2019 System Operation and Remedial Action Progress

Griggs-Walnut Ground Water Plume Superfund Site

Prepared for **Joint Superfund Project**
Las Cruces, New Mexico

April 3, 2020

Daniel B. Stephens & Associates, Inc.

6020 Academy NE, Suite 100 • Albuquerque, New Mexico 87109

Table of Contents

Section **Page**

1. Introduction 1
1.1 Background 1
1.2 Purpose 3

2. Progress Made Toward Meeting Remediation Goals 5
2.1 Progress Toward Attaining Performance Standards 6
2.2 Progress Toward Remedial Action Objectives 6

3. System Monitoring and Operations Summary 8
3.1 Treated Groundwater 8
3.2 Air Emissions 10
3.3 Summary of Operations 10
3.4 Summary of Maintenance Records 11

4. Groundwater Monitoring and Evaluation 13
4.1 FLUTe Well Update 13
4.2 Groundwater Hydrologic and Water Quality Evaluation 14
4.2.1 Groundwater Monitoring Program Evaluation 14
4.2.2 Vertical and Horizontal Plume Evaluation 15
4.2.3 Hydraulic Gradients 16
4.3 Optimization Assessment 17

5. Permitting and Regulatory Activities 19

6. Difficulties Encountered 20
6.1 Wells Dry During Sampling 20
6.2 Sampling Techniques 20

7. Data Validation and Verification 22

8. Conclusions 23
8.1 Status of Deliverables Required by the UAO 23
8.2 Summary of Completed and Planned Work 24
8.3 Recommendations 24

References 25

List of Figures

Figure

1 Project Area Map

2 Groundwater Extraction Site

3 Remediation System Process Flow

4 PCE in Groundwater, May 2012

5 Remediation System PCE Concentration

6 PCE in Upper Hydrogeologic Zone Groundwater, January 2020

7 PCE in Lower Hydrogeologic Zone Groundwater, January 2020

List of Tables

Table

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

2 Groundwater Analytical Methodologies and Screening Levels

3 Remediation System Sampling Frequency

4 Alternative Remediation System Sampling Locations

5 Monthly Volume and PCE Concentration of Extracted Groundwater

6 PCE Mass Removed

7 Calculated Air Emissions in 2019

8 Calculated Air Emissions, 2013–2019

9 Monthly Runtime, 2019

10 Required Groundwater Sampling Locations

11 Analytes Reported in Analysis of Groundwater Samples

List of Tables (Continued)

Table

12 Groundwater Analytical Results, January 2020

13 PCE Results for Annual Groundwater Sampling, 2012–2019

14 Data Quality Indicators

List of Appendices

Appendix

A Groundwater Program Evaluation Report

B Groundwater Remediation Optimization Report

C Sampling Report with Laboratory Reports for Annual Groundwater Monitoring Event

D Daily Operational Data

E Laboratory Reports for Remediation System Sampling

F Letter Sent to Agencies and Agency Responses

G Data Validation Report

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 seventh year of operation of the groundwater remedy at the GWP site and addresses the requirements of Paragraphs 16, 24, and 28, and their subsections, of the statement of work (SOW) associated with the U.S. Environmental Protection Agency (EPA) Unilateral Administrative Order (UAO) for the 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) (EPA Region 6 CERCLA Docket No. 06-05-07, dated December 19, 2017). This UAO has an effective date of January 4, 2018. The O&M activities discussed in this report were completed under this UAO and the requisite updated site specific plans approved in December 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 (µg/L). In October 2001, PCE was detected in CLC 24 at a concentration of 1.60 µg/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 µg/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 50.2 µg/L, detected in CLC 18 in 2005. 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.

The JSP has been operating the GWP groundwater remediation system since August 2012. Figure 2 provides a map 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 300 gpm. 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 2019 progress that has been made in addressing groundwater contamination at the GWP site. As required in Paragraph 28 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 UAO 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 16 and 24, 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 remedial action objectives.

2. Progress Made Toward Meeting Remediation Goals

This section describes progress made toward achieving the RAOs as set forth in the ROD. During 2019, 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 24 hours a day. CLC 27 was operated at 225 gpm from January 1, 2019 to September 30, 2019, when the well was adjusted to produce 240 gpm for the remainder of 2019.
- 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 UAO, the 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 UAO. 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. As described in the ROD, naturally occurring substances—such as arsenic and uranium—are generally not addressed under EPA CERCLA authority, and therefore also do not have remediation goals. 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, 2019a). 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 8 of Appendix A shows the January 2020 water level elevation contours for the upper hydrogeologic zone (UHZ) overlaid on the accompanying PCE concentrations in the UHZ. Figure 9 of Appendix A shows the winter 2019/2020 water level elevation contours for the lower hydrogeologic zone (LHZ) overlaid on the accompanying PCE concentrations in the LHZ. 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 these two wells in their respective zones; additional discussion regarding capture in the LHZ is provided in Appendix A. 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 15.2 pounds of PCE was removed from the GWP in 2019, bringing the total PCE mass removed from the GWP since system startup to approximately 86 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. LCU staff continued to perform remediation system process water and effluent air sampling per the current sampling and analysis plan (SAP) (DBS&A, 2018a) through 2019.

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):

$$Raw\ Water\ PCE\ Mass - Finished\ Water\ PCE\ Mass = Mass\ Removed$$

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

$$Raw\ Water\ PCE\ Mass = \frac{Conc_{CLC18} * Vol_{CLC18} + Conc_{CLC27} * Vol_{CLC27}}{Vol_{CLC18} + Vol_{CLC27}}$$

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:

$$\begin{aligned} Finished\ Water\ PCE\ Mass &= Conc_{treated} * Vol_{treated} \\ &= Half\ the\ Detection\ Limit * Vol_{CLC18+CLC27} \end{aligned}$$

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 2019, 15.2 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 12.3 µg/L in December 2019 and a maximum concentration of 16.0 µg/L in July 2019 (Figure 5). CLC 18 PCE concentrations ranged from a maximum of 8.0 µg/L in March and July to a minimum of 5.9 µg/L in October, with an average of 7.2 µg/L over the year. The PCE concentration in CLC 27 remained stable during the reporting period, with an average of 14.9 µg/L, a slight change from the last annual report value of 14.6 µg/L. The maximum reported value in CLC 27 was 17 µg/L in July and September. The minimum value was 13 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 7.6×10^{-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 2019, the remediation system had only a handful of operational shutdowns. The two extraction wells, CLC 18 and CLC 27, pumped a combined volume of 134,528,622 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 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, but if CLC 27 is operating, water is being treated.

CLC 27 operated for 8,673 hours out of a possible 8,760 hours during the reporting period. CLC 27 pumping rate was increased from 225 gpm to 240 gpm on September 30, 2019. CLC 18 operated for 2,905 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 85.8 hours, with 6.8 hours due to scheduled maintenance. The remaining 79 hours of downtime were due to troubleshooting and repair of various equipment outages. Outages occurred on only 16 out of 365 days. Scheduled periodic maintenance was performed on the treatment system and required shutting down the system for only a few hours each time.

The system was shut down for limited periods from March 14 through 18, 2019 for a total of 31.8 hours to troubleshoot, remove, and install a transfer pump on air stripper #1.

3.4 Summary of Maintenance Records

Regular semiannual maintenance was performed on the treatment system in April and October 2019. The following unscheduled maintenance actions were performed:

- Replaced check valve on air stripper #1
- Replaced transfer pump on air stripper #1

- Repaired 8-inch finished water main inside building
- Repaired power supply on PLC
- Repaired leaks on hypochlorite system

In addition to maintenance on the remediation system, transducers were installed in GWMW-16S and GWMW-16D in December 2019. These transducers are being connected to the system's SCADA to provide automatic data collection and recording.

4. Groundwater Monitoring and Evaluation

During 2019, 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, 2018a), and continued to collect samples from the extraction wells and treatment system each month. The annual monitoring event (groundwater water quality sampling and water level measurement) for 2019 was completed in January 2020 in accordance with the SAP. This sampling event was considered an annual monitoring event as defined in the SAP. The approximate area of PCE detections at concentrations above 5 µg/L in the upper and lower hydrologic zones based on the January 2020 sampling is shown on Figures 6 and 7. 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; these monitoring point elevations were used to calculate groundwater elevations in this report.

4.1 FLUTe Well Update

During the 2018 sampling event and subsequent testing, DBS&A and JSAI identified that the liner integrity of the FLUTe wells at the site had been compromised (documented in Appendix F of DBS&A, 2019a). All sampling data from the FLUTe wells from that event was rejected. The JSP met with EPA and NMED in September 2019 to discuss the annual report, including the FLUTe well liner testing results. The EPA and NMED agreed that the liner integrity appeared to have been compromised, and agreed to the rejection of FLUTe well data for that sampling event. The JSP submitted a report to EPA on November 14, 2019 evaluating alternatives for FLUTe well replacement, and recommended two favored alternatives: Alternative 2 - replace the FLUTe liners or Alternative 7 - convert the FLUTe well to single-point monitor wells and drill additional conventional monitor wells as needed for additional depths at each location (DBS&A, 2019b).

After two conference calls to discuss the proposed alternatives with EPA and NMED in February 2020, EPA issued a letter on February 14, 2020 approving the use of Alternative 7 to replace the FLUTe wells with conventional monitor wells. The February 14, 2020 letter noted a few deviations from the JSP's November 2019 report, including adjusting the depth of the middle

("Intermediate") well elevation for two of the wells and rejecting the request to plug and abandon GWMW-06. EPA's letter requested a work plan detailing the implementation plan for Alternative 7, which was submitted to EPA on March 13, 2020 (DBS&A, 2020). The work plan describes the conversion of the existing FLUTe wells to single-point monitor wells and the installation of seven new monitor wells co-located with the existing FLUTe wells. The work plan schedule projects completion of this field work from November 2020 to February 2021. The FLUTe wells were not monitored during 2019 because the liners lack integrity. EPA was notified that the FLUTe wells would not be sampled during this event on January 15, 2020. The JSP is currently planning to replace the FLUTe wells prior to the next annual event.

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. Difficulties were encountered in removing the FLUTe liner; therefore, alternative methods of removing the liner are being investigated, and work to plug and abandon GWMW-03 should be completed in spring 2020.

4.2 Groundwater Hydrologic and Water Quality Evaluation

Based on water levels, water quality data in conventional wells, and current hydrologic conditions, the plume footprint in the UHZ and LHZ are not anticipated to have dramatically changed from the plume footprint identified in 2018.

John Shomaker & Associates, Inc. (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 and 5 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 8 and 9 of Appendix A).

4.2.2 Vertical and Horizontal Plume Evaluation

Table 10 lists sampling wells required by the SAP and the number of samples collected during this period of operation. Because FLUTe wells were unusable for this event, additional wells were added to the sampling event to supplement groundwater quality data for this report. Four wells were added to this monitoring event to provide additional information on the south side of the plume: CLC 20, CLC 26, CLC 57, and CLC 61 (Figure 7).

Table 11 lists the analyses performed on the groundwater samples. One round of groundwater sampling occurred during this reporting period in January 2020 in addition to the monthly CLC process water sampling. Table 12 summarizes the results from the January 2020 annual groundwater sampling event. Historical PCE results are summarized in Table 13. 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).

PCE is the only COC at the Site, and was detected at wells GWMW-15I, GWMW-16S, GWMW-16D and MW-SF10 at concentrations above the PCE MCL of 5 µg/L. The maximum PCE detection was 17 µg/L at well GWMW-15I.

Figures 6 and 7 show the approximate area of PCE detections at concentrations above 5 µg/L in the UHZ and LHZ. As detailed in JSAI's report, the vertical and horizontal extents of the UHZ PCE plume are only partially defined by the groundwater monitoring network for the 2019 event, primarily due to the lack of FLUTe well data. The vertical and horizontal extents of the LHZ PCE plume are inadequately defined by the groundwater monitoring network due to the lack of FLUTe well data. Knowing that FLUTe wells were unusable this year, four additional wells (not

listed in the SAP for annual monitoring) were sampled to supplement plume definition in the LHZ (CLC 20, CLC 26, CLC 61, and CLC 57). PCE was not detected at any of these wells (Figure 6). Inclusion of these wells therefore assisted in defining the southern extent of the PCE plume.

TCE continues to be the only PCE degradation product detected in groundwater at the GWP site. Analytical results for cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride were below reporting limits for all samples collected in 2019. TCE was detected in GWMW-16-D with a maximum concentration of 1.2 µg/L in January 2020, well below the 5 µg/L MCL for TCE.

The remaining compounds detected were disinfection byproducts, including bromodichloromethane, bromomethane, chloromethane, and chloroform. These compounds were detected in samples from CLC 20, CLC 26, and CLC 27, as well as the equipment blank for the sampling completed that day for these wells; the detections most likely result from cleaning of the equipment. Figures 6 and 7 show the approximate area of PCE detections at concentrations above 5 µg/L in the upper and lower hydrologic zones.

As detailed in JSAI's report, the vertical and horizontal extents of the UHZ PCE plume are partially defined by the groundwater monitoring network, primarily due to the lack of FLUTe well data. The vertical and horizontal extents of the LHZ PCE plume are inadequately defined by the groundwater monitoring network due to the lack of FLUTe well data. Knowing that FLUTe wells were unusable this year, four additional wells (not listed in the SAP) were sampled to supplement plume definition in the LHZ: CLC 20, CLC 26 (this well is included in the SAP but only for baseline and 5 year review sampling), CLC 61, and CLC 57.

4.2.3 Hydraulic Gradients

Based on water levels, water quality data in conventional wells, and current hydrologic conditions, the plume footprint in the LHZ is not anticipated to have dramatically changed from the plume footprint identified in 2018. There were no PCE detections in CLC 20, CLC 26, CLC 57, or CLC 61, indicating that the plume does not extend that far south.

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 January 2020 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 horizontal hydraulic gradient at the GWP site is fairly flat, with gradient generally directed toward the two extraction wells, CLC 18 and CLC 27. Regionally, the hydraulic gradient is also small. Small cones of depression can be observed around the GWP site extraction wells.

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:

- CLC 18 is optimized at the current setting and is removing as much mass as possible on its current run schedule.
- CLC 27 has seen improved capture and removal with increased pumping. Based on recommendations in the 2017/2018 report, CLC 27 pumping was increased in October 2019 from 220 gpm to a range of 240 to 250 gpm; PCE concentrations will be monitored to evaluate if this change results in mass removal improvement.
- 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

As required in the SOW, the JSP met with EPA and NMED in September 2019 regarding the results of the 2017/2018 annual report.

Based on the rejected sampling results and the failed integrity testing as reported in the previous report (DBS&A, 2019a) the JSP prepared a report analyzing FLUTe well replacement options (DBS&A, 2019b) and recommended two possible alternatives. The JSP proposed to plug and abandon two FLUTe wells (GWMW-03 and GWMW-06) and replace four other FLUTe wells (GWMW-01, -08, -09, -10). The JSP participated in two conference calls with EPA and NMED in February 2020 to discuss the replacement options. 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, but required that GWMW-06 be maintained as part of the network. The JSP submitted a work plan in March 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.

In accordance with the institutional control implementation and assurance plan (ICIAP) (DBS&A, 2018b), 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 included as 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, three of the monitor wells were dry or contained inadequate volume to sample; therefore, groundwater level measurements and/or samples could not be collected. The dry wells were MW-3, MW-4, and MW-5. It was expected that these wells 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 these wells for two additional reporting periods. If after the two additional reporting periods no sample is able to be collected, the JSP will propose that these monitor wells be removed from the groundwater monitoring plan.

6.2 Sampling Techniques

CLC 18 and CLC 27 were sampled on January 15, 2020 for an incomplete list of analytes due to insufficient sample bottles on hand. The bottles were obtained and the wells were resampled on January 22, 2020.

When DBS&A personnel attempted to sample CLC 26 on January 16, 2020, the bladder pump became stuck down the well at approximately 300 feet below ground surface (bgs), and DBS&A field staff could not remove it. On January 21, 2020, personnel from Rodgers & Company arrived on-site and removed the transducer tube and sounder tube. The bladder pump tubing and safety cable were found to be wrapped around the transducer tube at approximately 140 feet bgs. The transducer tube was removed from the well, freeing the pump, and the pump did not appear to be damaged. Following these actions, a video survey was run in CLC 26; no obstructions were seen, and CLC 26 was sampled after the video survey was completed.

CLC 20 and CLC 57 have the same type of setup as CLC 26, and it was decided that there would be a similar chance of getting the bladder pump stuck in these wells. On January 21, 2020, Rodgers & Company removed the transducer and sounding tubes from CLC 57 and CLC 20 and ran a video log in CLC 20. It appeared that there were two broken PVC sounder tubes in CLC 20, located at 208 and 240 feet bgs, and a minor obstruction at 380 feet bgs. On January 22, 2020, Rodgers & Company ran a video survey in CLC 57; no obstructions were seen. Samples were collected from CLC 20 and CLC 57 with the bladder pump on January 22, 2020.

During the January 2020 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, 2018c). Additionally, the SAP provides guidance on indicators of data quality. The data quality indicators are summarized in Table 14.

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, with the exception of quantity of samples, as the FLUTe wells were not sampled this year. Recommendations for improvements identified in the data validation report will be incorporated in next year's annual sampling/reporting.

8. Conclusions

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

- Through the end of 2019, a total of 879,704,378 gallons of groundwater has been extracted from the dissolved-phase plume at the GWP site.
- More than 85 pounds of PCE has been removed from the extracted groundwater, including approximately 15.2 pounds removed in 2019.
- COCs have not been detected in the treated groundwater that has been returned to the public water supply distribution system at Griggs Reservoir.
- Groundwater elevation monitoring and groundwater modeling indicate that the area of groundwater containing detections of PCE in both the upper and lower hydrogeologic zones can be captured by remediation wells CLC 18 and CLC 27.

8.1 Status of Deliverables Required by the UAO

As required by the UAO, the pre-achievement O&M plan (including all appended plans) was revised in October 2018 in accordance with the most recent SOW. The plan and all appendices were approved by EPA in a letter dated November 19, 2018.

The SOW requires submittal of the annual report on April 4 of each year. As approved by EPA in a letter dated April 19, 2019, EPA granted an extension on the 2018 annual report, which was submitted on June 4, 2019. As required by the SOW, the JSP met with representatives of the EPA and NMED in September 2019 to discuss the annual report.

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 SAP. A revised SAP will be produced after implementation of the FLUTe well replacement work plan.

8.2 Summary of Completed and Planned Work

The following work has been completed to achieve effective operation and maintenance of the remedy:

- Pumping strategy was modified per JSAI's recommendations in the 2017/2018 annual report to enhance capture of the PCE groundwater plume.
- The monitor well network was sampled in accordance with the requirements in the 2017 UAO (effective January 4, 2018).
- 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.
- A FLUTe replacement work plan was submitted to EPA in March 2020.

8.3 Recommendations

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

- Schedule 2020 and 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 increased pumping.
- Implement the FLUTe well replacement work plan, including conversion of the FLUTe wells to single-point monitor wells and installation of seven new conventional wells co-located with the FLUTe wells.

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DBS&A. 2018c. *Pre-achievement operation and maintenance plan, Griggs-Walnut Ground Water Plume Superfund Site, Las Cruces, New Mexico.* Prepared for the Joint Superfund Project, Las Cruces, New Mexico. October 10, 2018.

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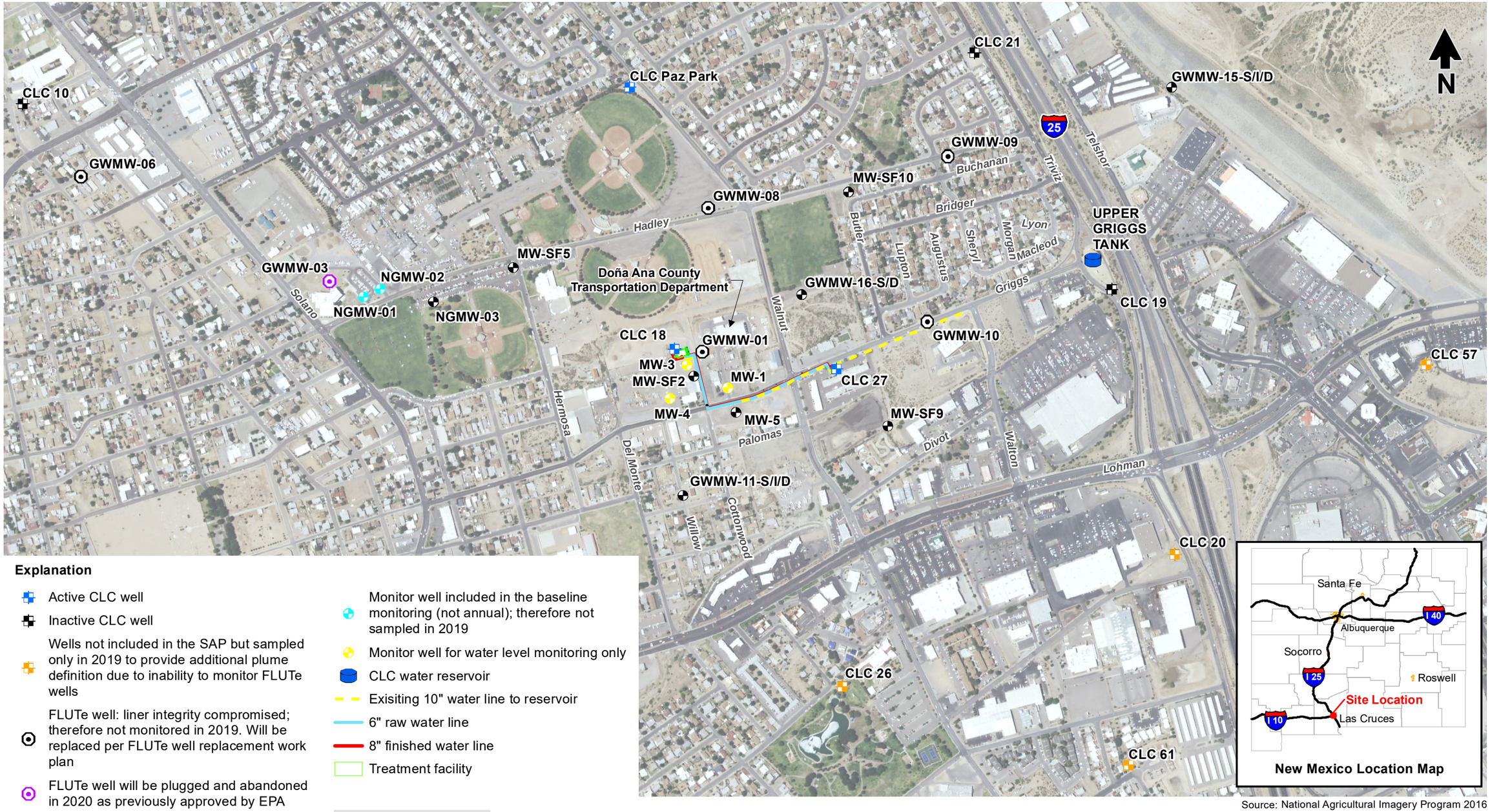
Figures



Explanation

- Active CLC well
- Inactive CLC well
- Wells not included in the SAP but sampled only in 2019 to provide additional plume definition due to inability to monitor FLUTe wells
- FLUTe well: liner integrity compromised; therefore not monitored in 2019. Will be replaced per FLUTe well replacement work plan
- FLUTe well will be plugged and abandoned in 2020 as previously approved by EPA
- Monitor well included in the annual sampling program and monitored in 2019
- Monitor well included in the baseline monitoring (not annual); therefore not sampled in 2019
- Monitor well for water level monitoring only
- CLC water reservoir
- Exisiting 10" water line to reservoir
- 6" raw water line
- 8" finished water line
- Treatment facility

0 200 400 600 800 Feet

Source: National Agricultural Imagery Program 2016

S:\PROJECTS\ES13.0251_CLC_ENVIRONMENTAL_SERVICES\GIS\MXDS\REPORTS\2020_ANNUAL\FIG01_SITE_MW_LOCS.MXD

Daniel B. Stephens & Associates, Inc.
3/26/2020 JN DB18.1396

GRIGGS-WALNUT GROUND WATER PLUME SITE
REMEDIAL ACTION

Project Area Map

Figure 1

Explanation

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

Source: National Agricultural Imagery Program
August 2016

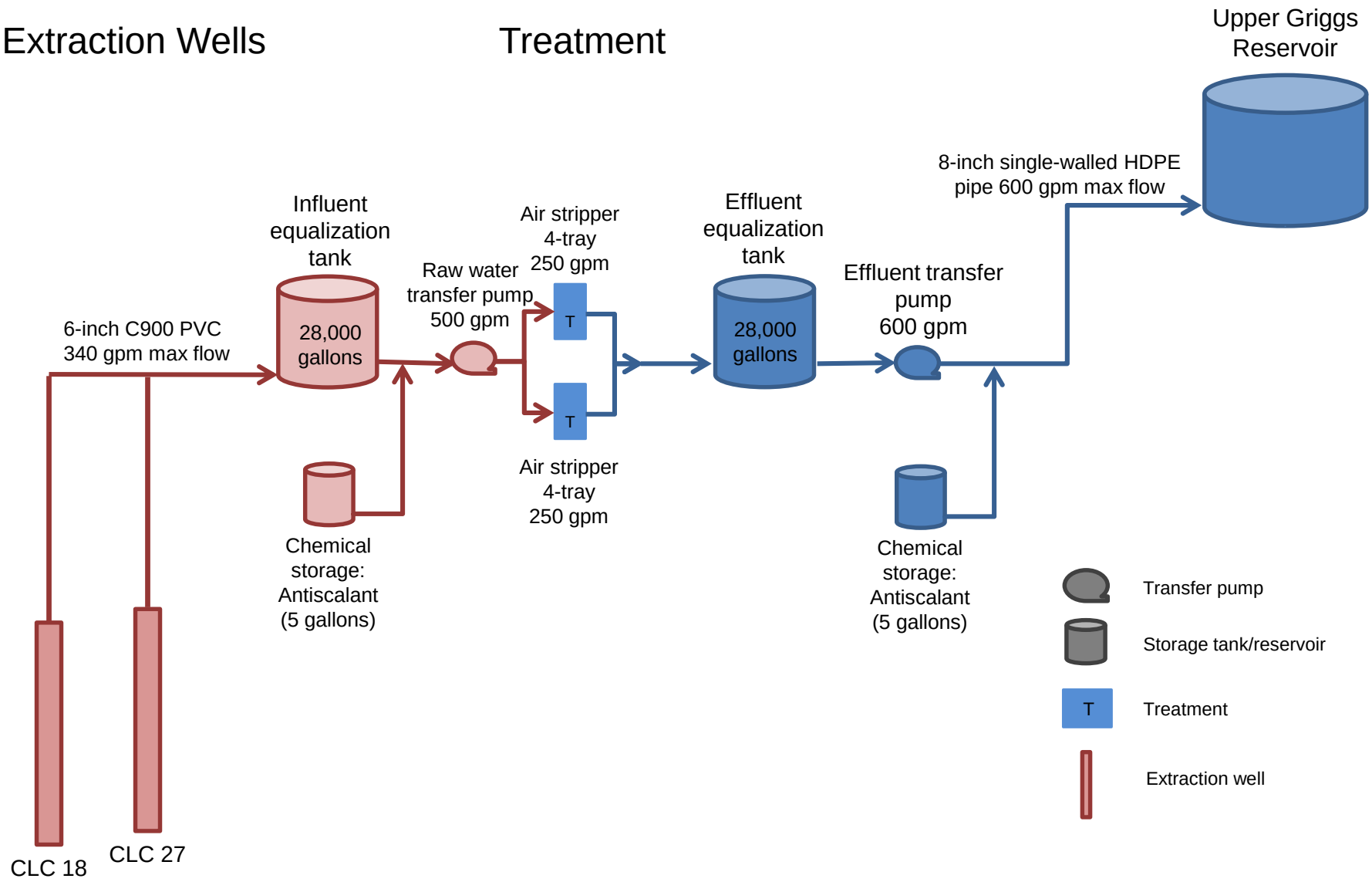
S:\PROJECTS\ES13.0251_CLC_ENVIRONMENTAL_SERVICES\GIS\MXDS\REPORTS\2020_ANNUAL\FIG02_GW_EXTRACTION_SITE.MXD

GRIGGS-WALNUT GROUND WATER PLUME SITE
REMEDIAL ACTION

Groundwater Extraction Site

Daniel B. Stephens & Associates, Inc.
02/19/18 JN DB17.1364

Figure 2



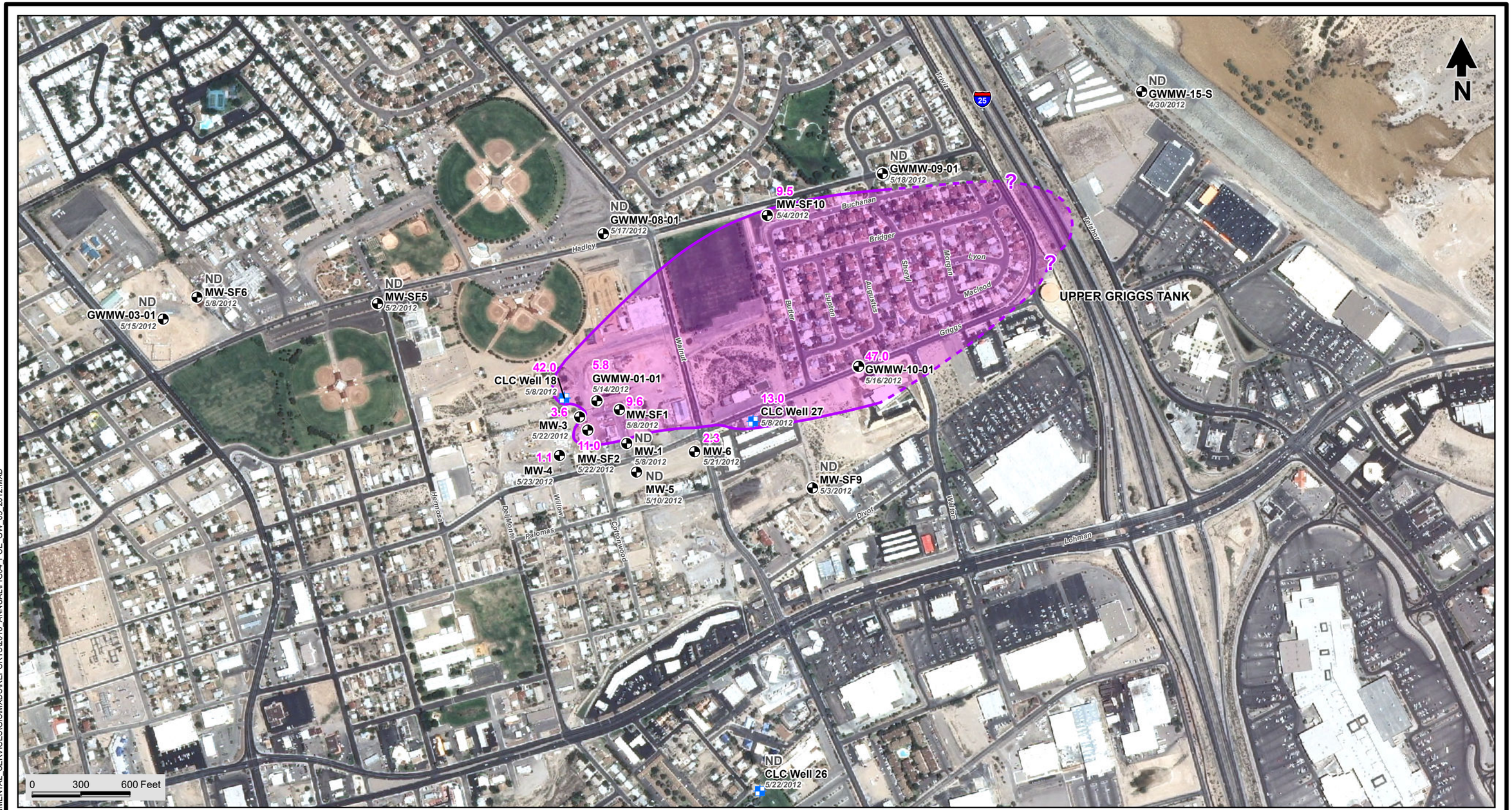
GRIGGS-WALNUT GROUND WATER PLUME SUPERFUND SITE
REMEDIAL ACTION

Remediation System Process Flow

Figure 3

Daniel B. Stephens & Associates, Inc.

2/28/19



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).

Source: National Agricultural Imagery Program August 2009. Downloaded from RGIS.

S:\PROJECTS\ES13.0251 CLC ENVIRONMENTAL SERVICES\GIS\MXDS\REPORTS\2018 ANNUAL\FIG04 PCE GW 05 2012.MXD

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3/22/2019 JN DB18.1396

GRIGGS-WALNUT GROUND WATER PLUME SITE
REMEDIAL ACTION

PCE in Groundwater, May 2012

Figure 4

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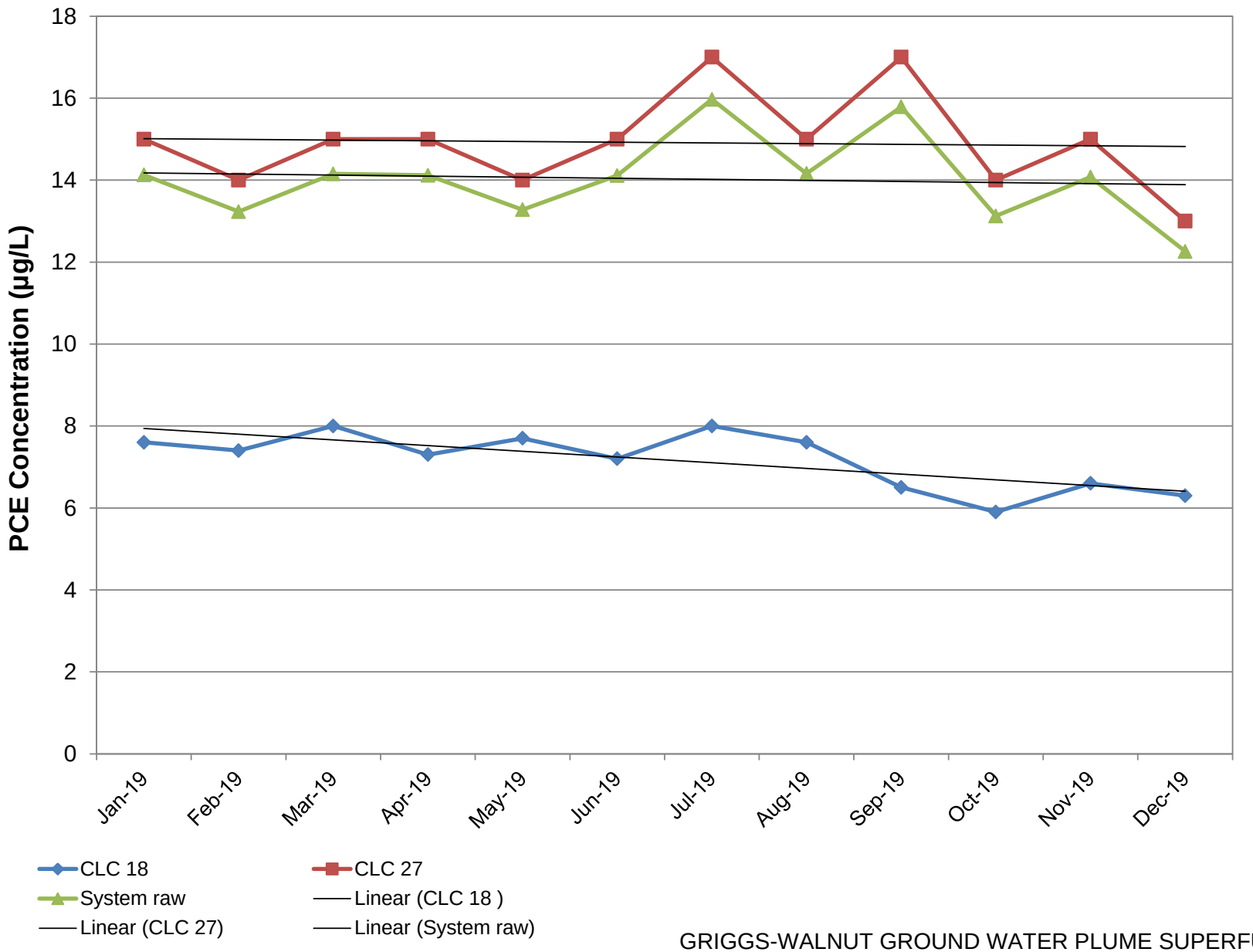


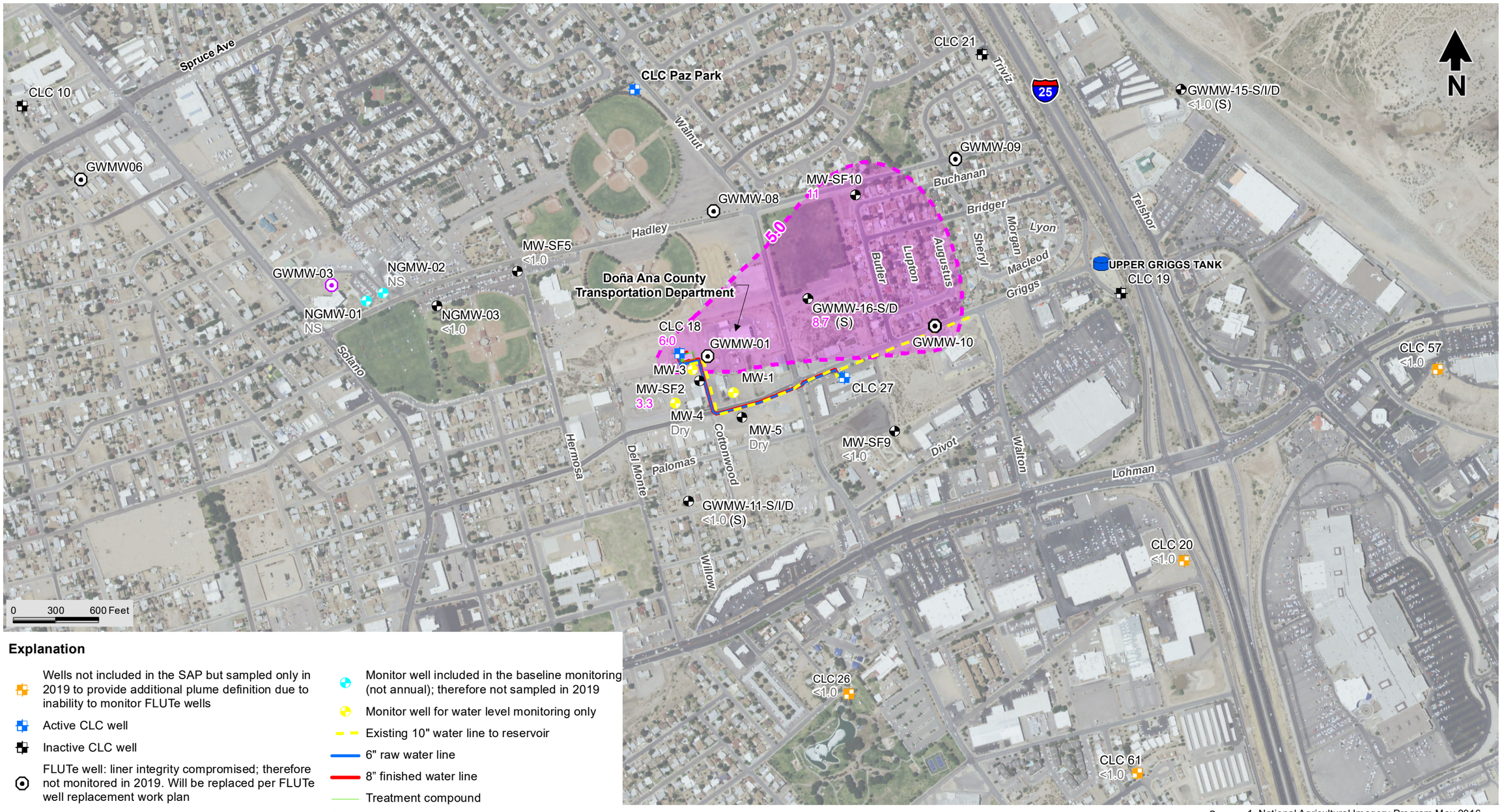
Figure 5

GRIGGS-WALNUT GROUND WATER PLUME SUPERFUND SITE
REMEDIAL ACTION

Remediation System PCE Concentration

Daniel B. Stephens & Associates, Inc.

2/27/20



Explanation

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- Active CLC well
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- FLUTe well: liner integrity compromised; therefore not monitored in 2019. Will be replaced per FLUTe well replacement work plan
- FLUTe well will be plugged and abandoned in 2020 as previously approved by EPA
- Monitor well included in the annual sampling program and monitored in 2019
- Monitor well included in the baseline monitoring (not annual); therefore not sampled in 2019
- Monitor well for water level monitoring only
- Existing 10" water line to reservoir
- 6" raw water line
- 8" finished water line
- Treatment compound
- PCE concentration contour (µg/L), upper (dashed where inferred)

GWMW16 Well designation

8.7 Concentration (µg/L)

< 1.0 Not detected above reporting limit

Source: 1. National Agricultural Imagery Program May 2016.

S:\PROJECTS\ES13.0251_CLC_ENVIRONMENTAL_SERVICES\GIS\MXDS\REPORTS\2020_ANNUAL\FIG06_PCE_IN_GW_2020_UPPER_ZONE.MXD

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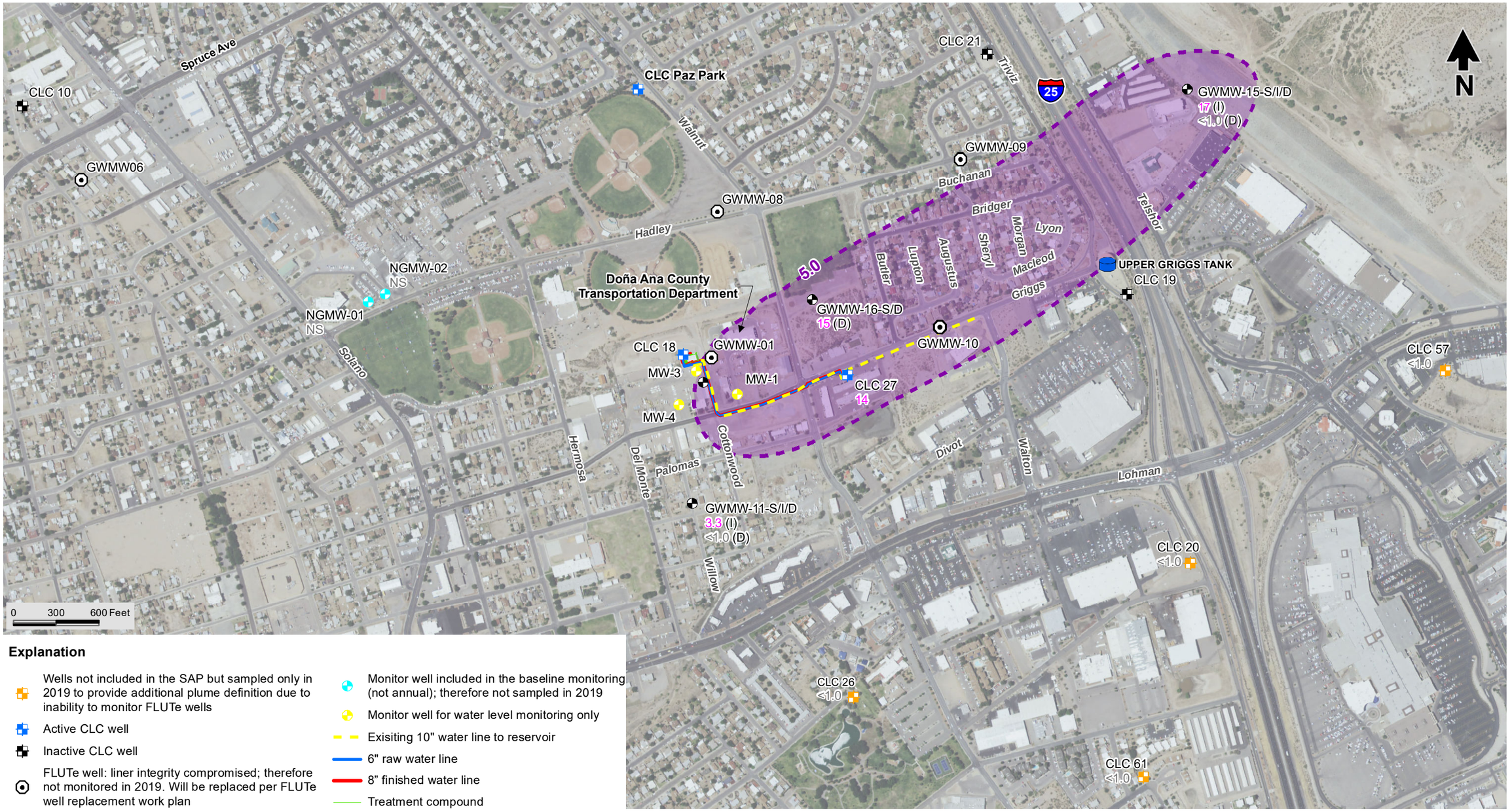
3/26/2020 JN ES13.0251

GRIGGS-WALNUT GROUND WATER PLUME SITE
REMEDIAL ACTION

PCE in Groundwater in the Upper Hydrogeologic Zone

Figure 6



Explanation

- Wells not included in the SAP but sampled only in 2019 to provide additional plume definition due to inability to monitor FLUTe wells
- Active CLC well
- Inactive CLC well
- FLUTe well: liner integrity compromised; therefore not monitored in 2019. Will be replaced per FLUTe well replacement work plan
- Monitor well included in the annual sampling program and monitored in 2019
- Monitor well included in the baseline monitoring (not annual); therefore not sampled in 2019
- Monitor well for water level monitoring only
- Exisiting 10" water line to reservoir
- 6" raw water line
- 8" finished water line
- Treatment compound
- PCE concentration contour (µg/L), lower (dashed where inferred)
- **GWMW16** Well designation
- 15 Concentration (µg/L)
- < 1.0 Not detected above reporting limit

Source: 1. National Agricultural Imagery Program May 2016.

S:\PROJECTS\ES13.0251_CLC_ENVIRONMENTAL_SERVICES\GIS\MXDS\REPORTS\2020_ANNUAL\FIG07_PCE_IN_GW_2020_LOWER_ZONE.MXD

Daniel B. Stephens & Associates, Inc.
3/26/2020 JN ES13.0251

GRIGGS-WALNUT GROUND WATER PLUME SITE
REMEDIAL ACTION

PCE in Groundwater in the Lower Hydrogeologic Zone

Figure 7

Tables

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 [a]	Hall Environmental PQL	EPA MCL	NMWQCC Standard [b]
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 [c]	100
Vinyl chloride	8260B	0.18	1.0	2	2
Arsenic	200.8, ICPMS	0.5	1.0	10	10 [d]
Arsenic speciation	E1632AM	2	2.0	NA	10 [d]
Uranium	200.8, ICPMS	0.5	1.0	30	30 [d]

[a] Method detection limit does not imply reporting limit.

[b] Standards are from 20.6.2.3103 NMAC, effective December 2018.

[c] EPA Region 6 medium-specific screening level (MSSL)

[d] 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 [a]	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.
Combined treated water after air stripping	Groundwater	ES0	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.
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 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.

[a] 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
C-1 treated water	Groundwater	C1
C-2 treated water	Groundwater	C2
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 2019	1,322,630	7.6	9,884,357	15
February 2019	1,193,370	7.4	9,030,903	14
March 2019	1,328,435	8.0	9,619,451	15
April 2019	1,265,053	7.3	9,790,746	15
May 2019	1,310,812	7.7	10,143,537	14
June 2019	1,246,054	7.2	9,715,062	15
July 2019	1,300,784	8.0	10,065,948	17
August 2019	1,257,308	7.6	9,797,126	15
September 2019	1,257,721	6.5	9,640,983	17
October 2019	1,290,938	5.9	10,642,861	14
November 2019	1,268,384	6.6	10,231,451	15
December 2019	1,316,847	6.3	10,607,862	13
Total	15,358,336		119,170,286	

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 2019	14.1	ND	11,206,987	1.3
February 2019	13.2	ND	10,224,273	1.1
March 2019	14.2	ND	10,947,886	1.2
April 2019	14.1	ND	11,055,799	1.3
May 2019	13.3	ND	11,454,349	1.2
June 2019	14.1	ND	10,961,115	1.2
July 2019	16.0	ND	11,366,732	1.5
August 2019	14.2	ND	11,054,434	1.3
September 2019	15.8	ND	10,898,704	1.4
October 2019	13.1	ND	11,933,799	1.3
November 2019	14.1	ND	11,499,835	1.3
December 2019	12.3	ND	11,924,709	1.2
Total			134,528,622	15.2

Note: For mass removal calculations, non-detect results 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 2019

Month	Calculated Air Emissions (lb/hr)
January 2019	0.002
February 2019	0.002
March 2019	0.002
April 2019	0.002
May 2019	0.002
June 2019	0.002
July 2019	0.002
August 2019	0.002
September 2019	0.002
October 2019	0.002
November 2019	0.002
December 2019	0.002

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, 2013–2019

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

Table 9. Monthly Runtime, 2019

Month	Total Runtime (hours)	Percent Runtime (%)
January 2019	731.9	98.4
February 2019	672.0	100.0
March 2019	710.2	95.5
April 2019	717.7	99.7
May 2019	744.0	100.0
June 2019	716.6	99.5
July 2019	743.2	99.9
August 2019	722.4	97.1
September 2019	711.6	98.8
October 2019	739.4	99.4
November 2019	721.0	100.1
December 2019	743.0	99.9
Total	8,673.0	99.01

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. Required Groundwater Sampling Locations

Sample Location	Number of Samples
CLC 18	30
CLC 26	1
CLC 27	30
GWMW-01 [a]	0
GWMW-03 [a]	0
GWMW-06 [a]	0
GWMW-08 [a]	0
GWMW-09 [a]	0
GWMW-10 [a]	0
GWMW-11-S	1
GWMW-11-I	1
GWMW-11-D	1
GWMW-15-S	1
GWMW-15-I	1
GWMW-15-D	1
GWMW-16-S	1
GWMW-16-D	1
MW-5	— [b]
MW-SF2	— [b]
MW-SF5	— [b]
MW-SF9	2
MW-SF10	1
NGMW-01	11
NGMW-02	10
NGMW-03	9

[a] Wells not sampled due to lack of liner integrity.
[b] Unable to sample due to insufficient water within casing.

Table 11. Analytes Reported in Analysis of Groundwater Samples, EPA Method 8260B

Analyte	Units
1,1,1,2-Tetrachloroethane	µg/L
1,1,1-Trichloroethane	µg/L
1,1,2,2-Tetrachloroethane	µg/L
1,1,2-Trichloroethane	µg/L
1,1-Dichloroethane	µg/L
1,1-Dichloroethene	µg/L
1,1-Dichloropropene	µg/L
1,2,3-Trichlorobenzene	µg/L
1,2,3-Trichloropropane	µg/L
1,2,4-Trichlorobenzene	µg/L
1,2,4-Trimethylbenzene	µg/L
1,2-Dibromo-3-chloropropane	µg/L
1,2-Dibromoethane (EDB)	µg/L
1,2-Dichlorobenzene	µg/L
1,2-Dichloroethane (EDC)	µg/L
1,2-Dichloropropane	µg/L
1,3,5-Trimethylbenzene	µg/L
1,3-Dichlorobenzene	µg/L
1,3-Dichloropropane	µg/L
1,4-Dichlorobenzene	µg/L
1-Methylnaphthalene	µg/L
2,2-Dichloropropane	µg/L
2-Butanone	µg/L
2-Chlorotoluene	µg/L
2-Hexanone	µg/L
2-Methylnaphthalene	µg/L
4-Chlorotoluene	µg/L
4-Isopropyltoluene	µg/L
4-Methyl-2-pentanone	µg/L
Acetone	µg/L
Arsenic	mg/L
Benzene	µg/L
Bromobenzene	µg/L
Bromodichloromethane	µg/L
Bromoform	µg/L

Analyte	Units
Bromomethane	µg/L
Carbon disulfide	µg/L
Carbon tetrachloride	µg/L
Chlorobenzene	µg/L
Chloroethane	µg/L
Chloroform	µg/L
Chloromethane	µg/L
cis-1,2-DCE	µg/L
cis-1,3-Dichloropropene	µg/L
Dibromochloromethane	µg/L
Dibromomethane	µg/L
Dichlorodifluoromethane	µg/L
Ethylbenzene	µg/L
Hexachlorobutadiene	µg/L
Isopropylbenzene	µg/L
Methyl tert-butyl ether (MTBE)	µg/L
Methylene chloride	µg/L
Naphthalene	µg/L
n-Butylbenzene	µg/L
n-Propylbenzene	µg/L
sec-Butylbenzene	µg/L
Styrene	µg/L
tert-Butylbenzene	µg/L
Tetrachloroethene (PCE)	µg/L
Toluene	µg/L
trans-1,2-DCE	µg/L
trans-1,3-Dichloropropene	µg/L
Trichloroethene (TCE)	µg/L
Trichlorofluoromethane	µg/L
Uranium	mg/L
Vinyl chloride	µg/L
Xylenes, total	µg/L
pH	s.u.
Temperature	°C
Electrical conductivity	µmhos/cm

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 January 2020 were analyzed for volatile organic compounds using EPA method 8260B, in addition to field parameters.

Table 12. Groundwater Analytical Results, January 2020

Sample ID	Concentration (µg/L)													
	1,2,4-Trimethyl-benzene	MEK (2-Butanone)	2-Methyl-naphthalene	Acetone	Benzene	Ethylbenzene	Isopropyl-benzene	MTBE	Naphthalene	PCE	Toluene	TCE	cis-1,2-DCE	trans-1,2-DCE
EPA MCL	*NS*	*NS*	*NS*	*NS*	*5*	*700*	*NS*	*6.2* [a]	*NS*	*5*	*1,000*	*5*	*70*	*100*
NMWQCC Standard [b]	*NS*	*NS*	*30* [d]	*NS*	*5*	*700*	*NS*	*100*	*30* [c]	*5*	*1,000*	*5*	*70*	*100*
CLC 20	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
CLC 26	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
CLC 57	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
CLC 61	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
GWMW-11I	<1	<10	<4	<10	<1	<1	<1	<1	<2	3.3	<1	<1	<1	<1
GWMW-11S	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
GWMW-11D	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
GWMW-15I	<1	<10	<4	<10	<1	<1	<1	<1	<2	**17**	<1	<1	<1	<1
GWMW-15S	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
GWMW-15D	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
GWMW-16S	<1	<10	<4	<10	<1	<1	<1	<1	<2	**8.7**	<1	<1	<1	<1
GWMW-16D	<1	<10	<4	<10	<1	<1	<1	<1	<2	**15**	<1	1.2	<1	<1
MW-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-SF2	<1	<10	<4	<10	<1	<1	<1	<1	<2	3.3	<1	<1	<1	<1
MW-SF5	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
MW-SF9	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
MW-SF10	<1	<10	<4	<10	<1	<1	<1	<1	<2	**11**	<1	<1	<1	<1
MW-SF10 DUP	<1	<10	<4	<10	<1	<1	<1	<1	<2	**11**	<1	<1	<1	<1
NGMW-03	<1	<10	<4	<10	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1
NGMW-03 DUP	<1	<10	<4	<10	<1	<1	<1	<1	<2	<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 January 2020 were analyzed for volatile organic compounds (VOCs) using EPA method 8260B, in addition to field parameters.

[a] EPA Region 6 medium-specific screening level (MSSL).

[b] Standards from 20.6.2.3103 NMAC, effective December 2018.

[c] Standard for total naphthalene plus monomethylnaphthalenes.

µg/L = Micrograms per liter
NS = No applicable standard
— = No sample collected within the reporting period; well dry at time of sampling

Table 13. PCE Results for Annual Groundwater Sampling, 2012–2019
Page 1 of 3

Well	PCE Concentration (µg/L)						
	2012	2013	2014	2015	2016	2018	2019
CLC Paz Park Well	<1	<1	<1	<1	<1	NS	NS [a]
CLC 18	**56**	2.7	**6**	**13**	**15**	1.4	6.6 [b]
CLC 20	NS	<1	<1	<1	<1	NS	<1
CLC 26	<1	<1	<1	<1	<1	<1	<1
CLC 27	**13**	**14**	**11**	**14**	**13**	**13**	13 [b]
CLC 57	NS	<1	<1	<1	<1	NS	<1
CLC 61	NS	NS	NS	NS	NS	NS	<1
GWMW-01-01	**5.8**	**11**	1.3	3.8	**9.8**	5 Rf	NS [c]
GWMW-01-02	<1	<1	<1	<1	NS	5.3 Rf	NS [c]
GWMW-01-03	2.7	3.2	2	1.6	**7**	4.3 Rf	NS [c]
GWMW-01-04	<1	<1	<1	<1	<1	3.7 Rf	NS [c]
GWMW-01-05	3.2	<1	<1	<1	<1	2.3 Rf	NS [c]
GWMW-01-06	**11**	**14**	**8**	2.4	4.7	<1 Rf	NS [c]
GWMW-01-07	3.2	3.6	2.3	<1	<1	<1 Rf	NS [c]
GWMW-03-01	<1	<1	<1	<1	<1	<1 Rf	NS [c]
GWMW-03-02	<1	<1	<1	<1	<1	<1 Rf	NS [c]
GWMW-03-03	<1	<1	<1	<1	NS	<1 Rf	NS [c]
GWMW-03-04	NS	<1	<1	NS	NS	NS	NS [c]
GWMW-03-05	<1	<1	<1	NS	<1	NS	NS [c]
GWMW-03-06	<1	<1	<1	<1	<1	NS	NS [c]
GWMW-06-01	NS	NS	NS	NS	NS	<1 Rf	NS [c]
GWMW-06-02	NS	NS	NS	NS	NS	<1 Rf	NS [c]
GWMW-08-03	<1	<1	<1	<1	<1	<1 Rf	NS [c]
GWMW-08-04	<1	<1	<1	<1	<1	<1 Rf	NS [c]
GWMW-08-05	<1	<1	<1	<1	<1	<1 Rf	NS [c]
GWMW-08-06	<1	<1	<1	<1	<1	<1 Rf	NS [c]
GWMW-08-07	<1	<1	<1	<1	<1	<1 Rf	NS [c]
GWMW-09-01	<1	**<10**	<1	<1	<1	<1 Rf	NS [c]
GWMW-09-02	1.3	**<20**	<1	<1	**13**	<1 Rf	NS [c]
GWMW-09-03	<1	**<10**	1	**5.1**	**9.2**	<1 Rf	NS [c]
GWMW-09-04	1.2	<1	**7.9**	**11**	**19**	<1 Rf	NS [c]
GWMW-09-05	1.7	**<10**	1.5	**16**	<1	1.6 Rf	NS [c]
GWMW-09-06	<1	**<10**	<1	<1	<1	2 Rf	NS [c]
GWMW-09-07	<1	**<10**	<1	<1	**5.1**	<1 Rf	NS [c]

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

Table 13. PCE Results for Annual Groundwater Sampling, 2012–2019
Page 2 of 3

Well	PCE Concentration (µg/L)						
	2012	2013	2014	2015	2016	2018	2019
GWMW-10-01	**47**	<1	**26**	1.2	**17**	8.3 Rf	NS [c]
GWMW-10-02	**14**	**7.1**	**11**	4.4	**18**	12 Rf	NS [c]
GWMW-10-03	**45**	**42**	**25**	1.8	**16**	11 Rf	NS [c]
GWMW-10-04	4.5	3.7	1.3	1.2	**13**	11 Rf	NS [c]
GWMW-10-05	<1	<1	<1	<1	**9**	10 Rf	NS [c]
GWMW-10-06	<1	<1	<1	<1	**7.3**	9.6 Rf	NS [c]
GWMW-10-07	<1	<1	<1	4.2	**7.5**	**9.5**	NS [c]
GWMW-11-D	<1	<1	<1	<1	<1	<1	<1
GWMW-11-I	<1	<1	<1	2	1.8	4.3	3.3
GWMW-11-S	<1	<1	<1	<1	<1	<1	<1
GWMW-15-D	<1	<1	<1	<1	<1	1.1	<1
GWMW-15-I	2.3	<1	1.1	**6.1**	**5.6**	**19**	**17**
GWMW-15-S	<1	<1	<1	<1	<1	<1	<1
GWMW-16-S	NS	NS	NS	1.6	4.9	**5.1**	**8.7**
GWMW-16-D	NS	NS	NS	3.1	5.0	**16**	**15**
MW-1	**<10**	<5	<1	2.1	2.9	NS	NS [d]
MW-3	3.6	2.4	<1	NS	NS	NS	NS [d]
MW-4	1.1	4.2	1.6	NS	NS	NS	NS [d]
MW-5	<1	<1	<1	NS	NS	NS	NS (dry)
MW-6	2.3	NS	NS	NS	NS	NS	NS [a]
MW-SF1	**9.6**	NS	NS	NS	NS	NS	NS [a]
MW-SF2	**11**	**7.5**	NS	NS	NS	NS	3.3 (dry)
MW-SF4	NS	NS	<1	NS	NS	NS	NS [a]
MW-SF5	<1	<1	<1	1.1	1.1	NS	<1
MW-SF6	<1	<1	<1	<1	<1	NS	NS [a]
MW-SF9	<1	<1	<1	<1	<1	<1	<1
MW-SF10	**9.5**	**12**	NS	**23**	**21**	**16**	**11**
NGMW-01-01	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-01-02	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-01-03	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-01-04	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-01-05	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-01-06	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-01-07	NS	NS	NS	NS	NS	<1	NS [a]

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

Table 13. PCE Results for Annual Groundwater Sampling, 2012–2019
Page 3 of 3

Well	PCE Concentration (µg/L)						
	2012	2013	2014	2015	2016	2018	2019
NGMW-02-01	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-02-02	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-02-03	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-02-04	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-02-05	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-02-06	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-02-07	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-03	NS	NS	NS	NS	NS	NS	<1 [e]
NGMW-03-01	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-03-02	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-03-03	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-03-04	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-03-05	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-03-06	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-03-07	NS	NS	NS	NS	NS	<1	NS [a]
NGMW-03-08	NS	NS	NS	NS	NS	<1	NS [a]

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).

[a] Not included for annual sampling in the sampling and analysis plan (SAP).

[b] Sample collected as part of monthly system sampling.

[c] FLUTe well not sampled due to loss of liner integrity.

[d] Not sampled because the SAP indicates that well is included for water level monitoring only

[e] 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.

PCE = Perchloroethene
NS = Not sampled
Rf = Rejected, the data are unusable. FLUTe well liner lacks integrity.

Table 14. 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	Not applicable
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

CALENDAR YEAR 2019
GROUNDWATER PROGRAM EVALUATION REPORT
GRIGGS AND WALNUT GROUNDWATER PLUME SUPERFUND SITE
LAS CRUCES, NEW MEXICO

prepared for

APRIL 2020

JSAI
JOHN SHOMAKER & ASSOCIATES, INC.
WATER-RESOURCE AND ENVIRONMENTAL CONSULTANTS
ALBUQUERQUE, NM * www.shomaker.com * 505-345-3407

CALENDAR YEAR 2019
GROUNDWATER PROGRAM EVALUATION REPORT,
GRIGGS AND WALNUT GROUNDWATER PLUME SUPERFUND SITE, LAS CRUCES, NEW MEXICO

prepared by

Steven T. Finch, Jr., CPG, PG
Jake Baggerman
Zach Weathers
JOHN SHOMAKER & ASSOCIATES, INC.
Water-Resource and Environmental Consultants
2611 Broadbent Parkway NE
Albuquerque, New Mexico 87107
505-345-3407
www.shomaker.com

prepared for

Daniel B. Stephens & Associates, Inc.
Albuquerque, New Mexico

City of Las Cruces
New Mexico

and

Doña Ana County
New Mexico

April 2020

CALENDAR YEAR 2019 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 2019 data sources from the monitoring program includes water-level data, water-quality data, groundwater-pumping data, and extraction well operational data. Calendar year 2019 data were not collected from the FLUTe wells due to compromised liners identified by (DBS&A, 2019). Efforts are currently underway to replace the FLUTe wells.

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 monitor wells screened at different depths. 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. It was previously thought the UHZ and LHZ were hydraulically connected across the Site, but in varying degree of hydraulic communication (EPA, 2006, RI, p. 3-10). 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 5).

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. 8) and LHZ (Fig. 9). The hydraulic gradient across the Site is fairly flat, as defined by the 3,840- and 3,830-ft water-level elevation contours (Fig. 7), with a cone of depression shown at extraction well CLC 27. Proposed replacement of selected FLUTe wells will further improve 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. During 2019, water levels in the area of CLC 61 rose approximately 3 ft (see Fig. 10). 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 2019 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.

Due to failure of FLUTe well liners and the subsequent rejection of FLUTe well data, the vertical and horizontal extent of the UHZ PCE plume is not adequately defined by the Groundwater Monitoring network. The UHZ and LHZ PCE plume is not well defined at the location of FLUTe wells GWMW-09 and GWMW-10. The extent of elevated PCE concentrations in the LHZ at GWMW-15(I) is not well defined; however, over the last year concentrations have decreased from 19 to 17 ug/L, and GWMW-15 is on the upgradient side of the PCE plume and groundwater flow at this location is toward extraction CLC 27. The JSP has developed a plan to replace FLUTe Wells GWMW-01, GWMW-06, GWMW-08, GWMW-09, and GWMW-10.

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 2019 Optimization Assessment Report Griggs and Walnut Groundwater Plume Superfund Site, Las Cruces, New Mexico*).

CONTENTS

page

EXECUTIVE SUMMARY ii

1.0 INTRODUCTION 1
1.1 Background 1
1.2 Purpose 1

2.0 DATA SOURCES 2
2.1 Definition of Clay Layer 2
2.2 Groundwater-Level Data 2
2.2.1 Site Monitoring Network 4
2.2.2 Regional Monitoring Network 4
2.3 Pumping Data 5
2.4 Monitoring Network Water-Quality Data 6
2.5 CLC 18 and CLC 27 Operational Data 9

3.0 HYDROGEOLOGIC ANALYSIS 10
3.1 Hydrostratigraphic Units 10
3.2 Groundwater Flow 11
3.2.1 Horizontal Flow Direction 11
3.2.2 Vertical Head Gradient 12
3.3 Geochemical Characteristics 13
3.4 PCE Plume 13
3.4.1 Horizontal Extent 14
3.4.2 Vertical Extent 14
3.5 Site Conceptual Model Summary 15

4.0 NUMERICAL MODEL UPDATE 15
4.1 TMR Model Calibration 16

5.0 EFFECTIVENESS OF MONITORING NETWORK 18
5.1 Groundwater Flow Direction 18
5.2 Defining Extent of PCE Plume 18

6.0 SUMMARY OF FINDINGS 19

7.0 RECOMMENDATIONS 20

8.0 REFERENCES 21

TABLES

page

Table 1. Summary of Site monitoring point reference elevations and winter 2019-2020 water-level data from the monitoring network..... 3

Table 2. Summary of 2018 and 2019 pumping for the Griggs and Walnut Site area..... 5

Table 3. Summary of monitoring well network and PCE data summary..... 7

Table 4. Summary of head difference between Upper and Lower Hydrogeologic Zones measured in well pairs..... 11

Table 5. Summary of model calibration statistics for historical transient simulation 2012 to 2019..... 17

ILLUSTRATIONS

(follow text)

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

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.

Figure 4. Hydrogeologic cross-section A-A' with winter 2019 PCE concentrations, Las Cruces, New Mexico.

Figure 5. Hydrogeologic cross-section B-B' with winter 2019 PCE concentrations, Las Cruces, New Mexico.

Figure 6. Bar graph of annual pumping from wells in the Griggs and Walnut Site area, Las Cruces, New Mexico.

Figure 7. Aerial photograph showing December 2019 water-level elevation contours for the City of Las Cruces area, Las Cruces, New Mexico.

Figure 8. Aerial photograph showing December 2019 water-level elevation contours and PCE concentrations for the Upper Hydrogeologic Zone, Griggs and Walnut Site, Las Cruces, New Mexico.

Figure 9. Aerial photograph showing December 2019 water-level elevation contours and PCE concentrations for the Lower Hydrogeologic Zone, Griggs and Walnut Site, Las Cruces, New Mexico.

Figure 10. Map showing 2019 water level rise in the area of CLC 61, Griggs and Walnut Site, New Mexico.

Figure 11. Graph of PCE concentration versus specific conductance values for the 2019 monitoring event, Griggs and Walnut Site, New Mexico.

Figure 12. Topographic map showing telescope mesh refinement (TMR) groundwater-flow model grid, Griggs and Walnut Site, Las Cruces, New Mexico.

Figure 13. Map showing telescope mesh refinement (TMR) groundwater flow model with Griggs and Walnut Site monitoring network, Las Cruces, New Mexico.

Figure 14. Bar graph showing distribution of model calibrated residual error in heads.

APPENDICES

(follow illustrations)

Appendix A. Las Cruces Utilities 2018 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

Appendix C. Summary of Griggs and Walnut Site plume area pumping data

Appendix D. Time-series graphs of Griggs and Walnut Site PCE concentration

Appendix E. Griggs and Walnut Site time-series model-calibration graphs

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
GHB	general head boundaries ()
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
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
SCM	Site Conceptual Model
SOW	Statement of Work
TMR	telescope mesh refinement
UHZ	Upper Hydrogeologic 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. JSAI previously assisted with the development of the groundwater flow and solute transport model for the Site Feasibility Study.

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 near continuously for the last 7 years.

As defined in the EPA 2017 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.

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 Definition of Clay Layer

The EPA RI/FS and JSAI (2006) Site Conceptual Model included the clay layer as part of the Upper Portion of the LHZ. The clay layer is known to impede vertical movement of groundwater, and 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.

Cross-sections presented as Figures 4 and 5 show that the thickness and extent of the low-permeability silt and clay beds that divide UHZ from LHZ have influenced the lateral and vertical distribution of PCE in groundwater. At CLC 18, the clay layer separating the UHZ and LHZ creates a hydraulic barrier to vertical flow (Figs. 4 and 5). East of GWMW-16(S,D), the clay layer transitions to silt and sand allowing for vertical groundwater flow from the UHZ to the LHZ under downward head-gradient conditions, which may be influenced by regional pumping. The clay layer dividing UHZ from LHZ 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, 2) from CLC water supply wells (active and inactive). The multi-port FLUTe wells are no longer being utilized for any data collection.

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. Results are summarized in Table 1, and survey data are presented in Appendix A.

Table 1. Summary of Site monitoring point reference elevations and winter 2019-2020 water-level data from the monitoring network

well	type	zone	2018 surveyed measuring point elevation (ft amsl)	measurement date	2019 depth to water (ft bmp)	2019 water-level elevation (ft amsl)	water level change 2018 to 2019 (ft) positive = decline; negative = rise
CLC 10	inactive	LHZ	3,939.42	11/7/2019	96.2	3,843.22	-1.3
CLC 18	extraction	UHZ/LHZ	4,049.59	1/10/2020	211.61	3,837.98	-7.5
CLC 19	inactive	LHZ	4,064.77	11/19/2019	227.3	3,837.47	-0.5
CLC 20	inactive	LHZ	4,074.51	1/10/2020	237.1	3,837.41	-3.6
CLC 21	inactive	LHZ	4,075.25	11/19/2019	237.7	3,837.55	-1.3
CLC 24	inactive	LHZ	4,041.01	11/14/2019	207.3	3,833.71	-3.7
CLC 26	standby	LHZ	4,014.15	1/10/2020	176.9	3,837.25	-2.0
CLC 27	extraction	LHZ	4,057.12	1/10/2020	270	3,787.12	3.6
CLC 28	inactive	LHZ	4,061.65	11/20/2019	224.7	3,836.95	0.9
CLC 38	inactive	LHZ	4,101.89	11/4/2019	265.7	3,836.19	-0.3
CLC 54	inactive	LHZ	4,111.23	11/14/2019	274.3	3,836.93	2.2
CLC 57	inactive	LHZ	4,132.14	1/10/2020	294.5	3,837.64	-3.3
CLC 60	inactive	LHZ	3,942.35	11/7/2019	106.3	3,836.05	3.6
CLC 61	active	LHZ	4,041.37	1/10/2020	201.84	3,839.53	-3.9
GWMW-01	MW	UHZ/LHZ	4,036.27	nm	nm	nm	nm
GWMW-03	MW	UHZ/LHZ	3,975.81	nm	nm	nm	nm
GWMW-06	MW	UHZ	NS	nm	nm	nm	nm
GWMW-08	MW	UHZ/LHZ	4,019.52	nm	nm	nm	nm
GWMW-09	MW	UHZ/LHZ	4,051.14	nm	nm	nm	nm
GWMW-10	MW	UHZ/LHZ	4,064.51	nm	nm	nm	nm
GWMW-11(I)	MW	LHZ	4,022.74	1/10/2020	184.76	3,837.98	-1.8
GWMW-11(S)	MW	UHZ	4,022.72	1/10/2020	178.68	3,844.04	-0.1
GWMW-11(D)	MW	LHZ	4,022.67	1/10/2020	185.13	3,837.54	-1.8
GWMW-15(I)	MW	LHZ	4,081.06	1/9/2020	241.6	3,839.46	-0.2
GWMW-15(S)	MW	UHZ	4,081.03	1/9/2020	241.14	3,839.89	-0.2
GWMW-15(D)	MW	LHZ	4,081.03	1/9/2020	241.58	3,839.45	-0.4
GWMW-16(D)	MW	LHZ	4,033.07	1/10/2020	195.26	3,837.81	-0.9
GWMW-16(S)	MW	UHZ	4,032.73	1/10/2020	189.71	3,843.02	-0.4
MW-1	MW	UHZ	4,037.14	1/9/2020	193.33	3,843.81	-0.3
MW-3	MW	UHZ	4,034.56	1/9/2020	dry	dry	dry
MW-4	MW	UHZ	4,031.59	1/9/2020	dry	dry	dry
MW-5	MW	UHZ	4,036.25	1/14/2020	dry	dry	dry
MW-SF2	MW	UHZ	4,035.71	1/9/2020	191.69	3,844.02	-0.1
MW-SF5	MW	UHZ	3,995.63	1/9/2020	148.98	3,846.65	0.3
MW-SF9	MW	UHZ	4,032.35	1/10/2020	191.03	3,841.32	-0.7
MW-SF10	MW	UHZ	4,038.66	1/9/2020	195.35	3,843.31	-0.5
Paz Park	irrigation	LHZ	4,012.60	11/20/2019	175	3,837.60	1.0
NGMW-01	MW	UHZ	NS	1/9/2020	127.42	3,848.06	0.4
NGMW-02	MW	UHZ	NS	1/9/2020	132.75	3,848.04	0.4
NGMW-03	MW	UHZ	NS	1/9/2020	137.54	3,847.57	0.5

* - multi port FLUTe wells that are no longer monitored
UHZ - Upper Hydrogeologic Zone
LHZ - Lower Hydrogeologic Zone

ft amsl - feet above mean sea level
ft bmp - feet below measuring point
nm - not measured
NS - not surveyed

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, 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. The GWMW paired wells (GWMW-11, GWMW-15, and GWMW-16) help define the vertical extent of the PCE plume more so than the vertical head difference between the UHZ and LHZ. For GWMW paired wells in the monitoring network, Shallow typically is completed in the UHZ above the confining clay layer, and the Intermediate and Deep are below the clay layer.

For Calendar year 2019, there are 14 monitoring wells and ports used to monitor the UHZ (Table 1); however, several are starting to go dry (MW-2, MW-3, MW-4, MW-5, MW-SF2, MW-SF4, and MW-SF5) as the UHZ is dewatered. There are approximately 19 wells used to monitor the LHZ. Due to the rejection of FLUTe well data, conventional and 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 the 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 a monthly 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 winter 2019-2020 groundwater-level data are provided in Table 1, and selected hydrographs are presented in Appendix B.

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, active pumping wells in the Site area include CLC 61 and Paz Park. Average monthly and annual pumping rates for 2018 and 2019 are summarized in Table 2. Site area pumping data from 1958 to current are presented in Appendix C.

Table 2. Summary of 2018 and 2019 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	2018	2019	2018	2019	2018	2019
Jan	30.4	28.8	152	222	0	0.0	36	1,060
Feb	31.3	28.4	148	225	0	2.1	916	1,179
Mar	24.8	29.8	181	216	7	10.4	1,224	467
Apr	28.1	29.3	212	227	28	39.4	1,241	0.0
May	29.1	29.6	185	228	35	43.7	1,251	0.0
Jun	28.9	28.6	206	226	28	33.3	1,257	0.0
Jul	29.3	29.4	220	226	28	0.0	1,244	0.0
Aug	29.2	29.0	209	220	21	0.0	1,221	0.0
Sep	29.0	28.6	227	224	28	0.0	1,227	0.0
Oct	29.5	27.7	228	239	7	0.0	1,193	0.0
Nov	29.7	28.4	226	236	0	0.0	1,215	0.0
Dec	29.2	28.3	214	238	0	0.0	441	0.0
Annual	29.0	28.8	201	227	15	10.7	1,039	226

gpm - gallons per minute

CLC 18 was pumped according to a designed schedule for 2019. 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 plume extraction, average monthly pumping rate for CLC 18 is about 29 gpm.

CLC 27 was pumped near continuously for years 2018 and 2019. The pump was replaced in the first week of March 2018, and average monthly pumping rate increased (Table 2) from about 150 gpm to 240 gpm. CLC 27 primarily extracts the LHZ PCE plume.

Paz Park Well operates during the irrigation season (Table 2) at a rate of about 220 gpm for 4 to 7 hrs/day. CLC 61 pumped from March 2017 through July 2017 and was operated near continuously from February 2018 to March in 2019. CLC 61 was taken out of operation in March 2019 in order to reduce the potential for migration of the LHZ PCE plume by reducing the vertical groundwater flow where the clay layer is absent.

2.4 Monitoring Network Water-Quality Data

All 2019 Site monitoring network groundwater-quality data were collected by DBS&A (2020). 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 UHZ PCE plume. After a rigorous QA/QC analysis and integrity testing, the JSP rejected FLUTe well data from the 2018 sampling event, and historic toluene and arsenic data for the FLUTe wells, as the FLUTe liners are compromised (e.g. no longer provide a competent seal between zone and are known to leach toluene and arsenic (see DBSA, 2019). For these reasons, data from the FLUTe wells were not collected during the 2019 sampling event. A summary of the Site monitoring network and detected PCE concentrations is presented as Table 3. Time-series graphs of PCE concentration are presented in Appendix D.

Table 3. Summary of monitoring well network and PCE data summary

sample location	northing (NMSP NAD 83, ft)	easting (NMSP NAD 83, ft)	land surface elevation (ft amsl)	port ID	depth of screen interval (ft bgl)	from	to	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)	current 2019 PCE (µg/L)
CLC 18	479,033.01	1,483,114.82	4,037.59		315 - 516	315	516	extraction	UHZ	**35.0**	**48.0**	**42.0**	**13.0**	**15.0**	**7.6**	**6.6**
CLC 20*	477,570.53	1,486,690.77	4,073.34		380 - 673	380	673	supply	LHZ	---	---	2.3	<1.0	< 1.0	NR	< 1.0
CLC 26	476,624.54	1,484,299.63	4,013.15		410 - 700	410	700	supply	LHZ	---	---	<1.0	<1.0	< 1.0	---	< 1.0
CLC 27	478,884.10	1,484,258.63	4,055.62		430 - 524	430	524	extraction	LHZ	---	**11.0**	**5.8**	**14.0**	**13.0**	**15.0**	**13.0**
CLC 57*	478,920.91	1,488,486.58	4,129.72		408 - 516	408	516	supply	LHZ	---	---	<1.0	<1.0	< 1.0	NR	<1.0
GWMW-01	479,017.60	1,483,309.20	4,038.00	1	210 - 220	210	220	multi-port FLUTe	UHZ	**5.3**	---	**5.8**	3.8	**9.8**	**5.0**Rf	---
				2	270 - 280	270	280		clay unit/LHZ	**21.0**	---	<1.0	<1.0	---	**5.3**Rf	---
				3	330 - 340	330	340		LHZ	1.0	---	2.7	1.6	**7.0**	4.3Rf	---
				4	420 - 430	420	430		LHZ	2.0	---	<1.0	<1.0	< 1.0	3.7Rf	---
				5	460 - 470	460	470		LHZ	3.4	---	3.2	<1.0	< 1.0	2.3Rf	---
				6	515 - 525	515	525		LHZ	**6.2**	---	**11.0**	2.4	4.7	<1.0Rf	---
				7	560 - 570	560	570		LHZ	2.1	---	3.2	<1.0	< 1.0	<1.0Rf	---
GWMW-03	479,519.70	1,480,641.70	3,976.68	1	140 - 150	140	150	multi-port FLUTe	UHZ	0.3	1.6	<1.0	<1.0	< 1.0	<1.0Rf	---
				2	225 - 235	225	235		clay unit/LHZ	0.5	<1.0	<1.0	<1.0	< 1.0	<1.0Rf	---
				3	270 - 280	270	280		LHZ	<0.5	<1.0	<1.0	<1.0	< 1.0	<1.0Rf	---
				4	320 - 330	320	330		LHZ	<0.5	<1.0	<1.0	<1.0	---	---	---
				5	410 - 420	410	420		LHZ	---	<1.0	<1.0	<1.0	---	---	---
				6	460 - 470	460	470		LHZ	---	---	<1.0	<1.0	< 1.0	---	---
GWMW-06	480,268.30	1,478,866.50	3,946.30	1	100 - 110	100	110	multi-port FLUTe	UHZ	**10.0**					<1.0Rf	---
				2	165 - 175	165	175		clay unit/LHZ	<0.5					<1.0Rf	---
GWMW-08	480,044.80	1,483,349.70	4,020.26	1	190 - 200	190	200	multi-port FLUTe	UHZ	---	---	---	---	---	---	---
				2	255 - 265	255	265		LHZ	---	---	---	---	---	---	---
				3	305 - 315	305	315		LHZ	<0.5	---	<1.0	<1.0	< 1.0	<1.0Rf	---
				4	380 - 390	380	390		LHZ	<0.5	---	<1.0	<1.0	< 1.0	<1.0Rf	---
				5	430 - 440	430	440		LHZ	<0.5	---	<1.0	<1.0	< 1.0	<1.0Rf	---
				6	490 - 500	490	500		LHZ	<0.5	---	<1.0	<1.0	< 1.0	<1.0Rf	---
				7	535 - 545	353	545		LHZ	<0.5	---	<1.0	<1.0	< 1.0	<1.0Rf	---
GWMW-09	480,413.50	1,485,066.60	4,051.39	1	240 - 250	240	250	multi-port FLUTe	clay unit/LHZ	0.6	<1.0	<1.0	<1.0	< 1.0	<1.0Rf	---
				2	295 - 305	295	305		LHZ	19.0	13.0	1.3	<1.0	< 1.0	<1.0Rf	---
				3	355 - 365	355	365		LHZ	14.0	9.0	<1.0	5.1	13.0	<1.0Rf	---
				4	410 - 420	410	420		LHZ	16.0	29.0	1.2	11.0	9.2	<1.0Rf	---

PCE - tetrachloroethene
UHZ - Upper Hydrogeologic Zone
LHZ - Lower Hydrogeologic Zone
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
* - water-level data only SOW, table 1

Table 3. Summary of monitoring well network and PCE data summary (concluded)

sample location	northing (NMSP NAD 83, ft)	easting (NMSP NAD 83, ft)	land surface elevation (ft amsl)	port ID	depth of screen interval (ft bgl)	from	to	type well	Hydrogeologic Zone	RI/FS 2005 PCE (µg/L)	remedial design 2009 PCE (µg/L)	system startup 2012 PCE (µg/L)	2015 PCE (µg/L)	2017 PCE (µg/L)	2018 PCE (µg/L)	current 2019 PCE (µg/L)
GWMW-09	480,413.50	1,485,066.60	4,051.39	5	480 - 490	480	490		LHZ	**18.0**	**20.0**	1.7	**16.0**	**19.0**	1.6Rf	---
				6	550 - 560	550	560		LHZ	0.2	<1.0	<1.0	<1.0	< 1.0	2.0Rf	---
				7	630 - 640	630	640		LHZ	<1.8	<1.0	<1.0	<1.0	< 1.0	<1.0Rf	---
GWMW-10	479,228.80	1,484,919.30	4,064.84	1	250 - 260	250	260	multi-port FLUTe	UHZ	3.2	**31.0**	**47.0**	1.2	**5.1**	**8.3Rf**	---
				2	320 - 330	320	330		LHZ	**14.0**	**36.0**	**14.0**	4.4	**18.0**	**12.0Rf**	---
				3	370 - 380	370	380		LHZ	**16.0**	**46.0**	**45.0**	1.8	**16.0**	**11.0Rf**	---
				4	440 - 450	440	450		LHZ	**14.0**	**15.0**	4.5	1.2	**13.0**	**11.0Rf**	---
				5	505 - 515	505	515		LHZ	0.2	<1.0	<1.0	<1.0	**9.0**	**10.0Rf**	---
				6	560 - 570	560	570		LHZ	0.4	<1.0	<1.0	<1.0	**7.3**	**9.6Rf**	---
				7	620 - 630	620	630		LHZ	0.2	<1.0	<1.0	4.2	**7.5**	**9.5Rf**	---
GWMW-11(S)	477,982.10	1,483,180.70	4,022.92		190 - 205	190	205	conventional	UHZ	<0.5	<1.0	<1.0	<1.0	< 1.0	<1.0	<1.0
GWMW-11(I)	477,982.40	1,483,180.50	4,022.92		299 - 314	299	314	conventional	LHZ	<0.5	<1.0	<1.0	2.0	1.8	4.3	3.3
GWMW-11(D)	477,982.50	1,483,180.80	4,022.92		525 - 540	525	540	conventional	LHZ	<0.5	<1.0	<1.0	<1.0	< 1.0	<1.0	<1.0
GWMW-15(S)	480,920.00	1,486,661.60	4,081.31		289 - 304	289	304	conventional	UHZ	**18.0**	2.6	<1.0	<1.0	< 1.0	<1.0	<1.0
GWMW-15(I)	480,920.10	1,486,661.20	4,081.31		460 - 475	460	475	conventional	LHZ	<0.5	<1.0	2.6	6.1	**5.6**	**19.0**	**17.0**
GWMW-15(D)	480,919.90	1,486,661.20	4,081.31		581 - 596	581	596	conventional	LHZ	<0.5	<1.0	<1.0	<1.0	< 1.0	1.1	<1.0
GWMW-16(S)	479,474.88	1,484,021.82	4,031.16		185 - 205	185	205	conventional	UHZ				1.6	4.9	**5.1**	**8.7**
GWMW-16(D)	479,469.58	1,484,002.31	4,030.85		350 - 370	350	370	conventional	LHZ				3.1	**5.0**	**16.0**	**15.0**
MW-1*	478,754.90	1,483,492.60	4,037.75		187 - 197	187	197	conventional	UHZ	0.2	---	<5.0	2.1	2.9	---	---
MW-3*	478,919.20	1,483,203.60	4,034.70		180 - 190	180	190	conventional	UHZ	**6.4**	---	2.4	---	---	---	---
MW-4*	478,681.50	1,483,079.60	4,032.11		175 - 185	175	185	conventional	UHZ	1.0	---	4.2	---	---	---	---
MW-5	478,579.70	1,483,553.90	4,038.26		182 - 192	182	192	conventional	UHZ	0.5	---	<1.0	---	---	---	---
MW-SF2	478,837.80	1,483,252.90	4,035.87		184 - 199	184	199	conventional	UHZ	**8.3**	---	**7.4**	---	---	---	3.3
MW-SF5	479,614.90	1,481,960.00	3,996.39		138 - 153	138	153	conventional	UHZ	1.7	---	<1.0	1.1	< 1.0	---	<1.0
MW-SF9	478,481.90	1,484,636.70	4,032.86		188 - 203	188	203	conventional	UHZ	<0.5	---	<1.0	<1.0	< 1.0	<1.0	<1.0
MW-SF10	480,157.00	1,484,357.30	4,038.96		194 - 204	194	204	conventional	UHZ	**17.0**	---	**10.0**	**23.0**	**21.0**	**16.0**	**11.0**
NGMW-01	479,405.24	1,480,889.09	3,975.48		115 - 165	115	165	conventional	UHZ						<1.0	---
NGMW-02	479,459.44	1,481,007.09	3,980.79		115 - 165	115	165	conventional	UHZ						<1.0	---
NGMW-03	479,368.81	1,481,387.33	3,985.11		115 - 165	115	165	conventional	UHZ						<1.0	<1.0

PCE - tetrachloroethene I
UHZ - Upper Hydrogeologic Zone
LHZ - Lower Hydrogeologic Zone
Rf - 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
* - water-level data only SOW, table 1

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 µS/cm do not have detectable PCE concentrations (JSAI, 2019). The primary conclusion is that groundwater with elevated specific conductance represents water originating from the UHZ, and groundwater with relatively low specific conductance (< 800 µS/cm) is representative of LHZ 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. For 2018 and 2019, CLC 18 specific conductance data were 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. Trained LCU Operators also collected hand-measured monthly water levels from CLC 18 and CLC 27.

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 two distinct Site hydrogeologic zones, the UHZ and the LHZ, are primarily differentiated by the clay zone and groundwater elevations measured in nested monitor wells screened at different depths. The UHZ and LHZ are not hydraulically connected across the Site where the clay zone is present; however, the UHZ and LHZ are hydraulically connected across the Site where the clay zone is absent (see Table 4). It was previously assumed the UHZ and LHZ 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 and 5). 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 UHZ, 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 UHZ from the LHZ have influenced the lateral and vertical distribution of PCE in groundwater (Fig. 4). At CLC 18, the clay layer separating the UHZ and LHZ 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 UHZ to LHZ under downward head-gradient conditions influenced by pumping CLC 27 and other regional municipal wells completed in the LHZ.

Table 4. Summary of head difference between Upper and Lower Hydrogeologic Zones measured in well pairs

well	hydrogeologic zone	January 2020 water level elevation (ft amsl)	head difference [1] (ft)
GWMW-11(S) GWMW-11(D)	Upper [2] Lower	3,844.04 3,837.63	6.41
GWMW-15(S) GWMW-15(D)	Upper [3] Lower	3,839.89 3,839.45	0.44
GWMW-16(S) GWMW-16(D)	Upper [2] Lower	3,843.02 3,837.81	5.21
MW-1 CLC 18	Upper [2] both	3,843.81 3,837.98	5.83

[1] Positive number indicates a higher head in the Upper than the Lower Hydrogeologic Zone.
[2] Clay layer between Upper and Lower Hydrogeologic Zone is present.
[3] Clay layer between Upper and Lower 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 UHZ until it is able to migrate vertically into the LHZ, except where the cone of depression has formed around CLC 18. The UHZ and LHZ eastward groundwater flow was previously established, at least in part, 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. Figure 6 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 2019 data are presented on Figure 7. The hydraulic gradient across the regional vicinity of the Site remains fairly flat (0.003 to 0.0004 ft/ft), as defined by the 3,840- and 3,830-ft water-level elevation contours (Fig. 7), with a cone of depression shown at CLC 27.

Current (winter 2019) groundwater-level elevation contours for the UHZ at the Site are presented on Figure 8. Groundwater flow in the UHZ at the Site is generally toward the east with a localized cone of depression induced by extraction at CLC 18. East of GWMW-16 and MW-SF10, the UHZ water-level contours resemble the cone-of-depression caused by pumping CLC 27. Regional groundwater elevation contours (Fig. 7) show westbound UHZ direction of flow at GWMN-15-S.

Current (winter 2019-20) groundwater-level elevation contours for the LHZ at the Site are presented on Figure 9. Groundwater flow in the LHZ is toward the cone of depression formed by extraction at CLC 27. Due to the discontinued pumping from CLC 61, water levels in the area of CLC 20, CLC 24, CLC 26, CLC 57, and CLC 61 have risen 2 to 3 ft over the last year (Table 1; Fig. 10). As a result, ground-water flow at CLC 26 and CLC 20 is towards CLC 27. Groundwater flow at GWMW-15 is to the southwest toward CLC 27 (Fig. 9).

3.2.2 Vertical Head Gradient

The head difference between the UHZ and LHZ is about 5 to 6 ft where the clay layer is present, and less where the clay layer is absent (Table 4). 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.

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 1 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. 6). CLC 61 has not been pumped since March 2019 (Table 2).

3.3 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 UHZ PCE plume (see JSAI companion report titled *Calendar Year 2019 Optimization Assessment Report Griggs and Walnut Groundwater Plume Superfund Site, Las Cruces, New Mexico*).

Specific conductance and PCE data were compiled for the 2019 monitoring event from the Site monitoring network and CLC 18 to track the relationship between the two parameters. As shown on Figure 11, there is a wide range of specific conductance values from the monitoring network (500 to 2,000 µS/cm). At the Site monitoring wells, low specific conductance (<800 µS/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 3); however, specific conductance concentrations representative of the UHZ have remained the same (as expected). As the UHZ 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 µS/cm, PCE concentrations from 2019 were approximately 6 to 8 µg/L, as compared to greater than 20 µg/L for years prior to 2014.

3.4 PCE Plume

Since remedial system start up in 2012, the Site PCE plume has been decreasing in size and concentration (see Table 2 and graphs in Appendix D). Prior to system start up PCE concentrations were commonly above 20 µg/L, and most all 2019 results were below 17 µg/L. Notable decreases in PCE concentrations during 2019 were observed at GWMW-11(I), GWMW-15(I), and MW-SF10 (Table 3).

Winter 2019 PCE concentrations are shown with the groundwater elevation contours on Figures 8 and 9. The extent of the PCE plume displayed on Figures 8 and 9 is currently poorly constrained due the fewer wells sampled in 2019. A better delineation of the UHZ and LHZ PCE plume will be obtained after the rejected FLUTe wells are replaced and sampled.

3.4.1 Horizontal Extent

The estimated PCE plume horizontal extent above the clay layer in the UHZ is confined to an elongated area between CLC 18 and MW-SF10 (Fig. 8). Currently, monitoring wells MW-SF-2, MW-SF10, GWMW-11(S), and GWMW-16(S) define the UHZ PCE extent. PCE concentrations at extraction CLC 18 and in UHZ monitoring wells (MW and MW-SF series) have significantly decreased over time (see graphs in Appendix D), indicating the UHZ plume is decreasing in concentration and size.

The horizontal extent in the LHZ is currently defined by monitoring wells GWMW-11(I), GWMW-16(D), GWMW-15(I), CLC 20, CLC 26, and CLC 57. The highest concentrations in the LHZ are observed in CLC 27, GWMW-15(I), and GWMW-16(D) (Fig. 9). It is difficult to determine based on the available data if the PCE concentrations at GWMW-15(I) are isolated from the primary plume mass in LHZ, and the extent of the PCE plume downgradient and southeast of GWMW-10. This data gap will be addressed with the FLUTe well replacement program.

From 2015 to 2018, concentrations of PCE were increasing at GWMW-11(I) (Table 3), but were still below the action level of 5 µg/L. PCE results for GWMW-11(I) for winter 2019 decreased from 2018 results. Groundwater flow direction at GWMW-11(I) is toward CLC 27. It is possible that detectable concentrations of PCE at GWMW-11(I) are not related to the Site plume.

3.4.2 Vertical Extent

The estimated vertical extent of the PCE plume in the UHZ is controlled by the confining clay layer where it is present. Due to downward gradient from pumping CLC 27, the UHZ PCE plume vertically migrates to the LHZ 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 current (see Fig. D8 in Appendix D). 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. Winter 2019 PCE concentrations decreased at GWMW-15(I), and were non-detect at GWMW-15(D) (Table 3).

3.5 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 UHZ PCE plume toward extraction well CLC 18 and MW-SF10.

Eastward groundwater flow was established by municipal pumping that began in the 1960s (Fig. 6). The PCE plume 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, caused the eastward migration of the PCE plume to GWMW-15.

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

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 12. 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 13. 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 2019. 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 includes CLC 18 from Layer 1, CLC 27 from Layer 3, and CLC 61 from Layers 4 and 5. Previous TMR modeling efforts (JSAI, 2017) did not include pumping from CLC 61 because groundwater level elevation contouring efforts did not reveal drawdown effects from CLC 61 pumping, and the pumping from CLC 61 was less frequent and at lower rates than in 2018. Transient groundwater-flow simulations included the time period from May 2012 to May 2029.

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 14. 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 14 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 5.

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 5. Summary of model calibration statistics for historical transient simulation 2012 to 2019

statistics of calibration targets	result
number of targets	51
range in observed head	14.37
mean observed head	3,841.4
maximum residual (ft)	2.8
minimum residual (ft)	-2.0
RMSE (ft)	1.19
standard deviation of residual error (ft)	1.2
bias (mean error in ft)	-0.02
normalized RMSE	0.108
R-squared	0.943

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, 2017) 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 is 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 adequate data for determining groundwater flow direction in the UHZ and in the LHZ on a regional and local scale; however, water-level interpretation will improve 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. Daily water-level data from transducers installed in GWMW-16(S,D) would help better define the influences of extraction well pumping on the UHZ and LHZ; installation of transducers was initiated in Winter 2019. Otherwise, there are adequate groundwater-level data for characterizing the groundwater plume and defining the groundwater flow direction as shown on Figures 8 and 9.

5.2 Defining Extent of PCE Plume

With the rejection of the FLUTe wells, the PCE plume in the UHZ is partially defined by the current monitoring network, and additional monitoring points are needed to characterize the plume or define the extent. The planned replacement of FLUTe wells GWMW-1, GWMW-8, GWMW-9, and GWMW-10 will elucidate potential UHZ extent and impact.

The PCE plume in the LHZ is currently defined on the west and north sides. The extent of elevated PCE concentrations in the LHZ 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. 9). The extent of the PCE plume downgradient and southeast of GWMW-10 is not well defined by the monitoring network, as shown on Figure 9. The vertical extent of the LHZ 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. 9); however, additional sampling conducted at CLC 20 and CLC 57 does help bound the extent of the plume to the South. Model simulations indicated the cessation of pumping from CLC 61 will cause the water level of the southern edge of the LHZ PCE plume to rebound so it is more readily captured and extracted by CLC 27 pumping.

The planned replacement of FLUTe wells GWMW-1, GWMW-8, GWMW-9, and GWMW-10 will help further define the LHZ extent and impact.

6.0 SUMMARY OF FINDINGS

The two distinct hydrogeologic zones, the UHZ and the LHZ, are primarily differentiated by the clay zone and water-level elevations measured in nested monitor wells screened at different depths. The UHZ and LHZ are not hydraulically connected across the Site where the clay zone is present, and but the UHZ and LHZ are hydraulically connected across the Site where the clay zone is absent. It was previously thought the UHZ and LHZ 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 in the UHZ and LHZ (see Figs. 2 through 9).

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 UHZ (Fig. 8) and LHZ (Fig. 9). The hydraulic gradient across the Site is fairly flat, as defined by the 3,840- and 3,830-ft water-level elevation contours (Fig. 7), with a cone of depression shown at CLC 27.

Given the flat hydraulic gradient, the re-surveying of measuring point elevations in early 2019 (Table 1; 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 8 and 9.

The Site telescope mesh refinement (TMR) model (JSAI, 2017) was updated with data collected from 2017 to 2019 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 UHZ PCE plume is partially defined by the groundwater monitoring network and will be fully defined by the replacement of the FLUTe wells. The LHZ PCE plume is not completely defined downgradient and southeast of GWMW-10; however, additional sampling at CLC 20 and CLC 57 do bound the extent of the PCE plume towards the South. Cessation of pumping at CLC 61 (March 2019) minimized the potential for induced vertical PCE plume movement (see Fig. 9). Model simulations indicated the cessation of pumping from CLC 61 will cause the water level of the southern edge of the LHZ PCE plume to rebound so it is more readily captured and extracted by CLC 27 pumping.

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 2017 through 2018 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. Transducers were installed in GWMW-16(S,D) but a dataset has not been established. As soon as a dataset is established, water level trends should be evaluated to help better define the influences of extraction well pumping on the UHZ and LHZ.
3. Re-evaluate the monitoring network data after the JSP replaces rejected FLUTe wells GWMW-1, GWMW-8, GWMW-9, and GWMW-10.

8.0 REFERENCES

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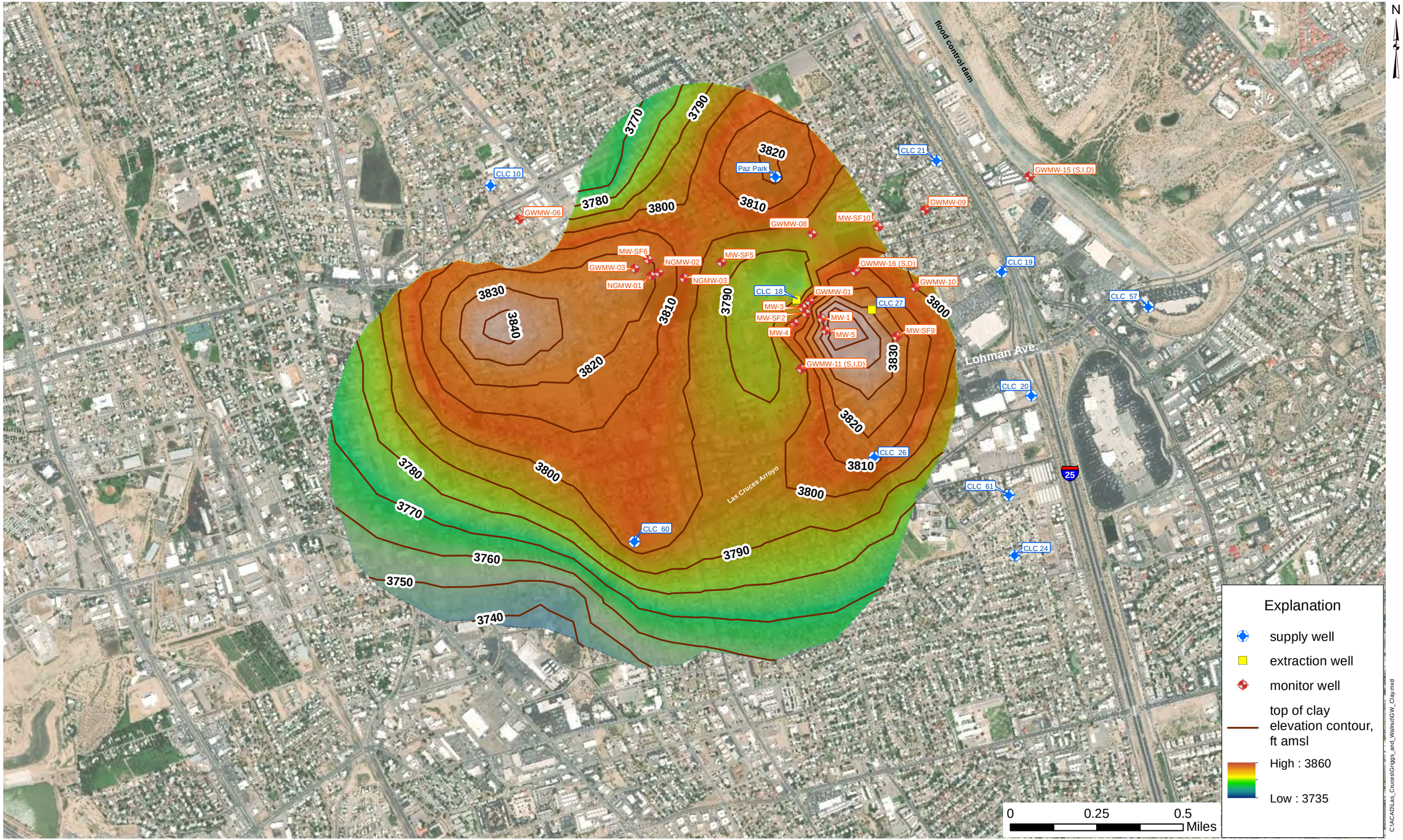
ILLUSTRATIONS

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



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.

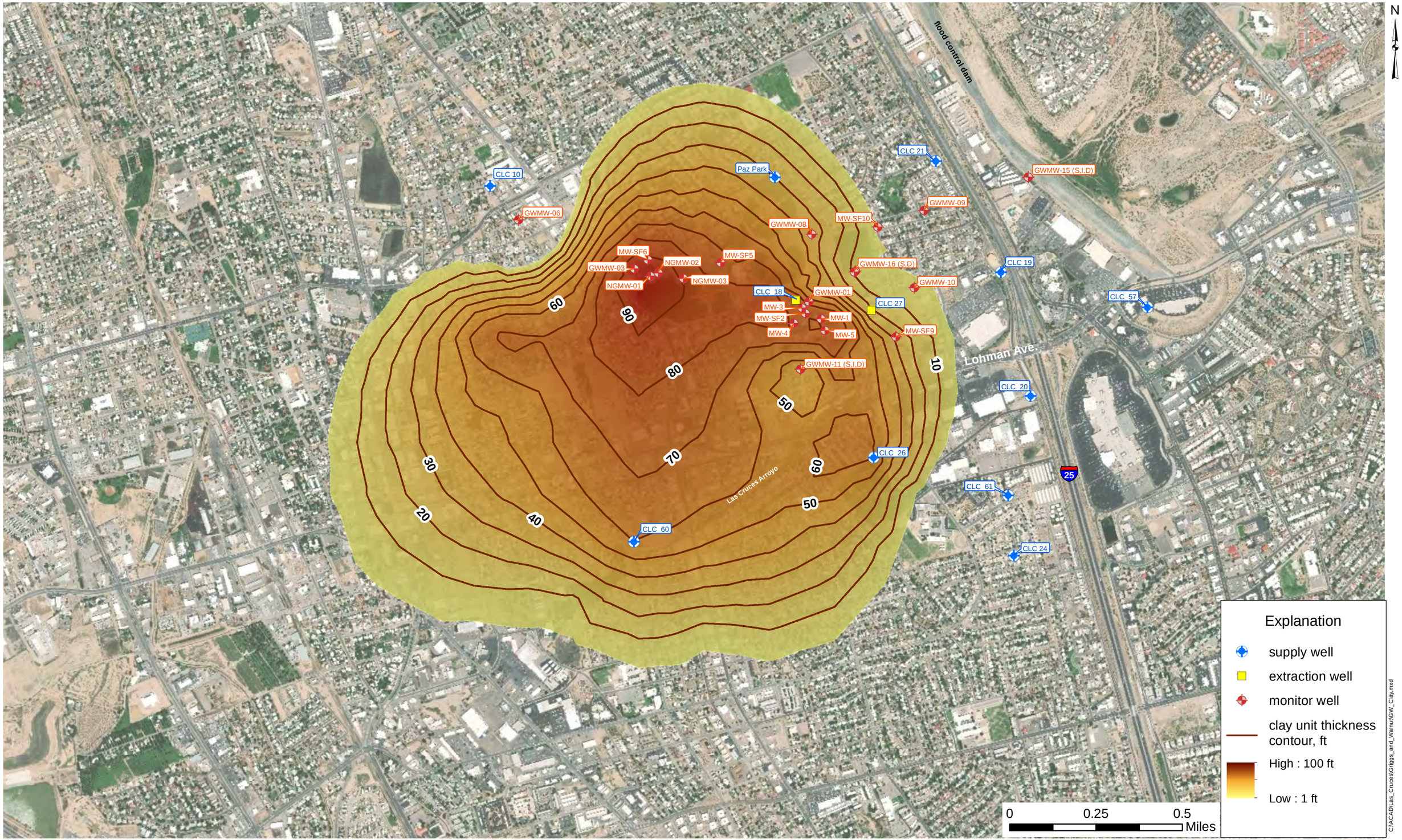


Figure 3. Aerial photograph of the Griggs and Walnut Site showing clay layer extent and thickness contours, Las Cruces, New Mexico.

