project Monthly An

Collection Date: 11/24/2020 8:32:00 AM

Lab ID: 2011C64-002

Matrix: AIR

Received Date: 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Hexachlorobutadiene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
2-Hexanone	ND	1.0		µg/L	1	11/30/2020 1:37:10 PM	R73689
Isopropylbenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
4-Isopropyltoluene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
4-Methyl-2-pentanone	ND	1.0		µg/L	1	11/30/2020 1:37:10 PM	R73689
Methylene chloride	ND	0.30		µg/L	1	11/30/2020 1:37:10 PM	R73689
n-Butylbenzene	ND	0.30		µg/L	1	11/30/2020 1:37:10 PM	R73689
n-Propylbenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
sec-Butylbenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Styrene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
tert-Butylbenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Tetrachloroethene (PCE)	0.23	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
trans-1,2-DCE	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,1,1-Trichloroethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,1,2-Trichloroethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Trichloroethene (TCE)	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Trichlorofluoromethane	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
1,2,3-Trichloropropane	ND	0.20		µg/L	1	11/30/2020 1:37:10 PM	R73689
Vinyl chloride	ND	0.10		µg/L	1	11/30/2020 1:37:10 PM	R73689
Xylenes, Total	ND	0.15		µg/L	1	11/30/2020 1:37:10 PM	R73689
Surr: Dibromofluoromethane	106	70-130		%Rec	1	11/30/2020 1:37:10 PM	R73689
Surr: 1,2-Dichloroethane-d4	87.5	70-130		%Rec	1	11/30/2020 1:37:10 PM	R73689
Surr: Toluene-d8	95.3	70-130		%Rec	1	11/30/2020 1:37:10 PM	R73689
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	11/30/2020 1:37:10 PM	R73689

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 2011C64

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC AS2 201124

**Project:** CLC Joint Superfund Project Monthly An

**Collection Date:** 11/24/2020 8:35:00 AM

**Lab ID:** 2011C64-003

**Matrix:** AIR

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Toluene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Ethylbenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Naphthalene	ND	0.20		µg/L	1	11/30/2020 2:04:38 PM	R73689
1-Methylnaphthalene	ND	0.40		µg/L	1	11/30/2020 2:04:38 PM	R73689
2-Methylnaphthalene	ND	0.40		µg/L	1	11/30/2020 2:04:38 PM	R73689
Acetone	ND	1.0		µg/L	1	11/30/2020 2:04:38 PM	R73689
Bromobenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Bromodichloromethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Bromoform	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Bromomethane	ND	0.20		µg/L	1	11/30/2020 2:04:38 PM	R73689
2-Butanone	ND	1.0		µg/L	1	11/30/2020 2:04:38 PM	R73689
Carbon disulfide	ND	1.0		µg/L	1	11/30/2020 2:04:38 PM	R73689
Carbon tetrachloride	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Chlorobenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Chloroethane	ND	0.20		µg/L	1	11/30/2020 2:04:38 PM	R73689
Chloroform	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Chloromethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
2-Chlorotoluene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
4-Chlorotoluene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
cis-1,2-DCE	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	11/30/2020 2:04:38 PM	R73689
Dibromochloromethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Dibromomethane	ND	0.20		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,2-Dichlorobenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,3-Dichlorobenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,4-Dichlorobenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Dichlorodifluoromethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,1-Dichloroethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,1-Dichloroethene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,2-Dichloropropane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,3-Dichloropropane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
2,2-Dichloropropane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689

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 2011C64

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC AS2 201124

**Project:** CLC Joint Superfund Project Monthly An

**Collection Date:** 11/24/2020 8:35:00 AM

**Lab ID:** 2011C64-003

**Matrix:** AIR

**Received Date:** 11/25/2020 9:45:00 AM

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		µg/L	1	11/30/2020 2:04:38 PM	R73689
Hexachlorobutadiene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
2-Hexanone	ND	1.0		µg/L	1	11/30/2020 2:04:38 PM	R73689
Isopropylbenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
4-Isopropyltoluene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
4-Methyl-2-pentanone	ND	1.0		µg/L	1	11/30/2020 2:04:38 PM	R73689
Methylene chloride	ND	0.30		µg/L	1	11/30/2020 2:04:38 PM	R73689
n-Butylbenzene	ND	0.30		µg/L	1	11/30/2020 2:04:38 PM	R73689
n-Propylbenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
sec-Butylbenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Styrene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
tert-Butylbenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Tetrachloroethene (PCE)	0.21	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
trans-1,2-DCE	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,1,1-Trichloroethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,1,2-Trichloroethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Trichloroethene (TCE)	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Trichlorofluoromethane	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
1,2,3-Trichloropropane	ND	0.20		µg/L	1	11/30/2020 2:04:38 PM	R73689
Vinyl chloride	ND	0.10		µg/L	1	11/30/2020 2:04:38 PM	R73689
Xylenes, Total	ND	0.15		µg/L	1	11/30/2020 2:04:38 PM	R73689
Surr: Dibromofluoromethane	101	70-130		%Rec	1	11/30/2020 2:04:38 PM	R73689
Surr: 1,2-Dichloroethane-d4	87.7	70-130		%Rec	1	11/30/2020 2:04:38 PM	R73689
Surr: Toluene-d8	96.5	70-130		%Rec	1	11/30/2020 2:04:38 PM	R73689
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	11/30/2020 2:04:38 PM	R73689

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		

Client Name: **City of Las Cruces**      Work Order Number: **2011C64**      RcptNo: **1**

Received By: **Juan Rojas**      11/25/2020 9:45:00 AM      *Juan Rojas*  
 Completed By: **Desiree Dominguez**      11/25/2020 10:32:36 AM      *DD*  
 Reviewed By: **JR 11/25/20**

**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   
 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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA   
 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: *SPA 11.25.20*

**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:

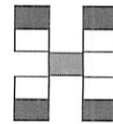
17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		Good	Not Present			

# Chain-of-Custody Record

Client: City of Las Cruces  
Water Quality Laboratory  
 Mailing Address: P.O. Box 20000  
Las Cruces, N.M. 88004  
 Phone #: 575-528-3609  
 email or Fax#: 575-528-3630  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) EXCEL

Turn-Around Time:  
 Standard  Rush  
 Project Name: Joint Superfund Project  
Monthly Analysis  
 Project #:  
CLC JSP Griggs Walnut  
 Project Manager:  
Luis Guerra 575-528-3609  
 Sampler: Yadira Reyna  
 On Ice:  Yes  No  
 Sample Temperature: N/A



## 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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
11-24-20	0831	AIR	CLC 451 201124	Tedler Bag	None	2011C64 -001										X		
11-24-20	0832	AIR	CLC 451 201124 DUP	Tedler Bag	None	-002										X		
11-24-20	0835	AIR	CLC 452 201124	Tedler Bag	None	-003										X		

Date: 11-24-20 Time: 1500 Relinquished by: Yadira Reyna

Received by: [Signature] Date: 11/25/10 Time: 9:45

Remarks: Send results to:  
Luis Guerra: lguerra@las-cruces.org  
Joshua Rosenblatt: jrosenblatt@las-cruces.org  
(Send invoice to cnc c/o Luis Guerra)



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

December 02, 2020

Luis Guerra

City of Las Cruces

PO Box 20000

Las Cruces, NM 88004

TEL: (575) 528-3604

FAX:

RE: CLC Joint Superfund Project Monthly Analysis

OrderNo.: 2011C67

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 11/25/2020 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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:12:00 AM

**Lab ID:** 2011C67-001

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Toluene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Ethylbenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Naphthalene	ND	2.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Acetone	ND	10		µg/L	1	11/30/2020 7:32:07 PM	R73689
Bromobenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Bromodichloromethane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Bromoform	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Bromomethane	ND	3.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
2-Butanone	ND	10		µg/L	1	11/30/2020 7:32:07 PM	R73689
Carbon disulfide	ND	10		µg/L	1	11/30/2020 7:32:07 PM	R73689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Chlorobenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Chloroethane	ND	2.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Chloroform	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Chloromethane	ND	3.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
2-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
4-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
cis-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Dibromochloromethane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Dibromomethane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/30/2020 7:32:07 PM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:12:00 AM

**Lab ID:** 2011C67-001

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
2-Hexanone	ND	10		µg/L	1	11/30/2020 7:32:07 PM	R73689
Isopropylbenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/30/2020 7:32:07 PM	R73689
Methylene Chloride	ND	3.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
n-Butylbenzene	ND	3.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
n-Propylbenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
sec-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Styrene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
tert-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Tetrachloroethene (PCE)	5.7	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
trans-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Vinyl chloride	ND	1.0		µg/L	1	11/30/2020 7:32:07 PM	R73689
Xylenes, Total	ND	1.5		µg/L	1	11/30/2020 7:32:07 PM	R73689
Surr: 1,2-Dichloroethane-d4	89.5	70-130		%Rec	1	11/30/2020 7:32:07 PM	R73689
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	11/30/2020 7:32:07 PM	R73689
Surr: Dibromofluoromethane	102	70-130		%Rec	1	11/30/2020 7:32:07 PM	R73689
Surr: Toluene-d8	92.5	70-130		%Rec	1	11/30/2020 7:32:07 PM	R73689

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 2011C67

Date Reported: 12/2/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18 201124 Dup

Project: CLC Joint Superfund Project Monthly A

Collection Date: 11/24/2020 8:13:00 AM

Lab ID: 2011C67-002

Matrix: DRINKING W

Received Date: 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Toluene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Ethylbenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Naphthalene	ND	2.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Acetone	ND	10		µg/L	1	11/30/2020 8:53:35 PM	R73689
Bromobenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Bromodichloromethane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Bromoform	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Bromomethane	ND	3.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
2-Butanone	ND	10		µg/L	1	11/30/2020 8:53:35 PM	R73689
Carbon disulfide	ND	10		µg/L	1	11/30/2020 8:53:35 PM	R73689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Chlorobenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Chloroethane	ND	2.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Chloroform	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Chloromethane	ND	3.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
2-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
4-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
cis-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Dibromochloromethane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Dibromomethane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/30/2020 8:53:35 PM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 18 201124 Dup

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:13:00 AM

**Lab ID:** 2011C67-002

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
2-Hexanone	ND	10		µg/L	1	11/30/2020 8:53:35 PM	R73689
Isopropylbenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/30/2020 8:53:35 PM	R73689
Methylene Chloride	ND	3.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
n-Butylbenzene	ND	3.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
n-Propylbenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
sec-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Styrene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
tert-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Tetrachloroethene (PCE)	6.0	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
trans-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Vinyl chloride	ND	1.0		µg/L	1	11/30/2020 8:53:35 PM	R73689
Xylenes, Total	ND	1.5		µg/L	1	11/30/2020 8:53:35 PM	R73689
Surr: 1,2-Dichloroethane-d4	87.8	70-130		%Rec	1	11/30/2020 8:53:35 PM	R73689
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	11/30/2020 8:53:35 PM	R73689
Surr: Dibromofluoromethane	102	70-130		%Rec	1	11/30/2020 8:53:35 PM	R73689
Surr: Toluene-d8	93.6	70-130		%Rec	1	11/30/2020 8:53:35 PM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 27 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:49:00 AM

**Lab ID:** 2011C67-003

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Toluene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Ethylbenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Naphthalene	ND	2.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Acetone	ND	10		µg/L	1	11/30/2020 9:20:42 PM	R73689
Bromobenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Bromodichloromethane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Bromoform	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Bromomethane	ND	3.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
2-Butanone	ND	10		µg/L	1	11/30/2020 9:20:42 PM	R73689
Carbon disulfide	ND	10		µg/L	1	11/30/2020 9:20:42 PM	R73689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Chlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Chloroethane	ND	2.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Chloroform	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Chloromethane	ND	3.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
2-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
4-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
cis-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Dibromochloromethane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Dibromomethane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/30/2020 9:20:42 PM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC 27 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:49:00 AM

