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Prepared for:

Eureka Gulch Properties LLC
4936 South Fillmore Court
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2024 Final Report
Revision 2

Ben Franklin Mine
Bonita Peak Mining District NPL Site
San Juan County
Silverton, Colorado

Prepared by:

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This final report for monitoring associated with the removal work conducted under the August 15, 2019 Administrative Settlement Agreement and Order on Consent for Removal Action for the Ben Franklin Mine Site, located near Silverton, Colorado has been prepared by Geosyntec Consultants and certified as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Prepared by: Jean M. Cordova November 08, 2024

Jean Cordova Date
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Certified by: Jeffrey P Kurtz 11/11/2024 Revised 12/30/2024

Jeff Kurtz, Date
Project Manager,
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I. SUMMARY OF EVENTS

A. Site Conditions and Background

1. Initial situation, including site location, coordination, and NPL status:

The Ben Franklin Mine is located immediately below the confluence of the headwaters of Eureka Gulch, situated on a relatively gentle, rocky slope within an alpine tundra biome. It is at an elevation of 11,920 feet NGVD29 in the northern part of San Juan County, Colorado (Township 42 North, Range 7 West, Section 14, New Mexico Principal Meridian; Latitude 37°53'40.9" North, Longitude 107°36'28.5" West, WGS84), approximately 6.5 miles north-northeast of Silverton, the county seat of San Juan County, adjacent to County Road 25 and on the southwest side of Eureka Creek. The mine is within the Bonita Peak Mining District NPL Site and was identified in the May 2019 Interim Record of Decision for the NPL Site as a property to be remediated under separate legal authority.

Prior to the ASAOC agreement, the Colorado Division of Reclamation, Mining and Safety (DRMS) had advised the EPA of its intent to conduct a safety closure of the Ben Franklin Mine stope. DRMS took this action under its independent state statutory authority.

The Ben Franklin Mine is comprised of two main sets of workings, both of which occur on the Ben Franklin Lode claim. An adit that is approximately 325 feet in length bears North 73° West (DRMS designated the portal as EG9 at 37°53'40.2" North, 107°36'28.7" West). Two cross cuts run to the left and right of the adit. The left cross cut was driven for 45 feet and occurs in rhyolitic rocks with disseminated pyrite. The right cross-cut was driven for a distance of about 65 feet, where a large room-sized opening was made, with a winze at the northeast end. DRMS designated an underhand open stope as EG11, which is located at approximately 37°53'41.2" North, 107°36'30.4" West. The stope contains the winze connecting to the Ben Franklin adit as well as a caved shaft.

The main waste dump associated with the adit, which principally is on the Adventure and Iron Mask Lode claims, is located along Eureka Creek, and consists primarily of fine to coarse sulfide-bearing rock containing pyrite, galena, and sphalerite in quartz and rhodonite. The Colorado Division of Minerals and Geology (CDMG) estimated the volume of waste rock is approximately 500 cubic yards.

The Ben Franklin Mine site consists of a backfilled stope, gated adit, former waste rock piles, and adit discharge. The drainage from the adit is less than 10 gpm based on historic sampling by the United States Geological Survey and Eureka Gulch LLC. The Ben Franklin site was investigated by the Colorado Division of Minerals and Geology

(CDMG now DRMS) and EPA during the late 1990s and from 2015 through 2023, respectively. Water quality samples were collected at an acidic seep below the Ben Franklin Mine waste rock pile (ARD1), upstream (EG3A (BF-SW1 in 2023) and BF2), and downstream of the mine (EG5 & A39A) (see **Figure 1**). The location of sample location EG3A was inconsistent and only the data from 2016 onward is considered to be representative of the upstream concentrations as it had then moved to the equivalent of the current EG4A location. At the upstream location EG3A, pH ranged from 6.24 to 7.25, with the lower pH occurring during spring high-flow conditions in 2016. The pH was 7.01 in June 2016 at the downstream location EG5. For the July 2017 EPA sampling event, location BF2 was introduced and sampled, located in Eureka Gulch downstream of the main vein intersection with the creek and just upstream of the confluence with the Ben Franklin adit drainage. The pH at this location was lower than the upstream EG3A location, and the concentration of all metals and sulfate were higher than upstream. Furthermore, the concentrations of all metals at BF2, except lead, were higher than the downstream location EG5. This suggests significant natural background contribution from the creek crossing of the vein and minimal loading from the Ben Franklin adit drainage, other than a potential adit contribution for lead. Unfortunately, no flows were measured at BF2 and the loading changes can't be quantified. At the waste rock pile drainage location (ARD1), which includes flow from a number of natural seeps emerging from the vein, pH ranged from 2.76 to 3.10. At the waste rock pile drainage location, acute standards were exceeded for Al, Cd, Cu, Mn, Pb, and Zn, and chronic standards were exceeded for Fe. These metals concentrations from the waste rock pile were orders of magnitude above those found upstream and downstream of the mine in Eureka Creek. Upstream of the Ben Franklin Mine, in June 2016 and July 2017 acute standards were exceeded for Cd, Cu, and Zn, while in September 2015 and 2017, the acute standard for Zn, and chronic standards for Cd, Cu, and Pb were exceeded. Downstream in June 2016, acute standards for Cd, Cu, and Zn, and chronic standards for Al and Pb were exceeded. Aluminum, cadmium, copper, lead, manganese and zinc concentrations were higher at the downstream location in September 2017 compared to the upstream location. Metals concentrations were generally higher during spring high-flow conditions compared to fall low-flow conditions at the upstream sample location while the opposite was the case for the downstream location with higher concentrations during low flow.

2. Location of hazardous substance(s):

The portion of the site subject to this removal action is the Ben Franklin Mine adit discharge, located at 37.894491, -107.607946. DRMS addressed the Ben Franklin Mine waste rock in the Eureka Gulch stream channel in a separate action under state authority.

3. Cause of release or discharge:

The Ben Franklin Mine is a historic mine that operated intermittently from approximately 1883 to 1982 under prior owners. Groundwater inflow supplies the adit discharge flow.

4. Efforts to obtain response by responsible parties:

EPA, Eureka Gulch Properties LLC and Ryan Bennett entered into an Administrative Settlement Agreement and Order on Consent for Removal Action (ASAOC) on August 15, 2019, which specified response actions the Respondents would complete at the Ben Franklin site. Respondent's consultant, Geosyntec Consultants, submitted a Removal Work Plan to EPA on August 29, 2019.

B. Organization of the Response, Including State/Local Participation

Immediately prior to the removal action, DRMS conducted a separate action under state authority. Details are provided under section I.D.1, below.

C. Injury/Possible Injury to Natural Resources

1. Content and time of notice to natural resource trustees:

EPA provided notice to the natural resource trustees on August 8, 2016.

2. Trustee damage assessment and restoration activities:

Not applicable

D. Chronological Narrative of Response Actions

1. Threat abatement actions taken:

Immediately prior to the ASAOC response action, DRMS conducted a safety closure of the Ben Franklin open stope as a separate action under state authority. The DRMS bid document summary for this work states:

> The project work will include the relocation and consolidation of Ben Franklin waste rock to the Ben Franklin stope hazardous mine opening for use as backfill. Prior to construction activities commencing at the site, S-fence, or approved equivalent, or berms will be placed around all excavation and backfilling areas. The stope will be prepared for backfill by removing snow, sealing off any groundwater influenced areas with bentonite and placing limestone fines in the bottom of the stope feature. The Ben Franklin waste rock will be hauled to the Ben Franklin stope and placed in one-foot lifts and compacted within the stope with a sheep's foot

compactor. The backfilled surface will be amended limestone crusher fines and Portland cement to prevent infiltration. Suitable growth media will be scavenged from the private property and placed over the backfilled area, seeded and mulched with wood straw mulch. The remaining waste rock at the portal level will be consolidated into the driest location available and access to the portal level will be shut off with large rocks along the County Road.

In accordance with the ASAOC, Eureka Gulch Properties LLC performed the following work at the Ben Franklin site from September 15 to October 13, 2019, with details provided in the 2019 annual report and here in Appendix A:

Seal Voids around Ben Franklin Adit

- Contractor applied a sufficient amount of polyurethane foam (PUF) to seal gaps around the existing portal gate to restrict public access to the adit.
- The PUF-applied areas were coated with concrete. Once the concrete cured, the area was covered with a rock façade for protection, aesthetic purposes, and to deter public access.

Install Limestone Channel within Ben Franklin Adit

- Contractor installed a channel within the Ben Franklin adit that is approximately 40 feet long by 2 feet wide by 0.5-foot deep to centralize adit flow.
- Limestone was used to fill the channel to provide pH buffering to the adit flow prior to exiting the Ben Franklin adit.
- DRMS routed the adit discharge to Eureka Creek away from limited remnant waste under its state statutory authority.
- Analysis of treatment/disposal/alternative technology approaches concluded that a limestone-lined diversion ditch within the mine adit would be the most effective means of treatment for the low mine flows encountered.

Seeps

- Following DRMS's work on the Ben Franklin stope, an evaluation of the need to implement measures to control remnant seeps originating from Eureka Creek through the embankment or under the road into the stope was conducted. No seeps were visible during the surface water sampling events in late September 2019, 2020, 2021, 2022, 2023, or 2024.

In accordance with the ASAOC, Eureka Gulch Properties LLC performed the following monitoring work at the Ben Franklin site on September 30, 2024, as it has done every September since 2019.

Surface Water Sampling and Analysis

- As specified in the SAP, three surface water sample locations were sampled (**Figure 2**) and flows measured on September 30, 2024. Field notes are included in Appendix B; sampling and flow measurement forms are attached in Appendix C; and sampling location photographs are included in Appendix D.

- In addition, the ARD-1 location was inspected to determine if any flow was present at this location following the DRMS and ASAOC work. No water or flow was present at this location during the 2019, 2020, or 2021 sampling events. Due to heavy rain the previous evening and rain during the sampling event, a trickle flow of approximately 0.2 gpm was present during the September 2022 event. No water or flow was present during the 2023 and 2024 sampling events.

The samples, including one duplicate, were analyzed for a select group of dissolved and total recoverable metals (as agreed by EPA) along with calcium, magnesium and sulfate. Results are tabulated in Table 1 and the full lab report is included in Appendix E. All data underwent data validation according to EPA guidelines by an independent party in the Geosyntec Greenwood Village office. The data validation report is attached in Appendix F.

E. Resources Committed

Eureka Gulch Properties LLC incurred costs in three principal areas: consulting costs to prepare project documents and procure contractors, materials and contractor costs for the removal work, and costs for surface water sampling and analysis. In addition, post-removal monitoring and annual reporting will continue for one more year.

On behalf of Eureka Gulch Properties, Geosyntec Consultants has incurred costs for preparation of the Work Plan, Sampling and Analysis Plan, and Annual Reports, as well as costs for contracting the removal work. Through November 2024 these costs total $44,665.

On behalf of Eureka Gulch Properties, Geosyntec Consultants has incurred costs for obtaining materials for the removal action and costs for the removal contractor. These costs total $8,423.

On behalf of Eureka Gulch Properties, Geosyntec Consultants has incurred costs for the sampling and analysis of surface water samples. These costs total $17,452.

Eureka Gulch Properties LLC has performed the following post-removal activities for the final time:

Post-Removal Action Monitoring and Maintenance

- Monitor Eureka Creek water quality upstream and downstream of the Ben Franklin site annually during low-flow conditions for a period of five years. Annual reports will be submitted. The first event was conducted September 25, 2019, with an annual report submitted November 8, 2019. The second event was conducted September 25, 2020, with an annual report submitted October 30, 2020. The third event was conducted September 27, 2021. The fourth event was conducted September 27, 2022. The fifth event was conducted September 27, 2023. The sixth and final event was conducted September 30, 2024. The ARD-1 location will be inspected yearly, and flow measured if present.

- Monitor water quality of the adit flow prior to entering Eureka Creek annually for five years to assess the effectiveness of the limestone channel. Limestone will be replenished as needed to maintain pH buffer during the five-year post-removal period.

- During annual monitoring, the adit seal will be inspected for continued effectiveness.

- During annual monitoring, an evaluation of the need to implement measures to control any remnant seeps originating from Eureka Creek through the embankment or under the road into the stope will be conducted. No seeps were visible during the field surface water sampling events in late September 2019, 2020, 2021, 2022, 2023, or 2024.

  If needed, a supplemental Work Plan will be submitted to control any remnant seeps originating from Eureka Creek that pass through the embankment or under the road into the stope.

II. EFFECTIVENESS OF REMOVAL ACTIONS

A. Actions Taken by PRPs

Comparison of the September 2024 surface water sampling and flow measurement data to historic data suggests the following:

Flow from the Ben Franklin adit (BF1) has been reduced more than 90 percent from historic rates of 5-10 gpm to less than 0.52 gpm, and less than 0.2 gpm in the past three years, as shown in Table 1. Note that EPA's 2021 and 2023 flows appear to have included additional seepage flows from beyond the adit drainage

where additional natural seepage from the vein along the northern bank of the creek channel enters the adit discharge channel, as described more fully below.

While most metal concentrations in the Ben Franklin adit discharge have not varied much compared to pre removal, flow has decreased by up to 93% indicating significant reduction (30-80%) in metal loading from the adit since the response action in 2018/2019, and 89% to 97% since 2017. As **Figure 3** indicates, only a small proportion of the loading at downstream EG5 since 2022 can be explained by the contribution from the Ben Franklin adit. This flow and load reduction is likely due to filling the stope, thus removing the perennial snow and minimizing precipitation inflow through the open stope and preventing influx of water through the embankment upstream of the stope and under the road.

Upstream Eureka Gulch metal concentrations at EG4A are near the recorded historic levels in low flow conditions. Metal concentrations in downstream Eureka Gulch at EG5 (above the former confluence with ARD-1 flows) have varied above and below the recorded historic (September 2016 to 2017) levels in low flow, although lead and copper concentrations appear to have increased over time. During low flow, dissolved copper, lead and zinc loads are comparable to historic levels. The rain event during and immediately prior to the September 2022 sampling event is likely to be the cause of the elevated flows, concentrations, and loading in 2022 due to the presence of a trickle of flow at ARD-1.

September 2019 EPA data from a sampling site further downstream (A39) below the former ARD-1 location, show more obvious metal concentration (aluminum, cadmium, manganese and zinc) reductions (to levels comparable to location EG5) due to the elimination of metal-rich ARD-1 flows that enter Eureka Gulch between EG5 and A39, as noted in section B below.

It is important to point out a sample location issue of concern in the CDM Smith September 2023 Sampling:

For Principal Study Question #3, they proposed to "Measure flow rates and collect analytical samples **as close to the portal as possible**. Improved understanding of the adit discharge and loading is important to understand the adit's contribution to water quality impacts."

CDM collected three (3) samples, BF1 (adit), (BF-SW1), and EG5 in a single event in September 2023. To properly sample the adit drainage BF1, the adit must be entered due to groundwater seepage occurring along the vein which presents itself as seeps just beyond the portal discharge and enters the effluent channel.

CDM did not enter the adit to collect their 2021 or 2023 sample of BF1. Sample location EG4A (BF-SW1) may be inappropriate as the upstream "baseline" location as it is upstream of the vein crossing of Eureka Gulch.

A particular data gap is the lack of additional post-action samples at Eureka Gulch location A39 (or A39A), downstream of the former ARD-1 location, which would confirm the load reductions achieved from the discontinuation of ARD-1 flow shown by the one September 2019 result at A39. Unfortunately, the county conducted road work just above the ARD-1 location in late September 2023 and it is uncertain how this may impact loading evaluations downstream (see **Figure 4**).

As noted in Section I.A.2, sampling occurred at location BF2 in 2017, which is located in Eureka Gulch downstream of the main vein intersection with the creek and just upstream of the confluence with the Ben Franklin adit drainage. As there are no tributary contributions in the reach between EG4A and BF2, the concentration increase in that reach indicates significant natural background contribution from the creek crossing of the vein. The pH at this location was lower than the upstream EG4A location, and the concentration of all metals and sulfate were higher than upstream. Furthermore, the concentrations of all metals at BF2, except lead, were higher than the downstream location EG5. This natural background interpretation is consistent with the small proportion of total Eureka Gulch metal loading attributed to the Ben Franklin adit at EG5.

Current site conditions are shown in **Figure 5**.

B. Actions Taken by State and Local Forces

DRMS submitted a separate report covering the work conducted under state authority in 2019.

Flow from ARD-1 has been terminated by a combination of DRMS stope closure, DRMS waste rock removal from the stream channel, and DRMS channelization of the mine adit discharge to Eureka Gulch.

C. Actions Taken by Federal Agencies and Special Terms

Not applicable

D. Actions Taken by Contractors, Private Groups, and Volunteers

In accord with recommendations from Mark Rudolph at CDPHE, on October 1, 2022, volunteers from Trout Unlimited's Five River Chapter planted roughly 200 willow cuttings on the reclaimed dump of the Ben Franklin. The cuttings were locally harvested from a source adjacent to the site on the west side of Eureka Creek. The cuttings were planted on the Southern third of the dump, which is also the lowest elevation of the dump. Installation of cuttings consisted of using a 3/4" diameter drill bit drilling roughly 6-9 inch deep holes and pushing the cutting in by hand. One will note that willows exist on both sides of the dump so it is only reasonable to conclude that they likely existed prior to disturbance. The intent of planting was phytostabilization and to improve the overall aesthetic with respect to the natural setting. Annual site inspections indicate a two-year survival rate of roughly 25% of the cuttings. Photographs of the willow installation process and the current condition are provided in Appendix H.

III. DIFFICULTIES ENCOUNTERED

A. Items that Affected the Response

Not applicable

B. Issues of Intergovernmental Coordination

Not applicable

C. Difficulties Interpreting, Complying with, or Implementing Policies and Regulations

Not applicable

IV. RECOMMENDATIONS

A. Means to Prevent a Recurrence of the Discharge or Release

Not applicable

B. Means to Improve Response Actions

Not applicable

C. Proposals for Changes in Regulations and Response Plans

Not applicable

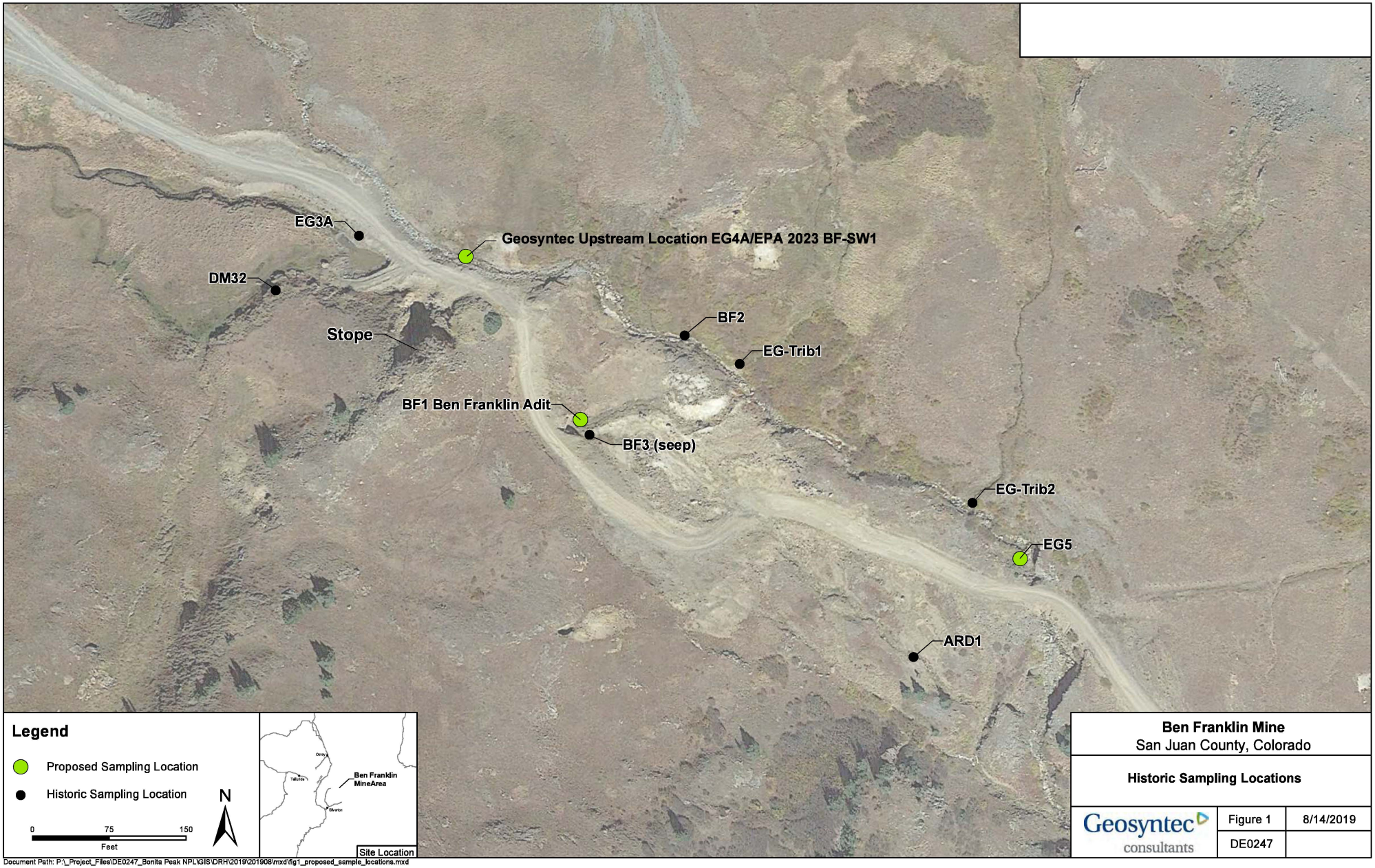
TABLE

Table 1. Summary of Surface Water Analytical Data Ben Franklin Mine, Eureka Gulch
Silverton, CO

