

# 2022

## ANNUAL HYDROLOGIC REPORT



BOWIE RESOURCES, LLC  
BOWIE NO. 2 MINE  
P.O. BOX 483  
PAONIA, COLORADO 81428  
PERMIT C-1996-083

PREPARED BY:



**2022Annual Hydrology Report**

**Bowie Resources, LLC**

**Bowie No. 2 Mine**

**Permit Number C-1996-083**

**Paonia, Colorado**

## **Introduction**

The Bowie No. 2 Mine was built and opened by Bowie Resources during the spring and summer months of 1997 with coal production/development beginning on August 15, 1997. This room and pillar operation began developing a main and submain system of underground entries to provide the ventilation, haulage and coal conveyor support for years to come. These entries are driven carefully on projections, held to minimum widths with larger than normal coal pillars left in place to assure adequate support for the life of the mine. The mine began longwall production during November 1999.

The following 2022 Annual Hydrology Report describes the hydrologic monitoring for surface and ground water within the permit and adjacent area of the Bowie No. 2 Mine and presents baseline data for the natural mine plan progression.

In this report, springs, ponds and streams (including ditches, rivers, and canals) are considered surface water. Alluvial wells and drill holes are sampled and analyzed as ground water. Please refer to the permit application for a discussion of the methods employed during the gathering of field parameters. Permit Map-09 (attached as an exhibit in this report) indicates the location of all monitoring points referred to in this report.

At the request of the Division, we have included baseline data for all Springs, Streams, Drill Holes and Alluvial Wells on the annual tabulation figures. Previously, parameters not tested and tested but found below the Method Detection Limit (MDL) were left blank. Blank cells represent a "not tested" condition, while a "<MDL" notation is made for the condition where a parameter falls below the Method Detection Limit. Additional requests from the Division during the approval process for PR-04 have added other improvements to the tables, including minimum/maximum/average values for the baseline period and minimum/maximum/average values for the operational influenced period of the monitoring point.

Table 1 (immediately following this narrative) defines the monitoring points by type and sample frequency, field parameter sampling schedule and laboratory parameter sampling schedule.

Table 2 contains a listing of the laboratory parameters for surface and ground water to be tested in accordance with the mining permit application. Laboratory analysis are performed by ACZ Laboratories, INC., 2773 Downhill Dr, Steamboat Springs, CO 80407 and Enviro-Chem Analytical, Inc., 685 West Gunnison Avenue, Grand Junction, CO.

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Table 3 contains a listing of the field parameters and their application to the Springs, Streams, Drill Holes and Ponds within the permit boundary. Flow readings for springs and small streams are reported in gallons per minute. Stream and river flows are reported in cubic feet per second.

Table 4 contains local precipitation data for the year. This data is available from the internet at [www.wrcc.dri.edu/summary/Climsmco.html](http://www.wrcc.dri.edu/summary/Climsmco.html) select Paonia 1 SW (056306). The average precipitation for the period of record (1893 through 2016) is 15.39 inches. Precipitation during 2016 totaled 11.61 inches which is below average. Data recorded at the Bowie no. 2 mine site through December 31, 2022 is 12.16 inches. That number does not necessarily reflect the total snowfall received at the mine, overall the precipitation was above average when snowfall is taken into account.

Table 5 contains a listing of all monitoring points, with descriptions of their locations and a reference to the Monitoring Point Figure that contains this year's monitoring data. The included charts are given a figure number. During 2015 and 2016, approval of Technical Revision Nos. 103 and 107 eliminated, or temporarily suspended forty-seven (47) monitoring points. Table 5 hi-lights the changes to the monitoring program.

Monitoring point figures follow this introduction. Each Monitoring Point has an individual table which tabulates the annual data collection and reports Minimum, Maximum, Average and Baseline data. A reference in each footnote explains the period used for baseline data.

Flow data for the North Fork of the Gunnison River is obtained from the USGS from a website <http://nwiscolo.cr.usgs.gov/historic.html>. This flow reading is obtained telemetrically from a station near Somerset, CO and is reflective of upper river flows only. This monitoring point is identified by the USGS as 09132500.

Flow data for the Fire Mountain Canal is obtained from Mr. Trey Dennison, member of the Fire Mountain Canal and Reservoir Company, whose phone number is (970) 527-5166 or cell (970) 589-2857. This flow is representative of the upper and lower flows.

Monitoring point identifiers near the mine portals are historic and follow no specific naming convention. Monitoring points located in other areas typically follow a convention where the first letter(s) designates a water source type, such as "S" for Spring or "SP" for Spring and Pond. The numeral(s) following the first letter designate what Section the water source is located, for instance, SP34-2 would be a spring and pond in Section 34. The numeral separated with a dash indicates an index number for that point. SP34-2 would be the second monitoring point found in Section 34.

### **CDPS Monitoring Points**

DMRs are submitted monthly to the Colorado Department of Public Health and Environment with copies to the Division of Reclamation, Mining and Safety and are included herein by reference.

### **North Fork Alluvium Monitoring Wells**

Alluvial monitoring wells AW-1 through AW-6 are located near the mine entrance along the north side of Bowie Road. These wells are monitored quarterly for field parameters and semi-annually for full suite laboratory parameters during the second and fourth quarters in accordance with the permit application. Alluvial monitoring wells AW-7 through AW-9 are located near the mine entrance along the south side of Bowie Road. AW-10 cannot be reliably sampled due to a collapse of the casing, and was eliminated from the monitoring plan. These wells were installed as a requirement of PR-03 which allowed the mine operator to relocate Sediment Pond B to the south side of the highway. Alluvial Wells 11 through 13 were installed during the fall of 2000 to monitor the alluvium in the area where the new coal loadout (PR-06) was constructed. Alluvial well 13 was eliminated by the construction of the unit train loadout. Alluvial well 14 was installed during 2003 west of Pond K. Alluvial wells 15 through 17 were installed during the fourth quarter of 2003 and are located north of Bowie Road below coal mine waste disposal area #2.

The 2022 sampling season provides results consistent with baseline information provided in the permit application, showing no adverse impact to groundwater during the construction of the mine, however 2022 was relatively dry through the summer and beginning of summer, so laboratory samples were not obtained for many well sites. There has not been any significant degradation of alluvial wells 11 and 12 which are located below gob pile #3. Alluvial well 6 continued have high conductivity values this year, and the values have been trending higher. Alluvial well 3's conductivity values are also trending higher. The well is located below the coal stockpile pad, which has not held a significant amount of coal for the last two years. However, looking at the chart associated with AW-3, since November 1996 it too has been trending higher.

### **Surface Water Monitoring Stations: PONDS**

Ponds were sampled for water quality when discharging or inflows/outflows were occurring. Ponds are typically spring-fed or seep-fed and exhibit diffuse non-concentrated areas of inflow. Often the pond outlets present the only point of concentrated flow at which flow measurements and field parameters can be obtained. Where possible, quality measurements are obtained at the pond inlet. Stagnant water

in ponds is not sampled since water quality results would show the effects of evaporation and stock use and could not be used to evaluate potential mine affects. Ponds are monitored quarterly. The following information is collected for the ponds; 1) inflow; 2) outflow; and 3) water level below spillway outlet or depth of water in pond measured from the bottom of the pond. Field data collected during the 2022 sampling season is consistent with baseline information provided in the permit application.

### **Surface Water Monitoring Stations: SPRINGS**

Forty-nine springs and springs with ponds were monitored during the 2022 monitoring season in accordance with the Hydrologic Monitoring Plan. This plan indicates that identified springs will be inspected quarterly for field parameters with full suite laboratory parameters required on springs with flows greater than five (5) gallons per minute. During the construction phase of the mine, four (4) springs (S-6, S-7, S-9 and S-15) were eliminated by road and portal bench construction activities. The 2022 field and laboratory analysis are consistent with baseline data provided in the permit application. There has been a trend in many of the springs that shows the conductivity increases as the flow decreases. This trend is most likely caused by the increased time the water is in contact with the alluvium because of the lower flows.

### **Surface Water Monitoring Stations: STREAMS AND DITCHES**

Twenty-three surface water monitoring stations including the North Fork of the Gunnison, Terror Creek, Hubbard Creek, Freeman Gulch, the Deer Trail Ditch, Stephens Draw, and the Fire Mountain Canal are monitored quarterly for field parameters and semi-annually for full suite analysis. The results of the 2022 field and laboratory studies are consistent with baseline information supplied in the permit application.

The USGS, with right of way permission from the USDA-Forest Service, installed continuous monitoring stations on both Hubbard and Terror Creeks. Similar stations are installed near each creek's confluence with the North Fork of the Gunnison River. These stations have been calibrated by the USGS's hydrology department and now provide accurate readings for the Annual Hydrology Reports. The USGS did not collect flow data for their station during 2022. Flow data for the creeks were determined by Bowie Resources, LLC during 2022.

### **Surface Water Monitoring Stations: SMALL AREA EXEMPTIONS**

The locations of the small area exemptions are presented on Map 20. The Applicant will monitor the flow from the small area exemptions to assure compliance with 4.05.2(3). The Applicant will use its best efforts to obtain samples. The samples will be analyzed for pH, conductivity and total settleable solids. Samples will be in compliance

if they contain settleable solid levels of 0.5 ml/l or less and the pH is greater than 6.5 and less than 9.0. No small area exemption sampling was performed during the year.

### **Coal Member of Mesaverde**

Eleven bedrock wells were monitored during the 2022 sampling season. These holes were monitored quarterly for field parameters and semi-annually for full suite laboratory analysis. Data collected and evaluated is consistent with the baseline information provided in the permit application except for DH-39 which is adjacent to the repaired DH-15. DH-39 had slightly higher than average conductivity for the one quarter it was monitored, but not as high as in 2022. The trend in increased conductivity began after DH-15 was sealed and replaced with DH-15A, see description in the following paragraph. The mine construction work during 1997 required the elimination of four monitored drill holes. These holes are DH 42, DH 52, DH 54 and DH 55 and were located near the mine portals. Drill Holes DH-13 and DH-34b were eliminated by mining. Drill hole DH-34c was damaged by ground movement. DH-16 is blocked at 60-feet so no monitoring can be performed. Drill Holes DH-57, 57a and DH-58, 58a were added in conjunction with the Terror Creek Coal Exploration Plan, with monitoring beginning in the fall of 1999. Drill holes DH-57 and DH57a were destroyed by longwall mining during 2001. DH-58 and 58a were eliminated by mining during late 2003 so they are no longer monitored.

D-Seam monitoring wells DH-15, DH-25 and DH-38 can no longer be monitored since all three have damaged well casings. During 2016, DH-15 was sealed and replaced by new D-Seam monitoring well DH-15A. The new well is located near the old monitoring well. Monitoring of DH-15A began the fourth quarter of 2016. Conductivity was once again high at DH15A during the 2Q both in the field and laboratory data, but not significantly higher than in 2022. TDS, sulfate, dissolved Calcium and Nitrogen/Ammonia were slightly high although not significantly higher than in 2022. It is unknown why these data points are high but will be monitored in next years' report to determine if there is a trend. It may be that these values are the new normal based on drilling and installing DH-15A.

Drill holes DH-65, DH-66, DH-67D, DH-67blw and DH-67abv were added in conjunction with the Iron Point Federal coal lease, with some monitoring beginning during the fall of 2000. DH-67D was damaged during 2003 so no monitoring was performed. The DH-67 holes were refurbished during 2004. DH-66 was eliminated by mining during early 2004 so it is no longer monitored. DH-67blw had a pinched casing so a new DH-67blw was drilled during 2014. The Operator was able to obtain a sample from DH 67B this year during the second quarter. The site was not accessible during the 1Q.

Drill holes DD-NM4X98-27, 28 and 29 were in-mine monitoring holes which were added

to the monitoring program during 2003. The three monitoring points were abandoned when the mine activity retreated from the east mains in mid 2004. TC-03-01, 02 and 03 were added to the monitoring program during 2003. TC-03-03 was sealed in 2010 because a ventilation shaft was constructed where TC-03-03 was located. Monitoring wells TC-03-01 and TC-03-02 could not be rehabilitated during 2014. The wells could be used as water level piezometers but the wells are not functional for water quality data. Monitoring results for these well is of questionable value.

Drill holes CWI-DH-58 and CWI-DH-60 were added to the monitoring program in 2011 with the approval of permit revision 12 to cover the area west of Terror Creek. Monitoring well CWI-DH-60 was cleaned and rehabilitated between August 20 and August 23, 2014. On August 22, 2014, the well was evacuated using the airlift and bailing techniques and the water quality showed a pH of 7.70 s.u., conductivity of 863  $\mu\text{S}/\text{cm}$ , and temperature of 20.5° C. After a 12 hour recovery period, the SWL was measured at 892.0 feet btoc (August 23, 2014).

A new well CWI-DH-58a was drilled to replace CWI-DH-58 late in 2014. The Applicant drilled DH-2010-1SS and DH-2010-1B during 2011. DH-2010-1B is completed in the B-Seam and DH-2010-1SS is completed in a water bearing zone above the B-Seam. Drill hole 2010-1B was refurbished during 2014. After the 2014 well rehabilitation work, 2010-1B had the following water quality: pH 9.75 su, conductivity 277 umhos/cm, total iron 4.31 mg/l, manganese 0.0621 mg/l.

## **Conclusion**

The results of the hydrologic monitoring conducted during the 2022 season indicate consistent chemical and physical properties when compared with the baseline values provided in the permit application. Longwall mining is the focus of all mining operations at Bowie No. 2 Mine. Longwall mining ceased February 26, 2016 so there was no mining during the calendar year. Prior mining has not affected the local hydrology during the current year. Water quality at all monitored sites remains good overall and no chemical or physical impacts have been noted. Except as noted above, none of the field or laboratory parameter results indicate an adverse impact associated with the mining operations of the Bowie No. 2 Mine on the local hydrology.

Many sites require four quarters of sampling for field parameters (Terror Creek Drainage system, Dove Gulch, nearly all of the Ponds, many of the S-Series Springs, etc.). However, due to drought conditions and/or snow during the winter months, many sites did not have water available to obtain samples for field or laboratory parameters. In those cases, if there were field parameters obtained and no laboratory data listed, it

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means there was not enough water to obtain a sample to send to the lab.