**Lab ID:** 2011C67-003

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
2-Hexanone	ND	10		µg/L	1	11/30/2020 9:20:42 PM	R73689
Isopropylbenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/30/2020 9:20:42 PM	R73689
Methylene Chloride	ND	3.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
n-Butylbenzene	ND	3.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
n-Propylbenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
sec-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Styrene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
tert-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Tetrachloroethene (PCE)	16	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
trans-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Vinyl chloride	ND	1.0		µg/L	1	11/30/2020 9:20:42 PM	R73689
Xylenes, Total	ND	1.5		µg/L	1	11/30/2020 9:20:42 PM	R73689
Surr: 1,2-Dichloroethane-d4	89.1	70-130		%Rec	1	11/30/2020 9:20:42 PM	R73689
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	11/30/2020 9:20:42 PM	R73689
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/30/2020 9:20:42 PM	R73689
Surr: Toluene-d8	92.4	70-130		%Rec	1	11/30/2020 9:20:42 PM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:17:00 AM

**Lab ID:** 2011C67-004

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Toluene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Ethylbenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Naphthalene	ND	2.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Acetone	ND	10		µg/L	1	11/30/2020 9:47:48 PM	R73689
Bromobenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Bromodichloromethane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Bromoform	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Bromomethane	ND	3.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
2-Butanone	ND	10		µg/L	1	11/30/2020 9:47:48 PM	R73689
Carbon disulfide	ND	10		µg/L	1	11/30/2020 9:47:48 PM	R73689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Chlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Chloroethane	ND	2.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Chloroform	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Chloromethane	ND	3.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
2-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
4-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
cis-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Dibromochloromethane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Dibromomethane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/30/2020 9:47:48 PM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC IS1 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:17:00 AM

**Lab ID:** 2011C67-004

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
2-Hexanone	ND	10		µg/L	1	11/30/2020 9:47:48 PM	R73689
Isopropylbenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/30/2020 9:47:48 PM	R73689
Methylene Chloride	ND	3.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
n-Butylbenzene	ND	3.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
n-Propylbenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
sec-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Styrene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
tert-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Tetrachloroethene (PCE)	11	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
trans-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Vinyl chloride	ND	1.0		µg/L	1	11/30/2020 9:47:48 PM	R73689
Xylenes, Total	ND	1.5		µg/L	1	11/30/2020 9:47:48 PM	R73689
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%Rec	1	11/30/2020 9:47:48 PM	R73689
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	11/30/2020 9:47:48 PM	R73689
Surr: Dibromofluoromethane	106	70-130		%Rec	1	11/30/2020 9:47:48 PM	R73689
Surr: Toluene-d8	89.7	70-130		%Rec	1	11/30/2020 9:47:48 PM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C1 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:20:00 AM

**Lab ID:** 2011C67-005

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Toluene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Ethylbenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Naphthalene	ND	2.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Acetone	ND	10		µg/L	1	11/30/2020 10:14:51 PM	R73689
Bromobenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Bromodichloromethane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Bromoform	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Bromomethane	ND	3.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
2-Butanone	ND	10		µg/L	1	11/30/2020 10:14:51 PM	R73689
Carbon disulfide	ND	10		µg/L	1	11/30/2020 10:14:51 PM	R73689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Chlorobenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Chloroethane	ND	2.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Chloroform	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Chloromethane	ND	3.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
2-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
4-Chlorotoluene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
cis-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Dibromochloromethane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Dibromomethane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/30/2020 10:14:51 PM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C1 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:20:00 AM

**Lab ID:** 2011C67-005

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
2-Hexanone	ND	10		µg/L	1	11/30/2020 10:14:51 PM	R73689
Isopropylbenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/30/2020 10:14:51 PM	R73689
Methylene Chloride	ND	3.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
n-Butylbenzene	ND	3.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
n-Propylbenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
sec-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Styrene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
tert-Butylbenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
trans-1,2-DCE	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Vinyl chloride	ND	1.0		µg/L	1	11/30/2020 10:14:51 PM	R73689
Xylenes, Total	ND	1.5		µg/L	1	11/30/2020 10:14:51 PM	R73689
Surr: 1,2-Dichloroethane-d4	90.3	70-130		%Rec	1	11/30/2020 10:14:51 PM	R73689
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	11/30/2020 10:14:51 PM	R73689
Surr: Dibromofluoromethane	109	70-130		%Rec	1	11/30/2020 10:14:51 PM	R73689
Surr: Toluene-d8	89.1	70-130		%Rec	1	11/30/2020 10:14:51 PM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:23:00 AM

**Lab ID:** 2011C67-006

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Toluene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Ethylbenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Naphthalene	ND	2.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
2-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Acetone	ND	10		µg/L	1	12/1/2020 12:02:50 AM	R73689
Bromobenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Bromodichloromethane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Bromoform	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Bromomethane	ND	3.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
2-Butanone	ND	10		µg/L	1	12/1/2020 12:02:50 AM	R73689
Carbon disulfide	ND	10		µg/L	1	12/1/2020 12:02:50 AM	R73689
Carbon Tetrachloride	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Chlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Chloroethane	ND	2.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Chloroform	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Chloromethane	ND	3.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
2-Chlorotoluene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
4-Chlorotoluene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
cis-1,2-DCE	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Dibromochloromethane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Dibromomethane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,1-Dichloroethane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,1-Dichloroethene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,2-Dichloropropane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,3-Dichloropropane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
2,2-Dichloropropane	ND	2.0		µg/L	1	12/1/2020 12:02:50 AM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC C2 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:23:00 AM

**Lab ID:** 2011C67-006

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Hexachlorobutadiene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
2-Hexanone	ND	10		µg/L	1	12/1/2020 12:02:50 AM	R73689
Isopropylbenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
4-Isopropyltoluene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
4-Methyl-2-pentanone	ND	10		µg/L	1	12/1/2020 12:02:50 AM	R73689
Methylene Chloride	ND	3.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
n-Butylbenzene	ND	3.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
n-Propylbenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
sec-Butylbenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Styrene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
tert-Butylbenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
trans-1,2-DCE	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Trichlorofluoromethane	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Vinyl chloride	ND	1.0		µg/L	1	12/1/2020 12:02:50 AM	R73689
Xylenes, Total	ND	1.5		µg/L	1	12/1/2020 12:02:50 AM	R73689
Surr: 1,2-Dichloroethane-d4	87.0	70-130		%Rec	1	12/1/2020 12:02:50 AM	R73689
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/1/2020 12:02:50 AM	R73689
Surr: Dibromofluoromethane	108	70-130		%Rec	1	12/1/2020 12:02:50 AM	R73689
Surr: Toluene-d8	89.0	70-130		%Rec	1	12/1/2020 12:02:50 AM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:26:00 AM

**Lab ID:** 2011C67-007

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Toluene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Ethylbenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Naphthalene	ND	2.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
2-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Acetone	ND	10		µg/L	1	12/1/2020 12:29:48 AM	R73689
Bromobenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Bromodichloromethane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Bromoform	7.5	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Bromomethane	ND	3.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
2-Butanone	ND	10		µg/L	1	12/1/2020 12:29:48 AM	R73689
Carbon disulfide	ND	10		µg/L	1	12/1/2020 12:29:48 AM	R73689
Carbon Tetrachloride	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Chlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Chloroethane	ND	2.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Chloroform	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Chloromethane	ND	3.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
2-Chlorotoluene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
4-Chlorotoluene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
cis-1,2-DCE	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Dibromochloromethane	2.1	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Dibromomethane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,1-Dichloroethane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,1-Dichloroethene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,2-Dichloropropane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,3-Dichloropropane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
2,2-Dichloropropane	ND	2.0		µg/L	1	12/1/2020 12:29:48 AM	R73689

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 2011C67

Date Reported: 12/2/2020

**CLIENT:** City of Las Cruces

**Client Sample ID:** CLC ES1 201124

**Project:** CLC Joint Superfund Project Monthly A

**Collection Date:** 11/24/2020 8:26:00 AM

**Lab ID:** 2011C67-007

**Matrix:** DRINKING W

**Received Date:** 11/25/2020 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
1,1-Dichloropropene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Hexachlorobutadiene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
2-Hexanone	ND	10		µg/L	1	12/1/2020 12:29:48 AM	R73689
Isopropylbenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
4-Isopropyltoluene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
4-Methyl-2-pentanone	ND	10		µg/L	1	12/1/2020 12:29:48 AM	R73689
Methylene Chloride	ND	3.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
n-Butylbenzene	ND	3.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
n-Propylbenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
sec-Butylbenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Styrene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
tert-Butylbenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
trans-1,2-DCE	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Trichlorofluoromethane	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Vinyl chloride	ND	1.0		µg/L	1	12/1/2020 12:29:48 AM	R73689
Xylenes, Total	ND	1.5		µg/L	1	12/1/2020 12:29:48 AM	R73689
Surr: 1,2-Dichloroethane-d4	90.2	70-130		%Rec	1	12/1/2020 12:29:48 AM	R73689
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/1/2020 12:29:48 AM	R73689
Surr: Dibromofluoromethane	108	70-130		%Rec	1	12/1/2020 12:29:48 AM	R73689
Surr: Toluene-d8	91.2	70-130		%Rec	1	12/1/2020 12:29:48 AM	R73689

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#: 2011C67

02-Dec-20

**Client:** City of Las Cruces  
**Project:** CLC Joint Superfund Project Monthly Analysis

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>R73689</b>		RunNo: <b>73689</b>							
Prep Date:	Analysis Date: <b>11/30/2020</b>		SeqNo: <b>2597571</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	19	1.0	20.00	0	95.4	70	130			
Chlorobenzene	20	1.0	20.00	0	98.2	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	95.1	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.9	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.2		10.00		92.1	70	130			

Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R73689</b>		RunNo: <b>73689</b>							
Prep Date:	Analysis Date: <b>11/30/2020</b>		SeqNo: <b>2597572</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								

**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#: 2011C67

02-Dec-20

**Client:** City of Las Cruces  
**Project:** CLC Joint Superfund Project Monthly Analysis

Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>
Client ID: <b>PBW</b>	Batch ID: <b>R73689</b>	RunNo: <b>73689</b>
Prep Date:	Analysis Date: <b>11/30/2020</b>	SeqNo: <b>2597572</b> Units: <b>µg/L</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

**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#: 2011C67

02-Dec-20

**Client:** City of Las Cruces  
**Project:** CLC Joint Superfund Project Monthly Analysis

Sample ID: <b>mb1</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R73689</b>		RunNo: <b>73689</b>							
Prep Date:	Analysis Date: <b>11/30/2020</b>		SeqNo: <b>2597572</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.6		10.00		95.6	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 |   |

**Sample Log-In Check List**

Client Name: **City of Las Cruces**      Work Order Number: **2011C67**      RcptNo: **1**

Received By: **Sean Livingston**      11/25/2020 9:45:00 AM

Completed By: **Desiree Dominguez**      11/25/2020 10:37:21 AM

Reviewed By: **SGL 11/25/20**

*Sean Livingston*  
*DD*

**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
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. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA
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 11/25/20**

**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	2.2	Good	Not Present			

# Chain-of-Custody Record

Turn-Around Time:

Client: City of Las Cruces

Standard  Rush

Water Quality Laboratory

Project Name: Joint Superfund Project

Mailing Address: P.O. Box 20000

Monthly Analysis

Las Cruces, N.M. 88004

Project #:

Phone #: 575-528-3609

CLC JSP Griggs Walnut

email or Fax#: 575-528-3630

Project Manager:

QA/QC Package:

Luis Guerra 575-528-3609

Standard  Level 4 (Full Validation)

Accreditation

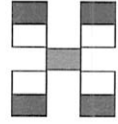
Sampler: Yadira Reyna

NELAP  Other \_\_\_\_\_

On Ice:  Yes  No

EDD (Type) EXCELL

Sample Temperature: 2.1 to 0.1 = 2.2°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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VQA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
11-24-20	0812	Drinking Water	CLC18 201124	3-40ml Vials	HgCl <sub>2</sub>	2011C67 -001										X		
	0813		CLC18 201124-DUP			-002										X		
	0849		CLC27 201124			-003										X		
	0817		CLC IS1 201124			-004										X		
	0820		CLC C1 201124			-005										X		
	0823		CLC C2 201124			-006										X		
11-24-20	0826	Drinking Water	CLC ES1 201124	3-40ml Vials	HgCl <sub>2</sub>	-007										X		