Site Description	Site ID	Sample Date	Agency	Flow (cfs)	Estimated GPM	pH	Field Conductivit	Hardness (mg/L)	Total Al	Dissolved Al (µg/L)	Total Ag	Dissolved Ag (µg/L)	Total As (µg/L)	Dissolve d As	Total Cd (µg/L)	Dissolve d Cd	Total Cu (µg/L)	Dissolved Cu (µg/L)	Total Fe (µg/L)	Dissolved Fe (µg/L)	Total Mn (µg/L)	Dissolved Mn (µg/L)	Total Pb	Dissolved Pb (µg/L)	Total Zn	Dissolved Zn (µg/L)	Sulfate (mg/L)
Eureka below headwaters confluence	EG4A	9/30/24	Geosyntec	0,241		7,46	252,8	116	40,4	24	<0,1	<0,1	<0,2	<0,2	0,841	0,882	4,15	2,88	<60	<60	69,8	68,2	1,38	0,23 J	366	396	80,7
	BF-SW1	9/19/23	EPA	0.444		6,96	218,6	81	118	<50	<2,5	<0,5	<5	<1	1,77	1,73	6,61	4,44	141 J	<100	197	183	1,26	1,71	867	856	73,8
	EG4A	9/27/23	Geosyntec	0,0907		7,58	246	109	40,5	17,8	<0,1	<0,1	<0,2	<0,2	0,327	0,374	2,14	1,64 J	<60	<60	18,9	19,9	0,67	0,38 J	124	156	80,1
	EG4A	9/27/22	Geosyntec	0,2338	104,9	7,58	273	117	92,9	25,8	<0,1	<0,1	<0,2	<0,2	1,32	1,47	5,15	3,27	151	<60	111	108	1,64	0,23 J	564	609	108
	EG4A	9/27/21	Geosyntec	0,0493	22,1	8,08	219	97	21,1	9,1	<0,1	<0,1	<0,2	<0,2	0,283	0,278	2,07	1,4	162	<60	17,5	15,9	2,16	0,32	129	126	71
	EG4A	9/25/20	Geosyntec	0,0508		7,69	211	96	24	12	<0,1	<0,1	<0,2	<0,2	0,18	0,19	1,82	2,42	<60	<60	<10	7	0,55	0,20	74	76	64,3
	EG4A	9/25/19	Geosyntec	0,1380	62	7,43	187	83	15	14	<0,1	<0,1	<0,2	<0,2	0,20	0,19	1,60	1,80	<30	<30	12	11	0,40	0,40	108	95	57,6
	EG3A	9/27/17	EPA	0,2050		6,89	214	92	57	<50		<1		<2	0,50	0,55	3,35	2,29	<250	<250	29	27	1,6	0,35	313	349	75,3
	EG3A	7/12/17	EPA	6,8343		7,25	144	54	83	52		<1		<2	1,24	1,40	7,65	6,39	<250	<250	201	197	0,72	0,48	476	471	44,2
	EG3A	9/29/16	EPA	NM		6,94	248	109	32	24					<0,5	0,23	2,79	1,79	<100	<100	18	16	<0,5	0,15	80	86	89,6
	EG3A	6/28/16	EPA	10,3749		6,24	159	65	153	87					3,33	3,35	12,9	11,6	100	<100	633	650	2,63	0,69	1120	1210	
	EG3A	9/29/15	EPA	0,0784		7,25	203	94	63	32					0,55	0,59	11,4	9,78	<100	<100	116	107	4,18	2,45	217	215	69,7
	EG3A	6/22/99	DMG	18,469		7,57	ND	57	150	62	BDL	<0,2	BDL	<1	4,70	4,70	19,6	12,6	281	16	2024	1940	2,70	<0,6	1999	1993	48,7
Eureka below Vein intersection, upstream of adit discharge confluence	BF2	7/11/17	EPA	NM		6,49		60	93	61			<10	<2	1,40	1,65	11,4	8,2	<250	<250	240	243	2,20	1,45	581	628	48,4
Ben Franklin adit	BF1	9/30/24	Geosyntec		0,11	3,67	768	240	8220	7680	2,08	1,39	2,36	2,12	69,9	80,5	4140	4420	305	83 J	30900	39000	2520	2460	18200	20500	353
	BF1	9/19/23	EPA	0,0043	1,9	NM	NM	183	8960	8760	<10	<5	<20	<10	44,1	45,1	3590	3500	356	175 J	24600	23700	1980	2010	11900	11700	340
	BF1	9/27/23	Geosyntec		0,17	3,55	753	230	6870	8170	3,1	3,46	3,28	<40	37,9	45,20	2360	2790	464	301	22100	20800	2310	2710	9360	10200	322
	BF1	9/27/22	Geosyntec		0,08	3,92	798	231	7890	8950	1,16	1,22	3,31	0,65 J	85,2	92,5 J	5430	5750	87 J	91 J	39200	40400	2810	2850	21000	22100	423
	BF1	9/27/21	Geosyntec		0,51	4,91	627	223	4010	3490	0,81	0,75	1,64	1,15	39,9	40,80	2380	2330	83	<60	16800	16500	2040	1890	9880	12200	275
	SS110	8/25/21	EPA		1,5	3,58	705	190	3570	3540	ND	ND	ND	ND	49,8	40,30	3410	2800	ND	ND	2650	15200	15500	2120	10500	9870	387
	BF1	9/25/20	Geosyntec		0,49	4,19	552	219	2200	2220	0,79	0,62	0,42	0,93	28,1	27,1	1700	1480	284	<60	9930	9640	1490	1410	7010	6860	262
	BF1	9/25/19	Geosyntec		1,12	4,11	543	201	2330	2410	0,9	0,8	<0,2	0,2	36,5	37,0	1360	1410	90	70	9600	9620	1540	1610	8550	9150	254
	SS110/DM32	9/27/18	Mtn. Studies Inst./EPA		1,19	3,24	486	176	2750	2720		0,64		<0,5	28,5	31,2	1580	1710	<100	<100	9120	8920	1580	1670	7320	7600	223
	SS110/DM32	6/27/18	Mtn. Studies Inst./EPA		4,76	3,68	366	106	1950	1990		0,72			37,2	42,5	1770	2020	743	713	9060	9550	1240	1370	10500	11600	159
	SS110/DM32	10/10/17	Mtn. Studies Inst./EPA		5,02	3,99	662	196	3870	3830		0,83			37,7	40,8	2310	2490	226	120	12300	12300	1780	2070	10300	11000	265
	BF1	9/27/17	EPA	NM		3,96	540	180	4130	3940		0,819	<10	<2	40,9	46,9	2150	2450	138	<250	13700	12800	1940	2000	12100	11600	262
	BF1	7/11/17	EPA	NM		3,64	373	88	2140	2240		0,934		<2	39,4	43,1	1880	1950	603	587	8410	8660	1710	1880	9880	10800	148
	SS110/DM32	6/28/17	Mtn. Studies Inst./EPA		5,06	3,45	170	75	2360	2260		0,920			41,8	42,6	2110	2120	1380	1440	8710	8570	1490	1650	11200	11900	139
	DM32	6/28/16	EPA			3,53	412	95	2740	2640		0,92			49,5	49,6	2230	2100	999	911	10800	11000	1800	1740	14400	15300	
	DM32	9/29/15	EPA			4,23	488	150	3390	3030		<0,5			40,0	42,1	2030	2130	376	<100	13100	12800	1990	2070	11900	12200	275
Acidic drainage from Ben Franklin waste pile	ARD1	9/30/24	Geosyntec		Dry																						
	ARD1	9/27/23	Geosyntec		Dry																						
	ARD1	9/27/22	Geosyntec		trickle-raining	3,54	844	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	ARD1	9/27/21	Geosyntec		Dry																						
	ARD1	9/25/20	Geosyntec		Dry																						
	ARD1	9/25/19	Geosyntec		Dry																						
	ARD1	9/27/17	EPA			3,13	888	123	8960	8360		1,32	<10	0,915	65,4	64,3	1920	1810	3100	2020	23700	22400	1080	979	20000	19300	293
	ARD1	7/11/17	EPA			3,24	679	76	2580	2600		1,87	<10	<2	38,3	39,9	1650	1660	3390	3170	9640	9960	757	778	9370	10400	198
	ARD1	9/28/16	EPA	NM		3,12	955	138	9980	9650		<2,5			79,7	72,9	2690	2420	4080	3940	26000	26100	747	686	23000	24300	338
	ARD1	6/28/16	EPA	NM		2,76	815	80	3860	3630		2,32			43,8	41	1990	1880	5520	5190	12700	12300	745	720	12500	12300	
	ARD1	9/29/15	EPA			3,1	918	123	7180	6370		1,71			57,5	55,6	1940	1970	3560	2390	22300	22300	840	861	19900	19500	351
	ARD1	6/23/99	DMG	0,110	49,4	3,3	ND	57	3111	3140	1,0	0,4	1,8	<1	19,0	13,0	762	788	3004	2461	479	2	479	518	4146	4357	108
	ARD1	9/1/98	DMG	0,007	3,14	3,25	838	91	4598	4572	2,3	2,1	BDL	<1	20,0	18,1	1381	1358	2308	2217	15550	14730	1519	1459	7029	7118	
Eureka below Ben Franklin tunnel	EG5	9/30/24	Geosyntec	0,346		7,80	241	109	107	83	<0,1	<0,1	<0,2	<0,2	1,39	1,47	32,5	25,9	<60	<60	305	300	13,9	9,5	464	498	76,8
	EG5	9/19/23	EPA			7,37	217	81	273	72,9 J	<2,5	<0,5	<5	<1	1,58	1,64	29	18	258	<100	337	295	16,8 J	6	733	692	70,7
	EG5	9/27/23	Geosyntec	0,1877		7,87	239	106	120	105	<0,1	<0,1	<0,20	<0,20	0,775	0,936	30,1	25,5	<60	<60	252	298	17,6	14,3	222	276	72,7
	EG5	9/27/22	Geosyntec	0,3411	153,1	7,88	260	112	106	85	<0,1	<0,1	<0,20	<0,20	1,61	1,89	32,7	35,1	<60	<60	351	377	15,0	12,4	563	661	94,1
	EG5	9/27/21	Geosyntec	0,0844	37,9	8,22	219	98	301	59	<0,1	<0,1	0,27	<0,20	0,90	0,85	43,2	22,1	540	<60	222	200	39,6	13,1	280	237	66,8
	EG5	9/25/20	Geosyntec	0,0642		7,55	216	98	137	88	<0,1	<0,1	<0,2	<0,20	0,82	0,80	37,8	24,7	83	<60	229	207	31,3	18,9	227	223	67,8
	EG5	9/25/19	Geosyntec	0,175	79	7,47	197	86	111	31	0,4	<0,1	0,2	<0,2	0,96	0,91	24,7	14,2	240	<30	184	173	43,5	11,2	308	303	53,2
	EG5	9/27/17	EPA	0,1690		7,8	454	89	95	58		<1		<2	0,69	0,77	12,6	9,34	129	<250	123	122	6,02	2,40	332	361	65,2
	EG5	7/11/17	EPA	5,7926		7,39	129	55	108	62		<1		<2	1,39	1,59	11,2	8,70	<250	<250	229	217	1,72	0,98	556	533	45,4
	EG5	9/28/16	EPA	0,4935		7,7	172	107	97	64					1,18	1,18	12,2	8,05	<100	<100	144	144	3,11	1,48	493	529	89,8
	EG5	6/28/16	EPA	NM		7,01	NA	64	132	91	<2,5	<0,5	<2,5	<0,5	3,11	3,33	14,8	12,20	<100	<100	636	655	2,56	1,74	1120	1200	NA
	EG5	6/22/99	DMG	21,115		7,5	151	60	86	69	BDL	<0,2	BDL	<1	2,20	2,30	21,8	19,3	168	23	1035	1027	10,1	1,70	1031	1082	39,4
	EG5	9/2/98	DMG	0,4190		7,82	233	87	67	63	BDL	<0,2	BDL	<1	1,10	1,00	22,0	16,0	131	61	158	152	21,2	13,1	404	442	63
Eureka below Ben Franklin above large fault	A39A	09/27/17	EPA	1,7		7,11		86	311	68			<10	<2	2,49	2,52	60,0	28,2	464	<250	688	651	26,0	2,26	833	857	71,4
	A39A	07/11/17	EPA	NF		7,17		58	295	54			<10	<2	1,63	1,57	155	9,16	559	<250	330	255	34,9	1,03	520	536	45,3
	A39A	06/28/16	EPA	NM		7,59		62	133	99					3,25	3,19	16,2	13,8	<100	<100	607	593	3,06	2,14	1040	1030	49,2
Eureka Gulch above Terry Tunnel	A39	09/19/19	EPA	0,13		7,57		88	74	62					0,706	0,794	13,9	11,3	<100	<100	119	113	11,20	5,91	271	270	57,9
	A39	09/26/17	EPA	NF		7,38		81	311	57		<1		<2	1,88	2,14	38,4	14,4	244	<250	555	537	16,40	0,91	703	728	69,3
	A39	07/11/17	EPA	NF		7,64		61	96	78		<1		<2	1,31	1,46	12,9	11,2	<250	<250	206	209	3,17	1,85	459	496	45,4
	A39	09/28/16	EPA	NM		7,51		102	180	109					1,73	1,61	29,7	17,9	<100	<100	310	305	7,60	2,09	459	630	86,9
	A39	06/28/16	EPA	NM		7,55		61	133	89					3,06	3,06	15,6	13,7	<100	<100	589	568	3,13	2,12	1000	1010	48,2
	A39	09/30/15	EPA					91	118	49					1,20	1,08	22,8	14,6	<100	<100	256	250	5,01	2,23	385	393	70,8
	A39	06/14/07	ARSG	15,8		7,38			196	101				<4	3,5	3,4	21,9	18,1	117	<100	1230	1180	9,2	3,1	1040	1040	
	A39	10/15/92	WQCD	0.36		6,99		94				<0.2				1,70		18,0						15,0		640	
	A39	06/25/92	WQCD			7,58		59		110		<0.2				4,80		24,0						8,00		1200	
	A39	09/09/91	WQCD	2,3		6,77	333	123	310	160		<0.2				5,00		18,0	220			3700		<5		1700	

Note: extensive data with flow measurements exists for A39 from late 1987 to late 1994

FIGURES



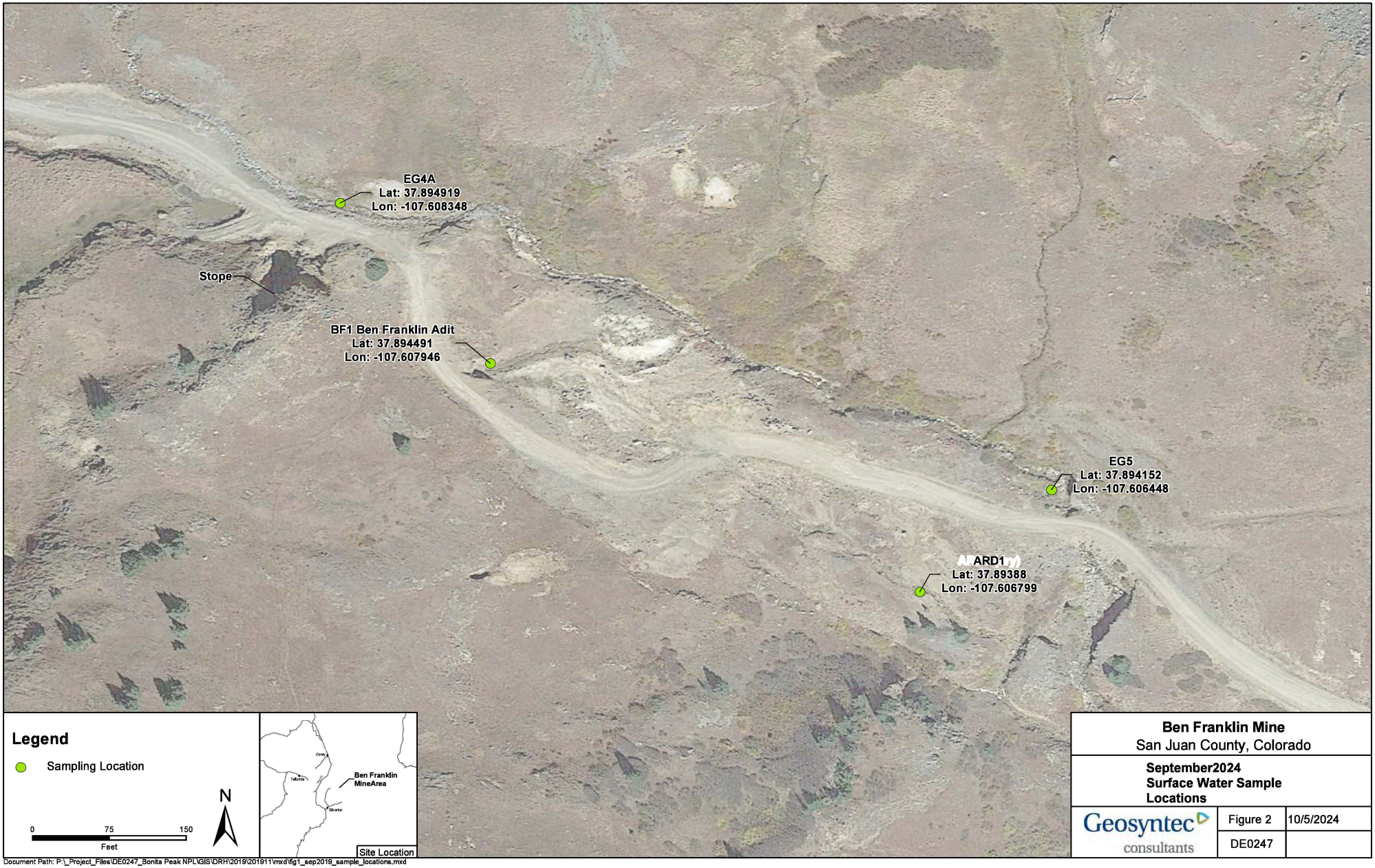
Ben Franklin Mine
San Juan County, Colorado

Historic Sampling Locations

Geosyntec consultants

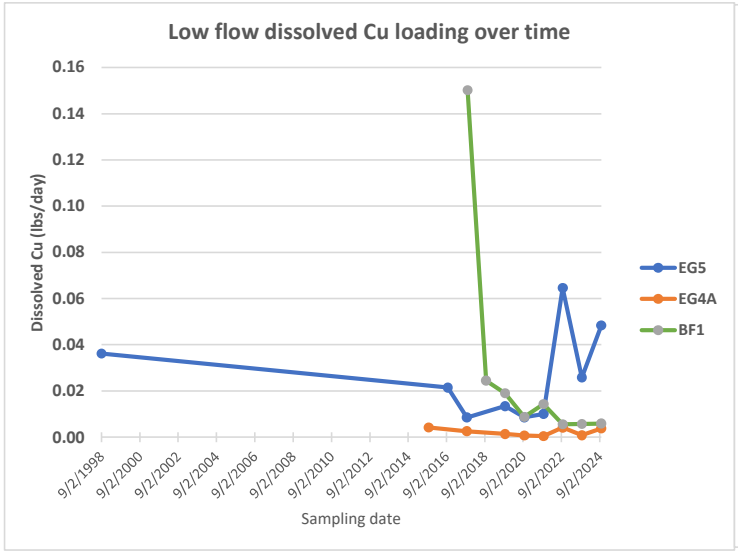
Figure 1	8/14/2019
DE0247	

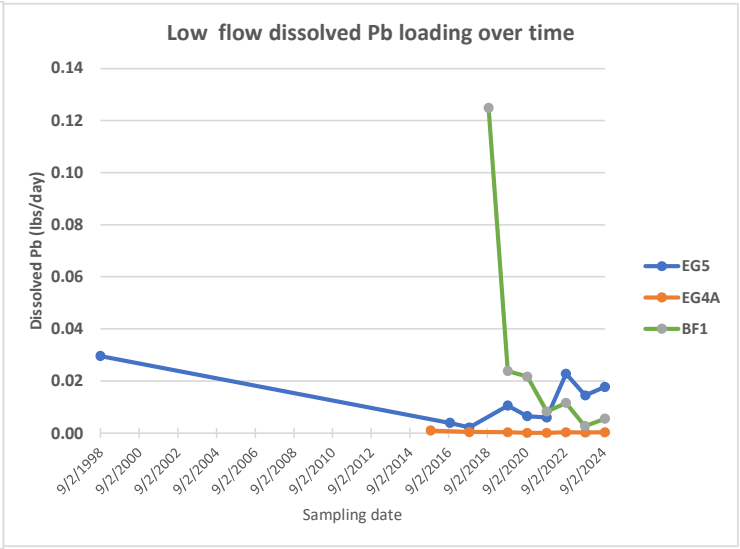
Document Path: P:_Project_Files\DE0247_Bonita Peak NPL\GIS\DRH\2019\201908\mxd\fig1_proposed_sample_locations.mxd

