# SIMCOE LLC

## (formerly BPX Energy Inc.)

**REVIEWED**
**By Mike Buchanan at 2:46 pm, Jan 12, 2024**

# GROUNDWATER REMEDIATION REPORT

Review of the Groundwater Remediation Report for GCU#204E: Content Satisfactory.
1. Continue to sample as prescribed by NMED and approved by NMOCD
2. Continue to submit Annual Reports by April 1 of each calendar year.
3. An abatement closure report must be submitted to close the incident as per 19.15.30.19 COMPLETION AND TERMINATION of the NMAC when requirements have been met.

## GCU # 204E
## (I) SECTION 34, T28N, R12W, NMPM
## SAN JUAN COUNTY, NEW MEXICO

## PREPARED FOR:
## NEW MEXICO OIL CONSERVATION DIVISION

## JANUARY 2021

***PREPARED BY:***
***SIMCOE LLC***
***1100 Main Ave., Suite 101***
***Durango, Colorado 81301***

# SIMCOE LLC
# GCU # 204E - Blow Pit
# NE¼ SE¼, Sec. 34, T28N, R12W

**Monitor Well Sampling Dates:** **06/26/2019, 03/24/2020, 06/04/2020, 09/05/2020, 12/21/2020.**

## Pit Closure & Background:

The well site is located in San Juan County and within the Navajo Agricultural Product Industry (NAPI) area approximately 10 miles southeast of Farmington, New Mexico. An on-site earthen blow pit closure was initiated in June 2003. Groundwater impacts were first identified from sampling and analytical testing of MW #2 in November 2006. After receipt of the laboratory results, the New Mexico Oil Conservation Division (**NMOCD**) was notified with a letter dated March 2, 2007 of the groundwater impacts. Documentation of this work and subsequent groundwater monitoring data for the site was previously submitted to NMOCD for review. Continued sampling and testing pursuant to the previous operator's (BP America Production Company) NMOCD approved Groundwater Management Plan (**GMP**) was suggested in the last report submitted. Reporting herein is for groundwater site monitor well testing conducted from 2019 through 2020.

## Alternative Groundwater Remediation:

In April 2019, BP America submitted an initial Remedial Action Plan requesting the deployment of an oxygen release compound (ORC) in sock form to existing site monitor wells (see supplier's specification documents on following pages). This active remediation approach to enhance the aerobic biodegradation was initially implemented in June 2019 by inserting three (3) ORC socks within MW #3, two (2) within MW #4 as well as MW #5. On March 31, 2020, five (5) ORC socks were placed within MW #3 and three (3) within MW #4 as well as MW #5. After the June 2020 sampling event, the ORC socks were removed from MW #4 and one was transferred to MW #5. As of the last sampling in December 2020, four (4) ORC socks remain in MW #5 and five (5) within MW #3.

## Groundwater Monitor Well Sampling Procedures:

Groundwater monitor wells sampled were purged approximately three (3) well bore volumes or at a minimum, its well bore using a portable two (2) inch submersible electrical pump with new/clear vinyl tubing. An adjustable valve was utilized at the end of the tubing to regulate the flow during purging and sample collection. The groundwater samples were collected following US EPA: SW-846 protocol, placed into laboratory supplied containers with appropriate preservative, and stored in an ice chest for express delivery to an analytical laboratory for testing under standard chain-of-custody procedures. Analytical testing for benzene, toluene, ethylbenzene, total xylenes (**BTEX**) by US EPA Method 8260B was conducted by an EPA accredited laboratory.

Fluids generated during monitor well development and purging were managed by discarding into the separator/compressor above-grade tank (**AGT**) located southwest of the test wells. The AGT contents are eventually disposed through approved NMOCD operational procedures for removal of produced fluids.

## Water Quality and Gradient Information:

The analytical results for MW #2R (source area) between June 2013 and August 2015 have documented nine (9) consecutive sampling events below the New Mexico Water Quality Control Commission (**NMWQCC**) allowable concentration levels for all BTEX constituents.

Since the introduction of the ORC socks within the lateral gradient MW #3, all BTEX constituents were reported as not detected (**ND**) at the laboratory reporting limits for the last four (4) consecutive sampling events.

Since September 2012, MW #4 has shown a significant reduction in benzene, ethylbenzene, and total xylenes. Between August 2013 and August 2014 as well as from June 2017 to June 2020, MW #4 has exhibited five (5) consecutive sampling events below the NMWQCC threshold for BTEX.

MW #5 continues to have elevated benzene and total xylenes concentrations exceeding NMWQCC standards. MW #5-SH BTEX levels were mostly ND during its sampling events between September 2011 and June 2013.

A historical summary of laboratory analytical results are included within the tables on the following pages. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included.

Groundwater contour maps (Figure 2 and Figure 3) depict the relative groundwater elevations and gradient, which has continued to record a north-northwest flow direction.

## Summary and/or Recommendations:

As stated in the previously submitted report, it appears that down gradient delineation has been achieved with the installation and testing of MW #6 and MW #7. Laboratory results from the down gradient installed MW #6 and MW #7 were all below the NMWQCC standards for BTEX and regulated general chemistry constituents except nitrate. Nitrate is used primarily for agricultural fertilization and most likely did not result from any BP operations since levels within the source and immediate down gradient areas met and were well below the acceptable limits for closure. The last report also recommended to discontinue sampling of MW #2R, MW #6, and MW #7.

Based on the laboratory BTEX results, it is recommended to discontinue sampling of MW #3 and MW #4.

The presence of BTEX above NMWQCC standards in MW #5 down gradient of the source area (MW #2R) suggest a continuance of monitoring and testing on an annual basis at a minimum. This site will continue to utilize and maintain site specific sampling frequency recommendations stated within the previous operator's NMOCD approved GMP.

OXYGEN RELEASE COMPOUND

# ORC Advanced® Technical Description

ORC Advanced® is an engineered, oxygen release compound designed specifically for enhanced, *in situ* aerobic bioremediation of petroleum hydrocarbons in groundwater and saturated soils. Upon contact with groundwater, this calcium oxyhydroxide-based material becomes hydrated producing a controlled release of molecular oxygen (17% by weight) for periods of up to 12 months on a single application.

Example of ORC Advanced

ORC Advanced decreases time to site closure and accelerates degradation rates up to 100 times faster than natural degradation rates. A single ORC Advanced application can support aerobic biodegradation for up to 12 months with minimal site disturbance, no permanent or emplaced above ground equipment, piping, tanks, power sources, etc are needed. There is no operation or maintenance required. ORC Advanced provides lower costs, greater efficiency and reliability compared to engineered mechanical systems, oxygen emitters and bubblers.

ORC Advanced provides remediation practitioners with a significantly faster and highly effective means of treating petroleum contaminated sites. Petroleum hydrocarbon contamination is often associated with retail petroleum service stations resulting from leaking underground storage tanks, piping and dispensers. As a result, ORC Advanced technology and applications have been tailored around the remediation needs of the retail petroleum industry and include: tank pit excavations, amending and mixing with backfill, direct-injection, bore-hole backfill, ORC Advanced Pellets for waterless and dustless application, combined ISCO and bioremediation applications, etc.

For a list of treatable contaminants with the use of ORC Advanced, view the Range of Treatable Contaminants Guide

## Chemical Composition

- Calcium hydroxide oxide
- Calcium hydroxide
- Monopotassium phosphate
- Dipotassium phosphate

## Properties

- Physical state: Solid
- Form: Powder
- Odor: Odorless
- Color: White to pale yellow
- pH: 12.5 (3% suspension/water)

OXYGEN RELEASE COMPOUND

# ORC Advanced® Technical Description

## Storage and Handling Guidelines

| Storage |
|---|
| Store in a cool, dry place out of direct sunlight |
| Store in original tightly closed container |
| Store in a well-ventilated place |
| Do not store near combustible materials |
| Store away from incompatible materials |
| Provide appropriate exhaust ventilation in places where dust is formed |

| Handling |
|---|
| Minimize dust generation and accumulation |
| Keep away from heat |
| Routine housekeeping should be instituted to ensure that dust does not accumulate on surfaces |
| Observe good industrial hygiene practices |
| Take precaution to avoid mixing with combustibles |
| Keep away from clothing and other combustible materials |
| Avoid contact with water and moisture |
| Avoid contact with eyes, skin, and clothing |
| Avoid prolonged exposure |
| Wear appropriate personal protective equipment |

## Applications

- Slurry mixture direct-push injection through hollow rods or direct-placement into boreholes
- *In situ* or *ex situ* slurry mixture into contaminated backfill or contaminated soils in general
- Slurry mixture injections in conjunction with chemical oxidants like RegenOx or PersulfOx
- Filter sock applications in groundwater for highly localized treatment
- *Ex situ* biopiles

## Health and Safety

Wash thoroughly after handling. Wear protective gloves, eye protection, and face protection. Please review the ORC Advanced Safety Data Sheet for additional storage, usage, and handling requirements.

REGENESIS®

www.regenesis.com
1011 Calle Sombra, San Clemente CA 92673
949.366.8000

# Replaceable ORC and ORC Advanced Filter Socks for Localized Aerobic Biodegradation

## Benefits

- Localized treatment approach for low-level, dissolved-phase petroleum hydrocarbons
- Available oxygen increases biodegradation up to 100 times faster than natural attenuation
- A single Filter Sock application can support aerobic biodegradation for up to 12 months
- Replaceable delivery mechanism for controlled-release oxygen in existing wells
- Minimal site disturbance, no permanent or emplaced aboveground equipment, piping, tanks, power sources
- Simple and easy application using Filter Sock and canister application
- Low operation and maintenance cost– lower costs and greater efficiency/reliability than engineered mechanical systems, oxygen emitters and bubblers
- Wide federal, state and local regulatory understanding and acceptance

## How it Works

When Oxygen Release Compound (ORC®) was first commercialized in 1994, it was emplaced into groundwater wells using ORC Filter Socks. Filter socks are permeable, fabric sleeves filled with pure ORC or ORC Advanced® controlled-release oxygen material. Each filter sock is inserted into a colored, Naltex™ Flex-Guard for ease-of-application and maximum durability. When placed into groundwater or hydrated, filter socks produce controlled-release, molecular oxygen for periods of up to 12 months on a single application. The abundant oxygen is readily available to facilitate the proven and cost-effective, enhanced aerobic biodegradation process.

## Designed for Localized In-Well Treatment

ORC and ORC Advanced Filter Socks are designed to deliver controlled-release oxygen into a specific well or treatment area with the purpose of creating a very limited and localized aerobic zone where accelerated biodegradation can occur. Upon exhaustion of their oxygen supply (anywhere from 9-12 months) the socks can be removed, disposed of and replaced with a new one.

## What's the Difference between ORC and ORC Advanced Filter Socks?

ORC and ORC Advanced Filter Socks are very similar products, however, many remediation professionals choose to use ORC Advanced Filter Socks due to a higher % by weight oxygen content (17% ORC Advanced vs. 10% ORC). Put simply, you get more oxygen per pound of material with ORC Advanced.

Filter socks are 12″ long and available in 2″, 4″ and 6″ diameters, they are easily laced together using the pre-measured/ pre-cut rope that is supplied with each filter sock order. (Figures 1, 2, 3 and 4). All sizes of Regenesis ORC and ORC Advanced Filter Socks include a factory installed, colored, Naltex™ Flex-Guard (green = 2", yellow = 4" and orange = 6"). This component is designed to prevent rips or tears in the actual sock material assuring durability during the installation and removal process

For deeper applications, filter socks can be directly inserted into Application-Time-Saver Canisters, then into the well. This can avoid the costly mistake of having the filter socks get lodged in the well.

# Target Contaminants:

- Benzene, Toluene, Ethylbenzene and Xylenes (BTEX)
- Gasoline Range Organics (GRO) (C6-C10-12)
- Diesel Range Organics (DRO) (C8-12-C24-26)
- Oil Range Organics (ORO) (C22-32)
- Creosote (coal tar)
- Methyl-Tertiary Butyl Ether (MTBE)
- Tert-Butyl Alcohol (TBA)
- cis-1,2 Dichloroethene (DCE)
- Vinyl chloride (VC)

For a complete listing of treatable contaminants please visit our Range of Treatable Contaminants Page.

# Typical Soil and Groundwater Remediation Application Methods:

- Single or multiple well application into groundwater

# SIMCOE LLC (formerly BP America Prod. Co.)

## GCU # 204E - (Unlined Earthen Blow Pit)

Unit I, Sec. 34, T28N, R12W - API Number: 30-045-25262
Incident #: **None yet Assigned** Order # 3RP-420

