UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
WATER QUALITY

UPDES General Permit For Treated Ground Water

NOI

Notice of Intent (NOI)
for Coverage Under the
UPDES General Permit for Treat Ground Water
UPDES Permit No. UTG790000

Submission of this Notice of Intent constitutes notice that the party identified in Part II. of this form intends to be authorized by UPDES General Permit No. UTG790000, issued for discharges of treated ground water to surface waters in the State of Utah. Coverage of this permit obligates such dischargers to comply with the terms and conditions of the permit.

PLEASE PROVIDE ALL REQUIRED INFORMATION

You must print or type legibly; forms that are not legible, incomplete, or unsigned will be returned. You must maintain a copy of the completed NOI form for your records.

PART I. (NOTE: THIS SECTION FOR DIVISION OF WATER QUALITY USE ONLY. *Skip to Part II.*)

THIS SECTION FOR DIVISION OF WATER QUALITY USE ONLY

Coverage Number: UTG79- 790088

COVERAGE DATES: / /20 **TO** / /20

RECEIVING WATER: Farmington Bay via Northwest Drain **CLASSIFICATION:** Category 3

EFFLUENT LIMITATIONS BASED ON PERMIT ☐ **Part I.D** ☒ **Part I.E**

ADDITIONAL MONITORING AND/OR EFFLUENT LIMITATIONS: carbon disulfide, cis-1,2-Dichloroethene, and trans-1,2-Dichloroethene (in lieu of the full TTO scan); and arsenic.

DIVISION PERMIT OF COVERAGE ISSUANCE:

DATE: / / 20 **SIGNATURE:**

Once coverage is assigned discharge monitoring reports will be generated and provided to the operator.

PART II. CONTACT INFORMATION (used for permit correspondence)

Organization Name: Salt Development, LLC

Contact Name: Russel Martin Title: Project Manager

Phone Number: 801-420-8214 Email: russ.martin@saltdev.com

Mailing Address: Street (PO Box): 205 N 400 W, Suite 300

City: Salt Lake City State: UT Zip: 84103

Owner/Manager Name: Brian Hobb / Chief Operations Officer

Phone Number: 949-610-6024 Email: brian.hobbs@saltdev.com

Legal Status of Owner/Operator: Development firm

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
WATER QUALITY

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UPDES General Permit For Treated Ground Water

PART III. PROJECT SITE LOCATION

Project Lead Name: Russell Martin Project Lead Phone: 801-420-8214

Project Site Name: Salt Lake Crossing

Project Street/Location: 470 W 200 N

City: Salt Lake City County: Salt Lake State: UTAH Zip: 84103

Project Site Phone:

Project latitude and longitude location in **degree decimal.**

Latitude 40.774555 Longitude -111.904506

PART IV. PROJECT DESCRIPTION

Description of cleanup site, including a description of the source(s) of contamination and the extent of contamination and any additional contamination anticipated in the local ground water from other possible sources:

The property was used as a rail yard from 1911 to 2001. Soil contamination associated with a leaking underground storage tank was identified in 2016 on the adjacent property, located approximately 150-ft east and upgradient of the property.

PART V. MAP

Attach a topographical map of the area extending to at least 1 mile beyond the property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its waste treatment, storage, or disposal facilities, and discharge locations. Include all springs, rivers, and other surface water bodies in the map.

☒ Map Attached (Figures 1 and 2)

PART VI. PROJECT DATES

Filing your permit will grant you one year of coverage from the filing date regardless of the project duration outlined below. If you project ends early, you must file a Notice of Termination (NOT).

Project Start Date: 10 / 04 /20 21

Project Completion Date: 10 / 04 /20 22

Notes:

Salt Development, LLC is also working with Salt Lake City Department of Public Utilities to obtain authorization to discharge to their stormwater infrastructure.

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
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UPDES General Permit For Treated Ground Water

PART VII. DISCHARGE LOCATION(S)

List the Latitude and Longitude of the Discharge Point(s) in **degree decimal** with the Receiving Water.

Outfall No.	Latitude	Longitude	Receiving Surface Waters (Name)
001	40.805861	-111.927530	Northwest Drain

Are any of the discharge points located in the Colorado River Basin? ☐ Yes ☑ No

Does the receiving water designated uses include Class 1C drinking water as defined by R317-2-13? ☐ Yes ☑ No

Class 1C waters are "Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water".

Is the project located on tribal lands? ☐ Yes ☑ No

If the facility is located on Tribal Lands the permittee must contact EPA Region VIII except for facilities on the Navajo Reservation or the Goshute Reservation, for which the permittee must contact EPA Region IX.

Does the discharge flow into a storm drain before entering the receiving water body? ☑ Yes ☐ No

Be Advised: Discharges to storm drains must be approved by the storm drain authority/owner.

Description of Discharge location and conveyance system to live water:

Pumped groundwater will be discharged to Salt Lake City's stormwater infrastructure located in 300 N. The City's stormwater system conveys collected water westward to the Northwest Drain (formerly known as the Northwest Oil Drain).

PART VIII. INFLUENT AND EFFLUENT CONCENTRATIONS

Complete attached **Table A** and list any additional pollutants (not included in Table A) with influent and/or effluent concentrations here:

Total Arsenic (8-25-21, 9-10-21, and 9-15-21 samples)

Sump #1 concentration = 0.0122 mg/L	Sump #3 concentration = 0.0116 mg/L
Sump #2 concentration = 0.00776 mg/L	Sump #4 concentration = 0.0107 mg/L

PART VIII. INFLUENT AND EFFLUENT CONCENTRATIONS *continued*

Discharge **IS** to Class 1C Water:

1. In addition to completing Table A, influent sampling including total toxic organics (TTO results must be attached. See attached Table B for list of TTO constituents. No permits for discharge to Class 1C Waters will be issued prior to influent sampling being conducted and results received.
2. An analysis of alternative disposal methods of the treated ground water must be attached. This analysis must include an economic comparison of the alternative disposal methods. If no other disposal methods are feasible the analysis must demonstrated the consideration of other methods such as trucking and/or discharge to a treatment facility.
3. If the project will last longer than one year DWQ may require Level II Antidegradation review be conducted. Please contact DWQ Staff for further information.

Discharge is **NOT** to Class 1C Water:

1. In addition to completing Table A, influent sampling including total toxic organics **OR** a report documenting why influent sampling is not needed for this project and an estimation of anticipated influent constituents concentrations.
2. In accordance with *Part I.E.* the permittee may petition Total Petroleum Hydrocarbon (TPH-GRO and TPH-DRO) analyses may be substituted for the TTO analyses. If approved Maximum Daily Effluent Limitations of 1.0 mg/LTPH-GRO and TPH-DRO will be substituted for the TTO effluent limitation.

PART IX. DESCRIPTION OF TREATMENT SYSTEM

Description of the current or proposed treatment system, including discharge flow rate (attach a flow diagram):

Based on groundwater concentrations of the Table A parameters, no treatment is proposed. Groundwater will be pumped from all five sumps at a combined discharge rate of less than or equal to 100 gpm to a single discharge location (TBD) in SLC's stormwater infrastructure located in 300N.

☐ FLOW DIAGRAM ATTACHED

PART X. CERTIFICATION AND SIGNATURE

I certify under penalty of law that this submission was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitted false information, including the possibility of fine and imprisonment for knowing violations. I further certify that the applicant has sufficient title, right or interest in the property where the proposed activity occurs.

Russell Martin		Project Manager	10/04/2021
PRINT Signatory Authority	**Signature**	**Title**	**Date**

PART XI. ADDITIONAL APPLICATIONS AND APPROVALS

1. You may need to file for a temporary application to appropriate water rights form the Division of Water Rights. Call 801.583.7240 for more information.
2. You may need to obtain approval from the Division of Air Quality if any air stripping equipment is to be employed at the cleanup site. Call 801.536.4000 for more information.

The Division of Water Quality may request addition information.

Important:

The UPDES Permit Application, must be signed as follows: (Refer to *Part IV.G. Signatory Requirements,* of the General Permit.)

1) For a corporation, a responsible corporate officer shall sign the NOT, a responsible corporate officer means:
   a. A President, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or
   b. The manager of one or more manufacturing, production, or operating facilities, if
      i. The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental statutes and regulations:
      ii. The manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and
      iii. Authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
2) For a partnership of sole proprietorship, the general partner or the proprietor, respectively; or
3) For a municipality, state or other public agency, either a principal executive officer or ranking elected official shall sign the application; in this subsection, a principal executive officer of any agency means;
   a. The chief executive officer of the agency; or
   b. A senior executive officer having responsibility for the overall operations of a principal geographic unit or division of the agency.

Where to File the UPDES Permit Application form:

Please submit the original form with signature via the DWQ Electronic Documents Submission Portal:

https://deq.utah.gov/water-quality/water-quality-electronic-submissions

You can also send by mail or hand deliver to the below address. Remember to retain a copy for your records.

Division of Water Quality
Department of Environmental Quality
195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

TABLE A

Analysis of Treatment System Influent and Effluent

You must report concentrations for each pollutant listed. Please refer to Part I.D. and Part I.E. of the permit or NOI to determine if actual influent values are required or if estimated values will be accepted.

Are influent values: **Estimated** Or **Actual**
Are effluent values: **Estimated** Or **Actual** (circled)

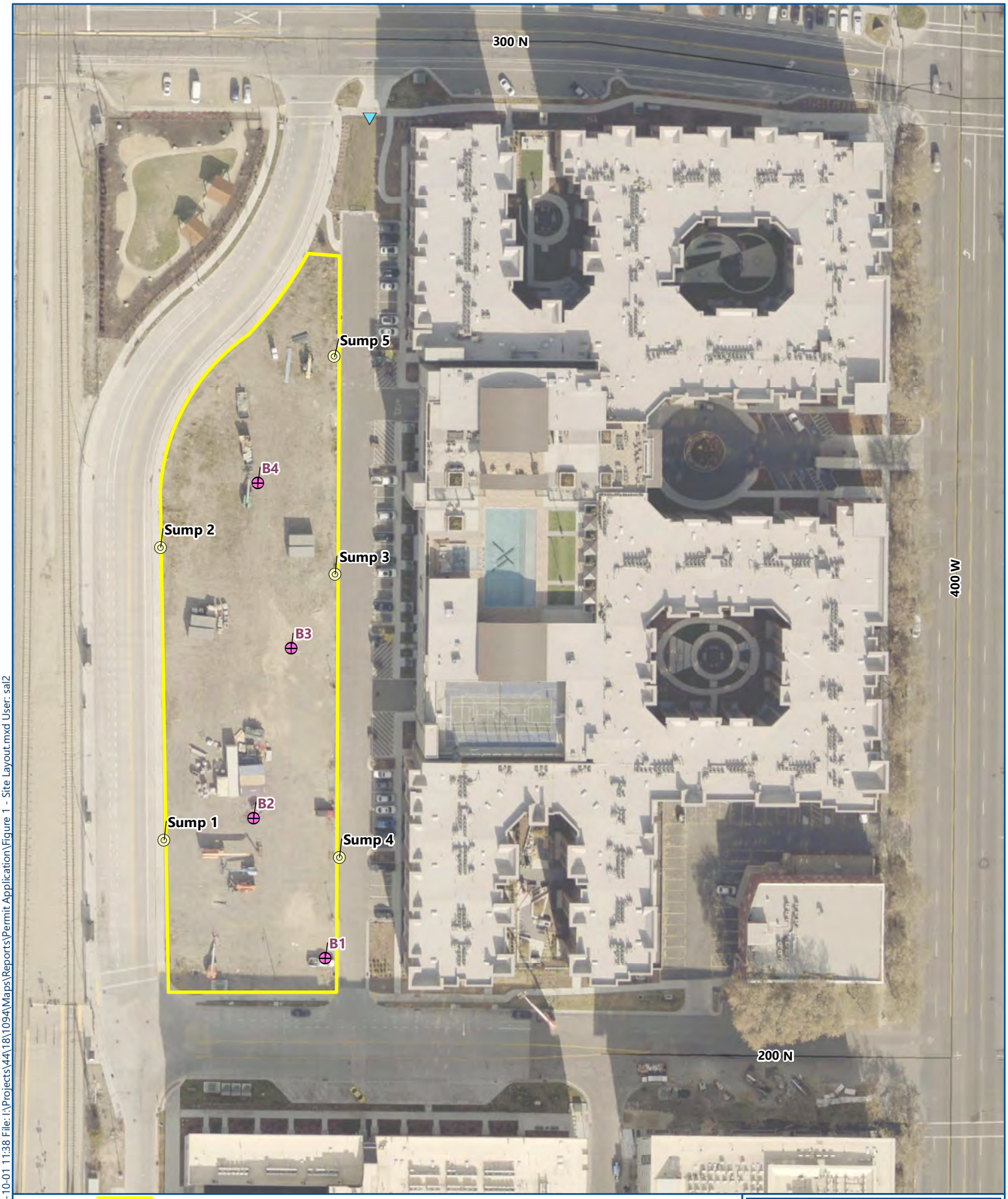
Parameters	Influent			Effluent (a)			
	Avg (mg/L)	Max (mg/L)	Number of Samples	Avg (mg/L)	Max (mg/L)	Number of Samples	Date Collected
pH (range in standard units)				7.69	8.63	4	9-27-21
Total Suspended Solids				26.65	60.4	4	9-27-21
Total Dissolved Solids				658	808	4	9-27-21
Total Lead				0.00236	0.00304	4	8-25-21, 9-10-21, & 9-15-21
Oil & Grease				<5.00	<5.00	4	9-27-21
Benzene				<0.002	<0.002	4	9-12-19
Toluene				<0.002	<0.002	4	9-12-19
Ethylbenzene				<0.002	<0.002	4	9-12-19
Xylenes				<0.002	<0.002	4	9-12-19
Naphthalene				<0.002	<0.002	4	9-12-19
MTBE				<0.002	<0.002	4	9-12-19
TTO's * (attach full list if required)				(b)	(b)	4	9-12-19 & 9-27-21

(a) - No treatment of pumped groundwater is necessary; therefore, only effluent results are provided.
(b) - See attached analytical results for details
* The permittee must analyze for all the priority toxic organics (See Table A) likely to be present in concentrations greater than 0.01 mg/L. Attach the complete TTO analysis indicating parameters sampled and their reported concentrations.

TABLE B
Total Toxic Organic List

(These are the parameters that shall be analyzed for initially determining the total toxic organic (TTO) concentration of the wastewater)

Acrolein
Acrylonitrile
Benzene
Bromoform
Carbon Tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
2-Chloroethylvinyl Ether
Chloroform
Dichlorobromomethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
1,2-Dichloropropane
1,3-Dichloropropylene
Ethylbenzene
Methyl Bromide
Methyl Chloride
Methylene Chloride
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
1,2-Cis,Trans- Dichloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Vinyl Chloride
2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
4,6-Dinitro-O-Cresol
2,4-Dinitrophenol
2-Nitrophenol
4-Nitrophenol
P-Chloro-M-Cresol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol
Acenaphthene
Acenaphthylene
Anthracene
Benzidine
Benzo(A)Anthracene
Benzo(A)Pyrene
3,4-Benzofluoranthene
Benzo(Ghi)Perylene
Benzo(K)Fluoranthene
Bis(2-Chloroethoxy)Methane
Bis(2-Chloroethyl)Ether
Bis(2-Chloroisopropyl)Ether
Bis (2-Ethylhexyl)Phthalate
4-Bromophenyl Phenyl Ether
Butylbenzyl Phthalate
2-Chloronaphthalene
Ether
4-Chlorophenyl Phenyl
Chrysene
Dibenzo(A,H)Anthracene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
3,3′-Dichlorobenzidine
Diethyl Phthalate
Dimethyl Phthalate
Di-N-Butyl Phthalate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-N-Octyl Phthalate
1,2-Diphenylhydrazine (As Azobenzene)
Fluroranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno(1,2,3-Cd)Pyrene
Isophorone
Napthalene
Nitrobenzene
N-Nitrosodimethylamine
N-Nitrosodi-N-Propylamine
N-Nitrosodiphenylamine
Phenanthrene
Pyrene
1,2,4-Trichlorobenzene
Aldrin
Alpha-Bhc
Beta-Bhc
Gamma-Bhc
Delta-Bhc
Chlordane
4,4′-Ddt
4,4′-Dde
4,4′-Ddd
Dieldrin
Alpha-Endosulfan
Beta-Endosulfan
Endosulfan Sulfate
Endrin
Endrin Aldehyde
Heptachlor
Heptachlor Epoxide
Pcb-1242
Pcb-1254
Pcb-1221
Pcb-1232
Pcb-1248
Pcb-1260
Pcb-1016
Toxaphene



Property Boundary

Boring Location

Sump Location

Proposed Salt Lake City Storm Sewer Discharge Location

N

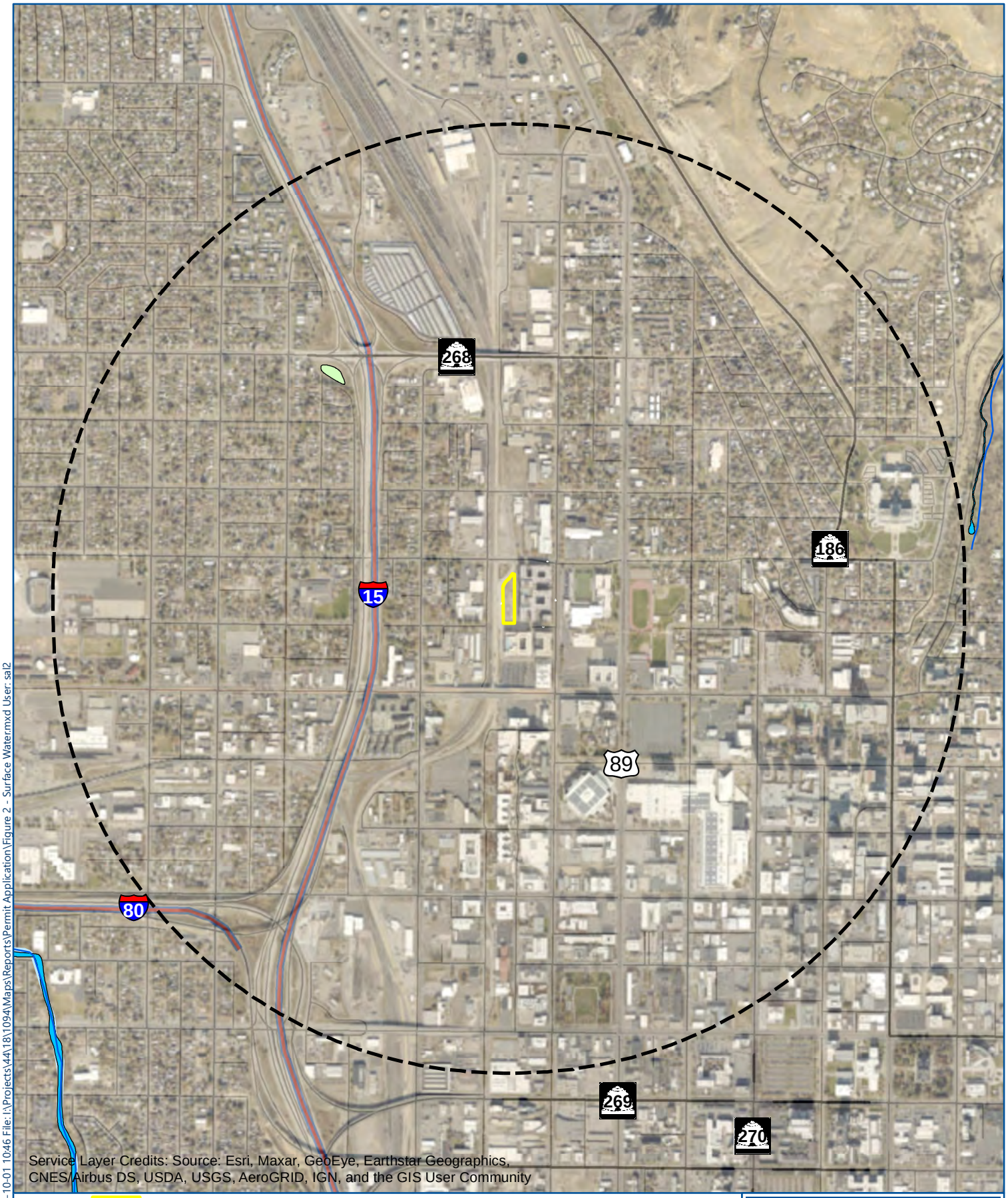
0 100

Feet

BARR

SITE LAYOUT
470 W. 200 North
Salt Lake City, UT

FIGURE 1



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Property Boundary

1 Mile Buffer of Property Boundary

Utah National Wetland Inventory

Freshwater Emergent Wetland

Riverine

National Hydrography Dataset

Stream/River

Stream/River Area

N

0 1,500

Feet

BARR

SURFACE WATER
470 W. 200 North
Salt Lake City, UT

FIGURE 2

Barr Footer: ArcGIS 10.8.1, 2021-10-01 10:46 File: I:\Projects\44\18\1094\Maps\Reports\Permit Application\Figure 2 - Surface Water.mxd User: sal2

Corbin Jensen
Barr Engineering Company
170 S. Main St. Ste. 500
Salt Lake City, UT 84101
TEL: (801) 333-8400

RE: 470 W. 200 N. Salt Development P2

Dear Corbin Jensen: Lab Set ID: 1909313

3440 South 700 West
Salt Lake City, UT 84119

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

American West Analytical Laboratories received sample(s) on 9/12/2019 for the analyses presented in the following report.

American West Analytical Laboratories (AWAL) is accredited by The National Environmental Laboratory Accreditation Program (NELAP) in Utah and Texas; and is state accredited in Colorado, Idaho, New Mexico, Wyoming, and Missouri.

All analyses were performed in accordance to the NELAP protocols unless noted otherwise. Accreditation scope documents are available upon request. If you have any questions or concerns regarding this report please feel free to call.

The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

This is a revision to a report originally issued 9/26/2019. Information herein supersedes that of the previously issued reports. Pages 1, 8, 9, and 51-58 have been revised. All pages have been updated for pagination.