A

A'

WEST

EAST

elevation, feet above mean sea level

4,100

4,000

3,900

3,800

3,700

3,600

3,500

3,400

GWMW-03

NGMW-03

irrigation returns from park area

CLC 18

(bend in section)

GWMW-01 (projected)

GWMW-16(S,D)

GWMW-09

GWMW-15(S,I,D)

zone of horizontal migration

zone of vertical migration

Upper Zone

Lower Zone

Lower Zone Lower Portion

draining of PCE plume in Hydrogeologic Zone 1 into extraction well CLC18

plugged back screen section

approximate extent of PCE plume in 2005

NS

<1.0

6.6

8.7

15.0

17.0

TD 564'

TD 580'

TD 630'

TD 740'

TD 620'

modified from JSAI, 2006 and 2016

EXPLANATION

predominantly sand, silt, and clay

predominantly sand and gravel

PCE concentrations >5 µg/L (2019)

approximate water table

dashed where inferred

(wells not to horizontal scale)

screen section

direction of flow

2.3 PCE concentration, µg/L (2019)

NS not sampled because FLUTe well liner lacks integrity

0 500 1,000 ft

horizontal scale

Figure 4. Hydrogeologic cross-section A-A' with winter 2019 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.

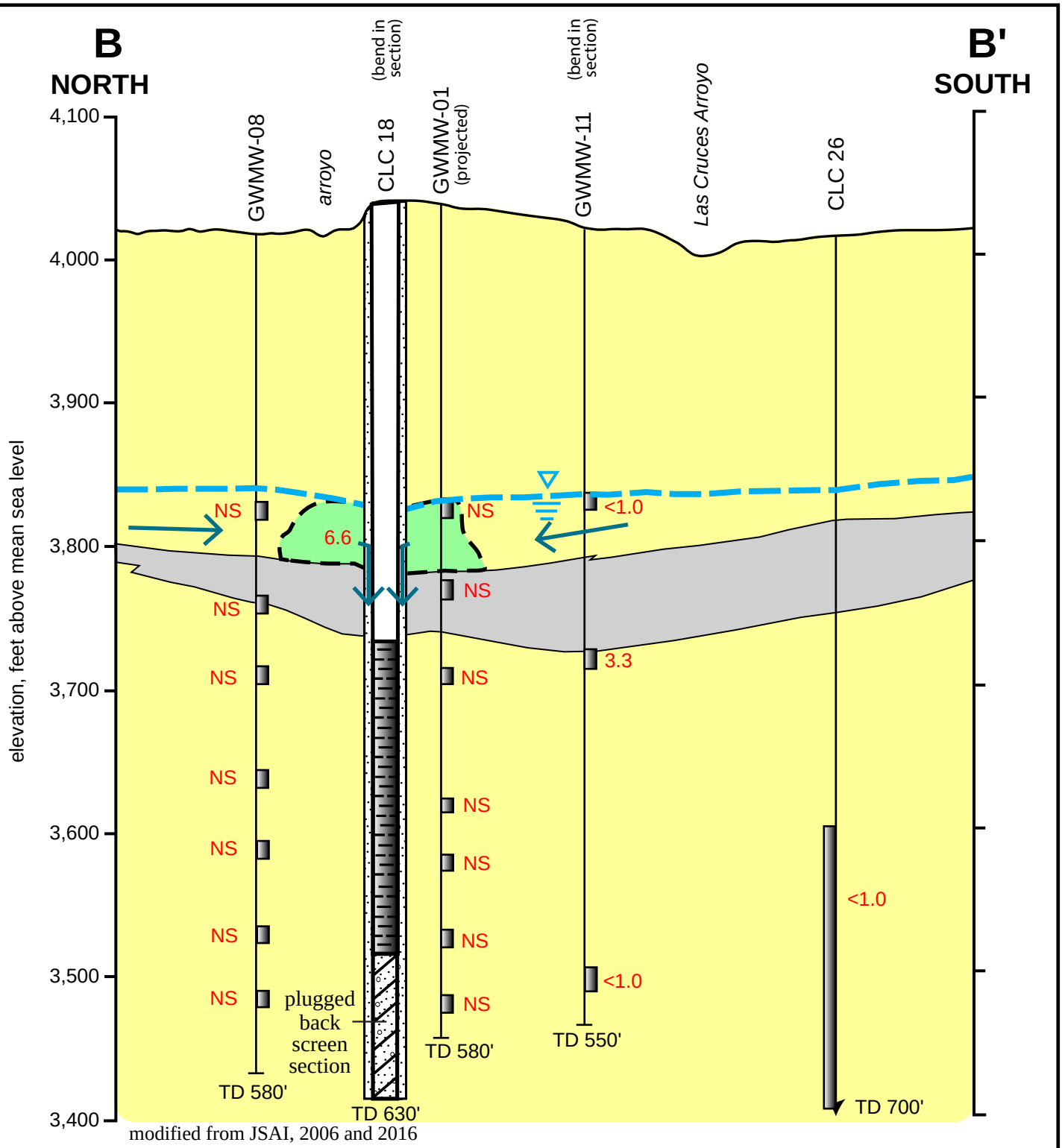


Figure 5. Hydrogeologic cross-section B-B' with winter 2018 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.

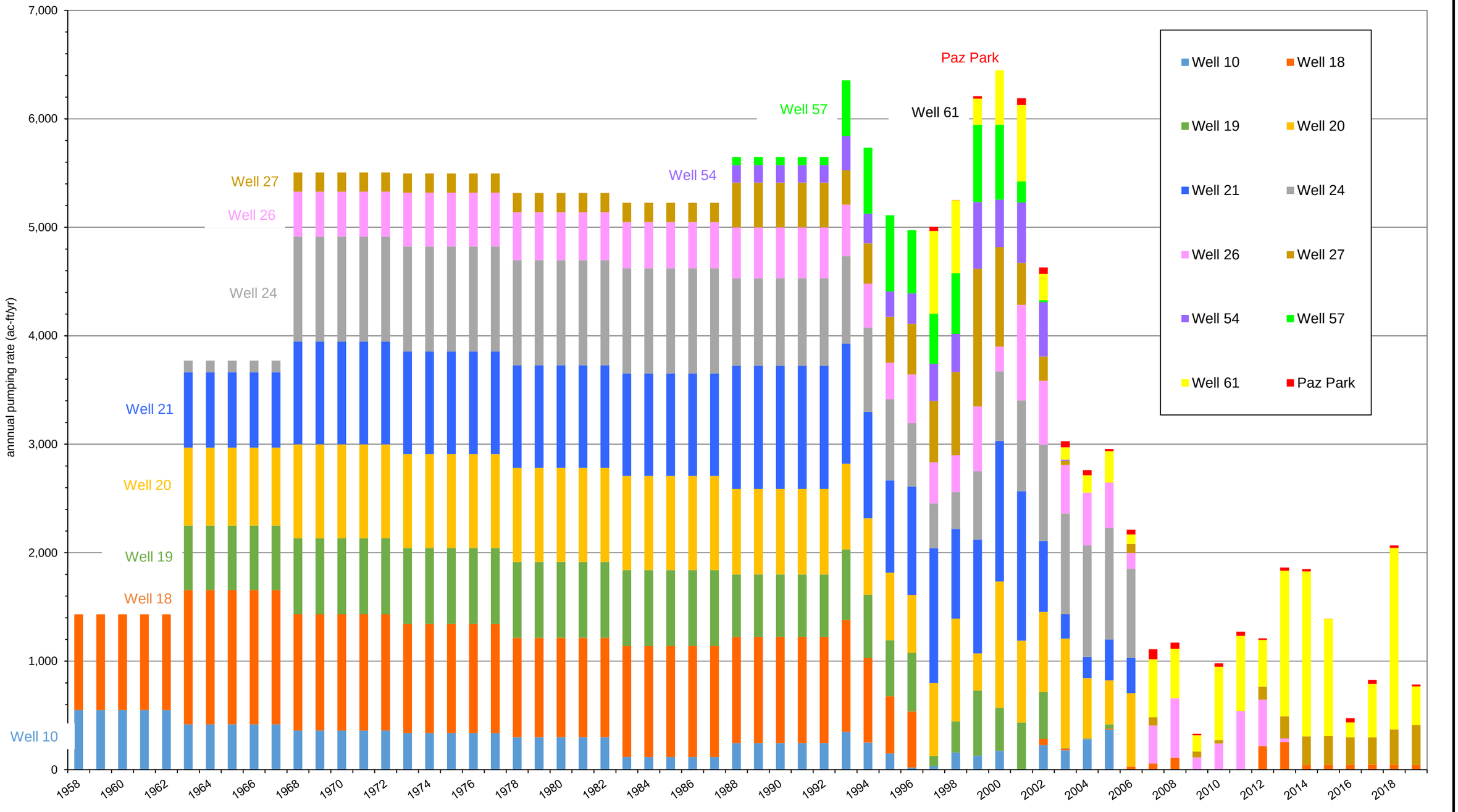


Figure 6. Bar graph of annual pumping from wells in the Griggs and Walnut site area, Las Cruces, New Mexico.

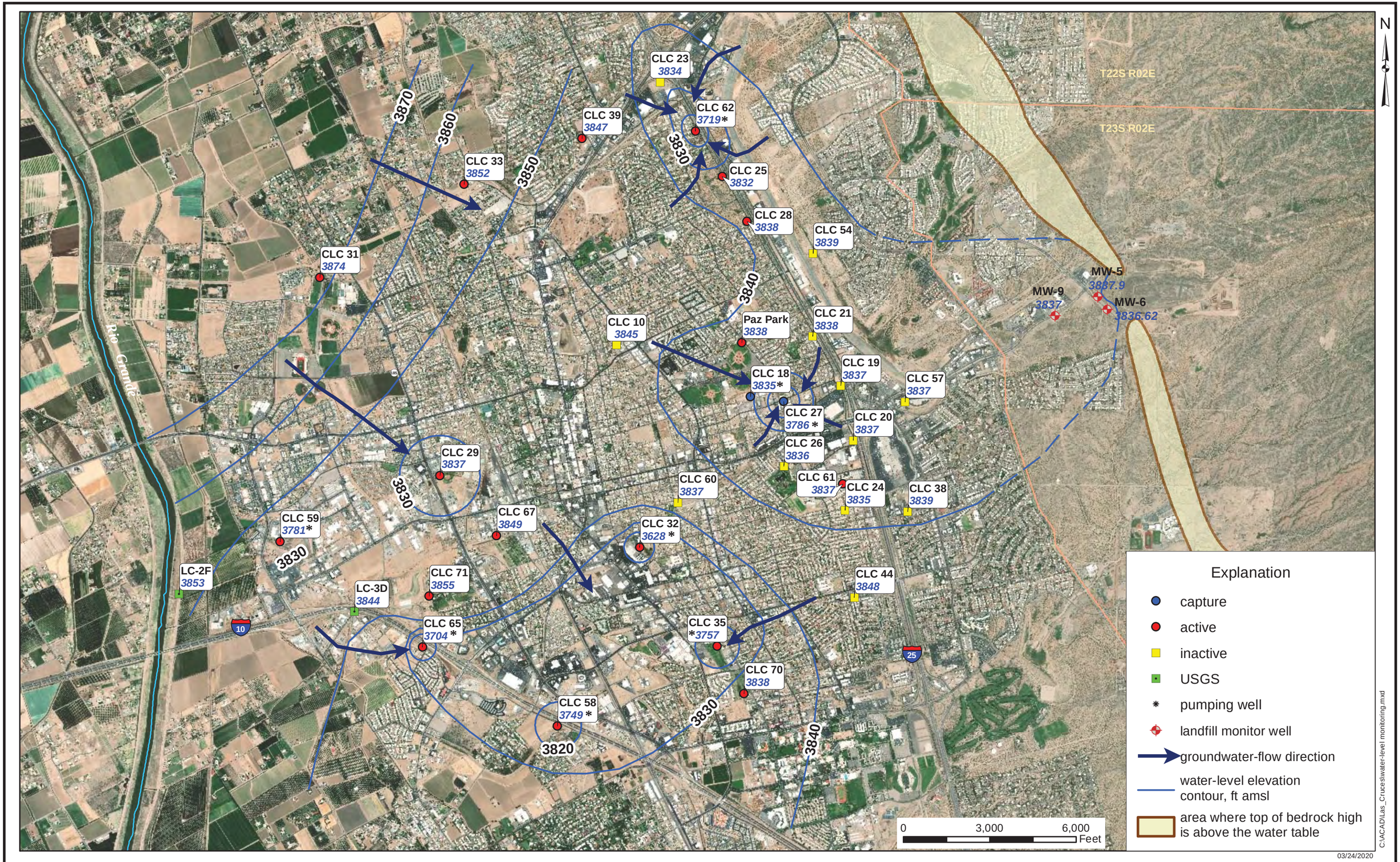


Figure 7. Aerial photograph showing December 2019 water-level elevation contours, City of Las Cruces, New Mexico.

Figure 8. Aerial photograph showing December 2019 water-level elevation contours and PCE concentrations for the Upper Hydrogeologic Zone, Griggs and Walnut Site, Las Cruces, New Mexico.

Figure 9. Aerial photograph showing Winter 2019-2020 water-level elevation contours and PCE concentrations for the Lower Hydrogeologic Zone, Griggs and Walnut Site, Las Cruces, New Mexico.

Figure 10. Map showing 2019 water level rise in the area of CLC 61, Griggs and Walnut Site, New Mexico.

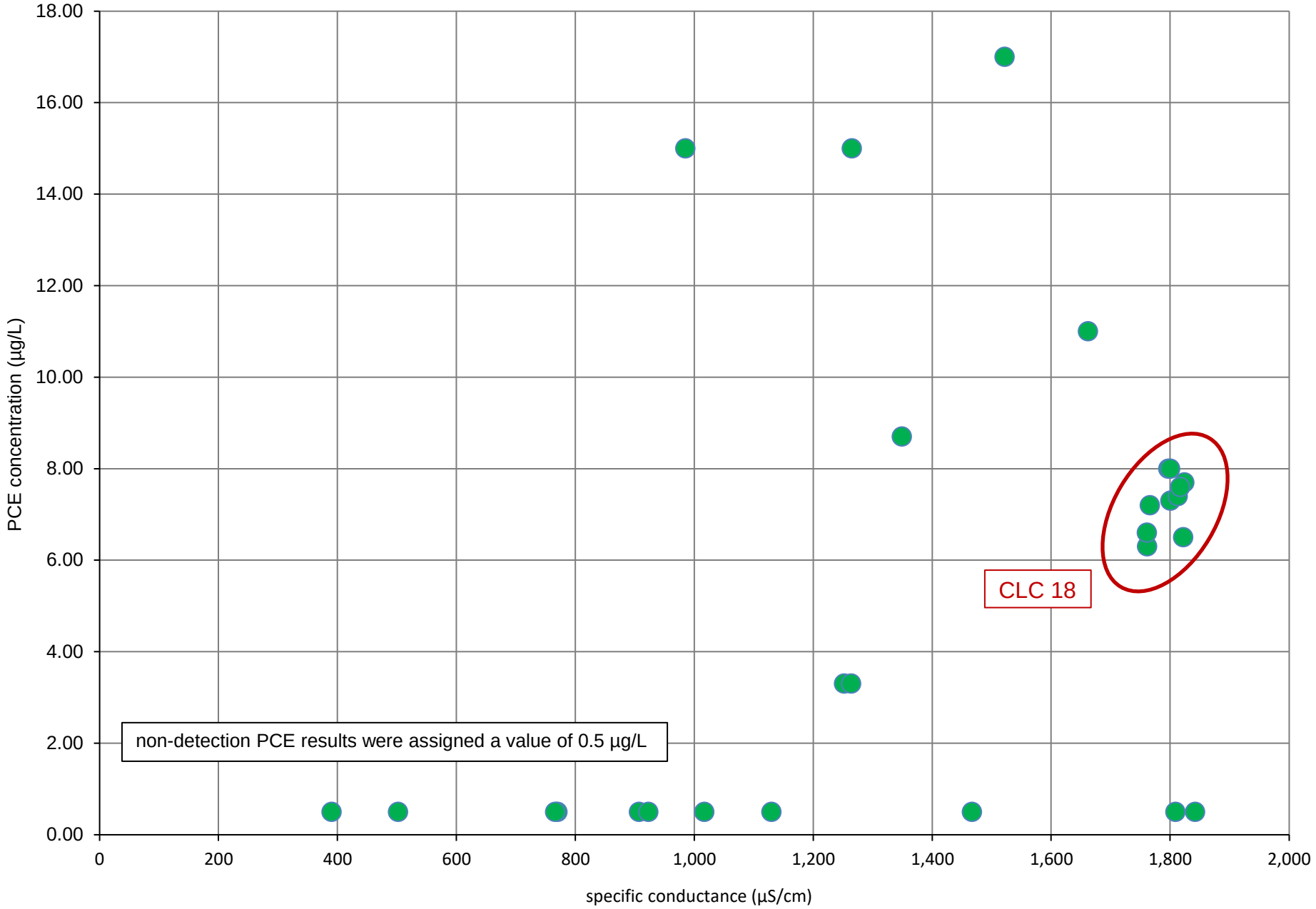


Figure 11. Graph of PCE concentration versus specifc conductance for the 2019 monitoring event.

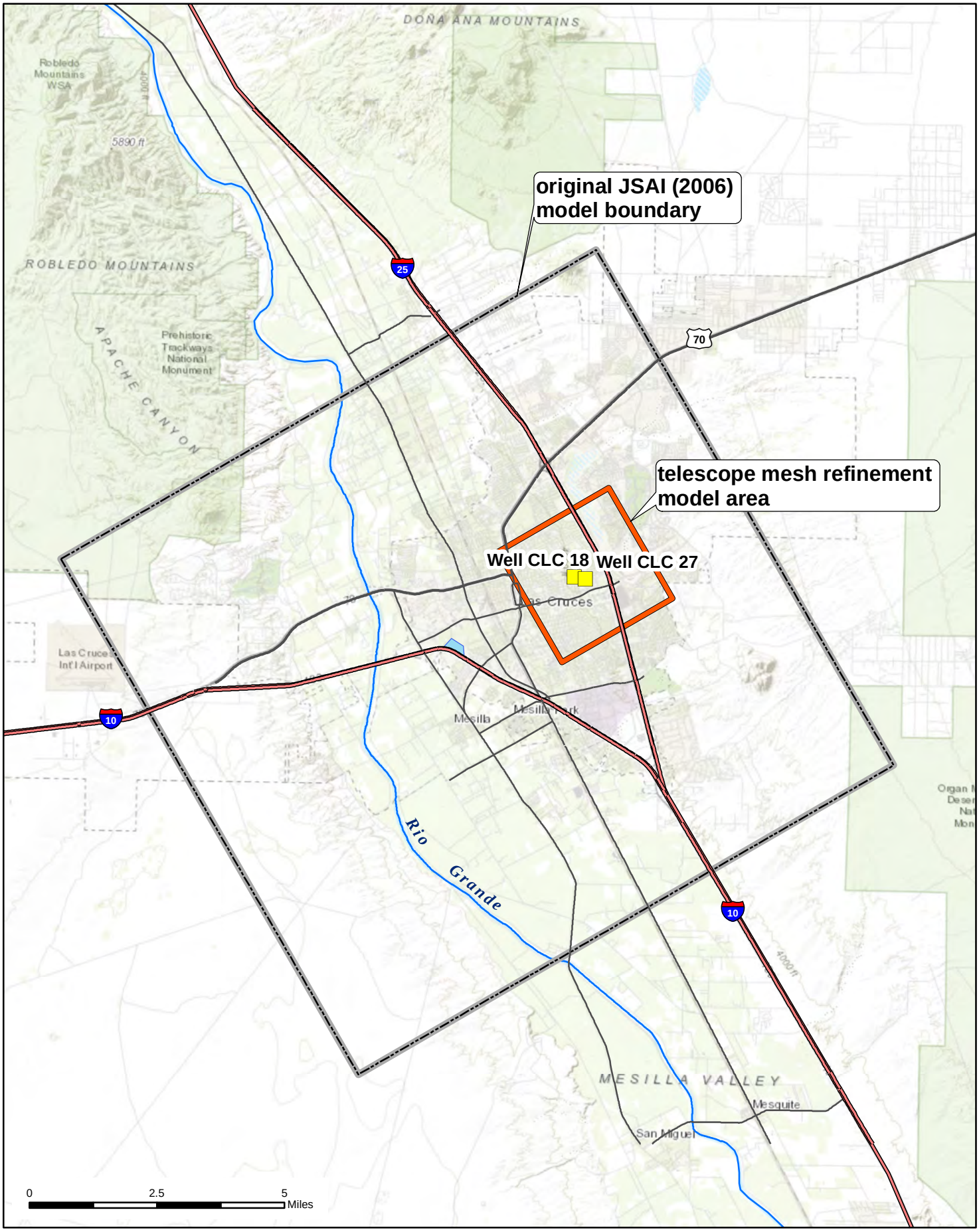


Figure 12. Topographic map showing telescope mesh refinement (TMR) groundwater-flow model grid, Griggs and Walnut Site, Las Cruces, New Mexico.

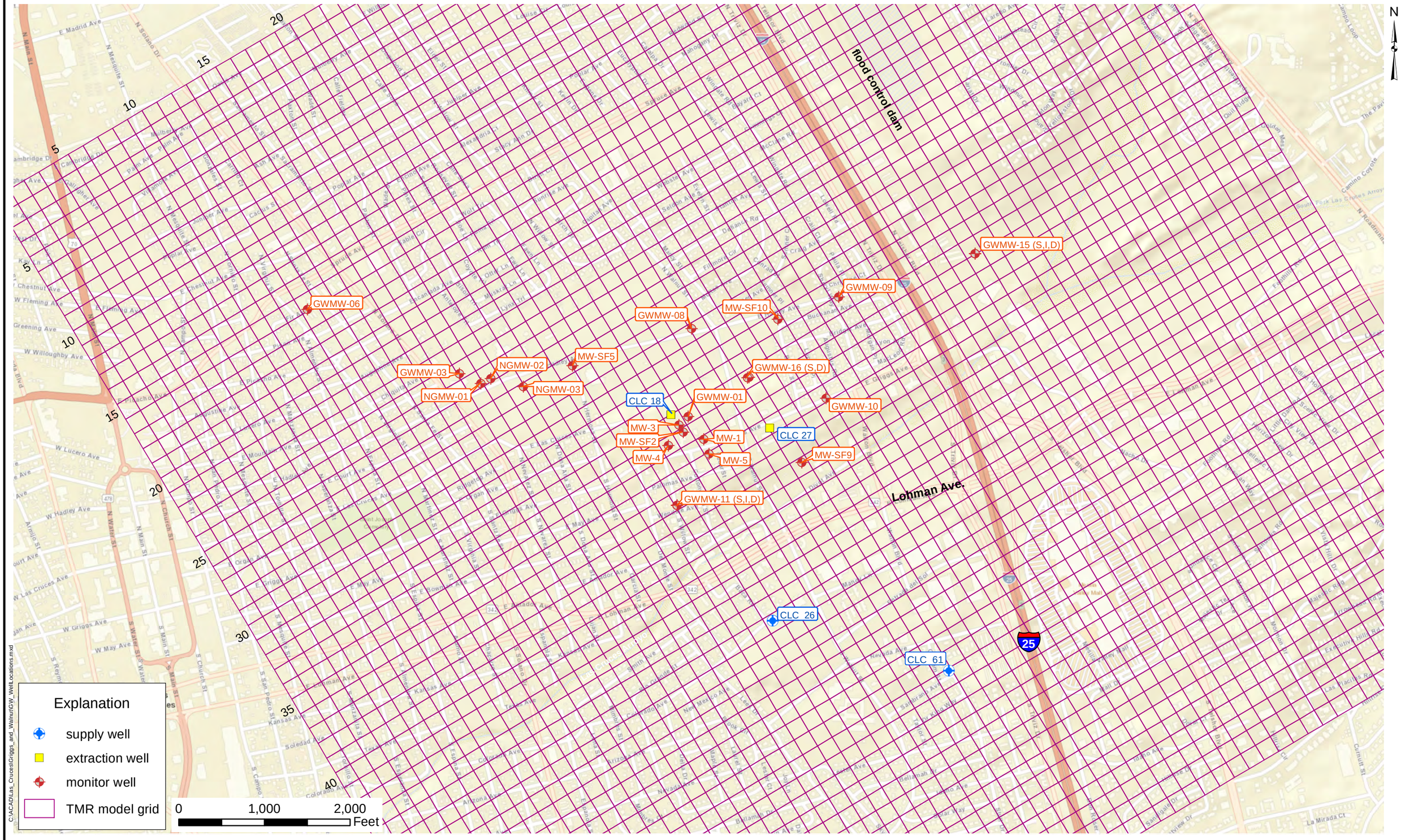
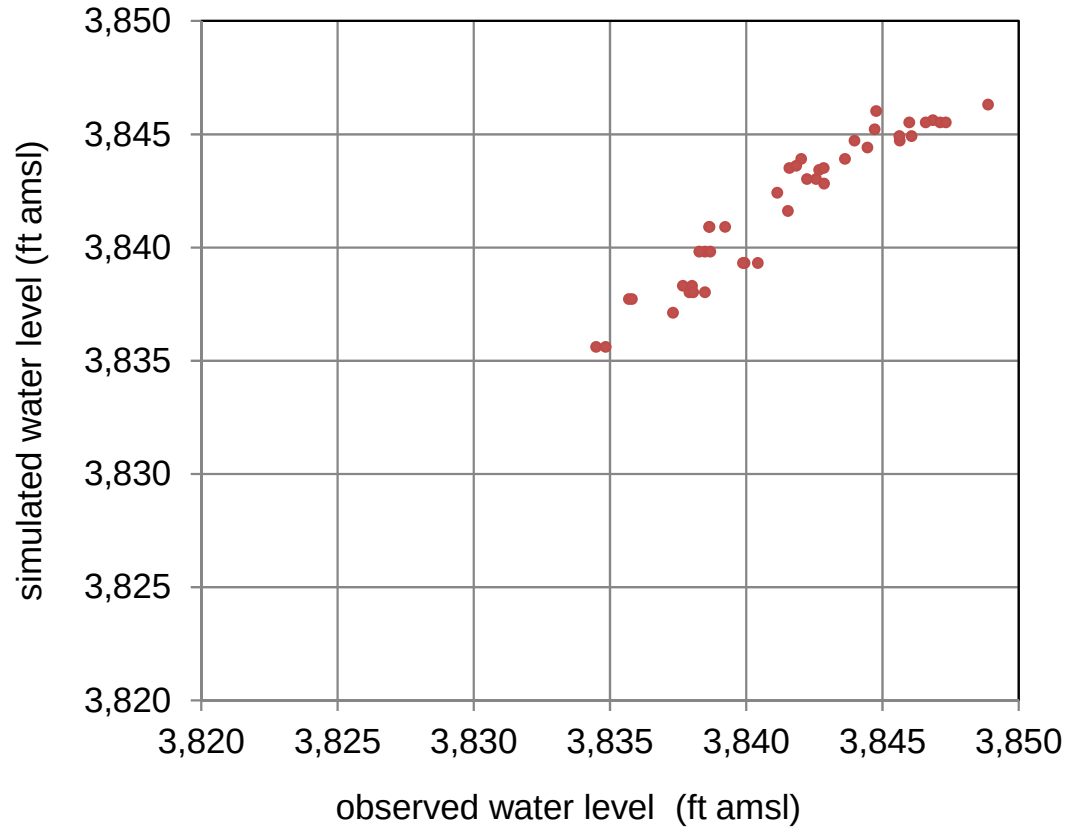


Figure 13. Map showing telescope mesh refinement (TMR) groundwater-flow model with Griggs and Walnut Site monitoring network, Las Cruces, New Mexico.



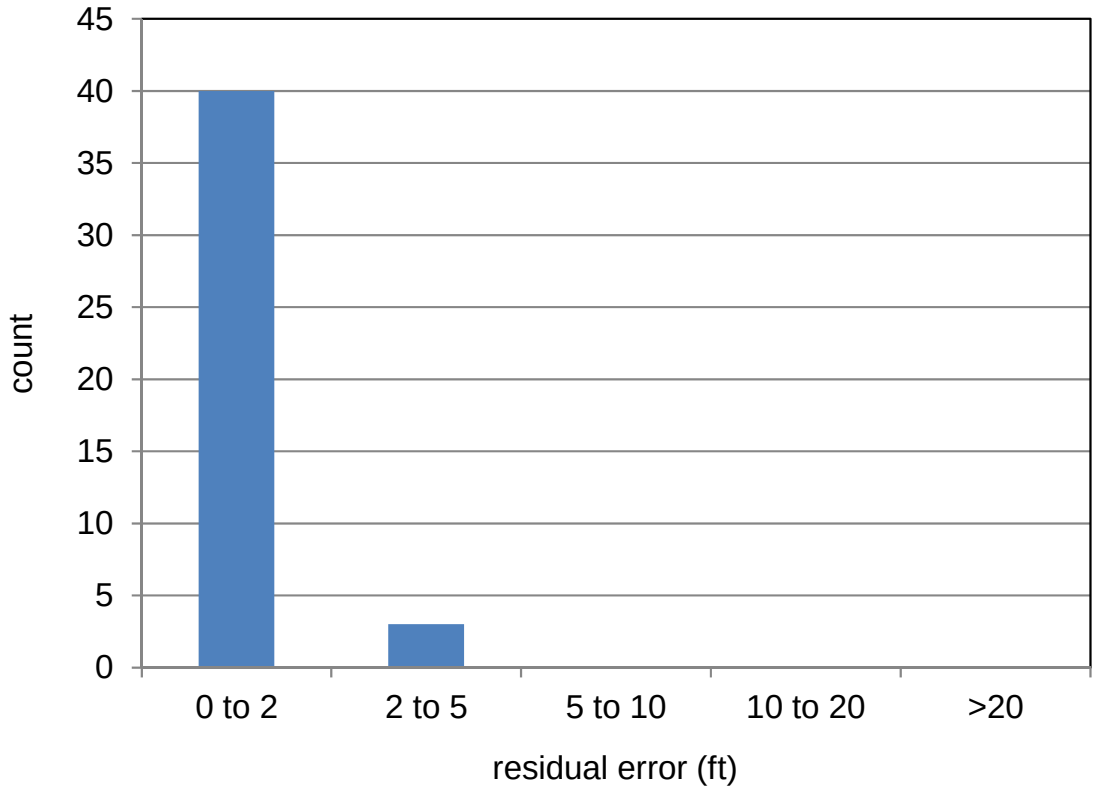


Figure 14. Bar graph showing distribution of model calibrated residual error in heads.

APPENDICES

Appendix A.

Las Cruces Utilities 2018 Griggs and Walnut Site plume monitoring point survey data

Table A1. Groundwater Monitoring Wells							
Well Number	**Northing**	**Easting**	**Ground Surface Elevation (ft)**	**Sampling Tube Elevation (ft)**	**Depth: Ground Surface to Sampling Tube (in.)**	**Number of Sampling Tubes**	**Features**
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				
Well Number	**Northing**	**Easting**	**Concrete Floor at Well (ft)**	**Features**
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	-
Well24	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

Appendix B.

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

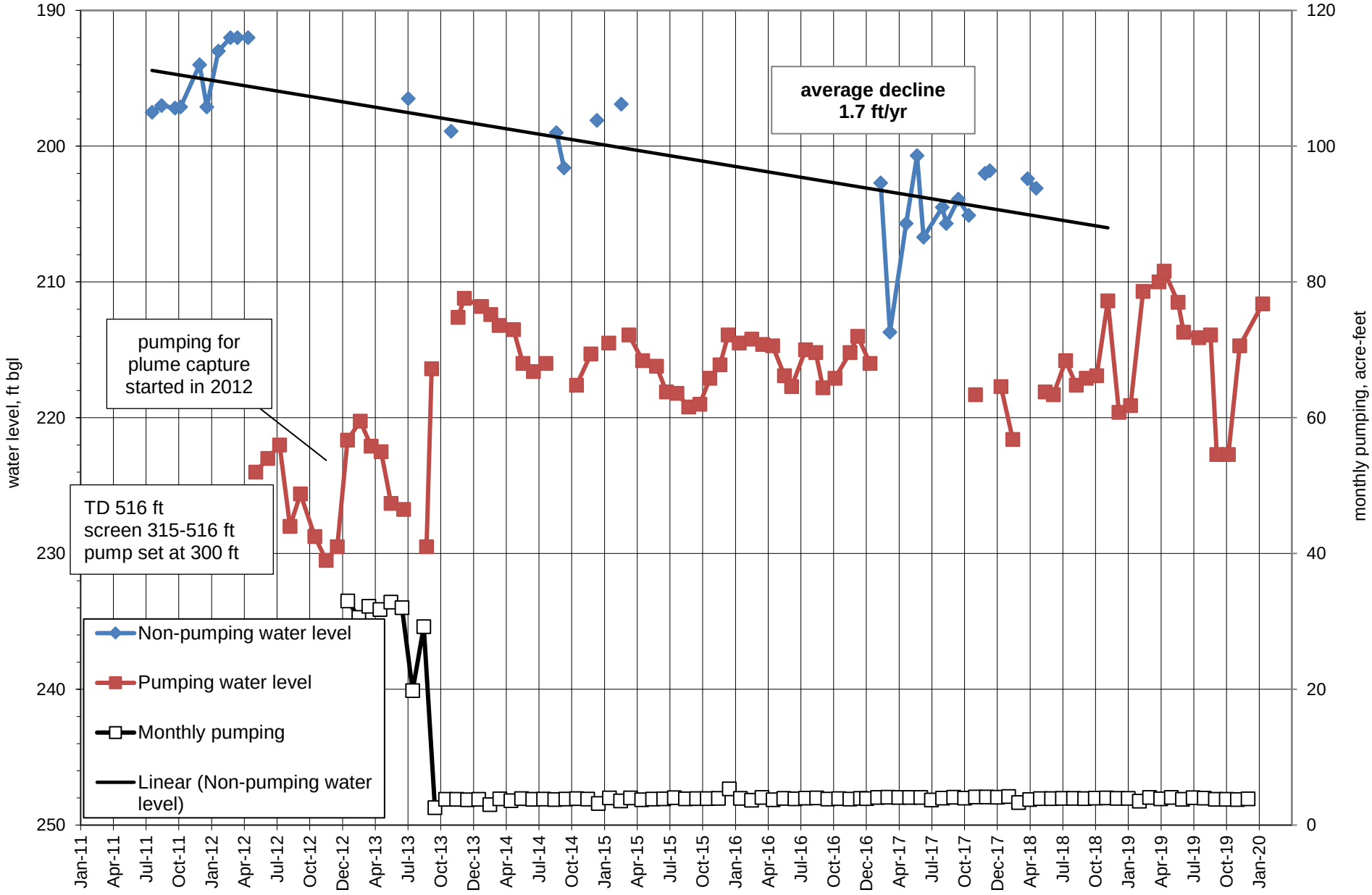


Figure B1. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for CLC 18.

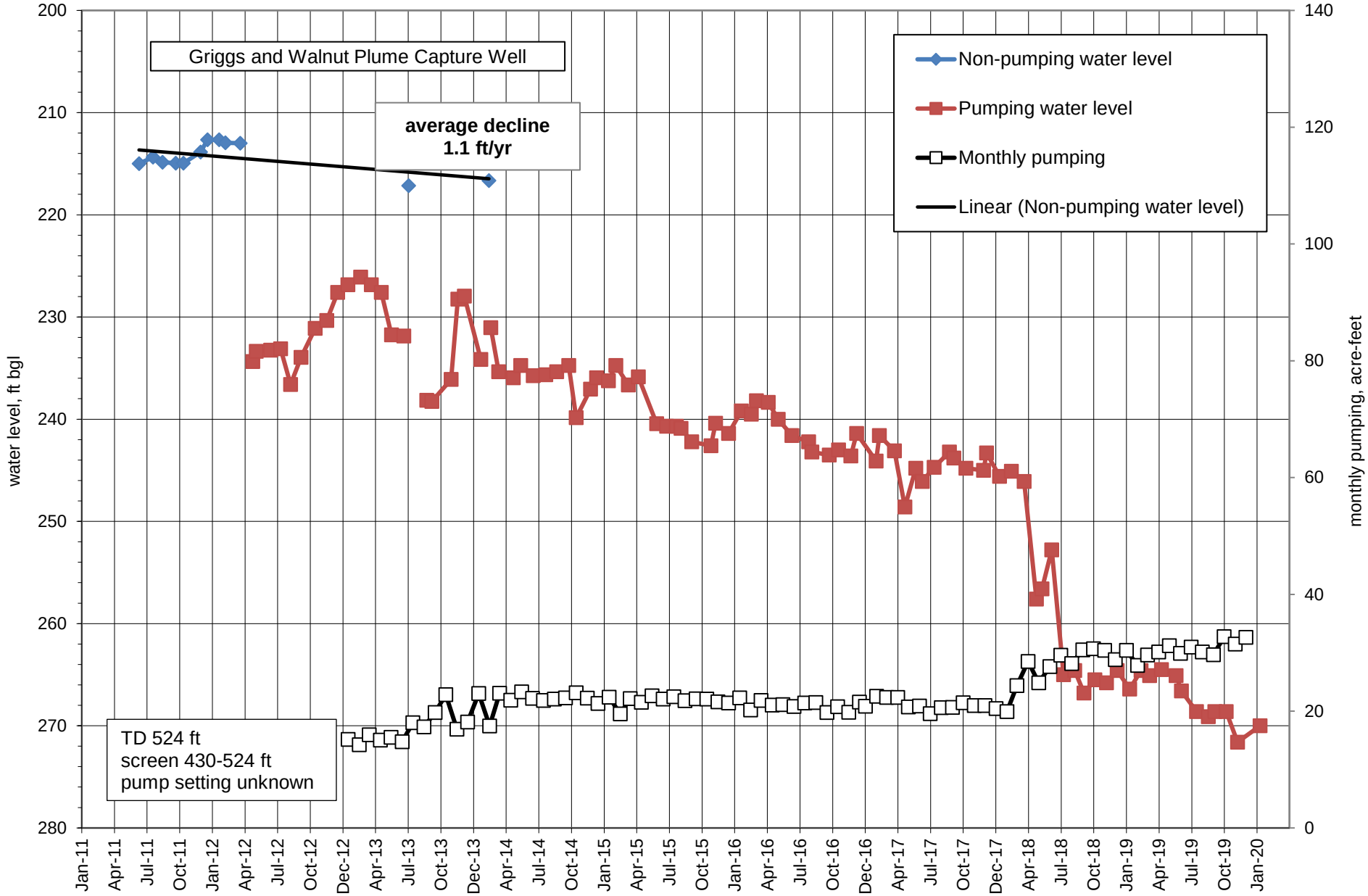


Figure B2. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for CLC 27.

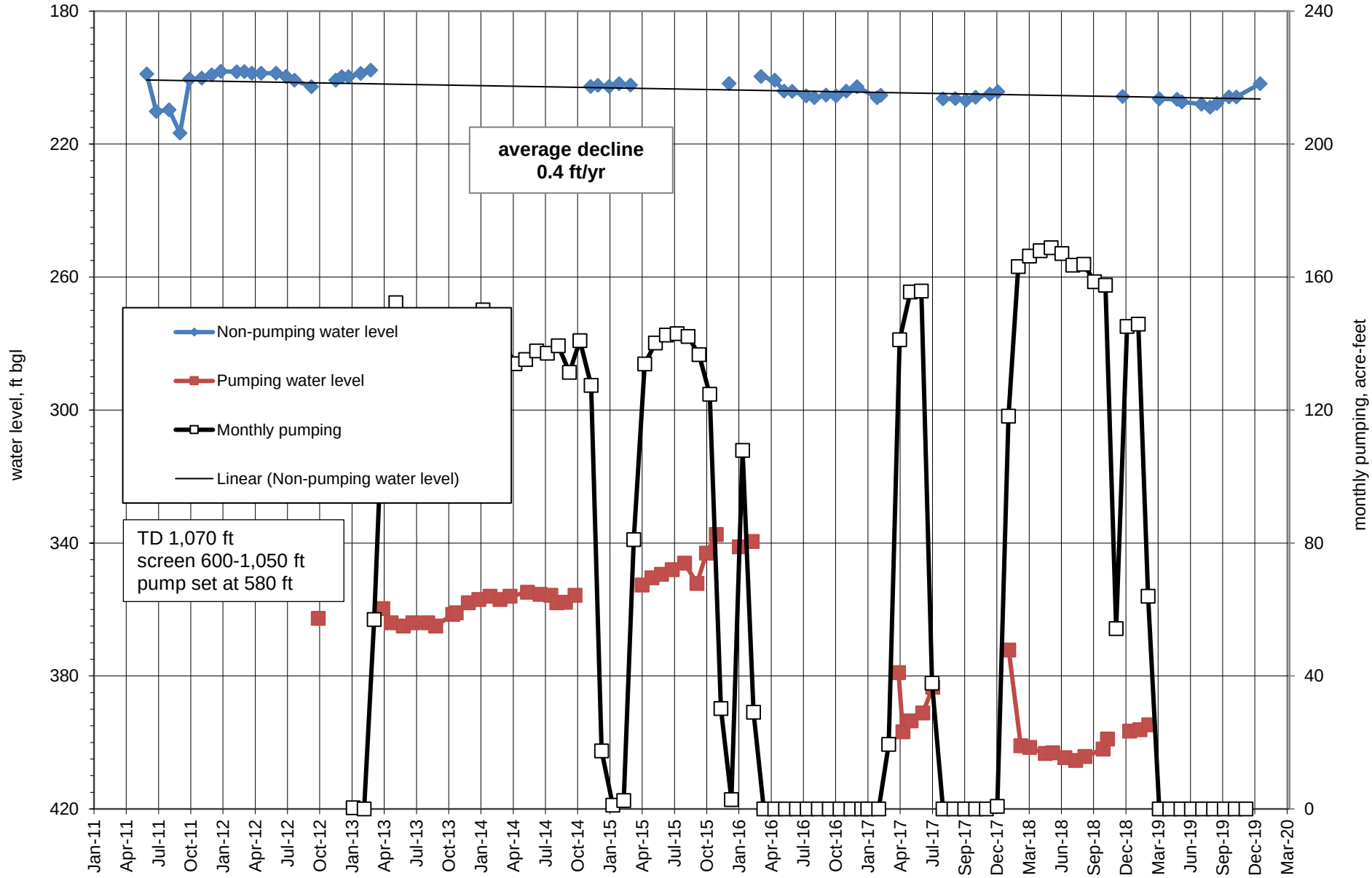


Figure B3. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for CLC 61.

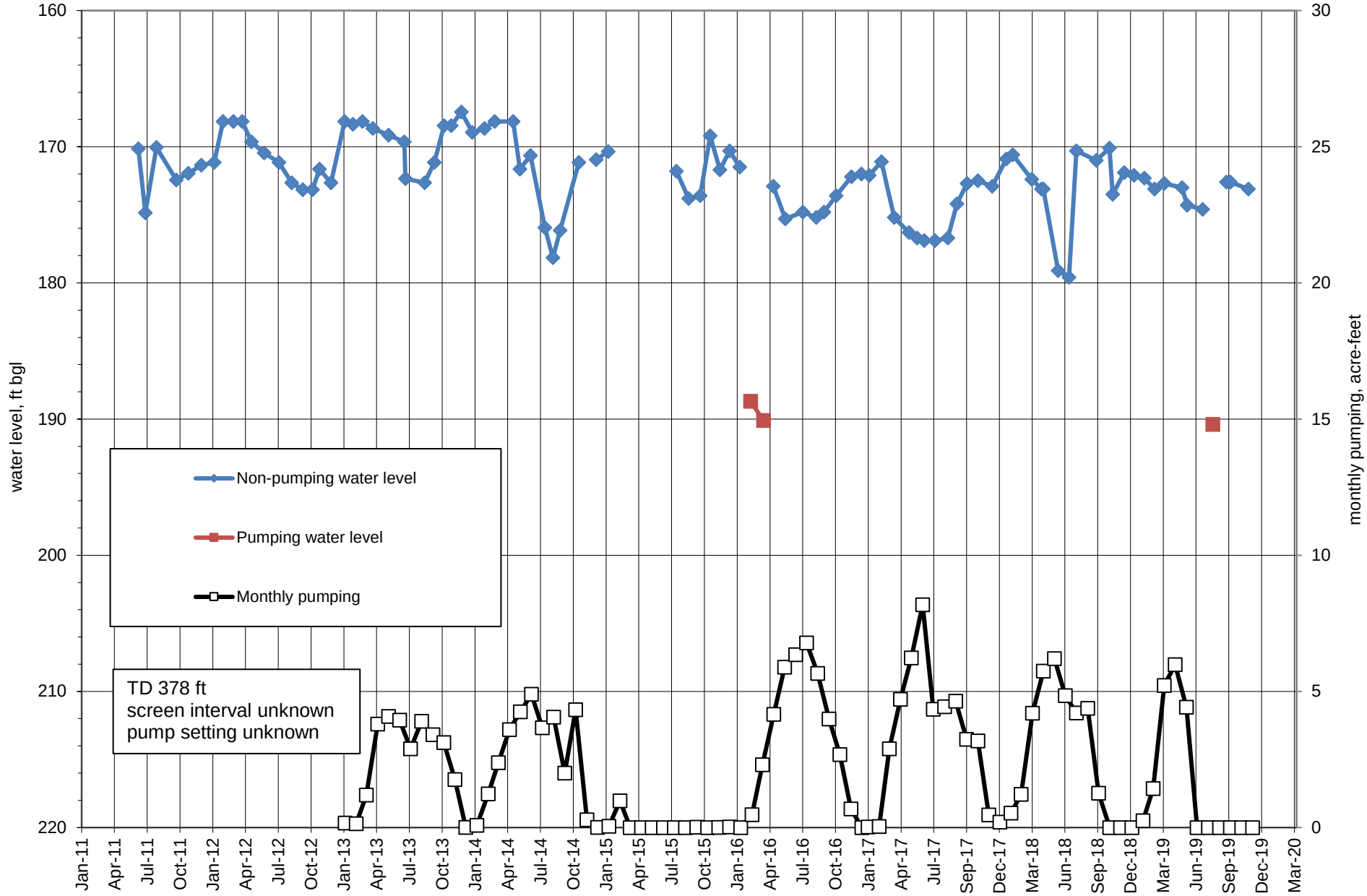


Figure B4. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for Paz Park Well.

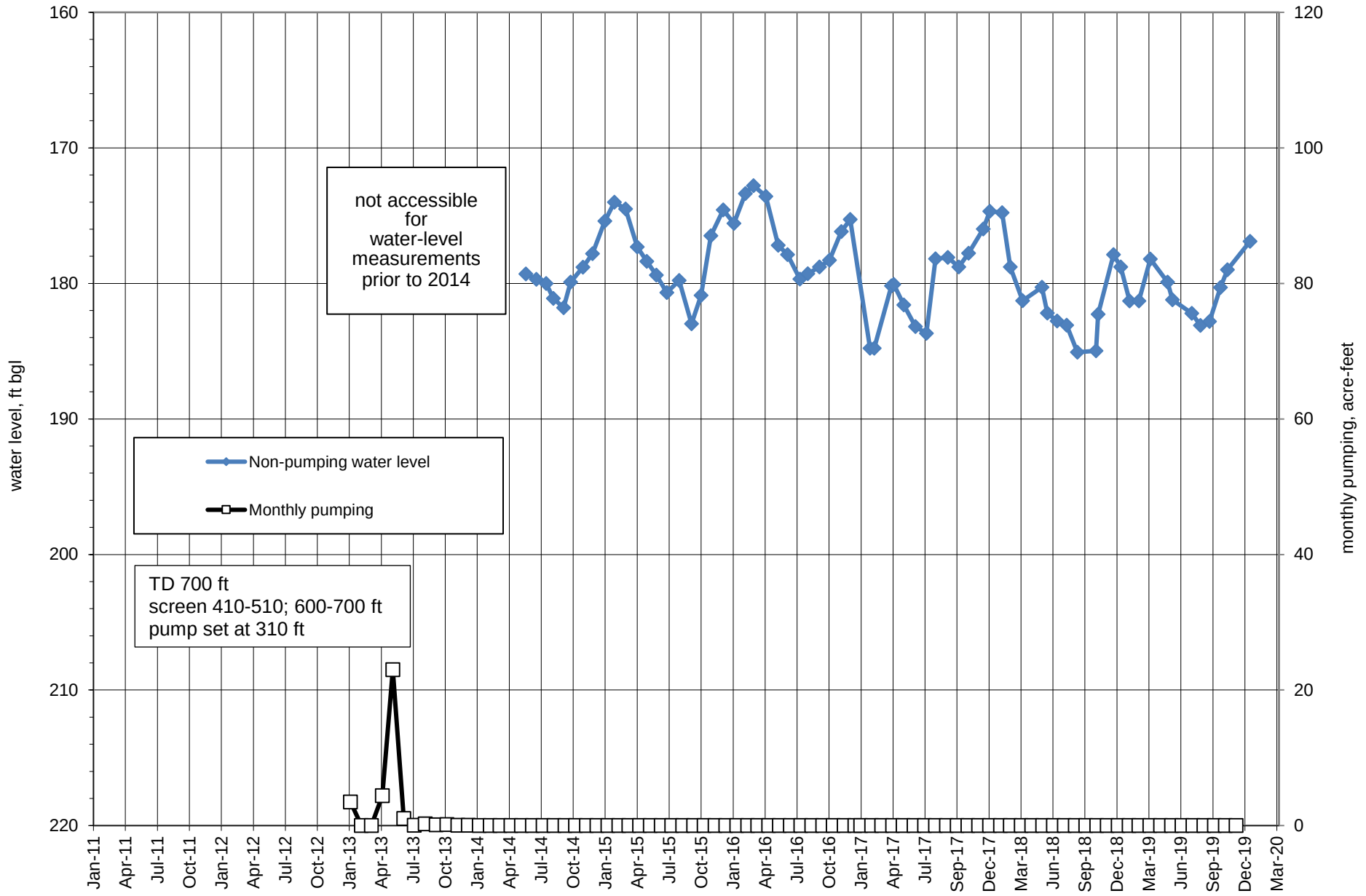


Figure B5. Graph of water-level data and monthly pumping data collected by the City of Las Cruces for CLC 26.

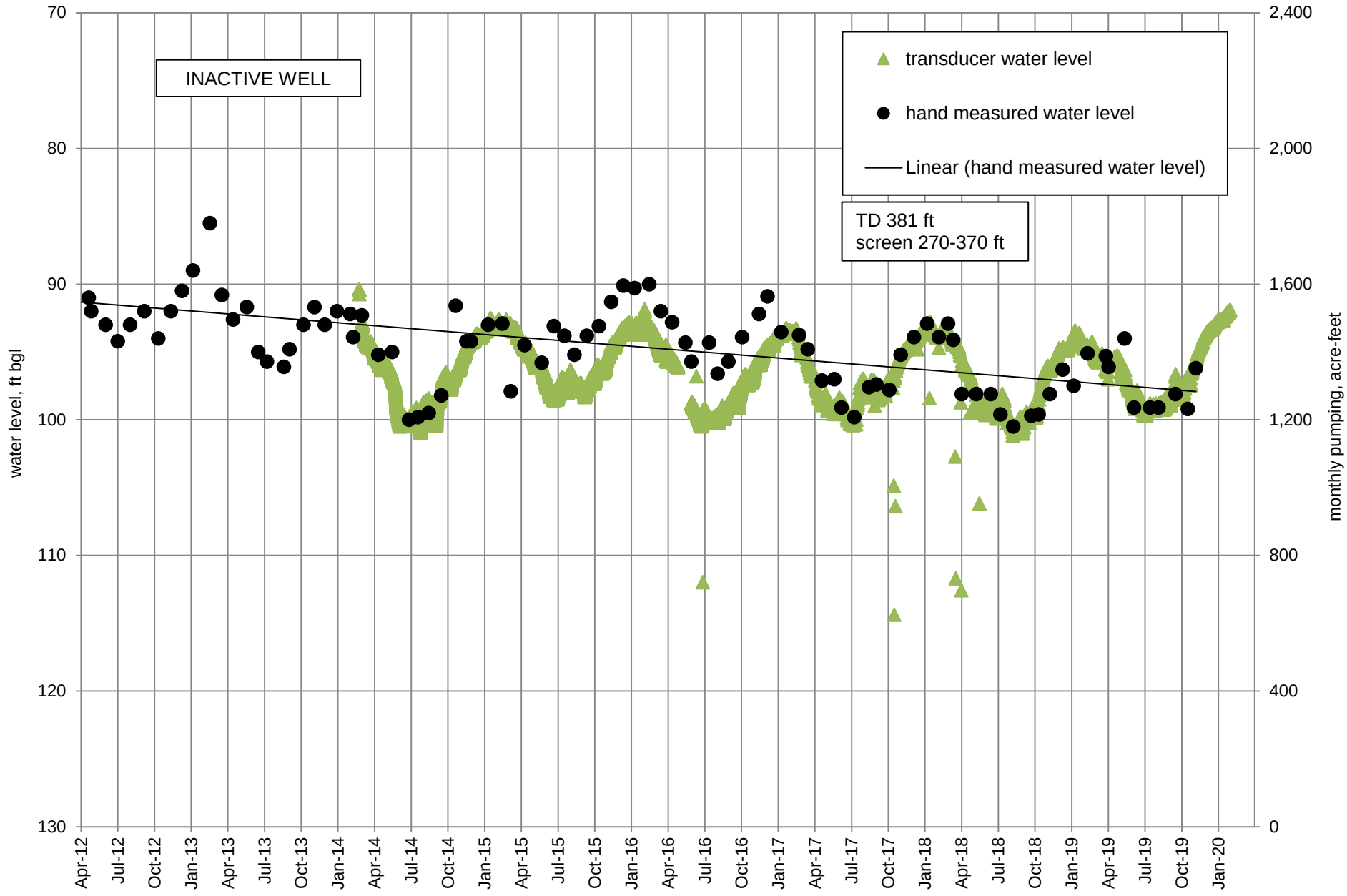


Figure B6. Graph of water-level data collected by the City of Las Cruces for CLC 10, and monthly pumping in the Valley.

.

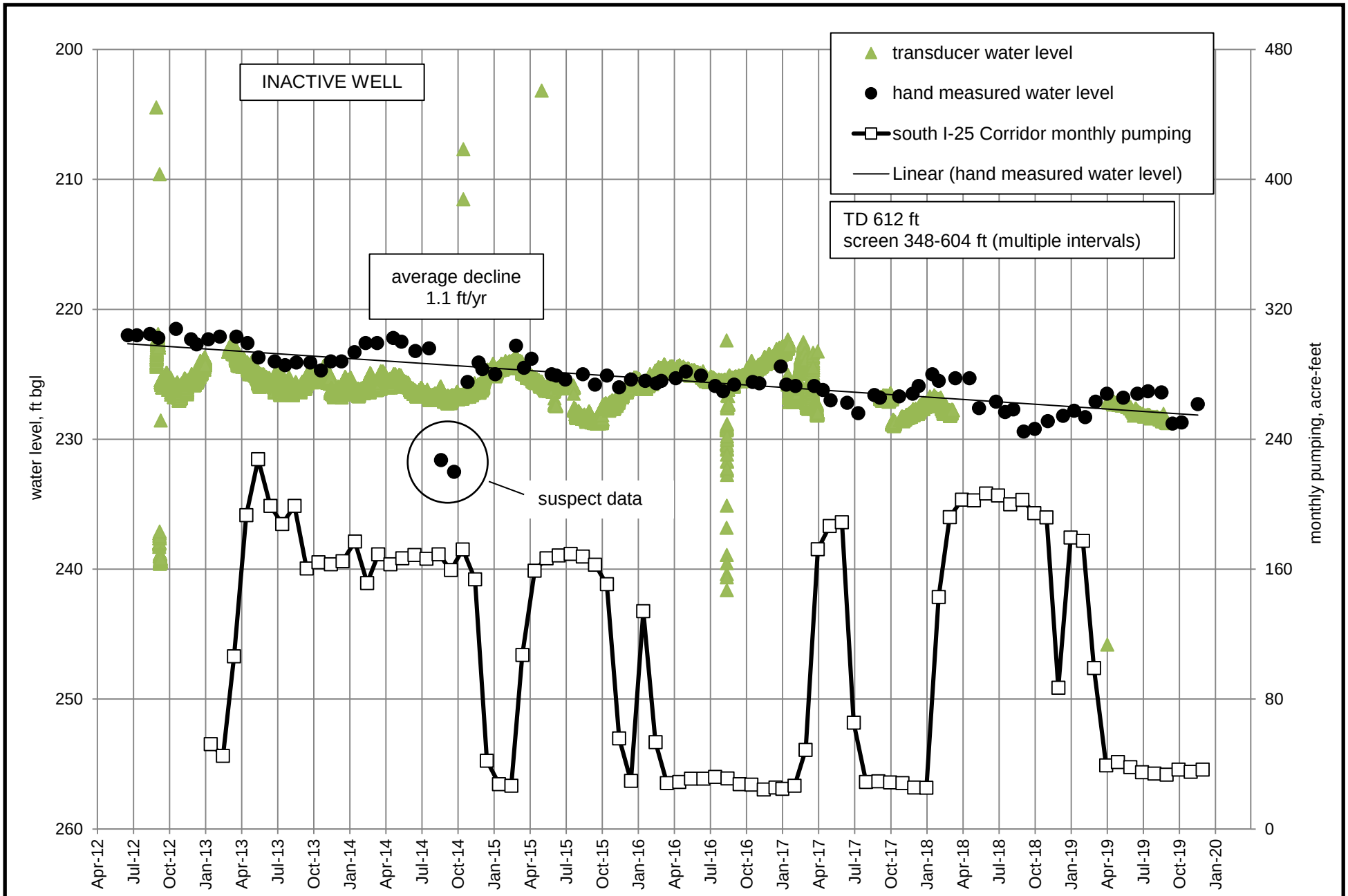


Figure B7. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for CLCl 19, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

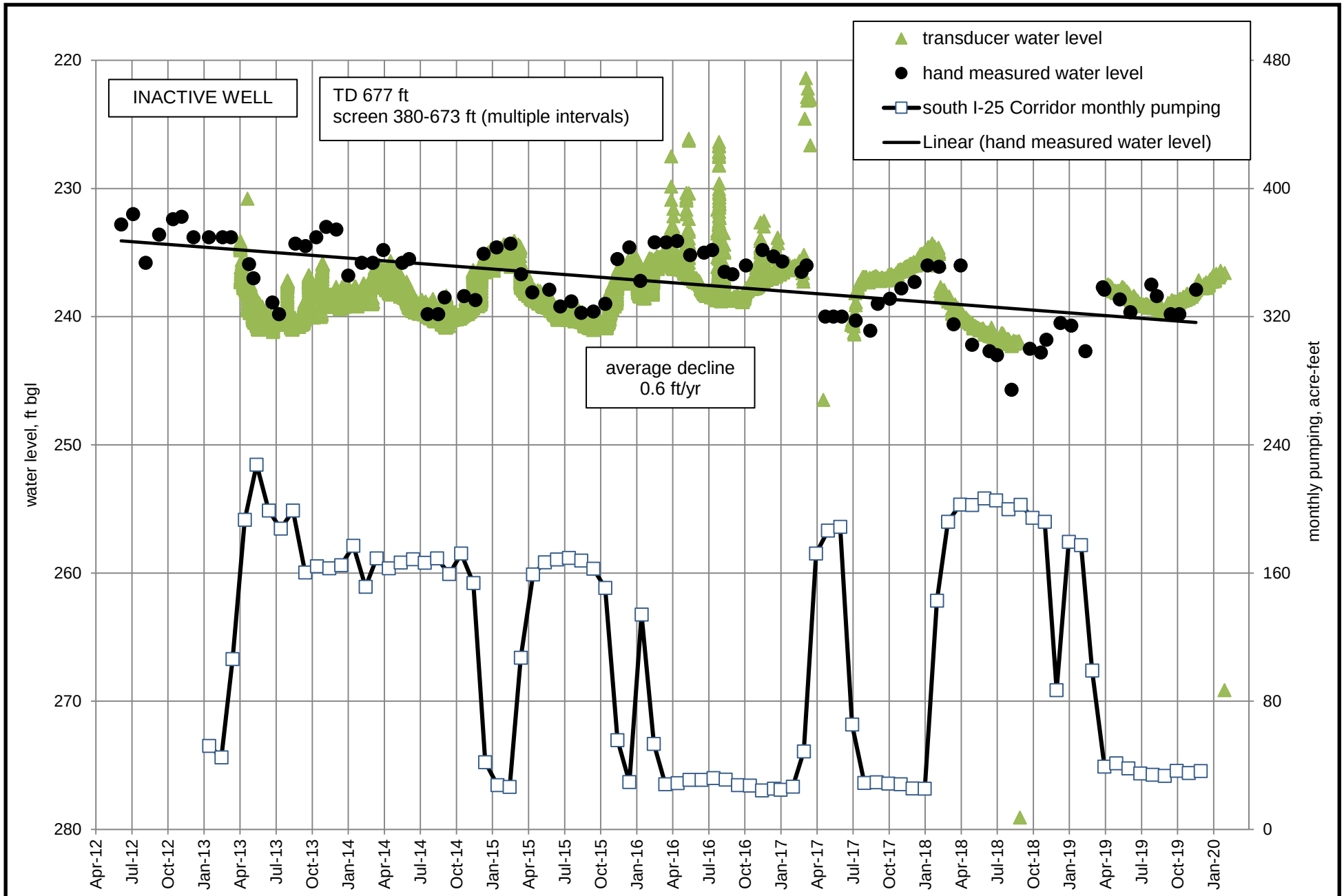


Figure B8. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for CLC 20, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

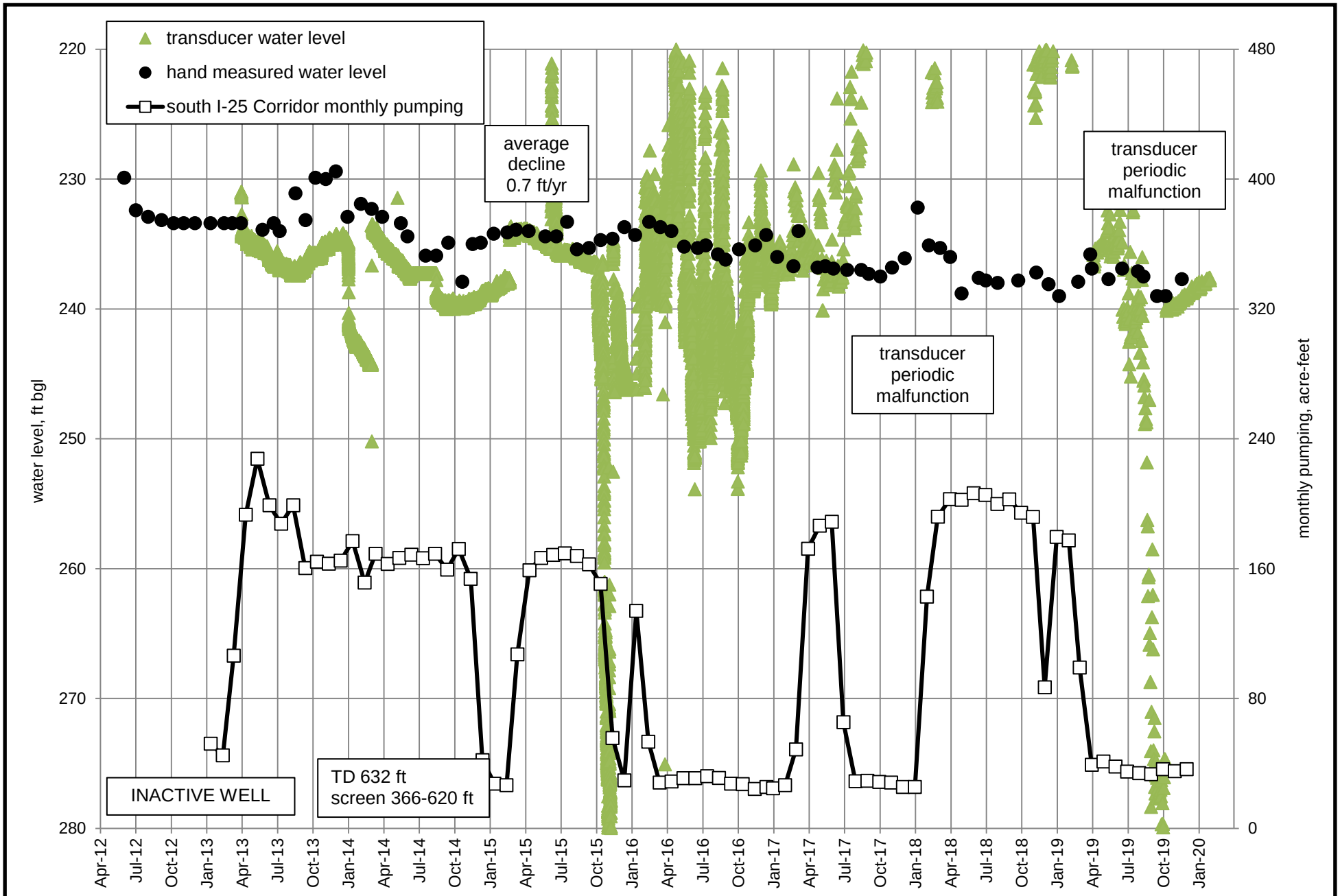


Figure B9. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for CLC 21, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

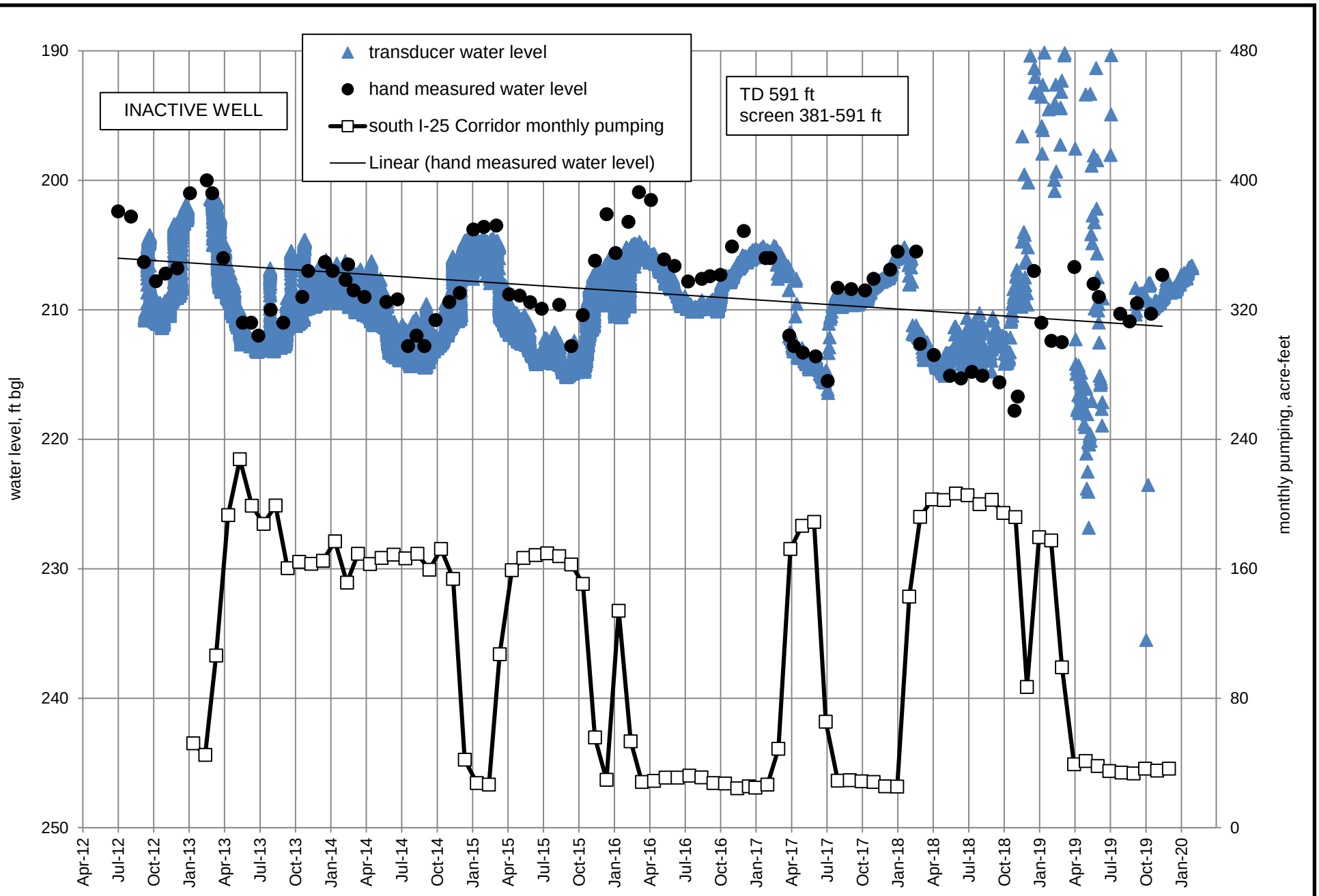


Figure B10. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for CLC 24, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

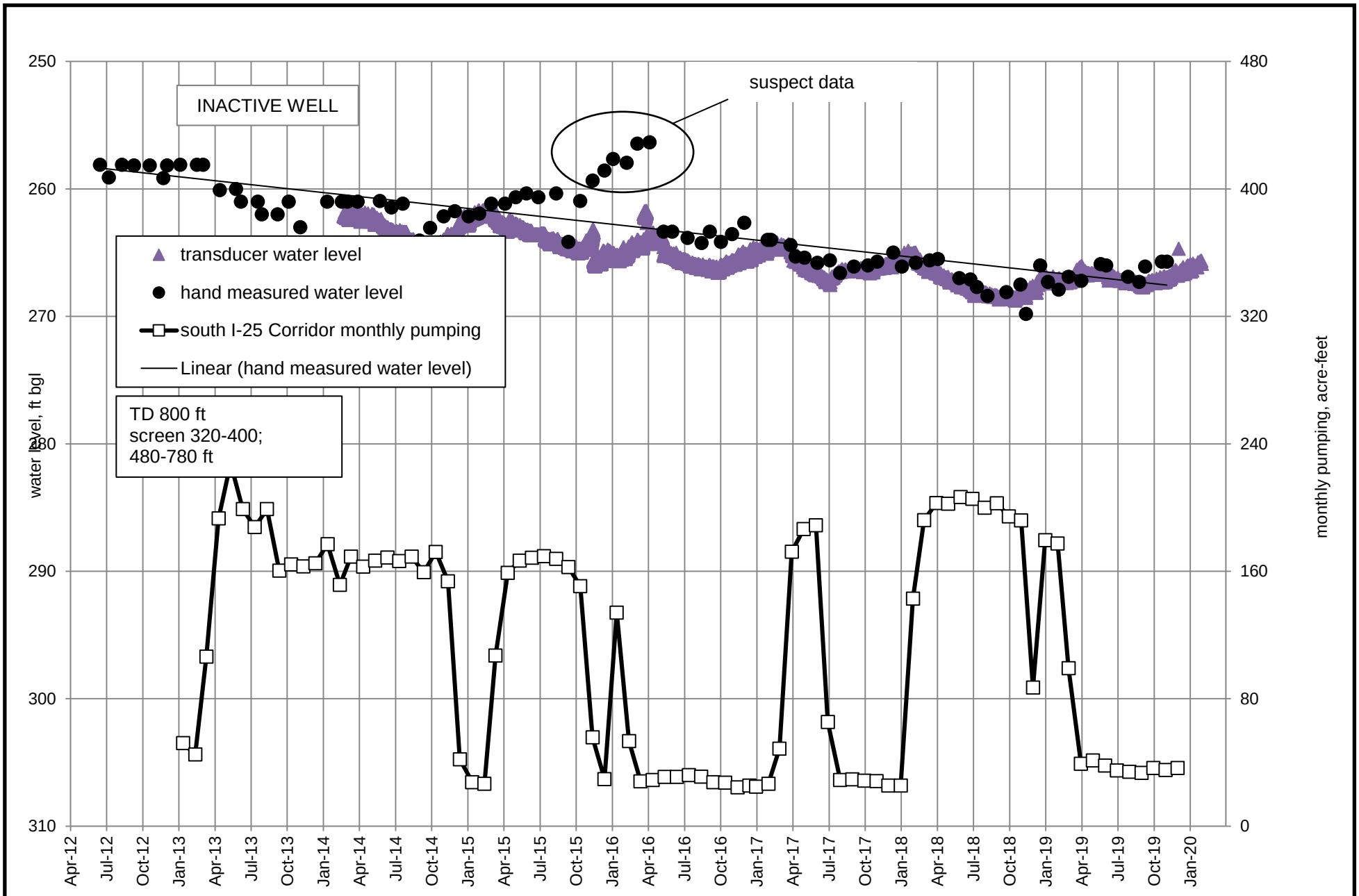


Figure B11. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for CLC 38, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

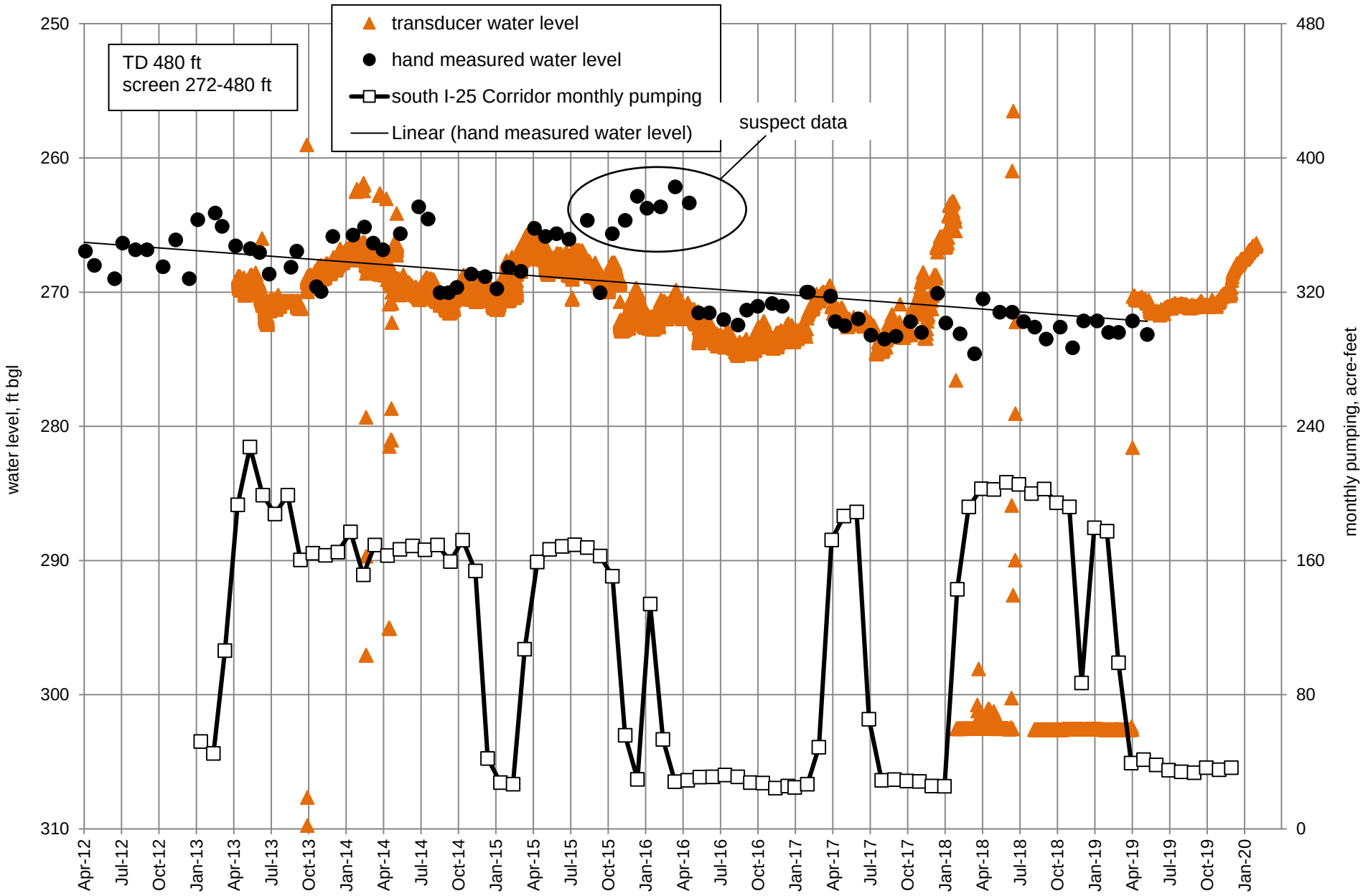


Figure B12. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for CLC 54, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

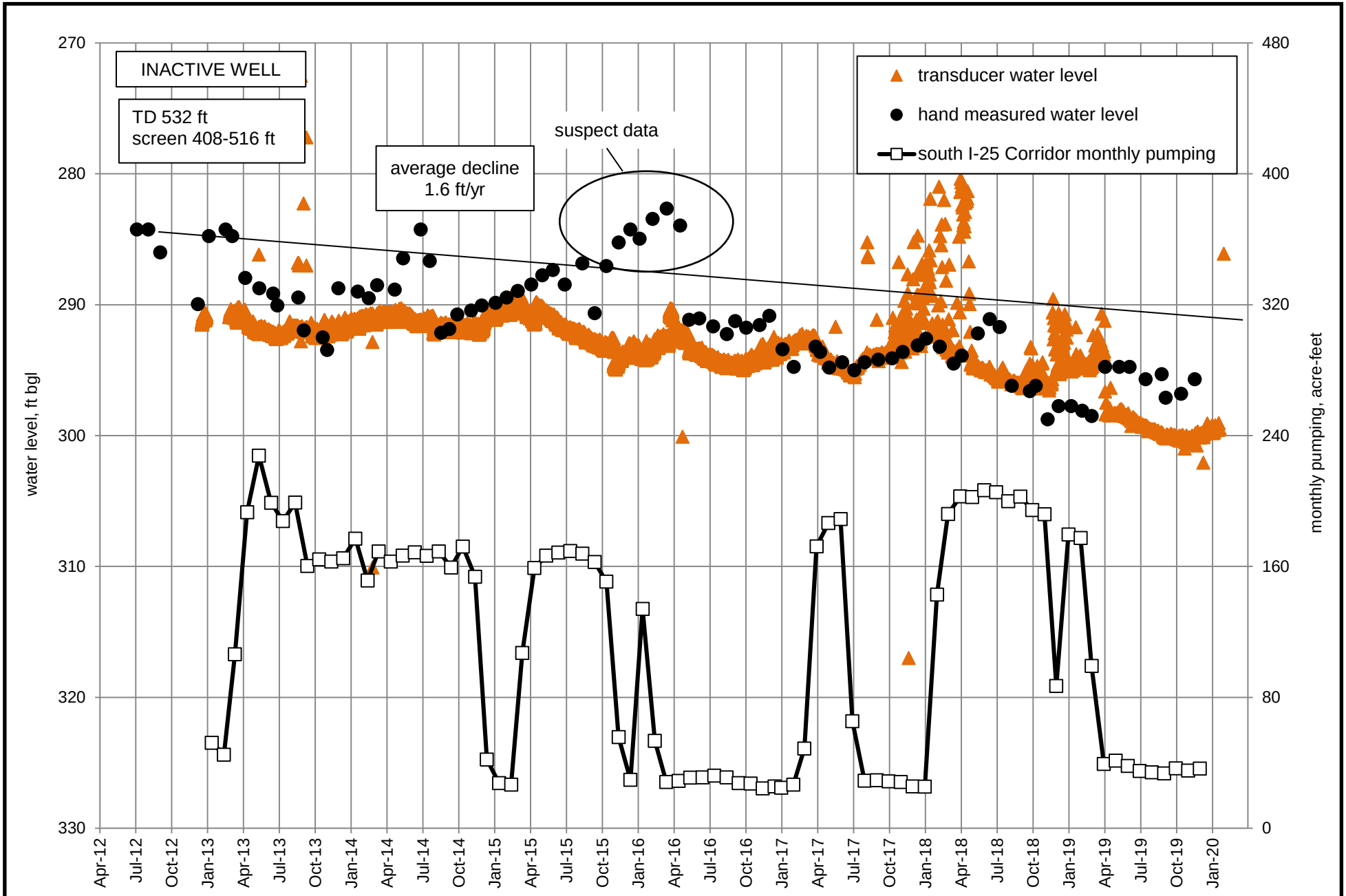


Figure B13. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for CLC 57, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

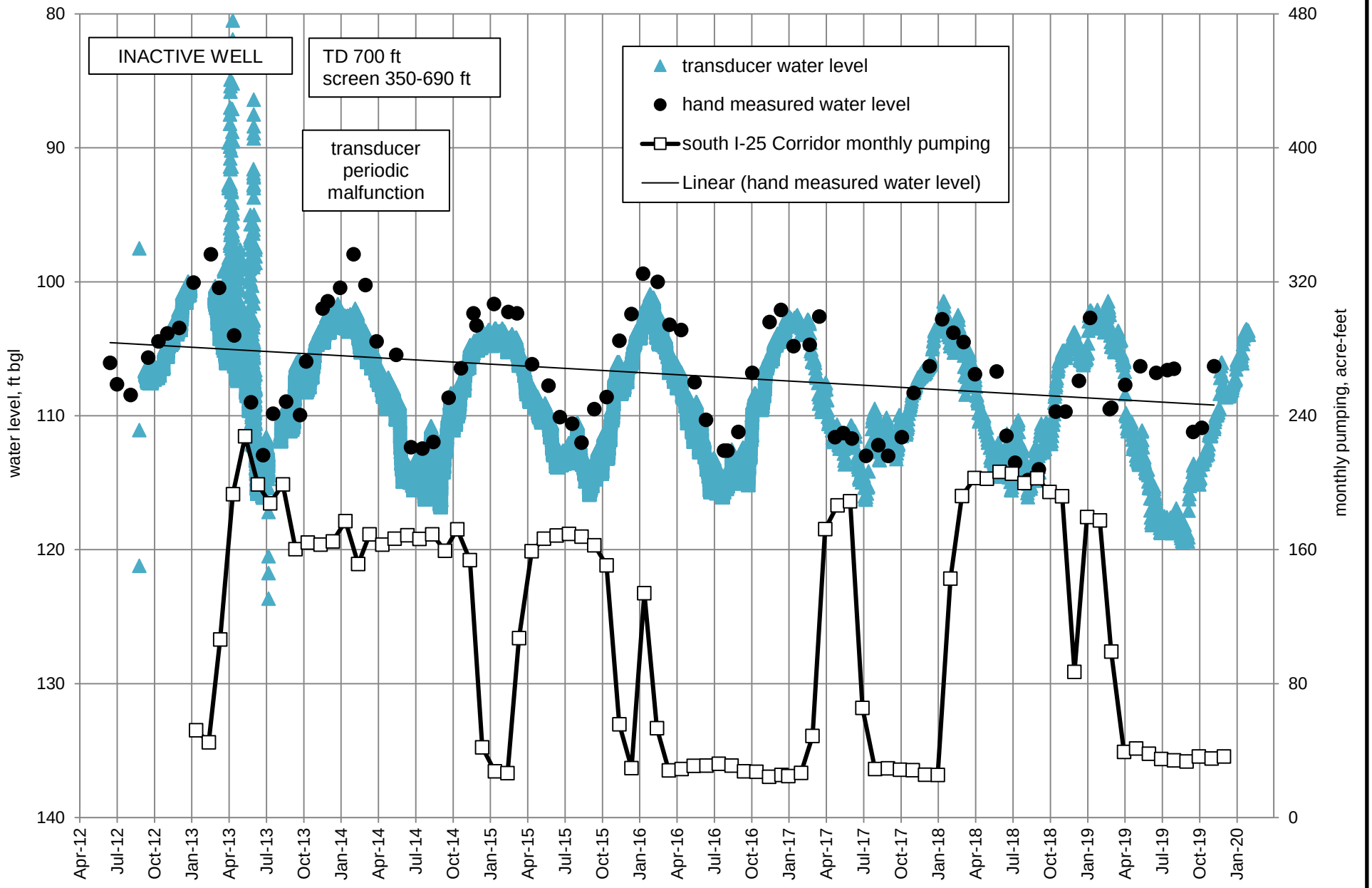


Figure B14. Graph of hand-measured and transducer water-level data collected by the City of Las Cruces for CLC 60, and monthly pumping in the southern part of the I-25 Corridor (Wells 18, 27, 26, 61, and Paz Park).

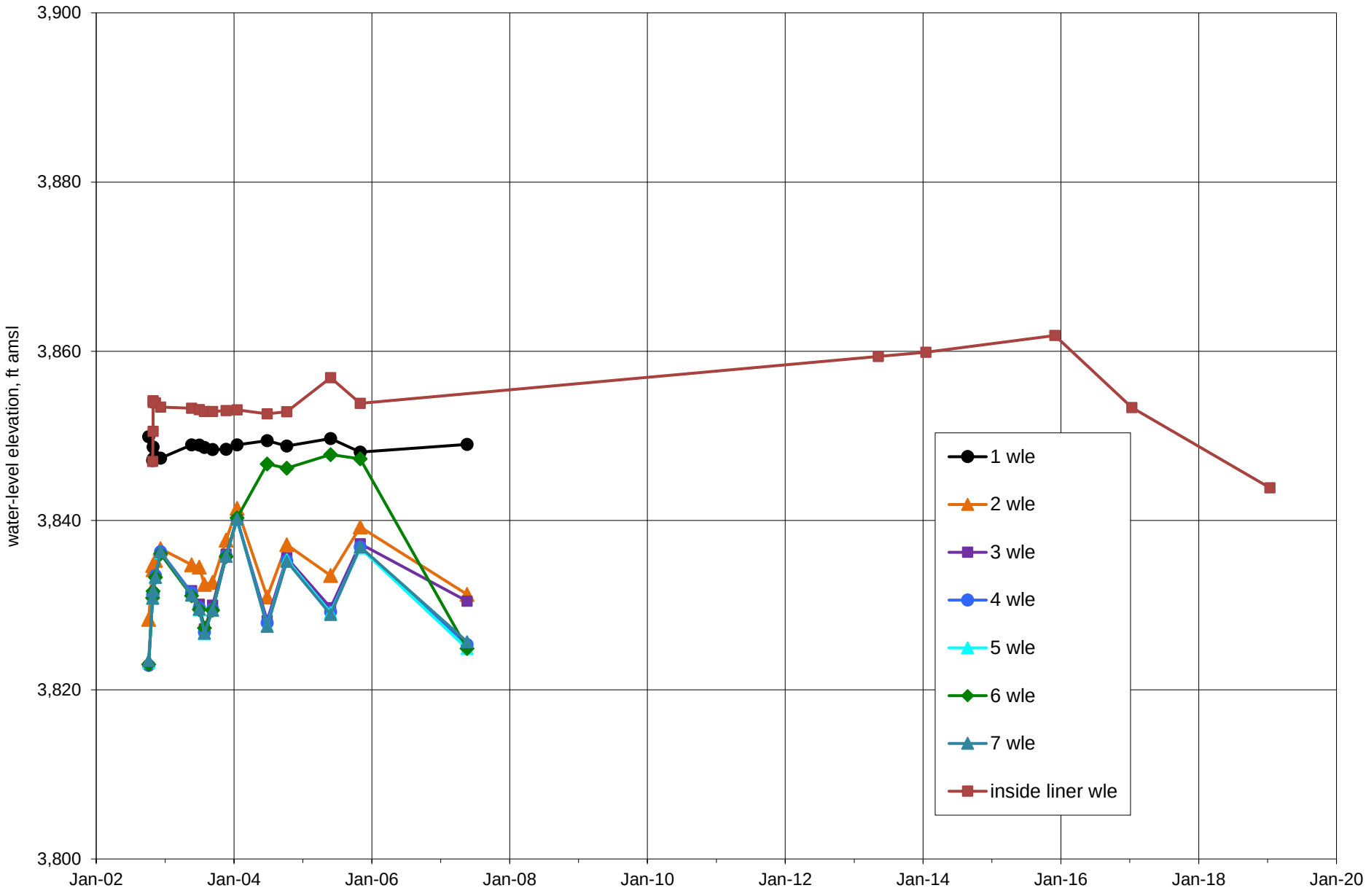


Figure B15. Graph of GWMW-01 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.

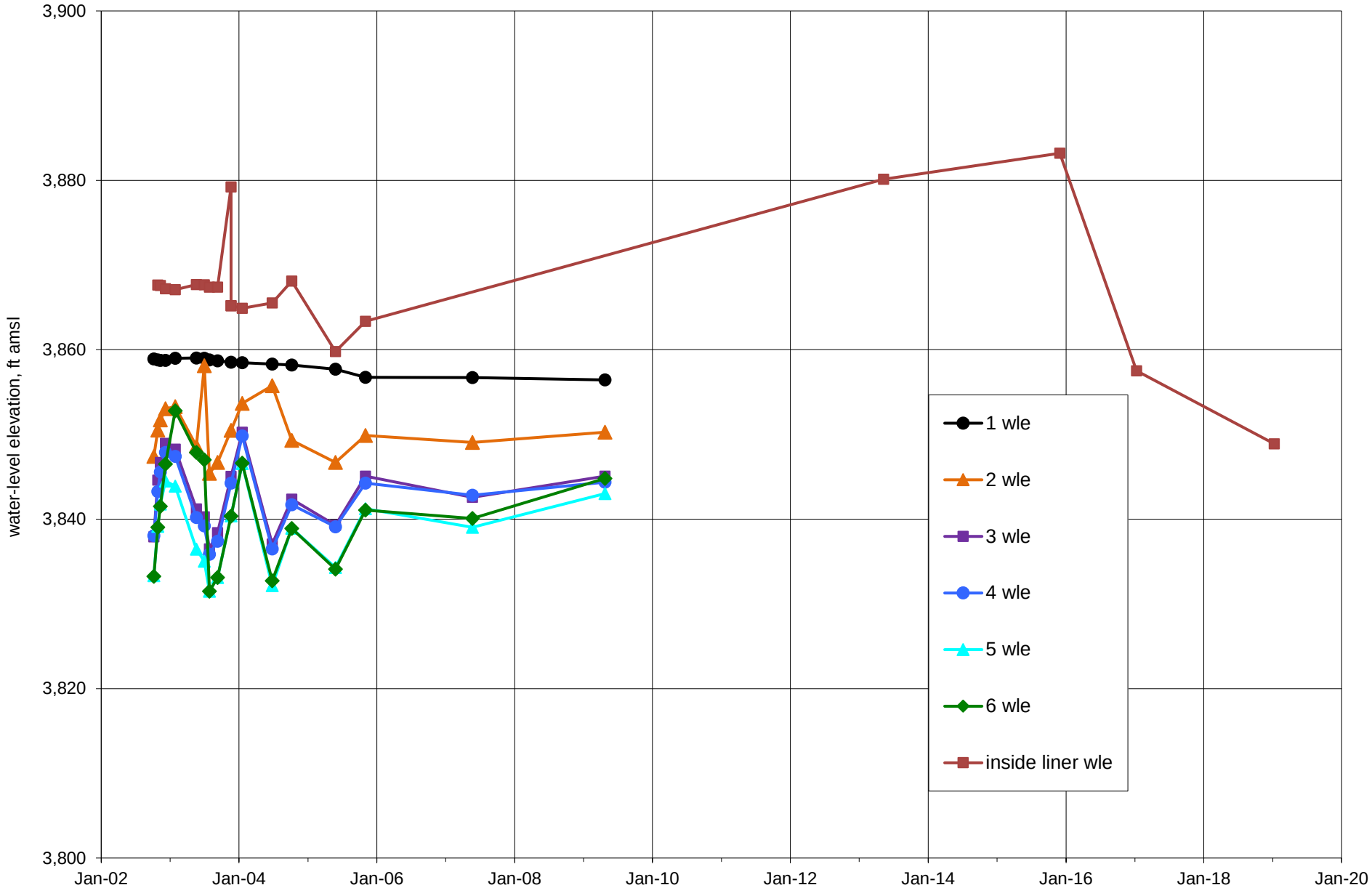


Figure B16. Graph of GWMW-03 (Ports 1 through 6 and inside liner) observed water levels, Griggs and Walnut site.

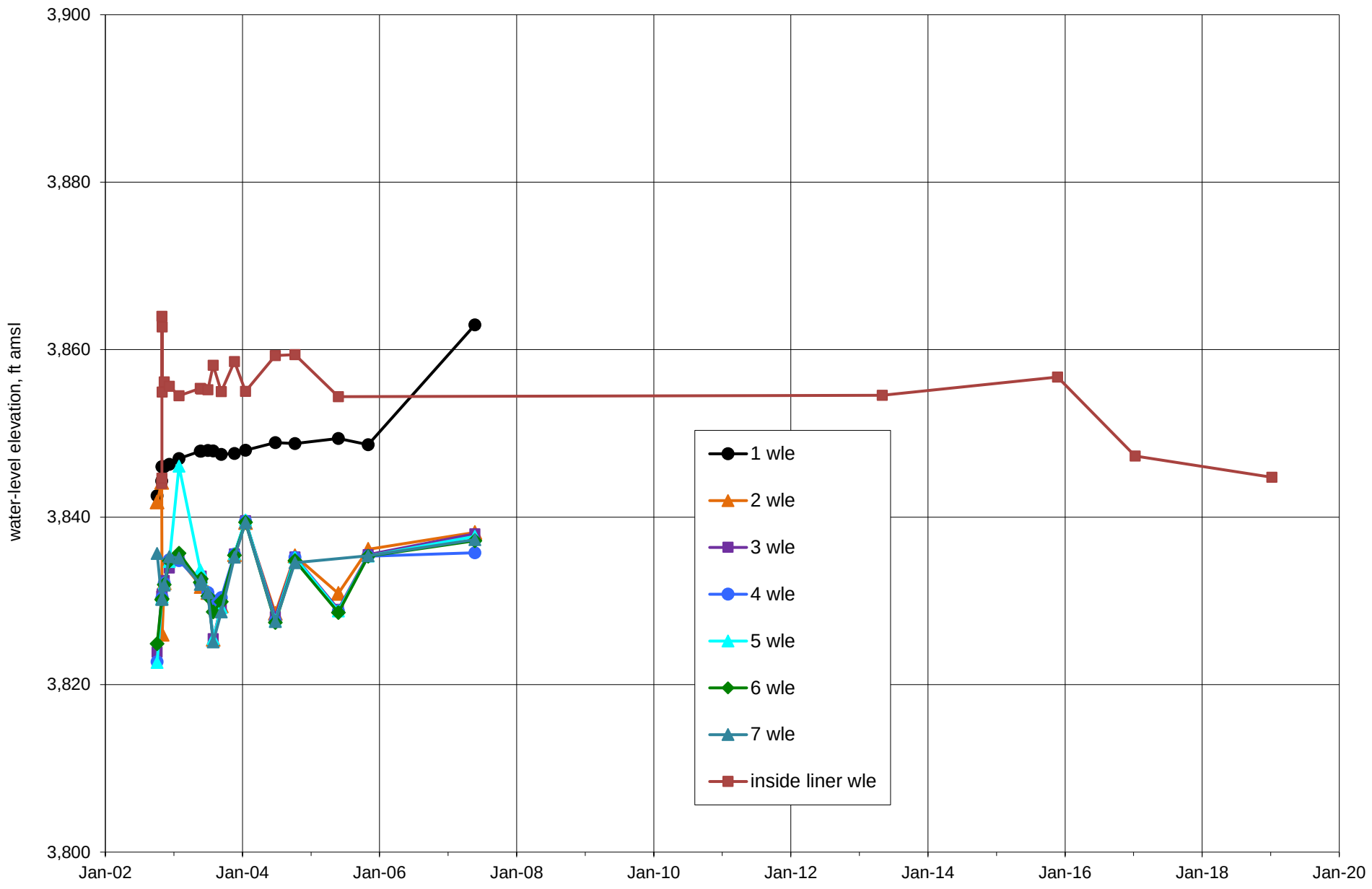


Figure B17. Graph of GWMW-08 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.

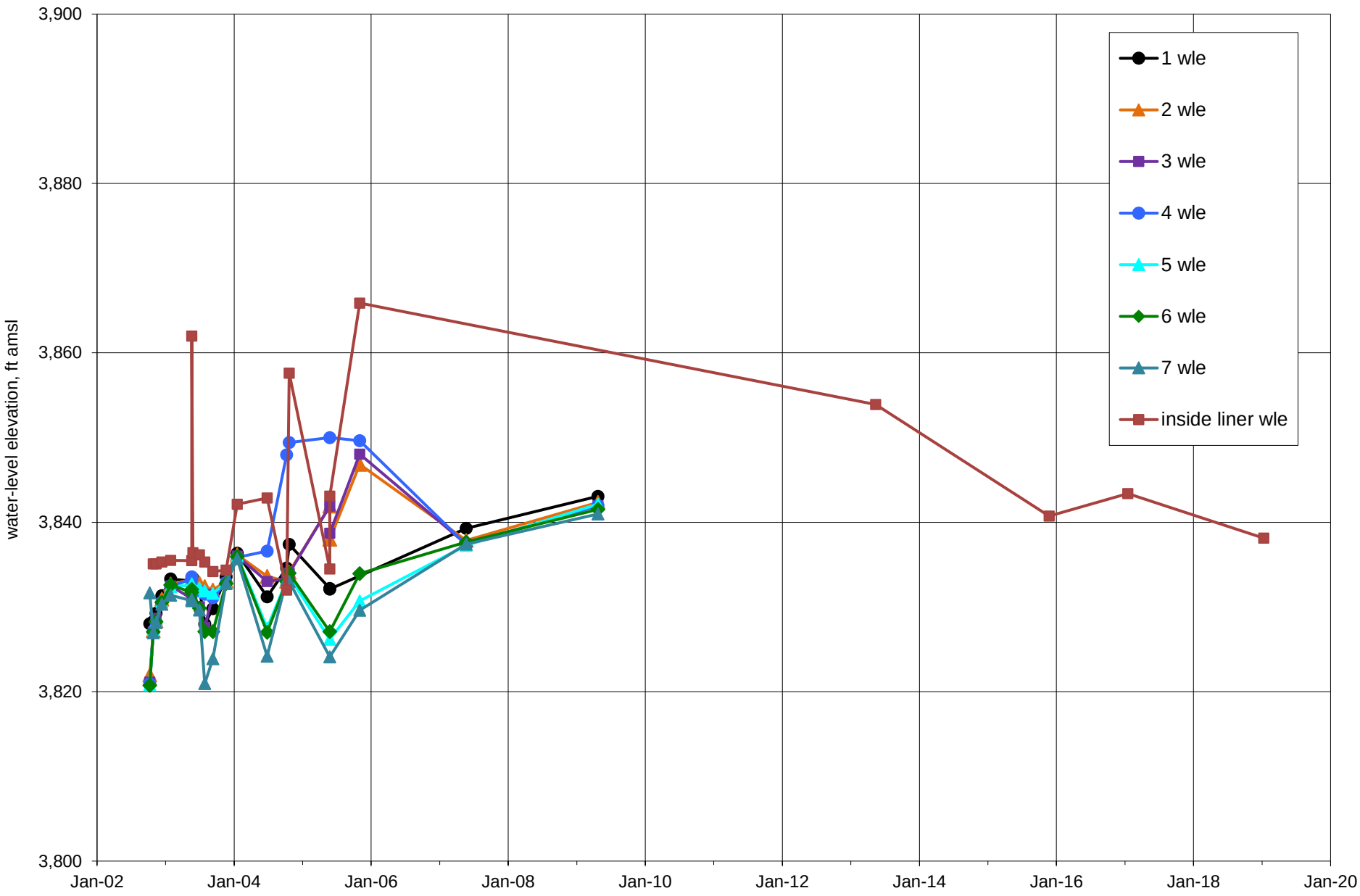


Figure B18. Graph of GWMW-09 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.

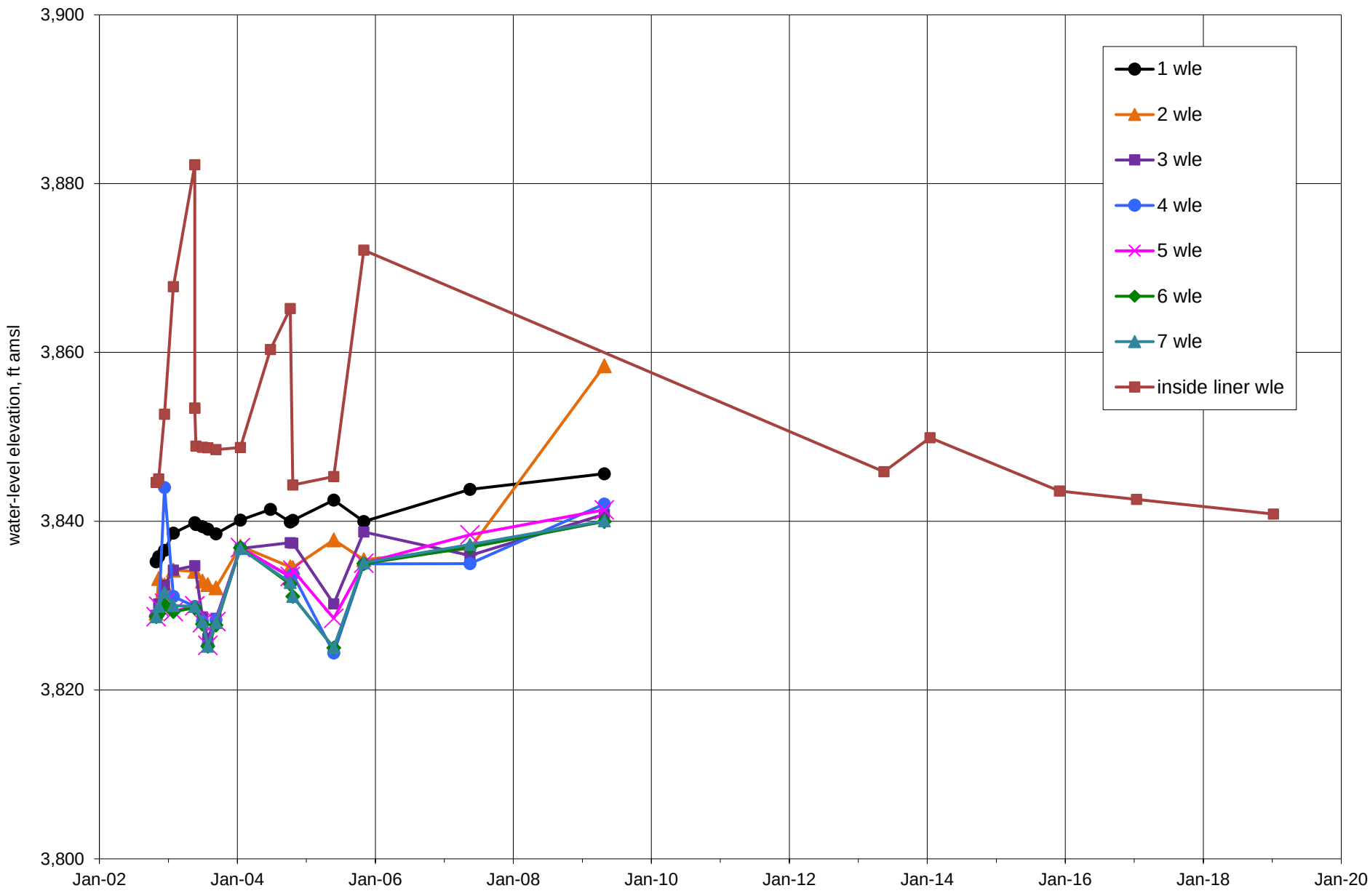


Figure B19. Graph of GWMW-10 (Ports 1 through 7 and inside liner) observed water levels, Griggs and Walnut site.

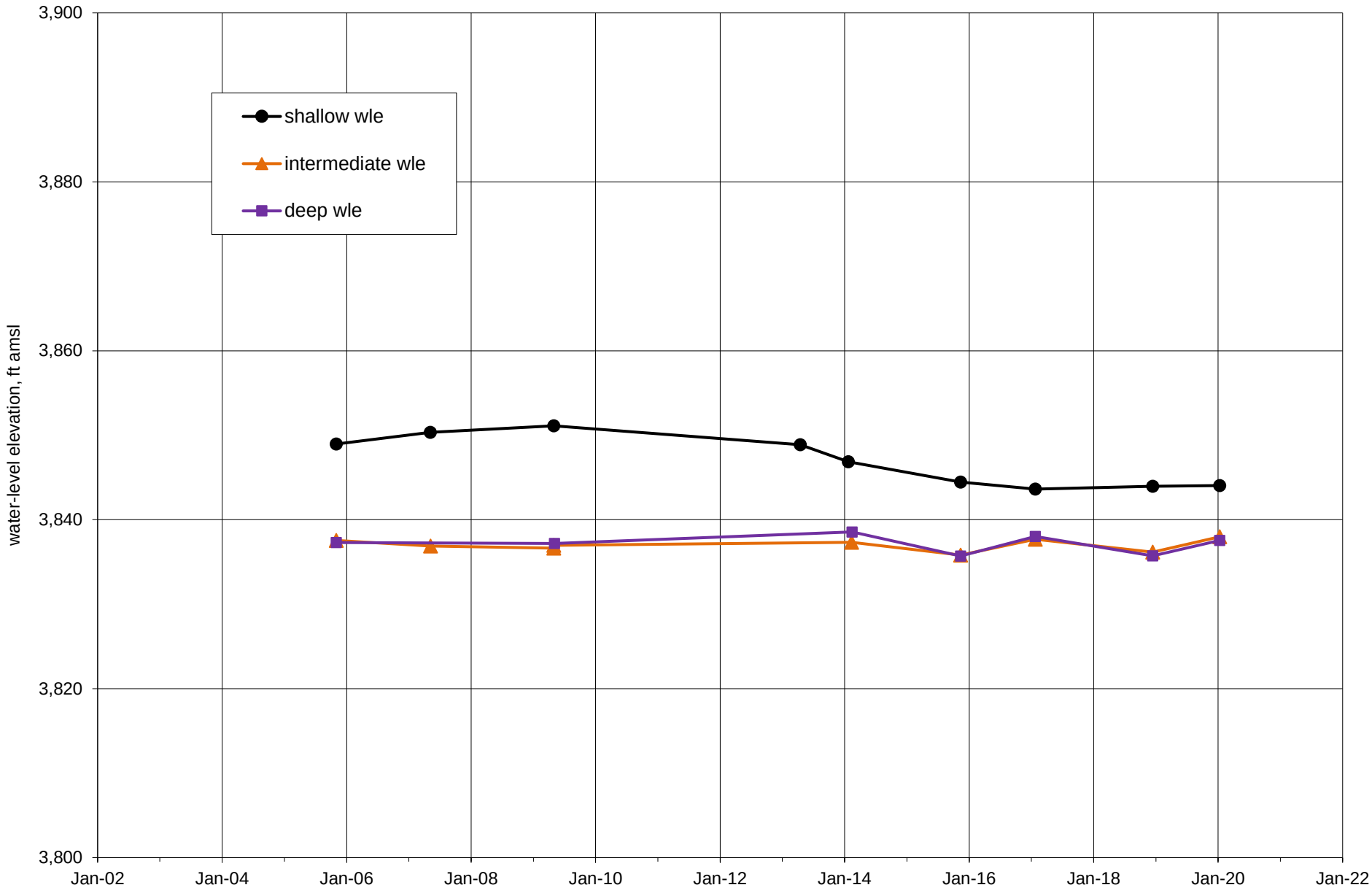


Figure B20. Graph of GWMW-11 (S, I, D) (shallow, intermediate, and deep) observed water levels, Griggs and Walnut site.