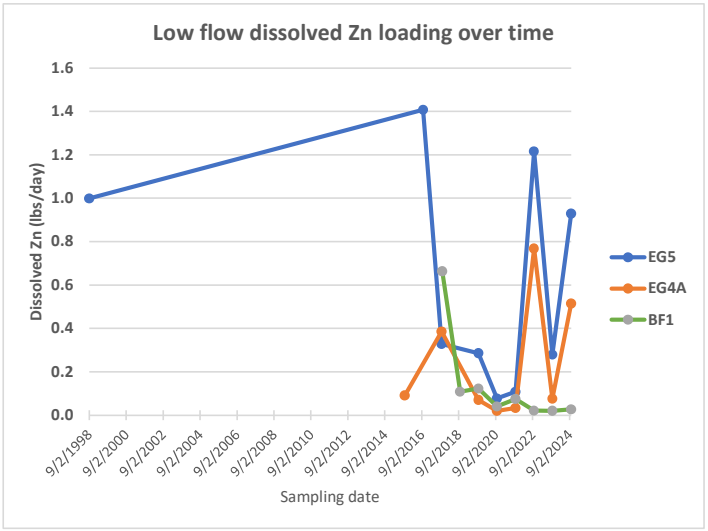


Document Path: P:_Project_Files\DE0247_Bonita Peak NPL\GIS\DRH\2019\201911\mxd\fig1_sep2019_sample_locations.mxd

Figure 3. Low Flow Metal Loading Over Time for Ben Franklin Adit, Upstream, and Downstream







Ben Franklin Mine
San Juan County, Colorado

County road work above ARD-1 in September 2023

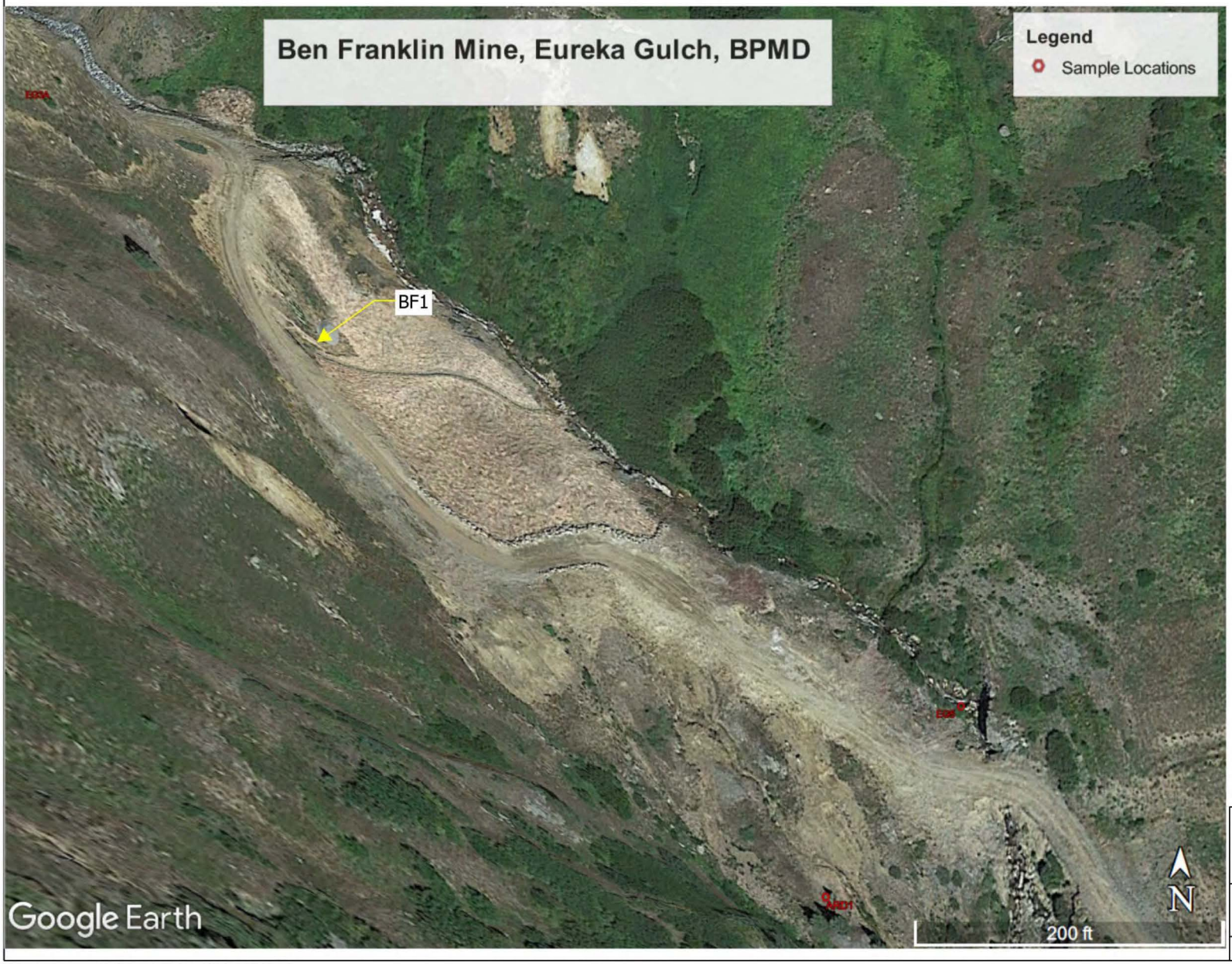
Notes:
Photograph taken September 25, 2023.
Orientation is looking south.

Approximate True North

Geosyntec consultants

DE0247 | November 2023

Figure **4**



SAMPLING LOCATION MAP

San Juan County, Colorado

Geosyntec consultants

Lakewood, CO | December 2024

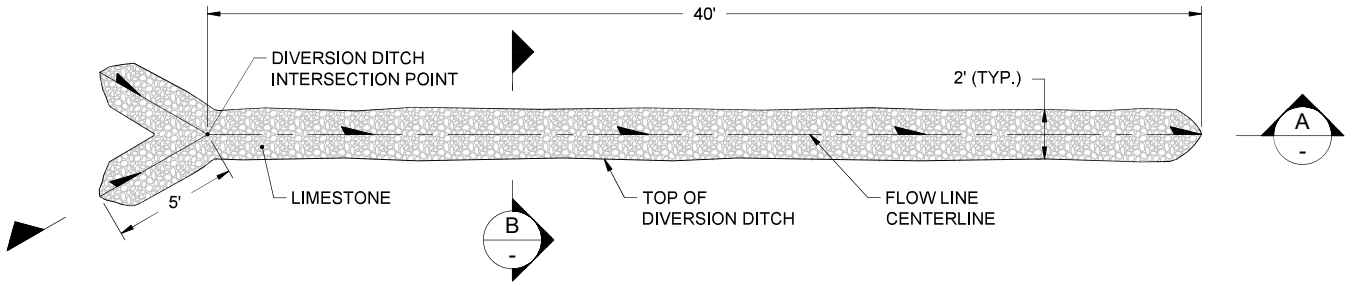
Figure 5

P:\GIS\Ben Franklin Mine\DE0247\DE0247.aprx 12/26/2024 11:42 AM

Geosyntec
consultants

APPENDIX A

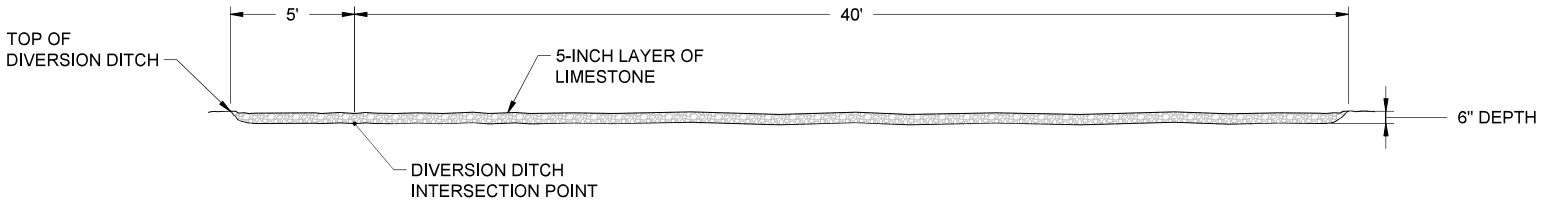
As-Built Drawing for Adit Discharge Channel and Photographs of 2019 Remedial Work



DIVERSION DITCH - PLAN

0 5

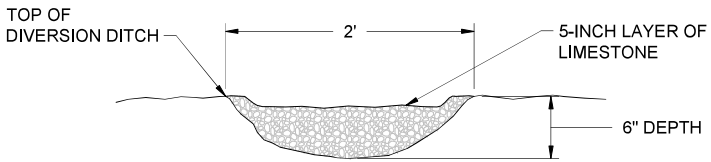
SCALE IN FEET



A - DIVERSION DITCH - PROFILE

0 5

SCALE IN FEET



B - DIVERSION DITCH - SECTION

0 1

SCALE IN FEET

Ben Franklin Mine Adit
San Juan County, Colorado

DIVERSION DITCH
PLAN, PROFILE AND SECTION

Geosyntec consultants

PROJECT NO: DE0247 | NOVEMBER 2019

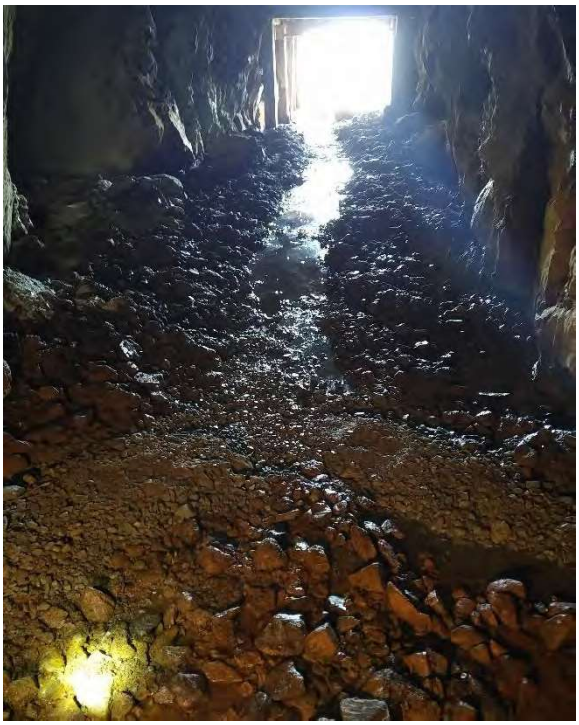
FIGURE
1

R:\DE0247_BONITA PEAK NPL\CAD\SHEET FILES\DIVERSION DITCH - Last Saved by: SGallegos on 10/28/19

Geosyntec Consultants Photographic Record

Client: Eureka Gulf Properties, LLC	**Project Number: DE0247**
Site Name: Bonita Peak Superfund Site	**Site Location: Eureka Gulch, Silverton, CO**

Photograph 1 **Date: 9/17/2019** **Direction: NA** **Comments: Left side portal safety closure.**	

Photograph 2 **Date: 9/17/2019** **Direction: NA** **Comments: Interior adit limestone ditch, looking out from adit.**	

Geosyntec Consultants Photographic Record

Geosyntec consultants
engineers | scientists | innovators

Client: Eureka Gulf Properties, LLC	**Project Number: DE0247**
Site Name: Bonita Peak Superfund Site	**Site Location: Eureka Gulch, Silverton, CO**

Photograph 3 **Date: 9/17/2019** **Direction: NA** **Comments: Interior adit limestone ditch, looking into adit.**	

Photograph 4 **Date: 9/17/2019** **Direction: NA** **Comments: Interior adit limestone ditch entrance.**	

APPENDIX B

Field Notes

SURFACE WATER SAMPLING AND ANALYSIS

DATE & SAMPLE TIME: AØ7B 9/30/24 8:50 PERSONNEL: Ryan Bennett, Briana Cuevas

INSTRUMENTS: (Conductivity, Temperature, pH, Flow, etc.) YSI DSS Pro

GENERAL	
SAMPLE ID	AØ7B
SAMPLING LOCATION	AØ7B
SAMPLE DEPTH	1"
WATER SOURCE/ BODY	SURFACE WATER
WEATHER CONDITONS	sunny, cool, slight breeze 9.6°C
QUALITY ASSURANCE	
SAMPLING EQUIP / METHOD	peristaltic
DECONTAMINATION METHOD	new
FLOW MEASUREMENT	2" outfloat 54.3 GPM
FILTRATION EQUIPMENT	0.45 um high capacity
FIELD MEASUREMENTS	
APPEARANCE	clear, algae
TEMPERATURE (°C or °F)	~~9.6~~ 3.7°C
pH	4.26
OTHER	DO = 8.94 mg/L, S.C 508 us/cm,

SAMPLES COLLECTED AND SAMPLE ANALYSIS

ANALYSIS	PRESERVATIVE	BOTTLES AND HANDLING
Metals dissolved	~~None~~ nitric	filtered
total	nitric	raw
~~Dissolved Organic Carbon~~	~~H_2SO_4~~	
Ions	—	filtered

SAMPLING LOCATION MAP / ADDITIONAL NOTES:

note: sand from sandbags used in flow measurement were dumped into the creek in an act of vandalism over summer - lots of algae.

- Barrows redamation of flow has been completed

LAB/DATE SUBMITTED:	DELIVERY METHOD:

DISCHARGE DATA

DATE & TIME: 9/30/24 9:20 AM PERSONNEL: Ryan Bennett, Briana G
LOCATION: A075

Volumetric Method:

Trial #1	_____	minutes	_____	seconds	volume _____ gal/quarts/liters
Trial #2	_____	minutes	_____	seconds	volume _____ gal/quarts/liters
Trial #3	_____	minutes	_____	seconds	volume _____ gal/quarts/liters
Trial #4	_____	minutes	_____	seconds	volume _____ gal/quarts/liters
Trial #5	_____	minutes	_____	seconds	volume _____ gal/quarts/liters

Leakage Estimate_____

Flume Method:

Type: Cutthroat / H / Parshall / Other:_____

Size: 2 (in.) ~~ft.~~ Head$_a$ 0.42 Head$_b$ 0.39 in. / (ft.)

Leakage Estimate 3 GPM [a] upstream [b] downstream

Manning Equation Applied to Culvert Method:

Culvert Location:_____
Culvert Free of Debris and Obstructions:_____
Depth of Water in Culvert:_____
Flow CFS:_____
FLOW GPM:_____

Culvert Location:_____
Culvert Free of Debris and Obstructions:_____
Depth of Water in Culvert:_____
Flow CFS:_____
FLOW GPM:_____

Culvert Location:_____
Culvert Free of Debris and Obstructions:_____
Depth of Water in Culvert:_____
Flow CFS:_____
FLOW GPM:_____

Leakage Estimate:_____

TOTAL CFS 0.121
TOTAL GPM 54.3

Additional Notes:

Submergence!

SURFACE WATER SAMPLING AND ANALYSIS

DATE & SAMPLE TIME: 9/30/24 9:40 Am PERSONNEL: Ryan Bennett Briana Gree

INSTRUMENTS: (Conductivity, Temperature, pH, Flow, etc.) YSI DSS PRO

GENERAL	
SAMPLE ID	AØ7B1
SAMPLING LOCATION	AØ7B1
SAMPLE DEPTH	0.5 inches
WATER SOURCE/ BODY	SURFACE WATER
WEATHER CONDITONS	sunny, breezy 10.9 °C
QUALITY ASSURANCE	
SAMPLING EQUIP / METHOD	peristaltic
DECONTAMINATION METHOD	new
FLOW MEASUREMENT	2" cutthroat, 63.1 GPM
FILTRATION EQUIPMENT	0.45 μm high capacity Geotech
FIELD MEASUREMENTS	
APPEARANCE	clear water, abundant algae
TEMPERATURE (°C or °F)	~~5.0°C~~ 5.0° C
pH	4.26
OTHER	D.O. = 9.3 mg/L, S.C. = 527 μS/cm

SAMPLES COLLECTED AND SAMPLE ANALYSIS

ANALYSIS	PRESERVATIVE	BOTTLES AND HANDLING
Metals dissolved	~~None~~ nitric	filtered
total	nitric	raw
~~Dissolved Organic Carbon~~	~~H_2SO_4~~	
IDRS	—	filtered

SAMPLING LOCATION MAP / ADDITIONAL NOTES:

Following accidental shredding of original AØ7B1 field notes, these notes were re-created using AØ7B1 dup nots and recorded parameter values from the multimeter

LAB/DATE SUBMITTED:	DELIVERY METHOD:

DISCHARGE DATA

DATE & TIME: 9/30/24 9:57am PERSONNEL: Ryan Bennett Brian Crew
LOCATION: 407B1

Volumetric Method:

Trial #1	_____	minutes	_____	seconds	volume _____	gal/quarts/liters
Trial #2	_____	minutes	_____	seconds	volume _____	gal/quarts/liters
Trial #3	_____	minutes	_____	seconds	volume _____	gal/quarts/liters
Trial #4	_____	minutes	_____	seconds	volume _____	gal/quarts/liters
Trial #5	_____	minutes	_____	seconds	volume _____	gal/quarts/liters

Leakage Estimate_____

Flume Method:

Type: (Cutthroat) H / Parshall / Other:_____

Size: 2 (in.) / ft. Head[a] 0.46 Head[b] 0.42 in. / (ft.)

Leakage Estimate 3 GPM [a] upstream [b] downstream

Manning Equation Applied to Culvert Method:

Culvert Location:_____
Culvert Free of Debris and Obstructions:_____
Depth of Water in Culvert:_____
Flow CFS:_____
FLOW GPM:_____

Culvert Location:_____
Culvert Free of Debris and Obstructions:_____
Depth of Water in Culvert:_____
Flow CFS:_____
FLOW GPM:_____

Culvert Location:_____
Culvert Free of Debris and Obstructions:_____
Depth of Water in Culvert:_____
Flow CFS:_____
FLOW GPM:_____

Leakage Estimate:_____

TOTAL CFS 0.141
TOTAL GPM 63.1

Additional Notes:

submergence

SURFACE WATER SAMPLING AND ANALYSIS

DATE & SAMPLE TIME: 9/30/24 9:40 AM PERSONNEL: Ryan Bennett, Brian Cu

INSTRUMENTS: (Conductivity, Temperature, pH, Flow, etc.) 45I DSS PRO

GENERAL	
SAMPLE ID	AØ7B1 dup
SAMPLING LOCATION	AØ7B1
SAMPLE DEPTH	0.5 inches
WATER SOURCE/ BODY	SURFACE WATER
WEATHER CONDITONS	sunny, breezy 10.9°C
QUALITY ASSURANCE	
SAMPLING EQUIP / METHOD	peristaltic
DECONTAMINATION METHOD	new
FLOW MEASUREMENT	2" cut throat 63.1 GPM
FILTRATION EQUIPMENT	0.45 µm high capacity
FIELD MEASUREMENTS	
APPEARANCE	clear algae
TEMPERATURE (°C or °F)	5.0°C
pH	4.26
OTHER	D.O=9.30 mg/L, S.C 527 uS/cm

SAMPLES COLLECTED AND SAMPLE ANALYSIS

ANALYSIS	PRESERVATIVE	BOTTLES AND HANDLING
Metals dissolved	None nitric	filtered
to Sed	nitric	raw
~~Dissolved Organic Carbon~~	~~H_2SO_4~~	
ions	—	filtered

SAMPLING LOCATION MAP / ADDITIONAL NOTES: lots of algae, shallow
sand dumped below sampling point in act of vandalism

LAB/DATE SUBMITTED:	DELIVERY METHOD:

DISCHARGE DATA

DATE & TIME: 9:57 9/30/24 PERSONNEL: Ryan Bennett Brian Greer
LOCATION: A07B1 dup

Volumetric Method:

Trial #1	_____	minutes	_____	seconds	volume _____	gal/quarts/liters
Trial #2	_____	minutes	_____	seconds	volume _____	gal/quarts/liters
Trial #3	_____	minutes	_____	seconds	volume _____	gal/quarts/liters
Trial #4	_____	minutes	_____	seconds	volume _____	gal/quarts/liters
Trial #5	_____	minutes	_____	seconds	volume _____	gal/quarts/liters

Leakage Estimate_____

Flume Method:

Type: (Cutthroat) / H / Parshall / Other:_____

Size: 2 (in.) / ft. Head[a] 0.46 Head[b] 0.48 in. / (ft.)