Thank You,

Approved by: Jose G. Rocha
Digitally signed by Jose G. Rocha
DN: cn=Jose G. Rocha, o=American West Analytical Laboratories, ou=UT00031, email=jose@awal-labs.com, c=US
Date: 2019.11.12 11:19:21 -07'00'

Laboratory Director or designee

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-001B
Client Sample ID: B1
Collection Date: 9/12/2019 900h
Received Date: 9/12/2019 1718h

Test Code: 8015-W-TPH-3511

Analytical Results TPH-DRO (C10-C28) by GC/FID Method 8015D/3511

Analyzed: 9/13/2019 1515h **Extracted:** 9/13/2019 723h
Units: mg/L **Dilution Factor:** 1 **Method:** SW8015D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	

Surrogate	Units: mg/L	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 4-Bromofluorobenzene		460-00-4	1.32	1.143	116	20-182	

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web: www.awal-labs.com

Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-003B
Client Sample ID: B2
Collection Date: 9/12/2019 1000h
Received Date: 9/12/2019 1718h

Test Code: 8015-W-TPH-3511

Analytical Results TPH-DRO (C10-C28) by GC/FID Method 8015D/3511

Analyzed: 9/13/2019 1536h **Extracted:** 9/13/2019 723h
Units: mg/L **Dilution Factor:** 1 **Method:** SW8015D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	

Surrogate	Units: mg/L	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 4-Bromofluorobenzene		460-00-4	0.774	1.143	67.7	20-182	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-007B
Client Sample ID: B4
Collection Date: 9/12/2019 1200h
Received Date: 9/12/2019 1718h

Test Code: 8015-W-TPH-3511

Analytical Results TPH-DRO (C10-C28) by GC/FID Method 8015D/3511

Analyzed: 9/13/2019 1618h **Extracted:** 9/13/2019 723h
Units: mg/L **Dilution Factor:** 1 **Method:** SW8015D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	

Surrogate	Units: mg/L	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 4-Bromofluorobenzene		460-00-4	0.889	1.143	77.8	20-182	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-001B
Client Sample ID: B1
Collection Date: 9/12/2019 900h
Received Date: 9/12/2019 1718h

Test Code: 8270E-W-3511

Analytical Results SVOA TCL List by GC/MS Method 8270E/3511

Analyzed: 9/17/2019 2353h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1´-Biphenyl	92-52-4	9.59	< 9.59	
1,2,4,5-Tetrachlorobenzene	95-94-3	9.59	< 9.59	
2,2´-Oxybis(1-chloropropane)	108-60-1	9.59	< 9.59	
2,3,4,6-Tetrachlorophenol	58-90-2	9.59	< 9.59	
2,4,5-Trichlorophenol	95-95-4	9.59	< 9.59	
2,4,6-Trichlorophenol	88-06-2	9.59	< 9.59	
2,4-Dichlorophenol	120-83-2	9.59	< 9.59	
2,4-Dimethylphenol	105-67-9	9.59	< 9.59	
2,4-Dinitrophenol	51-28-5	9.59	< 9.59	
2,4-Dinitrotoluene	121-14-2	9.59	< 9.59	
2,6-Dinitrotoluene	606-20-2	9.59	< 9.59	
2-Chloronaphthalene	91-58-7	9.59	< 9.59	
2-Chlorophenol	95-57-8	9.59	< 9.59	
2-Methylnaphthalene	91-57-6	9.59	< 9.59	
2-Methylphenol	95-48-7	9.59	< 9.59	
2-Nitroaniline	88-74-4	9.59	< 9.59	
2-Nitrophenol	88-75-5	9.59	< 9.59	
3&4-Methylphenol		9.59	< 9.59	
3,3´-Dichlorobenzidine	91-94-1	9.59	< 9.59	
3-Nitroaniline	99-09-2	9.59	< 9.59	
4,6-Dinitro-2-methylphenol	534-52-1	9.59	< 9.59	
4-Bromophenyl phenyl ether	101-55-3	9.59	< 9.59	
4-Chloro-3-methylphenol	59-50-7	9.59	< 9.59	
4-Chloroaniline	106-47-8	9.59	< 9.59	
4-Chlorophenyl phenyl ether	7005-72-3	9.59	< 9.59	
4-Nitroaniline	100-01-6	9.59	< 9.59	
4-Nitrophenol	100-02-7	9.59	< 9.59	
Acenaphthene	83-32-9	9.59	< 9.59	
Acenaphthylene	208-96-8	9.59	< 9.59	

American West
ANALYTICAL LABORATORIES

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Salt Lake City, UT 84119

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web: www.awal-labs.com

Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-001B
Client Sample ID: B1

Analyzed: 9/17/2019 2353h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Acetophenone	98-86-2	9.59	< 9.59	
Anthracene	120-12-7	9.59	< 9.59	
Atrazine	1912-24-9	9.59	< 9.59	
Benz(a)anthracene	56-55-3	9.59	< 9.59	
Benzaldehyde	100-52-7	33.6	< 33.6	S#
Benzo(a)pyrene	50-32-8	9.59	< 9.59	
Benzo(b)fluoranthene	205-99-2	9.59	< 9.59	
Benzo(g,h,i)perylene	191-24-2	9.59	< 9.59	
Benzo(k)fluoranthene	207-08-9	9.59	< 9.59	
Bis(2-chloroethoxy)methane	111-91-1	9.59	< 9.59	
Bis(2-chloroethyl) ether	111-44-4	9.59	< 9.59	
Bis(2-ethylhexyl) phthalate	117-81-7	9.59	< 9.59	
Butyl benzyl phthalate	85-68-7	9.59	< 9.59	
Caprolactam	105-60-2	24.0	< 24.0	
Carbazole	86-74-8	9.59	< 9.59	
Chrysene	218-01-9	9.59	< 9.59	
Dibenz(a,h)anthracene	53-70-3	9.59	< 9.59	
Dibenzofuran	132-64-9	9.59	< 9.59	
Diethyl phthalate	84-66-2	9.59	< 9.59	
Dimethyl phthalate	131-11-3	9.59	< 9.59	
Di-n-butyl phthalate	84-74-2	9.59	< 9.59	
Di-n-octyl phthalate	117-84-0	9.59	< 9.59	
Fluoranthene	206-44-0	9.59	< 9.59	
Fluorene	86-73-7	9.59	< 9.59	
Hexachlorobenzene	118-74-1	9.59	< 9.59	
Hexachlorobutadiene	87-68-3	9.59	< 9.59	
Hexachlorocyclopentadiene	77-47-4	9.59	< 9.59	
Hexachloroethane	67-72-1	9.59	< 9.59	
Indeno(1,2,3-cd)pyrene	193-39-5	9.59	< 9.59	
Isophorone	78-59-1	9.59	< 9.59	
Naphthalene	91-20-3	9.59	< 9.59	
Nitrobenzene	98-95-3	9.59	< 9.59	
N-Nitrosodi-n-propylamine	621-64-7	9.59	< 9.59	
N-Nitrosodiphenylamine	86-30-6	9.59	< 9.59	
Pentachlorophenol	87-86-5	9.59	< 9.59	
Phenanthrene	85-01-8	9.59	< 9.59	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-001B
Client Sample ID: B1

Analyzed: 9/17/2019 2353h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Phenol	108-95-2	9.59	< 9.59	
Pyrene	129-00-0	9.59	< 9.59	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	32.5	47.95	67.8	10-177	
Surr: 2-Fluorobiphenyl	321-60-8	26.0	23.98	109	30-133	
Surr: 2-Fluorophenol	367-12-4	35.5	47.95	74.1	10-125	
Surr: Nitrobenzene-d5	4165-60-0	34.7	23.98	145	55-152	
Surr: Phenol-d6	13127-88-3	26.6	47.95	55.6	10-100	
Surr: Terphenyl-d14	1718-51-0	24.5	23.98	102	48-155	

S - High LCS recoveries indicate possible bias high. Data deemed acceptable as the analyte was not observed in the field sample.
 # - This compound exceeded (high) the control limit for the CCV. The data is acceptable since the compound was not detected in the sample.

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-003B
Client Sample ID: B2
Collection Date: 9/12/2019 1000h
Received Date: 9/12/2019 1718h

Test Code: 8270E-W-3511

Analytical Results SVOA TCL List by GC/MS Method 8270E/3511

Analyzed: 9/18/2019 015h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1´-Biphenyl	92-52-4	9.97	< 9.97	
1,2,4,5-Tetrachlorobenzene	95-94-3	9.97	< 9.97	
2,2´-Oxybis(1-chloropropane)	108-60-1	9.97	< 9.97	
2,3,4,6-Tetrachlorophenol	58-90-2	9.97	< 9.97	
2,4,5-Trichlorophenol	95-95-4	9.97	< 9.97	
2,4,6-Trichlorophenol	88-06-2	9.97	< 9.97	
2,4-Dichlorophenol	120-83-2	9.97	< 9.97	
2,4-Dimethylphenol	105-67-9	9.97	< 9.97	
2,4-Dinitrophenol	51-28-5	9.97	< 9.97	
2,4-Dinitrotoluene	121-14-2	9.97	< 9.97	
2,6-Dinitrotoluene	606-20-2	9.97	< 9.97	
2-Chloronaphthalene	91-58-7	9.97	< 9.97	
2-Chlorophenol	95-57-8	9.97	< 9.97	
2-Methylnaphthalene	91-57-6	9.97	< 9.97	
2-Methylphenol	95-48-7	9.97	< 9.97	
2-Nitroaniline	88-74-4	9.97	< 9.97	
2-Nitrophenol	88-75-5	9.97	< 9.97	
3&4-Methylphenol		9.97	< 9.97	
3,3´-Dichlorobenzidine	91-94-1	9.97	< 9.97	
3-Nitroaniline	99-09-2	9.97	< 9.97	
4,6-Dinitro-2-methylphenol	534-52-1	9.97	< 9.97	
4-Bromophenyl phenyl ether	101-55-3	9.97	< 9.97	
4-Chloro-3-methylphenol	59-50-7	9.97	< 9.97	
4-Chloroaniline	106-47-8	9.97	< 9.97	
4-Chlorophenyl phenyl ether	7005-72-3	9.97	< 9.97	
4-Nitroaniline	100-01-6	9.97	< 9.97	
4-Nitrophenol	100-02-7	9.97	< 9.97	
Acenaphthene	83-32-9	9.97	< 9.97	
Acenaphthylene	208-96-8	9.97	< 9.97	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-003B
Client Sample ID: B2

Analyzed: 9/18/2019 015h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Acetophenone	98-86-2	9.97	< 9.97	
Anthracene	120-12-7	9.97	< 9.97	
Atrazine	1912-24-9	9.97	< 9.97	
Benz(a)anthracene	56-55-3	9.97	< 9.97	
Benzaldehyde	100-52-7	34.9	< 34.9	S#
Benzo(a)pyrene	50-32-8	9.97	< 9.97	
Benzo(b)fluoranthene	205-99-2	9.97	< 9.97	
Benzo(g,h,i)perylene	191-24-2	9.97	< 9.97	
Benzo(k)fluoranthene	207-08-9	9.97	< 9.97	
Bis(2-chloroethoxy)methane	111-91-1	9.97	< 9.97	
Bis(2-chloroethyl) ether	111-44-4	9.97	< 9.97	
Bis(2-ethylhexyl) phthalate	117-81-7	9.97	< 9.97	
Butyl benzyl phthalate	85-68-7	9.97	< 9.97	
Caprolactam	105-60-2	24.9	< 24.9	
Carbazole	86-74-8	9.97	< 9.97	
Chrysene	218-01-9	9.97	< 9.97	
Dibenz(a,h)anthracene	53-70-3	9.97	< 9.97	
Dibenzofuran	132-64-9	9.97	< 9.97	
Diethyl phthalate	84-66-2	9.97	< 9.97	
Dimethyl phthalate	131-11-3	9.97	< 9.97	
Di-n-butyl phthalate	84-74-2	9.97	< 9.97	
Di-n-octyl phthalate	117-84-0	9.97	< 9.97	
Fluoranthene	206-44-0	9.97	< 9.97	
Fluorene	86-73-7	9.97	< 9.97	
Hexachlorobenzene	118-74-1	9.97	< 9.97	
Hexachlorobutadiene	87-68-3	9.97	< 9.97	
Hexachlorocyclopentadiene	77-47-4	9.97	< 9.97	
Hexachloroethane	67-72-1	9.97	< 9.97	
Indeno(1,2,3-cd)pyrene	193-39-5	9.97	< 9.97	
Isophorone	78-59-1	9.97	< 9.97	
Naphthalene	91-20-3	9.97	< 9.97	
Nitrobenzene	98-95-3	9.97	< 9.97	
N-Nitrosodi-n-propylamine	621-64-7	9.97	< 9.97	
N-Nitrosodiphenylamine	86-30-6	9.97	< 9.97	
Pentachlorophenol	87-86-5	9.97	< 9.97	
Phenanthrene	85-01-8	9.97	< 9.97	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-003B
Client Sample ID: B2

Analyzed: 9/18/2019 015h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Phenol	108-95-2	9.97	< 9.97	
Pyrene	129-00-0	9.97	< 9.97	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	30.6	49.86	61.4	10-177	
Surr: 2-Fluorobiphenyl	321-60-8	27.6	24.93	111	30-133	
Surr: 2-Fluorophenol	367-12-4	37.9	49.86	76.0	10-125	
Surr: Nitrobenzene-d5	4165-60-0	35.8	24.93	144	55-152	
Surr: Phenol-d6	13127-88-3	27.2	49.86	54.5	10-100	
Surr: Terphenyl-d14	1718-51-0	25.8	24.93	103	48-155	

S - High LCS recoveries indicate possible bias high. Data deemed acceptable as the analyte was not observed in the field sample.
 # - This compound exceeded (high) the control limit for the CCV. The data is acceptable since the compound was not detected in the sample.

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-005B
Client Sample ID: B3
Collection Date: 9/12/2019 1100h
Received Date: 9/12/2019 1718h
Test Code: 8270E-W-3511

Analytical Results SVOA TCL List by GC/MS Method 8270E/3511

Analyzed: 9/18/2019 037h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1´-Biphenyl	92-52-4	9.61	< 9.61	
1,2,4,5-Tetrachlorobenzene	95-94-3	9.61	< 9.61	
2,2´-Oxybis(1-chloropropane)	108-60-1	9.61	< 9.61	
2,3,4,6-Tetrachlorophenol	58-90-2	9.61	< 9.61	
2,4,5-Trichlorophenol	95-95-4	9.61	< 9.61	
2,4,6-Trichlorophenol	88-06-2	9.61	< 9.61	
2,4-Dichlorophenol	120-83-2	9.61	< 9.61	
2,4-Dimethylphenol	105-67-9	9.61	< 9.61	
2,4-Dinitrophenol	51-28-5	9.61	< 9.61	
2,4-Dinitrotoluene	121-14-2	9.61	< 9.61	
2,6-Dinitrotoluene	606-20-2	9.61	< 9.61	
2-Chloronaphthalene	91-58-7	9.61	< 9.61	
2-Chlorophenol	95-57-8	9.61	< 9.61	
2-Methylnaphthalene	91-57-6	9.61	< 9.61	
2-Methylphenol	95-48-7	9.61	< 9.61	
2-Nitroaniline	88-74-4	9.61	< 9.61	
2-Nitrophenol	88-75-5	9.61	< 9.61	
3&4-Methylphenol		9.61	< 9.61	
3,3´-Dichlorobenzidine	91-94-1	9.61	< 9.61	
3-Nitroaniline	99-09-2	9.61	< 9.61	
4,6-Dinitro-2-methylphenol	534-52-1	9.61	< 9.61	
4-Bromophenyl phenyl ether	101-55-3	9.61	< 9.61	
4-Chloro-3-methylphenol	59-50-7	9.61	< 9.61	
4-Chloroaniline	106-47-8	9.61	< 9.61	
4-Chlorophenyl phenyl ether	7005-72-3	9.61	< 9.61	
4-Nitroaniline	100-01-6	9.61	< 9.61	
4-Nitrophenol	100-02-7	9.61	< 9.61	
Acenaphthene	83-32-9	9.61	< 9.61	
Acenaphthylene	208-96-8	9.61	< 9.61	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-005B
Client Sample ID: B3

Analyzed: 9/18/2019 037h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Acetophenone	98-86-2	9.61	< 9.61	
Anthracene	120-12-7	9.61	< 9.61	
Atrazine	1912-24-9	9.61	< 9.61	
Benz(a)anthracene	56-55-3	9.61	< 9.61	
Benzaldehyde	100-52-7	33.6	< 33.6	^#
Benzo(a)pyrene	50-32-8	9.61	< 9.61	
Benzo(b)fluoranthene	205-99-2	9.61	< 9.61	
Benzo(g,h,i)perylene	191-24-2	9.61	< 9.61	
Benzo(k)fluoranthene	207-08-9	9.61	< 9.61	
Bis(2-chloroethoxy)methane	111-91-1	9.61	< 9.61	
Bis(2-chloroethyl) ether	111-44-4	9.61	< 9.61	
Bis(2-ethylhexyl) phthalate	117-81-7	9.61	< 9.61	
Butyl benzyl phthalate	85-68-7	9.61	< 9.61	
Caprolactam	105-60-2	24.0	< 24.0	
Carbazole	86-74-8	9.61	< 9.61	
Chrysene	218-01-9	9.61	< 9.61	
Dibenz(a,h)anthracene	53-70-3	9.61	< 9.61	
Dibenzofuran	132-64-9	9.61	< 9.61	
Diethyl phthalate	84-66-2	9.61	< 9.61	
Dimethyl phthalate	131-11-3	9.61	< 9.61	
Di-n-butyl phthalate	84-74-2	9.61	< 9.61	
Di-n-octyl phthalate	117-84-0	9.61	< 9.61	
Fluoranthene	206-44-0	9.61	< 9.61	
Fluorene	86-73-7	9.61	< 9.61	
Hexachlorobenzene	118-74-1	9.61	< 9.61	
Hexachlorobutadiene	87-68-3	9.61	< 9.61	
Hexachlorocyclopentadiene	77-47-4	9.61	< 9.61	
Hexachloroethane	67-72-1	9.61	< 9.61	
Indeno(1,2,3-cd)pyrene	193-39-5	9.61	< 9.61	
Isophorone	78-59-1	9.61	< 9.61	
Naphthalene	91-20-3	9.61	< 9.61	
Nitrobenzene	98-95-3	9.61	< 9.61	
N-Nitrosodi-n-propylamine	621-64-7	9.61	< 9.61	
N-Nitrosodiphenylamine	86-30-6	9.61	< 9.61	
Pentachlorophenol	87-86-5	9.61	< 9.61	
Phenanthrene	85-01-8	9.61	< 9.61	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-005B
Client Sample ID: B3

Analyzed: 9/18/2019 037h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Phenol	108-95-2	9.61	< 9.61	
Pyrene	129-00-0	9.61	< 9.61	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	20.7	48.07	43.0	10-177	
Surr: 2-Fluorobiphenyl	321-60-8	38.8	24.03	161	30-133	S
Surr: 2-Fluorophenol	367-12-4	24.2	48.07	50.4	10-125	
Surr: Nitrobenzene-d5	4165-60-0	47.7	24.03	198	55-152	S
Surr: Phenol-d6	13127-88-3	17.0	48.07	35.4	10-100	
Surr: Terphenyl-d14	1718-51-0	37.1	24.03	154	48-155	

^ - High LCS recoveries indicate possible bias high. Data deemed acceptable as the analyte was not observed in the field sample.

S - High surrogate recoveries indicate possible bias high. Data deemed acceptable as no analytes associated with this surrogate were observed in the field sample.

 # - This compound exceeded (high) the control limit for the CCV. The data is acceptable since the compound was not detected in the sample.

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-007B
Client Sample ID: B4
Collection Date: 9/12/2019 1200h
Received Date: 9/12/2019 1718h
Test Code: 8270E-W-3511

Analytical Results SVOA TCL List by GC/MS Method 8270E/3511

Analyzed: 9/18/2019 059h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1´-Biphenyl	92-52-4	9.58	< 9.58	
1,2,4,5-Tetrachlorobenzene	95-94-3	9.58	< 9.58	
2,2´-Oxybis(1-chloropropane)	108-60-1	9.58	< 9.58	
2,3,4,6-Tetrachlorophenol	58-90-2	9.58	< 9.58	
2,4,5-Trichlorophenol	95-95-4	9.58	< 9.58	
2,4,6-Trichlorophenol	88-06-2	9.58	< 9.58	
2,4-Dichlorophenol	120-83-2	9.58	< 9.58	
2,4-Dimethylphenol	105-67-9	9.58	< 9.58	
2,4-Dinitrophenol	51-28-5	9.58	< 9.58	
2,4-Dinitrotoluene	121-14-2	9.58	< 9.58	
2,6-Dinitrotoluene	606-20-2	9.58	< 9.58	
2-Chloronaphthalene	91-58-7	9.58	< 9.58	
2-Chlorophenol	95-57-8	9.58	< 9.58	
2-Methylnaphthalene	91-57-6	9.58	< 9.58	
2-Methylphenol	95-48-7	9.58	< 9.58	
2-Nitroaniline	88-74-4	9.58	< 9.58	
2-Nitrophenol	88-75-5	9.58	< 9.58	
3&4-Methylphenol		9.58	< 9.58	
3,3´-Dichlorobenzidine	91-94-1	9.58	< 9.58	
3-Nitroaniline	99-09-2	9.58	< 9.58	
4,6-Dinitro-2-methylphenol	534-52-1	9.58	< 9.58	
4-Bromophenyl phenyl ether	101-55-3	9.58	< 9.58	
4-Chloro-3-methylphenol	59-50-7	9.58	< 9.58	
4-Chloroaniline	106-47-8	9.58	< 9.58	
4-Chlorophenyl phenyl ether	7005-72-3	9.58	< 9.58	
4-Nitroaniline	100-01-6	9.58	< 9.58	
4-Nitrophenol	100-02-7	9.58	< 9.58	
Acenaphthene	83-32-9	9.58	< 9.58	
Acenaphthylene	208-96-8	9.58	< 9.58	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-007B
Client Sample ID: B4

Analyzed: 9/18/2019 059h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Acetophenone	98-86-2	9.58	< 9.58	
Anthracene	120-12-7	9.58	< 9.58	
Atrazine	1912-24-9	9.58	< 9.58	
Benz(a)anthracene	56-55-3	9.58	< 9.58	
Benzaldehyde	100-52-7	33.5	< 33.5	^#
Benzo(a)pyrene	50-32-8	9.58	< 9.58	
Benzo(b)fluoranthene	205-99-2	9.58	< 9.58	
Benzo(g,h,i)perylene	191-24-2	9.58	< 9.58	
Benzo(k)fluoranthene	207-08-9	9.58	< 9.58	
Bis(2-chloroethoxy)methane	111-91-1	9.58	< 9.58	
Bis(2-chloroethyl) ether	111-44-4	9.58	< 9.58	
Bis(2-ethylhexyl) phthalate	117-81-7	9.58	< 9.58	
Butyl benzyl phthalate	85-68-7	9.58	< 9.58	
Caprolactam	105-60-2	23.9	< 23.9	
Carbazole	86-74-8	9.58	< 9.58	
Chrysene	218-01-9	9.58	< 9.58	
Dibenz(a,h)anthracene	53-70-3	9.58	< 9.58	
Dibenzofuran	132-64-9	9.58	< 9.58	
Diethyl phthalate	84-66-2	9.58	< 9.58	
Dimethyl phthalate	131-11-3	9.58	< 9.58	
Di-n-butyl phthalate	84-74-2	9.58	< 9.58	
Di-n-octyl phthalate	117-84-0	9.58	< 9.58	
Fluoranthene	206-44-0	9.58	< 9.58	
Fluorene	86-73-7	9.58	< 9.58	
Hexachlorobenzene	118-74-1	9.58	< 9.58	
Hexachlorobutadiene	87-68-3	9.58	< 9.58	
Hexachlorocyclopentadiene	77-47-4	9.58	< 9.58	
Hexachloroethane	67-72-1	9.58	< 9.58	
Indeno(1,2,3-cd)pyrene	193-39-5	9.58	< 9.58	
Isophorone	78-59-1	9.58	< 9.58	
Naphthalene	91-20-3	9.58	< 9.58	
Nitrobenzene	98-95-3	9.58	< 9.58	
N-Nitrosodi-n-propylamine	621-64-7	9.58	< 9.58	
N-Nitrosodiphenylamine	86-30-6	9.58	< 9.58	
Pentachlorophenol	87-86-5	9.58	< 9.58	
Phenanthrene	85-01-8	9.58	< 9.58	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-007B
Client Sample ID: B4

Analyzed: 9/18/2019 059h **Extracted:** 9/16/2019 724h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270E

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Phenol	108-95-2	9.58	< 9.58	
Pyrene	129-00-0	9.58	< 9.58	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	41.6	47.88	87.0	10-177	
Surr: 2-Fluorobiphenyl	321-60-8	27.4	23.94	115	30-133	
Surr: 2-Fluorophenol	367-12-4	39.1	47.88	81.7	10-125	
Surr: Nitrobenzene-d5	4165-60-0	37.2	23.94	155	55-152	S
Surr: Phenol-d6	13127-88-3	30.7	47.88	64.0	10-100	
Surr: Terphenyl-d14	1718-51-0	27.9	23.94	116	48-155	

^ - High LCS recoveries indicate possible bias high. Data deemed acceptable as the analyte was not observed in the field sample.

S - High surrogate recoveries indicate possible bias high. Data deemed acceptable as no analytes associated with this surrogate were observed in the field sample.