**GCU # 204E**
**UNIT I, SEC. 34, T28N, R12W**

**REVISED DATE: December 30, 2020**
**Submitted by Cottonwood Consulting LLC**

| SAMPLE DATE | WELL NAME / NUMBER | DEPTH TO WATER (ft) | WELL DEPTH (ft) | TDS (mg/L) | CONDUCT. (umhos) | pH | FREE PHASE PRODUCT (ft) | BTEX US EPA METHOD 8021B or 8260B BENZENE (ppb) | TOLUENE (ppb) | ETHYL BENZENE (ppb) | TOTAL XYLENES (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01/30/07 | MW #1 | 18.57 | 27.00 | 584 | 1,100 | 7.33 | | ND | 3.0 | 2.3 | 13 |
| 11/14/06 | MW #2 | 16.69 | 27.50 | 924 | 1,400 | 6.80 | | 1,000 | 3,900 | 1,100 | 9,700 |
| 01/30/07 | | 16.97 | | | 1,200 | 6.89 | | 900 | 1,600 | 1,400 | 12,000 |
| 04/25/07 | | 16.37 | | | 1,000 | 6.78 | | 790 | 1,200 | 1,100 | 13,000 |
| 07/23/07 | | 15.16 | | | 1,000 | 6.82 | | 940 | 630 | 1,800 | 12,000 |
| 06/26/08 | | 14.36 | | | 700 | 7.34 | | 200 | 410 | 1,700 | 12,000 |
| 08/26/08 | | 13.36 | | | 800 | 7.27 | | 160 | 210 | 1,400 | 11,000 |
| 05/19/09 | | 14.60 | | | 800 | 7.32 | | 140 | 83 | 1,200 | 6,700 |
| " | (dup.) | " | | | " | " | | 150 | 68 | 1,300 | 7,200 |
| 11/16/09 | MW #2R | 15.61 | 22.65 | | 900 | 7.71 | | 13 | ND | 240 | 1,900 |
| 02/19/10 | | 16.05 | | | 1,000 | 7.86 | | ND | ND | 150 | 1,300 |
| 05/19/10 | | 15.88 | | | 1,100 | 7.75 | | 11 | 1.8 | 220 | 1,800 |
| 10/30/10 | | 15.55 | | | 1,000 | 7.82 | | 6.3 | ND | 86 | 410 |
| 02/16/11 | | 16.50 | | | 1,000 | 7.76 | | 7.0 | ND | 58 | 160 |
| 05/21/11 | | 17.19 | | | 1,100 | 7.91 | | 15 | 1.2 | 440 | 1,800 |
| 09/15/11 | | 16.76 | | | 1,500 | 7.76 | | 9.8 | ND | 180 | 650 |
| 11/28/11 | | 16.84 | | | 1,400 | 7.74 | | 11 | ND | 260 | 1,000 |
| 02/07/12 | | 17.60 | | | 1,300 | 7.56 | | 13 | 6.2 | 390 | 2,000 |
| 06/23/12 | | 18.35 | | | 1,300 | 7.57 | | 17 | ND | 460 | 2,400 |
| 09/24/12 | | 17.94 | | | 1,100 | 7.39 | | 14 | ND | 410 | 2,000 |
| 11/28/12 | | 17.31 | | | 1,200 | 7.53 | | 12 | ND | 350 | 1,100 |
| 02/26/13 | | 17.07 | | | 1,200 | 7.29 | | 14 | ND | 350 | 2,000 |
| 06/15/13 | | 17.39 | | | 800 | 7.58 | | 11 | ND | 260 | 1,200 |
| 08/26/13 | | 16.24 | | | 800 | 7.70 | | 3.3 | ND | 21 | 110 |
| 12/09/13 | | 15.49 | | | 800 | 7.55 | | ND | ND | ND | ND |
| 02/26/14 | | 15.82 | | | 1,100 | 6.83 | | 6.9 | ND | 74 | 330 |
| 05/27/14 | | 16.20 | | | 900 | 7.56 | | 5.2 | ND | 24 | 95 |
| 08/22/14 | | 15.01 | | | 700 | 7.49 | | 1.2 | ND | 5.0 | 24 |
| 11/20/14 | | 15.78 | | | 700 | 7.71 | | 4.4 | ND | 3.9 | 23 |
| 02/24/15 | | 16.57 | | | 800 | 6.98 | | 4.2 | ND | 43 | 110 |
| 05/20/15 | | 16.46 | | | 800 | 7.14 | | 3.5 | ND | 91 | 320 |
| 08/24/15 | | 15.44 | | | 800 | 7.38 | | ND | ND | 6.1 | 16 |
| 01/30/07 | MW #3 | 13.92 | 25.00 | 620 | 1,000 | 7.00 | | 8.2 | ND | 71 | 120 |
| 04/25/07 | | 11.81 | | | 900 | 6.91 | | 8.3 | ND | 25 | 140 |
| 07/23/07 | | 11.89 | | | 1,000 | 6.74 | | 26 | ND | 90 | 270 |
| 10/25/07 | | 10.37 | | | 1,100 | 7.00 | | 2.4 | ND | 4.7 | 11 |
| 04/14/08 | | 11.43 | | | 700 | 6.99 | | 1,360 | 14 | 116 | 381 |
| 08/26/08 | | 9.96 | | | 1,200 | 6.99 | | 520 | ND | 64 | 140 |
| 05/19/09 | | 12.00 | | | 800 | 7.01 | | 350 | 170 | 380 | 700 |
| 11/16/09 | | 13.21 | | | 800 | 7.18 | | 240 | 1,700 | 600 | 1,500 |
| 02/19/10 | | 13.44 | | | 800 | 7.36 | | 96 | 940 | 480 | 1,100 |
| 05/19/10 | | 13.45 | | | 1,000 | 7.19 | | 210 | 2,200 | 680 | 2,500 |
| 10/30/10 | | 12.69 | | | 1,000 | 6.95 | | 350 | 210 | 340 | 1,100 |
| 02/16/11 | | 13.94 | | | 1,000 | 7.05 | | 640 | 780 | 1,100 | 4,100 |
| 05/21/11 | | 17.19 | | | 1,100 | 7.13 | | 260 | 560 | 790 | 2,900 |
| 09/15/11 | | 13.27 | | | 1,300 | 7.31 | | 66 | 8.2 | 16 | 81 |
| 11/28/11 | | 13.84 | | | 1,300 | 7.02 | | 190 | 79 | 89 | 780 |
| 02/07/12 | | 14.73 | | | 1,400 | 6.90 | | 360 | 460 | 740 | 2,500 |
| 06/23/12 | | 15.47 | | | 1,400 | 6.89 | | 250 | 94 | 680 | 3,500 |
| 09/24/12 | | 14.32 | | | 1,200 | 6.77 | | 82 | ND | 64 | 360 |
| 11/28/12 | | 14.63 | | | 1,200 | 6.97 | | 270 | 18 | 760 | 2,400 |
| 02/26/13 | | 14.80 | | | 1,400 | 6.42 | | 260 | 51 | 790 | 3,600 |
| 06/15/13 | | 14.87 | | | 900 | 6.86 | | 280 | 240 | 690 | 3,100 |
| 08/26/13 | | 12.15 | | | 900 | 7.11 | | 93 | ND | 39 | 640 |
| 12/09/13 | | 12.71 | | | 900 | 6.86 | | 270 | 47 | 510 | 2,500 |
| NMWQCC GROUNDWATER STANDARDS | | | | | | | | 10 | 750 | 750 | 620 |

# SIMCOE LLC (formerly BP America Prod. Co.)

## GCU # 204E - (Unlined Earthen Blow Pit)

Unit I, Sec. 34, T28N, R12W - API Number: 30-045-25262
Incident #: **None yet Assigned** Order # 3RP-420

**GCU # 204E**
**UNIT I, SEC. 34, T28N, R12W**

**REVISED DATE: December 30, 2020**
**Submitted by Cottonwood Consulting LLC**

| SAMPLE DATE | WELL NAME / NUMBER | DEPTH TO WATER (ft) | WELL DEPTH (ft) | TDS (mg/L) | CONDUCT. (umhos) | pH | FREE PHASE PRODUCT (ft) | BTEX US EPA METHOD 8021B or 8260B BENZENE (ppb) | TOLUENE (ppb) | ETHYL BENZENE (ppb) | TOTAL XYLENES (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 02/26/14 | MW #3 | 13.22 | 25.00 | | 1,200 | 6.68 | | 200 | 5.1 | 410 | 1,400 |
| 05/27/14 | | 13.71 | | | 900 | 6.97 | | 210 | 15 | 540 | 2,900 |
| 08/22/14 | | 11.37 | | | 700 | 7.32 | | ND | ND | ND | ND |
| 11/20/14 | | 13.19 | | | 800 | 7.05 | | 340 | 57 | 630 | 3,800 |
| 02/24/15 | | 14.02 | | | 900 | 6.80 | | 370 | 41 | 830 | 4,100 |
| 05/20/15 | | 13.72 | | | 900 | 6.97 | | 230 | ND | 520 | 2,100 |
| 08/24/15 | | 13.02 | | | 900 | 7.23 | | 210 | ND | 570 | 2,300 |
| 05/25/16 | | 13.09 | | | 800 | 7.05 | | 87 | 7.0 | 850 | 5,000 |
| 06/27/17 | | 13.20 | | | 800 | 7.37 | | 590 | 3.6 | 220 | 1,400 |
| 06/25/18 | | 15.19 | | | 800 | 7.01 | | 30 | ND | 1,100 | 7,500 |
| 06/26/19 | | 15.52 | | | 800 | 7.21 | | 25 | ND | 370 | 2,300 |
| 03/24/20 | | 20.44 | | | 900 | 6.94 | | ND | ND | ND | ND |
| 06/04/20 | | 21.43 | | | 900 | 11.94 | | ND | ND | ND | ND |
| 09/05/20 | | 17.11 | | | 800 | 7.41 | | ND | ND | ND | ND |
| 12/21/20 | | 20.16 | | | 1,000 | 7.31 | | ND | ND | ND | ND |
| 09/15/11 | MW #3-SH | 14.15 | 17.50 | | 1,400 | 7.34 | | 57 | 11 | 380 | 1,600 |
| 11/28/11 | | 14.63 | | | 1,300 | 7.21 | | 110 | 29 | 550 | 1,800 |
| 02/07/12 | | 15.44 | | | 1,500 | 7.16 | | 160 | 87 | 760 | 2,500 |
| 09/24/12 | | 15.15 | | | 1,100 | 6.96 | | 70 | 30 | 110 | 1,900 |
| 02/26/13 | | 15.51 | | | 1,200 | 6.71 | | 140 | 130 | 940 | 4,100 |
| 06/15/13 | | 15.58 | | | 800 | 7.05 | | 110 | ND | 1,400 | 7,300 |
| 11/16/09 | MW #4 | 15.66 | 21.94 | 2,010 | 1,600 | 7.10 | | 2,200 | 14 | 140 | 950 |
| 02/19/10 | | 15.82 | | | 2,000 | 7.02 | | 5,800 | 14 | 500 | 1,800 |
| 05/19/10 | | 15.78 | | | 2,700 | 6.85 | | 5,200 | 42 | 470 | 1,500 |
| 10/30/10 | | 15.47 | | | 1,900 | 6.73 | | 6,500 | 63 | 600 | 1,500 |
| 02/16/11 | | 16.34 | | | 1,700 | 6.76 | | 6,900 | ND | 840 | 2,000 |
| 05/21/11 | | 17.04 | | | 2,000 | 6.90 | | 6,300 | ND | 880 | 1,900 |
| 09/15/11 | | 16.59 | | | 2,100 | 6.83 | | 4,900 | ND | 650 | 2,000 |
| 11/28/11 | | 16.59 | | | 2,000 | 6.90 | | 2,400 | ND | 550 | 1,300 |
| 02/07/12 | | 17.23 | | | 2,300 | 6.78 | | 2,000 | ND | 500 | 780 |
| 06/23/12 | | 17.98 | | | 2,200 | 6.88 | | 1,400 | ND | 290 | 530 |
| 09/24/12 | | 16.70 | | | 1,300 | 6.87 | | 170 | ND | ND | ND |
| 11/28/12 | | 16.61 | | | 1,400 | 7.21 | | 410 | ND | 3.8 | 13 |
| 02/26/13 | | 16.73 | | | 1,400 | 7.01 | | 23 | ND | ND | 3.0 |
| 06/15/13 | | 17.02 | | | 900 | 7.28 | | 14 | 1.7 | 2.3 | 10 |
| 08/26/13 | | 15.55 | | | 1,000 | 7.47 | | 8.0 | ND | ND | ND |
| 12/09/13 | | 15.08 | | | 900 | 7.31 | | 2.3 | ND | ND | ND |
| 02/26/14 | | 15.37 | | | 1,200 | 6.86 | | 9.0 | ND | 1.1 | 3.4 |
| 05/27/14 | | 15.75 | | | 1,000 | 7.26 | | 1.1 | ND | ND | ND |
| 08/22/14 | | 14.59 | | | 700 | 7.30 | | 1.2 | ND | ND | ND |
| 11/20/14 | | 15.09 | | | 900 | 7.35 | | 230 | ND | 1.9 | 17 |
| 02/24/15 | | 16.23 | | | 1,300 | 6.78 | | 33 | ND | ND | 3.7 |
| 05/20/15 | | 16.10 | | | 1,100 | 6.98 | | 38 | ND | ND | ND |
| 08/24/15 | | 15.68 | | | 1,100 | 7.28 | | 1.9 | ND | ND | ND |
| 05/25/16 | | 15.51 | | | 1,400 | 6.90 | | 14 | ND | ND | ND |
| 06/27/17 | | 15.61 | | | 1,600 | 7.13 | | 1.4 | ND | ND | ND |
| 06/25/18 | | 17.56 | | | 1,300 | 6.83 | | 3.7 | ND | ND | 1.7 |
| 06/26/19 | | 17.89 | | | 900 | 7.11 | | 2.1 | 2.4 | ND | 3.6 |
| 03/24/20 | | 18.95 | | | 1,000 | 7.01 | | ND | ND | ND | ND |
| 06/04/20 | | 19.41 | | | 800 | 7.95 | | 6.9 | ND | 5.4 | 16 |
| 09/15/11 | MW #4-SH | 16.56 | 17.50 | | 2,800 | 7.11 | | 830 | ND | ND | 78 |
| 11/28/11 | | 16.56 | | | 2,800 | 7.01 | | 500 | ND | ND | ND |
| NMWQCC GROUNDWATER STANDARDS | | | | | | | | 10 | 750 | 750 | 620 |