Leakage Estimate_____ [a] upstream [b] downstream

Manning Equation Applied to Culvert Method:

Culvert Location:_____
Culvert Free of Debris and Obstructions:_____
Depth of Water in Culvert:_____
Flow CFS:_____
FLOW GPM:_____

Culvert Location:_____
Culvert Free of Debris and Obstructions:_____
Depth of Water in Culvert:_____
Flow CFS:_____
FLOW GPM:_____

Culvert Location:_____
Culvert Free of Debris and Obstructions:_____
Depth of Water in Culvert:_____
Flow CFS:_____
FLOW GPM:_____

Leakage Estimate:_____

TOTAL CFS 0.141
TOTAL GPM 63.1

Additional Notes:

Submerged

SURFACE WATER SAMPLING AND ANALYSIS

DATE & SAMPLE TIME: ~~DM6~~ 9/30/24 10:25 PERSONNEL: Ryan Bennett, Briana Gree

INSTRUMENTS: (Conductivity, Temperature, pH, Flow, etc.) N/A

GENERAL	
SAMPLE ID	DM6
SAMPLING LOCATION	DM6
SAMPLE DEPTH	
WATER SOURCE/ BODY	SURFACE WATER
WEATHER CONDITONS	sunny windy

QUALITY ASSURANCE	
SAMPLING EQUIP / METHOD	
DECONTAMINATION METHOD	
FLOW MEASUREMENT	none
FILTRATION EQUIPMENT	

FIELD MEASUREMENTS	
APPEARANCE	
TEMPERATURE (°C or °F)	
pH	
OTHER	

SAMPLES COLLECTED AND SAMPLE ANALYSIS

ANALYSIS	PRESERVATIVE	BOTTLES AND HANDLING
Metals	None	
Dissolved Organic Carbon	H_2SO_4	

SAMPLING LOCATION MAP / ADDITIONAL NOTES:

no measurable flow, not sampled as load cannot be calculated, sampling objectives can't be met

photos taken

LAB/DATE SUBMITTED:	DELIVERY METHOD:

SURFACE WATER SAMPLING AND ANALYSIS

DATE & SAMPLE TIME: 9/30/24 @ 10:30Am PERSONNEL: Ryan Bennett Briana Greer

INSTRUMENTS: (Conductivity, Temperature, pH, Flow, etc.) YSI DSS Pro

GENERAL	
SAMPLE ID	DM7
SAMPLING LOCATION	DM7
SAMPLE DEPTH	0.2 inch
WATER SOURCE/ BODY	SURFACE WATER
WEATHER CONDITONS	sunny, windy 12.0°C
QUALITY ASSURANCE	
SAMPLING EQUIP / METHOD	peristaltic
DECONTAMINATION METHOD	new
FLOW MEASUREMENT	plastic bag/volumetric 1.5 GPM
FILTRATION EQUIPMENT	0.45 um high capacity geotech
FIELD MEASUREMENTS	
APPEARANCE	
TEMPERATURE (°C or °F)	~~7.5C~~ ~~8.~~ 7.5°C
pH	6.7 DO = 8.22
OTHER	~~DO = 8.22 mg/L~~ S.C. 4303 uS/cm

SAMPLES COLLECTED AND SAMPLE ANALYSIS

ANALYSIS	PRESERVATIVE	BOTTLES AND HANDLING
Metals dissolved	~~None~~ nitric	filtered
total	nitric	raw
~~Dissolved Organic Carbon~~	~~H_2SO_4~~	
ions	—	filtered

SAMPLING LOCATION MAP / ADDITIONAL NOTES:

LAB/DATE SUBMITTED:	DELIVERY METHOD:

DISCHARGE DATA

DATE & TIME: 9/30/24 11:00 AM PERSONNEL: Brian Greer Ryan Burnett

LOCATION: DM7

Volumetric Method:

Trial #1	_____ minutes	30	seconds	volume 0.75	(gal)/quarts/liters
Trial #2	_____ minutes	30	seconds	volume 0.75	(gal)/quarts/liters
Trial #3	_____ minutes	30	seconds	volume 0.75	gal/quarts/liters
Trial #4	_____ minutes	_____	seconds	volume _____	gal/quarts/liters
Trial #5	_____ minutes	_____	seconds	volume _____	gal/quarts/liters

Leakage Estimate Ø

Flume Method:

Type: Cutthroat / H / Parshall / Other: _____

Size: _____ in. / ft. $Head_a$ _____ $Head_b$ _____ in. / ft.

Leakage Estimate _____ [a] upstream [b] downstream

Manning Equation Applied to Culvert Method:

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Leakage Estimate: _____

TOTAL CFS 0.0033 GPM

TOTAL GPM 1.5 GPM

Additional Notes:

SURFACE WATER SAMPLING AND ANALYSIS

DATE & SAMPLE TIME: 9/30/24 12:30 PERSONNEL: Ryan Bennett, Brandon

INSTRUMENTS: (Conductivity, Temperature, pH, Flow, etc.) YSI dsspro

GENERAL	
SAMPLE ID	EG5
SAMPLING LOCATION	EG5
SAMPLE DEPTH	4"
WATER SOURCE/ BODY	SURFACE WATER
WEATHER CONDITONS	partly cloudy, cool, breezy 15.5°C
QUALITY ASSURANCE	
SAMPLING EQUIP / METHOD	peristaltic
DECONTAMINATION METHOD	new
FLOW MEASUREMENT 155cfm	volumetric, large bag demarked bucket from two channells
FILTRATION EQUIPMENT	0.4 µm high capacity filter
FIELD MEASUREMENTS	
APPEARANCE	clear
TEMPERATURE (°C or °F)	10.1° C
pH	7.80
OTHER	DO = 7.45 mg/L SC = 240.7 uS/cm

SAMPLES COLLECTED AND SAMPLE ANALYSIS

ANALYSIS	PRESERVATIVE	BOTTLES AND HANDLING
Metals dissolved	~~None~~ nitric	filtered
total	nitric	raw
~~Dissolved Organic Carbon~~	H_2SO_4	
TDS	—	filtered

SAMPLING LOCATION MAP / ADDITIONAL NOTES:
difficult location for accurate flow measurement

LAB/DATE SUBMITTED:	DELIVERY METHOD:

DISCHARGE DATA

DATE & TIME: 9/30/24 12:40 PERSONNEL: Ryan Bennett, Briana Grea
LOCATION: EGS

Volumetric Method: SEE BELOW

Trial #1	_____ minutes	_____ seconds	volume	_____	gal/quarts/liters
Trial #2	_____ minutes	_____ seconds	volume	_____	gal/quarts/liters
Trial #3	_____ minutes	_____ seconds	volume	_____	gal/quarts/liters
Trial #4	_____ minutes	_____ seconds	volume	_____	gal/quarts/liters
Trial #5	_____ minutes	_____ seconds	volume	_____	gal/quarts/liters

Leakage Estimate 2 GPM

Flume Method:

Type: Cutthroat / H / Parshall / Other: _____

Size: _____ in. / ft. $Head_a$ _____ $Head_b$ _____ in. / ft.

Leakage Estimate _____ [a] upstream [b] downstream

Manning Equation Applied to Culvert Method:

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Leakage Estimate: _____

TOTAL CFS 0.346
TOTAL GPM ~~156~~ 155.1

Additional Notes:

right = 8.5 GPM
15 sec 2.1 gal
15 sec 2.1 gal
15 sec. 2.2 gal

left = 144 GPM
5 sec 1.7 + 1.8 + 1.8 + 2.1 + 1.8 + 3.4 (12.6) gal
5 sec 3.6 + 3.7 + 1.7 + 3.4 (12.4)
5 sec. 3.1 + 3.3 + 1.3 + 3.5 (11.2)
5 sec. 3.7 + 3.3 + 2.9 + 2.1 (12)

SURFACE WATER SAMPLING AND ANALYSIS

DATE & SAMPLE TIME: 9/30/24 1:45PM PERSONNEL: Ryan Bennett, Briana Cree

INSTRUMENTS: (Conductivity, Temperature, pH, Flow, etc.) YSI DSS pro

GENERAL	
SAMPLE ID	EG4A
SAMPLING LOCATION	EG4A
SAMPLE DEPTH	1"
WATER SOURCE/ BODY	SURFACE WATER
WEATHER CONDITONS	cool, intermittent rain, windy 9.2°C
QUALITY ASSURANCE	
SAMPLING EQUIP / METHOD	peristaltic
DECONTAMINATION METHOD	new
FLOW MEASUREMENT	2" outflow 108.2 GPM
FILTRATION EQUIPMENT	0.45 um high capacity
FIELD MEASUREMENTS	
APPEARANCE	clear
TEMPERATURE (°C or °F)	9.3°C
pH	7.46
OTHER	DO = 7.64 mg/L S.C. 253.1 uS/cm

SAMPLES COLLECTED AND SAMPLE ANALYSIS

ANALYSIS	PRESERVATIVE	BOTTLES AND HANDLING
Metals dissolved	~~None~~ & nitric	filtered
total	nitric	raw
~~Dissolved Organic Carbon~~	~~H_2SO_4~~	
Ions	—	filtered

SAMPLING LOCATION MAP / ADDITIONAL NOTES:

substantial sediment, similar to that of fine road gravel deposited below culvert. Also exists above culvert.

LAB/DATE SUBMITTED:	DELIVERY METHOD:

DISCHARGE DATA

DATE & TIME: 9/30/24 2:15 PM PERSONNEL: Ryan Bennett, Briana Greer

LOCATION: EG4A

Volumetric Method:

Trial #1	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters
Trial #2	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters
Trial #3	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters
Trial #4	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters
Trial #5	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters

Leakage Estimate ~~0~~

Flume Method:

Type: Cutthroat / H / Parshall / Other: _____

Size: 2 (in.) / ft. $Head_a$ 0.52 $Head_b$ 0.12 in. / ft.

Leakage Estimate 4 GPM [a] upstream [b] downstream

Manning Equation Applied to Culvert Method:

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Leakage Estimate: _____

TOTAL CFS 0.2411

TOTAL GPM 108.2

Additional Notes: no submergence

SURFACE WATER SAMPLING AND ANALYSIS

DATE & SAMPLE TIME: 9/30/24 1:45PM PERSONNEL: Ryan Bennett, Briana Greer

INSTRUMENTS: (Conductivity, Temperature, pH, Flow, etc.) YSI DSSpro

GENERAL	
SAMPLE ID	EG4A dup
SAMPLING LOCATION	EG4A
SAMPLE DEPTH	1"
WATER SOURCE/ BODY	SURFACE WATER
WEATHER CONDITONS	cool, breezy, chilly 9.7°C
QUALITY ASSURANCE	
SAMPLING EQUIP / METHOD	peristaltic
DECONTAMINATION METHOD	new
FLOW MEASUREMENT	2" cut throat 1125GPM
FILTRATION EQUIPMENT	0.45 um high capacity
FIELD MEASUREMENTS	
APPEARANCE	clear
TEMPERATURE (°C or °F)	9.2°C
pH	7.46
OTHER	DO=7.65mg/L S.C. 252.8 uS/cm

SAMPLES COLLECTED AND SAMPLE ANALYSIS

ANALYSIS	PRESERVATIVE	BOTTLES AND HANDLING
Metals dissolved	~~None~~ nitric	filtered
total	nitric	raw
~~Dissolved Organic Carbon~~	H_2SO_4	
TDS	—	filtered

SAMPLING LOCATION MAP / ADDITIONAL NOTES:

sediment appears to have washed through the culvert depositing in the sampling area

LAB/DATE SUBMITTED:	DELIVERY METHOD:

DISCHARGE DATA

DATE & TIME: 9/30/24 2:15pm PERSONNEL: Ryan Bennett, Briana Green
LOCATION: EG4A dup

Volumetric Method:

Trial #1	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters
Trial #2	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters
Trial #3	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters
Trial #4	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters
Trial #5	_____	minutes	_____	seconds	volume	_____	gal/quarts/liters

Leakage Estimate _____

Flume Method:

Type: Cutthroat / H / Parshall / Other: _____

Size: 2 (in.) / ft. Head[a] ~~0.54~~ 0.53 Head[b] ~~.13~~ _____ in. (ft.)

Leakage Estimate 4 GPM [a] upstream [b] downstream

Manning Equation Applied to Culvert Method:

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Culvert Location: _____
Culvert Free of Debris and Obstructions: _____
Depth of Water in Culvert: _____
Flow CFS: _____
FLOW GPM: _____

Leakage Estimate: _____

TOTAL CFS 0.2508
TOTAL GPM 112.5 GPM

Additional Notes:

SURFACE WATER SAMPLING AND ANALYSIS

DATE & SAMPLE TIME: 9/30/24 2:40 PM PERSONNEL: Briana Greer, Ryan Bennett

INSTRUMENTS: (Conductivity, Temperature, pH, Flow, etc.) YSI DSS PRO

GENERAL	
SAMPLE ID	BF1
SAMPLING LOCATION	BF1
SAMPLE DEPTH	0.5 inch
WATER SOURCE/ BODY	SURFACE WATER
WEATHER CONDITONS	sunny breezy 16°C
QUALITY ASSURANCE	
SAMPLING EQUIP / METHOD	peristaltic
DECONTAMINATION METHOD	new
FLOW MEASUREMENT	~~Bestt cutthroat 2"~~ plastic bag
FILTRATION EQUIPMENT	0.45 um high capacity Geotech
FIELD MEASUREMENTS	
APPEARANCE	
TEMPERATURE (°C or °F)	5.9°C
pH	~~7.69~~ 3.67
OTHER	DO= 5.87mg/L, S.C.=769 uS/cm

SAMPLES COLLECTED AND SAMPLE ANALYSIS

ANALYSIS	PRESERVATIVE	BOTTLES AND HANDLING
Metals dissolved	~~None~~ nitric	filtered
total	nitric	raw
~~Dissolved Organic Carbon~~	H_2SO_4	
IONS	—	filtered

SAMPLING LOCATION MAP / ADDITIONAL NOTES:

very low flow, difficult to sample without sucking solids off bottom. Sampled just inside portal. Flow rate 8 feet downstream is more than 5x that in tunnel. Seepages not from tunnel observed.

LAB/DATE SUBMITTED:	DELIVERY METHOD:

DISCHARGE DATA

DATE & TIME: ~~9/24~~ · 9/30/24 ~~2:40PM~~ PERSONNEL: Ryan Bennett, Briana Cree

LOCATION: BF1

Volumetric Method: inside tunnel

Trial #1	1 minutes	____ seconds	volume	0.13	gal/quarts/liters
Trial #2	1 minutes	____ seconds	volume	0.1	gal/quarts/liters
Trial #3	1 minutes	____ seconds	volume	0.11	gal/quarts/liters
Trial #4	____ minutes	____ seconds	volume	____	gal/quarts/liters
Trial #5	____ minutes	____ seconds	volume	____	gal/quarts/liters

Leakage Estimate Ø

Flume Method:

Type: Cutthroat / H / Parshall / Other: ____

Size: ____ in. / ft. $Head_a$ ____ $Head_b$ ____ in. / ft.

Leakage Estimate ____ [a] upstream [b] downstream

Manning Equation Applied to Culvert Method:

Culvert Location: ____
Culvert Free of Debris and Obstructions: ____
Depth of Water in Culvert: ____
Flow CFS: ____
FLOW GPM: ____

Culvert Location: ____
Culvert Free of Debris and Obstructions: ____
Depth of Water in Culvert: ____
Flow CFS: ____
FLOW GPM: ____

Culvert Location: ____
Culvert Free of Debris and Obstructions: ____
Depth of Water in Culvert: ____
Flow CFS: ____
FLOW GPM: ____

Leakage Estimate: ____

TOTAL CFS 0.00025

TOTAL GPM 0.11

Additional Notes: Outside 8 ft from outlet

~~1 minute~~ 30 seconds 0.3 gal
30 seconds 0.4 gal
30 seconds 0.35 gallons

non-adit seepage observed into water, gaining flow as one moves downstream. note strata/bedrock planes dip down gradient

PHOTOGRAPHIC LOG

PROJECT NAME: Bonita Peaks London + Ben Franklin
PROJECT NUMBER:
PHOTOGRAPHER: Briana Greer
SITE PERSONNEL: Ryan Bennett

CAMERA MODEL:
SERIAL NUMBER:
COMMENTS:

FRAME	DIRECTION[1]	DATE	DESCRIPTION (Location, features, personnel)
AOTB_up	NW	9/30/24	Burrow's Creek AOTB looking upstream
AOTB_down	SE	9/30/24	Burrows Creek AOTB looking downstream
AOTB1_up	W	9/30/24	Burrows Creek AOTB1 looking upstream
AOTB1_down	E		Burrows Creek AOTB1 looking downstream
AOT			
DM6_up	N	9/30/24	DM6 looking upstream
DM6_down	S	9/30/24	DM6 looking downstream
DM7_up	NE	9/30/24	Portal pipe DM7 looking upstream
DM7_down	SW	9/30/24	Portal pipe DM7 looking downstream
DMtrib_up	N	9/30/24	unnamed tributary west of DM6 upstream
DMtrib_down	S	9/30/24	unnamed tributary west of DM6 downstream
EG5_up	N	9/30/24	EG5 looking upstream
EG5_down	S	9/30/24	EG5 looking downstream
EG4A_up	W	9/30/24	EG4A looking upstream
EG4A_down	E	9/30/24	EG4A looking downstream
BF1_up	SW	9/30/24	Ben Franklin portal BF1 looking upstream
BF1_down	NE	9/30/24	BF1 looking downstream
BF1outlet	SW	9/30/24	outlet pipe BF1 looking upstream
Seepage1	NW	9/30/24	seepage downgradient of portal
Seepage2	SW	9/30/24	seepage stratigraphically higher than portal.

[1] - One of eight compass directions (e.g. northwest) should be used to describe the direction the camera is pointed.

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Jeff Kurtz	Address: 1376 Miner's Dr Lafayette CO 80026
Company: Geosyntec	
E-mail: jkurtz@geosyntec.com	Telephone: 303-243-5582

Copy of Report to:

Name: Ryan Bennett	E-mail: rtb@sanjuanland.com
Company: San Juan Land Holding Co.	Telephone:

Invoice to:

Name:	Address:
Company:	
E-mail:	Telephone:

Copy of Invoice to:

Name: Jeff Kurtz	Address:
Company: Geosyntec	
E-mail: jkurtz@geosyntec.com	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Briana Greer Sampler's Site Information State CO Zip code 81433 Time Zone MDT

*Sampler's Signature: Briana Greer

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: BONITA-PEAK-SW

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	BONITA PEAK SW
AØ7.3	9/30/24 8:50 AM	SW	3	X
AØ7B1	9/30/24 9:40AM	SW	3	X
AØ7B1 dup	9/30/24 9:40AM	SW	3	X
DM7	9/30/24 10:30AM	SW	3	X
EG5	9/30/24 12:30PM	SW	3	X
EG4A	9/30/24 1:45PM	SW	3	X
EG4A dup	9/30/24 1:45PM	SW	3	X
BF1	9/30/24 2:40PM	SW	3	X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Last scheduled sampling for EG5, EG4, BF1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Briana Greer	10/01/24 4:15PM		

APPENDIX C

Sampling and Flow Measurement Forms

10/30/2024 2" cutthroat

$Q=CH_a^n$

$Q=K_sW^{1.025}H_a^{n2}$

Site	H_a (ft.)	H_b (ft.)	Submergence Ratio		Flow (cfs)	Flow (gpm)	Leakage (cfs)	Leakage (gpm)	Leakage/Flow	Total Flow (cfs)	Total Flow (gpm)
EG4A	0.52	0.12	23%		0.23214	104.2	0.00891	4	4%	**0.24106**	**108.2**
EG4ADUP	0.53	0.13	25%		0.24185	108.5	0.00891	4	4%	**0.25076**	**112.5**
	Volumetric	Time (sec)	Volume (gallons)								
BF1 - 30" upstream of pipe inlet											
Point of sampling		60	0.13		0.000290	0.13	0.000000	0	0%	0.00029	0.13
		60	0.10		0.000223	0.10	0.000000	0	0%	0.00022	0.10
		60	0.11		0.000245	0.11	0.000000	0	0%	0.00025	0.11
				Average	0.000253	0.11	0.000000	0	0%	**0.00025**	**0.11**
BF1 - 8' downstream of pipe exit											
		30	0.30		0.001337	0.60	0.000000	0	0%	0.00134	0.60
		30	0.40		0.001782	0.80	0.000000	0	0%	0.00178	0.80
		30	0.35		0.001560	0.70	0.000000	0	0%	0.00156	0.70
				Average	0.001560	0.70	0.000000	0	0%	**0.00156**	**0.70**
EG5											
Left stream channel		5	12.6		0.33687	151.2	0.00446	2	1%	0.34133	153.2
		5	12.4		0.33153	148.8	0.00446	2	1%	0.33598	150.8
		5	11.2		0.29944	134.4	0.00446	2	1%	0.30390	136.4
		5	12.0		0.32083	144.0	0.00446	2	1%	0.32529	146.0
				Average	0.32217	144.6	0.00446	2	1%	**0.32662**	**146.6**
Right stream channel		15	2.10		0.01872	8.4	0.00000	0	0%	0.01872	8.4
		15	2.10		0.01872	8.4	0.00000	0	0%	0.01872	8.4
		15	2.20		0.01961	8.8	0.00000	0	0%	0.01961	8.8
				Average	0.01901	8.5	0.00000	0	0%	**0.01901**	**8.5**
Total EG5										**0.34564**	**155.1**

KorDSS MEASUREMENT DATA FILE EXPORT

FILE CREATED: 10/1/2024 0:48

DATE	TIME	SITE	DATA ID	GPS Latitude (°)	GPS Longitude (°)	Altitude (ft)	Barometer (inHg)	Temp (°C)	Cond (µS/cm)
9/30/2024	12:33:57 PM	EG5		37.89415 °	-107.60642 °		19.72	10.1	172.1
9/30/2024	2:05:14 PM	EG4A		37.89495 °	-107.60838 °		19.634	9.2	176.6
9/30/2024	2:06:07 PM	EG4A		37.89492 °	-107.60839 °		19.637	9.3	177.2
9/30/2024	3:02:53 PM	BF1		37.89452 °	-107.60810 °		19.649	5.9	488

Sp Cond (µS/cm)	Sal (psu)	nLFCond (µS/cm)	TDS (mg/L)	Resistivity (ohms-cm)	Sigma-T (s t)	Sigma (s)	pH	pH (mV)	ORP (mV)
240.7	0.11	244.9	156		-0.2	-0.2	7.8	-63.2	92.5
252.8	0.12	257.3	164		-0.1	-0.1	7.46	-44.2	75
253.1	0.12	257.6	165		-0.1	-0.1	7.46	-44.2	75.2
768.3	0.38	780.3	499		0.3	0.3	3.67	163.9	395.9

ODO (% Sat)	ODO (mg/L)
66.2	7.45
66.5	7.65
66.6	7.63
47.1	5.86

ProDSS Calibration Worksheet

a xylem brand

When the Environment Demands It

This calibration worksheet can help document your calibration and track the performance of your sensors. Please follow the detailed calibration procedures in the ProDSS manual or your facility's standard operating procedure (SOP) to ensure all calibrations are as accurate and as consistent as possible.

Refer to the *YSI Solution Expiration Dates* document to ensure your calibration solutions are fresh. In addition to using fresh standards, never accept an out-of-range or questionable calibration results.