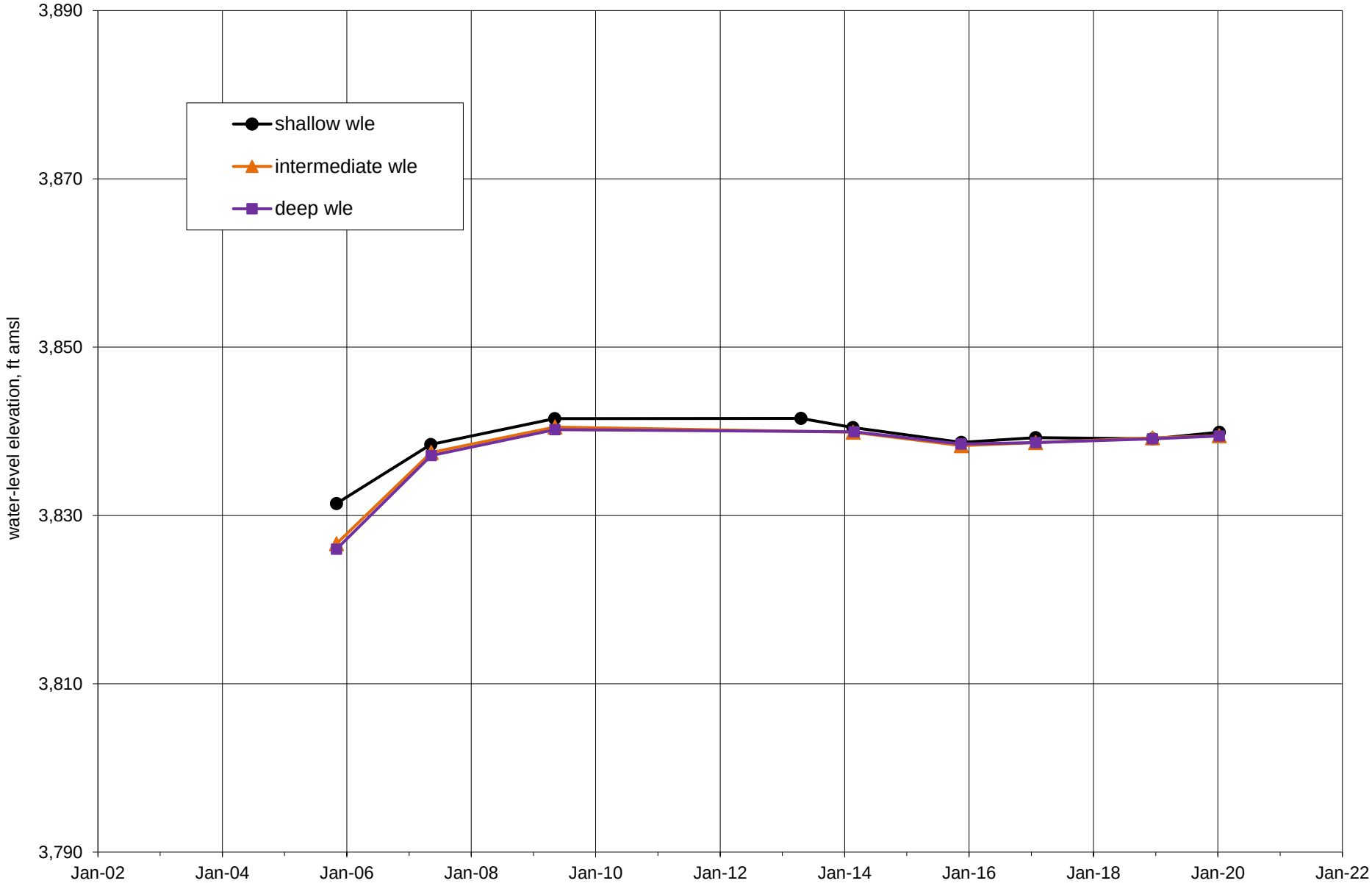


Figure B21. Graph of GWMW-15 (S, I, D) (shallow, intermediate, and deep) observed water levels, Griggs and Walnut site.

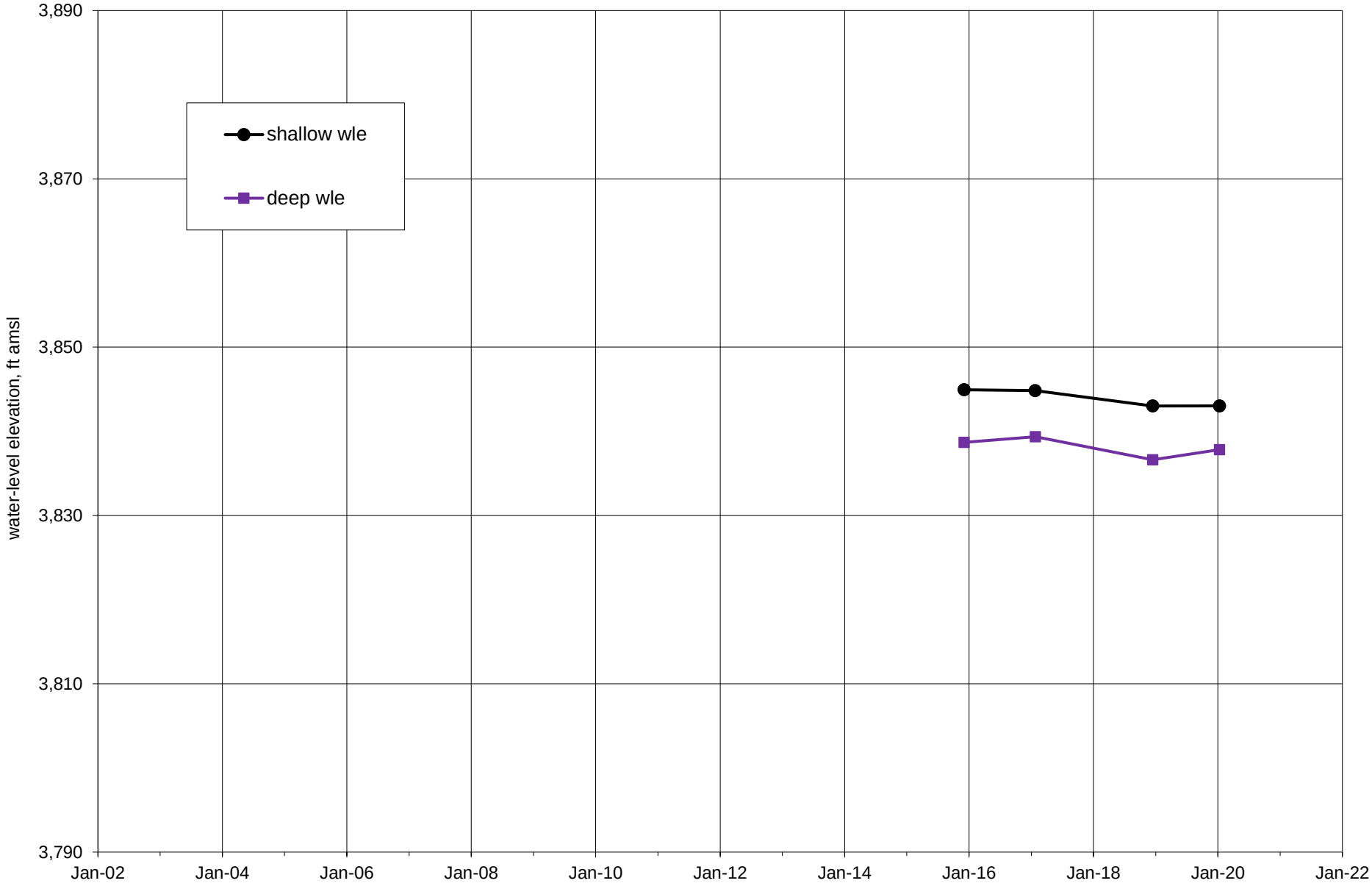


Figure B22. Graph of GWMW-16 (S, I, D) (shallow, intermediate, and deep) observed water levels, Griggs and Walnut site.

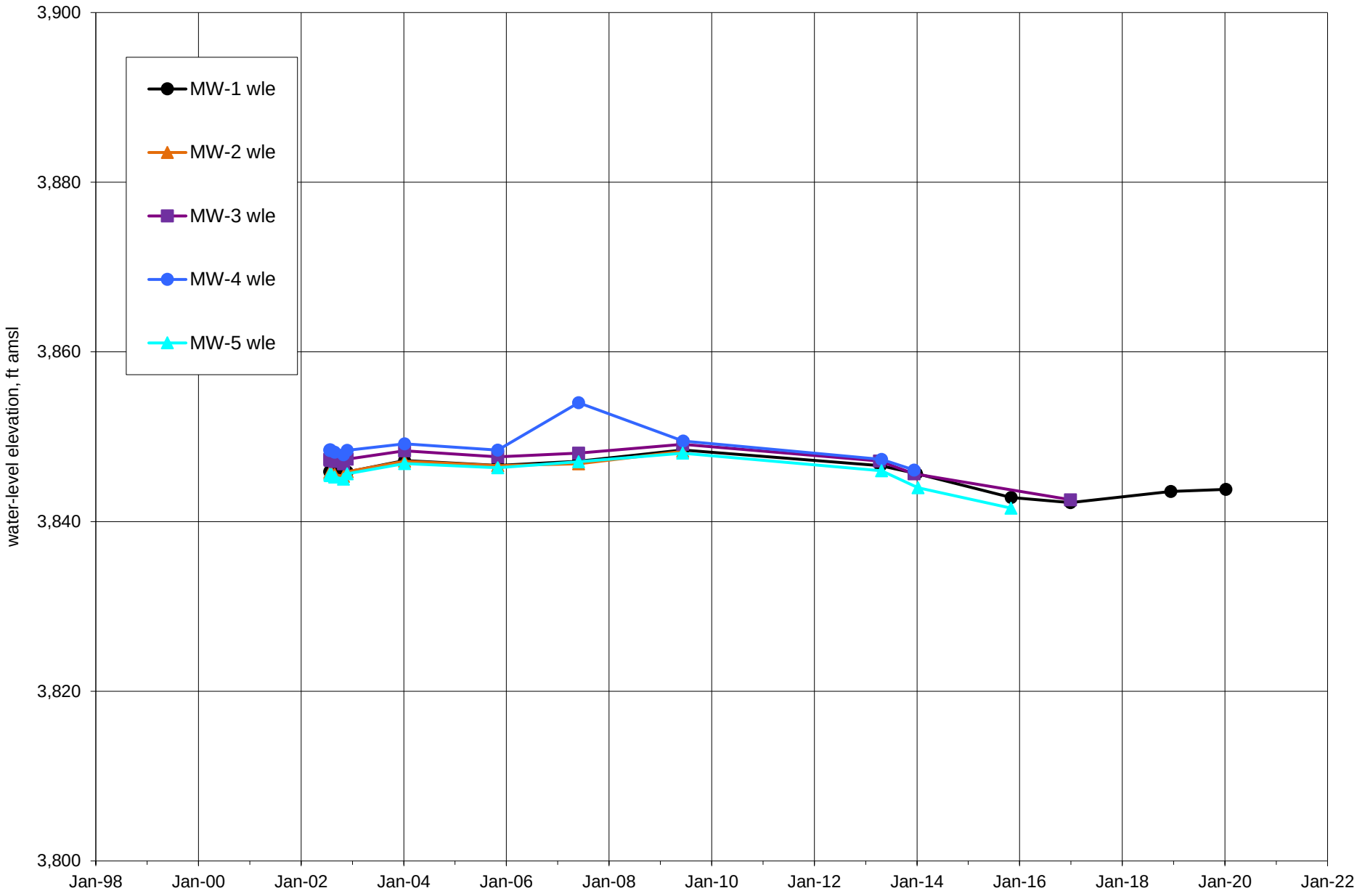


Figure B23. Graph of MW-1 through MW-5 observed water levels, Griggs and Walnut site.

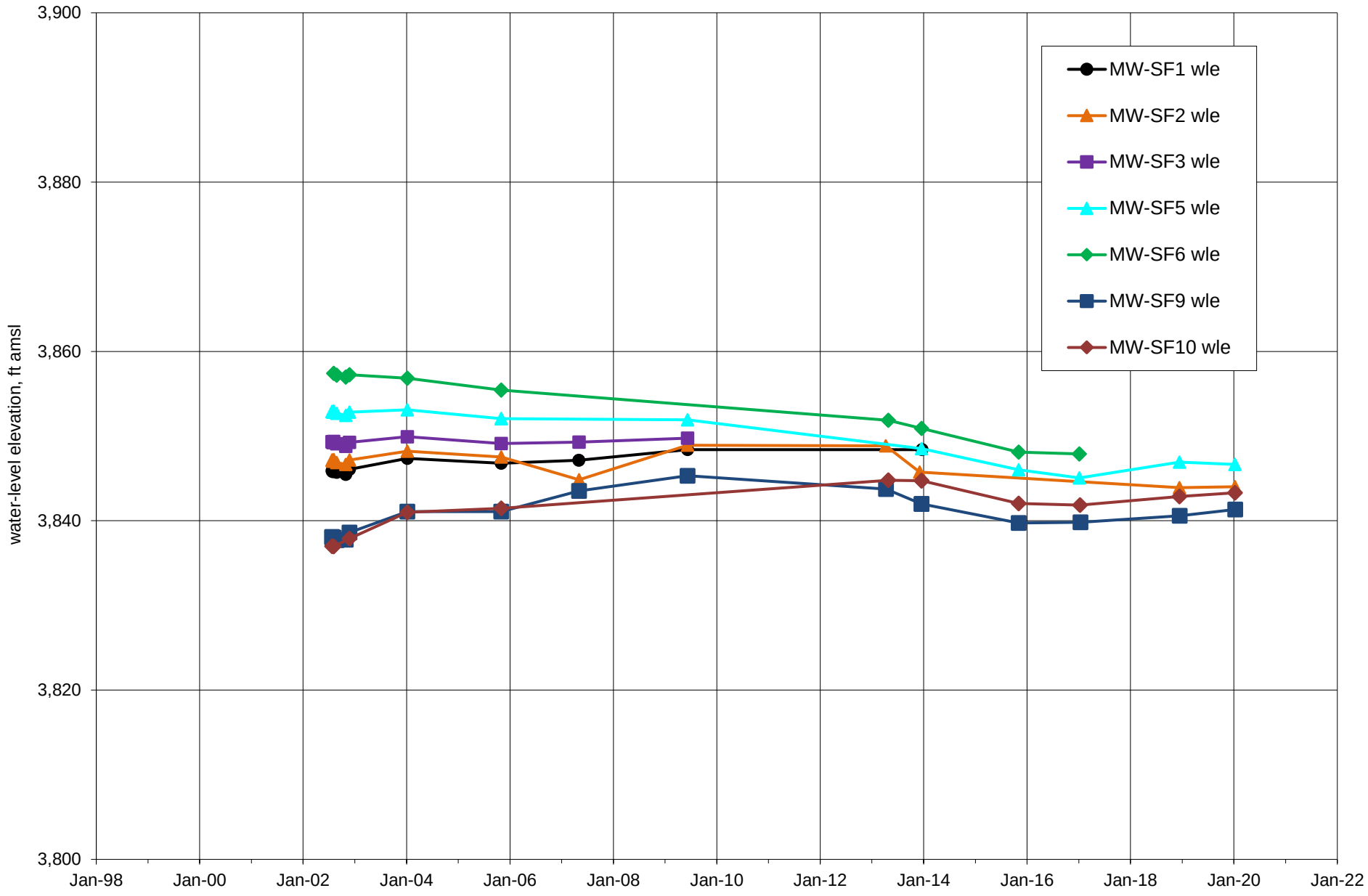


Figure B24. Graph of observed water levels for selected MW-SF series monitor wells, Griggs and Walnut site.

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	882	0	0	0	0	0	0	0	0	0	0	882	JSAI (2006)
1959	550	882	0	0	0	0	0	0	0	0	0	0	882	JSAI (2006)
1960	550	882	0	0	0	0	0	0	0	0	0	0	882	JSAI (2006)
1961	550	882	0	0	0	0	0	0	0	0	0	0	882	JSAI (2006)
1962	550	882	0	0	0	0	0	0	0	0	0	0	882	JSAI (2006)
1963	417	1,240	592	721	695	107	0	0	0	0	0	0	3,354	JSAI (2006)
1964	417	1,240	592	721	695	107	0	0	0	0	0	0	3,354	JSAI (2006)
1965	417	1,240	592	721	695	107	0	0	0	0	0	0	3,354	JSAI (2006)
1966	417	1,240	592	721	695	107	0	0	0	0	0	0	3,354	JSAI (2006)
1967	417	1,240	592	721	695	107	0	0	0	0	0	0	3,354	JSAI (2006)
1968	361	1,073	699	866	946	969	414	177	0	0	0	0	5,144	JSAI (2006)
1969	361	1,073	699	866	946	969	414	177	0	0	0	0	5,144	JSAI (2006)
1970	361	1,073	699	866	946	969	414	177	0	0	0	0	5,144	JSAI (2006)
1971	361	1,073	699	866	946	969	414	177	0	0	0	0	5,144	JSAI (2006)
1972	361	1,073	699	866	946	969	414	177	0	0	0	0	5,144	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	163	74	0	0	5,403	JSAI (2006)
1989	246	977	578	787	1,136	807	468	413	163	74	0	0	5,403	JSAI (2006)
1990	246	977	578	787	1,136	807	468	413	163	74	0	0	5,403	JSAI (2006)
1991	246	977	578	787	1,136	807	468	413	163	74	0	0	5,403	JSAI (2006)
1992	246	977	578	787	1,136	807	468	413	163	74	0	0	5,403	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

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

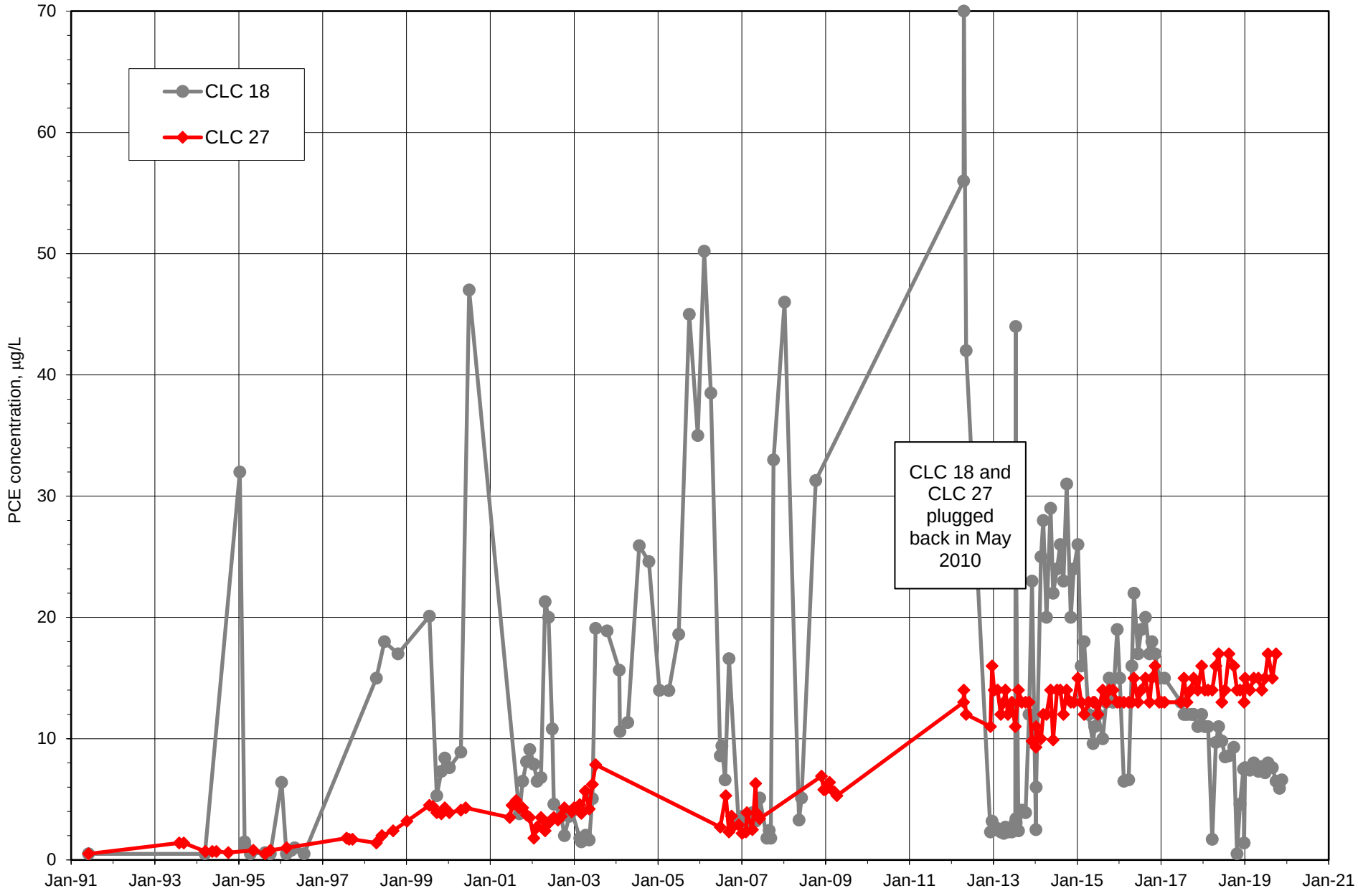


Figure D1. Graph showing PCE concentrations versus time for CLC 18 and CLC 27, Griggs and Walnut site.

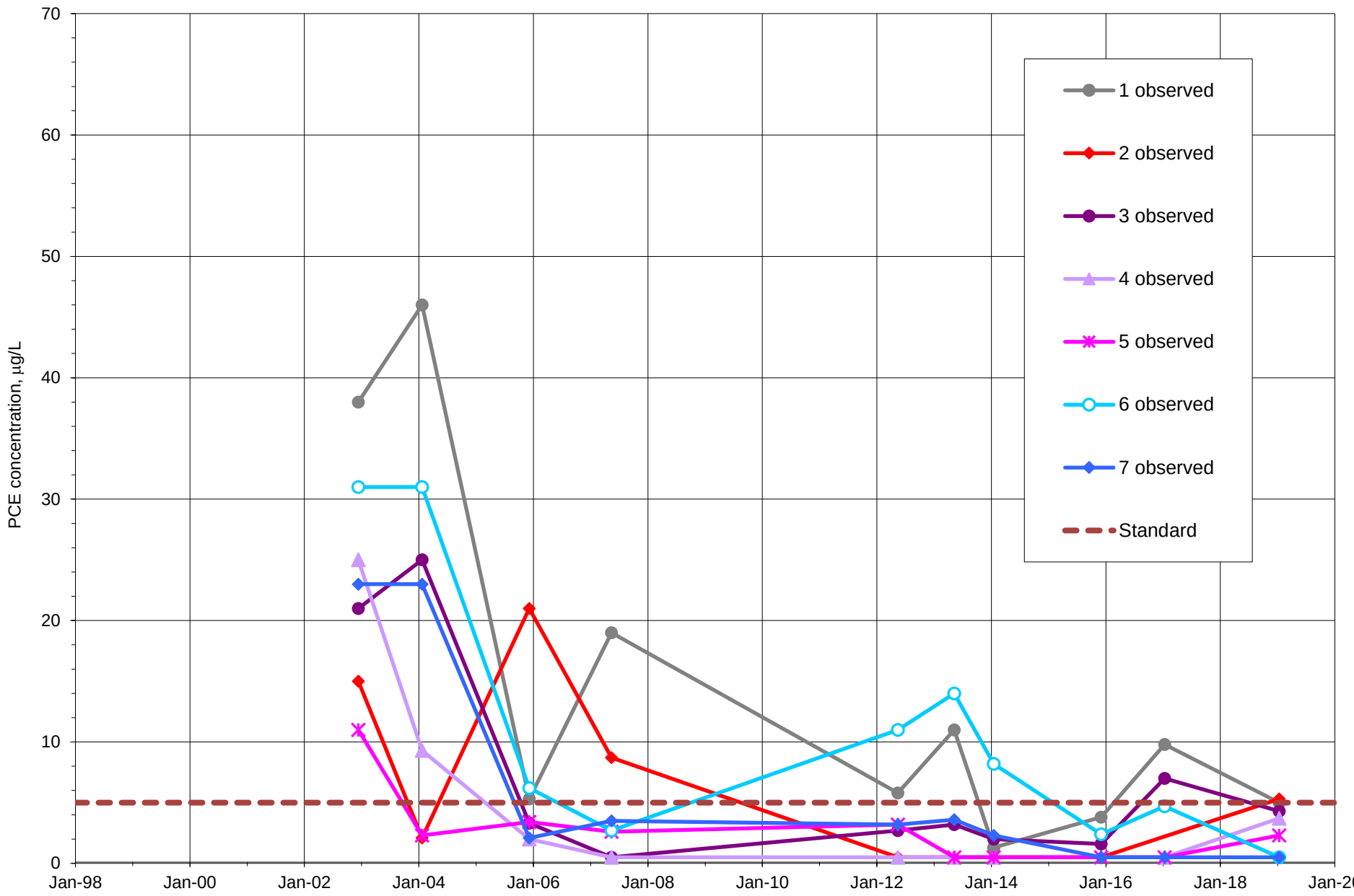


Figure D2. Graph of GWMW-01 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.

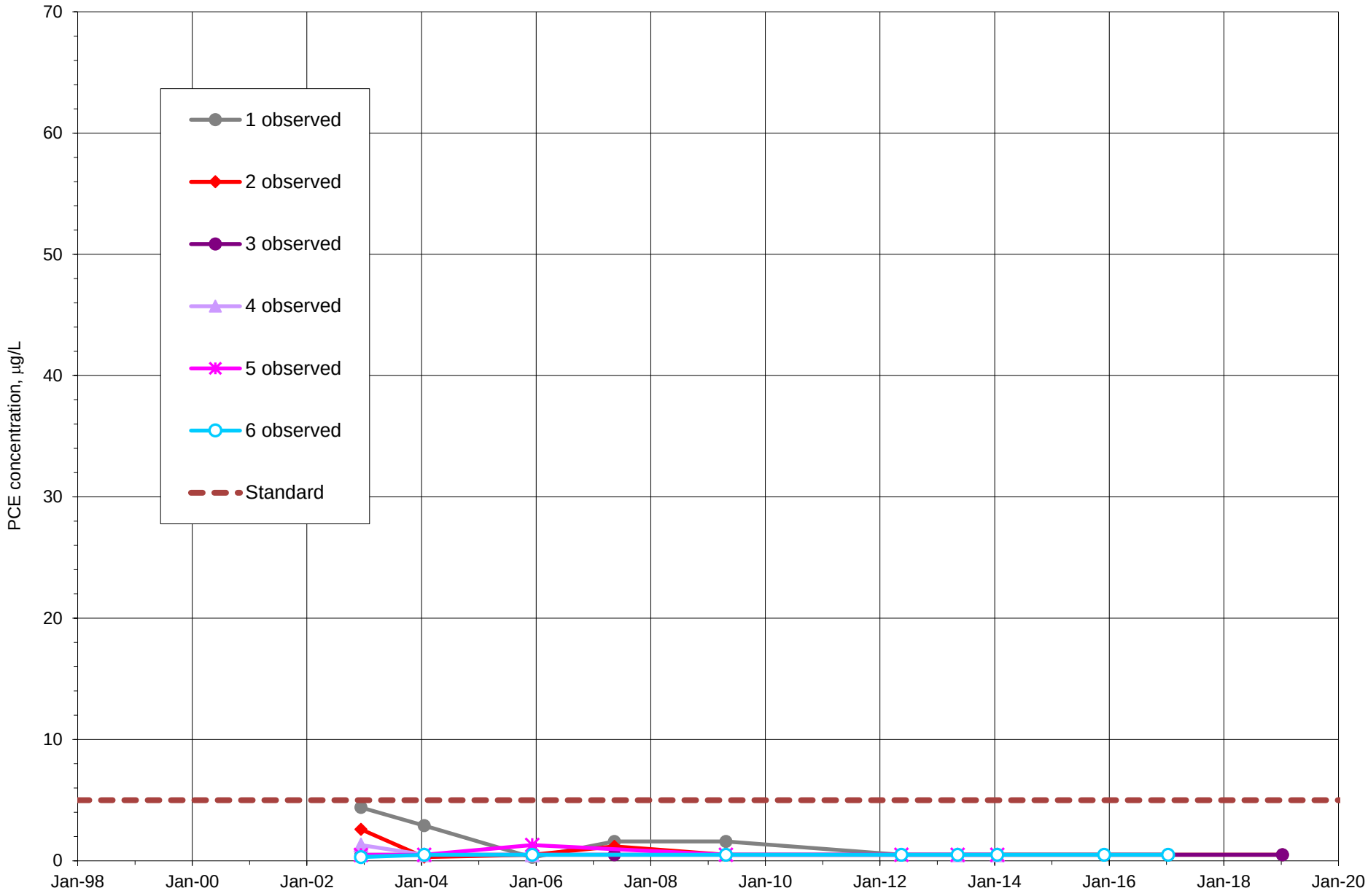


Figure D3. Graph of GWMW-03 (Ports 1 through 6) observed PCE concentrations, Griggs and Walnut site.

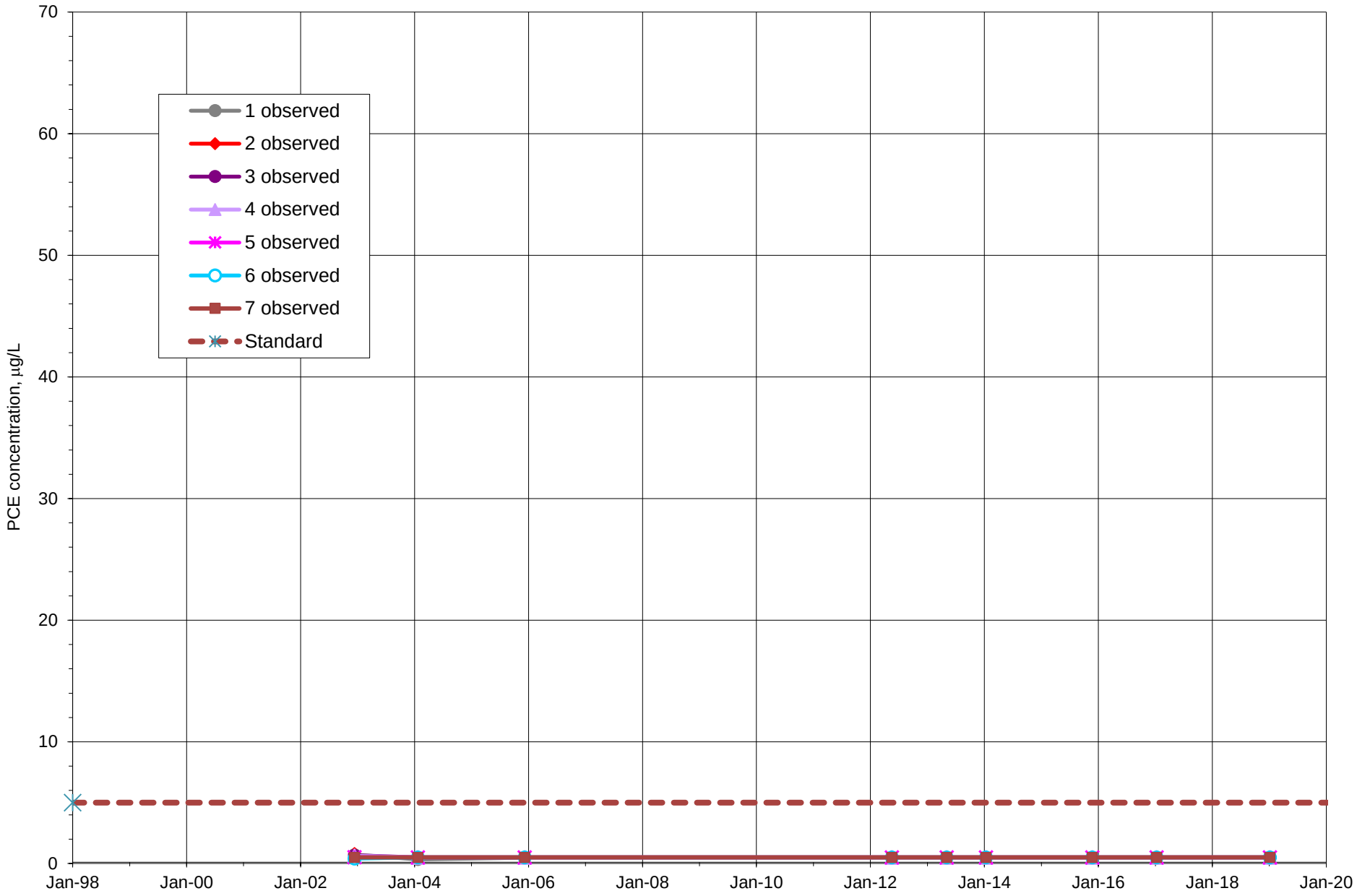


Figure D4. Graph of GWMW-08 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.

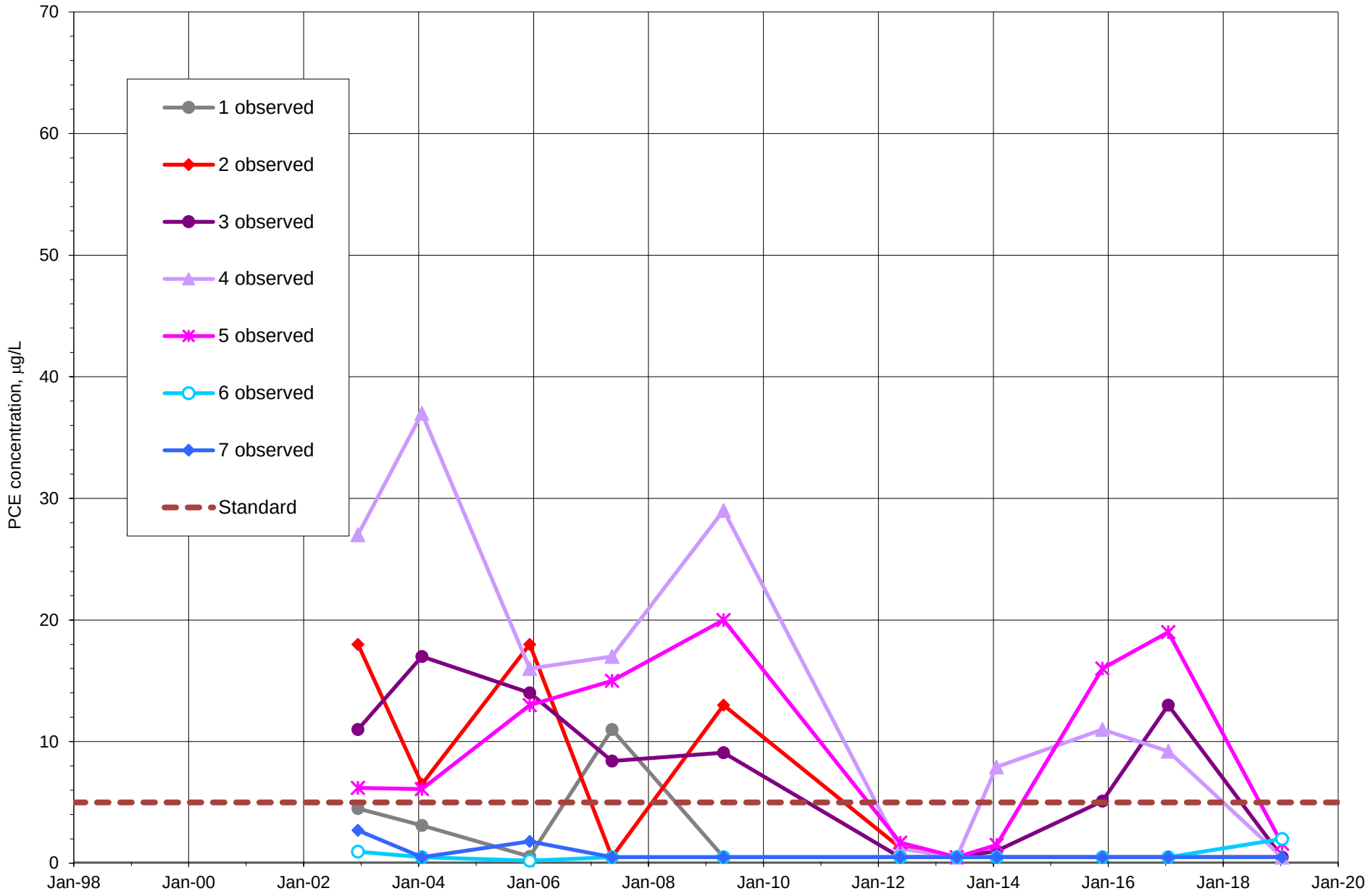


Figure D5. Graph of GWMW-09 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.

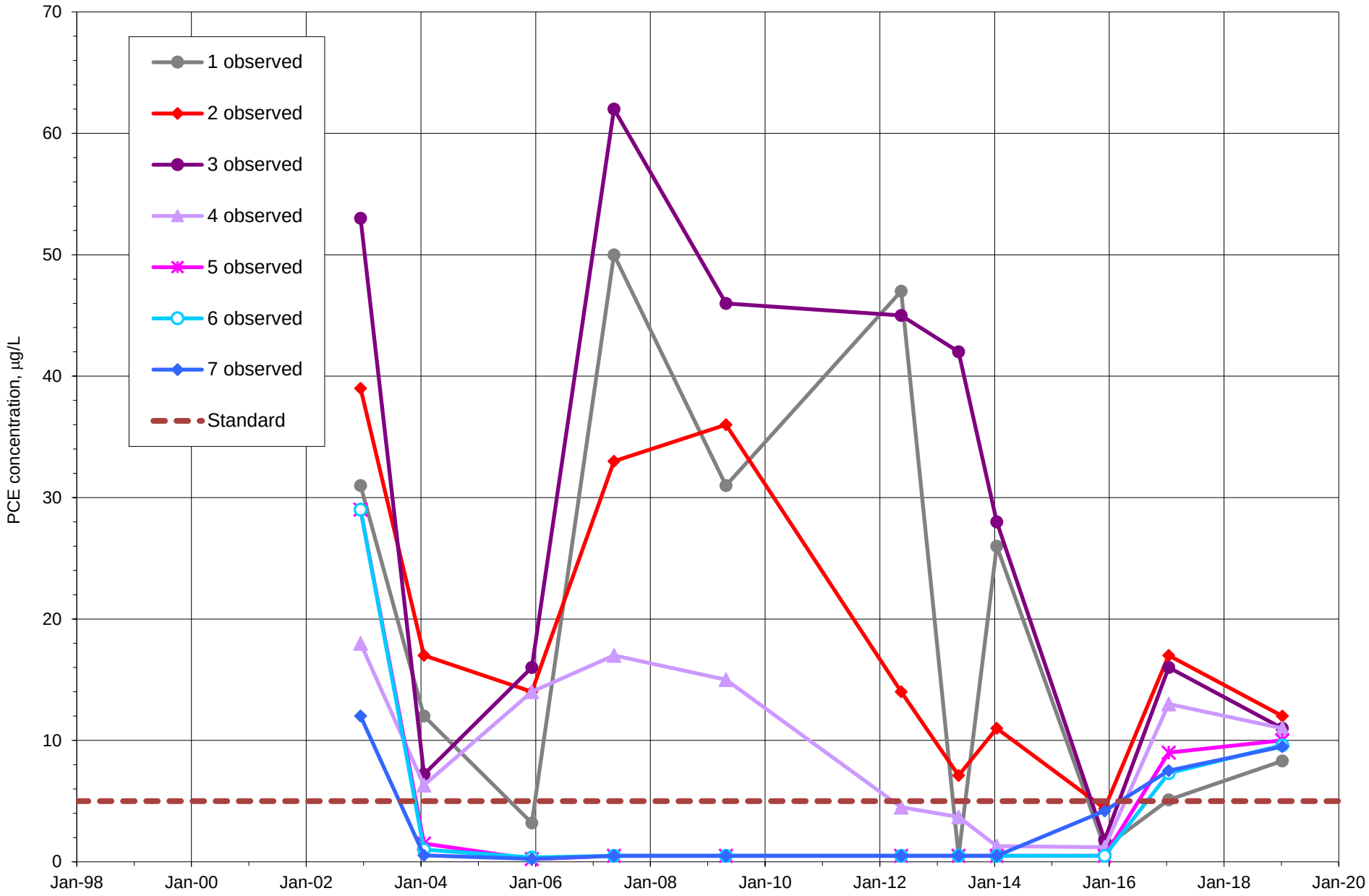


Figure D6. Graph of GWMW-10 (Ports 1 through 7) observed PCE concentrations, Griggs and Walnut site.

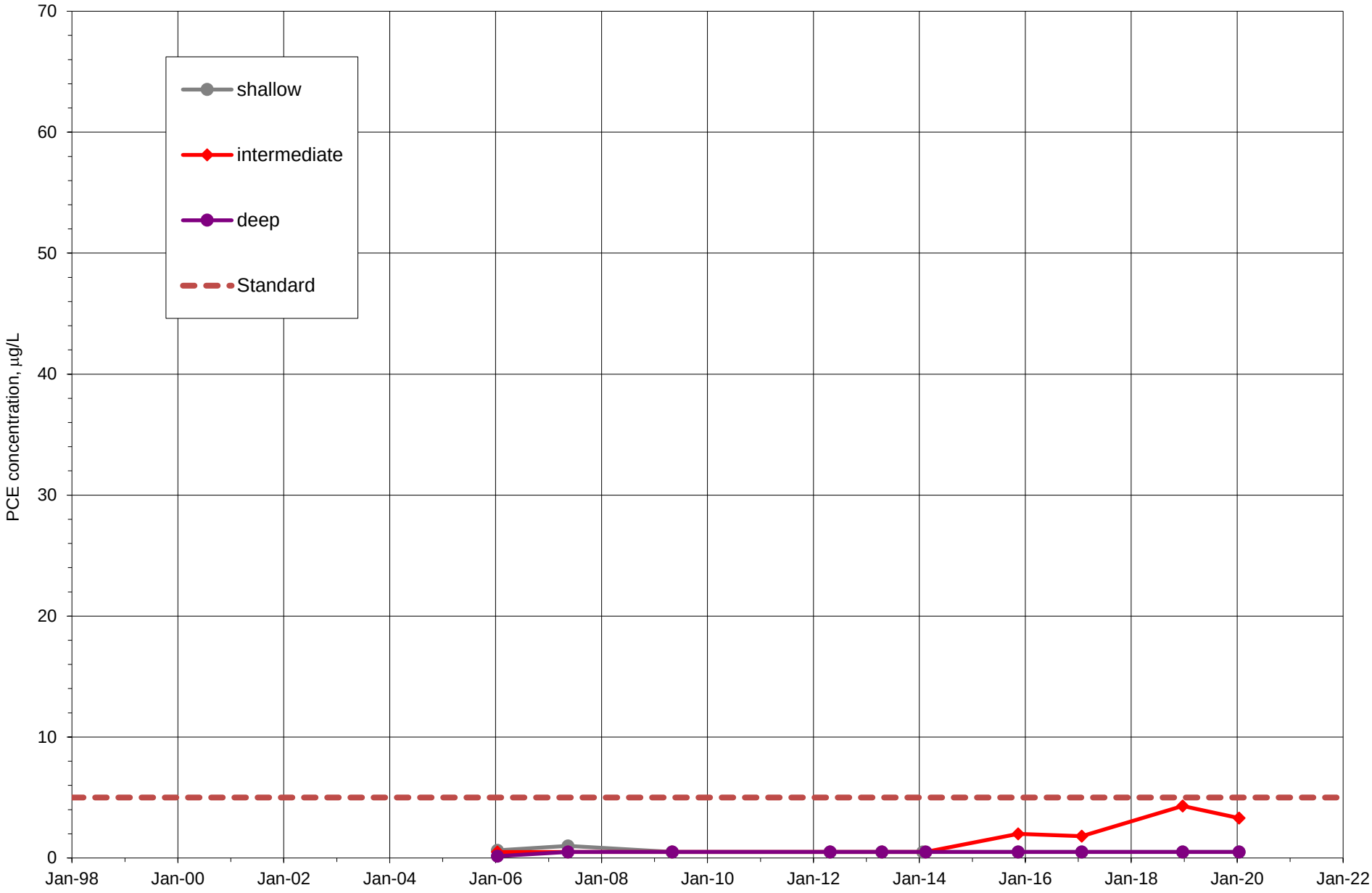


Figure D7. Graph of GWMW-11(S,I,D) (shallow, intermediate, and deep) observed PCE concentrations, Griggs and Walnut site.

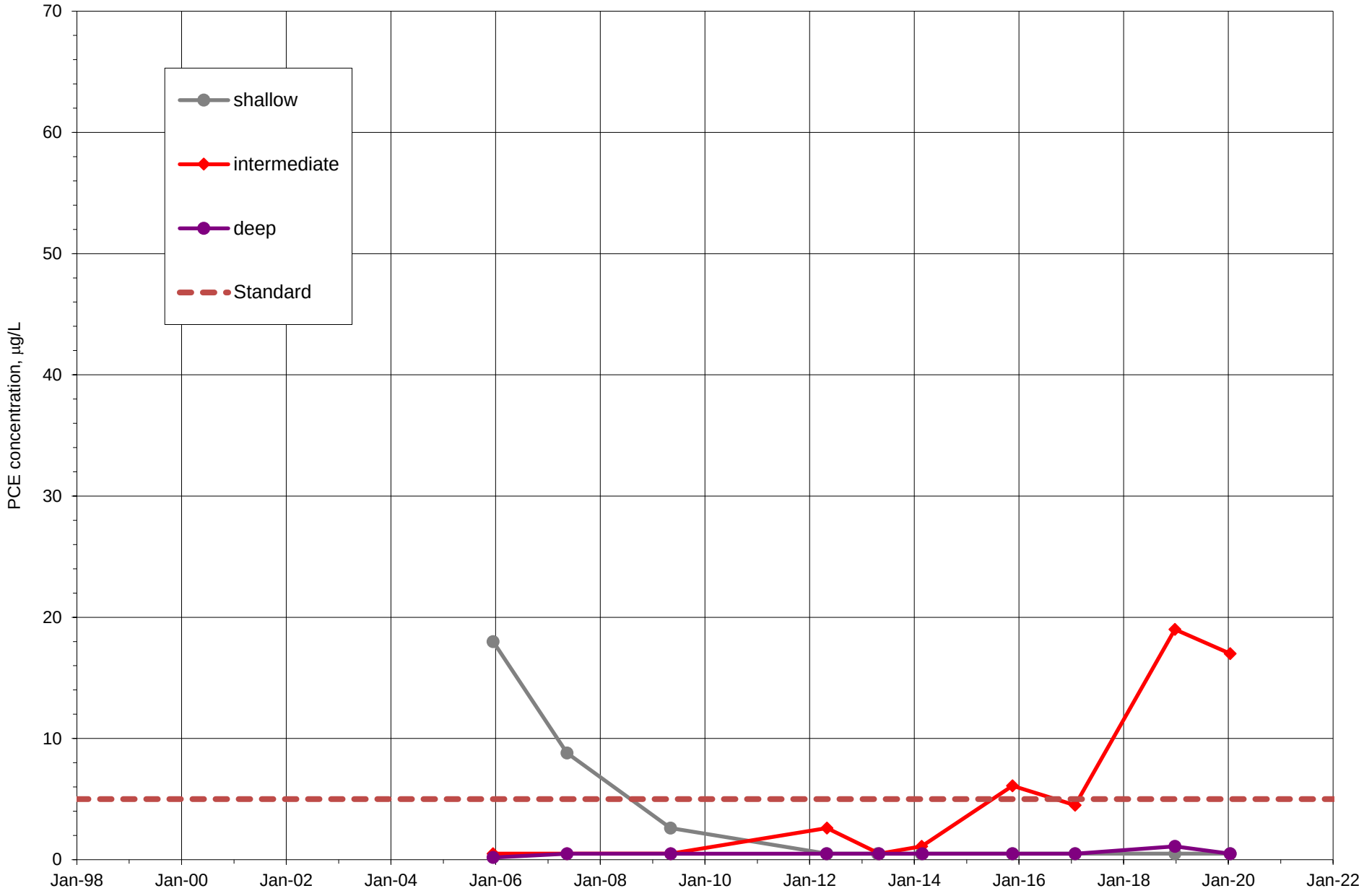


Figure D8. Graph of GWMW-15(S,I,D) (shallow, intermediate, and deep) observed PCE concentrations, Griggs and Walnut site.

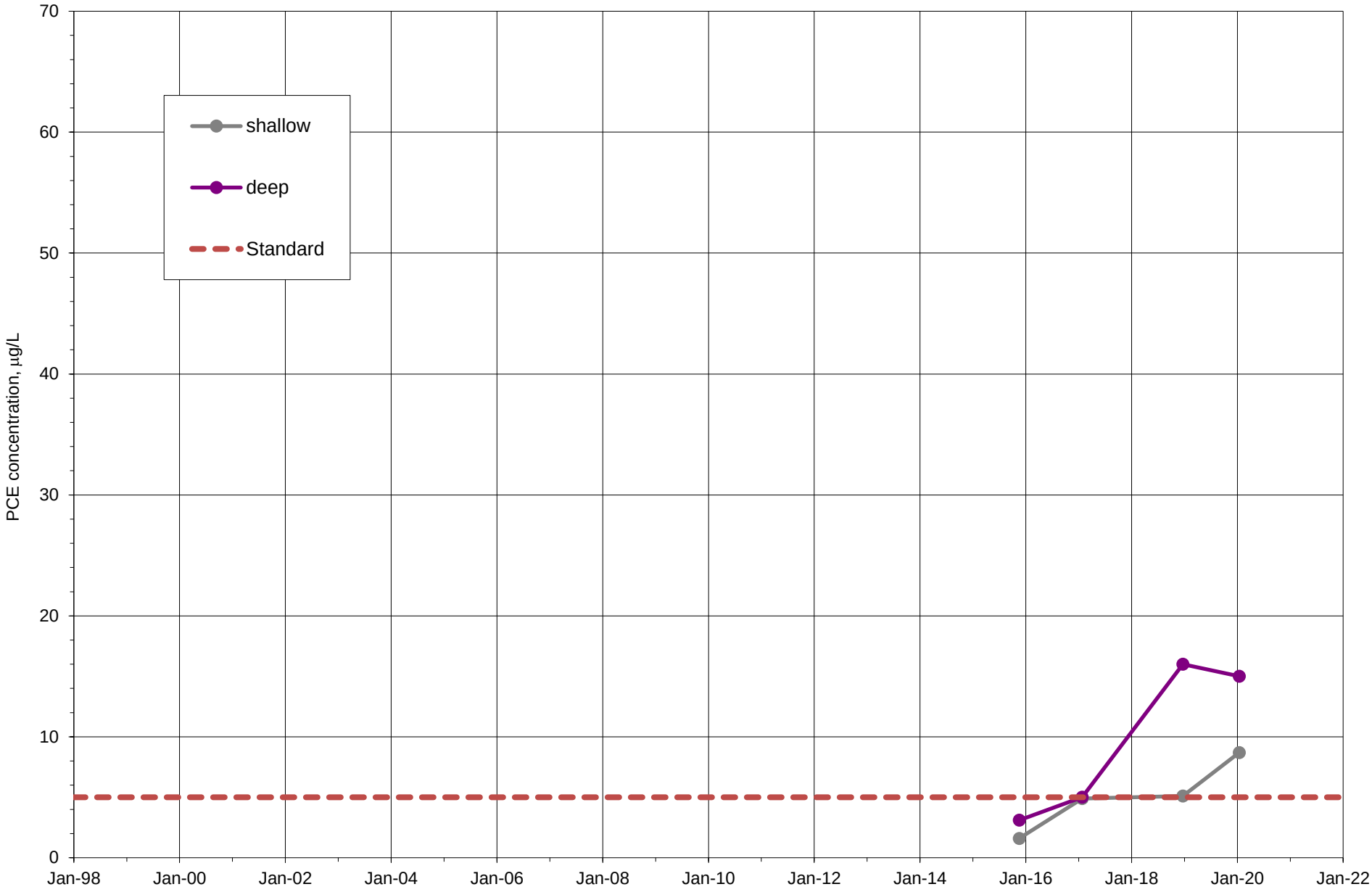


Figure D9. Graph of GWMW-16(S,D) (shallow and deep) observed PCE concentrations, Griggs and Walnut site.

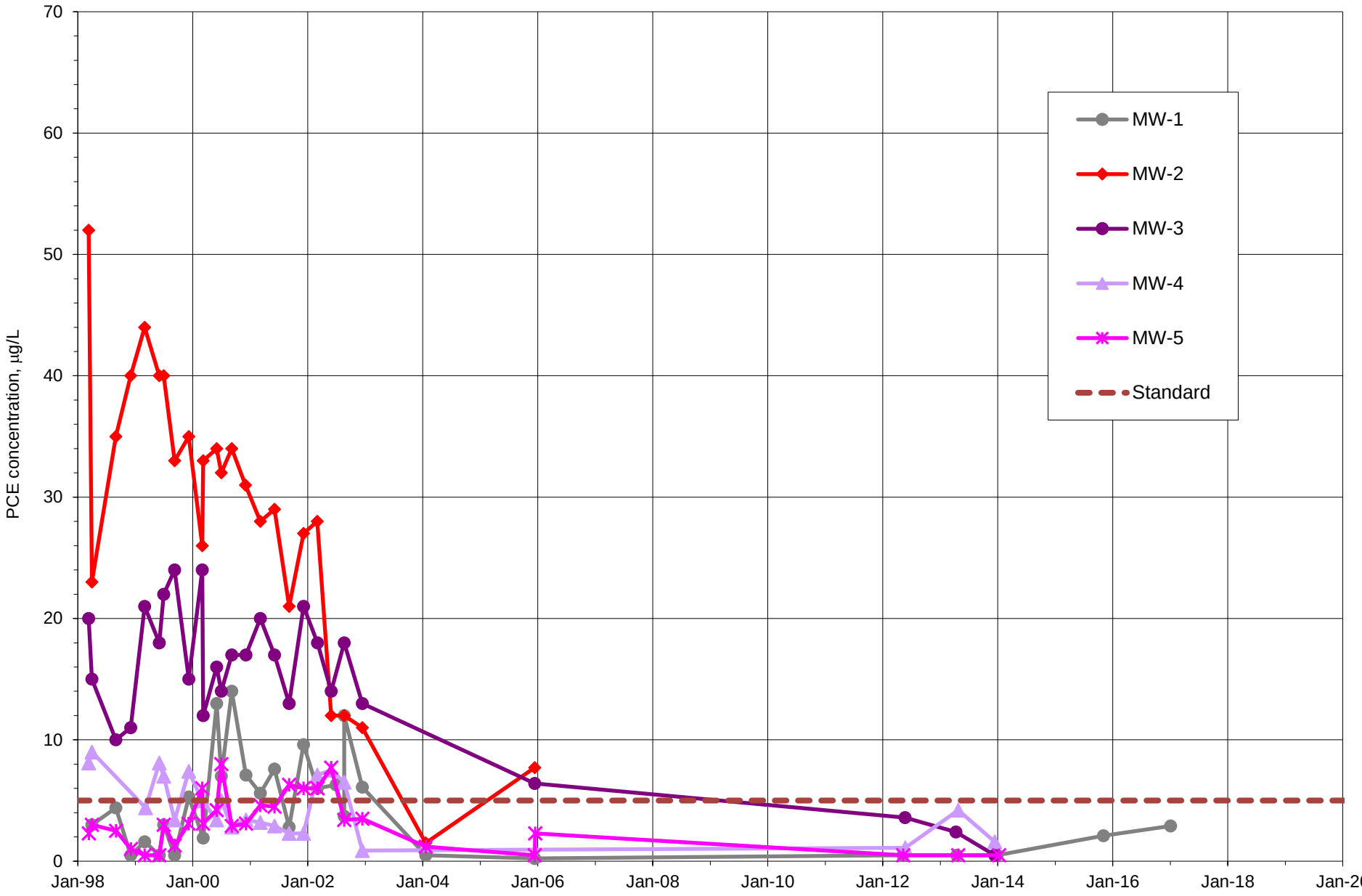


Figure D10. Graph of MW-1 through MW-5 observed PCE concentrations, Griggs and Walnut site.

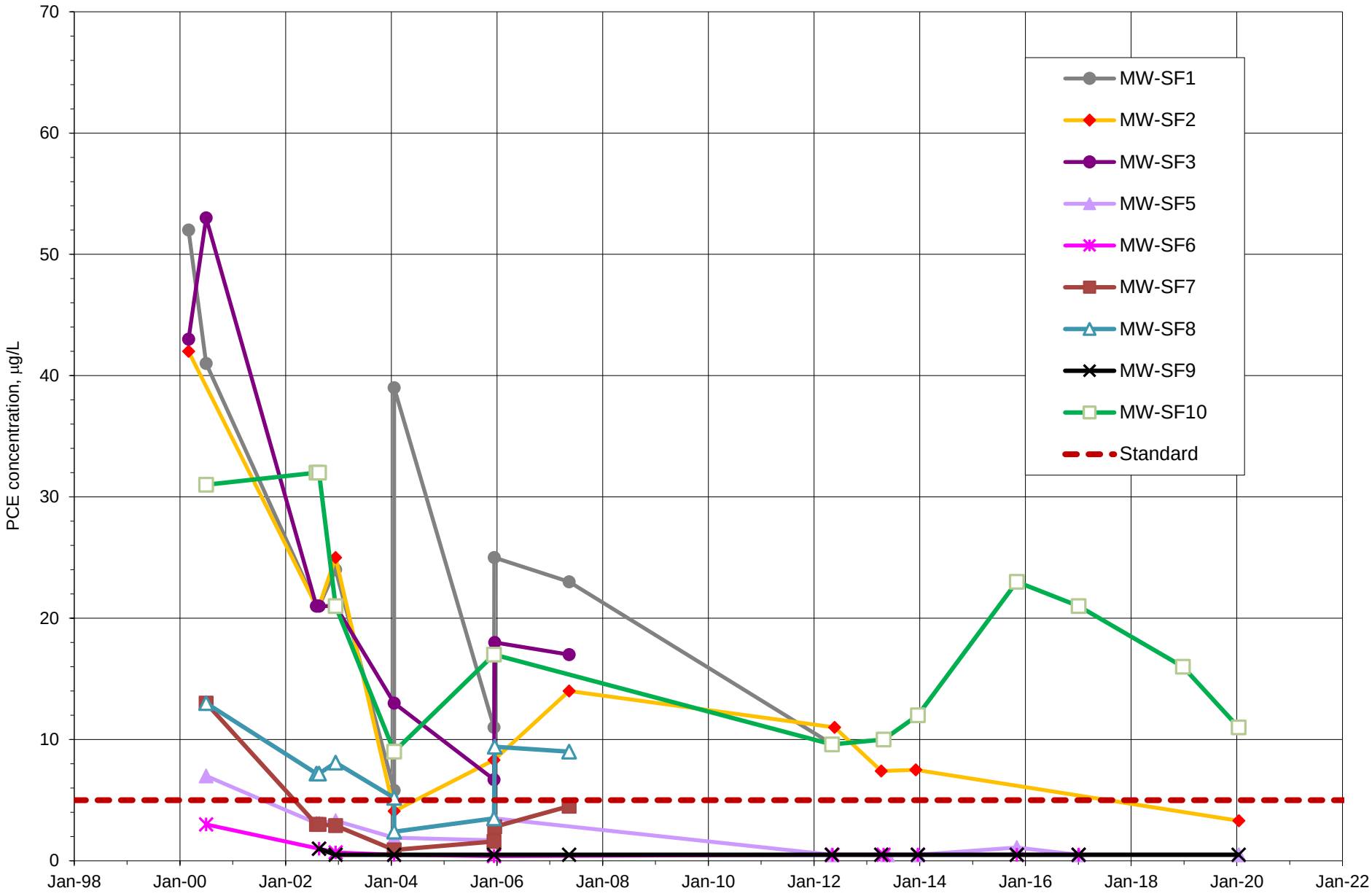


Figure D11. Graph of observed PCE concentrations for selected MW-SF-series monitor wells, Griggs and Walnut site.

Appendix E.

Griggs and Walnut Site time-series model-calibration graphs

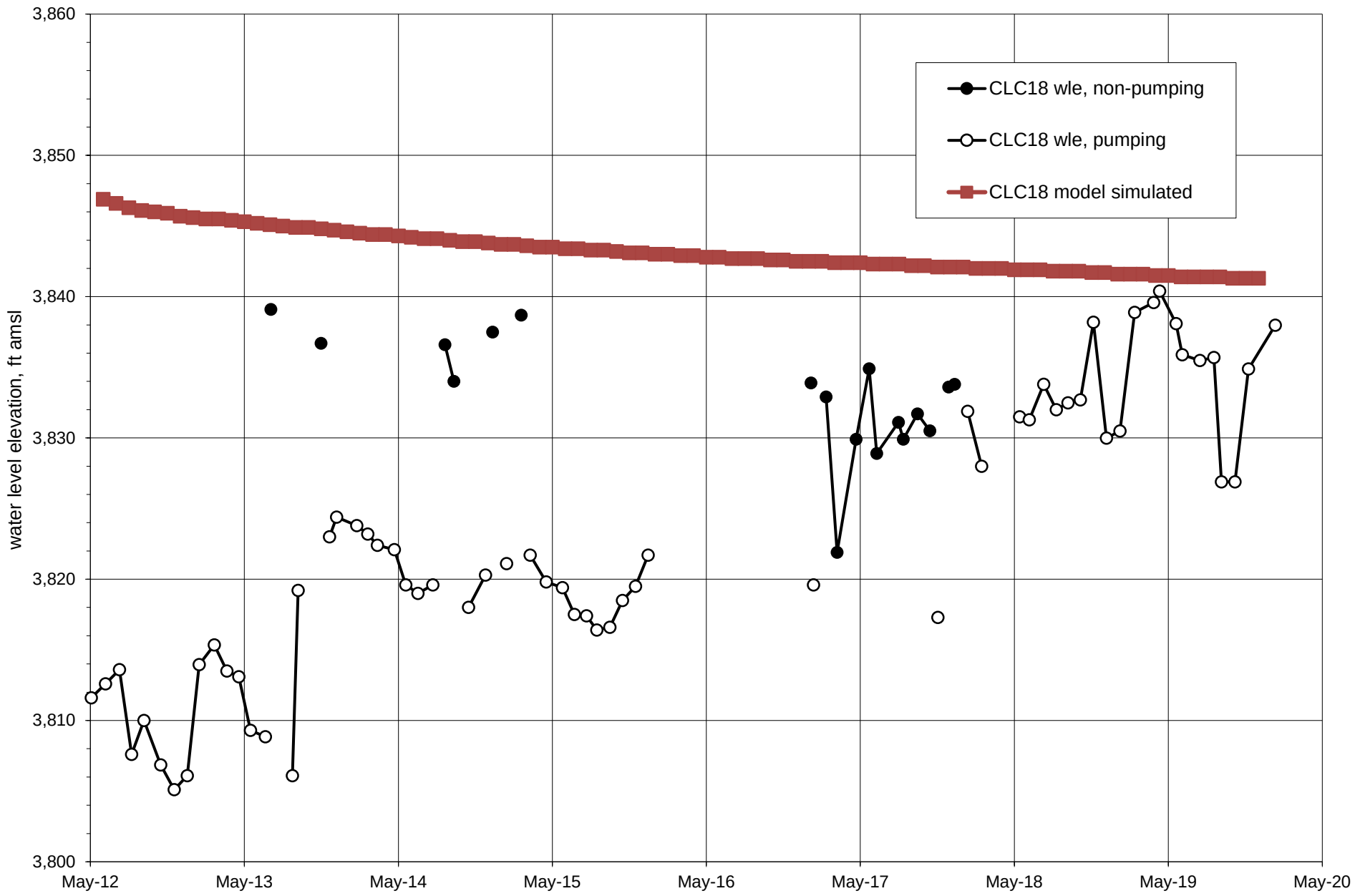


Figure E1. Graph of City of Las Cruces Well 18 observed and model-simulated water levels, Griggs and Walnut site.

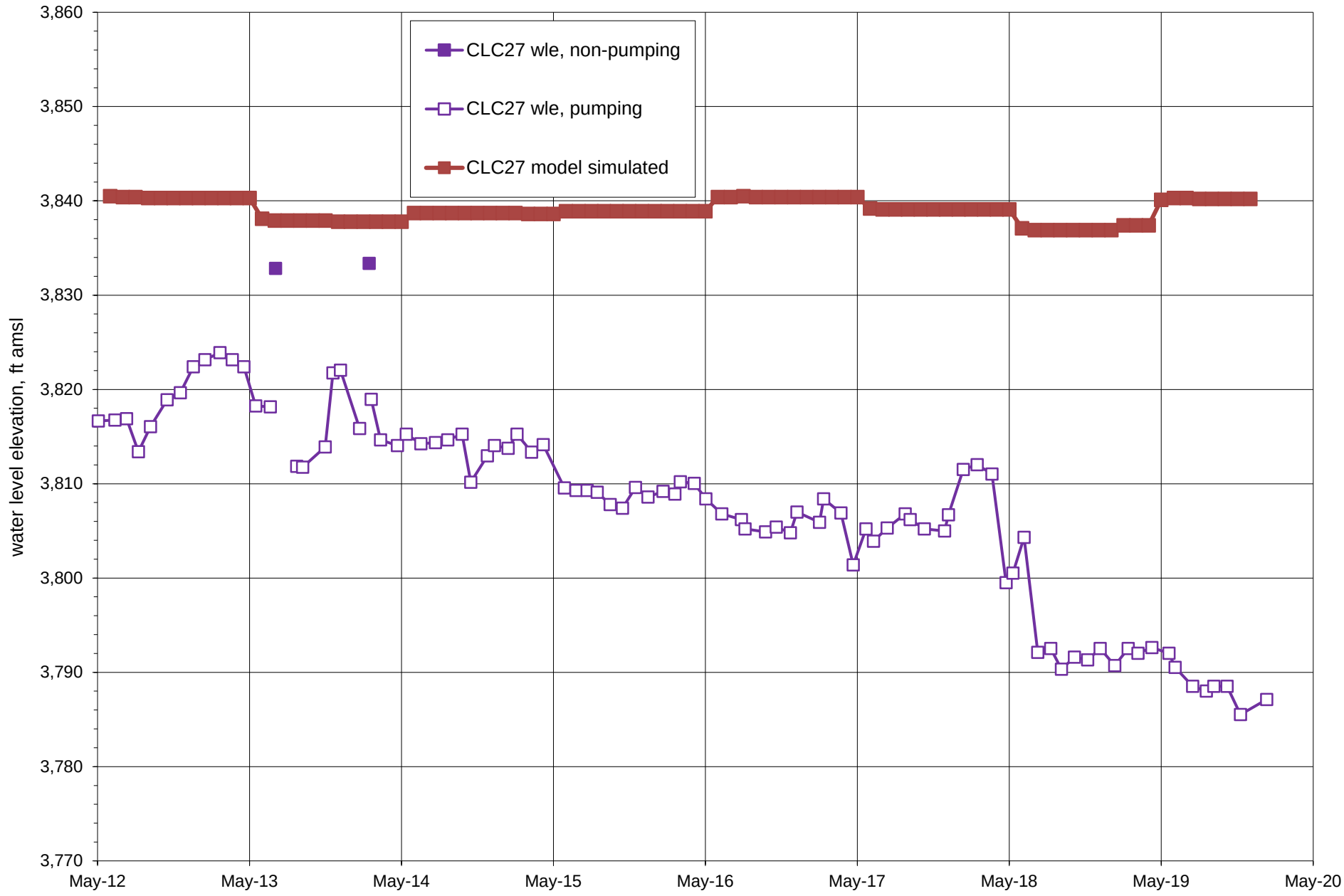


Figure E2. Graph of City of Las Cruces Well 27 observed and model-simulated water levels, Griggs and Walnut site.

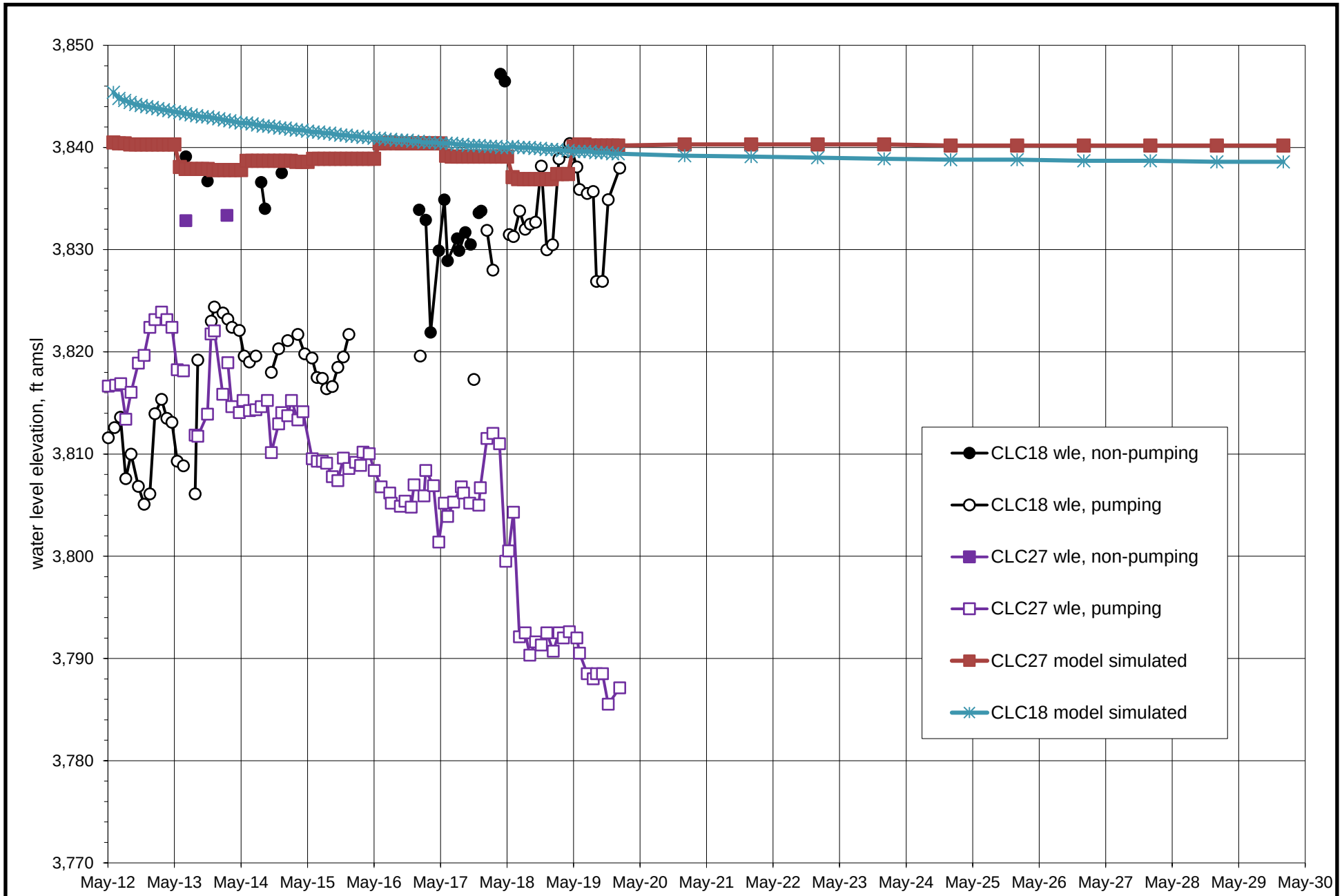


Figure E3. Graph of City of Las Cruces Well 18 and Well 27 observed and model-simulated water levels, Griggs and Walnut site.

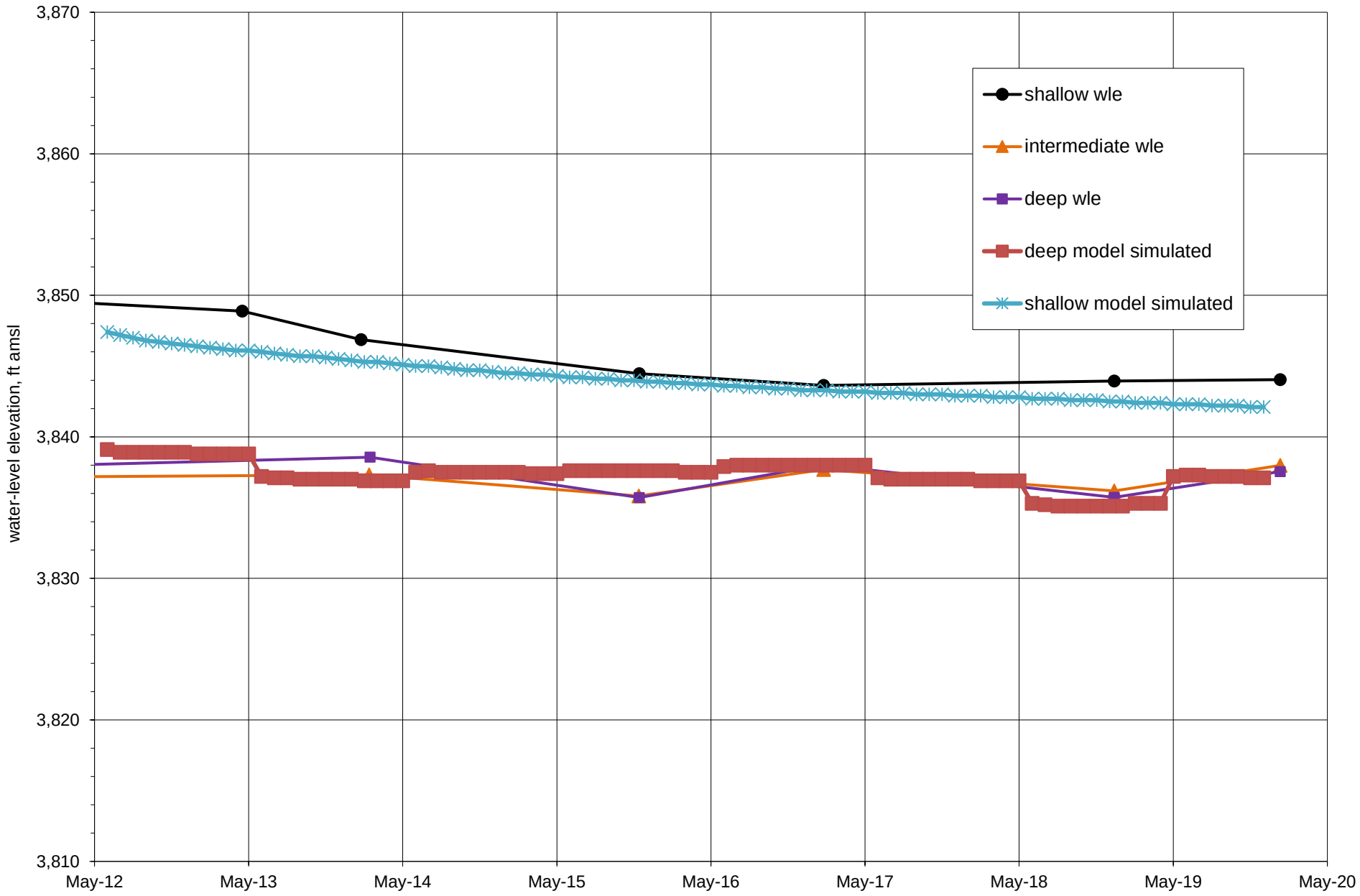


Figure E4. Graph of GWMW11 (shallow, intermediate, and deep) observed and model-simulated water levels, Griggs and Walnut site.

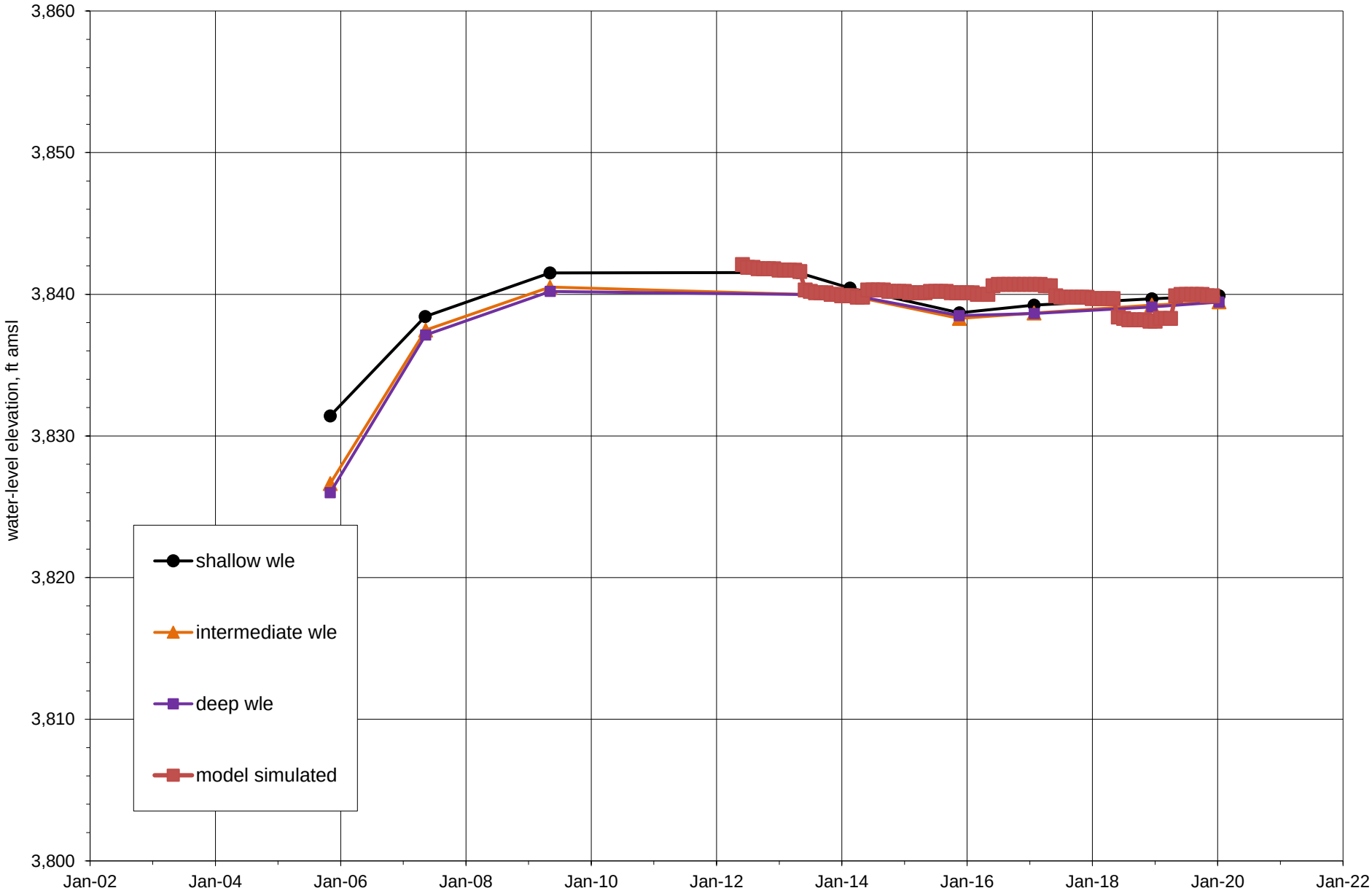


Figure E5. Graph of GWMW15 (shallow, intermediate, and deep) observed and model-simulated water levels, Griggs and Walnut site.

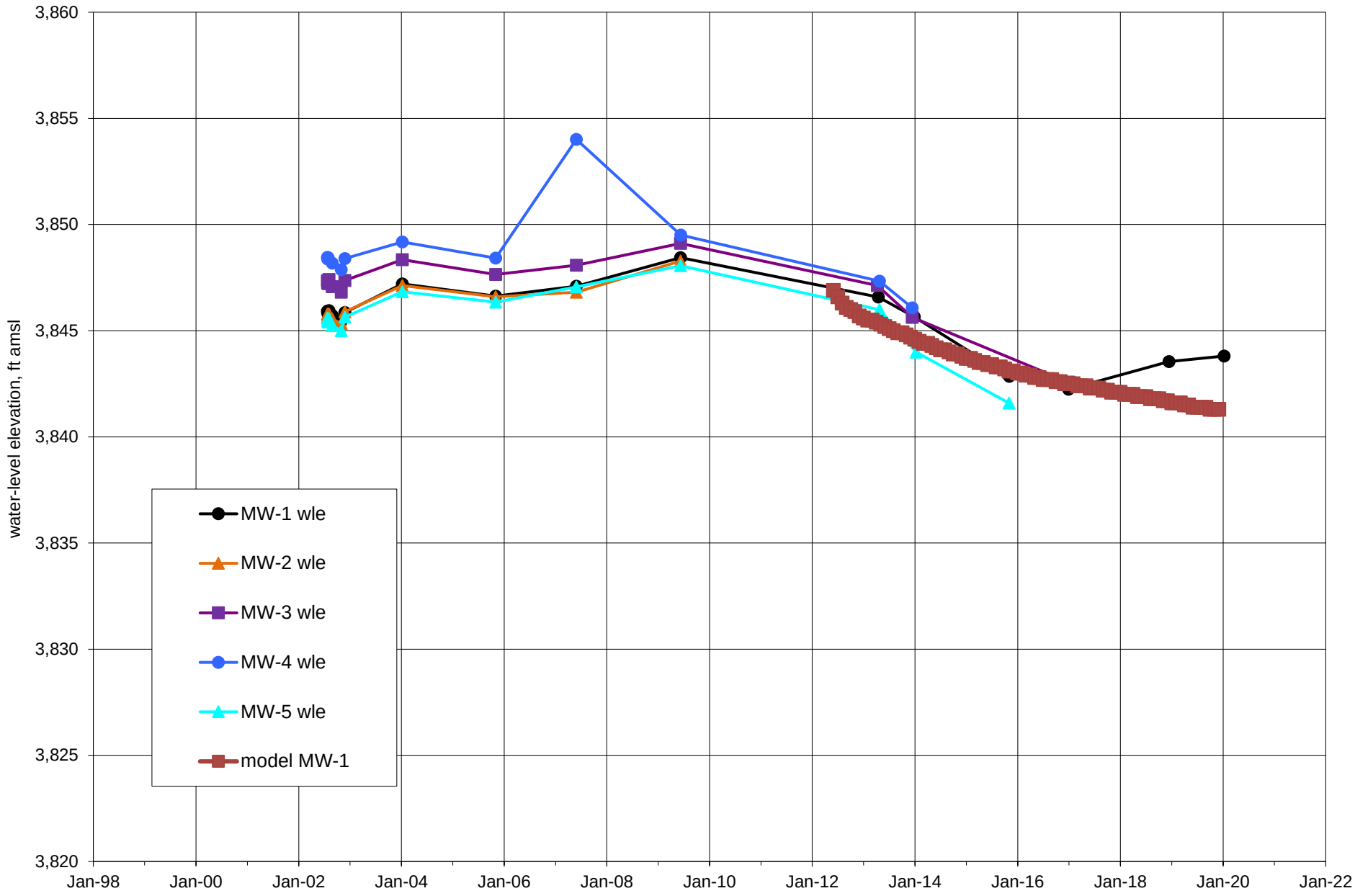


Figure E6. Graph of MW-1 through MW-5 observed and model simulated water levels, Griggs and Walnut site.

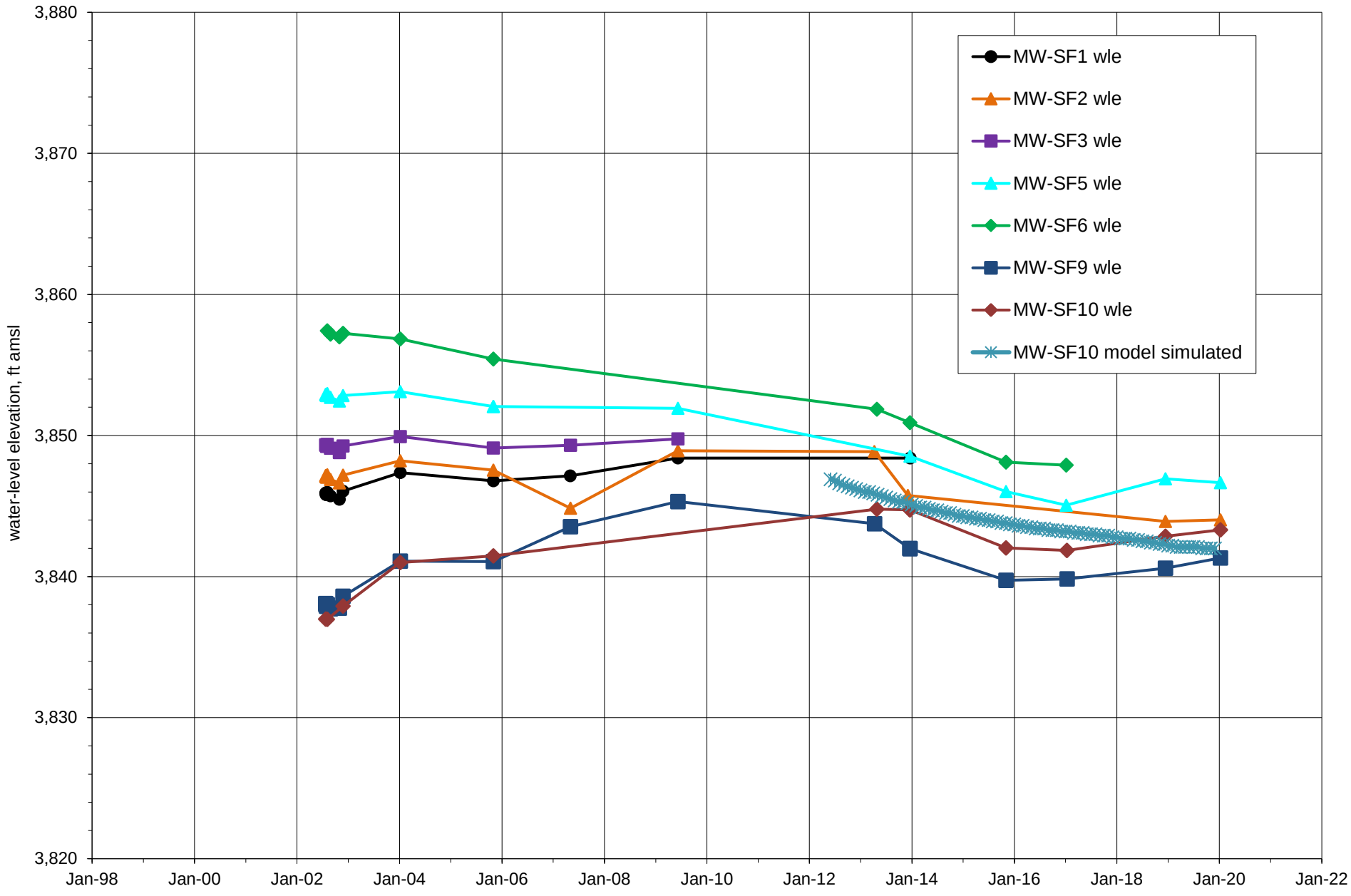


Figure E7. Graph of MW-SF1 through MW-SF10 observed and model-simulated water levels, Griggs and Walnut site.

Appendix B

Groundwater Remediation Optimization Report

CALENDAR YEAR 2019

OPTIMIZATION ASSESSMENT REPORT

GRIGGS AND WALNUT GROUNDWATER PLUME SUPERFUND SITE

LAS CRUCES, NEW MEXICO

prepared for

APRIL 2020

JOHN SHOMAKER & ASSOCIATES, INC.
WATER-RESOURCE AND ENVIRONMENTAL CONSULTANTS
ALBUQUERQUE, NM * www.shomaker.com * 505-345-3407

CALENDAR YEAR 2019
OPTIMIZATION ASSESSMENT REPORT
GRIGGS AND WALNUT GROUNDWATER PLUME SUPERFUND SITE
LAS CRUCES, NEW MEXICO

prepared by

Steven T. Finch, Jr., CPG, PG
Jake Baggerman
JOHN SHOMAKER & ASSOCIATES, INC.
Water-Resource and Environmental Consultants
2611 Broadbent Parkway NE
Albuquerque, New Mexico 87107
505-345-3407
www.shomaker.com

prepared for

Daniel B. Stephens & Associates, Inc.
Albuquerque, New Mexico

City of Las Cruces
New Mexico

and

Doña Ana County
New Mexico

April 2020

CALENDAR YEAR 2019 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, 2017).

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 previously-identified capture efficiency issue with extraction well CLC 18 has been investigated and resolved, and extraction well CLC 18 pumping rate and schedule has been optimized to capture Upper Hydrogeologic Zone (UHZ) plume. tetrachloroethene (PCE) concentrations from CLC 18 show a decreasing trend in captured plume concentration, along with monitoring from the UHZ 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) without constraints. Additional hydraulic analysis indicates CLC 18, which is completed in the Lower Hydrogeologic Zone (LHZ) but captures groundwater from UHZ, is more efficient at capturing the UHZ PCE plume than a hypothetical capture well completed within the UHZ to the top of the clay layer.

Results from the performance analysis presented in Table 1, 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 LHZ PCE plume. No additional extraction wells are needed for containment and capture of the LHZ 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 2019 data, John Shomaker & Associates, Inc. (JSAI) recommends continued pumping from CLC 18 at the current rate and schedule, and maintaining an average pumping rate between 225 and 240 gpm from CLC 27.

CONTENTS

page

EXECUTIVE SUMMARY ii

1.0 INTRODUCTION 1
1.1 Background 1
1.2 Purpose 1

2.0 EXTRACTION WELL PERFORMANCE 2
2.1 CLC 18 2
2.1.1 Operational Constraints 3
2.1.2 Performance Analysis 3
2.2 CLC 27 4
2.2.1 Operational Constraints 5
2.2.2 Performance Analysis 5

3.0 PCE MASS REMOVAL RATES 7
3.1 CLC 18 PCE Mass Removal Rate 7
3.2 CLC 27 PCE Mass Removal Rate 9

4.0 TMR NUMERICAL MODEL 10
4.1 Plume Containment Analysis 10
4.2 Plume Capture Analysis 11
4.3 Optimization Analysis 11

5.0 EFFECTIVENESS OF EXTRACTION WELLS 12
5.1 Remedial Objectives 12
5.2 Remedial Goals 12

6.0 SUMMARY OF FINDINGS 13

7.0 RECOMMENDATIONS 13

8.0 REFERENCES 14

TABLES

page

Table 1. Summary of PCE concentrations observed in extraction wells CLC 18 and CLC 27..... 4

Table 2. Calculated extraction CLC 27 pumping water level for given pumping rate..... 6

Table 3. Summary of calculated monthly PCE mass removal rate from extraction wells CLC 18 and CLC 27 for 2017 through 2019..... 8

Table 4. Summary of annual PCE mass removal rates from extraction wells CLC 18 and CLC 27 for years 2017 through 2019..... 9

ILLUSTRATIONS

(follow text)

Figure 1. Aerial photograph of the Griggs and Walnut Site showing monitoring network, 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 winter 2019 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.

Figure 5. Hydrogeologic cross-section between CLC 27 and GWMW-10 showing well completion details and distribution of winter 2019 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 CLC 18 pumping cycle, Griggs and Walnut Site, Las Cruces, New Mexico.

Figure 8. Graph showing 2019 non-pumping and pumping water levels for extraction well CLC 18, Griggs and Walnut Site, Las Cruces, New Mexico

Figure 9. Graph showing 2019 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 2019 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 2019 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.

Figure 13. Illustration showing aerial photograph overlay, model Layer 3 hydraulic conductivity zones with 2019 upper and low PCE plume extents, Griggs and Walnut Site, Las Cruces, New Mexico.

ILLUSTRATIONS

(follow text)

Figure 14. Aerial photograph and 2019 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.

Figure 15. Aerial photograph and 2019 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.

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.

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.

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
kg	kilograms
ME	mean error
PCE	tetrachloroethene
Q/s	specific capacity
ROD	Record of Decision
SOW	Statement of Work
TMR	telescope mesh refinement
UHZ	Upper Hydrogeologic Zone
µg/L	micrograms per liter

CALENDAR YEAR 2019 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 2019 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 near continuously for the last 7 years. As defined in the EPA 2017 issued Statement of Work (SOW), the remediation goals are to be measured 14 years from the Effective Date of the SOW (January 4, 2018 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, 2017). 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, 2017).

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).

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 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 Upper Hydrogeologic Zone (UHZ) PCE plume (Fig. 4), and CLC 27 captures the Lower Hydrogeologic Zone (LHZ) PCE plume and the UHZ PCE plume where the clay layer separating the UHZ from the LHZ 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 (µg/L) to 2.3 µg/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 UHZ, which recharges the LHZ 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 UHZ to the LHZ adjacent to the well.

In the vicinity of CLC 18, the PCE plume in the UHZ has a much higher specific conductance than the LHZ. Use of the more frequently collected specific conductance measurements as a surrogate for PCE plume in the UHZ allowed the optimization of CLC 18 pumping schedule to maximize capture from the UHZ. The correlations between PCE and specific conductance for 2014, 2017-2018, and 2019 are shown graphically as Figure 6. It was determined through testing that the LHZ at CLC 18 did not contain PCE concentrations greater than 5 µg/L, consistent with trends observed at nearby monitoring well GWMW-01.

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 UHZ. 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-hr/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 UHZ (higher specific conductance resembles capture from the UHZ and lower specific conductance resembles capture from the LHZ). Figure 7 is a graph of specific conductance measured during the 8-hr pumping cycle at 90 gpm. As a result of optimization, CLC 18 has been operated at an average rate of about 28 gpm (45 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.

2.1.2 Performance Analysis

Even with the optimized pumping schedule to maximize mass removal, 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 µg/L in 2012 to less than 8 µg/L in 2019 (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 comparing 2014, 2017-2018 and 2019 (Fig. 6). The 2019 dataset indicates the PCE concentration is about 8 µg/L at the beginning of each 8-hr pumping cycle, and decreases to about 1 µg/L by the end of the pumping cycle. CLC 18 transducer recorded water levels appear to be rising during the 4th quarter 2019 . Specific capacity of CLC 18 has averaged about 12 gpm/ft of drawdown. A hydrograph of CLC 18 2019 water levels is presented as Figure 8.

Additional hydraulic analysis indicates CLC 18 is more efficient at capturing the UHZ 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 be able to capture the UHZ PCE plume until it is dewatered or below the EPA Drinking Water Standard of 5 µg/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

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 have been fairly stable for the last 4 to 5 years.

CLC 27 appears to be adequately capturing the PCE plume in the LHZ, as indicated by the cone of depression (JSAI, 2019). PCE concentrations increased (Fig. 3) as the plume mass was drawn into the CLC 27 capture area.

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.

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 2019 water levels is presented as Figure 9.

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 LHZ PCE plume. No additional extraction wells are needed for containment and capture of the LHZ PCE plume at this time based on available data and groundwater modeling.

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

pumping rate (gpm)	non-pumping water level [1] (ft bgl)	specific capacity [2] (gpm/ft)	short-term drawdown [3] (ft)	long-term drawdown [4] 14 years (ft)	regional water-level [5] decline (ft)	calculated pumping water level (ft bgl)
200	230	5.7	35.1	25.0	14.0	304
225	230	5.5	40.9	28.2	14.0	313
250	230	5.3	47.2	31.3	14.0	322
275	230	5.1	53.9	34.4	14.0	332
300	230	4.9	61.2	37.5	14.0	343
325	230	4.7	69.1	40.7	14.0	354
350	230	4.5	77.8	43.8	14.0	366
375	230	4.3	87.2	46.9	14.0	378
400	230	4.1	97.6	50.1	14.0	392

[1] estimated non-pumping water level for 2018
[2] specific capacity for each pumping rate based on 2018 data and performance testing by JSAI (2011)
[3] short-term drawdown is calculated from specific capacity
[4] long-term drawdown is calculated from transmissivity
[5] regional water level declines based on reduced pumping from CLC 61 and 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 2019, CLC 18 was pumping at an average rate of 28 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). 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. Mass removal calculations using Method 1 are presented in DBS&A (2020) and are also used in this report.

During 2019 CLC 18 had an average PCE mass removal rate of 0.037 kg/month (Fig. 10; Table 3). The consistency of the mass removal rate is due to the optimized pumping cycles maximizing contaminant removal per unit of groundwater pumped. During 2019, decreases in PCE mass removal rate from 0.051 kg/month to 0.028 kg/month (Table 3) were a result of the decreasing UHZ PCE plume concentrations. A total of 0.44 kg PCE was removed during 2019 pumping at CLC 18 (Table 4). These calculated mass-removal rates for CLC 18 are consistent with calculations based on PCE-data only, which indicate a mass removal of 0.4 kg (DBS&A, 2020).

Table 3. Summary of calculated monthly PCE mass removal rate from extraction wells CLC 18 and CLC 27 for 2017 through 2019

month	extraction well CLC 18		extraction well CLC 27	
	PCE removed (kg)	average rate (gpm)	PCE removed (kg)	average rate (gpm)
Jan-17	0.036	28	0.351	137
Feb-17	0.033	30	0.227	167
Mar-17	0.039	30	0.330	166
Apr-17	0.040	32	0.452	161
May-17	0.040	30	0.376	152
Jun-17	0.037	30	0.328	155
Jul-17	0.028	27	0.466	145
Aug-17	0.034	29	0.298	153
Sep-17	0.037	30	0.403	154
Oct-17	0.041	30	0.260	158
Nov-17	0.039	30	0.424	156
Dec-17	0.038	29	0.480	153
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

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 2019

PCE removed (kg)		
	CLC 18	**CLC 27**
2017 total	0.441[a]	4.395
2018 total	0.536[a]	6.002
2019 total	0.440	6.866

[a] – total for CLC 18 calculated using the previously reported methodology
PCE - tetrachloroethene
kg - kilograms

3.2 CLC 27 PCE Mass Removal Rate

During 2019, CLC 27 was pumped near continuously. 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 2019, CLC 27 had an average PCE mass removal rate of 0.57 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 6.87 kg PCE was removed during 2019 pumping (Table 4). In comparison, the PCE mass removal was about 6.0 kg for 2018.

Pumping at an average annual rate of 220 gpm with a PCE concentration of 15 µg/L would result in a PCE mass removal rate of 6.6 kg/yr. Extraction wells CLC 18 and CLC 27 combined have a mass removal rate of 7.4 kg/yr under the current optimization pumping program.

4.0 TMR NUMERICAL MODEL

Details regarding the telescope mesh refinement (TMR) model, model update, and calibration are available in the companion JSAI (2019) 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, 2017). Particle tracking was simulated for the historical and 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, which reduces the capture system's effectiveness and leaves the area susceptible to being influenced by additional pumping sources. It should be noted that 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, recent cessation of pumping CLC 61 (March 2019) appears to have 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 January 2020 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. 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 2019 measures approximately 1,400 ft from north to south and 2,200 ft from east to west and is completely within the capture zone created by CLC 18 and CLC 27. The lower plume measures approximately 1,100 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 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 is optimized with the current pumping schedule, and monitoring data suggest the UHZ PCE plume is decreasing in size (JSAI, 2019). No changes to extraction CLC 18 pumping cycle or rate are recommended.

The pumping rate of CLC 27 was increased in late 2019, and the PCE removal rate subsequently increased (see Table 4). The 2019 PCE removal rate increased by approximately 13 percent when the pumping rate was increased from 200 to 227 gpm in March 2018, and then from 227 gpm to 240 gpm in October 2019. 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 monitoring data from the proposed 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 22 kg and the current removal rate is about 7 kg per year. 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, 2019).

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 Order (January 4, 2018). There are approximately an additional 12 years to achieve the remedial goals.

The majority of the plume mass is where the UHZ and LHZ are hydraulically connected and the PCE plume is captured by extraction CLC 27. CLC 18 will be able to capture the remaining plume on top of the clay layer in UHZ 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 7 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 should help better define the PCE plume mass. As the plume decreases in size, mass removal rates will likely decline over time, and the planned improvements to the 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 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) without constraints. Additional hydraulic analysis indicates CLC 18 is more efficient at capturing the UHZ PCE plume than a hypothetical capture well completed to top of the clay layer.

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. Therefore, CLC 27 is able to accommodate increased pumping rate if needed for containment and capture of the LHZ PCE plume. No additional extraction wells are needed for containment and capture of the LHZ PCE at this time. No changes to CLC 27 are recommended until FLUTe well replacement is completed to monitor effectiveness.

Pumping at an average annual rate of 220 gpm with a PCE concentration of 15 µg/L would result in a PCE mass removal rate of 6.6 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 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 maintain or increase PCE mass removal. With increasing PCE concentrations 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 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 Statement of Work (EPA, 2017). The following recommendations are for the year 2020.

1. Keep pumping CLC 18 as optimized. No modifications to the pumping rate are proposed. Specific conductance and PCE concentration data would suggest the daily pumping duration can be reduced to 6 hours rather than the current 8 hrs/day. 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 240 gpm.

8.0 REFERENCES

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ILLUSTRATIONS

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

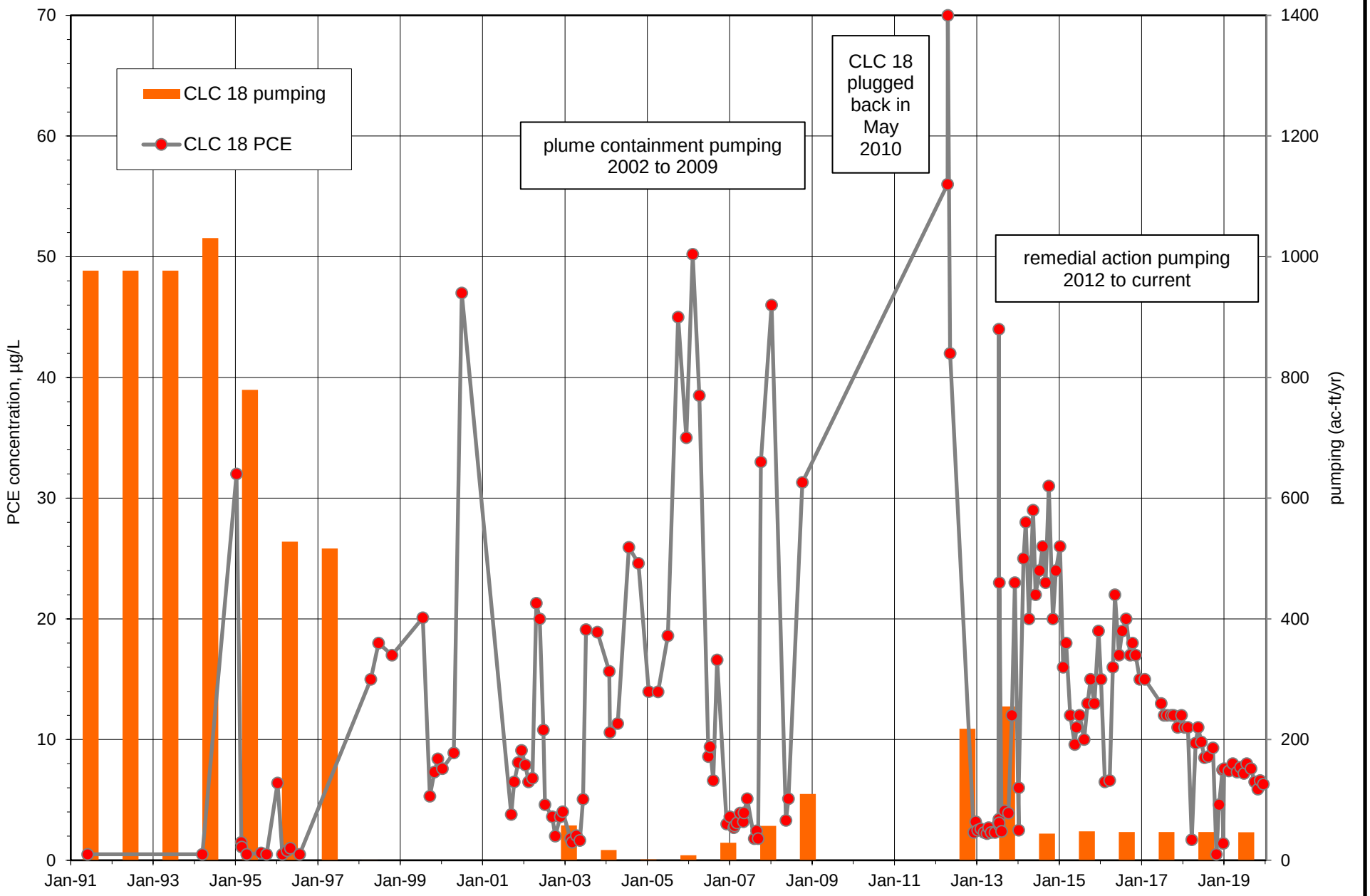


Figure 2. Graph showing PCE concentrations and pumping versus time for CLC 18, Griggs and Walnut Site, Las Cruces, New Mexico.

