3R - 422 / 3RP- 381

Incident# nCS1621656998

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GCU 170 ANNUAL MONITORING REPORT

4/29/2020

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

)

Incident ID	NCS1621656998
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: BP America Production Co	OGRID: 778	Annual Monitoring Report
Contact Name: Steve Moskal	Contact Telephone: (505) 330-91	79
Contact email: steven.moskal@bpx.com	Incident # (assigned by OCD)	
Contact mailing address: 1199 Main St., Suite 101, Durango CO, 81301		

Location of Release Source

Latitude: 36.680279°

Longitude: <u>-108.07166°</u> (NAD 83 in decimal degrees to 5 decimal places)

Site Name: Gallegos Canyon Unit 170	Site Type: Abandoned Natural Gas Production Well
Date Release Discovered: March 1995	API#: 30-045-07658

Unit Letter	Section	Township	Range	County
К	32	T29N	R12W	San Juan

Surface Owner: State Federal Tribal Private (Name:

Nature and Volume of Release

Materi	Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)				
Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)			
Produced Water	Volume Released (bbls): Unknown - Historical	Volume Recovered (bbls): 0			
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No			
Condensate	Volume Released (bbls): Unknown - Historical	Volume Recovered (bbls): 0			
Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)			
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)			

Cause of Release:

Historical pit closure (1995) and condensate release in 2016 from a downhole well integrity issue.

State of New Mexico Oil Conservation Division

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TT T .1 * *	
Was this a major	If YES, for what reason(s) does the responsible party consider this a major release?
release as defined by	
19.15.29.7(A) NMAC?	
19.15.29.7(A) INMAC:	
🗌 Yes 🔀 No	
If VES was immediate n	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
II I LS, was ininieulate in	blue given to the OCD? By whom? To whom? when and by what means (phone, eman, etc)?

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

 \square The source of the release has been stopped.

The impacted area has been secured to protect human health and the environment.

Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: <u>Steve Moskal</u>	Title: <u>Environmental Coordinator</u>
Signature:	Date: <u>April 28, 2020</u>
email: <u>steven.moskal@bpx.com</u>	Telephone: <u>(505) 330-9179</u>
OCD Only	
Received by:	Date:

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State of New Mexico **Oil Conservation Division**

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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>12-15</u> (ft bgs)
Did this release impact groundwater or surface water?	🛛 Yes 🗌 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🛛 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🛛 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🛛 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🛛 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🗌 Yes 🛛 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🛛 No
Did the release impact areas not on an exploration, development, production, or storage site?	🗌 Yes 🛛 No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. Field data
- Data table of soil contaminant concentration data
- \boxtimes Depth to water determination
- Determination of water sources and significant watercourses within ¹/₂-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141	State of New Mexico	Г	I I ID	
	Oil Conservation Division		Incident ID	
Page 4	On Conservation Division		District RP	
			Facility ID	
			Application ID	
regulations all operators are requ public health or the environment failed to adequately investigate a	tion given above is true and complete to the aired to report and/or file certain release not t. The acceptance of a C-141 report by the 0 and remediate contamination that pose a thr C-141 report does not relieve the operator of	tifications and perform con OCD does not relieve the reat to groundwater, surfac	rrective actions for rele operator of liability sho water, human health	ases which may endanger ould their operations have or the environment. In
Printed Name: <u>Steve Moska</u>	1 <u>1</u> Title:	Environmental Coordin	nator	
Signature:		:April 29, 2020 Telephone:(505) 330-	<u>-9179</u>	
OCD Only				
Received by:		Date:		

****Continued monitoring report****

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Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan.
 Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)
Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
Extents of contamination must be fully delineated.
Contamination does not cause an imminent risk to human health, the environment, or groundwater.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD
rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: <u>Steve Moskal</u> Title: <u>Environmental Coordinator</u>
Signature: Date: Date: April 29, 2020
email:steven.moskal@bpx.com Telephone: _(505) 330-9179
OCD Only
Received by: Cory Smith Date: 4/29/2020
Approved in Approved with Attached Conditions of Approval Denied Deferral Approved
Signature: <u>Date:</u> 6/9/2020

****Continued monitoring report****

State of New Mexico Oil Conservation Division

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Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the	following items must be included in the closure report.
A scaled site and sampling diagram as described in	n 19.15.29.11 NMAC
Photographs of the remediated site prior to backfil must be notified 2 days prior to liner inspection)	ll or photos of the liner integrity if applicable (Note: appropriate OCD District office
Laboratory analyses of final sampling (Note: appro	opriate ODC District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to report and/o may endanger public health or the environment. The ac- should their operations have failed to adequately investi- human health or the environment. In addition, OCD acc compliance with any other federal, state, or local laws an restore, reclaim, and re-vegetate the impacted surface are	and complete to the best of my knowledge and understand that pursuant to OCD rules or file certain release notifications and perform corrective actions for releases which ceptance of a C-141 report by the OCD does not relieve the operator of liability gate and remediate contamination that pose a threat to groundwater, surface water, ceptance of a C-141 report does not relieve the operator of responsibility for nd/or regulations. The responsible party acknowledges they must substantially ea to the conditions that existed prior to the release or their final land use in ion to the OCD when reclamation and re-vegetation are complete.
Printed Name: <u>Steve Moskal</u>	Title: <u>Environmental Coordinator</u>
Signature:	Date:
email: <u>steven.moskal@bpx.com</u>	Telephone: <u>(505) 330-9179</u>
OCD Only	
Received by:	Date:
Closure approval by the OCD does not relieve the respor	nsible party of liability should their operations have failed to adequately investigate and ter, surface water, human health, or the environment nor does not relieve the responsible
Closure approval by the OCD does not relieve the response remediate contamination that poses a threat to groundwate	nsible party of liability should their operations have failed to adequately investigate and ter, surface water, human health, or the environment nor does not relieve the responsible al laws and/or regulations.
Closure approval by the OCD does not relieve the response remediate contamination that poses a threat to groundwate party of compliance with any other federal, state, or locate	nsible party of liability should their operations have failed to adequately investigate and ter, surface water, human health, or the environment nor does not relieve the responsible al laws and/or regulations.

BP America Production Co.

GROUNDWATER MONITORING REPORT

Gallegos Canyon Unit #170 API #: 30-045-07658 Administrative/Environmental Order #: 3RP-381 (K) Section 35, T29N, R12W, NMPM San Juan County, New Mexico

> PREPARED FOR: NEW MEXICO OIL CONSERVATION DIVISION 1000 Rio Brazos Road Aztec, New Mexico 87410

> > **APRIL 2020**

PREPARED BY: BLAGG ENGINEERING, INC.

Consulting Petroleum / Reclamation Services P.O. Box 87 Bloomfield, New Mexico 87413

GROUNDWATER MONITORING REPORT BPX ENERGY INC. Gallegos Canyon Unit #170

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Figure 1: Site Map

Figure 2: Groundwater Gradient Map – June 2019

Figure 3: Groundwater Gradient Map – December 2019

Figure 4: Groundwater Gradient Map – March 2020

Figure 5: Field Data Sheet – June 2019

Figure 6: Field Data Sheet – December 2019 Figure 7: Field Data Sheet – March 2020

Appendix B: (Laboratory Analytical Data, Chain-of-Custody Records, Quality Control/Quality Assurance)

GROUNDWATER MONITORING REPORT BPX ENERGY INC. Gallegos Canyon Unit (GCU) # 170

INTRODUCTION

Blagg Engineering, Inc. (BEI) has been retained by BPX Energy Inc. (BPX) to conduct groundwater monitoring at its GCU #170 well site, located in rural San Juan County, New Mexico. As mentioned in a previous report dated May 30, 2017, the purpose of monitoring is to evaluate groundwater quality following remedial activities targeting removal of hydrocarbon impacted soils resulting from a historical (1995) and more recent (2016) releases. Documentation of these occurrences have been recorded and submitted to the New Mexico Oil Conservation Division (NMOCD) in Santa Fe and Aztec offices. All groundwater activities have followed prior NMOCD approved workplans.

A total of eight (8) groundwater monitor wells have been sampled on a bi-annual schedule since their installation in April 2017 (see Figure 1). Bore hole logs along with soil lithology descriptions have previously been submitted to NMOCD. Groundwater depths continue to show fluctuations between six (6) to ten (10) feet (ft.) below surface grade.

Laboratory analytical results of groundwater samples collected in September 2018, June 2019, December 2019 and March 2020 are included within this report.

MONITORING PROCEDURES

Groundwater samples were collected from site monitor wells (Figure 1) following US EPA: SW-846 protocol. Samples were collected using new disposable bailers and placed into new laboratory supplied 1,000 ml plastic containers. The samples were preserved cool on ice and then express delivered to a qualified laboratory for testing. Analytical procedures included general chemistry parameters noted on the laboratory Chain-of-Custody Records and followed standard and US EPA methods. Purged water generated during monitor well sampling was disposed of utilizing an above-grade tank located at BPX's nearby GCU #170E well site (API #: 30-045-24175; Unit letter E, Section 35, T29N, R12W).

MONITORING FINDINGS

Based on the enclosed site monitor well information, groundwater flow is consistently in a northwest direction throughout the year, as depicted on the attached groundwater gradient maps. The local irrigation season begins on April 15 and ends on October 15 each year. Groundwater fluctuations are strongly affected by this artificial application of water to the ground surface.

The only remaining constituents of concern at the site are sulfate and total dissolved solids (TDS). Prior monitoring has demonstrated that the regulated hydrocarbon constituents of benzene, toluene, ethylbenzene and total xylenes (BTEX) have been fully remediated and further testing for these constituents has not been required by NMOCD since October, 2017. Sulfate is present at levels in excess of New Mexico Water Quality Control Commission (NMWQCC) standards in source area monitor wells MW-3A and MW-7, and in down-gradient monitor wells MW-5 and MW-8. TDS is present at levels exceeding

NMWQCC standards in source area monitor wells MW-2A, MW-3A and MW-7 and in down-gradient wells MW-5, MW-8 and MW-9.

There are no known domestic or public water supply wells affected by the residual sulfate and TDS impacts at the site and no risk to human health or livestock is present. Continued monitoring of groundwater quality is scheduled to determine the long term natural degradation of impacts. If this monitoring finds that a risk to human health or livestock may occur then alternative remedial actions will be evaluated.

Unit Letter K, Section 35, T29N, R12W - API Number: 30-045-07658 Administrative/Enviromental Order #: 3RP-422-0 | Incident/Application #: nAUTOfWCO00211

Field & Laboratory Data from Groundwater Monitor Wells

	FIELD &/or LAB PARAMETERS								
Sample ID	Sample Date	Sample Time	Depth to Groundwater	Total MW Length	pH (Lab)	Conductivity (Lab)	Conductivity (Field)	Temperature	Volume Purged
	04/47/47	4000	(feet)	(feet)	7.00	(µmhos/cm)		(°Celcius)	(gallons)
MW # 2A	04/17/17	1002	8.71	14.80	7.63	1,400	1,680	13.2	3.00
(source area)	08/10/17	0942	7.43		7.63	1,100	1,070	16.0	3.75
	10/19/17	0944	7.02		7.45	1,200	1,570	15.7	4.00
	04/10/18	0842	7.21		7.49	1,400	1,440	14.5	3.75
	09/19/18	0915	6.99		7.62	1,000	1,310	18.1	4.00
	06/25/19	0915	6.70		7.27	1,300	2,000	15.2	3.10
	12/11/19	0939	8.01		7.70	1,500	1,490	13.2	3.50
	03/25/20	0936	8.87		7.58	1,600	1,660	11.4	3.00
MW # 3A	04/17/17	1104	7.92	15.88	7.49	1,500	1,790	13.1	4.00
(source area)	08/10/17	1145	6.74		7.59	2,100	1,850	16.5	5.25
	10/19/17	1001	6.43		7.47	2,000	1,250	15.7	4.75
	04/10/18	0918	6.60		7.60	2,000	1,520	14.4	4.50
	09/19/18	0932	6.39		7.62	1,700	1,280	18.2	4.75
	06/25/19	0949	7.80		7.30	1,800	1,410	16.5	4.10
	12/11/19	1014	7.22		7.81	1,600	1,430	13.1	4.25
	03/25/20	0924	7.98		7.96	1,800	1,670	10.9	4.00
MW # 4A	04/17/17	0906	8.86	15.98	7.70	1,100	1,450	12.1	3.50
(source area)	08/10/17	1023	7.51	"	7.73	950	1,110	16.1	4.25
	10/19/17	0922	7.10	"	7.52	990	1,090	16.3	4.50
	04/10/18	0829	7.31		7.67	1,100	1,100	14.8	4.25
	09/19/18	0903	7.12		7.69	1,000	1,110	17.8	4.50
	06/25/19	0851	8.78		7.41	1,100	1,100	14.9	3.00
	12/11/19	0915	8.09		7.82	1,400	1,460	13.6	4.00
	03/25/20	0913	8.98		7.80	1,100	1,310	11.0	3.50
MW # 5	04/17/17	1225 1321	7.47	19.24	7.58 7.74	1,900	1,710	13.3	5.75
(down	08/10/17		6.42	"		4,200	2,200	16.4	6.50
gradient)	10/19/17 04/10/18	1158 1015	6.15 6.26	"	7.44 7.60	3,500	1,620	15.9 14.7	6.50 6.50
				"		2,400	1,830		
	09/19/18	0830 1023	6.10 7.29		7.95	2,100 2,200	1,360	16.3	6.50
	06/25/19			"	7.37		1,800	15.7	6.00
	12/11/19	1054	6.82	"	7.87	2,000	2,000	13.3	6.25
	03/25/20	1002	7.50		7.79	2,100	2,100	11.8	6.00
MW # 6 (up	04/17/17 08/10/17	0935 0908	9.98 8.47	15.98	7.61 7.69	830 820	800 820	12.6 15.8	3.00 4.00
gradient)		0908					920	15.6	
	10/19/17	0902	7.98		7.40	1,000 930	920		4.00
	04/10/18		0.2.		7.67			14.1	3.75
	09/19/18	0752	7.98		7.67	1,200	1,210	17.9	4.00
	06/25/19 12/11/19	0902 0928	9.99 9.20		7.42	880 830	850 850	14.6 13.6	3.00 3.50
				"	7.63		850		
	03/25/20 04/17/17	0900 1036	10.21		7.97	800		11.6	3.00
MW # 7 (side	04/17/17 08/10/17	1036	9.25	18.78	7.60	1,900 1,800	1,850 1,960	14.1	4.75
gradient)			8.17	"	7.60			16.8	5.50
	10/19/17	1102	7.81		7.40	1,900	1,670	16.1	5.50
	04/10/18	0933	7.99		7.56	1,800	1,710	14.5	5.25
	09/19/18 06/25/19	0948	7.72		7.66	1,500	1,250	17.7	5.50
		0933	9.20		7.34	1,800	1,420	16.6	4.80
	12/11/19	1004 0950	8.61		7.82	1,900	1,770	12.3	5.00
	03/25/20		9.36 MWQCC STA		7.95 6 - 9	1,900	1,830	10.8	4.75

NMWQCC STANDARDS - 6 - 9

Unit Letter K, Section 35, T29N, R12W - API Number: 30-045-07658 Administrative/Enviromental Order #: 3RP-422-0 | Incident/Application #: nAUTOfWCO00211

		FIELD &/or LAB PARAMETERS								
Sample ID	Sample	Sample	Depth to	Total MW	рН	Conductivity	Conductivity	Temperature	Volume	
	Date	Time	Groundwater	Length	(Lab)	(Lab)	(Field)		Purged	
			(feet)	(feet)		(µmhos/cm)	(µmhos/cm)	(°Celcius)	(gallons)	
MW # 8	04/17/17	1157	8.63	18.08	7.58	2,300	2,300	13.4	4.75	
(down	08/10/17	1245	7.78	"	7.69	2,000	1,900	16.3	5.25	
gradient)	10/19/17	1129	7.54	"	7.53	2,200	1,780	15.7	5.25	
	04/10/18	0954	7.64	"	7.63	2,000	1,880	14.2	5.25	
	09/19/18	0848	7.45	"	8.10	2,100	1,820	16.0	5.50	
	06/25/19	1008	8.54	"	7.40	2,000	1,190	15.6	4.80	
	12/11/19	1025	8.12	"	7.84	2,200	2,100	12.6	5.00	
	03/25/20	1016	8.72	"	7.97	2,100	2,000	11.0	4.75	
MW # 9	04/17/17	1130	11.38	18.43	7.75	1,200	1,530	13.8	3.50	
(down	08/10/17	1218	10.16	-	7.81	1,100	1,210	16.3	4.25	
gradient)	10/19/17	1029	9.84	"	7.66	1,200	1,070	16.3	4.25	
	04/10/18	0858	9.98	"	7.72	970	1,240	14.5	4.25	
	09/19/18	0809	9.85	"	7.91	1,100	1,180	16.4	4.25	
	06/25/19	0840	11.22	"	7.56	1,100	240	14.4	3.60	
	12/11/19	0900	10.63	"	7.88	1,500	1,450	13.6	4.00	
	03/25/20	0847	11.44	"	7.91	1,500	1,440	11.6	3.50	
		NI	MWOCC STA		6_9					

NMWQCC STANDARDS - 6 - 9

Unit Letter K, Section 35, T29N, R12W - API Number: 30-045-07658 Administrative/Enviromental Order #: 3RP-422-0 | Incident/Application #: nAUTOfWCO00211

	LABORATORY PARAMETERS								
Sample ID	Sample	Sample	Chloride	Sulfate	TDS	Benzene	Toluene	Ethyl -	Total
	Date	Time						benzene	Xylenes
			(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW # 2A	04/17/17	1002	8.8	440	1,010	<1.0	<1.0	<1.0	<1.5
(source area)	08/10/17	0942	8.1	220	780	<1.0	<1.0	<1.0	<1.5
	10/19/17	0944	5.3	210	795	<1.0	<1.0	<1.0	<1.5
	04/10/18	0842	6.6	340	1,000	-	-	-	-
	09/19/18	0915	6.0	140	706	-	-	-	-
	06/25/19	0915	8.6	350	940	-	-	-	-
	12/11/19	0939	11	420	1,090	-	-	-	-
	03/25/20	0936	17	490	1,240	-	-	-	-
MW # 3A	04/17/17	1104	13	520	1,160	<1.0	<1.0	<1.0	<1.5
(source area)	08/10/17	1145	6.5	980	1,940	<1.0	<1.0	<1.0	<1.5
	10/19/17	1001	6.1	820	1,670	<1.0	<1.0	<1.0	<1.5
	04/10/18	0918	9.6	810	1,680	-	-	-	-
	09/19/18	0932	6.4	710	1,310	-	-	-	-
	06/25/19	0949	8.0	790	1,550	-	-	-	-
	12/11/19	1014	8.5	680	1,400	-	-	-	-
	03/25/20	0924	11	820	1,570	-	-	-	-
MW # 4A	04/17/17	0906	7.7	270	770	<1.0	<1.0	<1.0	<1.5
(source area)	08/10/17	1023	6.0	140	650	<1.0	<1.0	<1.0	<1.5
	10/19/17	0922	7.4	140	596	<1.0	<1.0	<1.0	<1.5
	04/10/18	0829	10.0	140	740	-	-	-	-
	09/19/18	0903	8.2	140	690	-	-	-	-
	06/25/19	0851	10	140	185	-	-	-	-
	12/11/19	0915	79	230	955	-	-	-	-
	03/25/20	0913	27	190	820	-	-	-	-
MW # 5	04/17/17	1225	12	840	1,490	<1.0	<1.0	<1.0	<1.5
(down	08/10/17	1321	8.4	2,500	3,460	<1.0	<1.0	<1.0	<1.5
gradient)	10/19/17	1158	6.1	1,800	3,060	<1.0	<1.0	<1.0	<1.5
	04/10/18	1015	8.7	1,100	2,140	-	-	-	-
	09/19/18	0830	7.3	910	1,610	-	-	-	-
	06/25/19	1023	8.3	1,100	1,610	-	-	-	-
	12/11/19	1054	7.6	980	1,660	-	-	-	-
	03/25/20	1002	11	1,100	1,880	-	-	-	-
MW # 6 (up	04/17/17	0935	5.6	85	450	<1.0	<1.0	<1.0	<1.5
gradient)	08/10/17	0908	7.6	76	560	<1.0	<1.0	<1.0	<1.5
gradienty	10/19/17	0902	5.7	77	540	<1.0	<1.0	<1.0	<1.5
	04/10/18	0806	6.8	75	580	-	-	-	-
	09/19/18	0752	16.0	130	780	-	-	-	-
	06/25/19	0902	<5.0	72	395	-	-	-	-
	12/11/19	0928	4.0	75	610	-	-	-	-
	03/25/20	0900	4	77	585	-	-	-	-
MW # 7 (side	04/17/17	1036	7.7	930	1,610	<1.0	<1.0	<1.0	<1.5
gradient)	08/10/17	1104	17.0	690	1,570	<1.0	<1.0	<1.0	<1.5
gradienty	10/19/17	1102	<5.0	730	1,510	<1.0	<1.0	<1.0	<1.5
	04/10/18	0933	6.6	720	1,480	-	-	-	-
	09/19/18	0948	6.9	500	1,100	-	-	-	-
	06/25/19	0933	9.7	710	1,180	-	-	-	-
	12/11/19	1004	11	920	1,670	-	-	-	-
	03/25/20	0950	8.6	940	1,680	-	-	-	-
NM	NQCC STA	NDARDS -	250	600	1,000	10	750	750	620

Unit Letter K, Section 35, T29N, R12W - API Number: 30-045-07658 Administrative/Enviromental Order #: 3RP-422-0 | Incident/Application #: nAUTOfWCO00211

		LABORATORY PARAMETERS								
Sample ID	Sample	Sample	Chloride	Sulfate	TDS	Benzene	Toluene	Ethyl -	Total	
	Date	Time						benzene	Xylenes	
			(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	
MW # 8	04/17/17	1157	12	1,200	1,880	<1.0	<1.0	<1.0	<1.5	
(down	08/10/17	1245	8.7	1,100	1,760	<1.0	<1.0	<1.0	<1.5	
gradient)	10/19/17	1129	6.3	920	1,760	<1.0	<1.0	<1.0	<1.5	
	04/10/18	0954	7.5	680	1,600	-	-	-	-	
	09/19/18	0848	15.0	910	1,650	-	-	-	-	
	06/25/19	1008	8.2	930	1,660	-	-	-	-	
	12/11/19	1025	11	990	1,940	-	-	-	-	
	03/25/20	1016	9	1,200	1,970	-	-	-	-	
MW # 9	04/17/17	1130	55	220	800	<1.0	<1.0	<1.0	<1.5	
(down	08/10/17	1218	38	210	850	<1.0	<1.0	<1.0	<1.5	
gradient)	10/19/17	1029	21	190	710	<1.0	<1.0	<1.0	<1.5	
	04/10/18	0858	24	120	615	-	-	-	-	
	09/19/18	0809	22	150	700	-	-	-	-	
	06/25/19	0840	23	220	650	-	-	-	-	
	12/11/19	0900	18	500	1,180	-	-	-	-	
	03/25/20	0847	31	460	1,060	-	-	-	-	
NM	WQCC STA	NDARDS -	250	600	1,000	10	750	750	620	

Notes: Depth to groundwater measured from casing top of monitor well. Groundwater standards are applied to values assigned in blue highlighted boxes or confirmed background levels, whichever is higher.