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**REVISED DATE: December 30, 2020**
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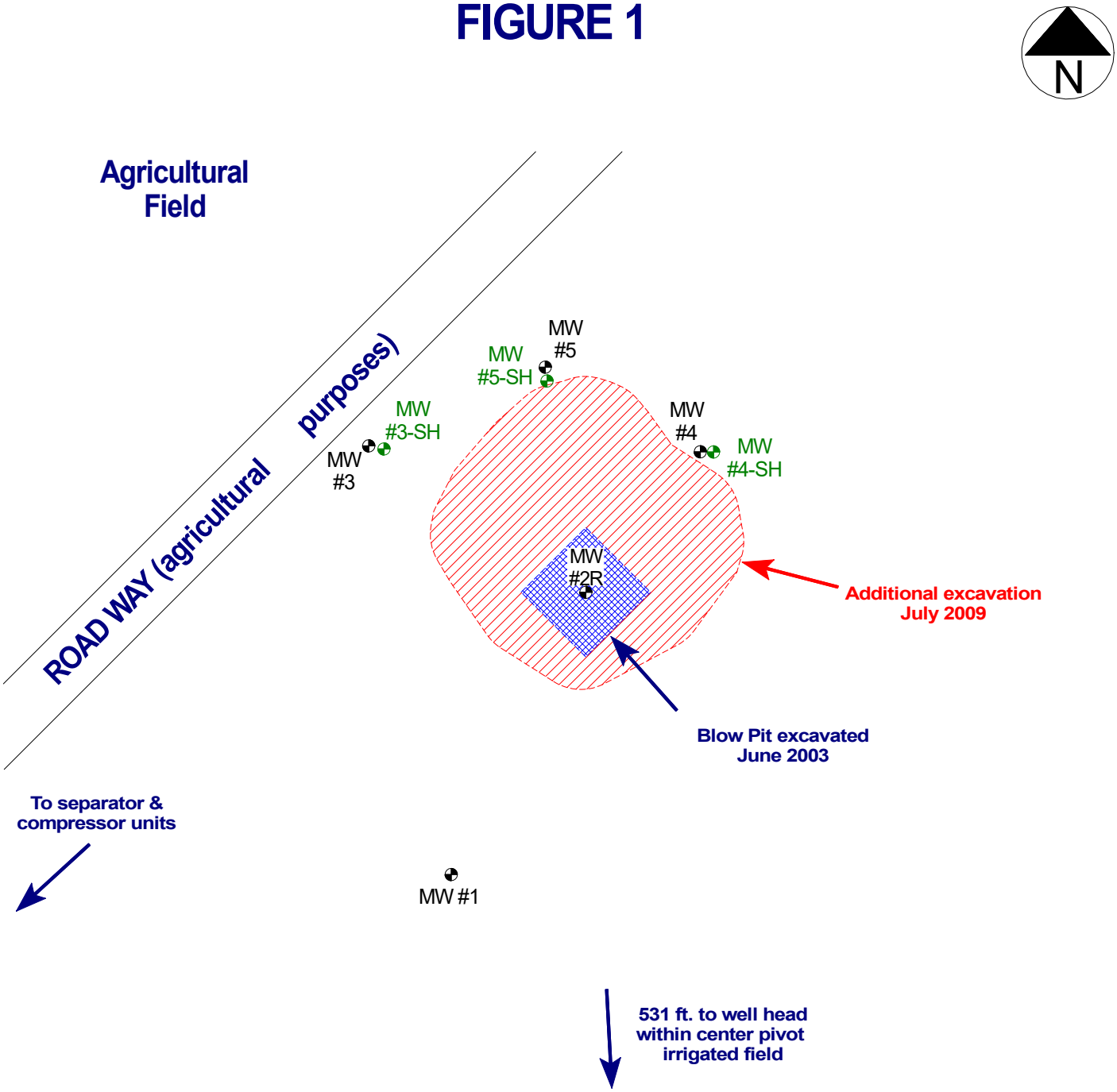
| SAMPLE DATE | WELL NAME / NUMBER | DEPTH TO WATER (ft) | WELL DEPTH (ft) | TDS (mg/L) | CONDUCT. (umhos) | pH | FREE PHASE PRODUCT (ft) | BTEX US EPA METHOD 8021B or 8260B BENZENE (ppb) | TOLUENE (ppb) | ETHYL BENZENE (ppb) | TOTAL XYLENES (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/16/09 | MW #5 | 13.77 | 21.78 | 1,090 | 1,300 | 7.01 | | 1,100 | 200 | 430 | 2,800 |
| 02/19/10 | | 13.84 | | | 1,900 | 6.99 | | 790 | 100 | 370 | 2,600 |
| 05/19/10 | | 13.94 | | | 2,600 | 6.82 | | 1,200 | 180 | 370 | 2,600 |
| 10/30/10 | | 13.32 | | | 1,300 | 6.88 | | 380 | 140 | 450 | 2,200 |
| 02/16/11 | | 14.39 | | | 1,300 | 6.97 | | 930 | 270 | 650 | 3,200 |
| 05/21/11 | | 15.06 | | | 1,400 | 7.09 | | 620 | 110 | 380 | 1,900 |
| 09/15/11 | | 14.08 | | | 1,600 | 7.20 | | 81 | 16 | 300 | 1,200 |
| 11/28/11 | | 14.36 | | | 1,500 | 7.16 | | 110 | 39 | 240 | 760 |
| 02/07/12 | | 15.11 | | | 1,500 | 6.99 | | 240 | 36 | 230 | 850 |
| 06/23/12 | | 15.98 | | | 1,700 | 6.99 | | 1,200 | 290 | 580 | 3,200 |
| 09/24/12 | | 14.63 | | | 1,300 | 6.97 | | 700 | 17 | 340 | 1,100 |
| 11/28/12 | | 14.85 | | | 1,400 | 7.05 | | 840 | 36 | 370 | 1,100 |
| 02/26/13 | | 15.11 | | | 1,600 | 6.62 | | 750 | 58 | 230 | 1,600 |
| 06/15/13 | | 15.28 | | | 1,100 | 7.03 | | 480 | 33 | 150 | 1,200 |
| 08/26/13 | | 13.07 | | | 1,000 | 7.27 | | 240 | 110 | 130 | 990 |
| 12/09/13 | | 13.14 | | | 900 | 7.14 | | 670 | 48 | 200 | 1,500 |
| 02/26/14 | | 13.61 | | | 1,400 | 6.86 | | 1,000 | 35 | 240 | 1,800 |
| 05/27/14 | | 14.11 | | | 1,200 | 7.02 | | 930 | 43 | 260 | 2,000 |
| 08/22/14 | | 12.27 | | | 800 | 7.01 | | 200 | 67 | 130 | 1,300 |
| 11/20/14 | | 13.79 | | | 900 | 7.17 | | 77 | ND | 50 | 470 |
| 02/24/15 | | 14.46 | | | 1,200 | 6.89 | | 420 | 26 | 160 | 1,000 |
| 05/20/15 | | 15.31 | | | 1,300 | 6.83 | | 280 | 10 | 100 | 790 |
| 08/24/15 | | 13.93 | | | 1,100 | 7.19 | | 170 | 25 | 110 | 1,000 |
| 05/25/16 | | 13.98 | | | 1,000 | 6.89 | | 42 | 19 | 72 | 570 |
| 06/27/17 | | 13.69 | | | 1,100 | 7.26 | | 28 | ND | 700 | 4,400 |
| 06/25/18 | | 15.81 | | | 1,000 | 7.05 | | 2,100 | ND | 660 | 3,400 |
| 06/26/19 | | 15.97 | | | 900 | 7.26 | | 720 | ND | 240 | 1,200 |
| 03/24/20 | | 18.60 | | | 1,100 | 7.03 | | 520 | ND | 570 | 3,100 |
| 06/04/20 | | 17.16 | | | 1,100 | 7.03 | | 85 | ND | 55 | 230 |
| 09/05/20 | | 16.53 | | | 1,000 | 7.02 | | 970 | ND | 600 | 2,600 |
| 12/21/20 | | 16.62 | | | 1,100 | 7.23 | | 190 | ND | 190 | 260 |
| 09/15/11 | MW #5-SH | 14.01 | 16.50 | | 3,000 | 8.36 | | ND | ND | ND | ND |
| 11/28/11 | | 13.96 | | | 2,800 | 8.22 | | ND | ND | ND | ND |
| 02/26/13 | | 14.79 | | | 2,500 | 7.68 | | ND | ND | ND | ND |
| 06/15/13 | | 14.99 | | | 2,000 | 7.52 | | 2.8 | ND | ND | ND |
| 09/15/11 | MW #6 | 15.09 | 23.00 | | 1,500 | 7.77 | | ND | ND | ND | ND |
| 11/28/11 | | 14.98 | | | 1,500 | 7.77 | | ND | ND | ND | ND |
| 02/07/12 | | 15.58 | | | 1,600 | 7.50 | | ND | ND | ND | ND |
| 06/23/12 | | 16.24 | | | 1,500 | 7.52 | | ND | ND | ND | 2.4 |
| 09/24/12 | | 15.10 | | | 1,200 | 7.43 | | ND | ND | ND | ND |
| 11/28/12 | | 14.99 | | | 1,300 | 7.63 | | ND | ND | ND | ND |
| 03/26/12 | MW #7 | 11.23 | 19.22 | | 1,500 | 7.19 | | 5.3 | ND | ND | ND |
| 06/23/12 | | 11.84 | | | 1,400 | 7.41 | | 2.0 | ND | ND | ND |
| 09/24/12 | | 9.96 | | | 1,200 | 7.37 | | 2.1 | ND | ND | 2.2 |
| 11/28/12 | | 10.60 | | | 1,500 | 7.52 | | ND | ND | ND | ND |
| | | | | | | | NMWQCC GROUNDWATER STANDARDS | 10 | 750 | 750 | 620 |

NOTES :
1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS .
2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS EXCEEDED.
3) ND - NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10).
4) NMWQCC - NEW MEXICO WATER QUALITY CONTROL COMMISSION.

# FIGURE 1

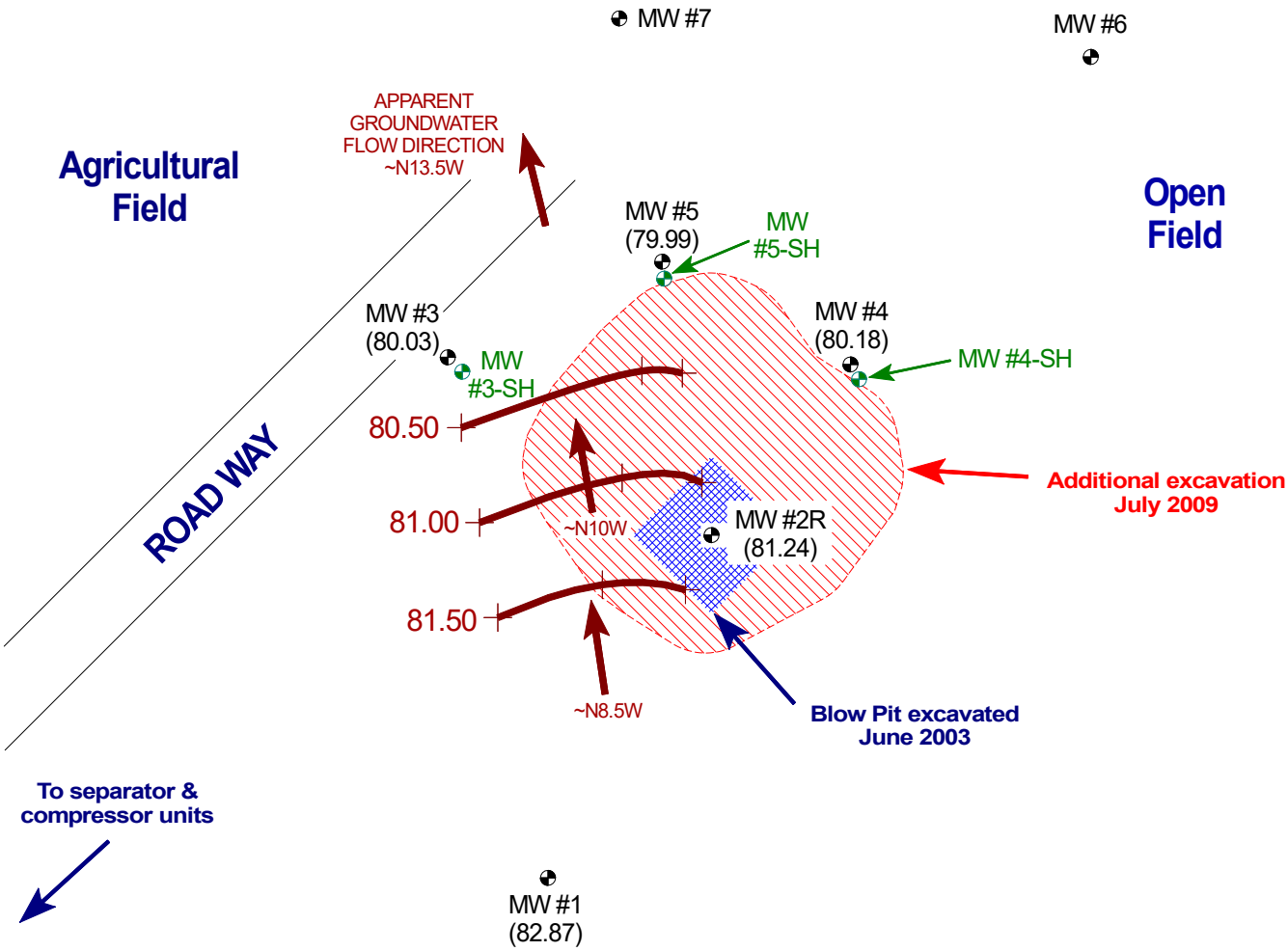



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE & BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

0 30 60 FT.

| | | | |
|---|---|---|---|
| SIMCOE LLC<br>GCU #204E<br>NE/4 SE/4 SEC. 34, T28N, R12W<br>SAN JUAN COUNTY, NEW MEXICO | Cottonwood Consulting LLC<br>P.O. Box 1653<br>Durango, Colorado 81303<br>(970) 764-7356 | PROJECT: MW INSTALLATIONS<br>DRAWN BY: NJV<br>FILENAME: 12-30-20-SM.SKF<br>REVISED: 12-30-20 NJV | SITE MAP<br>10/09 |

# FIGURE 2
# (2nd 1/4, 2019)




| | Top of Well Elevation |
|---|---|
| MW #1 | (103.89) |
| MW #2R | (99.49) |
| MW #3 | (95.66) |
| MW #4 | (98.63) |
| MW #5 | (95.98) |
| MW #6 | (95.98) |
| MW #2 (removed) | (100.00) |

MW #1 (82.87) — Groundwater Elevation as of 06/26/2019.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE & BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

0 30 60 FT.

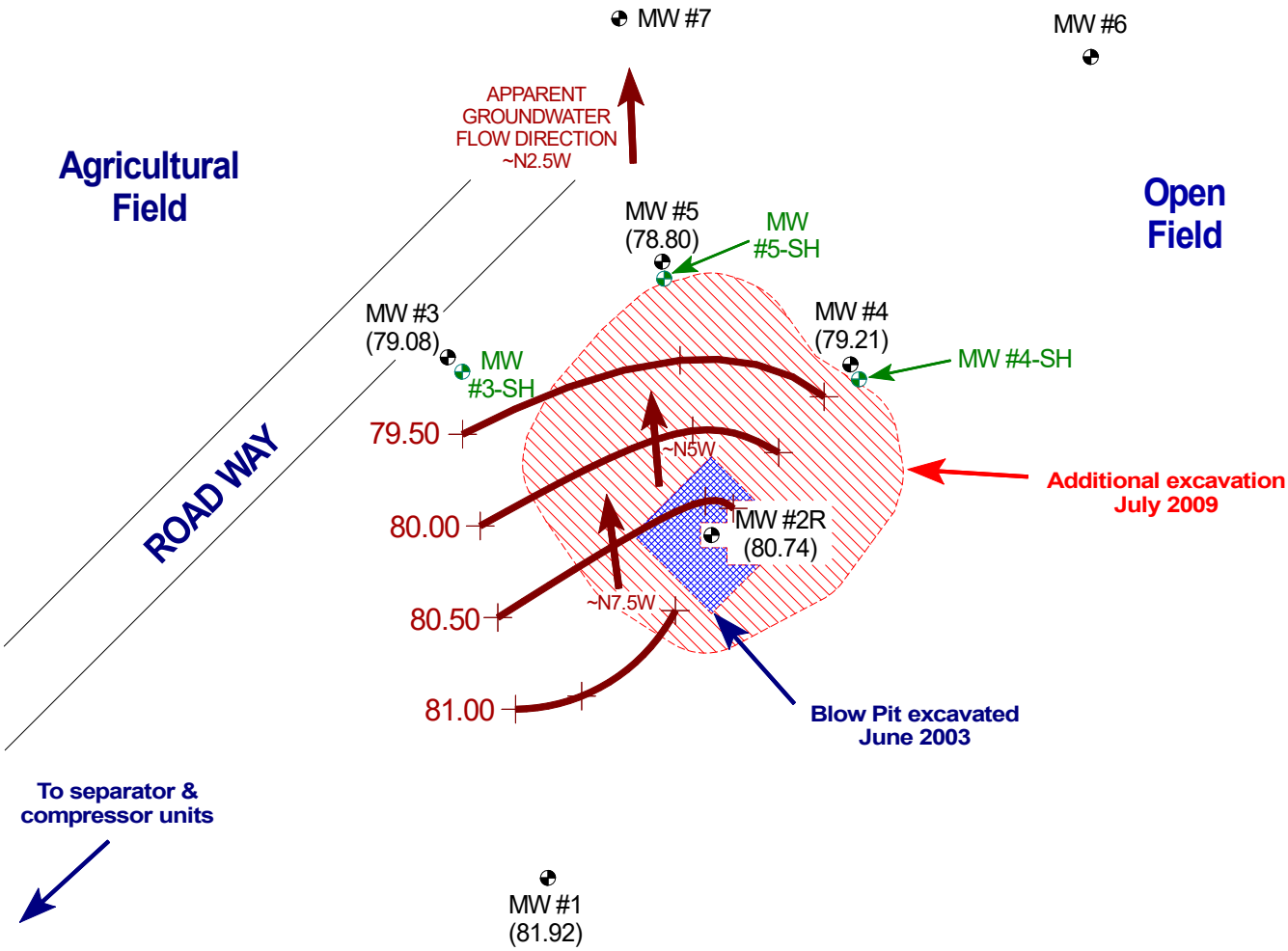
BP AMERICA PRODUCTION CO.
GCU # 204E
NE/4 SE/4 SEC. 34, T28N, R12W
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: GCU 204E 2019-06-26-GW.SKF
REVISED: 12-30-2019 NJV

GROUNDWATER CONTOUR MAP
06/19

# FIGURE 3
# (2nd 1/4, 2020)




531 ft. to well head within center pivot irrigated field

| | Top of Well Elevation |
|---|---|
| MW #1 | (103.89) |
| MW #2R | (99.49) |
| MW #3 | (95.66) |
| MW #4 | (98.63) |
| MW #5 | (95.98) |
| MW #6 | (95.98) |
| MW #2 (removed) | (100.00) |

MW #1 (82.68) — Groundwater Elevation as of 06/25/2018.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE & BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

0 30 60 FT.