### Summary of Hydrology Monitoring Stations

Station Number	Station Name	Elevation (ft.)	Depth (ft.)	Frequency of Measurements		Report Frequency	Report Format		Comments
				Field Par.	Lab. Par.		AHR	DMR	
<b>Surface Water Monitoring - SPRINGS WITH PONDS</b>									
SP5-1	Terror Creek-Spring/Pond 5-1	7400		Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
SP6-4	Terror Creek-Spring/Pond 6-4	8040		Quarterly	Quarterly	Annually	Yes	No	Temporarily Suspended TR-103
SP7-1	Terror Creek-Spring/Pond 7-1	7780		Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
SP7-5	Stevens Gulch-Spring/Pond 7-5	8300		Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
SP12-4	Stevens Gulch-Spring/Pond12-4	8040		Quarterly	Quarterly	Annually	Yes	No	Permanently Suspended TR-103
SP16	Terror Creek-Spring/Pond 16	7780		Quarterly	Quarterly	Annually	Yes	No	Temporarily Suspended TR-103
SP17	Terror Creek-Spring/Pond 17	7520		Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
SP18	Terror Creek-Spring/Pond 18	7280		Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
SP19	Stevens Gulch-Spring/Pond 19	8240		Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
SP20	Terror Creek-Spring/Pond 20	7840	4	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
SP22	Terror Creek-Spring/Pond 22	7560		Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
SP23	Stevens Gulch-Spring/Pond 23	7480		Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
SP34-11	Sheep Corral-Spring/Pond 34-11	7440	3	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
ST36-2	Flat Tanks	8160		Quarterly	Quarterly	Annually	Yes	No	Temporarily Suspended TR-103
ST36-4	Oak Hills Spring Lower Tank	8040		Quarterly	Quarterly	Annually	Yes	No	Temporarily Suspended TR-103
ST36-5	Oak Hiles Spring Upper Tank	8240		Quarterly	Quarterly	Annually	Yes	No	Temporarily Suspended TR-103
<b>Surface Water Monitoring - SPRINGS</b>									
S-1	B Gulch-Spring 1	6990	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-2	Freeman Gulch-Spring 2	7920	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-3	Freeman Gulch-Spring 3	7920	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-4	Terror Creek-Spring 4	7880	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-4a	Terror Creek-Spring 4a	7910	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-5	Sheep Corral-Spring 5	7800	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-5a	Sheep Corral-Spring 5a	7860	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-5b	Sheep Corral-Spring 5b	7860	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-8	C Gulch-Spring 8	7220	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-10	Steven's Draw-Spring 10	7550	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-11	Steven's Draw-Spring 11	7940	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-12	B Gulch-Spring 12	7650	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-13	Freeman Gulch-Spring 13	7500	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-14	Steven's Draw-Spring 14	7100	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-16	Terror Creek-Spring 16	7750	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-17	Freeman Gulch-Spring 17	7110	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S-18	Terror Creek-Spring 18	7750	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1

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**Table 1**

**Summary of Hydrology Monitoring Stations (Continued)**

Station Number	Station Name	Elevation (ft.)	Depth (ft.)	Frequency of Measurements		Report Frequency	Report Format		Comments
				Field Par.	Lab. Par.		AHR	DMR	
<b>Surface Water Monitoring Stations - SPRINGS (cont.)</b>									
S1-3	Terror Creek-Spring 1-3	7860	N/A	Quarterly	Quarterly	Annually	Yes	No	Temporarily Suspended TR-103
S1-5	Terror Creek-Spring 1-5	8020	N/A	Quarterly	Quarterly	Annually	Yes	No	Temporarily Suspended TR-103
S2-2	Hubbard Creek-Spring 2-2	6740	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S2-3	Hubbard Creek-Spring 2-3	6740	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S2-9	Hubbard Creek-Spring 2-9	6320	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S2-10	Hubbard Creek-Spring 2-10	6320	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S3-1	Sheep Corral-Spring 3-1	6840	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S5-2	Seep West of Terror Creek Road	7200	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S5-3	Red's Spring & Pipeline	7200	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S5-4	Hugh's Family Pipe & Spring	7320	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S6-1	Terror Creek-Spring 6-1	7720	N/A	Quarterly	Quarterly	Annually	Yes	No	Temporarily Suspended TR-103
S6-6	Terror Creek-Spring 6-6	7860	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S6-7	West Fork Terror Ck Concrete Box	7600	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S7-4	Stevens Gulch-Spring 7-4	8190	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S7-9	Terror Creek-Spring 7-9	7800	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S7-10	Terror Creek-Spring 7-10	7880	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S8-5	Terror Creek-Spring 8-5	7800	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S21	Terror Creek-Spring 21	7100	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S33-4	Sheep Corral-Spring 33-4	7790	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S34-7	Sheep Corral-Spring 34-7	7390	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S34-10	Dove Gulch-Spring 34-10	6640	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S34-19	Hubbard Creek-Spring 34-19	6460	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S34-20	Hubbard Creek-Spring 34-20	6440	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S34-21	Hubbard Creek-Spring 34-21	6430	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S34-22	Hubbard Creek-Spring 34-22	6700	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S34-23	Hubbard Creek-Spring 34-23	6650	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S34-24	Hubbard Creek-Spring 34-24	6390	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S34-25	Dove Gulch-Spring 34-25	6680	N/A	Quarterly	Quarterly	Annually	Yes	No	No winter monitoring - Lab analysis >5gpm, List 1
S36-7	Seeps 11 Below Stevens Gulch Rd	8120	N/A	Quarterly	Quarterly	Annually	Yes	No	Temporarily Suspended TR-103

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Table 1

**Summary of Hydrology Monitoring Stations (Continued)**

Station Number	Station Name	Elevation (ft.)	Depth (ft.)	Frequency of Measurements		Report Frequency	Report Format		Comments
				Field Par.	Lab. Par.		AHR	DMR	
<b>Surface Water Monitoring Stations - STREAMS AND DITCHES</b>									
A-Gulch-lo	Drainage System	5960	N/A	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
B-Gulch-lo	Drainage System	5960	N/A	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
B-Gulch-up	Drainage System	7080	N/A	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
C-Gulch-lo	Drainage System	5960	N/A	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
C-Gulch-up	Drainage System	7120	N/A	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
D2-1	Sheep Corral-Drainage System	6360	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
D21-1	Terror Creek-Confluence w/NFG	5760	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monit-2nd & 4th Qrt, List 1-Flow USGS
D32-4	Terror Creek-Drainage System	7480	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monit-2nd & 4th Qrt, List 1-Flow USGS
D33-14	Upper Sheep Corral Gulch	7320	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
D34-13	Dove Gulch-Drainage System	6440	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
D34-14	Hubbard Creek-Drainage System	6560	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monit-2nd & 4th Qrt, List 1-Flow USGS
Deer-low	Canal-Deer Trail Ditch	5920	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monit-2nd & 4th Qrt, List 1-Aug, List 2
Deer-up	Canal-Deer Trail Ditch	5960	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monit-2nd & 4th Qrt, List 1-Aug, List 2
D-Gulch-lo	Drainage System	5960	N/A	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
D-Gulch-up	Drainage System	7160	N/A	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
FMC-Low	Canal-Fire Mountain Canal	5920	N/A	May/Jul/Sep	Semi-Annually	Annually	Yes	No	No winter monitoring - 1st & 3rd Qrt, List 1
FMC-up	Canal-Fire Mountain Canal	5960	N/A	May/Jul/Sep	Semi-Annually	Annually	Yes	No	No winter monitoring - 1st & 3rd Qrt, List 1
Free-low	Freeman Gulch-Drainage System	7560	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
Free-up	Freeman Gulch-Drainage System	6360	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
Hub-low	Hubbard Creek-Drainage System	5880	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monit-2nd & 4th Qrt, List 1-Flow USGS
Hub-up	Hubbard Creek-Drainage System	6320	N/A	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
NFG-low	North Fork-Drainage System	5680	N/A	Quarterly	Semi-Annually	Annually	Yes	No	2nd & 4th Qrt, List 1 - August, List 2 - Flow USGS
NFG-up	North Fork-Drainage System	5880	N/A	Quarterly	Semi-Annually	Annually	Yes	No	2nd & 4th Qrt, List 1 - August, List 2 - Flow USGS
Steph-low	Steven's Draw-Drainage System	7000	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
Steph-up	Steven's Draw-Drainage System	7920	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
SW-01	<b>West Fork Terror Ck-Downstream</b>	7140	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
SW-02	Terror Creek-Mid Stream	7040	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
SW-04	West Terror Creek Trib -Upstream	7880	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
SW-05	Stevens Gulch-Downstream	6600	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
SW-10	Terror Ditch	6480	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
SW-11	Stevens Gulch-Upstream	8084	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
SW-12	West Fork Terror Ck-Upstream	7920	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
EF-1	West Fork Ephemeral Channels	Varies	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1
EF-2 thru 9	West Fork Ephemeral Channels	Varies	N/A	Quarterly	Semi-Annually	Annually	Yes	No	Temporarily Suspended TR-103
EF-7 thru 9	West Fork Ephemeral Channels	Varies	N/A	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring - 2nd & 4th Qrt, List 1

**Bowie Resources, LLC**  
**Bowie No. 2 Mine**  
**2022 Annual Hydrology Report**

**Table 1**

**Summary of Hydrology Monitoring Stations (Continued)**

Station Number	Station Name	Elevation	Depth	Frequency of Measurements		Report Frequency	Report Format		Comments
		(ft.)	(ft.)	Field Par.	Lab. Par.		AHR	DMR	
<b>Coal Member of Mesaverde</b>									
DH-15	Steven's Draw-Drill Hole	7143	218	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
DH-25	C Gulch-Drill Hole	7144	325	Quarterly	N/A	Annually	Yes	No	Permanently Suspended TR-103
DH-38	D Gulch-Drill Hole	7245	454	Quarterly	N/A	Annually	Yes	No	Permanently Suspended TR-103
DH-15a	Steven's Draw-Drill Hole	7143	218	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
DH-39	Steven's Draw-Drill Hole	7143	181	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
DH-49	B Gulch-Drill Hole	7203	324	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
DH-67B	Hubbard Creek-Monitoring Well	6451	594	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
DH-67D	Hubbard Creek-Monitoring Well	6450	325	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
DH-67abv	Hubbard Creek-Monitoring Well	6451	193	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
DH-67blw	Hubbard Creek-Monitoring Well	6451	360	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
TC-03-01(B)	Terror Creek - Monitoring Well-Upper	7118	713	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
TC-03-02	Terror Creek - Monitoring Well	7095	586	Quarterly	Semi-Annually	Annually	Yes	No	Permanently Suspended TR-103
CWI-DH-58A	Upper B Seam	7442	575	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
CWI-DH-60	Upper B Seam (B1)	7921	1085	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
DH2010-1B	Above Upper B Seam - Deep	7545	1220	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
DH2010-1SS	Upper B Seam - Shallow	7545	1140	Quarterly	Semi-Annually	Annually	Yes	No	No winter monitoring-Lab analysis 2nd & 4th Qrts
<b>North Fork Alluvium Monitoring Wells</b>									
AW-1	Alluvial Well	5978	120	Quarterly	Semi-Annually	Annually	Yes	No	Lab analysis 2nd & 4th Qrts
AW-2	Alluvial Well	5967	50.4	Quarterly	Semi-Annually	Annually	Yes	No	Lab analysis 2nd & 4th Qrts
AW-3	Alluvial Well	5963	150	Quarterly	Semi-Annually	Annually	Yes	No	Lab analysis 2nd & 4th Qrts
AW-4	Alluvial Well	5978	60	Quarterly	Semi-Annually	Annually	Yes	No	Lab analysis 2nd & 4th Qrts
AW-5	Alluvial Well	5982	100	Quarterly	Semi-Annually	Annually	Yes	No	Lab analysis 2nd & 4th Qrts
AW-6	Alluvial Well	5981	112	Quarterly	Semi-Annually	Annually	Yes	No	Lab analysis 2nd & 4th Qrts
AW-7	Alluvial Well	5950	188	Quarterly	Semi-Annually	Annually	Yes	No	Installed Fall of 1999 - Lab 2nd & 4th Qrts
AW-8	Alluvial Well	5950	60	Quarterly	Semi-Annually	Annually	Yes	No	Installed Fall of 1999 - Lab 2nd & 4th Qrts
AW-9	Alluvial Well	5946	80	Quarterly	Semi-Annually	Annually	Yes	No	Installed Fall of 1999 - Lab 2nd & 4th Qrts
AW-11	Alluvial Well	5884	60.86	Quarterly	Semi-Annually	Annually	Yes	No	Installed Fall of 2000 - Lab 2nd & 4th Qrts
AW-12	Alluvial Well	5878	45.38	Quarterly	Semi-Annually	Annually	Yes	No	Installed Fall of 2000 - Lab 2nd & 4th Qrts
AW-14	Alluvial Well	5822	30	Quarterly	Semi-Annually	Annually	Yes	No	Installed Summer of 2003 - Lab 2nd & 4th Qrts
AW-15	Alluvial Well	5973	86	Quarterly	Semi-Annually	Annually	Yes	No	Installed Winter of 2003 - Lab 2nd & 4th Qrts
AW-16	Alluvial Well	5965	75	Quarterly	Semi-Annually	Annually	Yes	No	Installed Winter of 2003 - Lab 2nd & 4th Qrts
AW-17	Alluvial Well	5951	62	Quarterly	Semi-Annually	Annually	Yes	No	Installed Winter of 2003 - Lab 2nd & 4th Qrts

**Bowie Resources, LLC**  
**Bowie No. 2 Mine**  
**2022 Annual Hydrology Report**

**Table 1**

**Summary of Hydrology Monitoring Stations (Continued)**

Station Number	Station Name	Elevation (ft.)	Depth (ft.)	Frequency of Measurements		Report Frequency	Report Format		Comments
				Field Par.	Lab. Par.		AHR	DMR	
<b>Surface Water Monitoring Stations - PONDS</b>									
P-1	Steven's Draw-Pond 1	7080	5	Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P-2	Freeman Gulch-Pond 2	7600	5	Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P-3	Terror Creek-Pond 3	7730	4.5	Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P-4	Terror Creek-Pond 4	7880	3.5	Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P-5	Sheep Corral-Pond 5	7800	8	Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P-6	Terror Creek-Pond 6	7880	3	Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P1-4	W Fork Terror Creek-Pond 1-4	7960		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103
P1-6	W Fork Terror Creek-Pond 1-6	7980		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103
P1-11	W Fork Terror Creek-Pond 1-11	8000		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103
P1-12	W Fork Terror Creek-Pond 1-12	7860		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103
P5-5	Hugh's Pipe & Pond	7320		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103
P6-2	W Fork Terror Creek-Pond 6-2	8000		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103
P6-5	W Fork Terror Creek-Pond 6-5	8020		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P7-2	Stevens Gulch-Pond 7-2	8190		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P7-7	Stevens Gulch-Pond 7-7	8380		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P7-11	Stevens Gulch-Pond 7-11	8400		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P8-4	Terror Creek-Pond 8-4	6980		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P12-1	Stevens Gulch-Pond 12-1	7950		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P12-2	Stevens Gulch-Pond 12-2	8030		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P12-9	Stevens Gulch-Pond 12-9	7800		Quarterly	N/A	Annually	Yes	No	Permanently Suspended TR-103
P12-10	Stevens Gulch-Pond 12-10	7820		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P12-11	Stevens Gulch-Pond 12-11	7800		Quarterly	N/A	Annually	Yes	No	Permanently Suspended TR-103
P17-1	Coal Gulch-Pond 17-1	7340		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P18-1	Coal Gulch-Pond 18-1	7760		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P18-4	Stevens Gulch-Pond 18-4	8350		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P81	Stevens Gulch-Pond 81	8640		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P82	Terror Creek-Pond 82	7580		Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P83	Coal Gulch-Pond 83	7820	2.5	Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P33-3	Sheep Corral-Pond 33-3	7760	5.5	Quarterly	N/A	Annually	Yes	No	No winter monitoring-Reprt Inflow, Outflow, Depth
P31-1	Dry Pond Below Stevens Gulch Rd	8120		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103
P36-1	Flat Pond Above Stevens Gulch Rd	8120		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103
P36-3	Meadow Pond	8140		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103
P36-6	Dry Pond 11	8140		Quarterly	N/A	Annually	Yes	No	Temporarily Suspended TR-103

### LAB PARAMETER LIST

#### SURFACE WATER LIST 1

Field Parameters	
Flow Rate (gpm)	
Water Level	
pH (Standard Units)	
Conductivity (umhos/cm)	
Temperature (C)	
*Dissolved Oxygen (mg/l)	
Lab Parameters	
Wet Chemistry	MDL
Bicarbonate ( $\text{HCO}_3^-$ ) (mg/l)	2 mg/L
Chloride ( $\text{Cl}^-$ ) (mg/l)	0.5 mg/L
Conductivity (umhos/cm)	1 umhos/cm
Nitrate/Nitrite (mg/l)	0.1 mg/L
pH (Standard Units)	0.1 s.u.
Hardness (mg/l)	1 mg/L
Phosphate ( $\text{PO}_4^{3-}$ as P) (mg/l)	0.02 mg/L
Residue, Filterable (TDS) @180 C (mg/l)	0.5 mg/L
Residue, NonFilterable (TSS) (mg/l)	0.5 mg/L
Sodium Absorption Ratio in Water	0.15
Sulfate ( $\text{SO}_4^{2-}$ ) (mg/l)	0.6 mg/L
Metals	
Aluminum (Al), total recoverable (mg/l)	0.05 mg/L
Arsenic (As), total recoverable (mg/l)	0.002 mg/L
Cadmium (Cd), total recoverable (mg/l)	0.0002 mg/L
Calcium ( $\text{Ca}^{+2}$ ), total recoverable (mg/l)	0.2 mg/L
Copper (Cu), total recoverable (mg/l)	0.01 mg/L
Iron (Fe), total recoverable & Diss (mg/l)	0.01 mg/L
Lead (Pb), total recoverable (mg/l)	0.02 mg/L
Magnesium ( $\text{Mg}^{+2}$ ), total recoverable (mg/l)	0.2 mg/L
Manganese (Mn), total recoverable (mg/l)	0.01 mg/L
Mercury (Hg), total recoverable (mg/l)	0.000025 mg/L
Molybdenum (Mo), total recoverable (mg/l)	0.02 mg/L
Selenium (Se), total recoverable (mg/l)	0.001 mg/L
Sodium ( $\text{Na}^+$ ), total recoverable (mg/l)	0.2 mg/L
Zinc (Zn), total recoverable (mg/l)	0.005 mg/L
Organic Analysis	
Oil and Grease (mg/l)	0.5 mg/L