 # - This compound exceeded (high) the control limit for the CCV. The data is acceptable since the compound was not detected in the sample.

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-001A
Client Sample ID: B1
Collection Date: 9/12/2019 900h
Received Date: 9/12/2019 1718h
Test Code: 8260D-W

Analytical Results VOAs AWAL List by GC/MS Method 8260D/5030C

Analyzed: 9/17/2019 1309h **Extracted:**
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260D

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Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1,1-Trichloroethane	71-55-6	2.00	< 2.00	
1,1,2,2-Tetrachloroethane	79-34-5	2.00	< 2.00	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	2.00	< 2.00	
1,1,2-Trichloroethane	79-00-5	2.00	< 2.00	
1,1-Dichloroethane	75-34-3	2.00	< 2.00	
1,1-Dichloroethene	75-35-4	2.00	< 2.00	
1,2,3-Trichlorobenzene	87-61-6	2.00	< 2.00	
1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
1,2-Dibromo-3-chloropropane	96-12-8	5.00	< 5.00	
1,2-Dibromoethane	106-93-4	2.00	< 2.00	
1,2-Dichlorobenzene	95-50-1	2.00	< 2.00	
1,2-Dichloroethane	107-06-2	2.00	< 2.00	
1,2-Dichloropropane	78-87-5	2.00	< 2.00	
1,3-Dichlorobenzene	541-73-1	2.00	< 2.00	
1,4-Dichlorobenzene	106-46-7	2.00	< 2.00	
1,4-Dioxane	123-91-1	50.0	< 50.0	
2-Butanone	78-93-3	10.0	< 10.0	
2-Hexanone	591-78-6	5.00	< 5.00	
4-Methyl-2-pentanone	108-10-1	5.00	< 5.00	
Acetone	67-64-1	10.0	< 10.0	
Benzene	71-43-2	2.00	< 2.00	
Bromochloromethane	74-97-5	2.00	< 2.00	
Bromodichloromethane	75-27-4	2.00	< 2.00	
Bromoform	75-25-2	2.00	< 2.00	
Bromomethane	74-83-9	5.00	< 5.00	$
Carbon disulfide	75-15-0	2.00	**2.46**	
Carbon tetrachloride	56-23-5	2.00	< 2.00	
Chlorobenzene	108-90-7	2.00	< 2.00	
Chloroethane	75-00-3	2.00	< 2.00	#

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-001A
Client Sample ID: B1

Analyzed: 9/17/2019 1309h **Extracted:**
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Chloroform	67-66-3	2.00	< 2.00	
Chloromethane	74-87-3	3.00	< 3.00	$
cis-1,2-Dichloroethene	156-59-2	2.00	**13.4**	
cis-1,3-Dichloropropene	10061-01-5	2.00	< 2.00	
Cyclohexane	110-82-7	2.00	< 2.00	
Dibromochloromethane	124-48-1	2.00	< 2.00	
Dichlorodifluoromethane	75-71-8	2.00	< 2.00	#
Ethylbenzene	100-41-4	2.00	< 2.00	
Isopropylbenzene	98-82-8	2.00	< 2.00	
m,p-Xylene	179601-23-1	2.00	< 2.00	
Methyl Acetate	79-20-9	5.00	< 5.00	
Methyl tert-butyl ether	1634-04-4	2.00	< 2.00	
Methylcyclohexane	108-87-2	2.00	< 2.00	
Methylene chloride	75-09-2	2.00	< 2.00	
Naphthalene	91-20-3	2.00	< 2.00	$
o-Xylene	95-47-6	2.00	< 2.00	
Styrene	100-42-5	2.00	< 2.00	
Tetrachloroethene	127-18-4	2.00	< 2.00	
Toluene	108-88-3	2.00	< 2.00	
TPH C6-C10 (GRO)		20.0	< 20.0	
trans-1,2-Dichloroethene	156-60-5	2.00	**5.24**	
trans-1,3-Dichloropropene	10061-02-6	2.00	< 2.00	
Trichloroethene	79-01-6	2.00	< 2.00	
Trichlorofluoromethane	75-69-4	2.00	< 2.00	#
Vinyl chloride	75-01-4	1.00	< 1.00	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	51.3	50.00	103	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	48.1	50.00	96.1	80-152	
Surr: Dibromofluoromethane	1868-53-7	51.1	50.00	102	70-130	
Surr: Toluene-d8	2037-26-5	46.9	50.00	93.8	80-124	

 # - This compound exceeded (high) the control limit for the CCV. The data is acceptable since the compound was not detected in the sample.
$ - This compound exceeded (low) the control limit for the CCV. The compound concentration is estimated and may be biased low.

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-003A
Client Sample ID: B2
Collection Date: 9/12/2019 1000h
Received Date: 9/12/2019 1718h
Test Code: 8260D-W

Analytical Results VOAs AWAL List by GC/MS Method 8260D/5030C

Analyzed: 9/17/2019 1329h **Extracted:**
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260D

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1,1-Trichloroethane	71-55-6	2.00	< 2.00	
1,1,2,2-Tetrachloroethane	79-34-5	2.00	< 2.00	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	2.00	< 2.00	
1,1,2-Trichloroethane	79-00-5	2.00	< 2.00	
1,1-Dichloroethane	75-34-3	2.00	< 2.00	
1,1-Dichloroethene	75-35-4	2.00	< 2.00	
1,2,3-Trichlorobenzene	87-61-6	2.00	< 2.00	
1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
1,2-Dibromo-3-chloropropane	96-12-8	5.00	< 5.00	
1,2-Dibromoethane	106-93-4	2.00	< 2.00	
1,2-Dichlorobenzene	95-50-1	2.00	< 2.00	
1,2-Dichloroethane	107-06-2	2.00	< 2.00	
1,2-Dichloropropane	78-87-5	2.00	< 2.00	
1,3-Dichlorobenzene	541-73-1	2.00	< 2.00	
1,4-Dichlorobenzene	106-46-7	2.00	< 2.00	
1,4-Dioxane	123-91-1	50.0	< 50.0	
2-Butanone	78-93-3	10.0	< 10.0	
2-Hexanone	591-78-6	5.00	< 5.00	
4-Methyl-2-pentanone	108-10-1	5.00	< 5.00	
Acetone	67-64-1	10.0	< 10.0	
Benzene	71-43-2	2.00	< 2.00	
Bromochloromethane	74-97-5	2.00	< 2.00	
Bromodichloromethane	75-27-4	2.00	< 2.00	
Bromoform	75-25-2	2.00	< 2.00	
Bromomethane	74-83-9	5.00	< 5.00	$
Carbon disulfide	75-15-0	2.00	< 2.00	
Carbon tetrachloride	56-23-5	2.00	< 2.00	
Chlorobenzene	108-90-7	2.00	< 2.00	
Chloroethane	75-00-3	2.00	< 2.00	#

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-003A
Client Sample ID: B2

Analyzed: 9/17/2019 1329h **Extracted:**
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Chloroform	67-66-3	2.00	< 2.00	
Chloromethane	74-87-3	3.00	< 3.00	$
cis-1,2-Dichloroethene	156-59-2	2.00	< 2.00	
cis-1,3-Dichloropropene	10061-01-5	2.00	< 2.00	
Cyclohexane	110-82-7	2.00	< 2.00	
Dibromochloromethane	124-48-1	2.00	< 2.00	
Dichlorodifluoromethane	75-71-8	2.00	< 2.00	#
Ethylbenzene	100-41-4	2.00	< 2.00	
Isopropylbenzene	98-82-8	2.00	< 2.00	
m,p-Xylene	179601-23-1	2.00	< 2.00	
Methyl Acetate	79-20-9	5.00	< 5.00	
Methyl tert-butyl ether	1634-04-4	2.00	< 2.00	
Methylcyclohexane	108-87-2	2.00	< 2.00	
Methylene chloride	75-09-2	2.00	< 2.00	
Naphthalene	91-20-3	2.00	< 2.00	$
o-Xylene	95-47-6	2.00	< 2.00	
Styrene	100-42-5	2.00	< 2.00	
Tetrachloroethene	127-18-4	2.00	< 2.00	
Toluene	108-88-3	2.00	< 2.00	
TPH C6-C10 (GRO)		20.0	< 20.0	
trans-1,2-Dichloroethene	156-60-5	2.00	< 2.00	
trans-1,3-Dichloropropene	10061-02-6	2.00	< 2.00	
Trichloroethene	79-01-6	2.00	< 2.00	
Trichlorofluoromethane	75-69-4	2.00	< 2.00	#
Vinyl chloride	75-01-4	1.00	< 1.00	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	52.8	50.00	106	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	48.6	50.00	97.2	80-152	
Surr: Dibromofluoromethane	1868-53-7	51.8	50.00	104	70-130	
Surr: Toluene-d8	2037-26-5	48.8	50.00	97.6	80-124	

The pH of the sample was >2. Analysis was performed within the 7 day holding time.

 # - This compound exceeded (high) the control limit for the CCV. The data is acceptable since the compound was not detected in the sample.

$ - This compound exceeded (low) the control limit for the CCV. The compound concentration is estimated and may be biased low.

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-005A
Client Sample ID: B3
Collection Date: 9/12/2019 1100h
Received Date: 9/12/2019 1718h
Test Code: 8260D-W

Analytical Results VOAs AWAL List by GC/MS Method 8260D/5030C

Analyzed: 9/17/2019 1349h **Extracted:**
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260D

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Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1,1-Trichloroethane	71-55-6	2.00	< 2.00	
1,1,2,2-Tetrachloroethane	79-34-5	2.00	< 2.00	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	2.00	< 2.00	
1,1,2-Trichloroethane	79-00-5	2.00	< 2.00	
1,1-Dichloroethane	75-34-3	2.00	< 2.00	
1,1-Dichloroethene	75-35-4	2.00	< 2.00	
1,2,3-Trichlorobenzene	87-61-6	2.00	< 2.00	
1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
1,2-Dibromo-3-chloropropane	96-12-8	5.00	< 5.00	
1,2-Dibromoethane	106-93-4	2.00	< 2.00	
1,2-Dichlorobenzene	95-50-1	2.00	< 2.00	
1,2-Dichloroethane	107-06-2	2.00	< 2.00	
1,2-Dichloropropane	78-87-5	2.00	< 2.00	
1,3-Dichlorobenzene	541-73-1	2.00	< 2.00	
1,4-Dichlorobenzene	106-46-7	2.00	< 2.00	
1,4-Dioxane	123-91-1	50.0	< 50.0	
2-Butanone	78-93-3	10.0	< 10.0	
2-Hexanone	591-78-6	5.00	< 5.00	
4-Methyl-2-pentanone	108-10-1	5.00	< 5.00	
Acetone	67-64-1	10.0	< 10.0	
Benzene	71-43-2	2.00	< 2.00	
Bromochloromethane	74-97-5	2.00	< 2.00	
Bromodichloromethane	75-27-4	2.00	< 2.00	
Bromoform	75-25-2	2.00	< 2.00	
Bromomethane	74-83-9	5.00	< 5.00	$
Carbon disulfide	75-15-0	2.00	< 2.00	
Carbon tetrachloride	56-23-5	2.00	< 2.00	
Chlorobenzene	108-90-7	2.00	< 2.00	
Chloroethane	75-00-3	2.00	< 2.00	#

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Laboratory Director

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QA Officer

Lab Sample ID: 1909313-005A
Client Sample ID: B3

Analyzed: 9/17/2019 1349h **Extracted:**
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Chloroform	67-66-3	2.00	< 2.00	
Chloromethane	74-87-3	3.00	< 3.00	$
cis-1,2-Dichloroethene	156-59-2	2.00	< 2.00	
cis-1,3-Dichloropropene	10061-01-5	2.00	< 2.00	
Cyclohexane	110-82-7	2.00	< 2.00	
Dibromochloromethane	124-48-1	2.00	< 2.00	
Dichlorodifluoromethane	75-71-8	2.00	< 2.00	#
Ethylbenzene	100-41-4	2.00	< 2.00	
Isopropylbenzene	98-82-8	2.00	< 2.00	
m,p-Xylene	179601-23-1	2.00	< 2.00	
Methyl Acetate	79-20-9	5.00	< 5.00	
Methyl tert-butyl ether	1634-04-4	2.00	< 2.00	
Methylcyclohexane	108-87-2	2.00	< 2.00	
Methylene chloride	75-09-2	2.00	< 2.00	
Naphthalene	91-20-3	2.00	< 2.00	$
o-Xylene	95-47-6	2.00	< 2.00	
Styrene	100-42-5	2.00	< 2.00	
Tetrachloroethene	127-18-4	2.00	< 2.00	
Toluene	108-88-3	2.00	< 2.00	
trans-1,2-Dichloroethene	156-60-5	2.00	< 2.00	
trans-1,3-Dichloropropene	10061-02-6	2.00	< 2.00	
Trichloroethene	79-01-6	2.00	< 2.00	
Trichlorofluoromethane	75-69-4	2.00	< 2.00	#
Vinyl chloride	75-01-4	1.00	< 1.00	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	52.9	50.00	106	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	47.9	50.00	95.8	80-152	
Surr: Dibromofluoromethane	1868-53-7	51.5	50.00	103	70-130	
Surr: Toluene-d8	2037-26-5	48.2	50.00	96.5	80-124	

 # - This compound exceeded (high) the control limit for the CCV. The data is acceptable since the compound was not detected in the sample.

$ - This compound exceeded (low) the control limit for the CCV. The compound concentration is estimated and may be biased low.

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Corbin Jensen
Project: 470 W. 200 N. Salt Development P2
Lab Sample ID: 1909313-007A
Client Sample ID: B4
Collection Date: 9/12/2019 1200h
Received Date: 9/12/2019 1718h
Test Code: 8260D-W

Analytical Results VOAs AWAL List by GC/MS Method 8260D/5030C

Analyzed: 9/17/2019 1409h **Extracted:**
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260D

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Laboratory Director

Jose Rocha
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,1,1-Trichloroethane	71-55-6	2.00	< 2.00	
1,1,2,2-Tetrachloroethane	79-34-5	2.00	< 2.00	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	2.00	< 2.00	
1,1,2-Trichloroethane	79-00-5	2.00	< 2.00	
1,1-Dichloroethane	75-34-3	2.00	< 2.00	
1,1-Dichloroethene	75-35-4	2.00	< 2.00	
1,2,3-Trichlorobenzene	87-61-6	2.00	< 2.00	
1,2,4-Trichlorobenzene	120-82-1	2.00	< 2.00	
1,2-Dibromo-3-chloropropane	96-12-8	5.00	< 5.00	
1,2-Dibromoethane	106-93-4	2.00	< 2.00	
1,2-Dichlorobenzene	95-50-1	2.00	< 2.00	
1,2-Dichloroethane	107-06-2	2.00	< 2.00	
1,2-Dichloropropane	78-87-5	2.00	< 2.00	
1,3-Dichlorobenzene	541-73-1	2.00	< 2.00	
1,4-Dichlorobenzene	106-46-7	2.00	< 2.00	
1,4-Dioxane	123-91-1	50.0	< 50.0	
2-Butanone	78-93-3	10.0	< 10.0	
2-Hexanone	591-78-6	5.00	< 5.00	
4-Methyl-2-pentanone	108-10-1	5.00	< 5.00	
Acetone	67-64-1	10.0	< 10.0	
Benzene	71-43-2	2.00	< 2.00	
Bromochloromethane	74-97-5	2.00	< 2.00	
Bromodichloromethane	75-27-4	2.00	< 2.00	
Bromoform	75-25-2	2.00	< 2.00	
Bromomethane	74-83-9	5.00	< 5.00	$
Carbon disulfide	75-15-0	2.00	< 2.00	
Carbon tetrachloride	56-23-5	2.00	< 2.00	
Chlorobenzene	108-90-7	2.00	< 2.00	
Chloroethane	75-00-3	2.00	< 2.00	#

American West
ANALYTICAL LABORATORIES

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1909313-007A
Client Sample ID: B4

Analyzed: 9/17/2019 1409h **Extracted:**
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Chloroform	67-66-3	2.00	< 2.00	
Chloromethane	74-87-3	3.00	< 3.00	$
cis-1,2-Dichloroethene	156-59-2	2.00	< 2.00	
cis-1,3-Dichloropropene	10061-01-5	2.00	< 2.00	
Cyclohexane	110-82-7	2.00	< 2.00	
Dibromochloromethane	124-48-1	2.00	< 2.00	
Dichlorodifluoromethane	75-71-8	2.00	< 2.00	#
Ethylbenzene	100-41-4	2.00	< 2.00	
Isopropylbenzene	98-82-8	2.00	< 2.00	
m,p-Xylene	179601-23-1	2.00	< 2.00	
Methyl Acetate	79-20-9	5.00	< 5.00	
Methyl tert-butyl ether	1634-04-4	2.00	< 2.00	
Methylcyclohexane	108-87-2	2.00	< 2.00	
Methylene chloride	75-09-2	2.00	< 2.00	
Naphthalene	91-20-3	2.00	< 2.00	$
o-Xylene	95-47-6	2.00	< 2.00	
Styrene	100-42-5	2.00	< 2.00	
Tetrachloroethene	127-18-4	2.00	< 2.00	
Toluene	108-88-3	2.00	< 2.00	
TPH C6-C10 (GRO)		20.0	< 20.0	
trans-1,2-Dichloroethene	156-60-5	2.00	< 2.00	
trans-1,3-Dichloropropene	10061-02-6	2.00	< 2.00	
Trichloroethene	79-01-6	2.00	< 2.00	
Trichlorofluoromethane	75-69-4	2.00	< 2.00	#
Vinyl chloride	75-01-4	1.00	< 1.00	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	51.9	50.00	104	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	48.9	50.00	97.8	80-152	
Surr: Dibromofluoromethane	1868-53-7	52.3	50.00	105	70-130	
Surr: Toluene-d8	2037-26-5	48.5	50.00	97.1	80-124	

 # - This compound exceeded (high) the control limit for the CCV. The data is acceptable since the compound was not detected in the sample.
$ - This compound exceeded (low) the control limit for the CCV. The compound concentration is estimated and may be biased low.

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: GC
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-64998	Date Analyzed:	09/13/2019 1411h											
Test Code: 8015-W-TPH-3511	Date Prepared:	09/13/2019 723h											
Diesel Range Organics (DRO) (C10-C28)	7.18	mg/L	SW8015D	0.255	0.500	5.714	0	126	25 - 174				
Surr: 4-Bromofluorobenzene	1.14	mg/L	SW8015D			1.143		99.6	27 - 178				

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: GC
QC Type: LCSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCSD-64998	Date Analyzed:	09/13/2019 1432h											
Test Code: 8015-W-TPH-3511	Date Prepared:	09/13/2019 723h											
Diesel Range Organics (DRO) (C10-C28)	5.36	mg/L	SW8015D	0.255	0.500	5.714	0	93.8	25 - 174	7.18	29.1	25	
Surr: 4-Bromofluorobenzene	1.00	mg/L	SW8015D			1.143		87.6	27 - 178				

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: GC
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-64998	Date Analyzed:	09/13/2019 1350h											
Test Code: 8015-W-TPH-3511	Date Prepared:	09/13/2019 723h											
Diesel Range Organics (DRO) (C10-C28)	< 0.500	mg/L	SW8015D	0.255	0.500								
Surr: 4-Bromofluorobenzene	1.02	mg/L	SW8015D			1.143		89.5	27 - 178				