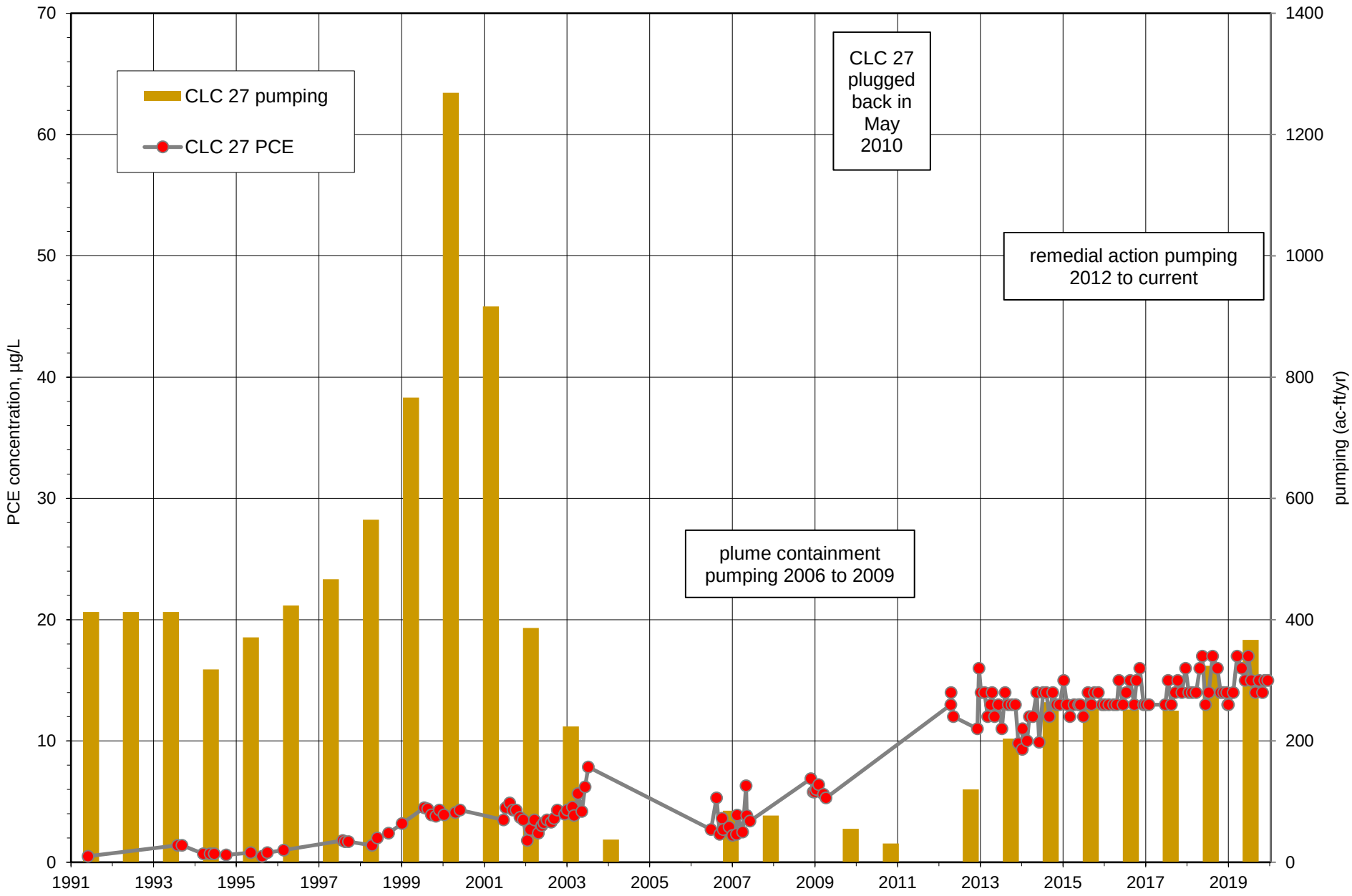
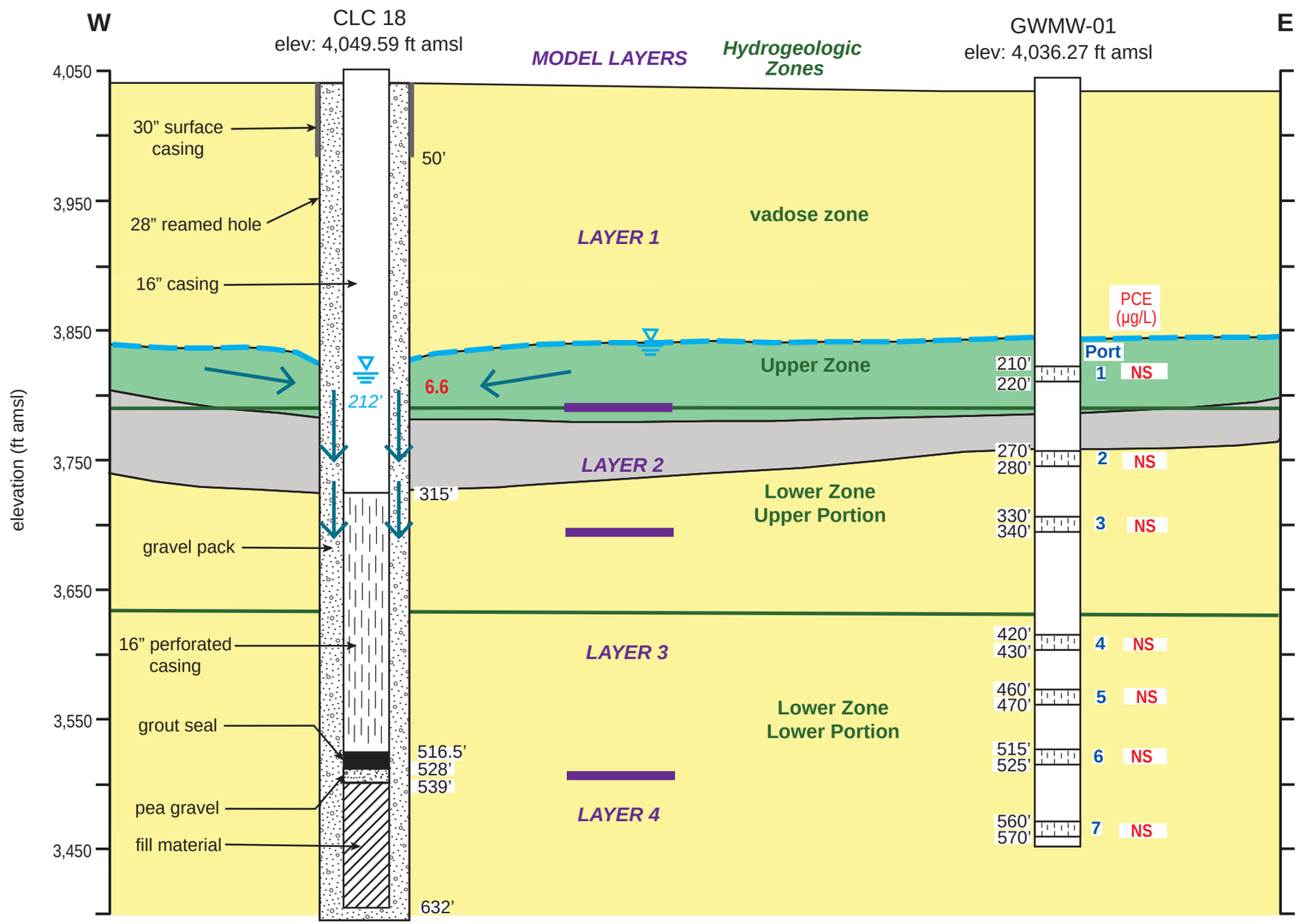


Figure 3. Graph showing PCE concentrations and pumping versus time for CLC 27, Griggs and Walnut Site, Las Cruces, New Mexico.



EXPLANATION

- predominantly sand, silt, and clay
- predominantly sand and gravel
- PCE concentrations >5 µg/L (2019)
- approximate water table
- NS rejected, not sampled in 2019, FLUTe well liner lacks integrity
- 6.6 PCE concentration, µg/L (2019)
- screen section
- direction of flow

(wells not to horizontal scale)

0 50 100 ft

horizontal scale

Figure 4. Hydrogeologic cross-section between CLC 18 and GWMW-01 showing well completion details and distribution of winter 2019 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.

DA,LM,KJ&PW9/25/2013;2019;2020Apr

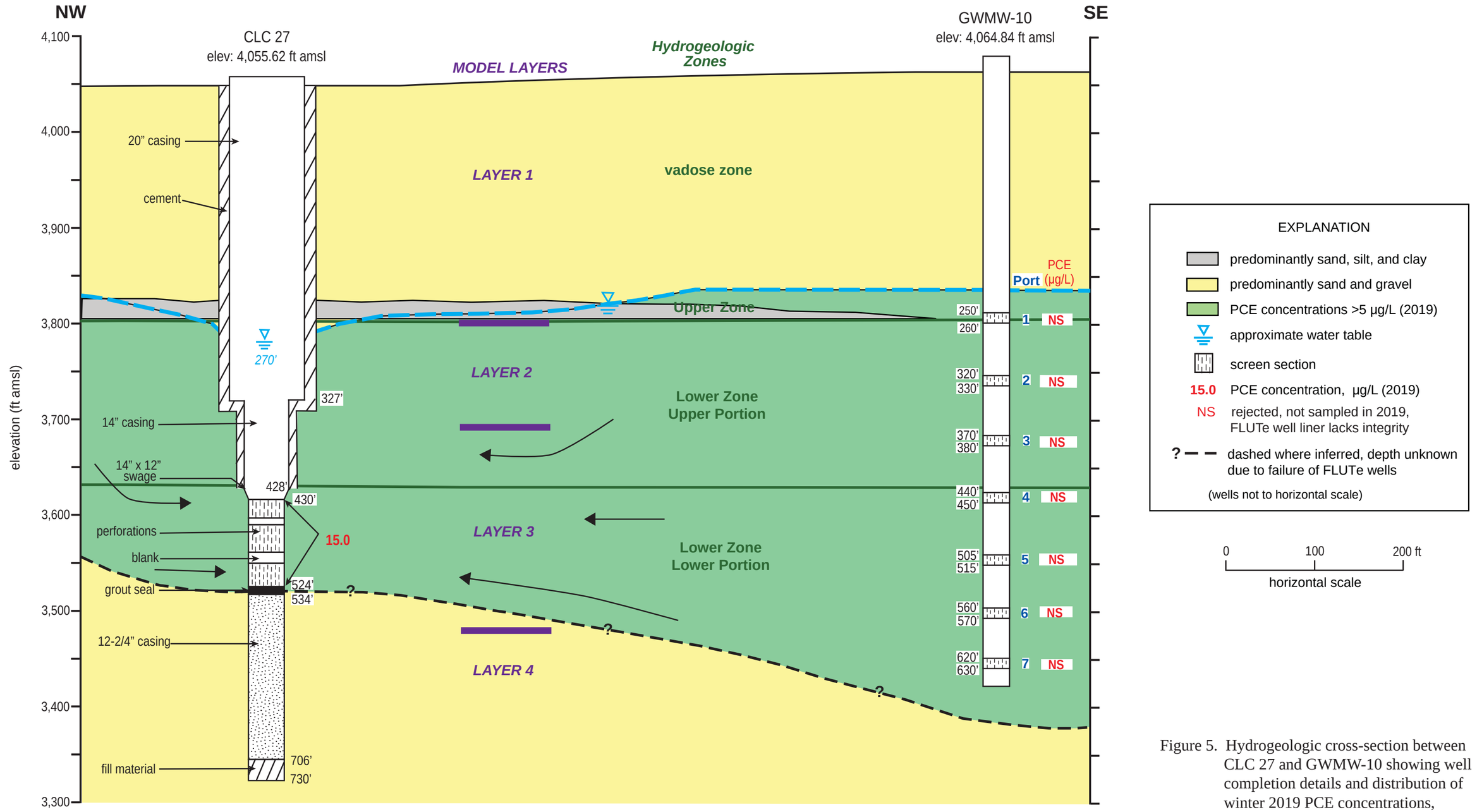


Figure 5. Hydrogeologic cross-section between CLC 27 and GWMW-10 showing well completion details and distribution of winter 2019 PCE concentrations, Griggs and Walnut Site, Las Cruces, New Mexico.

DA,LM,KJ&PW9/25/2013;2019;2020Apr

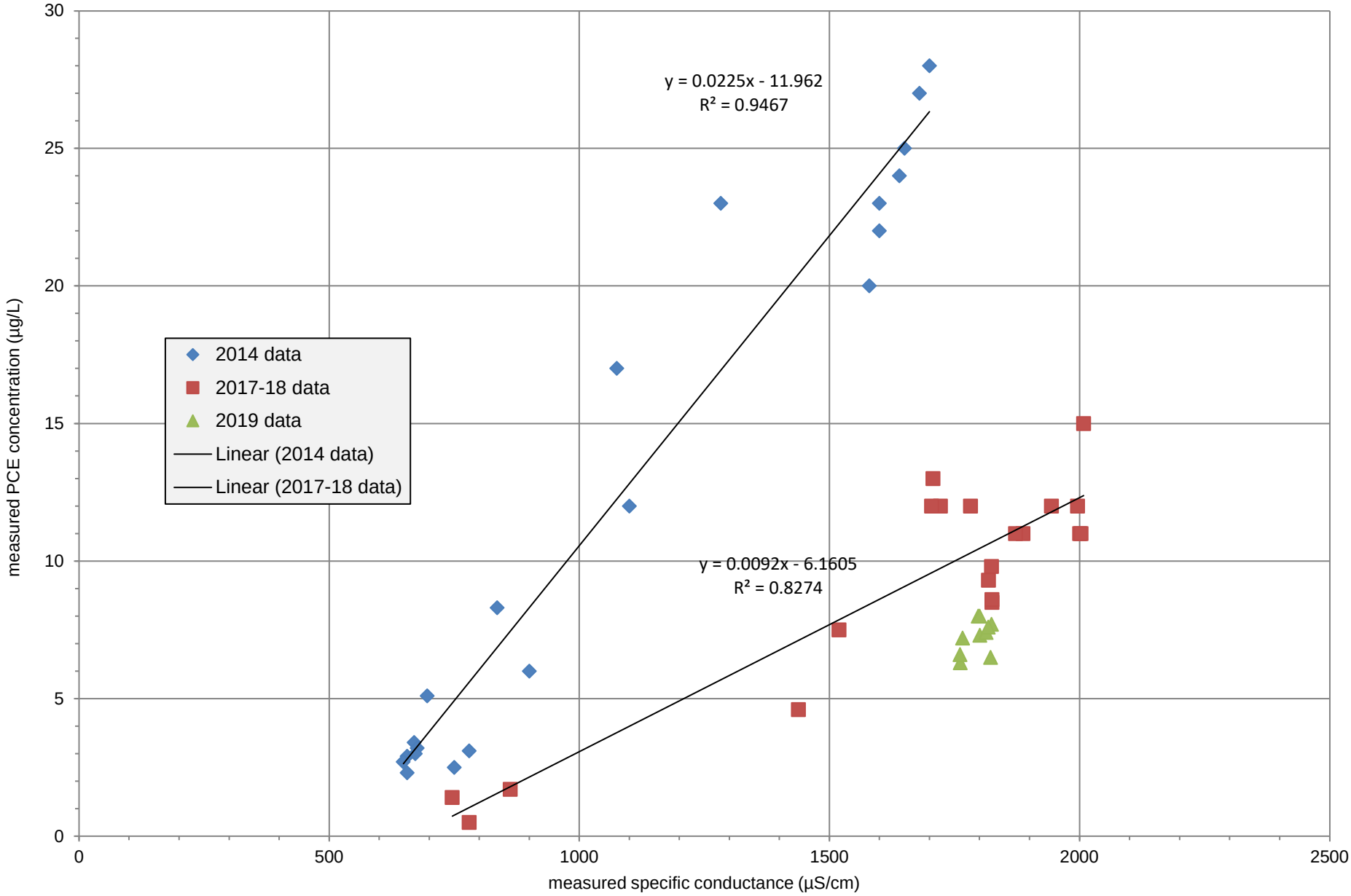


Figure 6. Graph showing correlation between specific conductance and PCE at extraction well CLC 18, Griggs and Walnut Site, Las Cruces, New Mexico.

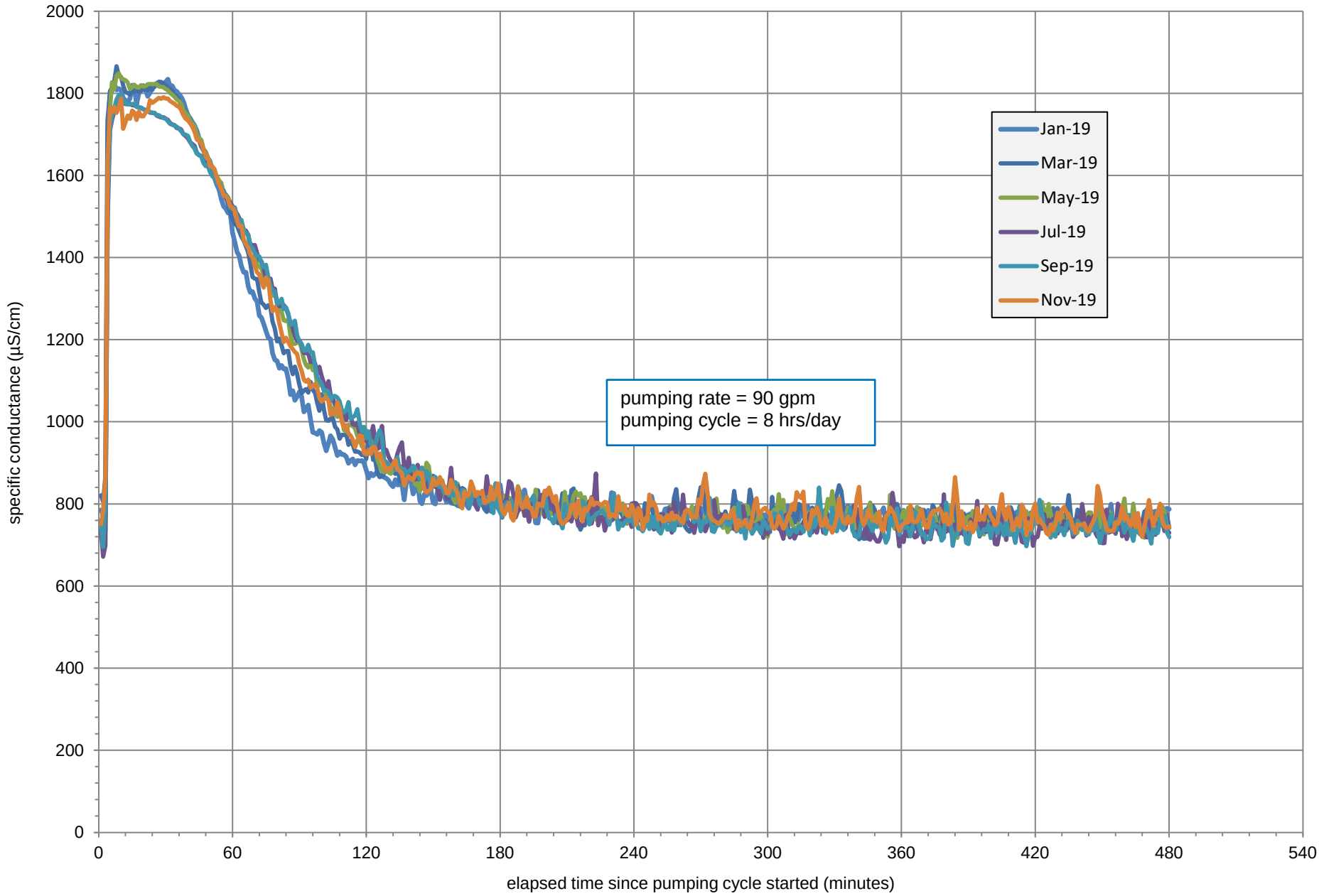


Figure 7. Graph of specific conductance for extraction well CLC 18 pumping cycle, Griggs and Walnut Site, Las Cruces, New Mexico.

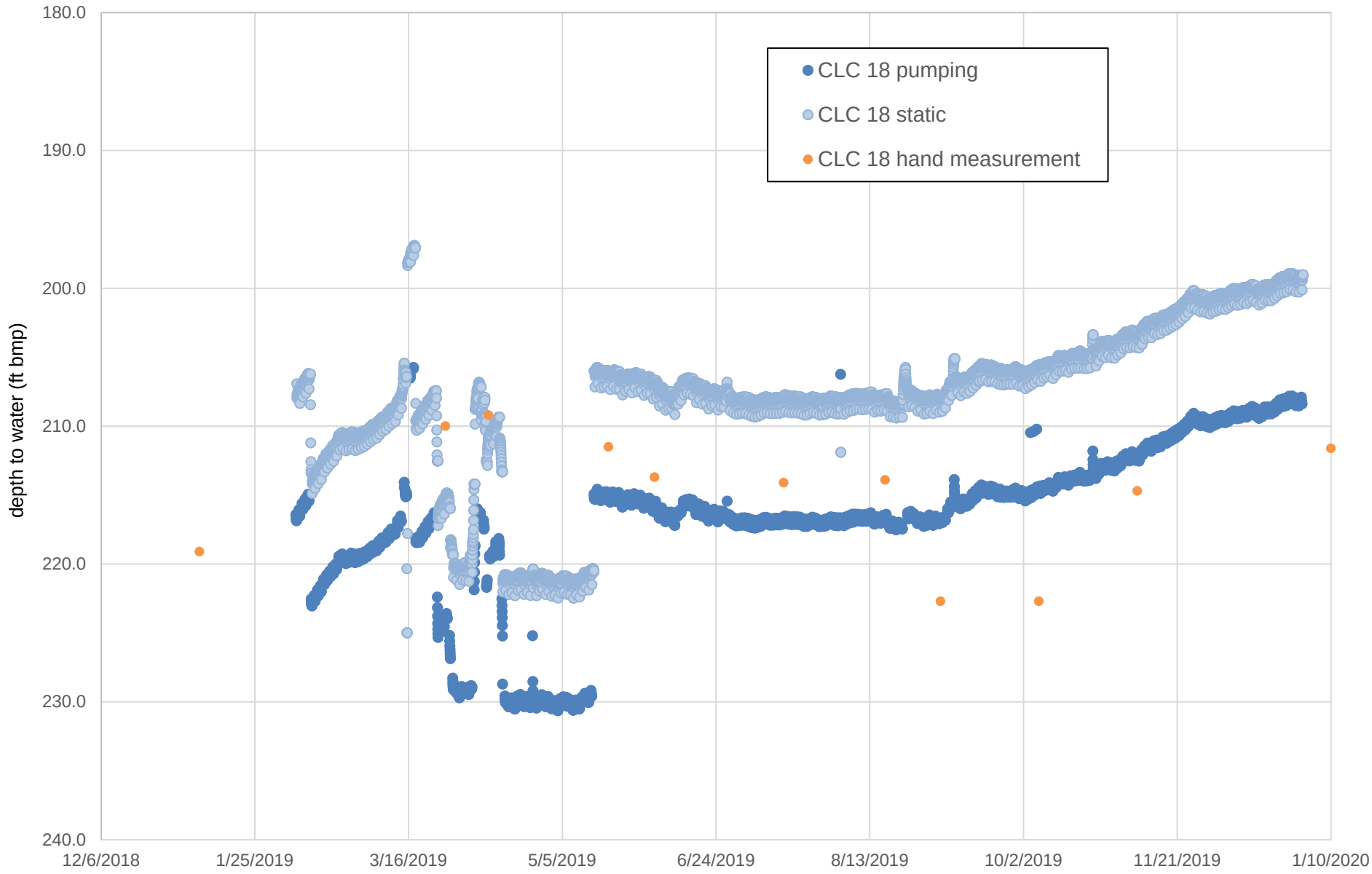


Figure 8. Graph showing 2019 non-pumping and pumping water levels for extraction well CLC 18, Griggs and Walnut Site, Las Cruces, New Mexico.

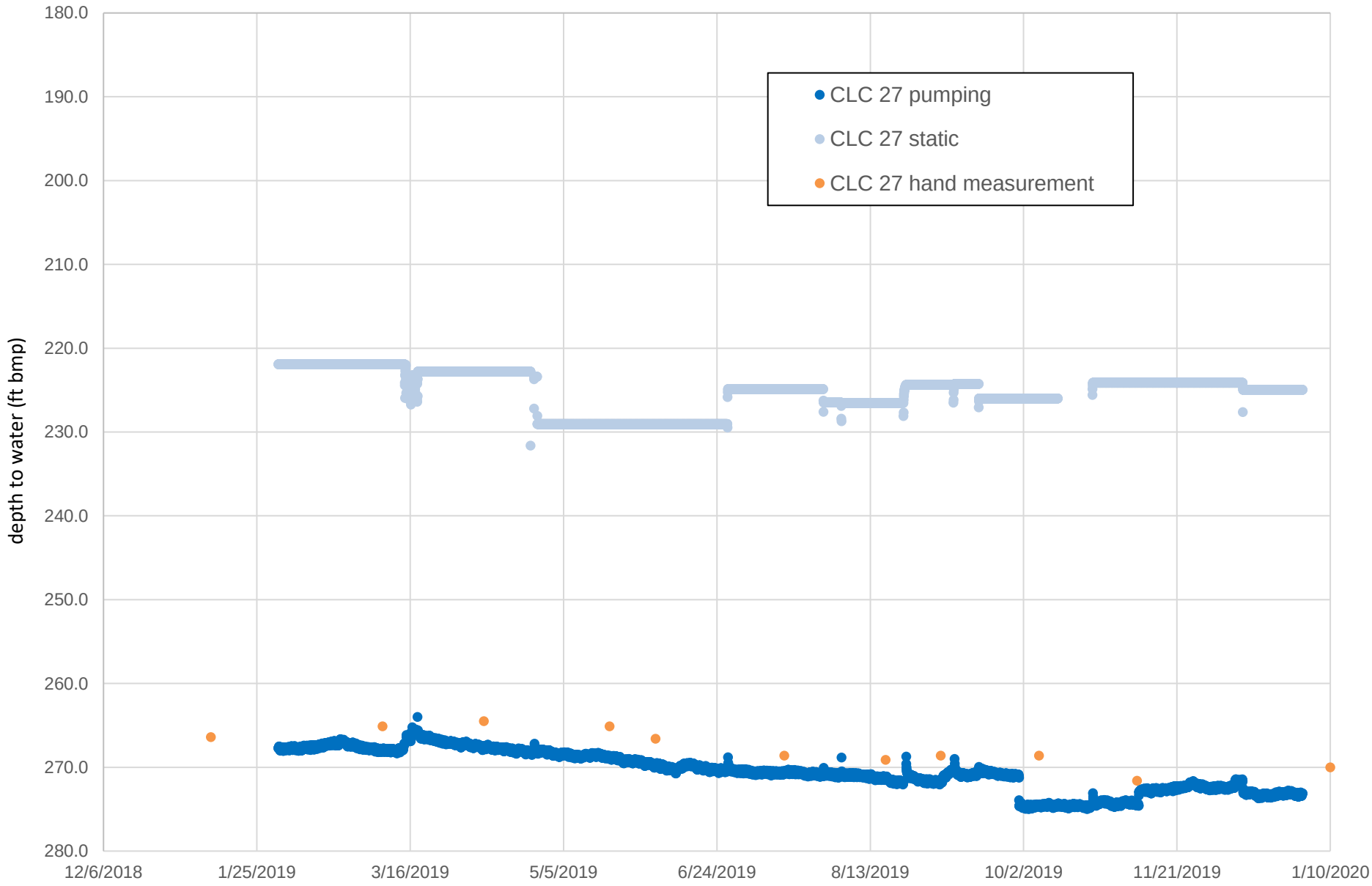


Figure 9. Graph showing 2019 non-pumping and pumping water levels for extraction well CLC 27, Griggs and Walnut Site, Las Cruces, New Mexico.

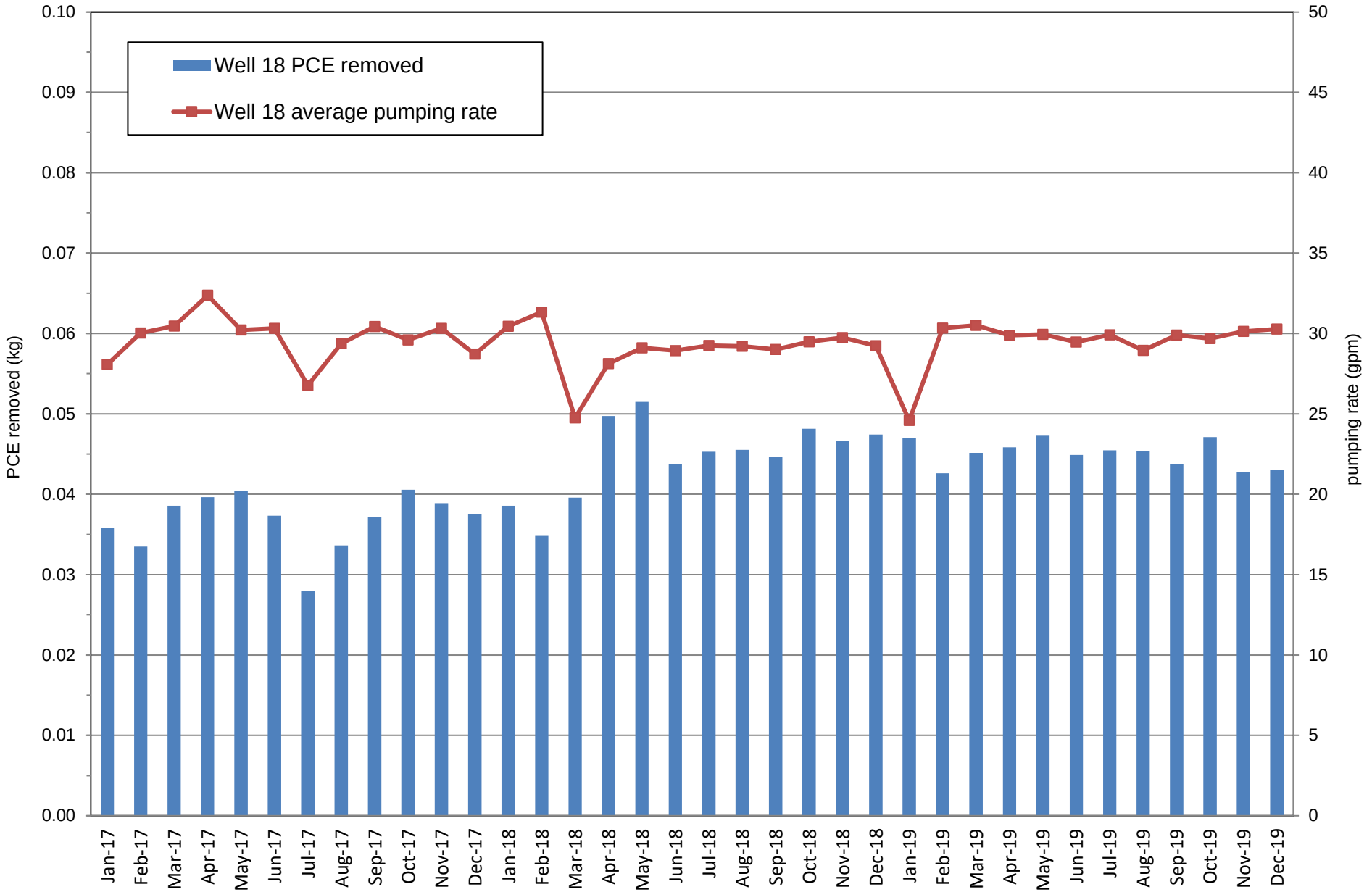


Figure 10. Graph of extraction well CLC 18 monthly pumping from 2017 through 2019 and PCE mass removal rate, Griggs and Walnut Site, Las Cruces, New Mexico.

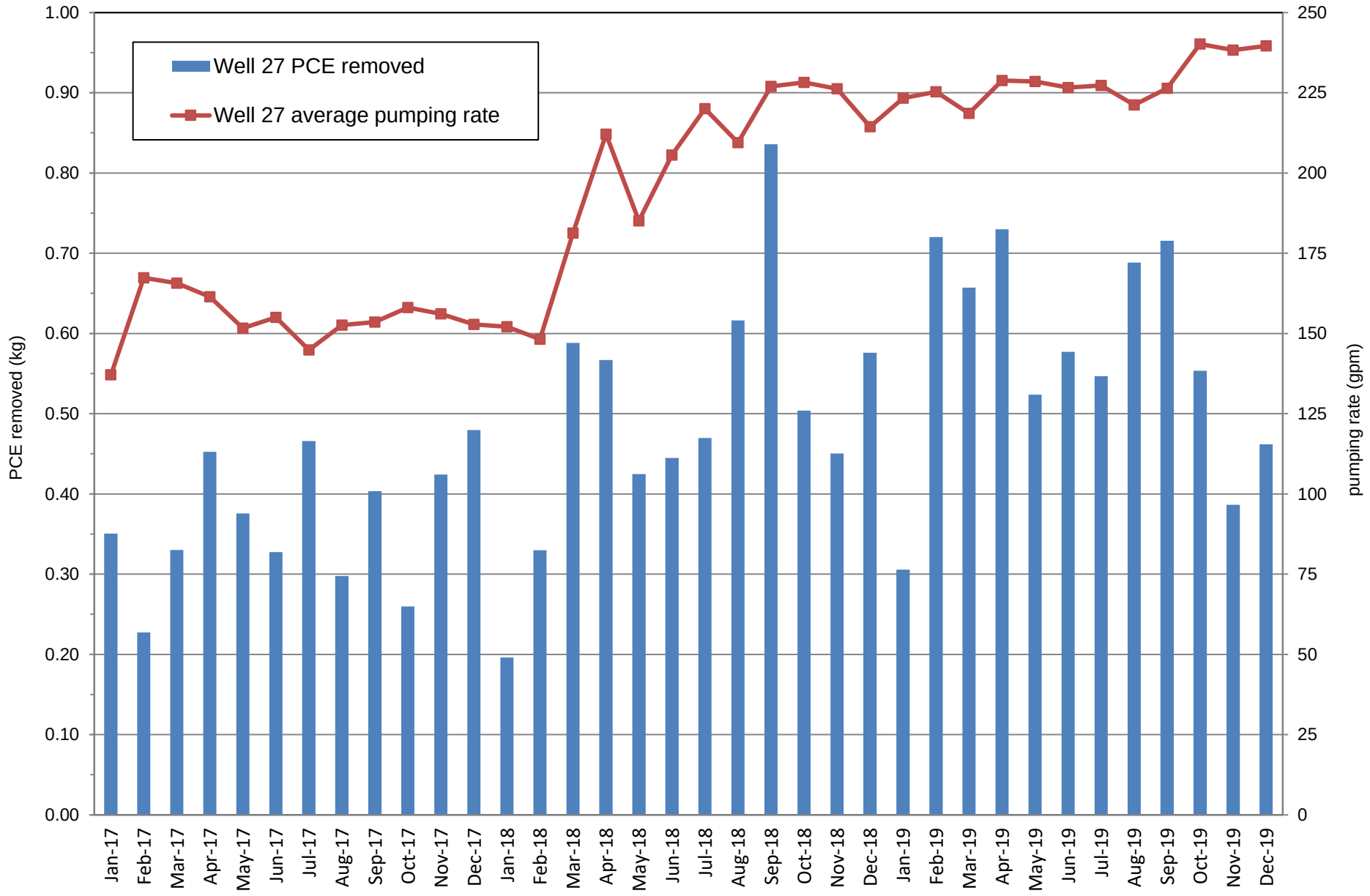


Figure 11. Graph of extraction well CLC 27 monthly pumping from 2017 through 2019 and PCE mass removal rate, Griggs and Walnut Site, Las Cruces, New Mexico.

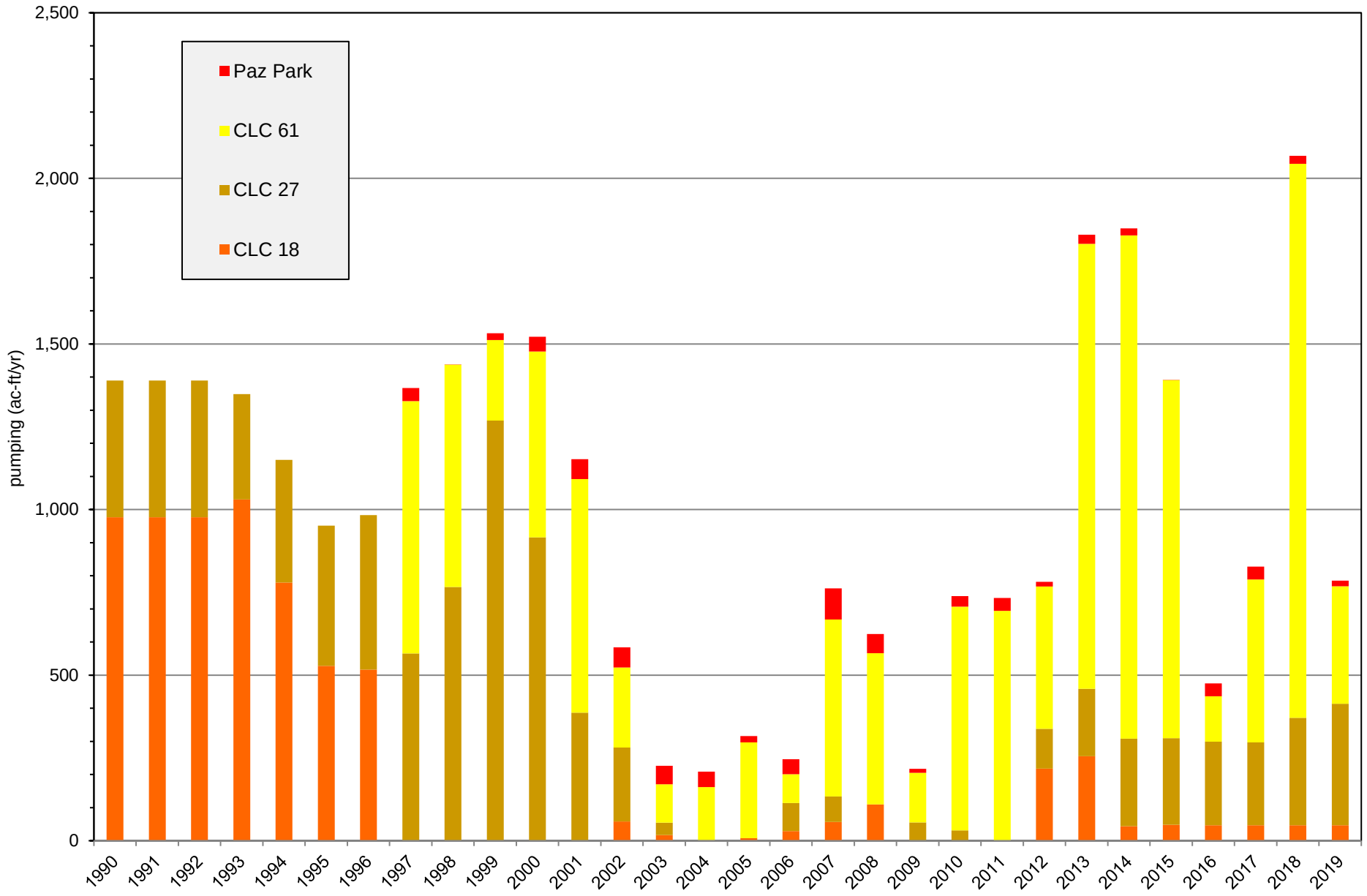


Figure 12. Bar graph of model-simulated annual pumping from 2012 to current, Griggs and Walnut Site, Las Cruces, New Mexico.

Figure 13. Illustration showing aerial photograph overlay, model Layer 3 hydraulic conductivity zones with 2019 upper and lower PCE plume extents. Griggs and Walnut Site, Las Cruces, New Mexico.

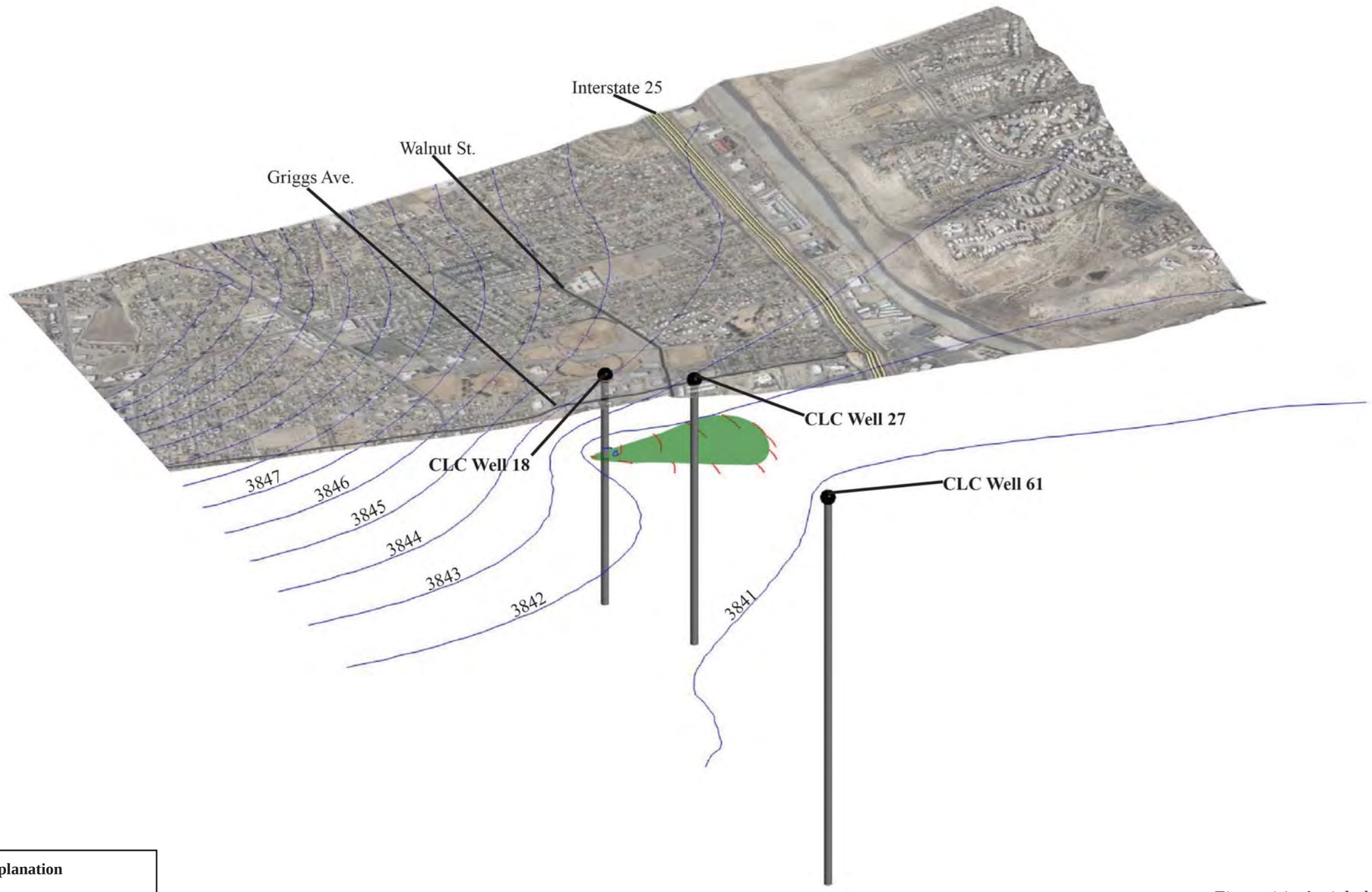


Figure 14. Aerial photograph and 2019 model-simulated heads in Layer 1, showing capture zone for extraction well CLC 18 simulated by particle tracking, Griggs and Walnut Site, Las Cruces, New Mexico.

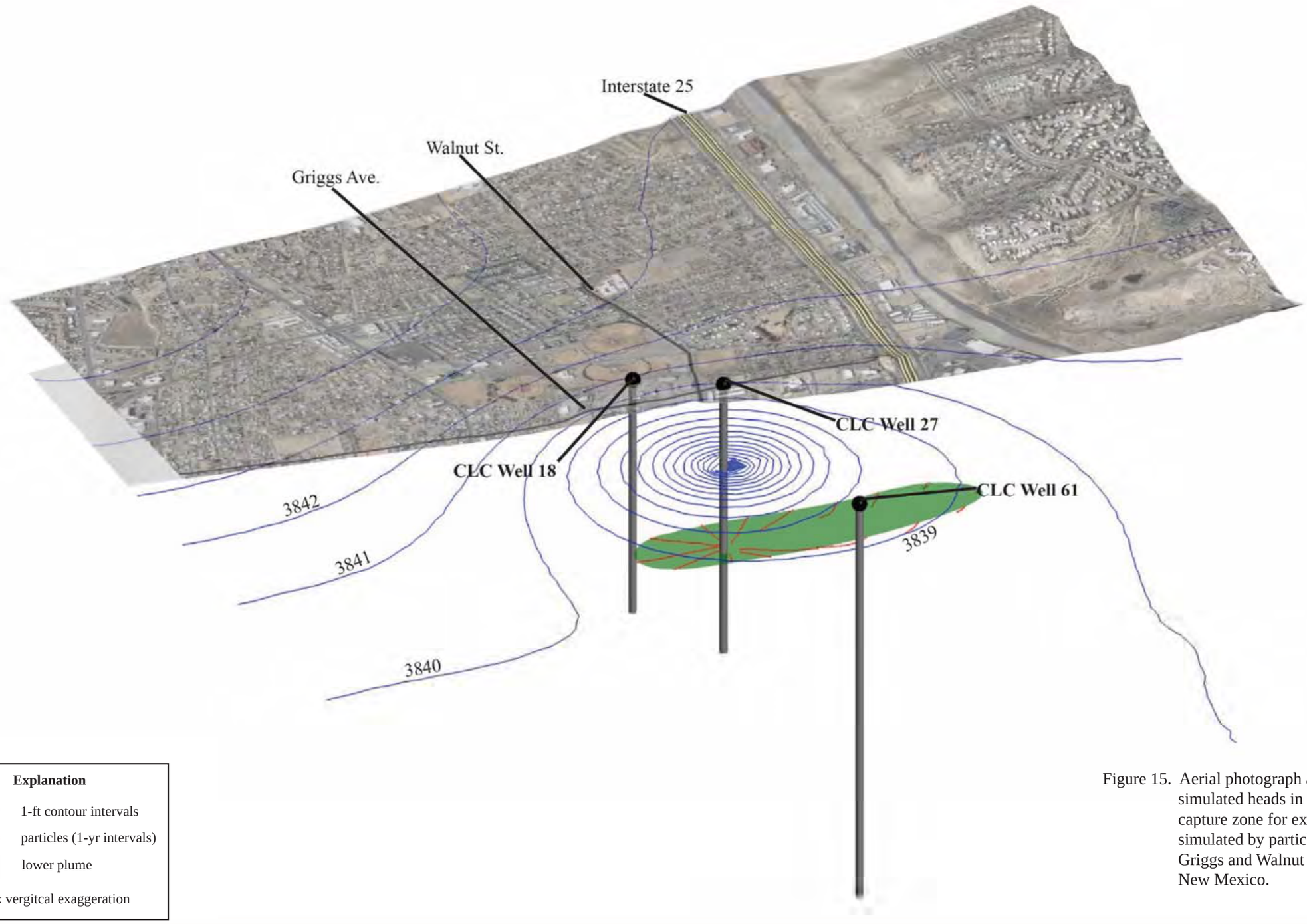


Figure 15. Aerial photograph and 2019 model-simulated heads in Layer 3, showing and capture zone for extraction well CLC 27 simulated by particle tracking, Griggs and Walnut Site, Las Cruces, New Mexico.

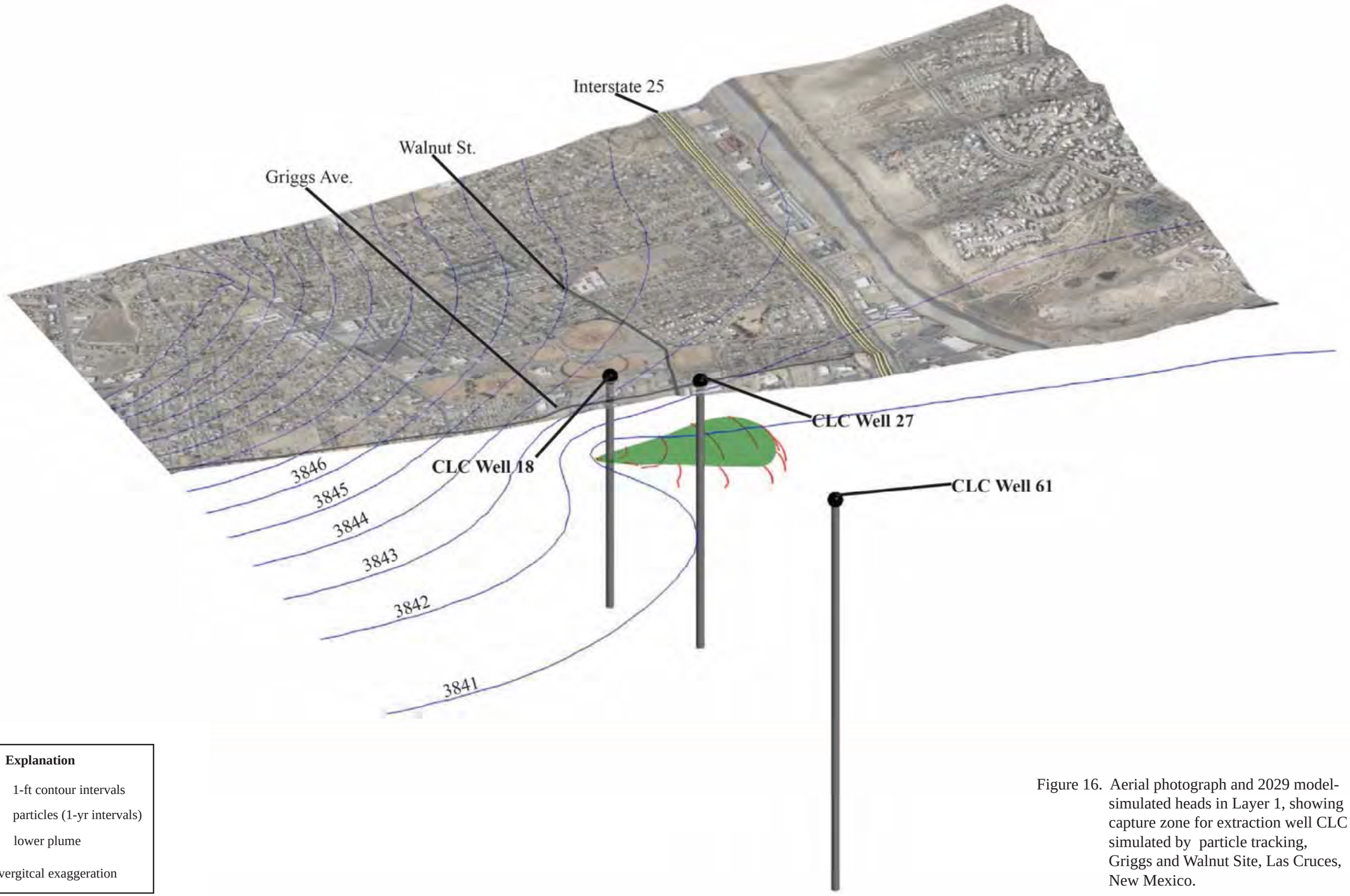
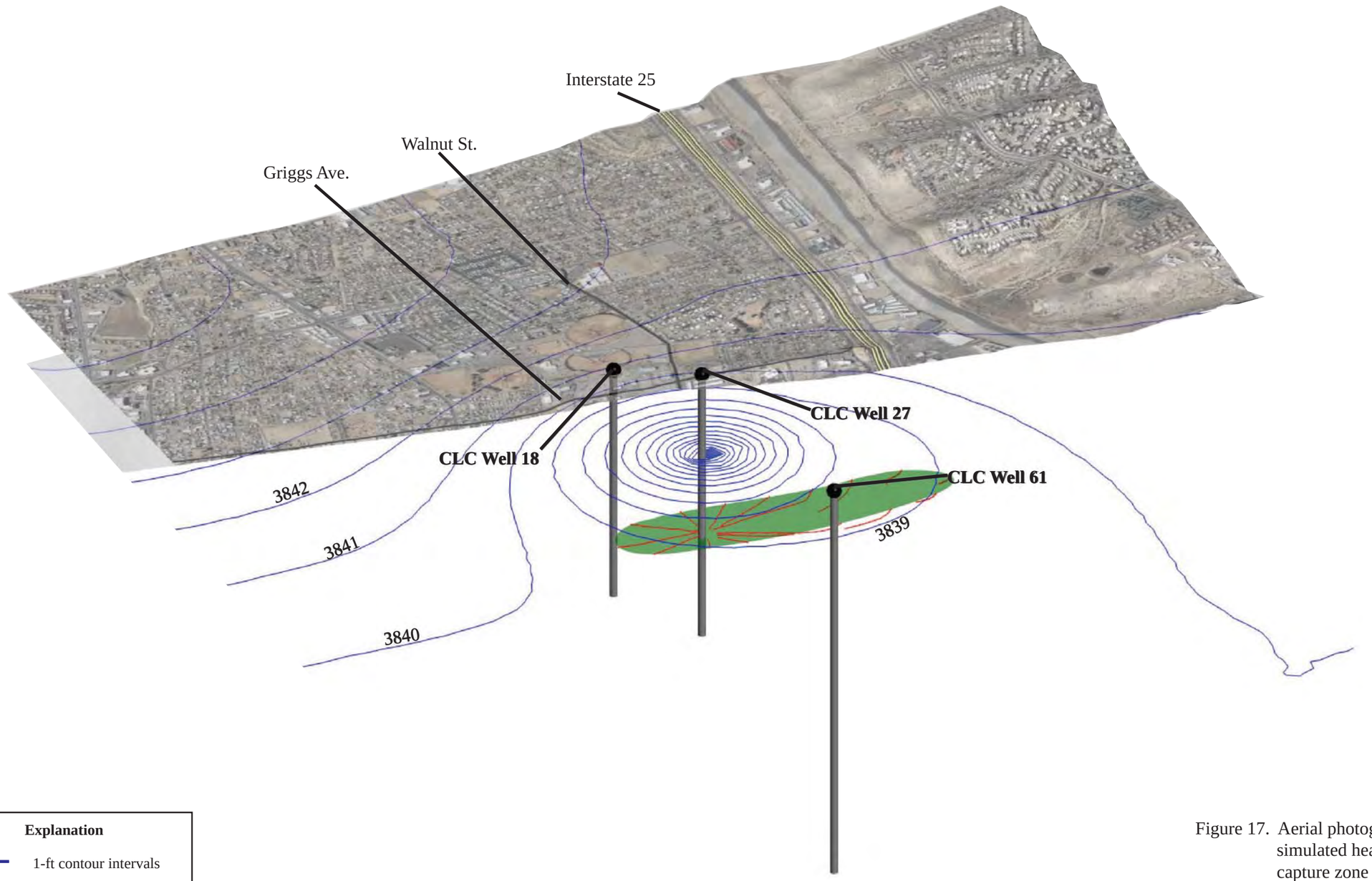


Figure 16. Aerial photograph and 2029 model-simulated heads in Layer 1, showing capture zone for extraction well CLC 18 simulated by particle tracking, Griggs and Walnut Site, Las Cruces, New Mexico.



Explanation

- 1-ft contour intervals
- particles (1-yr intervals)
- lower plume

Note: 5x vergitcal 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 Reports for Annual Groundwater Monitoring Event

Groundwater Sampling Activities, January 2020
Griggs-Walnut Ground Water Plume Superfund Site

Daniel B. Stephens & Associates, Inc. (DBS&A) collected groundwater samples from wells at the Griggs-Walnut Groundwater Plume Superfund Site (the GWP site) in January 2020. Groundwater elevations were measured site-wide on January 9 and 10, 2020, and groundwater samples were collected on January 13 through 16 and January 21 through 22, 2020. A total of 19 wells were sampled (Table 1), and water levels were measured in 6 additional wells (MW-1, MW-3, MW-4, MW-5, NGMW-01, and NGMW-02). MW-5 was on the January 2020 list for sampling, but was dry. The sampling methods are shown on Table 2. The FLUTe wells were not sampled or gauged in January 2020 due to lack of liner integrity (DBS&A, 2019a). The U.S. Environmental Protection Agency (EPA) was notified on January 15, 2020 that FLUTe wells would not be sampled.

Table 1. Groundwater Samples Collected, January 2020

Sample Type	Number of Samples	Analyses [a]	Well ID
Monitor wells	13	VOCs by EPA method 8260B	GWMW-11I, GWMW-11S, GWMW-11D, GWMW-15I, GWMW-15S, GWMW-15D, GWMW-16S, GWMW-16D, MW-SF2, MW-SF5, MW-SF9, MW-SF10, and NGMW-03
City of Las Cruces production wells	4	VOCs by EPA method 8260B	CLC 20, CLC 26, CLC 57, and CLC 61 [b]
City of Las Cruces production wells	2	Arsenic (total and dissolved), uranium (total and dissolved), arsenic speciation, and field parameters	CLC 18 and CLC 27
Duplicate	2	VOCs by EPA method 8260B	NGMW-03 and MW-SF10
MS/MSD	2	VOCs by EPA method 8260B	GWMW-15D (1 MS and 1 MSD)
Field blank	2	VOCs by EPA method 8260B	Not applicable
Equipment blank	2	VOCs by EPA method 8260B	Not applicable
Trip blank	2	VOCs by EPA method 8260B	Not applicable

[a] Field parameters measured included pH, temperature, and specific conductance.

[b] These wells are not included in the SAP for an annual monitoring event. Because FLUTe wells were deemed unusable, these wells were sampled this year to provide supplemental information in the LHZ on the southern side of the plume.

VOCs = Volatile organic compounds

Table 2. Sampling Methods, January 2020

Sampling Method	Number of Samples	Well ID
Hydrasleeve	13	GWMW-11I, GWMW-11S, GWMW-11D, GWMW-15I, GWMW-15S, GWMW-15D, GWMW-16S, GWMW-16D, MW-SF2, MW-SF5, MW-SF9, MW-SF10, and NGMW-03
Grab (dedicated pump)	3	CLC 18, CLC 27, and CLC 61
Bladder pump	3	CLC 20, CLC 26, and CLC 57

Equipment blanks were collected on a frequency of 1 per day when non-dedicated sampling equipment was used (i.e., when the bladder pump was used for sampling), in compliance with the GWP site sampling and analysis plan (SAP) (DBS&A, 2018a). Field blanks were filled using distilled water. Trip and temperature blanks were included in each cooler that was shipped 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 (i.e., temperature, pH, and specific conductance). Measured water levels are summarized in Table 3. Field parameters 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., GWMW11-I).

For the Hydrasleeve samples, the Hydrasleeve was lowered into the well slowly, and then bobbed 3 to 5 times for a 2-inch-diameter well, 7 times for a 3-inch-diameter well, and 10 times for a 4-inch-diameter well, as recommended by Hydrasleeve personnel. 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, January 2020

Well ID	Date	Time	Zone [a]	Depth to Water (feet)	Total Well Depth [b] (feet)	Surveyed Measuring Point Elevation [c] (feet msl)	Groundwater Elevation (feet msl)
CLC 18	1/10/2020	11:32	UHZ	211.61	516.50	4,049.59	3,837.98
CLC 20	1/10/2020	10:35	LHZ	237.10	680	4,074.51	3,837.41
CLC 26	1/10/2020	10:07	LHZ	176.90	700	4,014.15	3,837.25
CLC 27	1/10/2020	11:09	LHZ	270.00	524	4,057.12	3,787.12
CLC 57	1/10/2020	10:56	LHZ	294.50	532	4,132.14	3,837.64
CLC 61	1/10/2020	9:48	LHZ	201.84	1,070	4,041.37	3,839.53
GWMW-11D	1/10/2020	9:10	LHZ	185.13	540	4,022.67	3,837.54
GWMW-11I	1/10/2020	8:55	LHZ	184.76	314.1	4,022.74	3,837.98
GWMW-11S	1/10/2020	8:49	UHZ	178.68	205	4,022.72	3,844.04
GWMW-15D	1/9/2020	13:00	LHZ	241.58	595	4,081.03	3,839.45
GWMW-15I	1/9/2020	12:40	LHZ	241.60	475	4,081.06	3,839.46
GWMW-15S	1/9/2020	12:30	UHZ	241.14	304.2	4,081.03	3,839.89
GWMW-16D	1/10/2020	12:56	LHZ	195.26	370	4,033.07	3,837.81
GWMW-16S	1/10/2020	13:02	UHZ	189.71	205	4,032.73	3,843.02
MW-1	1/9/2020	16:10	UHZ	193.33	195.99	4,037.14	3,843.81
MW-3	1/9/2020	16:32	UHZ	Dry	189.71	4,034.56	< 3,844.86
MW-4	1/9/2020	16:47	UHZ	Dry	185.71	4,031.59	< 3,848.18
MW-5	1/14/2020	13:58	UHZ	Dry	191.80	4,036.25	< 3,844.45
MW-SF10	1/9/2020	15:20	UHZ	195.35	204.44	4,038.66	3,843.31

[a] 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).

[b] Total well depth information from Tables 6a and 6b of DBS&A (2018a) (not what was tagged in the field in January 2020).

[c] Measuring point elevations from Table 2 of Appendix A of DBS&A (2019a). Measuring point elevations for most wells were surveyed in 2018. Measuring point elevations for NGMW-01, NGMW-02, and NGMW-03 are from 2017 (their elevations were not surveyed in 2018).

msl = Above mean sea level
UHZ = Upper hydrogeologic zone
LHZ = Lower hydrogeologic zone

Table 3. Groundwater Level Measurements and Elevations, January 2020

Well ID	Date	Time	Zone [a]	Depth to Water (feet)	Total Well Depth [b] (feet)	Surveyed Measuring Point Elevation [c] (feet msl)	Groundwater Elevation (feet msl)
MW-SF2	1/9/2020	16:22	UHZ	191.69	200	4,035.71	3,844.02
MW-SF5	1/9/2020	14:58	UHZ	148.98	153.35	3,995.63	3,846.65
MW-SF9	1/10/2020	8:20	UHZ	191.03	203.10	4,032.35	3,841.32
NGMW-01	1/9/2020	14:24	UHZ	127.42	170	3,975.48	3,848.06
NGMW-02	1/9/2020	13:52	UHZ	132.75	170	3,980.79	3,848.04
NGMW-03	1/9/2020	14:46	UHZ	137.54	170	3,985.11	3,847.57

[a] 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).

[b] Total well depth information from Tables 6a and 6b of DBS&A (2018a) (not what was tagged in the field in January 2020).

[c] Measuring point elevations from Table 2 of Appendix A of DBS&A (2019a). Measuring point elevations for most wells were surveyed in 2018. Measuring point elevations for NGMW-01, NGMW-02, and NGMW-03 are from 2017 (their elevations were not surveyed in 2018).

msl = Above mean sea level
UHZ = Upper hydrogeologic zone
LHZ = Lower hydrogeologic zone

Table 4. Field Parameter Data, January 2020
Page 1 of 2

Well ID	Date	Time	Zone [a]	pH	Specific Conductance (µS/cm)	Temperature (°C)	Comments
CLC 18	1/15/2020	11:42	UHZ	7.90	680	20.1	An incomplete list of analytes (only dissolved arsenic and dissolved uranium) were analyzed for in the laboratory sample collected on 1/15/2020.
CLC 18	1/22/2020	13:35	UHZ	7.77	741	20.8	This well was resampled on 1/22/2020 and was analyzed for the complete list of analytes (total arsenic, total uranium, dissolved arsenic, dissolved uranium, and arsenic speciation).
CLC 20	1/22/2020	10:44	LHZ	9.15	923	20.0	
CLC 26	1/21/2020	17:32	LHZ	8.95	766	16.1	
CLC 27	1/15/2020	12:10	LHZ	7.66	985	21.9	An incomplete list of analytes (only dissolved arsenic and dissolved uranium) were analyzed for in the laboratory sample collected on 1/15/2020.
CLC 27	1/22/2020	14:00	LHZ	7.59	1,118	22.3	This well was resampled on 1/22/2020 and was analyzed for the complete list of analytes (total arsenic, total uranium, dissolved arsenic, dissolved uranium, and arsenic speciation).
CLC 57	1/22/2020	16:06	LHZ	8.92	390.2	21.7	
CLC 61	1/16/2020	08:47	LHZ	7.84	1,130	23.6	
GWMW-11D	1/15/2020	15:14	LHZ	8.15	502	19.0	
GWMW-11I	1/14/2020	16:45	LHZ	7.89	1,264	18.8	
GWMW-11S	1/14/2020	15:31	UHZ	7.64	1,467	19.3	
GWMW-15D	1/14/2020	10:30	LHZ	7.59	770	18.7	
GWMW-15I	1/14/2020	11:47	LHZ	7.47	1,522	21.6	
GWMW-15S	1/13/2020	17:37	UHZ	8	1,017	18	

Notes: MW-5 not sampled in January 2020 because it was dry. Water level measurements were collected at MW-1, MW-3, MW-4, NGMW-01, and NGMW-02, but these wells were not sampled in January 2020.

[a] 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, January 2020

Well ID	Date	Time	Zone [a]	pH	Specific Conductance (µS/cm)	Temperature (°C)	Comments
GWMW-16D	1/15/2020	10:40	LHZ	8.02	1,265	18.5	
GWMW-16S	1/15/2020	09:40	UHZ	7.11	1,349	18.4	
MW-SF10	1/14/2020	13:10	UHZ	7.28	1,662	19.8	
MW-SF2	1/16/2020	14:43	UHZ	7.43	1,252	15.3	
MW-SF5	1/16/2020	17:35	UHZ	7.36	1,842	16.6	
MW-SF9	1/15/2020	16:30	UHZ	7.52	907	18.9	
NGMW-03	1/13/2020	15:50	UHZ	7.28	1,809	19.7	

Notes: MW-5 not sampled in January 2020 because it was dry. Water level measurements were collected at MW-1, MW-3, MW-4, NGMW-01, and NGMW-02, but these wells were not sampled in January 2020.

[a] 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

The SAP calls for sampling wells in order from the least to most contaminated. This condition was followed at the nested monitor wells. With the exception of the bladder pump used to sample wells CLC 20, CLC 26, and CLC 57, no sampling equipment was reused during the January 2020 sampling event.

Laboratory analytical reports are provided in Attachment 3. Well specific notes from the sampling event include the following:

1. It was difficult to find monitor well GWMW-15S/D because it was buried by sand and gravel. The DBS&A field staff stacked rocks in a line near the well to assist in locating it during the next sampling event. GWMW-15S/D is also located behind a locked gate, and access was provided by City of Las Cruces (CLC) staff.

2. DBS&A field staff also coordinated with CLC staff for access to the 6 CLC wells and GWMW-16S/D.

3. MW-5 requires a special ERGO brand key to open the manhole cover, and CLC water production staff did not have a key (CLC water treatment plant staff have a key for this manhole). The DBS&A field staff was able to get the manhole cover off without a key.

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.

5. MW-SF9 was buried under 3 inches of soil. The DBS&A field staff put two traffic cones on it, and surrounded it with rocks to try to keep it from being reburied.

6. There was a car parked on top of GWMW-11S/I/D when it was visited on January 9. The DBS&A field staff was able to measure the water level, and left a note to request that the car be moved. The homeowner moved the car on January 14, after which these monitor wells were sampled.

7. None of the wells gauged in January 2020 had oil/product on the water surface.

8. The pump in CLC 61 was offline prior to January 2020 sample collection based on recommendations in the 2017-2018 annual report.

9. 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.

10. CLC 18 and CLC 27 were sampled on January 15 for an incomplete list of analytes, and were resampled on January 22 to provide all data required by the SAP.

11. On January 16, the bladder pump got stuck in CLC 26 at approximately 300 feet below ground surface (bgs) and DBS&A field staff could not remove it. The pump was left in the well that day. On January 21, personnel from Rodgers & Company arrived on-site. The CLC 26 sounder tube was removed, and the bladder pump tubing and safety cable were wrapped around the transducer tube at approximately 140 feet bgs. The transducer tube was removed, freeing the pump, and it did not appear to be damaged. A video survey was run in CLC 26; no obstructions were seen. CLC 26 was sampled after the video survey was completed.

12. Because wells CLC 20 and CLC 57 have the same type of setup as CLC 26, these wells had a similar chance of getting the bladder pump stuck. Therefore, on January 21, Rodgers & Company removed the transducer and sounding tubes from CLC 20 and CLC 57 and ran a video log in CLC 20. It appeared that there are two broken PVC sounder tubes in CLC 20 located at 208 and 240 feet bgs, and an obstruction at 380 feet bgs.

13. On January 22, Rodgers & Company ran a video survey in CLC 57; no obstructions were seen. Samples were collected from CLC 20 and CLC 57 on January 22.

14. Rodgers & Company replaced the transducers, transducer tubing, and sounding tubes in CLC 20, CLC 26, and CLC 57 the week of January 27, 2020.

Attachment 1

Field Sheets

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: CLC18	Date: 1-15-20
Sample identification: CLC18	Sample time: 1142
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: V. Morgan	
Casing diameter/type: 4"	DTW @ TOC: 21.61
Water Level Indicator: Heron Dipper-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: Grab Sample from inline spigot	
Comments: Pumping 88.6 gpm Pumping since 0800 1-15-20 Inline conductivity meter = 759.363 us/cm Hach sc200 meter @ moment of sample collection 1 ~~250~~ 195 mL plastic w/ HNO_3 preservative – Filtered w/ 0.45 µm (VM) no odor/color	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1142	20.1	7.90	680

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: CLC 26 27 (Dup)	Date: 1-15-20
Sample identification: CLC 26 27 (Dup)	Sample time: 1210
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: Y. Morgan	
Casing diameter/type:	DTW @ TOC: 176.90
Water Level Indicator: Heron Dipper-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: Grab via in line spigot	
Comments: Pumping 238 gpm Pumps 24/7 except w/ power outage 1 125-ml plastic, HNO3 preservative, filtered to 0.45 µm. No odor / Color	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1210	21.9	7.66	985

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: CLC-61	Date: 1.16-2020
Sample identification: CLC61	Sample time: 0847
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: Y. Rogan	
Casing diameter/type:	DTW @ TOC: 20.84 TD=107.0
Water Level Indicator: Heron Dipper-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: Grab Sample via in line Spigot	
Comments: 3 VOA vials (8260B) well ~~repaired~~ electrician replaced yesterday & purged for 1.5 hrs (Q?) Crew advised purge 15 mins before sample. Start pump @ 0832 → 3 CLC staff & electrician from City. Flow meter not connected calculated via totalizer & stop watch. ~950 gpm	

Malodor, some black particles
CLC staff says well was making dark water so they acid-washed it with undetermined acid approved for wells. Water has particles now.

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
0845	23.6	7.84	1130

Pump off @ 0848

In past year, well has been started only occasionally to clean out stagnant malodorous water & reduce build-up in pipes.

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: GWMW11-D	Date: 1-15-2020
Sample identification: GWMW11-D	Sample time: 1514
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: V. Morgan	Scrn. interval = 595-540 ~~580.6 - 595.6~~ (ft)
Casing diameter/type: (in) ~~4"~~ PVC 3"	DTW @ TOC: 185.13 TD=540'
Water Level Indicator: Heron Dipper-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: Hydrasleeve Speedbag 900mL	
Comments: Collect Sample (3 VOA Vials - 8260B) @ 530' BTOC after cycling 7 times before raising to surface	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1514	19.0	8.15	502

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: GWMW11-I	Date: 1-14-20
Sample identification: GWMW11-I	Sample time: 1145
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: Y. Morgan	
Casing diameter/type: 3" PVC	DTW @ TOC: 184.76
Water Level Indicator: Heron Dipper-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: Hydrasleeve Speedbag 900mL (4m)	
Comments: TD - 314.1, ~~tt~~ Screened Interval = 299.1 - 314.1 Disposed of old rope. Collected sample @ 304' BTOC after cycling 7 times before raising to surface, Slight odor Non-turbid	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
Sample - 1645 ~~1650~~ (4m)	18.8	7.89	1264

Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs- Walnut
Project #: DB19.1466
Project Manager: K. Joyce

Sampler: U. Rojon
Sample Date: 1-14-20
Sample Time: 1531

Well #: GWMW11-S
Screen Interval 185-205
Well Diameter: 4 (inches)
Depth to NAPL: — (feet btoc)
Depth to Water: 178.68 (feet btoc)
Total Depth of Well: 205 (feet)

Height of Water Column: 26.32 (feet)
Casing Volume: — (gal)
Purge Volume: 900 mL (gal)
Purge Method: Hydrasleeve Speed bag

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 ~~°F~~ °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	~~7.64~~ 11.34 (4m)	19.3	1867	—	—	Non-turbid
1						
2						
3						

Sample Description: New Hydrasleeve speed bag 900ml w/ new tether lowered to 190' BTOC then cycled 10 times before raising to surface. (4m)

Physical Observations: Car parked over well - ~~sample pulled @ an angle~~ owner came home & moved car. Slight odor. Non-turbid

Analytical Method(s): 8260B (3VOA Vials)

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GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs - Walnut
Project #: DBI9.1466
Project Manager: K. Jayne

Sampler: V. Morgan
Sample Date: 1-14-20
Sample Time: ~~0930~~ ~~1005~~ 1030

Well #: GMW15-D
Screen interval 580.6 – 595.6
Well Diameter: 3" (inches)
Height of Water Column: 353.42 (feet)
Depth to NAPL: N/A (feet btoc)
Casing Volume: — (gal)
Depth to Water: 241.58 (feet btoc)
Purge Volume: 900 mL (gal)
Total Depth of Well: 595 (feet)
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:

Casing Volume	pH	Temp (~~°F~~) °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.59	18.7	770	—	—	Slightly turbid
1						
2						
3						

Sample Description: New Hydrasleeve Speedbag - 900 ml w/ dedicated weight/clip, new spring clip, tether lowered to 586' BTOC & cycled 10 times before raising to surface

Physical Observations:

Plus additional ~~dedicated~~ weight (8 oz bailer) + clip to accelerate sleeve deployment

Analytical Method(s): 8260 B

1st sample attempt Failed due to knots in rope discovered when recovering sleeve. Containerized sample & deployed new Hydrasleeve lowering it more slowly 2nd time to avoid knots.

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GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs - Walnut
Project #: DB19.1466
Project Manager: K. Jayne

Sampler: Y. Morgan
Sample Date: 1-14-2020
Sample Time: 1147

Well #: GWMW15-I
Screen Interval 460-475

Well Diameter: 3" (inches)
Depth to NAPL: N/A (feet btoc)
Depth to Water: 241.60 (feet btoc)
Total Depth of Well: 475 (feet)

Height of Water Column: 233.40 (feet)
Casing Volume: — (gal)
Purge Volume: 900 ml (gal)
Purge Method: HydraSleeve Speedbag

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	7.47	21.6	1527	—	— V.	Sl. turbid
1						
2						
3						

Sample Description: New Hydrasleeve Speedbag 900mL ; w/ dedicated weights (2 80z bullet) & clips & new spring clip & new tether to 465' BTOC. Cycle 10X before raise to surface

Physical Observations: Very Slightly turbid

Analytical Method(s): 8260B - 3VOA vials

Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs - Walnut GWM
Project #: DB19.1466
Project Manager: K. Jayne

Sampler: F. Mogen
Sample Date: 1-13-2020
Sample Time: 1737

Well #: GWMW15-S (YM)
Well Diameter: ~~4"~~ 3" (inches)
Depth to NAPL: — (feet btoc)
Depth to Water: 241.14 (feet btoc)
Total Depth of Well: 304.20 (feet)

Screen interval 289-304
Height of Water Column: 63.06 (feet)
Casing Volume: — (gal)
Purge Volume: 900mL (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:

Casing Volume	pH	Temp ~~°F~~ °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.87	18.4	1017	—	—	Slightly turbid
1						
2						
3						

Sample Description: New Hydrasleeve Speedy - 900ml w/ dedicated weight/clip, New spring clip & New tether - lowered to 295' ~~BGS~~ (YM) BTOC & cycled 10 times before raising to surface

Physical Observations: Sl. turbid. Left (YM) tether & hardware in well for next time ↓ 304'

Analytical Method(s): VOCs 8260B - 3 HCl Vials

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: GWMW16-D	Date: 1-15-20
Sample identification: GWMW16-D	Sample time: 1040
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: V. Morgan	Screen Interval = 350-370'
Casing diameter/type: 4" PVC	DTW @ TOC: 195.26 TD = 370'
Water Level Indicator: Heron Dipper-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: Hydrasleeve Sleeved by 900 mL 3VOA vials	
Comments: Collected Sample @ 355' BTOC after cycling 10x then bailing to surface. Disposed of old pipe	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1040	18.5	8.02	1265

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification GWMW16S	Date: 1-15-20
Sample identification GWMW16-S	Sample time: 0940
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: Y Morgan	Screen interval = 185-205
Casing diameter/type: 4" PVC	DTW @ TOC: 189.71 TD: 205
Water Level Indicator: Heron Dipper-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type : Hydrasleeve Speedbay 900 mL	
Comments Disposed of old rope. Collected sample (3 VOA vials, 8260B) @ ~~195'~~ 195' BTOC after cycling 10 times then raised to surface. Left new tether (~~195~~ 205'), 1 weight (8oz bullet) & clips in well. Dark yellowish brown w/ moderate odor	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
0940	18.4	7.11	1349

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: MW5F2	Date: 1-16-20
Sample identification: MW5F2	Sample time: 1443
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: Y. Morgan	Screen interval: 184.34 - 199.34
Casing diameter/type: 2" PVC	DTW @ TOC: 191.69 TD = 200'
Water Level Indicator: Heron Dipper T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: Hydrasleeve speed bag 90= mL	
Comments: used new tether set @ 196' BTOC for sample (3 VOA vials 8260B). Cycle 5x before raising for sample.	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1443	15.3	7.43	1752

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification MW5F5	Date: 1-16-20
Sample identification MW5F5	Sample time: 1735
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: K. Morgan	Screen 137.73-152.73
Casing diameter/type: 2" PVC	DTW @ TOC: 148.98 TD 153.35
Water Level Indicator: Heron Dipper-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type : Hydrasleeve Speed bag 900mL — Cut in half due to short Water Column, Method per Hydrasleeve representative. Set weight/bottom of sleeve on bottom of well + cycled 5X before raising. Non-turbid, No odor, good Sample Left 160' of tether + hardware in well	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1735	16.6	7.36	1842

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: MW5F9	Date: 1-15-20
Sample identification: MW5F9	Sample time: 1630
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: Y. Morgan	screen interval: 188.03 – 203.03
Casing diameter/type: 2" PVC	DTW @ TOC: 191.03 TD= 203.1
Water Level Indicator: Heron Dipp-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: Hydrasleeve Sleeve bag 900mL	196 (YM)
Comments: Collect Sample (3 VOA vials 8260B) @ ~~195~~ 200' BTOC w/ new sleeve & tether & dedicated weight/clips. Remove old rope. Cycled sleeve 5X for sample & then raised to ground surface. Left ~~tether~~ tether & hardware in well (YM)	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1630	18.9	7.52	907

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GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs - Walnut
Project #: DBS. 1466
Project Manager: K. Jayne

Sampler: U. Morgan
Sample Date: 1-14-2020
Sample Time: 1310

Well #: MWSF18
Screen interval = 193.7'-203.7'

Well Diameter: 2" (inches)
Depth to NAPL: — (feet btoc)
Depth to Water: 195.35 (feet btoc)
Total Depth of Well: 204.44 (feet)

Height of Water Column: 9.09 (feet)
Casing Volume: — (gal)
Purge Volume: 900 ml (gal)
Purge Method: Hydrasleeve Steadby

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 (°F) °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.28	19.8	1662	—	—	Turbid
1						
2						
3						

Sample Description: New Hydrasleeve Steadby 900ml 300' w/ dedicated weight & new clips & new tether lowered to ~~199'~~ BTOC then cycled 5 times before raising to surface for sample

Physical Observations: —

Analytical Method(s): 8260B Add. Hazards Collect MWSF18 Dup
Total 6 VOA vials

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GROUNDWATER MONITORING DATA SHEET

Project Name: Griggs - Walnut
Project #: DB19.1466
Project Manager: K. Jeyne

Sampler: Y. Rogan
Sample Date: 1-13-2020
Sample Time: 1550

Well #: NGMW03 & NGMW03 Dup
Well Diameter: 4" (inches)
Depth to NAPL: — (feet btoc)
Depth to Water: 132.54 (feet btoc)
Total Depth of Well: 170.00 (feet)

Height of Water Column: 32.46 (feet)
Casing Volume: — (gal)
Purge Volume: ~~—~~ 900 mL (gal)
Purge Method: 1 pull 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:

Casing Volume	pH	Temp ~~(°F)~~ °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.28	19.7	1809	—	—	Sl. Turbid
1						
2						
3						

Sample Description: Used new Hydrasleeve Speedbag - 900 mL
Screen interval = 115' - 165'. Using new graduated tether & spring clip, weight clip & 8oz bullet weight. Lowered sleeve (top) to 142.50' →
Physical Observations: (DBs are in well) ~~540'~~ into WC, Cycled 10 times, and pulled to surface. Slightly turbid.

Analytical Method(s): VOCs 8260B - 2 samples @ 3 VOA Vials ea. = 6 VOA Vials total

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: CLC26	Date: 1-21-20
Sample identification: CLC26	Sample time: 1732
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: Y. Morgan	Water Column = 410' - 510'
Casing diameter/type:	DTW @ TOC: 176.90' TD: 700'
Water Level Indicator: Heron Dipper-T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: 1.66" x 36" Bladder Pump - Geotech Retrieval w/ Geotech Controller + Nitrogen tank	
Comments: 3/8" OD (1/4" ID) Poly tubing set @ 415' BTOC. Purged until WQ parameters stable. 3 VOA vials (8260B) Total Purge Volume = 2.2 gallons	

Controller eventually set @ 90 sec Fill; 35 sec Discharge

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1707	16.4	7.96	778
1712	~~18.3~~ 17.3	8.62	753
1717	17.2	8.73	763
1720	16.8	8.87	768
1723	16.4	8.95	765
1726	16.2	8.96	764
1730	16.1	8.95	766

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification CLC-20	Date: 1-22-20
Sample identification CLC20	Sample time: 1044
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: V. Morgan	Water column: 380 - 673
Casing diameter/type:	DTW @ TOC: 237.10 TD 680'
Water Level Indicator: Heron Dipper T	Water quality meter: YSI Pro Plus
Sampling method/equipment type: Bladder Pump 1.66" x 36" w/ Geotech BP Controller 300psi S/N 287	
Comments: Pump set @ 385' BTOC. Total Purge = 2.7 gallons Rental From Geotech 3' Roll Rods (8260B) Pump Controller set @ 90 second Fill 30-40 sec. Discharge	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1019	20.2	8.92	922
1024	20.1	9.06	924
1027	19.9	9.10	926
1034	20.3	9.13	925
1037	20.1	9.14	930
1040	20.0	9.15	923

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification CLC18	Date: 1-22-20
Sample identification CLC18	Sample time: 1335
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: V. Morgan	
Casing diameter/type:	DTW @ TOC:
Water Level Indicator: N/A	Water quality meter: YSI Pro Plus
Sampling method/equipment type : Grab Sample From inline Spigot	
Comments Pumping 88.9 gpm Return to collect 2 additional plastic containers for As+Mn analyses - not grabbed first time (last week) Inline Conductivity = 791.45 µS/cm at time of Sample	

Perc odor

~~Pump set @ 90 sec Fill~~ 30 sec 40 sec Discharge

YR

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1339	20.8	7.77	741 → inline cond meter us/cm was 762 @ time of Req.

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification: CLC27	Date: 1-22-20
Sample identification: CLC27	Sample time: ~~1300~~ (1m) 1400
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: Y. Borja	~~Lotta Coleman~~
Casing diameter/type:	DTW @ TOC:
Water Level Indicator: N/A	Water quality meter: YSI Pro Plus
Sampling method/equipment type : Grab Sample from Spigot	
Comments: Returned to well to collect 2 more plastic containers for As & U & As Speciation not included in sample Kit last week pumping 241.3 gpm ~~Pump set @ 90 sec Fill, 30-40 sec Discharge~~ (1m)	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1400	22.3	7.59	1118

Griggs-Walnut Ground Water Plume Superfund Site

January 2020 Sampling Event Field Sheet

Well identification CLC57	Date: 1-22-20
Sample identification CLC57	Sample time: 1606
Project: **Griggs-Walnut 2019 Annual Sampling**	Project # **DB19.1466.00, Phase 1 Task 2**
Field personnel: Y. Morgan	408 - 518
Casing diameter/type: —	DTW @ TOC: —
Water Level Indicator: —	Water quality meter:
Sampling method/equipment type : Bladder Pump - Geotech Rental 1.66" x 36" w/ Geotech Controller 300 PSI S/N 287	
Comments N. cylinder for fuel Pump set @ 415' BTOC Controller settings 90 sec Fill ; 30 sec Discharge	

Time	Temp (°C)	pH	Specific Conductance (µS/cm)
1543	21.0	8.84	390.2
1557	21.8	8.91	389.4
1600	21.7	8.94	390.5
1603	21.7	8.92	390.2

Attachment 2

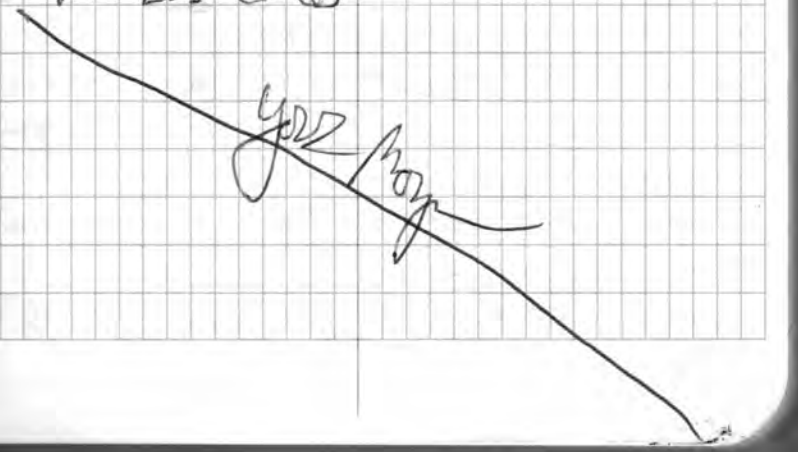
Field Notes

Griggs-Walnut GW Monitoring 1-9-19
Las Cruces, NM York Morgan - YM, DBSA
Low 33°, High 63°, Ptly Cloudy, Lt. Wind ≤ 15 mph

-0800 Gear prep / Correspondence From hotel in Las Cruces
- Tailgate Safety meeting
- search for GWMW-15 S/I/D for 35 mins. Buried. Placed 5 rocks in line adj. to well to facilitate search next time
- 1125 start Gauging wells - WLs recorded on GW Elev. Data Sheet
- GWMW-15 S/I/D all have dedicated rope, weights & spring clips For Hydrasleeves. Pulled rope in shallow well & measured it = 307' Screened interval = 289-304 Rope and all look new and professionally installed. Discussion w/ A. Ewing. will dispose of rope & replace w/ new graduated rope. Will keep weights & clips that look in new condition
- well tag ID & sharpie label show "NG-MW-02", Map shows NGMW-01
- tag & sharpie show "NGMW-01" "map... 02"
- MW-5F5 had Hydrasleeve in bottom

Griggs-Walnut 1-9-19
York Morgan YM DBSA (Cont.)

that contained no GW upon removal. WC = ~ 3.37'.
- Need key for gate & well heads For GWMW S/D 15 will return later w/ City
- MW-3 has cracked lid, poor condition, Stormwater & sediment enter vault
- Cannot access MW-5. Need ERCO manhole Cover Key → 26"
- Car parked on GW MW 11-S/I/D Residents home but would not answer door. Placed orange Cone next to well
- Cannot Find MW-5F9 in dark w/ Flashlight
- 1750 - Leave site to hotel in Las Cruces



Griggs-Walnut GW Monitoring 1-10-20
Las Cruces, NM York Morgan YM DBSA
Low 38°, High 51° Pfly Cloudy, Windy
Day 2 of Finding wells and measuring water levels

0700 - check out of hotel
0720 - Tailgate Safety @ site MW-SFG
- Search 30 mins for ~~DBH-1466~~
Was buried under 3" soil in low spot inside CLC fence. Access via hole in fence - gate was locked. Added rocks and cone around well for demarcation. Loader working in area upon leaving.
0815 - Return to GW MW 11 - S/I/D
Car still parked on top. Gauged all 3 wells by crawling beneath car. Left note on windshield asking owner to pull Forward 10' by next week. Left orange cone beside well
-0948 - Gauge CLC 61 - City crew just gauged w/ unit on their truck w/ less accuracy they got "about 205'". I got 201.84'. Equipped w/ Sub pump that has no oil.
- 1000 meet Chuck (CLC) at CLC 26

Griggs-Walnut YM-DBSA Cont. 1-10-20

- CLC 27 + 18 have sub pumps that are pumping
- Chuck said sub pump in CLC 61 is not pumping because it is offline because plume was starting to travel that direction. offline ~1 year
- CLC18 - recorded cond. (in-line) reading within 15 seconds of DTW measurement.
- No oil encountered in any wells
- Possible perc odor @ CLC-18 & 27
- CLC Rascual and Paul said I need to get manhole key from WTP - they are responsible for all MWs that are not CLC except GW MW 16 S/D. WTP personel unavailable today - need to schedule with them for next week.
- Waited @ GW MW16 S/D for Chuck to return to office for Master Key to open locks @ wellheads. Gate is city lock
- intermittent rain / sleet starting @ 11:00.
- CLC WL reading taken from top of 2" black steel pipe - where City takes it.

Griggs - Walnut G/M Cont. 1-10-20

1250 - CLC's Chuck returns w/ Key for GWMW-16 S/D - only 1 set.
1316 - To MW-5 w/ Chuck - Cannot offer well cover w/ his tools - No Access until next week
1328 - Leave site to WJS Store to return interface probe
- Call A. Ewing (DBSA) - summary
- Call Hydrosleeve. discuss options order equipment for pickup 1-13-20
- Call Geotech re: equipment orders. bladderpump on the way
- Call Pascual w/ CLC - will provide help next week for Sampling
1458 - Leave Las Cruces - drive to Silver City
1700 - Arrive @ Silver City

Griggs - Walnut GWM 1-13-20

York Morgan Yuk DBSA

- 0900 - Leave Silver City
- 1100 - Arrive Las Cruces - Hydrosleeve closed for lunch
- To Lowe's for decon supplies, buckets w/ sealing lids etc (Jm)
- To Wal mart for ~~DI~~ DI water.
- To Hydrosleeve for twine, weights, clips & sleeves
- 1400 Arrive onsite @ NG-MW-03
- Tailgate Safety meeting
- Calibrate pH & SC meter — See Calibration form

Weather @ 100% clear, 61°, Calm becoming slightly windy 5-10 mph then very windy 15-20 mph

- Review Hydrosleeve instructions & SAP.
- Prep gear & labels
- use new graduated tether, spring clip, weight clip, 80z bullet weight & Hydrosleeve speedbag - 900 ml
- 1550 Collect NG-MW03 & NG-MW03 Dup 3 VOA vials each by lowering top of Hydrosleeve 5' into water column & cycled (jigged) 10 times per discussion

Griggs-Walnut Grove YR DBSA 1-13-20 (Cont.)

W/ Gina C Hydrasleeve in Las Cruces, NM. Then, pulled sleeve to surface & collected 6 VOA vials per instructions using pointed discharge tube. Disposed of Hydrasleeve. Contained leftover groundwater for disposal. Placed 150' of tether + clips & weight back in well for future use. PDBs are also still in well.

1630- Collect Field Blank 1 w/ distilled water - 3 VOA vials - used sheet of new plastic on ground surface to keep sampling equipment clean

1700- Leave NGMW03 after careful documentation & attention to SOPs

1737- Collect GWMW15-S employing same SOP as above. New Hydrasleeve spring clip & tether, w/ dedicated weight & clip. Placed top of sleeve 6' below top of screen & cycled 10 times before raising. Placed 30' of tether, weight, & clips in well for next time.

Griggs-Walnut YR DBSA 1-13-2020 (Cont.)

- Cooler contents:
  - 2 well samples
  - 1 ~~A~~ (TM) Field Duplicate
  - 1 Trip Blank
  - 1 Temp Blank
  - Ice
- 1825 - Leave site to stage for ice & to hotel to check in 7 Boxes @ hotel lobby from Geotech for bladder pump. Load boxes.
- 1915- Boxes loaded in truck & gear in hotel room.

YR Roy

Griggs - Walnut GWM 1-14-2020
York Morgan - ~~4~~ DBSA Los Cruces, NM
Low 32°, High 67°, 100% clear, Calm
DB19.1466.00

0730 Leave hotel
- Tailgate Safety
- Calibrate pH/Cond. meter (see Form)
0915 - Set up/Prep speedbag
- Lower Hydrosleeve 900 ml into ~~GWMW15-D~~ (YM) GWMW15-D to allow ample time for it to sink to target depth of 586' - screen interval = 580.6 - 595.6. Using 2 dedicated 8oz bullet weights/clips w/ New sleeve & spring clip
0930 - Collect: GWMW15-D (3 VOA vials) (YM) ~~GWMW15-D~~ GWMW15-D MS (Matrix spike) + GWMW15-D MSD (Matrix Spike Duplicate 3rea) = 9 VOA vials
0940 - Failed sample attempt at GWMW15-D due to knots in tether discovered when raising sleeve. Disposed of sleeve. Containerized GW for later disposal. Deployed new sleeve w/ same hardware
~~1005~~ 1030 (YM) Collect GWMW15-D + MS & MSD →

Griggs-Walnut York Morgan 1-14-2020 (cont.)
DBSA

→ as described @ 0930.
1105 - Leave ~~35'~~ tether + hardware in GWMW15D (40') (595')
For later use.
1147 - Collect GWMW15-I - 3 VOA vials w/ Hydrasleeve speedbag 900 mL + spring clip (new) plus dedicated weights (2 8oz bullets) + clips. Deployed new tether to 465' BTOC. Left 465' tether + hardware in well for next time
1212 - Leave GWMW15 wells
1222 - @ MW5F10 - Dispose of dedicated rope, re-use dedicated 1lb weight w/ New Hydrasleeve and clips & 200' of New tether
1310 - Collect MW5F10 + MW5F10 Dup.
Leave tether, weight + spring clip in well.
1343 - Collect Field Blank - 3 VOA vials Distilled water
1358 - Gauged MW-5 - Dry
opened w/ sledge hammer to lock. Could not find key online.
(over)

Griggs-Walnut 1-14-2020
York Morgan for DBSA (Cont.)

- MWSE5 - No Sample due to lack of GW - not enough to get above top of sleeve
- Call Pascual w/ CLC. His guy will meet me @ GWMW16 S/D @ 0830 tomorrow. I will sample those 2 wells then Grab Samples @ CLC 17 & 18 will leave grab sample @ CLC 61 until last because city is doing electrical work to it that should be done by 12:00
- 1416 - Return to 3 Nested wells @ GWMW11 S/I/D. Green/blue Grand Am still parked on wells. Knocked on door - No answer. owner came home & moved car
- 1430 Amy Ewing onsite
- 1531 Collect GWMW11-S 3VOA vials. Leave 196' new tether, 1 detached weight & clips in well. Collected w/ New Hydrasleeve Speedbag. 900 mL. Dispose of old rope.

Griggs-Walnut York Morgan (Cont.) 1-14-20

- 1645 - Collect GWMW11-I 3VOA Vials w/ New Hydrasleeve. 900 mL Left 310' New tether, 2 weights, clips in well. Dispose of old rope.
- 1740 - Collect GWMW11-D 3VOA Vials w/ New Hydrasleeve Speedbag 900 mL Left 361' of new tether w/ 2 weights & clips. Disposed of old rope.
- 1800 - A. Ewing offsite
- Pack gear
- Cooler Contents:
  - 8 samples
  - 2 Field ~~Duplicates~~ Blank (4m)
  - 2 Duplicate SE
  - 1 MS (sample)
  - 1 MSD (SE sample)
  - 1 Trip Blank
  - 1 Temp Blank
- 1820 Leave site to hotel

York Mor

Griggs - Walnut Las Cruces, NM 1-15-20
GW Monitoring York Morgan DBS+A f/m
Low 45° High 66°, 100% overcast
5-10 mph wind

- 0800 Arrive onsite
Tailgate Safety
Calibrate pH/SC meter - YSI Pro Plus
Prep gear
- 0830 CLC's - Chuck & Ron onsite to unlock wells & discuss plan
Chuck 575-644-8109
offered GW MW16 S/D. will call him later for grab samples
- 0940 Collect GW MW16-S - 3 VOA vials 8260B. using new Hydrasleeve speedbag 900mL + dedicated weight & clip & New tether @ 195' BTOC.
left 201' of tether & hardware @ well. Disposed of old rope.
- 1040 Collect GW MW16-D 3 VOA vials. 8260B w/ new Hydrasleeve speedbag 900mL @ depth of 355' BTOC.
- 1120 - Arrive @ CLC18 to meet Chuck - Locked gate
- 1130 - Chuck unlocks gate - assists

(cont.)
Griggs - Walnut LC, NM 1-15-20
GWM York Morgan DBS+A

- 1142 - Collect grab sample @ spigot of CLC18. Synchronized inline conductivity = 759.363 µS/cm per city's Hach meter. Pumping 88.6 gpm since 0800. 1 plastic container
- 1210 - Collect grab sample @ CLC 27 spigot. 1 plastic container. pumps 24/7 ; 238 gpm @ 1210.
- Review Bladder pump manual & boxes of gear. To Praxair for N cylinder (f/m). To Home Depot for quick connect fitting to run regulator to Fill hose.
1430 - Return to GW MW11-D to re-sample. while QA'ing field forms last f/m - noticed wrong screen interval applied to yesterday's sample
1514 - Collect GW MW11-D (3 VOA vials) w/ new Hydrasleeve + ded. cable hardware. used new tether to grab sample @ 530' BTOC. Left 536' tether & hardware in well
1630 - Collect MWSFQ (3 VOA vials - 8260B) w/ new Hydrasleeve speedbag & new tether set @ 196' BTOC. Left tether & hardware in well.

Griggs - Walnut LC, NM 1-15-20 (Cont.)
York Morgan - DBS+A, GW Monitoring

- CLC did not repair electrical @ CLC 61 in time for sample today. Will meet @ 0830 tomorrow.
- 1705 - To last Hydrasleeve well - Can't access - City's gate is locked. Will do MW5F2 later this week.
- Cooler Contents:
  - 13 Samples
  - 2 Field Duplicates
  - 2 Duplicates
  - 1 MS
  - 1 MSD
  - 1 Trip Blank
  - 1 Temp Blank
- 1730 Finish repacking truck - to hotel.

Griggs - Walnut GW 1-16-20
Las Cruces, NM. York Morgan - DBS+A
Low 41, High 54°, 100% cloudy
Rain in morning, scattered rain in afternoon. 10 to 15 mph wind

- 0730 Email & prep @ hotel
- 0800 - Arrive @ CLC 61 to meet City for grab sample
- Tailgate Safety Mtg.
- Calibrate YSI Pro Plus pH & SC meter - SOC form
- 0847 Collect grab sample @ CLC 61 (3 VOA vials @ 260') after 15 minute purge. CLC crew of 5 pump including electrician started/stopped well (4m). Odor dissipated w/time.
- 0915 Deploying bladder pump @ CLC 26 - delays w/ knots in guide/safety wire. Check w/ CLC helping guide tubing (air & water).
- 1045 Pump & tubing stuck in well @ ~300' deep. Will not come up or go down. Called Pascual w/ CLC - No near-term plans to remove either PVC pipe going into well. 1 pipe is apparent sounder tube & other

DBSA (Cont.)

Griggs-Walnut GWM York Maya 1-16-2020

- is electrical. Agreed to leave pump in well as-is & wait for time when PVC will be pulled. Pump is apparently wrapped around PVC or Stabilizer? Ron w/ CLC said he used to get stuck in this well too w/ Sounder. Leave note & business card w/ equipment. Photograph well head.

1325 - Leave CLC 26

1330 - Check CLC 30 - exact Setup as CLC 26 - 1 4" open port w/ 2 1½" PVC pipes going down. Equal chance of getting pump stuck

1345 - CLC 57 has same setup 2 PVC lines in well.

1355 - Leave CLC 57, Check & for - Discussions w/ K. Jayne re: stuck pump.

1443 - Collect MWSF2 (SW8A VOCs, 8260B) w/ Hydrasleeve speed bag 900mL.

1735 - Cut in half due to short water column Method was suggested to me by Hydrasleeve representative - Gina.
- For MWSF5

(Cont.)

Griggs-Walnut, York Maya DBSA 1-16-2020

Rain + wind + lower temps. late afternoon

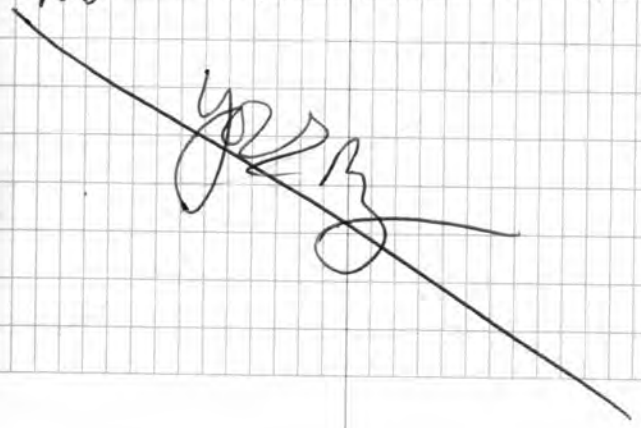
-1735 - Collect MWSF5 w/ half Hydrasleeve - good Sample - No color. Non turbid.

- K. Jayne called - do not return to CLC 26.

Remaining gear: 0 Hydrasleeves 1 weight/clip, 900' rope

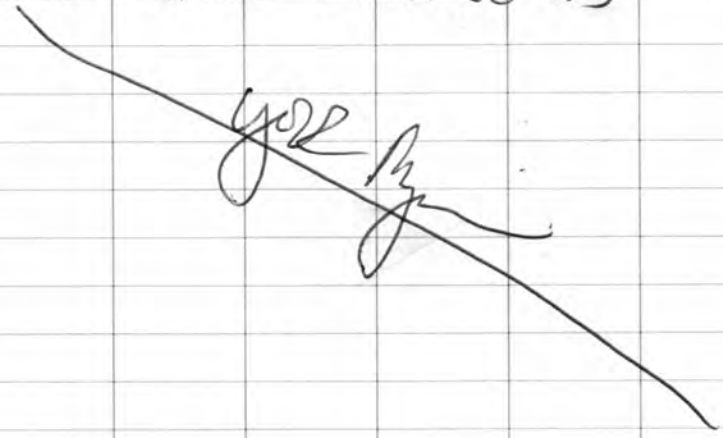
-Cooler contents:
- 16 Samples (13 Hydrasleeve, 3 grab)
- 3 Field Dups
- 2 Dups
- 1 MS
- 1 MSD
- 1 Trip Blank
- 1 Temp Blank

-1820 - Leave Site to hotel



Griggs-Walnut Work Morgan DBSA 1-12-2020
Clear 60°, afternoon clouds,
Las Cruces, NM

- Planning discussions w/ PM
- Call Pascual & give update.
He said to call Lorenzo Martinez (575-993-8585) @ Water Treatment Plant re; disposal of 2 gallons IDW - Purge water.
No answer w/ Lorenzo, left message.
1200 - Drive to WTP @ 2835 AMADOR. Meet Lorenzo.
Dispose of 2 gallons purge water.
OK anytime M-F 0800-1600.
-1210 - Leave Las Cruces to Silver City
1400 - Arrive in Silver City



Griggs-Walnut York Region DBSA 1-17-2020
Clear 60°, afternoon clouds,
Las Cruces, NM

- Planning discussions w/ PM
- Call Pascual & give update. He said to call Lorenzo Martinez (575-993-8585) @ water Treatment Plant re: disposal of 2 gallons IDW - purge water.
No answer w/ Lorenzo, left message.
1200 - Drive to WTP @ 2835 AMADOR. Meet Lorenzo. Dispose of 2 gallons purge water. OK anytime M-F 0800-1600.
- 1210 - Leave Las Cruces to Silver City
1400 - Arrive in Silver City

Griggs-Walnut York Region DBSA 1-21-2020
100% cloudy, rain, 48°
Las Cruces, NM
GW monitoring & oversight of crew removing pump @ CLC-26 & casing @ CLC20 & CLC 57.

- 0930 Leave Silver City, NM
- 1000 Rodgers Calls - already removed 2" PVC @ CLC20. Will start CLC-26 Now
- 1130 Arrive on site
- Tailgate Safety
- Rodgers 3-man crew - Clyde, Art, pulling transducer cable/tube (4in) Sounder tube already pulled. Bladder pump tubing & safety cable are wrapped around transducer tube @ ~140' deep. Slowly pulling 1¼" PVC & allowing knotted material to fall off/slide down.
- 1205 - pump/cable/tubing entirely removed. No visible damage to anything. Steel safety cable was culprit - big knot. Wrapped around a spool now.
- 1225 - 2 men from Rodgers

Griggs-Walnut York Morgan DBSA 1-21-20 cont.

leave to go remove PVC @ CLC 57.
- Video truck on site w/ driver / operator Rebecca + Art to video CLC-26.
- 1300 Start Video @ CLC 26 (Art) Buildup on casing and on water surface but no obstructions
- 341' lip of pipe encountered - threaded - could be liner or coupling. Cannot center camera due to position of hole in top plate
410' - difference in buildup - less of it. screen visible barely Not slotted or wire-wrapped? Hole
- 1355 Finish Video of CLC26 @ 430'
- Crew back from CLC-57 both PVC casings were 200' deep. Pulled both + transducer cable out of well
- No obstructions observed in CLC 26
1413 Rodgers well crew offsite
- Video crew (2 people) will provide 2 videos of each well
1420 - video crew to CLC-20
1500 - Video shows 2 broken

Griggs-Walnut York Morgan DBSA 1-21-20 (cont.)
Rain, 45°

PVC pipes that appear to be former sounder tubes. 1 broken pvc pipe @ 208' + other at 240'
- 1505 Begin prepping tubing (440' water 440' air) controller, Geotech 36" bladder pump, N cylinder, regulator and all parts for purge @ CLC 26.
- Troubleshoot controller settings
- 1732 Collect CLC 26 - 3 VOA vials - after WQ parameters stabilized
- Remove tubing. Wind safety cable onto spool. Decon pump thoroughly w/ 3-part Decon
- 1845 Collect ~~Field Blank~~ Equipment (#3) by pouring DI water on inner + outer wall of Bladder Pump + gathering rinsate in 3 VOA vials (wash) Floor + dispose of tubing. Containerize Decon water
- 2009 - Leave site to hotel.

Yours truly

Griggs-Walnut / York Rogers DBSA 1-22-20
Mostly Clear - High 54°, Low 40°
Bladder pump Sampling

- 0800 - P/u Full N cylinder @ Praxair
- 0815 - Arrive @ CLC 20
  - Call Art w/ Rodgers - they are set up on 57 running video. Will bring me DVDs today.
- Tailgate Safety Mtg
- Current Coolers Contents
  - 1 sample (CLC 20)
  - 1 Equipment Blank
  - 1 Trip Blank
  - 1 Temp Blank
- 0915 Art w/ Rodgers said No obstructions in CLC 57 - wire-wrapped screen more buildup than others.
- Set 36" bladder pump @ 385' @ CLC 20
- Collect Sample @ CLC 20 @ 1044
  3 VOA vials 8260B
- 1045 - Art w/ Rodgers @ CLC 20. gave me 2 sets of DVDs (3). I gave one set to Chuck to give Pastucci. Art said there was obstruction horizontal in CLC 20 @ 380'. Video

Griggs-Walnut, / Rogers DBSA 1-22-20
Windy 15-20 mph, 49° (Cont.)