#### SURFACE WATER LIST 2

Field Parameters	
Flow Rate (gpm)	
Water Level	
pH (Standard Units)	
Conductivity (umhos/cm)	
Temperature (C)	
*Dissolved Oxygen (mg/l)	
Lab Parameters	
Wet Chemistry	MDL
pH (Standard Units)	0.1 s.u.
Residue, Filterable (TDS) @180 C (mg/l)	0.5 mg/L
Ammonia ( $\text{NH}_3$ ) (mg/l)	0.1 mg/L
Chloride ( $\text{Cl}^-$ ) (mg/l)	0.5 mg/L
Cyanide ( $\text{CN}^-$ ) (mg/l)	0.2 mg/L
Dissolved Oxygen (mg/l)	Report
Hardness (mg/l)	1 mg/L
Nitrate ( $\text{NO}_3^-$ ) (mg/l)	0.1 mg/L
Nitrite ( $\text{NO}_2^-$ ) (mg/l)	0.01 mg/L
Sulfide (S) (mg/l)	0.2 mg/L
Sulfate ( $\text{SO}_4^{2-}$ ) (mg/l)	0.1 mg/L
Metals	
Arsenic (As), total recoverable (ug/l)	0.002 mg/L
Boron, total recoverable (mg/l)	0.1 mg/L
Cadmium (Cd), total recoverable (ug/l)	0.0002 mg/L
Chromium III CrIII (ug/l)	0.01 mg/L
Chromium VI CrIV (ug/l)	0.02 mg/L
Copper (Cu), total recoverable (ug/l)	0.01 mg/L
Iron (Fe), dissolved (ug/l)	0.005 mg/L
Iron (Fe), total recoverable (ug/l)	0.001 mg/L
Lead (Pb), total recoverable (ug/l)	0.01 mg/L
Manganese (Mn), dissolved (ug/l)	0.01 mg/L
Manganese (Mn), total recoverable (ug/l)	0.01 mg/L
Mercury (Hg), total recoverable (ug/l)	0.000025 mg/L
Selenium (Se), dissolved (mg/l)	0.001 mg/L
Sodium ( $\text{NA}^+$ ), dissolved (mg/l)	0.2 mg/L
Zinc (Zn), dissolved (mg/l)	0.005 mg/L

#### GROUND WATER

Field Parameters	
Water Elevation (Feet)	
Depth to Water (Feet)	
pH (Standard Units)	
Conductivity (umhos/cm)	
Temperature (C)	
Lab Parameters	
Wet Chemistry	MDL
Bicarbonate ( $\text{HCO}_3^-$ ) (mg/l)	2 mg/L
Carbonate ( $\text{CO}_3^{2-}$ ) (mg/l)	2 mg/L
Chloride ( $\text{Cl}^-$ ) (mg/l)	0.5 mg/L
Conductivity (umhos/cm)	1 umhos/cm
Nitrate/Nitrite (mg/l)	0.1 mg/L
Ammonia ( $\text{NH}_3$ ) (mg/l)	0.1 mg/L
pH (Lab Units)	0.1 mg/L
Hardness (mg/l)	1 mg/L
Phosphate ( $\text{PO}_4^{3-}$ as P) (mg/l)	0.02 mg/L
Residue, Filterable (TDS) @180 C (mg/l)	0.5 mg/L
Sulfate ( $\text{SO}_4^{2-}$ ) (mg/l)	0.6 mg/L
Metals	
Arsenic (As), dissolved (mg/l)	0.002 mg/L
Cadmium (Cd), dissolved (mg/l)	0.0002 mg/L
Calcium ( $\text{Ca}^{+2}$ ), dissolved (mg/l)	0.2 mg/L
Iron (Fe), dissolved (mg/l)	0.01 mg/L
Iron (Fe), total recoverable (mg/l)	0.01 mg/L
Magnesium ( $\text{Mg}^{+2}$ ), dissolved (mg/l)	0.2 mg/L
Manganese (Mn), dissolved (mg/l)	0.01 mg/L
Manganese (Mn), total recoverable (mg/l)	0.01 mg/L
Mercury (Hg), dissolved (mg/l)	0.000025 mg/L
Selenium (Se), dissolved (mg/l)	0.001 mg/L
Sodium ( $\text{NA}^+$ ), dissolved (mg/l)	0.2 mg/L
Zinc (Zn), dissolved (mg/l)	0.005 mg/L

Refer to Pages 2.05-134 and 2.05-135  
 of Permit Application

Surface Water List 2 is applicable  
 annually for North Fork Gunnison  
 and Deer Trail Ditch only

NOTE: Springs are considered  
 Surface Water

\*Dissolved Oxygen is reported for  
 Deer Trail Ditch, Fire Mountain  
 Canal and North Fork Gunnison

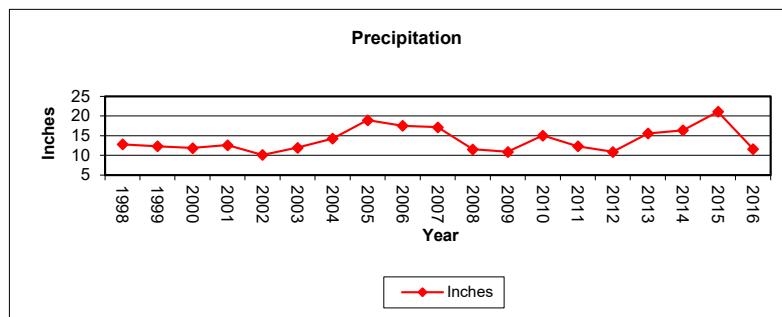
**FIELD PARAMETER LIST**

Parameter	Unit	Wells	Ponds	Streams	Springs
Conductivity	umhos/cm	Yes	Yes	Yes	Yes
Flow Rate	CFS/GPM	No	Yes	Yes	Yes
pH	Standard	Yes	Yes	Yes	Yes
Temperature	C	Yes	Yes	Yes	Yes
Water Level	Feet	Yes	Yes	No	No

### PRECIPITATION VALUES

#### Monthly Precipitation Values

Month	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
January	1.13	1.08	1.93	0.73	0.55	0.26	1.31	2.05	0.81	0.68	1.67	0.91	0.42	0.49	1.22	1.83	0.66	1.02	0.9
February	0.83	0.38	1.27	1.06	0.11	1.35	1.46	1.38	0.28	0.92	1.1	1	1.66	0.87	1.41	0.89	2.16	1	0.85
March	1.43	0.42	1.03	0.42	1.03	1.17	0.14	1.93	1.58	1.39	0.54	0.89	1.2	1.22	0.3	1.14	0.77	0.76	0.3
April	1.43	2.54	0.42	0.57	0.61	0.49	3.3	1.37	0.83	1.2	0.77	1.09	0.51	1.68	0.62	1.3	1.31	1.75	1.21
May	0.16	1.00	0.67	1.75	0.28	1.81	0	1.22	0.17	1.18	0.64	2.73	1.68	0.83	0.09	1.24	1.71	3.86	1.33
June	0.47	0.94	0.86	0.39	0.04	0.48	0.34	1.64	0.5	0.99	0.67	0.63	0.55	0.32	0.05	0	0.21	1.05	0.51
July	0.66	2.7	0.89	1.31	0.28	0.76	0.02	0.4	3.06	0.85	0.24	0.27	1.44	1.74	1.26	1.37	1.11	2.43	0.8
August	1.18	1.42	1.27	2.35	0.66	0.46	0.48	1.71	0.87	1.16	2.07	0.33	2.09	0.46	2.35	0.78	2.13	1.96	1.81
September	0.75	1.16	1.27	0.34	2.43	1.93	2.85	2.84	2.32	3.2	0.62	0.32	1.15	1.2	0.92	3.28	2.96	1.2	1.07
October	1.88	0.05	0.75	0.84	2.53	0.46	1.37	2.11	5.08	1.37	0.74	0.58	1.84	1.55	0.64	2.12	1.17	1.94	0.49
November	1.87	0.07	0.73	1.85	0.9	1.74	1.72	0.84	1.39	0	0.91	0.77	0.58	0.96	0.61	0.91	0.65	1.48	0.16
December	1.00	0.57	0.78	0.99	0.71	1.03	1.26	1.47	0.65	4.20	1.55	1.36	1.91	1.01	1.41	0.69	1.56	2.70	2.18
Minimum	0.16	0.05	0.42	0.34	0.04	0.26	0.00	0.40	0.17	0.00	0.24	0.27	0.42	0.32	0.05	0.00	0.21	0.76	0.16
Average	1.07	1.03	0.99	1.05	0.84	1.00	1.19	1.58	1.46	1.43	0.96	0.91	1.25	1.03	0.91	1.30	1.37	1.76	0.97
Maximum	1.88	2.7	1.93	2.35	2.53	1.93	3.30	2.84	5.08	4.20	2.07	2.73	2.09	1.74	2.35	3.28	2.96	3.86	2.18
Total	12.79	12.33	11.87	12.60	10.13	11.94	14.25	18.96	17.54	17.14	11.52	10.88	15.03	12.33	10.88	15.55	16.40	21.15	11.61



This data is obtained from the internet at [www.wrcc.dri.edu/summary/Climsmco.html](http://www.wrcc.dri.edu/summary/Climsmco.html) select Paonia 1 SW (056306).

\*\* No data recorded during the 2022 water year

**Bowie Resources, LLC**  
**Bowie No. 2 Mine**  
**2022 Annual Hydrology Report**

**Table 5**

**Monitoring Point Reports**  
**Table of Contents**

Indicates the monitoring point has been removed/suspended				Chart Fig No.
<b>Surface Water Monitoring Stations: SPRINGS WITH PONDS</b>				
SP5-1	Terror Creek - Spring/Pond 5-1	Monitoring Point Report Figure No.	1	
SP6-4	Terror Creek - Spring/Pond 6-4	Monitoring Point Report Figure No.		
SP7-1	Terror Creek - Spring/Pond 7-1	Monitoring Point Report Figure No.	2	
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*Coal Member of Mesaverde*

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**SP5-1**  
**Terror Creek - Pond Spring 5-1**  
**Elevation - 7400**

Initiated	7/18/1985	7/18/1985	7/18/1985
Activated	3/31/2015	3/31/2015	3/31/2015
Date	10/10/2022	8/31/2022	6/22/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation			Seep	Seep
		Min	Ave	Max	Min	Ave	Max		
Outflow	GPM	0.00	0.94	7.36	0.00	0.92	4.12	0.00	Seep
Inflow	GPM	0.00	0.00	0.00	0.00	0.27	2.96	0.00	0.00
Freeboard	Feet	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.25
Temperature	Celsius	4.1	12.8	23.2	3.80	10.95	20.10	8	
Conductivity	umhos/cm	490	672	804	697.00	793.85	842.00	842	
pH	su	7.3	8.2	9.0	7.62	8.14	8.55	8.31	
Field Comments								No visible flow	No visible flow
Lab Parameters	UNITS								
Bicarbonate	mg/L	256.0	383.5	441.6	453.00	467.50	482.00		
Carbonate	mg/L	16.0	16.0	16.0	0.00	0.00	0.00		
Chloride	mg/L	2.0	6.4	10.0	3.90	4.27	4.50		
Conductivity	umhos/cm	552.0	656.8	974.0	680.00	690.67	700.00		
Hardness	mg/L	182.0	250.8	287.0	246.00	250.33	256.00		
Acidity	mg/L	14.0	14.0	14.0	-410.00	-390.00	-380.00		
pH	su	6.4	7.9	8.7	7.58	7.84	8.05		
ResidueFilterable-TDS	mg/L	320.0	374.9	451.0	428.00	442.67	457.00		
ResidueNonFilterable-TSS	mg/L	2.0	128.0	742.0	91.30	119.15	147.00		
SAR		1.2	1.7	2.5	2.31	2.42	2.52		
Sulfate	mg/L	16.0	34.3	70.0	16.90	18.37	19.80		
Calcium (Dissolved)	mg/L	30.0	57.8	69.0	0.00	0.00	0.00		
Magnesium (Total)	mg/L	18.0	25.9	28.0	22.00	23.27	23.90		
Sodium (Dissolved)	mg/L	43.0	61.0	76.0	0.00	0.00	0.00		
Iron (Total)	mg/L	0.4	0.4	0.4	0.25	0.60	0.98		
Iron (Dissolved)	mg/L	0.1	0.1	0.1	0.01	0.03	0.05		
Manganese (Total)	mg/L	0.06	0.06	0.06	0.05	0.11	0.16		

The area of concern for monitoring point SP5-1 was affected by the mining operation on or about March 31, 2015.

Negative value of acidity indicates alkalinity

SP7-1  
 Terror Creek - Pond Spring 7-1  
 Depth 3'  
 Elevation - 7780

Initiated	7/25/1985	7/25/1985	7/25/1985
Activated	6/1/2013	6/1/2013	6/1/2013
Date	10/10/2022	8/31/2022	6/22/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation			No flow	<5 GPM	No flow
		Min	Ave	Max	Min	Ave	Max			
Outflow	GPM	0	3.35	30	0	2.90	16.91			
Inflow	GPM	0	0.00	0	0	2.37	10.9	Seep	Seep	No flow
Freeboard	Feet	0	1.07	3	0	0.44	1.5	0.2	0.2	1
Temperature	Celsius	10.3	16.68	32	7.4	15.56	22.8	16.7	22.8	
Conductivity	umhos/cm	353	602.53	928	539	620.07	742	742	559	
pH	su	6.7	7.95	9.4	7.38	8.09	8.63	8.07	7.38	
Field Comments										
Lab Parameters	UNITS									
Bicarbonate	mg/L	226	382.24	603	253.28	318.57	368			
Chloride	mg/L	2	8.98	54.59	2.3	5.27	13.08			
Conductivity	umhos/cm	450	633.06	1120	475	523.00	585			
Hardness	mg/L	145	233.44	295	190.28	227.57	254			
Nitrate-Nitrite	mg/L	0.3	0.30	0.3	0.031	0.03	0.031			
Oil and Grease	mg/L	0	<MDL	0	0	<MDL	0			
pH	su	7	7.81	8.4	7.18	7.95	8.22			
Phosphate	mg/L	0	<MDL	0	0.073	0.09	0.11			
ResidueFilterable-TDS	mg/L	280	404.33	808	348	366.50	382			
ResidueNonFilterable-TSS	mg/L	2	85.47	580	7	40.78	81.2			
SAR		1.2	1.70	2.9	1.37	2.01	3.681			
Sulfate	mg/L	10	20.32	39	27.99	29.97	33.6			
Aluminum (TREC)	mg/L	0.034	0.03	0.034	0.12	249.86	999			
Arsenic (TREC)	mg/L	0.06	0.06	0.06	0.002	0.00	0.002			
Cadmium (TREC)	mg/L	0.02	0.02	0.02	0.002	0.00	0.002			
Calcium (TREC)	mg/L	33	50.86	70.6	41.9	52.93	58.8			
Copper (TREC)	mg/L	0.003	0.00	0.003	0.009	0.01	0.009			
Iron (TREC)	mg/L	1.24	1.24	1.24	0.157	0.48	1.19			
Lead (TREC)	mg/L	0.02	0.02	0.02	0.02	0.02	0.02			
Magnesium (TREC)	mg/L	13.9	25.89	37	20.8	23.15	26.1			
Manganese (TREC)	mg/L	0.376	0.38	0.376	0.03	0.06	0.0904			
Mercury (TREC)	mg/L	0.00003	0.00	0.00003	2E-05	0.00	2E-05			
Molybdenum (TREC)	mg/L	0.007	0.01	0.007	0.001	0.00	0.001			
Selenium (TREC)	mg/L	0.003	0.00	0.003	0.002	0.00	0.002			
Sodium (TREC)	mg/L	78.1	78.10	78.1	45.2	67.73	116.7			
Zinc (TREC)	mg/L	0.01	0.01	0.01	0.02	0.02	0.02			

The area of concern for monitoring point SP7-1 was activated on or about 06/1/2013.