Date: 11-24-20 Time: 1500 Relinquished by: Yadira Reyna

Received by: SGL FedEx Date: 11/25/20 Time: 9:45

Remarks: Send Results to:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_

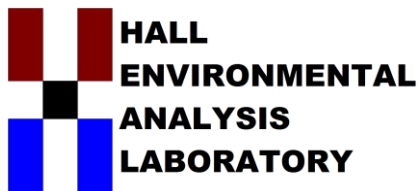
Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Luis Guerra lguerra@las-cruces.org

Joshua Rosenblatt: jrosenblatt@las-cruces.org

(Send invoice to CLC c/o Luis Guerra)

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: clients.hallenvironmental.com*

December 28, 2020

Luis Guerra

City of Las Cruces

PO Box 20000

Las Cruces, NM 88004

TEL: (575) 528-3604

FAX:

RE: Joint Superfund Project Monthly Analysis

OrderNo.: 2012953

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/18/2020 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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-201216

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 8:09:00 AM

Lab ID: 2012953-001

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Toluene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Ethylbenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Naphthalene	ND	2.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
2-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Acetone	ND	10		µg/L	1	12/24/2020 4:06:51 AM	A74228
Bromobenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Bromodichloromethane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Bromoform	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Bromomethane	ND	3.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
2-Butanone	ND	10		µg/L	1	12/24/2020 4:06:51 AM	A74228
Carbon disulfide	ND	10		µg/L	1	12/24/2020 4:06:51 AM	A74228
Carbon Tetrachloride	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Chlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Chloroethane	ND	2.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Chloroform	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Chloromethane	ND	3.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
2-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
4-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
cis-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Dibromochloromethane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Dibromomethane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,1-Dichloroethane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,1-Dichloroethene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,2-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,3-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
2,2-Dichloropropane	ND	2.0		µg/L	1	12/24/2020 4:06:51 AM	A74228

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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 18-201216

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 8:09:00 AM

Lab ID: 2012953-001

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Hexachlorobutadiene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
2-Hexanone	ND	10		µg/L	1	12/24/2020 4:06:51 AM	A74228
Isopropylbenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
4-Isopropyltoluene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
4-Methyl-2-pentanone	ND	10		µg/L	1	12/24/2020 4:06:51 AM	A74228
Methylene Chloride	ND	3.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
n-Butylbenzene	ND	3.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
n-Propylbenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
sec-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Styrene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
tert-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Tetrachloroethene (PCE)	5.2	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
trans-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Trichlorofluoromethane	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Vinyl chloride	ND	1.0		µg/L	1	12/24/2020 4:06:51 AM	A74228
Xylenes, Total	ND	1.5		µg/L	1	12/24/2020 4:06:51 AM	A74228
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/24/2020 4:06:51 AM	A74228
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/24/2020 4:06:51 AM	A74228
Surr: Dibromofluoromethane	107	70-130		%Rec	1	12/24/2020 4:06:51 AM	A74228
Surr: Toluene-d8	98.4	70-130		%Rec	1	12/24/2020 4:06:51 AM	A74228

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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-201216

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 8:21:00 AM

Lab ID: 2012953-002

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Toluene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Ethylbenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Naphthalene	ND	2.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
2-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Acetone	ND	10		µg/L	1	12/24/2020 4:35:18 AM	A74228
Bromobenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Bromodichloromethane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Bromoform	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Bromomethane	ND	3.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
2-Butanone	ND	10		µg/L	1	12/24/2020 4:35:18 AM	A74228
Carbon disulfide	ND	10		µg/L	1	12/24/2020 4:35:18 AM	A74228
Carbon Tetrachloride	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Chlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Chloroethane	ND	2.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Chloroform	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Chloromethane	ND	3.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
2-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
4-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
cis-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Dibromochloromethane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Dibromomethane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,1-Dichloroethane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,1-Dichloroethene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,2-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,3-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
2,2-Dichloropropane	ND	2.0		µg/L	1	12/24/2020 4:35:18 AM	A74228

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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-201216

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 8:21:00 AM

Lab ID: 2012953-002

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Hexachlorobutadiene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
2-Hexanone	ND	10		µg/L	1	12/24/2020 4:35:18 AM	A74228
Isopropylbenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
4-Isopropyltoluene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
4-Methyl-2-pentanone	ND	10		µg/L	1	12/24/2020 4:35:18 AM	A74228
Methylene Chloride	ND	3.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
n-Butylbenzene	ND	3.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
n-Propylbenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
sec-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Styrene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
tert-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Tetrachloroethene (PCE)	14	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
trans-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Trichlorofluoromethane	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Vinyl chloride	ND	1.0		µg/L	1	12/24/2020 4:35:18 AM	A74228
Xylenes, Total	ND	1.5		µg/L	1	12/24/2020 4:35:18 AM	A74228
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/24/2020 4:35:18 AM	A74228
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/24/2020 4:35:18 AM	A74228
Surr: Dibromofluoromethane	110	70-130		%Rec	1	12/24/2020 4:35:18 AM	A74228
Surr: Toluene-d8	98.6	70-130		%Rec	1	12/24/2020 4:35:18 AM	A74228

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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-201216 Dup

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 8:22:00 AM

Lab ID: 2012953-003

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Toluene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Ethylbenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Naphthalene	ND	2.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
2-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Acetone	ND	10		µg/L	1	12/24/2020 5:03:56 AM	A74228
Bromobenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Bromodichloromethane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Bromoform	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Bromomethane	ND	3.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
2-Butanone	ND	10		µg/L	1	12/24/2020 5:03:56 AM	A74228
Carbon disulfide	ND	10		µg/L	1	12/24/2020 5:03:56 AM	A74228
Carbon Tetrachloride	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Chlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Chloroethane	ND	2.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Chloroform	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Chloromethane	ND	3.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
2-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
4-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
cis-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Dibromochloromethane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Dibromomethane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,1-Dichloroethane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,1-Dichloroethene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,2-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,3-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
2,2-Dichloropropane	ND	2.0		µg/L	1	12/24/2020 5:03:56 AM	A74228

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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC 27-201216 Dup

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 8:22:00 AM

Lab ID: 2012953-003

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Hexachlorobutadiene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
2-Hexanone	ND	10		µg/L	1	12/24/2020 5:03:56 AM	A74228
Isopropylbenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
4-Isopropyltoluene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
4-Methyl-2-pentanone	ND	10		µg/L	1	12/24/2020 5:03:56 AM	A74228
Methylene Chloride	ND	3.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
n-Butylbenzene	ND	3.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
n-Propylbenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
sec-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Styrene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
tert-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Tetrachloroethene (PCE)	15	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
trans-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Trichlorofluoromethane	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Vinyl chloride	ND	1.0		µg/L	1	12/24/2020 5:03:56 AM	A74228
Xylenes, Total	ND	1.5		µg/L	1	12/24/2020 5:03:56 AM	A74228
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/24/2020 5:03:56 AM	A74228
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/24/2020 5:03:56 AM	A74228
Surr: Dibromofluoromethane	111	70-130		%Rec	1	12/24/2020 5:03:56 AM	A74228
Surr: Toluene-d8	97.3	70-130		%Rec	1	12/24/2020 5:03:56 AM	A74228

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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-201216

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 8:58:00 AM

Lab ID: 2012953-004

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: <b>JMR</b>
Benzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Toluene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Ethylbenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Naphthalene	ND	2.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
2-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Acetone	ND	10		µg/L	1	12/24/2020 5:32:21 AM	A74228
Bromobenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Bromodichloromethane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Bromoform	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Bromomethane	ND	3.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
2-Butanone	ND	10		µg/L	1	12/24/2020 5:32:21 AM	A74228
Carbon disulfide	ND	10		µg/L	1	12/24/2020 5:32:21 AM	A74228
Carbon Tetrachloride	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Chlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Chloroethane	ND	2.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Chloroform	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Chloromethane	ND	3.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
2-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
4-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
cis-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Dibromochloromethane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Dibromomethane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,1-Dichloroethane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,1-Dichloroethene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,2-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,3-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
2,2-Dichloropropane	ND	2.0		µg/L	1	12/24/2020 5:32:21 AM	A74228

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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC IS1-201216

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 8:58:00 AM

Lab ID: 2012953-004

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Hexachlorobutadiene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
2-Hexanone	ND	10		µg/L	1	12/24/2020 5:32:21 AM	A74228
Isopropylbenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
4-Isopropyltoluene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
4-Methyl-2-pentanone	ND	10		µg/L	1	12/24/2020 5:32:21 AM	A74228
Methylene Chloride	ND	3.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
n-Butylbenzene	ND	3.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
n-Propylbenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
sec-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Styrene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
tert-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Tetrachloroethene (PCE)	10	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
trans-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Trichlorofluoromethane	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Vinyl chloride	ND	1.0		µg/L	1	12/24/2020 5:32:21 AM	A74228
Xylenes, Total	ND	1.5		µg/L	1	12/24/2020 5:32:21 AM	A74228
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	12/24/2020 5:32:21 AM	A74228
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	12/24/2020 5:32:21 AM	A74228
Surr: Dibromofluoromethane	110	70-130		%Rec	1	12/24/2020 5:32:21 AM	A74228
Surr: Toluene-d8	97.2	70-130		%Rec	1	12/24/2020 5:32:21 AM	A74228

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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-201216

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 9:01:00 AM

Lab ID: 2012953-005

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
Benzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Toluene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Ethylbenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Naphthalene	ND	2.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
2-Methylnaphthalene	ND	4.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Acetone	ND	10		µg/L	1	12/24/2020 6:00:43 AM	B74228
Bromobenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Bromodichloromethane	2.4	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Bromoform	3.6	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Bromomethane	ND	3.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
2-Butanone	ND	10		µg/L	1	12/24/2020 6:00:43 AM	B74228
Carbon disulfide	ND	10		µg/L	1	12/24/2020 6:00:43 AM	B74228
Carbon Tetrachloride	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Chlorobenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Chloroethane	ND	2.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Chloroform	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Chloromethane	ND	3.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
2-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
4-Chlorotoluene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
cis-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Dibromochloromethane	4.5	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Dibromomethane	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,1-Dichloroethane	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,1-Dichloroethene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,2-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,3-Dichloropropane	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
2,2-Dichloropropane	ND	2.0		µg/L	1	12/24/2020 6:00:43 AM	B74228

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 2012953

Date Reported: 12/28/2020

CLIENT: City of Las Cruces

Client Sample ID: CLC ES1-201216

Project: Joint Superfund Project Monthly Analysis

Collection Date: 12/16/2020 9:01:00 AM

Lab ID: 2012953-005

Matrix: DRINKING W

Received Date: 12/18/2020 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JMR
1,1-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Hexachlorobutadiene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
2-Hexanone	ND	10		µg/L	1	12/24/2020 6:00:43 AM	B74228
Isopropylbenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
4-Isopropyltoluene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
4-Methyl-2-pentanone	ND	10		µg/L	1	12/24/2020 6:00:43 AM	B74228
Methylene Chloride	ND	3.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
n-Butylbenzene	ND	3.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
n-Propylbenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
sec-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Styrene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
tert-Butylbenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
trans-1,2-DCE	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Trichlorofluoromethane	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Vinyl chloride	ND	1.0		µg/L	1	12/24/2020 6:00:43 AM	B74228
Xylenes, Total	ND	1.5		µg/L	1	12/24/2020 6:00:43 AM	B74228
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/24/2020 6:00:43 AM	B74228
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/24/2020 6:00:43 AM	B74228
Surr: Dibromofluoromethane	110	70-130		%Rec	1	12/24/2020 6:00:43 AM	B74228
Surr: Toluene-d8	97.1	70-130		%Rec	1	12/24/2020 6:00:43 AM	B74228