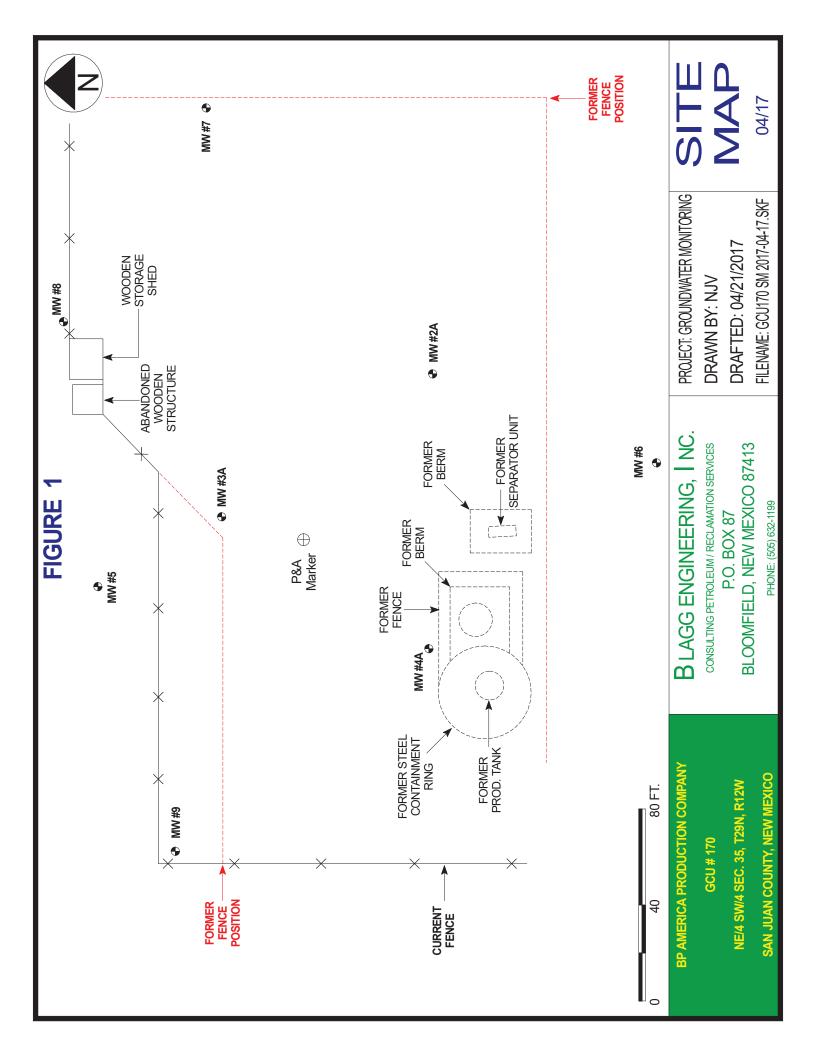
MW - Monitor well μmhos/cm - Micromhos per centimeter TDS - Total dissolved solids mg/L - Milligram per Liter

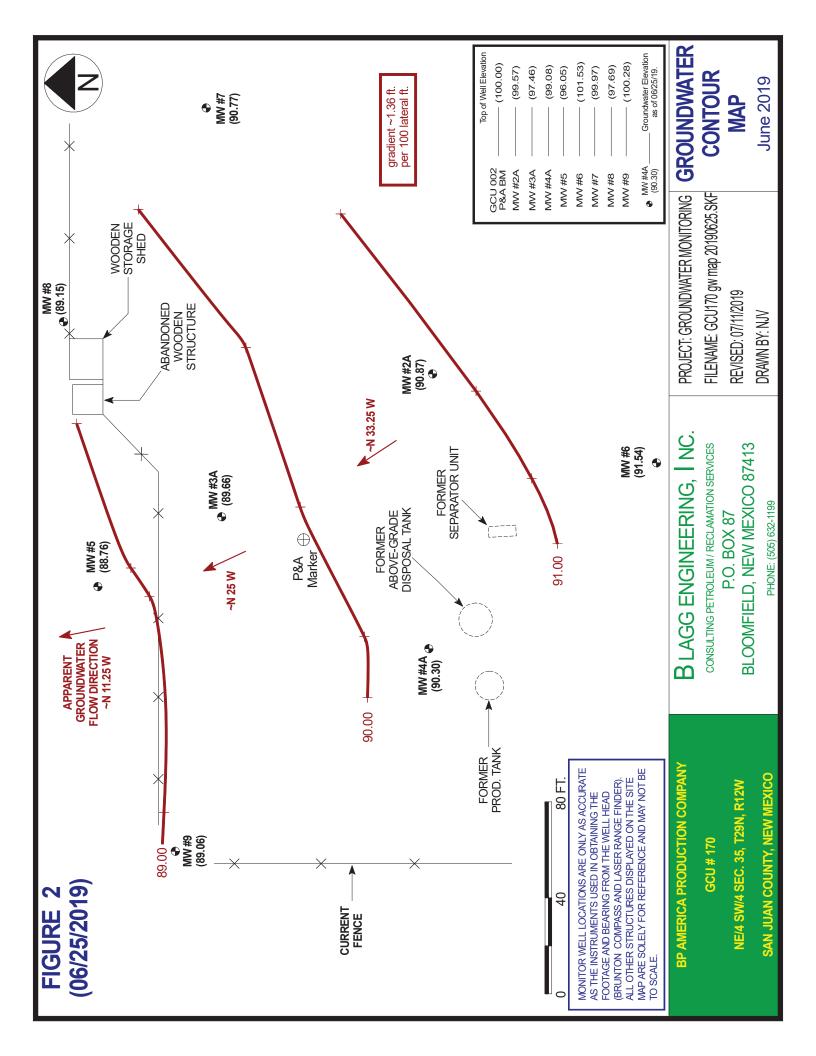
µg/L - Microgram per liter

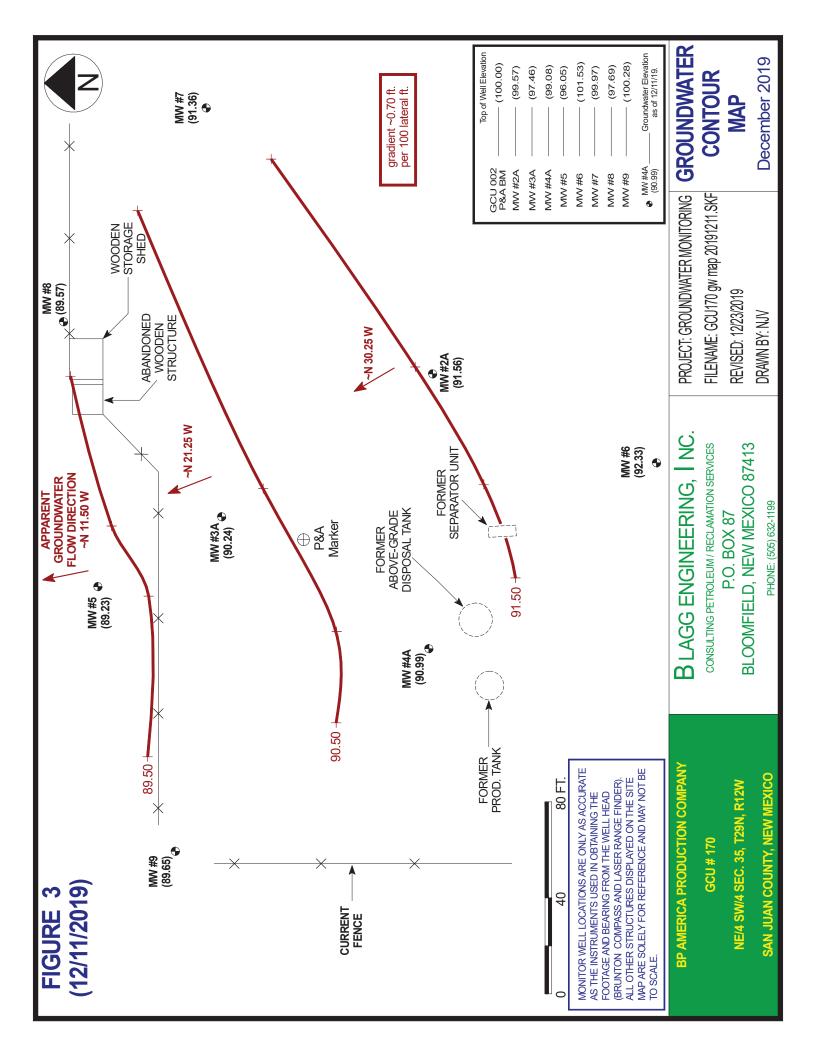
NMWQCC - New Mexico Water Quality Control Commission

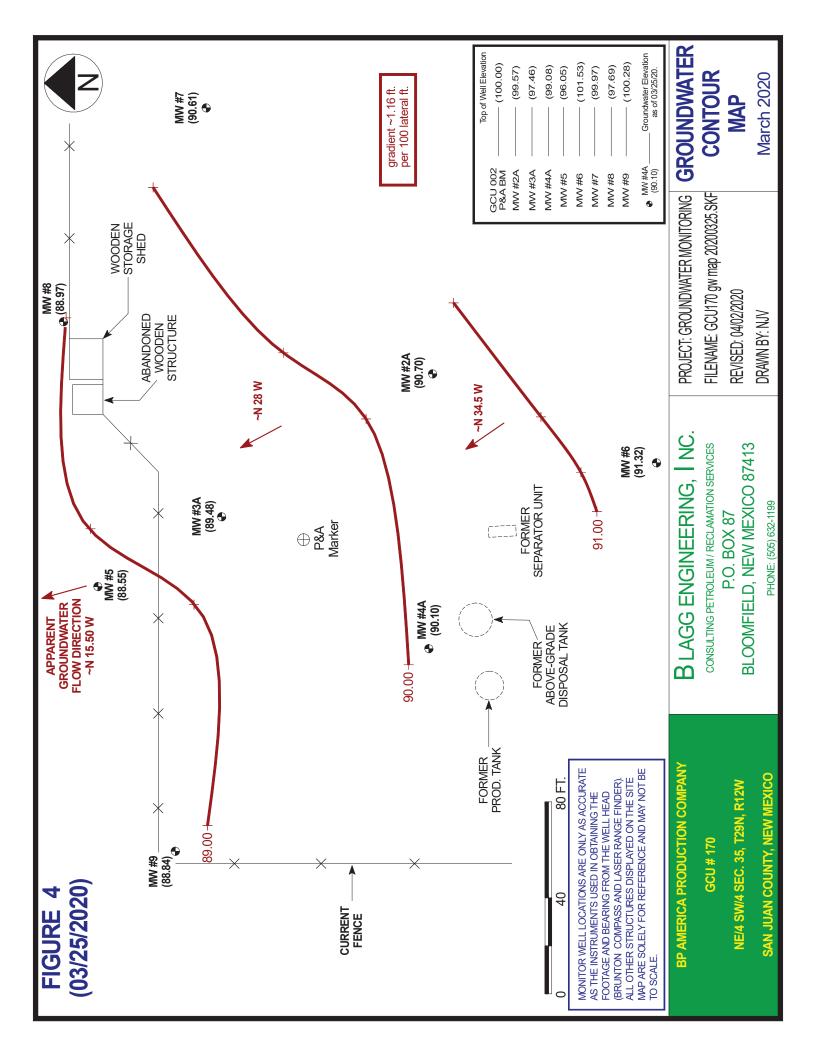
APPENDIX A

Figures









BLAGG ENGINEERING, INC. MONITOR WELL DEVELOPMENT &/OR SAMPLING DATA

CLIENT :	BPX EN	ERGY INC	C		CHAIN-OF-C	USTODY # :		N	/ A
GCU #170 UNIT K, SI	EC. 35, T29N	l, R12W]		LABORATOF	RY (S) USED	:	HALL ENVIF	RONMENTAL
Date : Filename :	June 25, 20 GCU 170 m		06-25.xls		D		/ SAMPLER : MANAGER :	_	/ J C B MOSKAL
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
	(11)	(11)	(11)	(11)	<u> </u>			<u> </u>	(gui.)
2A	99.57	90.87	8.70	14.80	0915	6.7	2,000	15.2	3.00
3A	97.46	89.66	7.80	15.88	0949	7.0	1,410	16.5	4.00
4A	99.08	90.30	8.78	15.98	0851	6.9	1,100	14.9	3.50
5	96.05	88.76	7.29	19.30	1023	7.0	1,800	15.7	6.00
6	101.53	91.54	9.99	15.98	0902	6.6	850	14.6	3.00
7	99.97	90.77	9.20	18.78	0933	6.5	1,420	16.6	4.75
8	97.69	89.15	8.54	18.08	1008	6.6	1,180	15.6	4.75
9	100.28	89.06	11.22	18.43	0840	7.3	1,240	14.4	3.50
	-		INSTRU		BRATIONS = E & TIME =	4.01/7.00/10.00 06/25/19	2,060 0630		

NOTES : Volume of water purged from well prior to sampling; $V = pi x r^2 x h x 7.48 \text{ gal./ft}^3 x 3$ (wellbores). (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2".

Excellent recovery in all monitor wells. Collected sample for general chemistry analyses. Purged all well using new & disposable 2 inch hand bailers. All monitor wells displayed murky brown appearance, MW #5 first 3 bailers displayed blackish tint most likely from organic material decay within pvc, then eventually phasing into murky brown appearance. No physical indicators observed within purged waters of any hydrocarbon components (sheen, odor, etc.).

Monitor well tops surveyed on 04/20/2017, benchmark used for elevations near GCU 002 P&A marker. MW #2A, #3A, #4A, #5, & #6 casing tops completed with locking caps & flush mount well covers. MW #7, #8, & #9 casing tops completed with slip caps & above-grade well protectors with padlocked lids.

on-site	7:45 AM	temp	56 F
off-site	10:45 AM	temp	78 F
sky cond.		Mostly sunny	/
wind speed	0 - 10	direct.	E - SE

BLAGG ENGINEERING, INC. MONITOR WELL DEVELOPMENT &/OR SAMPLING DATA

CLIENT :	BPX EN	ERGY IN	C.		CHAIN-OF-C	USTODY # :		N	/ A
GCU # 170 UNIT K, SI	EC. 35, T29N	I, R12W			LABORATOF	RY (S) USED	:	HALL ENVIF	RONMENTAL
Date : Filename :	December 1 GCU 170 m		12-11.xls		D		/ SAMPLER : MANAGER :	_	/ J C B MOSKAL
WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME	·	(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)			. ,	. ,	(gal.)
	-	-					-	-	
2A	99.57	91.56	8.01	14.80	0939	6.8	1,490	13.2	3.50
3A	97.46	90.24	7.22	15.88	1014	7.1	1,430	13.1	4.25
4A	99.08	90.99	8.09	15.98	0915	6.9	1,460	13.6	4.00
5	96.05	89.23	6.82	19.30	1054	7.2	2,000	13.3	6.25
6	101.53	92.33	9.20	15.98	0928	6.9	850	13.6	3.50
7	99.97	91.36	8.61	18.78	1004	7.1	1,770	12.3	5.00
8	97.69	89.57	8.12	18.08	1025	7.1	2,100	12.6	5.00
9	100.28	89.65	10.63	18.43	0900	7.0	1,450	13.6	4.00
	-	-	INSTRU	JMENT CALI	BRATIONS =	4.01/7.00/10.00	2,060		
				DAT	e & time =	12/10/19	0700		
			_			2	3.		

NOTES : <u>Volume of water purged from well prior to sampling</u>: $V = pi x r^2 x h x 7.48 gal./ft^3) x 3$ (wellbores). (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2".

Excellent recovery in all monitor wells. Collected sample for general chemistry analyses. Purged all well using new & disposable 2 inch hand bailers. All monitor wells displayed murky brown appearance. No physical indicators observed within purged waters of any hydrocarbon components (sheen, odor, etc.).

Monitor well tops surveyed on 04/20/2017 , benchmark used for elevations near GCU 002 P&A marker . MW #2A, #3A, #4A, #5, & #6 casing tops completed with locking caps & flush mount well covers.

MW #7, #8, & #9 casing tops completed with slip caps & above-grade well protectors with padlocked lids.

on-site	8:00 AM	temp	26 F
off-site	11:15 AM	temp	36 F
sky cond.		Mostly cloudy	1
wind speed	0 - 10	direct.	E - ESE

BLAGG ENGINEERING, INC. MONITOR WELL DEVELOPMENT &/OR SAMPLING DATA

CLIENT : BPX ENERGY INC. CHAI						USTODY # :		N / A		
GCU # 170 UNIT K, SEC. 35, T29N, R12W					LABORATOF	RY (S) USED	:	HALL ENVIRONMENTAL		
Date : March 25, 2020 DEVELOPER / SAMPLER : N J V / 2 Filename : GCU 170 mw log 2020-03-25.xls PROJECT MANAGER : S. MOS										
WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pН	CONDUCT	TEMP.	VOLUME	
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED	
	(ft)	(ft)	(ft)	(ft)					(gal.)	
<u></u>		-			-			-		
2A	99.57	90.70	8.87	14.80	0936	6.8	1,660	11.4	3.00	
3A	97.46	89.48	7.98	15.88	0924	7.0	1,670	10.9	4.00	
4A	99.08	90.10	8.98	15.98	0913	6.8	1,310	11.0	3.50	
5	96.05	88.55	7.50	19.30	1002	7.1	2,100	11.8	6.00	
6	101.53	91.32	10.21	15.98	0900	6.9	800	11.6	3.00	
7	99.97	90.61	9.36	18.78	0950	7.1	1,830	10.8	5.00	
8	97.69	88.97	8.72	18.08	1016	7.0	2,000	11.0	5.00	
9	100.28	88.84	11.44	18.43	0847	7.2	1,440	11.6	3.50	
<u></u>		-	INSTRU	JMENT CALI	BRATIONS =	4.01/7.00/10.00	1,000			
				DAT	e & time =	03/25/20	0730			
					L					

NOTES : Volume of water purged from well prior to sampling: $V = pi x r^2 x h x 7.48 \text{ gal./ft}^3 x 3$ (wellbores). (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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Monitor well tops surveyed on 04/20/2017, benchmark used for elevations near GCU 002 P&A marker.

MW #2A, #3A, #4A, #5, & #6 casing tops completed with locking caps & flush mount well covers.

MW #7, #8, & #9 casing tops completed with slip caps & above-grade well protectors with padlocked lids.

on-site	8:30 AM	temp	40 F
off-site	10:45 AM	temp	47 F
sky cond.		Mostly cloudy	/
wind speed	0 - 5	direct.	E - ENE

APPENDIX B

Laboratory Data Reports



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

October 22, 2018

Jeff Blagg Blagg Engineering P. O. Box 87 Bloomfield, NM 87413 TEL: (505) 632-1199 FAX (505) 632-3903

RE: GCU 170

OrderNo.: 1809B78

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/20/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering **Project:** GCU 170

Lab ID: 1809B78-001 **Client Sample ID:** MW #2A Collection Date: 9/19/2018 9:15:00 AM Received Date: 9/20/2018 8:30:00 AM

Lab ID: 1809B78-001	Matrix: AQUEC	OUS	Recei	ved Date	: 9/2	20/2018 8:30:00 AM	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst	: pmf
Hardness (As CaCO3)	470	6.6		mg/L	1	10/4/2018	R54658
SPECIFIC GRAVITY						Analyst	JRR
Specific Gravity	0.9980	0			1	9/27/2018 2:36:00 PM	R54507
EPA METHOD 300.0: ANIONS						Analyst	: smb
Fluoride	0.23	0.10		mg/L	1	9/20/2018 3:14:47 PM	R54332
Chloride	6.0	0.50		mg/L	1	9/20/2018 3:14:47 PM	R54332
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/20/2018 3:14:47 PM	R54332
Bromide	ND	0.10		mg/L	1	9/20/2018 3:14:47 PM	R54332
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	9/20/2018 3:14:47 PM	R54332
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/20/2018 3:14:47 PM	R54332
Sulfate	140	10		mg/L	20	9/20/2018 3:27:39 PM	R54332
SM2510B: SPECIFIC CONDUCTANCE						Analyst	: JRR
Conductivity	1000	5.0		µmhos/c	: 1	9/21/2018 1:27:33 AM	R54350
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	435.4	20.00		mg/L Ca	1	9/21/2018 1:27:33 AM	R54350
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/21/2018 1:27:33 AM	R54350
Total Alkalinity (as CaCO3)	435.4	20.00		mg/L Ca	1	9/21/2018 1:27:33 AM	R54350
SM2540C MOD: TOTAL DISSOLVED SOLIE	DS					Analyst	KS
Total Dissolved Solids	706	40.0	*D	mg/L	1	9/26/2018 4:10:00 PM	40569
SM4500-H+B / 9040C: PH						Analyst	JRR
рН	7.62		Н	pH units	1	9/21/2018 1:27:33 AM	R54350
EPA METHOD 200.7: DISSOLVED METALS	;					Analyst	: pmf
Calcium	160	5.0		mg/L	5	10/5/2018 1:07:45 AM	B54658
Iron	ND	0.020		mg/L	1	10/5/2018 1:01:08 AM	B54658
Magnesium	16	1.0		mg/L	1	10/5/2018 1:01:08 AM	B54658
Potassium	1.8	1.0		mg/L	1	10/5/2018 1:01:08 AM	B54658
Sodium	63	5.0		mg/L	5	10/5/2018 1:07:45 AM	B54658

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte
	D	Sample Diluted Due to Matrix	Е	Value a
	Н	Holding times for preparation or analysis exceeded	J	Analyte
	ND	Not Detected at the Reporting Limit	Р	Sample
	PQL	Practical Quanitative Limit	RL	Reportin
	S	% Recovery outside of range due to dilution or matrix	W	Sample

- te detected in the associated Method Blank
- above quantitation range
- te detected below quantitation limits Page 1 of 13
- e pH Not In Range
- ting Detection Limit
- ple container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW #3A **Project:** GCU 170 Collection Date: 9/19/2018 9:32:00 AM Lab ID: 1809B78-002 Matrix: AQUEOUS Received Date: 9/20/2018 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst	: pmf
Hardness (As CaCO3)	860	6.6		mg/L	1	10/4/2018	R54658
SPECIFIC GRAVITY						Analyst	JRR
Specific Gravity	0.9990	0			1	9/27/2018 2:36:00 PM	R54507
EPA METHOD 300.0: ANIONS						Analyst	: smb
Fluoride	0.27	0.10		mg/L	1	9/20/2018 3:40:31 PM	R54332
Chloride	6.4	0.50		mg/L	1	9/20/2018 3:40:31 PM	R54332
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/20/2018 3:40:31 PM	R54332
Bromide	ND	0.10		mg/L	1	9/20/2018 3:40:31 PM	R54332
Nitrogen, Nitrate (As N)	1.3	0.10		mg/L	1	9/20/2018 3:40:31 PM	R54332
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/20/2018 3:40:31 PM	R54332
Sulfate	710	10	*	mg/L	20	9/20/2018 3:53:22 PM	R54332
SM2510B: SPECIFIC CONDUCTANCE						Analyst	: JRR
Conductivity	1700	5.0		µmhos/c	1	9/21/2018 1:53:44 AM	R54350
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	304.3	20.00		mg/L Ca	1	9/21/2018 1:53:44 AM	R54350
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/21/2018 1:53:44 AM	R54350
Total Alkalinity (as CaCO3)	304.3	20.00		mg/L Ca	1	9/21/2018 1:53:44 AM	R54350
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst	KS
Total Dissolved Solids	1310	40.0	*D	mg/L	1	9/26/2018 4:10:00 PM	40569
SM4500-H+B / 9040C: PH						Analyst	JRR
pH	7.82		Н	pH units	1	9/21/2018 1:53:44 AM	R54350
EPA METHOD 200.7: DISSOLVED METALS						Analyst	: pmf
Calcium	280	10		mg/L	10	10/5/2018 1:36:17 AM	B54658
Iron	ND	0.020		mg/L	1	10/5/2018 1:16:23 AM	B54658
Magnesium	40	1.0		mg/L	1	10/5/2018 1:16:23 AM	B54658
Potassium	3.6	1.0		mg/L	1	10/5/2018 1:16:23 AM	B54658
Sodium	66	5.0		mg/L	5	10/5/2018 1:29:40 AM	B54658