SP7-5  
 Steven's Gulch - Pond Spring 7-5  
 Elevation - 8300

Initiated	7/6/1983	7/6/1983	7/6/1983
Activated			
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			No flow	No flow	0.010
		Min	Ave	Max	Min	Ave	Max			
Inflow	GPM	0.00	0.81	4.49						
Outflow	GPM	0.00	0.10	0.75				0.000	0.000	0.000
Freeboard	Feet	0.00	0.87	6.00				6	6	4.5
Temperature	Celsius	3.5	9.4	21.7						5.7
Conductivity	umhos/cm	145	321	800						144.5
pH	su	6.4	7.5	9.0						7
Field Comments										
Lab Parameters	UNITS									
Bicarbonate	mg/L	71.81	183.45	227.00						
Chloride	mg/L	<MDL	4.39	19.82						
Conductivity	umhos/cm	184	298	430						
Hardness	mg/L	74.97	154.5	228.0						
Nitrate-Nitrite	mg/L	<MDL	0.256	0.256						
Oil & Grease	mg/L	<MDL	<MDL	<MDL						
pH	su	6.7	7.4	8.4						
Phosphate	mg/L	<MDL	<MDL	<MDL						
ResidueFilterable-TDS	mg/L	163	204	260						
ResidueNonFilterable-TSS	mg/L	<MDL	42	236						
SAR		0.250	0.350	0.933						
Sulfate	mg/L	<MDL	18.2	154.0						
Aluminum (TREC)	mg/L	<MDL	0.022	0.022						
Arsenic (TREC)	mg/L	<MDL	0.04	0.04						
Cadmium (TREC)	mg/L	<MDL	0.01	0.01						
Calcium (TREC)	mg/L	19.8	27.7	35.6						
Copper (TREC)	mg/L	<MDL	0.02	0.02						
Iron (TREC)	mg/L	0.10	0.31	0.62						
Lead (TREC)	mg/L	<MDL	0.05	0.05						
Magnesium (TREC)	mg/L	6.2	16.1	27.0						
Manganese (TREC)	mg/L	<MDL	0.02	0.02						
Mercury (TREC)	mg/L	<MDL	0.00004	0.00004						
Molybdenum (TREC)	mg/L	<MDL	0.006	0.006						
Selenium (TREC)	mg/L	<MDL	0.023	0.023						
Sodium (TREC)	mg/L	8.50	17.53	26.56						
Zinc (TREC)	mg/L	<MDL	0.006	0.006						

The area of concern for monitoring point SP7-5 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

SP17  
 Terror Creek - Pond Spring 17  
 Depth 4'  
 Elevation - 7520

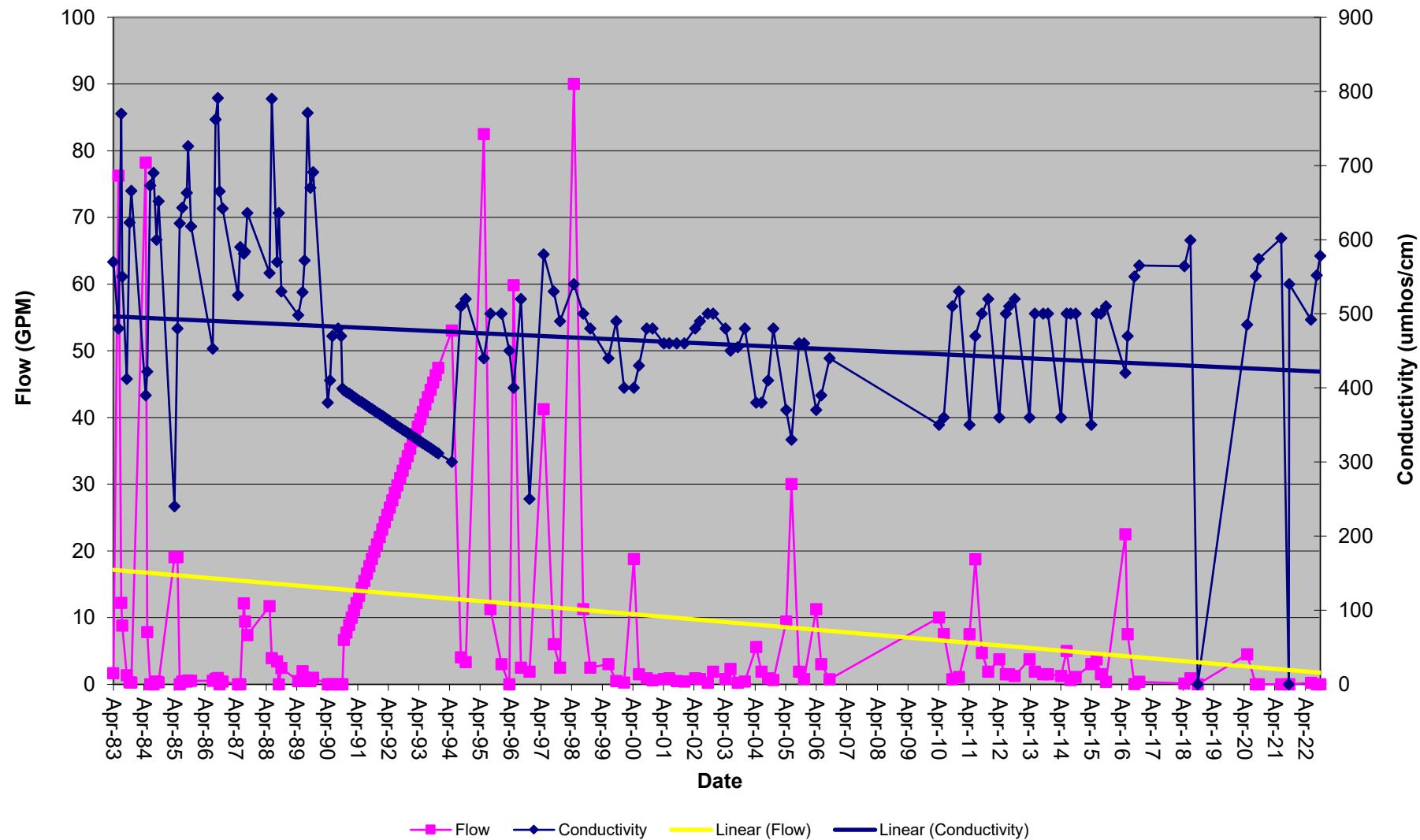
Initiated Date	4/15/1983	4/15/1983	4/15/1983
	10/10/2022	8/31/2022	6/22/2022

Field Parameters	UNITS	Summary Information			Operation			0	0	0.02			
		Baseline			Min Ave Max								
		Min	Ave	Max	Min	Ave	Max						
Outflow	GPM	0	2.63	31.7				0	0	0.02			
Inflow	GPM	0	11.38	90				0.16	0	0.13			
Freeboard	Feet	0	0	1.5				0.5	0.25	0			
Temperature	Celsius	3.6	9.6	25				10.3	9.9	8.4			
Conductivity	umhos/cm	240	474	791				578	552	492			
pH	su	6.77	7.6	9.3				7.79	7.93	6.78			
Field Comments													
Lab Parameters	UNITS												
Bicarbonate	mg/L	186.0	263.2	361.0									
Chloride	mg/L	<MDL	11	202									
Conductivity	umhos/cm	325	483	686									
Hardness	mg/L	17.00	174.10	232.00									
Nitrate-Nitrite	mg/L	<MDL	0.63	1.1									
Oil and Grease	mg/L	<MDL	<MDL	<MDL									
pH	su	6.8	7.6	8.3									
Phosphate	mg/L	<MDL	<MDL	<MDL									
ResidueFilterable-TDS	mg/L	145	286	430									
ResidueNonFilterable-TSS	mg/L	<MDL	17	74									
SAR		1.08	2.58	41.10									
Sulfate	mg/L	5.35	27.03	68									
Aluminum (TREC)	mg/L	<MDL	242.112	1210									
Arsenic (TREC)	mg/L	<MDL	0.01	0.02									
Cadmium (TREC)	mg/L	<MDL	0.01	0.01									
Calcium (TREC)	mg/L	33.7	43.3	56.2									
Copper (TREC)	mg/L	<MDL	0.01	0.01									
Iron (TREC)	mg/L	0.0197	0.31	2.25									
Lead (TREC)	mg/L	<MDL	0.03	0.04									
Magnesium (TREC)	mg/L	10.3	14.9	18.9									
Manganese (TREC)	mg/L	<MDL	0.024	0.0862									
Mercury (TREC)	mg/L	<MDL	0.00008	0.00022									
Molybdenum (TREC)	mg/L	<MDL	0.003	0.006									
Selenium (TREC)	mg/L	<MDL	0.00531	0.014									
Sodium (TREC)	mg/L	32.2	49.8	112.6									
Zinc (TREC)	mg/L	<MDL	0.010	0.02									

The area of concern for monitoring point SP17 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

A diffuse flow from an area of approximately 30' x 20' discharges into a pond measuring approximately 30' x 50'. (Hanna, 99)

### Plot of Flow and Conductivity



SP18  
 Terror Creek - Pond Spring 18  
 Elevation - 7280

Initiated Date	4/15/1983	4/15/1983	4/15/1983
	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation				
		Min	Ave	Max	Min	Ave	Max		
Outflow	GPM	0.00	1.02	3.96				0.24	0.01
Inflow	GPM	0.08	2.75	17.50				1.74	0.08
Freeboard	Feet	0.00	0.00	0.00				0	0
Temperature	Celsius	3.0	10.2	21.3				9.5	12.2
Conductivity	umhos/cm	260	634	832				692	685
pH	su	7.7	8.3	8.9				8.5	8.9
Field Comments									
Lab Parameters	UNITS								
Bicarbonate	mg/L	133.0	343.7	408.7					
Chloride	mg/L	3.00	7.94	62.04					
Conductivity	umhos/cm	230	606	892					
Hardness	mg/L	86.00	235.68	277.00					
Nitrate-Nitrite	mg/L	<MDL	0.5	0.8					
Oil and Grease	mg/L	<MDL	<MDL	<MDL					
pH	su	7.2	8.0	8.3					
Phosphate	mg/L	<MDL	0.023	0.024					
ResidueFilterable-TDS	mg/L	110	344	678					
ResidueNonFilterable-TSS	mg/L	2	39	171					
SAR		0.89	1.39	1.84					
Sulfate	mg/L	10	27	53					
Aluminum (TREC)	mg/L	0.028	260.405	806.000					
Arsenic (TREC)	mg/L	<MDL	0.04	0.04					
Cadmium (TREC)	mg/L	<MDL	0.01	0.01					
Calcium (TREC)	mg/L	57.9	62.4	66.8					
Copper TREC)	mg/L	<MDL	0.003	0.003					
Iron (TREC)	mg/L	0.24	1.24	4.51					
Lead (TREC)	mg/L	0.03	0.03	0.03					
Magnesium (TREC)	mg/L	21.0	24.7	28.1					
Manganese (TREC)	mg/L	0.01	3.04	21.20					
Mercury (TREC)	mg/L	<MDL	0.00007	0.00007					
Molybdenum (TREC)	mg/L	<MDL	0.010	0.010					
Selenium (TREC)	mg/L	<MDL	0.012	0.012					
Sodium (TREC)	mg/L	49.1	56.7	69.7					
Zinc (TREC)	mg/L	<MDL	0.004	0.004					

The area of concern for monitoring point SP18 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

SP19  
 Steven's Gulch - Pond Spring 19  
 Elevation - 8240

Initiated	8/22/1983	8/22/1983	8/22/1983
Activated	2/28/2015	2/28/2015	2/28/2015
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation					
		Min	Ave	Max	Min	Ave	Max			
Outflow	GPM	0	0.41	8.62	0	0.28	3.75	0	0	0
Inflow	GPM	0	0.03	0.49	0	0.17	2.50	0	0	0
Freeboard	Feet	0	1.45	2.70	0	1.63	4.00	3.5	3	2.5
Temperature	Celsius	-1.4	17.66	27.50	12.5	15.20	17.90			
Conductivity	umhos/cm	110	286.89	545.00	140	146.75	153.50			
pH	su	7.7	8.43	10.00	8.1	8.23	8.35			
Field Comments										
Lab Parameters	UNITS									
Bicarbonate	mg/L	84.2	166.2	256.2						
Carbonate	mg/L									
Chloride	mg/L	<MDL	3	7						
Conductivity	umhos/cm	150	272	410						
Hardness	mg/L	61	120	185						
pH	su	6.9	7.5	8.4						
ResidueFilterable-TDS	mg/L	100	174	256						
ResidueNonFilterable-TSS	mg/L	6	64	396						
SAR		0.15	0.37	1.00						
Sulfate	mg/L	<MDL	24	101						
Calcium (Dissolved)	mg/L	16	28	41						
Magnesium (Total)	mg/L	5	12	20						
Sodium (Dissolved)	mg/L	3	9	23						

The area of concern for monitoring point SP19 was affected by the mining operation on or about February 28, 2015.

\* Data not provided in field notes

SP20  
 Terror Creek - Pond Spring 20  
 Depth 4'  
 Elevation - 7840

Initiated	5/15/1983	5/15/1983	5/15/1983
Activated	6/30/2013	6/30/2013	6/30/2013
Date	10/10/2022	8/31/2022	6/22/2022