Calibration Date 9/30/2024 **Technician:** RTB

Handheld Serial Number: 16M1034Ø4 **Handheld Software Version:** _____

Cable Serial Number: 17B1ØØ9ØØ 626ØØ9-4

Temperature

Reading when sensor is dry and in room temp air: 16.5 °C *Accurate?* (Y) N

Conductivity

Reading when sensor is dry and in room temp air: 0.0 *Acceptable value is less than* **1 µS/cm**

Actual Reading in solution before calibration is accepted: 1003

Reading in calibration solution after calibration is completed: 1000

Conductivity Cell Constant in GLP record after calibration:* _____

Acceptable range for ProDSS conductivity/temperature sensors (626902) is **4.5** *to* **6.5**

Acceptable range for integral (i.e. built-in) sensors on ODO/CT assemblies is **4.4** *to* **6.4**

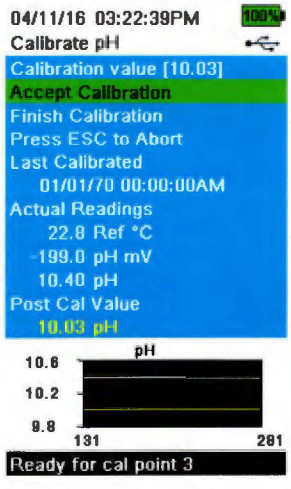
Optical Dissolved Oxygen

Barometric pressure: 21.571

Actual Reading before DO% calibration is accepted: 73.9%

Reading in DO% calibration environment after calibration is completed: 72.1%

ODO gain in GLP record after calibration: _____ *Acceptable range is* **0.75** *to* **1.50**



pH

		Actual Readings during calibration		
Buffer	Calibration Value	pH	pH mV**	Acceptable pH mV in buffer
7	7.04	7.16	−22.4	-50 mV to 50 mV
4	4.00	4.08	151.8	+165 to +180 from pH 7 buffer mV value
10	10.12	10.18	−194.1	-165 to -180 from pH 7 buffer mV value

pH slope in GLP record after calibration: _____ *Acceptable range is ~* **55** *to* **60** *pH/mV (Ideal is 59.16 mV/pH)*

**GLP stands for Good Laboratory Practice file. This calibration record contains important information about the calibration result.*

***The pH mV at the time of calibration (Sensor Value) can also be seen in the final pH GLP record.*

ProDSS Calibration Worksheet

YSI a xylem brand

When the Environment Demands It

ORP

Actual Reading in solution before calibration is accepted: 238.0

Reading in calibration solution after calibration is completed: 237.7

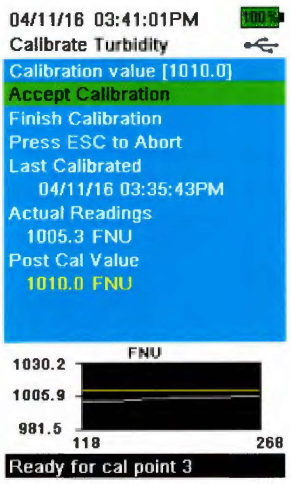
*ORP Cal Offset in GLP record after calibration:*_____ *Acceptable range is* ***-100*** *to* ***50***

Turbidity

Calibration value (FNU)*	Actual Reading during calibration
0	
12.4*	
124*	
1010	

Acceptable range for ***Actual Reading*** *during calibration of the first point is* ***-10*** *to* ***10*** *FNU*

***Note:** The turbidity sensor can be calibrated to 3 points. Either 12.4 or 124 FNU standard can be used for the second point, but not both. Other calibration values can be used when calibrating.*



Depth (Completed in Air)

*Actual Reading before calibration is accepted:*_____

*Reading in air after calibration is completed:*_____

Ammonium

	Actual Readings during calibration		
Concentration** (i.e. Calibration Value)	mg/L	mV***	Acceptable mV when the sensor is new
1st point: 1 mg/L			-20 mV to 20 mV
2nd point: 100 mg/L			+90 to +130 from mV value in 1 mg/L standard

Nitrate

	Actual Readings during calibration		
Concentration** (i.e. Calibration Value)	mg/L	mV***	Acceptable mV when the sensor is new
1st point: 1 mg/L			180 mV to 220 mV
2nd point: 100 mg/L			-90 to -130 from mV value in 1 mg/L standard

Chloride

	Actual Readings during calibration		
Concentration** (i.e. Calibration Value)	mg/L	mV***	Acceptable mV when the sensor is new
1st point: 10 mg/L			205 mV to 245 mV
2nd point: 1,000 mg/L			-80 to -130 from mV value in 10 mg/L standard

***Other standard concentrations can be used. A 2 point calibration without chilling a third calibration solution is extremely accurate and is the preferred method. However, if there is a large temperature variation during sampling, a chilled third calibration point is recommended.*

****The mV at the time of calibration (Sensor Value) for each point can also be seen in the GLP record after a calibration is complete.*

Tel +1 937.767.7241
800.897.4151 (US)
info@ysi.com YSI.com

APPENDIX D

Photographs of Sampling Locations

Geosyntec Consultants Photographic Record

Geosyntec consultants
engineers | scientists | innovators

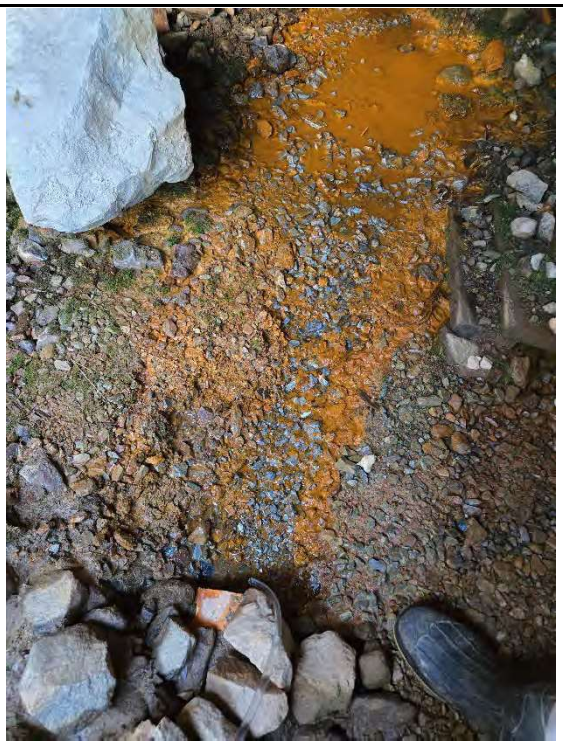
Client: Eureka Gulch Properties LLC	**Project Number: DE0247**
Site Name: Ben Franklin Mine/Bonita Peak NPL	**Site Location: Silverton, CO**

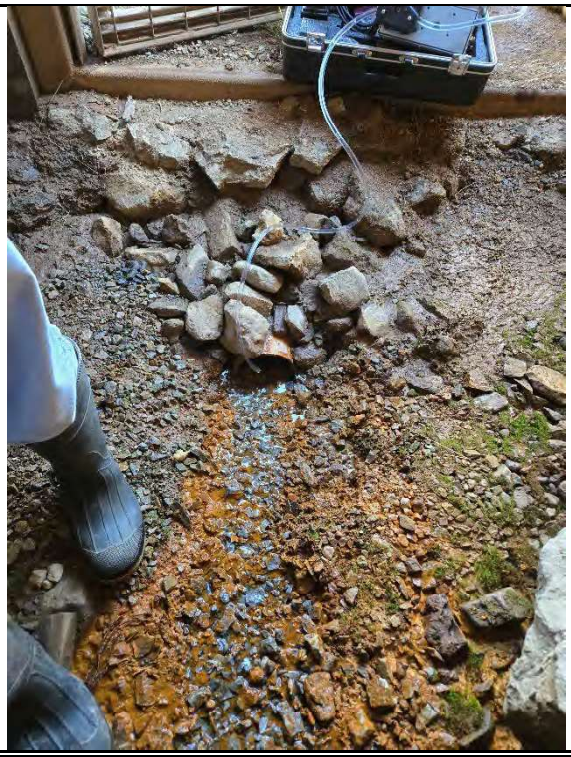
Photograph 1 **Date: 9/30/2024** **Direction: W** **Comments: Location EG4A looking upstream.**	

Photograph 2 **Date: 9/30/2024** **Direction: E** **Comments: Location EG4A looking downstream.**	

Geosyntec Consultants Photographic Record

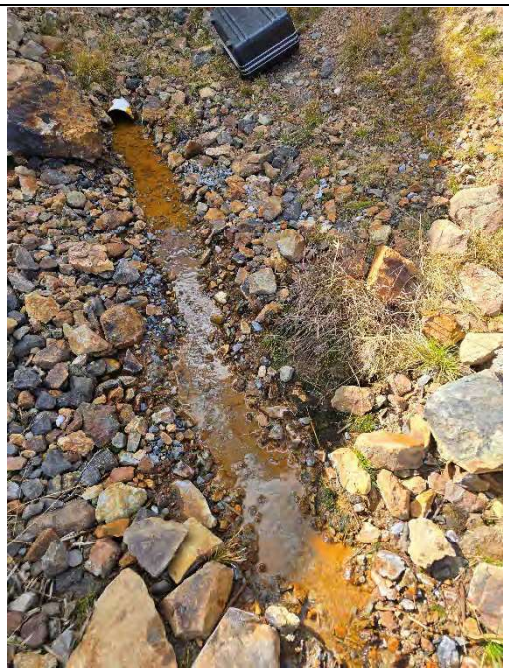
Client: Eureka Gulch Properties LLC	**Project Number: DE0247**
Site Name: Ben Franklin Mine/Bonita Peak NPL	**Site Location: Silverton, CO**

Photograph 3 **Date: 9/30/2024** **Direction: NE** **Comments: Location BF1 looking upstream.**	

Photograph 4 **Date: 9/30/2024** **Direction: SW** **Comments: Location BF1 looking downstream.**	

Geosyntec Consultants Photographic Record

Client: Eureka Gulch Properties LLC	**Project Number: DE0247**
Site Name: Ben Franklin Mine/Bonita Peak NPL	**Site Location: Silverton, CO**

Photograph 5	
Date: 9/30/2024	
Direction: W	
Comments: Location BF1 effluent.	

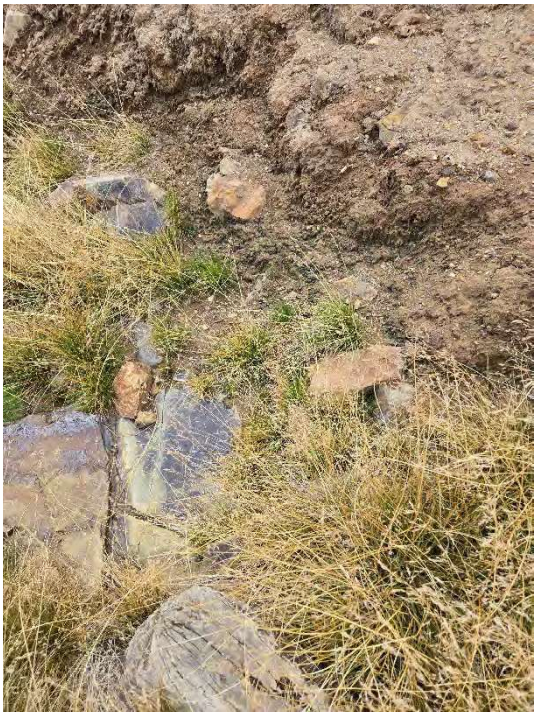
Photograph	Cell left blank
Date:	
Direction:	
Comments:	

Geosyntec Consultants Photographic Record

Geosyntec consultants
engineers | scientists | innovators

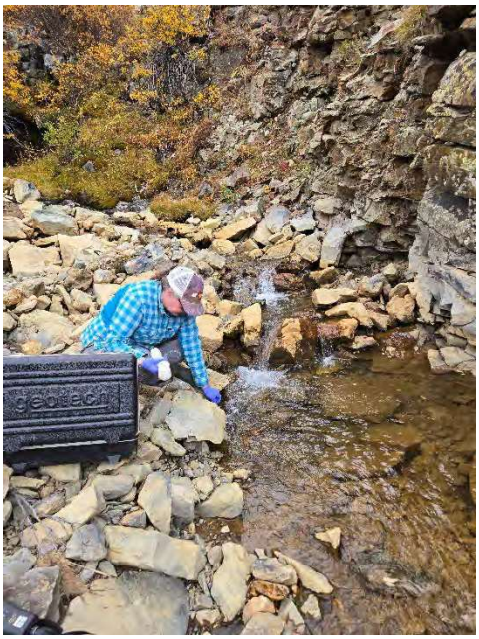
Client: Eureka Gulch Properties LLC	**Project Number: DE0247**
Site Name: Ben Franklin Mine/Bonita Peak NPL	**Site Location: Silverton, CO**

Photograph 6 **Date: 9/30/2024** **Direction: NW** **Comments: Location ARD1 looking upstream.**	

Photograph 7 **Date: 9/30/2024** **Direction: SE** **Comments: Location ARD1 looking downstream.**	

Geosyntec Consultants Photographic Record

Client: Eureka Gulch Properties LLC	**Project Number: DE0247**
Site Name: Ben Franklin Mine/Bonita Peak NPL	**Site Location: Silverton, CO**

Photograph 8 **Date: 9/30/2024** **Direction: N** **Comments: Location EG5 looking upstream.**	

Photograph 9 **Date: 9/30/2024** **Direction: S** **Comments: Location EG5 looking downstream.**	

Geosyntec
consultants

APPENDIX E

Laboratory Results for Surface Water

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

October 16, 2024

Report to:
Jeff Kurtz
Geosyntec Consultants
1376 Miners Drive
Suite 320Suite 108
Lafayette, CO 80026

cc: Ryan Bennett

Bill to:
Jeff Kurtz
Geosyntec Consultants
44 Union Blvd.
Suite 620
Lakewood, CO 80228

Project ID:
ACZ Project ID: L90587

Jeff Kurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on October 02, 2024. This project has been assigned to ACZ's project number, L90587. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L90587. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after November 15, 2024. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Mark McNeal
Mark McNeal has reviewed and approved this report.

Geosyntec Consultants
Project ID:
Sample ID: A07B

ACZ Sample ID: ***L90587-01***
Date Sampled: *09/30/24 08:50*
Date Received: *10/02/24*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion ICP	EPA 200.2								10/09/24 14:58	smw
Total Recoverable Digestion ICP-MS	EPA 200.2								10/09/24 7:20	gjl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	50	27.9			mg/L	0.25	0.75	10/14/24 14:57	aps
Aluminum, total recoverable	EPA 200.8	50	25.7		*	mg/L	0.25	0.75	10/14/24 13:33	gjl
Arsenic, dissolved	EPA 200.8	1	0.00337			mg/L	0.0002	0.001	10/11/24 14:48	gjl
Arsenic, total recoverable	EPA 200.8	1	0.00356			mg/L	0.0002	0.001	10/11/24 13:31	gjl
Cadmium, dissolved	EPA 200.8	1	0.0300			mg/L	0.00005	0.00025	10/11/24 14:48	gjl
Cadmium, total recoverable	EPA 200.8	1	0.0295			mg/L	0.00005	0.00025	10/11/24 13:31	gjl
Calcium, dissolved	EPA 200.7	1	35.3			mg/L	0.1	0.5	10/10/24 22:09	msp
Copper, dissolved	EPA 200.8	1	0.0540			mg/L	0.0008	0.002	10/11/24 14:48	gjl
Copper, total recoverable	EPA 200.8	1	0.0584			mg/L	0.0008	0.002	10/11/24 13:31	gjl
Iron, dissolved	EPA 200.7	1	0.187			mg/L	0.06	0.15	10/10/24 22:09	msp
Iron, total recoverable	EPA 200.7	1	0.171			mg/L	0.06	0.15	10/11/24 18:18	wtc
Lead, dissolved	EPA 200.8	1	0.0102			mg/L	0.0001	0.0005	10/11/24 14:48	gjl
Lead, total recoverable	EPA 200.8	1	0.0103			mg/L	0.0001	0.0005	10/11/24 13:31	gjl
Magnesium, dissolved	EPA 200.7	1	5.71			mg/L	0.2	1	10/10/24 22:09	msp
Manganese, dissolved	EPA 200.8	50	8.96			mg/L	0.02	0.1	10/14/24 14:57	aps
Manganese, total recoverable	EPA 200.8	50	8.31		*	mg/L	0.02	0.1	10/14/24 13:33	gjl
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 14:48	gjl
Silver, total recoverable	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 13:31	gjl
Zinc, dissolved	EPA 200.8	1	4.48		*	mg/L	0.006	0.015	10/11/24 14:48	gjl
Zinc, total recoverable	EPA 200.8	1	4.28		*	mg/L	0.006	0.015	10/11/24 13:31	gjl

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Hardness as CaCO3 (dissolved)	Calculation (SM 2340 B-2011)		112			mg/L	0.2	5	10/15/24 0:00	calc
Sulfate	ASTM D516-07/-11/-16	25	252		*	mg/L	25	125	10/03/24 14:16	jqr

Geosyntec Consultants
Project ID:
Sample ID: A07B1

ACZ Sample ID: ***L90587-02***
Date Sampled: *09/30/24 09:40*
Date Received: *10/02/24*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion ICP	EPA 200.2								10/09/24 15:12	smw
Total Recoverable Digestion ICP-MS	EPA 200.2								10/09/24 7:20	gjl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	50	30.0			mg/L	0.25	0.75	10/14/24 14:59	aps
Aluminum, total recoverable	EPA 200.8	50	27.1		*	mg/L	0.25	0.75	10/14/24 13:35	gjl
Arsenic, dissolved	EPA 200.8	1	0.00387			mg/L	0.0002	0.001	10/11/24 14:54	gjl
Arsenic, total recoverable	EPA 200.8	1	0.00378			mg/L	0.0002	0.001	10/11/24 13:38	gjl
Cadmium, dissolved	EPA 200.8	1	0.0327			mg/L	0.00005	0.00025	10/11/24 14:54	gjl
Cadmium, total recoverable	EPA 200.8	1	0.0306			mg/L	0.00005	0.00025	10/11/24 13:38	gjl
Calcium, dissolved	EPA 200.7	1	34.9			mg/L	0.1	0.5	10/10/24 22:12	msp
Copper, dissolved	EPA 200.8	1	0.0620			mg/L	0.0008	0.002	10/11/24 14:54	gjl
Copper, total recoverable	EPA 200.8	1	0.0590			mg/L	0.0008	0.002	10/11/24 13:38	gjl
Iron, dissolved	EPA 200.7	1	0.197			mg/L	0.06	0.15	10/10/24 22:12	msp
Iron, total recoverable	EPA 200.7	1	0.181			mg/L	0.06	0.15	10/11/24 18:20	wtc
Lead, dissolved	EPA 200.8	1	0.0109			mg/L	0.0001	0.0005	10/11/24 14:54	gjl
Lead, total recoverable	EPA 200.8	1	0.0105			mg/L	0.0001	0.0005	10/11/24 13:38	gjl
Magnesium, dissolved	EPA 200.7	1	5.84			mg/L	0.2	1	10/10/24 22:12	msp
Manganese, dissolved	EPA 200.8	50	9.70			mg/L	0.02	0.1	10/14/24 14:59	aps
Manganese, total recoverable	EPA 200.8	50	8.80		*	mg/L	0.02	0.1	10/14/24 13:35	gjl
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 14:54	gjl
Silver, total recoverable	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 13:38	gjl
Zinc, dissolved	EPA 200.8	1	4.68		*	mg/L	0.006	0.015	10/11/24 14:54	gjl
Zinc, total recoverable	EPA 200.8	1	4.30		*	mg/L	0.006	0.015	10/11/24 13:38	gjl

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Hardness as CaCO3 (dissolved)	Calculation (SM 2340 B-2011)		111			mg/L	0.2	5	10/15/24 0:00	calc
Sulfate	ASTM D516-07/-11/-16	25	255		*	mg/L	25	125	10/03/24 14:17	jqr

Geosyntec Consultants
Project ID:
Sample ID: A07B1DUP

ACZ Sample ID: ***L90587-03***
Date Sampled: *09/30/24 09:40*
Date Received: *10/02/24*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion ICP	EPA 200.2								10/09/24 15:27	smw
Total Recoverable Digestion ICP-MS	EPA 200.2								10/09/24 7:20	gjl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	50	30.1			mg/L	0.25	0.75	10/14/24 15:01	aps
Aluminum, total recoverable	EPA 200.8	50	27.2		*	mg/L	0.25	0.75	10/14/24 13:37	gjl
Arsenic, dissolved	EPA 200.8	1	0.00366			mg/L	0.0002	0.001	10/11/24 14:56	gjl
Arsenic, total recoverable	EPA 200.8	1	0.00384			mg/L	0.0002	0.001	10/11/24 13:40	gjl
Cadmium, dissolved	EPA 200.8	1	0.0320			mg/L	0.00005	0.00025	10/11/24 14:56	gjl
Cadmium, total recoverable	EPA 200.8	1	0.0314			mg/L	0.00005	0.00025	10/11/24 13:40	gjl
Calcium, dissolved	EPA 200.7	1	35.1			mg/L	0.1	0.5	10/10/24 22:15	msp
Copper, dissolved	EPA 200.8	1	0.0592			mg/L	0.0008	0.002	10/11/24 14:56	gjl
Copper, total recoverable	EPA 200.8	1	0.0618			mg/L	0.0008	0.002	10/11/24 13:40	gjl
Iron, dissolved	EPA 200.7	1	0.196			mg/L	0.06	0.15	10/10/24 22:15	msp
Iron, total recoverable	EPA 200.7	1	0.181			mg/L	0.06	0.15	10/11/24 18:23	wtc
Lead, dissolved	EPA 200.8	1	0.0106			mg/L	0.0001	0.0005	10/11/24 14:56	gjl
Lead, total recoverable	EPA 200.8	1	0.0108			mg/L	0.0001	0.0005	10/11/24 13:40	gjl
Magnesium, dissolved	EPA 200.7	1	5.80			mg/L	0.2	1	10/10/24 22:15	msp
Manganese, dissolved	EPA 200.8	50	9.73			mg/L	0.02	0.1	10/14/24 15:01	aps
Manganese, total recoverable	EPA 200.8	50	8.85		*	mg/L	0.02	0.1	10/14/24 13:37	gjl
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 14:56	gjl
Silver, total recoverable	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 13:40	gjl
Zinc, dissolved	EPA 200.8	1	4.56		*	mg/L	0.006	0.015	10/11/24 14:56	gjl
Zinc, total recoverable	EPA 200.8	1	4.37		*	mg/L	0.006	0.015	10/11/24 13:40	gjl