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected
	D	Sample Diluted Due to Matrix	Е	Value above qu
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not
	PQL	Practical Quanitative Limit	RL	Reporting Dete
	S	% Recovery outside of range due to dilution or matrix	W	Sample contain

- ted in the associated Method Blank
- quantitation range
- ted below quantitation limits Page 2 of 13
- ot In Range
- tection Limit
- iner temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering GCU 170 Project:

Lab ID: 1809B78-003

Client Sample ID: MW #4A Collection Date: 9/19/2018 9:03:00 AM Received Date: 9/20/2018 8:30:00 AM

Lab ID: 1809B78-003	Matrix: AQUEOUS			Received Date: 9/20/2018 8:30:00 AM						
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch			
SM2340B: HARDNESS						Analyst:	pmf			
Hardness (As CaCO3)	460	6.6		mg/L	1	10/4/2018	R54658			
SPECIFIC GRAVITY						Analyst:	JRR			
Specific Gravity	0.9976	0			1	9/27/2018 2:36:00 PM	R54507			
EPA METHOD 300.0: ANIONS						Analyst:	smb			
Fluoride	0.48	0.10		mg/L	1	9/20/2018 4:06:13 PM	R54332			
Chloride	8.2	0.50		mg/L	1	9/20/2018 4:06:13 PM	R54332			
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/20/2018 4:06:13 PM	R54332			
Bromide	ND	0.10		mg/L	1	9/20/2018 4:06:13 PM	R54332			
Nitrogen, Nitrate (As N)	0.24	0.10		mg/L	1	9/20/2018 4:06:13 PM	R54332			
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/20/2018 4:06:13 PM	R54332			
Sulfate	140	10		mg/L	20	9/20/2018 4:19:05 PM	R54332			
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR			
Conductivity	1000	5.0		µmhos/c	1	9/21/2018 2:10:21 AM	R54350			
SM2320B: ALKALINITY						Analyst:	JRR			
Bicarbonate (As CaCO3)	435.9	20.00		mg/L Ca	1	9/21/2018 2:10:21 AM	R54350			
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/21/2018 2:10:21 AM	R54350			
Total Alkalinity (as CaCO3)	435.9	20.00		mg/L Ca	1	9/21/2018 2:10:21 AM	R54350			
SM2540C MOD: TOTAL DISSOLVED SOLID	DS					Analyst	KS			
Total Dissolved Solids	690	200	*D	mg/L	1	9/26/2018 4:10:00 PM	40569			
SM4500-H+B / 9040C: PH						Analyst:	JRR			
pH	7.69		Н	pH units	1	9/21/2018 2:10:21 AM	R54350			
EPA METHOD 200.7: DISSOLVED METALS	6					Analyst	pmf			
Calcium	160	10		mg/L	10	10/5/2018 1:40:35 AM	B54658			
Iron	ND	0.020		mg/L	1	10/5/2018 1:38:30 AM	B54658			
Magnesium	16	1.0		mg/L	1	10/5/2018 1:38:30 AM	B54658			
Potassium	1.9	1.0		mg/L	1	10/5/2018 1:38:30 AM	B54658			
Sodium	67	1.0		mg/L	1	10/5/2018 1:38:30 AM	B54658			

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in
	D	Sample Diluted Due to Matrix	Е	Value above quanti
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected be
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In I
	PQL	Practical Quanitative Limit	RL	Reporting Detection
	S	% Recovery outside of range due to dilution or matrix	W	Sample container te

- in the associated Method Blank
- titation range
- below quantitation limits Page 3 of 13
- Range
- on Limit
- temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW #5 **Project:** GCU 170 Collection Date: 9/19/2018 8:30:00 AM Lab ID: 1809B78-004 Matrix: AQUEOUS Received Date: 9/20/2018 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst	: pmf
Hardness (As CaCO3)	970	6.6		mg/L	1	10/4/2018	R54658
SPECIFIC GRAVITY						Analyst	JRR
Specific Gravity	0.9993	0			1	9/27/2018 2:36:00 PM	R54507
EPA METHOD 300.0: ANIONS						Analyst	: smb
Fluoride	0.29	0.10		mg/L	1	9/20/2018 4:31:57 PM	R54332
Chloride	7.3	0.50		mg/L	1	9/20/2018 4:31:57 PM	R54332
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/20/2018 4:31:57 PM	R54332
Bromide	0.14	0.10		mg/L	1	9/20/2018 4:31:57 PM	R54332
Nitrogen, Nitrate (As N)	1.4	0.10		mg/L	1	9/20/2018 4:31:57 PM	R54332
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/20/2018 4:31:57 PM	R54332
Sulfate	910	25	*	mg/L	50	10/2/2018 8:34:15 PM	R54600
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	2100	5.0		µmhos/c	1	9/21/2018 2:32:46 AM	R54350
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	278.0	20.00		mg/L Ca	1	9/21/2018 2:32:46 AM	R54350
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/21/2018 2:32:46 AM	R54350
Total Alkalinity (as CaCO3)	278.0	20.00		mg/L Ca	1	9/21/2018 2:32:46 AM	R54350
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst	KS
Total Dissolved Solids	1610	200	*D	mg/L	1	9/26/2018 4:10:00 PM	40569
SM4500-H+B / 9040C: PH						Analyst	JRR
pH	7.95		Н	pH units	1	9/21/2018 2:32:46 AM	R54350
EPA METHOD 200.7: DISSOLVED METALS						Analyst	: pmf
Calcium	300	5.0		mg/L	5	10/5/2018 1:45:01 AM	B54658
Iron	0.026	0.020		mg/L	1	10/5/2018 1:42:49 AM	B54658
Magnesium	53	1.0		mg/L	1	10/5/2018 1:42:49 AM	B54658
Potassium	4.8	1.0		mg/L	1	10/5/2018 1:42:49 AM	B54658
Sodium	95	1.0		mg/L	1	10/5/2018 1:42:49 AM	B54658

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the
	D	Sample Diluted Due to Matrix	Е	Value above quantitat
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Rar
	PQL	Practical Quanitative Limit	RL	Reporting Detection L
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temp

- he associated Method Blank
- tion range
- ow quantitation limits Page 4 of 13
- ange
- Limit
- nperature is out of limit as specified

Date Reported: 10/22/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Sodium

Client Sample ID: MW #6

Project: GCU 170		(Collect	ion Date	: 9/1	9/2018 7:52:00 AM	
Lab ID: 1809B78-005	Matrix: AQUEC	OUS	Recei	ved Date	: 9/2	20/2018 8:30:00 AM	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst	: pmf
Hardness (As CaCO3)	580	6.6		mg/L	1	10/4/2018	R54658
SPECIFIC GRAVITY						Analyst	JRR
Specific Gravity	0.9973	0			1	9/27/2018 2:36:00 PM	R54507
EPA METHOD 300.0: ANIONS						Analyst	: smb
Fluoride	ND	0.10		mg/L	1	9/20/2018 4:57:39 PM	R54332
Chloride	16	0.50		mg/L	1	9/20/2018 4:57:39 PM	R54332
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/20/2018 4:57:39 PM	R54332
Bromide	ND	0.10		mg/L	1	9/20/2018 4:57:39 PM	R54332
Nitrogen, Nitrate (As N)	0.10	0.10		mg/L	1	9/20/2018 4:57:39 PM	R54332
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/20/2018 4:57:39 PM	R54332
Sulfate	130	10		mg/L	20	9/20/2018 5:10:31 PM	R54332
SM2510B: SPECIFIC CONDUCTANCE						Analyst	: JRR
Conductivity	1200	5.0		µmhos/c	1	9/21/2018 2:48:26 AM	R54350
SM2320B: ALKALINITY						Analyst	: JRR
Bicarbonate (As CaCO3)	498.6	20.00		mg/L Ca	1	9/21/2018 2:48:26 AM	R54350
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/21/2018 2:48:26 AM	R54350
Total Alkalinity (as CaCO3)	498.6	20.00		mg/L Ca	1	9/21/2018 2:48:26 AM	R54350
SM2540C MOD: TOTAL DISSOLVED SOLI	os					Analyst	: KS
Total Dissolved Solids	780	200	*D	mg/L	1	9/26/2018 4:10:00 PM	40569
SM4500-H+B / 9040C: PH						Analyst	: JRR
pH	7.67		Н	pH units	1	9/21/2018 2:48:26 AM	R54350
EPA METHOD 200.7: DISSOLVED METALS	3					Analyst	: pmf
Calcium	200	10		mg/L	10	10/5/2018 1:49:28 AM	B54658
Iron	ND	0.020		mg/L	1	10/5/2018 1:47:20 AM	B54658
Magnesium	20	1.0		mg/L	1	10/5/2018 1:47:20 AM	B54658
Potassium	ND	1.0		mg/L	1	10/5/2018 1:47:20 AM	B54658

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

51

1.0

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected i
	D	Sample Diluted Due to Matrix	Е	Value above quan
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected b
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In
	PQL	Practical Quanitative Limit	RL	Reporting Detection
	S	% Recovery outside of range due to dilution or matrix	W	Sample container

- in the associated Method Blank
- ntitation range
- below quantitation limits Page 5 of 13
- In Range
- tion Limit

mg/L

1

10/5/2018 1:47:20 AM B54658

r temperature is out of limit as specified

Date Reported: 10/22/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Potassium

Sodium

Client Sample ID: MW #7

Project: GCU 170	Collection Date: 9/19/2018 9:48:00 AM										
Lab ID: 1809B78-006	Matrix: AQUEO	US	Recei	ved Date	: 9/2	20/2018 8:30:00 AM					
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch				
SM2340B: HARDNESS						Analyst	: pmf				
Hardness (As CaCO3)	720	6.6		mg/L	1	10/4/2018	R54658				
SPECIFIC GRAVITY						Analyst	JRR				
Specific Gravity	0.9981	0			1	9/27/2018 2:36:00 PM	R54507				
EPA METHOD 300.0: ANIONS						Analyst	: smb				
Fluoride	0.22	0.10		mg/L	1	9/20/2018 5:49:07 PM	R54332				
Chloride	6.9	0.50		mg/L	1	9/20/2018 5:49:07 PM	R54332				
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/20/2018 5:49:07 PM	R54332				
Bromide	ND	0.10		mg/L	1	9/20/2018 5:49:07 PM	R54332				
Nitrogen, Nitrate (As N)	0.47	0.10		mg/L	1	9/20/2018 5:49:07 PM	R54332				
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/20/2018 5:49:07 PM	R54332				
Sulfate	500	10	*	mg/L	20	9/20/2018 6:01:59 PM	R54332				
SM2510B: SPECIFIC CONDUCTANCE						Analyst	: JRR				
Conductivity	1500	5.0		µmhos/c	1	9/21/2018 3:12:28 AM	R54350				
SM2320B: ALKALINITY						Analyst	JRR				
Bicarbonate (As CaCO3)	336.6	20.00		mg/L Ca	1	9/21/2018 3:12:28 AM	R54350				
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/21/2018 3:12:28 AM	R54350				
Total Alkalinity (as CaCO3)	336.6	20.00		mg/L Ca	1	9/21/2018 3:12:28 AM	R54350				
SM2540C MOD: TOTAL DISSOLVED SOLI	DS					Analyst	KS				
Total Dissolved Solids	1100	40.0	*D	mg/L	1	9/26/2018 4:10:00 PM	40569				
SM4500-H+B / 9040C: PH						Analyst	JRR				
рН	7.66		Н	pH units	1	9/21/2018 3:12:28 AM	R54350				
EPA METHOD 200.7: DISSOLVED METALS	3					Analyst	: pmf				
Calcium	250	10		mg/L	10	10/5/2018 2:00:32 AM	B54658				
Iron	ND	0.020		mg/L	1	10/5/2018 1:58:16 AM	B54658				
Magnesium	21	1.0		mg/L	1	10/5/2018 1:58:16 AM	B54658				

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

2.2

65

1.0

1.0

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantita
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range

PQL Practical Quanitative Limit

- S % Recovery outside of range due to dilution or matrix
- ated Method Blank
- tation limits Page 6 of 13
- RL Reporting Detection Limit

mg/L

mg/L

1

1

10/5/2018 1:58:16 AM

10/5/2018 1:58:16 AM B54658

B54658

Sample container temperature is out of limit as specified W

Date Reported: 10/22/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Duci CCU 170

Magnesium

Potassium

Sodium

Client Sample ID: MW #8 **A** 11 0/10/2010 0.40.00 AM

Project: GCU 170	Collection Date: 9/19/2018 8:48:00 AM									
Lab ID: 1809B78-007	Matrix: AQUEOUS Received Date: 9/20/2018 8:30:00 A									
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch			
SM2340B: HARDNESS						Analyst	pmf			
Hardness (As CaCO3)	970	6.6		mg/L	1	10/4/2018	R54658			
SPECIFIC GRAVITY						Analyst	JRR			
Specific Gravity	0.9984	0			1	9/27/2018 2:36:00 PM	R54507			
EPA METHOD 300.0: ANIONS						Analyst	smb			
Fluoride	0.21	0.10		mg/L	1	9/20/2018 6:14:51 PM	R54332			
Chloride	15	0.50		mg/L	1	9/20/2018 6:14:51 PM	R54332			
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/20/2018 6:14:51 PM	R54332			
Bromide	ND	0.10		mg/L	1	9/20/2018 6:14:51 PM	R54332			
Nitrogen, Nitrate (As N)	1.2	0.10		mg/L	1	9/20/2018 6:14:51 PM	R54332			
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	9/20/2018 6:27:43 PM	R54332			
Sulfate	910	25	*	mg/L	50	10/2/2018 8:47:06 PM	R54600			
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR			
Conductivity	2100	5.0		µmhos/c	1	9/21/2018 3:30:16 AM	R54350			
SM2320B: ALKALINITY						Analyst	JRR			
Bicarbonate (As CaCO3)	278.0	20.00		mg/L Ca	1	9/21/2018 3:30:16 AM	R54350			
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/21/2018 3:30:16 AM	R54350			
Total Alkalinity (as CaCO3)	278.0	20.00		mg/L Ca	1	9/21/2018 3:30:16 AM	R54350			
SM2540C MOD: TOTAL DISSOLVED SOLIE	os					Analyst	KS			
Total Dissolved Solids	1650	200	*D	mg/L	1	9/26/2018 4:10:00 PM	40569			
SM4500-H+B / 9040C: PH						Analyst	JRR			
pH	8.10		Н	pH units	1	9/21/2018 3:30:16 AM	R54350			
EPA METHOD 200.7: DISSOLVED METALS	3					Analyst	pmf			
Calcium	350	10		mg/L	10	10/5/2018 2:04:59 AM	B54658			
Iron	ND	0.020		mg/L	1	10/5/2018 2:02:45 AM	B54658			
	05	4.0		- //		10/5/0010 0 00 15 111	DE 4050			

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

25

4.3

120

1.0

1.0

10

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected
	D	Sample Diluted Due to Matrix	Е	Value above qua
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not I
	PQL	Practical Quanitative Limit	RL	Reporting Detect
	S	% Recovery outside of range due to dilution or matrix	W	Sample container

- ed in the associated Method Blank
- antitation range
- ed below quantitation limits Page 7 of 13
- In Range
- ction Limit

mg/L

mg/L

mg/L

1

1

10/5/2018 2:02:45 AM

10 10/5/2018 2:04:59 AM B54658

10/5/2018 2:02:45 AM B54658

B54658

er temperature is out of limit as specified

Date Reported: 10/22/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: MW #9 Collection Date: 9/19/2018 8:09:00 AM

Project: GCU 170		(Collection Date: 9/19/2018 8:09:00 AM								
Lab ID: 1809B78-008	Matrix: AQUEO	US	VS Received Date: 9/20/2018 8:30:00 AM								
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch				
SM2340B: HARDNESS						Analyst	: pmf				
Hardness (As CaCO3)	450	6.6		mg/L	1	10/4/2018	R54658				
SPECIFIC GRAVITY						Analyst	JRR				
Specific Gravity	0.9969	0			1	9/27/2018 2:36:00 PM	R54507				
EPA METHOD 300.0: ANIONS						Analyst	: smb				
Fluoride	0.38	0.10		mg/L	1	9/20/2018 6:40:34 PM	R54332				
Chloride	22	10		mg/L	20	9/20/2018 6:53:27 PM	R54332				
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/20/2018 6:40:34 PM	R54332				
Bromide	ND	0.10		mg/L	1	9/20/2018 6:40:34 PM	R54332				
Nitrogen, Nitrate (As N)	0.54	0.10		mg/L	1	9/20/2018 6:40:34 PM	R54332				
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/20/2018 6:40:34 PM	R54332				
Sulfate	150	10		mg/L	20	9/20/2018 6:53:27 PM	R54332				
SM2510B: SPECIFIC CONDUCTANCE						Analyst	: JRR				
Conductivity	1100	5.0		µmhos/c	1	9/21/2018 3:53:31 AM	R54350				
SM2320B: ALKALINITY						Analyst	: JRR				
Bicarbonate (As CaCO3)	386.1	20.00		mg/L Ca	1	9/21/2018 3:53:31 AM	R54350				
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/21/2018 3:53:31 AM	R54350				
Total Alkalinity (as CaCO3)	386.1	20.00		mg/L Ca	1	9/21/2018 3:53:31 AM	R54350				
SM2540C MOD: TOTAL DISSOLVED SOLI	DS					Analyst	: KS				
Total Dissolved Solids	700	100	*D	mg/L	1	9/26/2018 4:10:00 PM	40569				
SM4500-H+B / 9040C: PH						Analyst	JRR				
рН	7.91		Н	pH units	1	9/21/2018 3:53:31 AM	R54350				
EPA METHOD 200.7: DISSOLVED METALS	6					Analyst	: pmf				
Calcium	160	10		mg/L	10	10/5/2018 2:09:19 AM	B54658				
Iron	ND	0.020		mg/L	1	10/5/2018 2:07:12 AM	B54658				
Magnesium	16	1.0		mg/L	1	10/5/2018 2:07:12 AM	B54658				
Potassium	1.8	1.0		mg/L	1	10/5/2018 2:07:12 AM	B54658				
Sodium	60	1.0		mg/L	1	10/5/2018 2:07:12 AM	B54658				

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected
	D	Sample Diluted Due to Matrix	Е	Value above qua
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not
	PQL	Practical Quanitative Limit	RL	Reporting Detec
	S	% Recovery outside of range due to dilution or matrix	W	Sample containe

- ed in the associated Method Blank
- antitation range
- ed below quantitation limits Page 8 of 13
- In Range
- ection Limit
- er temperature is out of limit as specified

•	WO#: Iall Environmental Analysis Laboratory, Inc.										
Client: Project:		Blagg Engineering GCU 170									
Sample ID M	1B-B	Samp	ype: ME	BLK	Tes	tCode: I	EPA Method	200.7: Dissol	ved Metal	s	
Client ID: PI	BW	Batc	n ID: B5	4658	F	RunNo:	54658				
Prep Date:		Analysis [)ate: 10	0/5/2018	S	SeqNo:	1813488	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	C LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0								
Iron		ND	0.020								
Magnesium		ND	1.0								
Potassium		ND	1.0								
Sodium		ND	1.0								
Sample ID LO	CS-B	Samp	ype: LC	s	Tes	tCode: I	EPA Method	200.7: Dissol	ved Metal	s	
Client ID: LO	csw	Batc	h ID: B5	4658	F	RunNo:	54658				

-										
Prep Date:	Analysis [Analysis Date: 10/5/2018			SeqNo: 1813490					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.4	85	115			
Iron	0.49	0.020	0.5000	0	97.1	85	115			
Magnesium	52	1.0	50.00	0	105	85	115			
Potassium	52	1.0	50.00	0	103	85	115			
Sodium	50	1.0	50.00	0	100	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 9 of 13

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.										22-Oct-18
Client: Blagg E Project: GCU 17	Engineering 70									
Sample ID MB	SampT	ype: m t	olk	Tes	tCode: El	PA Method	300.0: Anions	\$		
Client ID: PBW	Batch	n ID: R5	4332	F	RunNo: 5	4332				
Prep Date:	Analysis D	ate: 9 /	20/2018	S	SeqNo: 1	798339	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Sample ID LCS	SampT	SampType: Ics TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch	n ID: R5	4332	F	RunNo: 5	4332				
Prep Date:	Analysis D	ate: 9 /	20/2018	SeqNo: 1798340			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	101	90	110			
Chloride	4.7	0.50	5.000	0	93.6	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.5	90	110			
Bromide	2.4	0.10	2.500	0	95.3	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.7	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.8	90	110			
Sulfate	9.4	0.50	10.00	0	93.8	90	110			
Sample ID MB	SampT	ype: m t	olk	Tes	tCode: El	PA Method	300.0: Anions	6		
Client ID: PBW	Batch	n ID: R5	4600	F	RunNo: 5	4600				
Prep Date:	Analysis D	ate: 10)/2/2018	5	SeqNo: 1	811003	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Sample ID LCS	SampT	ype: Ics	;	TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	Batch	Batch ID: R54600 RunNo: 54600								
Prep Date:	Analysis D	ate: 10)/2/2018	5	SeqNo: 1	811004	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.3	0.50	10.00	0	93.0	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

QC SUMMARY REPORT

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

1809B78 22-Oct-18

WO#:

Page 10 of 13

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: **1809B78** 22-Oct-18

Client:Blagg EngineeringProject:GCU 170

Sample ID Ics-1 98.6uS eC	SampType: I	CS	Tes	TestCode: SM2510B: Specific Conductance					
Client ID: LCSW	Batch ID: I	F	RunNo: 54350						
Prep Date:	Analysis Date:	SeqNo: 1799195			Units: µmhos/cm				
Analyte	Result PQI	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100 5.	0 98.60	0	106	80	120			

Qualifiers:

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

Page 11 of 13

				WO#:	19078/9
Hall Environme	ental Analysis Laborat	ory, Inc.			22-Oct-18
-	gg Engineering J 170				
Sample ID mb-1 alk	SampType: MBLK	TestCode: SM2320B: A	Ikalinity		
Client ID: PBW	Batch ID: R54350	RunNo: 54350			
Prep Date:	Analysis Date: 9/20/2018	SeqNo: 1799136	Units: mg/L CaCO3		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit	Qual
Total Alkalinity (as CaCO3)	ND 20.00				
Sample ID Ics-1 alk	SampType: LCS	TestCode: SM2320B: A	Ikalinity		
Client ID: LCSW	Batch ID: R54350	RunNo: 54350			
Prep Date:	Analysis Date: 9/20/2018	SeqNo: 1799138	Units: mg/L CaCO3		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit	Qual
Total Alkalinity (as CaCO3)	76.72 20.00 80.00	0 95.9 90	110		
Sample ID mb-2 alk	SampType: MBLK	TestCode: SM2320B: A	Ikalinity		
Client ID: PBW	Batch ID: R54350	RunNo: 54350			
Prep Date:	Analysis Date: 9/20/2018	SeqNo: 1799166	Units: mg/L CaCO3		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit	Qual
Total Alkalinity (as CaCO3)	ND 20.00				
Sample ID Ics-2 alk	SampType: LCS	TestCode: SM2320B: A	Ikalinity		
Client ID: LCSW	Batch ID: R54350	RunNo: 54350			
Prep Date:	Analysis Date: 9/20/2018	SeqNo: 1799168	Units: mg/L CaCO3		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit	Qual
Total Alkalinity (as CaCO3)	78.20 20.00 80.00	0 97.7 90	110		

* Value exceeds Maximum Contaminant Level.