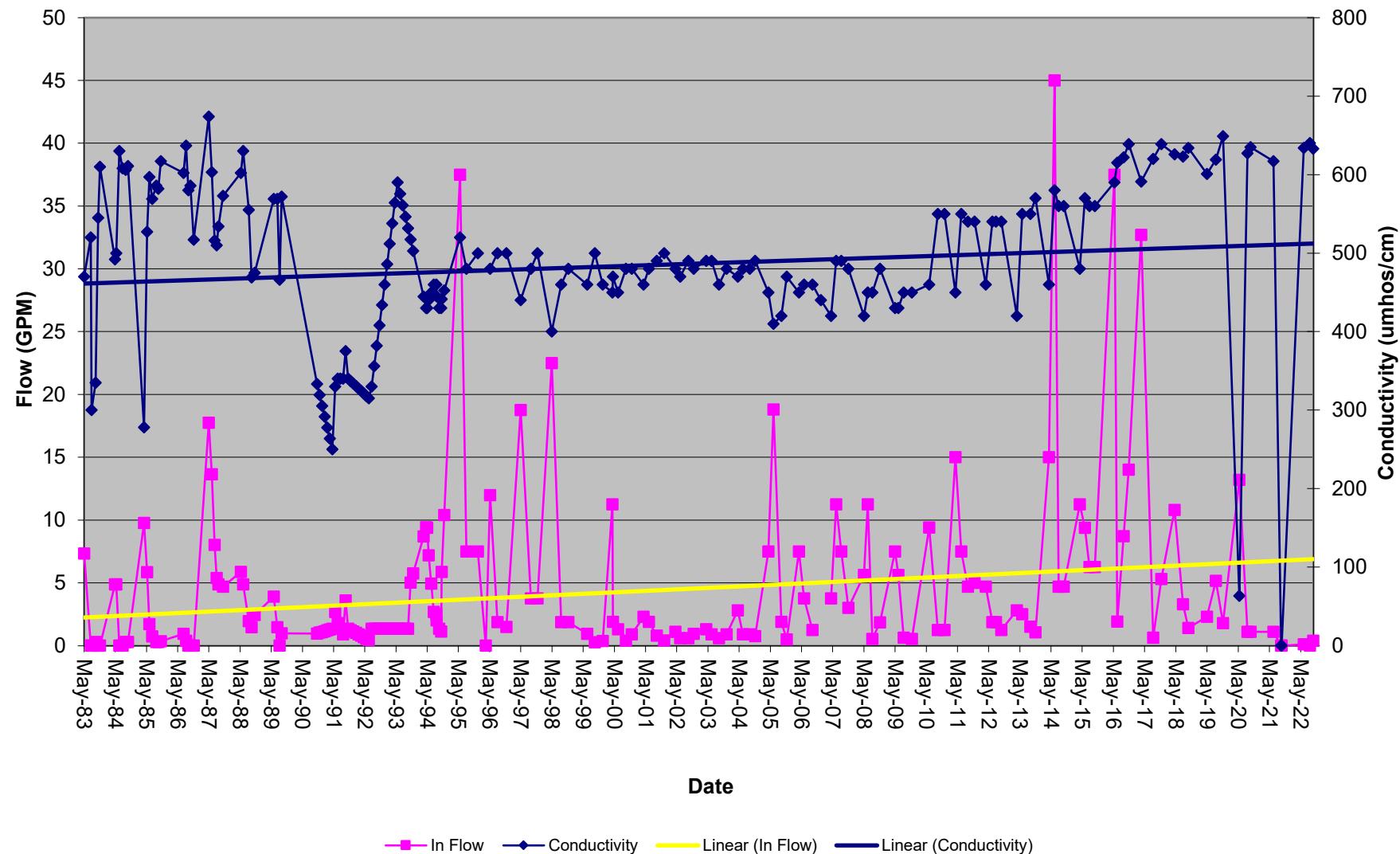
Field Parameters	UNITS	Summary Information						Operation Min	Operation Ave	Operation Max			
		Baseline			Operation								
		Min	Ave	Max	Min	Ave	Max						
Outflow	GPM	0.0	0.6	2.3	0.0	5.0	42.2	0.40	0.00	0.10			
Inflow	GPM	0.0	3.5	37.5	0.0	9.2	45.0	2.38	0	0.17			
Freeboard	Feet	0.0	0.0	0.8	0.0	0.0	0.0						
Temperature	Celsius	2.0	8.8	27.7	6.7	8.5	13.8	9.1	9.6	10.6			
Conductivity	umhos/cm	250.0	471.2	674.0	460.0	597.4	649.0	633	640	634			
pH	su	5.3	7.5	8.9	6.9	7.5	8.0	7.73	7.92	6.99			
Field Comments								Dry					
Lab Parameters	UNITS												
		Bicarbonate	mg/L	144.7	289.9	342.0	247.4	326.9	385.0				
Chloride	mg/L	0.0	5.0	28.3	2.3	2.7	4.6						
Conductivity	umhos/cm	311.5	513.5	714.0	465.0	525.7	591.0						
Hardness	mg/L	108.0	207.6	511.9	197.0	225.3	243.0						
Nitrate-Nitrite	mg/L	<MDL	0.3	0.3	<MDL	<MDL	0.1						
Oil and Grease	mg/L	<MDL	<MDL	0.0	<MDL	<MDL	0.0						
pH	su	6.7	7.4	8.5	7.0	7.6	8.2						
Phosphate	mg/L	<MDL	<MDL	0.0	<MDL	0.0	0.1						
ResidueFilterable-TDS	mg/L	240.0	318.8	460.0	337.0	358.9	438.0						
ResidueNonFilterable-TSS	mg/L	<MDL	88.9	1800.0	<MDL	9.3	13.0						
SAR		0.5	1.3	2.3	1.2	1.8	5.4						
Sulfate	mg/L	0.8	12.5	60.0	0.0	29.2	34.2						
Aluminum (TREC)	mg/L	<MDL	0.2	0.5	<MDL	46.6	186.0						
Arsenic (TREC)	mg/L	<MDL	0.0	0.0	<MDL	0.0	0.0						
Cadmium (TREC)	mg/L	<MDL	0.0	0.0	<MDL	0.0	0.0						
Calcium (TREC)	mg/L	36.3	69.1	128.3	42.1	54.1	59.8						
Copper (TREC)	mg/L	<MDL	0.0	0.0	<MDL	0.0	0.0						
Iron (TREC)	mg/L	0.0	0.1	0.2	0.0	0.1	0.3						
Lead (TREC)	mg/L	<MDL	0.0	0.0	<MDL	0.0	0.0						
Magnesium (TREC)	mg/L	17.2	28.6	46.5	20.2	21.9	23.3						
Manganese (TREC)	mg/L	<MDL	0.0	0.0	<MDL	7.7	23.0						
Mercury (TREC)	mg/L	<MDL	0.0	0.0	<MDL	0.0	0.0						
Molybdenum (TREC)	mg/L	<MDL	0.0	0.0	<MDL	0.0	0.0						
Selenium (TREC)	mg/L	<MDL	0.0	0.0	<MDL	0.0	0.0						
Sodium (TREC)	mg/L	40.2	47.6	53.1	43.5	51.7	124.8						
Zinc (TREC)	mg/L	<MDL	0.0	0.0	<MDL	0.0	0.0						

Activated 6/30/2013

This spring and pond consists of an area of approximately 20' x 20' of diffuse flow which is collected in a pond of approximately 30' x 60'. (Hanna, 99)

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Plot of Flow and Conductivity



SP20 - Terror Creek Spring Pond 20

Figure 9

SP22  
 Terror Creek - Pond Spring 22  
 Depth 4'  
 Elevation - 7480

Initiated	7/18/1983	7/18/1983	7/18/1983
Activated	8/5/2012	8/5/2012	8/5/2012
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation					
		Min	Ave	Max	Min	Ave	Max			
Inflow	GPM	0.00	0.33	5.63	0.00	0.16	5.81	0.00	0.00	0.00
Outflow	GPM	0.00	0.00	0.00	0.00	0.01	0.20	0.00	0.00	0.00
Freeboard	Feet	0.0	1.1	4.0	0.00	1.18	6.00	6.00	4.50	3.50
Temperature	Celsius	6.9	16.9	28.6						
Conductivity	umhos/cm	343	661	915						
pH	su	7.3	8.3	9.7						
Field Comments										
Lab Parameters	UNITS									
Bicarbonate	mg/L	165.9	343.38	584						
Carbonate	mg/L	<MDL	1.9282	11.71						
Chloride	mg/L	1	7.6205	13						
Conductivity	umhos/cm	390	629.15	878						
Hardness	mg/L	132	277.64	377						
pH	su	7.3	8.013	8.56						
ResidueFilterable-TDS	mg/L	145	377.3	564						
ResidueNonFilterable-TSS	mg/L	4	20.579	65						
SAR		0.53	1.0868	1.897						
Sulfate	mg/L	14	48.52	230						
Calcium (Dissolved)	mg/L	17	57.892	90						
Magnesium (Total)	mg/L	12	32.355	51						
Sodium (Dissolved)	mg/L	14	40.51	63						

The monitoring point for Spring and Pond 22 is located on an east facing slope that drains down toward Terror Creek.

SP23  
 Stevens Gulch - Pond Spring 23  
 Elevation - 8300

Initiated	8/22/1983	8/22/1983	8/22/1983
Activated	7/15/2014	7/15/2014	7/15/2014
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			No Flow	Seep	Damp
		Min	Ave	Max	Min	Ave	Max			
Outflow	GPM	0.00	1.05	9.29	0.00		62.50			
Inflow	GPM							0.00	0.00	No Flow
Freeboard	Feet	0.00	0.02	0.28	0.00	0.87	3.10	3	0.5	0.4
Temperature	Celsius	-0.10	10.07	21.70	3.50	10.82	19.90			
Conductivity	umhos/cm	220.00	403.91	891.00	220	397	521			
pH	su	6.80	7.42	9.60	6.3	7.4	9.4			
Field Comments										
Lab Parameters	UNITS									
Bicarbonate	mg/L	91.9	254.6	424.6						
Chloride	mg/L	<MDL	5.15	17.37						
Conductivity	umhos/cm	236	424	670						
Hardness	mg/L	105.00	209.37	322.00						
Nitrate-Nitrite	mg/L	0.11	0.11	0.11						
Oil and Grease	mg/L	<MDL	<MDL	<MDL						
pH	su	6.4	7.3	8.4						
Phosphate	mg/L	<MDL	<MDL	<MDL						
ResidueFilterable-TDS	mg/L	156	270	380						
ResidueNonFilterable-TSS	mg/L	2	61	216						
SAR		0.120	0.437	1.010						
Sulfate	mg/L	<MDL	10.08	43.00						
Aluminum (TREC)	mg/L	0.0210	0.0210	0.0210						
Arsenic (TREC)	mg/L	0.0200	0.0200	0.0200						
Cadmium (TREC)	mg/L	0.0100	0.0100	0.0100						
Calcium (TREC)	mg/L	41.300	41.300	41.300						
Copper (TREC)	mg/L	0.003	0.003	0.003						
Iron (TREC)	mg/L	0.15	0.54	1.15						
Lead (TREC)	mg/L	0.05	0.05	0.05						
Magnesium (TREC)	mg/L	11.0	23.4	38.0						
Manganese (TREC)	mg/L	0.010	0.067	0.110						
Mercury (TREC)	mg/L	0.00008	0.00008	0.00008						
Molybdenum (TREC)	mg/L	0.0030	0.0030	0.0030						
Selenium (TREC)	mg/L	0.0180	0.0180	0.0180						
Sodium (TREC)	mg/L	15.78	15.78	15.78						
Zinc (TREC)	mg/L	0.010	0.010	0.010						

\*Multiple Seeps Inflow - Unmeasurable

Activated 7/15/2014

SP34-11  
 Sheep Corral - Spring/Pond 34-11  
 Elevation - 7440  
 Depth - 3'

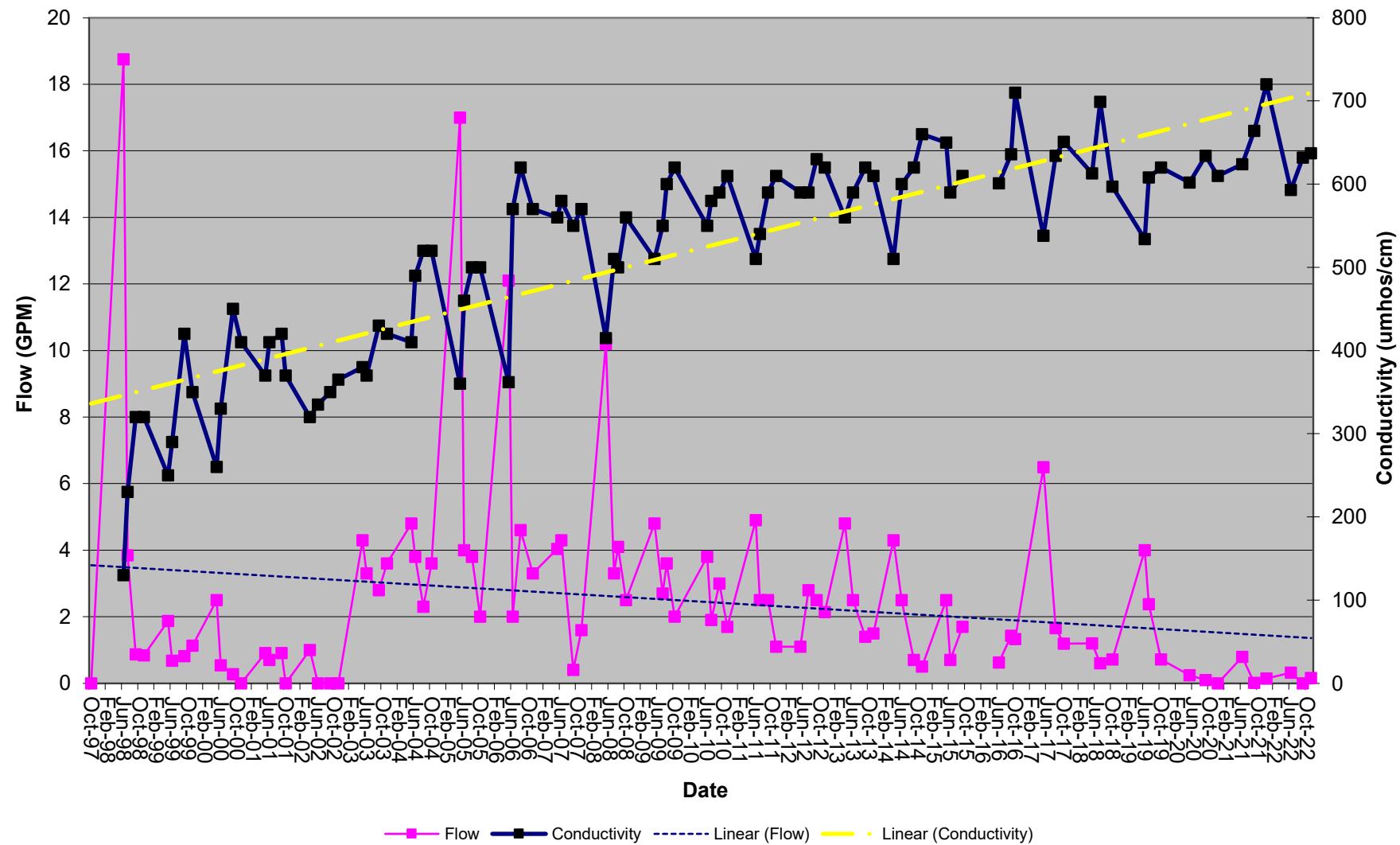
Initiated	10/27/1997	10/27/1997	10/27/1997	10/27/1997
Activated	6/1/2002	6/1/2002	6/1/2002	6/1/2002
Date	11/8/2022	9/7/2022	6/8/2022	12/1/2021

Summary Information												
Field Parameters	UNITS	Baseline			Operation							
		Min	Ave	Max	Min	Ave	Max					
Outflow	GPM	0.0	2.2	18.8	0.0	2.65	17.00	0.16	0	0.32	0	
Inflow	GPM				0.0	1.82	6.49	0.48	0.48	2.4	0.14	
FieldComment												
ph	su	6.9	7.5	8.0	6.7	7.66	8.50	8.21	8.05	7.09	7.7	
Conductivity	umhos/cm	130	325	450	360	566	720	637	632	593	720	
Temperature	Celsius	6.1	10.0	15.1	4.4	7.8	12.8	7.1	7.7	5.9	4.4	
Lab Parameters	UNITS											
Bicarbonate	mg/L	165	197	217	137.9	244.9	331.0					
Chloride	mg/L	<MDL	2	3	<MDL	4.74	11.79					
Conductivity	umhos/cm	324	412	482	367.8	497.0	633.0					
Hardness	mg/L	92	103	111	100.0	125.8	152.5					
Nitrate-Nitrite	mg/L	<MDL	0.03	0.09	<MDL	1.320	2.580					
Oil and Grease	mg/L	<MDL	<MDL	<MDL	<MDL	0.077	0.077					
pH	su	6.9	7.5	8.0	6.23	7.39	8.30					
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.050	0.072					
ResidueFilterable-TDS	mg/L	180	247	290	55.5	252.4	371.0					
ResidueNonFilterable-TSS	mg/L	<MDL	51	154	<MDL	50.3	107.0					
SAR		<MDL	<MDL	<MDL	2.09	3.26	4.75					
Sulfate	mg/L	30	33	40	26.34	41.54	57.42					
Aluminum	mg/L	0.04	2.15	6.34	<MDL	62.15	226.00					
Arsenic	mg/L	<MDL	0.0003	0.001	0.001	0.010	0.015					
Cadmium	mg/L	<MDL	<MDL	<MDL	<MDL	0.004	0.006					
Calcium	mg/L	27.5	30.3	32.1	7.7	32.6	43.6					
Copper	mg/L	<MDL	0.31	0.92	<MDL	<MDL	<MDL					
Iron (Total)	mg/L	0.04	2.35	6.89	0.01	1.47	8.03					
Lead	mg/L	<MDL	<MDL	<MDL	<MDL	0.02	0.03					
Magnesium	mg/L	5.7	6.7	7.5	3.41	7.44	10.60					
Manganese (Total)	mg/L	<MDL	0.046	0.137	<MDL	0.03	0.11					
Mercury	mg/L	<MDL	<MDL	<MDL	<MDL	0.0001	0.0002					
Molybdenum	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL					
Selenium	mg/L	<MDL	<MDL	<MDL	0.0006	0.0155	0.0560					
Sodium	mg/L	30.8	49.5	64.1	59.7	196.1	807.0					
Zinc	mg/L	<MDL	0.01	0.04	0.01	0.02	0.02					

The monitoring point for SP34-11 is along the old coal exploration road winding down Sheep Corral Gulch. The spring in sandstone just above the pond surface.