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-65024	Date Analyzed:	09/17/2019 1511h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
1,1´-Biphenyl	46.5	µg/L	SW8270E	1.45	10.0	50.00	0	93.0	67 - 125				
1,2,4,5-Tetrachlorobenzene	45.6	µg/L	SW8270E	1.55	10.0	50.00	0	91.1	51 - 139				
2,2´-Oxybis(1-chloropropane)	47.2	µg/L	SW8270E	2.50	10.0	50.00	0	94.4	54 - 122				
2,3,4,6-Tetrachlorophenol	49.5	µg/L	SW8270E	2.95	10.0	50.00	0	99.1	19 - 189				
2,4,5-Trichlorophenol	57.4	µg/L	SW8270E	2.69	10.0	50.00	0	115	63 - 138				
2,4,6-Trichlorophenol	55.7	µg/L	SW8270E	1.69	10.0	50.00	0	111	39 - 134				
2,4-Dichlorophenol	50.7	µg/L	SW8270E	2.80	10.0	50.00	0	101	45 - 150				
2,4-Dimethylphenol	49.4	µg/L	SW8270E	2.23	10.0	50.00	0	98.7	45 - 156				
2,4-Dinitrophenol	40.8	µg/L	SW8270E	2.96	10.0	50.00	0	81.7	10 - 149				
2,4-Dinitrotoluene	49.3	µg/L	SW8270E	3.65	10.0	50.00	0	98.5	50 - 153				
2,6-Dinitrotoluene	52.3	µg/L	SW8270E	2.29	10.0	50.00	0	105	74 - 152				
2-Chloronaphthalene	45.3	µg/L	SW8270E	1.65	10.0	50.00	0	90.7	59 - 138				
2-Chlorophenol	46.4	µg/L	SW8270E	2.14	10.0	50.00	0	92.8	30 - 136				
2-Methylnaphthalene	44.6	µg/L	SW8270E	1.62	10.0	50.00	0	89.1	59 - 139				
2-Methylphenol	42.2	µg/L	SW8270E	3.53	10.0	50.00	0	84.5	25 - 134				
2-Nitroaniline	51.9	µg/L	SW8270E	2.83	10.0	50.00	0	104	50 - 158				
2-Nitrophenol	53.5	µg/L	SW8270E	2.97	10.0	50.00	0	107	30 - 152				
3&4-Methylphenol	83.0	µg/L	SW8270E	2.07	10.0	100.0	0	83.0	10 - 275				
3,3´-Dichlorobenzidine	94.4	µg/L	SW8270E	4.30	10.0	100.0	0	94.4	33 - 159				
3-Nitroaniline	25.7	µg/L	SW8270E	3.17	10.0	50.00	0	51.4	23 - 172				
4,6-Dinitro-2-methylphenol	50.9	µg/L	SW8270E	1.38	10.0	50.00	0	102	10 - 121				
4-Bromophenyl phenyl ether	52.1	µg/L	SW8270E	1.06	10.0	50.00	0	104	71 - 127				
4-Chloro-3-methylphenol	49.6	µg/L	SW8270E	2.89	10.0	50.00	0	99.3	36 - 168				
4-Chloroaniline	19.9	µg/L	SW8270E	2.18	10.0	50.00	0	39.8	19 - 145				
4-Chlorophenyl phenyl ether	49.3	µg/L	SW8270E	2.42	10.0	50.00	0	98.6	69 - 146				
4-Nitroaniline	38.2	µg/L	SW8270E	5.78	10.0	50.00	0	76.3	37 - 161				
4-Nitrophenol	24.4	µg/L	SW8270E	4.54	10.0	50.00	0	48.9	10 - 109				
Acenaphthene	47.1	µg/L	SW8270E	1.16	10.0	50.00	0	94.2	72 - 124				
Acenaphthylene	49.9	µg/L	SW8270E	1.06	10.0	50.00	0	99.8	75 - 130				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-65024	Date Analyzed:	09/17/2019 1511h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
Acetophenone	48.5	µg/L	SW8270E	2.88	10.0	50.00	0	97.0	20 - 139				
Anthracene	49.6	µg/L	SW8270E	1.39	10.0	50.00	0	99.3	80 - 123				
Atrazine	60.0	µg/L	SW8270E	2.59	10.0	50.00	0	120	79 - 175				
Benz(a)anthracene	49.1	µg/L	SW8270E	1.62	10.0	50.00	0	98.1	75 - 121				
Benzaldehyde	658	µg/L	SW8270E	34.7	35.0	50.00	0	1,320	65 - 850				S
Benzo(a)pyrene	52.5	µg/L	SW8270E	1.52	10.0	50.00	0	105	67 - 146				
Benzo(b)fluoranthene	51.9	µg/L	SW8270E	1.49	10.0	50.00	0	104	63 - 148				
Benzo(g,h,i)perylene	53.2	µg/L	SW8270E	1.29	10.0	50.00	0	106	60 - 153				
Benzo(k)fluoranthene	51.5	µg/L	SW8270E	1.66	10.0	50.00	0	103	68 - 148				
Bis(2-chloroethoxy)methane	49.9	µg/L	SW8270E	2.28	10.0	50.00	0	99.8	65 - 137				
Bis(2-chloroethyl) ether	47.9	µg/L	SW8270E	1.91	10.0	50.00	0	95.8	39 - 161				
Bis(2-ethylhexyl) phthalate	53.5	µg/L	SW8270E	4.93	10.0	50.00	0	107	54 - 161				
Butyl benzyl phthalate	55.5	µg/L	SW8270E	3.89	10.0	50.00	0	111	65 - 130				
Caprolactam	17.5	µg/L	SW8270E	7.24	25.0	50.00	0	35.0	10 - 105				
Carbazole	51.1	µg/L	SW8270E	1.54	10.0	50.00	0	102	83 - 130				
Chrysene	46.2	µg/L	SW8270E	1.44	10.0	50.00	0	92.4	68 - 122				
Dibenz(a,h)anthracene	53.3	µg/L	SW8270E	1.57	10.0	50.00	0	107	61 - 150				
Dibenzofuran	48.0	µg/L	SW8270E	1.62	10.0	50.00	0	96.0	65 - 126				
Diethyl phthalate	33.1	µg/L	SW8270E	2.37	10.0	50.00	0	66.1	34 - 176				
Dimethyl phthalate	23.3	µg/L	SW8270E	7.68	10.0	50.00	0	46.6	40 - 161				
Di-n-butyl phthalate	52.5	µg/L	SW8270E	3.00	10.0	50.00	0	105	70 - 135				
Di-n-octyl phthalate	55.3	µg/L	SW8270E	1.79	10.0	50.00	0	111	47 - 156				
Fluoranthene	51.4	µg/L	SW8270E	1.67	10.0	50.00	0	103	76 - 140				
Fluorene	48.4	µg/L	SW8270E	1.90	10.0	50.00	0	96.9	65 - 136				
Hexachlorobenzene	51.7	µg/L	SW8270E	1.50	10.0	50.00	0	103	67 - 132				
Hexachlorobutadiene	33.7	µg/L	SW8270E	1.71	10.0	50.00	0	67.4	50 - 121				
Hexachlorocyclopentadiene	28.4	µg/L	SW8270E	7.13	10.0	50.00	0	56.7	26 - 124				
Hexachloroethane	35.3	µg/L	SW8270E	1.51	10.0	50.00	0	70.6	40 - 123				
Indeno(1,2,3-cd)pyrene	52.3	µg/L	SW8270E	1.49	10.0	50.00	0	105	61 - 150				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-65024	Date Analyzed:	09/17/2019 1511h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
Isophorone	48.4	µg/L	SW8270E	2.15	10.0	50.00	0	96.8	62 - 141				
Naphthalene	46.1	µg/L	SW8270E	1.41	10.0	50.00	0	92.2	65 - 126				
Nitrobenzene	57.6	µg/L	SW8270E	1.65	10.0	50.00	0	115	59 - 147				
N-Nitrosodi-n-propylamine	50.0	µg/L	SW8270E	3.22	10.0	50.00	0	100	27 - 154				
N-Nitrosodiphenylamine	101	µg/L	SW8270E	3.24	10.0	100.0	0	101	74 - 129				
Pentachlorophenol	41.4	µg/L	SW8270E	3.24	10.0	50.00	0	82.9	30 - 120				
Phenanthrene	47.9	µg/L	SW8270E	1.22	10.0	50.00	0	95.8	78 - 121				
Phenol	29.8	µg/L	SW8270E	1.82	10.0	50.00	0	59.5	10 - 105				
Pyrene	48.7	µg/L	SW8270E	1.77	10.0	50.00	0	97.4	55 - 136				
Surr: 2,4,6-Tribromophenol	58.3	µg/L	SW8270E			50.00		117	10 - 177				
Surr: 2-Fluorobiphenyl	29.0	µg/L	SW8270E			25.00		116	30 - 133				
Surr: 2-Fluorophenol	43.6	µg/L	SW8270E			50.00		87.2	10 - 125				
Surr: Nitrobenzene-d5	33.6	µg/L	SW8270E			25.00		135	55 - 152				
Surr: Phenol-d6	31.2	µg/L	SW8270E			50.00		62.5	10 - 100				
Surr: Terphenyl-d14	30.3	µg/L	SW8270E			25.00		121	48 - 155				

S - High LCS recoveries indicate possible bias high. Data deemed acceptable as the analyte was not observed in the field sample.

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Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-65024	Date Analyzed:	09/17/2019 1449h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
1,1´-Biphenyl	< 10.0	µg/L	SW8270E	1.45	10.0								
1,2,4,5-Tetrachlorobenzene	< 10.0	µg/L	SW8270E	1.55	10.0								
2,2´-Oxybis(1-chloropropane)	< 10.0	µg/L	SW8270E	2.50	10.0								
2,3,4,6-Tetrachlorophenol	< 10.0	µg/L	SW8270E	2.95	10.0								
2,4,5-Trichlorophenol	< 10.0	µg/L	SW8270E	2.69	10.0								
2,4,6-Trichlorophenol	< 10.0	µg/L	SW8270E	1.69	10.0								
2,4-Dichlorophenol	< 10.0	µg/L	SW8270E	2.80	10.0								
2,4-Dimethylphenol	< 10.0	µg/L	SW8270E	2.23	10.0								
2,4-Dinitrophenol	< 10.0	µg/L	SW8270E	2.96	10.0								
2,4-Dinitrotoluene	< 10.0	µg/L	SW8270E	3.65	10.0								
2,6-Dinitrotoluene	< 10.0	µg/L	SW8270E	2.29	10.0								
2-Chloronaphthalene	< 10.0	µg/L	SW8270E	1.65	10.0								
2-Chlorophenol	< 10.0	µg/L	SW8270E	2.14	10.0								
2-Methylnaphthalene	< 10.0	µg/L	SW8270E	1.62	10.0								
2-Methylphenol	< 10.0	µg/L	SW8270E	3.53	10.0								
2-Nitroaniline	< 10.0	µg/L	SW8270E	2.83	10.0								
2-Nitrophenol	< 10.0	µg/L	SW8270E	2.97	10.0								
3&4-Methylphenol	< 10.0	µg/L	SW8270E	2.07	10.0								
3,3´-Dichlorobenzidine	< 10.0	µg/L	SW8270E	4.30	10.0								
3-Nitroaniline	< 10.0	µg/L	SW8270E	3.17	10.0								
4,6-Dinitro-2-methylphenol	< 10.0	µg/L	SW8270E	1.38	10.0								
4-Bromophenyl phenyl ether	< 10.0	µg/L	SW8270E	1.06	10.0								
4-Chloro-3-methylphenol	< 10.0	µg/L	SW8270E	2.89	10.0								
4-Chloroaniline	< 10.0	µg/L	SW8270E	2.18	10.0								
4-Chlorophenyl phenyl ether	< 10.0	µg/L	SW8270E	2.42	10.0								
4-Nitroaniline	< 10.0	µg/L	SW8270E	5.78	10.0								
4-Nitrophenol	< 10.0	µg/L	SW8270E	4.54	10.0								
Acenaphthene	< 10.0	µg/L	SW8270E	1.16	10.0								
Acenaphthylene	< 10.0	µg/L	SW8270E	1.06	10.0								

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-65024	Date Analyzed:	09/17/2019 1449h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
Acetophenone	< 10.0	µg/L	SW8270E	2.88	10.0								
Anthracene	< 10.0	µg/L	SW8270E	1.39	10.0								
Atrazine	< 10.0	µg/L	SW8270E	2.59	10.0								
Benz(a)anthracene	< 10.0	µg/L	SW8270E	1.62	10.0								
Benzaldehyde	< 35.0	µg/L	SW8270E	34.7	35.0								
Benzo(a)pyrene	< 10.0	µg/L	SW8270E	1.52	10.0								
Benzo(b)fluoranthene	< 10.0	µg/L	SW8270E	1.49	10.0								
Benzo(g,h,i)perylene	< 10.0	µg/L	SW8270E	1.29	10.0								
Benzo(k)fluoranthene	< 10.0	µg/L	SW8270E	1.66	10.0								
Bis(2-chloroethoxy)methane	< 10.0	µg/L	SW8270E	2.28	10.0								
Bis(2-chloroethyl) ether	< 10.0	µg/L	SW8270E	1.91	10.0								
Bis(2-ethylhexyl) phthalate	< 10.0	µg/L	SW8270E	4.93	10.0								
Butyl benzyl phthalate	< 10.0	µg/L	SW8270E	3.89	10.0								
Caprolactam	< 25.0	µg/L	SW8270E	7.24	25.0								
Carbazole	< 10.0	µg/L	SW8270E	1.54	10.0								
Chrysene	< 10.0	µg/L	SW8270E	1.44	10.0								
Dibenz(a,h)anthracene	< 10.0	µg/L	SW8270E	1.57	10.0								
Dibenzofuran	< 10.0	µg/L	SW8270E	1.62	10.0								
Diethyl phthalate	< 10.0	µg/L	SW8270E	2.37	10.0								
Dimethyl phthalate	< 10.0	µg/L	SW8270E	7.68	10.0								
Di-n-butyl phthalate	< 10.0	µg/L	SW8270E	3.00	10.0								
Di-n-octyl phthalate	< 10.0	µg/L	SW8270E	1.79	10.0								
Fluoranthene	< 10.0	µg/L	SW8270E	1.67	10.0								
Fluorene	< 10.0	µg/L	SW8270E	1.90	10.0								
Hexachlorobenzene	< 10.0	µg/L	SW8270E	1.50	10.0								
Hexachlorobutadiene	< 10.0	µg/L	SW8270E	1.71	10.0								
Hexachlorocyclopentadiene	< 10.0	µg/L	SW8270E	7.13	10.0								
Hexachloroethane	< 10.0	µg/L	SW8270E	1.51	10.0								
Indeno(1,2,3-cd)pyrene	< 10.0	µg/L	SW8270E	1.49	10.0								

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-65024	Date Analyzed:	09/17/2019 1449h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
Isophorone	< 10.0	µg/L	SW8270E	2.15	10.0								
Naphthalene	< 10.0	µg/L	SW8270E	1.41	10.0								
Nitrobenzene	< 10.0	µg/L	SW8270E	1.65	10.0								
N-Nitrosodi-n-propylamine	< 10.0	µg/L	SW8270E	3.22	10.0								
N-Nitrosodiphenylamine	< 10.0	µg/L	SW8270E	3.24	10.0								
Pentachlorophenol	< 10.0	µg/L	SW8270E	3.24	10.0								
Phenanthrene	< 10.0	µg/L	SW8270E	1.22	10.0								
Phenol	< 10.0	µg/L	SW8270E	1.82	10.0								
Pyrene	< 10.0	µg/L	SW8270E	1.77	10.0								
Surr: 2,4,6-Tribromophenol	58.3	µg/L	SW8270E			50.00		117	10 - 177				
Surr: 2-Fluorobiphenyl	25.3	µg/L	SW8270E			25.00		101	30 - 133				
Surr: 2-Fluorophenol	40.1	µg/L	SW8270E			50.00		80.2	10 - 125				
Surr: Nitrobenzene-d5	34.1	µg/L	SW8270E			25.00		136	55 - 152				
Surr: Phenol-d6	27.6	µg/L	SW8270E			50.00		55.3	10 - 100				
Surr: Terphenyl-d14	27.9	µg/L	SW8270E			25.00		112	48 - 155				

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909274-003AMS	Date Analyzed:	09/17/2019 1826h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
1,1´-Biphenyl	50.3	µg/L	SW8270E	1.39	9.60	48.00	0	105	67 - 125				
1,2,4,5-Tetrachlorobenzene	51.2	µg/L	SW8270E	1.49	9.60	48.00	0	107	51 - 139				
2,2´-Oxybis(1-chloropropane)	47.9	µg/L	SW8270E	2.40	9.60	48.00	0	99.7	54 - 122				
2,3,4,6-Tetrachlorophenol	55.6	µg/L	SW8270E	2.83	9.60	48.00	0	116	19 - 189				
2,4,5-Trichlorophenol	62.3	µg/L	SW8270E	2.58	9.60	48.00	0	130	63 - 138				
2,4,6-Trichlorophenol	59.6	µg/L	SW8270E	1.62	9.60	48.00	0	124	39 - 134				
2,4-Dichlorophenol	53.1	µg/L	SW8270E	2.69	9.60	48.00	0	111	45 - 150				
2,4-Dimethylphenol	50.1	µg/L	SW8270E	2.14	9.60	48.00	0	104	45 - 156				
2,4-Dinitrophenol	50.8	µg/L	SW8270E	2.84	9.60	48.00	0	106	10 - 149				
2,4-Dinitrotoluene	53.2	µg/L	SW8270E	3.50	9.60	48.00	0	111	50 - 153				
2,6-Dinitrotoluene	55.4	µg/L	SW8270E	2.20	9.60	48.00	0	115	74 - 152				
2-Chloronaphthalene	49.5	µg/L	SW8270E	1.58	9.60	48.00	0	103	59 - 138				
2-Chlorophenol	49.3	µg/L	SW8270E	2.05	9.60	48.00	0	103	30 - 136				
2-Methylnaphthalene	48.1	µg/L	SW8270E	1.56	9.60	48.00	0	100	59 - 139				
2-Methylphenol	46.8	µg/L	SW8270E	3.39	9.60	48.00	0	97.6	25 - 134				
2-Nitroaniline	56.2	µg/L	SW8270E	2.72	9.60	48.00	0	117	50 - 158				
2-Nitrophenol	56.5	µg/L	SW8270E	2.85	9.60	48.00	0	118	30 - 152				
3&4-Methylphenol	89.1	µg/L	SW8270E	1.99	9.60	95.99	0	92.9	10 - 275				
3,3´-Dichlorobenzidine	86.8	µg/L	SW8270E	4.13	9.60	95.99	0	90.4	33 - 159				
3-Nitroaniline	33.4	µg/L	SW8270E	3.04	9.60	48.00	0	69.6	23 - 172				
4,6-Dinitro-2-methylphenol	58.3	µg/L	SW8270E	1.32	9.60	48.00	0	121	10 - 121				1
4-Bromophenyl phenyl ether	55.3	µg/L	SW8270E	1.02	9.60	48.00	0	115	71 - 127				
4-Chloro-3-methylphenol	53.1	µg/L	SW8270E	2.77	9.60	48.00	0	111	36 - 168				
4-Chloroaniline	26.3	µg/L	SW8270E	2.09	9.60	48.00	0	54.9	19 - 145				
4-Chlorophenyl phenyl ether	53.0	µg/L	SW8270E	2.32	9.60	48.00	0	110	69 - 146				
4-Nitroaniline	44.4	µg/L	SW8270E	5.55	9.60	48.00	0	92.4	37 - 161				
4-Nitrophenol	24.0	µg/L	SW8270E	4.36	9.60	48.00	0	50.1	10 - 109				
Acenaphthene	50.5	µg/L	SW8270E	1.11	9.60	48.00	0	105	72 - 124				
Acenaphthylene	52.8	µg/L	SW8270E	1.02	9.60	48.00	0	110	75 - 130				

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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909274-003AMS	Date Analyzed:	09/17/2019 1826h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
Acetophenone	50.1	µg/L	SW8270E	2.76	9.60	48.00	0	104	20 - 139				
Anthracene	52.7	µg/L	SW8270E	1.33	9.60	48.00	0	110	80 - 123				
Atrazine	63.4	µg/L	SW8270E	2.49	9.60	48.00	0	132	79 - 175				
Benz(a)anthracene	51.8	µg/L	SW8270E	1.56	9.60	48.00	0	108	75 - 121				
Benzaldehyde	530	µg/L	SW8270E	33.3	33.6	48.00	0	1,100	65 - 850				S
Benzo(a)pyrene	55.8	µg/L	SW8270E	1.46	9.60	48.00	0	116	67 - 146				
Benzo(b)fluoranthene	54.2	µg/L	SW8270E	1.43	9.60	48.00	0	113	63 - 148				
Benzo(g,h,i)perylene	55.1	µg/L	SW8270E	1.24	9.60	48.00	0	115	60 - 153				
Benzo(k)fluoranthene	56.5	µg/L	SW8270E	1.59	9.60	48.00	0	118	68 - 148				
Bis(2-chloroethoxy)methane	52.5	µg/L	SW8270E	2.19	9.60	48.00	0	109	65 - 137				
Bis(2-chloroethyl) ether	50.2	µg/L	SW8270E	1.83	9.60	48.00	0	105	39 - 161				
Bis(2-ethylhexyl) phthalate	56.0	µg/L	SW8270E	4.73	9.60	48.00	0	117	54 - 161				
Butyl benzyl phthalate	58.8	µg/L	SW8270E	3.73	9.60	48.00	0	123	65 - 130				
Caprolactam	19.5	µg/L	SW8270E	6.95	24.0	48.00	0	40.6	10 - 105				
Carbazole	54.5	µg/L	SW8270E	1.48	9.60	48.00	0	114	83 - 130				
Chrysene	48.9	µg/L	SW8270E	1.38	9.60	48.00	0	102	68 - 122				
Dibenz(a,h)anthracene	55.8	µg/L	SW8270E	1.51	9.60	48.00	0	116	61 - 150				
Dibenzofuran	51.3	µg/L	SW8270E	1.56	9.60	48.00	0	107	65 - 126				
Diethyl phthalate	51.6	µg/L	SW8270E	2.28	9.60	48.00	0	107	34 - 176				
Dimethyl phthalate	53.7	µg/L	SW8270E	7.37	9.60	48.00	0	112	40 - 161				
Di-n-butyl phthalate	55.5	µg/L	SW8270E	2.88	9.60	48.00	0	116	70 - 135				
Di-n-octyl phthalate	59.3	µg/L	SW8270E	1.72	9.60	48.00	0	124	47 - 156				
Fluoranthene	55.4	µg/L	SW8270E	1.60	9.60	48.00	0	115	76 - 140				
Fluorene	50.9	µg/L	SW8270E	1.82	9.60	48.00	0	106	65 - 136				
Hexachlorobenzene	55.0	µg/L	SW8270E	1.44	9.60	48.00	0	115	67 - 132				
Hexachlorobutadiene	45.4	µg/L	SW8270E	1.64	9.60	48.00	0	94.6	50 - 121				
Hexachlorocyclopentadiene	40.7	µg/L	SW8270E	6.84	9.60	48.00	0	84.8	26 - 124				
Hexachloroethane	44.3	µg/L	SW8270E	1.45	9.60	48.00	0	92.4	40 - 123				
Indeno(1,2,3-cd)pyrene	55.0	µg/L	SW8270E	1.43	9.60	48.00	0	115	61 - 150				

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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909274-003AMS	Date Analyzed:	09/17/2019 1826h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
Isophorone	51.1	µg/L	SW8270E	2.06	9.60	48.00	0	106	62 - 141				
Naphthalene	48.8	µg/L	SW8270E	1.35	9.60	48.00	0	102	65 - 126				
Nitrobenzene	60.3	µg/L	SW8270E	1.58	9.60	48.00	0	126	59 - 147				
N-Nitrosodi-n-propylamine	51.1	µg/L	SW8270E	3.09	9.60	48.00	0	107	27 - 154				
N-Nitrosodiphenylamine	107	µg/L	SW8270E	3.11	9.60	95.99	0	112	74 - 129				
Pentachlorophenol	46.1	µg/L	SW8270E	3.11	9.60	48.00	0	96.1	30 - 120				
Phenanthrene	51.2	µg/L	SW8270E	1.17	9.60	48.00	0	107	78 - 121				
Phenol	33.3	µg/L	SW8270E	1.75	9.60	48.00	0	69.4	10 - 105				
Pyrene	49.6	µg/L	SW8270E	1.70	9.60	48.00	0	103	55 - 136				
Surr: 2,4,6-Tribromophenol	61.6	µg/L	SW8270E			48.00		128	10 - 177				
Surr: 2-Fluorobiphenyl	27.9	µg/L	SW8270E			24.00		116	30 - 133				
Surr: 2-Fluorophenol	45.0	µg/L	SW8270E			48.00		93.7	10 - 125				
Surr: Nitrobenzene-d5	32.5	µg/L	SW8270E			24.00		135	55 - 152				
Surr: Phenol-d6	32.7	µg/L	SW8270E			48.00		68.2	10 - 100				
Surr: Terphenyl-d14	28.7	µg/L	SW8270E			24.00		120	48 - 155				

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

S - High LCS and MS recoveries indicate possible bias high. Data deemed acceptable as the analyte was not observed in the field sample.