QC SUMMARY REPORT

- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Blagg l GCU 1	Engineering 70							
Sample ID	MB-40569	SampType	e: MBLK	Tes	tCode: SM2540C M	OD: Total Diss	olved So	lids	
Client ID:	PBW	Batch ID	2: 40569	F	RunNo: 54437				
Prep Date:	9/25/2018	Analysis Date	e: 9/26/2018	S	GeqNo: 1803885	Units: mg/L			
Analyte		Result F	PQL SPK value	SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved	Solids	ND	20.0						
Sample ID	LCS-40569	SampType	e: LCS	Tes	tCode: SM2540C M	OD: Total Dise	olved So	lids	
Client ID:	LCSW	Batch ID	2 40569	F	RunNo: 54437				
Prep Date:	9/25/2018	Analysis Date	e: 9/26/2018	S	SeqNo: 1803886	Units: mg/L			
Analyte		Result F	PQL SPK value	SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved	Solids	995	20.0 1000	0	99.5 80	120			

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 13 of 13

	HALL
····:	ENVIRONMENTAL
	ANALYSIS
	LABORATORY

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-410; Website: www.hallenvironmental.con

Sample Log-In Check List

Client Name: B	LAGG	Work Order NL	ımber: 1809B78		RcptNo:	1
Received By:	Jazzmine Burkhead	9/20/2018 8:30:0	0.4M	hyen Packlad		
	Ashley Gallegos	9/20/2018 10:29: ນ		Still		
Reviewed By:	Dr o	9/20/18	Labeled	by:	Jo 9.2011	
Chain of Custo	dy V					
1. Is Chain of Cust	ody complete?		Yes 🗹	No 🗌	Not Present	\sim
2. How was the sa	mple delivered?		Courier			
<u>Log In</u>						
3. Was an attempt	made to cool the sampl	es?	Yes 🗹	No 🗌	NA 🗔	
4. Were all samples	s received at a temperat	ure of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗌	
5. Sample(s) in pro	per container(s)?		Yes 🗹	No 🗌		
	•		,			
6. Sufficient sample	volume for indicated te	st(s)?	Yes 🗹	No 🗌		
7. Are samples (exc	cept VOA and ONG) pro	perly preserved?	Yes	No 🗹		
8. Was preservative	e added to bottles?		Yes 🗹	No 🗔	NA 🗌	
9. VOA vials have z	ore boadenees?		X		See remarks	
	-		Yes 🗌		No VOA Vials 🗹	
IU, were any samp	e containers received br	oken?	Yes	No 🗹 🛛	# of preserved	0
11. Does paperwork	match bottle labels?		Yes 🗹	No 🗆	bottles checked for pH:	8
	ies on chain of custody)				· · · · · · · · · · · · · · · · · · ·	>12 unless noted)
12. Are matrices corr	ectly identified on Chair	of Custody?	Yes 🗹	No 🗌	Adjusted?	125
	nalyses were requested?)	Yes 🗹	No 🗌	-	Jun-12-14
	times able to be met? omer for authorization.)		Yes 🗹	No 🗌	Checked by:	
· -						
Special Handling	q (if applicable)					
15. Was client notifie	ed of all discrepancies w	ith this order?	Yes 🗌	No 🗌	NA 🗹	
Person No	tified:	Da	te			
By Whom:		Via	a: 🗌 eMail 🔲 Ph	ione 📋 Fax	In Person	
Regarding					******	
Client Instr	uctions:				2000/2000/2000/2000/2000/2000/2000/200	
16. Additional rema	rks:	und Filtered s	\$209/20/es	 స		
For metals prior to ana	analysis: poured off ap	prox 125mL and added	approx 0.4mL HNO3	す to 001B-008B	for acceptable pH, hel	d for 24 hours
17. <u>Cooler Informa</u>	-					
Cooler No	Temp ^o C Condition	Seal Intact Seal No	Seal Date	Signed By		
		Yes				

2.2	Good	Yes			
1.7	Good	Yes		2 	

Page 1 of 1

3

Cha	in-of-C	Cust	Chain-of-Custody Record	I um-Around Time:	lime:										Ĺ		
Client: E	3LAGG EN	NGR. /	BLAGG ENGR. / BP AMERICA	 ✓ Standard 	□ Rush						AALL ENVIKONMEN AL ANALVETS LABODATODV					VSTS I ABODATODY	, k
				Project Name:	- - - -					VWV.	www.hallenvironmental.com	ironn	lental		5	2	-
Mailing Address:		P.O. BOX 87	87		GCU # 170	0	7	1061	4901 Hawkins NE -	ns NE		lauer	Albuqueraue. NM 87109	1M 87	7109		
	BLC	DOMFI	BLOOMFIELD, NM 87413	Project #:				Tel. 5	505-345-3975	5-397		Fax 50	505-345-4107	-410			
Phone #:	(50)	(505) 632-1199	-1199								Anal	sis R	senbe	st			
email or Fax#:				Project Manag	Jer:					-					suc		
QA/QC Package:	ë		Level 4 (Full Validation)		JEFFREY C. BLAGG	BLAGG				(5		(*OS [*] *O			oiteO \ end		
Accreditation:				Sampler:	JEFFREY C.	C. BLAGG									oinA		əlqm
		Other_		On lce:	⊠Yes	🗆 No							DUO	(∀	/ sa		les
EDD (Type)				Sample Temperature:	3	remorks								'0Λ	L/1	6	ətiz
Date	Time	Matrix	Sample Request ID	Container Type and #	e ativ	HEAL NO. (\$000B7B	18TEX + MT8	ате + хэтв ТРН 8015В ((TPH (Metho	PAH (8310 EDB (Metho	RCRA 8 Met	D, F) snoinA	Total Dissolv	·imə2) 0728	lq + 191sW IqA	lqmsz ds19	oduuos .td g
9/19/18 09	0915 WA	WATER	MW # 2A	1,000 ml - 1	Cool	100-				L		<u> </u>				>	
9/19/18 O	0932 WA	WATER	MW # 3A	1,000 ml - 1	Cool	600-									>	>	
9/19/18 OC	0903 WA	WATER	MW # 4A	1,000 ml - 1	Cool	-003									>	>	<u> </u>
9/19/18 OS	083D WATER	VTER	MW # 5	1,000 ml - 1	Cool	-004									>	>	
9/19/18	0752 WATER	VTER	MW # 6	1,000 ml - 1	Cool	-002				<u> </u>					>	>	
9/19/18 OG48	48 WATER	VTER	MW # 7	1,000 ml - 1	Cool	-000				<u> </u>					>	>	
9/19/18 OB	0848 WATER	VTER	MW # 8	1,000 ml - 1	Cool	600-									>	>	
9/19/18 08	0809 WATER	VTER	6 # MW	1,000 ml - 1	Cool	-008									>	>	
												-			-		
												-					
1 Jack Time:		Relinquished by		Received by:		Time	Remarks:	ks:	Repo	nt on	Report only TDS & sulfate.	& sul	fote.				1
ĝ	2	F	Wegg	Why when	4 Depertor	4/19/18 /weto	BILL B	P DIR	BILL BP DIRECTLY:	<u>.</u>	Ä	th.: St	Attn.: Steve Moskal	oskal		Cooler 35-26	3-2(
		Rélinquished by:	by:	Received by:	× 11	Date Time	Use F	0 brd	Use PO provided by BP.	by BI	S (WBS #:		6	1-E:GO	L1-001CV-E:GCU170	
1/19/18 1 1810		PULLEX	/ Whet Ward	Andbut	LANDAN MON	104/20/18 08:B	BU Co	Cowiel		Cael	Caoler & 1 - 5.8 -0,4(1)4.9	5.8-0	(લેવન		erth2-	Confer #2 - 3.1-0.1的史.	1967.



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

July 10, 2019

Steven Moskal Blagg Engineering P. O. Box 87 Bloomfield, NM 87413 TEL: (505) 632-1199 FAX: (505) 632-3903

RE: GCU 170

OrderNo.: 1906E26

Dear Steven Moskal:

Hall Environmental Analysis Laboratory received 8 sample(s) on 6/26/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/10/2019

CLIENT: Blagg Engineering Client Sample ID: MW #2A **Project:** GCU 170 Collection Date: 6/25/2019 9:15:00 AM Lab ID: 1906E26-001 Matrix: AQUEOUS Received Date: 6/26/2019 8:12:00 AM Result **RL** Qual Units **DF** Date Analyzed Batch Analyses SM2340B: HARDNESS Analyst: bcv Hardness (As CaCO3) 7/1/2019 9:37:00 AM 620 6.6 mg/L 1 R61067 SPECIFIC GRAVITY Analyst: JRR Specific Gravity 0.9997 0 1 7/2/2019 10:32:00 AM R61110 **EPA METHOD 300.0: ANIONS** Analyst: CJS Chloride 5.0 6/30/2019 3:28:59 PM R61062 8.6 mg/L 10 Sulfate 350 5.0 mg/L 10 6/30/2019 3:28:59 PM R61062 SM2510B: SPECIFIC CONDUCTANCE Analyst: JRR

SM2510B. OF LOIT TO CONDUCTANCE						· · · · · · · · · · · · · · · · · · ·	
Conductivity	1300	5.0		µmhos/c	1	7/1/2019 12:09:38 PM	R61065
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	435.7	20.00		mg/L Ca	1	7/1/2019 12:09:38 PM	R61065
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/1/2019 12:09:38 PM	R61065
Total Alkalinity (as CaCO3)	435.7	20.00		mg/L Ca	1	7/1/2019 12:09:38 PM	R61065
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst	CJS
Total Dissolved Solids	940	40.0	*D	mg/L	1	7/5/2019 2:10:00 PM	45969
SM4500-H+B / 9040C: PH						Analyst	JRR
SM4500-H+B / 9040С: PH рН	7.27		Н	pH units	1	Analyst: 7/1/2019 12:09:38 PM	JRR R61065
	7.27		Н	pH units	1	,	R61065
рН	7.27 210	5.0	Н	pH units mg/L	1 5	7/1/2019 12:09:38 PM	R61065 bcv
pH EPA METHOD 200.7: DISSOLVED METALS		5.0 0.020	Н	·		7/1/2019 12:09:38 PM Analyst:	R61065 bcv A61067
pH EPA METHOD 200.7: DISSOLVED METALS Calcium	210		Н	mg/L	5	7/1/2019 12:09:38 PM Analyst: 6/30/2019 12:29:19 PM	R61065 bcv A61067 A61067
pH EPA METHOD 200.7: DISSOLVED METALS Calcium Iron	210 ND	0.020	Н	mg/L mg/L	5 1	7/1/2019 12:09:38 PM Analyst: 6/30/2019 12:29:19 PM 6/30/2019 12:27:08 PM	R61065 bcv A61067 A61067 A61067
pH EPA METHOD 200.7: DISSOLVED METALS Calcium Iron Magnesium	210 ND 22	0.020 1.0	н	mg/L mg/L mg/L	5 1 1	7/1/2019 12:09:38 PM Analyst: 6/30/2019 12:29:19 PM 6/30/2019 12:27:08 PM 6/30/2019 12:27:08 PM	R61065 bcv A61067 A61067 A61067 A61067

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 1 of 13

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/10/2019

7/1/2019 12:28:51 PM

7/5/2019 2:10:00 PM

7/1/2019 12:28:51 PM

R61065

45969

R61065

Analyst: CJS

Analyst: JRR

Analyst: bcv

6/30/2019 12:33:58 PM A61067

6/30/2019 12:31:40 PM A61067

6/30/2019 12:31:40 PM A61067

6/30/2019 12:31:40 PM A61067

6/30/2019 12:31:40 PM A61067

CLIENT: Blagg EngineeringProject: GCU 170Lab ID: 1906E26-002	Matrix: AQUEOUS	Client Sample ID: MW #3ACollection Date: 6/25/2019 9:49:00 AMMatrix: AQUEOUSReceived Date: 6/26/2019 8:12:00 AM						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch	
SM2340B: HARDNESS						Analyst	bcv	
Hardness (As CaCO3)	980	6.6		mg/L	1	7/1/2019 9:37:00 AM	R61067	
SPECIFIC GRAVITY						Analyst	JRR	
Specific Gravity	0.9994	0			1	7/2/2019 10:32:00 AM	R61110	
EPA METHOD 300.0: ANIONS						Analyst	CJS	
Chloride	8.0	5.0		mg/L	10	6/30/2019 3:53:40 PM	R61062	
Sulfate	790	50	*	mg/L	100	6/30/2019 4:06:01 PM	R61062	
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR	
Conductivity	1800	5.0		µmhos/c	1	7/1/2019 12:28:51 PM	R61065	
SM2320B: ALKALINITY						Analyst	JRR	
Bicarbonate (As CaCO3)	263.0	20.00		mg/L Ca	1	7/1/2019 12:28:51 PM	R61065	
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/1/2019 12:28:51 PM	R61065	

263.0

1550

7.30

330

ND

37

3.4

69

20.00

40.0

5.0

1.0

1.0

1.0

0.020

*D

Н

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
-------------	---	--

- D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

Total Alkalinity (as CaCO3)

Total Dissolved Solids

pН

Calcium

Magnesium

Potassium

Sodium

Iron

SM4500-H+B / 9040C: PH

SM2540C MOD: TOTAL DISSOLVED SOLIDS

EPA METHOD 200.7: DISSOLVED METALS

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

mg/L Ca 1

pH units 1

1

5

1

1

1

1

mg/L

mg/L

mg/L

mg/L

mg/L

mg/L

- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 13

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/10/2019

Labor ator y, 1110	•				Date Reported: 7/10/201	9
Matrix: AOUEOUS		Collect	ion Date	:6/2	25/2019 8:51:00 AM	
Result	RL					Batch
					Analyst:	bcv
440	6.6		mg/L	1	7/1/2019 9:37:00 AM	R61067
					Analyst:	JRR
0.9991	0			1	7/2/2019 10:32:00 AM	R61110
					Analyst:	CJS
10	5.0		mg/L	10	6/30/2019 4:18:21 PM	R61062
140	5.0		mg/L	10	6/30/2019 4:18:21 PM	R61062
					Analyst:	JRR
1100	5.0		µmhos/c	1	7/1/2019 12:54:54 PM	R61065
					Analyst:	JRR
428.4	20.00		mg/L Ca	1	7/1/2019 12:54:54 PM	R61065
ND	2.000		mg/L Ca	1	7/1/2019 12:54:54 PM	R61065
428.4	20.00		mg/L Ca	1	7/1/2019 12:54:54 PM	R61065
DS					Analyst:	CJS
185	100	D	mg/L	1	7/5/2019 2:10:00 PM	45969
					Analyst:	JRR
7.41		Н	pH units	1	7/1/2019 12:54:54 PM	R61065
S					Analyst:	bcv
150	5.0		mg/L	5	6/30/2019 12:38:30 PM	A61067
ND	0.020		mg/L	1	6/30/2019 12:36:19 PM	A61067
16	1.0		mg/L	1	6/30/2019 12:36:19 PM	A61067
	Matrix: AQUEOUS Result 440 0.9991 10 10 140 1100 428.4 ND 428.4 ND 428.4 ND 428.4 S 185 7.41 S 150 ND	Matrix: AQUEOUS Result RL 440 6.6 0.9991 0 10 5.0 1100 5.0 1100 5.0 1100 5.0 1100 5.0 1100 5.0 1100 5.0 1100 5.0 1100 5.0 1100 5.0 1100 5.0 1105 100 1105 100 1105 5.0 1105 5.0 1105 5.0 1105 5.0 1105 5.0	Client Sa Matrix: AQUEOUS Receiver Result RL Qual 440 6.6 0.9991 0 0.9991 0 0.9991 0 10 5.0 10 10 1100 5.0 10 10 428.4 20.00 2.000 428.4 20.00 428.4 20.00 2.000 428.4 20.00 1105 100 D.0 D.0 D.0 1105 5.0 ND 2.000 10 1105 5.0 ND ND 100 D.0	Result RL Qual Units 440 6.6 mg/L 0.9991 0 mg/L 10 5.0 mg/L 100 5.0 mg/L 1100 5.0 mg/L 428.4 20.00 mg/L ca ND 2.000 mg/L ca ND 2.000 mg/L ca 185 100 D 185 100 D 150 5.0 mg/L ca 150 5.0 mg/L mg/L ca	Client Sample ID: NT Collection Date: 6/2 Matrix: AQUEOUS Received Date: 6/2 Result RL Qual Units DF A440 6.6 mg/L 1 0.9991 0 mg/L 1 10 5.0 mg/L 10 1100 5.0 mg/L 1 1100 2.000 mg/L 1 100 2.000 mg/L 1 1105 100 D mg/L 1 1100 5.0 mg/L 1 1100 100 100 1 1100 100 1 1	Client Sample ID: MW #4A Collection Date: 6/25/2019 8:51:00 AM Matrix: AQUEOUS Received Date: 6/26/2019 8:51:00 AM Result RL Qual Units DF Date Analyzed Addition of the text of the text of tex

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

1.9

71

1.0

1.0

mg/L

mg/L

1

1

Qualifiers: * Value exceeds Maximum Contaminant Level.

NDNot Detected at the ReportinPQLPractical Quanitative Limit

Potassium

Sodium

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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6/30/2019 12:36:19 PM A61067

6/30/2019 12:36:19 PM A61067

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceededND Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/10/2019

CLIENT: Blagg Engineering		Cl	ient Sa	mple ID	: MV	W #5	
Project: GCU 170		(Collect	ion Date	6/2	5/2019 10:23:00 AM	
Lab ID: 1906E26-004	Matrix: AQUEOUS		Receiv	ved Date	: 6/2	6/2019 8:12:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst:	bcv
Hardness (As CaCO3)	1200	6.6		mg/L	1	7/1/2019 9:37:00 AM	R61067
SPECIFIC GRAVITY						Analyst:	JRR
Specific Gravity	1.004	0			1	7/2/2019 10:32:00 AM	R61110
EPA METHOD 300.0: ANIONS						Analyst:	smb
Chloride	8.3	5.0		mg/L	10	7/2/2019 1:31:31 PM	R61119
Sulfate	1100	50	*	mg/L	100) 7/2/2019 1:44:22 PM	R61119
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	2200	5.0		µmhos/c	1	7/1/2019 1:13:42 PM	R61065
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	232.5	20.00		mg/L Ca	1	7/1/2019 1:13:42 PM	R61065
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/1/2019 1:13:42 PM	R61065
Total Alkalinity (as CaCO3)	232.5	20.00		mg/L Ca	1	7/1/2019 1:13:42 PM	R61065
SM2540C MOD: TOTAL DISSOLVED SOLI	DS					Analyst:	CJS
Total Dissolved Solids	1610	100	*D	mg/L	1	7/5/2019 2:10:00 PM	45969
SM4500-H+B / 9040C: PH						Analyst:	JRR
рН	7.37		Н	pH units	1	7/1/2019 1:13:42 PM	R61065
EPA METHOD 200.7: DISSOLVED METAL	S					Analyst:	bcv
Calcium	380	5.0		mg/L	5	6/30/2019 12:43:08 PM	A61067
Iron	ND	0.020		mg/L	1	6/30/2019 12:40:51 PM	A61067
Magnesium	51	1.0		mg/L	1	6/30/2019 12:40:51 PM	
Potassium	4.2	1.0		mg/L	1	6/30/2019 12:40:51 PM	
Sodium	100	5.0		mg/L	5	6/30/2019 12:43:08 PM	A61067

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

 H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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D Sample Diluted Due to Matrix

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/10/2019

	245014001 y, 11	10.				Date Reported. 7/10/201	.9		
CLIENT: Blagg Engineering Project: GCU 170 Lab ID: 1906E26-005	Client Sample ID: MW #6Collection Date: 6/25/2019 9:02:00 AMMatrix: AQUEOUSReceived Date: 6/26/2019 8:12:00 AM								
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch		
SM2340B: HARDNESS						Analyst:	bcv		
Hardness (As CaCO3)	420	6.6		mg/L	1	7/1/2019 9:37:00 AM	R61067		
SPECIFIC GRAVITY						Analyst:	JRR		
Specific Gravity	0.9979	0			1	7/2/2019 10:32:00 AM	R61110		
EPA METHOD 300.0: ANIONS						Analyst:	smb		
Chloride	ND	5.0		mg/L	10	7/2/2019 1:57:13 PM	R61119		
Sulfate	72	5.0		mg/L	10	7/2/2019 1:57:13 PM	R61119		
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR		
Conductivity	880	5.0		µmhos/c	1	7/1/2019 1:26:01 PM	R61065		
SM2320B: ALKALINITY						Analyst:	JRR		
Bicarbonate (As CaCO3)	404.3	20.00		mg/L Ca	1	7/1/2019 1:26:01 PM	R61065		
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/1/2019 1:26:01 PM	R61065		
Total Alkalinity (as CaCO3)	404.3	20.00		mg/L Ca	1	7/1/2019 1:26:01 PM	R61065		
SM2540C MOD: TOTAL DISSOLVED SOLI	DS					Analyst:	CJS		
Total Dissolved Solids	395	100	D	mg/L	1	7/5/2019 2:10:00 PM	45969		
SM4500-H+B / 9040C: PH						Analyst:	JRR		
pH	7.42		Н	pH units	1	7/1/2019 1:26:01 PM	R61065		
EPA METHOD 200.7: DISSOLVED METALS	3					Analyst:	bcv		
Calcium	140	5.0		mg/L	5	6/30/2019 12:47:38 PM	A61067		
Iron	ND	0.020		mg/L	1	6/30/2019 12:45:28 PM	A61067		
Magnesium	15	1.0		mg/L	1	6/30/2019 12:45:28 PM	A61067		
Potassium	1.3	1.0		mg/L	1	6/30/2019 12:45:28 PM	A61067		

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

34

1.0

mg/L

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

Sodium

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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1 6/30/2019 12:45:28 PM A61067