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#: 2012953

28-Dec-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Sample ID: 100ng lcs</b> <b>SampType: LCS</b> <b>TestCode: EPA Method 8260B: VOLATILES</b> <b>Client ID: LCSW</b> <b>Batch ID: A74228</b> <b>RunNo: 74228</b> <b>Prep Date:</b> <b>Analysis Date: 12/23/2020</b> <b>SeqNo: 2620156</b> <b>Units: µg/L</b>										
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	21	1.0	20.00	0	107	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	105	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	97.0	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.8		10.00		97.6	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Sample ID: VSB Fridge</b> <b>SampType: MBLK</b> <b>TestCode: EPA Method 8260B: VOLATILES</b> <b>Client ID: PBW</b> <b>Batch ID: A74228</b> <b>RunNo: 74228</b> <b>Prep Date:</b> <b>Analysis Date: 12/23/2020</b> <b>SeqNo: 2620157</b> <b>Units: µg/L</b>										
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								

**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#: 2012953

28-Dec-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>VSF Fridge</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>A74228</b>		RunNo: <b>74228</b>							
Prep Date:	Analysis Date: <b>12/23/2020</b>		SeqNo: <b>2620157</b>		Units: <b>µg/L</b>					
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								
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								

### 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#: 2012953

28-Dec-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>VSB Fridge</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>A74228</b>		RunNo: <b>74228</b>							
Prep Date:	Analysis Date: <b>12/23/2020</b>		SeqNo: <b>2620157</b>		Units: <b>µg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	9.7		10.00		97.1	70	130			

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>B74228</b>		RunNo: <b>74228</b>							
Prep Date:	Analysis Date: <b>12/24/2020</b>		SeqNo: <b>2620188</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	109	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.8	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.5		10.00		95.1	70	130			

Sample ID: <b>mb2</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>B74228</b>		RunNo: <b>74228</b>							
Prep Date:	Analysis Date: <b>12/24/2020</b>		SeqNo: <b>2620189</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								

**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#: 2012953

28-Dec-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Sample ID: <b>mb2</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>B74228</b>	RunNo: <b>74228</b>								
Prep Date:	Analysis Date: <b>12/24/2020</b>	SeqNo: <b>2620189</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

### 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#: 2012953

28-Dec-20

**Client:** City of Las Cruces  
**Project:** Joint Superfund Project Monthly Analysis

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb2</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID: <b>PBW</b>	Batch ID: <b>B74228</b>		RunNo: <b>74228</b>							
Prep Date:	Analysis Date: <b>12/24/2020</b>		SeqNo: <b>2620189</b>		Units: <b>µg/L</b>					
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		102	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	9.6		10.00		95.8	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: City of Las Cruces

Work Order Number: 2012953

RcptNo: 1

Received By: Juan Rojas

12/18/2020 10:10:00 AM

*Juan Rojas*

Completed By: Isaiah Ortiz

12/18/2020 10:54:35 AM

*I-Ortiz*

Reviewed By: *SGC 12/18/20*

**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
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. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA
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: *JR 12/18/20*

**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:

**Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	-35	Good	Not Present			



# Chain-of-Custody Record

Turn-Around Time:

Client: City of Las Cruces

Standard  Rush

Water Quality Laboratory

Project Name: Joint Superfund Project

Mailing Address: P.O. Box 20000

Monthly Analysis

Las Cruces, N.M. 88004

Project #: CRC JSP Griggs Walnuts

Phone #: 575-528-3609

Project Manager: Luis Guerra (575) 528-3609

email or Fax#: lguerra@las-cruces.org

QA/QC Package:

Standard  Level 4 (Full Validation)

Sampler: Yadira Reyna

Accreditation:  Az Compliance  NELAC  Other

On Ice:  Yes  No

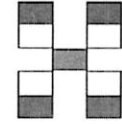
EDD (Type) EXCELL

# of Coolers: 1

Cooler Temp (including CF): -3.5-0=-3.5 (°C)

HEAL No. 2012953

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
12/16/20	0809	Drinking water	CRC 18-201216	3-40ml Vials	HgCl <sub>2</sub>	001
	0821		CRC 27-201216			002
	0822		CRC 27-201216 DUP			003
	0858		CRC ISI 201216			004
12/16/20	0901	Drinking water	CRC ES1-201216	3-40ml Vials	HgCl <sub>2</sub>	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) B VC	8270 (Semi-VOA)	Total Coliform (Present/Absent)
							X		
							X		
							X		
							X		
							X		

Date: 12/16/20 Time: 1500 Relinquished by: Yadira Reyna

Received by: [Signature] Via: FedEx Date: 12/18/20 Time: 10:10

Remarks: Send Results to: Not Frozen JR 12/18/20  
Luis Guerra: lguerra@las-cruces.org

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_

Received by: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Joshua Roseblatt: jrosblatt@las-cruces.org  
Send invoice to CRC c/o Luis Guerra

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

Letter Sent to Agencies and  
Agency Responses

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## Joint Superfund Project

City of Las Cruces and Doña Ana County



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June 2, 2021

Mr. Mark Garman, Program Manager  
Superfund Oversight Section  
New Mexico Environment Department  
Ground Water Quality Bureau  
P.O. Box 5469  
Santa Fe, NM 87502-5469

Dear Mr. Garman:

Thank you for your help and support to the City of Las Cruces and Dona Ana County, acting as the Joint Superfund Project (JSP) for the Griggs and Walnut Ground Water Plume Superfund Site (GWP). The United States Environmental Protection Agency issued a Consent Decree (CD) with a July 30, 2020 effective date.

In accordance with the CD Statement of Work, Paragraph 11.e., an Institutional Control Implementation and Assurance Plan (ICIAP) was previously developed and approved by EPA. As part of the ICIAP, we are required to contact you annually to inquire and determine if any new releases have occurred that may affect groundwater or the remediation efforts within the plume footprint. We believe that no releases have occurred but appreciate you reviewing your records and notifying us of any new releases that may affect our remediation efforts.

Attached for your review, is a map depicting the well moratorium (plume footprint) instituted October 6, 2011, by the New Mexico Office of the State Engineer. Thank you for providing us feedback last year related to any releases during 2019. We are requesting any information related to releases during 2020 within the plume footprint or buffer zone you may have.

We appreciate your assistance in this matter and respectfully request your response for the following:

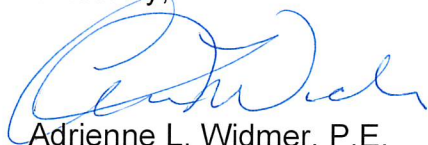
- Confirm that no new releases have been reported in the plume footprint OR
- If new releases have been reported in the plume footprint, please indicate:
  - location
  - date of release
  - contact person and information so that the JSP can coordinate data sharing

Mr. Mark Garman  
June 2, 2021  
Page 2

We truly appreciate your consideration in this matter and hope we can receive your response prior to June 16, 2021, so we may include it with the GWP annual report to EPA. Below is my contact information and please feel free to respond via email to [awidmer@las-cruces.org](mailto:awidmer@las-cruces.org) if you wish.

Adrienne L. Widmer, P.E.  
Las Cruces Utilities  
680 N. Motel Boulevard  
Las Cruces, NM 88007

Sincerely,

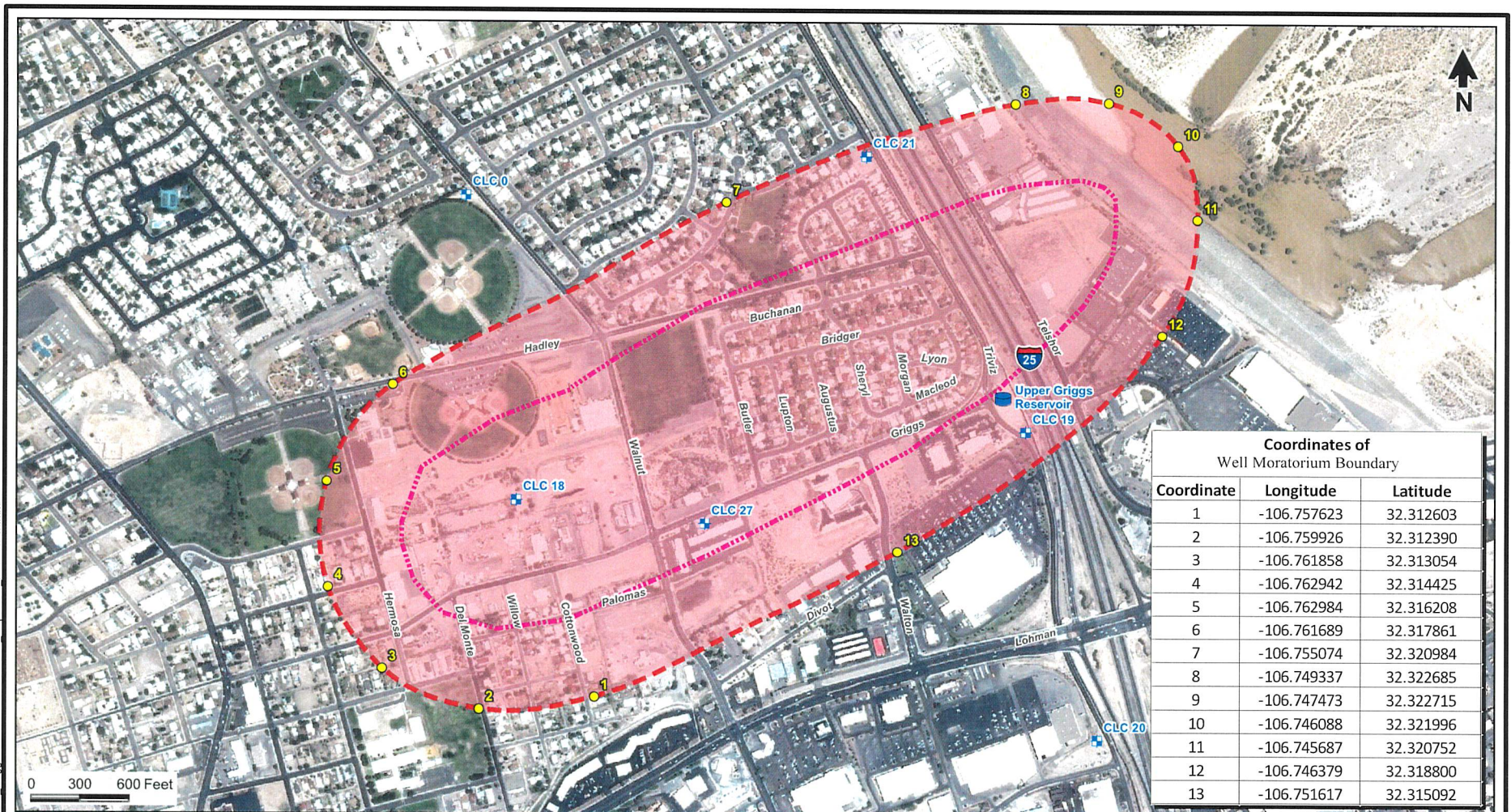


Adrienne L. Widmer, P.E.  
Project Coordinator, Griggs and Walnut Groundwater Plume Superfund Site  
Assistant Director, City of Las Cruces Utilities

Attachment: As noted

cc: Delilah A. Walsh, Las Cruces Utilities Director, via email  
Dave Medeiros, Attorney Contract Attorney, Dona Ana County and JSP, via email  
Michelle Hunter, Bureau Chief, NMED Ground Water Quality Bureau, via email  
Karen Menetrey, Program Manager, Remediation Oversight Section,  
Ground Water Quality Bureau, via email  
Dana Bahar, Bureau Chief, NMED Petroleum Storage Tank Bureau, via email  
Martyne Kieling, NMED Superfund Oversight Section, via email  
Angelo Ortelli, NMED Superfund Oversight Section, via email  
Anthony McGlown, NMED Superfund Oversight Section, via email  
Kelly Isaacson, P.E., via email