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Plot of Flow and Conductivity



SP34-11 - Sheep Corral Spring and Pond 34-11

Figure 13

S-1  
**B Gulch - Spring 1**  
**Elevation - 6990**

Initiated	6/12/1995	6/12/1995	6/12/1995
Activated	3/30/1997	3/30/1997	3/30/1997
Date	10/12/2022	8/22/2022	5/2/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation			*
		Min	Ave	Max	Min	Ave	Max	
Flow	GPM	0.00	0.38	1.25	0.00	0.05	3.00	0
FieldComment								Dry
ph	su	8.4	8.6	8.7	8.1	8.3	8.5	
Conductivity	umhos/cm	1520	2053	2300	2000	2067	2200	
Temperature	Celsius	2.4	10.5	17.1	12.8	17.2	20.1	
Lab Parameters	UNITS							
Bicarbonate	mg/L	784	784	784				
Chloride	mg/L	28	28	28				
Conductivity	umhos/cm	2140	2140	2140				
Hardness	mg/L	570	570	570				
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL				
Oil and Grease	mg/L	<MDL	<MDL	<MDL				
pH	su	7.5	7.5	7.5				
Phosphate	mg/L	<MDL	<MDL	<MDL				
ResidueFilterable-TDS	mg/L	1480	1480	1480				
ResidueNonFilterable-TSS	mg/L	30	30	30				
SAR		5.66	5.66	5.66				
Sulfate	mg/L	490	490	490				
Aluminum	mg/L	0.89	0.89	0.89				
Arsenic	mg/L	<MDL	<MDL	<MDL				
Cadmium	mg/L	<MDL	<MDL	<MDL				
Calcium	mg/L	52	52	52				
Copper	mg/L	<MDL	<MDL	<MDL				
Iron (Total)	mg/L	1.01	1.01	1.01				
Lead	mg/L	<MDL	<MDL	<MDL				
Magnesium	mg/L	107	107	107				
Manganese (Total)	mg/L	0.017	0.017	0.017				
Mercury	mg/L	<MDL	<MDL	<MDL				
Molybdenum	mg/L	<MDL	<MDL	<MDL				
Selenium	mg/L	0.002	0.002	0.002				
Sodium	mg/L	307	307	307				
Zinc	mg/L	0.01	0.01	0.01				

\* Site not accessible 1Q

The S-1 monitoring point location is along the Stevens Draw road where it crosses B Gulch. This spring is located on the upper side of the road, discharges along the road and eventually contributes its flow through Sediment Pond B.

S-1  
**B Gulch - Spring 1**  
**Elevation - 6990**

Initiated	6/12/1995	6/12/1995	6/12/1995
Activated	3/30/1997	3/30/1997	3/30/1997
Date	10/12/2022	8/22/2022	5/2/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation			*
		Min	Ave	Max	Min	Ave	Max	
Flow	GPM	0.00	0.38	1.25	0.00	0.05	3.00	0
FieldComment								Dry
ph	su	8.4	8.6	8.7	8.1	8.3	8.5	
Conductivity	umhos/cm	1520	2053	2300	2000	2067	2200	
Temperature	Celsius	2.4	10.5	17.1	12.8	17.2	20.1	
Lab Parameters	UNITS							
Bicarbonate	mg/L	784	784	784				
Chloride	mg/L	28	28	28				
Conductivity	umhos/cm	2140	2140	2140				
Hardness	mg/L	570	570	570				
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL				
Oil and Grease	mg/L	<MDL	<MDL	<MDL				
pH	su	7.5	7.5	7.5				
Phosphate	mg/L	<MDL	<MDL	<MDL				
ResidueFilterable-TDS	mg/L	1480	1480	1480				
ResidueNonFilterable-TSS	mg/L	30	30	30				
SAR		5.66	5.66	5.66				
Sulfate	mg/L	490	490	490				
Aluminum	mg/L	0.89	0.89	0.89				
Arsenic	mg/L	<MDL	<MDL	<MDL				
Cadmium	mg/L	<MDL	<MDL	<MDL				
Calcium	mg/L	52	52	52				
Copper	mg/L	<MDL	<MDL	<MDL				
Iron (Total)	mg/L	1.01	1.01	1.01				
Lead	mg/L	<MDL	<MDL	<MDL				
Magnesium	mg/L	107	107	107				
Manganese (Total)	mg/L	0.017	0.017	0.017				
Mercury	mg/L	<MDL	<MDL	<MDL				
Molybdenum	mg/L	<MDL	<MDL	<MDL				
Selenium	mg/L	0.002	0.002	0.002				
Sodium	mg/L	307	307	307				
Zinc	mg/L	0.01	0.01	0.01				

\* Site not accessible 1Q

The S-1 monitoring point location is along the Stevens Draw road where it crosses B Gulch. This spring is located on the upper side of the road, discharges along the road and eventually contributes its flow through Sediment Pond B.

S-3  
 Freeman Gulch - Spring 3  
 Elevation - 7920

Initiated	6/12/1995	6/12/1995	6/12/1995
Activated	10/15/2001	10/15/2001	10/15/2001
Date	11/8/2022	9/6/2022	5/11/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			*
		Min	Ave	Max	Min	Ave	Max	
Flow	GPM	0.00	0.29	3.75	0.00	0.00	0.00	0
FieldComment								Dry
ph	su	6.7	7.8	8.5				Dry
Conductivity	umhos/cm	120	222	443				
Temperature	Celsius	7.6	15.6	28.7				
Lab Parameters	UNITS							
Bicarbonate	mg/L	77	77	77				
Chloride	mg/L	4	4	4				
Conductivity	umhos/cm	164	164	164				
Hardness	mg/L	72	72	72				
Nitrate-Nitrite	mg/L	0.05	0.05	0.05				
Oil and Grease	mg/L	<MDL	<MDL	<MDL				
pH	su	7.5	7.5	7.5				
Phosphate	mg/L	<MDL	<MDL	<MDL				
ResidueFilterable-TDS	mg/L	110	110	110				
ResidueNonFilterable-TSS	mg/L	8	8	8				
SAR		0.34	0.34	0.34				
Sulfate	mg/L	<MDL	<MDL	<MDL				
Aluminum	mg/L	0.35	0.35	0.35				
Arsenic	mg/L	<MDL	<MDL	<MDL				
Cadmium	mg/L	<MDL	<MDL	<MDL				
Calcium	mg/L	21.7	21.7	21.7				
Copper	mg/L	<MDL	<MDL	<MDL				
Iron (Total)	mg/L	0.37	0.37	0.37				
Lead	mg/L	<MDL	<MDL	<MDL				
Magnesium	mg/L	4.2	4.2	4.2				
Manganese (Total)	mg/L	0.014	0.014	0.014				
Mercury	mg/L	<MDL	<MDL	<MDL				
Molybdenum	mg/L	<MDL	<MDL	<MDL				
Selenium	mg/L	<MDL	<MDL	<MDL				
Sodium	mg/L	6.6	6.6	6.6				
Zinc	mg/L	<MDL	<MDL	<MDL				

\* Site not accessible 1Q

The monitoring point for S-3 is located along the old coal exploration road which leads down into Freeman Gulch, to Pond 2, Drill Holes 34B and 34C and the monitoring point for the Upper end of Freeman Gulch.

S-4  
 Terror Creek - Spring 4  
 Elevation - 7880

Initiated	6/12/1995	6/12/1995	6/12/1995
Activated	1/15/2001	1/15/2001	1/15/2001
Date	11/9/2022	9/25/2022	5/11/2022

Summary Information

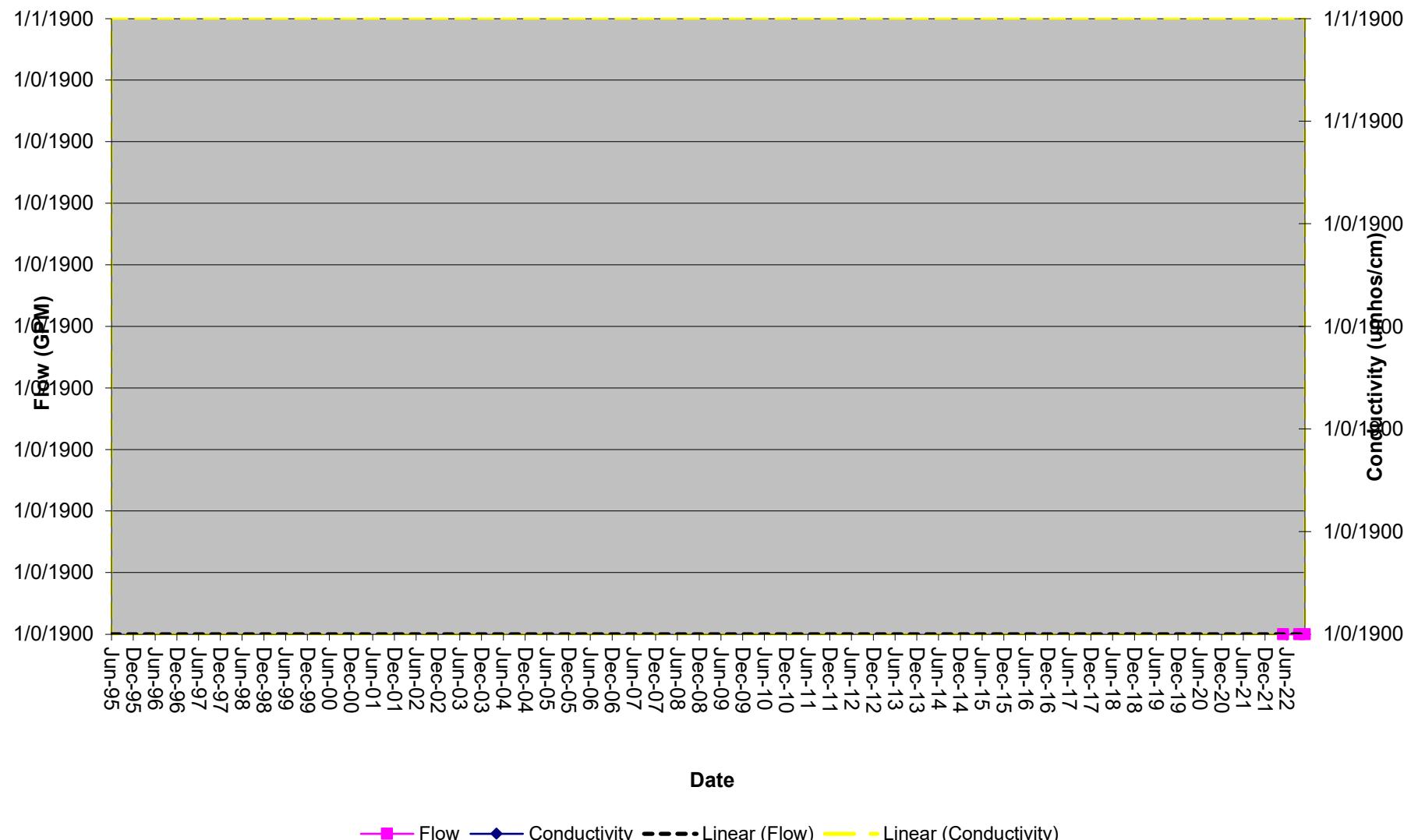
Field Parameters	UNITS	Baseline			Operation			*
		Min	Ave	Max	Min	Ave	Max	
Flow	GPM	0.00	0.24	3.75	0.00	0.22	2.37	0
FieldComment								no visible flow
ph	su	6.4	7.4	9.0	6.8	7.5	8.0	no visible flow
Conductivity	umhos/cm	80	268	433	300	386	537	
Temperature	Celsius	1.2	10.0	24.0	1.8	6.5	10.7	
Lab Parameters	UNITS							
Bicarbonate	mg/L	56	56	56	231.8	231.8	231.8	
Chloride	mg/L	2	2	2	49.63	49.63	49.63	
Conductivity	umhos/cm	99	99	99	438	441	443	
Hardness	mg/L	44	44	44	150.69	150.69	150.69	
Nitrate-Nitrite	mg/L	0.62	0.62	0.62	0.32	0.32	0.32	
Oil and Grease	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	
pH	su	6.7	6.7	6.7	6.8	6.9	7.1	
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	
ResidueFilterable-TDS	mg/L	60	60	60	236	245	253	
ResidueNonFilterable-TSS	mg/L	16	16	16	1	19	36	
SAR		0.29	0.29	0.29	1.85	1.85	1.85	
Sulfate	mg/L	<MDL	<MDL	<MDL	60.51	60.51	60.51	
Aluminum (TREC)	mg/L	0.98	0.98	0.98	0.039	0.039	0.039	
Arsenic (TREC)	mg/L	<MDL	<MDL	<MDL	0.03	0.03	0.03	
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL	0.01	0.01	0.01	
Calcium (TREC)	mg/L	13.6	13.6	13.6	46	46	46	
Copper (TREC)	mg/L	<MDL	<MDL	<MDL	0.01	0.01	0.01	
Iron (TREC)	mg/L	0.88	0.88	0.88	0.15	0.56	0.97	
Lead (TREC)	mg/L	<MDL	<MDL	<MDL	0.03	0.03	0.03	
Magnesium (TREC)	mg/L	2.4	2.4	2.4	8.7	8.7	8.7	
Manganese (TREC)	mg/L	0.03	0.03	0.03	0.020	0.026	0.032	
Mercury (TREC)	mg/L	0.0002	0.0002	0.0002	0.00006	0.00006	0.00006	
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL	0.005	0.005	0.005	
Selenium (TREC)	mg/L	<MDL	<MDL	<MDL	0.008	0.008	0.008	
Sodium (TREC)	mg/L	4.5	4.5	4.5	52.9	52.9	52.9	
Zinc (TREC)	mg/L	<MDL	<MDL	<MDL	0.005	0.005	0.005	

The monitoring point for S-4 is located along an unmarked road in an un-named gulch leading down from the broad ridge that separates Sheep Corral and Freeman Gulches from Terror Creek. This spring feeds P-4.

\* Site not accessible 1Q

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Plot of Flow and Conductivity



S-4a  
 Terror Creek - Spring 4a  
 Elevation - 7910

Initiated	11/9/1995	11/9/1995	11/9/1995
Activated	1/15/2001	1/15/2001	1/15/2001
Date	11/9/2022	9/28/2022	5/11/2022