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/10/2019

Hall Environmental Analysis I		Date Reported: 7/10/2019								
CLIENT: Blagg Engineering Project: GCU 170			Collect		:6/2	5/2019 9:33:00 AM				
Lab ID: 1906E26-006	Matrix: AQUEOUS	Received Date: 6/26/2019 8:12:00 AM								
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch			
SM2340B: HARDNESS						Analyst:	bcv			
Hardness (As CaCO3)	950	6.6		mg/L	1	7/1/2019 9:37:00 AM	R61067			
SPECIFIC GRAVITY						Analyst:	JRR			
Specific Gravity	1.001	0			1	7/2/2019 10:32:00 AM	R61110			
EPA METHOD 300.0: ANIONS						Analyst:	smb			
Chloride	9.7	5.0		mg/L	10	7/2/2019 2:48:40 PM	R61119			
Sulfate	710	50	*	mg/L	100	7/2/2019 3:01:31 PM	R61119			
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR			
Conductivity	1800	5.0		µmhos/c	1	7/1/2019 1:44:00 PM	R61065			
SM2320B: ALKALINITY						Analyst:	JRR			
Bicarbonate (As CaCO3)	268.6	20.00		mg/L Ca	1	7/1/2019 1:44:00 PM	R61065			
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/1/2019 1:44:00 PM	R61065			
Total Alkalinity (as CaCO3)	268.6	20.00		mg/L Ca	1	7/1/2019 1:44:00 PM	R61065			
SM2540C MOD: TOTAL DISSOLVED SOLI	DS					Analyst	CJS			
Total Dissolved Solids	1180	100	*D	mg/L	1	7/5/2019 2:10:00 PM	45969			
SM4500-H+B / 9040C: PH						Analyst:	JRR			
рН	7.34		Н	pH units	1	7/1/2019 1:44:00 PM	R61065			
EPA METHOD 200.7: DISSOLVED METALS	3					Analyst:	bcv			
Calcium	330	5.0		mg/L	5	6/30/2019 12:58:55 PM	A61067			
Iron	ND	0.020		mg/L	1	6/30/2019 12:56:35 PM	A61067			
Magnesium	28	1.0		mg/L	1	6/30/2019 12:56:35 PM	A61067			
Potassium	2.4	1.0		mg/L	1	6/30/2019 12:56:35 PM	A61067			

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

72

1.0

mg/L

1

6/30/2019 12:56:35 PM A61067

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
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D Sample Diluted Due to Matrix

- H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

Sodium

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/10/2019

CLIENT:Blagg EngineeringProject:GCU 170Lab ID:1906E26-007	Client Sample ID: MW #8Collection Date: 6/25/2019 10:08:00 AMMatrix: AQUEOUSReceived Date: 6/26/2019 8:12:00 AM							
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch	
SM2340B: HARDNESS						Analyst	bcv	
Hardness (As CaCO3)	1100	6.6		mg/L	1	7/2/2019 9:03:00 AM	R61090	
SPECIFIC GRAVITY						Analyst	JRR	
Specific Gravity	1.000	0			1	7/2/2019 10:32:00 AM	R61110	
EPA METHOD 300.0: ANIONS						Analyst	CJS	
Chloride	8.2	5.0		mg/L	10	6/30/2019 4:43:02 PM	R61062	
Sulfate	930	50	*	mg/L	100	6/30/2019 4:55:22 PM	R61062	
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR	
Conductivity	2000	5.0		µmhos/c	1	7/1/2019 1:57:44 PM	R61065	
SM2320B: ALKALINITY						Analyst	JRR	
Bicarbonate (As CaCO3)	258.8	20.00		mg/L Ca	1	7/1/2019 1:57:44 PM	R61065	
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/1/2019 1:57:44 PM	R61065	
Total Alkalinity (as CaCO3)	258.8	20.00		mg/L Ca	1	7/1/2019 1:57:44 PM	R61065	
SM2540C MOD: TOTAL DISSOLVED SOLI	DS					Analyst	CJS	
Total Dissolved Solids	1660	100	*D	mg/L	1	7/5/2019 2:10:00 PM	45969	
SM4500-H+B / 9040C: PH						Analyst	JRR	
pH	7.40		Н	pH units	1	7/1/2019 1:57:44 PM	R61065	
EPA METHOD 200.7: DISSOLVED METALS	3					Analyst	bcv	
Calcium	400	5.0		mg/L	5	7/1/2019 12:32:32 PM	C61090	
Iron	ND	0.020		mg/L	1	6/30/2019 1:01:16 PM	A61067	
Magnesium	30	1.0		mg/L	1	6/30/2019 1:01:16 PM	A61067	
Potassium	2.9	1.0		mg/L	1	6/30/2019 1:01:16 PM	A61067	
Sodium	74	1.0		mg/L	1	6/30/2019 1:01:16 PM	A61067	

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/10/2019

Itali Elivitolillentai Allaiysis I		Date Reported: 7/10/2019							
CLIENT: Blagg Engineering Project: GCU 170 Lab ID: 1906E26-008	Client Sample ID: MW #9Collection Date: 6/25/2019 8:40:00 AMMatrix: AQUEOUSReceived Date: 6/26/2019 8:12:00 AM								
Analyses	Result		Qual	Units	DF	Date Analyzed	Batch		
SM2340B: HARDNESS						Analyst	bcv		
Hardness (As CaCO3)	480	6.6		mg/L	1	7/1/2019 9:37:00 AM	R61067		
SPECIFIC GRAVITY						Analyst	JRR		
Specific Gravity	1.001	0			1	7/2/2019 10:32:00 AM	R61110		
EPA METHOD 300.0: ANIONS						Analyst	CJS		
Chloride	23	5.0		mg/L	10	6/30/2019 5:07:43 PM	R61062		
Sulfate	220	5.0		mg/L	10	6/30/2019 5:07:43 PM	R61062		
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR		
Conductivity	1100	5.0		µmhos/c	1	7/1/2019 2:10:50 PM	R61065		
SM2320B: ALKALINITY						Analyst	JRR		
Bicarbonate (As CaCO3)	367.7	20.00		mg/L Ca	1	7/1/2019 2:10:50 PM	R61065		
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	7/1/2019 2:10:50 PM	R61065		
Total Alkalinity (as CaCO3)	367.7	20.00		mg/L Ca	1	7/1/2019 2:10:50 PM	R61065		
SM2540C MOD: TOTAL DISSOLVED SOLI	DS					Analyst	CJS		
Total Dissolved Solids	650	40.0	*D	mg/L	1	7/5/2019 2:10:00 PM	45969		
SM4500-H+B / 9040C: PH						Analyst	JRR		
pH	7.56		Н	pH units	1	7/1/2019 2:10:50 PM	R61065		
EPA METHOD 200.7: DISSOLVED METALS	5					Analyst	bcv		
Calcium	160	5.0		mg/L	5	6/30/2019 1:08:07 PM	A61067		
Iron	ND	0.020		mg/L	1	6/30/2019 1:05:56 PM	A61067		

17

1.8

66

1.0

1.0

1.0

mg/L

mg/L

mg/L

1

1

1

6/30/2019 1:05:56 PM

6/30/2019 1:05:56 PM

6/30/2019 1:05:56 PM

A61067

A61067

A61067

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

Magnesium

Potassium

Sodium

- D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded
- H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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	IIIICIItal Allal	y 515 I		ory, me.						10-Jul-19
Client: Project:	Blagg Engineering GCU 170									
Sample ID: MB-A	Samp	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	200.7: Dissol	ved Meta	ls	
Client ID: PBW	Batc	Batch ID: A61067			RunNo: 6	1067				
Prep Date:	Analysis [Date: 6 /	30/2019		SeqNo: 2	068043	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								
Sample ID: LCS-A	Samp	Гуре: LC	S	Tes	tCode: El	PA Method	200.7: Dissol	ved Meta	ls	
Client ID: LCSW	Batc	h ID: A6	1067	F	RunNo: 6	1067				
Prep Date:	Analysis [Date: 6/	30/2019	\$	SeqNo: 2	068045	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	98.1	85	115			
Iron	0.49	0.020	0.5000	0	97.9	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Potassium	49	1.0	50.00	0	98.9	85	115			
Sodium	49	1.0	50.00	0	98.5	85	115			
Sample ID: MB-C	Samp	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	200.7: Dissol	ved Meta	ls	
Client ID: PBW	Batc	h ID: C6	1090	F	RunNo: 6	1090				
Prep Date:	Analysis [Date: 7/	1/2019		SeqNo: 2	069669	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Sample ID: LCS-C	Samp	Гуре: LC	S	Tes	tCode: El	PA Method	200.7: Dissol	ved Meta	ls	
Client ID: LCSW	Batc	h ID: C6	1090	F	RunNo: 6	1090				
Prep Date:	Analysis [Date: 7/	1/2019	\$	SeqNo: 2	069676	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	101	85	115			

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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WO#: **1906E26** *10-Jul-19*

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

											10 - Jul-1
Client: Project:	Blagg Eng GCU 170	gineering									
Sample ID: MB		SampT	ype: m l	olk	Tes	tCode: El	PA Method	300.0: Anions	\$		
Client ID: PB	w	Batch	ID: R6	1062	F	RunNo: 6	1062				
Prep Date:		Analysis D	ate: 6 /	30/2019	S	SeqNo: 2	067935	Units: mg/L			
Analyte Chloride Sulfate		Result ND ND	PQL 0.50 0.50	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: LCS	S	SampT		6	Tes	tCode: El	PA Method	300.0: Anions	6		
Client ID: LCS	SW	Batch	ID: R6	1062	F	RunNo: 6	1062				
Prep Date:		Analysis D	ate: 6 /	30/2019	Ş	SeqNo: 2	067936	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		4.7	0.50	5.000	0	93.7	90	110			
Sulfate		9.7	0.50	10.00	0	96.8	90	110			
Sample ID: MB		SampT	ype: ME	BLK	Tes	tCode: El	PA Method	300.0: Anions	6		
Client ID: PB	w	Batch	ID: R6	1119	F	RunNo: 6	1119				
Prep Date:		Analysis D	ate: 7/	2/2019	S	SeqNo: 2	071016	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	0.50					0			
Sulfate		ND	0.50								
Sample ID: LCS	S	SampT	ype: LC	S	Tes	tCode: El	PA Method	300.0: Anions	\$		
Client ID: LCS	SW	Batch	ID: R6	1119	F	RunNo: 6	1119				
Prep Date:		Analysis D	ate: 7 /	2/2019	Ş	SeqNo: 2	071017	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		4.9	0.50	5.000	0	97.7	90	110			
Sulfate		10	0.50	10.00	0	102	90	110			

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: **1906E26** *10-Jul-19*

Client: Project:	Blagg Er GCU 170	ngineering)									
Sample ID: Ics-1	99.8uS eC	SampT	ype: Ics	;	Tes	tCode: SI	M2510B: Sp	pecific Condu	uctance		
Client ID: LCSV	v	Batch	ID: R6	1065	F	RunNo: 6	1065				
Prep Date:		Analysis D	ate: 7/	1/2019	S	SeqNo: 2	068823	Units: µmho	os/cm		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity		99	5.0	99.80	0	99.6	85	115			
Sample ID: Ics-2	99.8uS eC	SampT	ype: Ics	;	Tes	tCode: SI	M2510B: Sp	pecific Condu	uctance		
Client ID: LCSV	v	Batch	ID: R6	1065	F	RunNo: 6	1065				
Prep Date:		Analysis D	ate: 7/	1/2019	S	SeqNo: 2	068863	Units: µmho	os/cm		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity		100	5.0	99.80	0	102	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmenta	al Analysis Laborat	ory, Inc.		WO#:	1906E26 10-Jul-19
Client:Blagg EnProject:GCU 170	ngineering)				
Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: A	Ikalinity		
Client ID: PBW	Batch ID: R61065	RunNo: 61065			
Prep Date:	Analysis Date: 7/1/2019	SeqNo: 2068770	Units: mg/L CaCO3		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND 20.00				
Sample ID: Ics-1 alk	SampType: Ics	TestCode: SM2320B: A	Ikalinity		
Client ID: LCSW	Batch ID: R61065	RunNo: 61065			
Prep Date:	Analysis Date: 7/1/2019	SeqNo: 2068771	Units: mg/L CaCO3		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	75.24 20.00 80.00	0 94.1 90	110		
Sample ID: mb-2 alk	SampType: mblk	TestCode: SM2320B: A	Ikalinity		
Client ID: PBW	Batch ID: R61065	RunNo: 61065			
Prep Date:	Analysis Date: 7/1/2019	SeqNo: 2068793	Units: mg/L CaCO3		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND 20.00				-
Sample ID: Ics-2 alk	SampType: Ics	TestCode: SM2320B: A	Ikalinity		
Client ID: LCSW	Batch ID: R61065	RunNo: 61065			
Prep Date:	Analysis Date: 7/1/2019	SeqNo: 2068794	Units: mg/L CaCO3		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.60 20.00 80.00	0 97.0 90	110		

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 12 of 13

WO#: 1906E26 10-Jul-19

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	1906E26
	10-Jul-19

	lagg Engineering CU 170
Sample ID: MB-459	SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: PBW	Batch ID: 45969 RunNo: 61174
Prep Date: 7/2/201	Analysis Date: 7/5/2019 SeqNo: 2073415 Units: mg/L
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND 20.0
Sample ID: LCS-459	SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: LCSW	Batch ID: 45969 RunNo: 61174
Prep Date: 7/2/201	Analysis Date: 7/5/2019 SeqNo: 2073416 Units: mg/L
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1010 20.0 1000 0 101 80 120

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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HALL ENVIRONMEN ANALYSIS LABORATOR		Hall Environn TEL: 505-345 Website: w	490 Albuquerq 5-3975 FAX:	1 Hawkins N ue, NM 8710	99 San	nple Log-In Check List
Client Name: BLAGG		Work Order Nu	mber: 1906	E26		RcptNo: 1
Received By: Erin M	elendrez	6/26/2019 8:12:0	0 AM	l	ina	5
Completed By: Isaiah	Ortiz	6/26/2019 10:40:	52 AM		ILUA ILC	LK .
Reviewed By: ENH		6/26/19				
Chain of Custody						
1. Is Chain of Custody co	mplete?		Yes	~	No 🗌	Not Present
2. How was the sample d	elivered?		Cour	ier		
Log In 3. Was an attempt made	to cool the same	ales?	Yes		No 🗌	
se true an atompt made	to obor the same		163			
4. Were all samples received	ved at a tempera	ature of >0° C to 6.0°C	Yes		No 🗌	
5. Sample(s) in proper co	ntainer(s)?		Yes	~	No 🗌	
6. Sufficient sample volum	ne for indicated t	est(s)?	Yes		No 🗌	
7. Are samples (except VC	DA and ONG) pr	operly preserved?	Yes		No 🗌	DAD
8. Was preservative added	d to bottles?		Yes		No-1	6/26/19 NA -
9. VOA vials have zero he	adspace?		Yes		No 🗌	No VOA Vials 🗹
10. Were any sample conta	ainers received b	proken?	Yes		No 🗹	# of preserved
11. Does paperwork match (Note discrepancies on		()	Yes		No 🗌	for pH:
2. Are matrices correctly in			Yes	~	No 🗌	Adjusted? YES
3. Is it clear what analyses	were requested	1?	Yes		No 🗌	1
4. Were all holding times a (If no, notify customer fo			Yes		No 🗌	Checked by: DAD 6/26/19
Special Handling (if a	pplicable)					
15. Was client notified of a	Il discrepancies	with this order?	Yes		No 🗌	NA 🗹
Person Notified:	1	Dat	te:			
By Whom:	1	Via	: 🗌 eMa	il 🗌 Phor	ne 🗌 Fax	In Person
Regarding:	Γ				-	
Client Instruction						
16. Additional remarks: F ad 17. <u>Cooler Information</u>	bured off ided appro	From provided ×. 0.4 mL . HNO3	volume to sai	into 12 imples o	15 mL . n 01 - 008 1	notals bottle, filtered sc For pH-Lz.
Cooler No Temp	°C Condition	Seal Intact Seal No	Seal Da	ate Si	gned By	
1 5.6	Good	Yes				1

Client: ExtACE ENCR./ PP AMERICA Standard Ruth Mailing Address: P. D. DOK Standard Mailing Address: Mailing Address: Mailing Address: D. D. DOK ELONDHELD. MR 2713 Mailing Address: Mailing Address: Mailing Address: D. D. DOK ELONDHELD. MR 2713 Mailing Address: Mailing Address: Project Hist: CU # 170 ELONDHELD. MR 2713 Project Hamage: Mailing Address: Mailing Address: Project Hist: CU # 170 ELONDHELD. MR 2713 Project Hamage: Mailing Address: Mailing Address: Project Hist: CU # 170 ELONDHELD. MR 2713 Project Hamage: Mailing Reparation Project Hamage: CO # 10 Sandadata Londendia: Level 4 (Full Validation) ERFREY C. BLAGG Mailing Reparation Mailing Reparation Conscription: Conscription: Conscription Project Hamage: Project Hamage: Project Hamage: Project Hamage: Anone France Conscription Drohe <t< th=""><th>U</th><th>hain-</th><th>of-Cus</th><th>Chain-of-Custody Record</th><th>I urn-Around 1 ime:</th><th>Ime:</th><th></th><th></th><th>I</th><th>HALL</th><th>ENN</th><th>Jan</th><th></th><th></th><th>N L</th><th></th></t<>	U	hain-	of-Cus	Chain-of-Custody Record	I urn-Around 1 ime:	Ime:			I	HALL	ENN	Jan			N L		
Пораст Name: Propact Name: CCU # 170	Client:	BLAG	G ENGR.	/ BP AMERICA		Rush				INN	LSX					12	
Inc Address: P.O. BOX 871 GCU # 170 GCU # 170 Address: P.O. BOX 871139 P.O. BOX 871131 P.O. BOX 8711313 P.O. BOX 8711313					Project Name:				3	ww.ha	lenviro	nmenta	l.com	5			
Indicate: Indicate: For Composite sample Indicate: 505-6321395 For Sub-3400 Indicate: 505-6321395 For Sub-3400 Indicate: 505-6321395 For Sub-3400 Standard For Faulty For Faulty Standard Level 4 (Full Validation) For Sub-3400 Standard Sample: Indicate sample Standard Level 4 (Full Validation) Sample: Standard Type Particle Particle Matrick S	Mailing A	ddress:	P.O. BO	X 87		GCU # 17	0	4901	Hawkin	s NE -	Albuqu	erque,	NM 8	7109			
me#: (305) 632-1199 Anth/sis Ractust II of Fister: Exponent: Frogect Manager: From			BLOOM	FIELD, NM 87413	Project #:			Tel. 5	05-345	-3975	Fax	505-34	5-410	7			
III of fault: Project Manager: STEVE MOS/KA1 0.0 feasition: Sample: Increasition: Sample: Increasition: 0.0 feasition: Sample: Increasition: Sample: Increasition: Sample: 0.0 feasition: Sample: Increasition: Sample: Increasition: Sample: Increasition: 0.0 feasition: Sample: Increasition: Sample: Increasition: Sample: Increasition: Sample: Increasition: Increai Increasition: Inc	Phone #:		(505) 63	32-1199						A	Jalysis	Reque	st				
Checkege: Sample: EFFRE C. BLAGC Sample: FFRE C. BLAGC Sample: Level 4 (Full Validation) Sample: Level 4 (Full Validation) Sample: Level 4 (Full Validation) Sample: LELA Sample: LEFRE C. BLAGC Note:	email or F	-ax#:			Project Manag	er.					(-		suo		255	
Gentlet: JEFREY C. BLAGG Sample: JEFREY C. BLAGG ELVP On tes: Jample: Jample: <th colspa<="" td=""><td>QA/QC Pa</td><td>ckage: ard</td><td></td><td>] Level 4 (Full Validation)</td><td></td><td>STEVE MO</td><td>SKAL</td><td>(ʎjuo</td><td></td><td>(S</td><td>*OS'*O</td><td></td><td></td><td>ite) \</td><td></td><td>e</td></th>	<td>QA/QC Pa</td> <td>ckage: ard</td> <td></td> <td>] Level 4 (Full Validation)</td> <td></td> <td>STEVE MO</td> <td>SKAL</td> <td>(ʎjuo</td> <td></td> <td>(S</td> <td>*OS'*O</td> <td></td> <td></td> <td>ite) \</td> <td></td> <td>e</td>	QA/QC Pa	ckage: ard] Level 4 (Full Validation)		STEVE MO	SKAL	(ʎjuo		(S	*OS'*O			ite) \		e
ELAP Onte: W ves No D0 (Type) Sample Tramperature: 5, 5, 1, 000 Sample Tramperature: 5, 1, 000 Sample Tramperature: 5, 1, 000 Sample Tramperature: 5, 5, 0, 0, 0, 0 Sample Tramperature: 5, 1, 000 Sample Tramperature: 5, 1, 000 Sample Tramperature: 5, 0, 0, 0, 0 Sample Tramperature: 5, 0, 0, 0 Sample Tramperature: 5, 0, 0, 0 Sample Trampe	Accreditat	ion:			Sampler:	· ·		seð)	(τ		9'²0	s		oinA	*	olqm	
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ate Time Matrix Sample Request ID Container Preservative Type HEAL No. MB HEAL No. MD HEAL NO.		Type)			Sample Tempe	10	1/cm)=5.6°	L + 3	b bo	_			191.5	1/Н	9	ətisc	
5/19 C9IS WATER MWW #2A 1,000 ml -1 Cool 5/19 O949 WATER MWW #3A 1,000 ml -1 Cool 5/19 O951 WATER MWW #5 1,000 ml -1 Cool 5/19 O952 WATER MW #5 1,000 ml -1 Cool 5/19 O952 WATER MW #5 1,000 ml -1 Cool 5/19 O953 WATER MW #6 1,000 ml -1 Cool 5/19 O953 WATER MW #7 1,000 ml -1 Cool 5/19 O933 WATER MW #9 1,000 ml -1 Cool 5/19 O840 WATER MW #9 1,000 ml -1 Cool 5/19 O840 WATER MW #9 1,000 ml -1 Cool 5/19 O840 WATER MW #9 1,000 ml -1 Cool 5/19 O840 WATER MW #9 1,000 ml -1 Cool 5/19 O840 WATER MW #9 1,000 ml	Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1 9 06 526	atm + Xəta	TPH (Meth					q + 1916W I9A	Iqmes denĐ	5 pt. compo	
5/19 0944 WATER MW # 3A 1,000 ml - 1 Cool 5/19 0851 WATER MW # 4A 1,000 ml - 1 Cool 5/19 0823 WATER MW # 5 1,000 ml - 1 Cool 5/19 0902 WATER MW # 5 1,000 ml - 1 Cool 5/19 0902 WATER MW # 6 1,000 ml - 1 Cool 5/19 0923 WATER MW # 8 1,000 ml - 1 Cool 5/19 0923 WATER MW # 8 1,000 ml - 1 Cool 5/19 0923 WATER MW # 9 1,000 ml - 1 Cool 5/19 0840 WATER MW # 9 1,000 ml - 1 Cool 5/19 0840 WATER MW # 9 1,000 ml - 1 Cool 5/19 0840 WATER MW # 9 1,000 ml - 1 Cool 5/19 0840 WATER MW # 8 1,000 ml - 1 Cool 5/19 0840 WATER MW # 9 <td>6/25/19</td> <td>5160</td> <td>WATER</td> <td>MW # 2A</td> <td>1,000 ml - 1</td> <td>Cool</td> <td>18</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>></td> <td>></td> <td></td>	6/25/19	5160	WATER	MW # 2A	1,000 ml - 1	Cool	18							>	>		
5/19 0351 WATER MW#4A 1,000 ml - 1 Cool 5/19 7023 WATER MW#5 1,000 ml - 1 Cool 5/19 0902 WATER MW#6 1,000 ml - 1 Cool 5/19 0903 WATER MW#6 1,000 ml - 1 Cool 5/19 0933 WATER MW#7 1,000 ml - 1 Cool 5/19 0940 WATER MW#8 1,000 ml - 1 Cool 5/19 0840 WATER MW#9 1,000 ml - 1 Cool 5/19 0840 WATER MW#9 1,000 ml - 1 Cool 5/19 0840 WATER MW#9 1,000 ml - 1 Cool 5/10 0840 WATER MW#9 1,000 ml - 1 Cool 5/10 0840 WATER MW#9 1,000 ml - 1 Cool 5/10 0840 WATER MW#9 1,000 ml - 1 Cool 5/10 0840 WATER MW#9 1,000 ml - 1<	6/25/19	0949	WATER	MW # 3A	1,000 ml - 1	Cool	0							>	>		
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5/19 0902 WATER MW# 6 1,000 ml - 1 Cool 5/19 0933 WATER MW # 7 1,000 ml - 1 Cool 5/19 0930 WATER MW # 8 1,000 ml - 1 Cool 5/19 0940 WATER MW # 9 1,000 ml - 1 Cool 5/19 0840 WATER MW # 9 1,000 ml - 1 Cool 5/19 0840 WATER MW # 9 1,000 ml - 1 Cool 5/19 0840 WATER MW # 9 1,000 ml - 1 Cool 5/10 10840 WATER MW # 9 1,000 ml - 1 Cool 5/11 Time: Relinquished by: Received by: Mutt Mutt 5/11 Time: Relinquished by: Received by: Mutt Mutt 5/11 Time: Relinquished by: Mutt Mutt Mutt 5/11 Time: Relinquished by: Mutt Mutt Mutter	6/25/19	2201	WATER	MW # 5	1,000 ml - 1	Cool	-004							~	>		
5/19 0335 WATER MW#7 1,000 ml -1 Cool 5/19 0940 WATER MW#8 1,000 ml -1 Cool 5/19 0940 WATER MW#9 1,000 ml -1 Cool 5/19 0840 WATER MW#9 1,000 ml -1 Cool 5/19 0840 WATER MW#9 1,000 ml -1 Cool 1 1 N MW#9 1,000 ml -1 Cool 1 1 N MW#9 1,000 ml -1 Cool 1 1 N MW#9 1,000 ml -1 Cool 1 1 1 N N N 1 1 1 N N N 1 1 N N N N 1 1 N N N N 1 1 N N N N 1 1 N N N N	6/25/19	2060	-	9 # MW	1,000 ml - 1	Cool	-005							N	~		
5/19 1003 WATER MW # 8 1,000 ml - 1 Cool 5/19 0840 WATER MW # 9 1,000 ml - 1 Cool 5/19 0840 WATER MW # 9 1,000 ml - 1 Cool 1 1 1,000 ml - 1 Cool 1 1 1 1,000 ml - 1 Cool 1 1 1,000 ml - 1 Cool 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6/25/19	0933	WATER	MW # 7	1,000 ml - 1	Cool	-86							V	~		
5/19 0840 WATER MW # 9 1,000 ml - 1 Cool 1 1 1,000 ml - 1 0 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6/25/19	6001	WATER	8 # MW	1,000 ml - 1	Cool	-007							2	>		
Image: Time: Relinquished by: End Received by: Fin: Relinquished by: Fin: Relinquished by: Fin: Relinquished by: Fin: Relinquished by: If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories.	6/25/19	0840		6 # MW	1,000 ml - 1	Cool	-00g							>	>		
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	No	Time:	Relinquishe	ad by:	Received by:	, courrier	PIO N	C				2		אומפת			
		If necessa	ary, samples st	ubmitted to Hall Environmental may be su	ubcontracted to other a	accredited laboratorie		this possibility. A	ny sub-co	ntracted da	ta will be o	learly nota	ted on th	he analyti	cal report		