Coordinates of Well Moratorium Boundary		
Coordinate	Longitude	Latitude
1	-106.757623	32.312603
2	-106.759926	32.312390
3	-106.761858	32.313054
4	-106.762942	32.314425
5	-106.762984	32.316208
6	-106.761689	32.317861
7	-106.755074	32.320984
8	-106.749337	32.322685
9	-106.747473	32.322715
10	-106.746088	32.321996
11	-106.745687	32.320752
12	-106.746379	32.318800
13	-106.751617	32.315092

**Explanation**

- City of Las Cruces supply well
- City of Las Cruces water reservoir
- Well moratorium boundary
- Coordinate of well moratorium boundary
- PCE in groundwater greater than 5 µg/L

Sources: 1. National Agricultural Imagery Program August 2009  
 Downloaded from RGIS  
 2. JSAI, 2009

**From:** [Jayne, Kelly](#)  
**To:** [Herrmann, Grace](#)  
**Subject:** FW: Griggs and Walnut Ground Water Plume Superfund Site - Institutional Controls and Assurance  
**Date:** Monday, June 7, 2021 9:24:18 AM

---

**From:** Garman, Mark, NMENV <Mark.Garman@state.nm.us>  
**Sent:** Friday, June 4, 2021 4:22 PM  
**To:** Widmer, Adrienne <awidmer@las-cruces.org>  
**Cc:** Delilah Walsh <dwalsh@las-cruces.org>; Medeiros, David <davem@donaanacounty.org>; Hunter, Michelle, NMENV <Michelle.Hunter@state.nm.us>; Menetrey, Karen, NMENV <karen.menetrey@state.nm.us>; Bahar, Dana, NMENV <dana.bahar@state.nm.us>; Kieling, Martyne, NMENV <Martyne.Kieling@state.nm.us>; Ortelli, Angelo, NMENV <Angelo.Ortelli@state.nm.us>; McGlown, Anthony, NMENV <Anthony.McGlown@state.nm.us>; Jayne, Kelly <kjayne@geo-logic.com>  
**Subject:** RE: Griggs and Walnut Ground Water Plume Superfund Site - Institutional Controls and Assurance

Hello Adrienne,

The NMED Superfund Oversight Section is not aware of any releases within the Griggs and Walnut Superfund Site Well Moratorium footprint since your last inquiry in February 2020.

Thank you,

Mark Garman, Manager  
Superfund Oversight Section  
New Mexico Environment Department  
Ground Water Quality Bureau  
1190 St Francis Drive, Santa Fe, NM 87505  
(Office) 505-660-8464  
[mark.garman@state.nm.us](mailto:mark.garman@state.nm.us)  
[www.env.nm.gov](http://www.env.nm.gov)

---

**From:** Adrienne Widmer <[awidmer@las-cruces.org](mailto:awidmer@las-cruces.org)>  
**Sent:** Wednesday, June 2, 2021 3:16 PM  
**To:** Garman, Mark, NMENV <[Mark.Garman@state.nm.us](mailto:Mark.Garman@state.nm.us)>  
**Cc:** Delilah Walsh <[dwalsh@las-cruces.org](mailto:dwalsh@las-cruces.org)>; Medeiros, David <[davem@donaanacounty.org](mailto:davem@donaanacounty.org)>; Hunter, Michelle, NMENV <[Michelle.Hunter@state.nm.us](mailto:Michelle.Hunter@state.nm.us)>; Menetrey, Karen, NMENV <[karen.menetrey@state.nm.us](mailto:karen.menetrey@state.nm.us)>; Bahar, Dana, NMENV <[dana.bahar@state.nm.us](mailto:dana.bahar@state.nm.us)>; Kieling, Martyne, NMENV <[Martyne.Kieling@state.nm.us](mailto:Martyne.Kieling@state.nm.us)>; Ortelli, Angelo, NMENV <[Angelo.Ortelli@state.nm.us](mailto:Angelo.Ortelli@state.nm.us)>; McGlown, Anthony, NMENV <[Anthony.McGlown@state.nm.us](mailto:Anthony.McGlown@state.nm.us)>;



Jayne, Kelly <[kjayne@geo-logic.com](mailto:kjayne@geo-logic.com)>

**Subject:** [EXT] Griggs and Walnut Ground Water Plume Superfund Site - Institutional Controls and Assurance

Hi Mark,

Hope all is well with you. Attached is a letter being sent out today requesting information related to the institutional controls for the GW Superfund project.

Please feel free to respond via email, and if you have any questions or need additional information, please let me know.

Look forward to hearing from you and thank you!

**Adrienne L. Widmer, P.E.**

Assistant Director/Las Cruces Utilities/Administration

Direct: 575-528-4566 Main: 575-528-3500, Fax: 575-528-3691, [awidmer@las-cruces.org](mailto:awidmer@las-cruces.org)



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## Joint Superfund Project

City of Las Cruces and Doña Ana County



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June 2, 2021

Ms. Dana Bahar, Bureau Chief  
New Mexico Environment Department  
Petroleum Storage Tank Bureau  
2905 Rodeo Park Drive East, Building 1  
Santa Fe NM, 87505

Dear Ms. Bahar:

Thank you for your help and support to the City of Las Cruces and Dona Ana County, acting as the Joint Superfund Project (JSP) for the Griggs and Walnut Ground Water Plume Superfund Site (GWP). The United States Environmental Protection Agency (EPA) issued a Consent Decree (CD) with a July 30, 2020 effective date.

In accordance with the CD Statement of Work, Paragraph 11.e., an Institutional Control Implementation and Assurance Plan (ICIAP) was previously developed and approved by EPA. As part of the ICIAP, we are required to contact you annually to inquire and determine if any new releases have occurred that may affect groundwater or the remediation efforts within the plume footprint. We believe that no releases have occurred but appreciate you reviewing your records and notifying us of any new releases that may affect our remediation efforts.

Attached for your review, is a map depicting the well moratorium (plume footprint) instituted October 6, 2011, by the New Mexico Office of the State Engineer. Thank you for providing us feedback last year related to any releases during 2019. We are requesting any information related to releases during 2020 within the plume footprint or buffer zone you may have.

We appreciate your assistance in this matter, and respectfully request your response for the following:

- Confirm that no new releases have been reported in the plume footprint OR
- If new releases have been reported in the plume footprint, please indicate:
  - location
  - date of release
  - contact person and information so that the JSP can coordinate data sharing

Ms. Dana Bahar  
June 2, 2021  
Page 2

We truly appreciate your consideration in this matter and hope we can receive your response prior to June 16, 2021, so we may include it with the GWP annual report to EPA. Below is my contact information and please feel free to respond via email to [awidmer@las-cruces.org](mailto:awidmer@las-cruces.org) if you wish.

Adrienne L. Widmer, P.E.  
Las Cruces Utilities  
680 N. Motel Boulevard  
Las Cruces, NM 88007

Sincerely,



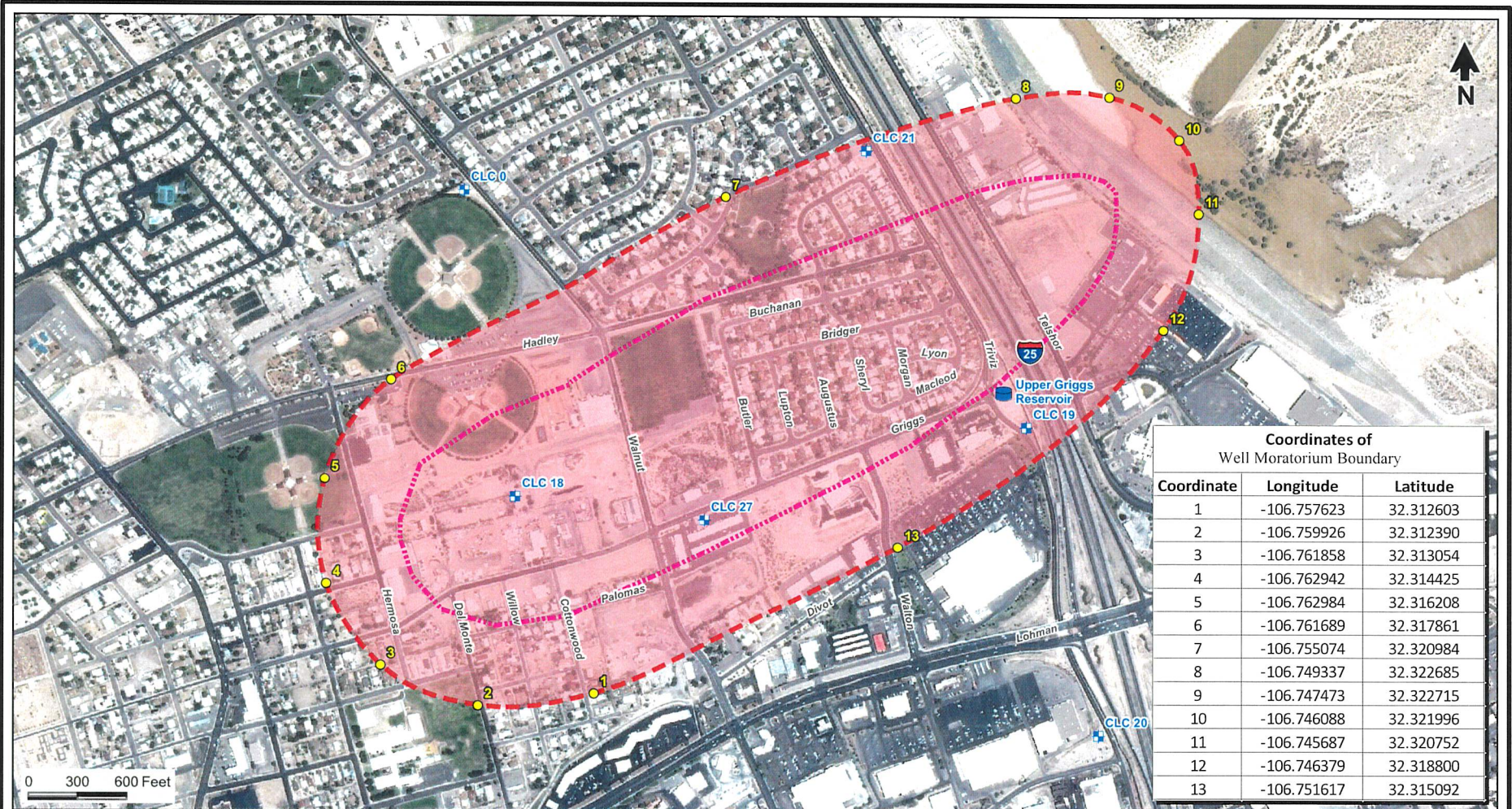
Adrienne L. Widmer, P.E.  
Project Coordinator, Griggs and Walnut Groundwater Plume Superfund Site  
Assistant Director, City of Las Cruces Utilities

Attachment: As noted

cc: Delilah A. Walsh, Las Cruces Utilities Director, via email  
Dave Medeiros, Attorney Contract Attorney, Dona Ana County and JSP, via email  
Michelle Hunter, Bureau Chief, NMED Ground Water Quality Bureau, via email  
Karen Menetrey, Program Manager, Remediation Oversight Section,  
Ground Water Quality Bureau, via email  
Dana Bahar, Bureau Chief, NMED Petroleum Storage Tank Bureau, via email  
Martyne Kieling, NMED Superfund Oversight Section, via email  
Angelo Ortelli, NMED Superfund Oversight Section, via email  
Anthony McGlown, NMED Superfund Oversight Section, via email  
Kelly Isaacson, P.E., via email



\\sf6abq\Data\Projects\ES09\_0306\_Griggs-Walnut\GIS\MXDs\Site\_maps\Well\_moratorium.mxd



Coordinates of Well Moratorium Boundary		
Coordinate	Longitude	Latitude
1	-106.757623	32.312603
2	-106.759926	32.312390
3	-106.761858	32.313054
4	-106.762942	32.314425
5	-106.762984	32.316208
6	-106.761689	32.317861
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9	-106.747473	32.322715
10	-106.746088	32.321996
11	-106.745687	32.320752
12	-106.746379	32.318800
13	-106.751617	32.315092