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Hardness as CaCO3 (dissolved)	Calculation (SM 2340 B-2011)		112			mg/L	0.2	5	10/15/24 0:00	calc
Sulfate	ASTM D516-07/-11/-16	25	263		*	mg/L	25	125	10/03/24 14:17	jqr

Geosyntec Consultants
Project ID:
Sample ID: DM7

ACZ Sample ID: ***L90587-04***
Date Sampled: *09/30/24 10:30*
Date Received: *10/02/24*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion ICP	EPA 200.2								10/09/24 15:41	smw
Total Recoverable Digestion ICP-MS	EPA 200.2								10/09/24 7:20	gjl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	0.131		*	mg/L	0.005	0.015	10/11/24 14:59	gjl
Aluminum, total recoverable	EPA 200.8	1	0.993			mg/L	0.005	0.015	10/11/24 13:46	gjl
Arsenic, dissolved	EPA 200.8	1	0.00187			mg/L	0.0002	0.001	10/11/24 14:59	gjl
Arsenic, total recoverable	EPA 200.8	1	0.0276			mg/L	0.0002	0.001	10/11/24 13:46	gjl
Cadmium, dissolved	EPA 200.8	1	0.0758			mg/L	0.00005	0.00025	10/11/24 14:59	gjl
Cadmium, total recoverable	EPA 200.8	1	0.0727			mg/L	0.00005	0.00025	10/11/24 13:46	gjl
Calcium, dissolved	EPA 200.7	1	62.8			mg/L	0.1	0.5	10/10/24 22:18	msp
Copper, dissolved	EPA 200.8	1	0.0262			mg/L	0.0008	0.002	10/11/24 14:59	gjl
Copper, total recoverable	EPA 200.8	1	0.217			mg/L	0.0008	0.002	10/11/24 13:46	gjl
Iron, dissolved	EPA 200.7	1	0.457			mg/L	0.06	0.15	10/10/24 22:18	msp
Iron, total recoverable	EPA 200.7	1	15.5			mg/L	0.06	0.15	10/11/24 18:26	wtc
Lead, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 14:59	gjl
Lead, total recoverable	EPA 200.8	1	0.0443			mg/L	0.0001	0.0005	10/11/24 13:46	gjl
Magnesium, dissolved	EPA 200.7	1	4.19			mg/L	0.2	1	10/10/24 22:18	msp
Manganese, dissolved	EPA 200.8	1	1.94		*	mg/L	0.0004	0.002	10/11/24 14:59	gjl
Manganese, total recoverable	EPA 200.8	1	1.78		*	mg/L	0.0004	0.002	10/11/24 13:46	gjl
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 14:59	gjl
Silver, total recoverable	EPA 200.8	1	0.00011	B		mg/L	0.0001	0.0005	10/11/24 13:46	gjl
Zinc, dissolved	EPA 200.8	20	12.9			mg/L	0.12	0.3	10/14/24 15:03	aps
Zinc, total recoverable	EPA 200.8	20	12.0			mg/L	0.12	0.3	10/14/24 13:43	gjl

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Hardness as CaCO3 (dissolved)	Calculation (SM 2340 B-2011)		174			mg/L	0.2	5	10/15/24 0:00	calc
Sulfate	ASTM D516-07/-11/-16	5	172		*	mg/L	5	25	10/03/24 13:47	jqr

Geosyntec Consultants
Project ID:
Sample ID: EG5

ACZ Sample ID: ***L90587-05***
Date Sampled: *09/30/24 12:30*
Date Received: *10/02/24*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion ICP	EPA 200.2								10/09/24 15:56	smw
Total Recoverable Digestion ICP-MS	EPA 200.2								10/09/24 7:20	gjl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	0.0832		*	mg/L	0.005	0.015	10/11/24 15:01	gjl
Aluminum, total recoverable	EPA 200.8	1	0.107			mg/L	0.005	0.015	10/11/24 13:48	gjl
Arsenic, dissolved	EPA 200.8	1	<0.0002	U		mg/L	0.0002	0.001	10/11/24 15:01	gjl
Arsenic, total recoverable	EPA 200.8	1	<0.0002	U		mg/L	0.0002	0.001	10/11/24 13:48	gjl
Cadmium, dissolved	EPA 200.8	1	0.00147			mg/L	0.00005	0.00025	10/11/24 15:01	gjl
Cadmium, total recoverable	EPA 200.8	1	0.00139			mg/L	0.00005	0.00025	10/11/24 13:48	gjl
Calcium, dissolved	EPA 200.7	1	37.9			mg/L	0.1	0.5	10/10/24 22:21	msp
Copper, dissolved	EPA 200.8	1	0.0259			mg/L	0.0008	0.002	10/11/24 15:01	gjl
Copper, total recoverable	EPA 200.8	1	0.0325			mg/L	0.0008	0.002	10/11/24 13:48	gjl
Iron, dissolved	EPA 200.7	1	<0.06	U		mg/L	0.06	0.15	10/10/24 22:21	msp
Iron, total recoverable	EPA 200.7	1	<0.06	U		mg/L	0.06	0.15	10/11/24 18:29	wtc
Lead, dissolved	EPA 200.8	1	0.00951			mg/L	0.0001	0.0005	10/11/24 15:01	gjl
Lead, total recoverable	EPA 200.8	1	0.0139			mg/L	0.0001	0.0005	10/11/24 13:48	gjl
Magnesium, dissolved	EPA 200.7	1	3.54			mg/L	0.2	1	10/10/24 22:21	msp
Manganese, dissolved	EPA 200.8	1	0.300		*	mg/L	0.0004	0.002	10/11/24 15:01	gjl
Manganese, total recoverable	EPA 200.8	1	0.305		*	mg/L	0.0004	0.002	10/11/24 13:48	gjl
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 15:01	gjl
Silver, total recoverable	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 13:48	gjl
Zinc, dissolved	EPA 200.8	1	0.498		*	mg/L	0.006	0.015	10/11/24 15:01	gjl
Zinc, total recoverable	EPA 200.8	1	0.464			mg/L	0.006	0.015	10/11/24 13:48	gjl

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Hardness as CaCO3 (dissolved)	Calculation (SM 2340 B-2011)		109			mg/L	0.2	5	10/15/24 0:00	calc
Sulfate	ASTM D516-07/-11/-16	5	76.8		*	mg/L	5	25	10/03/24 13:47	jqr

Geosyntec Consultants
Project ID:
Sample ID: EG4A

ACZ Sample ID: ***L90587-06***
Date Sampled: *09/30/24 13:45*
Date Received: *10/02/24*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion ICP	EPA 200.2								10/09/24 16:10	smw
Total Recoverable Digestion ICP-MS	EPA 200.2								10/09/24 7:20	gjl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	0.0240		*	mg/L	0.005	0.015	10/11/24 15:03	gjl
Aluminum, total recoverable	EPA 200.8	1	0.0404			mg/L	0.005	0.015	10/11/24 13:50	gjl
Arsenic, dissolved	EPA 200.8	1	<0.0002	U		mg/L	0.0002	0.001	10/11/24 15:03	gjl
Arsenic, total recoverable	EPA 200.8	1	<0.0002	U		mg/L	0.0002	0.001	10/11/24 13:50	gjl
Cadmium, dissolved	EPA 200.8	1	0.000882			mg/L	0.00005	0.00025	10/11/24 15:03	gjl
Cadmium, total recoverable	EPA 200.8	1	0.000841			mg/L	0.00005	0.00025	10/11/24 13:50	gjl
Calcium, dissolved	EPA 200.7	1	39.9			mg/L	0.1	0.5	10/10/24 22:30	msp
Copper, dissolved	EPA 200.8	1	0.00288			mg/L	0.0008	0.002	10/11/24 15:03	gjl
Copper, total recoverable	EPA 200.8	1	0.00415			mg/L	0.0008	0.002	10/11/24 13:50	gjl
Iron, dissolved	EPA 200.7	1	<0.06	U		mg/L	0.06	0.15	10/10/24 22:30	msp
Iron, total recoverable	EPA 200.7	1	<0.06	U		mg/L	0.06	0.15	10/11/24 18:32	wtc
Lead, dissolved	EPA 200.8	1	0.00023	B		mg/L	0.0001	0.0005	10/11/24 15:03	gjl
Lead, total recoverable	EPA 200.8	1	0.00138			mg/L	0.0001	0.0005	10/11/24 13:50	gjl
Magnesium, dissolved	EPA 200.7	1	3.88			mg/L	0.2	1	10/10/24 22:30	msp
Manganese, dissolved	EPA 200.8	1	0.0682		*	mg/L	0.0004	0.002	10/11/24 15:03	gjl
Manganese, total recoverable	EPA 200.8	1	0.0698		*	mg/L	0.0004	0.002	10/11/24 13:50	gjl
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 15:03	gjl
Silver, total recoverable	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 13:50	gjl
Zinc, dissolved	EPA 200.8	1	0.396		*	mg/L	0.006	0.015	10/11/24 15:03	gjl
Zinc, total recoverable	EPA 200.8	1	0.366			mg/L	0.006	0.015	10/11/24 13:50	gjl

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Hardness as CaCO3 (dissolved)	Calculation (SM 2340 B-2011)		116			mg/L	0.2	5	10/15/24 0:00	calc
Sulfate	ASTM D516-07/-11/-16	5	80.7		*	mg/L	5	25	10/03/24 13:48	jqr

Geosyntec Consultants
Project ID:
Sample ID: EG4ADUP

ACZ Sample ID: ***L90587-07***
Date Sampled: *09/30/24 13:45*
Date Received: *10/02/24*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion ICP	EPA 200.2								10/09/24 16:24	smw
Total Recoverable Digestion ICP-MS	EPA 200.2								10/09/24 7:20	gjl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	0.0316		*	mg/L	0.005	0.015	10/11/24 15:05	gjl
Aluminum, total recoverable	EPA 200.8	1	0.0443			mg/L	0.005	0.015	10/11/24 13:53	gjl
Arsenic, dissolved	EPA 200.8	1	<0.0002	U		mg/L	0.0002	0.001	10/11/24 15:05	gjl
Arsenic, total recoverable	EPA 200.8	1	<0.0002	U		mg/L	0.0002	0.001	10/11/24 13:53	gjl
Cadmium, dissolved	EPA 200.8	1	0.000862			mg/L	0.00005	0.00025	10/11/24 15:05	gjl
Cadmium, total recoverable	EPA 200.8	1	0.000847			mg/L	0.00005	0.00025	10/11/24 13:53	gjl
Calcium, dissolved	EPA 200.7	1	40.1			mg/L	0.1	0.5	10/10/24 22:33	msp
Copper, dissolved	EPA 200.8	1	0.00295			mg/L	0.0008	0.002	10/11/24 15:05	gjl
Copper, total recoverable	EPA 200.8	1	0.00407			mg/L	0.0008	0.002	10/11/24 13:53	gjl
Iron, dissolved	EPA 200.7	1	<0.06	U		mg/L	0.06	0.15	10/10/24 22:33	msp
Iron, total recoverable	EPA 200.7	1	<0.06	U		mg/L	0.06	0.15	10/11/24 18:35	wtc
Lead, dissolved	EPA 200.8	1	0.00035	B		mg/L	0.0001	0.0005	10/11/24 15:05	gjl
Lead, total recoverable	EPA 200.8	1	0.00144			mg/L	0.0001	0.0005	10/11/24 13:53	gjl
Magnesium, dissolved	EPA 200.7	1	3.90			mg/L	0.2	1	10/10/24 22:33	msp
Manganese, dissolved	EPA 200.8	1	0.0671		*	mg/L	0.0004	0.002	10/11/24 15:05	gjl
Manganese, total recoverable	EPA 200.8	1	0.0700		*	mg/L	0.0004	0.002	10/11/24 13:53	gjl
Silver, dissolved	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 15:05	gjl
Silver, total recoverable	EPA 200.8	1	<0.0001	U		mg/L	0.0001	0.0005	10/11/24 13:53	gjl
Zinc, dissolved	EPA 200.8	1	0.386		*	mg/L	0.006	0.015	10/11/24 15:05	gjl
Zinc, total recoverable	EPA 200.8	1	0.362			mg/L	0.006	0.015	10/11/24 13:53	gjl

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Hardness as CaCO3 (dissolved)	Calculation (SM 2340 B-2011)		116			mg/L	0.2	5	10/15/24 0:00	calc
Sulfate	ASTM D516-07/-11/-16	5	88.9		*	mg/L	5	25	10/03/24 13:49	jqr

Geosyntec Consultants
Project ID:
Sample ID: BF1

ACZ Sample ID: ***L90587-08***
Date Sampled: *09/30/24 14:40*
Date Received: *10/02/24*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion ICP	EPA 200.2								10/09/24 17:08	smw
Total Recoverable Digestion ICP-MS	EPA 200.2								10/09/24 7:20	gjl

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	EPA 200.8	1	7.68		*	mg/L	0.005	0.015	10/11/24 15:11	gjl
Aluminum, total recoverable	EPA 200.8	1	8.22			mg/L	0.005	0.015	10/11/24 13:55	gjl
Arsenic, dissolved	EPA 200.8	1	0.00212			mg/L	0.0002	0.001	10/11/24 15:11	gjl
Arsenic, total recoverable	EPA 200.8	1	0.00236			mg/L	0.0002	0.001	10/11/24 13:55	gjl
Cadmium, dissolved	EPA 200.8	1	0.0805			mg/L	0.00005	0.00025	10/11/24 15:11	gjl
Cadmium, total recoverable	EPA 200.8	1	0.0699			mg/L	0.00005	0.00025	10/11/24 13:55	gjl
Calcium, dissolved	EPA 200.7	1	72.7			mg/L	0.1	0.5	10/10/24 22:42	msp
Copper, dissolved	EPA 200.8	1	4.42			mg/L	0.0008	0.002	10/11/24 15:11	gjl
Copper, total recoverable	EPA 200.8	1	4.14			mg/L	0.0008	0.002	10/11/24 13:55	gjl
Iron, dissolved	EPA 200.7	1	0.083	B		mg/L	0.06	0.15	10/10/24 22:42	msp
Iron, total recoverable	EPA 200.7	1	0.305			mg/L	0.06	0.15	10/11/24 18:50	wtc
Lead, dissolved	EPA 200.8	1	2.46			mg/L	0.0001	0.0005	10/11/24 15:11	gjl
Lead, total recoverable	EPA 200.8	1	2.52			mg/L	0.0001	0.0005	10/11/24 13:55	gjl
Magnesium, dissolved	EPA 200.7	1	14.1			mg/L	0.2	1	10/10/24 22:42	msp
Manganese, dissolved	EPA 200.8	200	39.0			mg/L	0.08	0.4	10/14/24 15:04	aps
Manganese, total recoverable	EPA 200.8	200	30.9			mg/L	0.08	0.4	10/14/24 13:50	gjl
Silver, dissolved	EPA 200.8	1	0.00139			mg/L	0.0001	0.0005	10/11/24 15:11	gjl
Silver, total recoverable	EPA 200.8	1	0.00208			mg/L	0.0001	0.0005	10/11/24 13:55	gjl
Zinc, dissolved	EPA 200.8	200	20.5			mg/L	1.2	3	10/14/24 15:04	aps
Zinc, total recoverable	EPA 200.8	200	18.2			mg/L	1.2	3	10/14/24 13:50	gjl

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Hardness as CaCO3 (dissolved)	Calculation (SM 2340 B-2011)		240			mg/L	0.2	5	10/15/24 0:00	calc
Sulfate	ASTM D516-07/-11/-16	25	353		*	mg/L	25	125	10/03/24 14:18	jqr

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value.
	The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

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ACZ Project ID: ***L90587***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Aluminum, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599030													
WG599030ICV	ICV	10/11/24 14:42	MS240930-3	.1		.1001	mg/L	100	90	110			
WG599030ICB	ICB	10/11/24 14:44				U	mg/L		-0.011	0.011			
WG599030LFB	LFB	10/11/24 14:46	MS241008-3	.050065		.0521	mg/L	104	85	115			
L90587-01AS	AS	10/11/24 14:50	MS241008-3	.050065	22.7	22.4252	mg/L	-549	70	130			M3
L90587-01ASD	ASD	10/11/24 14:52	MS241008-3	.050065	22.7	22.2107	mg/L	-977	70	130	1	20	M3
WG599241													
WG599241ICV	ICV	10/14/24 14:48	MS240930-3	.1		.0981	mg/L	98	90	110			
WG599241ICB	ICB	10/14/24 14:50				U	mg/L		-0.011	0.011			
WG599241LFB	LFB	10/14/24 14:52	MS241008-3	.050065		.0529	mg/L	106	85	115			
L90666-02AS	AS	10/14/24 15:14	MS241008-3	.050065	.054	.1029	mg/L	98	70	130			
L90666-02ASD	ASD	10/14/24 15:15	MS241008-3	.050065	.054	.1025	mg/L	97	70	130	0	20	

Aluminum, total recoverable EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599029													
WG599029ICV	ICV	10/11/24 13:08	MS240930-3	.1		.0992	mg/L	99	90	110			
WG599029ICB	ICB	10/11/24 13:10				U	mg/L		-0.015	0.015			
WG598946LRB	LRB	10/11/24 13:12				U	mg/L		-0.011	0.011			
WG598946LFB	LFB	10/11/24 13:14	MS240911-3	.050065		.0496	mg/L	99	85	115			
L90587-03LFM	LFM	10/11/24 13:42	MS240911-3	.050065	24.5	23.8036	mg/L	-1391	70	130			M3
L90587-03LFMD	LFMD	10/11/24 13:44	MS240911-3	.050065	24.5	23.9426	mg/L	-1113	70	130	1	20	M3
L90620-01LFM	LFM	10/11/24 14:08	MS240911-3	.050065	.0596	.103	mg/L	87	70	130			
L90620-01LFMD	LFMD	10/11/24 14:10	MS240911-3	.050065	.0596	.1006	mg/L	82	70	130	2	20	
WG599228													
WG599228ICV	ICV	10/14/24 13:24	MS240930-3	.1		.1022	mg/L	102	90	110			
WG599228ICB	ICB	10/14/24 13:27				U	mg/L		-0.015	0.015			
WG598946LRB	LRB	10/14/24 13:29				U	mg/L		-0.011	0.011			
WG598946LFB	LFB	10/14/24 13:31	MS240911-3	.050065		.0487	mg/L	97	85	115			
L90587-03LFM	LFM	10/14/24 13:39	MS240911-3	.050065	27.2	28.6	mg/L	2796	70	130			M3
L90587-03LFMD	LFMD	10/14/24 13:41	MS240911-3	.050065	27.2	29.7835	mg/L	5160	70	130	4	20	M3
L90620-01LFM	LFM	10/14/24 13:58	MS240911-3	.050065	.0593	.1036	mg/L	88	70	130			
L90620-01LFMD	LFMD	10/14/24 14:00	MS240911-3	.050065	.0593	.1045	mg/L	90	70	130	1	20	
WG599032LRB	LRB	10/14/24 14:07				U	mg/L		-0.011	0.011			
WG599032LFB	LFB	10/14/24 14:09	MS241008-3	.050065		.0464	mg/L	93	85	115			

Arsenic, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599030													
WG599030ICV	ICV	10/11/24 14:42	MS240930-3	.05		.04969	mg/L	99	90	110			
WG599030ICB	ICB	10/11/24 14:44				U	mg/L		-0.00044	0.00044			
WG599030LFB	LFB	10/11/24 14:46	MS241008-3	.0501		.05644	mg/L	113	85	115			
L90587-01AS	AS	10/11/24 14:50	MS241008-3	.0501	.00337	.0579	mg/L	109	70	130			
L90587-01ASD	ASD	10/11/24 14:52	MS241008-3	.0501	.00337	.05808	mg/L	109	70	130	0	20	

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ACZ Project ID: ***L90587***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Arsenic, total recoverable EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599029													
WG599029ICV	ICV	10/11/24 13:08	MS240930-3	.05		.04983	mg/L	100	90	110			
WG599029ICB	ICB	10/11/24 13:10				U	mg/L		-0.0006	0.0006			
WG598946LRB	LRB	10/11/24 13:12				U	mg/L		-0.00044	0.00044			
WG598946LFB	LFB	10/11/24 13:14	MS240911-3	.0501		.04924	mg/L	98	85	115			
L90587-03LFM	LFM	10/11/24 13:42	MS240911-3	.0501	.00384	.05181	mg/L	96	70	130			
L90587-03LFMD	LFMD	10/11/24 13:44	MS240911-3	.0501	.00384	.05351	mg/L	99	70	130	3	20	
L90620-01LFM	LFM	10/11/24 14:08	MS240911-3	.0501	U	.04907	mg/L	98	70	130			
L90620-01LFMD	LFMD	10/11/24 14:10	MS240911-3	.0501	U	.04901	mg/L	98	70	130	0	20	