BP AMERICA PRODUCTION CO.
GCU # 204E
NE/4 SE/4 SEC. 34, T28N, R12W
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: GCU 204E 2018-06-25-GW.SKF
REVISED: 10-25-2018 NJV

GROUNDWATER CONTOUR MAP
06/18

# FIELD LOG

# SHEETS

# BLAGG ENGINEERING, INC.

## MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : N / A

GCU # 204E - BLOW PIT
UNIT I, SEC. 34, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **June 26, 2019**
Filename : **GCU 204E mw log 2019-06-26.xls**

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : STEVE MOSKAL

| WELL # | WELL ELEV. (ft) | WATER ELEV. (ft) | DEPTH TO WATER (ft) | TOTAL DEPTH (ft) | SAMPLING TIME | pH | CONDUCT (umhos) | TEMP. (celcius) | VOLUME PURGED (gal.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 103.89 | 82.87 | 21.02 | 27.00 | - | - | - | - | - |
| 2R | 99.42 | 81.24 | 18.18 | 22.65 | - | - | - | - | - |
| 3 | 95.65 | 80.13 | 15.52 | 25.00 | 0835 | 7.21 | 800 | 13.8 | 4.75 |
| 3-SH | 96.52 | - | - | 17.50 | - | - | - | - | - |
| 4 | 98.62 | 80.10 | 18.52 | 21.94 | 0745 | 7.11 | 900 | 15.4 | 2.00 |
| 4-SH | 98.59 | - | - | 17.50 | - | - | - | - | - |
| 5 | 95.96 | 79.99 | 15.97 | 21.78 | 0940 | 7.26 | 900 | 15.0 | 3.00 |
| 5-SH | 95.77 | - | - | 16.50 | - | - | - | - | - |
| 6 | 96.87 | - | - | 23.00 | - | - | - | - | - |
| 7 | - | - | - | 19.22 | - | - | - | - | - |

| INSTRUMENT CALIBRATIONS = | 4.01/7.00/10.00 | 2,800 |
|---|---|---|
| DATE & TIME = | 06/20/19 | 0630 |

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 3 , # 4 , # 5 . Collected samples from MW # 3 , # 4 , # 5 for BTEX per US EPA Method 8021B. Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2R ~ 2.23 ft. , MW # 3 ~ 2.30 ft. , MW # 4 ~ 2.63 ft. , MW # 5 ~ 2.25 ft. , MW # 6 ~ 3.00 ft. , MW # 3-SH ~ 2.50 ft. , MW # 4-SH ~ 2.50 ft. , MW # 5-SH ~ 2.50 ft. above grade .

| | | | |
|---|---|---|---|
| on-site | **6:50 AM** | temp | **65 F** |
| off-site | **9:50 AM** | temp | **81 F** |
| sky cond. | | **Mostly sunny** | |
| wind speed | **0 - 10** | direct. | **E** |

# BLAGG ENGINEERING, INC.

## MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **BPX ENERGY INC.**

CHAIN-OF-CUSTODY # : N / A

GCU # 204E - BLOW PIT
UNIT I, SEC. 34, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **March 24, 2020**
Filename : **GCU 204E mw log 2020-03-24.xls**

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : S. MOSKAL

| WELL # | WELL ELEV. (ft) | WATER ELEV. (ft) | DEPTH TO WATER (ft) | TOTAL DEPTH (ft) | SAMPLING TIME | pH | CONDUCT (umhos) | TEMP. (celcius) | VOLUME PURGED (gal.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 103.89 | - | - | 27.00 | - | - | - | - | - |
| 2R | 99.42 | - | - | 22.65 | - | - | - | - | - |
| 3 | 95.65 | 75.21 | 20.44 | 25.00 | 1500 | 6.94 | 900 | 14.6 | 2.25 |
| 3-SH | 96.52 | - | - | 17.50 | - | - | - | - | - |
| 4 | 98.62 | 79.67 | 18.95 | 21.94 | 1425 | 7.01 | 1,000 | 13.4 | 1.50 |
| 4-SH | 98.59 | - | - | 17.50 | - | - | - | - | - |
| 5 | 95.96 | 77.36 | 18.60 | 21.78 | 1545 | 7.03 | 1,100 | 14.0 | 1.50 |
| 5-SH | 95.77 | - | - | 16.50 | - | - | - | - | - |
| 6 | 96.87 | - | - | 23.00 | - | - | - | - | - |
| 7 | - | - | - | 19.22 | - | - | - | - | - |

| | | |
|---|---|---|
| INSTRUMENT CALIBRATIONS = | 4.01/7.00/10.00 | 2,800 |
| DATE & TIME = | 03/23/20 | 0930 |

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 3 , # 4 , # 5 . Collected samples from MW # 3 , # 4 , # 5 for BTEX per US EPA Method 8260B. Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2R ~ 2.23 ft. , MW # 3 ~ 2.30 ft. , MW # 4 ~ 2.63 ft. , MW # 5 ~ 2.25 ft. , MW # 6 ~ 3.00 ft. , MW # 3-SH ~ 2.50 ft. , MW # 4-SH ~ 2.50 ft. , MW # 5-SH ~ 2.50 ft. above grade .

| | | | |
|---|---|---|---|
| on-site | **1:42 PM** | temp | **59 F** |
| off-site | **3:55 PM** | temp | **60 F** |
| sky cond. | | **Sunny** | |
| wind speed | **0 - 10** | direct. | **SSW - SE** |

# BLAGG ENGINEERING, INC.

## MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **BPX ENERGY INC.**

CHAIN-OF-CUSTODY # : N / A

GCU # 204E - BLOW PIT
UNIT I, SEC. 34, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **June 4, 2020**
Filename : **GCU 204E mw log 2020-06-04.xls**

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : S. MOSKAL

| WELL # | WELL ELEV. (ft) | WATER ELEV. (ft) | DEPTH TO WATER (ft) | TOTAL DEPTH (ft) | SAMPLING TIME | pH | CONDUCT (umhos) | TEMP. (celcius) | VOLUME PURGED (gal.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 103.89 | 81.92 | 21.97 | 27.00 | - | - | - | - | - |
| 2R | 99.42 | 80.74 | 18.68 | 22.65 | - | - | - | - | - |
| 3 | 95.65 | 79.08 | 16.57 | 25.00 | 0920 | 11.14 | 900 | 14.0 | 4.25 |
| 3-SH | 96.52 | - | - | 17.50 | - | - | - | - | - |
| 4 | 98.62 | 79.21 | 19.41 | 21.94 | 0830 | 7.95 | 800 | 17.2 | 2.00 |
| 4-SH | 98.59 | - | - | 17.50 | - | - | - | - | - |
| 5 | 95.96 | 78.80 | 17.16 | 21.78 | 1010 | 7.03 | 1,100 | 14.3 | 2.25 |
| 5-SH | 95.77 | - | - | 16.50 | - | - | - | - | - |
| 6 | 96.87 | - | - | 23.00 | - | - | - | - | - |
| 7 | - | - | - | 19.22 | - | - | - | - | - |

| INSTRUMENT CALIBRATIONS = | 4.01/7.00/10.00 | 2,800 |
|---|---|---|
| DATE & TIME = | 06/01/20 | 0630 |

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

ORC socks inserted 3/31/2020 - 3 within MW #4 & #5, 5 within MW #3. Removed prior to well purging, then replaced after sample completion. Excellent recovery in MW #3 , #5 ; good recovery in MW #4. Collected samples from MW #3, #4, #5 for BTEX per US EPA Method 8260B. Purged wells using 2 inch submersible electrical pump, new/clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2R ~ 2.23 ft. , MW # 3 ~ 2.30 ft. , MW # 4 ~ 2.63 ft. , MW # 5 ~ 2.25 ft. , MW # 6 ~ 3.00 ft. , MW # 3-SH ~ 2.50 ft. , MW # 4-SH ~ 2.50 ft. , MW # 5-SH ~ 2.50 ft. above grade .

| | | | |
|---|---|---|---|
| on-site | **7:48 AM** | temp | **67 F** |
| off-site | **10:20 AM** | temp | **79 F** |
| sky cond. | | **Sunny** | |
| wind speed | **0 - 5** | direct. | **ENE - ESE** |

# COTTONWOOD CONSULTING LLC

## MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **SIMCOE LLC**

CHAIN-OF-CUSTODY # : N / A

GCU # 204E - BLOW PIT
UNIT I, SEC. 34, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **September 5, 2020**
Filename : **GCU 204E mw log 2020-09-05.xls**

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : S. MOSKAL

| WELL # | WELL ELEV. (ft) | WATER ELEV. (ft) | DEPTH TO WATER (ft) | TOTAL DEPTH (ft) | SAMPLING TIME | pH | CONDUCT (umhos) | TEMP. (celcius) | VOLUME PURGED (gal.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 103.89 | 81.82 | 22.07 | 27.00 | - | - | - | - | - |
| 2R | 99.42 | 77.02 | 22.40 | 22.65 | - | - | - | - | - |
| 3 | 95.65 | 78.54 | 17.11 | 25.00 | 0930 | 7.41 | 800 | 14.0 | 400.00 |
| 3-SH | 96.52 | - | - | 17.50 | - | - | - | - | - |
| 4 | 98.62 | 79.59 | 19.03 | 21.94 | - | - | - | - | - |
| 4-SH | 98.59 | - | - | 17.50 | - | - | - | - | - |
| 5 | 95.96 | 79.43 | 16.53 | 21.78 | 1015 | 7.02 | 1,000 | 16.7 | 2.50 |
| 5-SH | 95.77 | - | - | 16.50 | - | - | - | - | - |
| 6 | 96.87 | - | - | 23.00 | - | - | - | - | - |
| 7 | - | - | - | 19.22 | - | - | - | - | - |

| INSTRUMENT CALIBRATIONS = | 4.01/7.00/10.00 | 2,800 |
|---|---|---|
| DATE & TIME = | 09/05/20 | 0700 |

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

ORC socks inserted 3/31/2020 - currently 4 within MW #5, 5 within MW #3. Removed prior to well purging, then replaced after sample completion. Excellent recovery in MW #3 & #5. Collected samples from MW #3 & #5 for BTEX per US EPA Method 8260B. Purged wells using 2 inch submersible electrical pump, new/clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing.

Top of casing MW # 1 ~ 2.40 ft., MW # 2R ~ 2.23 ft., MW # 3 ~ 2.30 ft., MW # 4 ~ 2.63 ft., MW # 5 ~ 2.25 ft., MW # 6 ~ 3.00 ft., MW # 3-SH ~ 2.50 ft., MW # 4-SH ~ 2.50 ft., MW # 5-SH ~ 2.50 ft. above grade .

| | | | |
|---|---|---|---|
| on-site | **8:42 AM** | temp | **77 F** |
| off-site | **10:30 AM** | temp | **86 F** |
| sky cond. | | **Sunny** | |
| wind speed | **0 - 10** | direct. | **E - SE** |

# COTTONWOOD CONSULTING LLC

## MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **SIMCOE LLC**

CHAIN-OF-CUSTODY # : N / A

GCU # 204E - BLOW PIT
UNIT I, SEC. 34, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **December 21, 2020**
Filename : **GCU 204E mw log 2020-12-21.xls**

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : S. MOSKAL

| WELL # | WELL ELEV. (ft) | WATER ELEV. (ft) | DEPTH TO WATER (ft) | TOTAL DEPTH (ft) | SAMPLING TIME | pH | CONDUCT (umhos) | TEMP. (celcius) | VOLUME PURGED (gal.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 103.89 | 81.67 | 22.22 | 27.00 | - | - | - | - | - |
| 2R | 99.42 | 76.97 | 22.45 | 22.65 | - | - | - | - | - |
| 3 | 95.65 | 75.49 | 20.16 | 25.00 | 1115 | 7.31 | 1,000 | 13.2 | 2.50 |
| 3-SH | 96.52 | - | - | 17.50 | - | - | - | - | - |
| 4 | 98.62 | 81.97 | 16.65 | 21.94 | - | - | - | - | - |
| 4-SH | 98.59 | - | - | 17.50 | - | - | - | - | - |
| 5 | 95.96 | 79.34 | 16.62 | 21.78 | 1215 | 7.23 | 1,100 | 13.4 | 2.50 |
| 5-SH | 95.77 | - | - | 16.50 | - | - | - | - | - |
| 6 | 96.87 | - | - | 23.00 | - | - | - | - | - |
| 7 | - | - | - | 19.22 | - | - | - | - | - |

| INSTRUMENT CALIBRATIONS = | 4.01/7.00/10.00 | 2,800 |
|---|---|---|
| DATE & TIME = | 12/15/20 | 0700 |

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

ORC socks inserted 3/31/2020 - currently 4 within MW #5, 5 within MW #3. Removed prior to well purging, then replaced after sample completion. Excellent recovery in MW #3 & #5. Collected samples from MW #3 & #5 for BTEX per US EPA Method 8260B. Purged wells using 2 inch submersible electrical pump, new/clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing.

Top of casing MW # 1 ~ 2.40 ft., MW # 2R ~ 2.23 ft., MW # 3 ~ 2.30 ft., MW # 4 ~ 2.63 ft., MW # 5 ~ 2.25 ft., MW # 6 ~ 3.00 ft., MW # 3-SH ~ 2.50 ft., MW # 4-SH ~ 2.50 ft., MW # 5-SH ~ 2.50 ft. above grade .

| | | | |
|---|---|---|---|
| on-site | **10:30 AM** | temp | **30 F** |
| off-site | **12:05 PM** | temp | **38 F** |
| sky cond. | | **Sunny** | |
| wind speed | **0 - 5** | direct. | **E - ESE** |

# LABORATORY

# REPORTS

**Analytical Report**
Lab Order **1907078**
Date Reported: **7/10/2019**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW#3
**Project:** GCU 204 E
**Collection Date:** 6/29/2019 8:35:00 AM
**Lab ID:** 1907078-001 **Matrix:** AQUEOUS **Received Date:** 7/2/2019 7:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **DJF** | |
| Benzene | 25 | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Toluene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Ethylbenzene | 370 | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Methyl tert-butyl ether (MTBE) | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,2,4-Trimethylbenzene | 210 | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,3,5-Trimethylbenzene | 86 | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,2-Dichloroethane (EDC) | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,2-Dibromoethane (EDB) | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Naphthalene | 75 | 20 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1-Methylnaphthalene | ND | 40 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 2-Methylnaphthalene | ND | 40 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Acetone | ND | 100 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Bromobenzene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Bromodichloromethane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Bromoform | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Bromomethane | ND | 30 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 2-Butanone | ND | 100 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Carbon disulfide | ND | 100 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Carbon Tetrachloride | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Chlorobenzene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Chloroethane | ND | 20 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Chloroform | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Chloromethane | ND | 30 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 2-Chlorotoluene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 4-Chlorotoluene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| cis-1,2-DCE | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| cis-1,3-Dichloropropene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,2-Dibromo-3-chloropropane | ND | 20 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Dibromochloromethane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Dibromomethane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,2-Dichlorobenzene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,3-Dichlorobenzene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,4-Dichlorobenzene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Dichlorodifluoromethane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,1-Dichloroethane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,1-Dichloroethene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,2-Dichloropropane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,3-Dichloropropane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 2,2-Dichloropropane | ND | 20 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |

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 | | |

**Analytical Report**
Lab Order **1907078**
Date Reported: **7/10/2019**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW#3
**Project:** GCU 204 E
**Collection Date:** 6/29/2019 8:35:00 AM
**Lab ID:** 1907078-001 **Matrix:** AQUEOUS **Received Date:** 7/2/2019 7:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **DJF** | |
| 1,1-Dichloropropene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Hexachlorobutadiene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 2-Hexanone | ND | 100 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Isopropylbenzene | 18 | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 4-Isopropyltoluene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 4-Methyl-2-pentanone | ND | 100 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Methylene Chloride | ND | 30 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| n-Butylbenzene | ND | 30 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| n-Propylbenzene | 12 | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| sec-Butylbenzene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Styrene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| tert-Butylbenzene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,1,1,2-Tetrachloroethane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,1,2,2-Tetrachloroethane | ND | 20 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Tetrachloroethene (PCE) | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| trans-1,2-DCE | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| trans-1,3-Dichloropropene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,2,3-Trichlorobenzene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,2,4-Trichlorobenzene | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,1,1-Trichloroethane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,1,2-Trichloroethane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Trichloroethene (TCE) | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Trichlorofluoromethane | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| 1,2,3-Trichloropropane | ND | 20 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Vinyl chloride | ND | 10 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Xylenes, Total | 2300 | 15 | | µg/L | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Surr: 1,2-Dichloroethane-d4 | 99.9 | 70-130 | | %Rec | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Surr: 4-Bromofluorobenzene | 87.8 | 70-130 | | %Rec | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Surr: Dibromofluoromethane | 99.6 | 70-130 | | %Rec | 20 | 7/8/2019 11:51:09 PM | W61218 |
| Surr: Toluene-d8 | 94.4 | 70-130 | | %Rec | 20 | 7/8/2019 11:51:09 PM | W61218 |