Summary Information

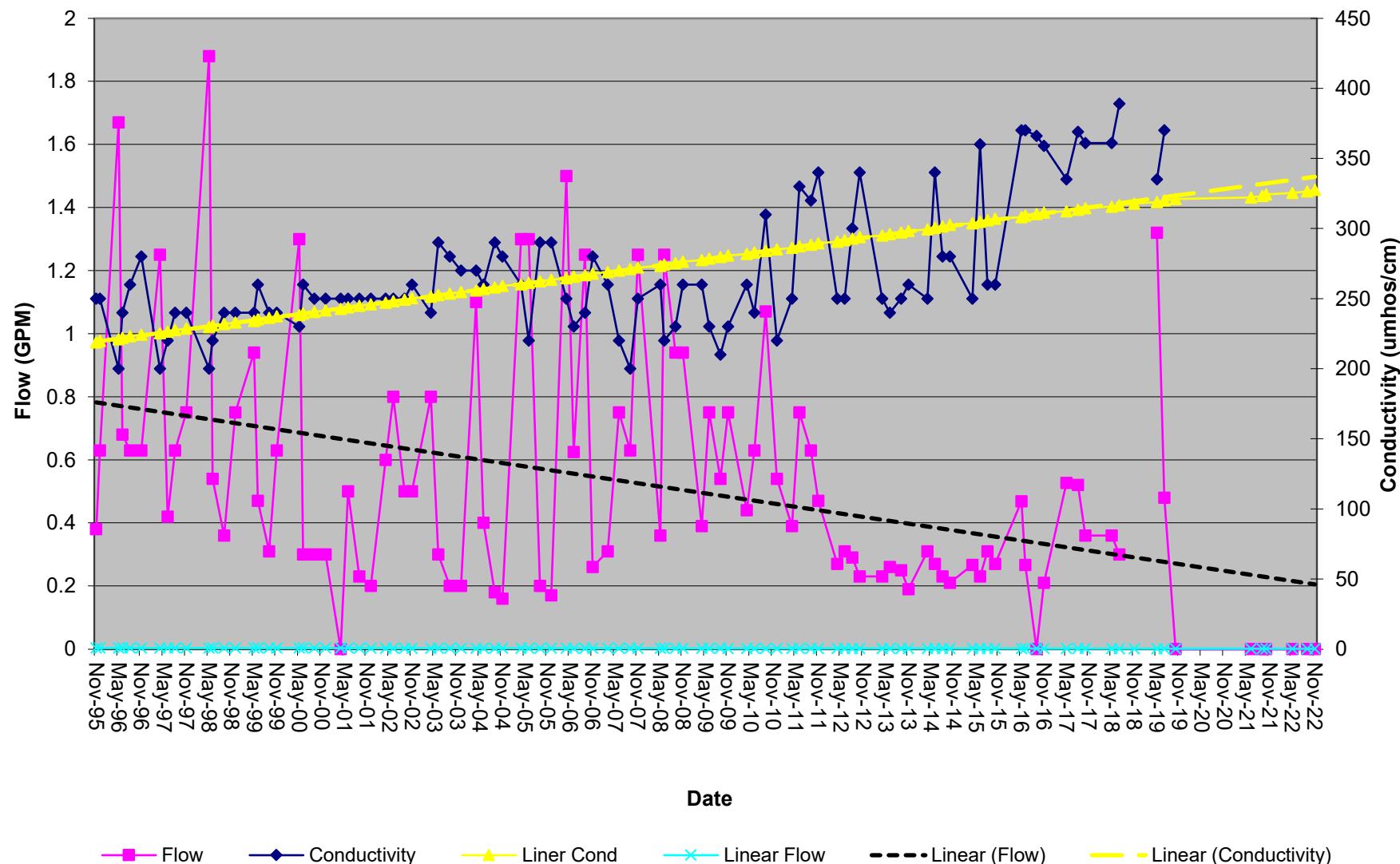
Field Parameters	UNITS	Baseline			Operation			*
		Min	Ave	Max	Min	Ave	Max	
Flow	GPM	0.30	0.72	1.88	0.00	0.51	1.50	
FieldComment								No visible flow
ph	su	7.2	7.8	8.5	6.3	7.5	8.1	No visible flow
Conductivity	umhos/cm	200	239	280	200	280	389	
Temperature	Celsius	2.4	7.4	14.2	4.3	6.6	15.0	
Lab Parameters	UNITS							*
Bicarbonate	mg/L	146	146	146	204.9	204.9	204.9	
Chloride	mg/L	2	2	2	47.15	47.15	47.15	
Conductivity	umhos/cm	289	289	289	313	321	330	
Hardness	mg/L	125	125	125	131.95	131.95	131.95	
Nitrate-Nitrite	mg/L	0.16	0.16	0.16	0.31	0.31	0.31	
Oil and Grease	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	
pH	su	7.30	7.30	7.30	7.1	7.3	7.5	
Phosphate	mg/L	0.08	0.08	0.08	<MDL	<MDL	<MDL	
ResidueFilterable-TDS	mg/L	200	200	200	196	226	263	
ResidueNonFilterable-TSS	mg/L	<MDL	<MDL	<MDL	2	27	48	
SAR		0.49	0.49	0.49	0.658	0.658	0.658	
Sulfate	mg/L	13	13	13	14.41	14.41	14.41	
Aluminum (TREC)	mg/L	0.88	0.88	0.88	0.023	0.023	0.023	
Arsenic (TREC)	mg/L	<MDL	<MDL	<MDL	0.005	0.005	0.005	
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL	0.006	0.006	0.006	
Calcium (TREC)	mg/L	43.10	43.10	43.10	44.4	44.4	44.4	
Copper (TREC)	mg/L	<MDL	<MDL	<MDL	0.002	0.002	0.002	
Iron (TREC)	mg/L	1.23	1.23	1.23	0.08	0.54	1.24	
Lead (TREC)	mg/L	<MDL	<MDL	<MDL	0.03	0.03	0.03	
Magnesium (TREC)	mg/L	4.30	4.30	4.30	5.12	5.12	5.12	
Manganese (TREC)	mg/L	0.02	0.02	0.02	0.01	0.02	0.03	
Mercury (TREC)	mg/L	<MDL	<MDL	<MDL	0.00008	0.00008	0.00008	
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL	0.007	0.007	0.007	
Selenium (TREC)	mg/L	<MDL	<MDL	<MDL	0.008	0.008	0.008	
Sodium (TREC)	mg/L	12.5	12.5	12.5	17.6	17.6	17.6	
Zinc (TREC)	mg/L	0.03	0.03	0.03	0.006	0.006	0.006	

\* Site not accessible 1Q

The monitoring point for S-4a is located along an unmarked road in an un-named gulch leading down from the broad ridge that separates Sheep Corral and Freeman Gulches from Terror Creek. This spring feeds P-4.

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Plot of Flow and Conductivity



S-4a - Terror Creek Spring 4a

Figure 20

**S-5**  
**Sheep Corral - Spring 5**  
**Elevation - 7800**

Initiated	6/12/1995	6/12/1995	6/12/1995
Activated	12/1/2001	12/1/2001	12/1/2001
Date	11/9/2022	8/22/2022	5/11/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation					
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.27	0.80	0.00	0.22	3.00	0	0	0
FieldComment								Dry	Dry	Dry
ph	su	7.2	7.6	8.1	7.1	7.4	8.4			
Conductivity	umhos/cm	190	332	400	310	359	430			
Temperature	Celsius	4.0	7.2	11.8	5.0	6.6	8.9			
Lab Parameters	UNITS									
Bicarbonate	mg/L	188	191	193	203.5	203.5	203.5			
Chloride	mg/L	2	2	2	32.26	32.26	32.26			
Conductivity	umhos/cm	406	407	407	414	414	414			
Hardness	mg/L	113	118	123	132.93	132.93	132.93			
Nitrate-Nitrite	mg/L	<MDL	0.08	0.15	0.31	0.31	0.31			
Oil and Grease	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL			
pH	su	6.90	7.00	7.10	7.08	7.08	7.08			
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL			
ResidueFilterable-TDS	mg/L	220	225	230	268	268	268			
ResidueNonFilterable-TSS	mg/L	<MDL	14	28	6	6	6			
SAR		1.51	1.52	1.53	1.78	1.78	1.78			
Sulfate	mg/L	17	23	29	33.75	33.75	33.75			
Aluminum (TREC)	mg/L	<MDL	0.16	0.32	0.028	0.028	0.028			
Arsenic (TREC)	mg/L	<MDL	0.001	0.001	0.006	0.006	0.006			
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL	0.008	0.008	0.008			
Calcium (TREC)	mg/L	34.00	35.55	37.10	40.9	40.9	40.9			
Copper (TREC)	mg/L	<MDL	<MDL	<MDL	0.002	0.002	0.002			
Iron (TREC)	mg/L	<MDL	0.32	0.64	0.05	0.05	0.05			
Lead (TREC)	mg/L	<MDL	<MDL	<MDL	0.03	0.03	0.03			
Magnesium (TREC)	mg/L	6.70	7.00	7.30	7.48	7.48	7.48			
Manganese (TREC)	mg/L	0.017	0.027	0.037	0.003	0.003	0.003			
Mercury (TREC)	mg/L	<MDL	<MDL	<MDL	0.00006	0.00006	0.00006			
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL	0.011	0.011	0.011			
Selenium (TREC)	mg/L	<MDL	<MDL	<MDL	0.012	0.012	0.012			
Sodium (TREC)	mg/L	36.50	37.45	38.40	47.8	47.8	47.8			
Zinc (TREC)	mg/L	<MDL	0.005	0.010	0.006	0.006	0.006			

\* Site not accessible 1Q

The monitoring point location for S-5 is located along an unmapped road which leads down an un-named gulch which leads into Sheep Corral Gulch. This spring feeds Pond 5.

Baseline Information for Point S-5 is derived from events beginning on 6/12/95 through 12/1/01.  
 Point influenced by mining on 12/1/01.

S-5a  
 Sheep Corral - Spring 5A  
 Elevation - 7860

Initiated	6/12/1995	6/12/1995	6/12/1995
Activated	12/1/2001	12/1/2001	12/1/2001
Date	10/12/2022	8/22/2022	5/2/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation					
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.13	0.89	4.30	0.00	0.24	3.00	0	0	0
FieldComment								Dry	Dry	Dry
ph	su	6.9	7.4	8.0	7.0	7.3	8.3			
Conductivity	umhos/cm	160	301	400	340	386	448			
Temperature	Celsius	4.0	6.7	9.1	5.1	6.6	7.8			
Lab Parameters	UNITS									
Bicarbonate	mg/L	184.00	185.00	186.00						
Chloride	mg/L	2.00	2.00	2.00						
Conductivity	umhos/cm	388	391	393						
Hardness	mg/L	125.00	128.00	131.00						
Nitrate-Nitrite	mg/L	<MDL	0.03	0.05						
Oil and Grease	mg/L	<MDL	<MDL	<MDL						
pH	su	6.90	7.40	7.90						
Phosphate	mg/L	<MDL	<MDL	<MDL						
ResidueFilterable-TDS	mg/L	190.00	205.00	220.00						
ResidueNonFilterable-TSS	mg/L	<MDL	17.00	34.00						
SAR		1.10	1.11	1.12						
Sulfate	mg/L	21.00	25.00	29.00						
Aluminum	mg/L	<MDL	0.34	0.69						
Arsenic	mg/L	<MDL	<MDL	<MDL						
Cadmium	mg/L	<MDL	<MDL	<MDL						
Calcium	mg/L	37.80	38.70	39.60						
Copper	mg/L	<MDL	<MDL	<MDL						
Iron (Total)	mg/L	0.02	0.48	0.95						
Lead	mg/L	<MDL	<MDL	<MDL						
Magnesium	mg/L	7.50	7.70	7.90						
Manganese (Total)	mg/L	<MDL	0.019	0.037						
Mercury	mg/L	<MDL	<MDL	<MDL						
Molybdenum	mg/L	<MDL	<MDL	<MDL						
Selenium	mg/L	<MDL	<MDL	<MDL						
Sodium	mg/L	28.10	28.60	29.10						
Zinc	mg/L	0.02	0.02	0.02						

\* Site not accessible 1Q

The monitoring point location for S-5a is located along an unmapped road which is down an un-named gulch which leads into Sheep Corral Gulch. This spring feeds Pond 5.

S-5b  
 Sheep Corral - Spring 5B  
 Elevation - 7860

Initiated	6/12/1995	6/12/1995	6/12/1995
Activated	12/1/2001	12/1/2001	12/1/2001
Date	10/12/2022	8/22/2022	5/2/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			
		Min	Ave	Max	Min	Ave	Max	
Flow	GPM				0.01	0.56	2.90	0.19
FieldComment								
ph	su				7.0	8.0	8.9	8.6
Conductivity	umhos/cm				400	529	701	701
Temperature	Celsius				4.4	8.2	13.6	604
Lab Parameters	UNITS							584
Bicarbonate	mg/L				277.8	277.8	277.8	
Chloride	mg/L				22.33	22.33	22.33	
Conductivity	umhos/cm				541	562	580	
Hardness	mg/L				114.78	114.78	114.78	
Nitrate-Nitrite	mg/L				0.32	0.32	0.32	
Oil and Grease	mg/L				<MDL	<MDL	<MDL	
pH	su				7.30	7.54	7.77	
Phosphate	mg/L				<MDL	<MDL	<MDL	
ResidueFilterable-TDS	mg/L				312	353	406	
ResidueNonFilterable-TSS	mg/L				14	30	60	
SAR					3.62	3.62	3.62	
Sulfate	mg/L				41.98	41.98	41.98	
Aluminum (TREC)	mg/L				0.034	0.034	0.034	
Arsenic (TREC)	mg/L				0.055	0.055	0.055	
Cadmium (TREC)	mg/L				0.01	0.01	0.01	
Calcium (TREC)	mg/L				33.4	33.4	33.4	
Copper (TREC)	mg/L				0.01	0.01	0.01	
Iron (TREC)	mg/L				0.24	0.51	0.81	
Lead (TREC)	mg/L				0.02	0.02	0.02	
Magnesium (TREC)	mg/L				7.62	7.62	7.62	
Manganese (TREC)	mg/L				0.083	0.118	0.180	
Mercury (TREC)	mg/L				0.00004	0.00004	0.00004	
Molybdenum (TREC)	mg/L				0.013	0.013	0.013	
Selenium (TREC)	mg/L				0.004	0.004	0.004	
Sodium (TREC)	mg/L				90.5	90.5	90.5	
Zinc (TREC)	mg/L				0.005	0.005	0.005	

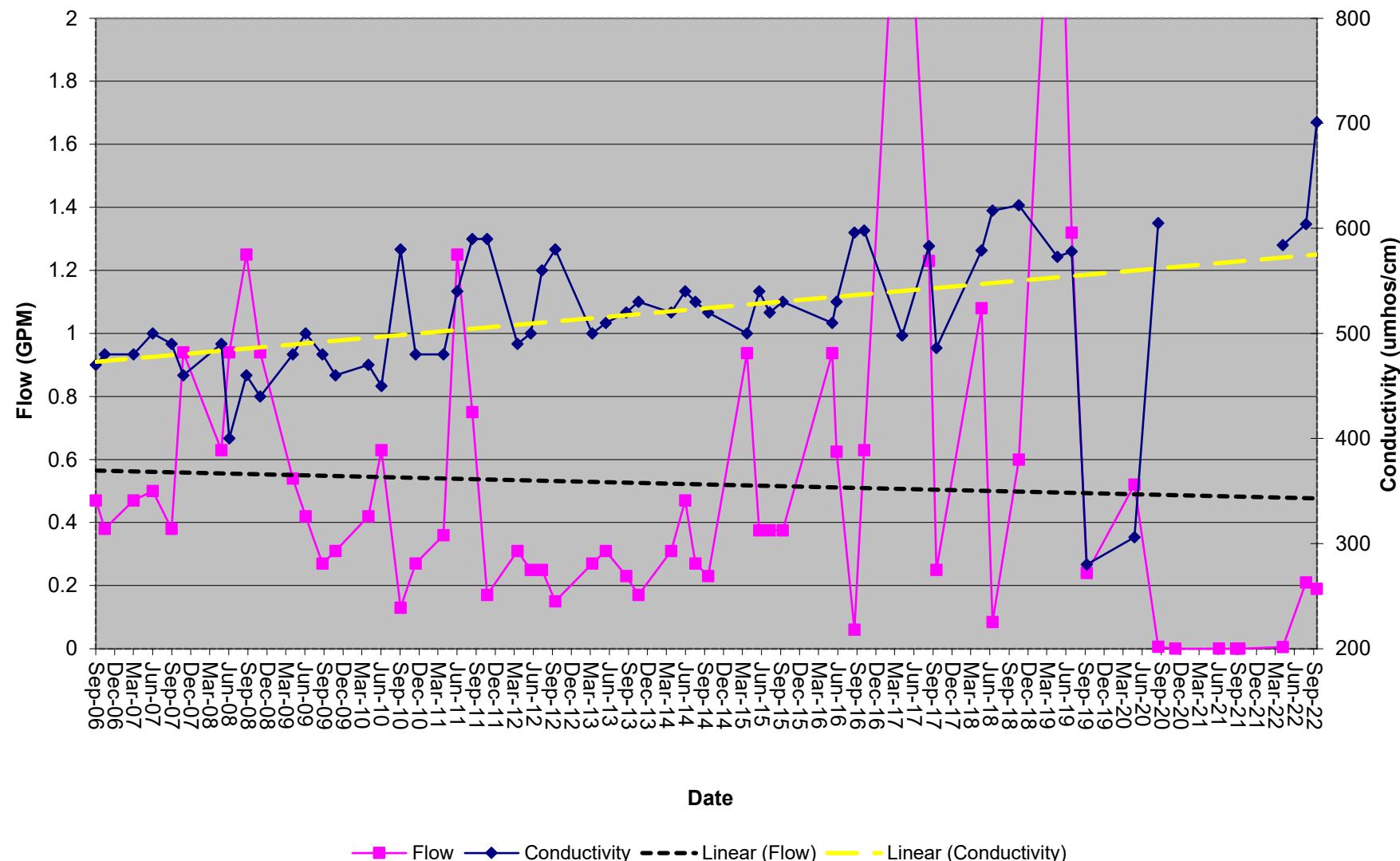
The area of concern for monitoring point S-5b was affected by the mining operation before its establishment. Therefore, all recorded monitoring events are considered Operational.

The monitoring point location for S-5b is located along an unmapped road which is down an un-named gulch which leads into Sheep Corral Gulch. It is located across the draw from Springs 5 and 5a to the west.

\* Site not accessible 1Q

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Plot of Flow and Conductivity



S-5b - Sheep Corral Spring 5b

Figure 24

S-8  
 C Gulch - Spring 8  
 Elevation - 7220

Initiated	6/12/1995	6/12/1995	6/12/1995
Activated	11/1/2002	11/1/2002	11/1/2002
Date	10/12/2022	8/22/2022	5/2/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			0	0	0
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.08	2.50	0.00	0.00	0.00	0	0	0
FieldComment								Dry	Dry	Dry
ph	su	6.90	6.90	6.90						
Conductivity	umhos/cm	1380	1380	1380						
Temperature	Celsius	13.70	13.70	13.70						
Lab Parameters	UNITS									
Bicarbonate	mg/L									
Chloride	mg/L									
Conductivity	umhos/cm									
Hardness	mg/L									
Nitrate-Nitrite	mg/L									
Oil and Grease	mg/L									
pH	su									
Phosphate	mg/L									
ResidueFilterable-TDS	mg/L									
ResidueNonFilterable-TSS	mg/L									
SAR										
Sulfate	mg/L									
Aluminum	mg/L									
Arsenic	mg/L									
Cadmium	mg/L									
Calcium	mg/L									
Copper	mg/L									
Iron (Total)	mg/L									
Lead	mg/L									
Magnesium	mg/L									
Manganese (Total)	mg/L									
Mercury	mg/L									
Molybdenum	mg/L									
Selenium	mg/L									
Sodium	mg/L									
Zinc	mg/L									

\* Site not accessible 1Q

The monitoring point for S-8 is located just above the mine portal road which crosses over the mine portals on the utility bench of the mi

Baseline Information for Point S-8 is derived from events beginning on 6/12/95 through 11/1/02.  
 Point influenced by mining on 11/1/02.