- Explanation**
- City of Las Cruces supply well
  - City of Las Cruces water reservoir
  - Well moratorium boundary
  - Coordinate of well moratorium boundary
  - PCE in groundwater greater than 5 µg/L

Sources: 1. National Agricultural Imagery Program August 2009  
 Downloaded from RGIS  
 2. JSAI, 2009



## Herrmann, Grace

---

**From:** Jayne, Kelly  
**Sent:** Wednesday, June 16, 2021 11:56 AM  
**To:** Herrmann, Grace  
**Subject:** FW: Griggs and Walnut Ground Water Plume Superfund Site - Institutional Controls and Assurance

---

**From:** Bahar, Dana, NMENV <dana.bahar@state.nm.us>  
**Sent:** Wednesday, June 16, 2021 7:11 AM  
**To:** Widmer, Adrienne <awidmer@las-cruces.org>  
**Cc:** Delilah Walsh <dwalsh@las-cruces.org>; Medeiros, David <davem@donaanacounty.org>; Hunter, Michelle, NMENV <Michelle.Hunter@state.nm.us>; Menetrey, Karen, NMENV <karen.menetrey@state.nm.us>; Kieling, Martyne, NMENV <Martyne.Kieling@state.nm.us>; Ortelli, Angelo, NMENV <Angelo.Ortelli@state.nm.us>; McGlown, Anthony, NMENV <Anthony.McGlown@state.nm.us>; Jayne, Kelly <kjayne@geo-logic.com>; Goerger, Lorena, NMENV <lorena.goerger@state.nm.us>  
**Subject:** RE: Griggs and Walnut Ground Water Plume Superfund Site - Institutional Controls and Assurance

Hi Adrienne,

The NMED Petroleum Storage Tank Bureau is not aware of any releases within the Griggs and Walnut Superfund Site Well Moratorium footprint since your last inquiry in February 2020. The most recent report for the Dona Ana County Transportation Dept PSTB release site (RID 2685) is available at <https://cloud.env.nm.gov/waste/pages/search.php?search=%21collection3321&k=893fa6f9e4> . Six wells gauged and only 1 MW sampled. That well had no COC's over regulatory standards, but did have detectable PCE at 4.9 ppb.

Thank you for reaching out to the Bureau.

Respectfully,

Dana Bahar  
Cell Phone: (505) 699-4007  
[dana.bahar@state.nm.us](mailto:dana.bahar@state.nm.us)  
Twitter @NMEnvDep; #IamNMED.  
<https://www.env.nm.gov/>  
[https://www.env.nm.gov/petroleum\\_storage\\_tank/](https://www.env.nm.gov/petroleum_storage_tank/)

---

**From:** Adrienne Widmer <awidmer@las-cruces.org>  
**Sent:** Wednesday, June 2, 2021 3:11 PM  
**To:** Bahar, Dana, NMENV <dana.bahar@state.nm.us>  
**Cc:** Delilah Walsh <dwalsh@las-cruces.org>; Medeiros, David <davem@donaanacounty.org>; Hunter, Michelle, NMENV <Michelle.Hunter@state.nm.us>; Menetrey, Karen, NMENV <karen.menetrey@state.nm.us>; Kieling, Martyne, NMENV <Martyne.Kieling@state.nm.us>; Ortelli, Angelo, NMENV <Angelo.Ortelli@state.nm.us>; McGlown, Anthony, NMENV <Anthony.McGlown@state.nm.us>; Jayne, Kelly <kjayne@geo-logic.com>  
**Subject:** [EXT] Griggs and Walnut Ground Water Plume Superfund Site - Institutional Controls and Assurance

Hi Dana,

Hope all is well with you. Attached is a letter being sent out today requesting information related to the institutional controls for the GW Superfund project.  
Please feel free to respond via email, and if you have any questions or need additional information, please let me know.

Look forward to hearing from you and thank you!

**Adrienne L. Widmer, P.E.**

Assistant Director/Las Cruces Utilities/Administration

Direct: 575-528-4566 Main: 575-528-3500, Fax: 575-528-3691, [awidmer@las-cruces.org](mailto:awidmer@las-cruces.org)



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# Joint Superfund Project

City of Las Cruces and Doña Ana County



---

June 2, 2021

Ms. Andrea Mendoza, P.E.  
District IV Supervisor  
New Mexico Office of the State Engineer  
1680 Hickory Loop, Suite J  
Las Cruces, NM 88005-6598

Dear Ms. Mendoza:

Thank you for your help and support to the City of Las Cruces and Dona Ana County, acting as the Joint Superfund Project (JSP) for the Griggs and Walnut Ground Water Plume Superfund Site (GWP). On October 6, 2011, your office instituted an Order that no new appropriations of ground water, including new Section 72-12-1.1, 72-12-1.2 and 72-12-1.3 (NMSA) wells and no transfers of water to existing wells except for those submitted on behalf of the City of Las Cruces and Dam Ana County Joint Superfund Project for the installation of monitor wells associated with the EPA-mandated ground water remedial action will be allowed within the area of the plume footprint.

The United States Environmental Protection Agency issued a Consent Decree (CD) with a July 30, 2020 effective date. In accordance with the CD Statement of Work, Paragraph 11.e., an Institutional Control Implementation and Assurance Plan (ICIAP) was previously developed and approved by EPA.

As part of the ICIAP, we are required to contact you annually to inquire if the Order has been effective. Attached for your review, is a map depicting the Order. Thank you for providing us feedback last year for 2019. We are requesting if any activities related to the Order inside the plume footprint during 2020 have occurred.

We appreciate your assistance in this matter and respectfully request your response for the following:

- Confirm that no new appropriations of ground water, including new Section 72-12-1.1, 72-12-1.2 and 72-12-1.3 (NMSA) wells and no transfers of water to existing wells except for those submitted on behalf of the City of Las Cruces and Dam Ana County Joint Superfund Project for the installation of monitor wells associated with the EPA-mandated ground water remedial action will be allowed within the area of the plume footprint.

Ms. Andrea Mendoza, P.E.  
June 2, 2021  
Page 2

Thank you for your consideration in this matter and hope we can receive your response prior to June 16, 2021, so we may include it with the GWP annual report to EPA. Below is my contact information and please feel free to respond via email to [awidmer@las-cruces.org](mailto:awidmer@las-cruces.org) if you wish.

Adrienne L. Widmer, P.E.  
Las Cruces Utilities  
680 N. Motel Boulevard  
Las Cruces, NM 88007

Sincerely,

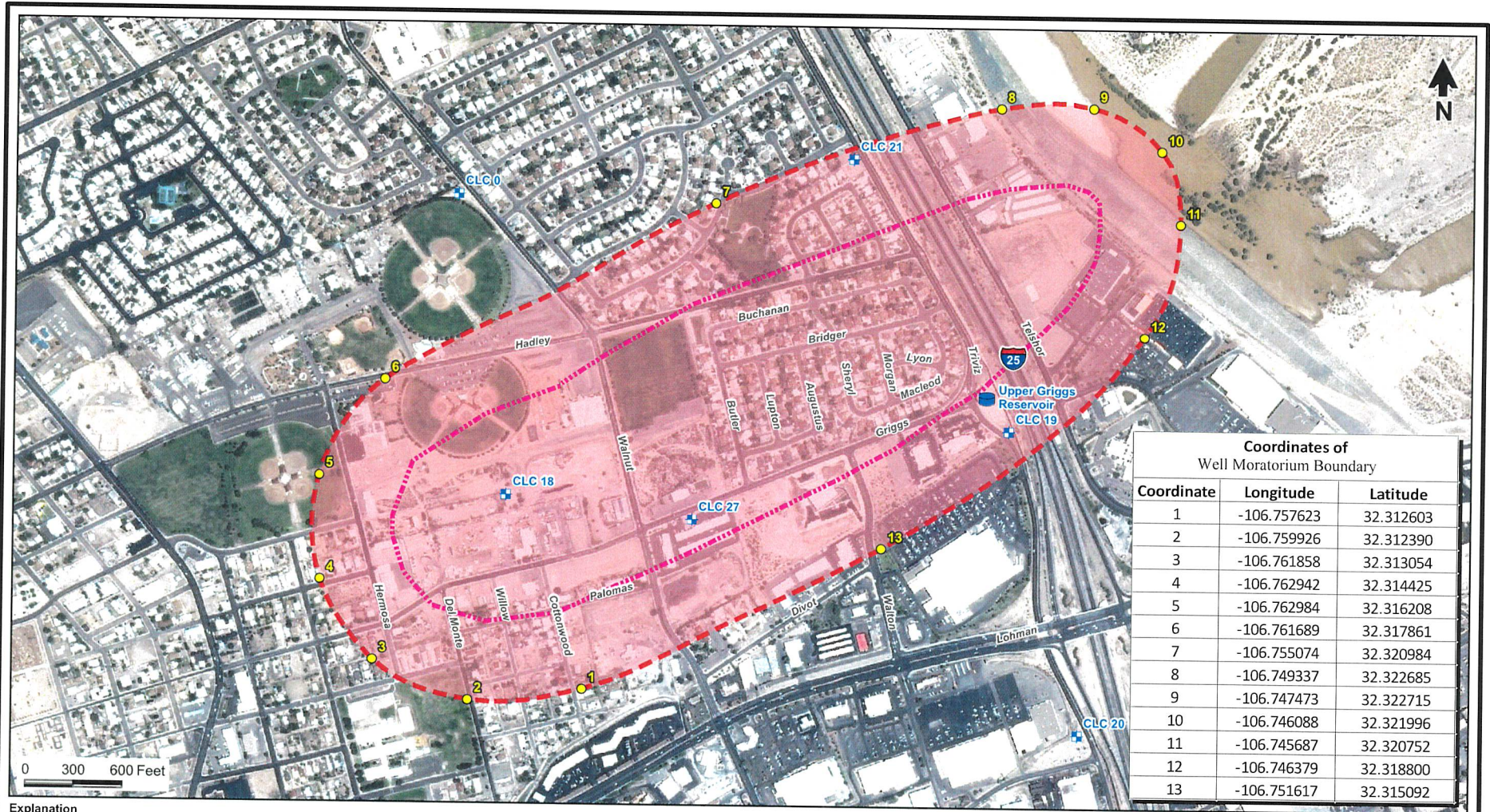


Adrienne L. Widmer, P.E.  
Project Coordinator, Griggs and Walnut Groundwater Plume Superfund Site  
Assistant Director, City of Las Cruces Utilities

Attachment: As noted

cc: Delilah A. Walsh, Las Cruces Utilities Director, via email  
Dave Medeiros, Attorney Contract Attorney, Dona Ana County and JSP, via email  
Jerri Pohl, Supervisor of Statewide Projects, New Mexico Office of the State Engineer,  
via email  
Kelly Isaacson, P.E., via email





Coordinates of Well Moratorium Boundary		
Coordinate	Longitude	Latitude
1	-106.757623	32.312603
2	-106.759926	32.312390
3	-106.761858	32.313054
4	-106.762942	32.314425
5	-106.762984	32.316208
6	-106.761689	32.317861
7	-106.755074	32.320984
8	-106.749337	32.322685
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10	-106.746088	32.321996
11	-106.745687	32.320752
12	-106.746379	32.318800
13	-106.751617	32.315092

- Explanation**
- City of Las Cruces supply well
  - City of Las Cruces water reservoir
  - Well moratorium boundary
  - Coordinate of well moratorium boundary
  - PCE in groundwater greater than 5 µg/L

Sources: 1. National Agricultural Imagery Program August 2009  
 Downloaded from RGIS  
 2. JSAI, 2009

\\s6baj\Data\Projects\ES09\_0306\_Griggs-Walnut\GIS\MXDs\Site\_maps\Well\_moratorium.mxd

Figure 1

**From:** [Jayne, Kelly](#)  
**To:** [Herrmann, Grace](#)  
**Subject:** FW: Griggs and Walnut Ground Water Plume Superfund Site - Institutional Control Implementation and Assurance  
**Date:** Tuesday, June 8, 2021 9:27:21 AM