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 | | |

**Analytical Report**
Lab Order **1907078**
Date Reported: **7/10/2019**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW#4
**Project:** GCU 204 E
**Collection Date:** 6/29/2019 7:45:00 AM
**Lab ID:** 1907078-002 **Matrix:** AQUEOUS **Received Date:** 7/2/2019 7:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **DJF** | |
| Benzene | 2.1 | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Toluene | 2.4 | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Methyl tert-butyl ether (MTBE) | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,2-Dichloroethane (EDC) | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Naphthalene | ND | 2.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 2-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Acetone | ND | 10 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Bromobenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Bromodichloromethane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Bromoform | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Bromomethane | ND | 3.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 2-Butanone | ND | 10 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Carbon disulfide | ND | 10 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Carbon Tetrachloride | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Chlorobenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Chloroethane | ND | 2.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Chloroform | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Chloromethane | ND | 3.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 2-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 4-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| cis-1,2-DCE | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| cis-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,2-Dibromo-3-chloropropane | ND | 2.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Dibromochloromethane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Dibromomethane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,2-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,3-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,4-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Dichlorodifluoromethane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,1-Dichloroethane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,1-Dichloroethene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,2-Dichloropropane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,3-Dichloropropane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 2,2-Dichloropropane | ND | 2.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |

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 | | |

**Analytical Report**
Lab Order **1907078**
Date Reported: **7/10/2019**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW#4
**Project:** GCU 204 E
**Collection Date:** 6/29/2019 7:45:00 AM
**Lab ID:** 1907078-002 **Matrix:** AQUEOUS **Received Date:** 7/2/2019 7:15:00 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 | 7/9/2019 12:21:05 AM | W61218 |
| Hexachlorobutadiene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 2-Hexanone | ND | 10 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Isopropylbenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 4-Isopropyltoluene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 4-Methyl-2-pentanone | ND | 10 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Methylene Chloride | ND | 3.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| n-Butylbenzene | ND | 3.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| n-Propylbenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| sec-Butylbenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Styrene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| tert-Butylbenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Tetrachloroethene (PCE) | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| trans-1,2-DCE | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| trans-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,2,3-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,1,1-Trichloroethane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,1,2-Trichloroethane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Trichloroethene (TCE) | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Trichlorofluoromethane | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| 1,2,3-Trichloropropane | ND | 2.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Vinyl chloride | ND | 1.0 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Xylenes, Total | 3.6 | 1.5 | | µg/L | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Surr: 1,2-Dichloroethane-d4 | 102 | 70-130 | | %Rec | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Surr: 4-Bromofluorobenzene | 93.4 | 70-130 | | %Rec | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Surr: Dibromofluoromethane | 106 | 70-130 | | %Rec | 1 | 7/9/2019 12:21:05 AM | W61218 |
| Surr: Toluene-d8 | 97.7 | 70-130 | | %Rec | 1 | 7/9/2019 12:21:05 AM | W61218 |

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 | | |

**Analytical Report**
Lab Order **1907078**
Date Reported: **7/10/2019**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW#5
**Project:** GCU 204 E
**Collection Date:** 6/29/2019 9:40:00 AM
**Lab ID:** 1907078-003 **Matrix:** AQUEOUS **Received Date:** 7/2/2019 7:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **DJF** | |
| Benzene | 720 | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Toluene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Ethylbenzene | 240 | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Methyl tert-butyl ether (MTBE) | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,2,4-Trimethylbenzene | 130 | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,3,5-Trimethylbenzene | 53 | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,2-Dichloroethane (EDC) | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,2-Dibromoethane (EDB) | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Naphthalene | 48 | 20 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1-Methylnaphthalene | ND | 40 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 2-Methylnaphthalene | ND | 40 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Acetone | ND | 100 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Bromobenzene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Bromodichloromethane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Bromoform | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Bromomethane | ND | 30 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 2-Butanone | ND | 100 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Carbon disulfide | ND | 100 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Carbon Tetrachloride | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Chlorobenzene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Chloroethane | ND | 20 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Chloroform | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Chloromethane | ND | 30 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 2-Chlorotoluene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 4-Chlorotoluene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| cis-1,2-DCE | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| cis-1,3-Dichloropropene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,2-Dibromo-3-chloropropane | ND | 20 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Dibromochloromethane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Dibromomethane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,2-Dichlorobenzene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,3-Dichlorobenzene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,4-Dichlorobenzene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Dichlorodifluoromethane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,1-Dichloroethane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,1-Dichloroethene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,2-Dichloropropane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,3-Dichloropropane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 2,2-Dichloropropane | ND | 20 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |

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 | | |

**Analytical Report**
Lab Order **1907078**
Date Reported: **7/10/2019**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW#5
**Project:** GCU 204 E
**Collection Date:** 6/29/2019 9:40:00 AM
**Lab ID:** 1907078-003 **Matrix:** AQUEOUS **Received Date:** 7/2/2019 7:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **DJF** | |
| 1,1-Dichloropropene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Hexachlorobutadiene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 2-Hexanone | ND | 100 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Isopropylbenzene | 18 | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 4-Isopropyltoluene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 4-Methyl-2-pentanone | ND | 100 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Methylene Chloride | ND | 30 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| n-Butylbenzene | ND | 30 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| n-Propylbenzene | 18 | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| sec-Butylbenzene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Styrene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| tert-Butylbenzene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,1,1,2-Tetrachloroethane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,1,2,2-Tetrachloroethane | ND | 20 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Tetrachloroethene (PCE) | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| trans-1,2-DCE | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| trans-1,3-Dichloropropene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,2,3-Trichlorobenzene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,2,4-Trichlorobenzene | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,1,1-Trichloroethane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,1,2-Trichloroethane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Trichloroethene (TCE) | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Trichlorofluoromethane | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| 1,2,3-Trichloropropane | ND | 20 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Vinyl chloride | ND | 10 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Xylenes, Total | 1200 | 15 | | µg/L | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Surr: 1,2-Dichloroethane-d4 | 98.6 | 70-130 | | %Rec | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Surr: 4-Bromofluorobenzene | 91.3 | 70-130 | | %Rec | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Surr: Dibromofluoromethane | 101 | 70-130 | | %Rec | 20 | 7/9/2019 1:19:54 AM | W61218 |
| Surr: Toluene-d8 | 93.1 | 70-130 | | %Rec | 20 | 7/9/2019 1:19:54 AM | W61218 |

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 | | |

**Analytical Report**
Lab Order **2003B65**
Date Reported: **4/5/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW #3
**Project:** GCU 204E
**Collection Date:** 3/24/2020 3:00:00 PM
**Lab ID:** 2003B65-001 **Matrix:** AQUEOUS **Received Date:** 3/26/2020 7:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **RAA** | |
| Benzene | ND | 5.0 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Toluene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Ethylbenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Methyl tert-butyl ether (MTBE) | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,2,4-Trimethylbenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,3,5-Trimethylbenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,2-Dichloroethane (EDC) | ND | 5.0 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,2-Dibromoethane (EDB) | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Naphthalene | ND | 20 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1-Methylnaphthalene | ND | 40 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 2-Methylnaphthalene | ND | 40 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Acetone | ND | 100 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Bromobenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Bromodichloromethane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Bromoform | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Bromomethane | ND | 30 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 2-Butanone | ND | 100 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Carbon disulfide | ND | 100 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Carbon Tetrachloride | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Chlorobenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Chloroethane | ND | 20 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Chloroform | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Chloromethane | ND | 30 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 2-Chlorotoluene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 4-Chlorotoluene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| cis-1,2-DCE | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| cis-1,3-Dichloropropene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,2-Dibromo-3-chloropropane | ND | 20 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Dibromochloromethane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Dibromomethane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,2-Dichlorobenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,3-Dichlorobenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,4-Dichlorobenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Dichlorodifluoromethane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,1-Dichloroethane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,1-Dichloroethene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,2-Dichloropropane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,3-Dichloropropane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 2,2-Dichloropropane | ND | 20 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |

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 | | |

**Analytical Report**
Lab Order **2003B65**
Date Reported: **4/5/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW #3
**Project:** GCU 204E
**Collection Date:** 3/24/2020 3:00:00 PM
**Lab ID:** 2003B65-001 **Matrix:** AQUEOUS **Received Date:** 3/26/2020 7:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **RAA** | |
| 1,1-Dichloropropene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Hexachlorobutadiene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 2-Hexanone | ND | 100 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Isopropylbenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 4-Isopropyltoluene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 4-Methyl-2-pentanone | ND | 100 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Methylene Chloride | ND | 30 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| n-Butylbenzene | ND | 30 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| n-Propylbenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| sec-Butylbenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Styrene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| tert-Butylbenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,1,1,2-Tetrachloroethane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,1,2,2-Tetrachloroethane | ND | 20 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Tetrachloroethene (PCE) | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| trans-1,2-DCE | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| trans-1,3-Dichloropropene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,2,3-Trichlorobenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,2,4-Trichlorobenzene | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,1,1-Trichloroethane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,1,2-Trichloroethane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Trichloroethene (TCE) | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Trichlorofluoromethane | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| 1,2,3-Trichloropropane | ND | 20 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Vinyl chloride | ND | 10 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Xylenes, Total | ND | 15 | D | µg/L | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Surr: 1,2-Dichloroethane-d4 | 105 | 70-130 | D | %Rec | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Surr: 4-Bromofluorobenzene | 98.7 | 70-130 | D | %Rec | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Surr: Dibromofluoromethane | 105 | 70-130 | D | %Rec | 10 | 4/1/2020 4:47:00 PM | R67751 |
| Surr: Toluene-d8 | 102 | 70-130 | D | %Rec | 10 | 4/1/2020 4:47:00 PM | R67751 |

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 | | |

**Analytical Report**
Lab Order **2003B65**
Date Reported: **4/5/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW #4
**Project:** GCU 204E
**Collection Date:** 3/24/2020 2:25:00 PM
**Lab ID:** 2003B65-002 **Matrix:** AQUEOUS **Received Date:** 3/26/2020 7:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **CCM** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Toluene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Methyl tert-butyl ether (MTBE) | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,2-Dichloroethane (EDC) | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Naphthalene | ND | 2.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 2-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Acetone | ND | 10 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Bromobenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Bromodichloromethane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Bromoform | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Bromomethane | ND | 3.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 2-Butanone | ND | 10 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Carbon disulfide | ND | 10 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Carbon Tetrachloride | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Chlorobenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Chloroethane | ND | 2.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Chloroform | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Chloromethane | ND | 3.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 2-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 4-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| cis-1,2-DCE | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| cis-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,2-Dibromo-3-chloropropane | ND | 2.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Dibromochloromethane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Dibromomethane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,2-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,3-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,4-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Dichlorodifluoromethane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,1-Dichloroethane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,1-Dichloroethene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,2-Dichloropropane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,3-Dichloropropane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 2,2-Dichloropropane | ND | 2.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |

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 |

**Analytical Report**
Lab Order **2003B65**
Date Reported: **4/5/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW #4
**Project:** GCU 204E
**Collection Date:** 3/24/2020 2:25:00 PM
**Lab ID:** 2003B65-002 **Matrix:** AQUEOUS **Received Date:** 3/26/2020 7:50:00 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 | 3/29/2020 9:36:00 PM | R67662 |
| Hexachlorobutadiene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 2-Hexanone | ND | 10 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Isopropylbenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 4-Isopropyltoluene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 4-Methyl-2-pentanone | ND | 10 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Methylene Chloride | ND | 3.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| n-Butylbenzene | ND | 3.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| n-Propylbenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| sec-Butylbenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Styrene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| tert-Butylbenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Tetrachloroethene (PCE) | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| trans-1,2-DCE | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| trans-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,2,3-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,1,1-Trichloroethane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,1,2-Trichloroethane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Trichloroethene (TCE) | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Trichlorofluoromethane | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| 1,2,3-Trichloropropane | ND | 2.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Vinyl chloride | ND | 1.0 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Xylenes, Total | ND | 1.5 | | µg/L | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Surr: 1,2-Dichloroethane-d4 | 105 | 70-130 | | %Rec | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Surr: 4-Bromofluorobenzene | 98.3 | 70-130 | | %Rec | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Surr: Dibromofluoromethane | 104 | 70-130 | | %Rec | 1 | 3/29/2020 9:36:00 PM | R67662 |
| Surr: Toluene-d8 | 99.3 | 70-130 | | %Rec | 1 | 3/29/2020 9:36:00 PM | R67662 |

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 | | |

**Analytical Report**
Lab Order **2003B65**
Date Reported: **4/5/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW #5
**Project:** GCU 204E
**Collection Date:** 3/24/2020 3:45:00 PM
**Lab ID:** 2003B65-003 **Matrix:** AQUEOUS **Received Date:** 3/26/2020 7:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **CCM** | |
| Benzene | 520 | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Toluene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Ethylbenzene | 570 | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Methyl tert-butyl ether (MTBE) | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,2,4-Trimethylbenzene | 340 | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,3,5-Trimethylbenzene | 160 | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,2-Dichloroethane (EDC) | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,2-Dibromoethane (EDB) | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Naphthalene | 120 | 40 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1-Methylnaphthalene | ND | 80 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 2-Methylnaphthalene | ND | 80 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Acetone | ND | 200 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Bromobenzene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Bromodichloromethane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Bromoform | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Bromomethane | ND | 60 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 2-Butanone | ND | 200 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Carbon disulfide | ND | 200 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Carbon Tetrachloride | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Chlorobenzene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Chloroethane | ND | 40 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Chloroform | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Chloromethane | ND | 60 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 2-Chlorotoluene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 4-Chlorotoluene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| cis-1,2-DCE | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| cis-1,3-Dichloropropene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,2-Dibromo-3-chloropropane | ND | 40 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Dibromochloromethane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Dibromomethane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,2-Dichlorobenzene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,3-Dichlorobenzene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,4-Dichlorobenzene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Dichlorodifluoromethane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,1-Dichloroethane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,1-Dichloroethene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,2-Dichloropropane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,3-Dichloropropane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 2,2-Dichloropropane | ND | 40 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |

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 | | |

**Analytical Report**
Lab Order **2003B65**
Date Reported: **4/5/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW #5
**Project:** GCU 204E
**Collection Date:** 3/24/2020 3:45:00 PM
**Lab ID:** 2003B65-003 **Matrix:** AQUEOUS **Received Date:** 3/26/2020 7:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **CCM** | |
| 1,1-Dichloropropene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Hexachlorobutadiene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 2-Hexanone | ND | 200 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Isopropylbenzene | 49 | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 4-Isopropyltoluene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 4-Methyl-2-pentanone | ND | 200 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Methylene Chloride | ND | 60 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| n-Butylbenzene | ND | 60 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| n-Propylbenzene | 49 | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| sec-Butylbenzene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Styrene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| tert-Butylbenzene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,1,1,2-Tetrachloroethane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,1,2,2-Tetrachloroethane | ND | 40 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Tetrachloroethene (PCE) | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| trans-1,2-DCE | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| trans-1,3-Dichloropropene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,2,3-Trichlorobenzene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,2,4-Trichlorobenzene | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,1,1-Trichloroethane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,1,2-Trichloroethane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Trichloroethene (TCE) | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Trichlorofluoromethane | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| 1,2,3-Trichloropropane | ND | 40 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Vinyl chloride | ND | 20 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Xylenes, Total | 3100 | 30 | | µg/L | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Surr: 1,2-Dichloroethane-d4 | 99.7 | 70-130 | | %Rec | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Surr: 4-Bromofluorobenzene | 102 | 70-130 | | %Rec | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Surr: Dibromofluoromethane | 77.2 | 70-130 | | %Rec | 20 | 3/29/2020 10:00:00 PM | R67662 |
| Surr: Toluene-d8 | 98.4 | 70-130 | | %Rec | 20 | 3/29/2020 10:00:00 PM | R67662 |