Cadmium, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599030													
WG599030ICV	ICV	10/11/24 14:42	MS240930-3	.05		.050308	mg/L	101	90	110			
WG599030ICB	ICB	10/11/24 14:44				U	mg/L		-0.00011	0.00011			
WG599030LFB	LFB	10/11/24 14:46	MS241008-3	.05005		.054283	mg/L	108	85	115			
L90587-01AS	AS	10/11/24 14:50	MS241008-3	.05005	.03	.083619	mg/L	107	70	130			
L90587-01ASD	ASD	10/11/24 14:52	MS241008-3	.05005	.03	.083536	mg/L	107	70	130	0	20	

Cadmium, total recoverable EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599029													
WG599029ICV	ICV	10/11/24 13:08	MS240930-3	.05		.049829	mg/L	100	90	110			
WG599029ICB	ICB	10/11/24 13:10				U	mg/L		-0.00015	0.00015			
WG598946LRB	LRB	10/11/24 13:12				U	mg/L		-0.00011	0.00011			
WG598946LFB	LFB	10/11/24 13:14	MS240911-3	.05005		.047689	mg/L	95	85	115			
L90587-03LFM	LFM	10/11/24 13:42	MS240911-3	.05005	.0314	.078198	mg/L	94	70	130			
L90587-03LFMD	LFMD	10/11/24 13:44	MS240911-3	.05005	.0314	.079321	mg/L	96	70	130	1	20	
L90620-01LFM	LFM	10/11/24 14:08	MS240911-3	.05005	.000273	.04664	mg/L	93	70	130			
L90620-01LFMD	LFMD	10/11/24 14:10	MS240911-3	.05005	.000273	.046435	mg/L	92	70	130	0	20	

Calcium, dissolved EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599089													
WG599089ICV	ICV	10/10/24 20:59	II240928-4	100		98.56	mg/L	99	95	105			
WG599089ICB	ICB	10/10/24 21:05				U	mg/L		-0.3	0.3			
WG599089LFB	LFB	10/10/24 21:17	II241007-1	67.92919		66.82	mg/L	98	85	115			
L90587-07AS	AS	10/10/24 22:36	II241007-1	67.92919	40.1	108.3	mg/L	100	85	115			
L90587-07ASD	ASD	10/10/24 22:39	II241007-1	67.92919	40.1	105.2	mg/L	96	85	115	3	20	

Copper, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599030													
WG599030ICV	ICV	10/11/24 14:42	MS240930-3	.05		.05324	mg/L	106	90	110			
WG599030ICB	ICB	10/11/24 14:44				U	mg/L		-0.00176	0.00176			
WG599030LFB	LFB	10/11/24 14:46	MS241008-3	.05005		.05739	mg/L	115	85	115			
L90587-01AS	AS	10/11/24 14:50	MS241008-3	.05005	.054	.10563	mg/L	103	70	130			
L90587-01ASD	ASD	10/11/24 14:52	MS241008-3	.05005	.054	.1071	mg/L	106	70	130	1	20	

GEOSYNTEC

ACZ Project ID: ***L90587***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Copper, total recoverable EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599029													
WG599029ICV	ICV	10/11/24 13:08	MS240930-3	.05		.05288	mg/L	106	90	110			
WG599029ICB	ICB	10/11/24 13:10				U	mg/L		-0.0024	0.0024			
WG598946LRB	LRB	10/11/24 13:12				U	mg/L		-0.00176	0.00176			
WG598946LFB	LFB	10/11/24 13:14	MS240911-3	.05005		.05104	mg/L	102	85	115			
L90587-03LFM	LFM	10/11/24 13:42	MS240911-3	.05005	.0618	.10733	mg/L	91	70	130			
L90587-03LFMD	LFMD	10/11/24 13:44	MS240911-3	.05005	.0618	.11201	mg/L	100	70	130	4	20	
L90620-01LFM	LFM	10/11/24 14:08	MS240911-3	.05005	.00103	.04449	mg/L	87	70	130			
L90620-01LFMD	LFMD	10/11/24 14:10	MS240911-3	.05005	.00103	.04456	mg/L	87	70	130	0	20	

Iron, dissolved EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599089													
WG599089ICV	ICV	10/10/24 20:59	II240928-4	2		1.996	mg/L	100	95	105			
WG599089ICB	ICB	10/10/24 21:05				U	mg/L		-0.18	0.18			
WG599089LFB	LFB	10/10/24 21:17	II241007-1	1.003		1.038	mg/L	103	85	115			
L90587-07AS	AS	10/10/24 22:36	II241007-1	1.003	U	1.1	mg/L	110	85	115			
L90587-07ASD	ASD	10/10/24 22:39	II241007-1	1.003	U	1.078	mg/L	107	85	115	2	20	

Iron, total recoverable EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599161													
WG599161ICV	ICV	10/11/24 17:20	II240928-4	2		2.012	mg/L	101	95	105			
WG599161ICB	ICB	10/11/24 17:26				U	mg/L		-0.18	0.18			
WG598934LRB	LRB	10/11/24 17:38				U	mg/L		-0.132	0.132			
WG598934LFB	LFB	10/11/24 17:41	II241007-1	1.003		1.003	mg/L	100	85	115			
L90582-04LFM	LFM	10/11/24 18:06	II241007-1	1.003	U	1.101	mg/L	110	70	130			
L90582-04LFMD	LFMD	10/11/24 18:15	II241007-1	1.003	U	1.145	mg/L	114	70	130	4	20	
L90587-07LFM	LFM	10/11/24 18:39	II241007-1	1.003	U	1.053	mg/L	105	70	130			
L90587-07LFMD	LFMD	10/11/24 18:41	II241007-1	1.003	U	1.086	mg/L	108	70	130	3	20	

Lead, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599030													
WG599030ICV	ICV	10/11/24 14:42	MS240930-3	.05		.0522	mg/L	104	90	110			
WG599030ICB	ICB	10/11/24 14:44				U	mg/L		-0.00022	0.00022			
WG599030LFB	LFB	10/11/24 14:46	MS241008-3	.05005		.0543	mg/L	108	85	115			
L90587-01AS	AS	10/11/24 14:50	MS241008-3	.05005	.0102	.06469	mg/L	109	70	130			
L90587-01ASD	ASD	10/11/24 14:52	MS241008-3	.05005	.0102	.06518	mg/L	110	70	130	1	20	

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ACZ Project ID: ***L90587***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lead, total recoverable EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599029													
WG599029ICV	ICV	10/11/24 13:08	MS240930-3	.05		.05137	mg/L	103	90	110			
WG599029ICB	ICB	10/11/24 13:10				U	mg/L		-0.0003	0.0003			
WG598946LRB	LRB	10/11/24 13:12				U	mg/L		-0.00022	0.00022			
WG598946LFB	LFB	10/11/24 13:14	MS240911-3	.05005		.05002	mg/L	100	85	115			
L90587-03LFM	LFM	10/11/24 13:42	MS240911-3	.05005	.0108	.06022	mg/L	99	70	130			
L90587-03LFMD	LFMD	10/11/24 13:44	MS240911-3	.05005	.0108	.0615	mg/L	101	70	130	2	20	
L90620-01LFM	LFM	10/11/24 14:08	MS240911-3	.05005	.00027	.05204	mg/L	103	70	130			
L90620-01LFMD	LFMD	10/11/24 14:10	MS240911-3	.05005	.00027	.05191	mg/L	103	70	130	0	20	

Magnesium, dissolved EPA 200.7

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599089													
WG599089ICV	ICV	10/10/24 20:59	II240928-4	100		97.88	mg/L	98	95	105			
WG599089ICB	ICB	10/10/24 21:05				U	mg/L		-0.6	0.6			
WG599089LFB	LFB	10/10/24 21:17	II241007-1	50.59457		49.91	mg/L	99	85	115			
L90587-07AS	AS	10/10/24 22:36	II241007-1	50.59457	3.9	55.2	mg/L	101	85	115			
L90587-07ASD	ASD	10/10/24 22:39	II241007-1	50.59457	3.9	53.75	mg/L	99	85	115	3	20	

Manganese, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599030													
WG599030ICV	ICV	10/11/24 14:42	MS240930-3	.05		.05054	mg/L	101	90	110			
WG599030ICB	ICB	10/11/24 14:44				U	mg/L		-0.00088	0.00088			
WG599030LFB	LFB	10/11/24 14:46	MS241008-3	.0501		.05159	mg/L	103	85	115			
L90587-01AS	AS	10/11/24 14:50	MS241008-3	.0501	7.37	7.34755	mg/L	-45	70	130			M3
L90587-01ASD	ASD	10/11/24 14:52	MS241008-3	.0501	7.37	7.35202	mg/L	-36	70	130	0	20	M3
WG599241													
WG599241ICV	ICV	10/14/24 14:48	MS240930-3	.05		.0505	mg/L	101	90	110			
WG599241ICB	ICB	10/14/24 14:50				U	mg/L		-0.00088	0.00088			
WG599241LFB	LFB	10/14/24 14:52	MS241008-3	.0501		.05352	mg/L	107	85	115			
L90666-02AS	AS	10/14/24 15:14	MS241008-3	.0501	.0273	.078	mg/L	101	70	130			
L90666-02ASD	ASD	10/14/24 15:15	MS241008-3	.0501	.0273	.07777	mg/L	101	70	130	0	20	

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ACZ Project ID: ***L90587***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Manganese, total recoverable EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599029													
WG599029ICV	ICV	10/11/24 13:08	MS240930-3	.05		.0502	mg/L	100	90	110			
WG599029ICB	ICB	10/11/24 13:10				U	mg/L		-0.0012	0.0012			
WG598946LRB	LRB	10/11/24 13:12				U	mg/L		-0.00088	0.00088			
WG598946LFB	LFB	10/11/24 13:14	MS240911-3	.0501		.04839	mg/L	97	85	115			
L90587-03LFM	LFM	10/11/24 13:42	MS240911-3	.0501	8.16	7.95268	mg/L	-414	70	130			M3
L90587-03LFMD	LFMD	10/11/24 13:44	MS240911-3	.0501	8.16	7.9932	mg/L	-333	70	130	1	20	M3
L90620-01LFM	LFM	10/11/24 14:08	MS240911-3	.0501	.0134	.05845	mg/L	90	70	130			
L90620-01LFMD	LFMD	10/11/24 14:10	MS240911-3	.0501	.0134	.05456	mg/L	82	70	130	7	20	
WG599228													
WG599228ICV	ICV	10/14/24 13:24	MS240930-3	.05		.04984	mg/L	100	90	110			
WG599228ICB	ICB	10/14/24 13:27				U	mg/L		-0.0012	0.0012			
WG598946LRB	LRB	10/14/24 13:29				U	mg/L		-0.00088	0.00088			
WG598946LFB	LFB	10/14/24 13:31	MS240911-3	.0501		.04749	mg/L	95	85	115			
L90587-03LFM	LFM	10/14/24 13:39	MS240911-3	.0501	8.85	9.27918	mg/L	857	70	130			M3
L90587-03LFMD	LFMD	10/14/24 13:41	MS240911-3	.0501	8.85	9.69711	mg/L	1691	70	130	4	20	M3
L90620-01LFM	LFM	10/14/24 13:58	MS240911-3	.0501	.0101	.05589	mg/L	91	70	130			
L90620-01LFMD	LFMD	10/14/24 14:00	MS240911-3	.0501	.0101	.05645	mg/L	93	70	130	1	20	
WG599032LRB	LRB	10/14/24 14:07				U	mg/L		-0.00088	0.00088			
WG599032LFB	LFB	10/14/24 14:09	MS241008-3	.0501		.04615	mg/L	92	85	115			

Silver, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599030													
WG599030ICV	ICV	10/11/24 14:42	MS240930-3	.02		.02066	mg/L	103	90	110			
WG599030ICB	ICB	10/11/24 14:44				U	mg/L		-0.00022	0.00022			
WG599030LFB	LFB	10/11/24 14:46	MS241008-3	.01		.01075	mg/L	108	85	115			
L90587-01AS	AS	10/11/24 14:50	MS241008-3	.01	U	.00988	mg/L	99	70	130			
L90587-01ASD	ASD	10/11/24 14:52	MS241008-3	.01	U	.0101	mg/L	101	70	130	2	20	

Silver, total recoverable EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599029													
WG599029ICV	ICV	10/11/24 13:08	MS240930-3	.02		.02062	mg/L	103	90	110			
WG599029ICB	ICB	10/11/24 13:10				U	mg/L		-0.0003	0.0003			
WG598946LRB	LRB	10/11/24 13:12				U	mg/L		-0.00022	0.00022			
WG598946LFB	LFB	10/11/24 13:14	MS240911-3	.01		.00961	mg/L	96	85	115			
L90587-03LFM	LFM	10/11/24 13:42	MS240911-3	.01	U	.00899	mg/L	90	70	130			
L90587-03LFMD	LFMD	10/11/24 13:44	MS240911-3	.01	U	.009	mg/L	90	70	130	0	20	
L90620-01LFM	LFM	10/11/24 14:08	MS240911-3	.01	U	.0084	mg/L	84	70	130			
L90620-01LFMD	LFMD	10/11/24 14:10	MS240911-3	.01	U	.00829	mg/L	83	70	130	1	20	

GEOSYNTEC

ACZ Project ID: ***L90587***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sulfate ASTM D516-07/-11/-16

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG598610													
WG598610ICV	ICV	10/03/24 8:54	WI240925-2	20.02		20	mg/L	100	85	115			
WG598610ICB	ICB	10/03/24 8:54				U	mg/L		-2.5	2.5			
WG598610LFB	LFB	10/03/24 13:31	WI241001-1	10		10.7	mg/L	107	85	115			
L90591-02AS	AS	10/03/24 14:19	SO4TURB25X	10	391	404.2	mg/L	132	85	115			M3
L90591-02ASD	ASD	10/03/24 14:20	SO4TURB25X	10	391	407.7	mg/L	167	85	115	1	20	M3

Zinc, dissolved EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599030													
WG599030ICV	ICV	10/11/24 14:42	MS240930-3	.05		.0511	mg/L	102	90	110			
WG599030ICB	ICB	10/11/24 14:44				U	mg/L		-0.0132	0.0132			
WG599030LFB	LFB	10/11/24 14:46	MS241008-3	.050015		.057	mg/L	114	85	115			
L90587-01AS	AS	10/11/24 14:50	MS241008-3	.050015	4.48	4.4623	mg/L	-35	70	130			M3
L90587-01ASD	ASD	10/11/24 14:52	MS241008-3	.050015	4.48	4.4692	mg/L	-22	70	130	0	20	M3
WG599241													
WG599241ICV	ICV	10/14/24 14:48	MS240930-3	.05		.0485	mg/L	97	90	110			
WG599241ICB	ICB	10/14/24 14:50				U	mg/L		-0.0132	0.0132			
WG599241LFB	LFB	10/14/24 14:52	MS241008-3	.050015		.052	mg/L	104	85	115			
L90666-02AS	AS	10/14/24 15:14	MS241008-3	.050015	.0638	.1117	mg/L	96	70	130			
L90666-02ASD	ASD	10/14/24 15:15	MS241008-3	.050015	.0638	.1121	mg/L	97	70	130	0	20	

Zinc, total recoverable EPA 200.8

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG599029													
WG599029ICV	ICV	10/11/24 13:08	MS240930-3	.05		.0507	mg/L	101	90	110			
WG599029ICB	ICB	10/11/24 13:10				U	mg/L		-0.018	0.018			
WG598946LRB	LRB	10/11/24 13:12				U	mg/L		-0.0132	0.0132			
WG598946LFB	LFB	10/11/24 13:14	MS240911-3	.050015		.049	mg/L	98	85	115			
L90587-03LFM	LFM	10/11/24 13:42	MS240911-3	.050015	4.37	4.2703	mg/L	-199	70	130			M3
L90587-03LFMD	LFMD	10/11/24 13:44	MS240911-3	.050015	4.37	4.3044	mg/L	-131	70	130	1	20	M3
L90620-01LFM	LFM	10/11/24 14:08	MS240911-3	.050015	.0096	.0532	mg/L	87	70	130			
L90620-01LFMD	LFMD	10/11/24 14:10	MS240911-3	.050015	.0096	.0507	mg/L	82	70	130	5	20	
WG599228													
WG599228ICV	ICV	10/14/24 13:24	MS240930-3	.05		.0511	mg/L	102	90	110			
WG599228ICB	ICB	10/14/24 13:27				U	mg/L		-0.018	0.018			
WG598946LRB	LRB	10/14/24 13:29				U	mg/L		-0.0132	0.0132			
WG598946LFB	LFB	10/14/24 13:31	MS240911-3	.050015		.0488	mg/L	98	85	115			
L90620-01LFM	LFM	10/14/24 13:58	MS240911-3	.050015	.0078	.0518	mg/L	88	70	130			
L90620-01LFMD	LFMD	10/14/24 14:00	MS240911-3	.050015	.0078	.0523	mg/L	89	70	130	1	20	
WG599032LRB	LRB	10/14/24 14:07				U	mg/L		-0.0132	0.0132			
WG599032LFB	LFB	10/14/24 14:09	MS241008-3	.050015		.0477	mg/L	95	85	115			

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Geosyntec Consultants

ACZ Project ID: ***L90587***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L90587-01	WG599228	Aluminum, total recoverable	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, total recoverable	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG598610	Sulfate	ASTM D516-07/-11/-16	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599030	Zinc, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599029	Zinc, total recoverable	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L90587-02	WG599228	Aluminum, total recoverable	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, total recoverable	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG598610	Sulfate	ASTM D516-07/-11/-16	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599030	Zinc, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599029	Zinc, total recoverable	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L90587-03	WG599228	Aluminum, total recoverable	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, total recoverable	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG598610	Sulfate	ASTM D516-07/-11/-16	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599030	Zinc, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599029	Zinc, total recoverable	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Geosyntec Consultants

ACZ Project ID: ***L90587***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L90587-04	WG599030	Aluminum, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599029	Manganese, total recoverable	EPA 200.8	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG598610	Sulfate	ASTM D516-07/-11/-16	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L90587-05	WG599030	Aluminum, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599029	Manganese, total recoverable	EPA 200.8	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG598610	Sulfate	ASTM D516-07/-11/-16	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599030	Zinc, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L90587-06	WG599030	Aluminum, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599029	Manganese, total recoverable	EPA 200.8	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG598610	Sulfate	ASTM D516-07/-11/-16	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599030	Zinc, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Inorganic Extended Qualifier Report

Geosyntec Consultants

ACZ Project ID: ***L90587***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L90587-07	WG599030	Aluminum, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599029	Manganese, total recoverable	EPA 200.8	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG598610	Sulfate	ASTM D516-07/-11/-16	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG599030	Zinc, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L90587-08	WG599030	Aluminum, dissolved	EPA 200.8	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG598610	Sulfate	ASTM D516-07/-11/-16	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Certification Qualifiers

Geosyntec Consultants

ACZ Project ID: ***L90587***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Geosyntec Consultants

ACZ Project ID: L90587
Date Received: 10/02/2024 10:57
Received By:
Date Printed: 10/3/2024

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
7513	4.3	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Geosyntec Consultants

ACZ Project ID:	L90587
Date Received:	10/02/2024 10:57
Received By:	
Date Printed:	10/3/2024

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

L90587 Chain of Custo

ACZ Laboratories, Inc. L90587

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Jeff Kurtz
Company: Geosyntec
E-mail: jkurtz@geosyntec.com
Address: 1376 Miners Dr
Lafayette CO 80026
Telephone: 303-243-5582

Copy of Report to:

Name: Ryan Bennett
Company: San Juan Land Holding Co.
E-mail: rtb@sanjuanland.com
Telephone:

Invoice to:

Name:
Company:
E-mail:
Address:
Telephone:

Copy of Invoice to:

Name: Jeff Kurtz
Company: Geosyntec
E-mail: jkurtz@geosyntec.com
Address:
Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Briana Grer Sampler's Site Information State CO Zip code 81433 Time Zone MDT

*Sampler's Signature: Briana Grer

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: BONITA-PEAK-SW
PO#:
Reporting state for compliance testing:
Check box if samples include NRC licensed material?

ANALYSES REQUESTED (Attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	BONITA PEAK SW
AØ7.3	9/30/24 8:50 AM	SW	3	X
AØ7B1	9/30/24 9:40AM	SW	3	X
AØ7B1dup	9/30/24 9:40AM	SW	3	X
DM7	9/30/24 10:30AM	SW	3	X
EG5	9/30/24 12:30PM	SW	3	X
EG4A	9/30/24 1:45PM	SW	3	X
EG4Adup	9/30/24 1:45PM	SW	3	X
BF1	9/30/24 2:40PM	SW	3	X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Last scheduled sampling for EG5, EG4, BF1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Briana Grer	10/01/24 4:15PM		10/2/24 1057

Qualtrax ID: 1984 Revision #: 3 White - Return with sample. Yellow - Retain for your records.