---

**From:** Mendoza, Andrea J., OSE <[andrea.mendoza@state.nm.us](mailto:andrea.mendoza@state.nm.us)>  
**Sent:** Tuesday, June 8, 2021 9:27 AM  
**To:** Widmer, Adrienne <[awidmer@las-cruces.org](mailto:awidmer@las-cruces.org)>  
**Cc:** Delilah Walsh <[dwalsh@las-cruces.org](mailto:dwalsh@las-cruces.org)>; Medeiros, David <[davem@donaanacounty.org](mailto:davem@donaanacounty.org)>; Pohl, Jerri, OSE <[Jerri.Pohl@state.nm.us](mailto:Jerri.Pohl@state.nm.us)>; Jayne, Kelly <[kjayne@geo-logic.com](mailto:kjayne@geo-logic.com)>; Thacker, Cheryl S., OSE <[cheryl.thacker@state.nm.us](mailto:cheryl.thacker@state.nm.us)>  
**Subject:** RE: Griggs and Walnut Ground Water Plume Superfund Site - Institutional Control Implementation and Assurance

Hello Adrienne,  
After doing some research I did not find any new appropriations of ground water, including new Section 72-12-1.1, 72-12-1.2, and 72-12-1.3 (NMSA) wells and no transfers of water to existing wells within the area of the plume footprint during 2020.  
Please let me know if you need anything else.  
Have a nice day,  
Andrea

---

**From:** Adrienne Widmer <[awidmer@las-cruces.org](mailto:awidmer@las-cruces.org)>  
**Sent:** Wednesday, June 02, 2021 3:08 PM  
**To:** Mendoza, Andrea J., OSE <[andrea.mendoza@state.nm.us](mailto:andrea.mendoza@state.nm.us)>  
**Cc:** Delilah Walsh <[dwalsh@las-cruces.org](mailto:dwalsh@las-cruces.org)>; Medeiros, David <[davem@donaanacounty.org](mailto:davem@donaanacounty.org)>; Pohl, Jerri, OSE <[Jerri.Pohl@state.nm.us](mailto:Jerri.Pohl@state.nm.us)>; Jayne, Kelly <[kjayne@geo-logic.com](mailto:kjayne@geo-logic.com)>  
**Subject:** [EXT] Griggs and Walnut Ground Water Plume Superfund Site - Institutional Control Implementation and Assurance

Hi Andrea,

Hope all is well with you. Attached is a letter being sent out today requesting information related to the institutional controls for the GW Superfund project.

Please feel free to respond via email, and if you have any questions or need additional information, please let me know.

Look forward to hearing from you and thank you!

**Adrienne L. Widmer, P.E.**

Assistant Director/Las Cruces Utilities/Administration

Direct: 575-528-4566 Main: 575-528-3500, Fax: 575-528-3691, [awidmer@las-cruces.org](mailto:awidmer@las-cruces.org)





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Appendix G

Data Validation Report

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## Data Validation Report

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A total of 130 samples were collected between January 16, 2020 and April 1, 2021 as part of the Griggs-Walnut Ground Water Plume Superfund Site (GWP site) remedial action. These samples include 82 remediation system (process) samples collected by City of Las Cruces (CLC) staff and 48 samples associated with the 5-year review annual sampling event completed between March 31, and April 2, 2021 collected by Daniel B. Stephens & Associates, Inc. (DBS&A). Samples were primarily collected using a dedicated Hydrasleeve, with 4 duplicate samples collected using bladder pumps. All samples were submitted for analysis to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico. Analytical results for the samples were provided by HEAL in both PDF form and as electronic data deliverables (EDDs). Analyses for volatile organic compounds (VOCs) were performed using U.S. Environmental Protection Agency (EPA) method 8260B, and analysis for dissolved and total uranium and arsenic was completed using EPA method 200.8. Table 1 summarizes the groundwater samples that were required to be collected for the annual event, along with those actually collected.

Table 2 provides information on each of the samples analyzed as part of this data validation report. The criteria used in evaluation of the samples are detailed in the updated project sampling and analysis plan (SAP).

Laboratory verification of the data is sufficient and acceptable. Instrument continuing calibration verification analysis, quality control (QC) reference standards, and instrument blanks were analyzed with each batch where the data were provided. A total of 2 matrix spikes (MS) and matrix spike duplicates (MSD) were analyzed at a frequency of approximately 6 percent of the primary samples collected during the annual sampling event. A total of 18 field duplicate samples were analyzed, including 1 per month for process sampling along with 2 quarterly air samples, and at a frequency of 13 percent for the annual sampling event.

QC for the air and water samples is evaluated in Table 3. The following comments address the relevant QC criteria outlined in Table 3 of the SAP and any deviations that were observed during the data validation and verification process:

- All process water, groundwater, and air stripper samples were reported as being collected in the appropriate sample containers by the receiving laboratory and were analyzed within the appropriate holding times per Tables 11 and 12 of the SAP.

- One sample location included in the groundwater sampling plan was not sampled as part of the annual sampling event. MW-5 was not sampled because the well was dry. Between monthly process sampling and the annual sampling event the SAP called for a total of 95 primary samples to be collected during this period. There was a total of 98 primary samples included in the data verification and validation process, which is greater than 100 percent. Quarterly samples are required from the C-1 and C-2 treated water sample points; however, a total of 6 samples were collected from each location. Data completeness meets the control limit of 90 percent.
- The SAP states that one temperature blank should be provided by the analytical laboratory and included in each sample cooler. In lieu of providing temperature blanks, the laboratory performing the analysis may elect to measure temperature of samples by use of infrared thermometer. Temperature blanks were not listed as samples on any of the chain of custody forms associated with the process sampling completed by CLC staff. HEAL monitored the temperature of incoming samples using an infrared thermometer. The laboratory reported that most samples were received at the appropriate temperature except for process samples collected August 26, 2020. The temperature of these samples was indicated as being less than 0°C. Because the samples were not frozen, no flags were issued by the laboratory, and follow-up communication confirmed that sample results were not impacted by temperature.
- As part of the data validation process, approximately 10 percent of the EDD sample results (2 of 16) were reviewed against the PDF deliverable to verify consistency. No discrepancies were identified as a result of this review.
- All analytical results are reported in units of micrograms per liter (µg/L). The method detection limit and reporting limit (reported as practical quantitation limits [PQLs]) for each analyte were below the maximum contaminant levels for all samples. No samples were diluted. The sensitivity requirements for the analyses were satisfied.
- Results from 14 of the laboratory control sample (LCS) analyses were provided by HEAL. LCS recoveries were provided for benzene, toluene, chlorobenzene, 1,1 dichloroethene (1,1-DCE), and trichloroethene (TCE). Accuracy of the LCS analyses is acceptable, with recoveries ranging between 75 and 120 percent (compared to control limits of 70 to 130 percent).
- HEAL provided results for 2 sets of MS and MSD analyses. MS and MSD recoveries were provided for benzene, toluene, chlorobenzene, 1,1-DCE, and TCE. The MS and MSD recoveries were acceptable and ranged from 81 to 104 percent (compared to control limits of 50 to 150 percent). The maximum relative percent difference (RPD) between MS and MSD

recoveries was 12 percent for TCE (less than the control limit of 30 percent). These analyses demonstrate acceptable precision and accuracy of the analytical laboratory data.

- VOC result quantitation is acceptable. No dilutions were applied to any of the samples, and all values were reported at the appropriate level of detection and within calibration range.
- Equipment blanks are required to be submitted at a rate of one per day when non-dedicated sampling equipment is used. Equipment blanks were collected on March 30, April 1, and April 2, 2021—one for each day the bladder pump was used during the annual sampling event. Each of the equipment blanks submitted had positive detections for chloroform, bromodichloromethane, and dibromochloromethane, with the results included in Table 4. These contaminants are known disinfectant byproducts, and are most likely associated with the source water used to collect the equipment blanks. None of these analytes were detected in any of the samples submitted with the batch, and therefore no flags were issued.
- Field blanks were required to be collected at a frequency of 10 percent during the annual sampling event. Results from 4 field blanks were provided out of 30 primary samples, which meets the minimum requirement of 3 samples. Each of the field blank samples had positive detections for chloroform, bromodichloromethane, and dibromochloromethane, with the results included in Table 5. Once again, these contaminants are known disinfectant byproducts and are most likely associated with the source water used to collect the field blanks. None of these analytes were detected in any of the samples submitted with the batch, and therefore no flags were issued.
- Trip blanks are required to be submitted at a rate of 1 per sample cooler during process and annual sampling. Trip blanks are typically supplied by the laboratory and are transported with the sample containers to the field site and back again. Trip blanks were not submitted during process sampling. Two coolers were used to store and transport samples during the groundwater sampling, and 2 trip blanks were submitted for analyses; this frequency meets the QC criteria. Analysis of the trip blanks did not result in any positive detections.
- A total of 18 sets of field duplicate samples were submitted to HEAL as part of the QC criteria, including 16 groundwater samples and 2 air stripper samples. Field duplicates are required at a rate of 1 per month for process sampling, 1 per quarter for vapor sampling, and at a rate of 10 percent during the annual sampling event. For process sampling, 12 sets of process sample duplicates were submitted, at the appropriate rate of 1 per month. For vapor sampling, 2 sets of duplicates were submitted, which is less than the required rate of 4 per year. For the annual event, 4 sets of duplicates were submitted out of 30 primary



samples, at a rate greater than 10 percent, which meets QC criteria. Precision is evaluated based on a maximum allowable RPD of 50 percent. The maximum RPD for each duplicate sample with a detection is provided in Table 6. Of the 18 duplicate sets of samples, 16 met the QC criteria. RPD values greater than 50 percent were calculated for 3 analytes, 2 of which are associated with 1 sample (i.e., GWMW09-D1\_DUP). Although the calculated RPDs are greater than the acceptance criteria, these data are considered acceptable based on the consistency of results with prior data, the results of the laboratory verification processes, and the results from other field QA/QC samples. [UK1]

- Table 4 of the SAP specifies the collection of a combined treated water sample after air stripping once every quarter. A total of 6 samples were collected from each treated water sample locations (C-1 and C-2). There were no positive detections in any of the samples collected. Although the sample was not collected at the frequency outlined in the SAP, the results are determined to be acceptable, as more sampling was completed than was required.
- A total of 4 samples were collected in order to compare the results between two sampling techniques (i.e., low flow bladder pump method and the Hydrasleeve method). The RPD was calculated for each analyte with a positive detection, with the results presented in Table 7.

Performance was acceptable with the following exceptions:

- Trip blanks were not submitted with the 12 process sampling events. Although the appropriate number of trip blanks were not submitted with the process sampling events, the data are considered acceptable based on the consistency of the results with prior data, the results of the laboratory verification processes, and the results from other field QA/QC samples.
- The SAP calls for quarterly air vapor sampling. A total of 4 samples were collected from each air stripper, but 2 were collected during the first quarter and no samples were collected during the third quarter. During future sampling, quarterly samples will be collected in order to meet the requirements of the SAP.

**Table 1. Groundwater Samples Collected for Five-Year Event**

Well Name	Required Number of Samples	Actual Number of Samples
CLC 18	1	1
CLC 26	1	1
CLC 27	1	1
GMMW-01-S	1	1
GMMW-01-I	1	1
GMMW-01-D	1	1
GMMW-06-S	1	1
GMMW-08-S	1	1
GMMW-08-D	1	1
GMMW-09-S	1	1
GMMW-09-D1	1	1
GMMW-09-D2	1	1
GMMW-10-S	1	1
GMMW-10-I	1	1
GMMW-10-D	1	1
GMMW-11-S	1	1
GMMW-11-I	1	1
GMMW-11-D	1	1
GMMW-15-S	1	1
GMMW-15-I	1	1
GMMW-15-D	1	1
GMMW-16-S	1	1
GMMW-16-D	1	1
MW-5	1	0
MW-SF2	1	1
MW-SF5	1	1
MW-SF9	1	1
MW-SF10 <sup>a</sup>	1	1
NGMW-01	1	1
NGMW-02	1	1
NGMW-03 <sup>a</sup>	1	1

<sup>a</sup> Duplicate samples collected.