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

December 23, 2019

Steve Moskal Blagg Engineering P. O. Box 87 Bloomfield, NM 87413 TEL: FAX:

OrderNo.: 1912650

RE: GCU 170

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 8 sample(s) on 12/12/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Date Reported: 12/23/2019

CLIENT: Blagg Engineering		C	lient Sa	ample ID	: M	W #2A	
Project: GCU 170		(Collect	tion Date	:12	/11/2019 9:39:00 AM	
Lab ID: 1912650-001	Matrix: AQUEOUS	5	Recei	ved Date	:12	/12/2019 8:45:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed Bate	ch
EPA METHOD 300.0: ANIONS						Analyst: CJS	s
Fluoride	0.68	0.50		mg/L	5	12/12/2019 11:32:13 PM A65	5151
Chloride	11	2.5		mg/L	5	12/12/2019 11:32:13 PM A65	5151
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/12/2019 11:32:13 PM A65	5151
Bromide	ND	0.50		mg/L	5	12/12/2019 11:32:13 PM A65	5151
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	12/12/2019 11:32:13 PM A65	5151
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	12/12/2019 11:32:13 PM A65	5151
Sulfate	420	10		mg/L	20	12/12/2019 11:44:38 PM A65	5151
SM2510B: SPECIFIC CONDUCTANCE						Analyst: JRF	R
Conductivity	1500	5.0		µmhos/c	1	12/19/2019 1:56:44 PM R65	5313
SM2320B: ALKALINITY						Analyst: JRF	R
Bicarbonate (As CaCO3)	420.8	20.00		mg/L Ca	1	12/17/2019 7:40:42 PM R65	5231
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/17/2019 7:40:42 PM R65	5231
Total Alkalinity (as CaCO3)	420.8	20.00		mg/L Ca	1	12/17/2019 7:40:42 PM R65	5231
SM2540C MOD: TOTAL DISSOLVED SOLIE	S					Analyst: JM T	т
Total Dissolved Solids	1090	100	*D	mg/L	1	12/19/2019 8:01:00 AM 493	76
SM4500-H+B / 9040C: PH						Analyst: JRF	R
pH	7.70		Н	pH units	1	12/17/2019 7:40:42 PM R65	5231
EPA 6010B: TOTAL RECOVERABLE META	LS					Analyst: rde	•
Calcium	260	10		mg/L	10	12/20/2019 11:59:59 AM 4932	24
Magnesium	29	1.0		mg/L	1	12/20/2019 11:51:01 AM 4932	24
Potassium	7.3	1.0		mg/L	1	12/20/2019 11:51:01 AM 493	24
Sodium	85	1.0		mg/L	1	12/20/2019 11:51:01 AM 4932	24

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceed

 H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 1 of 14

Date Reported: 12/23/2019

	Blagg Engineering				ample ID				
Project:	GCU 170		(Collec	tion Date	:12	/11/2019 10:14:00 A	М	
Lab ID:	1912650-002	Matrix: AQU	EOUS	Recei	ived Date	:12	/12/2019 8:45:00 AM	1	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed]	Batch
EPA METH	HOD 300.0: ANIONS						Analy	st:	CJS
Fluoride		0.65	0.50		mg/L	5	12/12/2019 11:57:03	PM	A65151
Chloride		8.5	2.5		mg/L	5	12/12/2019 11:57:03	ΡM	A65151
Nitrogen,	Nitrite (As N)	ND	0.50		mg/L	5	12/12/2019 11:57:03	ΡM	A65151
Bromide		ND	0.50		mg/L	5	12/12/2019 11:57:03		
0	Nitrate (As N)	0.82	0.50		mg/L	5	12/12/2019 11:57:03		
	us, Orthophosphate (As P)	ND	2.5		mg/L	5	12/12/2019 11:57:03		
Sulfate		680	10		mg/L	20	12/13/2019 12:09:27	AM	A65151
SM2510B:	SPECIFIC CONDUCTANCE						Analy	st:	JRR
Conductiv	ity	1600	5.0		µmhos/c	: 1	12/19/2019 1:59:32 P	Μ	R65313
SM2320B:	ALKALINITY						Analy	st:	JRR
Bicarbona	te (As CaCO3)	277.3	20.00		mg/L Ca	1	12/17/2019 8:17:41 P	Μ	R65231
Carbonate	e (As CaCO3)	ND	2.000		mg/L Ca	1	12/17/2019 8:17:41 P	М	R65231
Total Alka	linity (as CaCO3)	277.3	20.00		mg/L Ca	1	12/17/2019 8:17:41 P	Μ	R65231
SM2540C	MOD: TOTAL DISSOLVED SO	LIDS					Analy	st:	JMT
Total Diss	olved Solids	1400	100	*D	mg/L	1	12/19/2019 8:01:00 A	М	49376
SM4500-H	+B / 9040C: PH						Analy	st:	JRR
pН		7.81		Н	pH units	1	12/17/2019 8:17:41 P	М	R65231
EPA 6010	B: TOTAL RECOVERABLE ME	TALS					Analy	st:	rde
Calcium		300	10		mg/L	10	12/20/2019 12:08:34	РМ	49324
Magnesiu	m	35	1.0		mg/L	1	12/20/2019 12:01:40	PM	49324
Potassium	1	6.9	1.0		mg/L	1	12/20/2019 12:01:40	ΡM	49324
Sodium		70	1.0		mg/L	1	12/20/2019 12:01:40	РМ	49324

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded

 H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 14

Date Reported: 12/23/2019

CLIENT: Blagg Engineering		Cl	ient Sa	ample ID	: M	W #4A	
Project: GCU 170		(Collect	tion Date	:12	/11/2019 9:15:00 AM	
Lab ID: 1912650-003	Matrix: AQUEO	US	Recei	ved Date	:12	/12/2019 8:45:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	CJS
Fluoride	0.57	0.50		mg/L	5	12/13/2019 12:21:51 AM	I A65151
Chloride	79	2.5		mg/L	5	12/13/2019 12:21:51 AM	I A65151
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/13/2019 12:21:51 AM	I A65151
Bromide	0.73	0.50		mg/L	5	12/13/2019 12:21:51 AM	I A65151
Nitrogen, Nitrate (As N)	1.2	0.50		mg/L	5	12/13/2019 12:21:51 AM	
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	12/13/2019 12:21:51 AM	
Sulfate	230	10		mg/L	20	12/13/2019 12:34:15 AM	I A65151
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	1400	5.0		µmhos/c	1	12/19/2019 2:02:21 PM	R65313
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	431.8	20.00		mg/L Ca	1	12/17/2019 8:44:20 PM	R65231
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/17/2019 8:44:20 PM	R65231
Total Alkalinity (as CaCO3)	431.8	20.00		mg/L Ca	1	12/17/2019 8:44:20 PM	R65231
SM2540C MOD: TOTAL DISSOLVED SOLIE	os					Analyst:	JMT
Total Dissolved Solids	955	100	*D	mg/L	1	12/19/2019 8:01:00 AM	49376
SM4500-H+B / 9040C: PH						Analyst:	JRR
pH	7.82		Н	pH units	1	12/17/2019 8:44:20 PM	R65231
EPA 6010B: TOTAL RECOVERABLE META	LS					Analyst:	rde
Calcium	210	10		mg/L	10	12/20/2019 12:10:12 PM	1 49324
Magnesium	24	1.0		mg/L	1	12/20/2019 12:03:21 PM	1 49324
Potassium	7.1	1.0		mg/L	1	12/20/2019 12:03:21 PM	1 49324
Sodium	90	1.0		mg/L	1	12/20/2019 12:03:21 PM	1 49324

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded
- H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Date Reported: 12/23/2019

CLIENT: Blagg Engineering Project: GCU 170				ample ID tion Date		W #5 /11/2019 10:54:00 AM	
Lab ID: 1912650-004	Matrix: AQUEOUS		Recei	ved Date	:12	/12/2019 8:45:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	CJS
Fluoride	0.68	0.50		mg/L	5	12/13/2019 12:46:39 AM	1 A65151
Chloride	7.6	2.5		mg/L	5	12/13/2019 12:46:39 AM	1 A65151
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/13/2019 12:46:39 AM	1 A65151
Bromide	ND	0.50		mg/L	5	12/13/2019 12:46:39 AM	1 A65151
Nitrogen, Nitrate (As N)	0.85	0.50		mg/L	5	12/13/2019 12:46:39 AM	
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	12/13/2019 12:46:39 AM	
Sulfate	980	10		mg/L	20	12/13/2019 12:59:04 AM	1 A65151
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	2000	5.0		µmhos/c	1	12/19/2019 2:05:10 PM	R65313
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	247.0	20.00		mg/L Ca	1	12/17/2019 9:03:04 PM	R65231
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/17/2019 9:03:04 PM	R65231
Total Alkalinity (as CaCO3)	247.0	20.00		mg/L Ca	1	12/17/2019 9:03:04 PM	R65231
SM2540C MOD: TOTAL DISSOLVED SOLIE)S					Analyst:	JMT
Total Dissolved Solids	1660	100	*D	mg/L	1	12/19/2019 8:01:00 AM	49376
SM4500-H+B / 9040C: PH						Analyst:	JRR
pH	7.87		Н	pH units	1	12/17/2019 9:03:04 PM	R65231
EPA 6010B: TOTAL RECOVERABLE META	LS					Analyst:	rde
Calcium	340	10		mg/L	10	12/20/2019 12:11:53 PM	1 49324
Magnesium	54	1.0		mg/L	1	12/20/2019 12:05:00 PM	1 49324
Potassium	11	1.0		mg/L	1	12/20/2019 12:05:00 PM	1 49324
Sodium	100	1.0		mg/L	1	12/20/2019 12:05:00 PM	1 49324

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

Hall Environmental Analysis Laboratory, Inc.

NDNot Detected at the Reporting LimitPQLPractical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/23/2019

CLIENT: Blagg Engineering		Cl	ient Sa	ample ID	: M	W #6	
Project: GCU 170		(Collect	ion Date	:12	/11/2019 9:28:00 AM	
Lab ID: 1912650-005	Matrix: AQUEOUS		Receiv	ved Date	:12	/12/2019 8:45:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	CJS
Fluoride	0.64	0.50		mg/L	5	12/13/2019 1:36:17 AM	A6515 ⁻
Chloride	4.0	2.5		mg/L	5	12/13/2019 1:36:17 AM	A6515 ²
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/13/2019 1:36:17 AM	A65151
Bromide	ND	0.50		mg/L	5	12/13/2019 1:36:17 AM	A6515 ⁻
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	12/13/2019 1:36:17 AM	
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	12/13/2019 1:36:17 AM	
Sulfate	75	2.5		mg/L	5	12/13/2019 1:36:17 AM	A6515
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	830	5.0		µmhos/c	1	12/19/2019 2:07:59 PM	R6531
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	382.5	20.00		mg/L Ca	1	12/17/2019 9:15:46 PM	R6523 ⁻
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/17/2019 9:15:46 PM	R6523 ⁻
Total Alkalinity (as CaCO3)	382.5	20.00		mg/L Ca	1	12/17/2019 9:15:46 PM	R6523 ²
SM2540C MOD: TOTAL DISSOLVED SOLIE	DS					Analyst	JMT
Total Dissolved Solids	610	100	*D	mg/L	1	12/19/2019 8:01:00 AM	49376
SM4500-H+B / 9040C: PH						Analyst	JRR
рН	7.83		Н	pH units	1	12/17/2019 9:15:46 PM	R6523
EPA 6010B: TOTAL RECOVERABLE META	ALS					Analyst	rde
Calcium	140	10		mg/L	10	12/20/2019 12:28:48 PM	A 49324
Magnesium	19	1.0		mg/L	1	12/20/2019 12:06:48 PM	A 49324
Potassium	7.5	1.0		mg/L	1	12/20/2019 12:06:48 PM	A 49324
Sodium	34	1.0		mg/L	1	12/20/2019 12:06:48 PM	A 49324

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
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- D Sample Diluted Due to Matrix
- H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/23/2019

CLIENT: Blagg Engineering		Cl	ient Sa	ample ID	: M	W #7	
Project: GCU 170		C	Collect	ion Date	:12	/11/2019 10:04:00 AM	
Lab ID: 1912650-006	Matrix: AQUEOUS		Recei	ved Date	:12	/12/2019 8:45:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	CJS
Fluoride	0.66	0.50		mg/L	5	12/13/2019 2:01:06 AM	A6515
Chloride	11	2.5		mg/L	5	12/13/2019 2:01:06 AM	A6515 ⁻
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/13/2019 2:01:06 AM	A6515
Bromide	ND	0.50		mg/L	5	12/13/2019 2:01:06 AM	A6515
Nitrogen, Nitrate (As N)	0.85	0.50		mg/L	5	12/13/2019 2:01:06 AM	A6515 ⁻
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	12/13/2019 2:01:06 AM	
Sulfate	920	10		mg/L	20	12/13/2019 2:13:31 AM	A6515
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	1900	5.0		µmhos/c	: 1	12/19/2019 2:16:37 PM	R6531
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	279.0	20.00		mg/L Ca	1	12/17/2019 9:33:20 PM	R6523
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/17/2019 9:33:20 PM	R6523
Total Alkalinity (as CaCO3)	279.0	20.00		mg/L Ca	1	12/17/2019 9:33:20 PM	R6523
SM2540C MOD: TOTAL DISSOLVED SOLI	DS					Analyst	JMT
Total Dissolved Solids	1670	100	*D	mg/L	1	12/19/2019 8:01:00 AM	49376
SM4500-H+B / 9040C: PH						Analyst	JRR
pH	7.82		Н	pH units	1	12/17/2019 9:33:20 PM	R6523
EPA 6010B: TOTAL RECOVERABLE META	ALS					Analyst	rde
Calcium	370	10		mg/L	10	12/20/2019 12:30:22 PM	A 49324
Magnesium	34	1.0		mg/L	1	12/20/2019 12:13:34 PM	A 49324
Potassium	7.0	1.0		mg/L	1	12/20/2019 12:13:34 PM	Л 49324
Sodium	83	1.0		mg/L	1	12/20/2019 12:13:34 PM	Л 49324

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

 H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded

Date Reported: 12/23/2019

CLIENT: Blagg Engineering		Cl	ient Sa	ample ID	: M'	W #8	
Project: GCU 170		(Collect	tion Date	:12/	/11/2019 10:25:00 AM	
Lab ID: 1912650-007	Matrix: AQUE	EOUS	Recei	ved Date	:12/	/12/2019 8:45:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	CJS
Fluoride	0.56	0.50		mg/L	5	12/13/2019 2:25:55 AM	A65151
Chloride	11	2.5		mg/L	5	12/13/2019 2:25:55 AM	A65151
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/13/2019 2:25:55 AM	A65151
Bromide	ND	0.50		mg/L	5	12/13/2019 2:25:55 AM	A65151
Nitrogen, Nitrate (As N)	1.3	0.50		mg/L	5	12/13/2019 2:25:55 AM	
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	12/13/2019 2:25:55 AM	
Sulfate	990	25		mg/L	50	12/16/2019 3:57:53 PM	R65206
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	2200	5.0		µmhos/c	1	12/19/2019 2:19:33 PM	R65313
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	235.2	20.00		mg/L Ca	1	12/17/2019 9:46:58 PM	R65231
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/17/2019 9:46:58 PM	R65231
Total Alkalinity (as CaCO3)	235.2	20.00		mg/L Ca	1	12/17/2019 9:46:58 PM	R65231
SM2540C MOD: TOTAL DISSOLVED SOL	IDS					Analyst	JMT
Total Dissolved Solids	1940	100	*D	mg/L	1	12/19/2019 8:01:00 AM	49376
SM4500-H+B / 9040C: PH						Analyst	JRR
рН	7.84		Н	pH units	1	12/17/2019 9:46:58 PM	R65231
EPA 6010B: TOTAL RECOVERABLE MET	ALS					Analyst	rde
Calcium	420	10		mg/L	10	12/20/2019 12:31:59 PM	A 49324
Magnesium	35	1.0		mg/L	1	12/20/2019 12:15:15 PM	A 49324
Potassium	7.0	1.0		mg/L	1	12/20/2019 12:15:15 PM	A 49324
Sodium	110	10		mg/L	10	12/20/2019 12:31:59 PM	A 49324

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Hall Environmental Analysis Laboratory, Inc.

- NDNot Detected at the Reporting LimitPQLPractical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/23/2019

CLIENT: Blagg Engineering		C	lient Sa	ample ID	:M	W #9	
Project: GCU 170		(Collect	tion Date	:12	/11/2019 9:00:00 AM	
Lab ID: 1912650-008	Matrix: AQUEOUS		Recei	ved Date	:12	/12/2019 8:45:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	CJS
Fluoride	0.52	0.50		mg/L	5	12/13/2019 2:50:45 AM	A65151
Chloride	18	2.5		mg/L	5	12/13/2019 2:50:45 AM	A65151
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/13/2019 2:50:45 AM	A65151
Bromide	ND	0.50		mg/L	5	12/13/2019 2:50:45 AM	A65151
Nitrogen, Nitrate (As N)	0.97	0.50		mg/L	5	12/13/2019 2:50:45 AM	
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	12/13/2019 2:50:45 AM	
Sulfate	500	10		mg/L	20	12/13/2019 3:03:09 AM	A65151
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	1500	5.0		µmhos/c	1	12/19/2019 2:22:30 PM	R65313
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	351.3	20.00		mg/L Ca	1	12/17/2019 9:59:16 PM	R65231
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/17/2019 9:59:16 PM	R65231
Total Alkalinity (as CaCO3)	351.3	20.00		mg/L Ca	1	12/17/2019 9:59:16 PM	R65231
SM2540C MOD: TOTAL DISSOLVED SOLI	DS					Analyst	JMT
Total Dissolved Solids	1180	100	*D	mg/L	1	12/19/2019 8:01:00 AM	49376
SM4500-H+B / 9040C: PH						Analyst	JRR
рН	7.88		Н	pH units	1	12/17/2019 9:59:16 PM	R65231
EPA 6010B: TOTAL RECOVERABLE META	ALS					Analyst	rde
Calcium	240	10		mg/L	10	12/20/2019 12:33:38 PN	Л 49324
Magnesium	28	1.0		mg/L	1	12/20/2019 12:23:47 PM	Л 49324
Potassium	6.7	1.0		mg/L	1	12/20/2019 12:23:47 PM	Л 49324
Sodium	84	1.0		mg/L	1	12/20/2019 12:23:47 PM	Л 49324

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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Hall Environment	al Analy	ysis L	aborat	ory, Inc.						23-Dec-1
Client:Blagg EProject:GCU 17	ngineering 0									
Sample ID: MB	SampT	ype: mb	olk	Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID: PBW	Batch	ID: A6	5151	F	RunNo: 6	5151				
Prep Date:	Analysis D	ate: 12	2/12/2019	5	SeqNo: 22	235818	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Sample ID: LCS	SampT	ype: Ics	;	Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID: LCSW	Batch	ID: A6	5151	F	RunNo: 6	5151				
Prep Date:	Analysis D	ate: 12	2/12/2019	5	SeqNo: 22	235819	Units: mg/L			
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	105	90	110			
Chloride	4.9	0.50	5.000	0	97.4	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	95.8	90	110			
Bromide	2.5	0.10	2.500	0	99.2	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.9	90	110			
Sulfate	9.8	0.50	10.00	0	98.0	90	110			
Sample ID: MB	SampT	ype: mb	olk	Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID: PBW	Batch	ID: R6	5206	F	RunNo: 6	5206				
Prep Date:	Analysis D	ate: 12	2/16/2019	S	SeqNo: 22	238805	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Sample ID: LCS	SampT	ype: Ics	;	Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID: LCSW	Batch	ID: R6	5206	F	RunNo: 6	5206				
Prep Date:	Analysis D	ate: 12	2/16/2019	S	SeqNo: 22	238806	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.8	0.50	10.00	0	97.8	90	110			

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1912650 23-Dec-19

Client:Blagg EngineeringProject:GCU 170

Sample ID: Ics-1 99.9uS eC SampType: Ics			TestCode: SM2510B: Specific Conductance							
Client ID: LCSW	Batch ID: R65313			RunNo: 65313						
Prep Date:	Analysis Da	ate: 12	/19/2019	S	eqNo: 2	243333	Units: µmho	os/cm		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	98	5.0	99.90	0	98.6	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory, Inc.	