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 | | |

**Analytical Report**
Lab Order **2006319**
Date Reported: **6/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW-3
**Project:** GCU 204E
**Collection Date:** 6/4/2020 9:20:00 AM
**Lab ID:** 2006319-001 **Matrix:** AQUEOUS **Received Date:** 6/5/2020 8:30:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **CCM** | |
| Benzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Toluene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Ethylbenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Methyl tert-butyl ether (MTBE) | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,2,4-Trimethylbenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,3,5-Trimethylbenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,2-Dichloroethane (EDC) | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,2-Dibromoethane (EDB) | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Naphthalene | ND | 4.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1-Methylnaphthalene | ND | 8.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 2-Methylnaphthalene | ND | 8.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Acetone | ND | 20 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Bromobenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Bromodichloromethane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Bromoform | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Bromomethane | ND | 6.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 2-Butanone | ND | 20 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Carbon disulfide | ND | 20 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Carbon Tetrachloride | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Chlorobenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Chloroethane | ND | 4.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Chloroform | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Chloromethane | ND | 6.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 2-Chlorotoluene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 4-Chlorotoluene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| cis-1,2-DCE | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| cis-1,3-Dichloropropene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,2-Dibromo-3-chloropropane | ND | 4.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Dibromochloromethane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Dibromomethane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,2-Dichlorobenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,3-Dichlorobenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,4-Dichlorobenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Dichlorodifluoromethane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,1-Dichloroethane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,1-Dichloroethene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,2-Dichloropropane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,3-Dichloropropane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 2,2-Dichloropropane | ND | 4.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |

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 |

**Analytical Report**
Lab Order **2006319**
Date Reported: **6/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW-3
**Project:** GCU 204E
**Collection Date:** 6/4/2020 9:20:00 AM
**Lab ID:** 2006319-001 **Matrix:** AQUEOUS **Received Date:** 6/5/2020 8:30:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **CCM** | |
| 1,1-Dichloropropene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Hexachlorobutadiene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 2-Hexanone | ND | 20 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Isopropylbenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 4-Isopropyltoluene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 4-Methyl-2-pentanone | ND | 20 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Methylene Chloride | ND | 6.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| n-Butylbenzene | ND | 6.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| n-Propylbenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| sec-Butylbenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Styrene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| tert-Butylbenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,1,1,2-Tetrachloroethane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,1,2,2-Tetrachloroethane | ND | 4.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Tetrachloroethene (PCE) | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| trans-1,2-DCE | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| trans-1,3-Dichloropropene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,2,3-Trichlorobenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,2,4-Trichlorobenzene | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,1,1-Trichloroethane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,1,2-Trichloroethane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Trichloroethene (TCE) | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Trichlorofluoromethane | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| 1,2,3-Trichloropropane | ND | 4.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Vinyl chloride | ND | 2.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Xylenes, Total | ND | 3.0 | | µg/L | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Surr: 1,2-Dichloroethane-d4 | 101 | 70-130 | | %Rec | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Surr: 4-Bromofluorobenzene | 99.1 | 70-130 | | %Rec | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Surr: Dibromofluoromethane | 103 | 70-130 | | %Rec | 2 | 6/7/2020 9:36:00 PM | R69452 |
| Surr: Toluene-d8 | 102 | 70-130 | | %Rec | 2 | 6/7/2020 9:36:00 PM | R69452 |

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 | | |

**Analytical Report**
Lab Order **2006319**
Date Reported: **6/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW-4
**Project:** GCU 204E
**Collection Date:** 6/4/2020 8:30:00 AM
**Lab ID:** 2006319-002 **Matrix:** AQUEOUS **Received Date:** 6/5/2020 8:30:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **CCM** | |
| Benzene | 6.9 | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Toluene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Ethylbenzene | 5.4 | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Methyl tert-butyl ether (MTBE) | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,2-Dichloroethane (EDC) | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Naphthalene | ND | 2.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 2-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Acetone | ND | 10 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Bromobenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Bromodichloromethane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Bromoform | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Bromomethane | ND | 3.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 2-Butanone | ND | 10 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Carbon disulfide | ND | 10 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Carbon Tetrachloride | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Chlorobenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Chloroethane | ND | 2.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Chloroform | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Chloromethane | ND | 3.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 2-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 4-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| cis-1,2-DCE | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| cis-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,2-Dibromo-3-chloropropane | ND | 2.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Dibromochloromethane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Dibromomethane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,2-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,3-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,4-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Dichlorodifluoromethane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,1-Dichloroethane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,1-Dichloroethene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,2-Dichloropropane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,3-Dichloropropane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 2,2-Dichloropropane | ND | 2.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |

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 |

**Analytical Report**
Lab Order **2006319**
Date Reported: **6/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW-4
**Project:** GCU 204E
**Collection Date:** 6/4/2020 8:30:00 AM
**Lab ID:** 2006319-002 **Matrix:** AQUEOUS **Received Date:** 6/5/2020 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 | 6/7/2020 9:59:00 PM | R69452 |
| Hexachlorobutadiene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 2-Hexanone | ND | 10 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Isopropylbenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 4-Isopropyltoluene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 4-Methyl-2-pentanone | ND | 10 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Methylene Chloride | ND | 3.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| n-Butylbenzene | ND | 3.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| n-Propylbenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| sec-Butylbenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Styrene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| tert-Butylbenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Tetrachloroethene (PCE) | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| trans-1,2-DCE | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| trans-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,2,3-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,1,1-Trichloroethane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,1,2-Trichloroethane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Trichloroethene (TCE) | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Trichlorofluoromethane | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| 1,2,3-Trichloropropane | ND | 2.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Vinyl chloride | ND | 1.0 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Xylenes, Total | 16 | 1.5 | | µg/L | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Surr: 1,2-Dichloroethane-d4 | 102 | 70-130 | | %Rec | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Surr: 4-Bromofluorobenzene | 100 | 70-130 | | %Rec | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Surr: Dibromofluoromethane | 101 | 70-130 | | %Rec | 1 | 6/7/2020 9:59:00 PM | R69452 |
| Surr: Toluene-d8 | 103 | 70-130 | | %Rec | 1 | 6/7/2020 9:59:00 PM | R69452 |

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 | | |

**Analytical Report**
Lab Order **2006319**
Date Reported: **6/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW-5
**Project:** GCU 204E
**Collection Date:** 6/4/2020 10:10:00 AM
**Lab ID:** 2006319-003 **Matrix:** AQUEOUS **Received Date:** 6/5/2020 8:30:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **RAA** | |
| Benzene | 85 | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Toluene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Ethylbenzene | 55 | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Methyl tert-butyl ether (MTBE) | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,2,4-Trimethylbenzene | 27 | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,3,5-Trimethylbenzene | 12 | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,2-Dichloroethane (EDC) | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Naphthalene | 9.6 | 2.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 2-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Acetone | ND | 10 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Bromobenzene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Bromodichloromethane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Bromoform | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Bromomethane | ND | 3.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 2-Butanone | ND | 10 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Carbon disulfide | ND | 10 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Carbon Tetrachloride | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Chlorobenzene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Chloroethane | ND | 2.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Chloroform | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Chloromethane | ND | 3.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 2-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 4-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| cis-1,2-DCE | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| cis-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,2-Dibromo-3-chloropropane | ND | 2.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Dibromochloromethane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Dibromomethane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,2-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,3-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,4-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Dichlorodifluoromethane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,1-Dichloroethane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,1-Dichloroethene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,2-Dichloropropane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,3-Dichloropropane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 2,2-Dichloropropane | ND | 2.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |

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 |

**Analytical Report**
Lab Order **2006319**
Date Reported: **6/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Client Sample ID:** MW-5
**Project:** GCU 204E
**Collection Date:** 6/4/2020 10:10:00 AM
**Lab ID:** 2006319-003 **Matrix:** AQUEOUS **Received Date:** 6/5/2020 8:30:00 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 | 6/8/2020 8:27:00 PM | R69472 |
| Hexachlorobutadiene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 2-Hexanone | ND | 10 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Isopropylbenzene | 4.0 | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 4-Isopropyltoluene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 4-Methyl-2-pentanone | ND | 10 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Methylene Chloride | ND | 3.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| n-Butylbenzene | ND | 3.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| n-Propylbenzene | 3.6 | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| sec-Butylbenzene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Styrene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| tert-Butylbenzene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Tetrachloroethene (PCE) | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| trans-1,2-DCE | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| trans-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,2,3-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,1,1-Trichloroethane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,1,2-Trichloroethane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Trichloroethene (TCE) | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Trichlorofluoromethane | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| 1,2,3-Trichloropropane | ND | 2.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Vinyl chloride | ND | 1.0 | | µg/L | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Xylenes, Total | 230 | 15 | | µg/L | 10 | 6/10/2020 3:35:00 PM | R69529 |
| Surr: 1,2-Dichloroethane-d4 | 104 | 70-130 | | %Rec | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Surr: 4-Bromofluorobenzene | 101 | 70-130 | | %Rec | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Surr: Dibromofluoromethane | 103 | 70-130 | | %Rec | 1 | 6/8/2020 8:27:00 PM | R69472 |
| Surr: Toluene-d8 | 104 | 70-130 | | %Rec | 1 | 6/8/2020 8:27:00 PM | R69472 |

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 | | |

**Analytical Report**
Lab Order **2009478**
Date Reported: **9/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** SIMCOE/Cottonwood Consulting
**Client Sample ID:** MW 3
**Project:** GCU 204E
**Collection Date:** 9/5/2020 9:30:00 AM
**Lab ID:** 2009478-001 **Matrix:** AQUEOUS **Received Date:** 9/9/2020 7:55:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **DJF** | |
| Benzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Toluene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Methyl tert-butyl ether (MTBE) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,2-Dichloroethane (EDC) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Naphthalene | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 2-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Acetone | ND | 10 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Bromobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Bromodichloromethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Bromoform | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Bromomethane | ND | 3.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 2-Butanone | ND | 10 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Carbon disulfide | ND | 10 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Carbon Tetrachloride | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Chlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Chloroethane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Chloroform | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Chloromethane | ND | 3.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 2-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 4-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| cis-1,2-DCE | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| cis-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,2-Dibromo-3-chloropropane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Dibromochloromethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Dibromomethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,2-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,3-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,4-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Dichlorodifluoromethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,1-Dichloroethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,1-Dichloroethene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,2-Dichloropropane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,3-Dichloropropane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 2,2-Dichloropropane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |

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 | | |

**Analytical Report**
Lab Order **2009478**
Date Reported: **9/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** SIMCOE/Cottonwood Consulting
**Client Sample ID:** MW 3
**Project:** GCU 204E
**Collection Date:** 9/5/2020 9:30:00 AM
**Lab ID:** 2009478-001 **Matrix:** AQUEOUS **Received Date:** 9/9/2020 7:55:00 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 | 9/12/2020 2:20:57 AM | W71788 |
| Hexachlorobutadiene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 2-Hexanone | ND | 10 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Isopropylbenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 4-Isopropyltoluene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 4-Methyl-2-pentanone | ND | 10 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Methylene Chloride | ND | 3.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| n-Butylbenzene | ND | 3.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| n-Propylbenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| sec-Butylbenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Styrene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| tert-Butylbenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Tetrachloroethene (PCE) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| trans-1,2-DCE | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| trans-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,2,3-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,1,1-Trichloroethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,1,2-Trichloroethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Trichloroethene (TCE) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Trichlorofluoromethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| 1,2,3-Trichloropropane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Vinyl chloride | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Xylenes, Total | ND | 1.5 | | µg/L | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Surr: 1,2-Dichloroethane-d4 | 99.6 | 70-130 | | %Rec | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Surr: 4-Bromofluorobenzene | 98.3 | 70-130 | | %Rec | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Surr: Dibromofluoromethane | 97.1 | 70-130 | | %Rec | 1 | 9/12/2020 2:20:57 AM | W71788 |
| Surr: Toluene-d8 | 102 | 70-130 | | %Rec | 1 | 9/12/2020 2:20:57 AM | W71788 |

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 | | |

**Analytical Report**
Lab Order **2009478**
Date Reported: **9/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** SIMCOE/Cottonwood Consulting
**Client Sample ID:** MW 5
**Project:** GCU 204E
**Collection Date:** 9/5/2020 10:15:00 AM
**Lab ID:** 2009478-002 **Matrix:** AQUEOUS **Received Date:** 9/9/2020 7:55:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **DJF** | |
| Benzene | 970 | 50 | | µg/L | 50 | 9/12/2020 1:00:21 PM | A71800 |
| Toluene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Ethylbenzene | 600 | 50 | | µg/L | 50 | 9/12/2020 1:00:21 PM | A71800 |
| Methyl tert-butyl ether (MTBE) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,2,4-Trimethylbenzene | 370 | 50 | | µg/L | 50 | 9/12/2020 1:00:21 PM | A71800 |
| 1,3,5-Trimethylbenzene | 130 | 50 | | µg/L | 50 | 9/12/2020 1:00:21 PM | A71800 |
| 1,2-Dichloroethane (EDC) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Naphthalene | 85 | 2.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1-Methylnaphthalene | 40 | 4.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 2-Methylnaphthalene | 49 | 4.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Acetone | ND | 10 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Bromobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Bromodichloromethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Bromoform | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Bromomethane | ND | 3.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 2-Butanone | 14 | 10 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Carbon disulfide | ND | 10 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Carbon Tetrachloride | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Chlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Chloroethane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Chloroform | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Chloromethane | ND | 3.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 2-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 4-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| cis-1,2-DCE | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| cis-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,2-Dibromo-3-chloropropane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Dibromochloromethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Dibromomethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,2-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,3-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,4-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Dichlorodifluoromethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,1-Dichloroethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,1-Dichloroethene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,2-Dichloropropane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,3-Dichloropropane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 2,2-Dichloropropane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |

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 | | |

**Analytical Report**
Lab Order **2009478**
Date Reported: **9/15/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** SIMCOE/Cottonwood Consulting
**Client Sample ID:** MW 5
**Project:** GCU 204E
**Collection Date:** 9/5/2020 10:15:00 AM
**Lab ID:** 2009478-002 **Matrix:** AQUEOUS **Received Date:** 9/9/2020 7:55:00 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 | 9/12/2020 2:50:11 AM | W71788 |
| Hexachlorobutadiene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 2-Hexanone | ND | 10 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Isopropylbenzene | 47 | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 4-Isopropyltoluene | 2.3 | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 4-Methyl-2-pentanone | ND | 10 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Methylene Chloride | ND | 3.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| n-Butylbenzene | ND | 3.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| n-Propylbenzene | 44 | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| sec-Butylbenzene | 4.8 | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Styrene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| tert-Butylbenzene | 1.4 | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Tetrachloroethene (PCE) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| trans-1,2-DCE | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| trans-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,2,3-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,1,1-Trichloroethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,1,2-Trichloroethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Trichloroethene (TCE) | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Trichlorofluoromethane | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| 1,2,3-Trichloropropane | ND | 2.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Vinyl chloride | ND | 1.0 | | µg/L | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Xylenes, Total | 2600 | 75 | | µg/L | 50 | 9/12/2020 1:00:21 PM | A71800 |
| Surr: 1,2-Dichloroethane-d4 | 84.4 | 70-130 | | %Rec | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Surr: 4-Bromofluorobenzene | 84.2 | 70-130 | | %Rec | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Surr: Dibromofluoromethane | 82.9 | 70-130 | | %Rec | 1 | 9/12/2020 2:50:11 AM | W71788 |
| Surr: Toluene-d8 | 95.4 | 70-130 | | %Rec | 1 | 9/12/2020 2:50:11 AM | W71788 |