**Table 2. Sample Information**  
**Page 1 of 4**

Sample ID	Sample Date	Lab Sample ID	Dilutions/Comments
CLC 18-200116	1/16/2020	2001691-001a	No dilution
CLC 27-200116	1/16/2020	2001691-002a	No dilution
CLC IS1-200116	1/16/2020	2001691-003a	No dilution
CLC C1-200116	1/16/2020	2001691-004a	No dilution
CLC C2-200116	1/16/2020	2001691-005a	No dilution
CLC ES1-200116	1/16/2020	2001691-006a	No dilution
CLC ES1-200116 DUP	1/16/2020	2001691-007a	No dilution/field duplicate
CLC AS1-200116	1/16/2020	2001692-001a	No dilution
CLC AS2-200116	1/16/2020	2001692-002a	No dilution
AS1-200226	2/26/2020	2002d14-001a	No dilution
AS2-200226	2/26/2020	2002d14-002a	No dilution
CLC 18-200226	2/26/2020	2002d15-001a	No dilution
CLC 27-200226	2/26/2020	2002d15-002a	No dilution
CLC IS1-200226	2/26/2020	2002d15-003a	No dilution
CLC IS1-200226 DUP	2/26/2020	2002d15-004a	No dilution/field duplicate
CLC C1-200226	2/26/2020	2002d15-005a	No dilution
CLC C2-200226	2/26/2020	2002d15-006a	No dilution
CLC ES1-200226	2/26/2020	2002d15-007a	No dilution
CLC 18-200331	3/31/2020	2004040-001a	No dilution
CLC 18-200331-Dup	3/31/2020	2004040-002a	No dilution/field duplicate
CLC IS1-200331	3/31/2020	2004040-003a	No dilution
CLC C1-200331	3/31/2020	2004040-004a	No dilution
CLC C2-200331	3/31/2020	2004040-005a	No dilution
CLC 27-200331	3/31/2020	2004040-006a	No dilution
CLC ES1-200331	3/31/2020	2004040-007a	No dilution
CLC 18 - 200428	4/28/2020	2004b90-001a	No dilution
CLC 27 - 200428	4/28/2020	2004b90-002a	No dilution
CLC 27 - 200428 DUP	4/28/2020	2004b90-003a	No dilution/field duplicate
CLC IS1 - 200428	4/28/2020	2004b90-004a	No dilution
CLC ES1 - 200428	4/28/2020	2004b90-005a	No dilution
CLC 18-200528	5/28/2020	2005c84-001a	No dilution
CLC 27-200528	5/28/2020	2005c84-002a	No dilution
CLC IS1-200528	5/28/2020	2005c84-003a	No dilution

**Table 2. Sample Information**  
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Sample ID	Sample Date	Lab Sample ID	Dilutions/Comments
CLC C1-200528	5/28/2020	2005c84-004a	No dilution
CLC C1-200528 DUP	5/28/2020	2005c84-005a	No dilution/field duplicate
CLC C2-200528	5/28/2020	2005c84-006a	No dilution
CLC ES1-200528	5/28/2020	2005c84-007a	No dilution
CLC AS1-200528	5/28/2020	2005c85-001a	No dilution
CLC AS2-200528	5/28/2020	2005c85-002a	No dilution
CLC AS2-200528 DUP	5/28/2020	2005c85-003a	No dilution/field duplicate
CLC 18-200625	6/25/2020	2006e06-001a	No dilution
CLC 27-200625	6/25/2020	2006e06-002a	No dilution
CLC IS1-200625	6/25/2020	2006e06-003a	No dilution
CLC ES1-200625	6/25/2020	2006e06-004a	No dilution
CLC ES1-200625 DUP	6/25/2020	2006e06-005a	No dilution/field duplicate
CLC 18-200728	7/28/2020	2007e46-001a	No dilution
CLC 27-200728	7/28/2020	2007e46-002a	No dilution
CLC IS1-200728	7/28/2020	2007e46-003a	No dilution
CLC ES1-200728	7/28/2020	2007e46-004a	No dilution
CLC ES1 200728 DUP	7/28/2020	2007e46-005a	No dilution/field duplicate
CLC18-200825	8/25/2020	2008e14-001a	No dilution
CLC27-200825	8/25/2020	2008e14-002a	No dilution
CLC IS1-200825	8/25/2020	2008e14-003a	No dilution
CLC C1-200825	8/25/2020	2008e14-004a	No dilution
CLC C2-200825	8/25/2020	2008e14-005a	No dilution
CLC C2-200825DUP	8/25/2020	2008e14-006a	No dilution/field duplicate
CLC ES1-200825	8/25/2020	2008e14-007a	No dilution
CLC 18-200930	9/30/2020	2010102-001a	No dilution
CLC 18-200930 DUP	9/30/2020	2010102-002a	No dilution/field duplicate
CLC 27-200930	9/30/2020	2010102-003a	No dilution
CLC IS1-200930	9/30/2020	2010102-004a	No dilution
CLC ES1-200930	9/30/2020	2010102-005a	No dilution
CLC 18-201029	10/29/2020	2010D35-001a	No dilution
CLC 27-201029	10/29/2020	2010D35-002a	No dilution
CLC IS1-201029	10/29/2020	2010D35-003a	No dilution
CLC IS1-201029Dup	10/29/2020	2010D35-004a	No dilution/field duplicate

**Table 2. Sample Information**  
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Sample ID	Sample Date	Lab Sample ID	Dilutions/Comments
CLC ES1-201029	10/29/2020	2010D35-005a	No dilution
CLC AS1 201124	11/24/2020	2011c64-001a	No dilution
CLC AS1 201124 DUP	11/24/2020	2011c64-002a	No dilution/field duplicate
CLC AS2 201124	11/24/2020	2011c64-003a	No dilution
CLC 18 201124	11/24/2020	2011c67-001a	No dilution
CLC 18 201124 Dup	11/24/2020	2011c67-002a	No dilution/field duplicate
CLC 27 201124	11/24/2020	2011c67-003a	No dilution
CLC IS1 201124	11/24/2020	2011c67-004a	No dilution
CLC C1 201124	11/24/2020	2011c67-005a	No dilution
CLC C2 201124	11/24/2020	2011c67-006a	No dilution
CLC ES1 201124	11/24/2020	2011c67-007a	No dilution
CLC 18-201216	12/16/2020	2012953-001a	No dilution
CLC 27-201216	12/16/2020	2012953-002a	No dilution
CLC 27-201216 Dup	12/16/2020	2012953-003a	No dilution/field duplicate
CLC IS1-201216	12/16/2020	2012953-004a	No dilution
CLC ES1-201216	12/16/2020	2012953-005a	No dilution
CLC18	4/2/2021	2104131-001A	No dilution
CLC26	3/30/2021	2104131-002a	No dilution
CLC27	4/2/2021	2104131-003A	No dilution
GMMW01-S_BP	4/1/2021	2104131-004a	No dilution
GMMW01-S_HS	4/1/2021	2104131-005a	No dilution
GMMW01-I_HS1	4/1/2021	2104131-006a	No dilution
GMMW01-I_HS2	4/2/2021	2104131-007a	No dilution
GMMW01-D	4/1/2021	2104131-008a	No dilution
GMMW06-S	3/31/2021	2104131-009a	No dilution
GMMW08-S	3/31/2021	2104131-010a	No dilution
GMMW08-D	3/31/2021	2104131-011a	No dilution
GMMW09-S_HS	4/1/2021	2104131-012a	No dilution
GMMW09-S_BP	4/1/2021	2104131-013a	No dilution
GMMW09-D1	4/1/2021	2104131-014a	No dilution
GMMW09-D1_DUP	4/1/2021	2104131-015a	No dilution/field duplicate
GMMW09-D2	4/1/2021	2104131-016a	No dilution
GMMW10-S	4/2/2021	2104131-017a	No dilution

**Table 2. Sample Information**  
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Sample ID	Sample Date	Lab Sample ID	Dilutions/Comments
GMMW10-I_BP	4/2/2021	2104131-018a	No dilution
GMMW10-I_HS	4/2/2021	2104131-019a	No dilution
GMMW10-D	4/2/2021	2104131-020a	No dilution
GMMW10-D_DUP	4/2/2021	2104131-021a	No dilution/field duplicate
GMMW11-S	3/31/2021	2104131-022a	No dilution
GMMW11-I	3/31/2021	2104131-023a	No dilution
GMMW11-I_DUP	3/31/2021	2104131-024a	No dilution/field duplicate
GMMW11-D	3/31/2021	2104131-025a	No dilution
GMMW15-S	4/1/2021	2104131-026a	No dilution
GMMW15-I	4/1/2021	2104131-027a	No dilution
GMMW15-D	4/1/2021	2104131-028a	No dilution
Trip Blank	4/2/2021	2104131-029a	No dilution
GMMW16-S	4/2/2021	2104131-030a	No dilution
GMMW16-D_BP	4/2/2021	2104131-031a	No dilution
GMMW16-D_HS	4/2/2021	2104131-032a	No dilution
MWSF2	4/2/2021	2104131-033a	No dilution
MWSF5	3/31/2021	2104131-034a	No dilution
MWSF9	4/1/2021	2104131-035a	No dilution
MWSF10_HS	3/31/2021	2104131-036a	No dilution
NGMW01	3/31/2021	2104131-037a	No dilution
NGMW02	3/31/2021	2104131-038a	No dilution
NGMW03	3/31/2021	2104131-039a	No dilution
GMMW08-D_DUP	3/31/2021	2104131-040a	No dilution/field duplicate
EB1	3/30/2021	2104131-041a	No dilution
EB2	4/1/2021	2104131-042a	No dilution
EB3	4/2/2021	2104131-043a	No dilution
FB1	3/31/2021	2104131-044a	No dilution
FB2	4/1/2021	2104131-045a	No dilution
FB3	4/1/2021	2104131-046a	No dilution
FB4	4/2/2021	2104131-047a	No dilution
Trip Blank	4/2/2021	2104131-048a	No dilution

**Table 3. Quality Control Validation Checklist**

Requirement	Reported?		Performance Acceptable?		Data Qualified
	Yes	No	Yes	No	
Holding time	X		X		
Detection limit	X		X		
Blanks					
Laboratory method blanks	X		X		
Equipment blanks	X		X		
Trip blanks	X			X	X
Field blanks	X		X		
Laboratory control sample (LCS) %R	X		X		
LCS duplicate %R and RPD	X		X		
Matrix spike (MS) %R	X		X		
MS duplicate %R and RPD	X		X		
Surrogate recoveries	X		X		
Field/laboratory duplicate	X		X		
Results quantitation	X		X		

%R = Percent recovery

RPD = Relative percent difference



**Table 4. Detections in the Equipment Blank**

Sample ID	Concentration (µg/L)		
	Bromodichloromethane	Chloroform	Dibromochloromethane
Equipment Blank 1	1.5	9.8	1.1
Equipment Blank 2	1.8	7.9	1.2
Equipment Blank 3	1.8	7.8	1.2

µg/L = Micrograms per liter

**Table 5. RPD Results for All Duplicate Samples**

Duplicate Sample ID	Maximum RPD (%)
GWMW09-D1_DUP	171.8 <sup>a</sup>
GWMW10-D_DUP	142.9 <sup>a</sup>
CLC AS2-200528 DUP	27.8
CLC AS1 201124 DUP	14.0
CLC ES1-200116 DUP	8.0
GWMW11-I_DUP	7.4
CLC 27-201216 Dup	6.9
CLC ES1 200728 DUP	6.7
CLC 18-200930 DUP	5.6
CLC 18 201124 Dup	5.1
CLC IS1-200226 DUP	0.0
CLC 18-200331-Dup	0.0
CLC 27 - 200428 DUP	0.0
CLC IS1-201029Dup	0.0

<sup>a</sup> One of the samples had a non-detect result and the relative percent difference (RPD) was calculated using one-half the detection limit.