WO#:	1912650
	23-Dec-19

Client: Project:	Blagg Er GCU 17	ngineering 0									
Sample ID: MB-4	49324	SampT	ype: ME	BLK	Tes	tCode: El	PA 6010B: "	Fotal Recover	able Meta	ls	
Client ID: PBW	v	Batch	D: 49	324	F	RunNo: 6	5323				
Prep Date: 12/	13/2019	Analysis D	ate: 12	2/20/2019	S	SeqNo: 2	243981	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0								
Magnesium		ND	1.0								
Deteretion			1.0								
Potassium		ND	1.0								
		ND	1.0								
	-49324	ND		s	Tes	tCode: El	PA 6010B: ⁻	Fotal Recover	able Meta	IIS	
Sodium		ND SampT	1.0			tCode: EF		Fotal Recover	able Meta	lls	
Sodium Sample ID: LCS Client ID: LCS		ND SampT	1.0 ype: LC	324	F		5323	Total Recover	able Meta	ıls	
Sodium Sample ID: LCS Client ID: LCS	W	ND SampT Batch	1.0 ype: LC	324 2/20/2019	F	RunNo: 6	5323		able Meta %RPD	IIS RPDLimit	Qual
Sodium Sample ID: LCS- Client ID: LCS Prep Date: 12/ Analyte	W	ND SampT Batch Analysis D	1.0 ype: LC 1D: 49 ate: 12	324 2/20/2019	F	RunNo: 6	5323 243983	Units: mg/L			Qual
Sodium Sample ID: LCS- Client ID: LCS Prep Date: 12/ Analyte Calcium	W	ND SampT Batch Analysis D Result	1.0 ype: LC 1 ID: 49: ate: 12 PQL	324 2/20/2019 SPK value	F S SPK Ref Val	RunNo: 6 SeqNo: 2 %REC	5323 243983 LowLimit	Units: mg/L HighLimit			Qual
Client ID: LCS Prep Date: 12/	W	ND SampT Batch Analysis D Result 49	1.0 ype: LC 1 ID: 49 ate: 12 PQL 1.0	324 2/20/2019 SPK value 50.00	F S SPK Ref Val 0	RunNo: 68 SeqNo: 22 %REC 98.4	5323 243983 LowLimit 80	Units: mg/L HighLimit 120			Qual

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 11 of 14

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1912650 23-Dec-19

Client: Project:	Blagg Eng GCU 170										
	1912650-001a dup		•					/ 9040C: pH			
Client ID:	MW #2A	Batch				RunNo: (
Prep Date:		Analysis Da	ate: 1	2/17/2019	5	SeqNo: 2	2239921	Units: pH u	nits		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
рН		7.70									Н

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Value above quantitation range Е
 - J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 12 of 14

Client:	Blagg Engineering
Project:	GCU 170
Sample ID: mb-1 a	SampType: mblk TestCode: SM2320B: Alkalinity
Client ID: PBW	Batch ID: R65231 RunNo: 65231
Prep Date:	Analysis Date: 12/17/2019 SeqNo: 2239806 Units: mg/L CaCO3
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCC) ND 20.00
Sample ID: Ics-1 a	SampType: Ics TestCode: SM2320B: Alkalinity
Client ID: LCSW	Batch ID: R65231 RunNo: 65231
Prep Date:	Analysis Date: 12/17/2019 SeqNo: 2239807 Units: mg/L CaCO3
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCC) 78.44 20.00 80.00 0 98.0 90 110
Sample ID: mb-2 a	SampType: mblk TestCode: SM2320B: Alkalinity
Client ID: PBW	Batch ID: R65231 RunNo: 65231
Prep Date:	Analysis Date: 12/17/2019 SeqNo: 2239829 Units: mg/L CaCO3
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCC) ND 20.00
Sample ID: Ics-2 a	SampType: Ics TestCode: SM2320B: Alkalinity
Client ID: LCSW	Batch ID: R65231 RunNo: 65231
Prep Date:	Analysis Date: 12/17/2019 SeqNo: 2239830 Units: mg/L CaCO3
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCC) 79.56 20.00 80.00 0 99.4 90 110
Sample ID: 191265	-001a dup SampType: dup TestCode: SM2320B: Alkalinity
Client ID: MW #2	Batch ID: R65231 RunNo: 65231
Prep Date:	Analysis Date: 12/17/2019 SeqNo: 2239840 Units: mg/L CaCO3
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCC) 422.1 20.00 0.313 20

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	1912650
	23-Dec-19

Client: Project:	Blagg En GCU 170	gineering)									
Sample ID: MB-4	49376	SampT	ype: ME	BLK	Tes	tCode: SN	//2540C MC	D: Total Diss	olved So	lids	
Client ID: PBW	1	Batch	ID: 49	376	F	RunNo: 6	5271				
Prep Date: 12/	17/2019	Analysis D	ate: 12	2/19/2019	S	SeqNo: 22	241521	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	\$	ND	20.0								
Sample ID: LCS-	-49376	SampT	ype: LC	s	Tes	tCode: SN	M2540C MC	D: Total Diss	olved So	lids	
Client ID: LCS	w	Batch	ID: 49	376	F	RunNo: 6	5271				
Prep Date: 12/	17/2019	Analysis D	ate: 1 2	2/19/2019	S	SeqNo: 22	241522	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	5	1010	20.0	1000	0	101	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 14 of 14

HALL ENVIRONMENTAL ANALYSIS LABORATORY	A TEL: 505-345-39	ntal Analysis Labord 4901 Hawkin Albuquerque, NM 8 975 FAX: 505-345- hallenvironmental	s NE 7109 San 4107	Sample Log-In Check List				
Client Name: BLAGG	Work Order Numb	per: 1912650		RcptNo	p: 1			
Received By: Yazmine Garduno	12/12/2019 8:45:00	AM	nforminiliteration	;				
Completed By: Leah Baca	12/12/2019 1:05:05	РМ	ml Bree	L				
Reviewed By: DM 12/12/19	7		Flow Je	-				
Chain of Custody								
1. Is Chain of Custody sufficiently complete?		Yes 🗹	No 🗌	Not Present				
2. How was the sample delivered?		<u>Client</u>						
Log In		_	-	_				
3. Was an attempt made to cool the samples?	,	Yes 🗹	No 🗌	NA				
4. Were all samples received at a temperature	e of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗌				
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗌					
6. Sufficient sample volume for indicated test(s	5)?	Yes 🗹	No 🗌					
7. Are samples (except VOA and ONG) proper	ly preserved?	Yes 🖌	No 🗌					
8. Was preservative added to bottles?		Yes 🗹	Νο	NA 🗆				
9. Received at least 1 vial with headspace <1/4	4" for AQ VOA?	Yes 🗌	No 🗌	HNO3 NA 🗹				
10. Were any sample containers received broke	en?	Yes	No 🗹 🏻		·			
11. Does paperwork match bottle labels?		Yes 🗹	No 🗔	# of preserved bottles checked for pH:	8			
(Note discrepancies on chain of custody)	0			(≤2)t Adjusted?	v > 12 unless noted)			
12. Are matrices correctly identified on Chain of 13. Is it clear what analyses were requested?	Custody?	Yes ⊻ Yes ⊻	No 🗌 No 🔲		400			
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹		Checked by:	AD 12/12/19			
Special Handling (if applicable)								
15, Was client notified of all discrepancies with	this order?	Yes 🗌	No 🗌	NA 🗹				
Person Notified:	Date	l		, <u></u>				
By Whom:	Via:	eMail P	hone 🗌 Fax	In Person				
Regarding:								
Client Instructions:			······					
16. Additional remarks:								
Poured off from unpreserved HDPE a samples.	and preserved with ~0.5	5mL of HNO3 for p	H<2 for Metal	s analysis on fraction	B for all			

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.0	Good			99999999999999999999999999999999999999	(*************************************
2	0.2	Good				

							r Bubbles (Y or N)				Air Bubbles (Y	1						ĺ									
	ч S							alqm	es ə	qis	oqmoo .tq ð													1			
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		1. T.	1901	Tel.							BTEX + MTBE TPH 8015B (G								 		_			ks:	BILL DIRECTLY TO BPX: Contact: Stave Mockel		
			7								38TEX + MT8E	<u> </u>									-+			Remarks:	BILL I		1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 -
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	Rush		T #				ž					_	_		_	_		_	_						-3		2
	R R R		GCU # 170				STEVE MOSKAL	JEFFREY C.	es	perature:	Preservative Type	8 S	00	8	Cool	Cool	Cool	Cool	200 C					Ĺ	Wether Uarta		49
Time:			G			L	STE	王	1 Yes	B e	Pre														2	2	
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Arou	Standard	ct No		÷		X Ma		er:		e Te	Container Type and #	1,000 ml - 1	1,000 ml - 1	1,000 ml - 1	1,000 mì - 1	-Im	Ē	- E	Ē					ä -	M	i ka	
Turn-Around	ر ة ا			Project #:		Project Manager:		Sampler:	On Ice:	Sample Tem	Container Type and #	1,00	1,00	1,00	1,00(1,000 ml - 1	1,000 mi - 1	1,000 ml - 1	1,000 ml - 1					Received by:	1	Redeived by:	
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ü O	NGR		P.O. BOX 87	BLOOMFIELD, NM 87413	(505) 632-1199				□ Other		Matrix	WATER	WATER	WATER	WATER	TER	WATER	TER	TER	T	T		ŀ		34	Relinduished by:	
Chain-of-Custody Record	BLAGG ENGR. / BPX ENERGY		P.C	BLC	(50						Ma	Ŵ	M	WA	M	WATER	W	WATER	WATER				:	Kelinquished by:	1	Reling	يو ار
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hai			Mailing Address:			ax#:	QA/QC Package:	ion:		ype)	Time	0939	1014	8	1054	5	1001	1025	0060			[lime:	1340	Time: V (AL	A line
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	Client:		Maili		Phone #:	email or Fax#:	⊇A/QC Packa U Standard	Accreditation:			Date	12/11/19	12/11/19	12/11/19	12/11/19	12/11/19	12/11/19	12/11/19	12/11/19					Uate: 17/11/10	;	Date:	5] 11
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oratories. I his serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report. Ŗ 2 ķ.



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

April 14, 2020

Steve Moskal Blagg Engineering P. O. Box 87 Bloomfield, NM 87413 TEL: FAX:

OrderNo.: 2003B89

.

RE: GCU 170

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/26/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/14/2020

CLIENT: Blagg Engineering	Client Sample ID: MW #2A										
Project: GCU 170		(Collect	tion Date	e: 3/2	25/2020 9:36:00 AM					
Lab ID: 2003B89-001	Matrix: AQUEOUS		Recei	ved Date	e: 3/2	26/2020 7:50:00 AM					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS						Analyst	MRA				
Fluoride	0.67	0.50		mg/L	5	3/27/2020 10:08:58 AM	R67645				
Chloride	17	2.5		mg/L	5	3/27/2020 10:08:58 AM	R67645				
Nitrogen, Nitrite (As N)	ND	0.50	Н	mg/L	5	3/27/2020 10:08:58 AM	R67645				
Bromide	ND	0.50		mg/L	5	3/27/2020 10:08:58 AM	R67645				
Nitrogen, Nitrate (As N)	ND	0.50	Н	mg/L	5	3/27/2020 10:08:58 AM					
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	3/27/2020 10:08:58 AM					
Sulfate	490	10	*	mg/L	20	3/27/2020 10:21:22 AM	R67645				
SM2510B: SPECIFIC CONDUCTANCE						Analyst	: vfs				
Conductivity	1600	5.0		µmhos/c	; 1	3/30/2020 3:56:44 PM	R67685				
SM2320B: ALKALINITY						Analyst	: vfs				
Bicarbonate (As CaCO3)	429.7	20.00		mg/L Ca	1	3/30/2020 3:56:44 PM	R67685				
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/30/2020 3:56:44 PM	R67685				
Total Alkalinity (as CaCO3)	429.7	20.00		mg/L Ca	1	3/30/2020 3:56:44 PM	R67685				
SM2540C MOD: TOTAL DISSOLVED SOL	IDS					Analyst	KS				
Total Dissolved Solids	1240	100	*D	mg/L	1	4/3/2020 3:37:00 PM	51480				
SM4500-H+B / 9040C: PH						Analyst	: vfs				
рН	7.58		Н	pH units	1	4/8/2020 12:22:46 PM	R67969				
EPA METHOD 200.7: METALS						Analyst	: pmf				
Calcium	280	5.0		mg/L	5	4/1/2020 1:10:19 AM	51438				
Magnesium	31	1.0		mg/L	1	4/1/2020 1:04:41 AM	51438				
Potassium	3.7	1.0		mg/L	1	4/1/2020 1:04:41 AM	51438				
Sodium	110	5.0		mg/L	5	4/1/2020 1:10:19 AM	51438				

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 15

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/14/2020

CLIENT: Blagg Engineering Project: GCU 170				ample ID		W #3A 25/2020 9:24:00 AM	
Lab ID: 2003B89-002	Matrix: AQUEOUS					26/2020 7:50:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	MRA
Fluoride	0.57	0.50		mg/L	5	3/27/2020 10:33:47 AM	R67645
Chloride	11	2.5		mg/L	5	3/27/2020 10:33:47 AM	R67645
Nitrogen, Nitrite (As N)	ND	0.50	Н	mg/L	5	3/27/2020 10:33:47 AM	R67645
Bromide	ND	0.50		mg/L	5	3/27/2020 10:33:47 AM	R67645
Nitrogen, Nitrate (As N)	0.85	0.50	Н	mg/L	5	3/27/2020 10:33:47 AM	R67645
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	3/27/2020 10:33:47 AM	R67645
Sulfate	820	10	*	mg/L	20	3/27/2020 10:46:12 AM	R67645
SM2510B: SPECIFIC CONDUCTANCE						Analyst	: vfs
Conductivity	1800	5.0		µmhos/c	: 1	3/30/2020 4:15:30 PM	R67685
SM2320B: ALKALINITY						Analyst	: vfs
Bicarbonate (As CaCO3)	251.1	20.00		mg/L Ca	1	3/30/2020 4:15:30 PM	R67685
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/30/2020 4:15:30 PM	R67685
Total Alkalinity (as CaCO3)	251.1	20.00		mg/L Ca	1	3/30/2020 4:15:30 PM	R67685
SM2540C MOD: TOTAL DISSOLVED SO	LIDS					Analyst	KS
Total Dissolved Solids	1570	100	*D	mg/L	1	4/3/2020 3:37:00 PM	51480
SM4500-H+B / 9040C: PH						Analyst	: vfs
pH	7.96		Н	pH units	1	4/8/2020 12:26:53 PM	R67969
EPA METHOD 200.7: METALS						Analyst	: pmf
Calcium	390	10		mg/L	10	4/1/2020 1:19:30 AM	51438
Magnesium	39	1.0		mg/L	1	4/1/2020 1:17:40 AM	51438
Potassium	6.0	1.0		mg/L	1	4/1/2020 1:17:40 AM	51438
Sodium	72	1.0		mg/L	1	4/1/2020 1:17:40 AM	51438

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

 Qualifiers:
 *
 Value exceeds Maximum Contaminant Level.
 B
 Analyte

 D
 Sample Diluted Due to Matrix
 E
 Value at

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J
 Analyte detected below quantitation limits

 P
 Sample pH Not In Range
- P Sample pH Not In Rai RL Reporting Limit

Page 2 of 15

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/14/2020

CLIENT: Blagg Engineering Project: GCU 170	Client Sample ID: MW #4A Collection Date: 3/25/2020 9:13:00 AM											
Lab ID: 2003B89-003	Matrix: AQUEOUS					26/2020 7:50:00 AM						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS						Analyst	MRA					
Fluoride	0.61	0.50		mg/L	5	3/27/2020 10:58:36 AM	R67645					
Chloride	27	2.5		mg/L	5	3/27/2020 10:58:36 AM	R67645					
Nitrogen, Nitrite (As N)	ND	0.50	Н	mg/L	5	3/27/2020 10:58:36 AM	R67645					
Bromide	ND	0.50		mg/L	5	3/27/2020 10:58:36 AM	R67645					
Nitrogen, Nitrate (As N)	ND	0.50	Н	mg/L	5	3/27/2020 10:58:36 AM	R67645					
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	3/27/2020 10:58:36 AM	R67645					
Sulfate	190	2.5		mg/L	5	3/27/2020 10:58:36 AM	R67645					
SM2510B: SPECIFIC CONDUCTANCE						Analyst	vfs					
Conductivity	1100	5.0		µmhos/c	; 1	3/30/2020 4:28:32 PM	R67685					
SM2320B: ALKALINITY						Analyst	vfs					
Bicarbonate (As CaCO3)	412.2	20.00		mg/L Ca	1	3/30/2020 4:28:32 PM	R67685					
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/30/2020 4:28:32 PM	R67685					
Total Alkalinity (as CaCO3)	412.2	20.00		mg/L Ca	1	3/30/2020 4:28:32 PM	R67685					
SM2540C MOD: TOTAL DISSOLVED SOL	IDS					Analyst	KS					
Total Dissolved Solids	820	200	*D	mg/L	1	4/3/2020 3:37:00 PM	51480					
SM4500-H+B / 9040C: PH						Analyst	vfs					
pH	7.80		Н	pH units	1	4/8/2020 12:31:19 PM	R67969					
EPA METHOD 200.7: METALS						Analyst	pmf					
Calcium	190	5.0		mg/L	5	4/1/2020 1:29:35 AM	51438					
Magnesium	22	1.0		mg/L	1	4/1/2020 1:21:25 AM	51438					
Potassium	5.7	1.0		mg/L	1	4/1/2020 1:21:25 AM	51438					
Sodium	76	1.0		mg/L	1	4/1/2020 1:21:25 AM	51438					

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J
 Analyte detected below quantitation limits

 P
 Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/14/2020

CLIENT: Blagg Engineering Project: GCU 170	Client Sample ID: MW #5 Collection Date: 3/25/2020 10:02:00 AM Matrix: AQUEOUS Received Date: 3/26/2020 7:50:00 AM										
Lab ID: 2003B89-004			Recei	ved Date	: 3/2	26/2020 7:50:00 AM					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS						Analyst:	MRA				
Fluoride	0.59	0.50		mg/L	5	3/27/2020 11:48:15 AM	R67645				
Chloride	11	2.5		mg/L	5	3/27/2020 11:48:15 AM	R67645				
Nitrogen, Nitrite (As N)	ND	0.50	Н	mg/L	5	3/27/2020 11:48:15 AM	R67645				
Bromide	ND	0.50		mg/L	5	3/27/2020 11:48:15 AM	R67645				
Nitrogen, Nitrate (As N)	1.0	0.50	Н	mg/L	5	3/27/2020 11:48:15 AM	R67645				
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	3/27/2020 11:48:15 AM	R67645				
Sulfate	1100	25	*	mg/L	50	3/31/2020 10:15:28 PM	R67745				
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	vfs				
Conductivity	2100	5.0		µmhos/c	1	3/30/2020 4:46:28 PM	R67685				
SM2320B: ALKALINITY						Analyst:	vfs				
Bicarbonate (As CaCO3)	236.1	20.00		mg/L Ca	1	3/30/2020 4:46:28 PM	R67685				
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/30/2020 4:46:28 PM	R67685				
Total Alkalinity (as CaCO3)	236.1	20.00		mg/L Ca	1	3/30/2020 4:46:28 PM	R67685				
SM2540C MOD: TOTAL DISSOLVED SOL	IDS					Analyst:	KS				
Total Dissolved Solids	1880	200	*D	mg/L	1	4/3/2020 3:37:00 PM	51480				
SM4500-H+B / 9040C: PH						Analyst:	vfs				
pH	7.79		Н	pH units	1	4/8/2020 12:35:37 PM	R67969				
EPA METHOD 200.7: METALS						Analyst:	pmf				
Calcium	410	10		mg/L	10	4/1/2020 1:33:23 AM	51438				
Magnesium	55	1.0		mg/L	1	4/1/2020 1:31:25 AM	51438				
Potassium	8.7	1.0		mg/L	1	4/1/2020 1:31:25 AM	51438				
Sodium	110	10		mg/L	10	4/1/2020 1:33:23 AM	51438				

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

* Value exceeds Maximum Contaminant Level. **Qualifiers:** D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits J Р
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/14/2020

CLIENT: Blagg Engineering	Client Sample ID: MW #6										
Project: GCU 170						25/2020 9:00:00 AM					
Lab ID: 2003B89-005	Matrix: AQUEOUS		Recei	ved Date	e: 3/2	26/2020 7:50:00 AM					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS						Analyst	MRA				
Fluoride	0.65	0.50		mg/L	5	3/27/2020 12:13:04 PM	R67645				
Chloride	4.3	2.5		mg/L	5	3/27/2020 12:13:04 PM	R67645				
Nitrogen, Nitrite (As N)	ND	0.50	Н	mg/L	5	3/27/2020 12:13:04 PM	R67645				
Bromide	ND	0.50		mg/L	5	3/27/2020 12:13:04 PM	R67645				
Nitrogen, Nitrate (As N)	ND	0.50	Н	mg/L	5	3/27/2020 12:13:04 PM	R67645				
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	3/27/2020 12:13:04 PM					
Sulfate	77	2.5		mg/L	5	3/27/2020 12:13:04 PM	R67645				
SM2510B: SPECIFIC CONDUCTANCE						Analyst	vfs				
Conductivity	800	5.0		µmhos/c	21	3/31/2020 10:15:04 AM	R67720				
SM2320B: ALKALINITY						Analyst	vfs				
Bicarbonate (As CaCO3)	370.6	20.00		mg/L Ca	1	3/30/2020 5:09:16 PM	R67685				
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	ı 1	3/30/2020 5:09:16 PM	R67685				
Total Alkalinity (as CaCO3)	370.6	20.00		mg/L Ca	1	3/30/2020 5:09:16 PM	R67685				
SM2540C MOD: TOTAL DISSOLVED SC	DLIDS					Analyst	KS				
Total Dissolved Solids	585	100	*D	mg/L	1	4/3/2020 3:37:00 PM	51480				
SM4500-H+B / 9040C: PH						Analyst	vfs				
pH	7.97		Н	pH units	1	4/8/2020 12:39:59 PM	R67969				
EPA METHOD 200.7: METALS						Analyst	pmf				
Calcium	160	5.0		mg/L	5	4/1/2020 1:40:54 AM	51438				
Magnesium	17	1.0		mg/L	1	4/1/2020 1:35:17 AM	51438				
Potassium	3.3	1.0		mg/L	1	4/1/2020 1:35:17 AM	51438				
Sodium	34	1.0		mg/L	1	4/1/2020 1:35:17 AM	51438				

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

* **Qualifiers:**

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits J Р
- Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/14/2020