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 | | |

**Analytical Report**
Lab Order **2012A71**
Date Reported: **12/30/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** SIMCOE/Cottonwood Consulting **Client Sample ID:** MW #3
**Project:** GCU 204E **Collection Date:** 12/21/2020 11:15:00 AM
**Lab ID:** 2012A71-001 **Matrix:** AQUEOUS **Received Date:** 12/22/2020 7:45:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **JMR** |
| Benzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Toluene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Ethylbenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Methyl tert-butyl ether (MTBE) | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,2-Dichloroethane (EDC) | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,2-Dibromoethane (EDB) | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Naphthalene | ND | 2.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 2-Methylnaphthalene | ND | 4.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Acetone | ND | 10 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Bromobenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Bromodichloromethane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Bromoform | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Bromomethane | ND | 3.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 2-Butanone | ND | 10 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Carbon disulfide | ND | 10 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Carbon Tetrachloride | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Chlorobenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Chloroethane | ND | 2.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Chloroform | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Chloromethane | ND | 3.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 2-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 4-Chlorotoluene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| cis-1,2-DCE | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| cis-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,2-Dibromo-3-chloropropane | ND | 2.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Dibromochloromethane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Dibromomethane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,2-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,3-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,4-Dichlorobenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Dichlorodifluoromethane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,1-Dichloroethane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,1-Dichloroethene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,2-Dichloropropane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,3-Dichloropropane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 2,2-Dichloropropane | ND | 2.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

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

**Analytical Report**
Lab Order **2012A71**
Date Reported: **12/30/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** SIMCOE/Cottonwood Consulting **Client Sample ID:** MW #3
**Project:** GCU 204E **Collection Date:** 12/21/2020 11:15:00 AM
**Lab ID:** 2012A71-001 **Matrix:** AQUEOUS **Received Date:** 12/22/2020 7:45:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **JMR** |
| 1,1-Dichloropropene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Hexachlorobutadiene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 2-Hexanone | ND | 10 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Isopropylbenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 4-Isopropyltoluene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 4-Methyl-2-pentanone | ND | 10 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Methylene Chloride | ND | 3.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| n-Butylbenzene | ND | 3.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| n-Propylbenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| sec-Butylbenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Styrene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| tert-Butylbenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Tetrachloroethene (PCE) | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| trans-1,2-DCE | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| trans-1,3-Dichloropropene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,2,3-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,1,1-Trichloroethane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,1,2-Trichloroethane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Trichloroethene (TCE) | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Trichlorofluoromethane | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| 1,2,3-Trichloropropane | ND | 2.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Vinyl chloride | ND | 1.0 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Xylenes, Total | ND | 1.5 | | µg/L | 1 | 12/27/2020 4:29:12 PM |
| Surr: 1,2-Dichloroethane-d4 | 98.0 | 70-130 | | %Rec | 1 | 12/27/2020 4:29:12 PM |
| Surr: 4-Bromofluorobenzene | 102 | 70-130 | | %Rec | 1 | 12/27/2020 4:29:12 PM |
| Surr: Dibromofluoromethane | 97.9 | 70-130 | | %Rec | 1 | 12/27/2020 4:29:12 PM |
| Surr: Toluene-d8 | 92.7 | 70-130 | | %Rec | 1 | 12/27/2020 4:29:12 PM |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

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

**Analytical Report**
Lab Order **2012A71**
Date Reported: **12/30/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** SIMCOE/Cottonwood Consulting
**Client Sample ID:** MW #5
**Project:** GCU 204E
**Collection Date:** 12/21/2020 12:15:00 PM
**Lab ID:** 2012A71-002 **Matrix:** AQUEOUS **Received Date:** 12/22/2020 7:45:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **JMR** |
| Benzene | 190 | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Toluene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Ethylbenzene | 190 | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Methyl tert-butyl ether (MTBE) | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,2,4-Trimethylbenzene | 92 | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,3,5-Trimethylbenzene | 10 | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,2-Dichloroethane (EDC) | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,2-Dibromoethane (EDB) | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Naphthalene | 14 | 10 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1-Methylnaphthalene | ND | 20 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 2-Methylnaphthalene | ND | 20 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Acetone | ND | 50 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Bromobenzene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Bromodichloromethane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Bromoform | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Bromomethane | ND | 15 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 2-Butanone | ND | 50 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Carbon disulfide | ND | 50 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Carbon Tetrachloride | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Chlorobenzene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Chloroethane | ND | 10 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Chloroform | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Chloromethane | ND | 15 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 2-Chlorotoluene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 4-Chlorotoluene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| cis-1,2-DCE | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| cis-1,3-Dichloropropene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,2-Dibromo-3-chloropropane | ND | 10 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Dibromochloromethane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Dibromomethane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,2-Dichlorobenzene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,3-Dichlorobenzene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,4-Dichlorobenzene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Dichlorodifluoromethane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,1-Dichloroethane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,1-Dichloroethene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,2-Dichloropropane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,3-Dichloropropane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 2,2-Dichloropropane | ND | 10 | | µg/L | 5 | 12/27/2020 5:26:43 PM |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

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

**Analytical Report**
Lab Order **2012A71**
Date Reported: **12/30/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** SIMCOE/Cottonwood Consulting
**Client Sample ID:** MW #5
**Project:** GCU 204E
**Collection Date:** 12/21/2020 12:15:00 PM
**Lab ID:** 2012A71-002 **Matrix:** AQUEOUS **Received Date:** 12/22/2020 7:45:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **JMR** |
| 1,1-Dichloropropene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Hexachlorobutadiene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 2-Hexanone | ND | 50 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Isopropylbenzene | 24 | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 4-Isopropyltoluene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 4-Methyl-2-pentanone | ND | 50 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Methylene Chloride | ND | 15 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| n-Butylbenzene | ND | 15 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| n-Propylbenzene | 19 | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| sec-Butylbenzene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Styrene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| tert-Butylbenzene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,1,2,2-Tetrachloroethane | ND | 10 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Tetrachloroethene (PCE) | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| trans-1,2-DCE | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| trans-1,3-Dichloropropene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,2,3-Trichlorobenzene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,2,4-Trichlorobenzene | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,1,1-Trichloroethane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,1,2-Trichloroethane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Trichloroethene (TCE) | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Trichlorofluoromethane | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| 1,2,3-Trichloropropane | ND | 10 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Vinyl chloride | ND | 5.0 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Xylenes, Total | 260 | 7.5 | | µg/L | 5 | 12/27/2020 5:26:43 PM |
| Surr: 1,2-Dichloroethane-d4 | 101 | 70-130 | | %Rec | 5 | 12/27/2020 5:26:43 PM |
| Surr: 4-Bromofluorobenzene | 102 | 70-130 | | %Rec | 5 | 12/27/2020 5:26:43 PM |
| Surr: Dibromofluoromethane | 85.1 | 70-130 | | %Rec | 5 | 12/27/2020 5:26:43 PM |
| Surr: Toluene-d8 | 95.0 | 70-130 | | %Rec | 5 | 12/27/2020 5:26:43 PM |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

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

# CHAIN-OF-CUSTODY

# RECORDS

# Chain-of-Custody Record

Client: BLAGG ENGR. / BPX ENERGY

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 204E

Project #:

Project Manager:
STEVE MOSKAL

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.8°C - 0 (or) 2.8°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. 1907078 | BTEX + MTBE + TMB's (8021B) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH (8310 or 8270SIMS) | RCRA 8 Metals | Anions (F,Cl,$NO_3$,$NO_2$,$PO_4$,$SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | Cation / Anion Balance | Total Dissolved Solids | | Grab sample | 5 pt. composite sample | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/29/19 | 0835 | WATER | MW # 3 | 40 ml VOA - 2 | HCl & Cool | -001 | | | | | | | | | | √ | | | | √ | | |
| 6/29/19 | 0745 | WATER | MW # 4 | 40 ml VOA - 2 | HCl & Cool | -002 | | | | | | | | | | √ | | | | √ | | |
| 6/29/19 | 0940 | WATER | MW # 5 | 40 ml VOA - 2 | HCl & Cool | -003 | | | | | | | | | | √ | | | | √ | | |

Analysis Request

| Date | Time | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 7/1/19 | 1727 | | Christin Wade | 7/1/19 | 1727 |
| 7/1/19 | 1820 | Christin Wade | | 7/2/19 | 715 |

Remarks:

**BILL DIRECTLY TO BP:**
Contact: Steve Moskal PO to be provided

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: BLAGG ENGR. / BPX ENERGY

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: GCU # 204E

Project #:

Project Manager: STEVE MOSKAL

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.1-0=3.1

1.2-0=1.2

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. 2003365 | BTEX + MTBE + TMB's (8021B) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH (8310 or 8270SIMS) | RCRA 8 Metals | Anions ($F,Cl,NO_3,NO_2,PO_4,SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | Cation / Anion Balance | Total Dissolved Solids | | Grab sample | 5 pt. composite sample | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/24/20 | 1500 | WATER | MW # 3 | 40 ml VOA - 2 | HCl & Cool | -001 | | | | | | | | | | √ | | | | √ | | |
| 3/24/20 | 1425 | WATER | MW # 4 | 40 ml VOA - 2 | HCl & Cool | -002 | | | | | | | | | | √ | | | | √ | | |
| 3/24/20 | 1545 | WATER | MW # 5 | 40 ml VOA - 2 | HCl & Cool | -003 | | | | | | | | | | √ | | | | √ | | |

Analysis Request

| Date | Time | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 3/25/20 | 1441 | | Christine Walters | 3/25/20 | 1441 |
| 3/25/20 | 1811 | Christine Walters | | 3/26/20 | 0750 |

Remarks:

**BILL DIRECTLY TO BPX:**
Contact: Steve Moskal PO to be provided

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: BLAGG ENGR. / BPX ENERGY

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: GCU # 204E

Project #:

Project Manager: STEVE MOSKAL

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.4 +0.0 = 1.4°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. | BTEX + MTBE + TMB's (8021B) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH (8310 or 8270SIMS) | RCRA 8 Metals | Anions ($F,Cl,NO_3,NO_2,PO_4,SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | Cation / Anion Balance | Total Dissolved Solids | | Grab sample | 5 pt. composite sample | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/4/20 | 0920 | WATER | MW # 3 | 40 ml VOA - 2 | HCl & Cool | 2006319-001 | | | | | | | | | | √ | | | | √ | | |
| 6/4/20 | 0830 | WATER | MW # 4 | 40 ml VOA - 2 | HCl & Cool | -002 | | | | | | | | | | √ | | | | √ | | |
| 6/4/20 | 1010 | WATER | MW # 5 | 40 ml VOA - 2 | HCl & Cool | -003 | | | | | | | | | | √ | | | | √ | | |

| Date | Time | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|
| 6/4/2020 | 1411 | | | 6/4/2020 | 1411 |
| 6/4/2020 | 1813 | | courier | 6/5/20 | 8:30 |

Remarks: BILL DIRECTLY TO BPX USING INFORMATION BELOW.

CONTACT: Steve Moskal

PO #: Provided by BPX (SVE O&M 1H 2020)

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: SIMCOE LLC / COTTONWOOD CONSULTING

Mailing Address: 1100 MAIN ST.
DURANGO, COLO. 81301

Phone #: (505) 330-9179

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
GCU # 204E

Project #:

Project Manager:
STEVE MOSKAL

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.9 + 0 = 3.9


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. 2000478 | BTEX + MTBE + TMB's (8021B) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH (8310 or 8270SIMS) | RCRA 8 Metals | Anions ($F,Cl,NO_3,NO_2,PO_4,SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | Cation / Anion Balance | Total Dissolved Solids | | Grab sample | 5 pt. composite sample | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9/5/20 | 0930 | WATER | MW # 3 | 40 ml VOA - 2 | HCl & Cool | -001 | | | | | | | | | | √ | | | | √ | | |
| 9/5/20 | 1015 | WATER | MW # 5 | 40 ml VOA - 2 | HCl & Cool | -002 | | | | | | | | | | √ | | | | √ | | |

| Date: | Time: | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 9/8/20 | 1545 | | | 9/8/2020 | 1545 |
| 9/8/2020 | 1754 | | | 9/9/10 | 0755 |

Remarks: BILL DIRECTLY TO SIMCOE LLC USING INFORMATION BELOW.
CONTACT: Steve Moskal

PO #: Related to 2H 2020 Grounwater Sampling/Reporting

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: SIMCOE LLC / COTTONWOOD CONSULTING

Mailing Address: 1199 MAIN ST., SUITE # 101
DURANGO, COLO. 81301

Phone #: (505) 330-9179

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: GCU # 204E

Project #:

Project Manager: STEVE MOSKAL

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.9°C ±0

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. 2012971 | BTEX + MTBE + TMB's (8021B) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH (8310 or 8270SIMS) | RCRA 8 Metals | Anions ($F,Cl,NO_3,NO_2,PO_4,SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | Cation / Anion Balance | Total Dissolved Solids | | Grab sample | 5 pt. composite sample | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/21/20 | 1115 | WATER | MW # 3 | 40 ml VOA - 2 | HCl & Cool | 001 | | | | | | | | | | √ | | | | √ | | |
| 12/21/20 | 1215 | WATER | MW # 5 | 40 ml VOA - 2 | HCl & Cool | 002 | | | | | | | | | | √ | | | | √ | | |

| Date | Time | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 12/21/20 | 1732 | | | 12/21/2020 | 1732 |
| 12/21/2020 | 1813 | | | 12/22/20 | 0745 |

Remarks: BILL DIRECTLY TO IKAV ENERGY INC.

CONTACT: Steve Moskal / Erin Dunman

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.