- shows cable(?) across casing
- Length, time to remove pump + tubing @ CLC 20
- Decon Pump/parts
- 1207 - Collect Equipment Blank 2 by pouring DI water over pump
- Leave site to Praxair for new N cylinder + to Home 1 to get sample kit (for CLC18 + CLC27) that arrived via Fed Ex.
- 1335 - Collect CLC18 - 2 Plastic Containers for As + U + As speciation. Recorded inline conductivity at time
- 1400 - Collect CLC27 - 2 plastic for As + U + As speciation
- 1500 - Set up pump at CLC57 Chuck offsite
- 1606 Collect sample @ CLC57 - 3 VOA vials - 8260B VOCs
- Decon + break down gear. Stowe equipment. Dispose of tubing + trash
- 1805 - Leave site

Yoge Roy

Griggs-Wichut, York Morgan DBSA, 1-23-20
Deroche, Clear - 58° calm

- Chain of Custody, prep cooler, prep 2 boxes of bladder pump gear for return to Geotech
1000 - Ship Samples & Pump @ UPS Store
1045 - Deliver 10 gallons of purge/decon water from Griggs-Wichut to Lorenzo @ WTP.
1100 - Deroche to Silver City
1305 - Arrive Silver City

Attachment 3

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 28, 2020

John Bunch
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 Sampling OrderNo.: 2001772

Dear John Bunch:

Hall Environmental Analysis Laboratory received 21 sample(s) on 1/21/2020 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** NGMW03
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/13/2020 3:50:00 PM
Lab ID: 2001772-001 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 3:07:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 3:07:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 3:07:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 3:07:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** NGMW03
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/13/2020 3:50:00 PM
Lab ID: 2001772-001 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 3:07:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 3:07:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 3:07:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 3:07:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	96.5	70-130		%Rec	1	1/23/2020 3:07:00 PM	R66010
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	1/23/2020 3:07:00 PM	R66010
Surr: Dibromofluoromethane	95.3	70-130		%Rec	1	1/23/2020 3:07:00 PM	R66010
Surr: Toluene-d8	93.4	70-130		%Rec	1	1/23/2020 3:07:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** NGMW03 DUP
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/13/2020 3:50:00 PM
Lab ID: 2001772-002 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 3:31:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 3:31:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 3:31:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 3:31:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** NGMW03 DUP
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/13/2020 3:50:00 PM
Lab ID: 2001772-002 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 3:31:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 3:31:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 3:31:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 3:31:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	1/23/2020 3:31:00 PM	R66010
Surr: 4-Bromofluorobenzene	91.7	70-130		%Rec	1	1/23/2020 3:31:00 PM	R66010
Surr: Dibromofluoromethane	98.1	70-130		%Rec	1	1/23/2020 3:31:00 PM	R66010
Surr: Toluene-d8	93.6	70-130		%Rec	1	1/23/2020 3:31:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** Field Blank 1
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/13/2020 4:30:00 PM
Lab ID: 2001772-003 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 3:55:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 3:55:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 3:55:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 3:55:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: Field Blank 1
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/13/2020 4:30:00 PM
Lab ID: 2001772-003
Matrix: GROUNDWA
Received Date: 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 3:55:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 3:55:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 3:55:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 3:55:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	95.4	70-130		%Rec	1	1/23/2020 3:55:00 PM	R66010
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	1/23/2020 3:55:00 PM	R66010
Surr: Dibromofluoromethane	95.8	70-130		%Rec	1	1/23/2020 3:55:00 PM	R66010
Surr: Toluene-d8	94.4	70-130		%Rec	1	1/23/2020 3:55:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW15-S
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/13/2020 5:37:00 PM
Lab ID: 2001772-004 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 4:19:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 4:19:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 4:19:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 4:19:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: GWMW15-S
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/13/2020 5:37:00 PM
Lab ID: 2001772-004
Matrix: GROUNDWA
Received Date: 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 4:19:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 4:19:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 4:19:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 4:19:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	97.9	70-130		%Rec	1	1/23/2020 4:19:00 PM	R66010
Surr: 4-Bromofluorobenzene	87.5	70-130		%Rec	1	1/23/2020 4:19:00 PM	R66010
Surr: Dibromofluoromethane	97.0	70-130		%Rec	1	1/23/2020 4:19:00 PM	R66010
Surr: Toluene-d8	92.3	70-130		%Rec	1	1/23/2020 4:19:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW15-D
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 10:30:00 AM
Lab ID: 2001772-005 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 4:42:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 4:42:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 4:42:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 4:42:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: GWMW15-D
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/14/2020 10:30:00 AM
Lab ID: 2001772-005
Matrix: GROUNDWA
Received Date: 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 4:42:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 4:42:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 4:42:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 4:42:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	93.5	70-130		%Rec	1	1/23/2020 4:42:00 PM	R66010
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	1/23/2020 4:42:00 PM	R66010
Surr: Dibromofluoromethane	95.2	70-130		%Rec	1	1/23/2020 4:42:00 PM	R66010
Surr: Toluene-d8	95.0	70-130		%Rec	1	1/23/2020 4:42:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW15-I
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 11:47:00 AM
Lab ID: 2001772-006 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 5:54:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 5:54:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 5:54:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 5:54:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW15-I
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 11:47:00 AM
Lab ID: 2001772-006 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 5:54:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 5:54:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Tetrachloroethene (PCE)	17	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 5:54:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 5:54:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	96.6	70-130		%Rec	1	1/23/2020 5:54:00 PM	R66010
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	1/23/2020 5:54:00 PM	R66010
Surr: Dibromofluoromethane	96.5	70-130		%Rec	1	1/23/2020 5:54:00 PM	R66010
Surr: Toluene-d8	90.6	70-130		%Rec	1	1/23/2020 5:54:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF10
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 1:10:00 PM
Lab ID: 2001772-007 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 6:18:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 6:18:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 6:18:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 6:18:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF10
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 1:10:00 PM
Lab ID: 2001772-007 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 6:18:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 6:18:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Tetrachloroethene (PCE)	11	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 6:18:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 6:18:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	95.5	70-130		%Rec	1	1/23/2020 6:18:00 PM	R66010
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	1/23/2020 6:18:00 PM	R66010
Surr: Dibromofluoromethane	95.8	70-130		%Rec	1	1/23/2020 6:18:00 PM	R66010
Surr: Toluene-d8	92.9	70-130		%Rec	1	1/23/2020 6:18:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF10 DUP
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 1:10:00 PM
Lab ID: 2001772-008 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 6:42:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 6:42:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 6:42:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 6:42:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF10 DUP
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 1:10:00 PM
Lab ID: 2001772-008 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 6:42:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 6:42:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Tetrachloroethene (PCE)	11	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 6:42:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 6:42:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	96.5	70-130		%Rec	1	1/23/2020 6:42:00 PM	R66010
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	1/23/2020 6:42:00 PM	R66010
Surr: Dibromofluoromethane	97.0	70-130		%Rec	1	1/23/2020 6:42:00 PM	R66010
Surr: Toluene-d8	95.2	70-130		%Rec	1	1/23/2020 6:42:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: Field Blank 2
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/14/2020 1:43:00 PM
Lab ID: 2001772-009
Matrix: GROUNDWA
Received Date: 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Toluene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Ethylbenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Naphthalene	ND	2.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1-Methylnaphthalene	ND	4.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
2-Methylnaphthalene	ND	4.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Acetone	ND	10		µg/L	1	1/24/2020 1:39:00 PM	R66065
Bromobenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Bromodichloromethane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Bromoform	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Bromomethane	ND	3.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
2-Butanone	ND	10		µg/L	1	1/24/2020 1:39:00 PM	R66065
Carbon disulfide	ND	10		µg/L	1	1/24/2020 1:39:00 PM	R66065
Carbon Tetrachloride	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Chlorobenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Chloroethane	ND	2.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Chloroform	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Chloromethane	ND	3.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
2-Chlorotoluene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
4-Chlorotoluene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
cis-1,2-DCE	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Dibromochloromethane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Dibromomethane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,1-Dichloroethane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,1-Dichloroethene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,2-Dichloropropane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,3-Dichloropropane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
2,2-Dichloropropane	ND	2.0		µg/L	1	1/24/2020 1:39:00 PM	R66065

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: Field Blank 2
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/14/2020 1:43:00 PM
Lab ID: 2001772-009
Matrix: GROUNDWA
Received Date: 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Hexachlorobutadiene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
2-Hexanone	ND	10		µg/L	1	1/24/2020 1:39:00 PM	R66065
Isopropylbenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
4-Isopropyltoluene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
4-Methyl-2-pentanone	ND	10		µg/L	1	1/24/2020 1:39:00 PM	R66065
Methylene Chloride	ND	3.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
n-Butylbenzene	ND	3.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
n-Propylbenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
sec-Butylbenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Styrene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
tert-Butylbenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
trans-1,2-DCE	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Trichlorofluoromethane	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Vinyl chloride	ND	1.0		µg/L	1	1/24/2020 1:39:00 PM	R66065
Xylenes, Total	ND	1.5		µg/L	1	1/24/2020 1:39:00 PM	R66065
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	1/24/2020 1:39:00 PM	R66065
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	1/24/2020 1:39:00 PM	R66065
Surr: Dibromofluoromethane	97.7	70-130		%Rec	1	1/24/2020 1:39:00 PM	R66065
Surr: Toluene-d8	91.8	70-130		%Rec	1	1/24/2020 1:39:00 PM	R66065

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW11-S
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 3:31:00 PM
Lab ID: 2001772-010 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Toluene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Ethylbenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Naphthalene	ND	2.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1-Methylnaphthalene	ND	4.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
2-Methylnaphthalene	ND	4.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Acetone	ND	10		µg/L	1	1/24/2020 2:02:00 PM	R66065
Bromobenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Bromodichloromethane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Bromoform	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Bromomethane	ND	3.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
2-Butanone	ND	10		µg/L	1	1/24/2020 2:02:00 PM	R66065
Carbon disulfide	ND	10		µg/L	1	1/24/2020 2:02:00 PM	R66065
Carbon Tetrachloride	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Chlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Chloroethane	ND	2.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Chloroform	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Chloromethane	ND	3.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
2-Chlorotoluene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
4-Chlorotoluene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
cis-1,2-DCE	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Dibromochloromethane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Dibromomethane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,1-Dichloroethane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,1-Dichloroethene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,2-Dichloropropane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,3-Dichloropropane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
2,2-Dichloropropane	ND	2.0		µg/L	1	1/24/2020 2:02:00 PM	R66065

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW11-S
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 3:31:00 PM
Lab ID: 2001772-010 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Hexachlorobutadiene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
2-Hexanone	ND	10		µg/L	1	1/24/2020 2:02:00 PM	R66065
Isopropylbenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
4-Isopropyltoluene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
4-Methyl-2-pentanone	ND	10		µg/L	1	1/24/2020 2:02:00 PM	R66065
Methylene Chloride	ND	3.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
n-Butylbenzene	ND	3.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
n-Propylbenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
sec-Butylbenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Styrene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
tert-Butylbenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
trans-1,2-DCE	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Trichlorofluoromethane	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Vinyl chloride	ND	1.0		µg/L	1	1/24/2020 2:02:00 PM	R66065
Xylenes, Total	ND	1.5		µg/L	1	1/24/2020 2:02:00 PM	R66065
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	1/24/2020 2:02:00 PM	R66065
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	1/24/2020 2:02:00 PM	R66065
Surr: Dibromofluoromethane	98.8	70-130		%Rec	1	1/24/2020 2:02:00 PM	R66065
Surr: Toluene-d8	93.0	70-130		%Rec	1	1/24/2020 2:02:00 PM	R66065

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW11-I
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 4:45:00 PM
Lab ID: 2001772-011 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 7:53:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 7:53:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 7:53:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 7:53:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW11-I
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/14/2020 4:45:00 PM
Lab ID: 2001772-011 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 7:53:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 7:53:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Tetrachloroethene (PCE)	3.3	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 7:53:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 7:53:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%Rec	1	1/23/2020 7:53:00 PM	R66010
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	1/23/2020 7:53:00 PM	R66010
Surr: Dibromofluoromethane	95.4	70-130		%Rec	1	1/23/2020 7:53:00 PM	R66010
Surr: Toluene-d8	93.2	70-130		%Rec	1	1/23/2020 7:53:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW11-D
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/15/2020 3:14:00 PM
Lab ID: 2001772-012 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 8:16:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 8:16:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 8:16:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 8:16:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: GWMW11-D
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/15/2020 3:14:00 PM
Lab ID: 2001772-012
Matrix: GROUNDWA
Received Date: 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 8:16:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 8:16:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 8:16:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 8:16:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	1	1/23/2020 8:16:00 PM	R66010
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	1/23/2020 8:16:00 PM	R66010
Surr: Dibromofluoromethane	95.9	70-130		%Rec	1	1/23/2020 8:16:00 PM	R66010
Surr: Toluene-d8	95.0	70-130		%Rec	1	1/23/2020 8:16:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW16-S
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/15/2020 9:40:00 AM
Lab ID: 2001772-013 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 8:40:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 8:40:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 8:40:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 8:40:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW16-S
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/15/2020 9:40:00 AM
Lab ID: 2001772-013 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 8:40:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 8:40:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Tetrachloroethene (PCE)	8.7	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 8:40:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 8:40:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%Rec	1	1/23/2020 8:40:00 PM	R66010
Surr: 4-Bromofluorobenzene	74.0	70-130		%Rec	1	1/23/2020 8:40:00 PM	R66010
Surr: Dibromofluoromethane	99.4	70-130		%Rec	1	1/23/2020 8:40:00 PM	R66010
Surr: Toluene-d8	103	70-130		%Rec	1	1/23/2020 8:40:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW16-D
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/15/2020 10:40:00 AM
Lab ID: 2001772-014 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 9:04:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 9:04:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 9:04:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 9:04:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** GWMW16-D
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/15/2020 10:40:00 AM
Lab ID: 2001772-014 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 9:04:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 9:04:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Tetrachloroethene (PCE)	15	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Trichloroethene (TCE)	1.2	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 9:04:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 9:04:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%Rec	1	1/23/2020 9:04:00 PM	R66010
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	1/23/2020 9:04:00 PM	R66010
Surr: Dibromofluoromethane	95.3	70-130		%Rec	1	1/23/2020 9:04:00 PM	R66010
Surr: Toluene-d8	94.6	70-130		%Rec	1	1/23/2020 9:04:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF9
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/15/2020 4:30:00 PM
Lab ID: 2001772-015 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 9:27:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 9:27:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 9:27:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 9:27:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF9
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/15/2020 4:30:00 PM
Lab ID: 2001772-015 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 9:27:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 9:27:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 9:27:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 9:27:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	96.5	70-130		%Rec	1	1/23/2020 9:27:00 PM	R66010
Surr: 4-Bromofluorobenzene	84.5	70-130		%Rec	1	1/23/2020 9:27:00 PM	R66010
Surr: Dibromofluoromethane	96.5	70-130		%Rec	1	1/23/2020 9:27:00 PM	R66010
Surr: Toluene-d8	93.3	70-130		%Rec	1	1/23/2020 9:27:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF2
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/16/2020 2:43:00 PM
Lab ID: 2001772-016 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 9:51:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 9:51:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 9:51:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 9:51:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF2
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/16/2020 2:43:00 PM
Lab ID: 2001772-016 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 9:51:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 9:51:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Tetrachloroethene (PCE)	3.3	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 9:51:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 9:51:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	97.4	70-130		%Rec	1	1/23/2020 9:51:00 PM	R66010
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	1	1/23/2020 9:51:00 PM	R66010
Surr: Dibromofluoromethane	96.3	70-130		%Rec	1	1/23/2020 9:51:00 PM	R66010
Surr: Toluene-d8	92.5	70-130		%Rec	1	1/23/2020 9:51:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF5
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/16/2020 5:35:00 PM
Lab ID: 2001772-017 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 10:15:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 10:15:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 10:15:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 10:15:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MWSF5
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/16/2020 5:35:00 PM
Lab ID: 2001772-017 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 10:15:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 10:15:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 10:15:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 10:15:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	94.1	70-130		%Rec	1	1/23/2020 10:15:00 PM	R66010
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	1/23/2020 10:15:00 PM	R66010
Surr: Dibromofluoromethane	93.7	70-130		%Rec	1	1/23/2020 10:15:00 PM	R66010
Surr: Toluene-d8	94.5	70-130		%Rec	1	1/23/2020 10:15:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** CLC18
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/15/2020 11:42:00 AM
Lab ID: 2001772-018 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **ELS**	
Arsenic	ND	0.020		mg/L	1	1/22/2020 11:16:30 AM	A65977
Uranium	ND	0.10		mg/L	1	1/22/2020 11:16:30 AM	A65977

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** CLC27
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/15/2020 12:10:00 PM
Lab ID: 2001772-019 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **ELS**	
Arsenic	ND	0.020		mg/L	1	1/22/2020 11:18:20 AM	A65977
Uranium	ND	0.10		mg/L	1	1/22/2020 11:18:20 AM	A65977

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** CLC61
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/16/2020 8:47:00 AM
Lab ID: 2001772-020 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Toluene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Ethylbenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Naphthalene	ND	2.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
2-Methylnaphthalene	ND	4.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Acetone	ND	10		µg/L	1	1/23/2020 10:38:00 PM	R66010
Bromobenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Bromodichloromethane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Bromoform	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Bromomethane	ND	3.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
2-Butanone	ND	10		µg/L	1	1/23/2020 10:38:00 PM	R66010
Carbon disulfide	ND	10		µg/L	1	1/23/2020 10:38:00 PM	R66010
Carbon Tetrachloride	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Chlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Chloroethane	ND	2.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Chloroform	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Chloromethane	ND	3.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
2-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
4-Chlorotoluene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
cis-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Dibromochloromethane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Dibromomethane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,1-Dichloroethane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,1-Dichloroethene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,2-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,3-Dichloropropane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
2,2-Dichloropropane	ND	2.0		µg/L	1	1/23/2020 10:38:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** CLC61
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/16/2020 8:47:00 AM
Lab ID: 2001772-020 **Matrix:** GROUNDWA **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Hexachlorobutadiene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
2-Hexanone	ND	10		µg/L	1	1/23/2020 10:38:00 PM	R66010
Isopropylbenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
4-Isopropyltoluene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
4-Methyl-2-pentanone	ND	10		µg/L	1	1/23/2020 10:38:00 PM	R66010
Methylene Chloride	ND	3.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
n-Butylbenzene	ND	3.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
n-Propylbenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
sec-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Styrene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
tert-Butylbenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
trans-1,2-DCE	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Trichlorofluoromethane	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Vinyl chloride	ND	1.0		µg/L	1	1/23/2020 10:38:00 PM	R66010
Xylenes, Total	ND	1.5		µg/L	1	1/23/2020 10:38:00 PM	R66010
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%Rec	1	1/23/2020 10:38:00 PM	R66010
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	1/23/2020 10:38:00 PM	R66010
Surr: Dibromofluoromethane	96.8	70-130		%Rec	1	1/23/2020 10:38:00 PM	R66010
Surr: Toluene-d8	94.5	70-130		%Rec	1	1/23/2020 10:38:00 PM	R66010

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** Trip Blank
Project: Griggs Walnut Annual GW Sampling **Collection Date:**
Lab ID: 2001772-021 **Matrix:** TRIP BLANK **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Toluene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Ethylbenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Naphthalene	ND	2.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1-Methylnaphthalene	ND	4.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
2-Methylnaphthalene	ND	4.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Acetone	ND	10		µg/L	1	1/24/2020 2:26:00 PM	R66065
Bromobenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Bromodichloromethane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Bromoform	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Bromomethane	ND	3.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
2-Butanone	ND	10		µg/L	1	1/24/2020 2:26:00 PM	R66065
Carbon disulfide	ND	10		µg/L	1	1/24/2020 2:26:00 PM	R66065
Carbon Tetrachloride	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Chlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Chloroethane	ND	2.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Chloroform	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Chloromethane	ND	3.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
2-Chlorotoluene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
4-Chlorotoluene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
cis-1,2-DCE	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Dibromochloromethane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Dibromomethane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,1-Dichloroethane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,1-Dichloroethene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,2-Dichloropropane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,3-Dichloropropane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
2,2-Dichloropropane	ND	2.0		µg/L	1	1/24/2020 2:26:00 PM	R66065

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** Trip Blank
Project: Griggs Walnut Annual GW Sampling **Collection Date:**
Lab ID: 2001772-021 **Matrix:** TRIP BLANK **Received Date:** 1/21/2020 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Hexachlorobutadiene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
2-Hexanone	ND	10		µg/L	1	1/24/2020 2:26:00 PM	R66065
Isopropylbenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
4-Isopropyltoluene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
4-Methyl-2-pentanone	ND	10		µg/L	1	1/24/2020 2:26:00 PM	R66065
Methylene Chloride	ND	3.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
n-Butylbenzene	ND	3.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
n-Propylbenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
sec-Butylbenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Styrene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
tert-Butylbenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
trans-1,2-DCE	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Trichlorofluoromethane	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Vinyl chloride	ND	1.0		µg/L	1	1/24/2020 2:26:00 PM	R66065
Xylenes, Total	ND	1.5		µg/L	1	1/24/2020 2:26:00 PM	R66065
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	1/24/2020 2:26:00 PM	R66065
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	1/24/2020 2:26:00 PM	R66065
Surr: Dibromofluoromethane	99.2	70-130		%Rec	1	1/24/2020 2:26:00 PM	R66065
Surr: Toluene-d8	91.5	70-130		%Rec	1	1/24/2020 2:26:00 PM	R66065

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2001772**
28-Jan-20

Client: Daniel B. Stephens & Assoc.
Project: Griggs Walnut Annual GW Sampling

Sample ID: **100ng lcs2** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **R66010** RunNo: **66010**
Prep Date: Analysis Date: **1/23/2020** SeqNo: **2267293** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	70	130			
Toluene	24	1.0	20.00	0	121	70	130			
Chlorobenzene	18	1.0	20.00	0	92.3	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.0	70	130			
Surr: 4-Bromofluorobenzene	8.0		10.00		80.1	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.4	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R66010** RunNo: **66010**
Prep Date: Analysis Date: **1/23/2020** SeqNo: **2267294** 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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **2001772**
28-Jan-20

Client: Daniel B. Stephens & Assoc.
Project: Griggs Walnut Annual GW Sampling

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R66010**	RunNo: **66010**
Prep Date:	Analysis Date: **1/23/2020**	SeqNo: **2267294** Units: **µg/L**

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 Quanitative 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#: **2001772**
28-Jan-20

Client: Daniel B. Stephens & Assoc.
Project: Griggs Walnut Annual GW Sampling

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R66010** RunNo: **66010**
Prep Date: Analysis Date: **1/23/2020** SeqNo: **2267294** Units: **µg/L**

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	9.8		10.00		98.2	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.5	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: **2001772-005ams** SampType: **MS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **GWMW15-D** Batch ID: **R66010** RunNo: **66010**
Prep Date: Analysis Date: **1/23/2020** SeqNo: **2267925** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0.3360	105	70	130			
Toluene	18	1.0	20.00	0	91.1	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)	20	1.0	20.00	0	98.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.8	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.4	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.8	70	130			
Surr: Toluene-d8	8.5		10.00		85.4	70	130			

Sample ID: **2001772-005amsd** SampType: **MSD** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **GWMW15-D** Batch ID: **R66010** RunNo: **66010**
Prep Date: Analysis Date: **1/23/2020** SeqNo: **2267939** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0.3360	102	70	130	2.16	20	
Toluene	20	1.0	20.00	0	98.3	70	130	7.59	20	
Chlorobenzene	20	1.0	20.00	0	99.1	70	130	5.71	20	
1,1-Dichloroethene	19	1.0	20.00	0	97.5	70	130	5.06	20	
Trichloroethene (TCE)	19	1.0	20.00	0	95.0	70	130	3.80	20	
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130	0	0	
Surr: Dibromofluoromethane	9.5		10.00		94.9	70	130	0	0	
Surr: Toluene-d8	9.3		10.00		93.2	70	130	0	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2001772**

28-Jan-20

Client: Daniel B. Stephens & Assoc.

Project: Griggs Walnut Annual GW Sampling

Sample ID: **100ng lcs2** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **LCSW** Batch ID: **R66065** RunNo: **66065**

Prep Date: Analysis Date: **1/24/2020** SeqNo: **2268957** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	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	104	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.2		10.00		91.6	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **PBW** Batch ID: **R66065** RunNo: **66065**

Prep Date: Analysis Date: **1/24/2020** SeqNo: **2268958** 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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **2001772**
28-Jan-20

Client: Daniel B. Stephens & Assoc.
Project: Griggs Walnut Annual GW Sampling

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R66065**	RunNo: **66065**
Prep Date:	Analysis Date: **1/24/2020**	SeqNo: **2268958** Units: **µg/L**

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 Quanitative 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#: **2001772**
28-Jan-20

Client: Daniel B. Stephens & Assoc.
Project: Griggs Walnut Annual GW Sampling

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R66065**	RunNo: **66065**
Prep Date:	Analysis Date: **1/24/2020**	SeqNo: **2268958** Units: **µg/L**

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		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.5	70	130			
Surr: Toluene-d8	9.2		10.00		91.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2001772**
28-Jan-20

Client: Daniel B. Stephens & Assoc.
Project: Griggs Walnut Annual GW Sampling

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A65977**	RunNo: **65977**
Prep Date:	Analysis Date: **1/22/2020**	SeqNo: **2266136** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Uranium	ND	0.10								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A65977**	RunNo: **65977**
Prep Date:	Analysis Date: **1/22/2020**	SeqNo: **2266137** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.52	0.020	0.5000	0	104	80	120			
Uranium	0.52	0.10	0.5000	0	104	80	120			

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 Quanitative 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **DBS** Work Order Number: **2001772** RcptNo: 1

Received By: **Daniel Marquez** **1/21/2020 9:30:00 AM**

Completed By: **Isaiah Ortiz** **1/21/2020 10:21:14 AM**

Reviewed By: DM 1/21/20

Chain of Custody

1. Is Chain of Custody sufficiently complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	UPS		

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
(<2 or >12 unless noted)
Adjusted? no
Checked by: YL 1/21/20

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: Sample out one VOA was received empty. YL 1/21/20

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Not Present			

Chain-of-Custody Record

Client: DBS&A

Mailing Address: ABQ office

Phone #: 505-688-4201

email or Fax#: KJayne@geo-logic.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☒ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Griggs - Walnut

Project #: DB19.1466.00

Project Manager: Kelly Jayne

Sampler: York Morgan

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.8 -0.2 = 2.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2001772	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_3, NO_2, PO_4, SO_4	8260B (VOA) 8260B	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Total & Dissolved As + U (6020)		As speciation SM3114B			
1-14-20	1645	GW	GWMW11-I	3 VOA	HCl	-011								X								
1-15-20	1514	GW	GWMW11-D	3 VOA	HCl	-012								X								
1-15-20	0940	GW	GWMW16-S			-013								X								
1-15-20	1040	GW	GWMW16-D			-014								X								
1-15-20	1630	GW	MWSF9			-015								X								
1-16-20	1443	GW	MWSF2			-016								X								
1-16-20	1735	GW	MWSF5			-017								X								
1-15-20	1142	GW	CLC18	1 Plastic	HNO3	-018											X		X			
1-15-20	1210	GW	CLC27	1 Plastic	HNO3	-019											X		X			
1-16-20	0847	GW	CLC61	3 VOA	HCl	-020								X								
Lab	Lab	DIW	Trip Blank	2 VOA	HCl	-021								X								
Lab	Lab	DIW	Temp Blank	1 Plastic	None	~~-023~~																

Date: 1.20.20 Time: 1330 Relinquished by: York Morgan
Received by: UPS - Silver City Via: Date Time

Date: Time: Relinquished by:
Received by: UPS Via: 1/21/20 Date 930 Time

Remarks: J and MDL
See attached PQLs

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: Daniel B. Stephens & Associates

Mailing Address: 6020 Academy Rd NE, Ste 100
Albuquerque, NM 87109

Phone #: 505-688-4201

email or Fax#: KJayne@geo-logic.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☒ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Griggs-Walnut Annual GW Sampling

Project #: DB19.1466.00

Project Manager: Kelly Jayne

Sampler: York Morgan

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.8-0.2=2.6(°C)

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Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2001772	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_3, NO_2, PO_4, SO_4	8260B (VOA) 8260B	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Matrix Spike	Matrix Spike Duplicate
1-13-20	1550	GW	NGMW03 ✓	3 VOA	HCl	-001								X				
1-13-20	1550	GW	NGMW03 Dup ✓			-002								X				
1-13-20	1630	DIW	Field Blank 1 ✓			-003								X				
1-13-20	1737	GW	GWMW15-S ✓			-004								X				
1-14-20	1030	GW	GWMW15-D ✓			-005								X				
1-14-20	1030	GW	GWMW15-D MS ✓			⊥								X			X	
1-14-20	1030	GW	GWMW15-D MSD ✓			⊥								X				X
1-14-20	1147	GW	GWMW15-I ✓			-006								X				
1-14-20	1310	GW	MWSF10 ✓			-007								X				
1-14-20	1310	GW	MWSF10 Dup ✓			-008								X				
1-14-20	1343	DIW	Field Blank 2 ✓			-009								X				
1-14-20	1531	GW	GWMW11-S ✓			-010								X				

Date:	Time:	Relinquished by:	Received by:	Via:	Date Time
1-20-20	1330	York Morgan	UPS	Silver City	
Date:	Time:	Relinquished by:	Received by:	Via:	Date Time
			UPS		1/21/20 730

Remarks: J and MDL
See attached PQLs

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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 24, 2020

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 Sampling OrderNo.: 2001985

Dear Kelly Jayne:

Hall Environmental Analysis Laboratory received 8 sample(s) on 1/24/2020 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: CLC26
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/21/2020 5:32:00 PM
Lab ID: 2001985-001
Matrix: GROUNDWA
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
Benzene	ND	0.17	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Toluene	ND	0.35	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Ethylbenzene	ND	0.13	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Naphthalene	ND	0.28	2.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Acetone	ND	1.2	10		µg/L	1	2/3/2020 1:45:46 PM	R66268
Bromobenzene	ND	0.24	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Bromodichloromethane	ND	0.13	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Bromoform	ND	0.29	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Bromomethane	0.49	0.27	3.0	J	µg/L	1	2/3/2020 1:45:46 PM	R66268
2-Butanone	ND	2.1	10		µg/L	1	2/3/2020 1:45:46 PM	R66268
Carbon disulfide	ND	0.45	10		µg/L	1	2/3/2020 1:45:46 PM	R66268
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Chlorobenzene	ND	0.19	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Chloroethane	ND	0.18	2.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Chloroform	ND	0.12	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Chloromethane	0.47	0.32	3.0	J	µg/L	1	2/3/2020 1:45:46 PM	R66268
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Dibromochloromethane	ND	0.24	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Dibromomethane	ND	0.21	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	2/3/2020 1:45:46 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** CLC26
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/21/2020 5:32:00 PM
Lab ID: 2001985-001 **Matrix:** GROUNDWA **Received Date:** 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
2-Hexanone	ND	1.5	10		µg/L	1	2/3/2020 1:45:46 PM	R66268
Isopropylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	2/3/2020 1:45:46 PM	R66268
Methylene Chloride	ND	0.15	3.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
n-Butylbenzene	ND	0.23	3.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
n-Propylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Styrene	ND	0.19	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Vinyl chloride	ND	0.18	1.0		µg/L	1	2/3/2020 1:45:46 PM	R66268
Xylenes, Total	ND	0.45	1.5		µg/L	1	2/3/2020 1:45:46 PM	R66268
Surr: 1,2-Dichloroethane-d4	92.3	0	70-130		%Rec	1	2/3/2020 1:45:46 PM	R66268
Surr: 4-Bromofluorobenzene	93.5	0	70-130		%Rec	1	2/3/2020 1:45:46 PM	R66268
Surr: Dibromofluoromethane	99.1	0	70-130		%Rec	1	2/3/2020 1:45:46 PM	R66268
Surr: Toluene-d8	101	0	70-130		%Rec	1	2/3/2020 1:45:46 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: Equipment Blank 1
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/21/2020 6:45:00 PM
Lab ID: 2001985-002
Matrix: GROUNDWA
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
Benzene	ND	0.17	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Toluene	ND	0.35	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Ethylbenzene	ND	0.13	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Naphthalene	ND	0.28	2.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Acetone	2.6	1.2	10	J	µg/L	1	2/3/2020 3:11:34 PM	R66268
Bromobenzene	ND	0.24	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Bromodichloromethane	0.21	0.13	1.0	J	µg/L	1	2/3/2020 3:11:34 PM	R66268
Bromoform	ND	0.29	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Bromomethane	ND	0.27	3.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
2-Butanone	ND	2.1	10		µg/L	1	2/3/2020 3:11:34 PM	R66268
Carbon disulfide	ND	0.45	10		µg/L	1	2/3/2020 3:11:34 PM	R66268
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Chlorobenzene	ND	0.19	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Chloroethane	ND	0.18	2.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Chloroform	0.22	0.12	1.0	J	µg/L	1	2/3/2020 3:11:34 PM	R66268
Chloromethane	ND	0.32	3.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Dibromochloromethane	ND	0.24	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Dibromomethane	ND	0.21	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	2/3/2020 3:11:34 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: Equipment Blank 1
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/21/2020 6:45:00 PM
Lab ID: 2001985-002
Matrix: GROUNDWA
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
2-Hexanone	ND	1.5	10		µg/L	1	2/3/2020 3:11:34 PM	R66268
Isopropylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	2/3/2020 3:11:34 PM	R66268
Methylene Chloride	ND	0.15	3.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
n-Butylbenzene	ND	0.23	3.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
n-Propylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Styrene	ND	0.19	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Vinyl chloride	ND	0.18	1.0		µg/L	1	2/3/2020 3:11:34 PM	R66268
Xylenes, Total	ND	0.45	1.5		µg/L	1	2/3/2020 3:11:34 PM	R66268
Surr: 1,2-Dichloroethane-d4	96.2	0	70-130		%Rec	1	2/3/2020 3:11:34 PM	R66268
Surr: 4-Bromofluorobenzene	91.9	0	70-130		%Rec	1	2/3/2020 3:11:34 PM	R66268
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	2/3/2020 3:11:34 PM	R66268
Surr: Toluene-d8	99.6	0	70-130		%Rec	1	2/3/2020 3:11:34 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: CLC20
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/22/2020 10:44:00 AM
Lab ID: 2001985-003
Matrix: GROUNDWA
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
Benzene	ND	0.17	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Toluene	ND	0.35	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Ethylbenzene	ND	0.13	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Naphthalene	ND	0.28	2.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Acetone	ND	1.2	10		µg/L	1	2/3/2020 3:40:00 PM	R66268
Bromobenzene	ND	0.24	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Bromodichloromethane	ND	0.13	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Bromoform	ND	0.29	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Bromomethane	ND	0.27	3.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
2-Butanone	ND	2.1	10		µg/L	1	2/3/2020 3:40:00 PM	R66268
Carbon disulfide	ND	0.45	10		µg/L	1	2/3/2020 3:40:00 PM	R66268
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Chlorobenzene	ND	0.19	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Chloroethane	ND	0.18	2.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Chloroform	ND	0.12	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Chloromethane	0.50	0.32	3.0	J	µg/L	1	2/3/2020 3:40:00 PM	R66268
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Dibromochloromethane	ND	0.24	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Dibromomethane	ND	0.21	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	2/3/2020 3:40:00 PM	R66268

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: CLC20
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/22/2020 10:44:00 AM
Lab ID: 2001985-003
Matrix: GROUNDWA
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
2-Hexanone	ND	1.5	10		µg/L	1	2/3/2020 3:40:00 PM	R66268
Isopropylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	2/3/2020 3:40:00 PM	R66268
Methylene Chloride	ND	0.15	3.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
n-Butylbenzene	ND	0.23	3.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
n-Propylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Styrene	ND	0.19	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Vinyl chloride	ND	0.18	1.0		µg/L	1	2/3/2020 3:40:00 PM	R66268
Xylenes, Total	ND	0.45	1.5		µg/L	1	2/3/2020 3:40:00 PM	R66268
Surr: 1,2-Dichloroethane-d4	95.4	0	70-130		%Rec	1	2/3/2020 3:40:00 PM	R66268
Surr: 4-Bromofluorobenzene	92.5	0	70-130		%Rec	1	2/3/2020 3:40:00 PM	R66268
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	2/3/2020 3:40:00 PM	R66268
Surr: Toluene-d8	98.9	0	70-130		%Rec	1	2/3/2020 3:40:00 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: Equipment Blank 2
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/22/2020 12:07:00 PM
Lab ID: 2001985-004
Matrix: GROUNDWA
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
Benzene	ND	0.17	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Toluene	ND	0.35	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Ethylbenzene	ND	0.13	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Naphthalene	ND	0.28	2.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Acetone	2.5	1.2	10	J	µg/L	1	2/3/2020 4:08:39 PM	R66268
Bromobenzene	ND	0.24	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Bromodichloromethane	0.23	0.13	1.0	J	µg/L	1	2/3/2020 4:08:39 PM	R66268
Bromoform	ND	0.29	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Bromomethane	ND	0.27	3.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
2-Butanone	ND	2.1	10		µg/L	1	2/3/2020 4:08:39 PM	R66268
Carbon disulfide	ND	0.45	10		µg/L	1	2/3/2020 4:08:39 PM	R66268
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Chlorobenzene	ND	0.19	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Chloroethane	ND	0.18	2.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Chloroform	0.24	0.12	1.0	J	µg/L	1	2/3/2020 4:08:39 PM	R66268
Chloromethane	ND	0.32	3.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Dibromochloromethane	ND	0.24	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Dibromomethane	ND	0.21	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	2/3/2020 4:08:39 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: Equipment Blank 2
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/22/2020 12:07:00 PM
Lab ID: 2001985-004
Matrix: GROUNDWA
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
2-Hexanone	ND	1.5	10		µg/L	1	2/3/2020 4:08:39 PM	R66268
Isopropylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	2/3/2020 4:08:39 PM	R66268
Methylene Chloride	ND	0.15	3.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
n-Butylbenzene	ND	0.23	3.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
n-Propylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Styrene	ND	0.19	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Vinyl chloride	ND	0.18	1.0		µg/L	1	2/3/2020 4:08:39 PM	R66268
Xylenes, Total	ND	0.45	1.5		µg/L	1	2/3/2020 4:08:39 PM	R66268
Surr: 1,2-Dichloroethane-d4	95.6	0	70-130		%Rec	1	2/3/2020 4:08:39 PM	R66268
Surr: 4-Bromofluorobenzene	91.9	0	70-130		%Rec	1	2/3/2020 4:08:39 PM	R66268
Surr: Dibromofluoromethane	99.9	0	70-130		%Rec	1	2/3/2020 4:08:39 PM	R66268
Surr: Toluene-d8	98.3	0	70-130		%Rec	1	2/3/2020 4:08:39 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** CLC18
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/22/2020 1:35:00 PM
Lab ID: 2001985-005 **Matrix:** GROUNDWA **Received Date:** 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: METALS							Analyst: **ELS**	
Arsenic	0.0016	0.00031	0.0010		mg/L	1	2/20/2020 12:18:04 PM	A66689
Uranium	0.013	0.000085	0.00050		mg/L	1	2/20/2020 12:18:04 PM	A66689
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **ELS**	
Arsenic	ND	0.015	0.020		mg/L	1	1/29/2020 12:39:08 PM	50068
Uranium	ND	0.023	0.10		mg/L	1	1/29/2020 10:52:26 AM	50068

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** CLC27
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/22/2020 2:00:00 PM
Lab ID: 2001985-006 **Matrix:** GROUNDWA **Received Date:** 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: METALS							Analyst: **ELS**	
Arsenic	0.0014	0.00031	0.0010		mg/L	1	2/20/2020 12:20:40 PM	A66689
Uranium	0.024	0.000085	0.00050		mg/L	1	2/20/2020 12:20:40 PM	A66689
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **ELS**	
Arsenic	ND	0.015	0.020		mg/L	1	1/29/2020 12:40:31 PM	50068
Uranium	0.028	0.023	0.10	J	mg/L	1	1/29/2020 10:54:14 AM	50068

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: CLC57
Project: Griggs Walnut Annual GW Sampling
Collection Date: 1/21/2020 4:06:00 PM
Lab ID: 2001985-007
Matrix: GROUNDWA
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
Benzene	ND	0.17	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Toluene	ND	0.35	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Ethylbenzene	ND	0.13	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Naphthalene	ND	0.28	2.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Acetone	ND	1.2	10		µg/L	1	2/3/2020 4:37:17 PM	R66268
Bromobenzene	ND	0.24	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Bromodichloromethane	ND	0.13	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Bromoform	ND	0.29	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Bromomethane	ND	0.27	3.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
2-Butanone	ND	2.1	10		µg/L	1	2/3/2020 4:37:17 PM	R66268
Carbon disulfide	ND	0.45	10		µg/L	1	2/3/2020 4:37:17 PM	R66268
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Chlorobenzene	ND	0.19	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Chloroethane	ND	0.18	2.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Chloroform	ND	0.12	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Chloromethane	ND	0.32	3.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Dibromochloromethane	ND	0.24	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Dibromomethane	ND	0.21	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	2/3/2020 4:37:17 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** CLC57
Project: Griggs Walnut Annual GW Sampling **Collection Date:** 1/21/2020 4:06:00 PM
Lab ID: 2001985-007 **Matrix:** GROUNDWA **Received Date:** 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
2-Hexanone	ND	1.5	10		µg/L	1	2/3/2020 4:37:17 PM	R66268
Isopropylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	2/3/2020 4:37:17 PM	R66268
Methylene Chloride	ND	0.15	3.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
n-Butylbenzene	ND	0.23	3.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
n-Propylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Styrene	ND	0.19	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Vinyl chloride	ND	0.18	1.0		µg/L	1	2/3/2020 4:37:17 PM	R66268
Xylenes, Total	ND	0.45	1.5		µg/L	1	2/3/2020 4:37:17 PM	R66268
Surr: 1,2-Dichloroethane-d4	94.6	0	70-130		%Rec	1	2/3/2020 4:37:17 PM	R66268
Surr: 4-Bromofluorobenzene	91.2	0	70-130		%Rec	1	2/3/2020 4:37:17 PM	R66268
Surr: Dibromofluoromethane	97.5	0	70-130		%Rec	1	2/3/2020 4:37:17 PM	R66268
Surr: Toluene-d8	98.5	0	70-130		%Rec	1	2/3/2020 4:37:17 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: Trip Blank
Project: Griggs Walnut Annual GW Sampling
Collection Date:
Lab ID: 2001985-008
Matrix: TRIP BLANK
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
Benzene	ND	0.17	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Toluene	ND	0.35	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Ethylbenzene	ND	0.13	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Naphthalene	ND	0.28	2.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Acetone	ND	1.2	10		µg/L	1	2/3/2020 5:05:41 PM	R66268
Bromobenzene	ND	0.24	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Bromodichloromethane	ND	0.13	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Bromoform	ND	0.29	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Bromomethane	ND	0.27	3.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
2-Butanone	ND	2.1	10		µg/L	1	2/3/2020 5:05:41 PM	R66268
Carbon disulfide	ND	0.45	10		µg/L	1	2/3/2020 5:05:41 PM	R66268
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Chlorobenzene	ND	0.19	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Chloroethane	ND	0.18	2.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Chloroform	ND	0.12	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Chloromethane	ND	0.32	3.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Dibromochloromethane	ND	0.24	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Dibromomethane	ND	0.21	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	2/3/2020 5:05:41 PM	R66268

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 Quanitative 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.

CLIENT: Daniel B. Stephens & Assoc.
Client Sample ID: Trip Blank
Project: Griggs Walnut Annual GW Sampling
Collection Date:
Lab ID: 2001985-008
Matrix: TRIP BLANK
Received Date: 1/24/2020 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **JMR**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
2-Hexanone	ND	1.5	10		µg/L	1	2/3/2020 5:05:41 PM	R66268
Isopropylbenzene	ND	0.19	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	2/3/2020 5:05:41 PM	R66268
Methylene Chloride	ND	0.15	3.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
n-Butylbenzene	ND	0.23	3.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
n-Propylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Styrene	ND	0.19	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Vinyl chloride	ND	0.18	1.0		µg/L	1	2/3/2020 5:05:41 PM	R66268
Xylenes, Total	ND	0.45	1.5		µg/L	1	2/3/2020 5:05:41 PM	R66268
Surr: 1,2-Dichloroethane-d4	97.1	0	70-130		%Rec	1	2/3/2020 5:05:41 PM	R66268
Surr: 4-Bromofluorobenzene	92.5	0	70-130		%Rec	1	2/3/2020 5:05:41 PM	R66268
Surr: Dibromofluoromethane	99.2	0	70-130		%Rec	1	2/3/2020 5:05:41 PM	R66268
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	2/3/2020 5:05:41 PM	R66268

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 Quanitative 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

February 06, 2020

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: H20010481

Project Name: Not Indicated

Energy Laboratories Inc Helena MT received the following 2 samples for Hall Environmental on 1/28/2020 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H20010481-001	2001985-005B CLC18	01/22/20 13:35	01/28/20	Groundwater	Metals by ICP/ICPMS, Dissolved Arsenic Speciation, Total
H20010481-002	2001985-006B CLC27	01/22/20 14:00	01/28/20	Groundwater	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: H20010481-001
Client Sample ID: 2001985-005B CLC18

Report Date: 02/06/20
Collection Date: 01/22/20 13:35
DateReceived: 01/28/20
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By
SPECIATED, TOTAL							
Arsenic-III	ND	ug/L		5	0.4	E1632AM	01/28/20 16:40 / iej
Arsenic-V	ND	ug/L		5	0.5	E1632AM	01/28/20 16:40 / iej

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
MDL - Method Detection Limit
QCL - Quality Control Limit

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: H20010481-002
Client Sample ID: 2001985-006B CLC27

Report Date: 02/06/20
Collection Date: 01/22/20 14:00
DateReceived: 01/28/20
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By
SPECIATED, TOTAL							
Arsenic-III	ND	ug/L		5	0.4	E1632AM	01/28/20 16:52 / iej
Arsenic-V	ND	ug/L		5	0.5	E1632AM	01/28/20 16:52 / iej

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
MDL - Method Detection Limit
QCL - Quality Control Limit

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Hall Environmental **Work Order:** H20010481 **Report Date:** 02/06/20

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E1632AM**									Analytical Run: ARSENIC SPECIATION_200128A	
Lab ID: **ICV_10r**	2	Initial Calibration Verification Standard							01/28/20 14:37	
Arsenic-III		24.7	ug/L	5.0	99	87.6	114			
Arsenic-V		25.3	ug/L	5.0	101	87	116			
Lab ID: **CCV_11r**	2	Continuing Calibration Verification Standard							01/28/20 14:49	
Arsenic-III		49.6	ug/L	5.0	99	85	115			
Arsenic-V		52.6	ug/L	5.0	105	85	115			
Method: **E1632AM**									Batch: R151538	
Lab ID: **MBLK_13r**	2	Method Blank				Run: ARSENIC SPECIATION_2001			01/28/20 15:13	
Arsenic-III		ND	ug/L	0.4						
Arsenic-V		ND	ug/L	0.5						
Lab ID: **LCS_14r**	2	Laboratory Control Sample				Run: ARSENIC SPECIATION_2001			01/28/20 15:25	
Arsenic-III		54.3	ug/L	5.0	109	85	115			
Arsenic-V		51.6	ug/L	5.0	103	85	115			
Lab ID: **H20010416-002G MSD**	2	Sample Matrix Spike Duplicate				Run: ARSENIC SPECIATION_2001			01/28/20 18:05	
Arsenic-III		52.1	ug/L	10	104	78	121	7.2	20	
Arsenic-V		51.2	ug/L	10	102	78	121	4.2	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Work Order Receipt Checklist

Hall Environmental

H20010481

Login completed by: Jessica C. Smith
Date Received: 1/28/2020

Reviewed by: BL2000\rtooke
Received by: RAT

Reviewed Date: 1/28/2020
Carrier name: FedEx Express

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	0.6°C Blue Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

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.

Contact and Corrective Action Comments:

Samples were received partially frozen. JCS 01/28/2020

ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

CHAIN OF CUSTODY RECORD

SUB CONTRATOR: **Energy-Helena**	COMPANY: **Energy Laboratories**	PHONE: **(877) 472-0711**	FAX:
ADDRESS: **3161 E Lyndale Ave**		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: **Helena, MT 59604**			H20010481

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2001985-005B	CLC18	500PL-HCL	Groundwater	1/22/2020 1:35:00 PM	1	Arsenic Speciation
2	2001985-006B	CLC27	500PL-HCL	Groundwater	1/22/2020 2:00:00 PM	1	Arsenic Speciation

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.

Relinquished By:	Date: 1/27/2020	Time: 11:01 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Rebecca Tooke	Date: 1-28-2020	Time: 9:35

TAT: Standard ☑ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples 0.6 °C Attempt to Cool? blue ice
Comments: FedExExp no TB

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2001985**

24-Feb-20

Client: Daniel B. Stephens & Assoc.

Project: Griggs Walnut Annual GW Sampling

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Metals**							
Client ID: **PBW**	Batch ID: **A66689**	RunNo: **66689**							
Prep Date:	Analysis Date: **2/20/2020**	SeqNo: **2292301**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Uranium	ND	0.00050								

Sample ID: **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Metals**							
Client ID: **BatchQC**	Batch ID: **A66689**	RunNo: **66689**							
Prep Date:	Analysis Date: **2/20/2020**	SeqNo: **2292305**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	104	50	150			
Uranium	0.00054	0.00050	0.0005000	0	108	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Metals**							
Client ID: **LCSW**	Batch ID: **A66689**	RunNo: **66689**							
Prep Date:	Analysis Date: **2/20/2020**	SeqNo: **2292309**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.2	85	115			
Uranium	0.013	0.00050	0.01250	0	105	85	115			

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 Quanitative 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#: **2001985**

24-Feb-20

Client: Daniel B. Stephens & Assoc.

Project: Griggs Walnut Annual GW Sampling

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **LCSW** Batch ID: **R66268** RunNo: **66268**

Prep Date: Analysis Date: **2/3/2020** SeqNo: **2276478** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	97.0	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	91.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.7	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.6	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.5	70	130			
Surr: Toluene-d8	9.5		10.00		94.9	70	130			

Sample ID: **2001985-001a ms** SampType: **MS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **CLC26** Batch ID: **R66268** RunNo: **66268**

Prep Date: Analysis Date: **2/3/2020** SeqNo: **2276480** Units: **µg/L**

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	100	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	95.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.3	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.5	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.6	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			

Sample ID: **2001985-001a msd** SampType: **MSD** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **CLC26** Batch ID: **R66268** RunNo: **66268**

Prep Date: Analysis Date: **2/3/2020** SeqNo: **2276481** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130	0.480	20	
Toluene	19	1.0	20.00	0	95.4	70	130	4.95	20	
Chlorobenzene	20	1.0	20.00	0	99.0	70	130	1.99	20	
1,1-Dichloroethene	22	1.0	20.00	0	109	70	130	1.14	20	
Trichloroethene (TCE)	19	1.0	20.00	0	92.7	70	130	2.64	20	
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.3		10.00		93.4	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		102	70	130	0	0	
Surr: Toluene-d8	9.5		10.00		94.8	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **2001985**
24-Feb-20

Client: Daniel B. Stephens & Assoc.
Project: Griggs Walnut Annual GW Sampling

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**	
Client ID: **PBW**	Batch ID: **R66268**	RunNo: **66268**	
Prep Date:	Analysis Date: **2/3/2020**	SeqNo: **2276502**	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								
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.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2001985**
24-Feb-20

Client: Daniel B. Stephens & Assoc.
Project: Griggs Walnut Annual GW Sampling

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**	
Client ID: **PBW**	Batch ID: **R66268**	RunNo: **66268**	
Prep Date:	Analysis Date: **2/3/2020**	SeqNo: **2276502**	Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	9.3		10.00		93.3	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.9	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.4	70	130			
Surr: Toluene-d8	10		10.00		99.8	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2001985**

24-Feb-20

Client: Daniel B. Stephens & Assoc.

Project: Griggs Walnut Annual GW Sampling

Sample ID: **MB-50068**	SampType: **MBLK**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **PBW**	Batch ID: **50068**	RunNo: **66158**
Prep Date: **1/27/2020**	Analysis Date: **1/29/2020**	SeqNo: **2272504** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.10								

Sample ID: **LCS-50068**	SampType: **LCS**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **LCSW**	Batch ID: **50068**	RunNo: **66158**
Prep Date: **1/27/2020**	Analysis Date: **1/29/2020**	SeqNo: **2272505** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.50	0.10	0.5000	0	101	80	120			

Sample ID: **MB-50068**	SampType: **MBLK**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **PBW**	Batch ID: **50068**	RunNo: **66158**
Prep Date: **1/27/2020**	Analysis Date: **1/29/2020**	SeqNo: **2272553** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID: **LCS-50068**	SampType: **LCS**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **LCSW**	Batch ID: **50068**	RunNo: **66158**
Prep Date: **1/27/2020**	Analysis Date: **1/29/2020**	SeqNo: **2272554** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	95.0	80	120			

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **DBS** Work Order Number: **2001985** RcptNo: **1**

Received By: **Desiree Dominguez** **1/24/2020 9:30:00 AM** DD

Completed By: **Isaiah Ortiz** **1/24/2020 11:55:32 AM** I-O

Reviewed By: ENM 1/27/20

Chain of Custody

1. Is Chain of Custody sufficiently complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	UPS		

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: 4 (<2 or >12 unless noted)

Adjusted? NO

Checked by: JR 1/27/20

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	2.1	Good	Not Present			

Chain-of-Custody Record

Client: Daniel B Stephens & Assoc.

Mailing Address: ABQ office

Phone #: 505-688-4201

email or Fax#: KJayne@geo-logic.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☒ NELAC ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush_____

Project Name: Griggs - Walnut Annual GW Sampling

Project #: DB19.1466.02

Project Manager: Kelly Jayne

Sampler: Y. Morgan

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.1 -0.0=2.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2001985	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_3, NO_2, PO_4, SO_4	8260 (VOA) 8260B	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Total As + U (6020)	As Speciation SM3114B mod				
1-21-20	1732	GW	CLC26 ✓	3 VOA	HCl	-001								X								
1-21-20	1745	DIW	Equipment Blank 1 ✓	3 VOA		-002								X								
1-22-20	1044	GW	CLC20 ✓	3 VOA		-003								X								
"	1207	DIW	Equipment Blank 2 ✓	3 VOA		-004								X								
"	1335	GW	CLC18 ✓	2 plastic	Varies	-005											X	X				
"	1400	GW	CLC27 ✓	"	"	-006											X	X				
"	1606	"	CLC57 ✓	3 VOA	HCl	-007								X								
Lab	—	DIW	Trip Blank	2 VOA	"	-008								X								
Lab	—	DIW	Temp Blank	1 plastic	None	TO																

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1-23-20	1000		UPS	Store		
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			JDB	UPS	1/24/20	9:30

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Appendix D

Daily Operational Data

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
January 2019

Date	Raw Water	Finished Water
01/01/2019	358,436	359,400
01/02/2019	362,525	376,350
01/03/2019	381,412	376,125
01/04/2019	373,961	387,234
01/05/2019	379,352	379,488
01/06/2019	376,239	387,394
01/07/2019	380,370	374,224
01/08/2019	374,479	389,283
01/09/2019	379,373	374,747
01/10/2019	376,916	386,524
01/11/2019	379,979	373,838
01/12/2019	332,393	346,685
01/13/2019	255,867	261,856
01/14/2019	375,625	373,726
01/15/2019	381,018	379,566
01/16/2019	374,402	387,218
01/17/2019	379,682	381,114
01/18/2019	378,106	386,889
01/19/2019	378,592	375,716
01/20/2019	374,472	390,102
01/21/2019	379,460	375,726
01/22/2019	379,077	387,702
01/23/2019	377,519	375,612
01/24/2019	375,068	390,632
01/25/2019	379,257	375,966
01/26/2019	378,254	386,605
01/27/2019	377,932	375,639
01/28/2019	374,343	390,616
01/29/2019	379,355	375,225
01/30/2019	378,133	387,277
01/31/2019	377,890	376,099
Totals:	**11,509,488**	**11,644,576**

Griggs/Walnut Treatment Facility
Well Runtime Hours
January 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
01/01/2019	8.0	42,886	24.0	304,810
01/02/2019	8.0	42,816	23.9	316,355
01/03/2019	8.0	42,705	24.0	324,331
01/04/2019	8.0	42,710	24.0	324,178
01/05/2019	8.0	42,735	24.0	324,323
01/06/2019	8.0	42,805	24.0	324,481
01/07/2019	8.0	42,793	24.0	324,317
01/08/2019	8.0	42,812	24.0	324,322
01/09/2019	8.0	42,755	24.0	324,139
01/10/2019	8.0	42,818	24.0	324,198
01/11/2019	8.0	42,864	24.0	324,266
01/12/2019	8.0	42,818	21.4	289,540
01/13/2019	7.5	40,246	14.6	198,967
01/14/2019	8.0	42,777	24.0	325,660
01/15/2019	8.0	42,755	24.0	325,564
01/16/2019	8.0	42,665	24.0	325,224
01/17/2019	8.0	42,724	24.0	325,411
01/18/2019	8.0	42,721	24.0	325,219
01/19/2019	8.0	42,674	24.0	325,231
01/20/2019	8.0	42,688	24.0	325,342
01/21/2019	8.0	42,698	24.0	325,421
01/22/2019	8.0	42,821	24.0	325,497
01/23/2019	8.0	42,768	24.0	325,409
01/24/2019	8.0	42,745	24.0	325,427
01/25/2019	8.0	42,723	24.0	325,429
01/26/2019	8.0	42,660	24.0	325,156
01/27/2019	8.0	42,677	24.0	325,160
01/28/2019	8.0	42,721	24.0	325,285
01/29/2019	8.0	42,653	24.0	325,076
01/30/2019	8.0	42,657	24.0	325,254
01/31/2019	8.0	42,735	24.0	325,367
Totals:	**247.5**	**1,322,630**	**731.9**	**9,884,357**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
February 2019

Date	Raw Water	Finished Water
02/01/2019	374,145	389,449
02/02/2019	379,072	375,346
02/03/2019	378,542	387,145
02/04/2019	377,375	375,185
02/05/2019	373,757	389,720
02/06/2019	379,195	375,123
02/07/2019	376,665	386,134
02/08/2019	378,313	373,795
02/09/2019	372,243	388,501
02/10/2019	377,686	373,272
02/11/2019	372,742	382,611
02/12/2019	378,189	368,887
02/13/2019	369,742	382,415
02/14/2019	372,967	375,742
02/15/2019	372,695	375,926
02/16/2019	372,933	375,043
02/17/2019	375,513	372,723
02/18/2019	368,293	381,673
02/19/2019	377,406	369,570
02/20/2019	368,949	381,083
02/21/2019	372,462	375,352
02/22/2019	372,961	375,284
02/23/2019	372,884	375,081
02/24/2019	372,836	374,366
02/25/2019	371,899	375,648
02/26/2019	375,202	372,372
02/27/2019	368,307	381,795
02/28/2019	376,773	369,087
Totals:	**10,479,746**	**10,578,328**

Griggs/Walnut Treatment Facility
Well Runtime Hours
February 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
02/01/2019	8.0	42,600	24.0	325,072
02/02/2019	8.0	42,570	24.0	325,074
02/03/2019	8.0	42,591	24.0	325,192
02/04/2019	8.0	42,588	24.0	325,324
02/05/2019	8.0	42,609	24.0	325,063
02/06/2019	8.0	42,673	24.0	325,116
02/07/2019	8.0	42,697	24.0	324,358
02/08/2019	8.0	42,665	24.0	324,006
02/09/2019	8.0	42,572	24.0	323,760
02/10/2019	8.0	42,580	24.0	324,054
02/11/2019	8.0	42,611	24.0	322,974
02/12/2019	8.0	42,596	24.0	321,501
02/13/2019	8.0	42,651	24.0	321,799
02/14/2019	8.0	42,623	24.0	321,657
02/15/2019	8.0	42,607	24.0	321,583
02/16/2019	8.0	42,612	24.0	321,512
02/17/2019	8.0	42,593	24.0	321,318
02/18/2019	8.0	42,533	24.0	320,779
02/19/2019	8.0	42,564	24.0	320,925
02/20/2019	8.0	42,682	24.0	321,209
02/21/2019	8.0	42,744	24.0	321,204
02/22/2019	8.0	42,765	24.0	321,313
02/23/2019	8.0	42,719	24.0	321,164
02/24/2019	8.0	42,689	24.0	320,919
02/25/2019	8.0	42,631	24.0	321,019
02/26/2019	8.0	42,538	24.0	320,949
02/27/2019	8.0	42,538	24.0	321,073
02/28/2019	8.0	42,533	24.0	320,987
Totals:	**224.0**	**1,193,370**	**672.0**	**9,030,903**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
March 2019

Date	Raw Water	Finished Water
03/01/2019	368,342	380,671
03/02/2019	371,180	374,463
03/03/2019	371,267	374,479
03/04/2019	371,268	374,647
03/05/2019	371,370	373,870
03/06/2019	371,149	374,636
03/07/2019	371,388	374,021
03/08/2019	371,253	374,404
03/09/2019	371,174	373,976
03/10/2019	365,942	364,927
03/11/2019	371,932	373,370
03/12/2019	372,070	373,993
03/13/2019	371,837	374,144
03/14/2019	208,804	213,415
03/15/2019	313,458	318,187
03/16/2019	295,280	299,431
03/17/2019	284,173	292,164
03/18/2019	342,466	345,325
03/19/2019	382,264	374,150
03/20/2019	377,165	385,080
03/21/2019	378,992	386,422
03/22/2019	379,348	385,606
03/23/2019	379,400	386,081
03/24/2019	379,746	385,537
03/25/2019	380,163	385,070
03/26/2019	379,909	385,572
03/27/2019	379,752	384,686
03/28/2019	378,832	384,699
03/29/2019	378,983	384,115
03/30/2019	379,120	384,322
03/31/2019	378,916	384,469
Totals:	**11,196,945**	**11,325,930**

Griggs/Walnut Treatment Facility
Well Runtime Hours
March 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
03/01/2019	8.0	42,481	24.0	320,710
03/02/2019	8.0	42,468	24.0	320,782
03/03/2019	8.0	42,462	24.0	320,694
03/04/2019	8.0	42,527	24.0	320,935
03/05/2019	8.0	42,459	24.0	320,670
03/06/2019	8.0	42,441	24.0	320,959
03/07/2019	8.0	42,482	24.0	320,915
03/08/2019	8.0	42,454	24.0	320,891
03/09/2019	8.0	42,444	24.0	320,763
03/10/2019	8.0	42,433	23.0	307,406
03/11/2019	8.0	42,411	24.0	320,669
03/12/2019	8.0	42,534	24.0	321,136
03/13/2019	8.0	42,589	24.0	321,085
03/14/2019	6.6	35,194	13.3	180,319
03/15/2019	12.1	64,778	17.6	241,423
03/16/2019	8.0	42,836	18.1	248,526
03/17/2019	8.0	42,903	17.1	236,051
03/18/2019	6.6	35,197	21.1	289,698
03/19/2019	8.0	42,829	24.0	328,399
03/20/2019	8.0	42,768	24.0	328,421
03/21/2019	8.0	42,733	24.0	328,013
03/22/2019	8.0	42,760	24.0	328,118
03/23/2019	8.0	42,766	24.0	328,281
03/24/2019	8.0	42,782	24.0	328,505
03/25/2019	8.0	42,706	24.0	328,608
03/26/2019	8.0	42,695	24.0	328,541
03/27/2019	8.0	42,665	24.0	328,158
03/28/2019	8.0	42,654	24.0	327,820
03/29/2019	8.0	42,669	24.0	327,773
03/30/2019	8.0	42,663	24.0	327,747
03/31/2019	8.0	42,655	24.0	327,437
Totals:	**249.3**	**1,328,435**	**710.2**	**9,619,451**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
April 2019

Date	Raw Water	Finished Water
04/01/2019	378,567	384,620
04/02/2019	378,806	384,285
04/03/2019	378,776	384,520
04/04/2019	378,667	384,107
04/05/2019	378,806	383,859
04/06/2019	378,686	384,188
04/07/2019	378,991	383,952
04/08/2019	378,263	383,857
04/09/2019	378,435	383,315
04/10/2019	378,568	383,869
04/11/2019	378,009	384,212
04/12/2019	378,158	383,553
04/13/2019	378,859	382,974
04/14/2019	378,119	384,262
04/15/2019	378,720	379,339
04/16/2019	378,125	381,245
04/17/2019	378,524	378,961
04/18/2019	378,119	380,394
04/19/2019	378,006	380,195
04/20/2019	378,439	379,447
04/21/2019	378,618	380,423
04/22/2019	378,106	381,059
04/23/2019	378,539	379,677
04/24/2019	378,076	384,079
04/25/2019	340,854	352,683
04/26/2019	374,681	376,396
04/27/2019	381,300	377,197
04/28/2019	378,415	382,052
04/29/2019	378,737	380,747
04/30/2019	378,656	381,276
Totals:	**11,315,622**	**11,430,743**

Griggs/Walnut Treatment Facility
Well Runtime Hours
April 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
04/01/2019	8.0	42,628	24.0	327,729
04/02/2019	8.0	42,638	24.0	327,726
04/03/2019	8.0	42,628	24.0	327,564
04/04/2019	8.0	42,587	24.0	327,605
04/05/2019	8.0	42,539	24.0	327,436
04/06/2019	8.0	42,597	24.0	327,542
04/07/2019	8.0	42,595	24.0	327,540
04/08/2019	8.0	42,451	24.0	327,379
04/09/2019	8.0	42,506	24.0	327,297
04/10/2019	8.0	42,539	24.0	327,520
04/11/2019	8.0	42,482	24.0	327,247
04/12/2019	8.0	42,495	24.0	327,207
04/13/2019	8.0	42,531	24.0	327,252
04/14/2019	8.0	42,537	24.0	327,223
04/15/2019	8.0	42,466	24.0	327,148
04/16/2019	8.0	42,499	24.0	327,277
04/17/2019	8.0	42,442	24.0	326,948
04/18/2019	8.0	42,477	24.0	326,974
04/19/2019	8.0	42,401	24.0	327,001
04/20/2019	8.0	42,396	24.0	327,201
04/21/2019	8.0	42,493	24.0	327,390
04/22/2019	8.0	42,407	24.0	327,230
04/23/2019	8.0	42,465	24.0	327,163
04/24/2019	8.0	42,387	24.0	326,733
04/25/2019	6.2	32,758	21.8	298,478
04/26/2019	8.0	42,391	23.9	326,112
04/27/2019	8.0	42,451	24.0	327,845
04/28/2019	8.0	42,456	24.0	327,778
04/29/2019	8.0	42,371	24.0	327,636
04/30/2019	8.0	42,437	24.0	327,566
Totals:	**238.2**	**1,265,053**	**717.7**	**9,790,746**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
May 2019

Date	Raw Water	Finished Water
05/01/2019	378,471	379,998
05/02/2019	378,043	381,207
05/03/2019	378,420	379,953
05/04/2019	378,122	380,858
05/05/2019	378,181	380,420
05/06/2019	378,292	379,632
05/07/2019	377,600	380,882
05/08/2019	377,325	380,670
05/09/2019	378,222	379,645
05/10/2019	378,247	379,115
05/11/2019	377,580	381,274
05/12/2019	377,998	380,808
05/13/2019	378,183	379,860
05/14/2019	377,947	381,124
05/15/2019	378,197	380,696
05/16/2019	378,399	381,108
05/17/2019	378,710	379,608
05/18/2019	377,944	380,619
05/19/2019	378,246	379,793
05/20/2019	378,084	380,160
05/21/2019	378,216	379,521
05/22/2019	378,476	379,403
05/23/2019	377,969	380,297
05/24/2019	378,041	379,323
05/25/2019	377,192	380,571
05/26/2019	377,633	379,778
05/27/2019	377,871	379,412
05/28/2019	377,726	379,977
05/29/2019	377,405	380,166
05/30/2019	377,397	379,756
05/31/2019	377,562	379,610
Totals:	**11,717,700**	**11,785,246**

Griggs/Walnut Treatment Facility
Well Runtime Hours
May 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
05/01/2019	8.0	42,335	24.0	327,307
05/02/2019	8.0	42,335	24.0	327,323
05/03/2019	8.0	42,276	24.0	327,280
05/04/2019	8.0	42,350	24.0	327,301
05/05/2019	8.0	42,353	24.0	327,352
05/06/2019	8.0	42,322	24.0	327,367
05/07/2019	8.0	42,297	24.0	327,406
05/08/2019	8.0	42,230	24.0	327,106
05/09/2019	8.0	42,302	24.0	327,117
05/10/2019	8.0	42,235	24.0	327,045
05/11/2019	8.0	42,334	24.0	327,220
05/12/2019	8.0	42,349	24.0	327,377
05/13/2019	8.0	42,290	24.0	327,336
05/14/2019	8.0	42,346	24.0	327,354
05/15/2019	8.0	42,343	24.0	327,585
05/16/2019	8.0	42,424	24.0	327,580
05/17/2019	8.0	42,318	24.0	327,617
05/18/2019	8.0	42,314	24.0	327,527
05/19/2019	8.0	42,291	24.0	327,190
05/20/2019	8.0	42,274	24.0	327,349
05/21/2019	8.0	42,319	24.0	327,195
05/22/2019	8.0	42,262	24.0	327,077
05/23/2019	8.0	42,278	24.0	327,042
05/24/2019	8.0	42,174	24.0	326,915
05/25/2019	8.0	42,220	24.0	326,869
05/26/2019	8.0	42,260	24.0	327,093
05/27/2019	8.0	42,171	24.0	326,973
05/28/2019	8.0	42,242	24.0	327,061
05/29/2019	8.0	42,198	24.0	326,949
05/30/2019	8.0	42,210	24.0	326,956
05/31/2019	8.0	42,158	24.0	326,670
Totals:	**248.0**	**1,310,812**	**744.0**	**10,143,537**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
June 2019

Date	Raw Water	Finished Water
06/01/2019	377,238	379,970
06/02/2019	377,357	379,720
06/03/2019	377,182	379,738
06/04/2019	377,445	376,873
06/05/2019	375,350	377,738
06/06/2019	375,492	376,924
06/07/2019	374,966	377,965
06/08/2019	374,816	377,950
06/09/2019	375,833	375,636
06/10/2019	374,434	374,830
06/11/2019	374,903	375,109
06/12/2019	374,906	376,476
06/13/2019	375,609	376,830
06/14/2019	376,070	376,186
06/15/2019	375,819	375,859
06/16/2019	376,008	374,964
06/17/2019	375,251	376,421
06/18/2019	375,500	375,750
06/19/2019	375,534	375,274
06/20/2019	375,020	375,794
06/21/2019	375,067	375,668
06/22/2019	375,002	375,151
06/23/2019	374,932	376,028
06/24/2019	375,368	374,706
06/25/2019	375,323	375,085
06/26/2019	374,898	375,839
06/27/2019	321,022	322,015
06/28/2019	370,743	364,932
06/29/2019	373,081	381,632
06/30/2019	375,859	376,210
Totals:	**11,206,028**	**11,233,274**

Griggs/Walnut Treatment Facility
Well Runtime Hours
June 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
06/01/2019	8.0	42,180	24.0	326,858
06/02/2019	8.0	42,190	24.0	326,870
06/03/2019	8.0	42,140	24.0	326,766
06/04/2019	8.0	42,150	24.0	326,013
06/05/2019	8.0	42,031	24.0	325,139
06/06/2019	8.0	42,057	24.0	325,100
06/07/2019	8.0	41,980	24.0	325,088
06/08/2019	8.0	42,029	24.0	325,083
06/09/2019	8.0	42,006	24.0	324,935
06/10/2019	7.8	41,193	24.0	325,090
06/11/2019	8.0	42,001	24.0	324,915
06/12/2019	8.0	42,063	24.0	325,310
06/13/2019	8.0	42,152	24.0	325,531
06/14/2019	8.0	42,186	24.0	325,489
06/15/2019	8.0	42,138	24.0	325,416
06/16/2019	8.0	42,101	24.0	325,176
06/17/2019	8.0	42,052	24.0	325,182
06/18/2019	8.0	42,103	24.0	325,176
06/19/2019	8.0	42,054	24.0	325,028
06/20/2019	8.0	42,090	24.0	325,038
06/21/2019	8.0	42,022	24.0	324,815
06/22/2019	8.0	42,018	24.0	324,871
06/23/2019	8.0	42,016	24.0	325,006
06/24/2019	8.0	41,978	24.0	324,853
06/25/2019	8.0	42,041	24.0	324,826
06/26/2019	8.0	42,062	24.0	324,868
06/27/2019	5.1	27,127	20.6	279,398
06/28/2019	8.0	42,020	24.0	325,853
06/29/2019	8.0	41,940	24.0	325,688
06/30/2019	8.0	41,933	24.0	325,681
Totals:	**236.9**	**1,246,054**	**716.6**	**9,715,062**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
July 2019

Date	Raw Water	Finished Water
07/01/2019	375,589	376,670
07/02/2019	376,100	376,582
07/03/2019	375,992	376,614
07/04/2019	376,326	375,535
07/05/2019	375,272	377,580
07/06/2019	375,794	376,150
07/07/2019	376,033	375,453
07/08/2019	375,379	376,566
07/09/2019	375,553	376,843
07/10/2019	375,844	376,309
07/11/2019	375,803	376,324
07/12/2019	375,725	375,881
07/13/2019	375,498	375,573
07/14/2019	375,137	376,404
07/15/2019	375,601	375,664
07/16/2019	375,085	376,415
07/17/2019	375,261	374,089
07/18/2019	374,999	374,505
07/19/2019	374,470	375,492
07/20/2019	374,819	375,388
07/21/2019	374,625	374,773
07/22/2019	374,156	376,215
07/23/2019	374,954	374,690
07/24/2019	373,980	376,136
07/25/2019	374,862	375,001
07/26/2019	374,592	375,264
07/27/2019	374,220	375,353
07/28/2019	372,525	371,142
07/29/2019	371,336	370,141
07/30/2019	373,162	379,676
07/31/2019	375,224	379,936
Totals:	**11,623,915**	**11,648,363**

Griggs/Walnut Treatment Facility
Well Runtime Hours
July 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
07/01/2019	8.0	42,002	24.0	325,738
07/02/2019	8.0	41,990	24.0	325,587
07/03/2019	8.0	41,987	24.0	325,662
07/04/2019	8.0	41,936	24.0	325,572
07/05/2019	8.0	41,929	24.0	325,488
07/06/2019	8.0	41,922	24.0	325,415
07/07/2019	8.0	41,891	24.0	325,408
07/08/2019	8.0	41,971	24.0	325,330
07/09/2019	8.0	41,969	24.0	325,423
07/10/2019	8.0	41,976	24.0	325,473
07/11/2019	8.0	41,991	24.0	325,433
07/12/2019	8.0	41,976	24.0	325,294
07/13/2019	8.0	41,949	24.0	325,341
07/14/2019	8.0	41,954	24.0	325,322
07/15/2019	8.0	41,998	24.0	325,459
07/16/2019	8.0	42,004	24.0	325,185
07/17/2019	8.0	41,994	24.0	324,432
07/18/2019	8.0	41,995	24.0	324,457
07/19/2019	8.0	41,988	24.0	324,474
07/20/2019	8.0	41,970	24.0	324,375
07/21/2019	8.0	41,922	24.0	324,325
07/22/2019	8.0	41,950	24.0	324,199
07/23/2019	8.0	41,954	24.0	324,529
07/24/2019	8.0	41,979	24.0	324,479
07/25/2019	8.0	41,974	24.0	324,391
07/26/2019	8.0	41,963	24.0	324,406
07/27/2019	8.0	41,936	24.0	324,321
07/28/2019	8.0	41,875	23.2	314,387
07/29/2019	8.0	41,923	24.0	325,310
07/30/2019	8.0	41,946	24.0	325,188
07/31/2019	8.0	41,971	24.0	325,547
Totals:	**248.0**	**1,300,784**	**743.2**	**10,065,948**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
August 2019

Date	Raw Water	Finished Water
08/01/2019	375,810	379,018
08/02/2019	375,396	379,060
08/03/2019	358,697	359,547
08/04/2019	369,023	370,110
08/05/2019	374,174	379,210
08/06/2019	375,982	376,610
08/07/2019	376,018	377,006
08/08/2019	376,070	377,167
08/09/2019	375,783	378,931
08/10/2019	375,764	378,022
08/11/2019	376,518	377,362
08/12/2019	375,563	378,881
08/13/2019	376,189	377,718
08/14/2019	375,673	377,793
08/15/2019	373,475	383,673
08/16/2019	377,709	372,803
08/17/2019	375,594	378,550
08/18/2019	375,809	379,562
08/19/2019	375,687	378,590
08/20/2019	375,223	379,922
08/21/2019	375,338	378,991
08/22/2019	374,985	379,489
08/23/2019	330,904	337,361
08/24/2019	107,339	98,766
08/25/2019	373,010	381,333
08/26/2019	375,627	384,404
08/27/2019	375,643	383,672
08/28/2019	375,687	383,114
08/29/2019	375,269	382,732
08/30/2019	375,315	382,183
08/31/2019	374,848	382,535
Totals:	**11,304,121**	**11,414,115**

Griggs/Walnut Treatment Facility
Well Runtime Hours
August 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
08/01/2019	8.0	41,954	24.0	325,497
08/02/2019	8.0	41,933	24.0	325,286
08/03/2019	8.0	41,972	22.2	301,583
08/04/2019	8.0	41,924	24.0	325,894
08/05/2019	8.0	41,940	24.0	325,718
08/06/2019	8.0	41,991	24.0	325,879
08/07/2019	8.0	41,993	24.0	325,861
08/08/2019	8.0	41,982	24.0	325,792
08/09/2019	8.0	41,963	24.0	325,636
08/10/2019	8.0	41,956	24.0	325,606
08/11/2019	8.0	41,952	24.0	325,636
08/12/2019	8.0	41,999	24.0	325,591
08/13/2019	8.0	41,960	24.0	325,572
08/14/2019	8.0	41,891	24.0	325,397
08/15/2019	8.0	41,923	24.0	325,374
08/16/2019	8.0	41,908	24.0	325,392
08/17/2019	8.0	41,908	24.0	325,331
08/18/2019	8.0	41,887	24.0	325,289
08/19/2019	8.0	41,827	24.0	325,163
08/20/2019	8.0	41,840	24.0	325,147
08/21/2019	8.0	41,803	24.0	325,140
08/22/2019	8.0	41,829	24.0	324,985
08/23/2019	8.0	41,818	20.9	282,792
08/24/2019	0.0	0	7.3	98,945
08/25/2019	8.0	41,921	24.0	325,796
08/26/2019	8.0	41,947	24.0	325,779
08/27/2019	8.0	41,911	24.0	325,603
08/28/2019	8.0	41,874	24.0	325,538
08/29/2019	8.0	41,873	24.0	325,444
08/30/2019	8.0	41,797	24.0	325,331
08/31/2019	8.0	41,834	24.0	325,130
Totals:	**240.0**	**1,257,308**	**722.4**	**9,797,126**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
September 2019

Date	Raw Water	Finished Water
09/01/2019	374,971	382,726
09/02/2019	374,919	381,772
09/03/2019	374,945	383,516
09/04/2019	375,376	382,020
09/05/2019	374,014	378,206
09/06/2019	370,900	378,194
09/07/2019	371,560	378,117
09/08/2019	371,109	377,757
09/09/2019	263,066	283,092
09/10/2019	376,952	377,315
09/11/2019	375,734	379,157
09/12/2019	375,871	379,039
09/13/2019	375,180	379,660
09/14/2019	375,136	379,893
09/15/2019	375,877	379,431
09/16/2019	375,617	380,763
09/17/2019	364,411	373,037
09/18/2019	381,905	373,792
09/19/2019	372,797	385,694
09/20/2019	375,763	380,761
09/21/2019	376,789	378,491
09/22/2019	375,396	380,858
09/23/2019	376,323	379,130
09/24/2019	375,725	379,708
09/25/2019	375,877	379,156
09/26/2019	375,988	379,043
09/27/2019	375,940	379,106
09/28/2019	376,191	378,918
09/29/2019	375,607	379,989
09/30/2019	393,714	393,961
Totals:	**11,153,650**	**11,302,301**

Griggs/Walnut Treatment Facility
Well Runtime Hours
September 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
09/01/2019	8.0	41,804	24.0	325,097
09/02/2019	8.0	41,755	24.0	324,993
09/03/2019	8.0	41,826	24.0	325,266
09/04/2019	8.0	41,810	24.0	325,028
09/05/2019	8.0	41,773	24.0	323,085
09/06/2019	8.0	41,846	24.0	321,017
09/07/2019	8.0	41,895	24.0	321,053
09/08/2019	8.0	41,966	24.0	321,122
09/09/2019	7.8	41,328	16.3	220,515
09/10/2019	8.0	42,039	24.0	325,237
09/11/2019	8.0	41,972	24.0	325,109
09/12/2019	8.0	41,993	24.0	325,134
09/13/2019	8.0	41,961	24.0	325,262
09/14/2019	8.0	41,994	24.0	325,242
09/15/2019	8.0	42,013	24.0	325,390
09/16/2019	8.0	42,057	24.0	325,575
09/17/2019	7.8	41,261	23.3	316,632
09/18/2019	8.0	42,136	24.0	325,667
09/19/2019	8.0	42,124	24.0	325,788
09/20/2019	8.0	42,081	24.0	325,746
09/21/2019	8.0	42,056	24.0	325,596
09/22/2019	8.0	42,033	24.0	325,574
09/23/2019	8.0	42,029	24.0	325,496
09/24/2019	8.0	42,047	24.0	325,469
09/25/2019	8.0	42,001	24.0	325,337
09/26/2019	8.0	41,994	24.0	325,341
09/27/2019	8.0	41,998	24.0	325,415
09/28/2019	8.0	41,973	24.0	325,158
09/29/2019	8.0	41,985	24.0	325,385
09/30/2019	8.0	41,970	24.0	334,254
Totals:	**239.6**	**1,257,721**	**711.6**	**9,640,983**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
October 2019

Date	Raw Water	Finished Water
10/01/2019	393,410	405,579
10/02/2019	398,610	398,392
10/03/2019	392,635	406,221
10/04/2019	400,556	397,554
10/05/2019	392,220	405,512
10/06/2019	400,228	398,264
10/07/2019	392,830	404,962
10/08/2019	399,211	398,618
10/09/2019	393,315	405,487
10/10/2019	400,931	397,657
10/11/2019	391,436	405,560
10/12/2019	399,227	397,708
10/13/2019	398,224	401,649
10/14/2019	394,925	402,436
10/15/2019	399,532	405,345
10/16/2019	391,232	400,926
10/17/2019	401,669	404,472
10/18/2019	393,447	400,617
10/19/2019	400,292	403,791
10/20/2019	392,947	401,139
10/21/2019	399,319	404,888
10/22/2019	393,301	400,097
10/23/2019	400,025	404,487
10/24/2019	351,047	325,200
10/25/2019	404,858	405,081
10/26/2019	396,673	400,546
10/27/2019	400,273	406,373
10/28/2019	394,618	401,508
10/29/2019	401,071	406,609
10/30/2019	395,335	401,838
10/31/2019	399,970	405,937
Totals:	**12,263,364**	**12,404,454**

Griggs/Walnut Treatment Facility
Well Runtime Hours
October 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
10/01/2019	8.0	41,974	24.0	345,095
10/02/2019	8.0	41,904	24.0	344,939
10/03/2019	8.0	41,930	24.0	344,805
10/04/2019	8.0	41,945	24.0	344,979
10/05/2019	8.0	41,947	24.0	344,913
10/06/2019	8.0	41,967	24.0	344,991
10/07/2019	8.0	41,978	24.0	344,983
10/08/2019	8.0	42,004	24.0	345,011
10/09/2019	8.0	42,004	24.0	345,131
10/10/2019	8.0	41,991	24.0	345,159
10/11/2019	8.0	41,926	24.0	344,778
10/12/2019	8.0	41,964	24.0	344,867
10/13/2019	8.0	42,012	24.0	345,270
10/14/2019	8.0	41,978	24.0	345,463
10/15/2019	8.0	42,009	24.0	345,413
10/16/2019	8.0	41,952	24.0	345,220
10/17/2019	8.0	42,013	24.0	345,304
10/18/2019	8.0	42,025	24.0	345,364
10/19/2019	8.0	41,979	24.0	345,163
10/20/2019	8.0	42,045	24.0	345,438
10/21/2019	8.0	41,996	24.0	345,178
10/22/2019	8.0	41,994	24.0	345,083
10/23/2019	8.0	42,021	24.0	345,042
10/24/2019	5.8	30,739	19.4	280,409
10/25/2019	8.0	41,998	24.0	346,246
10/26/2019	8.0	42,077	24.0	346,460
10/27/2019	8.0	42,132	24.0	346,622
10/28/2019	8.0	42,097	24.0	346,379
10/29/2019	8.0	42,142	24.0	346,566
10/30/2019	8.0	42,079	24.0	346,334
10/31/2019	8.0	42,116	24.0	346,256
Totals:	**245.8**	**1,290,938**	**739.4**	**10,642,861**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
November 2019

Date	Raw Water	Finished Water
11/01/2019	395,785	402,211
11/02/2019	399,775	405,879
11/03/2019	401,775	411,088
11/04/2019	395,303	412,047
11/05/2019	399,297	397,503
11/06/2019	405,548	414,052
11/07/2019	396,141	400,889
11/08/2019	390,549	404,852
11/09/2019	384,881	386,831
11/10/2019	389,128	402,062
11/11/2019	389,899	391,593
11/12/2019	390,831	403,218
11/13/2019	389,107	390,653
11/14/2019	388,706	400,441
11/15/2019	390,108	391,611
11/16/2019	389,978	401,487
11/17/2019	389,418	391,375
11/18/2019	389,542	400,464
11/19/2019	389,958	391,311
11/20/2019	390,115	402,364
11/21/2019	388,968	391,030
11/22/2019	391,313	402,935
11/23/2019	388,665	389,733
11/24/2019	391,935	404,442
11/25/2019	388,576	390,150
11/26/2019	392,528	404,116
11/27/2019	388,273	390,023
11/28/2019	390,988	402,202
11/29/2019	390,010	390,563
11/30/2019	389,818	405,099
Totals:	**11,756,917**	**11,972,223**

Griggs/Walnut Treatment Facility
Well Runtime Hours
November 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
11/01/2019	8.0	42,224	24.0	346,460
11/02/2019	8.0	42,171	24.0	346,418
11/03/2019	8.0	42,154	25.0	360,815
11/04/2019	8.0	42,154	24.0	346,391
11/05/2019	8.0	42,182	24.0	346,365
11/06/2019	8.0	42,182	24.0	346,208
11/07/2019	8.0	42,144	24.0	346,313
11/08/2019	8.0	42,085	24.0	342,481
11/09/2019	8.0	42,160	24.0	338,000
11/10/2019	8.0	42,214	24.0	338,666
11/11/2019	8.0	42,250	24.0	338,876
11/12/2019	8.0	42,340	24.0	338,812
11/13/2019	8.0	42,323	24.0	338,592
11/14/2019	8.0	42,205	24.0	338,279
11/15/2019	8.0	42,229	24.0	338,594
11/16/2019	8.0	42,216	24.0	338,585
11/17/2019	8.0	42,260	24.0	338,700
11/18/2019	8.0	42,248	24.0	338,439
11/19/2019	8.0	42,301	24.0	338,521
11/20/2019	8.0	42,320	24.0	338,509
11/21/2019	8.0	42,328	24.0	338,347
11/22/2019	8.0	42,350	24.0	338,585
11/23/2019	8.0	42,353	24.0	338,723
11/24/2019	8.0	42,450	24.0	338,945
11/25/2019	8.0	42,422	24.0	338,854
11/26/2019	8.0	42,456	24.0	338,856
11/27/2019	8.0	42,432	24.0	338,919
11/28/2019	8.0	42,419	24.0	338,789
11/29/2019	8.0	42,401	24.0	338,663
11/30/2019	8.0	42,410	24.0	338,749
Totals:	**240.0**	**1,268,384**	**721.0**	**10,231,451**

Griggs/Walnut Treatment Facility
Raw and Finished Water Daily Gallons
December 2019

Date	Raw Water	Finished Water
12/01/2019	389,769	393,699
12/02/2019	390,412	404,685
12/03/2019	389,437	393,991
12/04/2019	391,256	405,298
12/05/2019	388,340	392,870
12/06/2019	391,339	405,433
12/07/2019	388,684	391,229
12/08/2019	390,059	406,537
12/09/2019	389,553	392,587
12/10/2019	385,908	397,531
12/11/2019	387,332	387,774
12/12/2019	386,646	392,849
12/13/2019	397,725	406,894
12/14/2019	398,622	408,737
12/15/2019	393,844	403,756
12/16/2019	399,470	407,810
12/17/2019	392,298	403,615
12/18/2019	400,135	408,026
12/19/2019	394,556	402,981
12/20/2019	401,010	407,603
12/21/2019	392,846	403,410
12/22/2019	400,227	407,885
12/23/2019	394,205	403,057
12/24/2019	399,565	407,839
12/25/2019	396,159	403,396
12/26/2019	400,544	408,176
12/27/2019	392,759	403,682
12/28/2019	397,146	408,454
12/29/2019	389,682	399,094
12/30/2019	396,826	405,138
12/31/2019	398,775	396,292
Totals:	**12,205,127**	**12,460,328**

Griggs/Walnut Treatment Facility
Well Runtime Hours
December 2019

	Well 18		Well 27	
Date	**Hours**	**Total Gallons**	**Hours**	**Total Gallons**
12/01/2019	8.0	42,403	24.0	338,612
12/02/2019	8.0	42,417	24.0	338,469
12/03/2019	8.0	42,431	24.0	338,726
12/04/2019	8.0	42,346	24.0	338,558
12/05/2019	8.0	42,376	24.0	338,510
12/06/2019	8.0	42,369	24.0	338,574
12/07/2019	8.0	42,399	24.0	338,718
12/08/2019	8.0	42,407	24.0	338,886
12/09/2019	8.0	42,407	24.0	338,474
12/10/2019	8.0	42,468	24.0	334,673
12/11/2019	8.0	42,416	24.0	334,322
12/12/2019	8.0	42,532	23.0	326,545
12/13/2019	8.0	42,453	24.0	345,553
12/14/2019	8.0	42,489	24.0	345,772
12/15/2019	8.0	42,466	24.0	345,784
12/16/2019	8.0	42,441	24.0	345,464
12/17/2019	8.0	42,413	24.0	345,325
12/18/2019	8.0	42,481	24.0	345,334
12/19/2019	8.0	42,537	24.0	345,588
12/20/2019	8.0	42,516	24.0	345,392
12/21/2019	8.0	42,489	24.0	345,325
12/22/2019	8.0	42,481	24.0	345,436
12/23/2019	8.0	42,519	24.0	345,366
12/24/2019	8.0	42,539	24.0	345,586
12/25/2019	8.0	42,629	24.0	345,828
12/26/2019	8.0	42,565	24.0	345,635
12/27/2019	8.0	42,587	24.0	345,543
12/28/2019	8.0	42,481	24.0	345,412
12/29/2019	8.0	42,611	24.0	345,594
12/30/2019	8.0	42,583	24.0	345,436
12/31/2019	8.0	42,598	24.0	345,425
Totals:	**248.0**	**1,316,847**	**743.0**	**10,607,862**

Appendix E

Laboratory Reports for Remediation System Sampling

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 09, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: JSP Joint Superfund Project Monthly Analysis OrderNo.: 1901123

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 1/4/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-190103
Project: JSP Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:24:00 AM
Lab ID: 1901123-001 **Matrix:** AIR
Received Date: 1/4/2019 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Toluene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Ethylbenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Naphthalene	ND	0.20		µg/L	1	1/8/2019 12:00:58 PM	R56845
1-Methylnaphthalene	ND	0.40		µg/L	1	1/8/2019 12:00:58 PM	R56845
2-Methylnaphthalene	ND	0.40		µg/L	1	1/8/2019 12:00:58 PM	R56845
Acetone	ND	1.0		µg/L	1	1/8/2019 12:00:58 PM	R56845
Bromobenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Bromodichloromethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Bromoform	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Bromomethane	ND	0.20		µg/L	1	1/8/2019 12:00:58 PM	R56845
2-Butanone	ND	1.0		µg/L	1	1/8/2019 12:00:58 PM	R56845
Carbon disulfide	ND	1.0		µg/L	1	1/8/2019 12:00:58 PM	R56845
Carbon tetrachloride	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Chlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Chloroethane	ND	0.20		µg/L	1	1/8/2019 12:00:58 PM	R56845
Chloroform	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Chloromethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
2-Chlorotoluene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
4-Chlorotoluene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
cis-1,2-DCE	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	1/8/2019 12:00:58 PM	R56845
Dibromochloromethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Dibromomethane	ND	0.20		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,2-Dichlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,3-Dichlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,4-Dichlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Dichlorodifluoromethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,1-Dichloroethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,1-Dichloroethene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,2-Dichloropropane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,3-Dichloropropane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
2,2-Dichloropropane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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Lab ID: 1901123-001 **Matrix:** AIR
Received Date: 1/4/2019 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Hexachlorobutadiene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
2-Hexanone	ND	1.0		µg/L	1	1/8/2019 12:00:58 PM	R56845
Isopropylbenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
4-Isopropyltoluene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
4-Methyl-2-pentanone	ND	1.0		µg/L	1	1/8/2019 12:00:58 PM	R56845
Methylene chloride	ND	0.30		µg/L	1	1/8/2019 12:00:58 PM	R56845
n-Butylbenzene	ND	0.30		µg/L	1	1/8/2019 12:00:58 PM	R56845
n-Propylbenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
sec-Butylbenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Styrene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
tert-Butylbenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Tetrachloroethene (PCE)	0.12	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
trans-1,2-DCE	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,1,1-Trichloroethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,1,2-Trichloroethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Trichloroethene (TCE)	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Trichlorofluoromethane	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
1,2,3-Trichloropropane	ND	0.20		µg/L	1	1/8/2019 12:00:58 PM	R56845
Vinyl chloride	ND	0.10		µg/L	1	1/8/2019 12:00:58 PM	R56845
Xylenes, Total	ND	0.15		µg/L	1	1/8/2019 12:00:58 PM	R56845
Surr: Dibromofluoromethane	107	70-130		%Rec	1	1/8/2019 12:00:58 PM	R56845
Surr: 1,2-Dichloroethane-d4	94.6	70-130		%Rec	1	1/8/2019 12:00:58 PM	R56845
Surr: Toluene-d8	97.1	70-130		%Rec	1	1/8/2019 12:00:58 PM	R56845
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	1/8/2019 12:00:58 PM	R56845

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS2-190103
Project: JSP Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:27:00 AM
Lab ID: 1901123-002 **Matrix:** AIR
Received Date: 1/4/2019 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Toluene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Ethylbenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Naphthalene	ND	0.20		µg/L	1	1/8/2019 12:29:53 PM	R56845
1-Methylnaphthalene	ND	0.40		µg/L	1	1/8/2019 12:29:53 PM	R56845
2-Methylnaphthalene	ND	0.40		µg/L	1	1/8/2019 12:29:53 PM	R56845
Acetone	ND	1.0		µg/L	1	1/8/2019 12:29:53 PM	R56845
Bromobenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Bromodichloromethane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Bromoform	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Bromomethane	ND	0.20		µg/L	1	1/8/2019 12:29:53 PM	R56845
2-Butanone	ND	1.0		µg/L	1	1/8/2019 12:29:53 PM	R56845
Carbon disulfide	ND	1.0		µg/L	1	1/8/2019 12:29:53 PM	R56845
Carbon tetrachloride	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Chlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
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cis-1,3-Dichloropropene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
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Dibromomethane	ND	0.20		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,2-Dichlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
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1,4-Dichlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Dichlorodifluoromethane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,1-Dichloroethane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,1-Dichloroethene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,2-Dichloropropane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,3-Dichloropropane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
2,2-Dichloropropane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845

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1,1-Dichloropropene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Hexachlorobutadiene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
2-Hexanone	ND	1.0		µg/L	1	1/8/2019 12:29:53 PM	R56845
Isopropylbenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
4-Isopropyltoluene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
4-Methyl-2-pentanone	ND	1.0		µg/L	1	1/8/2019 12:29:53 PM	R56845
Methylene chloride	ND	0.30		µg/L	1	1/8/2019 12:29:53 PM	R56845
n-Butylbenzene	ND	0.30		µg/L	1	1/8/2019 12:29:53 PM	R56845
n-Propylbenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
sec-Butylbenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Styrene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
tert-Butylbenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Tetrachloroethene (PCE)	0.13	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
trans-1,2-DCE	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,1,1-Trichloroethane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,1,2-Trichloroethane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Trichloroethene (TCE)	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Trichlorofluoromethane	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
1,2,3-Trichloropropane	ND	0.20		µg/L	1	1/8/2019 12:29:53 PM	R56845
Vinyl chloride	ND	0.10		µg/L	1	1/8/2019 12:29:53 PM	R56845
Xylenes, Total	ND	0.15		µg/L	1	1/8/2019 12:29:53 PM	R56845
Surr: Dibromofluoromethane	108	70-130		%Rec	1	1/8/2019 12:29:53 PM	R56845
Surr: 1,2-Dichloroethane-d4	95.5	70-130		%Rec	1	1/8/2019 12:29:53 PM	R56845
Surr: Toluene-d8	98.0	70-130		%Rec	1	1/8/2019 12:29:53 PM	R56845
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	1/8/2019 12:29:53 PM	R56845

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1901123 RcptNo: 1

Received By: **Anne Thorne** 1/4/2018 8:40:00 AM Anne Thorne

Completed By: **Anne Thorne** 1/4/2019 1:15:50 PM Anne Thorne

Reviewed By: ~~1/4/18~~ 1/4/19 MB

Labeled by: AT 01/04/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

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**

Chain-of-Custody Record

Client: City of Las Cruces Water Quality Laboratory
Mailing Address: P.O. Box 20000 Las Cruces N.M. 88004
Phone #: 575-528-3604
email or Fax#: 575-528-3630; 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: JSP-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: AF 01104/19

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 (AF 01104/19)	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1901123	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
01-03-19	0824	AIR	CLC AS1-190103	Tedlar Bag	None	001										X		
01-03-19	0827	AIR	CLC AS2-190103	Tedlar Bag	None	002										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
01-03-19	1500	Yadira Reyna		01/04/19	0840
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
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: www.hallenvironmental.com

January 08, 2019

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.: 1901130

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 1/4/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:08:00 AM
Lab ID: 1901130-001
Matrix: AQUEOUS
Received Date: 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Toluene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Ethylbenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Naphthalene	ND	2.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
2-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Acetone	ND	10		µg/L	1	1/5/2019 2:07:00 AM	B56767
Bromobenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Bromodichloromethane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Bromoform	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Bromomethane	ND	3.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
2-Butanone	ND	10		µg/L	1	1/5/2019 2:07:00 AM	B56767
Carbon disulfide	ND	10		µg/L	1	1/5/2019 2:07:00 AM	B56767
Carbon Tetrachloride	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Chlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Chloroethane	ND	2.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Chloroform	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Chloromethane	ND	3.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
2-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
4-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
cis-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Dibromochloromethane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Dibromomethane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,1-Dichloroethane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,1-Dichloroethene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,2-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,3-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
2,2-Dichloropropane	ND	2.0		µg/L	1	1/5/2019 2:07:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:08:00 AM
Lab ID: 1901130-001 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Hexachlorobutadiene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
2-Hexanone	ND	10		µg/L	1	1/5/2019 2:07:00 AM	B56767
Isopropylbenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
4-Isopropyltoluene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
4-Methyl-2-pentanone	ND	10		µg/L	1	1/5/2019 2:07:00 AM	B56767
Methylene Chloride	ND	3.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
n-Butylbenzene	ND	3.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
n-Propylbenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
sec-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Styrene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
tert-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Tetrachloroethene (PCE)	7.6	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
trans-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Trichlorofluoromethane	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Vinyl chloride	ND	1.0		µg/L	1	1/5/2019 2:07:00 AM	B56767
Xylenes, Total	ND	1.5		µg/L	1	1/5/2019 2:07:00 AM	B56767
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	1/5/2019 2:07:00 AM	B56767
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	1/5/2019 2:07:00 AM	B56767
Surr: Dibromofluoromethane	112	70-130		%Rec	1	1/5/2019 2:07:00 AM	B56767
Surr: Toluene-d8	95.2	70-130		%Rec	1	1/5/2019 2:07:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 27-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:37:00 AM
Lab ID: 1901130-002
Matrix: AQUEOUS
Received Date: 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Toluene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Ethylbenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Naphthalene	ND	2.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
2-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Acetone	ND	10		µg/L	1	1/5/2019 2:31:00 AM	B56767
Bromobenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Bromodichloromethane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Bromoform	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Bromomethane	ND	3.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
2-Butanone	ND	10		µg/L	1	1/5/2019 2:31:00 AM	B56767
Carbon disulfide	ND	10		µg/L	1	1/5/2019 2:31:00 AM	B56767
Carbon Tetrachloride	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Chlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Chloroethane	ND	2.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Chloroform	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Chloromethane	ND	3.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
2-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
4-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
cis-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Dibromochloromethane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Dibromomethane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,1-Dichloroethane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,1-Dichloroethene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,2-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,3-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
2,2-Dichloropropane	ND	2.0		µg/L	1	1/5/2019 2:31:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 27-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:37:00 AM
Lab ID: 1901130-002 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Hexachlorobutadiene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
2-Hexanone	ND	10		µg/L	1	1/5/2019 2:31:00 AM	B56767
Isopropylbenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
4-Isopropyltoluene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
4-Methyl-2-pentanone	ND	10		µg/L	1	1/5/2019 2:31:00 AM	B56767
Methylene Chloride	ND	3.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
n-Butylbenzene	ND	3.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
n-Propylbenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
sec-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Styrene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
tert-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Tetrachloroethene (PCE)	15	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
trans-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Trichlorofluoromethane	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Vinyl chloride	ND	1.0		µg/L	1	1/5/2019 2:31:00 AM	B56767
Xylenes, Total	ND	1.5		µg/L	1	1/5/2019 2:31:00 AM	B56767
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	1/5/2019 2:31:00 AM	B56767
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	1/5/2019 2:31:00 AM	B56767
Surr: Dibromofluoromethane	112	70-130		%Rec	1	1/5/2019 2:31:00 AM	B56767
Surr: Toluene-d8	95.9	70-130		%Rec	1	1/5/2019 2:31:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 27-190103 Dup
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:38:00 AM
Lab ID: 1901130-003 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Toluene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Ethylbenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Naphthalene	ND	2.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
2-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Acetone	ND	10		µg/L	1	1/5/2019 2:55:00 AM	B56767
Bromobenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Bromodichloromethane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Bromoform	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Bromomethane	ND	3.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
2-Butanone	ND	10		µg/L	1	1/5/2019 2:55:00 AM	B56767
Carbon disulfide	ND	10		µg/L	1	1/5/2019 2:55:00 AM	B56767
Carbon Tetrachloride	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Chlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Chloroethane	ND	2.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Chloroform	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Chloromethane	ND	3.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
2-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
4-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
cis-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Dibromochloromethane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Dibromomethane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,1-Dichloroethane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,1-Dichloroethene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,2-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,3-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
2,2-Dichloropropane	ND	2.0		µg/L	1	1/5/2019 2:55:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 27-190103 Dup
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:38:00 AM
Lab ID: 1901130-003 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Hexachlorobutadiene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
2-Hexanone	ND	10		µg/L	1	1/5/2019 2:55:00 AM	B56767
Isopropylbenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
4-Isopropyltoluene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
4-Methyl-2-pentanone	ND	10		µg/L	1	1/5/2019 2:55:00 AM	B56767
Methylene Chloride	ND	3.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
n-Butylbenzene	ND	3.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
n-Propylbenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
sec-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Styrene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
tert-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Tetrachloroethene (PCE)	15	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
trans-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Trichlorofluoromethane	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Vinyl chloride	ND	1.0		µg/L	1	1/5/2019 2:55:00 AM	B56767
Xylenes, Total	ND	1.5		µg/L	1	1/5/2019 2:55:00 AM	B56767
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	1/5/2019 2:55:00 AM	B56767
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	1/5/2019 2:55:00 AM	B56767
Surr: Dibromofluoromethane	109	70-130		%Rec	1	1/5/2019 2:55:00 AM	B56767
Surr: Toluene-d8	97.3	70-130		%Rec	1	1/5/2019 2:55:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC IS1-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:13:00 AM
Lab ID: 1901130-004
Matrix: AQUEOUS
Received Date: 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Toluene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Ethylbenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Naphthalene	ND	2.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
2-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Acetone	ND	10		µg/L	1	1/5/2019 3:19:00 AM	B56767
Bromobenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Bromodichloromethane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Bromoform	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Bromomethane	ND	3.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
2-Butanone	ND	10		µg/L	1	1/5/2019 3:19:00 AM	B56767
Carbon disulfide	ND	10		µg/L	1	1/5/2019 3:19:00 AM	B56767
Carbon Tetrachloride	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Chlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Chloroethane	ND	2.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Chloroform	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Chloromethane	ND	3.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
2-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
4-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
cis-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Dibromochloromethane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Dibromomethane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,1-Dichloroethane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,1-Dichloroethene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,2-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,3-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
2,2-Dichloropropane	ND	2.0		µg/L	1	1/5/2019 3:19:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC IS1-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:13:00 AM
Lab ID: 1901130-004 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Hexachlorobutadiene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
2-Hexanone	ND	10		µg/L	1	1/5/2019 3:19:00 AM	B56767
Isopropylbenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
4-Isopropyltoluene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
4-Methyl-2-pentanone	ND	10		µg/L	1	1/5/2019 3:19:00 AM	B56767
Methylene Chloride	ND	3.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
n-Butylbenzene	ND	3.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
n-Propylbenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
sec-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Styrene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
tert-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Tetrachloroethene (PCE)	12	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
trans-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Trichlorofluoromethane	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Vinyl chloride	ND	1.0		µg/L	1	1/5/2019 3:19:00 AM	B56767
Xylenes, Total	ND	1.5		µg/L	1	1/5/2019 3:19:00 AM	B56767
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	1/5/2019 3:19:00 AM	B56767
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	1/5/2019 3:19:00 AM	B56767
Surr: Dibromofluoromethane	108	70-130		%Rec	1	1/5/2019 3:19:00 AM	B56767
Surr: Toluene-d8	96.1	70-130		%Rec	1	1/5/2019 3:19:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC C1-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:15:00 AM
Lab ID: 1901130-005 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Toluene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Ethylbenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Naphthalene	ND	2.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
2-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Acetone	ND	10		µg/L	1	1/5/2019 3:43:00 AM	B56767
Bromobenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Bromodichloromethane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Bromoform	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Bromomethane	ND	3.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
2-Butanone	ND	10		µg/L	1	1/5/2019 3:43:00 AM	B56767
Carbon disulfide	ND	10		µg/L	1	1/5/2019 3:43:00 AM	B56767
Carbon Tetrachloride	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Chlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Chloroethane	ND	2.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Chloroform	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Chloromethane	ND	3.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
2-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
4-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
cis-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Dibromochloromethane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Dibromomethane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,1-Dichloroethane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,1-Dichloroethene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,2-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,3-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
2,2-Dichloropropane	ND	2.0		µg/L	1	1/5/2019 3:43:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC C1-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:15:00 AM
Lab ID: 1901130-005 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Hexachlorobutadiene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
2-Hexanone	ND	10		µg/L	1	1/5/2019 3:43:00 AM	B56767
Isopropylbenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
4-Isopropyltoluene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
4-Methyl-2-pentanone	ND	10		µg/L	1	1/5/2019 3:43:00 AM	B56767
Methylene Chloride	ND	3.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
n-Butylbenzene	ND	3.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
n-Propylbenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
sec-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Styrene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
tert-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
trans-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Trichlorofluoromethane	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Vinyl chloride	ND	1.0		µg/L	1	1/5/2019 3:43:00 AM	B56767
Xylenes, Total	ND	1.5		µg/L	1	1/5/2019 3:43:00 AM	B56767
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	1/5/2019 3:43:00 AM	B56767
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	1/5/2019 3:43:00 AM	B56767
Surr: Dibromofluoromethane	108	70-130		%Rec	1	1/5/2019 3:43:00 AM	B56767
Surr: Toluene-d8	96.3	70-130		%Rec	1	1/5/2019 3:43:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC C2-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:19:00 AM
Lab ID: 1901130-006 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Toluene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Ethylbenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Naphthalene	ND	2.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
2-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Acetone	ND	10		µg/L	1	1/5/2019 4:06:00 AM	B56767
Bromobenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Bromodichloromethane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Bromoform	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Bromomethane	ND	3.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
2-Butanone	ND	10		µg/L	1	1/5/2019 4:06:00 AM	B56767
Carbon disulfide	ND	10		µg/L	1	1/5/2019 4:06:00 AM	B56767
Carbon Tetrachloride	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Chlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Chloroethane	ND	2.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Chloroform	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Chloromethane	ND	3.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
2-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
4-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
cis-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Dibromochloromethane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Dibromomethane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,1-Dichloroethane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,1-Dichloroethene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,2-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,3-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
2,2-Dichloropropane	ND	2.0		µg/L	1	1/5/2019 4:06:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC C2-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:19:00 AM
Lab ID: 1901130-006 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Hexachlorobutadiene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
2-Hexanone	ND	10		µg/L	1	1/5/2019 4:06:00 AM	B56767
Isopropylbenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
4-Isopropyltoluene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
4-Methyl-2-pentanone	ND	10		µg/L	1	1/5/2019 4:06:00 AM	B56767
Methylene Chloride	ND	3.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
n-Butylbenzene	ND	3.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
n-Propylbenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
sec-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Styrene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
tert-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
trans-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Trichlorofluoromethane	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Vinyl chloride	ND	1.0		µg/L	1	1/5/2019 4:06:00 AM	B56767
Xylenes, Total	ND	1.5		µg/L	1	1/5/2019 4:06:00 AM	B56767
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	1/5/2019 4:06:00 AM	B56767
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	1/5/2019 4:06:00 AM	B56767
Surr: Dibromofluoromethane	111	70-130		%Rec	1	1/5/2019 4:06:00 AM	B56767
Surr: Toluene-d8	95.9	70-130		%Rec	1	1/5/2019 4:06:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC ES1-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:21:00 AM
Lab ID: 1901130-007 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Toluene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Ethylbenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Naphthalene	ND	2.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
2-Methylnaphthalene	ND	4.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Acetone	ND	10		µg/L	1	1/5/2019 4:30:00 AM	B56767
Bromobenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Bromodichloromethane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Bromoform	4.9	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Bromomethane	ND	3.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
2-Butanone	ND	10		µg/L	1	1/5/2019 4:30:00 AM	B56767
Carbon disulfide	ND	10		µg/L	1	1/5/2019 4:30:00 AM	B56767
Carbon Tetrachloride	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Chlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Chloroethane	ND	2.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Chloroform	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Chloromethane	ND	3.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
2-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
4-Chlorotoluene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
cis-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Dibromochloromethane	2.0	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Dibromomethane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,1-Dichloroethane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,1-Dichloroethene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,2-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,3-Dichloropropane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
2,2-Dichloropropane	ND	2.0		µg/L	1	1/5/2019 4:30:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC ES1-190103
Project: CLC Joint Superfund Project Monthly An
Collection Date: 1/3/2019 8:21:00 AM
Lab ID: 1901130-007 **Matrix:** AQUEOUS **Received Date:** 1/4/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Hexachlorobutadiene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
2-Hexanone	ND	10		µg/L	1	1/5/2019 4:30:00 AM	B56767
Isopropylbenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
4-Isopropyltoluene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
4-Methyl-2-pentanone	ND	10		µg/L	1	1/5/2019 4:30:00 AM	B56767
Methylene Chloride	ND	3.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
n-Butylbenzene	ND	3.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
n-Propylbenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
sec-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Styrene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
tert-Butylbenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
trans-1,2-DCE	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Trichlorofluoromethane	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Vinyl chloride	ND	1.0		µg/L	1	1/5/2019 4:30:00 AM	B56767
Xylenes, Total	ND	1.5		µg/L	1	1/5/2019 4:30:00 AM	B56767
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	1/5/2019 4:30:00 AM	B56767
Surr: 4-Bromofluorobenzene	99.2	70-130		%Rec	1	1/5/2019 4:30:00 AM	B56767
Surr: Dibromofluoromethane	107	70-130		%Rec	1	1/5/2019 4:30:00 AM	B56767
Surr: Toluene-d8	95.8	70-130		%Rec	1	1/5/2019 4:30:00 AM	B56767