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Jose Rocha
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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909274-003AMSD	Date Analyzed:	09/17/2019 1848h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
1,1´-Biphenyl	49.6	µg/L	SW8270E	1.39	9.56	47.78	0	104	67 - 125	50.3	1.41	25	
1,2,4,5-Tetrachlorobenzene	51.4	µg/L	SW8270E	1.48	9.56	47.78	0	108	51 - 139	51.2	0.488	25	
2,2´-Oxybis(1-chloropropane)	47.9	µg/L	SW8270E	2.39	9.56	47.78	0	100	54 - 122	47.9	0.00523	25	
2,3,4,6-Tetrachlorophenol	52.5	µg/L	SW8270E	2.82	9.56	47.78	0	110	19 - 189	55.6	5.71	25	
2,4,5-Trichlorophenol	59.8	µg/L	SW8270E	2.57	9.56	47.78	0	125	63 - 138	62.3	4.13	25	
2,4,6-Trichlorophenol	57.7	µg/L	SW8270E	1.61	9.56	47.78	0	121	39 - 134	59.6	3.35	25	
2,4-Dichlorophenol	52.0	µg/L	SW8270E	2.68	9.56	47.78	0	109	45 - 150	53.1	1.94	25	
2,4-Dimethylphenol	50.1	µg/L	SW8270E	2.13	9.56	47.78	0	105	45 - 156	50.1	0.0628	25	
2,4-Dinitrophenol	47.5	µg/L	SW8270E	2.83	9.56	47.78	0	99.5	10 - 149	50.8	6.74	25	
2,4-Dinitrotoluene	53.5	µg/L	SW8270E	3.49	9.56	47.78	0	112	50 - 153	53.2	0.630	25	
2,6-Dinitrotoluene	53.7	µg/L	SW8270E	2.19	9.56	47.78	0	112	74 - 152	55.4	3.17	25	
2-Chloronaphthalene	48.8	µg/L	SW8270E	1.58	9.56	47.78	0	102	59 - 138	49.5	1.43	25	
2-Chlorophenol	49.2	µg/L	SW8270E	2.04	9.56	47.78	0	103	30 - 136	49.3	0.151	25	
2-Methylnaphthalene	47.2	µg/L	SW8270E	1.55	9.56	47.78	0	98.7	59 - 139	48.1	1.91	25	
2-Methylphenol	46.5	µg/L	SW8270E	3.37	9.56	47.78	0	97.4	25 - 134	46.8	0.650	25	
2-Nitroaniline	55.5	µg/L	SW8270E	2.70	9.56	47.78	0	116	50 - 158	56.2	1.31	25	
2-Nitrophenol	56.4	µg/L	SW8270E	2.84	9.56	47.78	0	118	30 - 152	56.5	0.117	25	
3&4-Methylphenol	88.1	µg/L	SW8270E	1.98	9.56	95.56	0	92.2	10 - 275	89.1	1.16	25	
3,3´-Dichlorobenzidine	88.8	µg/L	SW8270E	4.11	9.56	95.56	0	93.0	33 - 159	86.8	2.30	25	
3-Nitroaniline	31.3	µg/L	SW8270E	3.03	9.56	47.78	0	65.5	23 - 172	33.4	6.67	25	
4,6-Dinitro-2-methylphenol	58.8	µg/L	SW8270E	1.32	9.56	47.78	0	123	10 - 121	58.3	0.882	25	1
4-Bromophenyl phenyl ether	54.3	µg/L	SW8270E	1.01	9.56	47.78	0	114	71 - 127	55.3	1.81	25	
4-Chloro-3-methylphenol	50.9	µg/L	SW8270E	2.76	9.56	47.78	0	106	36 - 168	53.1	4.23	25	
4-Chloroaniline	24.0	µg/L	SW8270E	2.08	9.56	47.78	0	50.3	19 - 145	26.3	9.12	25	
4-Chlorophenyl phenyl ether	51.1	µg/L	SW8270E	2.31	9.56	47.78	0	107	69 - 146	53	3.62	25	
4-Nitroaniline	43.9	µg/L	SW8270E	5.52	9.56	47.78	0	91.8	37 - 161	44.4	1.15	25	
4-Nitrophenol	25.2	µg/L	SW8270E	4.34	9.56	47.78	0	52.7	10 - 109	24	4.66	25	
Acenaphthene	49.6	µg/L	SW8270E	1.11	9.56	47.78	0	104	72 - 124	50.5	1.77	25	
Acenaphthylene	52.4	µg/L	SW8270E	1.01	9.56	47.78	0	110	75 - 130	52.8	0.684	25	

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909274-003AMSD	Date Analyzed:	09/17/2019 1848h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
Acetophenone	49.9	µg/L	SW8270E	2.75	9.56	47.78	0	105	20 - 139	50.1	0.290	25	
Anthracene	52.1	µg/L	SW8270E	1.33	9.56	47.78	0	109	80 - 123	52.7	1.25	25	
Atrazine	63.4	µg/L	SW8270E	2.47	9.56	47.78	0	133	79 - 175	63.4	0.0242	25	
Benz(a)anthracene	50.4	µg/L	SW8270E	1.55	9.56	47.78	0	106	75 - 121	51.8	2.64	25	
Benzaldehyde	524	µg/L	SW8270E	33.2	33.4	47.78	0	1,100	65 - 850	530	1.10	25	S
Benzo(a)pyrene	54.4	µg/L	SW8270E	1.45	9.56	47.78	0	114	67 - 146	55.8	2.44	25	
Benzo(b)fluoranthene	53.0	µg/L	SW8270E	1.42	9.56	47.78	0	111	63 - 148	54.2	2.22	25	
Benzo(g,h,i)perylene	54.5	µg/L	SW8270E	1.23	9.56	47.78	0	114	60 - 153	55.1	1.18	25	
Benzo(k)fluoranthene	55.7	µg/L	SW8270E	1.59	9.56	47.78	0	117	68 - 148	56.5	1.33	25	
Bis(2-chloroethoxy)methane	51.9	µg/L	SW8270E	2.18	9.56	47.78	0	109	65 - 137	52.5	1.05	25	
Bis(2-chloroethyl) ether	49.8	µg/L	SW8270E	1.83	9.56	47.78	0	104	39 - 161	50.2	0.746	25	
Bis(2-ethylhexyl) phthalate	55.2	µg/L	SW8270E	4.71	9.56	47.78	0	116	54 - 161	56	1.37	25	
Butyl benzyl phthalate	57.2	µg/L	SW8270E	3.72	9.56	47.78	0	120	65 - 130	58.8	2.91	25	
Caprolactam	18	µg/L	SW8270E	6.92	23.9	47.78	0	37.7	10 - 105	19.5	7.89	25	
Carbazole	53.5	µg/L	SW8270E	1.47	9.56	47.78	0	112	83 - 130	54.5	1.95	25	
Chrysene	47.8	µg/L	SW8270E	1.38	9.56	47.78	0	100	68 - 122	48.9	2.36	25	
Dibenz(a,h)anthracene	55.0	µg/L	SW8270E	1.50	9.56	47.78	0	115	61 - 150	55.8	1.36	25	
Dibenzofuran	50.0	µg/L	SW8270E	1.55	9.56	47.78	0	105	65 - 126	51.3	2.41	25	
Diethyl phthalate	51.1	µg/L	SW8270E	2.26	9.56	47.78	0	107	34 - 176	51.6	0.863	25	
Dimethyl phthalate	52.7	µg/L	SW8270E	7.34	9.56	47.78	0	110	40 - 161	53.7	1.85	25	
Di-n-butyl phthalate	54.7	µg/L	SW8270E	2.87	9.56	47.78	0	114	70 - 135	55.5	1.45	25	
Di-n-octyl phthalate	58.4	µg/L	SW8270E	1.71	9.56	47.78	0	122	47 - 156	59.3	1.63	25	
Fluoranthene	54.5	µg/L	SW8270E	1.60	9.56	47.78	0	114	76 - 140	55.4	1.64	25	
Fluorene	50.2	µg/L	SW8270E	1.82	9.56	47.78	0	105	65 - 136	50.9	1.41	25	
Hexachlorobenzene	54.4	µg/L	SW8270E	1.43	9.56	47.78	0	114	67 - 132	55	1.17	25	
Hexachlorobutadiene	45.2	µg/L	SW8270E	1.63	9.56	47.78	0	94.5	50 - 121	45.4	0.478	25	
Hexachlorocyclopentadiene	40.8	µg/L	SW8270E	6.81	9.56	47.78	0	85.4	26 - 124	40.7	0.241	25	
Hexachloroethane	44.2	µg/L	SW8270E	1.44	9.56	47.78	0	92.5	40 - 123	44.3	0.310	25	
Indeno(1,2,3-cd)pyrene	54.1	µg/L	SW8270E	1.42	9.56	47.78	0	113	61 - 150	55	1.79	25	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSSV
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909274-003AMSD	Date Analyzed:	09/17/2019 1848h											
Test Code: 8270E-W-3511	Date Prepared:	09/16/2019 724h											
Isophorone	50.4	µg/L	SW8270E	2.05	9.56	47.78	0	106	62 - 141	51.1	1.33	25	
Naphthalene	48.2	µg/L	SW8270E	1.35	9.56	47.78	0	101	65 - 126	48.8	1.27	25	
Nitrobenzene	60.0	µg/L	SW8270E	1.58	9.56	47.78	0	126	59 - 147	60.3	0.547	25	
N-Nitrosodi-n-propylamine	51.4	µg/L	SW8270E	3.08	9.56	47.78	0	108	27 - 154	51.1	0.516	25	
N-Nitrosodiphenylamine	104	µg/L	SW8270E	3.10	9.56	95.56	0	109	74 - 129	107	3.18	25	
Pentachlorophenol	43.9	µg/L	SW8270E	3.10	9.56	47.78	0	91.9	30 - 120	46.1	4.95	25	
Phenanthrene	50.0	µg/L	SW8270E	1.17	9.56	47.78	0	105	78 - 121	51.2	2.48	25	
Phenol	33.2	µg/L	SW8270E	1.74	9.56	47.78	0	69.5	10 - 105	33.3	0.265	25	
Pyrene	48.7	µg/L	SW8270E	1.69	9.56	47.78	0	102	55 - 136	49.6	1.89	25	
Surr: 2,4,6-Tribromophenol	60.9	µg/L	SW8270E			47.78		127	10 - 177				
Surr: 2-Fluorobiphenyl	27.9	µg/L	SW8270E			23.89		117	30 - 133				
Surr: 2-Fluorophenol	44.8	µg/L	SW8270E			47.78		93.8	10 - 125				
Surr: Nitrobenzene-d5	32.9	µg/L	SW8270E			23.89		138	55 - 152				
Surr: Phenol-d6	33.2	µg/L	SW8270E			47.78		69.6	10 - 100				
Surr: Terphenyl-d14	28.2	µg/L	SW8270E			23.89		118	48 - 155				

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

S - High LCS and MSD recoveries indicate possible bias high. Data deemed acceptable as the analyte was not observed in the field sample.

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS VOC-3 091719A Date Analyzed: 09/17/2019 1019h													
Test Code: 8260D-W													
1,1,1-Trichloroethane	27.2	µg/L	SW8260D	0.326	2.00	20.00	0	136	73 - 139				
1,1,2,2-Tetrachloroethane	21.6	µg/L	SW8260D	0.164	2.00	20.00	0	108	50 - 120				
1,1,2-Trichloro-1,2,2-trifluoroethane	31.2	µg/L	SW8260D	0.382	2.00	20.00	0	156	54 - 174				
1,1,2-Trichloroethane	20.8	µg/L	SW8260D	0.143	2.00	20.00	0	104	80 - 117				
1,1-Dichloroethane	24.6	µg/L	SW8260D	0.288	2.00	20.00	0	123	78 - 142				
1,1-Dichloroethene	28.5	µg/L	SW8260D	0.879	2.00	20.00	0	143	37 - 144				
1,2,3-Trichlorobenzene	22.4	µg/L	SW8260D	1.60	2.00	20.00	0	112	62 - 136				
1,2,4-Trichlorobenzene	24.3	µg/L	SW8260D	1.53	2.00	20.00	0	121	54 - 138				
1,2-Dibromo-3-chloropropane	18.8	µg/L	SW8260D	0.295	5.00	20.00	0	93.8	71 - 122				
1,2-Dibromoethane	20.4	µg/L	SW8260D	0.115	2.00	20.00	0	102	76 - 115				
1,2-Dichlorobenzene	22.4	µg/L	SW8260D	0.155	2.00	20.00	0	112	70 - 130				
1,2-Dichloroethane	21.1	µg/L	SW8260D	0.144	2.00	20.00	0	106	76 - 132				
1,2-Dichloropropane	20.9	µg/L	SW8260D	0.139	2.00	20.00	0	104	81 - 135				
1,3-Dichlorobenzene	25.0	µg/L	SW8260D	0.191	2.00	20.00	0	125	71 - 139				
1,4-Dichlorobenzene	24.1	µg/L	SW8260D	0.229	2.00	20.00	0	120	67 - 138				
1,4-Dioxane	179	µg/L	SW8260D	38.6	50.0	200.0	0	89.6	58 - 146				
2-Butanone	45.8	µg/L	SW8260D	1.31	10.0	20.00	0	229	74 - 215				S
2-Hexanone	36.4	µg/L	SW8260D	0.225	5.00	20.00	0	182	67 - 190				
4-Methyl-2-pentanone	20.6	µg/L	SW8260D	0.0961	5.00	20.00	0	103	68 - 121				
Acetone	59.7	µg/L	SW8260D	2.87	10.0	20.00	0	298	70 - 350				
Benzene	24.2	µg/L	SW8260D	0.147	2.00	20.00	0	121	82 - 132				
Bromochloromethane	18.5	µg/L	SW8260D	0.254	2.00	20.00	0	92.3	80 - 130				
Bromodichloromethane	21.8	µg/L	SW8260D	0.138	2.00	20.00	0	109	85 - 123				
Bromoform	19.9	µg/L	SW8260D	0.151	2.00	20.00	0	99.7	65 - 122				
Bromomethane	11.4	µg/L	SW8260D	3.53	5.00	20.00	0	57.0	15 - 168				
Carbon disulfide	25.6	µg/L	SW8260D	0.880	2.00	20.00	0	128	34 - 178				
Carbon tetrachloride	27.2	µg/L	SW8260D	0.262	2.00	20.00	0	136	77 - 143				
Chlorobenzene	23.6	µg/L	SW8260D	0.154	2.00	20.00	0	118	74 - 126				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS VOC-3 091719A Date Analyzed: 09/17/2019 1019h													
Test Code: 8260D-W													
Chloroethane	26.1	µg/L	SW8260D	1.37	2.00	20.00	0	130	62 - 154				
Chloroform	22.2	µg/L	SW8260D	0.166	2.00	20.00	0	111	85 - 124				
Chloromethane	15.9	µg/L	SW8260D	0.832	3.00	20.00	0	79.4	30 - 149				
cis-1,2-Dichloroethene	20.9	µg/L	SW8260D	0.188	2.00	20.00	0	104	79 - 132				
cis-1,3-Dichloropropene	21.8	µg/L	SW8260D	0.124	2.00	20.00	0	109	84 - 123				
Cyclohexane	23.9	µg/L	SW8260D	0.234	2.00	20.00	0	120	43 - 181				
Dibromochloromethane	20.2	µg/L	SW8260D	0.132	2.00	20.00	0	101	77 - 118				
Dichlorodifluoromethane	24.2	µg/L	SW8260D	0.212	2.00	20.00	0	121	10 - 165				
Ethylbenzene	25.8	µg/L	SW8260D	0.164	2.00	20.00	0	129	67 - 130				
Isopropylbenzene	26.7	µg/L	SW8260D	0.126	2.00	20.00	0	133	68 - 147				
m,p-Xylene	53.2	µg/L	SW8260D	0.253	2.00	40.00	0	133	69 - 142				
Methyl Acetate	45.3	µg/L	SW8260D	1.29	5.00	20.00	0	226	87 - 280				
Methyl tert-butyl ether	18.2	µg/L	SW8260D	0.354	2.00	20.00	0	90.9	58 - 131				
Methylcyclohexane	26.6	µg/L	SW8260D	0.205	2.00	20.00	0	133	57 - 163				
Methylene chloride	21.4	µg/L	SW8260D	0.448	2.00	20.00	0	107	65 - 154				
Naphthalene	19.4	µg/L	SW8260D	0.704	2.00	20.00	0	97.2	62 - 129				
o-Xylene	23.4	µg/L	SW8260D	0.153	2.00	20.00	0	117	70 - 142				
Styrene	23.9	µg/L	SW8260D	0.133	2.00	20.00	0	119	71 - 135				
Tetrachloroethene	23.2	µg/L	SW8260D	0.518	2.00	20.00	0	116	73 - 149				
Toluene	24.6	µg/L	SW8260D	0.177	2.00	20.00	0	123	69 - 129				
trans-1,2-Dichloroethene	24.7	µg/L	SW8260D	0.282	2.00	20.00	0	124	73 - 146				
trans-1,3-Dichloropropene	20.6	µg/L	SW8260D	0.173	2.00	20.00	0	103	82 - 124				
Trichloroethene	25.0	µg/L	SW8260D	0.180	2.00	20.00	0	125	72 - 136				
Trichlorofluoromethane	27.1	µg/L	SW8260D	0.375	2.00	20.00	0	136	59 - 152				
Vinyl chloride	25.0	µg/L	SW8260D	0.205	1.00	20.00	0	125	43 - 152				
Surr: 1,2-Dichloroethane-d4	49.6	µg/L	SW8260D			50.00		99.3	80 - 136				
Surr: 4-Bromofluorobenzene	48.8	µg/L	SW8260D			50.00		97.6	85 - 121				
Surr: Dibromofluoromethane	47.6	µg/L	SW8260D			50.00		95.1	78 - 121				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS VOC-3 091719A Date Analyzed: 09/17/2019 1019h Test Code: 8260D-W													
Surr: Toluene-d8	50.6	µg/L	SW8260D			50.00		101	81 - 123				

S - High LCS recoveries indicate possible bias high. Data deemed acceptable as the analyte was not observed in the field sample.

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB VOC-3 091619A Date Analyzed: 09/17/2019 938h													
Test Code: 8260D-W													
1,1,1-Trichloroethane	< 2.00	µg/L	SW8260D	0.326	2.00								
1,1,2,2-Tetrachloroethane	< 2.00	µg/L	SW8260D	0.164	2.00								
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.00	µg/L	SW8260D	0.382	2.00								
1,1,2-Trichloroethane	< 2.00	µg/L	SW8260D	0.143	2.00								
1,1-Dichloroethane	< 2.00	µg/L	SW8260D	0.288	2.00								
1,1-Dichloroethene	< 2.00	µg/L	SW8260D	0.879	2.00								
1,2,3-Trichlorobenzene	< 2.00	µg/L	SW8260D	1.60	2.00								
1,2,4-Trichlorobenzene	< 2.00	µg/L	SW8260D	1.53	2.00								
1,2-Dibromo-3-chloropropane	< 5.00	µg/L	SW8260D	0.295	5.00								
1,2-Dibromoethane	< 2.00	µg/L	SW8260D	0.115	2.00								
1,2-Dichlorobenzene	< 2.00	µg/L	SW8260D	0.155	2.00								
1,2-Dichloroethane	< 2.00	µg/L	SW8260D	0.144	2.00								
1,2-Dichloropropane	< 2.00	µg/L	SW8260D	0.139	2.00								
1,3-Dichlorobenzene	< 2.00	µg/L	SW8260D	0.191	2.00								
1,4-Dichlorobenzene	< 2.00	µg/L	SW8260D	0.229	2.00								
1,4-Dioxane	< 50.0	µg/L	SW8260D	38.6	50.0								
2-Butanone	< 10.0	µg/L	SW8260D	1.31	10.0								
2-Hexanone	< 5.00	µg/L	SW8260D	0.225	5.00								
4-Methyl-2-pentanone	< 5.00	µg/L	SW8260D	0.0961	5.00								
Acetone	< 10.0	µg/L	SW8260D	2.87	10.0								
Benzene	< 2.00	µg/L	SW8260D	0.147	2.00								
Bromochloromethane	< 2.00	µg/L	SW8260D	0.254	2.00								
Bromodichloromethane	< 2.00	µg/L	SW8260D	0.138	2.00								
Bromoform	< 2.00	µg/L	SW8260D	0.151	2.00								
Bromomethane	< 5.00	µg/L	SW8260D	3.53	5.00								
Carbon disulfide	< 2.00	µg/L	SW8260D	0.880	2.00								
Carbon tetrachloride	< 2.00	µg/L	SW8260D	0.262	2.00								
Chlorobenzene	< 2.00	µg/L	SW8260D	0.154	2.00								

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB VOC-3 091619A Date Analyzed: 09/17/2019 938h													
Test Code: 8260D-W													
Chloroethane	< 2.00	µg/L	SW8260D	1.37	2.00								
Chloroform	< 2.00	µg/L	SW8260D	0.166	2.00								
Chloromethane	< 3.00	µg/L	SW8260D	0.832	3.00								
cis-1,2-Dichloroethene	< 2.00	µg/L	SW8260D	0.188	2.00								
cis-1,3-Dichloropropene	< 2.00	µg/L	SW8260D	0.124	2.00								
Cyclohexane	< 2.00	µg/L	SW8260D	0.234	2.00								
Dibromochloromethane	< 2.00	µg/L	SW8260D	0.132	2.00								
Dichlorodifluoromethane	< 2.00	µg/L	SW8260D	0.212	2.00								
Ethylbenzene	< 2.00	µg/L	SW8260D	0.164	2.00								
Isopropylbenzene	< 2.00	µg/L	SW8260D	0.126	2.00								
m,p-Xylene	< 2.00	µg/L	SW8260D	0.253	2.00								
Methyl Acetate	< 5.00	µg/L	SW8260D	1.29	5.00								
Methyl tert-butyl ether	< 2.00	µg/L	SW8260D	0.354	2.00								
Methylcyclohexane	< 2.00	µg/L	SW8260D	0.205	2.00								
Methylene chloride	< 2.00	µg/L	SW8260D	0.448	2.00								
Naphthalene	< 2.00	µg/L	SW8260D	0.704	2.00								
o-Xylene	< 2.00	µg/L	SW8260D	0.153	2.00								
Styrene	< 2.00	µg/L	SW8260D	0.133	2.00								
Tetrachloroethene	< 2.00	µg/L	SW8260D	0.518	2.00								
Toluene	< 2.00	µg/L	SW8260D	0.177	2.00								
TPH C6-C10 (GRO)	< 20.0	µg/L	SW8260D	4.99	20.0								
trans-1,2-Dichloroethene	< 2.00	µg/L	SW8260D	0.282	2.00								
trans-1,3-Dichloropropene	< 2.00	µg/L	SW8260D	0.173	2.00								
Trichloroethene	< 2.00	µg/L	SW8260D	0.180	2.00								
Trichlorofluoromethane	< 2.00	µg/L	SW8260D	0.375	2.00								
Vinyl chloride	< 1.00	µg/L	SW8260D	0.205	1.00								
Surr: 1,2-Dichloroethane-d4	52.9	µg/L	SW8260D			50.00		106	80 - 136				
Surr: 4-Bromofluorobenzene	48.7	µg/L	SW8260D			50.00		97.4	85 - 121				

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB VOC-3 091619A Date Analyzed: 09/17/2019 938h													
Test Code: 8260D-W													
Surr: Dibromofluoromethane	52.3	µg/L	SW8260D			50.00		105	78 - 121				
Surr: Toluene-d8	48.9	µg/L	SW8260D			50.00		97.8	81 - 123				

