



Monitoring, Recording and Reporting Plan for CITY WELLS INJECTION – Canyon View Well

The purpose of this document is to detail the monitoring, recording, and reporting measures that Brigham City will take to ensure compliance with the injection well permit and all relevant water quality standards. This plan details the sampling, data management, and reporting methods used to meet compliance with Parts III.F and III.G of the permit.

Monitoring Plan

Injectate Sampling

Prior to the initialization of injection operations, samples of the injectate water will be collected at the nearest fire hydrant or sampling tap. Laboratory tests will be conducted to ensure that injectate water meets established quality standards. Samples will be collected and sent for analysis according to the timeline set forth within the permit. Samples shall be collected at the beginning of the injection event. Data submitted to meet compliance measures with the Utah Division of Drinking Water will serve to meet the groundwater monitoring requirements.

Sample Analysis

Attachment G of the permit provides a list of parameters for which each sample must be tested. This list is provided as a table which also lists the method and testing entity which must conduct the relevant tests. Samples will be collected according to the method-specific requirements of each parameter, including flushing, preservation, chain-of-custody, and transportation protocols. For the parameters where field analysis is the prescribed analysis method, testing will be performed by trained personnel with calibrated equipment. An example of a sample analysis report is attached to this document for reference.

Recording

The information detailed with each analysis shall include the date, time, and location of each sample collected; the name of the sampler; the date, time, and location of each analysis performed; the analysis method and reporting limit for each parameter; and the sample result. Electronic copies of the analysis report and field logs will be kept and maintained by Brigham City indefinitely.

During injection, the injection rate, injectate pressure, groundwater level, and water characteristics will be monitored daily. Using these logs of static ground water levels and the calculated injection volume, maximum drawup will be calculated and adhered to.

Reporting

All of the above data will be reported to the DWQ on a quarterly basis. Due to the long turnaround time of full laboratory analyses, reports will be submitted approximately 75 days from the end of each calendar quarter if injection occurred during that quarter. If no injection occurred during the previous quarter, a letter stating such will be sent to the DWQ. Each report will include a characterization of the injectate, injection pressure, rate and volume of injection events, injection zone water levels, all associated sample collection data, and all applicable sample results.



11/3/2020

Work Order: 20J1239
Project: ASR

Brigham City Corporation
Attn: Rene Cedillo
P.O. Box 1005
Brigham City, UT 84302

Client Service Contact: 801.262.7299

The analyses presented on this report were performed in accordance with the National Environmental Laboratory Accreditation Program (NELAP) unless noted in the comments, flags, or case narrative. If the report is to be used for regulatory compliance, it should be presented in its entirety, and not be altered.



Approved By:

Dave Gayer, Laboratory Director



Certificate of Analysis

Lab Sample No.: 20J1239-01

Name: Brigham City Corporation	Sample Date: 10/21/2020 11:02 AM
Sample Site: Cemetery 2	Receipt Date: 10/21/2020 2:00 PM
Comments:	Sampler: Thomas Braithwaite
Sample Matrix: Water	Project: ASR
PO Number:	System No.: UTAH02004
Source Code:	Sample Point:
	Report to State: N