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1901130**
08-Jan-19

Client: City of Las Cruces
Project: CLC Joint Superfund Project Monthly Analysis

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B56767**	RunNo: **56767**
Prep Date:	Analysis Date: **1/5/2019**	SeqNo: **1900820** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	20	1.0	20.00	0	99.7	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	114	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B56767**	RunNo: **56767**
Prep Date:	Analysis Date: **1/5/2019**	SeqNo: **1900889** 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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1901130**
08-Jan-19

Client: City of Las Cruces
Project: CLC Joint Superfund Project Monthly Analysis

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B56767**	RunNo: **56767**
Prep Date:	Analysis Date: **1/5/2019**	SeqNo: **1900889** Units: **µg/L**

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901130**

08-Jan-19

Client: City of Las Cruces

Project: CLC Joint Superfund Project Monthly Analysis

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B56767**	RunNo: **56767**
Prep Date:	Analysis Date: **1/5/2019**	SeqNo: **1900889** Units: **µg/L**

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		111	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	9.6		10.00		96.3	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1901130** RcptNo: **1**

Received By: **Erin Melendrez** **1/4/2019 8:45:00 AM**

Completed By: **Erin Melendrez** **1/4/2019 2:46:30 PM**

Reviewed By: ENM 1/4/19

LB: DAD 1/4/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 1/4/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: 5755283630; 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: JSP- 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: 1.0 °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. 1901130	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
01-03-19	0808	DRINKING WATER	CLC18-190103	3-40ml Vials	$HgCl_2$	-001										X		
	0837		CLC27-190103			-002										X		
	0838		CLC27-190103 DUP			-003										X		
	0813		CLC I31-190103			-004										X		
	0815		CLC C1-190103			-005										X		
	0819		CLC C2-190103			-006										X		
01-03-19	0821	DRINKING WATER	CLC ES1-190103	3-40ml Vials	$HgCl_2$	-007										X		

Date	Time	Relinquished by:	Received by:	Date	Time
01/03/19	1500	Yadira Reyna	Fedex 1/4/19 EXH	1/4/19	0845
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
Luis Guerra lguerra@las-cruces.org
Joshua Rosenblatt jrosenblatt@las-cruces.org
(Send invoice 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 21, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX:

RE: CLC Joint Superfund Project Center Monthly Analysis OrderNo.: 1902726

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 2/15/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:53:00 AM
Lab ID: 1902726-001 **Matrix:** AIR
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Toluene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Ethylbenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Naphthalene	ND	0.20		µg/L	1	2/20/2019 10:44:52 AM	W57829
1-Methylnaphthalene	ND	0.40		µg/L	1	2/20/2019 10:44:52 AM	W57829
2-Methylnaphthalene	ND	0.40		µg/L	1	2/20/2019 10:44:52 AM	W57829
Acetone	ND	1.0		µg/L	1	2/20/2019 10:44:52 AM	W57829
Bromobenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Bromodichloromethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Bromoform	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Bromomethane	ND	0.20		µg/L	1	2/20/2019 10:44:52 AM	W57829
2-Butanone	ND	1.0		µg/L	1	2/20/2019 10:44:52 AM	W57829
Carbon disulfide	ND	1.0		µg/L	1	2/20/2019 10:44:52 AM	W57829
Carbon tetrachloride	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Chlorobenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Chloroethane	ND	0.20		µg/L	1	2/20/2019 10:44:52 AM	W57829
Chloroform	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Chloromethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
2-Chlorotoluene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
4-Chlorotoluene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
cis-1,2-DCE	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	2/20/2019 10:44:52 AM	W57829
Dibromochloromethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Dibromomethane	ND	0.20		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,2-Dichlorobenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,3-Dichlorobenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,4-Dichlorobenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Dichlorodifluoromethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,1-Dichloroethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,1-Dichloroethene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,2-Dichloropropane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,3-Dichloropropane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
2,2-Dichloropropane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:53:00 AM
Lab ID: 1902726-001 **Matrix:** AIR
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Hexachlorobutadiene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
2-Hexanone	ND	1.0		µg/L	1	2/20/2019 10:44:52 AM	W57829
Isopropylbenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
4-Isopropyltoluene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
4-Methyl-2-pentanone	ND	1.0		µg/L	1	2/20/2019 10:44:52 AM	W57829
Methylene chloride	ND	0.30		µg/L	1	2/20/2019 10:44:52 AM	W57829
n-Butylbenzene	ND	0.30		µg/L	1	2/20/2019 10:44:52 AM	W57829
n-Propylbenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
sec-Butylbenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Styrene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
tert-Butylbenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Tetrachloroethene (PCE)	0.13	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
trans-1,2-DCE	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,1,1-Trichloroethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,1,2-Trichloroethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Trichloroethene (TCE)	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Trichlorofluoromethane	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
1,2,3-Trichloropropane	ND	0.20		µg/L	1	2/20/2019 10:44:52 AM	W57829
Vinyl chloride	ND	0.10		µg/L	1	2/20/2019 10:44:52 AM	W57829
Xylenes, Total	ND	0.15		µg/L	1	2/20/2019 10:44:52 AM	W57829
Surr: Dibromofluoromethane	105	70-130		%Rec	1	2/20/2019 10:44:52 AM	W57829
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	2/20/2019 10:44:52 AM	W57829
Surr: Toluene-d8	100	70-130		%Rec	1	2/20/2019 10:44:52 AM	W57829
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	2/20/2019 10:44:52 AM	W57829

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS2-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:56:00 AM
Lab ID: 1902726-002 **Matrix:** AIR
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Toluene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Ethylbenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Naphthalene	ND	0.20		µg/L	1	2/20/2019 12:12:42 PM	W57829
1-Methylnaphthalene	ND	0.40		µg/L	1	2/20/2019 12:12:42 PM	W57829
2-Methylnaphthalene	ND	0.40		µg/L	1	2/20/2019 12:12:42 PM	W57829
Acetone	ND	1.0		µg/L	1	2/20/2019 12:12:42 PM	W57829
Bromobenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Bromodichloromethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Bromoform	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Bromomethane	ND	0.20		µg/L	1	2/20/2019 12:12:42 PM	W57829
2-Butanone	ND	1.0		µg/L	1	2/20/2019 12:12:42 PM	W57829
Carbon disulfide	ND	1.0		µg/L	1	2/20/2019 12:12:42 PM	W57829
Carbon tetrachloride	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Chlorobenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Chloroethane	ND	0.20		µg/L	1	2/20/2019 12:12:42 PM	W57829
Chloroform	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Chloromethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
2-Chlorotoluene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
4-Chlorotoluene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
cis-1,2-DCE	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	2/20/2019 12:12:42 PM	W57829
Dibromochloromethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Dibromomethane	ND	0.20		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,2-Dichlorobenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,3-Dichlorobenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,4-Dichlorobenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Dichlorodifluoromethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,1-Dichloroethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,1-Dichloroethene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,2-Dichloropropane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,3-Dichloropropane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
2,2-Dichloropropane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS2-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:56:00 AM
Lab ID: 1902726-002 **Matrix:** AIR
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Hexachlorobutadiene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
2-Hexanone	ND	1.0		µg/L	1	2/20/2019 12:12:42 PM	W57829
Isopropylbenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
4-Isopropyltoluene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
4-Methyl-2-pentanone	ND	1.0		µg/L	1	2/20/2019 12:12:42 PM	W57829
Methylene chloride	ND	0.30		µg/L	1	2/20/2019 12:12:42 PM	W57829
n-Butylbenzene	ND	0.30		µg/L	1	2/20/2019 12:12:42 PM	W57829
n-Propylbenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
sec-Butylbenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Styrene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
tert-Butylbenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Tetrachloroethene (PCE)	0.15	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
trans-1,2-DCE	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,1,1-Trichloroethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,1,2-Trichloroethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Trichloroethene (TCE)	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Trichlorofluoromethane	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
1,2,3-Trichloropropane	ND	0.20		µg/L	1	2/20/2019 12:12:42 PM	W57829
Vinyl chloride	ND	0.10		µg/L	1	2/20/2019 12:12:42 PM	W57829
Xylenes, Total	ND	0.15		µg/L	1	2/20/2019 12:12:42 PM	W57829
Surr: Dibromofluoromethane	103	70-130		%Rec	1	2/20/2019 12:12:42 PM	W57829
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	2/20/2019 12:12:42 PM	W57829
Surr: Toluene-d8	98.9	70-130		%Rec	1	2/20/2019 12:12:42 PM	W57829
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	1	2/20/2019 12:12:42 PM	W57829

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1902726** RcptNo: **1**

Received By: Yazmine Lejandro **2/15/2019 8:50:00 AM**

Completed By: **Desiree Dominguez** **2/15/2019 3:19:52 PM** DD

Reviewed By: TMM 2-15-19

LB: YG 2/15/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	# of preserved bottles checked for pH: YG 2/15/19 (<2 or >12 unless noted)
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 ☐	Adjusted?
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 ☐	Checked by:

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	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 #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 528-3630
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☑ EDD (Type) EXCELL

Turn-Around Time:
☑ Standard ☐ Rush _____
Project Name:
JSF: Joint Superfund Project Center Monthly Analysis
Project #:
CLC-JSF: Griggs Wash
Project Manager:
Luis Guerra
575-528-3609
Sampler: Joshua Rosenblatt
On Ice: ☐ Yes ☑ No
Sample Temperature: ~~1.0 °C TCF 1.0 = 3.0 °C~~ 2.1 °C + CF 1.0 = 3.1 °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 Request ID	Container Type and #	Preservative Type	HEAL No. 1902726	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)					Air Bubbles (Y or N)
2-14-19	0853	AIR	CLC AS1-190214	Tedlar Bag	NONE	-001										X						
2-14-19	0856	AIR	CLC AS2-190214	Tedlar Bag	NONE	-002										X						

Date	Time	Relinquished by:	Received by:	Date	Time
2-14-19	1500	Joshua Rosenblatt	FEDEX	2/15/19	8:50
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
Luis Guerra: lguerra@las-cruces.org
Joshua Rosenblatt: rosenblatt@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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 19, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: CLC Joint Superfund Project Center Monthly Analysis OrderNo.: 1902728

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 2/15/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:06:00 AM
Lab ID: 1902728-001
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Toluene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Ethylbenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Naphthalene	ND	2.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
2-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Acetone	ND	10		µg/L	1	2/18/2019 5:57:00 PM	R57778
Bromobenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Bromodichloromethane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Bromoform	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Bromomethane	ND	3.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
2-Butanone	ND	10		µg/L	1	2/18/2019 5:57:00 PM	R57778
Carbon disulfide	ND	10		µg/L	1	2/18/2019 5:57:00 PM	R57778
Carbon Tetrachloride	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Chlorobenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Chloroethane	ND	2.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Chloroform	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Chloromethane	ND	3.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
2-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
4-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
cis-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Dibromochloromethane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Dibromomethane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,2-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,3-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,4-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Dichlorodifluoromethane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,1-Dichloroethane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,1-Dichloroethene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,2-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,3-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
2,2-Dichloropropane	ND	2.0		µg/L	1	2/18/2019 5:57:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:06:00 AM
Lab ID: 1902728-001 **Matrix:** AQUEOUS **Received Date:** 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Hexachlorobutadiene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
2-Hexanone	ND	10		µg/L	1	2/18/2019 5:57:00 PM	R57778
Isopropylbenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
4-Isopropyltoluene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
4-Methyl-2-pentanone	ND	10		µg/L	1	2/18/2019 5:57:00 PM	R57778
Methylene Chloride	ND	3.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
n-Butylbenzene	ND	3.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
n-Propylbenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
sec-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Styrene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
tert-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Tetrachloroethene (PCE)	7.4	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
trans-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,1,1-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,1,2-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Trichloroethene (TCE)	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Trichlorofluoromethane	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
1,2,3-Trichloropropane	ND	2.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Vinyl chloride	ND	1.0		µg/L	1	2/18/2019 5:57:00 PM	R57778
Xylenes, Total	ND	1.5		µg/L	1	2/18/2019 5:57:00 PM	R57778
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	2/18/2019 5:57:00 PM	R57778
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	2/18/2019 5:57:00 PM	R57778
Surr: Dibromofluoromethane	107	70-130		%Rec	1	2/18/2019 5:57:00 PM	R57778
Surr: Toluene-d8	92.0	70-130		%Rec	1	2/18/2019 5:57:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 27-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:17:00 AM
Lab ID: 1902728-002
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Toluene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Ethylbenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Naphthalene	ND	2.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
2-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Acetone	ND	10		µg/L	1	2/18/2019 6:21:00 PM	R57778
Bromobenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Bromodichloromethane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Bromoform	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Bromomethane	ND	3.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
2-Butanone	ND	10		µg/L	1	2/18/2019 6:21:00 PM	R57778
Carbon disulfide	ND	10		µg/L	1	2/18/2019 6:21:00 PM	R57778
Carbon Tetrachloride	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Chlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Chloroethane	ND	2.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Chloroform	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Chloromethane	ND	3.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
2-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
4-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
cis-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Dibromochloromethane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Dibromomethane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,2-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,3-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,4-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Dichlorodifluoromethane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,1-Dichloroethane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,1-Dichloroethene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,2-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,3-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
2,2-Dichloropropane	ND	2.0		µg/L	1	2/18/2019 6:21:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 27-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:17:00 AM
Lab ID: 1902728-002
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Hexachlorobutadiene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
2-Hexanone	ND	10		µg/L	1	2/18/2019 6:21:00 PM	R57778
Isopropylbenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
4-Isopropyltoluene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
4-Methyl-2-pentanone	ND	10		µg/L	1	2/18/2019 6:21:00 PM	R57778
Methylene Chloride	ND	3.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
n-Butylbenzene	ND	3.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
n-Propylbenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
sec-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Styrene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
tert-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Tetrachloroethene (PCE)	14	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
trans-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,1,1-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,1,2-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Trichloroethene (TCE)	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Trichlorofluoromethane	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
1,2,3-Trichloropropane	ND	2.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Vinyl chloride	ND	1.0		µg/L	1	2/18/2019 6:21:00 PM	R57778
Xylenes, Total	ND	1.5		µg/L	1	2/18/2019 6:21:00 PM	R57778
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	2/18/2019 6:21:00 PM	R57778
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	2/18/2019 6:21:00 PM	R57778
Surr: Dibromofluoromethane	107	70-130		%Rec	1	2/18/2019 6:21:00 PM	R57778
Surr: Toluene-d8	92.1	70-130		%Rec	1	2/18/2019 6:21:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC IS1-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:39:00 AM
Lab ID: 1902728-003
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Toluene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Ethylbenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Naphthalene	ND	2.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
2-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Acetone	ND	10		µg/L	1	2/18/2019 6:45:00 PM	R57778
Bromobenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Bromodichloromethane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Bromoform	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Bromomethane	ND	3.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
2-Butanone	ND	10		µg/L	1	2/18/2019 6:45:00 PM	R57778
Carbon disulfide	ND	10		µg/L	1	2/18/2019 6:45:00 PM	R57778
Carbon Tetrachloride	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Chlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Chloroethane	ND	2.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Chloroform	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Chloromethane	ND	3.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
2-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
4-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
cis-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Dibromochloromethane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Dibromomethane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,2-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,3-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,4-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Dichlorodifluoromethane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,1-Dichloroethane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,1-Dichloroethene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,2-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,3-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
2,2-Dichloropropane	ND	2.0		µg/L	1	2/18/2019 6:45:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC IS1-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:39:00 AM
Lab ID: 1902728-003
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Hexachlorobutadiene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
2-Hexanone	ND	10		µg/L	1	2/18/2019 6:45:00 PM	R57778
Isopropylbenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
4-Isopropyltoluene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
4-Methyl-2-pentanone	ND	10		µg/L	1	2/18/2019 6:45:00 PM	R57778
Methylene Chloride	ND	3.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
n-Butylbenzene	ND	3.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
n-Propylbenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
sec-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Styrene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
tert-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Tetrachloroethene (PCE)	11	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
trans-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,1,1-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,1,2-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Trichloroethene (TCE)	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Trichlorofluoromethane	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
1,2,3-Trichloropropane	ND	2.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Vinyl chloride	ND	1.0		µg/L	1	2/18/2019 6:45:00 PM	R57778
Xylenes, Total	ND	1.5		µg/L	1	2/18/2019 6:45:00 PM	R57778
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	2/18/2019 6:45:00 PM	R57778
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	2/18/2019 6:45:00 PM	R57778
Surr: Dibromofluoromethane	109	70-130		%Rec	1	2/18/2019 6:45:00 PM	R57778
Surr: Toluene-d8	91.7	70-130		%Rec	1	2/18/2019 6:45:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC Cl-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:42:00 AM
Lab ID: 1902728-004
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Toluene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Ethylbenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Naphthalene	ND	2.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
2-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Acetone	ND	10		µg/L	1	2/18/2019 7:09:00 PM	R57778
Bromobenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Bromodichloromethane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Bromoform	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Bromomethane	ND	3.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
2-Butanone	ND	10		µg/L	1	2/18/2019 7:09:00 PM	R57778
Carbon disulfide	ND	10		µg/L	1	2/18/2019 7:09:00 PM	R57778
Carbon Tetrachloride	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Chlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Chloroethane	ND	2.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Chloroform	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Chloromethane	ND	3.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
2-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
4-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
cis-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Dibromochloromethane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Dibromomethane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,2-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,3-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,4-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Dichlorodifluoromethane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,1-Dichloroethane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,1-Dichloroethene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,2-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,3-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
2,2-Dichloropropane	ND	2.0		µg/L	1	2/18/2019 7:09:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC Cl-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:42:00 AM
Lab ID: 1902728-004
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Hexachlorobutadiene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
2-Hexanone	ND	10		µg/L	1	2/18/2019 7:09:00 PM	R57778
Isopropylbenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
4-Isopropyltoluene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
4-Methyl-2-pentanone	ND	10		µg/L	1	2/18/2019 7:09:00 PM	R57778
Methylene Chloride	ND	3.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
n-Butylbenzene	ND	3.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
n-Propylbenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
sec-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Styrene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
tert-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
trans-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,1,1-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,1,2-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Trichloroethene (TCE)	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Trichlorofluoromethane	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
1,2,3-Trichloropropane	ND	2.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Vinyl chloride	ND	1.0		µg/L	1	2/18/2019 7:09:00 PM	R57778
Xylenes, Total	ND	1.5		µg/L	1	2/18/2019 7:09:00 PM	R57778
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	2/18/2019 7:09:00 PM	R57778
Surr: 4-Bromofluorobenzene	98.5	70-130		%Rec	1	2/18/2019 7:09:00 PM	R57778
Surr: Dibromofluoromethane	109	70-130		%Rec	1	2/18/2019 7:09:00 PM	R57778
Surr: Toluene-d8	91.8	70-130		%Rec	1	2/18/2019 7:09:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC Cl-190214 DUP
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:42:00 AM
Lab ID: 1902728-005 **Matrix:** AQUEOUS **Received Date:** 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Toluene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Ethylbenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Naphthalene	ND	2.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
2-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Acetone	ND	10		µg/L	1	2/18/2019 7:32:00 PM	R57778
Bromobenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Bromodichloromethane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Bromoform	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Bromomethane	ND	3.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
2-Butanone	ND	10		µg/L	1	2/18/2019 7:32:00 PM	R57778
Carbon disulfide	ND	10		µg/L	1	2/18/2019 7:32:00 PM	R57778
Carbon Tetrachloride	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Chlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Chloroethane	ND	2.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Chloroform	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Chloromethane	ND	3.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
2-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
4-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
cis-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Dibromochloromethane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Dibromomethane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,2-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,3-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,4-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Dichlorodifluoromethane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,1-Dichloroethane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,1-Dichloroethene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,2-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,3-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
2,2-Dichloropropane	ND	2.0		µg/L	1	2/18/2019 7:32:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC Cl-190214 DUP
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:42:00 AM
Lab ID: 1902728-005
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Hexachlorobutadiene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
2-Hexanone	ND	10		µg/L	1	2/18/2019 7:32:00 PM	R57778
Isopropylbenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
4-Isopropyltoluene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
4-Methyl-2-pentanone	ND	10		µg/L	1	2/18/2019 7:32:00 PM	R57778
Methylene Chloride	ND	3.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
n-Butylbenzene	ND	3.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
n-Propylbenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
sec-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Styrene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
tert-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
trans-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,1,1-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,1,2-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Trichloroethene (TCE)	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Trichlorofluoromethane	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
1,2,3-Trichloropropane	ND	2.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Vinyl chloride	ND	1.0		µg/L	1	2/18/2019 7:32:00 PM	R57778
Xylenes, Total	ND	1.5		µg/L	1	2/18/2019 7:32:00 PM	R57778
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	2/18/2019 7:32:00 PM	R57778
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	2/18/2019 7:32:00 PM	R57778
Surr: Dibromofluoromethane	111	70-130		%Rec	1	2/18/2019 7:32:00 PM	R57778
Surr: Toluene-d8	91.5	70-130		%Rec	1	2/18/2019 7:32:00 PM	R57778

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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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC C2-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:47:00 AM
Lab ID: 1902728-006
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Toluene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Ethylbenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Naphthalene	ND	2.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
2-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Acetone	ND	10		µg/L	1	2/18/2019 7:56:00 PM	R57778
Bromobenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Bromodichloromethane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Bromoform	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Bromomethane	ND	3.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
2-Butanone	ND	10		µg/L	1	2/18/2019 7:56:00 PM	R57778
Carbon disulfide	ND	10		µg/L	1	2/18/2019 7:56:00 PM	R57778
Carbon Tetrachloride	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Chlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Chloroethane	ND	2.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Chloroform	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Chloromethane	ND	3.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
2-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
4-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
cis-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Dibromochloromethane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Dibromomethane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,2-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,3-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,4-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Dichlorodifluoromethane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,1-Dichloroethane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,1-Dichloroethene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,2-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,3-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
2,2-Dichloropropane	ND	2.0		µg/L	1	2/18/2019 7:56:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC C2-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:47:00 AM
Lab ID: 1902728-006
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Hexachlorobutadiene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
2-Hexanone	ND	10		µg/L	1	2/18/2019 7:56:00 PM	R57778
Isopropylbenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
4-Isopropyltoluene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
4-Methyl-2-pentanone	ND	10		µg/L	1	2/18/2019 7:56:00 PM	R57778
Methylene Chloride	ND	3.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
n-Butylbenzene	ND	3.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
n-Propylbenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
sec-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Styrene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
tert-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
trans-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,1,1-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,1,2-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Trichloroethene (TCE)	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Trichlorofluoromethane	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
1,2,3-Trichloropropane	ND	2.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Vinyl chloride	ND	1.0		µg/L	1	2/18/2019 7:56:00 PM	R57778
Xylenes, Total	ND	1.5		µg/L	1	2/18/2019 7:56:00 PM	R57778
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	2/18/2019 7:56:00 PM	R57778
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	1	2/18/2019 7:56:00 PM	R57778
Surr: Dibromofluoromethane	107	70-130		%Rec	1	2/18/2019 7:56:00 PM	R57778
Surr: Toluene-d8	90.7	70-130		%Rec	1	2/18/2019 7:56:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC ES1-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:49:00 AM
Lab ID: 1902728-007
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Toluene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Ethylbenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Naphthalene	ND	2.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
2-Methylnaphthalene	ND	4.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Acetone	ND	10		µg/L	1	2/18/2019 8:19:00 PM	R57778
Bromobenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Bromodichloromethane	4.5	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Bromoform	2.0	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Bromomethane	ND	3.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
2-Butanone	ND	10		µg/L	1	2/18/2019 8:19:00 PM	R57778
Carbon disulfide	ND	10		µg/L	1	2/18/2019 8:19:00 PM	R57778
Carbon Tetrachloride	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Chlorobenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Chloroethane	ND	2.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Chloroform	4.6	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Chloromethane	ND	3.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
2-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
4-Chlorotoluene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
cis-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Dibromochloromethane	3.8	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Dibromomethane	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,2-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,3-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,4-Dichlorobenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Dichlorodifluoromethane	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,1-Dichloroethane	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,1-Dichloroethene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,2-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,3-Dichloropropane	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
2,2-Dichloropropane	ND	2.0		µg/L	1	2/18/2019 8:19:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC ES1-190214
Project: CLC Joint Superfund Project Center Mon
Collection Date: 2/14/2019 8:49:00 AM
Lab ID: 1902728-007
Matrix: AQUEOUS
Received Date: 2/15/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Hexachlorobutadiene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
2-Hexanone	ND	10		µg/L	1	2/18/2019 8:19:00 PM	R57778
Isopropylbenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
4-Isopropyltoluene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
4-Methyl-2-pentanone	ND	10		µg/L	1	2/18/2019 8:19:00 PM	R57778
Methylene Chloride	ND	3.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
n-Butylbenzene	ND	3.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
n-Propylbenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
sec-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Styrene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
tert-Butylbenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
trans-1,2-DCE	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,1,1-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,1,2-Trichloroethane	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Trichloroethene (TCE)	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Trichlorofluoromethane	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
1,2,3-Trichloropropane	ND	2.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Vinyl chloride	ND	1.0		µg/L	1	2/18/2019 8:19:00 PM	R57778
Xylenes, Total	ND	1.5		µg/L	1	2/18/2019 8:19:00 PM	R57778
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	2/18/2019 8:19:00 PM	R57778
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	2/18/2019 8:19:00 PM	R57778
Surr: Dibromofluoromethane	109	70-130		%Rec	1	2/18/2019 8:19:00 PM	R57778
Surr: Toluene-d8	92.1	70-130		%Rec	1	2/18/2019 8:19:00 PM	R57778

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1902728**

19-Feb-19

Client: City of Las Cruces

Project: CLC Joint Superfund Project Center Monthly A

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R57778**	RunNo: **57778**
Prep Date:	Analysis Date: **2/18/2019**	SeqNo: **1934118** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	112	70	130			
Toluene	19	1.0	20.00	0	96.9	70	130			
Chlorobenzene	19	1.0	20.00	0	96.8	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	116	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.1	70	130			
Surr: Toluene-d8	9.3		10.00		93.3	70	130			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R57778**	RunNo: **57778**
Prep Date:	Analysis Date: **2/18/2019**	SeqNo: **1934140** 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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1902728**

19-Feb-19

Client: City of Las Cruces

Project: CLC Joint Superfund Project Center Monthly A

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R57778**	RunNo: **57778**
Prep Date:	Analysis Date: **2/18/2019**	SeqNo: **1934140** Units: **µg/L**

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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1902728**

19-Feb-19

Client: City of Las Cruces

Project: CLC Joint Superfund Project Center Monthly A

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R57778**	RunNo: **57778**
Prep Date:	Analysis Date: **2/18/2019**	SeqNo: **1934140** Units: **µg/L**

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	9.8		10.00		98.0	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.3		10.00		92.5	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 Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1902728** RcptNo: **1**

Received By: Yazmine Garduno **2/15/2019 8:50:00 AM**

Completed By: **Desiree Dominguez** **2/15/2019 3:30:44 PM** DD

Reviewed By: FWM 2-15-19

LB: VV2 2/15/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐ VV2 2/15/19
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: _____

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	3.1	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 #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 528-3604
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: JSP: Joint Superfund Project Center Monthly Analysis
Project #: CLC JSP: Griggs Walnut
Project Manager: Luis Guerra 575-528-3609
Sampler: Jadira Reyna
On Ice: ☑ Yes ☐ No
Sample Temperature: 2.1°C +0.0 LO - 3.1°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1902728
2-14-19	0806	Drinking Water	CLC 18-190214	3-40ml Vials	$HgCl_2$	-001
	0817		CLC 27-190214			-002
	0839		CLC IS1-190214			-003
	0842		CLC C1-190214			-004
	0842		CLC C1-190214 DUP			-005
	0847		CLC C2-190214			-006
2-14-19	0849	Drinking Water	CLC ES1-190214	3-40ml Vials	$HgCl_2$	-007

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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-~~VOA~~)					Air Bubbles (Y or N)
									X						
									X						
									X						
									X						
									X						
									X						
									X						

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2-14-19	1500	Jadira Reyna		Fedex	3/15/19	8:50
Date:	Time:	Relinquished by:	Received by:		Date	Time

Remarks: Send Results to:
Luis Guerra: lguerra@las-cruces.org
Joshua Rosenblatt: jrosenblatt@las-cruces.org
(Send Invoice 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 01, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: JSP Joint Superfund Project Monthly Analysis OrderNo.: 1903A89

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 3/22/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-190321
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 3/21/2019 8:30:00 AM
Lab ID: 1903A89-001 **Matrix:** AIR
Received Date: 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Toluene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Ethylbenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Naphthalene	ND	0.20		µg/L	1	3/27/2019 12:29:48 PM	A58683
1-Methylnaphthalene	ND	0.40		µg/L	1	3/27/2019 12:29:48 PM	A58683
2-Methylnaphthalene	ND	0.40		µg/L	1	3/27/2019 12:29:48 PM	A58683
Acetone	ND	1.0		µg/L	1	3/27/2019 12:29:48 PM	A58683
Bromobenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Bromodichloromethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Bromoform	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Bromomethane	ND	0.20		µg/L	1	3/27/2019 12:29:48 PM	A58683
2-Butanone	ND	1.0		µg/L	1	3/27/2019 12:29:48 PM	A58683
Carbon disulfide	ND	1.0		µg/L	1	3/27/2019 12:29:48 PM	A58683
Carbon tetrachloride	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Chlorobenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Chloroethane	ND	0.20		µg/L	1	3/27/2019 12:29:48 PM	A58683
Chloroform	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Chloromethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
2-Chlorotoluene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
4-Chlorotoluene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
cis-1,2-DCE	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	3/27/2019 12:29:48 PM	A58683
Dibromochloromethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Dibromomethane	ND	0.20		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,2-Dichlorobenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,3-Dichlorobenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,4-Dichlorobenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Dichlorodifluoromethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,1-Dichloroethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,1-Dichloroethene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,2-Dichloropropane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,3-Dichloropropane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
2,2-Dichloropropane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative 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 AS1-190321
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 3/21/2019 8:30:00 AM
Lab ID: 1903A89-001 **Matrix:** AIR
Received Date: 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Hexachlorobutadiene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
2-Hexanone	ND	1.0		µg/L	1	3/27/2019 12:29:48 PM	A58683
Isopropylbenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
4-Isopropyltoluene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
4-Methyl-2-pentanone	ND	1.0		µg/L	1	3/27/2019 12:29:48 PM	A58683
Methylene chloride	ND	0.30		µg/L	1	3/27/2019 12:29:48 PM	A58683
n-Butylbenzene	ND	0.30		µg/L	1	3/27/2019 12:29:48 PM	A58683
n-Propylbenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
sec-Butylbenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Styrene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
tert-Butylbenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Tetrachloroethene (PCE)	0.19	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
trans-1,2-DCE	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,1,1-Trichloroethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,1,2-Trichloroethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Trichloroethene (TCE)	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Trichlorofluoromethane	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
1,2,3-Trichloropropane	ND	0.20		µg/L	1	3/27/2019 12:29:48 PM	A58683
Vinyl chloride	ND	0.10		µg/L	1	3/27/2019 12:29:48 PM	A58683
Xylenes, Total	ND	0.15		µg/L	1	3/27/2019 12:29:48 PM	A58683
Surr: Dibromofluoromethane	113	70-130		%Rec	1	3/27/2019 12:29:48 PM	A58683
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	3/27/2019 12:29:48 PM	A58683
Surr: Toluene-d8	100	70-130		%Rec	1	3/27/2019 12:29:48 PM	A58683
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	3/27/2019 12:29:48 PM	A58683

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative 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 AS2-19032
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 3/21/2019 8:33:00 AM
Lab ID: 1903A89-002 **Matrix:** AIR
Received Date: 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Toluene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Ethylbenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Naphthalene	ND	0.20		µg/L	1	3/27/2019 1:28:31 PM	A58683
1-Methylnaphthalene	ND	0.40		µg/L	1	3/27/2019 1:28:31 PM	A58683
2-Methylnaphthalene	ND	0.40		µg/L	1	3/27/2019 1:28:31 PM	A58683
Acetone	ND	1.0		µg/L	1	3/27/2019 1:28:31 PM	A58683
Bromobenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Bromodichloromethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Bromoform	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Bromomethane	ND	0.20		µg/L	1	3/27/2019 1:28:31 PM	A58683
2-Butanone	ND	1.0		µg/L	1	3/27/2019 1:28:31 PM	A58683
Carbon disulfide	ND	1.0		µg/L	1	3/27/2019 1:28:31 PM	A58683
Carbon tetrachloride	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Chlorobenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Chloroethane	ND	0.20		µg/L	1	3/27/2019 1:28:31 PM	A58683
Chloroform	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Chloromethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
2-Chlorotoluene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
4-Chlorotoluene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
cis-1,2-DCE	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	3/27/2019 1:28:31 PM	A58683
Dibromochloromethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Dibromomethane	ND	0.20		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,2-Dichlorobenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,3-Dichlorobenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,4-Dichlorobenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Dichlorodifluoromethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,1-Dichloroethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,1-Dichloroethene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,2-Dichloropropane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,3-Dichloropropane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
2,2-Dichloropropane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative 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 AS2-19032
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 3/21/2019 8:33:00 AM
Lab ID: 1903A89-002 **Matrix:** AIR
Received Date: 3/22/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Hexachlorobutadiene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
2-Hexanone	ND	1.0		µg/L	1	3/27/2019 1:28:31 PM	A58683
Isopropylbenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
4-Isopropyltoluene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
4-Methyl-2-pentanone	ND	1.0		µg/L	1	3/27/2019 1:28:31 PM	A58683
Methylene chloride	ND	0.30		µg/L	1	3/27/2019 1:28:31 PM	A58683
n-Butylbenzene	ND	0.30		µg/L	1	3/27/2019 1:28:31 PM	A58683
n-Propylbenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
sec-Butylbenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Styrene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
tert-Butylbenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Tetrachloroethene (PCE)	0.17	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
trans-1,2-DCE	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,1,1-Trichloroethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,1,2-Trichloroethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Trichloroethene (TCE)	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Trichlorofluoromethane	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
1,2,3-Trichloropropane	ND	0.20		µg/L	1	3/27/2019 1:28:31 PM	A58683
Vinyl chloride	ND	0.10		µg/L	1	3/27/2019 1:28:31 PM	A58683
Xylenes, Total	ND	0.15		µg/L	1	3/27/2019 1:28:31 PM	A58683
Surr: Dibromofluoromethane	112	70-130		%Rec	1	3/27/2019 1:28:31 PM	A58683
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%Rec	1	3/27/2019 1:28:31 PM	A58683
Surr: Toluene-d8	100	70-130		%Rec	1	3/27/2019 1:28:31 PM	A58683
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	3/27/2019 1:28:31 PM	A58683

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1903A89 RcptNo: 1

Received By: **Desiree Dominguez** 3/22/2019 9:05:00 AM

Completed By: **Victoria Zellar** 3/22/2019 11:02:40 AM

Reviewed By: YG 3/22/19

labelled by LB 3/22/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: LB 3/22/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
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: JSF Joint Superfund Project Monthly Analysis
Project #: CLC-JSF Griggs Walnut
Project Manager: Luis Guerra (575) 528-3609
Sampler: Jadyn Ryan
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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903A89	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
3-21-19	0830	Air	CLC AS1-190321	Tedlar Bag	NONE	-001										X		
3-21-19	0835	Air	CLC AS2-190321	Tedlar Bag	NONE	-002										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
3-21-19	1500	Jadyn Ryan	courier	3/22/19	9:05
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
Luis Guerra lguerra@las-cruces.org
Jordan 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 29, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX:

RE: JSP Joint Superfund Project Center Monthly Analysis OrderNo.: 1903A91

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/22/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC18-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:08:00 AM
Lab ID: 1903A91-001 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Toluene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Ethylbenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Naphthalene	ND	2.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
2-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Acetone	ND	10		µg/L	1	3/28/2019 3:14:00 AM	A58697
Bromobenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Bromodichloromethane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Bromoform	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Bromomethane	ND	3.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
2-Butanone	ND	10		µg/L	1	3/28/2019 3:14:00 AM	A58697
Carbon disulfide	ND	10		µg/L	1	3/28/2019 3:14:00 AM	A58697
Carbon Tetrachloride	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Chlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Chloroethane	ND	2.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Chloroform	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Chloromethane	ND	3.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
2-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
4-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
cis-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Dibromochloromethane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Dibromomethane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,1-Dichloroethane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,1-Dichloroethene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,2-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,3-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
2,2-Dichloropropane	ND	2.0		µg/L	1	3/28/2019 3:14:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

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Client Sample ID: CLC18-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:08:00 AM
Lab ID: 1903A91-001 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Hexachlorobutadiene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
2-Hexanone	ND	10		µg/L	1	3/28/2019 3:14:00 AM	A58697
Isopropylbenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
4-Isopropyltoluene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
4-Methyl-2-pentanone	ND	10		µg/L	1	3/28/2019 3:14:00 AM	A58697
Methylene Chloride	ND	3.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
n-Butylbenzene	ND	3.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
n-Propylbenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
sec-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Styrene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
tert-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Tetrachloroethene (PCE)	8.0	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
trans-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Trichlorofluoromethane	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Vinyl chloride	ND	1.0		µg/L	1	3/28/2019 3:14:00 AM	A58697
Xylenes, Total	ND	1.5		µg/L	1	3/28/2019 3:14:00 AM	A58697
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	3/28/2019 3:14:00 AM	A58697
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/28/2019 3:14:00 AM	A58697
Surr: Dibromofluoromethane	94.9	70-130		%Rec	1	3/28/2019 3:14:00 AM	A58697
Surr: Toluene-d8	98.0	70-130		%Rec	1	3/28/2019 3:14:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC27-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:42:00 AM
Lab ID: 1903A91-002 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Toluene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Ethylbenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Naphthalene	ND	2.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
2-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Acetone	ND	10		µg/L	1	3/28/2019 3:38:00 AM	A58697
Bromobenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Bromodichloromethane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Bromoform	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Bromomethane	ND	3.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
2-Butanone	ND	10		µg/L	1	3/28/2019 3:38:00 AM	A58697
Carbon disulfide	ND	10		µg/L	1	3/28/2019 3:38:00 AM	A58697
Carbon Tetrachloride	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Chlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Chloroethane	ND	2.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Chloroform	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Chloromethane	ND	3.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
2-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
4-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
cis-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Dibromochloromethane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Dibromomethane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,1-Dichloroethane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,1-Dichloroethene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,2-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,3-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
2,2-Dichloropropane	ND	2.0		µg/L	1	3/28/2019 3:38:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC27-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:42:00 AM
Lab ID: 1903A91-002 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Hexachlorobutadiene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
2-Hexanone	ND	10		µg/L	1	3/28/2019 3:38:00 AM	A58697
Isopropylbenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
4-Isopropyltoluene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
4-Methyl-2-pentanone	ND	10		µg/L	1	3/28/2019 3:38:00 AM	A58697
Methylene Chloride	ND	3.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
n-Butylbenzene	ND	3.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
n-Propylbenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
sec-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Styrene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
tert-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Tetrachloroethene (PCE)	15	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
trans-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Trichlorofluoromethane	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Vinyl chloride	ND	1.0		µg/L	1	3/28/2019 3:38:00 AM	A58697
Xylenes, Total	ND	1.5		µg/L	1	3/28/2019 3:38:00 AM	A58697
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	3/28/2019 3:38:00 AM	A58697
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/28/2019 3:38:00 AM	A58697
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	3/28/2019 3:38:00 AM	A58697
Surr: Toluene-d8	97.6	70-130		%Rec	1	3/28/2019 3:38:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCIS1-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:15:00 AM
Lab ID: 1903A91-003 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Toluene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Ethylbenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Naphthalene	ND	2.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
2-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Acetone	ND	10		µg/L	1	3/28/2019 4:02:00 AM	A58697
Bromobenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Bromodichloromethane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Bromoform	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Bromomethane	ND	3.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
2-Butanone	ND	10		µg/L	1	3/28/2019 4:02:00 AM	A58697
Carbon disulfide	ND	10		µg/L	1	3/28/2019 4:02:00 AM	A58697
Carbon Tetrachloride	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Chlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Chloroethane	ND	2.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Chloroform	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Chloromethane	ND	3.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
2-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
4-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
cis-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Dibromochloromethane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Dibromomethane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,1-Dichloroethane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,1-Dichloroethene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,2-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,3-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
2,2-Dichloropropane	ND	2.0		µg/L	1	3/28/2019 4:02:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCIS1-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:15:00 AM
Lab ID: 1903A91-003 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Hexachlorobutadiene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
2-Hexanone	ND	10		µg/L	1	3/28/2019 4:02:00 AM	A58697
Isopropylbenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
4-Isopropyltoluene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
4-Methyl-2-pentanone	ND	10		µg/L	1	3/28/2019 4:02:00 AM	A58697
Methylene Chloride	ND	3.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
n-Butylbenzene	ND	3.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
n-Propylbenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
sec-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Styrene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
tert-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Tetrachloroethene (PCE)	12	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
trans-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Trichlorofluoromethane	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Vinyl chloride	ND	1.0		µg/L	1	3/28/2019 4:02:00 AM	A58697
Xylenes, Total	ND	1.5		µg/L	1	3/28/2019 4:02:00 AM	A58697
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	3/28/2019 4:02:00 AM	A58697
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/28/2019 4:02:00 AM	A58697
Surr: Dibromofluoromethane	94.4	70-130		%Rec	1	3/28/2019 4:02:00 AM	A58697
Surr: Toluene-d8	98.5	70-130		%Rec	1	3/28/2019 4:02:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCC1-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:17:00 AM
Lab ID: 1903A91-004
Matrix: AQUEOUS
Received Date: 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Toluene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Ethylbenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Naphthalene	ND	2.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
2-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Acetone	ND	10		µg/L	1	3/28/2019 4:26:00 AM	A58697
Bromobenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Bromodichloromethane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Bromoform	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Bromomethane	ND	3.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
2-Butanone	ND	10		µg/L	1	3/28/2019 4:26:00 AM	A58697
Carbon disulfide	ND	10		µg/L	1	3/28/2019 4:26:00 AM	A58697
Carbon Tetrachloride	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Chlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Chloroethane	ND	2.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Chloroform	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Chloromethane	ND	3.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
2-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
4-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
cis-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Dibromochloromethane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Dibromomethane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,1-Dichloroethane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,1-Dichloroethene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,2-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,3-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
2,2-Dichloropropane	ND	2.0		µg/L	1	3/28/2019 4:26:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCC1-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:17:00 AM
Lab ID: 1903A91-004 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Hexachlorobutadiene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
2-Hexanone	ND	10		µg/L	1	3/28/2019 4:26:00 AM	A58697
Isopropylbenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
4-Isopropyltoluene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
4-Methyl-2-pentanone	ND	10		µg/L	1	3/28/2019 4:26:00 AM	A58697
Methylene Chloride	ND	3.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
n-Butylbenzene	ND	3.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
n-Propylbenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
sec-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Styrene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
tert-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
trans-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Trichlorofluoromethane	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Vinyl chloride	ND	1.0		µg/L	1	3/28/2019 4:26:00 AM	A58697
Xylenes, Total	ND	1.5		µg/L	1	3/28/2019 4:26:00 AM	A58697
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	3/28/2019 4:26:00 AM	A58697
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/28/2019 4:26:00 AM	A58697
Surr: Dibromofluoromethane	95.6	70-130		%Rec	1	3/28/2019 4:26:00 AM	A58697
Surr: Toluene-d8	97.1	70-130		%Rec	1	3/28/2019 4:26:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCC2-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:19:00 AM
Lab ID: 1903A91-005 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Toluene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Ethylbenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Naphthalene	ND	2.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
2-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Acetone	ND	10		µg/L	1	3/28/2019 4:50:00 AM	A58697
Bromobenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Bromodichloromethane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Bromoform	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Bromomethane	ND	3.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
2-Butanone	ND	10		µg/L	1	3/28/2019 4:50:00 AM	A58697
Carbon disulfide	ND	10		µg/L	1	3/28/2019 4:50:00 AM	A58697
Carbon Tetrachloride	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Chlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Chloroethane	ND	2.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Chloroform	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Chloromethane	ND	3.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
2-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
4-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
cis-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Dibromochloromethane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Dibromomethane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,1-Dichloroethane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,1-Dichloroethene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,2-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,3-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
2,2-Dichloropropane	ND	2.0		µg/L	1	3/28/2019 4:50:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCC2-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:19:00 AM
Lab ID: 1903A91-005 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Hexachlorobutadiene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
2-Hexanone	ND	10		µg/L	1	3/28/2019 4:50:00 AM	A58697
Isopropylbenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
4-Isopropyltoluene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
4-Methyl-2-pentanone	ND	10		µg/L	1	3/28/2019 4:50:00 AM	A58697
Methylene Chloride	ND	3.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
n-Butylbenzene	ND	3.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
n-Propylbenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
sec-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Styrene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
tert-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
trans-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Trichlorofluoromethane	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Vinyl chloride	ND	1.0		µg/L	1	3/28/2019 4:50:00 AM	A58697
Xylenes, Total	ND	1.5		µg/L	1	3/28/2019 4:50:00 AM	A58697
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	3/28/2019 4:50:00 AM	A58697
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	3/28/2019 4:50:00 AM	A58697
Surr: Dibromofluoromethane	94.2	70-130		%Rec	1	3/28/2019 4:50:00 AM	A58697
Surr: Toluene-d8	98.6	70-130		%Rec	1	3/28/2019 4:50:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCC2-190321Dup
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:19:00 AM
Lab ID: 1903A91-006 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Toluene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Ethylbenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Naphthalene	ND	2.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
2-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Acetone	ND	10		µg/L	1	3/28/2019 5:14:00 AM	A58697
Bromobenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Bromodichloromethane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Bromoform	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Bromomethane	ND	3.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
2-Butanone	ND	10		µg/L	1	3/28/2019 5:14:00 AM	A58697
Carbon disulfide	ND	10		µg/L	1	3/28/2019 5:14:00 AM	A58697
Carbon Tetrachloride	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Chlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Chloroethane	ND	2.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Chloroform	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Chloromethane	ND	3.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
2-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
4-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
cis-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Dibromochloromethane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Dibromomethane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,1-Dichloroethane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,1-Dichloroethene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,2-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,3-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
2,2-Dichloropropane	ND	2.0		µg/L	1	3/28/2019 5:14:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCC2-190321Dup
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:19:00 AM
Lab ID: 1903A91-006 **Matrix:** AQUEOUS **Received Date:** 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Hexachlorobutadiene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
2-Hexanone	ND	10		µg/L	1	3/28/2019 5:14:00 AM	A58697
Isopropylbenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
4-Isopropyltoluene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
4-Methyl-2-pentanone	ND	10		µg/L	1	3/28/2019 5:14:00 AM	A58697
Methylene Chloride	ND	3.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
n-Butylbenzene	ND	3.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
n-Propylbenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
sec-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Styrene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
tert-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
trans-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Trichlorofluoromethane	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Vinyl chloride	ND	1.0		µg/L	1	3/28/2019 5:14:00 AM	A58697
Xylenes, Total	ND	1.5		µg/L	1	3/28/2019 5:14:00 AM	A58697
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	3/28/2019 5:14:00 AM	A58697
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	3/28/2019 5:14:00 AM	A58697
Surr: Dibromofluoromethane	95.9	70-130		%Rec	1	3/28/2019 5:14:00 AM	A58697
Surr: Toluene-d8	98.2	70-130		%Rec	1	3/28/2019 5:14:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCES1-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:23:00 AM
Lab ID: 1903A91-007
Matrix: AQUEOUS
Received Date: 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Toluene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Ethylbenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Naphthalene	ND	2.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
2-Methylnaphthalene	ND	4.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Acetone	ND	10		µg/L	1	3/28/2019 5:38:00 AM	A58697
Bromobenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Bromodichloromethane	2.7	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Bromoform	3.1	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Bromomethane	ND	3.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
2-Butanone	ND	10		µg/L	1	3/28/2019 5:38:00 AM	A58697
Carbon disulfide	ND	10		µg/L	1	3/28/2019 5:38:00 AM	A58697
Carbon Tetrachloride	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Chlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Chloroethane	ND	2.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Chloroform	1.3	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Chloromethane	ND	3.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
2-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
4-Chlorotoluene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
cis-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Dibromochloromethane	4.2	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Dibromomethane	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,1-Dichloroethane	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,1-Dichloroethene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,2-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,3-Dichloropropane	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
2,2-Dichloropropane	ND	2.0		µg/L	1	3/28/2019 5:38:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLCES1-190321
Project: JSP Joint Superfund Project Center Mont
Collection Date: 3/21/2019 8:23:00 AM
Lab ID: 1903A91-007
Matrix: AQUEOUS
Received Date: 3/22/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Hexachlorobutadiene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
2-Hexanone	ND	10		µg/L	1	3/28/2019 5:38:00 AM	A58697
Isopropylbenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
4-Isopropyltoluene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
4-Methyl-2-pentanone	ND	10		µg/L	1	3/28/2019 5:38:00 AM	A58697
Methylene Chloride	ND	3.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
n-Butylbenzene	ND	3.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
n-Propylbenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
sec-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Styrene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
tert-Butylbenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
trans-1,2-DCE	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Trichlorofluoromethane	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Vinyl chloride	ND	1.0		µg/L	1	3/28/2019 5:38:00 AM	A58697
Xylenes, Total	ND	1.5		µg/L	1	3/28/2019 5:38:00 AM	A58697
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	3/28/2019 5:38:00 AM	A58697
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	3/28/2019 5:38:00 AM	A58697
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	3/28/2019 5:38:00 AM	A58697
Surr: Toluene-d8	97.8	70-130		%Rec	1	3/28/2019 5:38:00 AM	A58697

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A91**
29-Mar-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Center Monthly An

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A58697**	RunNo: **58697**
Prep Date:	Analysis Date: **3/28/2019**	SeqNo: **1971431** Units: **µg/L**

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	22	1.0	20.00	0	109	70	130			
Chlorobenzene	23	1.0	20.00	0	116	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	96.0	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.2	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.9	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A58697**	RunNo: **58697**
Prep Date:	Analysis Date: **3/28/2019**	SeqNo: **1971444** 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:

H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A91**
29-Mar-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Center Monthly An

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A58697**	RunNo: **58697**
Prep Date:	Analysis Date: **3/28/2019**	SeqNo: **1971444** Units: **µg/L**

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:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903A91**
29-Mar-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Center Monthly An

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A58697**	RunNo: **58697**
Prep Date:	Analysis Date: **3/28/2019**	SeqNo: **1971444** Units: **µg/L**

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		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.7	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1903A91 RcptNo: 1

Received By: **Desiree Dominguez** 3/22/2019 8:50:00 AM DD

Completed By: **Victoria Zellar** 3/22/2019 11:15:20 AM Victoria Zellar labeled by DAD 3/25/19

Reviewed By: ENM 3/25/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 3/25/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 522-3130
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: JSP: Joint Superfund Project Center Monthly Analysis.
Project #: CLC JSP: Griggs Walnut
Project Manager: Luis Guerra 575-528-3609
Sampler: Yadira Reyna
On Ice: ☑ Yes ☐ No
Sample Temperature: 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 Request ID	Container Type and #	Preservative Type	HEAL No. 1903A91	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)					Air Bubbles (Y or N)
3-21-19	0808	DRINKING WATER	CLC18-190321	3-40ml Vials	H_2O_2	-001										X						
	0742		CLC27-190321			-002										X						
	0815		CLC IS1-190321			-003										X						
	0817		CLCC1-190321			-004										X						
	0819		CLC C2-190321			-005										X						
	0819		CLC C2-190321 DUP			-006										X						
3-21-19	0823	DRINKING WATER	CLC ES1-190321	3-40ml Vials	H_2O_2	-007										X						

Date	Time	Relinquished by	Received by	Date	Time
3-21-19	1500	Yadira Reyna	FedEx	3/22/19	8:50
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
Luis Guerra lguerra@las-cruces.org
Joshua Rosenblatt: jrosenblatt@las-cruces.org
(Send invoice 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 14, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: JSP Joint Superfund Project Center Monthly Analysis OrderNo.: 1904D91

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 6 sample(s) on 4/30/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:07:00 AM
Lab ID: 1904D91-001
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Toluene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Ethylbenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Naphthalene	ND	2.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
2-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Acetone	ND	10		µg/L	1	5/4/2019 12:21:36 AM	C59636
Bromobenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Bromodichloromethane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Bromoform	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Bromomethane	ND	3.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
2-Butanone	ND	10		µg/L	1	5/4/2019 12:21:36 AM	C59636
Carbon disulfide	ND	10		µg/L	1	5/4/2019 12:21:36 AM	C59636
Carbon Tetrachloride	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Chlorobenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Chloroethane	ND	2.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Chloroform	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Chloromethane	ND	3.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
2-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
4-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
cis-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Dibromochloromethane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Dibromomethane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,1-Dichloroethane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,1-Dichloroethene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,2-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,3-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
2,2-Dichloropropane	ND	2.0		µg/L	1	5/4/2019 12:21:36 AM	C59636

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 Quanitative 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 18-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:07:00 AM
Lab ID: 1904D91-001
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Hexachlorobutadiene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
2-Hexanone	ND	10		µg/L	1	5/4/2019 12:21:36 AM	C59636
Isopropylbenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
4-Isopropyltoluene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
4-Methyl-2-pentanone	ND	10		µg/L	1	5/4/2019 12:21:36 AM	C59636
Methylene Chloride	ND	3.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
n-Butylbenzene	ND	3.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
n-Propylbenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
sec-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Styrene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
tert-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Tetrachloroethene (PCE)	7.3	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
trans-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Trichlorofluoromethane	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Vinyl chloride	ND	1.0		µg/L	1	5/4/2019 12:21:36 AM	C59636
Xylenes, Total	ND	1.5		µg/L	1	5/4/2019 12:21:36 AM	C59636
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	5/4/2019 12:21:36 AM	C59636
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	1	5/4/2019 12:21:36 AM	C59636
Surr: Dibromofluoromethane	100	70-130		%Rec	1	5/4/2019 12:21:36 AM	C59636
Surr: Toluene-d8	96.3	70-130		%Rec	1	5/4/2019 12:21:36 AM	C59636

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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 Quanitative 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 27-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 7:42:00 AM
Lab ID: 1904D91-002
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Toluene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Ethylbenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Naphthalene	ND	2.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
2-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Acetone	ND	10		µg/L	1	5/4/2019 1:49:02 AM	C59636
Bromobenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Bromodichloromethane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Bromoform	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Bromomethane	ND	3.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
2-Butanone	ND	10		µg/L	1	5/4/2019 1:49:02 AM	C59636
Carbon disulfide	ND	10		µg/L	1	5/4/2019 1:49:02 AM	C59636
Carbon Tetrachloride	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Chlorobenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Chloroethane	ND	2.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Chloroform	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Chloromethane	ND	3.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
2-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
4-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
cis-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Dibromochloromethane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Dibromomethane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,1-Dichloroethane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,1-Dichloroethene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,2-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,3-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
2,2-Dichloropropane	ND	2.0		µg/L	1	5/4/2019 1:49:02 AM	C59636

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 Quanitative 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.

CLIENT: City of Las Cruces
Client Sample ID: CLC 27-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 7:42:00 AM
Lab ID: 1904D91-002
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Hexachlorobutadiene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
2-Hexanone	ND	10		µg/L	1	5/4/2019 1:49:02 AM	C59636
Isopropylbenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
4-Isopropyltoluene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
4-Methyl-2-pentanone	ND	10		µg/L	1	5/4/2019 1:49:02 AM	C59636
Methylene Chloride	ND	3.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
n-Butylbenzene	ND	3.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
n-Propylbenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
sec-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Styrene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
tert-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Tetrachloroethene (PCE)	15	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
trans-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Trichlorofluoromethane	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Vinyl chloride	ND	1.0		µg/L	1	5/4/2019 1:49:02 AM	C59636
Xylenes, Total	ND	1.5		µg/L	1	5/4/2019 1:49:02 AM	C59636
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	5/4/2019 1:49:02 AM	C59636
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	5/4/2019 1:49:02 AM	C59636
Surr: Dibromofluoromethane	101	70-130		%Rec	1	5/4/2019 1:49:02 AM	C59636
Surr: Toluene-d8	95.5	70-130		%Rec	1	5/4/2019 1:49:02 AM	C59636

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 Quanitative 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 IS1-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:31:00 AM
Lab ID: 1904D91-003
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Toluene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Ethylbenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Naphthalene	ND	2.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
2-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Acetone	ND	10		µg/L	1	5/4/2019 2:18:25 AM	C59636
Bromobenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Bromodichloromethane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Bromoform	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Bromomethane	ND	3.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
2-Butanone	ND	10		µg/L	1	5/4/2019 2:18:25 AM	C59636
Carbon disulfide	ND	10		µg/L	1	5/4/2019 2:18:25 AM	C59636
Carbon Tetrachloride	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Chlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Chloroethane	ND	2.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Chloroform	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Chloromethane	ND	3.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
2-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
4-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
cis-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Dibromochloromethane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Dibromomethane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,1-Dichloroethane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,1-Dichloroethene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,2-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,3-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
2,2-Dichloropropane	ND	2.0		µg/L	1	5/4/2019 2:18:25 AM	C59636

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 Quanitative 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 IS1-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:31:00 AM
Lab ID: 1904D91-003
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Hexachlorobutadiene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
2-Hexanone	ND	10		µg/L	1	5/4/2019 2:18:25 AM	C59636
Isopropylbenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
4-Isopropyltoluene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
4-Methyl-2-pentanone	ND	10		µg/L	1	5/4/2019 2:18:25 AM	C59636
Methylene Chloride	ND	3.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
n-Butylbenzene	ND	3.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
n-Propylbenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
sec-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Styrene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
tert-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Tetrachloroethene (PCE)	11	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
trans-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Trichlorofluoromethane	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Vinyl chloride	ND	1.0		µg/L	1	5/4/2019 2:18:25 AM	C59636
Xylenes, Total	ND	1.5		µg/L	1	5/4/2019 2:18:25 AM	C59636
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	5/4/2019 2:18:25 AM	C59636
Surr: 4-Bromofluorobenzene	91.8	70-130		%Rec	1	5/4/2019 2:18:25 AM	C59636
Surr: Dibromofluoromethane	100	70-130		%Rec	1	5/4/2019 2:18:25 AM	C59636
Surr: Toluene-d8	98.6	70-130		%Rec	1	5/4/2019 2:18:25 AM	C59636

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 Quanitative 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 C1-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:33:00 AM
Lab ID: 1904D91-004
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Toluene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Ethylbenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Naphthalene	ND	2.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
2-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Acetone	ND	10		µg/L	1	5/4/2019 2:47:49 AM	C59636
Bromobenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Bromodichloromethane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Bromoform	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Bromomethane	ND	3.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
2-Butanone	ND	10		µg/L	1	5/4/2019 2:47:49 AM	C59636
Carbon disulfide	ND	10		µg/L	1	5/4/2019 2:47:49 AM	C59636
Carbon Tetrachloride	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Chlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Chloroethane	ND	2.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Chloroform	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Chloromethane	ND	3.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
2-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
4-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
cis-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Dibromochloromethane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Dibromomethane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,1-Dichloroethane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,1-Dichloroethene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,2-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,3-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
2,2-Dichloropropane	ND	2.0		µg/L	1	5/4/2019 2:47:49 AM	C59636

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 Quanitative 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 C1-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:33:00 AM
Lab ID: 1904D91-004
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Hexachlorobutadiene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
2-Hexanone	ND	10		µg/L	1	5/4/2019 2:47:49 AM	C59636
Isopropylbenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
4-Isopropyltoluene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
4-Methyl-2-pentanone	ND	10		µg/L	1	5/4/2019 2:47:49 AM	C59636
Methylene Chloride	ND	3.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
n-Butylbenzene	ND	3.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
n-Propylbenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
sec-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Styrene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
tert-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
trans-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Trichlorofluoromethane	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Vinyl chloride	ND	1.0		µg/L	1	5/4/2019 2:47:49 AM	C59636
Xylenes, Total	ND	1.5		µg/L	1	5/4/2019 2:47:49 AM	C59636
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	5/4/2019 2:47:49 AM	C59636
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	5/4/2019 2:47:49 AM	C59636
Surr: Dibromofluoromethane	104	70-130		%Rec	1	5/4/2019 2:47:49 AM	C59636
Surr: Toluene-d8	95.0	70-130		%Rec	1	5/4/2019 2:47:49 AM	C59636

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 Quanitative 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 C2-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:35:00 AM
Lab ID: 1904D91-005
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Toluene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Ethylbenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Naphthalene	ND	2.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
2-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Acetone	ND	10		µg/L	1	5/4/2019 3:17:03 AM	C59636
Bromobenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Bromodichloromethane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Bromoform	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Bromomethane	ND	3.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
2-Butanone	ND	10		µg/L	1	5/4/2019 3:17:03 AM	C59636
Carbon disulfide	ND	10		µg/L	1	5/4/2019 3:17:03 AM	C59636
Carbon Tetrachloride	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Chlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Chloroethane	ND	2.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Chloroform	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Chloromethane	ND	3.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
2-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
4-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
cis-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Dibromochloromethane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Dibromomethane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,1-Dichloroethane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,1-Dichloroethene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,2-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,3-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
2,2-Dichloropropane	ND	2.0		µg/L	1	5/4/2019 3:17:03 AM	C59636

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 Quanitative 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 C2-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:35:00 AM
Lab ID: 1904D91-005
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Hexachlorobutadiene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
2-Hexanone	ND	10		µg/L	1	5/4/2019 3:17:03 AM	C59636
Isopropylbenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
4-Isopropyltoluene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
4-Methyl-2-pentanone	ND	10		µg/L	1	5/4/2019 3:17:03 AM	C59636
Methylene Chloride	ND	3.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
n-Butylbenzene	ND	3.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
n-Propylbenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
sec-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Styrene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
tert-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
trans-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Trichlorofluoromethane	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Vinyl chloride	ND	1.0		µg/L	1	5/4/2019 3:17:03 AM	C59636
Xylenes, Total	ND	1.5		µg/L	1	5/4/2019 3:17:03 AM	C59636
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	5/4/2019 3:17:03 AM	C59636
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	5/4/2019 3:17:03 AM	C59636
Surr: Dibromofluoromethane	103	70-130		%Rec	1	5/4/2019 3:17:03 AM	C59636
Surr: Toluene-d8	96.9	70-130		%Rec	1	5/4/2019 3:17:03 AM	C59636

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 Quanitative 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 ES1-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:37:00 AM
Lab ID: 1904D91-006
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Toluene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Ethylbenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Naphthalene	ND	2.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
2-Methylnaphthalene	ND	4.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Acetone	ND	10		µg/L	1	5/4/2019 3:46:27 AM	C59636
Bromobenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Bromodichloromethane	3.7	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Bromoform	2.4	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Bromomethane	ND	3.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
2-Butanone	ND	10		µg/L	1	5/4/2019 3:46:27 AM	C59636
Carbon disulfide	ND	10		µg/L	1	5/4/2019 3:46:27 AM	C59636
Carbon Tetrachloride	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Chlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Chloroethane	ND	2.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Chloroform	4.7	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Chloromethane	ND	3.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
2-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
4-Chlorotoluene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
cis-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Dibromochloromethane	4.7	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Dibromomethane	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,1-Dichloroethane	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,1-Dichloroethene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,2-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,3-Dichloropropane	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
2,2-Dichloropropane	ND	2.0		µg/L	1	5/4/2019 3:46:27 AM	C59636

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 Quanitative 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 ES1-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:37:00 AM
Lab ID: 1904D91-006
Matrix: DRINKING W
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Hexachlorobutadiene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
2-Hexanone	ND	10		µg/L	1	5/4/2019 3:46:27 AM	C59636
Isopropylbenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
4-Isopropyltoluene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
4-Methyl-2-pentanone	ND	10		µg/L	1	5/4/2019 3:46:27 AM	C59636
Methylene Chloride	ND	3.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
n-Butylbenzene	ND	3.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
n-Propylbenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
sec-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Styrene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
tert-Butylbenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
trans-1,2-DCE	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Trichlorofluoromethane	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Vinyl chloride	ND	1.0		µg/L	1	5/4/2019 3:46:27 AM	C59636
Xylenes, Total	ND	1.5		µg/L	1	5/4/2019 3:46:27 AM	C59636
Surr: 1,2-Dichloroethane-d4	99.9	70-130		%Rec	1	5/4/2019 3:46:27 AM	C59636
Surr: 4-Bromofluorobenzene	94.6	70-130		%Rec	1	5/4/2019 3:46:27 AM	C59636
Surr: Dibromofluoromethane	100	70-130		%Rec	1	5/4/2019 3:46:27 AM	C59636
Surr: Toluene-d8	95.0	70-130		%Rec	1	5/4/2019 3:46:27 AM	C59636

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1904D91**
14-May-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Center Monthly An

Sample ID: **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **C59636**	RunNo: **59636**
Prep Date:	Analysis Date: **5/3/2019**	SeqNo: **2010173** 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								
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 Quanitative 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#: **1904D91**
14-May-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Center Monthly An

Sample ID: **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **C59636**	RunNo: **59636**
Prep Date:	Analysis Date: **5/3/2019**	SeqNo: **2010173** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.7	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.1	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.4	70	130			
Surr: Toluene-d8	9.7		10.00		96.5	70	130			

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **C59636**	RunNo: **59636**
Prep Date:	Analysis Date: **5/3/2019**	SeqNo: **2010174** Units: **µg/L**

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	18	1.0	20.00	0	91.7	70	130			
Chlorobenzene	18	1.0	20.00	0	91.3	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 Quanitative 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#: **1904D91**
14-May-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Center Monthly An

Sample ID: **100ng lcs2** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **C59636** RunNo: **59636**
Prep Date: Analysis Date: **5/3/2019** SeqNo: **2010174** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	88.9	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.1	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

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: **1904D91** RcptNo: **1**

Received By: **Isaiah Ortiz** **4/30/2019 9:05:00 AM** I-Ox

Completed By: **Isaiah Ortiz** **4/30/2019 9:24:59 AM** I-Ox

Reviewed By: VVZ 4/30/19
CB: ENM 4/30/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
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 ☐	Checked by:

MY 5/14
ENM 4/30/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.2	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 528-3630
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: JSP: Joint Superfund Project Center Monthly Analysis
Project #: CLC-JSP: Griggs Walnut
Project Manager: Luis Guerra 575-528-3609
Sampler: Yadira Reyna
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.4°C - 0.2°C (cf) 0.2°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1904D91	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
4-29-19	0807	DRINKING WATER	CLC 18-190429	3-40ml Vials	$HgCl_2$	-001										X		
	0742		CLC 27-190429			-002										X		
	0831		CLC IS1-190429			-003										X		
	0833		CLC C1-190429			-004										X		
	0835		CLC C2-190429			-005										X		
4-29-19	0837	DRINKING WATER	CLC ES1-190429	3-40ml Vials	$HgCl_2$	-006										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-29-19	1500	Yadira Reyna	Fedex	4/30/19	0905
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send results to:
Luis Guerra: lguerra@las-cruces.org
Joshua Rosenblatt: jrosenblatt@las-cruces.org
(Send invoice 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 15, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: JSP Joint Superfund Project Center Monthly Analysis OrderNo.: 1904D92

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/30/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: AS1-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:40:00 AM
Lab ID: 1904D92-001 **Matrix:**
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Toluene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Ethylbenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Naphthalene	ND	0.20		µg/L	1	5/8/2019 11:42:51 AM	A59733
1-Methylnaphthalene	ND	0.40		µg/L	1	5/8/2019 11:42:51 AM	A59733
2-Methylnaphthalene	ND	0.40		µg/L	1	5/8/2019 11:42:51 AM	A59733
Acetone	ND	1.0		µg/L	1	5/8/2019 11:42:51 AM	A59733
Bromobenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Bromodichloromethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Bromoform	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Bromomethane	ND	0.20		µg/L	1	5/8/2019 11:42:51 AM	A59733
2-Butanone	ND	1.0		µg/L	1	5/8/2019 11:42:51 AM	A59733
Carbon disulfide	ND	1.0		µg/L	1	5/8/2019 11:42:51 AM	A59733
Carbon tetrachloride	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Chlorobenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Chloroethane	ND	0.20		µg/L	1	5/8/2019 11:42:51 AM	A59733
Chloroform	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Chloromethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
2-Chlorotoluene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
4-Chlorotoluene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
cis-1,2-DCE	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	5/8/2019 11:42:51 AM	A59733
Dibromochloromethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Dibromomethane	ND	0.20		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,2-Dichlorobenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,3-Dichlorobenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,4-Dichlorobenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Dichlorodifluoromethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,1-Dichloroethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,1-Dichloroethene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,2-Dichloropropane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,3-Dichloropropane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
2,2-Dichloropropane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733

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 Quanitative 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: AS1-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:40:00 AM
Lab ID: 1904D92-001 **Matrix:**
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Hexachlorobutadiene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
2-Hexanone	ND	1.0		µg/L	1	5/8/2019 11:42:51 AM	A59733
Isopropylbenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
4-Isopropyltoluene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
4-Methyl-2-pentanone	ND	1.0		µg/L	1	5/8/2019 11:42:51 AM	A59733
Methylene chloride	ND	0.30		µg/L	1	5/8/2019 11:42:51 AM	A59733
n-Butylbenzene	ND	0.30		µg/L	1	5/8/2019 11:42:51 AM	A59733
n-Propylbenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
sec-Butylbenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Styrene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
tert-Butylbenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Tetrachloroethene (PCE)	0.13	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
trans-1,2-DCE	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,1,1-Trichloroethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,1,2-Trichloroethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Trichloroethene (TCE)	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Trichlorofluoromethane	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
1,2,3-Trichloropropane	ND	0.20		µg/L	1	5/8/2019 11:42:51 AM	A59733
Vinyl chloride	ND	0.10		µg/L	1	5/8/2019 11:42:51 AM	A59733
Xylenes, Total	ND	0.15		µg/L	1	5/8/2019 11:42:51 AM	A59733
Surr: Dibromofluoromethane	94.2	70-130		%Rec	1	5/8/2019 11:42:51 AM	A59733
Surr: 1,2-Dichloroethane-d4	99.3	70-130		%Rec	1	5/8/2019 11:42:51 AM	A59733
Surr: Toluene-d8	99.1	70-130		%Rec	1	5/8/2019 11:42:51 AM	A59733
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	5/8/2019 11:42:51 AM	A59733

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 Quanitative 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: AS2-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:42:00 AM
Lab ID: 1904D92-002 **Matrix:**
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Toluene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Ethylbenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Naphthalene	ND	0.20		µg/L	1	5/8/2019 12:12:11 PM	A59733
1-Methylnaphthalene	ND	0.40		µg/L	1	5/8/2019 12:12:11 PM	A59733
2-Methylnaphthalene	ND	0.40		µg/L	1	5/8/2019 12:12:11 PM	A59733
Acetone	ND	1.0		µg/L	1	5/8/2019 12:12:11 PM	A59733
Bromobenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Bromodichloromethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Bromoform	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Bromomethane	ND	0.20		µg/L	1	5/8/2019 12:12:11 PM	A59733
2-Butanone	ND	1.0		µg/L	1	5/8/2019 12:12:11 PM	A59733
Carbon disulfide	ND	1.0		µg/L	1	5/8/2019 12:12:11 PM	A59733
Carbon tetrachloride	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Chlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Chloroethane	ND	0.20		µg/L	1	5/8/2019 12:12:11 PM	A59733
Chloroform	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Chloromethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
2-Chlorotoluene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
4-Chlorotoluene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
cis-1,2-DCE	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	5/8/2019 12:12:11 PM	A59733
Dibromochloromethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Dibromomethane	ND	0.20		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,2-Dichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,3-Dichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,4-Dichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Dichlorodifluoromethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,1-Dichloroethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,1-Dichloroethene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,2-Dichloropropane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,3-Dichloropropane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
2,2-Dichloropropane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733

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 Quanitative 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: AS2-190429
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:42:00 AM
Lab ID: 1904D92-002 **Matrix:**
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Hexachlorobutadiene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
2-Hexanone	ND	1.0		µg/L	1	5/8/2019 12:12:11 PM	A59733
Isopropylbenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
4-Isopropyltoluene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
4-Methyl-2-pentanone	ND	1.0		µg/L	1	5/8/2019 12:12:11 PM	A59733
Methylene chloride	ND	0.30		µg/L	1	5/8/2019 12:12:11 PM	A59733
n-Butylbenzene	ND	0.30		µg/L	1	5/8/2019 12:12:11 PM	A59733
n-Propylbenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
sec-Butylbenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Styrene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
tert-Butylbenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Tetrachloroethene (PCE)	0.12	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
trans-1,2-DCE	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,1,1-Trichloroethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,1,2-Trichloroethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Trichloroethene (TCE)	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Trichlorofluoromethane	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
1,2,3-Trichloropropane	ND	0.20		µg/L	1	5/8/2019 12:12:11 PM	A59733
Vinyl chloride	ND	0.10		µg/L	1	5/8/2019 12:12:11 PM	A59733
Xylenes, Total	ND	0.15		µg/L	1	5/8/2019 12:12:11 PM	A59733
Surr: Dibromofluoromethane	94.0	70-130		%Rec	1	5/8/2019 12:12:11 PM	A59733
Surr: 1,2-Dichloroethane-d4	97.7	70-130		%Rec	1	5/8/2019 12:12:11 PM	A59733
Surr: Toluene-d8	97.6	70-130		%Rec	1	5/8/2019 12:12:11 PM	A59733
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	5/8/2019 12:12:11 PM	A59733

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 Quanitative 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: AS2-190429 DUP
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:43:00 AM
Lab ID: 1904D92-003 **Matrix:**
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Toluene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Ethylbenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Naphthalene	ND	0.20		µg/L	1	5/8/2019 12:41:55 PM	A59733
1-Methylnaphthalene	ND	0.40		µg/L	1	5/8/2019 12:41:55 PM	A59733
2-Methylnaphthalene	ND	0.40		µg/L	1	5/8/2019 12:41:55 PM	A59733
Acetone	ND	1.0		µg/L	1	5/8/2019 12:41:55 PM	A59733
Bromobenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Bromodichloromethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Bromoform	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Bromomethane	ND	0.20		µg/L	1	5/8/2019 12:41:55 PM	A59733
2-Butanone	ND	1.0		µg/L	1	5/8/2019 12:41:55 PM	A59733
Carbon disulfide	ND	1.0		µg/L	1	5/8/2019 12:41:55 PM	A59733
Carbon tetrachloride	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Chlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Chloroethane	ND	0.20		µg/L	1	5/8/2019 12:41:55 PM	A59733
Chloroform	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Chloromethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
2-Chlorotoluene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
4-Chlorotoluene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
cis-1,2-DCE	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	5/8/2019 12:41:55 PM	A59733
Dibromochloromethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Dibromomethane	ND	0.20		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,2-Dichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,3-Dichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,4-Dichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Dichlorodifluoromethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,1-Dichloroethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,1-Dichloroethene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,2-Dichloropropane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,3-Dichloropropane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
2,2-Dichloropropane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733

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 Quanitative 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: AS2-190429 DUP
Project: JSP Joint Superfund Project Center Mont
Collection Date: 4/29/2019 8:43:00 AM
Lab ID: 1904D92-003 **Matrix:**
Received Date: 4/30/2019 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Hexachlorobutadiene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
2-Hexanone	ND	1.0		µg/L	1	5/8/2019 12:41:55 PM	A59733
Isopropylbenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
4-Isopropyltoluene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
4-Methyl-2-pentanone	ND	1.0		µg/L	1	5/8/2019 12:41:55 PM	A59733
Methylene chloride	ND	0.30		µg/L	1	5/8/2019 12:41:55 PM	A59733
n-Butylbenzene	ND	0.30		µg/L	1	5/8/2019 12:41:55 PM	A59733
n-Propylbenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
sec-Butylbenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Styrene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
tert-Butylbenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Tetrachloroethene (PCE)	0.15	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
trans-1,2-DCE	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,1,1-Trichloroethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,1,2-Trichloroethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Trichloroethene (TCE)	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Trichlorofluoromethane	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
1,2,3-Trichloropropane	ND	0.20		µg/L	1	5/8/2019 12:41:55 PM	A59733
Vinyl chloride	ND	0.10		µg/L	1	5/8/2019 12:41:55 PM	A59733
Xylenes, Total	ND	0.15		µg/L	1	5/8/2019 12:41:55 PM	A59733
Surr: Dibromofluoromethane	96.8	70-130		%Rec	1	5/8/2019 12:41:55 PM	A59733
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	5/8/2019 12:41:55 PM	A59733
Surr: Toluene-d8	99.5	70-130		%Rec	1	5/8/2019 12:41:55 PM	A59733
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	5/8/2019 12:41:55 PM	A59733

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1904D92** RcptNo: **1**

Received By: **Yazmine Garduno** **4/30/2019 9:05:00 AM** Yazmine Garduno

Completed By: **Yazmine Garduno** **4/30/2019 9:32:05 AM** Yazmine Garduno

Reviewed By: VVZ 4/30/19

LB: ENM 4/30/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	UPS		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
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 ☐	Checked by: ENM 4/30/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@lascruces.org (575) 528-3630
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: JSP: Joint Superfund Project Center Monthly Analysis
Project #: CLC-JSP: Griggs Walnut
Project Manager: Luis Guerra 575-528-3609
Sampler: Joshua Rosenblatt
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. 1904B92	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)					Air Bubbles (Y or N)
4-29-19	0840	AIR	AS1-190429	Tedlar Bag	NONE	-001										X						
	0842	AIR	AS2-190429	Tedlar Bag	NONE	-002										X						
4-29-19	0843	AIR	AS2-190429 DUP	Tedlar Bag	NONE	-003										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-29-19	1500	Joshua Rosenblatt	FED EX	9:05	04/30/19
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
Luis Guerra lguerra@lascruces.org
Joshua Rosenblatt jrosenblatt@lascruces.org
Send Invoice 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 07, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: JSP Joint Superfund Project Center Monthly Analysis OrderNo.: 1905E20

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/30/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:45:00 AM
Lab ID: 1905E20-001 **Matrix:** AIR
Received Date: 5/30/2019 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Toluene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Ethylbenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Naphthalene	ND	0.20		µg/L	1	6/4/2019 12:13:15 PM	A60366
1-Methylnaphthalene	ND	0.40		µg/L	1	6/4/2019 12:13:15 PM	A60366
2-Methylnaphthalene	ND	0.40		µg/L	1	6/4/2019 12:13:15 PM	A60366
Acetone	ND	1.0		µg/L	1	6/4/2019 12:13:15 PM	A60366
Bromobenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Bromodichloromethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Bromoform	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Bromomethane	ND	0.20		µg/L	1	6/4/2019 12:13:15 PM	A60366
2-Butanone	ND	1.0		µg/L	1	6/4/2019 12:13:15 PM	A60366
Carbon disulfide	ND	1.0		µg/L	1	6/4/2019 12:13:15 PM	A60366
Carbon tetrachloride	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Chlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Chloroethane	ND	0.20		µg/L	1	6/4/2019 12:13:15 PM	A60366
Chloroform	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Chloromethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
2-Chlorotoluene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
4-Chlorotoluene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
cis-1,2-DCE	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	6/4/2019 12:13:15 PM	A60366
Dibromochloromethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Dibromomethane	ND	0.20		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,2-Dichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,3-Dichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,4-Dichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Dichlorodifluoromethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,1-Dichloroethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,1-Dichloroethene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,2-Dichloropropane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,3-Dichloropropane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
2,2-Dichloropropane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366

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 Quanitative 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.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:45:00 AM
Lab ID: 1905E20-001 **Matrix:** AIR
Received Date: 5/30/2019 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Hexachlorobutadiene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
2-Hexanone	ND	1.0		µg/L	1	6/4/2019 12:13:15 PM	A60366
Isopropylbenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
4-Isopropyltoluene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
4-Methyl-2-pentanone	ND	1.0		µg/L	1	6/4/2019 12:13:15 PM	A60366
Methylene chloride	ND	0.30		µg/L	1	6/4/2019 12:13:15 PM	A60366
n-Butylbenzene	ND	0.30		µg/L	1	6/4/2019 12:13:15 PM	A60366
n-Propylbenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
sec-Butylbenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Styrene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
tert-Butylbenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Tetrachloroethene (PCE)	0.17	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
trans-1,2-DCE	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,1,1-Trichloroethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,1,2-Trichloroethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Trichloroethene (TCE)	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Trichlorofluoromethane	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
1,2,3-Trichloropropane	ND	0.20		µg/L	1	6/4/2019 12:13:15 PM	A60366
Vinyl chloride	ND	0.10		µg/L	1	6/4/2019 12:13:15 PM	A60366
Xylenes, Total	ND	0.15		µg/L	1	6/4/2019 12:13:15 PM	A60366
Surr: Dibromofluoromethane	74.8	70-130		%Rec	1	6/4/2019 12:13:15 PM	A60366
Surr: 1,2-Dichloroethane-d4	83.3	70-130		%Rec	1	6/4/2019 12:13:15 PM	A60366
Surr: Toluene-d8	103	70-130		%Rec	1	6/4/2019 12:13:15 PM	A60366
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	6/4/2019 12:13:15 PM	A60366

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 Quanitative 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 AS1-190529 DUP
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:46:00 AM
Lab ID: 1905E20-002 **Matrix:** AIR
Received Date: 5/30/2019 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Toluene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Ethylbenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Naphthalene	ND	0.20		µg/L	1	6/4/2019 12:44:36 PM	A60366
1-Methylnaphthalene	ND	0.40		µg/L	1	6/4/2019 12:44:36 PM	A60366
2-Methylnaphthalene	ND	0.40		µg/L	1	6/4/2019 12:44:36 PM	A60366
Acetone	ND	1.0		µg/L	1	6/4/2019 12:44:36 PM	A60366
Bromobenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Bromodichloromethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Bromoform	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Bromomethane	ND	0.20		µg/L	1	6/4/2019 12:44:36 PM	A60366
2-Butanone	ND	1.0		µg/L	1	6/4/2019 12:44:36 PM	A60366
Carbon disulfide	ND	1.0		µg/L	1	6/4/2019 12:44:36 PM	A60366
Carbon tetrachloride	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Chlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Chloroethane	ND	0.20		µg/L	1	6/4/2019 12:44:36 PM	A60366
Chloroform	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Chloromethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
2-Chlorotoluene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
4-Chlorotoluene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
cis-1,2-DCE	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	6/4/2019 12:44:36 PM	A60366
Dibromochloromethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Dibromomethane	ND	0.20		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,2-Dichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,3-Dichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,4-Dichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Dichlorodifluoromethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,1-Dichloroethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,1-Dichloroethene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,2-Dichloropropane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,3-Dichloropropane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
2,2-Dichloropropane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366

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 Quanitative 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 AS1-190529 DUP
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:46:00 AM
Lab ID: 1905E20-002 **Matrix:** AIR
Received Date: 5/30/2019 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Hexachlorobutadiene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
2-Hexanone	ND	1.0		µg/L	1	6/4/2019 12:44:36 PM	A60366
Isopropylbenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
4-Isopropyltoluene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
4-Methyl-2-pentanone	ND	1.0		µg/L	1	6/4/2019 12:44:36 PM	A60366
Methylene chloride	ND	0.30		µg/L	1	6/4/2019 12:44:36 PM	A60366
n-Butylbenzene	ND	0.30		µg/L	1	6/4/2019 12:44:36 PM	A60366
n-Propylbenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
sec-Butylbenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Styrene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
tert-Butylbenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Tetrachloroethene (PCE)	0.18	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
trans-1,2-DCE	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,1,1-Trichloroethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,1,2-Trichloroethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Trichloroethene (TCE)	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Trichlorofluoromethane	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
1,2,3-Trichloropropane	ND	0.20		µg/L	1	6/4/2019 12:44:36 PM	A60366
Vinyl chloride	ND	0.10		µg/L	1	6/4/2019 12:44:36 PM	A60366
Xylenes, Total	ND	0.15		µg/L	1	6/4/2019 12:44:36 PM	A60366
Surr: Dibromofluoromethane	83.2	70-130		%Rec	1	6/4/2019 12:44:36 PM	A60366
Surr: 1,2-Dichloroethane-d4	91.7	70-130		%Rec	1	6/4/2019 12:44:36 PM	A60366
Surr: Toluene-d8	94.5	70-130		%Rec	1	6/4/2019 12:44:36 PM	A60366
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	6/4/2019 12:44:36 PM	A60366

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 Quanitative 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 AS2-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:48:00 AM
Lab ID: 1905E20-003 **Matrix:** AIR
Received Date: 5/30/2019 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Toluene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Ethylbenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Naphthalene	ND	0.20		µg/L	1	6/4/2019 1:16:13 PM	A60366
1-Methylnaphthalene	ND	0.40		µg/L	1	6/4/2019 1:16:13 PM	A60366
2-Methylnaphthalene	ND	0.40		µg/L	1	6/4/2019 1:16:13 PM	A60366
Acetone	ND	1.0		µg/L	1	6/4/2019 1:16:13 PM	A60366
Bromobenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Bromodichloromethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Bromoform	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Bromomethane	ND	0.20		µg/L	1	6/4/2019 1:16:13 PM	A60366
2-Butanone	ND	1.0		µg/L	1	6/4/2019 1:16:13 PM	A60366
Carbon disulfide	ND	1.0		µg/L	1	6/4/2019 1:16:13 PM	A60366
Carbon tetrachloride	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Chlorobenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Chloroethane	ND	0.20		µg/L	1	6/4/2019 1:16:13 PM	A60366
Chloroform	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Chloromethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
2-Chlorotoluene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
4-Chlorotoluene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
cis-1,2-DCE	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	6/4/2019 1:16:13 PM	A60366
Dibromochloromethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Dibromomethane	ND	0.20		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,2-Dichlorobenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,3-Dichlorobenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,4-Dichlorobenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Dichlorodifluoromethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,1-Dichloroethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,1-Dichloroethene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,2-Dichloropropane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,3-Dichloropropane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
2,2-Dichloropropane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366

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 Quanitative 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 AS2-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:48:00 AM
Lab ID: 1905E20-003 **Matrix:** AIR
Received Date: 5/30/2019 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Hexachlorobutadiene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
2-Hexanone	ND	1.0		µg/L	1	6/4/2019 1:16:13 PM	A60366
Isopropylbenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
4-Isopropyltoluene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
4-Methyl-2-pentanone	ND	1.0		µg/L	1	6/4/2019 1:16:13 PM	A60366
Methylene chloride	ND	0.30		µg/L	1	6/4/2019 1:16:13 PM	A60366
n-Butylbenzene	ND	0.30		µg/L	1	6/4/2019 1:16:13 PM	A60366
n-Propylbenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
sec-Butylbenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Styrene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
tert-Butylbenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Tetrachloroethene (PCE)	0.16	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
trans-1,2-DCE	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,1,1-Trichloroethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,1,2-Trichloroethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Trichloroethene (TCE)	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Trichlorofluoromethane	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
1,2,3-Trichloropropane	ND	0.20		µg/L	1	6/4/2019 1:16:13 PM	A60366
Vinyl chloride	ND	0.10		µg/L	1	6/4/2019 1:16:13 PM	A60366
Xylenes, Total	ND	0.15		µg/L	1	6/4/2019 1:16:13 PM	A60366
Surr: Dibromofluoromethane	78.6	70-130		%Rec	1	6/4/2019 1:16:13 PM	A60366
Surr: 1,2-Dichloroethane-d4	90.9	70-130		%Rec	1	6/4/2019 1:16:13 PM	A60366
Surr: Toluene-d8	101	70-130		%Rec	1	6/4/2019 1:16:13 PM	A60366
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	6/4/2019 1:16:13 PM	A60366

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1905E20** RcptNo: **1**

Received By: **Yazmine Garduno** **5/30/2019 10:10:00 AM** Yazmine Garduno

Completed By: **Leah Baca** **5/30/2019 12:19:50 PM** Leah SBaca

Reviewed By: DAD 5/30/19

5/30/19 LB Labeled by

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. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Thm 5-30-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	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 #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 528-3604
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☑ NELAP ☐ Other _____
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush _____
Project Name:
JSP: Joint Superfund Project Center Monthly Analysis
Project #:
C/O JSP: Griggs Walnut
Project Manager:
Luis Guerra
575-528-3604
Sampler: Jaclin 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. 1905E 20	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
5-29-19	0845	AIR	CLC AS1-190529	Tedlar Bag	NONE	-001										X		
1	0846	AIR	CLC AS1-190529 Dup	Tedlar Bag	NONE	-002										X		
5-29-19	0848	AIR	CLC AS2-190529	Tedlar Bag	NONE	-003										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
5-29-19	1500	Jaclin Reyna	VWO FEDEX	5/30/19	1015
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 07, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: JSP Joint Superfund Project Center Monthy Analysis OrderNo.: 1905E23

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/30/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC18-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:08:00 AM
Lab ID: 1905E23-001 **Matrix:** AQUEOUS **Received Date:** 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Toluene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Ethylbenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Naphthalene	ND	2.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
2-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Acetone	ND	10		µg/L	1	6/4/2019 8:04:19 PM	A60366
Bromobenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Bromodichloromethane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Bromoform	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Bromomethane	ND	3.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
2-Butanone	ND	10		µg/L	1	6/4/2019 8:04:19 PM	A60366
Carbon disulfide	ND	10		µg/L	1	6/4/2019 8:04:19 PM	A60366
Carbon Tetrachloride	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Chlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Chloroethane	ND	2.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Chloroform	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Chloromethane	ND	3.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
2-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
4-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
cis-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Dibromochloromethane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Dibromomethane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,1-Dichloroethane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,1-Dichloroethene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,2-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,3-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
2,2-Dichloropropane	ND	2.0		µg/L	1	6/4/2019 8:04:19 PM	A60366

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 Quanitative Limit
RL	Reporting Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC18-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:08:00 AM
Lab ID: 1905E23-001
Matrix: AQUEOUS
Received Date: 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Hexachlorobutadiene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
2-Hexanone	ND	10		µg/L	1	6/4/2019 8:04:19 PM	A60366
Isopropylbenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
4-Isopropyltoluene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
4-Methyl-2-pentanone	ND	10		µg/L	1	6/4/2019 8:04:19 PM	A60366
Methylene Chloride	ND	3.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
n-Butylbenzene	ND	3.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
n-Propylbenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
sec-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Styrene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
tert-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Tetrachloroethene (PCE)	7.7	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
trans-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Trichlorofluoromethane	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Vinyl chloride	ND	1.0		µg/L	1	6/4/2019 8:04:19 PM	A60366
Xylenes, Total	ND	1.5		µg/L	1	6/4/2019 8:04:19 PM	A60366
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	1	6/4/2019 8:04:19 PM	A60366
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	6/4/2019 8:04:19 PM	A60366
Surr: Dibromofluoromethane	79.4	70-130		%Rec	1	6/4/2019 8:04:19 PM	A60366
Surr: Toluene-d8	96.0	70-130		%Rec	1	6/4/2019 8:04:19 PM	A60366

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 Quanitative 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: CLC27-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:17:00 AM
Lab ID: 1905E23-002
Matrix: AQUEOUS
Received Date: 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Toluene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Ethylbenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Naphthalene	ND	2.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
2-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Acetone	ND	10		µg/L	1	6/4/2019 8:35:40 PM	A60366
Bromobenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Bromodichloromethane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Bromoform	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Bromomethane	ND	3.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
2-Butanone	ND	10		µg/L	1	6/4/2019 8:35:40 PM	A60366
Carbon disulfide	ND	10		µg/L	1	6/4/2019 8:35:40 PM	A60366
Carbon Tetrachloride	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Chlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Chloroethane	ND	2.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Chloroform	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Chloromethane	ND	3.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
2-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
4-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
cis-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Dibromochloromethane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Dibromomethane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,1-Dichloroethane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,1-Dichloroethene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,2-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,3-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
2,2-Dichloropropane	ND	2.0		µg/L	1	6/4/2019 8:35:40 PM	A60366

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 Quanitative 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.