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909378-001CMS Date Analyzed: 09/17/2019 1109h													
Test Code: 8260D-W													
1,1,1-Trichloroethane	23.2	µg/L	SW8260D	0.326	2.00	20.00	0	116	73 - 139				
1,1,2,2-Tetrachloroethane	20.3	µg/L	SW8260D	0.164	2.00	20.00	0	102	50 - 120				
1,1,2-Trichloro-1,2,2-trifluoroethane	22.3	µg/L	SW8260D	0.382	2.00	20.00	0	111	54 - 174				
1,1,2-Trichloroethane	20.3	µg/L	SW8260D	0.143	2.00	20.00	0	102	80 - 117				
1,1-Dichloroethane	21.2	µg/L	SW8260D	0.288	2.00	20.00	0	106	78 - 142				
1,1-Dichloroethene	22.0	µg/L	SW8260D	0.879	2.00	20.00	0	110	37 - 144				
1,2,3-Trichlorobenzene	19.9	µg/L	SW8260D	1.60	2.00	20.00	0	99.7	62 - 136				
1,2,4-Trichlorobenzene	20.0	µg/L	SW8260D	1.53	2.00	20.00	0	99.8	54 - 138				
1,2-Dibromo-3-chloropropane	18.3	µg/L	SW8260D	0.295	5.00	20.00	0	91.4	71 - 122				
1,2-Dibromoethane	19.6	µg/L	SW8260D	0.115	2.00	20.00	0	98.2	76 - 115				
1,2-Dichlorobenzene	20.4	µg/L	SW8260D	0.155	2.00	20.00	0	102	70 - 130				
1,2-Dichloroethane	20.0	µg/L	SW8260D	0.144	2.00	20.00	0	99.9	76 - 132				
1,2-Dichloropropane	20.1	µg/L	SW8260D	0.139	2.00	20.00	0	101	81 - 135				
1,3-Dichlorobenzene	21.2	µg/L	SW8260D	0.191	2.00	20.00	0	106	71 - 139				
1,4-Dichlorobenzene	20.7	µg/L	SW8260D	0.229	2.00	20.00	0	104	67 - 138				
1,4-Dioxane	99.9	µg/L	SW8260D	38.6	50.0	200.0	0	50.0	58 - 146				1
2-Butanone	18.5	µg/L	SW8260D	1.31	10.0	20.00	0	92.3	74 - 215				
2-Hexanone	17.7	µg/L	SW8260D	0.225	5.00	20.00	0	88.6	67 - 190				
4-Methyl-2-pentanone	17.0	µg/L	SW8260D	0.0961	5.00	20.00	0	85.2	68 - 121				
Acetone	21.7	µg/L	SW8260D	2.87	10.0	20.00	0	109	70 - 350				
Benzene	21.4	µg/L	SW8260D	0.147	2.00	20.00	0	107	82 - 132				
Bromochloromethane	21.2	µg/L	SW8260D	0.254	2.00	20.00	0	106	80 - 130				
Bromodichloromethane	20.4	µg/L	SW8260D	0.138	2.00	20.00	0	102	85 - 123				
Bromoform	19.4	µg/L	SW8260D	0.151	2.00	20.00	0	97.2	65 - 122				
Bromomethane	9.82	µg/L	SW8260D	3.53	5.00	20.00	0	49.1	15 - 168				
Carbon disulfide	21.6	µg/L	SW8260D	0.880	2.00	20.00	0	108	34 - 178				
Carbon tetrachloride	23.5	µg/L	SW8260D	0.262	2.00	20.00	0	117	77 - 143				
Chlorobenzene	21.5	µg/L	SW8260D	0.154	2.00	20.00	0	107	74 - 126				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909378-001CMS Date Analyzed: 09/17/2019 1109h													
Test Code: 8260D-W													
Chloroethane	22.0	µg/L	SW8260D	1.37	2.00	20.00	0	110	62 - 154				
Chloroform	21.4	µg/L	SW8260D	0.166	2.00	20.00	0	107	85 - 124				
Chloromethane	16.0	µg/L	SW8260D	0.832	3.00	20.00	0	80.2	30 - 149				
cis-1,2-Dichloroethene	20.7	µg/L	SW8260D	0.188	2.00	20.00	0	104	79 - 132				
cis-1,3-Dichloropropene	19.4	µg/L	SW8260D	0.124	2.00	20.00	0	97.0	84 - 123				
Cyclohexane	21.0	µg/L	SW8260D	0.234	2.00	20.00	0	105	43 - 181				
Dibromochloromethane	20.0	µg/L	SW8260D	0.132	2.00	20.00	0	99.8	77 - 118				
Dichlorodifluoromethane	23.7	µg/L	SW8260D	0.212	2.00	20.00	0	118	10 - 165				
Ethylbenzene	22.0	µg/L	SW8260D	0.164	2.00	20.00	0	110	67 - 130				
Isopropylbenzene	22.0	µg/L	SW8260D	0.126	2.00	20.00	0	110	68 - 147				
m,p-Xylene	44.0	µg/L	SW8260D	0.253	2.00	40.00	0	110	69 - 142				
Methyl Acetate	36.4	µg/L	SW8260D	1.29	5.00	20.00	0	182	87 - 280				
Methyl tert-butyl ether	18.3	µg/L	SW8260D	0.354	2.00	20.00	0	91.6	58 - 131				
Methylcyclohexane	20.5	µg/L	SW8260D	0.205	2.00	20.00	0	103	57 - 163				
Methylene chloride	19.8	µg/L	SW8260D	0.448	2.00	20.00	0	98.9	65 - 154				
Naphthalene	19.0	µg/L	SW8260D	0.704	2.00	20.00	0	95.2	62 - 129				
o-Xylene	20.2	µg/L	SW8260D	0.153	2.00	20.00	0	101	70 - 142				
Styrene	21.0	µg/L	SW8260D	0.133	2.00	20.00	0	105	71 - 135				
Tetrachloroethene	21.7	µg/L	SW8260D	0.518	2.00	20.00	0	108	73 - 149				
Toluene	21.3	µg/L	SW8260D	0.177	2.00	20.00	0	106	69 - 129				
trans-1,2-Dichloroethene	19.6	µg/L	SW8260D	0.282	2.00	20.00	0	98.2	73 - 146				
trans-1,3-Dichloropropene	19.5	µg/L	SW8260D	0.173	2.00	20.00	0	97.4	82 - 124				
Trichloroethene	21.6	µg/L	SW8260D	0.180	2.00	20.00	0	108	72 - 136				
Trichlorofluoromethane	23.2	µg/L	SW8260D	0.375	2.00	20.00	0	116	59 - 152				
Vinyl chloride	21.7	µg/L	SW8260D	0.205	1.00	20.00	0	109	43 - 152				
Surr: 1,2-Dichloroethane-d4	49.8	µg/L	SW8260D			50.00		99.5	80 - 136				
Surr: 4-Bromofluorobenzene	49.3	µg/L	SW8260D			50.00		98.5	85 - 121				
Surr: Dibromofluoromethane	50.3	µg/L	SW8260D			50.00		101	78 - 121				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909378-001CMS Date Analyzed: 09/17/2019 1109h Test Code: 8260D-W													
Surr: Toluene-d8	49.6	µg/L	SW8260D			50.00		99.3	81 - 123				

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

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QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909378-001CMSD Date Analyzed: 09/17/2019 1129h													
Test Code: 8260D-W													
1,1,1-Trichloroethane	23.4	µg/L	SW8260D	0.326	2.00	20.00	0	117	73 - 139	23.3	0.558	35	
1,1,2,2-Tetrachloroethane	21.6	µg/L	SW8260D	0.164	2.00	20.00	0	108	50 - 120	20.3	6.06	35	
1,1,2-Trichloro-1,2,2-trifluoroethane	23.2	µg/L	SW8260D	0.382	2.00	20.00	0	116	54 - 174	22.3	4.26	35	
1,1,2-Trichloroethane	21.3	µg/L	SW8260D	0.143	2.00	20.00	0	106	80 - 117	20.3	4.57	35	
1,1-Dichloroethane	22.2	µg/L	SW8260D	0.288	2.00	20.00	0	111	78 - 142	21.2	4.43	35	
1,1-Dichloroethene	22.6	µg/L	SW8260D	0.879	2.00	20.00	0	113	37 - 144	22	2.79	35	
1,2,3-Trichlorobenzene	21.1	µg/L	SW8260D	1.60	2.00	20.00	0	106	62 - 136	19.9	5.80	35	
1,2,4-Trichlorobenzene	20.9	µg/L	SW8260D	1.53	2.00	20.00	0	104	54 - 138	20	4.56	35	
1,2-Dibromo-3-chloropropane	20.2	µg/L	SW8260D	0.295	5.00	20.00	0	101	71 - 122	18.3	10.1	35	
1,2-Dibromoethane	21.0	µg/L	SW8260D	0.115	2.00	20.00	0	105	76 - 115	19.6	6.79	35	
1,2-Dichlorobenzene	21.2	µg/L	SW8260D	0.155	2.00	20.00	0	106	70 - 130	20.4	4.18	35	
1,2-Dichloroethane	21.2	µg/L	SW8260D	0.144	2.00	20.00	0	106	76 - 132	20	5.97	35	
1,2-Dichloropropane	21.1	µg/L	SW8260D	0.139	2.00	20.00	0	106	81 - 135	20.1	4.80	35	
1,3-Dichlorobenzene	21.8	µg/L	SW8260D	0.191	2.00	20.00	0	109	71 - 139	21.2	2.75	35	
1,4-Dichlorobenzene	21.6	µg/L	SW8260D	0.229	2.00	20.00	0	108	67 - 138	20.7	4.25	35	
1,4-Dioxane	118	µg/L	SW8260D	38.6	50.0	200.0	0	58.8	58 - 146	99.9	16.3	35	
2-Butanone	20.1	µg/L	SW8260D	1.31	10.0	20.00	0	101	74 - 215	18.5	8.51	35	
2-Hexanone	19.7	µg/L	SW8260D	0.225	5.00	20.00	0	98.4	67 - 190	17.7	10.5	35	
4-Methyl-2-pentanone	18.2	µg/L	SW8260D	0.0961	5.00	20.00	0	91.1	68 - 121	17.1	6.58	35	
Acetone	22.8	µg/L	SW8260D	2.87	10.0	20.00	0	114	70 - 350	21.7	5.07	35	
Benzene	21.8	µg/L	SW8260D	0.147	2.00	20.00	0	109	82 - 132	21.4	2.04	35	
Bromochloromethane	22.3	µg/L	SW8260D	0.254	2.00	20.00	0	112	80 - 130	21.2	5.06	35	
Bromodichloromethane	21.5	µg/L	SW8260D	0.138	2.00	20.00	0	108	85 - 123	20.4	5.25	35	
Bromoform	21.1	µg/L	SW8260D	0.151	2.00	20.00	0	106	65 - 122	19.4	8.43	35	
Bromomethane	11.4	µg/L	SW8260D	3.53	5.00	20.00	0	57.2	15 - 168	9.82	15.2	35	
Carbon disulfide	22.3	µg/L	SW8260D	0.880	2.00	20.00	0	112	34 - 178	21.6	3.19	35	
Carbon tetrachloride	24.1	µg/L	SW8260D	0.262	2.00	20.00	0	120	77 - 143	23.5	2.65	35	
Chlorobenzene	22.0	µg/L	SW8260D	0.154	2.00	20.00	0	110	74 - 126	21.5	2.53	35	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909378-001CMSD Date Analyzed: 09/17/2019 1129h													
Test Code: 8260D-W													
Chloroethane	23.1	µg/L	SW8260D	1.37	2.00	20.00	0	115	62 - 154	22	4.84	35	
Chloroform	22.5	µg/L	SW8260D	0.166	2.00	20.00	0	113	85 - 124	21.4	4.87	35	
Chloromethane	17.1	µg/L	SW8260D	0.832	3.00	20.00	0	85.7	30 - 149	16	6.63	35	
cis-1,2-Dichloroethene	21.5	µg/L	SW8260D	0.188	2.00	20.00	0	107	79 - 132	20.7	3.60	35	
cis-1,3-Dichloropropene	20.4	µg/L	SW8260D	0.124	2.00	20.00	0	102	84 - 123	19.4	4.73	35	
Cyclohexane	21.5	µg/L	SW8260D	0.234	2.00	20.00	0	108	43 - 181	21	2.45	35	
Dibromochloromethane	21.3	µg/L	SW8260D	0.132	2.00	20.00	0	107	77 - 118	20	6.59	35	
Dichlorodifluoromethane	24.1	µg/L	SW8260D	0.212	2.00	20.00	0	121	10 - 165	23.7	1.80	35	
Ethylbenzene	22.2	µg/L	SW8260D	0.164	2.00	20.00	0	111	67 - 130	22	1.36	35	
Isopropylbenzene	22.4	µg/L	SW8260D	0.126	2.00	20.00	0	112	68 - 147	22	1.85	35	
m,p-Xylene	45.8	µg/L	SW8260D	0.253	2.00	40.00	0	114	69 - 142	44	4.03	35	
Methyl Acetate	37.2	µg/L	SW8260D	1.29	5.00	20.00	0	186	87 - 280	36.4	2.06	35	
Methyl tert-butyl ether	19.6	µg/L	SW8260D	0.354	2.00	20.00	0	97.8	58 - 131	18.3	6.50	35	
Methylcyclohexane	21.0	µg/L	SW8260D	0.205	2.00	20.00	0	105	57 - 163	20.5	2.07	35	
Methylene chloride	21.5	µg/L	SW8260D	0.448	2.00	20.00	0	107	65 - 154	19.8	8.19	35	
Naphthalene	20.3	µg/L	SW8260D	0.704	2.00	20.00	0	101	62 - 129	19	6.26	35	
o-Xylene	21.1	µg/L	SW8260D	0.153	2.00	20.00	0	106	70 - 142	20.2	4.55	35	
Styrene	22.2	µg/L	SW8260D	0.133	2.00	20.00	0	111	71 - 135	21	5.41	35	
Tetrachloroethene	22.2	µg/L	SW8260D	0.518	2.00	20.00	0	111	73 - 149	21.7	2.32	35	
Toluene	22.1	µg/L	SW8260D	0.177	2.00	20.00	0	110	69 - 129	21.3	3.78	35	
trans-1,2-Dichloroethene	20.1	µg/L	SW8260D	0.282	2.00	20.00	0	101	73 - 146	19.6	2.56	35	
trans-1,3-Dichloropropene	20.4	µg/L	SW8260D	0.173	2.00	20.00	0	102	82 - 124	19.5	4.67	35	
Trichloroethene	22.1	µg/L	SW8260D	0.180	2.00	20.00	0	111	72 - 136	21.6	2.52	35	
Trichlorofluoromethane	23.5	µg/L	SW8260D	0.375	2.00	20.00	0	117	59 - 152	23.3	1.03	35	
Vinyl chloride	22.7	µg/L	SW8260D	0.205	1.00	20.00	0	113	43 - 152	21.7	4.23	35	
Surr: 1,2-Dichloroethane-d4	48.4	µg/L	SW8260D			50.00		96.8	80 - 136				
Surr: 4-Bromofluorobenzene	47.8	µg/L	SW8260D			50.00		95.5	85 - 121				
Surr: Dibromofluoromethane	49.4	µg/L	SW8260D			50.00		98.8	78 - 121				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 1909313
Project: 470 W. 200 N. Salt Development P2

Contact: Corbin Jensen
Dept: MSVOA
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1909378-001CMSD Date Analyzed: 09/17/2019 1129h Test Code: 8260D-W													
Surr: Toluene-d8	48.7	µg/L	SW8260D			50.00		97.3	81 - 123				

American West Analytical Laboratories

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CHAIN OF CUSTODY

All analysis will be conducted using NELAP accredited methods and all data will be reported using AWAL's standard analyte lists and reporting limits (PQL) unless specifically requested otherwise on this Chain of Custody and/or attached documentation.

1909313
AWAL Lab Sample Set #
Page ____ of ____

QC Level: 1 (2) 2+ 3 3+

Turn Around Time: 1 2 3 4 5 (Stnd)

Unless other arrangements have been made, signed reports will be emailed by **5:00 pm** on the day they are due.

Due Date: 9/26

Client: Barr Engineering
Address: 170 S Main St. Ste. 500
City, State, Zip: SLC, Utah, 84101
Contact: Joelle Dickson/Corbin Jensen
Phone #: 801-333-8431 Cell #: 801-413-6475
E-mail: JdicKson@barr.com/cjensen@barr.com
Project Name: 470W. 200N. Salt Development P2
Project #:
PO #:
Sampler Name: Corbin Jensen

- ☐ Report down to the MDL
- ☐ Include EDD:
- ☐ Lab Filter for:
- ☐ Field Filtered For:

For Compliance With:
- ☐ NELAP
- ☐ RCRA
- ☐ CWA
- ☐ SDWA
- ☐ ELAP / A2LA
- ☐ NLLAP
- ☐ Non-Compliance
- ☐ Other:

Laboratory Use Only

COC Tape Was:
1 Present on Outer Package Y N (NA)
2 Unbroken on Outer Package Y N (NA)
3 Present on Sample: Y (N)
4 Unbroken on Sample Y N (NA)

Samples Were:
1 Shipped or Hand delivered
2 Ambient or Chilled
3 Temperature 5.0 °C
4 Received Intact (Y) N
5 Properly Preserved (Y) N Checked at bench
6 Received Within Holding Times (Y) N

Sample Labels and COC Record Match? (Y) N

	Sample ID:	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Full list VOCs + GRO 8260	SVOCs 8270D	8 RCRA metals 6020B/7010A	DRO 8015	VOCs 8260C	Known Hazards & Sample Comments
1	B1	9/12/19	0900	6	W	/	/		/		
2	B1@14.5'		0859	2	S	/	/		/		
3	B2		1000	6	W	/	/	/	/		filtered for metals
4	B2@4'		1006	2	S	/	/	/	/		*
5	B3		1100	6	W		/	/		/	filtered for metals
6	B3@7'		1056	2	S			/			*
7	B4		1200	6	W	/	/	/	/		filtered for metals
8	B4@5'		1205	1	S			/			
9	B4@14'		1145	1	S	/	/		/		
10											
11											
12											
13											
14											
15											

Relinquished by: Signature / Print Name	Date / Time	Received by: Signature / Print Name	Date / Time
Corbin Jensen	9/12/19 17:18	Valerie Norman-Swarr	9/12/19 1718

Special Instructions:
* run TCLP: Pb & As for #4 and TCLP: As for #6

By signing this Chain of Custody you are agreeing to permit AWAL to subcontract any analyses not normally performed at AWAL.

REV 11-21-18

Lab Set ID: 190913

pH Lot #: 6085

Preservation Check Sheet

Sample Set Extension and pH

Analysis	Preservative	3-	5-	7-														
Ammonia	pH <2 H_2SO_4																	
COD	pH <2 H_2SO_4																	
Cyanide	pH >12 NaOH																	
Metals	pH <2 HNO_3	yes	yes	yes														
NO_2 & NO_3	pH <2 H_2SO_4																	
O & G	pH <2 HCL																	
Phenols	pH <2 H_2SO_4																	
Sulfide	pH >9 NaOH, Zn Acetate																	
TKN	pH <2 H_2SO_4																	
T PO_4	pH <2 H_2SO_4																	

Procedure:

1) Pour a small amount of sample in the sample lid
2) Pour sample from lid gently over wide range pH paper
3) **Do Not** dip the pH paper in the sample bottle or lid
4) If sample is not preserved, properly list its extension and receiving pH in the appropriate column above
5) Flag COC, notify client if requested
6) Place client conversation on COC
7) Samples may be adjusted

Frequency: All samples requiring preservation

* The sample required additional preservative upon receipt.

\+ The sample was received unpreserved.

▲ The sample was received unpreserved and therefore preserved upon receipt.

\# The sample pH was unadjustable to a pH < 2 due to the sample matrix.

• The sample pH was unadjustable to a pH > ____ due to the sample matrix interference.

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Salt Lake City, UT 84119

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Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

John Rezac
Barr Engineering Company
170 South Main Street, Suite 500
Salt Lake City, UT 84101
TEL: (801) 333-8400

RE: SLXing / 44181094.01

Dear John Rezac: Lab Set ID: 2108694

American West Analytical Laboratories received sample(s) on 8/25/2021 for the analyses presented in the following report.

American West Analytical Laboratories (AWAL) is accredited by The National Environmental Laboratory Accreditation Program (NELAP) in Utah and Texas; and is state accredited in Colorado, Idaho, New Mexico, Wyoming, and Missouri.

All analyses were performed in accordance to the NELAP protocols unless noted otherwise. Accreditation scope documents are available upon request. If you have any questions or concerns regarding this report please feel free to call.

The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

Thank You,

Approved by: Jose G. Rocha Digitally signed by Jose G. Rocha Date: 2021.08.26 15:31:40 -06'00'

Laboratory Director or designee

INORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** John Rezac
Project: SLXing / 44181094.01
Lab Sample ID: 2108694-001
Client Sample ID: Sump #1
Collection Date: 8/25/2021 830h
Received Date: 8/25/2021 1048h

Analytical Results TOTAL METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/25/2021 1357h	8/25/2021 2140h	E200.8	0.00200	**0.0122**	
Lead	mg/L	8/25/2021 1357h	8/25/2021 2140h	E200.8	0.00200	< 0.00200	

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web: www.awal-labs.com

Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** John Rezac
Project: SLXing / 44181094.01
Lab Sample ID: 2108694-002
Client Sample ID: Sump #2
Collection Date: 8/25/2021 840h
Received Date: 8/25/2021 1048h

Analytical Results TOTAL METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/25/2021 1357h	8/25/2021 2143h	E200.8	0.00200	**0.00776**	
Lead	mg/L	8/25/2021 1357h	8/25/2021 2143h	E200.8	0.00200	< 0.00200	

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Salt Lake City, UT 84119

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web: www.awal-labs.com

Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

American West Analytical Laboratories

Next Day Rush

Rpt Emailed: D S&U

WORK ORDER Summary

Work Order: **2108694**

Client: Barr Engineering Company
Due Date: 8/26/2021
Client ID: BAR200
Contact: John Rezac
Project: **SLXina / 44181094.01**
QC Level: I
WO Type: Standard
Comments: Next Day Rush;

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
2108694-001A	**Sump #1**	8/25/2021 0830h	8/25/2021 1048h	**200.8-W**	Aqueous		DF-Metals	1
				2 SEL Analytes: AS PB				
				200.8-W-PR			DF-Metals	
2108694-002A	**Sump #2**	8/25/2021 0840h	8/25/2021 1048h	**200.8-W**	Aqueous		DF-Metals	1
				2 SEL Analytes: AS PB				
				200.8-W-PR			DF-Metals	

American West Analytical Laboratories

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CHAIN OF CUSTODY

All analysis will be conducted using NELAP accredited methods and all data will be reported using AWAL's standard analyte lists and reporting limits (PQL) unless specifically requested otherwise on this Chain of Custody and/or attached documentation.

2108694
AWAL Lab Sample Set #
Page 1 of 1

QC Level: 1 2 2+ 3 3+

Turn Around Time: (1) 2 3 4 5 Stnd

Unless other arrangements have been made, signed reports will be emailed by **5:00 pm** on the day they are due.

Due Date: 8/26

Client: Barr Engineering
Address: 170 South Main Street, Ste 500
City, State, Zip: SLC, UT 84101
Contact: John Rezac and Joele Dickson
Phone #: 801-815-6769 Cell #:
E-mail: jrezac@barr.com
Project Name: SLXing
Project #: 44181094.01
PO #:
Sampler Name: John Rezac

- ☐ Report down to the MDL
- ☐ Include EDD:
- ☐ Lab Filter for:
- ☐ Field Filtered For:

For Compliance With:
- ☐ NELAP
- ☐ RCRA
- ☐ CWA
- ☐ SDWA
- ☐ ELAP / A2LA
- ☐ NLLAP
- ☐ Non-Compliance
- ☐ Other:

	Sample ID:	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Lead	Arsenic	Known Hazards & Sample Comments
1	sump #1	8/25/21	8:30	1	W	✓	✓	
2	sump #2	8/25/21	8.40	1	W	✓	✓	
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

Laboratory Use Only

COC Tape Was:
1 Present on Outer Package Y N (NA)
2 Unbroken on Outer Package Y N (NA)
3 Present on Sample Y (N)
4 Unbroken on Sample Y N (NA)

Samples Were:
1 Shipped or hand delivered
2 Ambient or Chilled
3 Temperature 4.2 °C
4 Received Intact (Y) N
5 Properly Preserved (Y) N Checked at bench
6 Received Within Holding Times (Y) N

Sample Labels and COC Record Match? (Y) N

Relinquished by: Signature	Date: 8/25/21	Received by: Signature	Date: 8/25/21
Print Name: John Rezac	Time: 10:48	Print Name: Selina Hopkins	Time: 1048
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:

Special Instructions:

By signing this Chain of Custody you are agreeing to permit AWAL to subcontract any analyses not normally performed at AWAL.

REV 11-21-18

Lab Set ID: 2108694

pH Lot #: 6209

Preservation Check Sheet

Sample Set Extension and pH

Analysis	Preservative	1	2															
Ammonia	pH <2 H_2SO_4																	
COD	pH <2 H_2SO_4																	
Cyanide	pH >10 NaOH																	
Metals	pH <2 HNO_3	Yes	Yes															
NO_2/NO_3	pH <2 H_2SO_4																	
O & G	pH <2 HCL																	
Phenols	pH <2 H_2SO_4																	
Sulfide	pH >9 NaOH, ZnAC																	
TKN	pH <2 H_2SO_4																	
T PO_4	pH <2 H_2SO_4																	
Cr VI+	pH >9 $(NH_4)_2SO_4$																	

Procedure:

1) Pour a small amount of sample in the sample lid
2) Pour sample from lid gently over wide range pH paper
3) **Do Not** dip the pH paper in the sample bottle or lid
4) If sample is not preserved, properly list its extension and receiving pH in the appropriate column above
5) Flag COC, notify client if requested
6) Place client conversation on COC
7) Samples may be adjusted

Frequency: All samples requiring preservation

* The sample required additional preservative upon receipt.

\+ The sample was received unpreserved.

▲ The sample was received unpreserved and therefore preserved upon receipt.

\# The sample pH was unadjustable to a pH < 2 due to the sample matrix.

• The sample pH was unadjustable to a pH > ____ due to the sample matrix interference.

John Rezac
Barr Engineering Company
170 South Main Street, Suite 500
Salt Lake City, UT 84101
TEL: (801) 333-8400

RE: Salt Lake Crossing

Dear John Rezac: Lab Set ID: 2109262

3440 South 700 West
Salt Lake City, UT 84119

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
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web: www.awal-labs.com

Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

American West Analytical Laboratories received sample(s) on 9/10/2021 for the analyses presented in the following report.