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Inorganic								
Bromide	ND		0.01	mg/L	EPA 300.0	10/26/2020	10/26/2020	
Chlorine Dioxide	ND		0.50	mg/L	SM 4500 ClO2-D	10/27/2020	10/27/2020	SL-EFI, SPH
Chlorine Residual, Total	0.53	4	0.10	mg/L	SM 4500 Cl-G	10/21/2020 17:30	10/21/2020 17:30	SPH
Chlorite	ND	1	0.01	mg/L	EPA 300.0	10/27/2020	10/27/2020	
Fluoride	0.67	4	0.10	mg/L	EPA 300.0	10/21/2020	10/21/2020	
Nitrate as N	0.7	10	0.1	mg/L	EPA 300.0	10/21/2020 22:29	10/21/2020 22:29	
Nitrite as N	ND	1	0.1	mg/L	EPA 300.0	10/21/2020 22:29	10/21/2020 22:29	
Sulfate	10.6	250	1.0	mg/L	EPA 300.0	10/21/2020	10/21/2020	
Total Dissolved Solids (TDS)	256	1000	20	mg/L	SM 2540 C	10/26/2020	10/26/2020	
Turbidity	0.06	5	0.05	NTU	EPA 180.1	10/22/2020 15:31	10/22/2020 15:42	
Metals								
Arsenic, Total	0.0008	0.01	0.0005	mg/L	EPA 200.8	10/22/2020	10/22/2020	
Miscellaneous Tests								
Monochloramine	ND		0.10	mg/L	SM 4500 Cl-F	10/22/2020 16:52	10/22/2020 16:52	SL-EFI
Dichloramine	ND		0.10	mg/L	SM 4500 Cl-F	10/22/2020 16:52	10/22/2020 16:52	SL-EFI
Nitrogen Trichloride	ND		0.20	mg/L	SM 4500 Cl-F	10/22/2020 16:52	10/22/2020 16:52	SL-EFI
Regulated Haloacetic Acids (HAAs)								
Dibromoacetic Acid	ND		1.0	ug/L	EPA 552.2	10/23/2020	10/24/2020	
Dichloroacetic Acid	ND		1.0	ug/L	EPA 552.2	10/23/2020	10/24/2020	
Monobromoacetic Acid	ND		1.0	ug/L	EPA 552.2	10/23/2020	10/24/2020	
Monochloroacetic Acid	ND		2.0	ug/L	EPA 552.2	10/23/2020	10/24/2020	
Trichloroacetic Acid	ND		1.0	ug/L	EPA 552.2	10/23/2020	10/24/2020	
Total Haloacetic Acids	ND	60	2.0	ug/L	EPA 552.2	10/23/2020	10/24/2020	
Haloacetic Acid Potential (HAAs)								
Dibromoacetic Acid FP	ND		1.0	ug/L	EPA 552.2	11/02/2020	11/02/2020	
Dichloroacetic Acid FP	143		10.0	ug/L	EPA 552.2	11/02/2020	11/02/2020	
Monobromoacetic Acid FP	ND		1.0	ug/L	EPA 552.2	11/02/2020	11/02/2020	
Monochloroacetic Acid FP	ND		2.0	ug/L	EPA 552.2	11/02/2020	11/02/2020	
Trichloroacetic Acid FP	551		10.0	ug/L	EPA 552.2	11/02/2020	11/02/2020	
Total HAA Formation Potential	694		20.0	ug/L	EPA 552.2	11/02/2020	11/02/2020	
Trihalomethanes (THMs)								
Bromodichloromethane	ND		0.5	ug/L	EPA 524.2	10/22/2020	10/23/2020	
Bromoform	ND		0.5	ug/L	EPA 524.2	10/22/2020	10/23/2020	
Chloroform	ND		0.5	ug/L	EPA 524.2	10/22/2020	10/23/2020	
Dibromochloromethane	ND		0.5	ug/L	EPA 524.2	10/22/2020	10/23/2020	



Certificate of Analysis

Lab Sample No.: 20J1239-01

Name: Brigham City Corporation	Sample Date: 10/21/2020 11:02 AM
Sample Site: Cemetery 2	Receipt Date: 10/21/2020 2:00 PM
Comments:	Sampler: Thomas Braithwaite
Sample Matrix: Water	Project: ASR
PO Number:	System No.: UTAH02004
Source Code:	Sample Point:
	Report to State: N

Parameter	Sample Result	EPA Max Contaminant Level (MCL)	Minimum Reporting Limit	Units	Analytical Method	Preparation Date/Time	Analysis Date/Time	Flag
Trihalomethanes (THMs) (cont.)								
Total Trihalomethanes	ND	80	0.5	ug/L	EPA 524.2	10/22/2020	10/23/2020	



Certificate of Analysis

Report Footnotes

Abbreviations

ND = Not detected at the corresponding Minimum Reporting Limit.

1 mg/L = one milligram per liter or 1 mg/Kg = one milligram per kilogram = 1 part per million.

1 ug/L = one microgram per liter or 1 ug/Kg = one microgram per kilogram = 1 part per billion.

1 ng/L = one nanogram per liter or 1 ng/Kg = one nanogram per kilogram = 1 part per trillion.

Flag Descriptions

SL-EFI = Analysis performed by Eurofins, 110 South Hill Street, South Bend, IN 46617

SPH = Sample submitted past method specified holding time.

Data Comparisons

Values reported in **RED** exceed Primary Drinking Water standards.

Values reported in **BLUE** exceed Secondary Drinking Water standards.

BLANK values in the MCL column indicate no standard.