Geosyntec
consultants

APPENDIX F

Data Validation Results

London and Ben Franklin Mines – L90587
Data Validation Checklist
Geosyntec Consultants, Greenwood Village, CO

Project: DE0247 London & Ben Franklin Mines, Silverton, CO	Completed by: O. Bojan	Reviewed by: J. Kurtz
Laboratory Name/Report ID: ACZ/ L90587	Date: 10/17/2024	Date: 10/25/2024

Item	*Y*	*N*	*NA*	*Reviewer*	*Comments*
Field Document Review					
1. Does the total number of samples analyzed in this data package exceed 20 samples (does not include QA samples)?		x			8 samples total including 2 duplicates (A07B1 DUP and EG4A DUP) were evaluated.
If more than 20 samples, review 1 in 20 per the QAPP. List additional samples reviewed in comments.			x		
2. Were all sample identities consistent in field notes, forms, and COC?	x				Field forms were provided, and sample IDs are consistent with COCs.
3. Were field calculations (e.g., field parameters and water levels) accurate?	x				Recorded for each location in the correct units.
4. Were the samples collected, preserved, and shipped in accordance with project specs?	x				The Sample Receipt form noted that the sample cooler temperature was below the acceptable limit of 6.0°C. Field forms reported that samples for sulfate and dissolved metals analysis were filtered in the field.
5. If any problems were detected in the review of selected samples, all samples represented by the data package must be evaluated. Was it necessary to evaluate all samples?	x				All samples were evaluated, and no additional issues were noted.
Chain of Custody (COC)					
1. Is the project name listed?	x				The quote "Bonita-Peak-SW" is listed.
2. Are the client sample IDs listed?	x				
3. Are the sample matrices listed?	x				
4. Are the date & time of sample collection listed for each sample?	x				
5. Are the sample preservations noted?		x			The COC references the quote but does not specify preservations. The lab provides pre-preserved bottles
6. Are the analyses noted?		x			The COC references the quote but does not specify analyses as is standard practice for this lab and project. The lab provides proposed analyses to the PM via email for verification prior to analysis

London and Ben Franklin Mines – L90587
Data Validation Checklist
Geosyntec Consultants, Greenwood Village, CO

Item	*Y*	*N*	*NA*	*Reviewer*	*Comments*
7. Are the samples properly relinquished and received?	x				
Report Review					
1. Sample receipt issues noted/described?	x				No issues were noted in the Case Narrative.
2. Date & time of lab receipt noted?	x				
3. Lab IDs match those listed on COC?	x				
4. Lab completed analyses for all samples collected?	x				
5. Did all samples arrive in good condition at the laboratory?	x				
6. Was the sample login information complete and compared to the COC?	x				
7. Is the report narrative present and complete?	x				Cover and reference pages provided.
8. Did the case narrative flag any issues not noted elsewhere?		x			No issues noted.
9. Did the electronic data deliverable (EDD) match the lab report?	x				Confirmed.

Comments:

Analysis: Dissolved and Total Recoverable (TR) Metals by EPA Methods 200.7 ICP and 200.8 ICP-MS	*Y*	*N*	*NA*	*Reviewer*	*Comments*
A. Initial Review					
1. Are the correct compound lists reported?	x				
2. Are all the compounds reported in the blanks and LCSs?	x				
3. Are the sample results consistently reported to the MDLs?	x				
4. Are the MDLs at or below the project action limit (PAL) listed in the QAPP?		x			Some MDLs for aluminum (Al) and manganese (Mn) were elevated due to sample dilution but were associated with sample concentrations above the PQLs.
5. Are the lab flags defined?	x				
6. Are the units correct?	x				
7. Are the times of analyses reported?	x				
8. Are the methods the same as those in the QAPP?	x				
9. Were lab flags correctly applied?	x				
B. Holding Time and Preservation					

London and Ben Franklin Mines – L90587
Data Validation Checklist
Geosyntec Consultants, Greenwood Village, CO

Analysis: Dissolved and Total Recoverable (TR) Metals by EPA Methods 200.7 ICP and 200.8 ICP-MS	***Y***	***N***	***NA***	***Reviewer***	***Comments***
1. Holding times met?	x				
2. Samples appropriately preserved?	x				No issues noted; samples were preserved with HNO_3 per the field forms.
C. Quality Control (QC) Samples					
1. Blanks: 1/20 samples & should not contain any target analyte at a concentration greater than the RLs?	x				Sufficient ICBs and LRBs were provided for dissolved and TR metals QC. No detections above RLs/PQLs.
a. Review detections in the samples and qualify as appropriate as indicated in the EPA NFG.			x		All affected sample values were greater than 10x the calibration blank concentration.
2. Surrogates (organic analyses only): in all samples & QC samples and within laboratory limits?			x		
a. If surrogates outside the limits, qualify as appropriate as indicated in the EPA NFG.			x		
3. LCS (& LCSD if presented): 1/20 samples and within laboratory limits?	x				LFBs were reported for all compounds and were within QC limits.
a. If recoveries outside the limits, qualify associated samples as appropriate as indicated in the EPA NFG.			x		
b. If LCSD samples are present, evaluate precision. If RPD outside the limits qualify associated samples as appropriate.			x		
4. MS/MSD: 1/20 samples and within laboratory limits?		x			LFM/LFMD or AS/ASD pairs were reported for all compounds. All recoveries and RPDs were within QC limits except for the following: • Dissolved Al in the AS/ASD run on A07B in WG599030; % recoveries were below QC limits. • TR Al in the LFM/LFMD run on A07B1 DUP in WG599029 and WG599228; % recoveries were above QC limits in WG599228 and below QC limits in WG599029. • Dissolved Mn in the AS/ASD run on A07B in WG599030; % recoveries were below QC limits.

Analysis: Dissolved and Total Recoverable (TR) Metals by EPA Methods 200.7 ICP and 200.8 ICP-MS	***Y***	***N***	***NA***	***Reviewer***	***Comments***
					• TR Mn in the LFM/LFMD run on A07B1 DUP in WG599029 and WG599228; % recoveries were above QC limits in WG599228 and below QC limits in WG599029. • Dissolved zinc (Zn) in the AS/ASD run on A07B in WG599030; % recoveries were below QC limits. • TR Zn in the LFM/LFMD run on A07B1 DUP in WG599029; % recoveries were below QC limits. The results in the LFM/LFMD or AS/ASD and associated samples were qualified "M3" indicating the % recoveries are unusable since the analyte concentration in the sample is disproportionate to the spike level. The % recoveries of the associated control samples (LCS or LFB) were acceptable. No additional qualification is required.
a. If recoveries or RPD outside the limits, qualify associated sample as appropriate as indicated in the EPA NFG.			x		RPDs for AS/ASDs and LFM/LFMDs were reported and were within QC limits.
5. Laboratory Duplicate: 1/20 sample and within laboratory limits?	x				RPDs for AS/ASDs and LFM/LFMDs were within QC limits.
a. If RPD outside the limits, qualify associated sample as appropriate as indicated in the EPA NFG.			x		
6. Instrument Performance Checks, Internal Standard Areas (and other laboratory QC not listed above) within laboratory limits?	x				ICV reported for all compounds and within QC limits. CCV not provided for this level of reporting.
D. Field QC Samples					
1. Field QC analyzed (e.g., field blanks, dups)?	x				Two duplicate samples (A07B1 DUP and EG4A DUP) are evaluated below.
2. Field QC blank results acceptable:					
a. Field blank?			x		Not required by SAP
b. Equipment blank?			x		No equipment rinse blank is required per the SAP based on use of disposable sampling equipment.

London and Ben Franklin Mines – L90587
Data Validation Checklist
Geosyntec Consultants, Greenwood Village, CO

Analysis: Dissolved and Total Recoverable (TR) Metals by EPA Methods 200.7 ICP and 200.8 ICP-MS	***Y***	***N***	***NA***	***Reviewer***	***Comments***
3. Field duplicate analyzed?	x				
4. Field duplicate RPD criteria met (50% RPD metals)?	x				See comparison table. No qualifiers required.

Notes:

Analysis: Sulfate by ASTM Method D516-02/-07/-11 - Turbidimetric	***Y***	***N***	***NA***	***Reviewer***	***Comments***
A. Initial Review					
1. Are the correct compound lists reported?	x				
2. Are the sample results consistently reported to the RLs?	x				
3. Are the MDLs at or below the PAL listed in the QAPP?		x			MDLs are above the PALs listed in the QAPP but are elevated due to sample dilutions; concentrations above the PQLs.
4. Are the lab flags defined?	x				
5. Are the units correct?	x				
6. Are the times of analyses reported?	x				
7. Are the methods the same as those in the QAPP?	x				
8. Were lab flags correctly applied?	x				
B. Holding Time and Preservation					
1. Holding times met?	x				
2. Samples appropriately preserved?	x				
C. Quality Control (QC) Samples					
1. Blanks: 1/20 samples & should not contain any target analyte at a concentration greater than the MDLs?	x				One ICB was reported and is within QC limits.
a. Review detections in the samples and qualify as appropriate as indicated in the EPA NFG.			x		
2. Surrogates (organic analyses only): in all samples & QC samples and within laboratory limits?			x		
a. If surrogates outside the limits, qualify as appropriate as indicated in the EPA NFG.			x		
3. LCS (& LCSD if presented): 1/20 samples and within laboratory limits?	x				One LFB was reported and is within QC limits.

London and Ben Franklin Mines – L90587
Data Validation Checklist
Geosyntec Consultants, Greenwood Village, CO

Analysis: Sulfate by ASTM Method D516-02/-07/-11 - Turbidimetric	***Y***	***N***	***NA***	***Reviewer***	***Comments***
a. If recoveries outside the limits, qualify associated samples as appropriate as indicated in the EPA NFG.			x		
b. If LCSD samples are present, evaluate precision. If RPD outside the limits qualify associated samples as appropriate.			x		
4. MS/MSD: 1/20 samples and within laboratory limits?		x			One AS/ASD pair was reported using a sample unrelated to this SDG. The AS is qualified "M3" to indicate that the spike recovery value is unusable since the sulfate concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
a. If recoveries or RPD outside the limits, qualify associated sample as appropriate as indicated in the EPA NFG.			x		No additional qualification is required.
5. Laboratory Duplicate: 1/20 sample and within laboratory limits?	x				RPD for the AS/ASD was within QC limits.
a. If RPD outside the limits, qualify associated sample as appropriate as indicated in the EPA NFG.			x		
6. Instrument Performance Checks, Internal Standard Areas (and other laboratory QC not listed above) within laboratory limits?	x				ICV reported and within QC limits. CCV not provided for this level of reporting.
D. Field QC Samples					
1. Field QC analyzed (e.g., field blanks, dups)?	x				Two duplicate samples (A07B1 DUP and EG4A DUP) are evaluated below.
2. Field QC blank results acceptable:					
a. Field blank?			x		Not required by SAP
b. Equipment blank?			x		No equipment rinse blank is required per the SAP based on use of disposable sampling equipment.
3. Field duplicate analyzed?	x				
4. Field duplicate RPD criteria met (20% RPD)?	x				See comparison table. No qualifiers required.

Notes:

London and Ben Franklin Mines – L90587
Data Validation Checklist
Geosyntec Consultants, Greenwood Village, CO

Analysis: Hardness as CaCO3 (dissolved) by Method SM2340B	***Y***	***N***	***NA***	***Reviewer***	***Comments***
A. Initial Review					
1. Are the correct compound lists reported?	x				
2. Are the sample results consistently reported to the RLs?	x				
3. Are the MDLs at or below the PAL listed in the QAPP?	x				PQL calculation reported at 5 mg/L with MDL of 0.2 or an MDL of 0.5 mg/L.
4. Are the lab flags defined?	x				
5. Are the units correct?	x				
6. Are the times of analyses reported?	x				
7. Are the methods the same as those in the QAPP?	x				
8. Were lab flags correctly applied?			x		No flags were necessary.
B. Holding Time and Preservation					
1. Holding times met?	x				
2. Samples appropriately preserved?	x				
C. Quality Control (QC) Samples					
1. Blanks: 1/20 samples & should not contain any target analyte at a concentration greater than the MDLs?			x		
a. Review detections in the samples and qualify as appropriate as indicated in the EPA NFG.			x		
2. Surrogates (organic analyses only): in all samples & QC samples and within laboratory limits?			x		
a. If surrogates outside the limits, qualify as appropriate as indicated in the EPA NFG.			x		
3. LCS (& LCSD if presented): 1/20 samples and within laboratory limits?			x		
a. If recoveries outside the limits, qualify associated samples as appropriate as indicated in the EPA NFG.			x		
b. If LCSD samples are present, evaluate precision. If RPD outside the limits qualify associated samples as appropriate.			x		
4. MS/MSD: 1/20 samples and within laboratory limits?			x		
a. If recoveries or RPD outside the limits, qualify associated sample as appropriate as indicated in the EPA NFG.			x		

London and Ben Franklin Mines – L90587
Data Validation Checklist
Geosyntec Consultants, Greenwood Village, CO

Analysis: Hardness as CaCO3 (dissolved) by Method SM2340B	***Y***	***N***	***NA***	***Reviewer***	***Comments***
5. Laboratory Duplicate: 1/20 sample and within laboratory limits?			x		
a. If RPD outside the limits, qualify associated sample as appropriate as indicated in the EPA NFG.			x		
6. Instrument Performance Checks, Internal Standard Areas (and other laboratory QC not listed above) within laboratory limits?			x		
D. Field QC Samples					
1. Field QC analyzed (e.g., field blanks, dups)?	x				Two duplicate samples (A07B1 DUP and EG4A DUP) are evaluated below.
2. Field QC blank results acceptable:					
a. Field blank?			x		Not required by SAP
b. Equipment blank?			x		No equipment rinse blank is required per the SAP based on use of disposable sampling equipment.
3. Field duplicate analyzed?	x				
4. Field duplicate RPD criteria met (20% RPD)?	x				See comparison table. No qualifiers required.

Notes:

Definitions

EPA NFG - USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020, (OLEM 9240.1-66, EPA 542-R-20-006)
QAPP - Quality Assurance Project Plan
SAP – Sampling and Analysis Plan
QC - Quality Control
MDL - Method Detection Limit
RL - Reporting Limit
PQL – Practical Quantitation Limit
RPD – Relative Percent Difference
LCS - Laboratory Control Sample
LCSD – Laboratory Control Sample Duplicate
MS – Matrix Spike
MSD – Matrix Spike Duplicate
LFB – Laboratory Fortified Blank

LRB –Laboratory Reagent Blank
AS – Analytical Spike (Post Digestion)
ASD – Analytical Spike (Post Digestion) Duplicate
LFM – Laboratory Fortified Matrix
LFMD –Laboratory Fortified Matrix Duplicate
DUP – Sample Duplicate
ICB – Initial Calibration Blank
ICV – Initial Calibration Verification standard
CCV – Continuing Calibration Verification standard

Ben Franklin Mine Data Validation
EG4A AND EG4A (DUP)
SEPTEMBER 2024 - SAMPLE / SAMPLE DUP COMPARISON

Samp id	Type	Samp date	Analysis	Analyte	Result (mg/L)	RL	RLx5	+/-	% RPD	Flag?
EG4A	SA	9/30/2024	Dissolved	Calcium, dissolved	39.9	0.5	2.5		-0.50	N
EG4ADUP	FD	9/30/2024	Dissolved	Calcium, dissolved	40.1	0.5				
EG4A	SA	9/30/2024	Dissolved	Magnesium, dissolved	3.88	1	5	4.8800		N
EG4ADUP	FD	9/30/2024	Dissolved	Magnesium, dissolved	3.9	1		2.9000		
EG4A	SA	9/30/2024	Dissolved	Aluminum, dissolved	0.024	0.015	0.075	0.0390		N
EG4ADUP	FD	9/30/2024	Dissolved	Aluminum, dissolved	0.0316	0.015		0.0166		
EG4A	SA	9/30/2024	Total Recoverable	Aluminum, total recoverable	0.0404	0.015	0.075	0.0554		N
EG4ADUP	FD	9/30/2024	Total Recoverable	Aluminum, total recoverable	0.04	0.015		0.0254		
EG4A	SA	9/30/2024	Dissolved	Cadmium, dissolved	0.000882	0.00025	0.0013	0.001132		N
EG4ADUP	FD	9/30/2024	Dissolved	Cadmium, dissolved	0.000862	0.00025		0.000632		
EG4A	SA	9/30/2024	Total Recoverable	Cadmium, total recoverable	0.000841	0.00025	0.0013	0.001091		N
EG4ADUP	FD	9/30/2024	Total Recoverable	Cadmium, total recoverable	0.000847	0.00025		0.000591		
EG4A	SA	9/30/2024	Dissolved	Copper, dissolved	0.00288	0.002	0.01	0.0049		N
EG4ADUP	FD	9/30/2024	Dissolved	Copper, dissolved	0.00295	0.002		0.0010		
EG4A	SA	9/30/2024	Total Recoverable	Copper, total recoverable	0.00415	0.002	0.01	0.00615		N
EG4ADUP	FD	9/30/2024	Total Recoverable	Copper, total recoverable	0.00407	0.002		0.00215		
EG4A	SA	9/30/2024	Dissolved	Lead, dissolved	0.00023	0.0005	0.0025	0.00073		N
EG4ADUP	FD	9/30/2024	Dissolved	Lead, dissolved	0.0004	0.0005		-0.00027		
EG4A	SA	9/30/2024	Total Recoverable	Lead, total recoverable	0.00138	0.0005	0.0025	0.00188		N
EG4ADUP	FD	9/30/2024	Total Recoverable	Lead, total recoverable	0.00144	0.0005		0.00088		
EG4A	SA	9/30/2024	Dissolved	Manganese, dissolved	0.0682	0.002	0.01		1.63	N
EG4ADUP	FD	9/30/2024	Dissolved	Manganese, dissolved	0.0671	0.002				
EG4A	SA	9/30/2024	Total Recoverable	Manganese, total recoverable	0.0698	0.002	0.01		-0.29	N
EG4ADUP	FD	9/30/2024	Total Recoverable	Manganese, total recoverable	0.0700	0.002				
EG4A	SA	9/30/2024	Dissolved	Zinc, dissolved	0.396	0.015	0.075		2.56	N
EG4ADUP	FD	9/30/2024	Dissolved	Zinc, dissolved	0.386	0.015				
EG4A	SA	9/30/2024	Total Recoverable	Zinc, total recoverable	0.366	0.015	0.075		1.10	N
EG4ADUP	FD	9/30/2024	Total Recoverable	Zinc, total recoverable	0.362	0.015				
Samp id	**Type**	**Samp date**	**Analysis**	**Analyte**	**Result (mg/L)**	**RL**	**RLx5**	**+/-**	**% RPD**	**Flag?**
EG4A	SA	9/30/2024		Sulfate	80.7	25	125	105.7		N
EG4ADUP	FD	9/30/2024		Sulfate	88.9	25		63.9		
Samp id	**Type**	**Samp date**	**Analysis**	**Analyte**	**Result (mg/L)**	**RL**	**RLx5**	**+/-**	**% RPD**	**Flag?**
EG4A	SA	9/30/2024	Dissolved	Hardness as CaCO3	116	5	25		0.00	N
EG4ADUP	FD	9/30/2024	Dissolved	Hardness as CaCO3	116	5				

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APPENDIX G

Metadata Attachment to Figure 1

Core EPA Metadata Fields https://www.epa.gov/geospatial/epa-metadata-technical-specification

Field Name	Description	Required?	Geospatial Only?	Applicable to DE0247?
Title	"Surface Water Sampling Locations, Ben Franklin Mine, Eureka Gulch, Colorado, September 2022, Geosyntec Consultants, Greenwood Village, Colorado (EPA Region 8)"	Yes		Yes
Description	"A total of 4 surface water samples were collected (including one duplicate) at the historic Ben Franklin Mine in Eureka Gulch, within the Bonita Peak Mining District Superfund site, near Silverton, Colorado. Locations were selected upstream and downstream of the area of adit discharge and at the adit discharge. A fifth surface water location had a trickle of flow from a rain event and only flow was measured. The five GPS locations were differentially corrected and imported into a file geodatabase, attributed to indicate location, sample collection procedure, and notes."	Yes		Yes
Tags (General)				
Tags (ISO)				
Tags (Place)				
Tags (EPA Org)				
Tags (EPA Theme)				
Tags (Federal Program Code)				
Last Update				
Publishing Organization	Geosyntec Consultants	Yes		Yes
Publisher	Geosyntec Consultants	Yes		Yes
Publisher Email	jkurtz@geosyntec.com	Yes		Yes
Identifier				
Access Level				
Rights				
Data License				
System of Records				
General Use Limitation				
Spatial Extent				
Temporal				
Distribution URL				
Metadata Date Stamp				
Update Frequency				
Metadata Responsible Party				
Language	English	Yes		Yes
County	San Juan County			
Spatial Reference				
Spatial Data Representation				

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APPENDIX H

2022 Willow Planting and 2023 Willow Growth Photographs

Geosyntec Consultants Photographic Record

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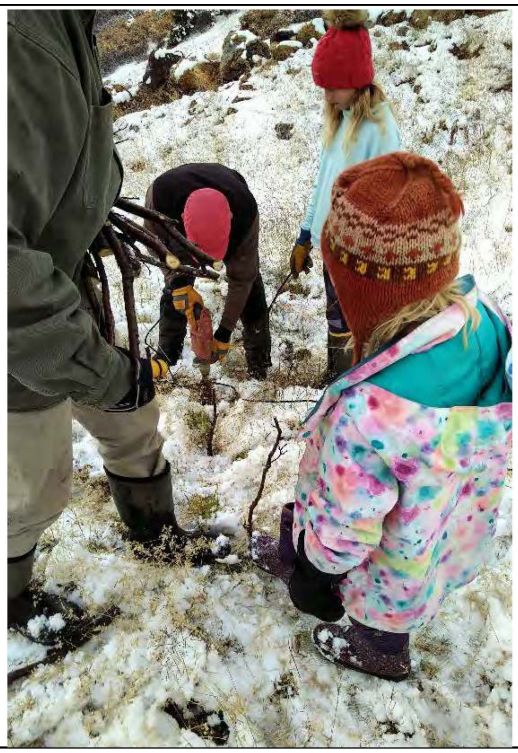
engineers | scientists | innovators

Client: Eureka Gulch Properties LLC	**Project Number: DE0247**
Site Name: Ben Franklin Mine/Bonita Peak NPL	**Site Location: Silverton, CO**

Photograph 1 **Date: 10/01/2022** **Direction: W** **Comments: Hand planting of willows into ¾ inch drilled holes on southern portion of Ben Franklin reclaimed waste rock dump**	
Photograph 2 **Date: 9/25/2023** **Direction:** **Comments: Willow growth on reclaimed Ben Franklin waste rock since 2022**