# LABORATORY

# QUALITY CONTROL /

# QUALITY ASSURANCE

# QC SUMMARY REPORT
## Hall Environmental Analysis Laboratory, Inc.

WO#: **1907078**
***10-Jul-19***

**Client:** Blagg Engineering
**Project:** GCU 204 E

| Sample ID: **rb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **W61218** | RunNo: **61218** |
| Prep Date: | Analysis Date: **7/8/2019** | SeqNo: **2075313** 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#: **1907078**
***10-Jul-19***

**Client:** Blagg Engineering
**Project:** GCU 204 E

| Sample ID: **rb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **W61218** | RunNo: **61218** |
| Prep Date: | Analysis Date: **7/8/2019** | SeqNo: **2075313** 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 | 9.7 | | 10.00 | | 97.3 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 9.8 | | 10.00 | | 97.8 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 9.8 | | 10.00 | | 97.9 | 70 | 130 | | | |
| Surr: Toluene-d8 | 10 | | 10.00 | | 100 | 70 | 130 | | | |

| Sample ID: **100ng lcs** | SampType: **LCS** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **W61218** | RunNo: **61218** |
| Prep Date: | Analysis Date: **7/8/2019** | SeqNo: **2075314** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 23 | 1.0 | 20.00 | 0 | 113 | 70 | 130 | | | |
| Toluene | 20 | 1.0 | 20.00 | 0 | 99.4 | 70 | 130 | | | |
| Chlorobenzene | 19 | 1.0 | 20.00 | 0 | 93.5 | 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#: **1907078**
***10-Jul-19***

**Client:** Blagg Engineering
**Project:** GCU 204 E

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **W61218** RunNo: **61218**
Prep Date: Analysis Date: **7/8/2019** SeqNo: **2075314** 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 | 92.3 | 70 | 130 | | | |
| Trichloroethene (TCE) | 18 | 1.0 | 20.00 | 0 | 90.3 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 9.6 | | 10.00 | | 95.9 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 9.9 | | 10.00 | | 99.3 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 9.3 | | 10.00 | | 92.7 | 70 | 130 | | | |
| Surr: Toluene-d8 | 9.7 | | 10.00 | | 97.2 | 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: BLAGG | Work Order Number: 1907078 | RcptNo: 1

Received By: **Isaiah Ortiz** 7/2/2019 7:15:00 AM

Completed By: **Yazmine Garduno** 7/2/2019 8:19:33 AM

Reviewed By: LB 7/2/19

## 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: DAD 7/2/19

## 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 | 2.8 | Good | Yes | | | |

# QC SUMMARY REPORT
## Hall Environmental Analysis Laboratory, Inc.

WO#: **2003B65**
***06-Apr-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **100ng lcs** | SampType: **LCS** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R67662** | RunNo: **67662** |
| Prep Date: | Analysis Date: **3/29/2020** | SeqNo: **2336494** 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 | 98.9 | 70 | 130 | | | |
| Chlorobenzene | 20 | 1.0 | 20.00 | 0 | 98.9 | 70 | 130 | | | |
| 1,1-Dichloroethene | 20 | 1.0 | 20.00 | 0 | 98.8 | 70 | 130 | | | |
| Trichloroethene (TCE) | 19 | 1.0 | 20.00 | 0 | 94.9 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 10 | | 10.00 | | 103 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 100 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 9.8 | | 10.00 | | 98.2 | 70 | 130 | | | |
| Surr: Toluene-d8 | 9.7 | | 10.00 | | 97.0 | 70 | 130 | | | |

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R67662** | RunNo: **67662** |
| Prep Date: | Analysis Date: **3/29/2020** | SeqNo: **2336590** 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#: **2003B65**
***06-Apr-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R67662** | RunNo: **67662** |
| Prep Date: | Analysis Date: **3/29/2020** | SeqNo: **2336590** 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#: **2003B65**
***06-Apr-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R67662** | RunNo: **67662** |
| Prep Date: | Analysis Date: **3/29/2020** | SeqNo: **2336590** 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 | | 100 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 9.9 | | 10.00 | | 98.8 | 70 | 130 | | | |
| Surr: Toluene-d8 | 9.6 | | 10.00 | | 95.6 | 70 | 130 | | | |

| Sample ID: **100ng lcs** | SampType: **LCS** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R67751** | RunNo: **67751** |
| Prep Date: | Analysis Date: **4/1/2020** | SeqNo: **2340522** 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 | 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 | 107 | 70 | 130 | | | |
| Trichloroethene (TCE) | 20 | 1.0 | 20.00 | 0 | 101 | 70 | 130 | | | |
| 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 | | 99.9 | 70 | 130 | | | |
| Surr: Toluene-d8 | 9.8 | | 10.00 | | 98.0 | 70 | 130 | | | |

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R67751** | RunNo: **67751** |
| Prep Date: | Analysis Date: **4/1/2020** | SeqNo: **2340523** 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#: **2003B65**
***06-Apr-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R67751** | RunNo: **67751** |
| Prep Date: | Analysis Date: **4/1/2020** | SeqNo: **2340523** 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#: **2003B65**
***06-Apr-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R67751** | RunNo: **67751** |
| Prep Date: | Analysis Date: **4/1/2020** | SeqNo: **2340523** 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 | | 105 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 99.7 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 11 | | 10.00 | | 105 | 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: **BLAGG** Work Order Number: **2003B65** RcptNo: 1

Received By: **Isaiah Ortiz** **3/26/2020 7:50:00 AM** I_Ortiz

Completed By: **Leah Baca** **3/26/2020 10:03:35 AM** Leah Baca

Reviewed By: JR 3/26/20

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Is Chain of Custody sufficiently 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. 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 3/26/20

## Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ 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 | | | | |
| 2 | 1.2 | Good | | | | |

# QC SUMMARY REPORT
## Hall Environmental Analysis Laboratory, Inc.

WO#: **2006319**
***15-Jun-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **100ng lcs** | SampType: **LCS** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R69452** | RunNo: **69452** |
| Prep Date: | Analysis Date: **6/7/2020** | SeqNo: **2410346** 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 | 21 | 1.0 | 20.00 | 0 | 104 | 70 | 130 | | | |
| Chlorobenzene | 21 | 1.0 | 20.00 | 0 | 106 | 70 | 130 | | | |
| 1,1-Dichloroethene | 19 | 1.0 | 20.00 | 0 | 95.7 | 70 | 130 | | | |
| Trichloroethene (TCE) | 19 | 1.0 | 20.00 | 0 | 95.8 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 11 | | 10.00 | | 106 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 101 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 10 | | 10.00 | | 103 | 70 | 130 | | | |
| Surr: Toluene-d8 | 10 | | 10.00 | | 103 | 70 | 130 | | | |

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R69452** | RunNo: **69452** |
| Prep Date: | Analysis Date: **6/7/2020** | SeqNo: **2410347** 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#: **2006319**
***15-Jun-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R69452** | RunNo: **69452** |
| Prep Date: | Analysis Date: **6/7/2020** | SeqNo: **2410347** 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 Limit |
| S | % Recovery outside of range due to dilution or matrix | | |

# QC SUMMARY REPORT
## Hall Environmental Analysis Laboratory, Inc.

WO#: **2006319**
***15-Jun-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R69452** | RunNo: **69452** |
| Prep Date: | Analysis Date: **6/7/2020** | SeqNo: **2410347** 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 | | 105 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 99.7 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 10 | | 10.00 | | 104 | 70 | 130 | | | |
| Surr: Toluene-d8 | 10 | | 10.00 | | 102 | 70 | 130 | | | |

| Sample ID: **100ng lcs** | SampType: **LCS** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R69472** | RunNo: **69472** |
| Prep Date: | Analysis Date: **6/8/2020** | SeqNo: **2410465** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 19 | 1.0 | 20.00 | 0 | 96.0 | 70 | 130 | | | |
| Toluene | 20 | 1.0 | 20.00 | 0 | 102 | 70 | 130 | | | |
| Chlorobenzene | 21 | 1.0 | 20.00 | 0 | 105 | 70 | 130 | | | |
| 1,1-Dichloroethene | 18 | 1.0 | 20.00 | 0 | 91.6 | 70 | 130 | | | |
| Trichloroethene (TCE) | 19 | 1.0 | 20.00 | 0 | 92.5 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 10 | | 10.00 | | 105 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 101 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 10 | | 10.00 | | 103 | 70 | 130 | | | |
| Surr: Toluene-d8 | 10 | | 10.00 | | 102 | 70 | 130 | | | |

| Sample ID: **MB** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R69472** | RunNo: **69472** |
| Prep Date: | Analysis Date: **6/8/2020** | SeqNo: **2413309** 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#: **2006319**
***15-Jun-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **MB** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R69472** | RunNo: **69472** |
| Prep Date: | Analysis Date: **6/8/2020** | SeqNo: **2413309** 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#: **2006319**
***15-Jun-20***

**Client:** Blagg Engineering
**Project:** GCU 204E

| Sample ID: **MB** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R69472** | RunNo: **69472** |
| Prep Date: | Analysis Date: **6/8/2020** | SeqNo: **2413309** 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 | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 11 | | 10.00 | | 105 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 101 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 10 | | 10.00 | | 102 | 70 | 130 | | | |
| Surr: Toluene-d8 | 10 | | 10.00 | | 102 | 70 | 130 | | | |

| Sample ID: **100ng lcs** | SampType: **LCS** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **LCSW** | Batch ID: **R69529** | RunNo: **69529** |
| Prep Date: | Analysis Date: **6/10/2020** | SeqNo: **2413576** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | 102 | 70 | 130 | | | |
| Surr: Toluene-d8 | 10 | | 10.00 | | 101 | 70 | 130 | | | |

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R69529** | RunNo: **69529** |
| Prep Date: | Analysis Date: **6/10/2020** | SeqNo: **2413577** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Xylenes, Total | ND | 1.5 | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 10 | | 10.00 | | 102 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 99.9 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 10 | | 10.00 | | 102 | 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: **BLAGG** Work Order Number: **2006319** RcptNo: **1**

Received By: **Desiree Dominguez** **6/5/2020 8:30:00 AM** DD

Completed By: **Desiree Dominguez** **6/5/2020 10:58:31 AM** DD

Reviewed By: JR 6/5/20

## 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. 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 6/5/20

## 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 | 1.4 | Good | Yes | | | |

# QC SUMMARY REPORT
## Hall Environmental Analysis Laboratory, Inc.

WO#: **2009478**
***15-Sep-20***

**Client:** SIMCOE/Cottonwood Consulting
**Project:** GCU 204E

| Sample ID: **mb1** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **W71788** | RunNo: **71788** |
| Prep Date: | Analysis Date: **9/11/2020** | SeqNo: **2511657** 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#: **2009478**
***15-Sep-20***

**Client:** SIMCOE/Cottonwood Consulting
**Project:** GCU 204E

Sample ID: **mb1** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **W71788** RunNo: **71788**
Prep Date: Analysis Date: **9/11/2020** SeqNo: **2511657** 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 | 9.6 | | 10.00 | | 95.7 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 9.7 | | 10.00 | | 97.4 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 9.2 | | 10.00 | | 92.4 | 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: **W71788** RunNo: **71788**
Prep Date: Analysis Date: **9/11/2020** SeqNo: **2511658** Units: **µg/L**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 18 | 1.0 | 20.00 | 0 | 89.1 | 70 | 130 | | | |
| Toluene | 21 | 1.0 | 20.00 | 0 | 105 | 70 | 130 | | | |
| Chlorobenzene | 20 | 1.0 | 20.00 | 0 | 98.1 | 70 | 130 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical 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#: **2009478**
***15-Sep-20***

**Client:** SIMCOE/Cottonwood Consulting
**Project:** GCU 204E

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **W71788** RunNo: **71788**
Prep Date: Analysis Date: **9/11/2020** SeqNo: **2511658** 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 | 86.1 | 70 | 130 | | | |
| Trichloroethene (TCE) | 15 | 1.0 | 20.00 | 0 | 75.2 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 9.1 | | 10.00 | | 90.7 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 101 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 9.3 | | 10.00 | | 92.6 | 70 | 130 | | | |
| Surr: Toluene-d8 | 10 | | 10.00 | | 101 | 70 | 130 | | | |

Sample ID: **mb1** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **A71800** RunNo: **71800**
Prep Date: Analysis Date: **9/12/2020** SeqNo: **2512127** Units: **µg/L**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 1.5 | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 9.6 | | 10.00 | | 96.0 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 9.9 | | 10.00 | | 98.9 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 9.3 | | 10.00 | | 93.4 | 70 | 130 | | | |
| Surr: Toluene-d8 | 10 | | 10.00 | | 102 | 70 | 130 | | | |

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **A71800** RunNo: **71800**
Prep Date: Analysis Date: **9/12/2020** SeqNo: **2512128** Units: **µg/L**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 17 | 1.0 | 20.00 | 0 | 86.9 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 8.9 | | 10.00 | | 88.9 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 100 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 9.3 | | 10.00 | | 92.5 | 70 | 130 | | | |
| Surr: Toluene-d8 | 10 | | 10.00 | | 99.8 | 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: clients.hallenvironmental.com*

# Sample Log-In Check List

Client Name: SIMCOE/Cottonwood Consulting | Work Order Number: 2009478 | RcptNo: 1

Received By: **Cheyenne Cason** 9/9/2020 7:55:00 AM

Completed By: **Juan Rojas** 9/9/2020 8:54:28 AM

Reviewed By: JR 9/9/20

## 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. Received at least 1 vial with headspace <1/4" for AQ VOA? | Yes ☒ | No ☐ | ~~NA ☑~~ EM 9/9/20 |
| 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: JM 9/9/20

## Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 3.9 | Good | | | | |

# QC SUMMARY REPORT
## Hall Environmental Analysis Laboratory, Inc.

WO#: **2012A71**
***30-Dec-20***

**Client:** SIMCOE/Cottonwood Consulting
**Project:** GCU 204E

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **R74256** RunNo: **74256**
Prep Date: Analysis Date: **12/27/2020** SeqNo: **2621264** 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 | 93.8 | 70 | 130 | | | |
| Chlorobenzene | 20 | 1.0 | 20.00 | 0 | 98.0 | 70 | 130 | | | |
| 1,1-Dichloroethene | 19 | 1.0 | 20.00 | 0 | 93.4 | 70 | 130 | | | |
| Trichloroethene (TCE) | 18 | 1.0 | 20.00 | 0 | 88.9 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 10 | | 10.00 | | 99.9 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 10 | | 10.00 | | 99.8 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 8.0 | | 10.00 | | 80.3 | 70 | 130 | | | |
| Surr: Toluene-d8 | 9.4 | | 10.00 | | 93.6 | 70 | 130 | | | |

Sample ID: **mb1** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R74256** RunNo: **74256**
Prep Date: Analysis Date: **12/27/2020** SeqNo: **2621265** 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#: **2012A71**
***30-Dec-20***

**Client:** SIMCOE/Cottonwood Consulting
**Project:** GCU 204E

| Sample ID: **mb1** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R74256** | RunNo: **74256** |
| Prep Date: | Analysis Date: **12/27/2020** | SeqNo: **2621265** 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:**

| | |
|---|---|
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| ND | Not Detected at the Reporting Limit |
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# QC SUMMARY REPORT
## Hall Environmental Analysis Laboratory, Inc.

WO#: **2012A71**
***30-Dec-20***

**Client:** SIMCOE/Cottonwood Consulting
**Project:** GCU 204E

| Sample ID: **mb1** | SampType: **MBLK** | TestCode: **EPA Method 8260B: VOLATILES** |
|---|---|---|
| Client ID: **PBW** | Batch ID: **R74256** | RunNo: **74256** |
| Prep Date: | Analysis Date: **12/27/2020** | SeqNo: **2621265** 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 | 10 | | 10.00 | | 100 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 7.7 | | 10.00 | | 76.8 | 70 | 130 | | | |
| Surr: Toluene-d8 | 9.5 | | 10.00 | | 95.4 | 70 | 130 | | | |

**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: clients.hallenvironmental.com*

# Sample Log-In Check List

Client Name: **SIMCOE/Cottonwood Con** Work Order Number: **2012A71** RcptNo: 1

Received By: **Isaiah Ortiz** **12/22/2020 7:45:00 AM** I_Ox

Completed By: **Isaiah Ortiz** **12/22/2020 8:35:47 AM** I_Ox

Reviewed By: JR 12/22/20

## 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. 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: SGL 12/22/20

## 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 | 0.9 | Good | Not Present | | | |

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
**District II**
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

# State of New Mexico
# Energy, Minerals and Natural Resources
# Oil Conservation Division
# 1220 S. St Francis Dr.
# Santa Fe, NM 87505

CONDITIONS

Action 15296

## CONDITIONS

| Operator: | OGRID: |
|---|---|
| SIMCOE LLC<br>1199 Main Ave., Suite 101<br>Durango, CO 81301 | 329736 |
| | Action Number:<br>15296 |
| | Action Type:<br>[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| michael.buchanan | Review of the Groundwater Remediation Report for GCU#204E: Content Satisfactory. 1. Continue to sample as prescribed by NMED and approved by NMOCD 2. Continue to submit Annual Reports by April 1 of each calendar year. 3. An abatement closure report must be submitted to close the incident as per 19.15.30.19 COMPLETION AND TERMINATION of the NMAC when requirements have been met. | 1/12/2024 |