DRINKING WATER SAMPLES ONLY

CHEMTECH - FORD ANALYTICAL LABORATORY

CHAIN OF CUSTODY

COMPANY: Brigham City Corporation
 ADDRESS: P.O. Box 1005
 CITY/STATE/ZIP: Brigham City, UT 84302
 PHONE #: 435-723-3146
 CONTACT: Rene Cedillo
 EMAIL: rcedillo@bcutah.org

BILLING ADDRESS: _____
 BILLING CITY/STATE/ZIP: _____
 PURCHASE ORDER: _____



TURNAROUND TIME REQUIRED*: _____

* Expedited turnaround subject to additional charge

State System Number

02004

Send to State

 Yes No

Please fill in all blue highlighted areas. Thank you!

TESTS REQUESTED														Bacteria			LAB FAIL Ref #
Asenic	Anions: Br, F, NO3, NO2, SO4	Total Dissolved Solids	Turbidity	Chlorine Dioxide, Chloramine	Chlorine Residual	Chlorite	THMs	HAA5	HAA Formation Potential	Total Coliform + E. coli (Present/Absent)	Total Coliform + E. coli (Enumerated)	HPC (Plate Count)	R = Routine	I = Investigative	TR = Trigger Source	RP = Repeat	
X	X	X	X	X	X	X	X	X	X				REPEAT OR = Original Location UP = Upstream DN = Downstream				

Lab Use Only	CLIENT SAMPLE INFORMATION						Field: Residual Chlorine
	LOCATION	DATE	TIME	FACILITY ID (source code)	POINT CODE (DBP)		
20J1239 -01	1. Cemetery 2	10-21-2010	11:02	N/A	N/A	.53	
	2.						
	3.						
	4.						
	5.						
	6.						
	7.						
	8.						
	9.						
	10.						

Sampled by: [print] Thomas Brantman, Jr Sampled by: [signature] [Signature] **ON ICE** **NOT ON ICE** Temp (C°): 9.4

Special Instructions: **Samples received outside the EPA recommended temperature range of 0-6 C° may be rejected.**

Relinquished by: [signature] <u>[Signature]</u>	Date/Time <u>10-21-2010 11:23</u>	Received by: [signature] <u>[Signature]</u>	Date/Time <u>10/21/20 11:23</u>
Relinquished by: [signature] <u>[Signature]</u>	Date/Time <u>10/21/20 1400</u>	Received by: [signature] <u>[Signature]</u>	Date/Time <u>10-21-20 1400</u>
Relinquished by: [signature]	Date/Time	Received by: [signature]	Date/Time

CHEMTECH-FORD
 9632 South 500 West
 Sandy, UT 84070

801.262.7299 PHONE
 866.792.0093 FAX
www.ChemtechFord.com

Payment Terms are net 30 days OAC. 1.5% interest charge per month (18% per annum).
 Client agrees to pay collection costs and attorney's fees.

Work Order # 20J1239

CHEMTECH FORD LABORATORIES

Sample Receipt



CHEMTECH-FORD LABORATORIES

Delivery Method:

- UPS
- USPS
- FedEx
- Chemtech Courier
- Walk-in
- Customer Courier

Receiving Temperature 9.4 °C

Sample #	Container	Chemtech Lot # or Preservative	Number of Subsamples	Preserved by Client/Third Party	Preserved in Receiving/Laboratory	Filtered in Field by Client	Misc Volume (oz/mL)	Comments
-01	AG (2)							
	M	1081						
	H (3)	1089						
	V (2)	1079 1089 OK						
	G AG	1070				250ml	Amber	

Sample Condition
(check if yes)

- Custody Seals
- Containers Intact
- COC can be matched to bottles
- Received on Ice
- Correct Containers(s)
- Sufficient Sample Volume
- Headspace Present (VOC)
- Temperature Blank
- Received within Holding Time

Plastic Containers

- A- Plastic Unpreserved
- B- Miscellaneous Plastic
- C- Cyanide Qt (NaOH)
- E- Coliform/Ecoli/HPC
- F- Sulfide Qt (Zn Acetate)
- L- Mercury 1631
- M- Metals Pint (HNO3)
- N- Nutrient Pint (H2SO4)
- R- Radiological (HNO3)
- S- Sludge Cups/Tubs
- Q- Plastic Bag

Glass Containers

- D- 625 (Na2S2O3)
- G- Glass Unpreserved
- H- HAAs (NH4Cl)
- J- 508/515/525 (Na2SO3)
- K- 515.3 Herbicides
- O- Oil & Grease (HCl)
- P- Phenols (H2SO4)
- T- TOC/TOX (H3PO4)
- U- 531 (MCAA, Na2S2O3)
- V- 524/THMs (Ascorbic Acid)
- W- 8260 VOC (1:1 HCl)
- X- Vial Unpreserved
- Y- 624/504 (Na2S2O3)
- Z- Miscellaneous Glass