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The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

Thank You,

Approved by: Jose G. Rocha Digitally signed by Jose G. Rocha Date: 2021.09.13 16:34:10 -06'00'

Laboratory Director or designee

INORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company
Contact: John Rezac
Project: Salt Lake Crossing
Lab Sample ID: 2109262-001
Client Sample ID: Sump #3
Collection Date: 9/10/2021 1353h
Received Date: 9/10/2021 1427h

Analytical Results TOTAL METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	9/10/2021 1558h	9/13/2021 1422h	E200.8	0.00200	**0.0116**	
Lead	mg/L	9/10/2021 1558h	9/13/2021 1422h	E200.8	0.00200	**0.00241**	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

American West Analytical Laboratories

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Fax # (801) 263-8687 Email awal@awal-labs.com

www.awal-labs.com

CHAIN OF CUSTODY

All analysis will be conducted using NELAP accredited methods and all data will be reported using AWAL's standard analyte lists and reporting limits (PQL) unless specifically requested otherwise on this Chain of Custody and/or attached documentation.

2109202
AWAL Lab Sample Set #

Page 1 of 1

QC Level: 1 2 2+ 3 3+

Turn Around Time: (1) 2 3 4 5 Stnd

RUSH sets received after 3:00 pm are considered received the next business day

Due Date: 9/13

Client: Barr Engineering

Address: 170 S. Main ST, Ste 500

City, State, Zip: SLC, UT 84101

Contact: John Rezac and Joelle Dickson

Phone #: 801-815-6769 Cell #:

E-mail: jrezac@barr.com jdickson@barr.com

Project Name: Salt Lake Crossing

Project #:

PO #:

Sampler Name: John Rezac

- ☐ Report down to the MDL
- ☐ Include EDD:
- ☐ Lab Filter for:
- ☐ Field Filtered For:

For Compliance With:

- ☐ NELAP
- ☐ RCRA
- ☐ CWA
- ☐ SDWA
- ☐ ELAP / A2LA
- ☐ NLLAP
- ☐ Non-Compliance
- ☐ Other:

Unless other arrangements have been made, signed reports will be emailed by **5:00 pm** on the day they are due.

Laboratory Use Only

COC Tape Was:
1 Present on Outer Package Y (N) NA
2 Unbroken on Outer Package Y N (NA)
3 Present on Sample Y (N)
4 Unbroken on Sample Y N (NA)

Samples Were:
1 (Shipped or hand delivered)
2 Ambient or (Chilled) on ice
3 Temperature 14.3 °C
4 (Received Intact) Y N
5 Properly Preserved (Y) N Checked at bench
6 Received Within Holding Times (Y) N

Sample Labels and COC Record Match? (Y) N

	Sample Site ID:	Date Sampled	Time Sampled	# of Containers	Sample Matrix	arsenic	lead	TDS	total	Known Hazards & Sample Comments
1	Sump #3	9/10/21	13:53	1	W	✓	✓			
2	tank #1	9/10/21	14:00	3	W	✓	✓	✓	✓	
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Relinquished by: Signature	Date: 9/10/21	Received by: Signature	Date: 9/10/21
Print Name: John Rezac	Time: 14:27	Print Name: Izolde Rhodes	Time: 1427
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:

Special Instructions:

By signing this Chain of Custody you are agreeing to permit AWAL to subcontract any analyses not normally performed at AWAL.

REV 2/7/2020

Lab Set ID: 21092162

pH Lot #: 6700

Preservation Check Sheet

Sample Set Extension and pH

Analysis	Preservative	001	002															
Ammonia	pH <2 H_2SO_4																	
COD	pH <2 H_2SO_4																	
Cyanide	pH >10 NaOH																	
Metals	pH <2 HNO_3	yes	yes															
NO_2/NO_3	pH <2 H_2SO_4																	
O & G	pH <2 HCL																	
Phenols	pH <2 H_2SO_4																	
Sulfide	pH >9 NaOH, ZnAC																	
TKN	pH <2 H_2SO_4																	
T PO_4	pH <2 H_2SO_4																	
Cr VI+	pH >9 $(NH_4)_2SO_4$																	

Procedure:
1) Pour a small amount of sample in the sample lid
2) Pour sample from lid gently over wide range pH paper
3) **Do Not** dip the pH paper in the sample bottle or lid
4) If sample is not preserved, properly list its extension and receiving pH in the appropriate column above
5) Flag COC, notify client if requested
6) Place client conversation on COC
7) Samples may be adjusted

Frequency: All samples requiring preservation

* The sample required additional preservative upon receipt.

\+ The sample was received unpreserved.

▲ The sample was received unpreserved and therefore preserved upon receipt.

\# The sample pH was unadjustable to a pH < 2 due to the sample matrix.

• The sample pH was unadjustable to a pH > ____ due to the sample matrix interference.

John Rezac
Barr Engineering Company
170 South Main Street, Suite 500
Salt Lake City, UT 84101
TEL: (801) 333-8400

RE: Salt Crossing

Dear John Rezac: Lab Set ID: 2109397

3440 South 700 West
Salt Lake City, UT 84119

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

American West Analytical Laboratories received sample(s) on 9/15/2021 for the analyses presented in the following report.

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Thank You,

Approved by: Jose G. Rocha Digitally signed by Jose G. Rocha Date: 2021.09.17 15:33:53 -06'00'

Laboratory Director or designee

INORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** John Rezac
Project: Salt Crossing
Lab Sample ID: 2109397-001
Client Sample ID: Sump #4
Collection Date: 9/15/2021 1540h
Received Date: 9/15/2021 1615h

Analytical Results TOTAL METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	9/16/2021 909h	9/16/2021 2213h	E200.8	0.00200	**0.0107**	
Lead	mg/L	9/16/2021 909h	9/16/2021 1945h	E200.8	0.00200	**0.00304**	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

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Salt Lake City, UT 84119
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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109397
Project: Salt Crossing

Contact: John Rezac
Dept: ME
QC Type: LCS

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	**LCS-79610**	Date Analyzed:	09/16/2021 2158h											
Test Code:	200.8-W	Date Prepared:	09/16/2021 909h											
Arsenic		0.192	mg/L	E200.8	0.000298	0.00200	0.2000	0	96.2	85 - 115				
Lab Sample ID:	**LCS-79610**	Date Analyzed:	09/16/2021 1940h											
Test Code:	200.8-W	Date Prepared:	09/16/2021 909h											
Lead		0.186	mg/L	E200.8	0.000588	0.00200	0.2000	0	92.8	85 - 115				

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e-mail: awal@awal-labs.com, web: www.awal-labs.com

Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109397
Project: Salt Crossing

Contact: John Rezac
Dept: ME
QC Type: MBLK

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	**MB-79610**	Date Analyzed:	09/16/2021 2154h											
Test Code:	200.8-W	Date Prepared:	09/16/2021 909h											
Arsenic		< 0.000200	mg/L	E200.8	0.0000298	0.000200								
Lab Sample ID:	**MB-79610**	Date Analyzed:	09/16/2021 1936h											
Test Code:	200.8-W	Date Prepared:	09/16/2021 909h											
Lead		< 0.000200	mg/L	E200.8	0.0000588	0.000200								

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109397
Project: Salt Crossing

Contact: John Rezac
Dept: ME
QC Type: MS

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	**2109397-001AMS**	Date Analyzed:	09/16/2021 2217h											
Test Code:	200.8-W	Date Prepared:	09/16/2021 909h											
Arsenic		0.208	mg/L	E200.8	0.000298	0.00200	0.2000	0.0107	98.7	75 - 125				
Lab Sample ID:	**2109397-001AMS**	Date Analyzed:	09/16/2021 1949h											
Test Code:	200.8-W	Date Prepared:	09/16/2021 909h											
Lead		0.192	mg/L	E200.8	0.000588	0.00200	0.2000	0.00304	94.4	75 - 125				

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e-mail: awal@awal-labs.com, web: www.awal-labs.com

Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109397
Project: Salt Crossing

Contact: John Rezac
Dept: ME
QC Type: MSD

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	**2109397-001AMSD**	Date Analyzed:	09/16/2021 2221h											
Test Code:	200.8-W	Date Prepared:	09/16/2021 909h											
Arsenic		0.209	mg/L	E200.8	0.000298	0.00200	0.2000	0.0107	99.3	75 - 125	0.208	0.578	20	
Lab Sample ID:	**2109397-001AMSD**	Date Analyzed:	09/16/2021 1954h											
Test Code:	200.8-W	Date Prepared:	09/16/2021 909h											
Lead		0.196	mg/L	E200.8	0.000588	0.00200	0.2000	0.00304	96.5	75 - 125	0.192	2.22	20	

American West Analytical Laboratories

Next Day Rush

Rpt Emailed: D S&U

WORK ORDER Summary

Work Order: **2109397** Page 1 of 1

Client: Barr Engineering Company
Due Date: 9/17/2021

Client ID: BAR200 **Contact:** John Rezac

Project: **Salt Crossing** **QC Level:** II+ WO Type: Standard

Comments: Next Day Rush (after 3pm); QC 2+;

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
2109397-001A	**Sump #4**	9/15/2021 1540h	9/15/2021 1615h	**200.8-W**	Aqueous	☑	DF-Metals	1
				2 SEL Analytes: AS PB				
				200.8-W-PR		☐	DF-Metals	

Printed: 09/15/21 16:20 LABORATORY CHECK: %M ☐ RT ☐ CN ☐ TAT ☐ QC ☐ LUO ☐ HOK_____ HOK_____ HOK_____ COC Emailed_____

American West Analytical Laboratories

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Fax # (801) 263-8687 Email awal@awal-labs.com
www.awal-labs.com

CHAIN OF CUSTODY

2109397
AWAL Lab Sample Set #

Page ____ of ____

All analysis will be conducted using NELAP accredited methods and all data will be reported using AWAL's standard analyte lists and reporting limits (PQL) unless specifically requested otherwise on this Chain of Custody and/or attached documentation.

QC Level: 1 2 (2+) 3 3+

Turn Around Time: (1) 2 3 4 5 Stnd

RUSH sets received after 3:00 pm are considered received the next business day.

Due Date: 9/17

Client: ~~Salt Development~~ Barr Engineering
Address: 170 S. Main St.
City, State, Zip: SLC, UT, 84101
Contact: John Rezac
Phone #: 801-815-6769 Cell #:
E-mail: Jrezac@barr.com
Project Name: Salt Crossing
Project #:
PO #:
Sampler Name: Corbin Jensen

- ☐ Report down to the MDL
- ☐ Include EDD:
- ☐ Lab Filter for:
- ☐ Field Filtered For:

For Compliance With:

- ☐ NELAP
- ☐ RCRA
- ☐ CWA
- ☐ SDWA
- ☐ ELAP / A2LA
- ☐ NLLAP
- ☐ Non-Compliance
- ☐ Other:

Unless other arrangements have been made, signed reports will be emailed by **5:00 pm** on the day they are due.

Laboratory Use Only

COC Tape Was:
1 Present on Outer Package: Y (N) NA
2 Unbroken on Outer Package: Y N (NA)
3 Present on Sample: Y (N)
4 Unbroken on Sample: Y N (NA)

Samples Were:
1 Shipped or hand delivered
2 Ambient or (Chilled) on ice
3 Temperature 17.3 °C
4 Received Intact: (Y) N
5 Properly Preserved: (Y) N Checked at bench
6 Received Within Holding Times: (Y) N

Sample Labels and COC Record Match? (Y) N

	Sample Site ID:	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Arsenic	Lead	Known Hazards & Sample Comments
1	Sump #4	9/15/21	15:40	1	W	/	/	
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

Relinquished by: Signature	Date:	Time:	Received by: Signature	Date:	Time:
Print Name: Corbin Jensen	9/15/21	16:15	Print Name: Zolde Rhodes	9/15/21	1615
Relinquished by: Signature	Date:	Time:	Received by: Signature	Date:	Time:
Print Name:			Print Name:		
Relinquished by: Signature	Date:	Time:	Received by: Signature	Date:	Time:
Print Name:			Print Name:		

Special Instructions:

By signing this Chain of Custody you are agreeing to permit AWAL to subcontract any analyses not normally performed at AWAL.

REV 2/7/2020

Lab Set ID: 2109397

pH Lot #: 6700

Preservation Check Sheet

Sample Set Extension and pH

Analysis	Preservative	001																
Ammonia	pH <2 H_2SO_4																	
COD	pH <2 H_2SO_4																	
Cyanide	pH >10 NaOH																	
Metals	pH <2 HNO_3	yes																
NO_2/NO_3	pH <2 H_2SO_4																	
O & G	pH <2 HCL																	
Phenols	pH <2 H_2SO_4																	
Sulfide	pH >9 NaOH, ZnAC																	
TKN	pH <2 H_2SO_4																	
T PO_4	pH <2 H_2SO_4																	
Cr VI+	pH >9 $(NH_4)_2SO_4$																	

Procedure:
1) Pour a small amount of sample in the sample lid
2) Pour sample from lid gently over wide range pH paper
3) **Do Not** dip the pH paper in the sample bottle or lid
4) If sample is not preserved, properly list its extension and receiving pH in the appropriate column above
5) Flag COC, notify client if requested
6) Place client conversation on COC
7) Samples may be adjusted

Frequency: All samples requiring preservation

* The sample required additional preservative upon receipt.

\+ The sample was received unpreserved.

▲ The sample was received unpreserved and therefore preserved upon receipt.

\# The sample pH was unadjustable to a pH < 2 due to the sample matrix.

• The sample pH was unadjustable to a pH > ____ due to the sample matrix interference.

American West
ANALYTICAL LABORATORIES

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

Joelle Dickson
Barr Engineering Company
170 South Main Street, Suite 500
Salt Lake City, UT 84101
TEL: (801) 333-8400

RE: Salt Crossing

Dear Joelle Dickson: Lab Set ID: 2109701

American West Analytical Laboratories received sample(s) on 9/27/2021 for the analyses presented in the following report.

American West Analytical Laboratories (AWAL) is accredited by The National Environmental Laboratory Accreditation Program (NELAP) in Utah and Texas; and is state accredited in Colorado, Idaho, New Mexico, Wyoming, and Missouri.

All analyses were performed in accordance to the NELAP protocols unless noted otherwise. Accreditation scope documents are available upon request. If you have any questions or concerns regarding this report please feel free to call.

The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

Thank You,

Approved by: _____
Laboratory Director or designee

INORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Joelle Dickson
Project: Salt Crossing
Lab Sample ID: 2109701-001
Client Sample ID: Sump #2
Collection Date: 9/27/2021 1430h
Received Date: 9/27/2021 1630h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Oil & Grease	mg/L		9/28/2021 1129h	E1664B	5.00	< 5.00	
Total Dissolved Solids	mg/L		9/28/2021 1200h	SM2540C	20.0	**808**	
Total Suspended Solids	mg/L		9/28/2021 1300h	SM2540D	3.00	< 3.00	#

 # - High RPD due to low analyte concentration. In this range, high RPDs are expected.

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Joelle Dickson
Project: Salt Crossing
Lab Sample ID: 2109701-002
Client Sample ID: Sump #1
Collection Date: 9/27/2021 1505h
Received Date: 9/27/2021 1630h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Oil & Grease	mg/L		9/28/2021 1129h	E1664B	5.00	< 5.00	
Total Dissolved Solids	mg/L		9/28/2021 1200h	SM2540C	50.0	**760**	
Total Suspended Solids	mg/L		9/28/2021 1300h	SM2540D	3.00	**60.4**	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Joelle Dickson
Project: Salt Crossing
Lab Sample ID: 2109701-003
Client Sample ID: Sump #3
Collection Date: 9/27/2021 1532h
Received Date: 9/27/2021 1630h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Oil & Grease	mg/L		9/28/2021 1129h	E1664B	5.00	< 5.00	
Total Dissolved Solids	mg/L		9/28/2021 1200h	SM2540C	20.0	**460**	
Total Suspended Solids	mg/L		9/28/2021 1300h	SM2540D	3.00	**24.0**	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Joelle Dickson
Project: Salt Crossing
Lab Sample ID: 2109701-004
Client Sample ID: Sump #4
Collection Date: 9/27/2021 1558h
Received Date: 9/27/2021 1630h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Oil & Grease	mg/L		9/28/2021 1129h	E1664B	5.00	< 5.00	
Total Dissolved Solids	mg/L		9/28/2021 1200h	SM2540C	20.0	**604**	
Total Suspended Solids	mg/L		9/28/2021 1300h	SM2540D	3.00	**19.2**	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Joelle Dickson
Project: Salt Crossing
Lab Sample ID: 2109701-001C
Client Sample ID: Sump #2
Collection Date: 9/27/2021 1430h
Received Date: 9/27/2021 1630h
Test Code: 608.3-W

Analytical Results Pesticides/PCBs PP List by GC/ECD Method 608.3

Analyzed: 9/29/2021 1004h **Extracted:** 9/28/2021 849h
Units: µg/L **Dilution Factor:** 1 **Method:** EPA608

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
4,4´-DDD	72-54-8	0.0200	< 0.0200	
4,4´-DDE	72-55-9	0.0200	< 0.0200	
4,4´-DDT	50-29-3	0.0200	< 0.0200	
Aldrin	309-00-2	0.0200	< 0.0200	
alpha-BHC	319-84-6	0.0200	< 0.0200	
Aroclor 1016	12674-11-2	0.500	< 0.500	
Aroclor 1221	11104-28-2	0.500	< 0.500	
Aroclor 1232	11141-16-5	0.500	< 0.500	
Aroclor 1242	53469-21-9	0.500	< 0.500	
Aroclor 1248	12672-29-6	0.500	< 0.500	
Aroclor 1254	11097-69-1	0.500	< 0.500	
Aroclor 1260	11096-82-5	0.500	< 0.500	
beta-BHC	319-85-7	0.0200	< 0.0200	
Chlordane, total	57-74-9	0.200	< 0.200	
delta-BHC	319-86-8	0.0200	< 0.0200	
Dieldrin	60-57-1	0.0200	< 0.0200	
Endosulfan I	959-98-8	0.0200	< 0.0200	
Endosulfan II	33213-65-9	0.0200	< 0.0200	
Endosulfan sulfate	1031-07-8	0.0200	< 0.0200	@
Endrin	72-20-8	0.0200	< 0.0200	
Endrin aldehyde	7421-93-4	0.0200	< 0.0200	
gamma-BHC	58-89-9	0.0200	< 0.0200	
Heptachlor	76-44-8	0.0200	< 0.0200	
Heptachlor epoxide	1024-57-3	0.0200	< 0.0200	
Toxaphene	8001-35-2	0.250	< 0.250	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: Decachlorobiphenyl	2051-24-3	0.142	0.1500	95.0	15-149	
Surr: Tetrachloro-m-xylene	877-09-8	0.108	0.1500	72.3	10-124	

@ - High RPD due to suspected sample non-homogeneity or matrix interference.

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Joelle Dickson
Project: Salt Crossing
Lab Sample ID: 2109701-002C
Client Sample ID: Sump #1
Collection Date: 9/27/2021 1505h
Received Date: 9/27/2021 1630h
Test Code: 608.3-W

Analytical Results Pesticides/PCBs PP List by GC/ECD Method 608.3

Analyzed: 9/29/2021 1111h **Extracted:** 9/28/2021 849h
Units: µg/L **Dilution Factor:** 1 **Method:** EPA608

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
4,4´-DDD	72-54-8	0.0200	< 0.0200	
4,4´-DDE	72-55-9	0.0200	< 0.0200	
4,4´-DDT	50-29-3	0.0200	< 0.0200	
Aldrin	309-00-2	0.0200	< 0.0200	
alpha-BHC	319-84-6	0.0200	< 0.0200	
Aroclor 1016	12674-11-2	0.500	< 0.500	
Aroclor 1221	11104-28-2	0.500	< 0.500	
Aroclor 1232	11141-16-5	0.500	< 0.500	
Aroclor 1242	53469-21-9	0.500	< 0.500	
Aroclor 1248	12672-29-6	0.500	< 0.500	
Aroclor 1254	11097-69-1	0.500	< 0.500	
Aroclor 1260	11096-82-5	0.500	< 0.500	
beta-BHC	319-85-7	0.0200	< 0.0200	
Chlordane, total	57-74-9	0.200	< 0.200	
delta-BHC	319-86-8	0.0200	< 0.0200	
Dieldrin	60-57-1	0.0200	< 0.0200	
Endosulfan I	959-98-8	0.0200	< 0.0200	
Endosulfan II	33213-65-9	0.0200	< 0.0200	
Endosulfan sulfate	1031-07-8	0.0200	< 0.0200	
Endrin	72-20-8	0.0200	< 0.0200	
Endrin aldehyde	7421-93-4	0.0200	< 0.0200	
gamma-BHC	58-89-9	0.0200	< 0.0200	
Heptachlor	76-44-8	0.0200	< 0.0200	
Heptachlor epoxide	1024-57-3	0.0200	< 0.0200	
Toxaphene	8001-35-2	0.250	< 0.250	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: Decachlorobiphenyl	2051-24-3	0.107	0.1500	71.2	15-149	
Surr: Tetrachloro-m-xylene	877-09-8	0.110	0.1500	73.6	10-124	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Joelle Dickson
Project: Salt Crossing
Lab Sample ID: 2109701-003C
Client Sample ID: Sump #3
Collection Date: 9/27/2021 1532h
Received Date: 9/27/2021 1630h
Test Code: 608.3-W

Analytical Results Pesticides/PCBs PP List by GC/ECD Method 608.3

Analyzed: 9/29/2021 1133h **Extracted:** 9/28/2021 849h
Units: µg/L **Dilution Factor:** 1 **Method:** EPA608

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
4,4´-DDD	72-54-8	0.0200	< 0.0200	
4,4´-DDE	72-55-9	0.0200	< 0.0200	
4,4´-DDT	50-29-3	0.0200	< 0.0200	
Aldrin	309-00-2	0.0200	< 0.0200	
alpha-BHC	319-84-6	0.0200	< 0.0200	
Aroclor 1016	12674-11-2	0.500	< 0.500	
Aroclor 1221	11104-28-2	0.500	< 0.500	
Aroclor 1232	11141-16-5	0.500	< 0.500	
Aroclor 1242	53469-21-9	0.500	< 0.500	
Aroclor 1248	12672-29-6	0.500	< 0.500	
Aroclor 1254	11097-69-1	0.500	< 0.500	
Aroclor 1260	11096-82-5	0.500	< 0.500	
beta-BHC	319-85-7	0.0200	< 0.0200	
Chlordane, total	57-74-9	0.200	< 0.200	
delta-BHC	319-86-8	0.0200	< 0.0200	
Dieldrin	60-57-1	0.0200	< 0.0200	
Endosulfan I	959-98-8	0.0200	< 0.0200	
Endosulfan II	33213-65-9	0.0200	< 0.0200	
Endosulfan sulfate	1031-07-8	0.0200	< 0.0200	
Endrin	72-20-8	0.0200	< 0.0200	
Endrin aldehyde	7421-93-4	0.0200	< 0.0200	
gamma-BHC	58-89-9	0.0200	< 0.0200	
Heptachlor	76-44-8	0.0200	< 0.0200	
Heptachlor epoxide	1024-57-3	0.0200	< 0.0200	
Toxaphene	8001-35-2	0.250	< 0.250	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: Decachlorobiphenyl	2051-24-3	0.125	0.1500	83.5	15-149	
Surr: Tetrachloro-m-xylene	877-09-8	0.0983	0.1500	65.5	10-124	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Barr Engineering Company **Contact:** Joelle Dickson
Project: Salt Crossing
Lab Sample ID: 2109701-004C
Client Sample ID: Sump #4
Collection Date: 9/27/2021 1558h
Received Date: 9/27/2021 1630h
Test Code: 608.3-W

Analytical Results Pesticides/PCBs PP List by GC/ECD Method 608.3

Analyzed: 9/29/2021 1156h **Extracted:** 9/28/2021 849h
Units: µg/L **Dilution Factor:** 1 **Method:** EPA608

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
4,4´-DDD	72-54-8	0.0200	< 0.0200	
4,4´-DDE	72-55-9	0.0200	< 0.0200	
4,4´-DDT	50-29-3	0.0200	< 0.0200	
Aldrin	309-00-2	0.0200	< 0.0200	
alpha-BHC	319-84-6	0.0200	< 0.0200	
Aroclor 1016	12674-11-2	0.500	< 0.500	
Aroclor 1221	11104-28-2	0.500	< 0.500	
Aroclor 1232	11141-16-5	0.500	< 0.500	
Aroclor 1242	53469-21-9	0.500	< 0.500	
Aroclor 1248	12672-29-6	0.500	< 0.500	
Aroclor 1254	11097-69-1	0.500	< 0.500	
Aroclor 1260	11096-82-5	0.500	< 0.500	
beta-BHC	319-85-7	0.0200	< 0.0200	
Chlordane, total	57-74-9	0.200	< 0.200	
delta-BHC	319-86-8	0.0200	< 0.0200	
Dieldrin	60-57-1	0.0200	< 0.0200	
Endosulfan I	959-98-8	0.0200	< 0.0200	
Endosulfan II	33213-65-9	0.0200	< 0.0200	
Endosulfan sulfate	1031-07-8	0.0200	< 0.0200	
Endrin	72-20-8	0.0200	< 0.0200	
Endrin aldehyde	7421-93-4	0.0200	< 0.0200	
gamma-BHC	58-89-9	0.0200	< 0.0200	
Heptachlor	76-44-8	0.0200	< 0.0200	
Heptachlor epoxide	1024-57-3	0.0200	< 0.0200	
Toxaphene	8001-35-2	0.250	< 0.250	

Surrogate (Units: µg/L)	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: Decachlorobiphenyl	2051-24-3	0.141	0.1500	94.3	15-149	
Surr: Tetrachloro-m-xylene	877-09-8	0.0972	0.1500	64.8	10-124	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109701
Project: Salt Crossing

Contact: Joelle Dickson
Dept: WC
QC Type: DUP

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 2109701-001ADUP Date Analyzed: 09/28/2021 1200h Test Code: TDS-W-2540C													
Total Dissolved Solids	796	mg/L	SM2540C	16.0	20.0					808	1.50	5	
Lab Sample ID: 2109701-001ADUP Date Analyzed: 09/28/2021 1300h Test Code: TSS-W-2540D													
Total Suspended Solids	< 3.00	mg/L	SM2540D	1.13	3.00					1.6	22.2	5	#
Lab Sample ID: 2109723-001ADUP Date Analyzed: 09/28/2021 1300h Test Code: TSS-W-2540D													
Total Suspended Solids	22.8	mg/L	SM2540D	1.13	3.00					24.4	6.78	5	@
Lab Sample ID: 2109714-003ADUP Date Analyzed: 09/28/2021 1300h Test Code: TSS-W-2540D													
Total Suspended Solids	3.60	mg/L	SM2540D	1.13	3.00					2.8	25.0	5	#

 # - High RPD due to low analyte concentration. In this range, high RPDs are expected.
@ - High RPD due to suspected sample non-homogeneity or matrix interference.