CLIENT: Project:	Blagg Engineering GCU 170	Client Sample ID: MW #7 Collection Date: 3/25/2020 9:50:00 AM										
Lab ID:	2003B89-006	Matrix:	AQUEOUS		Recei	ved Date	e: 3/2	26/2020 7:50:00 AM				
Analyses		Re	sult	RL	Qual	Units	DF	Date Analyzed	Batch			
EPA MET	HOD 300.0: ANIONS							Analyst	MRA			
Fluoride			0.60	0.50		mg/L	5	3/27/2020 12:37:53 PM	R67645			
Chloride			8.6	2.5		mg/L	5	3/27/2020 12:37:53 PM	R67645			
Nitrogen,	Nitrite (As N)		ND	0.50	Н	mg/L	5	3/27/2020 12:37:53 PM	R67645			
Bromide			ND	0.50		mg/L	5	3/27/2020 12:37:53 PM	R67645			
Nitrogen,	Nitrate (As N)		1.5	0.50	Н	mg/L	5	3/27/2020 12:37:53 PM	R67645			
Phospho	rus, Orthophosphate (As P)		ND	2.5	Н	mg/L	5	3/27/2020 12:37:53 PM	R67645			
Sulfate			940	10	*	mg/L	20	3/27/2020 12:50:17 PM	R67645			
SM2510B	SECIFIC CONDUCTANCE							Analyst	: vfs			
Conducti	vity		1900	5.0		µmhos/c	; 1	3/31/2020 10:18:05 AM	R67720			
SM2320B	: ALKALINITY							Analyst	: vfs			
Bicarbon	ate (As CaCO3)	2	68.8	20.00		mg/L Ca	1	3/30/2020 5:26:10 PM	R67685			
Carbonat	te (As CaCO3)		ND	2.000		mg/L Ca	1	3/30/2020 5:26:10 PM	R67685			
Total Alk	alinity (as CaCO3)	2	68.8	20.00		mg/L Ca	1	3/30/2020 5:26:10 PM	R67685			
SM2540C	MOD: TOTAL DISSOLVED SC	DLIDS						Analyst	KS			
Total Dis	solved Solids		680	100	*D	mg/L	1	4/3/2020 3:37:00 PM	51480			
SM4500-I	H+B / 9040C: PH							Analyst	: vfs			
рН			7.95		Н	pH units	1	4/8/2020 12:44:24 PM	R67969			
EPA MET	HOD 200.7: METALS							Analyst	: pmf			
Calcium			420	10		mg/L	10	4/1/2020 1:56:25 AM	51438			
Magnesi	um		32	1.0		mg/L	1	4/1/2020 1:54:32 AM	51438			
Potassiu	m		4.4	1.0		mg/L	1	4/1/2020 1:54:32 AM	51438			
Sodium			85	1.0		mg/L	1	4/1/2020 1:54:32 AM	51438			

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range J Analyte detected below quantitation limit
- J
 Analyte detected below quantitation limits

 P
 Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/14/2020

CLIENT: Blagg Engineering	Client Sample ID: MW #8 Collection Date: 3/25/2020 10:16:00 AM											
Project: GCU 170												
Lab ID: 2003B89-007	Matrix: AQUEOUS		Recei	ved Date	: 3/2	26/2020 7:50:00 AM						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS						Analyst	MRA					
Fluoride	0.53	0.50		mg/L	5	3/27/2020 1:02:41 PM	R67645					
Chloride	8.9	2.5		mg/L	5	3/27/2020 1:02:41 PM	R67645					
Nitrogen, Nitrite (As N)	ND	0.50	Н	mg/L	5	3/27/2020 1:02:41 PM	R67645					
Bromide	ND	0.50		mg/L	5	3/27/2020 1:02:41 PM	R67645					
Nitrogen, Nitrate (As N)	0.97	0.50	Н	mg/L	5	3/27/2020 1:02:41 PM	R67645					
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	3/27/2020 1:02:41 PM	R67645					
Sulfate	1200	25	*	mg/L	50	3/31/2020 10:28:21 PM	R67745					
SM2510B: SPECIFIC CONDUCTANCE						Analyst	: vfs					
Conductivity	2100	5.0		µmhos/c	1	3/31/2020 10:21:05 AM	R67720					
SM2320B: ALKALINITY						Analyst	: vfs					
Bicarbonate (As CaCO3)	232.8	20.00		mg/L Ca	1	3/30/2020 5:39:44 PM	R67685					
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/30/2020 5:39:44 PM	R67685					
Total Alkalinity (as CaCO3)	232.8	20.00		mg/L Ca	1	3/30/2020 5:39:44 PM	R67685					
SM2540C MOD: TOTAL DISSOLVED SOL	IDS					Analyst	KS					
Total Dissolved Solids	1970	100	*D	mg/L	1	4/3/2020 3:37:00 PM	51480					
SM4500-H+B / 9040C: PH						Analyst	: vfs					
рН	7.97		Н	pH units	1	4/8/2020 12:48:41 PM	R67969					
EPA METHOD 200.7: METALS						Analyst	: pmf					
Calcium	450	10		mg/L	10	4/1/2020 2:00:19 AM	51438					
Magnesium	40	1.0		mg/L	1	4/1/2020 1:58:26 AM	51438					
Potassium	5.0	1.0		mg/L	1	4/1/2020 1:58:26 AM	51438					
Sodium	93	1.0		mg/L	1	4/1/2020 1:58:26 AM	51438					

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

Qualifiers:

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

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 4/14/2020

CLIENT: Blagg Engineering	Client Sample ID: MW #9											
Project: GCU 170		(Collect	ion Date	e: 3/2	25/2020 8:47:00 AM						
Lab ID: 2003B89-008	Matrix: AQUEOUS		Recei	ved Date	e: 3/2	26/2020 7:50:00 AM						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS						Analyst	MRA					
Fluoride	ND	0.50		mg/L	5	3/27/2020 1:27:31 PM	R67645					
Chloride	31	2.5		mg/L	5	3/27/2020 1:27:31 PM	R67645					
Nitrogen, Nitrite (As N)	ND	0.50	Н	mg/L	5	3/27/2020 1:27:31 PM	R67645					
Bromide	ND	0.50		mg/L	5	3/27/2020 1:27:31 PM	R67645					
Nitrogen, Nitrate (As N)	0.56	0.50	Н	mg/L	5	3/27/2020 1:27:31 PM	R67645					
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	3/27/2020 1:27:31 PM	R67645					
Sulfate	460	10	*	mg/L	20	3/27/2020 1:39:55 PM	R67645					
SM2510B: SPECIFIC CONDUCTANCE						Analyst	: vfs					
Conductivity	1500	5.0		µmhos/c	21	3/31/2020 10:24:06 AM	R67720					
SM2320B: ALKALINITY						Analyst	: vfs					
Bicarbonate (As CaCO3)	353.2	20.00		mg/L Ca	1	3/30/2020 5:52:21 PM	R67685					
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/30/2020 5:52:21 PM	R67685					
Total Alkalinity (as CaCO3)	353.2	20.00		mg/L Ca	ı 1	3/30/2020 5:52:21 PM	R67685					
SM2540C MOD: TOTAL DISSOLVED SOL	.IDS					Analyst	: KS					
Total Dissolved Solids	1060	200	*D	mg/L	1	4/3/2020 3:37:00 PM	51480					
SM4500-H+B / 9040C: PH						Analyst	: vfs					
pH	7.91		Н	pH units	1	4/8/2020 12:53:01 PM	R67969					
EPA METHOD 200.7: METALS						Analyst	: pmf					
Calcium	270	5.0		mg/L	5	4/1/2020 2:04:16 AM	51438					
Magnesium	29	1.0		mg/L	1	4/1/2020 2:02:20 AM	51438					
Potassium	5.1	1.0		mg/L	1	4/1/2020 2:02:20 AM	51438					
Sodium	87	1.0		mg/L	1	4/1/2020 2:02:20 AM	51438					

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

Qualifiers: * Va

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

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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-	MMARY ⁄ironmenta				ory, Inc.					WO#:	2003B8 14-Apr-20
Client: Project:	Blagg Eng GCU 170	-									
Sample ID: N	IB-51438	SampT	vpe: ME	BLK	Tes	tCode: E	PA Method	200.7: Metals			
Client ID: P			ID: 51			RunNo: 6					
	3/31/2020	Analysis D				SeqNo: 2		Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0								
Magnesium		ND	1.0								
Potassium		ND	1.0								
Sodium		ND	1.0								
Sample ID: L	LLCS-51438	SampT	ype: LC	SLL	Tes	tCode: El	PA Method	200.7: Metals			
Client ID: B	BatchQC	Batch	ID: 51	438	F	RunNo: 6	7740				
Prep Date:	3/31/2020	Analysis D	ate: 4 /	/1/2020	S	SeqNo: 2	338595	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0	0.5000	0	105	50	150			
Magnesium		ND	1.0	0.5000	0	103	50	150			
Potassium		ND	1.0	0.5000	0	107	50	150			
Sodium		ND	1.0	0.5000	0	76.4	50	150			
Sample ID: L	CS-51438	SampT	ype: LC	s	Tes	tCode: El	PA Method	200.7: Metals			
Client ID: L	CSW	Batch	ID: 51	438	F	RunNo: 6	7740				
Prep Date:	3/31/2020	Analysis D	ate: 4 /	/1/2020	S	SeqNo: 2	338597	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		52	1.0	50.00	0	105	85	115			
Magnesium		52	1.0	50.00	0	104	85	115			
Potassium		51	1.0	50.00	0	102	85	115			
Sodium		51	1.0	50.00	0	103	85	115			
Sample ID: 2	003B89-001BMS	SampT	ype: M \$	S	Tes	tCode: El	PA Method	200.7: Metals			
Client ID: N	IW #2A	Batch	ID: 51	438	F	RunNo: 6	7740				
Prep Date:	3/31/2020	Analysis D	ate: 4/	/1/2020	5	SeqNo: 2	338617	Units: mg/L			
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium		83	1.0	50.00	31.34	104	70	130			
Potassium		57	1.0	50.00	3.704	107	70	130			
Sample ID: 2	003B89-001BMSI	D SampT	ype: MS	SD	Tes	tCode: El	PA Method	200.7: Metals			
Client ID: N	IW #2A	Batch	ID: 51	438	F	RunNo: 6	7740				
Prep Date:	3/31/2020	Analysis D	ate: 4 /	/1/2020	S	SeqNo: 2	338618	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium		82	1.0	50.00 50.00	31.34 3.704	102	70	130	1.14 1.42	20 20	
Potassium		56	1.0			106	70	130			

Value exceeds Maximum Contaminant Level. *

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix В Analyte detected in the associated Method Blank

Е

Value above quantitation range Analyte detected below quantitation limits J

Р Sample pH Not In Range

RL Reporting Limit

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Client:	Blagg Eng	-									
Project:	GCU 170										
Sample ID:	2003B89-001BMS	SampT	ype: MS	6	Tes	tCode: EF	PA Method	200.7: Metals			
Client ID:	MW #2A	Batch	n ID: 51	438	F	RunNo: 6	7740				
Prep Date:	3/31/2020	Analysis D	ate: 4/	1/2020	S	SeqNo: 2	338620	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		320	5.0	50.00	280.8	82.2	70	130			
Sodium		150	5.0	50.00	106.2	95.3	70	130			
Sample ID:	2003B89-001BMS) SampT	ype: MS	SD	Tes	tCode: EF	PA Method	200.7: Metals			
Client ID:	MW #2A	Batch	n ID: 51	438	F	RunNo: 6	7740				
Prep Date:	3/31/2020	Analysis D	ate: 4/	1/2020	S	SeqNo: 2	338621	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		330	5.0	50.00	280.8	92.4	70	130	1.57	20	
Sodium		150	5.0	50.00	106.2	97.0	70	130	0.574	20	
Sample ID:	2003B89-005BMS	SampT	уре: М	6	Tes	tCode: El	PA Method	200.7: Metals			
Client ID:	MW #6	Batch	n ID: 51	438	F	RunNo: 6	7740				
Prep Date:	3/31/2020	Analysis D	ate: 4 /	1/2020	S	SeqNo: 2	338633	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium		67	1.0	50.00	17.02	99.5	70	130			
Potassium		54	1.0	50.00	3.349	101	70	130			
Sodium		84	1.0	50.00	33.95	99.5	70	130			
Sample ID:	2003B89-005BMSI) SampT	ype: M	SD	Tes	tCode: EF	PA Method	200.7: Metals			
Client ID:	MW #6	Batch	n ID: 51	438	F	RunNo: 6	7740				
Prep Date:	3/31/2020	Analysis D	ate: 4/	1/2020	S	SeqNo: 2	338634	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium		68	1.0	50.00	17.02	102	70	130	1.74	20	
Potassium		54	1.0	50.00	3.349	101	70	130	0.0351	20	
Sodium		83	1.0	50.00	33.95	98.5	70	130	0.584	20	
Sample ID:	2003B89-005BMS	SampT	ype: MS	6	Tes	tCode: EF	PA Method	200.7: Metals			
Client ID:	MW #6	Batch	n ID: 51	438	F	RunNo: 6	7740				
Prep Date:	3/31/2020	Analysis D	ate: 4/	1/2020	S	SeqNo: 2	338636	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
						81.3					

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

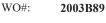
QC SUMMARY REPORT

- В Analyte detected in the associated Method Blank
- Value above quantitation range Е
- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Limit

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14-Apr-20

Hall Environmental Analysis Laboratory, Inc.



QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

Blagg Engineering **Client:** GCU 170 **Project:**

Sample ID: 2003B89-005BMSI	o SampTy	pe: M S	SD.	TestCode: EPA Method 200.7: Metals									
Client ID: MW #6	Batch	D: 51	438	F	RunNo: 6	7740							
Prep Date: 3/31/2020	31/2020 Analysis Date: 4/1/2020					338637	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Calcium	200	5.0	50.00	155.8	85.2	70	130	1.00	20				

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit PQL
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е
- Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range J
- Р
- RL Reporting Limit

WO#: 2003B89

14-Apr-20

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QC SUMMA Hall Environm			aborat	ory, Inc.					WO#:	2003B8 14-Apr-20
	agg Engineering CU 170									
Sample ID: MB	Samp	Гуре: ml	olk	Tes	tCode: El	PA Method	300.0: Anions	6		
Client ID: PBW	Batc	h ID: R6	7645	F	RunNo: 6	7645				
Prep Date:	Analysis [Date: 3/	27/2020	S	SeqNo: 2	335407	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10			_		5			
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate	(As P ND	0.50								
Sulfate	ND	0.50								
Sample ID: LCS	Samp	Type: Ics	5	Tes	tCode: E	PA Method	300.0: Anions	6		
Client ID: LCSW	Batc	h ID: R6	7645	F	RunNo: 6	7645				
Prep Date:	Analysis [Date: 3/	27/2020	S	SeqNo: 2	335408	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.55	0.10	0.5000	0	110	90	110			
Chloride	4.9	0.50	5.000	0	97.3	90	110			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	98.9	90	110			
Bromide	2.5	0.10	2.500	0	101	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate	(As P 5.0	0.50	5.000	0	99.8	90	110			
Sulfate	10	0.50	10.00	0	99.8	90	110			
Sample ID: MB	Samp	Type: ml	olk	Tes	tCode: E	PA Method	300.0: Anions	6		
Client ID: PBW	Batc	h ID: R6	7745	F	RunNo: 6	7745				
Prep Date:	Analysis [Date: 3/	31/2020	S	SeqNo: 2	339345	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Sample ID: LCS	Samp	Гуре: Іся	;	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID: LCSW	Batc	h ID: R6	7745	F	RunNo: 6	7745				
Prep Date:	Analysis [Date: 3/	31/2020	S	SeqNo: 2	339346	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.8	0.50	10.00	0	98.4	90	110			

- Value exceeds Maximum Contaminant Level. *
- D Sample Diluted Due to Matrix Н
- Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

QC SUMMARY REPORT

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е
- Value above quantitation range Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#:	2003B89
	14-Apr-20

Client: Project:	Blagg Eng GCU 170														
Sample ID: Ics-1	99.9uS eC	SampT	ype: Ics	e: Ics TestCode: SM2510B: Specific Conductance											
Client ID: LCS	w	Batch	ID: R6	7685	F	RunNo: 67	7685								
Prep Date:		Analysis D	ate: 3/	30/2020	S	SeqNo: 23	337780	Units: µmh	os/cm						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Conductivity		100	5.0	99.90	0	101	85	115							
Sample ID: Ics-1	99.9uS eC	SampT	ype: Ics	;	TestCode: SM2510B: Specific Conductance										
Client ID: LCS	w	Batch	ID: R6	7720	F	RunNo: 67	7720								
Prep Date:		Analysis D	ate: 3/	31/2020	5	SeqNo: 23	337973	Units: µmh	os/cm						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Conductivity		100	5.0	99.90	0	99.6	85	115							

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

QC SUMM Hall Enviror	WO#:	2003B89 14-Apr-20										
	Blagg Engineering GCU 170											
Sample ID: mb-1 al												
Client ID: PBW	Batch	ID: R6	7685	RunNo: 67685								
Prep Date:	Analysis Da	Analysis Date: 3/30/2020 SeqNo: 2337802 Units: mg/L CaCO3										
Analyte Total Alkalinity (as CaCO	Result 3) ND	PQL 20.00	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Sample ID: Ics-1 al	k SampTy	/pe: Ics				M2320B: Al	kalinity					
Client ID: LCSW Prep Date:												
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Total Alkalinity (as CaCO	3) 77.20	20.00	80.00	0	96.5	90	110					

- Value exceeds Maximum Contaminant Level. *
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е
- Value above quantitation range Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory, Inc.	

WO#:	2003B89
	14-Apr-20

	gg Engineering U 170
Sample ID: MB-51480	SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: PBW	Batch ID: 51480 RunNo: 67826
Prep Date: 4/1/2020	Analysis Date: 4/3/2020 SeqNo: 2342610 Units: mg/L
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND 20.0
Sample ID: LCS-51480	SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: LCSW	Batch ID: 51480 RunNo: 67826
Prep Date: 4/1/2020	Analysis Date: 4/3/2020 SeqNo: 2342611 Units: mg/L
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1020 20.0 1000 0 102 80 120

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

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ANAL	ONMENTA YSIS RATORY	AL	TE.	l Environme L: 505-345-3 Vebsite: www	490 Albuquerq 8975 FAX:	1 Hawkin ue, NM 8 505-345-	7109 Sa	Sample Log-In Check List						
Client Name:	BLAGG		Work	Order Num	ber: 2003	3B89		RcptNo: 1						
Received By:	Isaiah Orti	iz	3/26/20	20 7:50:00	АМ		at any (0~						
Completed By:	Leah Baca	1	3/26/20	20 3:32:08			In Carl SBa	26A						
Reviewed By:	10		3/26	120-10			, - •)							
Chain of Cus	<u>tody</u>													
1. Is Chain of C	ustody suffici	ently complete	9?		Yes		No 🗌	Not Present						
2. How was the	sample delive	ered?			Clien	<u>it</u>								
<u>Log In</u>														
3. Was an attem	pt made to c	ool the sampl	es?		Yes		No 🗌							
4. Were all samp	oles received	at a temperat	ure of >0° C t	o 6.0°C	Yes	\checkmark	No 🗌							
5. Sample(s) in	proper contai	ner(s)?			Yes		No 🗌							
6. Sufficient sam	ple volume fo	or indicated te	st(s)?		Yes	\checkmark	No 🗌							
7. Are samples (except VOA a	and ONG) pro	perly preserve	d?	Yes	~	No 🗌							
8. Was preserva	tive added to	bottles?			Yes	\checkmark	No 🗌							
9. Received at le	ast 1 vial with	n headspace <	<1/4" for AQ V	OA?	Yes		No 🗌	NA 🗹						
10. Were any san	nple containe	rs received br	oken?		Yes		No 🔽	# of preserved bottles checked						
11. Does paperwo (Note discrepa					Yes	\checkmark	No 🗌	for pH: or >12 unless noted)						
12. Are matrices o	correctly ident	ified on Chair	of Custody?		Yes	\checkmark	No 🗌	Adjusted? yes						
13. Is it clear what		and a fact that which a start which)		Yes		No 🗌							
14. Were all holdin (If no, notify cu					Yes	\checkmark	No 🗌	Checked by: DAD 3/77/20						
Special Handl	ing (if app	licable)												
15. Was client no	tified of all dis	screpancies w	ith this order?		Yes		No 🗌	NA 🗹						
Person	Notified:	and a second description of the second	KARANGI NIKKE ULUM BUU BUU	Date	ſ		nocur salario inte di materia d	x						
By Who		an i 1944 in a second setada a	a in the second seco	Via:	🗌 eMa	uil 🗌 P	hone 🗌 Fa	x 🗌 In Person						
Regardi	ng: 👖		nink telefon feneret niget onder open in de	an hitse sharooda ile a instituta	in considerate Datate	GIRLAGE COLUMN	and the advantage of the second second	one of a sense of the sense show the sense of the						
Client Ir	structions:		neren antan metalan karakan karakan karan	na haf mala 14 interproper af sock dinama	ert in instantial control sector	annense stronge som de an	uttert och annaly of the Annal Conference of	Para Canana C						
16. Additional rer														
		INO3 to all sa	mples in B fra	ction for me	etals analy	sis	DAD 3	124/20						
17. Cooler Infor		0	0.11											
Cooler No	Temp °C 3.1	Condition Good	Seal Intact	Seal No	Seal Da	ate	Signed By							
13.	5.1	G000												

FNVTRONMENTAL	ANALYSIS LABORATORY	www.hallenvironmental.com	- Albuquerque, NM 87109	Fax 505-345-4107	Analysis Request		fs) \ 2n	s DinA	M, EC bilos (An (An (An (An (An (An (An) (An) (An)	,1, N(,1 , ed 2 , - VC , - VC	Anions (F,C Anions (F,C ZOV) Bosolv S200B (VO. 8270 (Semi 8270 (Semi 8270 (Semi 8270 (Semi 828 Alt Subbles Alt Bubbles	Ν	VV								Date Time Remarks: $\frac{\partial S}{\partial b} \frac{ \psi }{ \psi }$ BILL DIRECTLY TO BPX: Date Time PO to be provided $\frac{\partial S}{\partial b} \frac{ \psi }{ \psi }$ Contact: Steve Moskal PO to be provided
	ANALY	www.halle	4901 Hawkins NE - A	Tel. 505-345-3975			(OSM) (VINC)	נז) ד) אס / סא פיז	р 118. 118. 0 / 0	с + 1 2 ро 2 ро 2 ро 2 ро 3 ло	BTEX + MTB BTEX + MTB TPH (Meth PPH (8310 RCRA 8 Me										Remarks: BILL DIRECTLY TO BPX: Contact: Steve Moskal
			70					C. BLAGG	No	-0-3.1	1.2-0-1.2 HEAL NO. 2003R89	100-	- 002	-003	P00-	-005	-000	±00-	-00		
d Time:	d 🗌 Rush	le:	GCU # 170			lager:	STEVE MOSKAL	JEFFREY C		perature: 3.	 Preservative # Type 	1 Cool		i Whelen							
Turn-Around Time:	 ✓ Standard 	Project Name:		Project #:		Project Manager		Sampler:	On Ice:	Sample Temperature:	Container Type and #	1,000 ml - 1		 Received by: Mustur Received by:							
Chain-of-Custody Record	BLAGG ENGR. / BPX ENERGY		87	BLOOMFIELD, NM 87413	2-1199		l evel 4 (Eull Validation)				Sample Request ID	MW # 2A	MW # 3A	MW # 4A	MW # 5	9 # MW	1 # MW	8 # MW	6 # MW		me: Relinquished by: Slocy Received by: 441 Relipquished by: Received by: Received by: 811 Muth Walter Received by: Courier 3
of-Cust	G ENGR.		P.O. BOX 87	BLOOMFI	(505) 632-1199]	□ Other		Matrix	WATER		Relinquished by: Relinquished by:							
hain-c	BLAG		Address:			Fax#:	ackage: Vard	tion:	٩.	Type)	Time	9:36				9:00					E CE
0	Client:		Mailing Address:		Phone #:	email or Fax#:	QA/QC Package:	Accreditation:		□ EDD (Type)	Date	3/24/20	3/24/20	3/24/20	3/24/20	3/24/20	3/24/20	3/24/20	3/24/20	5	Date: 3/25/2010 Date: 3/25/26