CLIENT: City of Las Cruces
Client Sample ID: CLC27-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:17:00 AM
Lab ID: 1905E23-002
Matrix: AQUEOUS
Received Date: 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Hexachlorobutadiene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
2-Hexanone	ND	10		µg/L	1	6/4/2019 8:35:40 PM	A60366
Isopropylbenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
4-Isopropyltoluene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
4-Methyl-2-pentanone	ND	10		µg/L	1	6/4/2019 8:35:40 PM	A60366
Methylene Chloride	ND	3.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
n-Butylbenzene	ND	3.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
n-Propylbenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
sec-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Styrene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
tert-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Tetrachloroethene (PCE)	14	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
trans-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Trichlorofluoromethane	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Vinyl chloride	ND	1.0		µg/L	1	6/4/2019 8:35:40 PM	A60366
Xylenes, Total	ND	1.5		µg/L	1	6/4/2019 8:35:40 PM	A60366
Surr: 1,2-Dichloroethane-d4	91.1	70-130		%Rec	1	6/4/2019 8:35:40 PM	A60366
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	6/4/2019 8:35:40 PM	A60366
Surr: Dibromofluoromethane	79.2	70-130		%Rec	1	6/4/2019 8:35:40 PM	A60366
Surr: Toluene-d8	91.2	70-130		%Rec	1	6/4/2019 8:35:40 PM	A60366

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 Quanitative 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: CLCIS1-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:34:00 AM
Lab ID: 1905E23-003 **Matrix:** AQUEOUS **Received Date:** 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Toluene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Ethylbenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Naphthalene	ND	2.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
2-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Acetone	ND	10		µg/L	1	6/4/2019 9:06:56 PM	A60366
Bromobenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Bromodichloromethane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Bromoform	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Bromomethane	ND	3.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
2-Butanone	ND	10		µg/L	1	6/4/2019 9:06:56 PM	A60366
Carbon disulfide	ND	10		µg/L	1	6/4/2019 9:06:56 PM	A60366
Carbon Tetrachloride	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Chlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Chloroethane	ND	2.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Chloroform	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Chloromethane	ND	3.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
2-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
4-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
cis-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Dibromochloromethane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Dibromomethane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,1-Dichloroethane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,1-Dichloroethene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,2-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,3-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
2,2-Dichloropropane	ND	2.0		µg/L	1	6/4/2019 9:06:56 PM	A60366

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 Quanitative 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: CLCIS1-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:34:00 AM
Lab ID: 1905E23-003 **Matrix:** AQUEOUS **Received Date:** 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Hexachlorobutadiene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
2-Hexanone	ND	10		µg/L	1	6/4/2019 9:06:56 PM	A60366
Isopropylbenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
4-Isopropyltoluene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
4-Methyl-2-pentanone	ND	10		µg/L	1	6/4/2019 9:06:56 PM	A60366
Methylene Chloride	ND	3.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
n-Butylbenzene	ND	3.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
n-Propylbenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
sec-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Styrene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
tert-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Tetrachloroethene (PCE)	13	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
trans-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Trichlorofluoromethane	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Vinyl chloride	ND	1.0		µg/L	1	6/4/2019 9:06:56 PM	A60366
Xylenes, Total	ND	1.5		µg/L	1	6/4/2019 9:06:56 PM	A60366
Surr: 1,2-Dichloroethane-d4	91.3	70-130		%Rec	1	6/4/2019 9:06:56 PM	A60366
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	6/4/2019 9:06:56 PM	A60366
Surr: Dibromofluoromethane	80.9	70-130		%Rec	1	6/4/2019 9:06:56 PM	A60366
Surr: Toluene-d8	94.5	70-130		%Rec	1	6/4/2019 9:06:56 PM	A60366

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 Quanitative 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: CLCC1-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:35:00 AM
Lab ID: 1905E23-004
Matrix: AQUEOUS
Received Date: 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Toluene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Ethylbenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Naphthalene	ND	2.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
2-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Acetone	ND	10		µg/L	1	6/4/2019 9:38:05 PM	A60366
Bromobenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Bromodichloromethane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Bromoform	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Bromomethane	ND	3.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
2-Butanone	ND	10		µg/L	1	6/4/2019 9:38:05 PM	A60366
Carbon disulfide	ND	10		µg/L	1	6/4/2019 9:38:05 PM	A60366
Carbon Tetrachloride	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Chlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Chloroethane	ND	2.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Chloroform	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Chloromethane	ND	3.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
2-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
4-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
cis-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Dibromochloromethane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Dibromomethane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,1-Dichloroethane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,1-Dichloroethene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,2-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,3-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
2,2-Dichloropropane	ND	2.0		µg/L	1	6/4/2019 9:38:05 PM	A60366

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 Quanitative 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: CLCC1-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:35:00 AM
Lab ID: 1905E23-004
Matrix: AQUEOUS
Received Date: 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Hexachlorobutadiene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
2-Hexanone	ND	10		µg/L	1	6/4/2019 9:38:05 PM	A60366
Isopropylbenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
4-Isopropyltoluene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
4-Methyl-2-pentanone	ND	10		µg/L	1	6/4/2019 9:38:05 PM	A60366
Methylene Chloride	ND	3.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
n-Butylbenzene	ND	3.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
n-Propylbenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
sec-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Styrene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
tert-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
trans-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Trichlorofluoromethane	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Vinyl chloride	ND	1.0		µg/L	1	6/4/2019 9:38:05 PM	A60366
Xylenes, Total	ND	1.5		µg/L	1	6/4/2019 9:38:05 PM	A60366
Surr: 1,2-Dichloroethane-d4	91.6	70-130		%Rec	1	6/4/2019 9:38:05 PM	A60366
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	6/4/2019 9:38:05 PM	A60366
Surr: Dibromofluoromethane	80.6	70-130		%Rec	1	6/4/2019 9:38:05 PM	A60366
Surr: Toluene-d8	94.6	70-130		%Rec	1	6/4/2019 9:38:05 PM	A60366

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 Quanitative 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: CLCC2-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:37:00 AM
Lab ID: 1905E23-005 **Matrix:** AQUEOUS **Received Date:** 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Toluene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Ethylbenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Naphthalene	ND	2.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
2-Methylnaphthalene	ND	4.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Acetone	ND	10		µg/L	1	6/4/2019 10:09:09 PM	A60366
Bromobenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Bromodichloromethane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Bromoform	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Bromomethane	ND	3.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
2-Butanone	ND	10		µg/L	1	6/4/2019 10:09:09 PM	A60366
Carbon disulfide	ND	10		µg/L	1	6/4/2019 10:09:09 PM	A60366
Carbon Tetrachloride	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Chlorobenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Chloroethane	ND	2.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Chloroform	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Chloromethane	ND	3.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
2-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
4-Chlorotoluene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
cis-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Dibromochloromethane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Dibromomethane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,1-Dichloroethane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,1-Dichloroethene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,2-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,3-Dichloropropane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
2,2-Dichloropropane	ND	2.0		µg/L	1	6/4/2019 10:09:09 PM	A60366

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 Quanitative 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: CLCC2-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:37:00 AM
Lab ID: 1905E23-005 **Matrix:** AQUEOUS **Received Date:** 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Hexachlorobutadiene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
2-Hexanone	ND	10		µg/L	1	6/4/2019 10:09:09 PM	A60366
Isopropylbenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
4-Isopropyltoluene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
4-Methyl-2-pentanone	ND	10		µg/L	1	6/4/2019 10:09:09 PM	A60366
Methylene Chloride	ND	3.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
n-Butylbenzene	ND	3.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
n-Propylbenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
sec-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Styrene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
tert-Butylbenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
trans-1,2-DCE	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Trichlorofluoromethane	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Vinyl chloride	ND	1.0		µg/L	1	6/4/2019 10:09:09 PM	A60366
Xylenes, Total	ND	1.5		µg/L	1	6/4/2019 10:09:09 PM	A60366
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%Rec	1	6/4/2019 10:09:09 PM	A60366
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	6/4/2019 10:09:09 PM	A60366
Surr: Dibromofluoromethane	81.0	70-130		%Rec	1	6/4/2019 10:09:09 PM	A60366
Surr: Toluene-d8	91.3	70-130		%Rec	1	6/4/2019 10:09:09 PM	A60366

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 Quanitative 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: CLCES1-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:40:00 AM
Lab ID: 1905E23-006 **Matrix:** AQUEOUS **Received Date:** 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Toluene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Ethylbenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Naphthalene	ND	2.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
2-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Acetone	ND	10		µg/L	1	6/5/2019 12:43:37 AM	A60366
Bromobenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Bromodichloromethane	5.5	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Bromoform	2.5	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Bromomethane	ND	3.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
2-Butanone	ND	10		µg/L	1	6/5/2019 12:43:37 AM	A60366
Carbon disulfide	ND	10		µg/L	1	6/5/2019 12:43:37 AM	A60366
Carbon Tetrachloride	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Chlorobenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Chloroethane	ND	2.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Chloroform	9.3	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Chloromethane	ND	3.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
2-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
4-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
cis-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Dibromochloromethane	5.4	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Dibromomethane	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,1-Dichloroethane	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,1-Dichloroethene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,2-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,3-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
2,2-Dichloropropane	ND	2.0		µg/L	1	6/5/2019 12:43:37 AM	A60366

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 Quanitative 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: CLCES1-190529
Project: JSP Joint Superfund Project Center Mont
Collection Date: 5/29/2019 8:40:00 AM
Lab ID: 1905E23-006 **Matrix:** AQUEOUS **Received Date:** 5/30/2019 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Hexachlorobutadiene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
2-Hexanone	ND	10		µg/L	1	6/5/2019 12:43:37 AM	A60366
Isopropylbenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
4-Isopropyltoluene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
4-Methyl-2-pentanone	ND	10		µg/L	1	6/5/2019 12:43:37 AM	A60366
Methylene Chloride	ND	3.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
n-Butylbenzene	ND	3.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
n-Propylbenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
sec-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Styrene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
tert-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
trans-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Trichlorofluoromethane	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Vinyl chloride	ND	1.0		µg/L	1	6/5/2019 12:43:37 AM	A60366
Xylenes, Total	ND	1.5		µg/L	1	6/5/2019 12:43:37 AM	A60366
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%Rec	1	6/5/2019 12:43:37 AM	A60366
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	6/5/2019 12:43:37 AM	A60366
Surr: Dibromofluoromethane	81.6	70-130		%Rec	1	6/5/2019 12:43:37 AM	A60366
Surr: Toluene-d8	97.0	70-130		%Rec	1	6/5/2019 12:43:37 AM	A60366

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905E23**
07-Jun-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Center Monthy Ana

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A60366**	RunNo: **60366**
Prep Date:	Analysis Date: **6/4/2019**	SeqNo: **2042256** 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								
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.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905E23**
07-Jun-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Center Monthy Ana

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A60366**	RunNo: **60366**
Prep Date:	Analysis Date: **6/4/2019**	SeqNo: **2042256** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	9.0		10.00		90.5	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.0	70	130			
Surr: Dibromofluoromethane	7.7		10.00		76.9	70	130			
Surr: Toluene-d8	9.6		10.00		95.8	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A60366**	RunNo: **60366**
Prep Date:	Analysis Date: **6/4/2019**	SeqNo: **2042257** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.7	70	130			
Toluene	18	1.0	20.00	0	92.2	70	130			
Chlorobenzene	18	1.0	20.00	0	92.5	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 Quanitative 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#: **1905E23**
07-Jun-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Center Monthy Ana

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A60366**	RunNo: **60366**
Prep Date:	Analysis Date: **6/4/2019**	SeqNo: **2042257** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	17	1.0	20.00	0	87.0	70	130			
Trichloroethene (TCE)	15	1.0	20.00	0	77.0	70	130			
Surr: 1,2-Dichloroethane-d4	8.1		10.00		81.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	7.5		10.00		75.5	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 Quanitative 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

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: **1905E23** RcptNo: **1**

Received By: **Yazmine Garduno** **5/30/2019 10:15:00 AM** Yazmine Garduno

Completed By: **Leah Baca** **5/30/2019 12:30:47 PM** Leah Baca

Reviewed By: DAD 5/30/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

TMM 5-30-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 528-3630
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: JSP Joint Superfund Project Center Monthly Analysis.
Project #: CLC-J9: Griggs Walnut
Project Manager: Luis Guerra 575-528-3609
Sampler: Yadira Reyna
On Ice: ☑ Yes ☐ No
Sample Temperature: 3.1 + 0.2 = 3.3

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. 1905E23	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
5-29-19	0808	Drinking Water	CLC 18-190529	3-40ml Vials	$HgCl_2$	-001										X		
	0817		CLC 27-190529			-002										X		
	0834		CLC IS1-190529			-003										X		
	0835		CLC C1-190529			-004										X		
	0837		CLC C2-190529			-005										X		
5-29-19	0840	Drinking Water	CLC ES1-190529	3-40ml Vials	$HgCl_2$	-006										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
5-29-19	1500	Yadira Reyna		FEDEX 5/30/19	1015
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 10, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX:

RE: JSP Joint Superfund Project Monthly Analysis OrderNo.: 1906G57

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 6/28/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:18:00 AM
Lab ID: 1906G57-001
Matrix: AQUEOUS
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Toluene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Ethylbenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Naphthalene	ND	2.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
2-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Acetone	18	10		µg/L	1	7/8/2019 8:00:00 PM	R61220
Bromobenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Bromodichloromethane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Bromoform	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Bromomethane	ND	3.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
2-Butanone	ND	10		µg/L	1	7/8/2019 8:00:00 PM	R61220
Carbon disulfide	ND	10		µg/L	1	7/8/2019 8:00:00 PM	R61220
Carbon Tetrachloride	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Chlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Chloroethane	ND	2.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Chloroform	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Chloromethane	ND	3.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
2-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
4-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
cis-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Dibromochloromethane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Dibromomethane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,1-Dichloroethane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,1-Dichloroethene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,2-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,3-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
2,2-Dichloropropane	ND	2.0		µg/L	1	7/8/2019 8:00:00 PM	R61220

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 Quanitative Limit	RL	Reporting Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:18:00 AM
Lab ID: 1906G57-001
Matrix: AQUEOUS
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Hexachlorobutadiene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
2-Hexanone	ND	10		µg/L	1	7/8/2019 8:00:00 PM	R61220
Isopropylbenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
4-Isopropyltoluene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
4-Methyl-2-pentanone	ND	10		µg/L	1	7/8/2019 8:00:00 PM	R61220
Methylene Chloride	ND	3.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
n-Butylbenzene	ND	3.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
n-Propylbenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
sec-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Styrene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
tert-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Tetrachloroethene (PCE)	7.2	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
trans-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Trichlorofluoromethane	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Vinyl chloride	ND	1.0		µg/L	1	7/8/2019 8:00:00 PM	R61220
Xylenes, Total	ND	1.5		µg/L	1	7/8/2019 8:00:00 PM	R61220
Surr: 1,2-Dichloroethane-d4	121	70-130		%Rec	1	7/8/2019 8:00:00 PM	R61220
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	7/8/2019 8:00:00 PM	R61220
Surr: Dibromofluoromethane	112	70-130		%Rec	1	7/8/2019 8:00:00 PM	R61220
Surr: Toluene-d8	94.4	70-130		%Rec	1	7/8/2019 8:00:00 PM	R61220

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 Quanitative 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 27-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:59:00 AM
Lab ID: 1906G57-002
Matrix: AQUEOUS
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Toluene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Ethylbenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Naphthalene	ND	2.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
2-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Acetone	ND	10		µg/L	1	7/8/2019 8:24:00 PM	R61220
Bromobenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Bromodichloromethane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Bromoform	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Bromomethane	ND	3.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
2-Butanone	ND	10		µg/L	1	7/8/2019 8:24:00 PM	R61220
Carbon disulfide	ND	10		µg/L	1	7/8/2019 8:24:00 PM	R61220
Carbon Tetrachloride	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Chlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Chloroethane	ND	2.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Chloroform	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Chloromethane	ND	3.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
2-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
4-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
cis-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Dibromochloromethane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Dibromomethane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,1-Dichloroethane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,1-Dichloroethene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,2-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,3-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
2,2-Dichloropropane	ND	2.0		µg/L	1	7/8/2019 8:24:00 PM	R61220

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 Quanitative 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 27-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:59:00 AM
Lab ID: 1906G57-002
Matrix: AQUEOUS
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Hexachlorobutadiene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
2-Hexanone	ND	10		µg/L	1	7/8/2019 8:24:00 PM	R61220
Isopropylbenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
4-Isopropyltoluene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
4-Methyl-2-pentanone	ND	10		µg/L	1	7/8/2019 8:24:00 PM	R61220
Methylene Chloride	ND	3.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
n-Butylbenzene	ND	3.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
n-Propylbenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
sec-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Styrene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
tert-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Tetrachloroethene (PCE)	15	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
trans-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Trichlorofluoromethane	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Vinyl chloride	ND	1.0		µg/L	1	7/8/2019 8:24:00 PM	R61220
Xylenes, Total	ND	1.5		µg/L	1	7/8/2019 8:24:00 PM	R61220
Surr: 1,2-Dichloroethane-d4	121	70-130		%Rec	1	7/8/2019 8:24:00 PM	R61220
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	7/8/2019 8:24:00 PM	R61220
Surr: Dibromofluoromethane	116	70-130		%Rec	1	7/8/2019 8:24:00 PM	R61220
Surr: Toluene-d8	94.3	70-130		%Rec	1	7/8/2019 8:24:00 PM	R61220

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 Quanitative 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 IS1-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:23:00 AM
Lab ID: 1906G57-003
Matrix: AQUEOUS
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Toluene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Ethylbenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Naphthalene	ND	2.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
2-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Acetone	ND	10		µg/L	1	7/8/2019 8:48:00 PM	R61220
Bromobenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Bromodichloromethane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Bromoform	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Bromomethane	ND	3.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
2-Butanone	ND	10		µg/L	1	7/8/2019 8:48:00 PM	R61220
Carbon disulfide	ND	10		µg/L	1	7/8/2019 8:48:00 PM	R61220
Carbon Tetrachloride	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Chlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Chloroethane	ND	2.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Chloroform	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Chloromethane	ND	3.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
2-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
4-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
cis-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Dibromochloromethane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Dibromomethane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,1-Dichloroethane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,1-Dichloroethene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,2-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,3-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
2,2-Dichloropropane	ND	2.0		µg/L	1	7/8/2019 8:48:00 PM	R61220

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 Quanitative 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 IS1-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:23:00 AM
Lab ID: 1906G57-003 **Matrix:** AQUEOUS **Received Date:** 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Hexachlorobutadiene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
2-Hexanone	ND	10		µg/L	1	7/8/2019 8:48:00 PM	R61220
Isopropylbenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
4-Isopropyltoluene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
4-Methyl-2-pentanone	ND	10		µg/L	1	7/8/2019 8:48:00 PM	R61220
Methylene Chloride	ND	3.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
n-Butylbenzene	ND	3.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
n-Propylbenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
sec-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Styrene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
tert-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Tetrachloroethene (PCE)	12	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
trans-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Trichlorofluoromethane	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Vinyl chloride	ND	1.0		µg/L	1	7/8/2019 8:48:00 PM	R61220
Xylenes, Total	ND	1.5		µg/L	1	7/8/2019 8:48:00 PM	R61220
Surr: 1,2-Dichloroethane-d4	122	70-130		%Rec	1	7/8/2019 8:48:00 PM	R61220
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	7/8/2019 8:48:00 PM	R61220
Surr: Dibromofluoromethane	117	70-130		%Rec	1	7/8/2019 8:48:00 PM	R61220
Surr: Toluene-d8	93.6	70-130		%Rec	1	7/8/2019 8:48:00 PM	R61220

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 Quanitative 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 C1-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:26:00 AM
Lab ID: 1906G57-004
Matrix: AQUEOUS
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Toluene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Ethylbenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Naphthalene	ND	2.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
2-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Acetone	ND	10		µg/L	1	7/8/2019 9:12:00 PM	R61220
Bromobenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Bromodichloromethane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Bromoform	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Bromomethane	ND	3.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
2-Butanone	ND	10		µg/L	1	7/8/2019 9:12:00 PM	R61220
Carbon disulfide	ND	10		µg/L	1	7/8/2019 9:12:00 PM	R61220
Carbon Tetrachloride	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Chlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Chloroethane	ND	2.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Chloroform	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Chloromethane	ND	3.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
2-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
4-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
cis-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Dibromochloromethane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Dibromomethane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,1-Dichloroethane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,1-Dichloroethene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,2-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,3-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
2,2-Dichloropropane	ND	2.0		µg/L	1	7/8/2019 9:12:00 PM	R61220

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 Quanitative 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 C1-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:26:00 AM
Lab ID: 1906G57-004 **Matrix:** AQUEOUS **Received Date:** 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Hexachlorobutadiene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
2-Hexanone	ND	10		µg/L	1	7/8/2019 9:12:00 PM	R61220
Isopropylbenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
4-Isopropyltoluene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
4-Methyl-2-pentanone	ND	10		µg/L	1	7/8/2019 9:12:00 PM	R61220
Methylene Chloride	ND	3.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
n-Butylbenzene	ND	3.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
n-Propylbenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
sec-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Styrene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
tert-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
trans-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Trichlorofluoromethane	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Vinyl chloride	ND	1.0		µg/L	1	7/8/2019 9:12:00 PM	R61220
Xylenes, Total	ND	1.5		µg/L	1	7/8/2019 9:12:00 PM	R61220
Surr: 1,2-Dichloroethane-d4	120	70-130		%Rec	1	7/8/2019 9:12:00 PM	R61220
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	7/8/2019 9:12:00 PM	R61220
Surr: Dibromofluoromethane	116	70-130		%Rec	1	7/8/2019 9:12:00 PM	R61220
Surr: Toluene-d8	94.9	70-130		%Rec	1	7/8/2019 9:12:00 PM	R61220

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 Quanitative 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 C2-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:29:00 AM
Lab ID: 1906G57-005
Matrix: AQUEOUS
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Toluene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Ethylbenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Naphthalene	ND	2.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
2-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Acetone	ND	10		µg/L	1	7/8/2019 9:36:00 PM	R61220
Bromobenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Bromodichloromethane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Bromoform	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Bromomethane	ND	3.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
2-Butanone	ND	10		µg/L	1	7/8/2019 9:36:00 PM	R61220
Carbon disulfide	ND	10		µg/L	1	7/8/2019 9:36:00 PM	R61220
Carbon Tetrachloride	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Chlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Chloroethane	ND	2.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Chloroform	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Chloromethane	ND	3.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
2-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
4-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
cis-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Dibromochloromethane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Dibromomethane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,1-Dichloroethane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,1-Dichloroethene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,2-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,3-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
2,2-Dichloropropane	ND	2.0		µg/L	1	7/8/2019 9:36:00 PM	R61220

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 Quanitative 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 C2-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:29:00 AM
Lab ID: 1906G57-005 **Matrix:** AQUEOUS **Received Date:** 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Hexachlorobutadiene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
2-Hexanone	ND	10		µg/L	1	7/8/2019 9:36:00 PM	R61220
Isopropylbenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
4-Isopropyltoluene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
4-Methyl-2-pentanone	ND	10		µg/L	1	7/8/2019 9:36:00 PM	R61220
Methylene Chloride	ND	3.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
n-Butylbenzene	ND	3.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
n-Propylbenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
sec-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Styrene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
tert-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
trans-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Trichlorofluoromethane	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Vinyl chloride	ND	1.0		µg/L	1	7/8/2019 9:36:00 PM	R61220
Xylenes, Total	ND	1.5		µg/L	1	7/8/2019 9:36:00 PM	R61220
Surr: 1,2-Dichloroethane-d4	117	70-130		%Rec	1	7/8/2019 9:36:00 PM	R61220
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	7/8/2019 9:36:00 PM	R61220
Surr: Dibromofluoromethane	112	70-130		%Rec	1	7/8/2019 9:36:00 PM	R61220
Surr: Toluene-d8	93.5	70-130		%Rec	1	7/8/2019 9:36:00 PM	R61220

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 Quanitative 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 ES1-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:33:00 AM
Lab ID: 1906G57-006
Matrix: AQUEOUS
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Toluene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Ethylbenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Naphthalene	ND	2.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
2-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Acetone	ND	10		µg/L	1	7/8/2019 10:00:00 PM	B61220
Bromobenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Bromodichloromethane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Bromoform	1.1	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Bromomethane	ND	3.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
2-Butanone	ND	10		µg/L	1	7/8/2019 10:00:00 PM	B61220
Carbon disulfide	ND	10		µg/L	1	7/8/2019 10:00:00 PM	B61220
Carbon Tetrachloride	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Chlorobenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Chloroethane	ND	2.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Chloroform	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Chloromethane	ND	3.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
2-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
4-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
cis-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Dibromochloromethane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Dibromomethane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,1-Dichloroethane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,1-Dichloroethene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,2-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,3-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
2,2-Dichloropropane	ND	2.0		µg/L	1	7/8/2019 10:00:00 PM	B61220

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 Quanitative 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 ES1-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:33:00 AM
Lab ID: 1906G57-006 **Matrix:** AQUEOUS **Received Date:** 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Hexachlorobutadiene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
2-Hexanone	ND	10		µg/L	1	7/8/2019 10:00:00 PM	B61220
Isopropylbenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
4-Isopropyltoluene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
4-Methyl-2-pentanone	ND	10		µg/L	1	7/8/2019 10:00:00 PM	B61220
Methylene Chloride	ND	3.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
n-Butylbenzene	ND	3.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
n-Propylbenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
sec-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Styrene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
tert-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
trans-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Trichlorofluoromethane	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Vinyl chloride	ND	1.0		µg/L	1	7/8/2019 10:00:00 PM	B61220
Xylenes, Total	ND	1.5		µg/L	1	7/8/2019 10:00:00 PM	B61220
Surr: 1,2-Dichloroethane-d4	118	70-130		%Rec	1	7/8/2019 10:00:00 PM	B61220
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	7/8/2019 10:00:00 PM	B61220
Surr: Dibromofluoromethane	115	70-130		%Rec	1	7/8/2019 10:00:00 PM	B61220
Surr: Toluene-d8	90.6	70-130		%Rec	1	7/8/2019 10:00:00 PM	B61220

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 Quanitative 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 ES1-190627 Dup
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:35:00 AM
Lab ID: 1906G57-007
Matrix: AQUEOUS
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Toluene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Ethylbenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Naphthalene	ND	2.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
2-Methylnaphthalene	ND	4.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Acetone	ND	10		µg/L	1	7/8/2019 11:12:00 PM	B61220
Bromobenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Bromodichloromethane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Bromoform	1.0	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Bromomethane	ND	3.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
2-Butanone	ND	10		µg/L	1	7/8/2019 11:12:00 PM	B61220
Carbon disulfide	ND	10		µg/L	1	7/8/2019 11:12:00 PM	B61220
Carbon Tetrachloride	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Chlorobenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Chloroethane	ND	2.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Chloroform	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Chloromethane	ND	3.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
2-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
4-Chlorotoluene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
cis-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Dibromochloromethane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Dibromomethane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,1-Dichloroethane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,1-Dichloroethene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,2-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,3-Dichloropropane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
2,2-Dichloropropane	ND	2.0		µg/L	1	7/8/2019 11:12:00 PM	B61220

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 Quanitative 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 ES1-190627 Dup
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:35:00 AM
Lab ID: 1906G57-007 **Matrix:** AQUEOUS **Received Date:** 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Hexachlorobutadiene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
2-Hexanone	ND	10		µg/L	1	7/8/2019 11:12:00 PM	B61220
Isopropylbenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
4-Isopropyltoluene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
4-Methyl-2-pentanone	ND	10		µg/L	1	7/8/2019 11:12:00 PM	B61220
Methylene Chloride	ND	3.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
n-Butylbenzene	ND	3.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
n-Propylbenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
sec-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Styrene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
tert-Butylbenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
trans-1,2-DCE	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Trichlorofluoromethane	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Vinyl chloride	ND	1.0		µg/L	1	7/8/2019 11:12:00 PM	B61220
Xylenes, Total	ND	1.5		µg/L	1	7/8/2019 11:12:00 PM	B61220
Surr: 1,2-Dichloroethane-d4	116	70-130		%Rec	1	7/8/2019 11:12:00 PM	B61220
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	7/8/2019 11:12:00 PM	B61220
Surr: Dibromofluoromethane	112	70-130		%Rec	1	7/8/2019 11:12:00 PM	B61220
Surr: Toluene-d8	88.7	70-130		%Rec	1	7/8/2019 11:12:00 PM	B61220

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906G57**
10-Jul-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Monthly Analysis

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R61220**	RunNo: **61220**
Prep Date:	Analysis Date: **7/8/2019**	SeqNo: **2075386** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	93.1	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	97.6	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		101	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R61220**	RunNo: **61220**
Prep Date:	Analysis Date: **7/8/2019**	SeqNo: **2075524** 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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **1906G57**
10-Jul-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Monthly Analysis

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R61220**	RunNo: **61220**
Prep Date:	Analysis Date: **7/8/2019**	SeqNo: **2075524** Units: **µg/L**

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 Quanitative 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#: **1906G57**
10-Jul-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Monthly Analysis

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R61220**	RunNo: **61220**
Prep Date:	Analysis Date: **7/8/2019**	SeqNo: **2075524** Units: **µg/L**

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	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	9.7		10.00		96.6	70	130			

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B61220**	RunNo: **61220**
Prep Date:	Analysis Date: **7/9/2019**	SeqNo: **2075607** Units: **µg/L**

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	19	1.0	20.00	0	97.4	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.0	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		117	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	9.5		10.00		94.9	70	130			

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B61220**	RunNo: **61220**
Prep Date:	Analysis Date: **7/9/2019**	SeqNo: **2075610** 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								

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 Quanitative 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#: **1906G57**
10-Jul-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Monthly Analysis

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B61220**	RunNo: **61220**
Prep Date:	Analysis Date: **7/9/2019**	SeqNo: **2075610** Units: **µg/L**

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 Quanitative 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#: **1906G57**
10-Jul-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Monthly Analysis

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B61220**	RunNo: **61220**
Prep Date:	Analysis Date: **7/9/2019**	SeqNo: **2075610** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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		114	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.3		10.00		93.2	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1906G57** RcptNo: 1

Received By: **Thom Maybee** **6/28/2019 8:45:00 AM**

Completed By: **Erin Melendrez** **6/29/2019 11:47:17 AM**

Reviewed By: JL 7/1/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

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	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 528-3630
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: JSF Joint Superfund Project Monthly Analysis
Project #: CLC-JSF Griggs Walnut
Project Manager: Luis Guerra (575) 528-3609
Sampler: Yadira Reyna
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.6 + 0 = 3.6°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1906G57	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
6-27-19	0818	DRINKING WATER	CLC 18-190627	3-40ml VIALS	HCl	-001										X		
	0859		CLC 27-190627			-002										X		
	0823		CLC IS1-190627			-003										X		
	0826		CLC C1-190627			-004										X		
	0829		CLC C2-190627			-005										X		
	0833		CLC ES1-190627			-006										X		
6-27-19	0835	DRINKING WATER	CLC ES1-190627 Dup	3-40ml VIALS	HCl	-007										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
6-27-19	1500	Yadira Reyna	FedEX	6-28-19	8:45
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
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

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July 10, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX:

RE: JSP Joint Superfund Project Monthly Analysis OrderNo.: 1906G58

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/28/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: AS1-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:39:00 AM
Lab ID: 1906G58-001 **Matrix:** AIR
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Toluene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Ethylbenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Naphthalene	ND	0.20		µg/L	1	7/9/2019 1:22:46 PM	R61256
1-Methylnaphthalene	ND	0.40		µg/L	1	7/9/2019 1:22:46 PM	R61256
2-Methylnaphthalene	ND	0.40		µg/L	1	7/9/2019 1:22:46 PM	R61256
Acetone	ND	1.0		µg/L	1	7/9/2019 1:22:46 PM	R61256
Bromobenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Bromodichloromethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Bromoform	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Bromomethane	ND	0.20		µg/L	1	7/9/2019 1:22:46 PM	R61256
2-Butanone	ND	1.0		µg/L	1	7/9/2019 1:22:46 PM	R61256
Carbon disulfide	ND	1.0		µg/L	1	7/9/2019 1:22:46 PM	R61256
Carbon tetrachloride	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Chlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Chloroethane	ND	0.20		µg/L	1	7/9/2019 1:22:46 PM	R61256
Chloroform	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Chloromethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
2-Chlorotoluene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
4-Chlorotoluene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
cis-1,2-DCE	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	7/9/2019 1:22:46 PM	R61256
Dibromochloromethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Dibromomethane	ND	0.20		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,2-Dichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,3-Dichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,4-Dichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Dichlorodifluoromethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,1-Dichloroethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,1-Dichloroethene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,2-Dichloropropane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,3-Dichloropropane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
2,2-Dichloropropane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256

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 Quanitative 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: AS1-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:39:00 AM
Lab ID: 1906G58-001 **Matrix:** AIR
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Hexachlorobutadiene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
2-Hexanone	ND	1.0		µg/L	1	7/9/2019 1:22:46 PM	R61256
Isopropylbenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
4-Isopropyltoluene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
4-Methyl-2-pentanone	ND	1.0		µg/L	1	7/9/2019 1:22:46 PM	R61256
Methylene chloride	ND	0.30		µg/L	1	7/9/2019 1:22:46 PM	R61256
n-Butylbenzene	ND	0.30		µg/L	1	7/9/2019 1:22:46 PM	R61256
n-Propylbenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
sec-Butylbenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Styrene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
tert-Butylbenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Tetrachloroethene (PCE)	0.16	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
trans-1,2-DCE	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,1,1-Trichloroethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,1,2-Trichloroethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Trichloroethene (TCE)	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Trichlorofluoromethane	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
1,2,3-Trichloropropane	ND	0.20		µg/L	1	7/9/2019 1:22:46 PM	R61256
Vinyl chloride	ND	0.10		µg/L	1	7/9/2019 1:22:46 PM	R61256
Xylenes, Total	ND	0.15		µg/L	1	7/9/2019 1:22:46 PM	R61256
Surr: Dibromofluoromethane	102	70-130		%Rec	1	7/9/2019 1:22:46 PM	R61256
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	1	7/9/2019 1:22:46 PM	R61256
Surr: Toluene-d8	95.9	70-130		%Rec	1	7/9/2019 1:22:46 PM	R61256
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	7/9/2019 1:22:46 PM	R61256

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 Quanitative 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: AS2-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:42:00 AM
Lab ID: 1906G58-002 **Matrix:** AIR
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Toluene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Ethylbenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Naphthalene	ND	0.20		µg/L	1	7/9/2019 1:52:07 PM	R61256
1-Methylnaphthalene	ND	0.40		µg/L	1	7/9/2019 1:52:07 PM	R61256
2-Methylnaphthalene	ND	0.40		µg/L	1	7/9/2019 1:52:07 PM	R61256
Acetone	ND	1.0		µg/L	1	7/9/2019 1:52:07 PM	R61256
Bromobenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Bromodichloromethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Bromoform	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Bromomethane	ND	0.20		µg/L	1	7/9/2019 1:52:07 PM	R61256
2-Butanone	ND	1.0		µg/L	1	7/9/2019 1:52:07 PM	R61256
Carbon disulfide	ND	1.0		µg/L	1	7/9/2019 1:52:07 PM	R61256
Carbon tetrachloride	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Chlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Chloroethane	ND	0.20		µg/L	1	7/9/2019 1:52:07 PM	R61256
Chloroform	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Chloromethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
2-Chlorotoluene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
4-Chlorotoluene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
cis-1,2-DCE	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	7/9/2019 1:52:07 PM	R61256
Dibromochloromethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Dibromomethane	ND	0.20		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,2-Dichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,3-Dichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,4-Dichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Dichlorodifluoromethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,1-Dichloroethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,1-Dichloroethene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,2-Dichloropropane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,3-Dichloropropane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
2,2-Dichloropropane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256

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 Quanitative 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: AS2-190627
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 6/27/2019 8:42:00 AM
Lab ID: 1906G58-002 **Matrix:** AIR
Received Date: 6/28/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Hexachlorobutadiene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
2-Hexanone	ND	1.0		µg/L	1	7/9/2019 1:52:07 PM	R61256
Isopropylbenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
4-Isopropyltoluene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
4-Methyl-2-pentanone	ND	1.0		µg/L	1	7/9/2019 1:52:07 PM	R61256
Methylene chloride	ND	0.30		µg/L	1	7/9/2019 1:52:07 PM	R61256
n-Butylbenzene	ND	0.30		µg/L	1	7/9/2019 1:52:07 PM	R61256
n-Propylbenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
sec-Butylbenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Styrene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
tert-Butylbenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Tetrachloroethene (PCE)	0.13	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
trans-1,2-DCE	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,1,1-Trichloroethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,1,2-Trichloroethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Trichloroethene (TCE)	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Trichlorofluoromethane	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
1,2,3-Trichloropropane	ND	0.20		µg/L	1	7/9/2019 1:52:07 PM	R61256
Vinyl chloride	ND	0.10		µg/L	1	7/9/2019 1:52:07 PM	R61256
Xylenes, Total	ND	0.15		µg/L	1	7/9/2019 1:52:07 PM	R61256
Surr: Dibromofluoromethane	103	70-130		%Rec	1	7/9/2019 1:52:07 PM	R61256
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%Rec	1	7/9/2019 1:52:07 PM	R61256
Surr: Toluene-d8	98.3	70-130		%Rec	1	7/9/2019 1:52:07 PM	R61256
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	7/9/2019 1:52:07 PM	R61256

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1906G58** RcptNo: **1**

Received By: **Thom Maybee** **6/28/2019 8:45:00 AM**

Completed By: **Erin Melendrez** **6/29/2019 12:00:17 PM**

Reviewed By: DAD 7/1/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☑ ENM 6/28/19
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
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 ☐	Checked by: 7/1/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	22.2	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 528-3620
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush _____
Project Name:
JSP: 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: 22.2 to = 22.2°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1906G158	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)					Air Bubbles (Y or N)
6-27-19	0839	AIR	AS1-190627	Ted Lr Bag	NONE	-001										X						
6-27-19	0842	AIR	AS2-190627	Ted Lr Bag	NONE	-002										X						

Date	Time	Relinquished by:	Received by:	Date	Time
6-27-19	1500	Yadira Reyna	FedEX	6-28-19	8:45

Remarks: Send Results to:
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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 30, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: JSP Joint Superfund Project Monthly Analysis OrderNo.: 1907C27

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 7/24/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:10:00 AM
Lab ID: 1907C27-001 **Matrix:** AQUEOUS **Received Date:** 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Toluene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Ethylbenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Naphthalene	ND	2.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
2-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Acetone	ND	10		µg/L	1	7/25/2019 1:41:43 PM	R61642
Bromobenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Bromodichloromethane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Bromoform	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Bromomethane	ND	3.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
2-Butanone	ND	10		µg/L	1	7/25/2019 1:41:43 PM	R61642
Carbon disulfide	ND	10		µg/L	1	7/25/2019 1:41:43 PM	R61642
Carbon Tetrachloride	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Chlorobenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Chloroethane	ND	2.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Chloroform	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Chloromethane	ND	3.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
2-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
4-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
cis-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Dibromochloromethane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Dibromomethane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,1-Dichloroethane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,1-Dichloroethene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,2-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,3-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
2,2-Dichloropropane	ND	2.0		µg/L	1	7/25/2019 1:41:43 PM	R61642

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 Quanitative 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 18-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:10:00 AM
Lab ID: 1907C27-001 **Matrix:** AQUEOUS **Received Date:** 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Hexachlorobutadiene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
2-Hexanone	ND	10		µg/L	1	7/25/2019 1:41:43 PM	R61642
Isopropylbenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
4-Isopropyltoluene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
4-Methyl-2-pentanone	ND	10		µg/L	1	7/25/2019 1:41:43 PM	R61642
Methylene Chloride	ND	3.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
n-Butylbenzene	ND	3.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
n-Propylbenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
sec-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Styrene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
tert-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Tetrachloroethene (PCE)	8.0	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
trans-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Trichlorofluoromethane	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Vinyl chloride	ND	1.0		µg/L	1	7/25/2019 1:41:43 PM	R61642
Xylenes, Total	ND	1.5		µg/L	1	7/25/2019 1:41:43 PM	R61642
Surr: 1,2-Dichloroethane-d4	87.0	70-130		%Rec	1	7/25/2019 1:41:43 PM	R61642
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	7/25/2019 1:41:43 PM	R61642
Surr: Dibromofluoromethane	91.8	70-130		%Rec	1	7/25/2019 1:41:43 PM	R61642
Surr: Toluene-d8	97.4	70-130		%Rec	1	7/25/2019 1:41:43 PM	R61642

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 Quanitative 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 27-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:23:00 AM
Lab ID: 1907C27-002
Matrix: AQUEOUS
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Toluene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Ethylbenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Naphthalene	ND	2.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
2-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Acetone	ND	10		µg/L	1	7/25/2019 3:08:17 PM	R61642
Bromobenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Bromodichloromethane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Bromoform	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Bromomethane	ND	3.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
2-Butanone	ND	10		µg/L	1	7/25/2019 3:08:17 PM	R61642
Carbon disulfide	ND	10		µg/L	1	7/25/2019 3:08:17 PM	R61642
Carbon Tetrachloride	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Chlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Chloroethane	ND	2.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Chloroform	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Chloromethane	ND	3.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
2-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
4-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
cis-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Dibromochloromethane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Dibromomethane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,1-Dichloroethane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,1-Dichloroethene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,2-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,3-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
2,2-Dichloropropane	ND	2.0		µg/L	1	7/25/2019 3:08:17 PM	R61642

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
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S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 27-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:23:00 AM
Lab ID: 1907C27-002
Matrix: AQUEOUS
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Hexachlorobutadiene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
2-Hexanone	ND	10		µg/L	1	7/25/2019 3:08:17 PM	R61642
Isopropylbenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
4-Isopropyltoluene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
4-Methyl-2-pentanone	ND	10		µg/L	1	7/25/2019 3:08:17 PM	R61642
Methylene Chloride	ND	3.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
n-Butylbenzene	ND	3.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
n-Propylbenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
sec-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Styrene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
tert-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Tetrachloroethene (PCE)	17	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
trans-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Trichlorofluoromethane	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Vinyl chloride	ND	1.0		µg/L	1	7/25/2019 3:08:17 PM	R61642
Xylenes, Total	ND	1.5		µg/L	1	7/25/2019 3:08:17 PM	R61642
Surr: 1,2-Dichloroethane-d4	89.2	70-130		%Rec	1	7/25/2019 3:08:17 PM	R61642
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	7/25/2019 3:08:17 PM	R61642
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	7/25/2019 3:08:17 PM	R61642
Surr: Toluene-d8	97.5	70-130		%Rec	1	7/25/2019 3:08:17 PM	R61642

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 Quanitative 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 IS1-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:35:00 AM
Lab ID: 1907C27-003 **Matrix:** AQUEOUS **Received Date:** 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Toluene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Ethylbenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Naphthalene	ND	2.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
2-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Acetone	ND	10		µg/L	1	7/25/2019 3:37:07 PM	R61642
Bromobenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Bromodichloromethane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Bromoform	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Bromomethane	ND	3.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
2-Butanone	ND	10		µg/L	1	7/25/2019 3:37:07 PM	R61642
Carbon disulfide	ND	10		µg/L	1	7/25/2019 3:37:07 PM	R61642
Carbon Tetrachloride	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Chlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Chloroethane	ND	2.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Chloroform	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Chloromethane	ND	3.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
2-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
4-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
cis-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Dibromochloromethane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Dibromomethane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,1-Dichloroethane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,1-Dichloroethene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,2-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,3-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
2,2-Dichloropropane	ND	2.0		µg/L	1	7/25/2019 3:37:07 PM	R61642

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 Quanitative 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 IS1-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:35:00 AM
Lab ID: 1907C27-003 **Matrix:** AQUEOUS **Received Date:** 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Hexachlorobutadiene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
2-Hexanone	ND	10		µg/L	1	7/25/2019 3:37:07 PM	R61642
Isopropylbenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
4-Isopropyltoluene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
4-Methyl-2-pentanone	ND	10		µg/L	1	7/25/2019 3:37:07 PM	R61642
Methylene Chloride	ND	3.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
n-Butylbenzene	ND	3.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
n-Propylbenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
sec-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Styrene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
tert-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Tetrachloroethene (PCE)	14	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
trans-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Trichlorofluoromethane	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Vinyl chloride	ND	1.0		µg/L	1	7/25/2019 3:37:07 PM	R61642
Xylenes, Total	ND	1.5		µg/L	1	7/25/2019 3:37:07 PM	R61642
Surr: 1,2-Dichloroethane-d4	88.6	70-130		%Rec	1	7/25/2019 3:37:07 PM	R61642
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	7/25/2019 3:37:07 PM	R61642
Surr: Dibromofluoromethane	91.2	70-130		%Rec	1	7/25/2019 3:37:07 PM	R61642
Surr: Toluene-d8	96.3	70-130		%Rec	1	7/25/2019 3:37:07 PM	R61642

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 Quanitative 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 IS1-190723 DUP
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:35:00 AM
Lab ID: 1907C27-004
Matrix: AQUEOUS
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Toluene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Ethylbenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Naphthalene	ND	2.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
2-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Acetone	ND	10		µg/L	1	7/25/2019 4:05:59 PM	R61642
Bromobenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Bromodichloromethane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Bromoform	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Bromomethane	ND	3.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
2-Butanone	ND	10		µg/L	1	7/25/2019 4:05:59 PM	R61642
Carbon disulfide	ND	10		µg/L	1	7/25/2019 4:05:59 PM	R61642
Carbon Tetrachloride	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Chlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Chloroethane	ND	2.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Chloroform	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Chloromethane	ND	3.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
2-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
4-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
cis-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Dibromochloromethane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Dibromomethane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,1-Dichloroethane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,1-Dichloroethene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,2-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,3-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
2,2-Dichloropropane	ND	2.0		µg/L	1	7/25/2019 4:05:59 PM	R61642

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 Quanitative 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 IS1-190723 DUP
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:35:00 AM
Lab ID: 1907C27-004 **Matrix:** AQUEOUS **Received Date:** 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Hexachlorobutadiene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
2-Hexanone	ND	10		µg/L	1	7/25/2019 4:05:59 PM	R61642
Isopropylbenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
4-Isopropyltoluene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
4-Methyl-2-pentanone	ND	10		µg/L	1	7/25/2019 4:05:59 PM	R61642
Methylene Chloride	ND	3.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
n-Butylbenzene	ND	3.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
n-Propylbenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
sec-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Styrene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
tert-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Tetrachloroethene (PCE)	14	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
trans-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Trichlorofluoromethane	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Vinyl chloride	ND	1.0		µg/L	1	7/25/2019 4:05:59 PM	R61642
Xylenes, Total	ND	1.5		µg/L	1	7/25/2019 4:05:59 PM	R61642
Surr: 1,2-Dichloroethane-d4	85.9	70-130		%Rec	1	7/25/2019 4:05:59 PM	R61642
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	7/25/2019 4:05:59 PM	R61642
Surr: Dibromofluoromethane	91.6	70-130		%Rec	1	7/25/2019 4:05:59 PM	R61642
Surr: Toluene-d8	94.3	70-130		%Rec	1	7/25/2019 4:05:59 PM	R61642

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 Quanitative 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 C1-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:40:00 AM
Lab ID: 1907C27-005 **Matrix:** AQUEOUS **Received Date:** 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Toluene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Ethylbenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Naphthalene	ND	2.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
2-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Acetone	ND	10		µg/L	1	7/25/2019 4:34:47 PM	R61642
Bromobenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Bromodichloromethane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Bromoform	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Bromomethane	ND	3.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
2-Butanone	ND	10		µg/L	1	7/25/2019 4:34:47 PM	R61642
Carbon disulfide	ND	10		µg/L	1	7/25/2019 4:34:47 PM	R61642
Carbon Tetrachloride	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Chlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Chloroethane	ND	2.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Chloroform	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Chloromethane	ND	3.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
2-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
4-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
cis-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Dibromochloromethane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Dibromomethane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,1-Dichloroethane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,1-Dichloroethene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,2-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,3-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
2,2-Dichloropropane	ND	2.0		µg/L	1	7/25/2019 4:34:47 PM	R61642

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 Quanitative 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 C1-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:40:00 AM
Lab ID: 1907C27-005 **Matrix:** AQUEOUS **Received Date:** 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Hexachlorobutadiene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
2-Hexanone	ND	10		µg/L	1	7/25/2019 4:34:47 PM	R61642
Isopropylbenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
4-Isopropyltoluene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
4-Methyl-2-pentanone	ND	10		µg/L	1	7/25/2019 4:34:47 PM	R61642
Methylene Chloride	ND	3.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
n-Butylbenzene	ND	3.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
n-Propylbenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
sec-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Styrene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
tert-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
trans-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Trichlorofluoromethane	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Vinyl chloride	ND	1.0		µg/L	1	7/25/2019 4:34:47 PM	R61642
Xylenes, Total	ND	1.5		µg/L	1	7/25/2019 4:34:47 PM	R61642
Surr: 1,2-Dichloroethane-d4	87.9	70-130		%Rec	1	7/25/2019 4:34:47 PM	R61642
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	1	7/25/2019 4:34:47 PM	R61642
Surr: Dibromofluoromethane	90.8	70-130		%Rec	1	7/25/2019 4:34:47 PM	R61642
Surr: Toluene-d8	91.3	70-130		%Rec	1	7/25/2019 4:34:47 PM	R61642

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 Quanitative 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 C2-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:45:00 AM
Lab ID: 1907C27-006
Matrix: AQUEOUS
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Toluene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Ethylbenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Naphthalene	ND	2.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
2-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Acetone	ND	10		µg/L	1	7/25/2019 5:03:37 PM	R61642
Bromobenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Bromodichloromethane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Bromoform	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Bromomethane	ND	3.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
2-Butanone	ND	10		µg/L	1	7/25/2019 5:03:37 PM	R61642
Carbon disulfide	ND	10		µg/L	1	7/25/2019 5:03:37 PM	R61642
Carbon Tetrachloride	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Chlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Chloroethane	ND	2.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Chloroform	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Chloromethane	ND	3.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
2-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
4-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
cis-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Dibromochloromethane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Dibromomethane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,1-Dichloroethane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,1-Dichloroethene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,2-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,3-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
2,2-Dichloropropane	ND	2.0		µg/L	1	7/25/2019 5:03:37 PM	R61642

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 Quanitative 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 C2-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:45:00 AM
Lab ID: 1907C27-006
Matrix: AQUEOUS
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Hexachlorobutadiene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
2-Hexanone	ND	10		µg/L	1	7/25/2019 5:03:37 PM	R61642
Isopropylbenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
4-Isopropyltoluene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
4-Methyl-2-pentanone	ND	10		µg/L	1	7/25/2019 5:03:37 PM	R61642
Methylene Chloride	ND	3.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
n-Butylbenzene	ND	3.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
n-Propylbenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
sec-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Styrene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
tert-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
trans-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Trichlorofluoromethane	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Vinyl chloride	ND	1.0		µg/L	1	7/25/2019 5:03:37 PM	R61642
Xylenes, Total	ND	1.5		µg/L	1	7/25/2019 5:03:37 PM	R61642
Surr: 1,2-Dichloroethane-d4	87.6	70-130		%Rec	1	7/25/2019 5:03:37 PM	R61642
Surr: 4-Bromofluorobenzene	91.7	70-130		%Rec	1	7/25/2019 5:03:37 PM	R61642
Surr: Dibromofluoromethane	93.4	70-130		%Rec	1	7/25/2019 5:03:37 PM	R61642
Surr: Toluene-d8	95.1	70-130		%Rec	1	7/25/2019 5:03:37 PM	R61642

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 Quanitative 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 ES1-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:49:00 AM
Lab ID: 1907C27-007 **Matrix:** AQUEOUS **Received Date:** 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Toluene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Ethylbenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Naphthalene	ND	2.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
2-Methylnaphthalene	ND	4.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Acetone	ND	10		µg/L	1	7/25/2019 5:32:29 PM	R61642
Bromobenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Bromodichloromethane	1.9	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Bromoform	3.0	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Bromomethane	ND	3.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
2-Butanone	ND	10		µg/L	1	7/25/2019 5:32:29 PM	R61642
Carbon disulfide	ND	10		µg/L	1	7/25/2019 5:32:29 PM	R61642
Carbon Tetrachloride	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Chlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Chloroethane	ND	2.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Chloroform	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Chloromethane	ND	3.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
2-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
4-Chlorotoluene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
cis-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Dibromochloromethane	3.5	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Dibromomethane	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,1-Dichloroethane	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,1-Dichloroethene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,2-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,3-Dichloropropane	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
2,2-Dichloropropane	ND	2.0		µg/L	1	7/25/2019 5:32:29 PM	R61642

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 Quanitative 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 ES1-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:49:00 AM
Lab ID: 1907C27-007
Matrix: AQUEOUS
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Hexachlorobutadiene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
2-Hexanone	ND	10		µg/L	1	7/25/2019 5:32:29 PM	R61642
Isopropylbenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
4-Isopropyltoluene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
4-Methyl-2-pentanone	ND	10		µg/L	1	7/25/2019 5:32:29 PM	R61642
Methylene Chloride	ND	3.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
n-Butylbenzene	ND	3.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
n-Propylbenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
sec-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Styrene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
tert-Butylbenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
trans-1,2-DCE	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Trichlorofluoromethane	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Vinyl chloride	ND	1.0		µg/L	1	7/25/2019 5:32:29 PM	R61642
Xylenes, Total	ND	1.5		µg/L	1	7/25/2019 5:32:29 PM	R61642
Surr: 1,2-Dichloroethane-d4	91.9	70-130		%Rec	1	7/25/2019 5:32:29 PM	R61642
Surr: 4-Bromofluorobenzene	90.2	70-130		%Rec	1	7/25/2019 5:32:29 PM	R61642
Surr: Dibromofluoromethane	94.6	70-130		%Rec	1	7/25/2019 5:32:29 PM	R61642
Surr: Toluene-d8	97.7	70-130		%Rec	1	7/25/2019 5:32:29 PM	R61642

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1907C27**
30-Jul-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Monthly Analysis

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R61642**	RunNo: **61642**
Prep Date:	Analysis Date: **7/25/2019**	SeqNo: **2090556** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	82.5	70	130			
Toluene	18	1.0	20.00	0	92.1	70	130			
Chlorobenzene	18	1.0	20.00	0	90.6	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	83.9	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	79.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.2	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.0	70	130			
Surr: Dibromofluoromethane	8.7		10.00		87.4	70	130			
Surr: Toluene-d8	9.3		10.00		93.2	70	130			

Sample ID: **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R61642**	RunNo: **61642**
Prep Date:	Analysis Date: **7/25/2019**	SeqNo: **2090557** 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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **1907C27**
30-Jul-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Monthly Analysis

Sample ID: **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R61642**	RunNo: **61642**
Prep Date:	Analysis Date: **7/25/2019**	SeqNo: **2090557** Units: **µg/L**

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 Quanitative 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#: **1907C27**
30-Jul-19

Client: City of Las Cruces
Project: JSP Joint Superfund Project Monthly Analysis

Sample ID: **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R61642**	RunNo: **61642**
Prep Date:	Analysis Date: **7/25/2019**	SeqNo: **2090557** Units: **µg/L**

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	8.7		10.00		87.0	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.7	70	130			
Surr: Dibromofluoromethane	9.3		10.00		93.0	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

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: 1907C27 RcptNo: 1

Received By: **Desiree Dominguez** 7/24/2019 9:00:00 AM

Completed By: **Erin Melendrez** 7/24/2019 9:56:09 AM

Reviewed By: JO 7/24/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: YG 7/24/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575)528-3630
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: JSP-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: 3.1 - 0.0 = 3.1°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 Request ID	Container Type and #	Preservative Type	HEAL No. 1907C27	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)					Air Bubbles (Y or N)
7-23-19	0810	Drinking Water	CLC18-190723	3-40ml Vials	$HgCl_2$	-001										X						
	0823		CLC27-190723			-002										X						
	0835		CLC IS1-190723			-003										X						
	0835		CLC IS1-190723 DUP			-004										X						
	0840		CLC C1-190723			-005										X						
	0845		CLC C2-190723			-006										X						
7-23-19	0849	Drinking Water	CLC ES1-190723	3-40 ml Vials	$HgCl_2$	-007										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
7-23-19	1500	Yadira Reyna	FedEx	7/24/19	9:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 02, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX:

RE: JSP Joint Superfund Project Monthly Analysis OrderNo.: 1907C30

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/24/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: AS1-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:55:00 AM
Lab ID: 1907C30-001 **Matrix:** AIR
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Toluene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Ethylbenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Naphthalene	ND	0.20		µg/L	1	7/31/2019 1:49:44 PM	R61819
1-Methylnaphthalene	ND	0.40		µg/L	1	7/31/2019 1:49:44 PM	R61819
2-Methylnaphthalene	ND	0.40		µg/L	1	7/31/2019 1:49:44 PM	R61819
Acetone	ND	1.0		µg/L	1	7/31/2019 1:49:44 PM	R61819
Bromobenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Bromodichloromethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Bromoform	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Bromomethane	ND	0.20		µg/L	1	7/31/2019 1:49:44 PM	R61819
2-Butanone	ND	1.0		µg/L	1	7/31/2019 1:49:44 PM	R61819
Carbon disulfide	ND	1.0		µg/L	1	7/31/2019 1:49:44 PM	R61819
Carbon tetrachloride	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Chlorobenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Chloroethane	ND	0.20		µg/L	1	7/31/2019 1:49:44 PM	R61819
Chloroform	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Chloromethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
2-Chlorotoluene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
4-Chlorotoluene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
cis-1,2-DCE	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	7/31/2019 1:49:44 PM	R61819
Dibromochloromethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Dibromomethane	ND	0.20		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,2-Dichlorobenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,3-Dichlorobenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,4-Dichlorobenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Dichlorodifluoromethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,1-Dichloroethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,1-Dichloroethene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,2-Dichloropropane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,3-Dichloropropane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
2,2-Dichloropropane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819

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 Quanitative 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: AS1-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:55:00 AM
Lab ID: 1907C30-001 **Matrix:** AIR
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Hexachlorobutadiene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
2-Hexanone	ND	1.0		µg/L	1	7/31/2019 1:49:44 PM	R61819
Isopropylbenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
4-Isopropyltoluene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
4-Methyl-2-pentanone	ND	1.0		µg/L	1	7/31/2019 1:49:44 PM	R61819
Methylene chloride	ND	0.30		µg/L	1	7/31/2019 1:49:44 PM	R61819
n-Butylbenzene	ND	0.30		µg/L	1	7/31/2019 1:49:44 PM	R61819
n-Propylbenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
sec-Butylbenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Styrene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
tert-Butylbenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Tetrachloroethene (PCE)	0.14	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
trans-1,2-DCE	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,1,1-Trichloroethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,1,2-Trichloroethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Trichloroethene (TCE)	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Trichlorofluoromethane	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
1,2,3-Trichloropropane	ND	0.20		µg/L	1	7/31/2019 1:49:44 PM	R61819
Vinyl chloride	ND	0.10		µg/L	1	7/31/2019 1:49:44 PM	R61819
Xylenes, Total	ND	0.15		µg/L	1	7/31/2019 1:49:44 PM	R61819
Surr: Dibromofluoromethane	92.1	70-130		%Rec	1	7/31/2019 1:49:44 PM	R61819
Surr: 1,2-Dichloroethane-d4	88.4	70-130		%Rec	1	7/31/2019 1:49:44 PM	R61819
Surr: Toluene-d8	95.7	70-130		%Rec	1	7/31/2019 1:49:44 PM	R61819
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	7/31/2019 1:49:44 PM	R61819

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 Quanitative 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: AS2-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:57:00 AM
Lab ID: 1907C30-002 **Matrix:** AIR
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Toluene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Ethylbenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Naphthalene	ND	0.20		µg/L	1	7/31/2019 2:19:29 PM	R61819
1-Methylnaphthalene	ND	0.40		µg/L	1	7/31/2019 2:19:29 PM	R61819
2-Methylnaphthalene	ND	0.40		µg/L	1	7/31/2019 2:19:29 PM	R61819
Acetone	ND	1.0		µg/L	1	7/31/2019 2:19:29 PM	R61819
Bromobenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Bromodichloromethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Bromoform	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Bromomethane	ND	0.20		µg/L	1	7/31/2019 2:19:29 PM	R61819
2-Butanone	ND	1.0		µg/L	1	7/31/2019 2:19:29 PM	R61819
Carbon disulfide	ND	1.0		µg/L	1	7/31/2019 2:19:29 PM	R61819
Carbon tetrachloride	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Chlorobenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Chloroethane	ND	0.20		µg/L	1	7/31/2019 2:19:29 PM	R61819
Chloroform	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Chloromethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
2-Chlorotoluene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
4-Chlorotoluene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
cis-1,2-DCE	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	7/31/2019 2:19:29 PM	R61819
Dibromochloromethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Dibromomethane	ND	0.20		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,2-Dichlorobenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,3-Dichlorobenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,4-Dichlorobenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Dichlorodifluoromethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,1-Dichloroethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,1-Dichloroethene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,2-Dichloropropane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,3-Dichloropropane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
2,2-Dichloropropane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819

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 Quanitative 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.

CLIENT: City of Las Cruces
Client Sample ID: AS2-190723
Project: JSP Joint Superfund Project Monthly Ana
Collection Date: 7/23/2019 8:57:00 AM
Lab ID: 1907C30-002 **Matrix:** AIR
Received Date: 7/24/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Hexachlorobutadiene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
2-Hexanone	ND	1.0		µg/L	1	7/31/2019 2:19:29 PM	R61819
Isopropylbenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
4-Isopropyltoluene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
4-Methyl-2-pentanone	ND	1.0		µg/L	1	7/31/2019 2:19:29 PM	R61819
Methylene chloride	ND	0.30		µg/L	1	7/31/2019 2:19:29 PM	R61819
n-Butylbenzene	ND	0.30		µg/L	1	7/31/2019 2:19:29 PM	R61819
n-Propylbenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
sec-Butylbenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Styrene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
tert-Butylbenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Tetrachloroethene (PCE)	0.15	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
trans-1,2-DCE	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,1,1-Trichloroethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,1,2-Trichloroethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Trichloroethene (TCE)	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Trichlorofluoromethane	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
1,2,3-Trichloropropane	ND	0.20		µg/L	1	7/31/2019 2:19:29 PM	R61819
Vinyl chloride	ND	0.10		µg/L	1	7/31/2019 2:19:29 PM	R61819
Xylenes, Total	ND	0.15		µg/L	1	7/31/2019 2:19:29 PM	R61819
Surr: Dibromofluoromethane	90.4	70-130		%Rec	1	7/31/2019 2:19:29 PM	R61819
Surr: 1,2-Dichloroethane-d4	86.9	70-130		%Rec	1	7/31/2019 2:19:29 PM	R61819
Surr: Toluene-d8	95.6	70-130		%Rec	1	7/31/2019 2:19:29 PM	R61819
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	7/31/2019 2:19:29 PM	R61819

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1907C30 RcptNo: 1

Received By: **Desiree Dominguez** 7/24/2019 9:00:00 AM

Completed By: **Erin Melendrez** 7/24/2019 10:03:51 AM

Reviewed By: EO 7/24/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

Log In

3. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☐ NA ☑
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑

    # of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
    Adjusted? _____
    Checked by: EO 7/24/19

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 ☐

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	N/A	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 528-3680
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: JSP: Joint Superfund Project Monthly Analysis
Project #: CNC 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. 1907C30	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
7-23-19	0855	AIR	AS1-190723	Tedlar Bag	NONE	-001										X		
7-23-19	0857	AIR	AS2-190723	Tedlar Bag	NONE	-002										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
7-23-19	1500	Yadira Reyna	FedEx	7/24/19	9:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
Luis Guerra: lguerra@las-cruces.org
Joshua Rosenblatt: jrosenblatt@las-cruces.org
Send invoice to CNC 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 09, 2019

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.: 1908I37

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/30/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: AS1-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:33:00 AM
Lab ID: 1908I37-001 **Matrix:** AIR
Received Date: 8/30/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Toluene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Ethylbenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Naphthalene	ND	0.20		µg/L	1	9/6/2019 1:49:21 PM	A62738
1-Methylnaphthalene	ND	0.40		µg/L	1	9/6/2019 1:49:21 PM	A62738
2-Methylnaphthalene	ND	0.40		µg/L	1	9/6/2019 1:49:21 PM	A62738
Acetone	ND	1.0		µg/L	1	9/6/2019 1:49:21 PM	A62738
Bromobenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Bromodichloromethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Bromoform	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Bromomethane	ND	0.20		µg/L	1	9/6/2019 1:49:21 PM	A62738
2-Butanone	ND	1.0		µg/L	1	9/6/2019 1:49:21 PM	A62738
Carbon disulfide	ND	1.0		µg/L	1	9/6/2019 1:49:21 PM	A62738
Carbon tetrachloride	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Chlorobenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Chloroethane	ND	0.20		µg/L	1	9/6/2019 1:49:21 PM	A62738
Chloroform	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Chloromethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
2-Chlorotoluene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
4-Chlorotoluene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
cis-1,2-DCE	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	9/6/2019 1:49:21 PM	A62738
Dibromochloromethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Dibromomethane	ND	0.20		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,2-Dichlorobenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,3-Dichlorobenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,4-Dichlorobenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Dichlorodifluoromethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,1-Dichloroethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,1-Dichloroethene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,2-Dichloropropane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,3-Dichloropropane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
2,2-Dichloropropane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738

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 Quanitative 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: AS1-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:33:00 AM
Lab ID: 1908I37-001 **Matrix:** AIR
Received Date: 8/30/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Hexachlorobutadiene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
2-Hexanone	ND	1.0		µg/L	1	9/6/2019 1:49:21 PM	A62738
Isopropylbenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
4-Isopropyltoluene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
4-Methyl-2-pentanone	ND	1.0		µg/L	1	9/6/2019 1:49:21 PM	A62738
Methylene chloride	ND	0.30		µg/L	1	9/6/2019 1:49:21 PM	A62738
n-Butylbenzene	ND	0.30		µg/L	1	9/6/2019 1:49:21 PM	A62738
n-Propylbenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
sec-Butylbenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Styrene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
tert-Butylbenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Tetrachloroethene (PCE)	0.12	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
trans-1,2-DCE	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,1,1-Trichloroethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,1,2-Trichloroethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Trichloroethene (TCE)	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Trichlorofluoromethane	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
1,2,3-Trichloropropane	ND	0.20		µg/L	1	9/6/2019 1:49:21 PM	A62738
Vinyl chloride	ND	0.10		µg/L	1	9/6/2019 1:49:21 PM	A62738
Xylenes, Total	ND	0.15		µg/L	1	9/6/2019 1:49:21 PM	A62738
Surr: Dibromofluoromethane	111	53.9-127		%Rec	1	9/6/2019 1:49:21 PM	A62738
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	9/6/2019 1:49:21 PM	A62738
Surr: Toluene-d8	98.2	70-130		%Rec	1	9/6/2019 1:49:21 PM	A62738
Surr: 4-Bromofluorobenzene	79.8	70-130		%Rec	1	9/6/2019 1:49:21 PM	A62738

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 Quanitative 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: AS2-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:36:00 AM
Lab ID: 1908I37-002 **Matrix:** AIR
Received Date: 8/30/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Toluene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Ethylbenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Naphthalene	ND	0.20		µg/L	1	9/6/2019 2:19:06 PM	A62738
1-Methylnaphthalene	ND	0.40		µg/L	1	9/6/2019 2:19:06 PM	A62738
2-Methylnaphthalene	ND	0.40		µg/L	1	9/6/2019 2:19:06 PM	A62738
Acetone	ND	1.0		µg/L	1	9/6/2019 2:19:06 PM	A62738
Bromobenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Bromodichloromethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Bromoform	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Bromomethane	ND	0.20		µg/L	1	9/6/2019 2:19:06 PM	A62738
2-Butanone	ND	1.0		µg/L	1	9/6/2019 2:19:06 PM	A62738
Carbon disulfide	ND	1.0		µg/L	1	9/6/2019 2:19:06 PM	A62738
Carbon tetrachloride	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Chlorobenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Chloroethane	ND	0.20		µg/L	1	9/6/2019 2:19:06 PM	A62738
Chloroform	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Chloromethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
2-Chlorotoluene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
4-Chlorotoluene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
cis-1,2-DCE	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	9/6/2019 2:19:06 PM	A62738
Dibromochloromethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Dibromomethane	ND	0.20		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,2-Dichlorobenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,3-Dichlorobenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,4-Dichlorobenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Dichlorodifluoromethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,1-Dichloroethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,1-Dichloroethene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,2-Dichloropropane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,3-Dichloropropane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
2,2-Dichloropropane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738

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 Quanitative 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: AS2-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:36:00 AM
Lab ID: 1908I37-002 **Matrix:** AIR
Received Date: 8/30/2019 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Hexachlorobutadiene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
2-Hexanone	ND	1.0		µg/L	1	9/6/2019 2:19:06 PM	A62738
Isopropylbenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
4-Isopropyltoluene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
4-Methyl-2-pentanone	ND	1.0		µg/L	1	9/6/2019 2:19:06 PM	A62738
Methylene chloride	ND	0.30		µg/L	1	9/6/2019 2:19:06 PM	A62738
n-Butylbenzene	ND	0.30		µg/L	1	9/6/2019 2:19:06 PM	A62738
n-Propylbenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
sec-Butylbenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Styrene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
tert-Butylbenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Tetrachloroethene (PCE)	0.12	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
trans-1,2-DCE	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,1,1-Trichloroethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,1,2-Trichloroethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Trichloroethene (TCE)	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Trichlorofluoromethane	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
1,2,3-Trichloropropane	ND	0.20		µg/L	1	9/6/2019 2:19:06 PM	A62738
Vinyl chloride	ND	0.10		µg/L	1	9/6/2019 2:19:06 PM	A62738
Xylenes, Total	ND	0.15		µg/L	1	9/6/2019 2:19:06 PM	A62738
Surr: Dibromofluoromethane	114	53.9-127		%Rec	1	9/6/2019 2:19:06 PM	A62738
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	9/6/2019 2:19:06 PM	A62738
Surr: Toluene-d8	94.4	70-130		%Rec	1	9/6/2019 2:19:06 PM	A62738
Surr: 4-Bromofluorobenzene	84.7	70-130		%Rec	1	9/6/2019 2:19:06 PM	A62738

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1908I37** RcptNo: 1

Received By: Daniel M. **8/30/2019 8:50:00 AM**

Completed By: **Erin Melendrez** **8/30/2019 10:17:31 AM**

Reviewed By: ED 8/30/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 8/30/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M 88004
Phone #: 575-528-3604
email or Fax#: lguerra@lascruces.org (575) 528-3601
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☑ EDD (Type) ENCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: Joint Superfund Project Monthly Analysis
Project #: CLCJSP Griggs Walnut
Project Manager: Luis Guerra (575) 528-3609
Sampler: Yadira Reyna
On Ice: ☐ Yes ☑ No
# of Coolers: 1
Cooler Temp (including CF): N/A (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1908137
8/29/19	0833	AIR	AS1-190829	Tedlar Bag	NONE	-001
8/29/19	0836	AIR	AS2-190829	Tedlar Bag	NONE	-002

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_3, NO_2, PO_4, SO_4	8260 (~~VOA~~) VOC	8270 (Semi-VOA)	Total Coliform (Present/Absent)
							X		
							X		

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/29/19	1500	Yadira Reyna		FedEX	8/30/19	8:50
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: Send Results to:
Luis Guerra: lguerra@lascruces.org
Joshua Rosenbluth: jrosenbl@lascruces.org
(Send Invoice to Attn: 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 06, 2019

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.: 1908I43

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/30/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC18-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:13:00 AM
Lab ID: 1908I43-001 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Toluene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Ethylbenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Naphthalene	ND	2.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1-Methylnaphthalene	ND	4.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
2-Methylnaphthalene	ND	4.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Acetone	ND	10		µg/L	1	9/3/2019 9:29:00 PM	R62593
Bromobenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Bromodichloromethane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Bromoform	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Bromomethane	ND	3.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
2-Butanone	ND	10		µg/L	1	9/3/2019 9:29:00 PM	R62593
Carbon disulfide	ND	10		µg/L	1	9/3/2019 9:29:00 PM	R62593
Carbon Tetrachloride	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Chlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Chloroethane	ND	2.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Chloroform	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Chloromethane	ND	3.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
2-Chlorotoluene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
4-Chlorotoluene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
cis-1,2-DCE	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Dibromochloromethane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Dibromomethane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,1-Dichloroethane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,1-Dichloroethene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,2-Dichloropropane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,3-Dichloropropane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
2,2-Dichloropropane	ND	2.0		µg/L	1	9/3/2019 9:29:00 PM	R62593

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
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC18-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:13:00 AM
Lab ID: 1908I43-001 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Hexachlorobutadiene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
2-Hexanone	ND	10		µg/L	1	9/3/2019 9:29:00 PM	R62593
Isopropylbenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
4-Isopropyltoluene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
4-Methyl-2-pentanone	ND	10		µg/L	1	9/3/2019 9:29:00 PM	R62593
Methylene Chloride	ND	3.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
n-Butylbenzene	ND	3.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
n-Propylbenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
sec-Butylbenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Styrene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
tert-Butylbenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Tetrachloroethene (PCE)	7.6	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
trans-1,2-DCE	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Trichlorofluoromethane	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Vinyl chloride	ND	1.0		µg/L	1	9/3/2019 9:29:00 PM	R62593
Xylenes, Total	ND	1.5		µg/L	1	9/3/2019 9:29:00 PM	R62593
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/3/2019 9:29:00 PM	R62593
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	9/3/2019 9:29:00 PM	R62593
Surr: Dibromofluoromethane	106	70-130		%Rec	1	9/3/2019 9:29:00 PM	R62593
Surr: Toluene-d8	91.5	70-130		%Rec	1	9/3/2019 9:29:00 PM	R62593

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 Quanitative 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: CLC18-190829DUP
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:13:00 AM
Lab ID: 1908I43-002 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Toluene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Ethylbenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Naphthalene	ND	2.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1-Methylnaphthalene	ND	4.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
2-Methylnaphthalene	ND	4.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Acetone	ND	10		µg/L	1	9/3/2019 9:53:00 PM	R62593
Bromobenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Bromodichloromethane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Bromoform	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Bromomethane	ND	3.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
2-Butanone	ND	10		µg/L	1	9/3/2019 9:53:00 PM	R62593
Carbon disulfide	ND	10		µg/L	1	9/3/2019 9:53:00 PM	R62593
Carbon Tetrachloride	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Chlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Chloroethane	ND	2.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Chloroform	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Chloromethane	ND	3.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
2-Chlorotoluene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
4-Chlorotoluene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
cis-1,2-DCE	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Dibromochloromethane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Dibromomethane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,1-Dichloroethane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,1-Dichloroethene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,2-Dichloropropane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,3-Dichloropropane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
2,2-Dichloropropane	ND	2.0		µg/L	1	9/3/2019 9:53:00 PM	R62593

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 Quanitative 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: CLC18-190829DUP
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:13:00 AM
Lab ID: 1908I43-002 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Hexachlorobutadiene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
2-Hexanone	ND	10		µg/L	1	9/3/2019 9:53:00 PM	R62593
Isopropylbenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
4-Isopropyltoluene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
4-Methyl-2-pentanone	ND	10		µg/L	1	9/3/2019 9:53:00 PM	R62593
Methylene Chloride	ND	3.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
n-Butylbenzene	ND	3.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
n-Propylbenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
sec-Butylbenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Styrene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
tert-Butylbenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Tetrachloroethene (PCE)	7.6	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
trans-1,2-DCE	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Trichlorofluoromethane	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Vinyl chloride	ND	1.0		µg/L	1	9/3/2019 9:53:00 PM	R62593
Xylenes, Total	ND	1.5		µg/L	1	9/3/2019 9:53:00 PM	R62593
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/3/2019 9:53:00 PM	R62593
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	9/3/2019 9:53:00 PM	R62593
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/3/2019 9:53:00 PM	R62593
Surr: Toluene-d8	92.0	70-130		%Rec	1	9/3/2019 9:53:00 PM	R62593

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 Quanitative 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: CLC27-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:49:00 AM
Lab ID: 1908I43-003 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Toluene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Ethylbenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Naphthalene	ND	2.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1-Methylnaphthalene	ND	4.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
2-Methylnaphthalene	ND	4.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Acetone	ND	10		µg/L	1	9/3/2019 11:55:00 PM	B62593
Bromobenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Bromodichloromethane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Bromoform	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Bromomethane	ND	3.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
2-Butanone	ND	10		µg/L	1	9/3/2019 11:55:00 PM	B62593
Carbon disulfide	ND	10		µg/L	1	9/3/2019 11:55:00 PM	B62593
Carbon Tetrachloride	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Chlorobenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Chloroethane	ND	2.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Chloroform	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Chloromethane	ND	3.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
2-Chlorotoluene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
4-Chlorotoluene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
cis-1,2-DCE	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Dibromochloromethane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Dibromomethane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,1-Dichloroethane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,1-Dichloroethene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,2-Dichloropropane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,3-Dichloropropane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
2,2-Dichloropropane	ND	2.0		µg/L	1	9/3/2019 11:55:00 PM	B62593

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 Quanitative 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: CLC27-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:49:00 AM
Lab ID: 1908I43-003 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Hexachlorobutadiene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
2-Hexanone	ND	10		µg/L	1	9/3/2019 11:55:00 PM	B62593
Isopropylbenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
4-Isopropyltoluene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
4-Methyl-2-pentanone	ND	10		µg/L	1	9/3/2019 11:55:00 PM	B62593
Methylene Chloride	ND	3.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
n-Butylbenzene	ND	3.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
n-Propylbenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
sec-Butylbenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Styrene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
tert-Butylbenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Tetrachloroethene (PCE)	15	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
trans-1,2-DCE	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Trichlorofluoromethane	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Vinyl chloride	ND	1.0		µg/L	1	9/3/2019 11:55:00 PM	B62593
Xylenes, Total	ND	1.5		µg/L	1	9/3/2019 11:55:00 PM	B62593
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	9/3/2019 11:55:00 PM	B62593
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	9/3/2019 11:55:00 PM	B62593
Surr: Dibromofluoromethane	105	70-130		%Rec	1	9/3/2019 11:55:00 PM	B62593
Surr: Toluene-d8	90.7	70-130		%Rec	1	9/3/2019 11:55:00 PM	B62593

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 Quanitative 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: CLCIS1-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:20:00 AM
Lab ID: 1908I43-004 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Toluene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Ethylbenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Naphthalene	ND	2.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1-Methylnaphthalene	ND	4.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
2-Methylnaphthalene	ND	4.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Acetone	ND	10		µg/L	1	9/4/2019 12:19:00 AM	B62593
Bromobenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Bromodichloromethane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Bromoform	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Bromomethane	ND	3.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
2-Butanone	ND	10		µg/L	1	9/4/2019 12:19:00 AM	B62593
Carbon disulfide	ND	10		µg/L	1	9/4/2019 12:19:00 AM	B62593
Carbon Tetrachloride	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Chlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Chloroethane	ND	2.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Chloroform	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Chloromethane	ND	3.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
2-Chlorotoluene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
4-Chlorotoluene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
cis-1,2-DCE	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Dibromochloromethane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Dibromomethane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,1-Dichloroethane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,1-Dichloroethene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,2-Dichloropropane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,3-Dichloropropane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
2,2-Dichloropropane	ND	2.0		µg/L	1	9/4/2019 12:19:00 AM	B62593

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 Quanitative 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: CLCIS1-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:20:00 AM
Lab ID: 1908I43-004 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Hexachlorobutadiene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
2-Hexanone	ND	10		µg/L	1	9/4/2019 12:19:00 AM	B62593
Isopropylbenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
4-Isopropyltoluene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
4-Methyl-2-pentanone	ND	10		µg/L	1	9/4/2019 12:19:00 AM	B62593
Methylene Chloride	ND	3.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
n-Butylbenzene	ND	3.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
n-Propylbenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
sec-Butylbenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Styrene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
tert-Butylbenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Tetrachloroethene (PCE)	14	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
trans-1,2-DCE	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Trichlorofluoromethane	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Vinyl chloride	ND	1.0		µg/L	1	9/4/2019 12:19:00 AM	B62593
Xylenes, Total	ND	1.5		µg/L	1	9/4/2019 12:19:00 AM	B62593
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	9/4/2019 12:19:00 AM	B62593
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	9/4/2019 12:19:00 AM	B62593
Surr: Dibromofluoromethane	106	70-130		%Rec	1	9/4/2019 12:19:00 AM	B62593
Surr: Toluene-d8	91.8	70-130		%Rec	1	9/4/2019 12:19:00 AM	B62593

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 Quanitative 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: CLCC1-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:22:00 AM
Lab ID: 1908I43-005
Matrix: AQUEOUS
Received Date: 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Toluene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Ethylbenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Naphthalene	ND	2.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1-Methylnaphthalene	ND	4.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
2-Methylnaphthalene	ND	4.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Acetone	ND	10		µg/L	1	9/4/2019 12:44:00 AM	B62593
Bromobenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Bromodichloromethane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Bromoform	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Bromomethane	ND	3.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
2-Butanone	ND	10		µg/L	1	9/4/2019 12:44:00 AM	B62593
Carbon disulfide	ND	10		µg/L	1	9/4/2019 12:44:00 AM	B62593
Carbon Tetrachloride	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Chlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Chloroethane	ND	2.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Chloroform	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Chloromethane	ND	3.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
2-Chlorotoluene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
4-Chlorotoluene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
cis-1,2-DCE	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Dibromochloromethane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Dibromomethane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,1-Dichloroethane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,1-Dichloroethene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,2-Dichloropropane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,3-Dichloropropane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
2,2-Dichloropropane	ND	2.0		µg/L	1	9/4/2019 12:44:00 AM	B62593

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 Quanitative 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: CLCC1-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:22:00 AM
Lab ID: 1908I43-005 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Hexachlorobutadiene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
2-Hexanone	ND	10		µg/L	1	9/4/2019 12:44:00 AM	B62593
Isopropylbenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
4-Isopropyltoluene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
4-Methyl-2-pentanone	ND	10		µg/L	1	9/4/2019 12:44:00 AM	B62593
Methylene Chloride	ND	3.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
n-Butylbenzene	ND	3.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
n-Propylbenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
sec-Butylbenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Styrene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
tert-Butylbenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
trans-1,2-DCE	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Trichlorofluoromethane	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Vinyl chloride	ND	1.0		µg/L	1	9/4/2019 12:44:00 AM	B62593
Xylenes, Total	ND	1.5		µg/L	1	9/4/2019 12:44:00 AM	B62593
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	9/4/2019 12:44:00 AM	B62593
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	9/4/2019 12:44:00 AM	B62593
Surr: Dibromofluoromethane	104	70-130		%Rec	1	9/4/2019 12:44:00 AM	B62593
Surr: Toluene-d8	93.1	70-130		%Rec	1	9/4/2019 12:44:00 AM	B62593

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 Quanitative 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: CLCC2-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:25:00 AM
Lab ID: 1908I43-006 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Toluene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Ethylbenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Naphthalene	ND	2.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1-Methylnaphthalene	ND	4.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
2-Methylnaphthalene	ND	4.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Acetone	ND	10		µg/L	1	9/4/2019 1:56:00 AM	B62593
Bromobenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Bromodichloromethane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Bromoform	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Bromomethane	ND	3.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
2-Butanone	ND	10		µg/L	1	9/4/2019 1:56:00 AM	B62593
Carbon disulfide	ND	10		µg/L	1	9/4/2019 1:56:00 AM	B62593
Carbon Tetrachloride	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Chlorobenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Chloroethane	ND	2.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Chloroform	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Chloromethane	ND	3.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
2-Chlorotoluene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
4-Chlorotoluene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
cis-1,2-DCE	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Dibromochloromethane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Dibromomethane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,1-Dichloroethane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,1-Dichloroethene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,2-Dichloropropane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,3-Dichloropropane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
2,2-Dichloropropane	ND	2.0		µg/L	1	9/4/2019 1:56:00 AM	B62593

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 Quanitative 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: CLCC2-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:25:00 AM
Lab ID: 1908I43-006 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Hexachlorobutadiene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
2-Hexanone	ND	10		µg/L	1	9/4/2019 1:56:00 AM	B62593
Isopropylbenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
4-Isopropyltoluene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
4-Methyl-2-pentanone	ND	10		µg/L	1	9/4/2019 1:56:00 AM	B62593
Methylene Chloride	ND	3.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
n-Butylbenzene	ND	3.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
n-Propylbenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
sec-Butylbenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Styrene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
tert-Butylbenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
trans-1,2-DCE	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Trichlorofluoromethane	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Vinyl chloride	ND	1.0		µg/L	1	9/4/2019 1:56:00 AM	B62593
Xylenes, Total	ND	1.5		µg/L	1	9/4/2019 1:56:00 AM	B62593
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	9/4/2019 1:56:00 AM	B62593
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	9/4/2019 1:56:00 AM	B62593
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/4/2019 1:56:00 AM	B62593
Surr: Toluene-d8	92.2	70-130		%Rec	1	9/4/2019 1:56:00 AM	B62593

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 Quanitative 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 ES1-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:28:00 AM
Lab ID: 1908I43-007 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Toluene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Ethylbenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Naphthalene	ND	2.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1-Methylnaphthalene	ND	4.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
2-Methylnaphthalene	ND	4.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Acetone	ND	10		µg/L	1	9/4/2019 2:20:00 AM	B62593
Bromobenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Bromodichloromethane	5.5	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Bromoform	2.6	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Bromomethane	ND	3.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
2-Butanone	ND	10		µg/L	1	9/4/2019 2:20:00 AM	B62593
Carbon disulfide	ND	10		µg/L	1	9/4/2019 2:20:00 AM	B62593
Carbon Tetrachloride	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Chlorobenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Chloroethane	ND	2.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Chloroform	6.6	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Chloromethane	ND	3.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
2-Chlorotoluene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
4-Chlorotoluene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
cis-1,2-DCE	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Dibromochloromethane	5.0	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Dibromomethane	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,1-Dichloroethane	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,1-Dichloroethene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,2-Dichloropropane	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,3-Dichloropropane	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
2,2-Dichloropropane	ND	2.0		µg/L	1	9/4/2019 2:20:00 AM	B62593

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 Quanitative 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 ES1-190829
Project: Joint Superfund Project Monthly Analysi
Collection Date: 8/29/2019 8:28:00 AM
Lab ID: 1908I43-007 **Matrix:** AQUEOUS **Received Date:** 8/30/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Hexachlorobutadiene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
2-Hexanone	ND	10		µg/L	1	9/4/2019 2:20:00 AM	B62593
Isopropylbenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
4-Isopropyltoluene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
4-Methyl-2-pentanone	ND	10		µg/L	1	9/4/2019 2:20:00 AM	B62593
Methylene Chloride	ND	3.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
n-Butylbenzene	ND	3.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
n-Propylbenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
sec-Butylbenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Styrene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
tert-Butylbenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
trans-1,2-DCE	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Trichlorofluoromethane	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Vinyl chloride	ND	1.0		µg/L	1	9/4/2019 2:20:00 AM	B62593
Xylenes, Total	ND	1.5		µg/L	1	9/4/2019 2:20:00 AM	B62593
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/4/2019 2:20:00 AM	B62593
Surr: 4-Bromofluorobenzene	95.3	70-130		%Rec	1	9/4/2019 2:20:00 AM	B62593
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/4/2019 2:20:00 AM	B62593
Surr: Toluene-d8	90.7	70-130		%Rec	1	9/4/2019 2:20:00 AM	B62593

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1908I43**
06-Sep-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R62593**	RunNo: **62593**
Prep Date:	Analysis Date: **9/3/2019**	SeqNo: **2131281** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.1	70	130			
Toluene	20	1.0	20.00	0	99.4	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	95.5	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.6	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.2	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.9	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R62593**	RunNo: **62593**
Prep Date:	Analysis Date: **9/3/2019**	SeqNo: **2131285** 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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **1908I43**
06-Sep-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R62593**	RunNo: **62593**
Prep Date:	Analysis Date: **9/3/2019**	SeqNo: **2131285** Units: **µg/L**

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 Quanitative 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#: **1908I43**
06-Sep-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R62593**	RunNo: **62593**
Prep Date:	Analysis Date: **9/3/2019**	SeqNo: **2131285** Units: **µg/L**

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	9.8		10.00		98.0	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	9.4		10.00		93.8	70	130			

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B62593**	RunNo: **62593**
Prep Date:	Analysis Date: **9/3/2019**	SeqNo: **2131623** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	19	1.0	20.00	0	95.3	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.2		10.00		92.2	70	130			

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B62593**	RunNo: **62593**
Prep Date:	Analysis Date: **9/3/2019**	SeqNo: **2131624** 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								

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 Quanitative 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#: **1908I43**
06-Sep-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B62593**	RunNo: **62593**
Prep Date:	Analysis Date: **9/3/2019**	SeqNo: **2131624** Units: **µg/L**

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.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1908I43**
06-Sep-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B62593**	RunNo: **62593**
Prep Date:	Analysis Date: **9/3/2019**	SeqNo: **2131624** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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		100	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.1	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.2		10.00		92.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

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: **1908I43** RcptNo: **1**

Received By: Daniel H. **8/30/2019 8:30:00 AM**

Completed By: **Erin Melendrez** **8/30/2019 11:01:39 AM**

Reviewed By: DAD 8/30/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? No

Checked by: 8/30/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.9	Good	Yes			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@las-cruces.org 575-528-3701
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☑ EDD (Type) EXCEL

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: Joint Superfund Project Monthly Analysis
Project #: CLC038 Griggs Walnut
Project Manager: Luis Guerra (575) 528-3609
Sampler: Yadira Reyna
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp (including CF): 6.4-0.5=5.9 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1908143
8-29-19	0813	DRINKING WATER	CLC18-190829	3-40ml VOAs	H_2Cl_2	-001
	0813		CLC18-190829 DUP			-002
	0849		CLC27-190829			-003
	0820		CLC ISI-190829			-004
	0822		CLC C1-190829			-005
	0825		CLC C2-190829			-006
8-29-19	0828	DRINKING WATER	CLC ES1-190829	3-40ml VOAs	H_2Cl_2	-007

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_3, NO_2, PO_4, SO_4	8260 (VOA) VOC	8270 (Semi-VOA)	Total Coliform (Present/Absent)
							X		
							X		
							X		
							X		
							X		
							X		
							X		

Date	Time	Relinquished by	Received by	Via	Date	Time
8-29-19	1500	Yadira Reyna		FedEx	8/30/19	8:30
Date	Time	Relinquished by	Received by	Via	Date	Time

Remarks: Email results to:
Luis Guerra lguerra@las-cruces.org
Joshua Rosenblatt jrosenblatt@las-cruces.org
Send invoice to CLC/do 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 14, 2019

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.: 1910105

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/1/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CL AS1-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:47:00 AM
Lab ID: 1910105-001 **Matrix:** AIR
Received Date: 10/1/2019 11:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Toluene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Ethylbenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Naphthalene	ND	0.20		µg/L	1	10/10/2019 12:06:23 PM	W63591
1-Methylnaphthalene	ND	0.40		µg/L	1	10/10/2019 12:06:23 PM	W63591
2-Methylnaphthalene	ND	0.40		µg/L	1	10/10/2019 12:06:23 PM	W63591
Acetone	ND	1.0		µg/L	1	10/10/2019 12:06:23 PM	W63591
Bromobenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Bromodichloromethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Bromoform	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Bromomethane	ND	0.20		µg/L	1	10/10/2019 12:06:23 PM	W63591
2-Butanone	ND	1.0		µg/L	1	10/10/2019 12:06:23 PM	W63591
Carbon disulfide	ND	1.0		µg/L	1	10/10/2019 12:06:23 PM	W63591
Carbon tetrachloride	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Chlorobenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Chloroethane	ND	0.20		µg/L	1	10/10/2019 12:06:23 PM	W63591
Chloroform	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Chloromethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
2-Chlorotoluene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
4-Chlorotoluene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
cis-1,2-DCE	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	10/10/2019 12:06:23 PM	W63591
Dibromochloromethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Dibromomethane	ND	0.20		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,2-Dichlorobenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,3-Dichlorobenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,4-Dichlorobenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Dichlorodifluoromethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,1-Dichloroethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,1-Dichloroethene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,2-Dichloropropane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,3-Dichloropropane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
2,2-Dichloropropane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591

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 Quanitative 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: CL AS1-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:47:00 AM
Lab ID: 1910105-001 **Matrix:** AIR
Received Date: 10/1/2019 11:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Hexachlorobutadiene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
2-Hexanone	ND	1.0		µg/L	1	10/10/2019 12:06:23 PM	W63591
Isopropylbenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
4-Isopropyltoluene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
4-Methyl-2-pentanone	ND	1.0		µg/L	1	10/10/2019 12:06:23 PM	W63591
Methylene chloride	ND	0.30		µg/L	1	10/10/2019 12:06:23 PM	W63591
n-Butylbenzene	ND	0.30		µg/L	1	10/10/2019 12:06:23 PM	W63591
n-Propylbenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
sec-Butylbenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Styrene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
tert-Butylbenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Tetrachloroethene (PCE)	0.12	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
trans-1,2-DCE	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,1,1-Trichloroethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,1,2-Trichloroethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Trichloroethene (TCE)	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Trichlorofluoromethane	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
1,2,3-Trichloropropane	ND	0.20		µg/L	1	10/10/2019 12:06:23 PM	W63591
Vinyl chloride	ND	0.10		µg/L	1	10/10/2019 12:06:23 PM	W63591
Xylenes, Total	ND	0.15		µg/L	1	10/10/2019 12:06:23 PM	W63591
Surr: Dibromofluoromethane	104	66.1-127		%Rec	1	10/10/2019 12:06:23 PM	W63591
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	10/10/2019 12:06:23 PM	W63591
Surr: Toluene-d8	104	70-130		%Rec	1	10/10/2019 12:06:23 PM	W63591
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	1	10/10/2019 12:06:23 PM	W63591

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 Quanitative 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: CL AS2-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:50:00 AM
Lab ID: 1910105-002 **Matrix:** AIR
Received Date: 10/1/2019 11:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Toluene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Ethylbenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Naphthalene	ND	0.20		µg/L	1	10/10/2019 1:05:12 PM	W63591
1-Methylnaphthalene	ND	0.40		µg/L	1	10/10/2019 1:05:12 PM	W63591
2-Methylnaphthalene	ND	0.40		µg/L	1	10/10/2019 1:05:12 PM	W63591
Acetone	ND	1.0		µg/L	1	10/10/2019 1:05:12 PM	W63591
Bromobenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Bromodichloromethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Bromoform	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Bromomethane	ND	0.20		µg/L	1	10/10/2019 1:05:12 PM	W63591
2-Butanone	ND	1.0		µg/L	1	10/10/2019 1:05:12 PM	W63591
Carbon disulfide	ND	1.0		µg/L	1	10/10/2019 1:05:12 PM	W63591
Carbon tetrachloride	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Chlorobenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Chloroethane	ND	0.20		µg/L	1	10/10/2019 1:05:12 PM	W63591
Chloroform	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Chloromethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
2-Chlorotoluene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
4-Chlorotoluene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
cis-1,2-DCE	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	10/10/2019 1:05:12 PM	W63591
Dibromochloromethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Dibromomethane	ND	0.20		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,2-Dichlorobenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,3-Dichlorobenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,4-Dichlorobenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Dichlorodifluoromethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,1-Dichloroethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,1-Dichloroethene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,2-Dichloropropane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,3-Dichloropropane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
2,2-Dichloropropane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591

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 Quanitative 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: CL AS2-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:50:00 AM
Lab ID: 1910105-002 **Matrix:** AIR
Received Date: 10/1/2019 11:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Hexachlorobutadiene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
2-Hexanone	ND	1.0		µg/L	1	10/10/2019 1:05:12 PM	W63591
Isopropylbenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
4-Isopropyltoluene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
4-Methyl-2-pentanone	ND	1.0		µg/L	1	10/10/2019 1:05:12 PM	W63591
Methylene chloride	ND	0.30		µg/L	1	10/10/2019 1:05:12 PM	W63591
n-Butylbenzene	ND	0.30		µg/L	1	10/10/2019 1:05:12 PM	W63591
n-Propylbenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
sec-Butylbenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Styrene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
tert-Butylbenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Tetrachloroethene (PCE)	0.16	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
trans-1,2-DCE	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,1,1-Trichloroethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,1,2-Trichloroethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Trichloroethene (TCE)	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Trichlorofluoromethane	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
1,2,3-Trichloropropane	ND	0.20		µg/L	1	10/10/2019 1:05:12 PM	W63591
Vinyl chloride	ND	0.10		µg/L	1	10/10/2019 1:05:12 PM	W63591
Xylenes, Total	ND	0.15		µg/L	1	10/10/2019 1:05:12 PM	W63591
Surr: Dibromofluoromethane	102	66.1-127		%Rec	1	10/10/2019 1:05:12 PM	W63591
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	10/10/2019 1:05:12 PM	W63591
Surr: Toluene-d8	103	70-130		%Rec	1	10/10/2019 1:05:12 PM	W63591
Surr: 4-Bromofluorobenzene	88.0	70-130		%Rec	1	10/10/2019 1:05:12 PM	W63591

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1910105** RcptNo: **1**

Received By: **Leah Baca** **10/1/2019 11:20:00 AM** Leah SBaca

Completed By: **Leah Baca** **10/2/2019 8:39:37 AM** Leah SBaca

Reviewed By: ENM 10/2/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 10/2/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	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 #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (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: NA

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. 1910105	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
9-30-19	0847	AIR	CLC AS1-190930	Tedlar Bag	NONE	-001										X		
9-30-19	0850	AIR	CLC AS2-190930	Tedlar Bag	NONE	-002										X		

Date	Time	Relinquished by:	Received by:	Date	Time
9-30-19	1500	Yadira Reyna			
			FedEx	10/1/19	1120

Remarks: Send results to:
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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
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Website: www.hallenvironmental.com

October 10, 2019

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.: 1910011

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/1/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:08:00 AM
Lab ID: 1910011-001
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Toluene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Ethylbenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Naphthalene	ND	2.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Acetone	ND	10		µg/L	1	10/3/2019 3:21:12 PM	R63413
Bromobenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Bromoform	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Bromomethane	ND	3.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
2-Butanone	ND	10		µg/L	1	10/3/2019 3:21:12 PM	R63413
Carbon disulfide	ND	10		µg/L	1	10/3/2019 3:21:12 PM	R63413
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Chlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Chloroethane	ND	2.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Chloroform	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Chloromethane	ND	3.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Dibromomethane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2019 3:21:12 PM	R63413

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 Quanitative 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 18-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:08:00 AM
Lab ID: 1910011-001
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
2-Hexanone	ND	10		µg/L	1	10/3/2019 3:21:12 PM	R63413
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2019 3:21:12 PM	R63413
Methylene Chloride	ND	3.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Styrene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Tetrachloroethene (PCE)	6.5	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Vinyl chloride	ND	1.0		µg/L	1	10/3/2019 3:21:12 PM	R63413
Xylenes, Total	ND	1.5		µg/L	1	10/3/2019 3:21:12 PM	R63413
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	1	10/3/2019 3:21:12 PM	R63413
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	10/3/2019 3:21:12 PM	R63413
Surr: Dibromofluoromethane	103	70-130		%Rec	1	10/3/2019 3:21:12 PM	R63413
Surr: Toluene-d8	99.2	70-130		%Rec	1	10/3/2019 3:21:12 PM	R63413

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative 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 27-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 9:03:00 AM
Lab ID: 1910011-002
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Toluene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Ethylbenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Naphthalene	ND	2.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Acetone	ND	10		µg/L	1	10/3/2019 3:49:48 PM	R63413
Bromobenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Bromoform	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Bromomethane	ND	3.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
2-Butanone	ND	10		µg/L	1	10/3/2019 3:49:48 PM	R63413
Carbon disulfide	ND	10		µg/L	1	10/3/2019 3:49:48 PM	R63413
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Chlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Chloroethane	ND	2.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Chloroform	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Chloromethane	ND	3.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Dibromomethane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2019 3:49:48 PM	R63413

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
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S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 27-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 9:03:00 AM
Lab ID: 1910011-002
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
2-Hexanone	ND	10		µg/L	1	10/3/2019 3:49:48 PM	R63413
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2019 3:49:48 PM	R63413
Methylene Chloride	ND	3.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Styrene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Tetrachloroethene (PCE)	17	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Vinyl chloride	ND	1.0		µg/L	1	10/3/2019 3:49:48 PM	R63413
Xylenes, Total	ND	1.5		µg/L	1	10/3/2019 3:49:48 PM	R63413
Surr: 1,2-Dichloroethane-d4	93.5	70-130		%Rec	1	10/3/2019 3:49:48 PM	R63413
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	10/3/2019 3:49:48 PM	R63413
Surr: Dibromofluoromethane	100	70-130		%Rec	1	10/3/2019 3:49:48 PM	R63413
Surr: Toluene-d8	98.4	70-130		%Rec	1	10/3/2019 3:49:48 PM	R63413

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 Quanitative 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 27-190930 DUP
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 9:05:00 AM
Lab ID: 1910011-003
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Toluene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Ethylbenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Naphthalene	ND	2.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Acetone	ND	10		µg/L	1	10/3/2019 4:18:23 PM	R63413
Bromobenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Bromoform	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Bromomethane	ND	3.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
2-Butanone	ND	10		µg/L	1	10/3/2019 4:18:23 PM	R63413
Carbon disulfide	ND	10		µg/L	1	10/3/2019 4:18:23 PM	R63413
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Chlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Chloroethane	ND	2.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Chloroform	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Chloromethane	ND	3.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Dibromomethane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2019 4:18:23 PM	R63413

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 Quanitative 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 27-190930 DUP
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 9:05:00 AM
Lab ID: 1910011-003
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
2-Hexanone	ND	10		µg/L	1	10/3/2019 4:18:23 PM	R63413
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2019 4:18:23 PM	R63413
Methylene Chloride	ND	3.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Styrene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Tetrachloroethene (PCE)	16	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Vinyl chloride	ND	1.0		µg/L	1	10/3/2019 4:18:23 PM	R63413
Xylenes, Total	ND	1.5		µg/L	1	10/3/2019 4:18:23 PM	R63413
Surr: 1,2-Dichloroethane-d4	91.6	70-130		%Rec	1	10/3/2019 4:18:23 PM	R63413
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	10/3/2019 4:18:23 PM	R63413
Surr: Dibromofluoromethane	101	70-130		%Rec	1	10/3/2019 4:18:23 PM	R63413
Surr: Toluene-d8	101	70-130		%Rec	1	10/3/2019 4:18:23 PM	R63413

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 Quanitative 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 ISI-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:33:00 AM
Lab ID: 1910011-004
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Toluene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Ethylbenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Naphthalene	ND	2.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Acetone	ND	10		µg/L	1	10/3/2019 4:46:57 PM	R63413
Bromobenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Bromoform	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Bromomethane	ND	3.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
2-Butanone	ND	10		µg/L	1	10/3/2019 4:46:57 PM	R63413
Carbon disulfide	ND	10		µg/L	1	10/3/2019 4:46:57 PM	R63413
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Chlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Chloroethane	ND	2.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Chloroform	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Chloromethane	ND	3.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Dibromomethane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2019 4:46:57 PM	R63413

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 Quanitative 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 ISI-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:33:00 AM
Lab ID: 1910011-004
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
2-Hexanone	ND	10		µg/L	1	10/3/2019 4:46:57 PM	R63413
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2019 4:46:57 PM	R63413
Methylene Chloride	ND	3.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Styrene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Tetrachloroethene (PCE)	11	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Vinyl chloride	ND	1.0		µg/L	1	10/3/2019 4:46:57 PM	R63413
Xylenes, Total	ND	1.5		µg/L	1	10/3/2019 4:46:57 PM	R63413
Surr: 1,2-Dichloroethane-d4	89.6	70-130		%Rec	1	10/3/2019 4:46:57 PM	R63413
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	10/3/2019 4:46:57 PM	R63413
Surr: Dibromofluoromethane	99.5	70-130		%Rec	1	10/3/2019 4:46:57 PM	R63413
Surr: Toluene-d8	97.2	70-130		%Rec	1	10/3/2019 4:46:57 PM	R63413

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 Quanitative 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 01-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:36:00 AM
Lab ID: 1910011-005
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Toluene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Ethylbenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Naphthalene	ND	2.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Acetone	ND	10		µg/L	1	10/3/2019 5:15:30 PM	R63413
Bromobenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Bromoform	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Bromomethane	ND	3.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
2-Butanone	ND	10		µg/L	1	10/3/2019 5:15:30 PM	R63413
Carbon disulfide	ND	10		µg/L	1	10/3/2019 5:15:30 PM	R63413
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Chlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Chloroethane	ND	2.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Chloroform	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Chloromethane	ND	3.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Dibromomethane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2019 5:15:30 PM	R63413

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 Quanitative 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 01-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:36:00 AM
Lab ID: 1910011-005
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
2-Hexanone	ND	10		µg/L	1	10/3/2019 5:15:30 PM	R63413
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2019 5:15:30 PM	R63413
Methylene Chloride	ND	3.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Styrene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Vinyl chloride	ND	1.0		µg/L	1	10/3/2019 5:15:30 PM	R63413
Xylenes, Total	ND	1.5		µg/L	1	10/3/2019 5:15:30 PM	R63413
Surr: 1,2-Dichloroethane-d4	93.1	70-130		%Rec	1	10/3/2019 5:15:30 PM	R63413
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	10/3/2019 5:15:30 PM	R63413
Surr: Dibromofluoromethane	101	70-130		%Rec	1	10/3/2019 5:15:30 PM	R63413
Surr: Toluene-d8	99.3	70-130		%Rec	1	10/3/2019 5:15:30 PM	R63413

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 Quanitative 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 02-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:38:00 AM
Lab ID: 1910011-006
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Toluene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Ethylbenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Naphthalene	ND	2.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Acetone	ND	10		µg/L	1	10/3/2019 5:44:06 PM	R63413
Bromobenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Bromodichloromethane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Bromoform	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Bromomethane	ND	3.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
2-Butanone	ND	10		µg/L	1	10/3/2019 5:44:06 PM	R63413
Carbon disulfide	ND	10		µg/L	1	10/3/2019 5:44:06 PM	R63413
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Chlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Chloroethane	ND	2.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Chloroform	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Chloromethane	ND	3.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Dibromochloromethane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Dibromomethane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2019 5:44:06 PM	R63413

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 Quanitative 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 02-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:38:00 AM
Lab ID: 1910011-006
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
2-Hexanone	ND	10		µg/L	1	10/3/2019 5:44:06 PM	R63413
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2019 5:44:06 PM	R63413
Methylene Chloride	ND	3.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Styrene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Vinyl chloride	ND	1.0		µg/L	1	10/3/2019 5:44:06 PM	R63413
Xylenes, Total	ND	1.5		µg/L	1	10/3/2019 5:44:06 PM	R63413
Surr: 1,2-Dichloroethane-d4	91.5	70-130		%Rec	1	10/3/2019 5:44:06 PM	R63413
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	10/3/2019 5:44:06 PM	R63413
Surr: Dibromofluoromethane	97.0	70-130		%Rec	1	10/3/2019 5:44:06 PM	R63413
Surr: Toluene-d8	98.5	70-130		%Rec	1	10/3/2019 5:44:06 PM	R63413

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 Quanitative 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 ES7-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:43:00 AM
Lab ID: 1910011-007
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
Benzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Toluene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Ethylbenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Naphthalene	ND	2.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
2-Methylnaphthalene	ND	4.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Acetone	ND	10		µg/L	1	10/3/2019 6:12:41 PM	R63413
Bromobenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Bromodichloromethane	3.1	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Bromoform	2.2	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Bromomethane	ND	3.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
2-Butanone	ND	10		µg/L	1	10/3/2019 6:12:41 PM	R63413
Carbon disulfide	ND	10		µg/L	1	10/3/2019 6:12:41 PM	R63413
Carbon Tetrachloride	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Chlorobenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Chloroethane	ND	2.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Chloroform	2.9	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Chloromethane	ND	3.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
2-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
4-Chlorotoluene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
cis-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Dibromochloromethane	3.8	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Dibromomethane	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,1-Dichloroethane	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,1-Dichloroethene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,2-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,3-Dichloropropane	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
2,2-Dichloropropane	ND	2.0		µg/L	1	10/3/2019 6:12:41 PM	R63413

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 Quanitative 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 ES7-190930
Project: Joint Superfund Project Monthly Analysi
Collection Date: 9/30/2019 8:43:00 AM
Lab ID: 1910011-007
Matrix: DRINKING W
Received Date: 10/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JMR**	
1,1-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Hexachlorobutadiene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
2-Hexanone	ND	10		µg/L	1	10/3/2019 6:12:41 PM	R63413
Isopropylbenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
4-Isopropyltoluene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
4-Methyl-2-pentanone	ND	10		µg/L	1	10/3/2019 6:12:41 PM	R63413
Methylene Chloride	ND	3.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
n-Butylbenzene	ND	3.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
n-Propylbenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
sec-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Styrene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
tert-Butylbenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
trans-1,2-DCE	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Trichlorofluoromethane	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Vinyl chloride	ND	1.0		µg/L	1	10/3/2019 6:12:41 PM	R63413
Xylenes, Total	ND	1.5		µg/L	1	10/3/2019 6:12:41 PM	R63413
Surr: 1,2-Dichloroethane-d4	95.7	70-130		%Rec	1	10/3/2019 6:12:41 PM	R63413
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	10/3/2019 6:12:41 PM	R63413
Surr: Dibromofluoromethane	103	70-130		%Rec	1	10/3/2019 6:12:41 PM	R63413
Surr: Toluene-d8	104	70-130		%Rec	1	10/3/2019 6:12:41 PM	R63413

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910011**

10-Oct-19

Client: City of Las Cruces

Project: Joint Superfund Project Monthly Analysis

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R63413**	RunNo: **63413**
Prep Date:	Analysis Date: **10/3/2019**	SeqNo: **2165229** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	95.1	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	92.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.7	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R63413**	RunNo: **63413**
Prep Date:	Analysis Date: **10/3/2019**	SeqNo: **2165252** 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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **1910011**
10-Oct-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R63413**	RunNo: **63413**
Prep Date:	Analysis Date: **10/3/2019**	SeqNo: **2165252** Units: **µg/L**

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 Quanitative 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#: **1910011**
10-Oct-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R63413**	RunNo: **63413**
Prep Date:	Analysis Date: **10/3/2019**	SeqNo: **2165252** Units: **µg/L**

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		95.5	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.7	70	130			
Surr: Dibromofluoromethane	10		10.00		101	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 Quanitative 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

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: **1910011** RcptNo: 1

Received By: Juan Rojas **10/1/2019 9:00:00 AM**

Completed By: **Yazmine Garduno** **10/1/2019 9:34:13 AM** Yazmine Garduno

Reviewed By: IO 10/01/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by: DAD 10/1/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.7	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 #: 575-528-3604

email or Fax#: lguerra@las-cruces.org 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: 2.8 - 0.1 = 2.7

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. 1910011	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
9-30-19	0808	Drinking Water	CLC18-190930	3-40ml Vials	$HgCl_2$	-001									X		
	0903		CLC27-190930			-002											
	0905		CLC27-A0930 DUP			-003											
	0833		CLC ISI-190930			-004											
	0836		CLC C1-190930			-005											
	0838		CLC C2-190930			-006											
9-30-19	0843	Drinking Water	CLC ES1-A0930	3-40ml Vials	$HgCl_2$	-007											

Date	Time	Relinquished by	Received by	Date	Time
9/30/19	1500	Yadira Reyna	FedEx	10/1/19	9:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 13, 2019

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.: 1910F97

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/31/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:29:00 AM
Lab ID: 1910F97-001 **Matrix:** AIR
Received Date: 10/31/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Toluene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Ethylbenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Naphthalene	ND	0.20		µg/L	1	11/11/2019 11:16:15 AM	W64402
1-Methylnaphthalene	ND	0.40		µg/L	1	11/11/2019 11:16:15 AM	W64402
2-Methylnaphthalene	ND	0.40		µg/L	1	11/11/2019 11:16:15 AM	W64402
Acetone	ND	1.0		µg/L	1	11/11/2019 11:16:15 AM	W64402
Bromobenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Bromodichloromethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Bromoform	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Bromomethane	ND	0.20		µg/L	1	11/11/2019 11:16:15 AM	W64402
2-Butanone	ND	1.0		µg/L	1	11/11/2019 11:16:15 AM	W64402
Carbon disulfide	ND	1.0		µg/L	1	11/11/2019 11:16:15 AM	W64402
Carbon tetrachloride	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Chlorobenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Chloroethane	ND	0.20		µg/L	1	11/11/2019 11:16:15 AM	W64402
Chloroform	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Chloromethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
2-Chlorotoluene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
4-Chlorotoluene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
cis-1,2-DCE	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	11/11/2019 11:16:15 AM	W64402
Dibromochloromethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Dibromomethane	ND	0.20		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,2-Dichlorobenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,3-Dichlorobenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,4-Dichlorobenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Dichlorodifluoromethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,1-Dichloroethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,1-Dichloroethene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,2-Dichloropropane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,3-Dichloropropane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
2,2-Dichloropropane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402

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 Quanitative 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 AS1-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:29:00 AM
Lab ID: 1910F97-001 **Matrix:** AIR
Received Date: 10/31/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Hexachlorobutadiene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
2-Hexanone	ND	1.0		µg/L	1	11/11/2019 11:16:15 AM	W64402
Isopropylbenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
4-Isopropyltoluene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
4-Methyl-2-pentanone	ND	1.0		µg/L	1	11/11/2019 11:16:15 AM	W64402
Methylene chloride	ND	0.30		µg/L	1	11/11/2019 11:16:15 AM	W64402
n-Butylbenzene	ND	0.30		µg/L	1	11/11/2019 11:16:15 AM	W64402
n-Propylbenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
sec-Butylbenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Styrene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
tert-Butylbenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Tetrachloroethene (PCE)	0.15	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
trans-1,2-DCE	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,1,1-Trichloroethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,1,2-Trichloroethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Trichloroethene (TCE)	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Trichlorofluoromethane	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
1,2,3-Trichloropropane	ND	0.20		µg/L	1	11/11/2019 11:16:15 AM	W64402
Vinyl chloride	ND	0.10		µg/L	1	11/11/2019 11:16:15 AM	W64402
Xylenes, Total	ND	0.15		µg/L	1	11/11/2019 11:16:15 AM	W64402
Surr: Dibromofluoromethane	103	66.1-127		%Rec	1	11/11/2019 11:16:15 AM	W64402
Surr: 1,2-Dichloroethane-d4	89.3	70-130		%Rec	1	11/11/2019 11:16:15 AM	W64402
Surr: Toluene-d8	102	70-130		%Rec	1	11/11/2019 11:16:15 AM	W64402
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	11/11/2019 11:16:15 AM	W64402

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 Quanitative 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: CLS AS2-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:39:00 AM
Lab ID: 1910F97-002 **Matrix:** AIR
Received Date: 10/31/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Toluene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Ethylbenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Naphthalene	ND	0.20		µg/L	1	11/11/2019 1:13:54 PM	W64402
1-Methylnaphthalene	ND	0.40		µg/L	1	11/11/2019 1:13:54 PM	W64402
2-Methylnaphthalene	ND	0.40		µg/L	1	11/11/2019 1:13:54 PM	W64402
Acetone	ND	1.0		µg/L	1	11/11/2019 1:13:54 PM	W64402
Bromobenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Bromodichloromethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Bromoform	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Bromomethane	ND	0.20		µg/L	1	11/11/2019 1:13:54 PM	W64402
2-Butanone	ND	1.0		µg/L	1	11/11/2019 1:13:54 PM	W64402
Carbon disulfide	ND	1.0		µg/L	1	11/11/2019 1:13:54 PM	W64402
Carbon tetrachloride	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Chlorobenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Chloroethane	ND	0.20		µg/L	1	11/11/2019 1:13:54 PM	W64402
Chloroform	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Chloromethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
2-Chlorotoluene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
4-Chlorotoluene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
cis-1,2-DCE	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	11/11/2019 1:13:54 PM	W64402
Dibromochloromethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Dibromomethane	ND	0.20		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,2-Dichlorobenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,3-Dichlorobenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,4-Dichlorobenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Dichlorodifluoromethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,1-Dichloroethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,1-Dichloroethene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,2-Dichloropropane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,3-Dichloropropane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
2,2-Dichloropropane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402

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 Quanitative 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: CLS AS2-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:39:00 AM
Lab ID: 1910F97-002 **Matrix:** AIR
Received Date: 10/31/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Hexachlorobutadiene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
2-Hexanone	ND	1.0		µg/L	1	11/11/2019 1:13:54 PM	W64402
Isopropylbenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
4-Isopropyltoluene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
4-Methyl-2-pentanone	ND	1.0		µg/L	1	11/11/2019 1:13:54 PM	W64402
Methylene chloride	ND	0.30		µg/L	1	11/11/2019 1:13:54 PM	W64402
n-Butylbenzene	ND	0.30		µg/L	1	11/11/2019 1:13:54 PM	W64402
n-Propylbenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
sec-Butylbenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Styrene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
tert-Butylbenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Tetrachloroethene (PCE)	0.17	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
trans-1,2-DCE	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,1,1-Trichloroethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,1,2-Trichloroethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Trichloroethene (TCE)	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Trichlorofluoromethane	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
1,2,3-Trichloropropane	ND	0.20		µg/L	1	11/11/2019 1:13:54 PM	W64402
Vinyl chloride	ND	0.10		µg/L	1	11/11/2019 1:13:54 PM	W64402
Xylenes, Total	ND	0.15		µg/L	1	11/11/2019 1:13:54 PM	W64402
Surr: Dibromofluoromethane	110	66.1-127		%Rec	1	11/11/2019 1:13:54 PM	W64402
Surr: 1,2-Dichloroethane-d4	94.0	70-130		%Rec	1	11/11/2019 1:13:54 PM	W64402
Surr: Toluene-d8	107	70-130		%Rec	1	11/11/2019 1:13:54 PM	W64402
Surr: 4-Bromofluorobenzene	90.2	70-130		%Rec	1	11/11/2019 1:13:54 PM	W64402