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109701
Project: Salt Crossing

Contact: Joelle Dickson
Dept: WC
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-R157196 Date Analyzed: 09/28/2021 1129h Test Code: OGB-W-1664B													
Oil & Grease	36.9	mg/L	E1664B	3.40	5.00	40.00	0	92.2	78 - 114				
Lab Sample ID: LCS-R157211 Date Analyzed: 09/28/2021 1200h Test Code: TDS-W-2540C													
Total Dissolved Solids	192	mg/L	SM2540C	8.00	10.0	205.0	0	93.7	80 - 120				
Lab Sample ID: LCS-R157213 Date Analyzed: 09/28/2021 1300h Test Code: TSS-W-2540D													
Total Suspended Solids	91.0	mg/L	SM2540D	1.13	3.00	100.0	0	91.0	80 - 120				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109701
Project: Salt Crossing

Contact: Joelle Dickson
Dept: WC
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-R157196 Date Analyzed: 09/28/2021 1129h Test Code: OGB-W-1664B													
Oil & Grease	< 5.00	mg/L	E1664B	3.40	5.00								
Lab Sample ID: MB-R157211 Date Analyzed: 09/28/2021 1200h Test Code: TDS-W-2540C													
Total Dissolved Solids	< 10.0	mg/L	SM2540C	8.00	10.0								
Lab Sample ID: MB-R157213 Date Analyzed: 09/28/2021 1300h Test Code: TSS-W-2540D													
Total Suspended Solids	< 3.00	mg/L	SM2540D	1.13	3.00								

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109701
Project: Salt Crossing

Contact: Joelle Dickson
Dept: WC
QC Type: QCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: QCS-R157196 Date Analyzed: 09/28/2021 1129h Test Code: OGB-W-1664B													
Oil & Grease	35.4	mg/L	E1664B	3.40	5.00	40.00	0	88.5	78 - 114				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109701
Project: Salt Crossing

Contact: Joelle Dickson
Dept: WC
QC Type: QCSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: QCSD-R157196 Date Analyzed: 09/28/2021 1129h Test Code: OGB-W-1664B													
Oil & Grease	38.4	mg/L	E1664B	3.40	5.00	40.00	0	96.0	78 - 114	35.4	8.13	18	

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109701
Project: Salt Crossing

Contact: Joelle Dickson
Dept: GC
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-79827	Date Analyzed:	09/29/2021 942h											
Test Code: 608.3-W	Date Prepared:	09/28/2021 849h											
4,4´-DDD	0.144	µg/L	EPA608	0.00425	0.0200	0.1500	0	95.7	33 - 141				
4,4´-DDE	0.122	µg/L	EPA608	0.00408	0.0200	0.1500	0	81.5	46 - 141				
4,4´-DDT	0.128	µg/L	EPA608	0.00531	0.0200	0.1500	0	85.6	60 - 134				
Aldrin	0.124	µg/L	EPA608	0.00581	0.0200	0.1500	0	83.0	42 - 140				
alpha-BHC	0.142	µg/L	EPA608	0.00337	0.0200	0.1500	0	94.6	44 - 132				
beta-BHC	0.152	µg/L	EPA608	0.00599	0.0200	0.1500	0	101	60 - 147				
delta-BHC	0.142	µg/L	EPA608	0.00364	0.0200	0.1500	0	94.6	62 - 140				
Dieldrin	0.107	µg/L	EPA608	0.00601	0.0200	0.1500	0	71.0	48 - 146				
Endosulfan I	0.114	µg/L	EPA608	0.00829	0.0200	0.1500	0	75.8	46 - 124				
Endosulfan II	0.137	µg/L	EPA608	0.00458	0.0200	0.1500	0	91.3	46 - 150				
Endosulfan sulfate	0.141	µg/L	EPA608	0.00545	0.0200	0.1500	0	94.0	55 - 144				
Endrin	0.156	µg/L	EPA608	0.00391	0.0200	0.1500	0	104	47 - 143				
Endrin aldehyde	0.147	µg/L	EPA608	0.0154	0.0200	0.1500	0	98.0	11 - 158				
gamma-BHC	0.150	µg/L	EPA608	0.00372	0.0200	0.1500	0	100	51 - 134				
Heptachlor	0.135	µg/L	EPA608	0.00368	0.0200	0.1500	0	90.2	34 - 139				
Heptachlor epoxide	0.142	µg/L	EPA608	0.00401	0.0200	0.1500	0	94.8	51 - 140				
Surr: Decachlorobiphenyl	0.106	µg/L	EPA608			0.1500		70.4	50 - 133				
Surr: Tetrachloro-m-xylene	0.0982	µg/L	EPA608			0.1500		65.5	10 - 124				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109701
Project: Salt Crossing

Contact: Joelle Dickson
Dept: GC
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-79827	Date Analyzed:	09/29/2021 920h											
Test Code: 608.3-W	Date Prepared:	09/28/2021 849h											
4,4´-DDD	< 0.0200	µg/L	EPA608	0.00425	0.0200								
4,4´-DDE	< 0.0200	µg/L	EPA608	0.00408	0.0200								
4,4´-DDT	< 0.0200	µg/L	EPA608	0.00531	0.0200								
Aldrin	< 0.0200	µg/L	EPA608	0.00581	0.0200								
alpha-BHC	< 0.0200	µg/L	EPA608	0.00337	0.0200								
Aroclor 1016	< 0.500	µg/L	EPA608	0.222	0.500								
Aroclor 1221	< 0.500	µg/L	EPA608	0.219	0.500								
Aroclor 1232	< 0.500	µg/L	EPA608	0.225	0.500								
Aroclor 1242	< 0.500	µg/L	EPA608	0.189	0.500								
Aroclor 1248	< 0.500	µg/L	EPA608	0.190	0.500								
Aroclor 1254	< 0.500	µg/L	EPA608	0.192	0.500								
Aroclor 1260	< 0.500	µg/L	EPA608	0.185	0.500								
beta-BHC	< 0.0200	µg/L	EPA608	0.00599	0.0200								
Chlordane, total	< 0.200	µg/L	EPA608	0.0452	0.200								
delta-BHC	< 0.0200	µg/L	EPA608	0.00364	0.0200								
Dieldrin	< 0.0200	µg/L	EPA608	0.00601	0.0200								
Endosulfan I	< 0.0200	µg/L	EPA608	0.00829	0.0200								
Endosulfan II	< 0.0200	µg/L	EPA608	0.00458	0.0200								
Endosulfan sulfate	< 0.0200	µg/L	EPA608	0.00545	0.0200								
Endrin	< 0.0200	µg/L	EPA608	0.00391	0.0200								
Endrin aldehyde	< 0.0200	µg/L	EPA608	0.0154	0.0200								
gamma-BHC	< 0.0200	µg/L	EPA608	0.00372	0.0200								
Heptachlor	< 0.0200	µg/L	EPA608	0.00368	0.0200								
Heptachlor epoxide	< 0.0200	µg/L	EPA608	0.00401	0.0200								
Toxaphene	< 0.250	µg/L	EPA608	0.162	0.250								
Surr: Decachlorobiphenyl	0.122	µg/L	EPA608			0.1500		81.0	50 - 133				
Surr: Tetrachloro-m-xylene	0.107	µg/L	EPA608			0.1500		71.5	10 - 124				

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109701
Project: Salt Crossing

Contact: Joelle Dickson
Dept: GC
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 2109701-001CMS	Date Analyzed:	09/29/2021 1026h											
Test Code: 608.3-W	Date Prepared:	09/28/2021 849h											
4,4´-DDD	0.297	µg/L	EPA608	0.00850	0.0400	0.3000	0	98.9	31 - 141				
4,4´-DDE	0.253	µg/L	EPA608	0.00816	0.0400	0.3000	0	84.4	30 - 145				
4,4´-DDT	0.273	µg/L	EPA608	0.0106	0.0400	0.3000	0	90.9	25 - 160				
Aldrin	0.236	µg/L	EPA608	0.0116	0.0400	0.3000	0	78.7	42 - 122				
alpha-BHC	0.291	µg/L	EPA608	0.00674	0.0400	0.3000	0	97.1	37 - 134				
beta-BHC	0.308	µg/L	EPA608	0.0120	0.0400	0.3000	0	103	17 - 147				
delta-BHC	0.301	µg/L	EPA608	0.00728	0.0400	0.3000	0	100	19 - 140				
Dieldrin	0.221	µg/L	EPA608	0.0120	0.0400	0.3000	0	73.6	36 - 146				
Endosulfan I	0.236	µg/L	EPA608	0.0166	0.0400	0.3000	0	78.6	45 - 153				
Endosulfan II	0.274	µg/L	EPA608	0.00916	0.0400	0.3000	0	91.3	10 - 202				
Endosulfan sulfate	0.139	µg/L	EPA608	0.0109	0.0400	0.3000	0	46.4	26 - 144				
Endrin	0.321	µg/L	EPA608	0.00782	0.0400	0.3000	0	107	30 - 147				
Endrin aldehyde	0.304	µg/L	EPA608	0.0308	0.0400	0.3000	0	101	10 - 134				
gamma-BHC	0.309	µg/L	EPA608	0.00744	0.0400	0.3000	0	103	32 - 127				
Heptachlor	0.268	µg/L	EPA608	0.00736	0.0400	0.3000	0	89.3	10 - 111				
Heptachlor epoxide	0.295	µg/L	EPA608	0.00802	0.0400	0.3000	0	98.3	37 - 142				
Surr: Decachlorobiphenyl	0.261	µg/L	EPA608			0.3000		86.9	15 - 149				
Surr: Tetrachloro-m-xylene	0.189	µg/L	EPA608			0.3000		63.1	10 - 124				

2109701-001CMS: Insufficient sample amount was provided to allow for a full amount analysis of the MS/MSD. Reduced sample volume for the MS/MSD was used as a result.

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Jennifer Osborn
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Barr Engineering Company
Lab Set ID: 2109701
Project: Salt Crossing

Contact: Joelle Dickson
Dept: GC
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 2109701-001CMSD	Date Analyzed:	09/29/2021 1049h											
Test Code: 608.3-W	Date Prepared:	09/28/2021 849h											
4,4´-DDD	0.286	µg/L	EPA608	0.00850	0.0400	0.3000	0	95.5	31 - 141	0.297	3.55	25	
4,4´-DDE	0.245	µg/L	EPA608	0.00816	0.0400	0.3000	0	81.6	30 - 145	0.253	3.36	25	
4,4´-DDT	0.262	µg/L	EPA608	0.0106	0.0400	0.3000	0	87.3	25 - 160	0.273	3.99	25	
Aldrin	0.256	µg/L	EPA608	0.0116	0.0400	0.3000	0	85.3	42 - 122	0.236	8.08	25	
alpha-BHC	0.282	µg/L	EPA608	0.00674	0.0400	0.3000	0	94.0	37 - 134	0.291	3.28	25	
beta-BHC	0.298	µg/L	EPA608	0.0120	0.0400	0.3000	0	99.3	17 - 147	0.308	3.22	25	
delta-BHC	0.287	µg/L	EPA608	0.00728	0.0400	0.3000	0	95.8	19 - 140	0.301	4.71	25	
Dieldrin	0.209	µg/L	EPA608	0.0120	0.0400	0.3000	0	69.6	36 - 146	0.221	5.63	25	
Endosulfan I	0.225	µg/L	EPA608	0.0166	0.0400	0.3000	0	74.9	45 - 153	0.236	4.89	25	
Endosulfan II	0.264	µg/L	EPA608	0.00916	0.0400	0.3000	0	87.9	10 - 202	0.274	3.79	25	
Endosulfan sulfate	0.316	µg/L	EPA608	0.0109	0.0400	0.3000	0	105	26 - 144	0.139	77.7	25	@
Endrin	0.312	µg/L	EPA608	0.00782	0.0400	0.3000	0	104	30 - 147	0.321	2.79	25	
Endrin aldehyde	0.300	µg/L	EPA608	0.0308	0.0400	0.3000	0	100	10 - 134	0.304	1.29	25	
gamma-BHC	0.300	µg/L	EPA608	0.00744	0.0400	0.3000	0	99.9	32 - 127	0.309	3.21	25	
Heptachlor	0.284	µg/L	EPA608	0.00736	0.0400	0.3000	0	94.8	10 - 111	0.268	5.92	25	
Heptachlor epoxide	0.287	µg/L	EPA608	0.00802	0.0400	0.3000	0	95.6	37 - 142	0.295	2.81	25	
Surr: Decachlorobiphenyl	0.255	µg/L	EPA608			0.3000		85.1	15 - 149				
Surr: Tetrachloro-m-xylene	0.197	µg/L	EPA608			0.3000		65.5	10 - 124				

@ - High RPD due to suspected sample non-homogeneity or matrix interference.

2109701-001CMSD: Insufficient sample amount was provided to allow for a full amount analysis of the MS/MSD. Reduced sample volume for the MS/MSD was used as a result.

American West Analytical Laboratories

Next Day Rush

Rpt Emailed: D S&U

WORK ORDER Summary

Work Order: **2109701** Page 1 of 1

Client: Barr Engineering Company
Due Date: 9/29/2021

Client ID: BAR200 **Contact:** Joelle Dickson

Project: **Salt Crossing** **QC Level:** II WO Type: Standard

Comments: Next Day Rush (after 3pm); QC 2 per Corbin;

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
2109701-001A	**Sump #2**	9/27/2021 1430h	9/27/2021 1630h	**TDS-W-2540C**	Aqueous	☐	df-tss/tds	1
				TSS-W-2540D		☐	df-tss/tds	
2109701-001B				**OGB-W-1664B**		☐	OGBFridge	
2109701-001C				**3510-PEST-PR**		☐	2	
				608.3-W		☑	2	
				Test Group: 608.3-W-PP; # of Analytes: 25 / # of Surr: 2				
2109701-002A	**Sump #1**	9/27/2021 1505h	9/27/2021 1630h	**TDS-W-2540C**	Aqueous	☐	df-tss/tds	1
				TSS-W-2540D		☐	df-tss/tds	
2109701-002B				**OGB-W-1664B**		☐	OGBFridge	
2109701-002C				**3510-PEST-PR**		☐	2	
				608.3-W		☑	2	
				Test Group: 608.3-W-PP; # of Analytes: 25 / # of Surr: 2				
2109701-003A	**Sump #3**	9/27/2021 1532h	9/27/2021 1630h	**TDS-W-2540C**	Aqueous	☐	df-tss/tds	1
				TSS-W-2540D		☐	df-tss/tds	
2109701-003B				**OGB-W-1664B**		☐	OGBFridge	
2109701-003C				**3510-PEST-PR**		☐	2	
				608.3-W		☑	2	
				Test Group: 608.3-W-PP; # of Analytes: 25 / # of Surr: 2				
2109701-004A	**Sump #4**	9/27/2021 1558h	9/27/2021 1630h	**TDS-W-2540C**	Aqueous	☐	df-tss/tds	1
				TSS-W-2540D		☐	df-tss/tds	
2109701-004B				**OGB-W-1664B**		☐	OGBFridge	
2109701-004C				**3510-PEST-PR**		☐	2	
				608.3-W		☑	2	
				Test Group: 608.3-W-PP; # of Analytes: 25 / # of Surr: 2				

Printed: 09/27/21 16:45 LABORATORY CHECK: %M ☐ RT ☐ CN ☐ TAT ☐ QC ☐ LUO ☐ HOK_____ HOK_____ HOK_____ COC Emailed_____

7.2° 2109701 due 9/29

Barr Engineering Co. Chain of Custody

BARR ☐ Ann Arbor ☐ Bismarck ☐ Duluth ☐ Grand Rapids ☐ Hibbing ☐ Jefferson City ☐ Minneapolis ☑ Salt Lake City

Sample Origination State: ☐ KS ☐ MO ☑ UT ☐ MI ☐ ND ☐ WI ☐ MN ☐ SD Other: ____

COC Number: 57315

COC 1 of 1

REPORT TO	INVOICE TO
Company: Barr Engineering	Company:
Address:	Address:
Name: Joelle Dickson	Name:
email: Jdickson@barr.com	email:
Copy to: ~~datamgt@barr.com~~	P.O.
Project Name: Salt Crossing	Barr Project No:

Matrix Code: GW = Groundwater; SW = Surface Water; WW = Waste Water; DW = Drinking Water; S = Soil/Solid; SD = Sediment; O = Other

Preservative Code: A = None; B = HCl; C = HNO_3; D = H_2SO_4; E = NaOH; F = MeOH; G = $NaHSO_4$; H = $Na_2S_2O_3$; I = Ascorbic Acid; J = NH_4Cl; K = Zn Acetate; O = Other

Location	Sample Depth Start	Stop	Unit (m./ft. or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix Code	Perform MS/MSD Y / N	Total Number Of Containers	Analysis Requested: Water: TSS - SM 2540 D	TDS - SM 2540C	O&G - EPA 1664B	Pesticides/PCB EPA 608?	Soil: % Solids	Preservative Code	Field Filtered Y/N
1. Sump #2				9/27/21	14:30	W		4	—	—	—	—			
2. Sump #1				"	15:05	W		4	—	—	—	—			
3. Sump #3				"	15:32	W		4	—	—	—	—			
4. Sump #4				"	15:58	W		4	—	—	—	—			
5.															
6.															
7.															
8.															
9.															
10.															

BARR USE ONLY

Sampled by: Corbin Jensen

Barr Proj. Manager: Joelle Dickson

Barr DQ Manager:

Lab Name: AWAL

Lab Location: SLC

Relinquished by: Corbin Jensen — On Ice? Y (N) — Date: 9/27/21 — Time: 1630

Received by: [illegible] — Date: 9/27/21 — Time: 1630

Relinquished by: — On Ice? Y N — Date — Time

Received by: — Date — Time

Samples Shipped VIA: ☐ Courier ☐ Federal Express ☐ Sampler ☐ Other: ____

Air Bill Number:

Lab WO: Temperature on Receipt (°C): Custody Seal Intact? ☐ Y ☐ N ☐ None

Requested Due Date: ☐ Standard Turn Around Time ☑ Rush 1 day (mm/dd/yyyy)

Distribution - White-Original: Accompanies Shipment to Laboratory; **Yellow Copy:** Include in Field Documents; **Pink Copy:** Send to Data Management Administrators.

H:\RLG\STDFORMS\Chain Of Custody Form 2015 RLG Rev. 01/02/18

Receipt Condition and Preservation Check Sheet

Lab Set ID: 2109701

pH Lot #: 6700

Samples Were:	Received Within Hold:	Received Intact:
☐ Shipped By: ☑ Hand Delivered ☐ Ambient ☑ Chilled on ice Temperature 7.2 °C	☑ Yes ☐ No ☐ N/A Notes:	☑ Yes ☐ No ☐ N/A Notes:
COC Tape Was: Present on Outer Package: ☐ Yes ☑ No ☐ N/A Unbroken on Outer Package: ☐ Yes ☐ No ☑ N/A Present on Sample ☐ Yes ☑ No ☐ N/A Unbroken on Sample ☐ Yes ☐ No ☑ N/A	**Properly Preserved:** ☑ Yes ☐ No ☐ Checked at Bench Notes:	**Sample Labels and COC Record Match?** ☑ Yes ☐ No Notes:

Sample Set Extension and pH

Analysis	Preservative	-001	-002	-003	-004												
Ammonia	pH < 2 H_2SO_4																
COD	pH < 2 H_2SO_4																
Cyanide	pH > 10 NaOH																
Metals	pH < 2 HNO_3																
NO_2 & NO_3	pH < 2 H_2SO_4																
O & G	pH < 2 HCL	yes	yes	yes	yes												
Phenols	pH < 2 H_2SO_4																
Sulfide	pH > 9 NaOH, ZnAC																
TKN	pH < 2 H_2SO_4																
T PO_4	pH < 2 H_2SO_4																
Cr VI+	pH > 9 $(NH_4)_2SO_4$																

* The sample required additional preservative upon receipt.

\+ The sample was received unpreserved.

▲ The sample was received unpreserved and therefore preserved upon receipt.

\# The sample pH was unadjustable to a pH < 2 due to the sample matrix.

• The sample pH was unadjustable to a pH > ____ due to the sample matrix interference.

Location Salt crossing Date 9/27/21

Project / Client SLC

Corbin Jensen

12:30-to FO — Calibrated Ph meter

load up, get bottles

13:~~48~~50-Left for site

14:10-on site

sump #2 14:30 Ph = 7.39 *talked to Russ and Earl

Sump #1 15:05 Ph = 7.62

Sump # 3 15:32 Ph = 8.63

Sump # 4 15:58 Ph = 7.83

16:~~15~~-Left for Lab

17:09-back 40miles

Ram

4 bailers