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1910F97 RcptNo: 1

Received By: Anne Thorne 10/31/2019 9:30:00 AM Anne Thorne
Completed By: Anne Thorne 10/31/2019 2:23:48 PM Anne Thorne
Reviewed By: JO 10/31/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	UPS		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: AT 10/31/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20000
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@las-cruces.org (575) 528-3530
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:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID (Ar 10/31/19)	Container Type and #	Preservative Type	HEAL No. 1910F97	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
10-30-19	0829	AIR	CLC AS1-191030	Tedlar Bag	NONE	001										X		
10-30-19	0839	AIR	CLC AS2-191030	Tedlar Bag	NONE	002										X		

Date: 10-30-19 Time: 1500 Relinquished by: Yadira Reyna
Received by: Date 10/31/19 Time 0930 UPS
Date: Time: Relinquished by:
Received by: Date Time

Remarks: Send Results to:
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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 07, 2019

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.: 1910G03

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/31/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC18-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:10:00 AM
Lab ID: 1910G03-001 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Toluene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Ethylbenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Naphthalene	ND	2.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1-Methylnaphthalene	ND	4.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
2-Methylnaphthalene	ND	4.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Acetone	ND	10		µg/L	1	11/4/2019 9:28:00 PM	R64191
Bromobenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Bromodichloromethane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Bromoform	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Bromomethane	ND	3.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
2-Butanone	ND	10		µg/L	1	11/4/2019 9:28:00 PM	R64191
Carbon disulfide	ND	10		µg/L	1	11/4/2019 9:28:00 PM	R64191
Carbon Tetrachloride	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Chlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Chloroethane	ND	2.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Chloroform	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Chloromethane	ND	3.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
2-Chlorotoluene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
4-Chlorotoluene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
cis-1,2-DCE	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Dibromochloromethane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Dibromomethane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,1-Dichloroethane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,1-Dichloroethene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,2-Dichloropropane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,3-Dichloropropane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
2,2-Dichloropropane	ND	2.0		µg/L	1	11/4/2019 9:28:00 PM	R64191

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
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S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC18-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:10:00 AM
Lab ID: 1910G03-001 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Hexachlorobutadiene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
2-Hexanone	ND	10		µg/L	1	11/4/2019 9:28:00 PM	R64191
Isopropylbenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
4-Isopropyltoluene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
4-Methyl-2-pentanone	ND	10		µg/L	1	11/4/2019 9:28:00 PM	R64191
Methylene Chloride	ND	3.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
n-Butylbenzene	ND	3.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
n-Propylbenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
sec-Butylbenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Styrene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
tert-Butylbenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Tetrachloroethene (PCE)	5.9	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
trans-1,2-DCE	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Trichlorofluoromethane	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Vinyl chloride	ND	1.0		µg/L	1	11/4/2019 9:28:00 PM	R64191
Xylenes, Total	ND	1.5		µg/L	1	11/4/2019 9:28:00 PM	R64191
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	11/4/2019 9:28:00 PM	R64191
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	11/4/2019 9:28:00 PM	R64191
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/4/2019 9:28:00 PM	R64191
Surr: Toluene-d8	95.4	70-130		%Rec	1	11/4/2019 9:28:00 PM	R64191

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 Quanitative 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: CLC27-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:59:00 AM
Lab ID: 1910G03-002 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Toluene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Ethylbenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Naphthalene	ND	2.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1-Methylnaphthalene	ND	4.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
2-Methylnaphthalene	ND	4.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Acetone	ND	10		µg/L	1	11/4/2019 9:52:00 PM	R64191
Bromobenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Bromodichloromethane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Bromoform	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Bromomethane	ND	3.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
2-Butanone	ND	10		µg/L	1	11/4/2019 9:52:00 PM	R64191
Carbon disulfide	ND	10		µg/L	1	11/4/2019 9:52:00 PM	R64191
Carbon Tetrachloride	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Chlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Chloroethane	ND	2.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Chloroform	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Chloromethane	ND	3.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
2-Chlorotoluene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
4-Chlorotoluene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
cis-1,2-DCE	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Dibromochloromethane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Dibromomethane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,1-Dichloroethane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,1-Dichloroethene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,2-Dichloropropane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,3-Dichloropropane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
2,2-Dichloropropane	ND	2.0		µg/L	1	11/4/2019 9:52:00 PM	R64191

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 Quanitative 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: CLC27-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:59:00 AM
Lab ID: 1910G03-002 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Hexachlorobutadiene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
2-Hexanone	ND	10		µg/L	1	11/4/2019 9:52:00 PM	R64191
Isopropylbenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
4-Isopropyltoluene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
4-Methyl-2-pentanone	ND	10		µg/L	1	11/4/2019 9:52:00 PM	R64191
Methylene Chloride	ND	3.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
n-Butylbenzene	ND	3.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
n-Propylbenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
sec-Butylbenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Styrene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
tert-Butylbenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Tetrachloroethene (PCE)	14	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
trans-1,2-DCE	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Trichlorofluoromethane	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Vinyl chloride	ND	1.0		µg/L	1	11/4/2019 9:52:00 PM	R64191
Xylenes, Total	ND	1.5		µg/L	1	11/4/2019 9:52:00 PM	R64191
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	11/4/2019 9:52:00 PM	R64191
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	11/4/2019 9:52:00 PM	R64191
Surr: Dibromofluoromethane	103	70-130		%Rec	1	11/4/2019 9:52:00 PM	R64191
Surr: Toluene-d8	96.7	70-130		%Rec	1	11/4/2019 9:52:00 PM	R64191

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 Quanitative 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 IS1-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:15:00 AM
Lab ID: 1910G03-003 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Toluene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Ethylbenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Naphthalene	ND	2.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1-Methylnaphthalene	ND	4.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
2-Methylnaphthalene	ND	4.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Acetone	ND	10		µg/L	1	11/4/2019 10:15:00 PM	R64191
Bromobenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Bromodichloromethane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Bromoform	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Bromomethane	ND	3.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
2-Butanone	ND	10		µg/L	1	11/4/2019 10:15:00 PM	R64191
Carbon disulfide	ND	10		µg/L	1	11/4/2019 10:15:00 PM	R64191
Carbon Tetrachloride	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Chlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Chloroethane	ND	2.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Chloroform	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Chloromethane	ND	3.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
2-Chlorotoluene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
4-Chlorotoluene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
cis-1,2-DCE	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Dibromochloromethane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Dibromomethane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,1-Dichloroethane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,1-Dichloroethene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,2-Dichloropropane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,3-Dichloropropane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
2,2-Dichloropropane	ND	2.0		µg/L	1	11/4/2019 10:15:00 PM	R64191

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 Quanitative 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 IS1-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:15:00 AM
Lab ID: 1910G03-003 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Hexachlorobutadiene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
2-Hexanone	ND	10		µg/L	1	11/4/2019 10:15:00 PM	R64191
Isopropylbenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
4-Isopropyltoluene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
4-Methyl-2-pentanone	ND	10		µg/L	1	11/4/2019 10:15:00 PM	R64191
Methylene Chloride	ND	3.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
n-Butylbenzene	ND	3.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
n-Propylbenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
sec-Butylbenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Styrene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
tert-Butylbenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Tetrachloroethene (PCE)	11	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
trans-1,2-DCE	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Trichlorofluoromethane	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Vinyl chloride	ND	1.0		µg/L	1	11/4/2019 10:15:00 PM	R64191
Xylenes, Total	ND	1.5		µg/L	1	11/4/2019 10:15:00 PM	R64191
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	11/4/2019 10:15:00 PM	R64191
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	11/4/2019 10:15:00 PM	R64191
Surr: Dibromofluoromethane	103	70-130		%Rec	1	11/4/2019 10:15:00 PM	R64191
Surr: Toluene-d8	95.0	70-130		%Rec	1	11/4/2019 10:15:00 PM	R64191

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 Quanitative 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 C1-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:18:00 AM
Lab ID: 1910G03-004 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Toluene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Ethylbenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Naphthalene	ND	2.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1-Methylnaphthalene	ND	4.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
2-Methylnaphthalene	ND	4.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Acetone	ND	10		µg/L	1	11/4/2019 10:39:00 PM	R64191
Bromobenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Bromodichloromethane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Bromoform	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Bromomethane	ND	3.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
2-Butanone	ND	10		µg/L	1	11/4/2019 10:39:00 PM	R64191
Carbon disulfide	ND	10		µg/L	1	11/4/2019 10:39:00 PM	R64191
Carbon Tetrachloride	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Chlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Chloroethane	ND	2.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Chloroform	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Chloromethane	ND	3.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
2-Chlorotoluene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
4-Chlorotoluene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
cis-1,2-DCE	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Dibromochloromethane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Dibromomethane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,1-Dichloroethane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,1-Dichloroethene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,2-Dichloropropane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,3-Dichloropropane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
2,2-Dichloropropane	ND	2.0		µg/L	1	11/4/2019 10:39:00 PM	R64191

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 Quanitative 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 C1-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:18:00 AM
Lab ID: 1910G03-004 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Hexachlorobutadiene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
2-Hexanone	ND	10		µg/L	1	11/4/2019 10:39:00 PM	R64191
Isopropylbenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
4-Isopropyltoluene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
4-Methyl-2-pentanone	ND	10		µg/L	1	11/4/2019 10:39:00 PM	R64191
Methylene Chloride	ND	3.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
n-Butylbenzene	ND	3.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
n-Propylbenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
sec-Butylbenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Styrene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
tert-Butylbenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
trans-1,2-DCE	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Trichlorofluoromethane	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Vinyl chloride	ND	1.0		µg/L	1	11/4/2019 10:39:00 PM	R64191
Xylenes, Total	ND	1.5		µg/L	1	11/4/2019 10:39:00 PM	R64191
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	11/4/2019 10:39:00 PM	R64191
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	11/4/2019 10:39:00 PM	R64191
Surr: Dibromofluoromethane	103	70-130		%Rec	1	11/4/2019 10:39:00 PM	R64191
Surr: Toluene-d8	95.4	70-130		%Rec	1	11/4/2019 10:39:00 PM	R64191

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 Quanitative 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 C1-191030 DUP
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:19:00 AM
Lab ID: 1910G03-005 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Toluene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Ethylbenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Naphthalene	ND	2.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1-Methylnaphthalene	ND	4.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
2-Methylnaphthalene	ND	4.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Acetone	ND	10		µg/L	1	11/5/2019 12:39:00 AM	B64191
Bromobenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Bromodichloromethane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Bromoform	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Bromomethane	ND	3.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
2-Butanone	ND	10		µg/L	1	11/5/2019 12:39:00 AM	B64191
Carbon disulfide	ND	10		µg/L	1	11/5/2019 12:39:00 AM	B64191
Carbon Tetrachloride	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Chlorobenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Chloroethane	ND	2.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Chloroform	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Chloromethane	ND	3.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
2-Chlorotoluene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
4-Chlorotoluene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
cis-1,2-DCE	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Dibromochloromethane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Dibromomethane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,1-Dichloroethane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,1-Dichloroethene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,2-Dichloropropane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,3-Dichloropropane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
2,2-Dichloropropane	ND	2.0		µg/L	1	11/5/2019 12:39:00 AM	B64191

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 Quanitative 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 C1-191030 DUP
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:19:00 AM
Lab ID: 1910G03-005 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Hexachlorobutadiene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
2-Hexanone	ND	10		µg/L	1	11/5/2019 12:39:00 AM	B64191
Isopropylbenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
4-Isopropyltoluene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
4-Methyl-2-pentanone	ND	10		µg/L	1	11/5/2019 12:39:00 AM	B64191
Methylene Chloride	ND	3.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
n-Butylbenzene	ND	3.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
n-Propylbenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
sec-Butylbenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Styrene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
tert-Butylbenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
trans-1,2-DCE	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Trichlorofluoromethane	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Vinyl chloride	ND	1.0		µg/L	1	11/5/2019 12:39:00 AM	B64191
Xylenes, Total	ND	1.5		µg/L	1	11/5/2019 12:39:00 AM	B64191
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	11/5/2019 12:39:00 AM	B64191
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	11/5/2019 12:39:00 AM	B64191
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/5/2019 12:39:00 AM	B64191
Surr: Toluene-d8	96.3	70-130		%Rec	1	11/5/2019 12:39:00 AM	B64191

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 Quanitative 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 ES1-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:26:00 AM
Lab ID: 1910G03-006 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Toluene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Ethylbenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Naphthalene	ND	2.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1-Methylnaphthalene	ND	4.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
2-Methylnaphthalene	ND	4.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Acetone	ND	10		µg/L	1	11/5/2019 1:02:00 AM	B64191
Bromobenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Bromodichloromethane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Bromoform	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Bromomethane	ND	3.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
2-Butanone	ND	10		µg/L	1	11/5/2019 1:02:00 AM	B64191
Carbon disulfide	ND	10		µg/L	1	11/5/2019 1:02:00 AM	B64191
Carbon Tetrachloride	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Chlorobenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Chloroethane	ND	2.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Chloroform	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Chloromethane	ND	3.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
2-Chlorotoluene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
4-Chlorotoluene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
cis-1,2-DCE	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Dibromochloromethane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Dibromomethane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,1-Dichloroethane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,1-Dichloroethene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,2-Dichloropropane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,3-Dichloropropane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
2,2-Dichloropropane	ND	2.0		µg/L	1	11/5/2019 1:02:00 AM	B64191

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 Quanitative 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 ES1-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:26:00 AM
Lab ID: 1910G03-006 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Hexachlorobutadiene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
2-Hexanone	ND	10		µg/L	1	11/5/2019 1:02:00 AM	B64191
Isopropylbenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
4-Isopropyltoluene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
4-Methyl-2-pentanone	ND	10		µg/L	1	11/5/2019 1:02:00 AM	B64191
Methylene Chloride	ND	3.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
n-Butylbenzene	ND	3.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
n-Propylbenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
sec-Butylbenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Styrene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
tert-Butylbenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
trans-1,2-DCE	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Trichlorofluoromethane	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Vinyl chloride	ND	1.0		µg/L	1	11/5/2019 1:02:00 AM	B64191
Xylenes, Total	ND	1.5		µg/L	1	11/5/2019 1:02:00 AM	B64191
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	11/5/2019 1:02:00 AM	B64191
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	11/5/2019 1:02:00 AM	B64191
Surr: Dibromofluoromethane	101	70-130		%Rec	1	11/5/2019 1:02:00 AM	B64191
Surr: Toluene-d8	96.1	70-130		%Rec	1	11/5/2019 1:02:00 AM	B64191

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 Quanitative 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 C2-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:22:00 AM
Lab ID: 1910G03-007 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Toluene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Ethylbenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Naphthalene	ND	2.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1-Methylnaphthalene	ND	4.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
2-Methylnaphthalene	ND	4.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Acetone	ND	10		µg/L	1	11/5/2019 2:14:00 AM	B64191
Bromobenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Bromodichloromethane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Bromoform	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Bromomethane	ND	3.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
2-Butanone	ND	10		µg/L	1	11/5/2019 2:14:00 AM	B64191
Carbon disulfide	ND	10		µg/L	1	11/5/2019 2:14:00 AM	B64191
Carbon Tetrachloride	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Chlorobenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Chloroethane	ND	2.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Chloroform	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Chloromethane	ND	3.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
2-Chlorotoluene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
4-Chlorotoluene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
cis-1,2-DCE	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Dibromochloromethane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Dibromomethane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,1-Dichloroethane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,1-Dichloroethene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,2-Dichloropropane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,3-Dichloropropane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
2,2-Dichloropropane	ND	2.0		µg/L	1	11/5/2019 2:14:00 AM	B64191

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 Quanitative 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 C2-191030
Project: Joint Superfund Project Monthly Analysi
Collection Date: 10/30/2019 8:22:00 AM
Lab ID: 1910G03-007 **Matrix:** AQUEOUS **Received Date:** 10/31/2019 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Hexachlorobutadiene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
2-Hexanone	ND	10		µg/L	1	11/5/2019 2:14:00 AM	B64191
Isopropylbenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
4-Isopropyltoluene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
4-Methyl-2-pentanone	ND	10		µg/L	1	11/5/2019 2:14:00 AM	B64191
Methylene Chloride	ND	3.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
n-Butylbenzene	ND	3.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
n-Propylbenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
sec-Butylbenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Styrene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
tert-Butylbenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
trans-1,2-DCE	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Trichlorofluoromethane	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Vinyl chloride	ND	1.0		µg/L	1	11/5/2019 2:14:00 AM	B64191
Xylenes, Total	ND	1.5		µg/L	1	11/5/2019 2:14:00 AM	B64191
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	11/5/2019 2:14:00 AM	B64191
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	11/5/2019 2:14:00 AM	B64191
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	11/5/2019 2:14:00 AM	B64191
Surr: Toluene-d8	96.9	70-130		%Rec	1	11/5/2019 2:14:00 AM	B64191

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910G03**
07-Nov-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R64191**	RunNo: **64191**
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2196754** 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								
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 Quanitative 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#: **1910G03**
07-Nov-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R64191**	RunNo: **64191**
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2196754** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.9	70	130			
Surr: Toluene-d8	9.5		10.00		94.9	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R64191**	RunNo: **64191**
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2196863** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	18	1.0	20.00	0	91.2	70	130			
Chlorobenzene	19	1.0	20.00	0	92.7	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 Quanitative 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#: **1910G03**
07-Nov-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R64191**	RunNo: **64191**
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2196863** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19	1.0	20.00	0	93.5	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	96.4	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.8	70	130			
Surr: Toluene-d8	9.5		10.00		94.6	70	130			

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B64191**	RunNo: **64191**
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2197811** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	18	1.0	20.00	0	91.1	70	130			
Chlorobenzene	19	1.0	20.00	0	92.9	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	93.8	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	97.3	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.6		10.00		96.2	70	130			

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B64191**	RunNo: **64191**
Prep Date:	Analysis Date: **11/5/2019**	SeqNo: **2197812** 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								

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 Quanitative 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#: **1910G03**
07-Nov-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B64191**	RunNo: **64191**
Prep Date:	Analysis Date: **11/5/2019**	SeqNo: **2197812** Units: **µg/L**

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.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910G03**
07-Nov-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B64191**	RunNo: **64191**
Prep Date:	Analysis Date: **11/5/2019**	SeqNo: **2197812** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.4		10.00		94.5	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 Quanitative 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

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: **1910G03** RcptNo: 1

Received By: Juan Rojas **10/31/2019 9:20:00 AM**

Completed By: **Desiree Dominguez** **10/31/2019 3:08:41 PM**

Reviewed By: ENM 10/31/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DM 10/31/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Not Present			

Chain-of-Custody Record

Client: City of Las Cruces
Water Quality Laboratory
Mailing Address: P.O. Box 20008
Las Cruces, N.M. 88004
Phone #: 575-528-3604
email or Fax#: lguerra@lascruces.org 5755283630
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: 1.6 - 0.1 = 1.5

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. 1910G03	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) YOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
10-30-19	0810	Drinking water	CLC 18-191030	3-40ml Vials	$HgCl_2$	-001										X		
	0859		CLC 27-191030			-002										X		
	0815		CLC IS1-191030			-003										X		
	0818		CLC C1-191030			-004										X		
	0819		CLC C1-191030 DUP			-005										X		
	0824	Drinking water	CLC ES1-191030	3-40ml Vials	$HgCl_2$	-006										X		
10-30-19	0822	Drinking water	CLC C2-191030	3-40ml Vials	$HgCl_2$	-007										X		

Date	Time	Relinquished by:	Received by:	Date	Time
10-30-19	1500	Yadira Reyna	Fed EX	10/31/19	9:10
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send Results to:
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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 26, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: Joint Superfund Project Monthy Analysis OrderNo.: 1911930

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 7 sample(s) on 11/20/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:11:00 AM
Lab ID: 1911930-001 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Toluene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Ethylbenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Naphthalene	ND	2.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Acetone	ND	10		µg/L	1	11/22/2019 3:49:47 AM	C64689
Bromobenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Bromoform	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Bromomethane	ND	3.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
2-Butanone	ND	10		µg/L	1	11/22/2019 3:49:47 AM	C64689
Carbon disulfide	ND	10		µg/L	1	11/22/2019 3:49:47 AM	C64689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Chlorobenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Chloroethane	ND	2.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Chloroform	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Chloromethane	ND	3.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Dibromochloromethane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Dibromomethane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2019 3:49:47 AM	C64689

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 Quanitative 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 18-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:11:00 AM
Lab ID: 1911930-001 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
2-Hexanone	ND	10		µg/L	1	11/22/2019 3:49:47 AM	C64689
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2019 3:49:47 AM	C64689
Methylene Chloride	ND	3.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Styrene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Tetrachloroethene (PCE)	6.6	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Vinyl chloride	ND	1.0		µg/L	1	11/22/2019 3:49:47 AM	C64689
Xylenes, Total	ND	1.5		µg/L	1	11/22/2019 3:49:47 AM	C64689
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	11/22/2019 3:49:47 AM	C64689
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	11/22/2019 3:49:47 AM	C64689
Surr: Dibromofluoromethane	103	70-130		%Rec	1	11/22/2019 3:49:47 AM	C64689
Surr: Toluene-d8	109	70-130		%Rec	1	11/22/2019 3:49:47 AM	C64689

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 Quanitative 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 27-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:47:00 AM
Lab ID: 1911930-002 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Toluene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Ethylbenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Naphthalene	ND	2.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Acetone	ND	10		µg/L	1	11/22/2019 5:16:12 AM	C64689
Bromobenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Bromoform	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Bromomethane	ND	3.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
2-Butanone	ND	10		µg/L	1	11/22/2019 5:16:12 AM	C64689
Carbon disulfide	ND	10		µg/L	1	11/22/2019 5:16:12 AM	C64689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Chlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Chloroethane	ND	2.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Chloroform	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Chloromethane	ND	3.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Dibromochloromethane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Dibromomethane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2019 5:16:12 AM	C64689

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 Quanitative 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 27-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:47:00 AM
Lab ID: 1911930-002 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
2-Hexanone	ND	10		µg/L	1	11/22/2019 5:16:12 AM	C64689
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2019 5:16:12 AM	C64689
Methylene Chloride	ND	3.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Styrene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Tetrachloroethene (PCE)	15	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Vinyl chloride	ND	1.0		µg/L	1	11/22/2019 5:16:12 AM	C64689
Xylenes, Total	ND	1.5		µg/L	1	11/22/2019 5:16:12 AM	C64689
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	11/22/2019 5:16:12 AM	C64689
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	11/22/2019 5:16:12 AM	C64689
Surr: Dibromofluoromethane	107	70-130		%Rec	1	11/22/2019 5:16:12 AM	C64689
Surr: Toluene-d8	111	70-130		%Rec	1	11/22/2019 5:16:12 AM	C64689

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 Quanitative 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 IS1-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:15:00 AM
Lab ID: 1911930-003 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Toluene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Ethylbenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Naphthalene	ND	2.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Acetone	ND	10		µg/L	1	11/22/2019 5:45:06 AM	C64689
Bromobenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Bromoform	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Bromomethane	ND	3.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
2-Butanone	ND	10		µg/L	1	11/22/2019 5:45:06 AM	C64689
Carbon disulfide	ND	10		µg/L	1	11/22/2019 5:45:06 AM	C64689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Chlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Chloroethane	ND	2.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Chloroform	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Chloromethane	ND	3.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Dibromochloromethane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Dibromomethane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2019 5:45:06 AM	C64689

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 Quanitative 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 IS1-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:15:00 AM
Lab ID: 1911930-003 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
2-Hexanone	ND	10		µg/L	1	11/22/2019 5:45:06 AM	C64689
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2019 5:45:06 AM	C64689
Methylene Chloride	ND	3.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Styrene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Tetrachloroethene (PCE)	11	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Vinyl chloride	ND	1.0		µg/L	1	11/22/2019 5:45:06 AM	C64689
Xylenes, Total	ND	1.5		µg/L	1	11/22/2019 5:45:06 AM	C64689
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	11/22/2019 5:45:06 AM	C64689
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	11/22/2019 5:45:06 AM	C64689
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/22/2019 5:45:06 AM	C64689
Surr: Toluene-d8	109	70-130		%Rec	1	11/22/2019 5:45:06 AM	C64689

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 Quanitative 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 C1-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:18:00 AM
Lab ID: 1911930-004 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Toluene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Ethylbenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Naphthalene	ND	2.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Acetone	ND	10		µg/L	1	11/22/2019 6:14:43 AM	C64689
Bromobenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Bromoform	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Bromomethane	ND	3.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
2-Butanone	ND	10		µg/L	1	11/22/2019 6:14:43 AM	C64689
Carbon disulfide	ND	10		µg/L	1	11/22/2019 6:14:43 AM	C64689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Chlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Chloroethane	ND	2.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Chloroform	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Chloromethane	ND	3.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Dibromochloromethane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Dibromomethane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2019 6:14:43 AM	C64689

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 Quanitative 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 C1-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:18:00 AM
Lab ID: 1911930-004 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
2-Hexanone	ND	10		µg/L	1	11/22/2019 6:14:43 AM	C64689
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2019 6:14:43 AM	C64689
Methylene Chloride	ND	3.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Styrene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Vinyl chloride	ND	1.0		µg/L	1	11/22/2019 6:14:43 AM	C64689
Xylenes, Total	ND	1.5		µg/L	1	11/22/2019 6:14:43 AM	C64689
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	11/22/2019 6:14:43 AM	C64689
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	11/22/2019 6:14:43 AM	C64689
Surr: Dibromofluoromethane	108	70-130		%Rec	1	11/22/2019 6:14:43 AM	C64689
Surr: Toluene-d8	113	70-130		%Rec	1	11/22/2019 6:14:43 AM	C64689

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 Quanitative 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 C2-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:20:00 AM
Lab ID: 1911930-005 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Toluene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Ethylbenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Naphthalene	ND	2.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Acetone	ND	10		µg/L	1	11/22/2019 6:43:55 AM	C64689
Bromobenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Bromoform	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Bromomethane	ND	3.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
2-Butanone	ND	10		µg/L	1	11/22/2019 6:43:55 AM	C64689
Carbon disulfide	ND	10		µg/L	1	11/22/2019 6:43:55 AM	C64689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Chlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Chloroethane	ND	2.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Chloroform	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Chloromethane	ND	3.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Dibromochloromethane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Dibromomethane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2019 6:43:55 AM	C64689

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 Quanitative 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 C2-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:20:00 AM
Lab ID: 1911930-005 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
2-Hexanone	ND	10		µg/L	1	11/22/2019 6:43:55 AM	C64689
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2019 6:43:55 AM	C64689
Methylene Chloride	ND	3.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Styrene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Vinyl chloride	ND	1.0		µg/L	1	11/22/2019 6:43:55 AM	C64689
Xylenes, Total	ND	1.5		µg/L	1	11/22/2019 6:43:55 AM	C64689
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	11/22/2019 6:43:55 AM	C64689
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	11/22/2019 6:43:55 AM	C64689
Surr: Dibromofluoromethane	103	70-130		%Rec	1	11/22/2019 6:43:55 AM	C64689
Surr: Toluene-d8	109	70-130		%Rec	1	11/22/2019 6:43:55 AM	C64689

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 Quanitative 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 C2-191119 DUP
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:21:00 AM
Lab ID: 1911930-006 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Toluene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Ethylbenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Naphthalene	ND	2.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Acetone	ND	10		µg/L	1	11/22/2019 7:13:02 AM	C64689
Bromobenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Bromoform	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Bromomethane	ND	3.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
2-Butanone	ND	10		µg/L	1	11/22/2019 7:13:02 AM	C64689
Carbon disulfide	ND	10		µg/L	1	11/22/2019 7:13:02 AM	C64689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Chlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Chloroethane	ND	2.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Chloroform	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Chloromethane	ND	3.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Dibromochloromethane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Dibromomethane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2019 7:13:02 AM	C64689

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 Quanitative 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 C2-191119 DUP
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:21:00 AM
Lab ID: 1911930-006 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
2-Hexanone	ND	10		µg/L	1	11/22/2019 7:13:02 AM	C64689
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2019 7:13:02 AM	C64689
Methylene Chloride	ND	3.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Styrene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Vinyl chloride	ND	1.0		µg/L	1	11/22/2019 7:13:02 AM	C64689
Xylenes, Total	ND	1.5		µg/L	1	11/22/2019 7:13:02 AM	C64689
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	11/22/2019 7:13:02 AM	C64689
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	11/22/2019 7:13:02 AM	C64689
Surr: Dibromofluoromethane	102	70-130		%Rec	1	11/22/2019 7:13:02 AM	C64689
Surr: Toluene-d8	111	70-130		%Rec	1	11/22/2019 7:13:02 AM	C64689

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 Quanitative 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 ES1-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:26:00 AM
Lab ID: 1911930-007 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Toluene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Ethylbenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Naphthalene	ND	2.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Acetone	ND	10		µg/L	1	11/22/2019 7:42:10 AM	C64689
Bromobenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Bromoform	6.5	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Bromomethane	ND	3.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
2-Butanone	ND	10		µg/L	1	11/22/2019 7:42:10 AM	C64689
Carbon disulfide	ND	10		µg/L	1	11/22/2019 7:42:10 AM	C64689
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Chlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Chloroethane	ND	2.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Chloroform	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Chloromethane	ND	3.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Dibromochloromethane	2.5	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Dibromomethane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,1-Dichloroethane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,1-Dichloroethene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2019 7:42:10 AM	C64689

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 Quanitative 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 ES1-191119
Project: Joint Superfund Project Monthy Analysis
Collection Date: 11/19/2019 8:26:00 AM
Lab ID: 1911930-007 **Matrix:** AQUEOUS **Received Date:** 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
2-Hexanone	ND	10		µg/L	1	11/22/2019 7:42:10 AM	C64689
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2019 7:42:10 AM	C64689
Methylene Chloride	ND	3.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Styrene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Vinyl chloride	ND	1.0		µg/L	1	11/22/2019 7:42:10 AM	C64689
Xylenes, Total	ND	1.5		µg/L	1	11/22/2019 7:42:10 AM	C64689
Surr: 1,2-Dichloroethane-d4	99.3	70-130		%Rec	1	11/22/2019 7:42:10 AM	C64689
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/22/2019 7:42:10 AM	C64689
Surr: Dibromofluoromethane	102	70-130		%Rec	1	11/22/2019 7:42:10 AM	C64689
Surr: Toluene-d8	108	70-130		%Rec	1	11/22/2019 7:42:10 AM	C64689

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1911930**
26-Nov-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthy Analysis

Sample ID: **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A64689**	RunNo: **64689**
Prep Date:	Analysis Date: **11/21/2019**	SeqNo: **2216338** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	11		10.00		112	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A64689**	RunNo: **64689**
Prep Date:	Analysis Date: **11/21/2019**	SeqNo: **2216339** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.6	70	130			
Surr: Toluene-d8	11		10.00		110	70	130			

Sample ID: **rb3**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **C64689**	RunNo: **64689**
Prep Date:	Analysis Date: **11/21/2019**	SeqNo: **2216454** 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								

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1911930**
26-Nov-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthy Analysis

Sample ID: **rb3**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **C64689**	RunNo: **64689**
Prep Date:	Analysis Date: **11/21/2019**	SeqNo: **2216454** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1911930**
26-Nov-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthy Analysis

Sample ID: **rb3** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **C64689** RunNo: **64689**
Prep Date: Analysis Date: **11/21/2019** SeqNo: **2216454** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	10		10.00		100	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	11		10.00		111	70	130			

Sample ID: **100ng lcs2** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **C64689** RunNo: **64689**
Prep Date: Analysis Date: **11/21/2019** SeqNo: **2216455** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.0	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.8	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	94.1	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	11		10.00		111	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 Quanitative 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

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: **1911930** RcptNo: 1

Received By: **Yazmine Garduno** **11/20/2019 9:46:00 AM** Yazmine Garduno

Completed By: **Yazmine Garduno** **11/20/2019 11:03:34 AM** Yazmine Garduno

Reviewed By: DAD 11/21/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: JR 11/21/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good				

Chain-of-Custody Record

Client: City of Las Cruces Water Quality Laboratory

Mailing Address: P.O. Box 20000 Las Cruces, NM 88004

Phone #: 575-528-3604

email or Fax#: lguerra@las-cruces.org 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: 1.4 - 0.4 = 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1911930	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
11-19-19	0811	Drinking water	CLC 18-191119	3-40ml Vials	$HgCl_2$	-001										X		
	0847		CLC 27-191119			-002										X		
	0815		CLC IS1-191119			-003										X		
	0818		CLC C1-191119			-004										X		
	0820		CLC C2-191119			-005										X		
	0821		CLC C2-191119 DUP			-006										X		
11-19-19	0826	Drinking water	CLC ES1-191119	3-40ml Vials	$HgCl_2$	-007										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11-19-19	1500	Yadira Reyna			
Date:	Time:	Relinquished by:	Received by:	Date	Time
			Yolo HFEDEX	11/20/19	0914

Remarks: Send Results to:
Luis Guerra lguerra@las-cruces.org
Joshua Rosenblatt jrosenblatt@las-cruces.org
(Send invoice to CLC c/o Luis Guerra)

Analysis Request

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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 27, 2019

Luis Guerra

City of Las Cruces
PO Box 20000
Las Cruces, NM 88004
TEL: (575) 528-3604
FAX

RE: Joint Superfund Project Monthly Project OrderNo.: 1911932

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/20/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-191119
Project: Joint Superfund Project Monthly Project
Collection Date: 11/19/2019 8:32:00 AM
Lab ID: 1911932-001 **Matrix:** AIR
Received Date: 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Toluene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Ethylbenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Naphthalene	ND	0.20		µg/L	1	11/25/2019 10:59:32 AM	W64766
1-Methylnaphthalene	ND	0.40		µg/L	1	11/25/2019 10:59:32 AM	W64766
2-Methylnaphthalene	ND	0.40		µg/L	1	11/25/2019 10:59:32 AM	W64766
Acetone	ND	1.0		µg/L	1	11/25/2019 10:59:32 AM	W64766
Bromobenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Bromodichloromethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Bromoform	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Bromomethane	ND	0.20		µg/L	1	11/25/2019 10:59:32 AM	W64766
2-Butanone	ND	1.0		µg/L	1	11/25/2019 10:59:32 AM	W64766
Carbon disulfide	ND	1.0		µg/L	1	11/25/2019 10:59:32 AM	W64766
Carbon tetrachloride	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Chlorobenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Chloroethane	ND	0.20		µg/L	1	11/25/2019 10:59:32 AM	W64766
Chloroform	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Chloromethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
2-Chlorotoluene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
4-Chlorotoluene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
cis-1,2-DCE	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	11/25/2019 10:59:32 AM	W64766
Dibromochloromethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Dibromomethane	ND	0.20		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,2-Dichlorobenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,3-Dichlorobenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,4-Dichlorobenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Dichlorodifluoromethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,1-Dichloroethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,1-Dichloroethene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,2-Dichloropropane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,3-Dichloropropane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
2,2-Dichloropropane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766

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 Quanitative 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 AS1-191119
Project: Joint Superfund Project Monthly Project
Collection Date: 11/19/2019 8:32:00 AM
Lab ID: 1911932-001 **Matrix:** AIR
Received Date: 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Hexachlorobutadiene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
2-Hexanone	ND	1.0		µg/L	1	11/25/2019 10:59:32 AM	W64766
Isopropylbenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
4-Isopropyltoluene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
4-Methyl-2-pentanone	ND	1.0		µg/L	1	11/25/2019 10:59:32 AM	W64766
Methylene chloride	ND	0.30		µg/L	1	11/25/2019 10:59:32 AM	W64766
n-Butylbenzene	ND	0.30		µg/L	1	11/25/2019 10:59:32 AM	W64766
n-Propylbenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
sec-Butylbenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Styrene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
tert-Butylbenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Tetrachloroethene (PCE)	0.13	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
trans-1,2-DCE	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,1,1-Trichloroethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,1,2-Trichloroethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Trichloroethene (TCE)	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Trichlorofluoromethane	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
1,2,3-Trichloropropane	ND	0.20		µg/L	1	11/25/2019 10:59:32 AM	W64766
Vinyl chloride	ND	0.10		µg/L	1	11/25/2019 10:59:32 AM	W64766
Xylenes, Total	ND	0.15		µg/L	1	11/25/2019 10:59:32 AM	W64766
Surr: Dibromofluoromethane	99.6	66.1-127		%Rec	1	11/25/2019 10:59:32 AM	W64766
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	11/25/2019 10:59:32 AM	W64766
Surr: Toluene-d8	107	70-130		%Rec	1	11/25/2019 10:59:32 AM	W64766
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/25/2019 10:59:32 AM	W64766

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 Quanitative 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 AS2-191119
Project: Joint Superfund Project Monthly Project
Collection Date: 11/19/2019 8:35:00 AM
Lab ID: 1911932-002 **Matrix:** AIR
Received Date: 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Toluene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Ethylbenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Naphthalene	ND	0.20		µg/L	1	11/25/2019 11:28:41 AM	W64766
1-Methylnaphthalene	ND	0.40		µg/L	1	11/25/2019 11:28:41 AM	W64766
2-Methylnaphthalene	ND	0.40		µg/L	1	11/25/2019 11:28:41 AM	W64766
Acetone	ND	1.0		µg/L	1	11/25/2019 11:28:41 AM	W64766
Bromobenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Bromodichloromethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Bromoform	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Bromomethane	ND	0.20		µg/L	1	11/25/2019 11:28:41 AM	W64766
2-Butanone	ND	1.0		µg/L	1	11/25/2019 11:28:41 AM	W64766
Carbon disulfide	ND	1.0		µg/L	1	11/25/2019 11:28:41 AM	W64766
Carbon tetrachloride	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Chlorobenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Chloroethane	ND	0.20		µg/L	1	11/25/2019 11:28:41 AM	W64766
Chloroform	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Chloromethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
2-Chlorotoluene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
4-Chlorotoluene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
cis-1,2-DCE	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	11/25/2019 11:28:41 AM	W64766
Dibromochloromethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Dibromomethane	ND	0.20		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,2-Dichlorobenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,3-Dichlorobenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,4-Dichlorobenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Dichlorodifluoromethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,1-Dichloroethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,1-Dichloroethene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,2-Dichloropropane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,3-Dichloropropane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
2,2-Dichloropropane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766

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 Quanitative 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 AS2-191119
Project: Joint Superfund Project Monthly Project
Collection Date: 11/19/2019 8:35:00 AM
Lab ID: 1911932-002 **Matrix:** AIR
Received Date: 11/20/2019 9:46:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Hexachlorobutadiene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
2-Hexanone	ND	1.0		µg/L	1	11/25/2019 11:28:41 AM	W64766
Isopropylbenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
4-Isopropyltoluene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
4-Methyl-2-pentanone	ND	1.0		µg/L	1	11/25/2019 11:28:41 AM	W64766
Methylene chloride	ND	0.30		µg/L	1	11/25/2019 11:28:41 AM	W64766
n-Butylbenzene	ND	0.30		µg/L	1	11/25/2019 11:28:41 AM	W64766
n-Propylbenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
sec-Butylbenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Styrene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
tert-Butylbenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Tetrachloroethene (PCE)	0.15	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
trans-1,2-DCE	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,1,1-Trichloroethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,1,2-Trichloroethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Trichloroethene (TCE)	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Trichlorofluoromethane	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
1,2,3-Trichloropropane	ND	0.20		µg/L	1	11/25/2019 11:28:41 AM	W64766
Vinyl chloride	ND	0.10		µg/L	1	11/25/2019 11:28:41 AM	W64766
Xylenes, Total	ND	0.15		µg/L	1	11/25/2019 11:28:41 AM	W64766
Surr: Dibromofluoromethane	110	66.1-127		%Rec	1	11/25/2019 11:28:41 AM	W64766
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	11/25/2019 11:28:41 AM	W64766
Surr: Toluene-d8	115	70-130		%Rec	1	11/25/2019 11:28:41 AM	W64766
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	11/25/2019 11:28:41 AM	W64766

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
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1911932** RcptNo: **1**

Received By: **Yazmine Garduno** **11/20/2019 9:46:00 AM** Yazmine Garduno

Completed By: **Yazmine Garduno** **11/20/2019 11:09:41 AM** Yazmine Garduno

Reviewed By: IO 11/20/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	FedEx		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☑	NA ☐
		Not required	
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: YG 11/20/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	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 #: 575-528-3604
email or Fax#: lguerra@las-cruces.org
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☑ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____
Project Name: Joint Superfund Project Monthly Analysis
Project #: CNC JSF 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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1911932	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)					Air Bubbles (Y or N)
11-19-19	0832	AIR	CNC AS1-191119	Tedlar Bag	NONE	-001										X						
11-19-19	0835	AIR	CNC AS2-191119	Tedlar Bag	NONE	-002										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
11-19-19	1500	Yadira Reyna			
Date:	Time:	Relinquished by:	Received by:	Date	Time
			FED EX	11/20/19	0946

Remarks: Send Results to:
Luis Guerra: lguerra@las-cruces.org
Joshua Rosenblatt: jrosenblatt@las-cruces.org
(Send invoice to CNC 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 23, 2019

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.: 1912848

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 3 sample(s) on 12/17/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:31:00 AM
Lab ID: 1912848-001 **Matrix:** AIR
Received Date: 12/17/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Toluene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Ethylbenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Naphthalene	ND	0.20		µg/L	1	12/20/2019 12:32:39 PM	W65339
1-Methylnaphthalene	ND	0.40		µg/L	1	12/20/2019 12:32:39 PM	W65339
2-Methylnaphthalene	ND	0.40		µg/L	1	12/20/2019 12:32:39 PM	W65339
Acetone	ND	1.0		µg/L	1	12/20/2019 12:32:39 PM	W65339
Bromobenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Bromodichloromethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Bromoform	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Bromomethane	ND	0.20		µg/L	1	12/20/2019 12:32:39 PM	W65339
2-Butanone	ND	1.0		µg/L	1	12/20/2019 12:32:39 PM	W65339
Carbon disulfide	ND	1.0		µg/L	1	12/20/2019 12:32:39 PM	W65339
Carbon tetrachloride	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Chlorobenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Chloroethane	ND	0.20		µg/L	1	12/20/2019 12:32:39 PM	W65339
Chloroform	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Chloromethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
2-Chlorotoluene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
4-Chlorotoluene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
cis-1,2-DCE	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	12/20/2019 12:32:39 PM	W65339
Dibromochloromethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Dibromomethane	ND	0.20		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,2-Dichlorobenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,3-Dichlorobenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,4-Dichlorobenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Dichlorodifluoromethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,1-Dichloroethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,1-Dichloroethene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,2-Dichloropropane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,3-Dichloropropane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
2,2-Dichloropropane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339

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 Quanitative 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 AS1-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:31:00 AM
Lab ID: 1912848-001 **Matrix:** AIR
Received Date: 12/17/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Hexachlorobutadiene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
2-Hexanone	ND	1.0		µg/L	1	12/20/2019 12:32:39 PM	W65339
Isopropylbenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
4-Isopropyltoluene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
4-Methyl-2-pentanone	ND	1.0		µg/L	1	12/20/2019 12:32:39 PM	W65339
Methylene chloride	ND	0.30		µg/L	1	12/20/2019 12:32:39 PM	W65339
n-Butylbenzene	ND	0.30		µg/L	1	12/20/2019 12:32:39 PM	W65339
n-Propylbenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
sec-Butylbenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Styrene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
tert-Butylbenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Tetrachloroethene (PCE)	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
trans-1,2-DCE	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,1,1-Trichloroethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,1,2-Trichloroethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Trichloroethene (TCE)	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Trichlorofluoromethane	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
1,2,3-Trichloropropane	ND	0.20		µg/L	1	12/20/2019 12:32:39 PM	W65339
Vinyl chloride	ND	0.10		µg/L	1	12/20/2019 12:32:39 PM	W65339
Xylenes, Total	ND	0.15		µg/L	1	12/20/2019 12:32:39 PM	W65339
Surr: Dibromofluoromethane	109	66.1-127		%Rec	1	12/20/2019 12:32:39 PM	W65339
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	12/20/2019 12:32:39 PM	W65339
Surr: Toluene-d8	102	70-130		%Rec	1	12/20/2019 12:32:39 PM	W65339
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	12/20/2019 12:32:39 PM	W65339

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative 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 AS1-191216 Dup
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:33:00 AM
Lab ID: 1912848-002 **Matrix:** AIR
Received Date: 12/17/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Toluene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Ethylbenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Naphthalene	ND	0.20		µg/L	1	12/20/2019 1:02:20 PM	W65339
1-Methylnaphthalene	ND	0.40		µg/L	1	12/20/2019 1:02:20 PM	W65339
2-Methylnaphthalene	ND	0.40		µg/L	1	12/20/2019 1:02:20 PM	W65339
Acetone	ND	1.0		µg/L	1	12/20/2019 1:02:20 PM	W65339
Bromobenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Bromodichloromethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Bromoform	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Bromomethane	ND	0.20		µg/L	1	12/20/2019 1:02:20 PM	W65339
2-Butanone	ND	1.0		µg/L	1	12/20/2019 1:02:20 PM	W65339
Carbon disulfide	ND	1.0		µg/L	1	12/20/2019 1:02:20 PM	W65339
Carbon tetrachloride	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Chlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Chloroethane	ND	0.20		µg/L	1	12/20/2019 1:02:20 PM	W65339
Chloroform	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Chloromethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
2-Chlorotoluene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
4-Chlorotoluene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
cis-1,2-DCE	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	12/20/2019 1:02:20 PM	W65339
Dibromochloromethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Dibromomethane	ND	0.20		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,2-Dichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,3-Dichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,4-Dichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Dichlorodifluoromethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,1-Dichloroethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,1-Dichloroethene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,2-Dichloropropane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,3-Dichloropropane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
2,2-Dichloropropane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times 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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Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS1-191216 Dup
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:33:00 AM
Lab ID: 1912848-002 **Matrix:** AIR
Received Date: 12/17/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Hexachlorobutadiene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
2-Hexanone	ND	1.0		µg/L	1	12/20/2019 1:02:20 PM	W65339
Isopropylbenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
4-Isopropyltoluene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
4-Methyl-2-pentanone	ND	1.0		µg/L	1	12/20/2019 1:02:20 PM	W65339
Methylene chloride	ND	0.30		µg/L	1	12/20/2019 1:02:20 PM	W65339
n-Butylbenzene	ND	0.30		µg/L	1	12/20/2019 1:02:20 PM	W65339
n-Propylbenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
sec-Butylbenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Styrene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
tert-Butylbenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Tetrachloroethene (PCE)	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
trans-1,2-DCE	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,1,1-Trichloroethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,1,2-Trichloroethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Trichloroethene (TCE)	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Trichlorofluoromethane	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
1,2,3-Trichloropropane	ND	0.20		µg/L	1	12/20/2019 1:02:20 PM	W65339
Vinyl chloride	ND	0.10		µg/L	1	12/20/2019 1:02:20 PM	W65339
Xylenes, Total	ND	0.15		µg/L	1	12/20/2019 1:02:20 PM	W65339
Surr: Dibromofluoromethane	108	66.1-127		%Rec	1	12/20/2019 1:02:20 PM	W65339
Surr: 1,2-Dichloroethane-d4	96.6	70-130		%Rec	1	12/20/2019 1:02:20 PM	W65339
Surr: Toluene-d8	101	70-130		%Rec	1	12/20/2019 1:02:20 PM	W65339
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	12/20/2019 1:02:20 PM	W65339

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative 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 AS2-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:39:00 AM
Lab ID: 1912848-003 **Matrix:** AIR
Received Date: 12/17/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Toluene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Ethylbenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Naphthalene	ND	0.20		µg/L	1	12/20/2019 1:32:01 PM	W65339
1-Methylnaphthalene	ND	0.40		µg/L	1	12/20/2019 1:32:01 PM	W65339
2-Methylnaphthalene	ND	0.40		µg/L	1	12/20/2019 1:32:01 PM	W65339
Acetone	ND	1.0		µg/L	1	12/20/2019 1:32:01 PM	W65339
Bromobenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Bromodichloromethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Bromoform	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Bromomethane	ND	0.20		µg/L	1	12/20/2019 1:32:01 PM	W65339
2-Butanone	ND	1.0		µg/L	1	12/20/2019 1:32:01 PM	W65339
Carbon disulfide	ND	1.0		µg/L	1	12/20/2019 1:32:01 PM	W65339
Carbon tetrachloride	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Chlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Chloroethane	ND	0.20		µg/L	1	12/20/2019 1:32:01 PM	W65339
Chloroform	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Chloromethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
2-Chlorotoluene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
4-Chlorotoluene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
cis-1,2-DCE	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	12/20/2019 1:32:01 PM	W65339
Dibromochloromethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Dibromomethane	ND	0.20		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,2-Dichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,3-Dichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,4-Dichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Dichlorodifluoromethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,1-Dichloroethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,1-Dichloroethene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,2-Dichloropropane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,3-Dichloropropane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
2,2-Dichloropropane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC AS2-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:39:00 AM
Lab ID: 1912848-003 **Matrix:** AIR
Received Date: 12/17/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Hexachlorobutadiene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
2-Hexanone	ND	1.0		µg/L	1	12/20/2019 1:32:01 PM	W65339
Isopropylbenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
4-Isopropyltoluene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
4-Methyl-2-pentanone	ND	1.0		µg/L	1	12/20/2019 1:32:01 PM	W65339
Methylene chloride	ND	0.30		µg/L	1	12/20/2019 1:32:01 PM	W65339
n-Butylbenzene	ND	0.30		µg/L	1	12/20/2019 1:32:01 PM	W65339
n-Propylbenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
sec-Butylbenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Styrene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
tert-Butylbenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Tetrachloroethene (PCE)	0.10	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
trans-1,2-DCE	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,1,1-Trichloroethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,1,2-Trichloroethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Trichloroethene (TCE)	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Trichlorofluoromethane	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
1,2,3-Trichloropropane	ND	0.20		µg/L	1	12/20/2019 1:32:01 PM	W65339
Vinyl chloride	ND	0.10		µg/L	1	12/20/2019 1:32:01 PM	W65339
Xylenes, Total	ND	0.15		µg/L	1	12/20/2019 1:32:01 PM	W65339
Surr: Dibromofluoromethane	107	66.1-127		%Rec	1	12/20/2019 1:32:01 PM	W65339
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	12/20/2019 1:32:01 PM	W65339
Surr: Toluene-d8	105	70-130		%Rec	1	12/20/2019 1:32:01 PM	W65339
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	12/20/2019 1:32:01 PM	W65339

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1912848 RcptNo: 1

Received By: Anne Thorne 12/17/2019 9:00:00 AM Anne Thorne
Completed By: Anne Thorne 12/17/2019 9:40:55 AM Anne Thorne
Reviewed By: JO 12/17/19

Chain of Custody

1. Is Chain of Custody sufficiently complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? UPS

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: AT 12/17/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:
17. **Cooler Information**

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 #: CLC JSP Griggs Walnut
Project Manager: Luis Guerra (575) 528-3609
Sampler: Yadira Reyna
On Ice: ☑ Yes ☐ No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1912848	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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~ VOC)	8270 (Semi-VOA)	Air Bubbles (Y or N)
12/16/19	0831	AIR	CLC AS1-191216	Tedlar Bag	NONE	001										X		
	0833	AIR	CLC AS1-191216-DUP	Tedlar Bag	NONE	002										X		
12/16/19	0839	AIR	CLC AS2-191216	Tedlar Bag	NONE	003										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/16/19	1500	Yadira Reyna			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				12/17/19	0900
					UPS

Remarks: Send Results to:
luis.guerra@guerra@las-cruces.org
Joshua.Rosenblatt@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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 23, 2019

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.: 1912930

Dear Luis Guerra:

Hall Environmental Analysis Laboratory received 6 sample(s) on 12/18/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC 18-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:10:00 AM
Lab ID: 1912930-001
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Toluene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Ethylbenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Naphthalene	ND	2.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1-Methylnaphthalene	ND	4.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
2-Methylnaphthalene	ND	4.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Acetone	ND	10		µg/L	1	12/20/2019 8:52:34 PM	W65339
Bromobenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Bromodichloromethane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Bromoform	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Bromomethane	ND	3.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
2-Butanone	ND	10		µg/L	1	12/20/2019 8:52:34 PM	W65339
Carbon disulfide	ND	10		µg/L	1	12/20/2019 8:52:34 PM	W65339
Carbon Tetrachloride	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Chlorobenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Chloroethane	ND	2.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Chloroform	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Chloromethane	ND	3.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
2-Chlorotoluene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
4-Chlorotoluene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
cis-1,2-DCE	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Dibromochloromethane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Dibromomethane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,1-Dichloroethane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,1-Dichloroethene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,2-Dichloropropane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,3-Dichloropropane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
2,2-Dichloropropane	ND	2.0		µg/L	1	12/20/2019 8:52:34 PM	W65339

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 Quanitative 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 18-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:10:00 AM
Lab ID: 1912930-001
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Hexachlorobutadiene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
2-Hexanone	ND	10		µg/L	1	12/20/2019 8:52:34 PM	W65339
Isopropylbenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
4-Isopropyltoluene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
4-Methyl-2-pentanone	ND	10		µg/L	1	12/20/2019 8:52:34 PM	W65339
Methylene Chloride	ND	3.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
n-Butylbenzene	ND	3.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
n-Propylbenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
sec-Butylbenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Styrene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
tert-Butylbenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Tetrachloroethene (PCE)	6.3	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
trans-1,2-DCE	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Trichlorofluoromethane	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Vinyl chloride	ND	1.0		µg/L	1	12/20/2019 8:52:34 PM	W65339
Xylenes, Total	ND	1.5		µg/L	1	12/20/2019 8:52:34 PM	W65339
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/20/2019 8:52:34 PM	W65339
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	12/20/2019 8:52:34 PM	W65339
Surr: Dibromofluoromethane	114	70-130		%Rec	1	12/20/2019 8:52:34 PM	W65339
Surr: Toluene-d8	102	70-130		%Rec	1	12/20/2019 8:52:34 PM	W65339

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 Quanitative 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 27-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:58:00 AM
Lab ID: 1912930-002
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Toluene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Ethylbenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Naphthalene	ND	2.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1-Methylnaphthalene	ND	4.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
2-Methylnaphthalene	ND	4.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Acetone	ND	10		µg/L	1	12/20/2019 11:46:06 PM	W65339
Bromobenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Bromodichloromethane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Bromoform	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Bromomethane	ND	3.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
2-Butanone	ND	10		µg/L	1	12/20/2019 11:46:06 PM	W65339
Carbon disulfide	ND	10		µg/L	1	12/20/2019 11:46:06 PM	W65339
Carbon Tetrachloride	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Chlorobenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Chloroethane	ND	2.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Chloroform	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Chloromethane	ND	3.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
2-Chlorotoluene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
4-Chlorotoluene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
cis-1,2-DCE	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Dibromochloromethane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Dibromomethane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,1-Dichloroethane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,1-Dichloroethene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,2-Dichloropropane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,3-Dichloropropane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
2,2-Dichloropropane	ND	2.0		µg/L	1	12/20/2019 11:46:06 PM	W65339

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 Quanitative 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 27-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:58:00 AM
Lab ID: 1912930-002
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Hexachlorobutadiene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
2-Hexanone	ND	10		µg/L	1	12/20/2019 11:46:06 PM	W65339
Isopropylbenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
4-Isopropyltoluene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
4-Methyl-2-pentanone	ND	10		µg/L	1	12/20/2019 11:46:06 PM	W65339
Methylene Chloride	ND	3.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
n-Butylbenzene	ND	3.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
n-Propylbenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
sec-Butylbenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Styrene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
tert-Butylbenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Tetrachloroethene (PCE)	13	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
trans-1,2-DCE	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Trichlorofluoromethane	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Vinyl chloride	ND	1.0		µg/L	1	12/20/2019 11:46:06 PM	W65339
Xylenes, Total	ND	1.5		µg/L	1	12/20/2019 11:46:06 PM	W65339
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/20/2019 11:46:06 PM	W65339
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/20/2019 11:46:06 PM	W65339
Surr: Dibromofluoromethane	114	70-130		%Rec	1	12/20/2019 11:46:06 PM	W65339
Surr: Toluene-d8	98.3	70-130		%Rec	1	12/20/2019 11:46:06 PM	W65339

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 Quanitative 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 IS1-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:15:00 AM
Lab ID: 1912930-003
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Toluene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Ethylbenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Naphthalene	ND	2.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
2-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Acetone	ND	10		µg/L	1	12/21/2019 12:14:55 AM	W65339
Bromobenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Bromodichloromethane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Bromoform	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Bromomethane	ND	3.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
2-Butanone	ND	10		µg/L	1	12/21/2019 12:14:55 AM	W65339
Carbon disulfide	ND	10		µg/L	1	12/21/2019 12:14:55 AM	W65339
Carbon Tetrachloride	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Chlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Chloroethane	ND	2.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Chloroform	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Chloromethane	ND	3.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
2-Chlorotoluene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
4-Chlorotoluene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
cis-1,2-DCE	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Dibromochloromethane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Dibromomethane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,1-Dichloroethane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,1-Dichloroethene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,2-Dichloropropane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,3-Dichloropropane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
2,2-Dichloropropane	ND	2.0		µg/L	1	12/21/2019 12:14:55 AM	W65339

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 Quanitative 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 IS1-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:15:00 AM
Lab ID: 1912930-003
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Hexachlorobutadiene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
2-Hexanone	ND	10		µg/L	1	12/21/2019 12:14:55 AM	W65339
Isopropylbenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
4-Isopropyltoluene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
4-Methyl-2-pentanone	ND	10		µg/L	1	12/21/2019 12:14:55 AM	W65339
Methylene Chloride	ND	3.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
n-Butylbenzene	ND	3.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
n-Propylbenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
sec-Butylbenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Styrene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
tert-Butylbenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Tetrachloroethene (PCE)	12	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
trans-1,2-DCE	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Trichlorofluoromethane	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Vinyl chloride	ND	1.0		µg/L	1	12/21/2019 12:14:55 AM	W65339
Xylenes, Total	ND	1.5		µg/L	1	12/21/2019 12:14:55 AM	W65339
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/21/2019 12:14:55 AM	W65339
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/21/2019 12:14:55 AM	W65339
Surr: Dibromofluoromethane	120	70-130		%Rec	1	12/21/2019 12:14:55 AM	W65339
Surr: Toluene-d8	102	70-130		%Rec	1	12/21/2019 12:14:55 AM	W65339

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 Quanitative 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 C1-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:18:00 AM
Lab ID: 1912930-004
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Toluene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Ethylbenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Naphthalene	ND	2.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
2-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Acetone	ND	10		µg/L	1	12/21/2019 12:43:44 AM	W65339
Bromobenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Bromodichloromethane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Bromoform	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Bromomethane	ND	3.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
2-Butanone	ND	10		µg/L	1	12/21/2019 12:43:44 AM	W65339
Carbon disulfide	ND	10		µg/L	1	12/21/2019 12:43:44 AM	W65339
Carbon Tetrachloride	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Chlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Chloroethane	ND	2.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Chloroform	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Chloromethane	ND	3.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
2-Chlorotoluene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
4-Chlorotoluene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
cis-1,2-DCE	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Dibromochloromethane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Dibromomethane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,1-Dichloroethane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,1-Dichloroethene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,2-Dichloropropane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,3-Dichloropropane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
2,2-Dichloropropane	ND	2.0		µg/L	1	12/21/2019 12:43:44 AM	W65339

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 Quanitative 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 C1-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:18:00 AM
Lab ID: 1912930-004
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Hexachlorobutadiene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
2-Hexanone	ND	10		µg/L	1	12/21/2019 12:43:44 AM	W65339
Isopropylbenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
4-Isopropyltoluene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
4-Methyl-2-pentanone	ND	10		µg/L	1	12/21/2019 12:43:44 AM	W65339
Methylene Chloride	ND	3.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
n-Butylbenzene	ND	3.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
n-Propylbenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
sec-Butylbenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Styrene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
tert-Butylbenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
trans-1,2-DCE	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Trichlorofluoromethane	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Vinyl chloride	ND	1.0		µg/L	1	12/21/2019 12:43:44 AM	W65339
Xylenes, Total	ND	1.5		µg/L	1	12/21/2019 12:43:44 AM	W65339
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/21/2019 12:43:44 AM	W65339
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	12/21/2019 12:43:44 AM	W65339
Surr: Dibromofluoromethane	122	70-130		%Rec	1	12/21/2019 12:43:44 AM	W65339
Surr: Toluene-d8	106	70-130		%Rec	1	12/21/2019 12:43:44 AM	W65339

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 Quanitative 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 C2-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:22:00 AM
Lab ID: 1912930-005
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Toluene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Ethylbenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Naphthalene	ND	2.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
2-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Acetone	ND	10		µg/L	1	12/21/2019 1:12:31 AM	W65339
Bromobenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Bromodichloromethane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Bromoform	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Bromomethane	ND	3.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
2-Butanone	ND	10		µg/L	1	12/21/2019 1:12:31 AM	W65339
Carbon disulfide	ND	10		µg/L	1	12/21/2019 1:12:31 AM	W65339
Carbon Tetrachloride	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Chlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Chloroethane	ND	2.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Chloroform	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Chloromethane	ND	3.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
2-Chlorotoluene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
4-Chlorotoluene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
cis-1,2-DCE	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Dibromochloromethane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Dibromomethane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,1-Dichloroethane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,1-Dichloroethene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,2-Dichloropropane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,3-Dichloropropane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
2,2-Dichloropropane	ND	2.0		µg/L	1	12/21/2019 1:12:31 AM	W65339

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 Quanitative 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 C2-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:22:00 AM
Lab ID: 1912930-005
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Hexachlorobutadiene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
2-Hexanone	ND	10		µg/L	1	12/21/2019 1:12:31 AM	W65339
Isopropylbenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
4-Isopropyltoluene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
4-Methyl-2-pentanone	ND	10		µg/L	1	12/21/2019 1:12:31 AM	W65339
Methylene Chloride	ND	3.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
n-Butylbenzene	ND	3.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
n-Propylbenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
sec-Butylbenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Styrene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
tert-Butylbenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
trans-1,2-DCE	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Trichlorofluoromethane	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Vinyl chloride	ND	1.0		µg/L	1	12/21/2019 1:12:31 AM	W65339
Xylenes, Total	ND	1.5		µg/L	1	12/21/2019 1:12:31 AM	W65339
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	12/21/2019 1:12:31 AM	W65339
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/21/2019 1:12:31 AM	W65339
Surr: Dibromofluoromethane	121	70-130		%Rec	1	12/21/2019 1:12:31 AM	W65339
Surr: Toluene-d8	102	70-130		%Rec	1	12/21/2019 1:12:31 AM	W65339

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 Quanitative 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 ES1-191216
Project: Joint Superfund Project Monthly Analysi
Collection Date: 12/16/2019 8:25:00 AM
Lab ID: 1912930-006
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Toluene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Ethylbenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Naphthalene	ND	2.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
2-Methylnaphthalene	ND	4.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Acetone	ND	10		µg/L	1	12/21/2019 1:41:18 AM	W65339
Bromobenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Bromodichloromethane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Bromoform	5.4	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Bromomethane	ND	3.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
2-Butanone	ND	10		µg/L	1	12/21/2019 1:41:18 AM	W65339
Carbon disulfide	ND	10		µg/L	1	12/21/2019 1:41:18 AM	W65339
Carbon Tetrachloride	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Chlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Chloroethane	ND	2.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Chloroform	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Chloromethane	ND	3.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
2-Chlorotoluene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
4-Chlorotoluene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
cis-1,2-DCE	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Dibromochloromethane	2.5	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Dibromomethane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,1-Dichloroethane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,1-Dichloroethene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,2-Dichloropropane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,3-Dichloropropane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
2,2-Dichloropropane	ND	2.0		µg/L	1	12/21/2019 1:41:18 AM	W65339

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times 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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Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Las Cruces
Client Sample ID: CLC ES1-191216
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Collection Date: 12/16/2019 8:25:00 AM
Lab ID: 1912930-006
Matrix: DRINKING W
Received Date: 12/18/2019 9:51:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Hexachlorobutadiene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
2-Hexanone	ND	10		µg/L	1	12/21/2019 1:41:18 AM	W65339
Isopropylbenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
4-Isopropyltoluene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
4-Methyl-2-pentanone	ND	10		µg/L	1	12/21/2019 1:41:18 AM	W65339
Methylene Chloride	ND	3.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
n-Butylbenzene	ND	3.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
n-Propylbenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
sec-Butylbenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Styrene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
tert-Butylbenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
trans-1,2-DCE	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Trichlorofluoromethane	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Vinyl chloride	ND	1.0		µg/L	1	12/21/2019 1:41:18 AM	W65339
Xylenes, Total	ND	1.5		µg/L	1	12/21/2019 1:41:18 AM	W65339
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%Rec	1	12/21/2019 1:41:18 AM	W65339
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	1	12/21/2019 1:41:18 AM	W65339
Surr: Dibromofluoromethane	117	70-130		%Rec	1	12/21/2019 1:41:18 AM	W65339
Surr: Toluene-d8	103	70-130		%Rec	1	12/21/2019 1:41:18 AM	W65339

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1912930**
23-Dec-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W65339**	RunNo: **65339**
Prep Date:	Analysis Date: **12/20/2019**	SeqNo: **2244599** 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								
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 Quanitative 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#: **1912930**
23-Dec-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W65339**	RunNo: **65339**
Prep Date:	Analysis Date: **12/20/2019**	SeqNo: **2244599** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.0	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W65339**	RunNo: **65339**
Prep Date:	Analysis Date: **12/20/2019**	SeqNo: **2244600** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.3	70	130			
Toluene	19	1.0	20.00	0	95.8	70	130			
Chlorobenzene	18	1.0	20.00	0	90.4	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **1912930**
23-Dec-19

Client: City of Las Cruces
Project: Joint Superfund Project Monthly Analysis

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W65339**	RunNo: **65339**
Prep Date:	Analysis Date: **12/20/2019**	SeqNo: **2244600** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18	1.0	20.00	0	92.2	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	85.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.0	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.9	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.8	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
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P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **1912930** RcptNo: **1**

Received By: **Yazmine Garduno** **12/18/2019 9:51:00 AM**

Completed By: **Daniel Marquez** **12/18/2019 12:43:51 PM**

Reviewed By: DM 12/18/19

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 12/18/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	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) 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: 1.9-0.2=1.7

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. 1912930	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (~~VOA~~) VOC	8270 (Semi-VOA)	Air Bubbles (Y or N)
12-14-19	0810	DRINKING WATER	CLC 18-191216	3-40ml Vials	$HgCl_2$	001										X		
	0858		CLC 27-A1216			002										X		
	0815		CLC IS1-191216			003										X		
	0818		CLC C1-191216			004										X		
	0822		CLC C2-191216			005										X		
12-16-19	0825	DRINKING WATER	CLC ES1-191216	3-40ml Vials	$HgCl_2$	006										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/16/19	1500	Yadira Reyna			
Date:	Time:	Relinquished by:	Received by:	Date	Time
			FEDEX 12/18/19 0945		

Remarks: Send Results to:
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.

Appendix F

Letter Sent to Agencies and Agency Responses

NMED Petroleum Storage Tank Bureau

Joint Superfund Project

City of Las Cruces and Doña Ana County

February 13, 2020

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 new Unilateral Administrative Order (UAO) with a January 4, 2018 effective date.

In accordance with the UAO Scope of Work, Paragraph 11.e., an Institutional Control Implementation and Assurance Plan (ICIAP) was 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 between 2012 and 2018. We are requesting any information related to releases during 2019 within the plume footprint or buffer zone you may have.

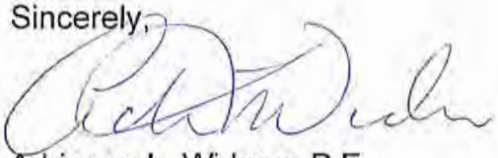
We appreciate your assistance in this matter, and respectfully request your response for the following:

- 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

We truly appreciate your consideration in this matter and hope we can receive your response prior to March 15, 2020, 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 if you wish.

Adrienne L. Widmer, P.E.
Las Cruces Utilities
680 N. Motel Boulevard
Las Cruces, NM 88007

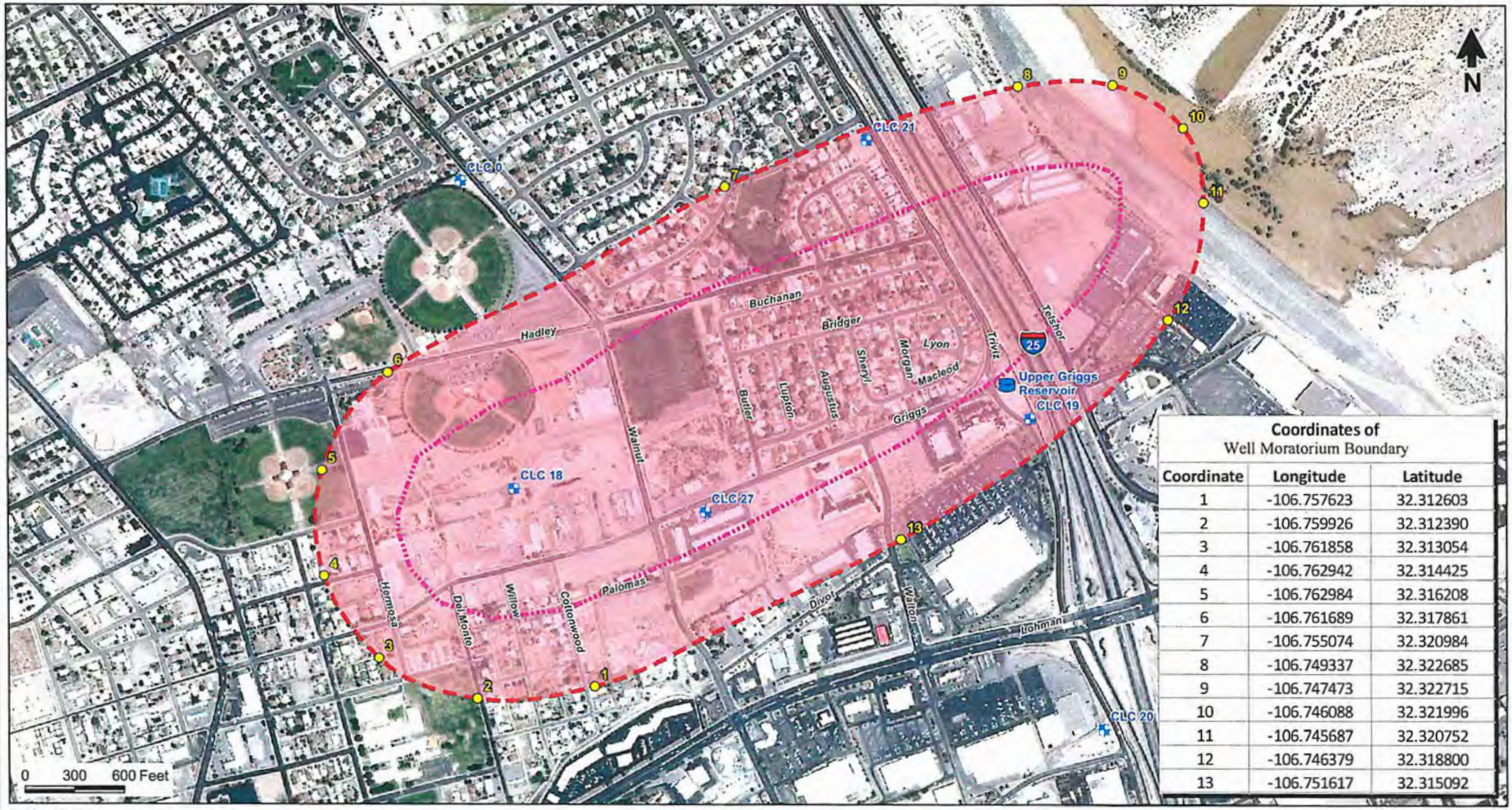
Sincerely,



Adrienne L. Widmer, P.E.
Project Manager, Griggs and Walnut Groundwater Plume Superfund Site
Deputy Director Water, City of Las Cruces Utilities

Attachment: As noted

cc: Jorge A. Garcia, Ph.D., P.E., Las Cruces Utilities Director
Dave Medeiros, Attorney Contract Attorney, Dona Ana County and JSP, via email
Michelle Hunter, Bureau Chief, NMED Ground Water Quality Bureau
Jerry Schoeppner, Program Manager, Remediation Oversight Section, Ground Water Quality Bureau
Mark Garman, Program Manager, NMED Superfund Oversight Section
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 Jayne, 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
- PCE in groundwater greater than 5 µg/L
- Well moratorium boundary
- Coordinate of well moratorium boundary

Sources: 1. National Agricultural Imagery Program August 2009 Downloaded from RGIS
2. JSAI, 2009

Daniel B. Stephens & Associates, Inc.
2/14/2019
JN ES09.0306

GRIGGS-WALNUT GROUND WATER PLUME SITE
Well Moratorium Boundary

Figure 1

\\ss6abq\Data5\Projects\ES09.0306_Griggs-Walnut\GIS\MXDs\Site_maps\Well_moratorium.mxd

Jayne, Kelly

From: Bahar, Dana, NMENV <dana.bahar@state.nm.us>
Sent: Tuesday, February 25, 2020 5:07 PM
To: Garman, Mark, NMENV; Widmer, Adrienne
Cc: Jorge Garcia; Medeiros, David; Hunter, Michelle, NMENV; Ortelli, Angelo, NMENV; McGlown, Anthony, NMENV; Jayne, Kelly; Goerger, Lorena, NMENV
Subject: RE: Griggs Walnut Ground Water Plume Superfund Site - Institutional Control Implementation and Assurance

Hi Adrienne,

The Petroleum Storage Tank Bureau has not identified any new PST-related releases within the Griggs and Walnut Superfund Site Well Moratorium footprint since your inquiry in February 2019.

Thank you,

Dana Bahar
Bureau Chief, Petroleum Storage Tank Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Phone: (505) 476-4377
Cell Phone: (505) 699-4007
dana.bahar@state.nm.us
Twitter @NMEnvDep; #IamNMED.
https://www.env.nm.gov/
https://www.env.nm.gov/petroleum_storage_tank/

From: Garman, Mark, NMENV <Mark.Garman@state.nm.us>
Sent: Tuesday, February 25, 2020 4:40 PM
To: Widmer, Adrienne <awidmer@las-cruces.org>
Cc: Jorge Garcia <jogarcia@las-cruces.org>; Medeiros, David <davem@donaanacounty.org>; Hunter, Michelle, NMENV <Michelle.Hunter@state.nm.us>; Bahar, Dana, NMENV <dana.bahar@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 Walnut Ground Water Plume Superfund Site - Institutional Control Implementation 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 inquiry in February 2019.

The NMED Remediation Oversight Section did issue a “Corrective Action Plan Required” letter to Comet Cleaners, 2001 E Lohman, Las Cruces, New Mexico on September 26, 2019. The Comet Cleaners site is located just south of the Griggs and Walnut Well Moratorium footprint. If you require additional information on the Comet Cleaners site, you may contact Justin Ball of the NMED Remediation Oversight Section at 505-222-9522.

Thank you,

Mark Garman
NMED GWQB Superfund Oversight Section

From: Adrienne Widmer <awidmer@las-cruces.org>
Sent: Tuesday, February 18, 2020 5:30 PM
To: Garman, Mark, NMENV <Mark.Garman@state.nm.us>
Cc: Medeiros, David <davem@donaanacounty.org>; 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 Walnut Ground Water Plume Superfund Site - Institutional Control Implementation and Assurance

Dear Mr. Garman,

Attached is our letter that was mailed out February 13, 2020, related to the Griggs Walnut project.
Thank you for your support and we look forward to hearing from you,

Adrienne L. Widmer, P.E.
Deputy Director/Las Cruces Utilities/Water
Direct: 575-528-3514 Main: 575-528-3515, Fax: 575-528-3691, awidmer@las-cruces.org
City of Las Cruces
P.O. BOX 20000 • LAS CRUCES, NM 88004

NMED Superfund
Oversight Section

Joint Superfund Project

City of Las Cruces and Doña Ana County

February 13, 2020

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 new Unilateral Administrative Order (UAO) with a January 4, 2018 effective date.

In accordance with the UAO Scope of Work, Paragraph 11.e., an Institutional Control Implementation and Assurance Plan (ICIAP) was 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 between 2012 and 2018. We are requesting any information related to releases during 2019 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

We truly appreciate your consideration in this matter and hope we can receive your response prior to March 15, 2020, 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 if you wish.

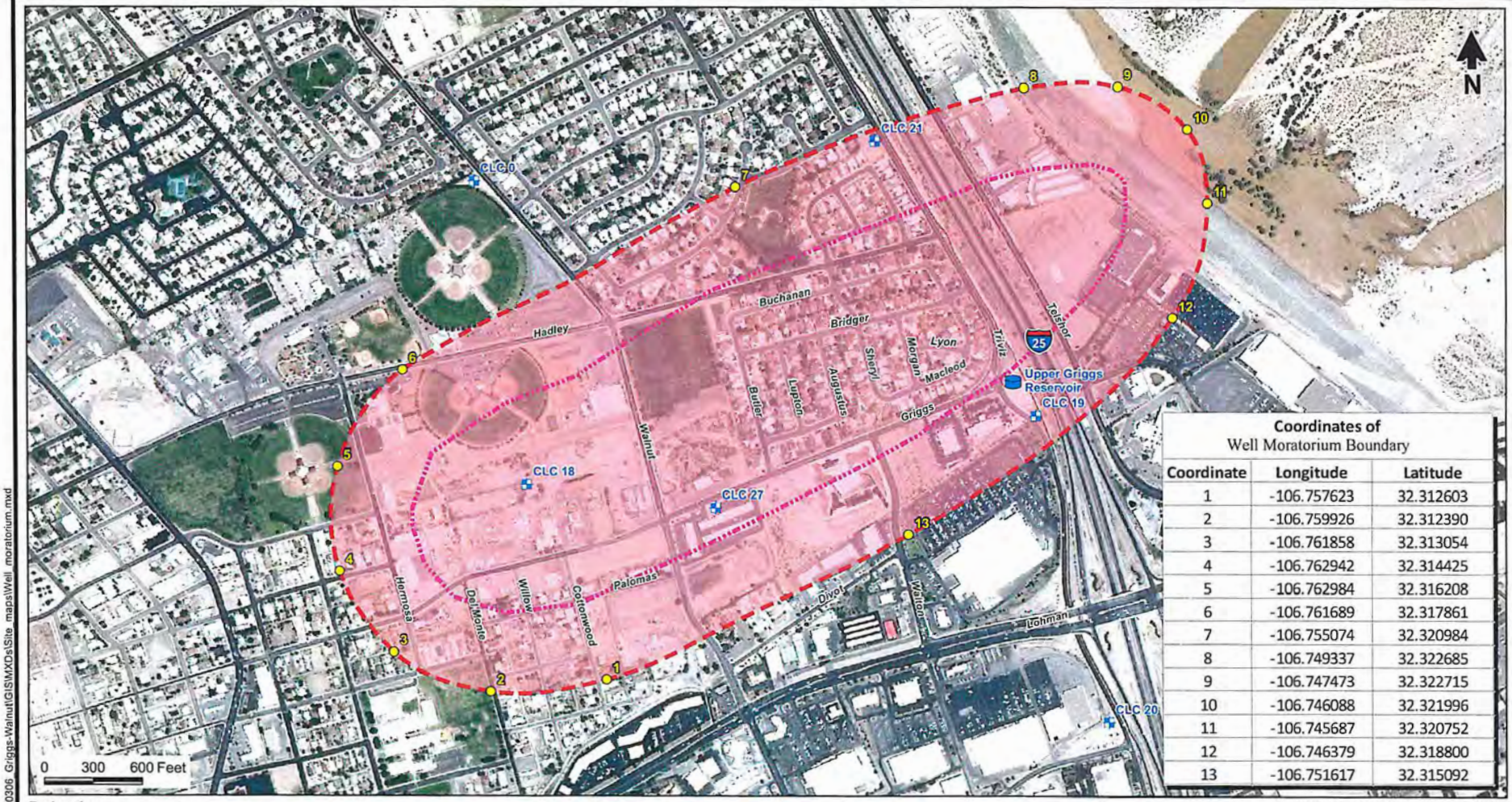
Adrienne L. Widmer, P.E.
Las Cruces Utilities
680 N. Motel Boulevard
Las Cruces, NM 88007

Sincerely,

Adrienne L. Widmer, P.E.
Project Manager, Griggs and Walnut Groundwater Plume Superfund Site
Deputy Director Water, City of Las Cruces Utilities

Attachment: As noted

cc: Jorge A. Garcia, Ph.D., P.E., Las Cruces Utilities Director
Dave Medeiros, Attorney Contract Attorney, Dona Ana County and JSP, via email
Michelle Hunter, Bureau Chief, NMED Ground Water Quality Bureau
Jerry Schoeppner, Program Manager, Remediation Oversight Section, Ground Water Quality Bureau
Dana Bahar, Bureau Chief, NMED Petroleum Storage Tank Bureau
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
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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
- PCE in groundwater greater than 5 µg/L
- Well moratorium boundary
- Coordinate of well moratorium boundary

Sources: 1. National Agricultural Imagery Program
August 2009
Downloaded from RGIS
2. JSAI, 2009

Daniel B. Stephens & Associates, Inc.
2/14/2019
JN ES09.0306

GRIGGS-WALNUT GROUND WATER PLUME SITE
Well Moratorium Boundary

Figure 1

\\ss6abq\Data5\Projects\ES09.0306_Griggs-Walnut\GIS\MXDs\Site_maps\Well_moratorium.mxd

Jayne, Kelly

From: Garman, Mark, NMENV <Mark.Garman@state.nm.us>
Sent: Tuesday, February 25, 2020 4:40 PM
To: Widmer, Adrienne
Cc: Jorge Garcia; Medeiros, David; Hunter, Michelle, NMENV; Bahar, Dana, NMENV; Ortelli, Angelo, NMENV; McGlown, Anthony, NMENV; Jayne, Kelly
Subject: RE: Griggs Walnut Ground Water Plume Superfund Site - Institutional Control Implementation 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 inquiry in February 2019.

The NMED Remediation Oversight Section did issue a "Corrective Action Plan Required" letter to Comet Cleaners, 2001 E Lohman, Las Cruces, New Mexico on September 26, 2019. The Comet Cleaners site is located just south of the Griggs and Walnut Well Moratorium footprint. If you require additional information on the Comet Cleaners site, you may contact Justin Ball of the NMED Remediation Oversight Section at 505-222-9522.

Thank you,

Mark Garman
NMED GWQB Superfund Oversight Section

From: Adrienne Widmer <awidmer@las-cruces.org>
Sent: Tuesday, February 18, 2020 5:30 PM
To: Garman, Mark, NMENV <Mark.Garman@state.nm.us>
Cc: Medeiros, David <davem@donaanacounty.org>; 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 Walnut Ground Water Plume Superfund Site - Institutional Control Implementation and Assurance

Dear Mr. Garman,

Attached is our letter that was mailed out February 13, 2020, related to the Griggs Walnut project.
Thank you for your support and we look forward to hearing from you,

Adrienne L. Widmer, P.E.
Deputy Director/Las Cruces Utilities/Water
Direct: 575-528-3514 Main: 575-528-3515, Fax: 575-528-3691, awidmer@las-cruces.org
City of Las Cruces
P.O. BOX 20000 • LAS CRUCES, NM 88004

New Mexico Office of the State Engineer

Joint Superfund Project

City of Las Cruces and Doña Ana County

February 13, 2020

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 new Unilateral Administrative Order (UAO) with a January 4, 2018 effective date. In accordance with the UAO Scope of Work, Paragraph 11.e., an Institutional Control Implementation and Assurance Plan (ICIAP) was 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 feedback between 2012 and 2018. We are requesting if any activities related to the Order inside the plume footprint during 2019 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.

Thank you for your consideration in this matter and hope we can receive your response prior to March 15, 2020, 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 if you wish.

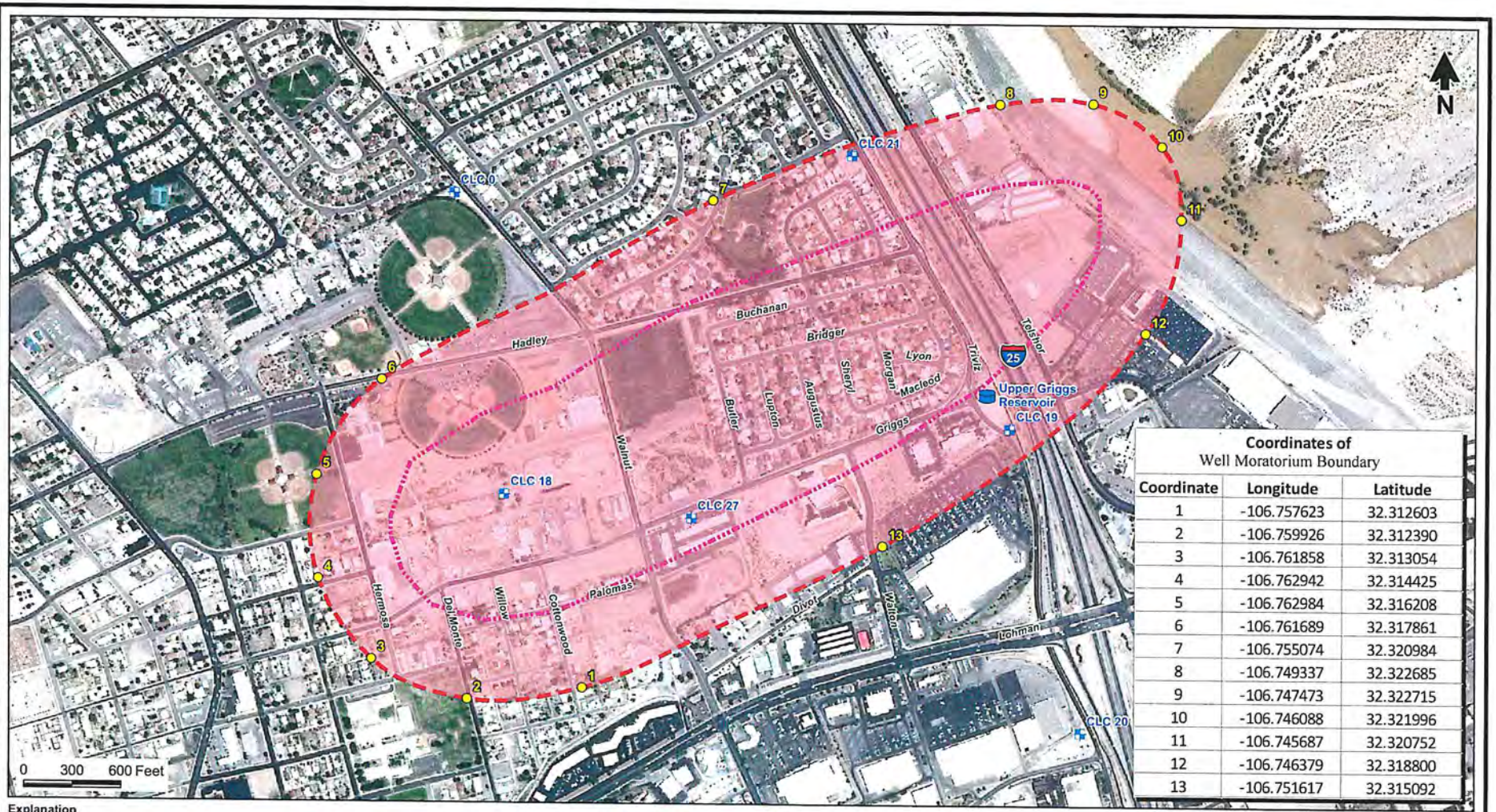
Adrienne L. Widmer, P.E.
Las Cruces Utilities
680 N. Motel Boulevard
Las Cruces, NM 88007

Sincerely,

Adrienne L. Widmer, P.E.
Project Manager, Griggs and Walnut Groundwater Plume Superfund Site
Deputy Director Water, City of Las Cruces Utilities

Attachment: As noted

cc: Jorge A. Garcia, Ph.D., P.E., Las Cruces Utilities Director
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
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Explanation

- City of Las Cruces supply well
- City of Las Cruces water reservoir
- PCE in groundwater greater than 5 µg/L
- Well moratorium boundary
- Coordinate of well moratorium boundary

Sources: 1. National Agricultural Imagery Program August 2009 Downloaded from RGIS
2. JSAI, 2009

\\ss6abq\Data5\Projects\ES09.0306_Griggs-Walnut\GIS\MXDs\Site_maps\Well_moratorium.mxd

Daniel B. Stephens & Associates, Inc.
2/14/2019
JN ES09.0306

GRIGGS-WALNUT GROUND WATER PLUME SITE
Well Moratorium Boundary

Figure 1

Jayne, Kelly

From: Mendoza, Andrea J., OSE <andrea.mendoza@state.nm.us>
Sent: Wednesday, February 19, 2020 10:46 AM
To: Widmer, Adrienne
Cc: Medeiros, David; Pohl, Jerri, OSE; Jayne, Kelly
Subject: RE: Griggs Walnut Ground Water Plume Superfund Site - Institutional Control Implementation and Assurance

Adrienne,
Both Jerri and I researched and can 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 have been allowed within the area of the plume footprint during 2019.
Please let me know if you need anything else.

Andrea J. Mendoza
Office of the State Engineer
Las Cruces, District IV Manager
1680 Hickory Loop, Suite J
Las Cruces, NM 88005
575.524.6161
https://www.ose.state.nm.us/

find your well online:
https://gis.ose.state.nm.us/gisapps/ose_pod_locations/
http://nmwrrs.ose.state.nm.us/nmwrrs/index.html

view notices for publication:
https://www.ose.state.nm.us/NFP/nfp.php

From: Adrienne Widmer [mailto:awidmer@las-cruces.org]
Sent: Tuesday, February 18, 2020 5:31 PM
To: Mendoza, Andrea J., OSE
Cc: Medeiros, David; Pohl, Jerri, OSE; Jayne, Kelly
Subject: [EXT] Griggs Walnut Ground Water Plume Superfund Site - Institutional Control Implementation and Assurance

Dear Ms. Mendoza,

Attached is our letter that was mailed out February 13, 2020, related to the Griggs Walnut project.
Thank you for your support and we look forward to hearing from you,

Adrienne L. Widmer, P.E.
Deputy Director/Las Cruces Utilities/Water
Direct: 575-528-3514 Main: 575-528-3515, Fax: 575-528-3691, awidmer@las-cruces.org
City of Las Cruces
P.O. BOX 20000 • LAS CRUCES, NM 88004

Appendix G

Data Validation Report

Data Validation Report

A total of 137 samples were collected between January 1, 2019 and January 22, 2020 as part of the Griggs-Walnut Ground Water Plume Superfund Site (GWP site) remedial action. These samples include 108 remediation system (process) samples collected by City of Las Cruces (CLC) staff and 29 samples associated with the annual sampling event completed in January 2020 collected by Daniel B. Stephens & Associates, Inc. (DBS&A). 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 an electronic data deliverable (EDD). 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. As noted in the previous annual report (DBS&A, 2019a), issues with FLUTe liner integrity precluded FLUTe well sampling in the annual sampling event. The FLUTe well replacement process is in progress.

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) (DBS&A, 2018a).

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 11 percent of the samples collected during the annual sampling event. A total of 14 field duplicate samples were analyzed, including 1 per month for process sampling and at a frequency of 11 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.

- A total of 6 sample locations included in the groundwater sampling plan were not sampled as part of the annual sampling event. These include MW-5, GWMW-01, GWMW-03, GWMW-08, GWMW-09, and GWMW-10. MW-5 was not sampled because the well was dry. The 5 remaining locations are FLUTe wells, and were not sampled due to the previously mentioned issues. An additional 3 wells not specified in the SAP were included in the annual sampling event to provide supplemental groundwater monitoring coverage: CLC 20, CLC 57, and CLC 61. Between monthly process sampling and the annual sampling event, the SAP called for a total of 141 primary samples to be collected during this period. There were a total of 115 primary samples included in the data verification and validation process, which is approximately equivalent to 82 percent. Data completeness therefore does not meet the control limit of 90 percent. Replacement of the FLUTe wells prior to the next annual event will ensure that data completeness requirements are met moving forward.

- The SAP states that temperature blanks should be placed in each cooler to ensure that temperature requirements are satisfied during shipment to the laboratory. Temperature blanks were not listed as samples on any of the chain of custody forms associated with the process sampling completed by CLC staff. Temperature blanks were included with the samples collected during the annual sampling event. However, the laboratory reported that all samples were received at the appropriate temperature based on direct (non-invasive) measurement of a non-dedicated sample in each cooler upon receipt using an infrared thermometer. Future revisions of the SAP will rely on the use of either dedicated temperature blanks or direct temperature measurements taken by the receiving laboratory with an infrared thermometer.

- As part of the data validation process, approximately 10 percent of the EDD sample results (3 of 26) were reviewed against the PDF deliverable to verify consistency. As a result of this review, one file was identified to have inconsistencies. The PDF file contained values that were reported below the laboratory practical quantitation limit

(PQL) but above the method detection limit (MDL), and were issued with a J flag indicating that the analyte was detected below the quantitation limit. The original EDD reported these values as non-detect. HEAL was contacted regarding this issue and has since provided revised EDDs containing the flagged values, along with guidance to ensure that all future EDD files contain the necessary flags. The revised EDDs were uploaded to the project database.

- All analytical results are reported in units of micrograms per liter (µg/L). The method detection limit and reporting limit (reported as PQLs) for each analyte were below the respective maximum contaminant level 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 80 and 121 percent (compared to control limits 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 91 to 110 percent (compared to control limits 50 to 150 percent). The maximum relative percent difference (RPD) between MS and MSD recoveries was 11 percent for toluene (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 January 21 and 22, 2020, one for each day the bladder pump was used during the annual sampling event. Both equipment blanks submitted had positive detections for acetone,

chloroform, and bromodichloromethane, 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 field blank. 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 2 field blanks were provided out of 19 primary samples; this frequency meets the minimum requirement of 2 samples. Analysis of the field blank samples did not report any positive detections.

- Trip blanks are required to be submitted at a rate of 1 per day during annual sampling. Trip blanks are typically supplied by the laboratory and are transported with the sample containers to the field site and back again. Annual sampling took place over 5 days, and 2 trip blanks were submitted for analyses; this frequency does not meet the QC criteria. One trip blank was included with each batch submitted to the laboratory; however, each batch covered multiple days of sampling. Analysis of the field blanks did not result in any positive detections. Although the number of trip blanks submitted did not meet QC criteria, 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 will be revised in the future to note that one trip blank will be submitted per container, rather than per day.

- A total of 14 sets of field duplicate samples were submitted to HEAL as part of the QC criteria, including 11 groundwater samples and 3 air stripper samples. Field duplicates are required at a rate of one per month for process 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 one per month. For the annual event, 2 sets of duplicates were submitted out of 19 primary samples; at a rate greater than 10 percent, this frequency meets QC criteria. Precision is evaluated based on a maximum allowable RPD of 50 percent. The results of the analyses are provided in Table 5. All of the 14 duplicate sets of samples met the QC criteria. Precision is acceptable.

- Table 4 of the SAP specifies the collection of a combined treated water sample after air stripping once every quarter. Due to the lack of a combined sample port, treated water samples were collected from each air stripper at a rate of once per month. There were no positive detections in any of the samples collected. Although the sample was not collected at the location or frequency outlined in the SAP, the results are determined to be acceptable, as more sampling was completed than was required.

Performance was acceptable with the following exceptions:

- Trip blanks are required to be submitted at a rate of 1 per day during groundwater monitoring sampling. There were no trip blanks submitted for 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 will be revised in the future to note that one trip blank will be submitted per container, rather than per day.

- Although data completeness did not meet the 90 percent QC criteria, the data were not qualified because the missing samples are associated with the FLUTe wells that were not included in the annual sampling event. All of the required process samples were collected.

Table 1. Groundwater Samples Collected for Annual Event

Well Name [a]	Required Number of Samples	Actual Number of Samples
CLC 18	1	1
CLC 26	1	1
CLC 27	1	1
GWMW-01 [b]	7	0
GWMW-03 [b]	3	0
GWMW-08 [b]	5	0
GWMW-09 [b]	7	0
GWMW-10 [b]	7	0
GWMW-11-S	1	1
GWMW-11-I	1	1
GWMW-11-D	1	1
GWMW-15-S	1	1
GWMW-15-I	1	1
GWMW-15-D	1	1
GWMW-16-S	1	1
GWMW-16-D	1	1
MW-5	1	0
MW-SF2	1	1
MW-SF5	1	1
MW-SF9	1	1
MW-SF10 [c]	1	2
NWMW-03 [c]	1	2

[a] The wells shown in this table are required sampling in the SAP. Three additional wells (CLC 20, CLC 57, and CLC 61) were sampled in January 2020 to provide supplemental information on the southern side of the plume.

[b] Wells not sampled due to lack of liner integrity

[c] Duplicate samples collected

Table 2. Sample Information
Page 1 of 4

Sample ID	Sample Date	Lab Sample ID	Dilutions/Comments
CLC AS1-190103	1/3/2019	1901123-001a	No dilution
CLC AS2-190103	1/3/2019	1901123-002a	No dilution
CLC 18-190103	1/3/2019	1901130-001a	No dilution
CLC 27-190103	1/3/2019	1901130-002a	No dilution
CLC 27-190103 Dup	1/3/2019	1901130-003a	No dilution/field duplicate
CLC IS1-190103	1/3/2019	1901130-004a	No dilution
CLC C1-190103	1/3/2019	1901130-005a	No dilution
CLC C2-190103	1/3/2019	1901130-006a	No dilution
CLC ES1-190103	1/3/2019	1901130-007a	No dilution
CLC AS1-190214	2/14/2019	1902726-001a	No dilution
CLC AS2-190214	2/14/2019	1902726-002a	No dilution
CLC 18-190214	2/14/2019	1902728-001a	No dilution
CLC 27-190214	2/14/2019	1902728-002a	No dilution
CLC IS1-190214	2/14/2019	1902728-003a	No dilution
CLC Cl-190214	2/14/2019	1902728-004a	No dilution
CLC Cl-190214 DUP	2/14/2019	1902728-005a	No dilution/field duplicate
CLC C2-190214	2/14/2019	1902728-006a	No dilution
CLC ES1-190214	2/14/2019	1902728-007a	No dilution
CLC AS1-190321	3/21/2019	1903a89-001a	No dilution
CLC AS2-19032	3/21/2019	1903a89-002a	No dilution
CLC18-190321	3/21/2019	1903a91-001a	No dilution
CLC27-190321	3/21/2019	1903a91-002a	No dilution
CLCIS1-190321	3/21/2019	1903a91-003a	No dilution
CLCC2-190321	3/21/2019	1903a91-005a	No dilution
CLCC1-190321	3/21/2019	1903a91-004a	No dilution
CLCC2-190321Dup	3/21/2019	1903a91-006a	No dilution/field duplicate
CLCES1-190321	3/21/2019	1903a91-007a	No dilution
CLC 18-190429	4/29/2019	1904d91-001a	No dilution
CLC 27-190429	4/29/2019	1904d91-002a	No dilution
CLC IS1-190429	4/29/2019	1904d91-003a	No dilution
CLC C1-190429	4/29/2019	1904d91-004a	No dilution
CLC C2-190429	4/29/2019	1904d91-005a	No dilution
CLC ES1-190429	4/29/2019	1904d91-006a	No dilution
AS1-190429	4/29/2019	1904d92-001a	No dilution
AS2-190429	4/29/2019	1904d92-002a	No dilution
AS2-190429 DUP	4/29/2019	1904d92-003a	No dilution/field duplicate
CLC AS1-190529	5/29/2019	1905e20-001a	No dilution

Table 2. Sample Information
Page 2 of 4

Sample ID	Sample Date	Lab Sample ID	Dilutions/Comments
CLC AS1-190529 DUP	5/29/2019	1905e20-002a	No dilution/field duplicate
CLC AS2-190529	5/29/2019	1905e20-003a	No dilution
CLC18-190529	5/29/2019	1905e23-001a	No dilution
CLC27-190529	5/29/2019	1905e23-002a	No dilution
CLCIS1-190529	5/29/2019	1905e23-003a	No dilution
CLCC1-190529	5/29/2019	1905e23-004a	No dilution
CLCC2-190529	5/29/2019	1905e23-005a	No dilution
CLCES1-190529	5/29/2019	1905e23-006a	No dilution
CLC 18-190627	6/27/2019	1906G57-001a	No dilution
CLC 27-190627	6/27/2019	1906G57-002a	No dilution
CLC IS1-190627	6/27/2019	1906G57-003a	No dilution
CLC C1-190627	6/27/2019	1906G57-004a	No dilution
CLC C2-190627	6/27/2019	1906G57-005a	No dilution
CLC ES1-190627	6/27/2019	1906G57-006a	No dilution
CLC ES1-190627 Dup	6/27/2019	1906G57-007a	No dilution/field duplicate
AS1-190627	6/27/2019	1906g58-001a	No dilution
AS2-190627	6/27/2019	1906g58-002a	No dilution
CLC 27-190723	7/23/2019	1907c27-002a	No dilution
CLC 18-190723	7/23/2019	1907c27-001a	No dilution
CLC IS1-190723	7/23/2019	1907c27-003a	No dilution
CLC IS1-190723 DUP	7/23/2019	1907c27-004a	No dilution/field duplicate
CLC C1-190723	7/23/2019	1907c27-005a	No dilution
CLC C2-190723	7/23/2019	1907c27-006a	No dilution
CLC ES1-190723	7/23/2019	1907c27-007a	No dilution
AS1-190723	7/23/2019	1907c30-001a	No dilution
AS2-190723	7/23/2019	1907c30-002a	No dilution
AS2-190829	8/29/2019	1908i37-002a	No dilution
AS1-190829	8/29/2019	1908i37-001a	No dilution
CLC18-190829	8/29/2019	1908I43-001a	No dilution
CLC18-190829DUP	8/29/2019	1908I43-002a	No dilution/field duplicate
CLC27-190829	8/29/2019	1908I43-003a	No dilution
CLCIS1-190829	8/29/2019	1908I43-004a	No dilution
CLCC1-190829	8/29/2019	1908I43-005a	No dilution
CLCC2-190829	8/29/2019	1908I43-006a	No dilution
CLC ES1-190829	8/29/2019	1908I43-007a	No dilution
CLC 18-190930	9/30/2019	1910011-001a	No dilution
CLC 27-190930	9/30/2019	1910011-002a	No dilution

Table 2. Sample Information
Page 3 of 4

Sample ID	Sample Date	Lab Sample ID	Dilutions/Comments
CLC 27-190930 DUP	9/30/2019	1910011-003a	No dilution/field duplicate
CLC ISI-190930	9/30/2019	1910011-004a	No dilution
CLC 01-190930	9/30/2019	1910011-005a	No dilution
CLC 02-190930	9/30/2019	1910011-006a	No dilution
CLC ES7-190930	9/30/2019	1910011-007a	No dilution
CL AS1-190930	9/30/2019	1910105-001a	No dilution
CL AS2-190930	9/30/2019	1910105-002a	No dilution
CLC AS1-191030	10/30/2019	1910f97-001a	No dilution
CLS AS2-191030	10/30/2019	1910f97-002a	No dilution
CLC18-191030	10/30/2019	1910G03-001a	No dilution
CLC27-191030	10/30/2019	1910G03-002a	No dilution
CLC IS1-191030	10/30/2019	1910G03-003a	No dilution
CLC C1-191030	10/30/2019	1910G03-004a	No dilution
CLC C1-191030 DUP	10/30/2019	1910G03-005a	No dilution/field duplicate
CLC ES1-191030	10/30/2019	1910G03-006a	No dilution
CLC C2-191030	10/30/2019	1910G03-007a	No dilution
CLC 18-191119	11/19/2019	1911930-001a	No dilution
CLC 27-191119	11/19/2019	1911930-002a	No dilution
CLC IS1-191119	11/19/2019	1911930-003a	No dilution
CLC C1-191119	11/19/2019	1911930-004a	No dilution
CLC C2-191119	11/19/2019	1911930-005a	No dilution
CLC C2-191119 DUP	11/19/2019	1911930-006a	No dilution/field duplicate
CLC ES1-191119	11/19/2019	1911930-007a	No dilution
CLC AS1-191119	11/19/2019	1911932-001a	No dilution
CLC AS2-191119	11/19/2019	1911932-002a	No dilution
CLC AS1-191216	12/16/2019	1912848-001a	No dilution
CLC AS1-191216 Dup	12/16/2019	1912848-002a	No dilution/field duplicate
CLC AS2-191216	12/16/2019	1912848-003a	No dilution
CLC 18-191216	12/16/2019	1912930-001a	No dilution
CLC 27-191216	12/16/2019	1912930-002a	No dilution
CLC IS1-191216	12/16/2019	1912930-003a	No dilution
CLC C1-191216	12/16/2019	1912930-004a	No dilution
CLC C2-191216	12/16/2019	1912930-005a	No dilution
CLC ES1-191216	12/16/2019	1912930-006a	No dilution
NGMW03	1/13/2020	2001772-001a	No dilution
NGMW03 DUP	1/13/2020	2001772-002a	No dilution/field duplicate
Field Blank 1	1/13/2020	2001772-003a	No dilution

Table 2. Sample Information
Page 4 of 4

Sample ID	Sample Date	Lab Sample ID	Dilutions/Comments
GWMW15-S	1/13/2020	2001772-004a	No dilution
GWMW15-D	1/14/2020	2001772-005a	No dilution
GWMW15-I	1/14/2020	2001772-006a	No dilution
MWSF10	1/14/2020	2001772-007a	No dilution
MWSF10 DUP	1/14/2020	2001772-008a	No dilution/field duplicate
Field Blank 2	1/14/2020	2001772-009a	No dilution
GWMW11-S	1/14/2020	2001772-010a	No dilution
GWMW11-I	1/14/2020	2001772-011a	No dilution
GWMW11-D	1/15/2020	2001772-012a	No dilution
GWMW16-S	1/15/2020	2001772-013a	No dilution
GWMW16-D	1/15/2020	2001772-014a	No dilution
MWSF9	1/15/2020	2001772-015a	No dilution
MWSF2	1/16/2020	2001772-016a	No dilution
MWSF5	1/16/2020	2001772-017a	No dilution
CLC18	1/15/2020	2001772-018a	No dilution
CLC 27	1/15/2020	2001772-019a	No dilution
CLC61	1/16/2020	2001772-020a	No dilution
Trip Blank	1/16/2020	2001772-021a	No dilution
CLC26	1/21/2020	2001985-001a	No dilution
Equipment Blank 1	1/21/2020	2001985-002a	No dilution
CLC20	1/22/2020	2001985-003a	No dilution
Equipment Blank 2	1/22/2020	2001985-004a	No dilution
CLC18	1/22/2020	2001985-005a	No dilution
CLC27	1/22/2020	2001985-006a	No dilution
CLC57	1/21/2020	2001985-007a	No dilution
Trip Blank	1/21/2020	2001985-008a	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	
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		
Data completeness	X			X	

%R = Percent recovery
RPD = Relative percent difference

Table 4. Detections in the Equipment Blank

Sample ID	Concentration (µg/L)		
	Acetone	Bromodichloromethane	Chloroform
Equipment Blank 1	2.6	0.21	0.22
Equipment Blank 2	2.5	0.23	0.24

Table 5. RPD Results for All Duplicate Samples

Duplicate Sample ID	Maximum RPD (%)
AS2-190429 DUP	22.2
CLC ES1-190627 Dup	9.5
CLC 27-190930 DUP	6.1
CLC AS1-190529 DUP	5.7
MWSF10 DUP	0.0
NGMW03 DUP	0.0
CLC AS1-191216 Dup	0.0
CLC C2-191119 DUP	0.0
CLC C1-191030 DUP	0.0
CLC18-190829DUP	0.0
CLC IS1-190723 DUP	0.0
CLCC2-190321Dup	0.0
CLC Cl-190214 DUP	0.0
CLC 27-190103 Dup	0.0