S-10  
 Stevens Draw - Spring 10  
 Elevation - 7550

Initiated	7/12/1995	7/12/1995	7/12/1995
Activated	11/1/2002	11/1/2002	11/1/2002
Date	10/12/2022	8/22/2022	5/2/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			0	0	0
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.17	2.50	0.00	0.00	0.00	0	0	0
FieldComment								Dry	Dry	Dry
ph	su	8.40	8.50	8.60						
Conductivity	umhos/cm	620	640	660						
Temperature	Celsius	19.80	21.10	22.40						
Lab Parameters	UNITS									
Bicarbonate	mg/L									
Chloride	mg/L									
Conductivity	umhos/cm									
Hardness	mg/L									
Nitrate-Nitrite	mg/L									
Oil and Grease	mg/L									
pH	su									
Phosphate	mg/L									
ResidueFilterable-TDS	mg/L									
ResidueNonFilterable-TSS	mg/L									
SAR										
Sulfate	mg/L									
Aluminum	mg/L									
Arsenic	mg/L									
Cadmium	mg/L									
Calcium	mg/L									
Copper	mg/L									
Iron (Total)	mg/L									
Lead	mg/L									
Magnesium	mg/L									
Manganese (Total)	mg/L									
Mercury	mg/L									
Molybdenum	mg/L									
Selenium	mg/L									
Sodium	mg/L									
Zinc	mg/L									

\* Site not accessible 1Q

The monitoring point for S-10 is located along the Stevens Draw road and is located on the lower side of the road.

Baseline Information for Point S-10 is derived from events beginning on 7/12/95 through 11/1/02.  
 Point influenced by mining on 11/1/02.

S-11  
 Stevens Draw - Spring 11  
 Elevation - 7940

Initiated	7/12/1995	7/12/1995	7/12/1995
Activated	1/15/2001	1/15/2001	1/15/2001
Date	10/12/2022	8/22/2022	5/2/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			0	0	0
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.00	0.00	0.00	0.06	4.00			
FieldComment								Dry	Dry	Dry
ph	su				7.6	7.6	7.6			
Conductivity	umhos/cm				160	160	160			
Temperature	Celsius				7.7	7.7	7.7			
Lab Parameters	UNITS									
Bicarbonate	mg/L									
Chloride	mg/L									
Conductivity	umhos/cm									
Hardness	mg/L									
Nitrate-Nitrite	mg/L									
Oil and Grease	mg/L									
pH	su									
Phosphate	mg/L									
ResidueFilterable -TDS	mg/L									
ResidueNonFilterable-TSS	mg/L									
SAR										
Sulfate	mg/L									
Aluminum	mg/L									
Arsenic	mg/L									
Cadmium	mg/L									
Calcium	mg/L									
Copper	mg/L									
Iron (Total)	mg/L									
Lead	mg/L									
Magnesium	mg/L									
Manganese (Total)	mg/L									
Mercury	mg/L									
Molybdenum	mg/L									
Selenium	mg/L									
Sodium	mg/L									
Zinc	mg/L									

\* Site not accessible 1Q

The monitoring point for S-11 is located along the Stevens Draw road and is located on the lower side of the road.

Baseline Information for Point S-11 is derived from events beginning on 7/12/95 through 1/15/01.  
 Point influenced by mining on 1/15/01.

S-12  
**B Gulch - Spring 12**  
**Elevation - 7650**

Initiated	7/12/1995	7/12/1995	7/12/1995
Activated	7/1/2004	7/1/2004	7/1/2004
Date	10/12/2022	8/22/2022	5/2/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation			0	0	0
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.00	0.00	0.00	0.00	0.00			
FieldComment								Dry	Dry	Dry
pH	su									
Conductivity	umhos/cm									
Temperature	Celsius									
Lab Parameters	UNITS									
Bicarbonate	mg/L									
Chloride	mg/L									
Conductivity	umhos/cm									
Hardness	mg/L									
Nitrate-Nitrite	mg/L									
Oil and Grease	mg/L									
pH	su									
Phosphate	mg/L									
ResidueFilterable-TDS	mg/L									
ResidueNonFilterable -TSS	mg/L									
SAR										
Sulfate	mg/L									
Aluminum	mg/L									
Arsenic	mg/L									
Cadmium	mg/L									
Calcium	mg/L									
Copper	mg/L									
Iron (Total)	mg/L									
Lead	mg/L									
Magnesium	mg/L									
Manganese (Total)	mg/L									
Mercury	mg/L									
Molybdenum	mg/L									
Selenium	mg/L									
Sodium	mg/L									
Zinc	mg/L									

\* Site not accessible 1Q

The monitoring point for S-12 is located along a switchback road that ascends the southern facing exposure of the canyon wall of the Nor Fork of the Gunnison River. The road leads to the broad ridge which separates the Hubbard Creek and Terror Creek drainage systems.

Baseline Information for Point S-12 is derived from events beginning on 7/12/95 through 7/1/04.  
 Point Influenced by mining on 7/1/04.

S-13  
 Freeman Gulch - Spring 13  
 Elevation - 7500

Initiated	9/27/1995	9/27/1995	9/27/1995
Activated	11/18/1999	11/18/1999	11/18/1999
Date	11/9/2022	8/22/2022	5/2/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation					
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.01	0.27	0.00	0.01	0.94	0	0	0
FieldComment								Dry	Dry	Dry
ph	su	8.2	8.2	8.2						
Conductivity	umhos/cm	300	300	300						
Temperature	Celsius	10.0	10.0	10.0						
Lab Parameters	UNITS									
Bicarbonate	mg/L									
Chloride	mg/L									
Conductivity	umhos/cm									
Hardness	mg/L									
Nitrate-Nitrite	mg/L									
Oil and Grease	mg/L									
pH	su									
Phosphate	mg/L									
ResidueFilterable-TDS	mg/L									
ResidueNonFilterable-TSS	mg/L									
SAR										
Sulfate	mg/L									
Aluminum	mg/L									
Arsenic	mg/L									
Cadmium	mg/L									
Calcium	mg/L									
Copper	mg/L									
Iron (Total)	mg/L									
Lead	mg/L									
Magnesium	mg/L									
Manganese (Total)	mg/L									
Mercury	mg/L									
Molybdenum	mg/L									
Selenium	mg/L									
Sodium	mg/L									
Zinc	mg/L									

\* Site not accessible 1Q

The monitoring point for S-13 is located along an old coal exploration road which eventually reaches Drillhole 13. This spring is located on the northern facing slopes of Freeman Gulch.

Baseline Information for Point S-13 is derived from events beginning on 9/27/95 through 11/18/99.  
 Point influenced by mining on 11/18/99.

S-14  
 Stevens Draw - Spring 14  
 Elevation - 7100

Initiated	9/27/1995	9/27/1995	9/27/1995
Activated			
Date	10/12/2022	8/22/2022	5/2/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			0	0	0
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.16	4.00				0	0	0
FieldComment								Dry	Dry	Dry
ph	su	7.6	8.1	8.6						
Conductivity	umhos/cm	1020	1124	1300						
Temperature	Celsius	3.1	11.2	22.2						
Lab Parameters	UNITS									
Bicarbonate	mg/L	472	472	472						
Chloride	mg/L	16	16	16						
Conductivity	umhos/cm	1220	1220	1220						
Hardness	mg/L	414	414	414						
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL						
Oil and Grease	mg/L	<MDL	<MDL	<MDL						
pH	su	7.2	7.2	7.2						
Phosphate	mg/L	<MDL	<MDL	<MDL						
ResidueFilterable -TDS	mg/L	780	780	780						
ResidueNonFilterable-TSS	mg/L	22	22	22						
SAR		2.55	2.55	2.55						
Sulfate	mg/L	209.0	209.0	209.0						
Aluminum	mg/L	0.24	0.24	0.24						
Arsenic	mg/L	0.002	0.002	0.002						
Cadmium	mg/L	<MDL	<MDL	<MDL						
Calcium	mg/L	80.1	80.1	80.1						
Copper	mg/L	<MDL	<MDL	<MDL						
Iron (Total)	mg/L	1.68	1.68	1.68						
Lead	mg/L	<MDL	<MDL	<MDL						
Magnesium	mg/L	51.9	51.9	51.9						
Manganese (Total)	mg/L	0.184	0.184	0.184						
Mercury	mg/L	<MDL	<MDL	<MDL						
Molybdenum	mg/L	<MDL	<MDL	<MDL						
Selenium	mg/L	<MDL	<MDL	<MDL						
Sodium	mg/L	118	118	118						
Zinc	mg/L	<MDL	<MDL	<MDL						

The area of concern for monitoring point S-14 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

The monitoring point for S-14 is located on a fork of the Stevens Draw road just above Pond 1. Spring seeps from the east bank of drainage along about 100' sections. (Hanna, 1995)

\* Site not accessible 1Q

S-16  
 Terror Creek - Spring 16  
 Elevation - 7750

Initiated	10/11/1995	10/11/1995	10/11/1995
Activated	1/15/2001	1/15/2001	1/15/2001
Date	11/9/2022	9/28/2022	5/11/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Damp	Dry	No visible flow
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.06	2.67	18.75	0.00	0.77	11.10			
FieldComment								Dry	No visible flow	Dry
ph	su	6.9	7.2	7.6	6.7	7.4	7.9			
Conductivity	umhos/cm	160	236	280	220	331	482			
Temperature	Celsius	4.5	7.0	12.0	5.2	7.0	12.8			
Lab Parameters	UNITS									
Bicarbonate	mg/L	107	129	159	140.0	170.6	193.8			
Chloride	mg/L	<MDL	2	5	1.70	13.57	37.22			
Conductivity	umhos/cm	230	260	296	242	353	449			
Hardness	mg/L	59	93	114	76.80	103.17	117.72			
Nitrate-Nitrite	mg/L	<MDL	0.10	0.24	<MDL	0.31	0.31			
Oil and Grease	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL			
pH	su	6.4	6.9	7.5	6.69	7.06	7.63			
Phosphate	mg/L	<MDL	0.07	0.33	<MDL	<MDL	<MDL			
ResidueFilterable-TDS	mg/L	140	164	190	169	223	284			
ResidueNonFilterable-TSS	mg/L	<MDL	2	8	2	13	31			
SAR		0.60	0.70	0.75	1.30	1.35	1.42			
Sulfate	mg/L	<MDL	3.4	12.0	18.30	25.53	38.69			
Aluminum (TREC)	mg/L	0.03	0.07	0.17	0.017	0.098	0.179			
Arsenic (TREC)	mg/L	<MDL	<MDL	<MDL	0.005	0.005	0.005			
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL	0.007	0.007	0.007			
Calcium (TREC)	mg/L	18.2	28.7	35.1	23.5	31.7	35.9			
Copper (TREC)	mg/L	<MDL	0.002	0.010	<MDL	0.003	0.003			
Iron (TREC)	mg/L	0.03	0.15	0.49	0.02	0.18	0.42			
Lead (TREC)	mg/L	<MDL	<MDL	<MDL	0.02	0.02	0.02			
Magnesium (TREC)	mg/L	3.2	5.3	6.5	<MDL	5.81	6.94			
Manganese (TREC)	mg/L	<MDL	0.005	0.017	<MDL	0.013	0.030			
Mercury (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.0001	0.0001			
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.009	0.009			
Selenium (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.002	0.002			
Sodium (TREC)	mg/L	10.5	15.4	18.2	23.9	31.0	36.1			
Zinc (TREC)	mg/L	<MDL	0.01	0.02	<MDL	0.007	0.007			

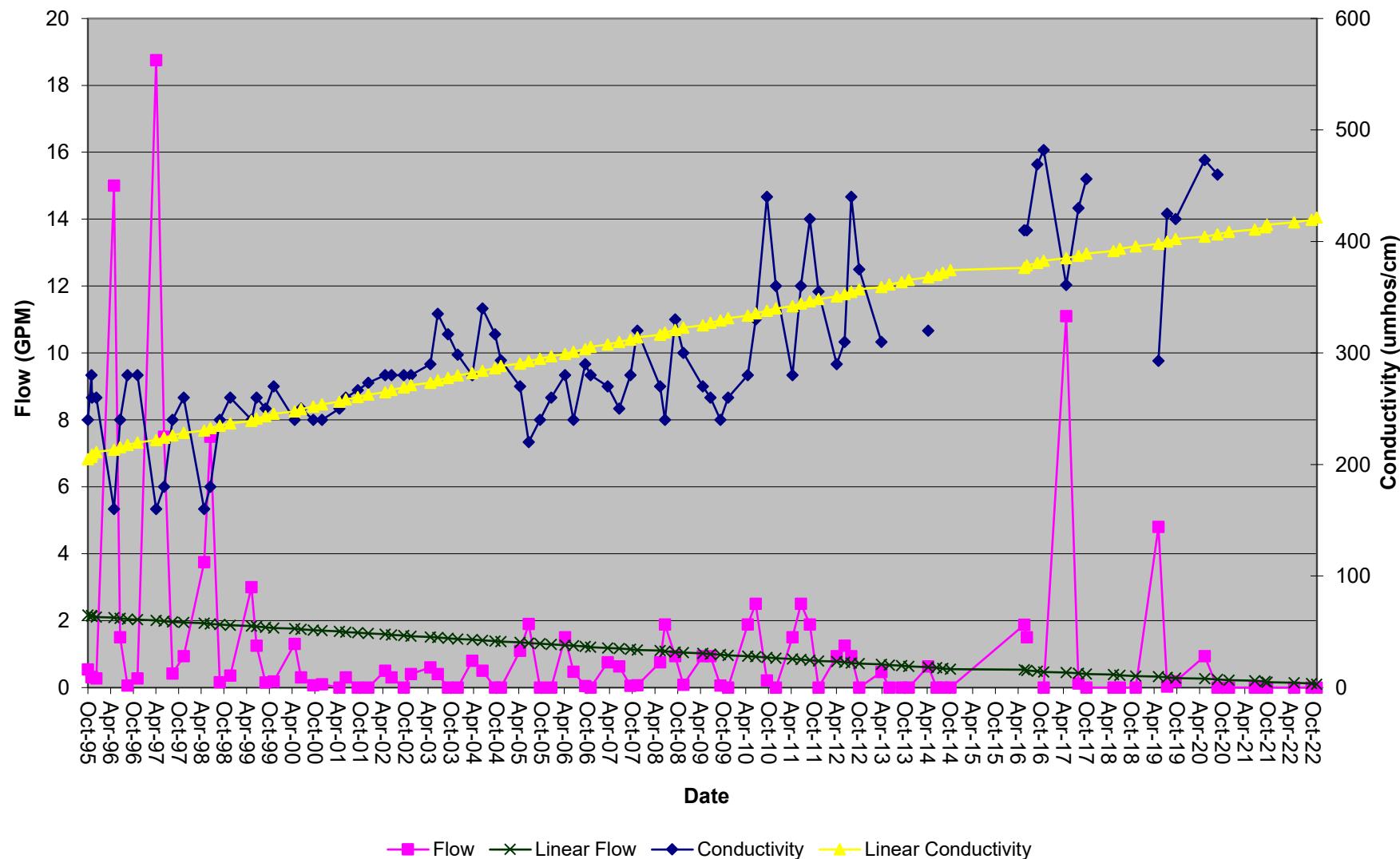
\* Site not accessible 1Q

The monitoring point for S-16 is located on an un-mapped road in an un-named gulch which discharges eventually into Terror Creek.  
 The flow from S-16 contributes to Pond 3, which is just below it.

Baseline Information for Point S-16 is derived from events beginning on 10/11/95 through 1/15/02.  
 Point influenced by mining on 1/15/01.

Bowie Resources, LLC  
 Bowie No. 2 Mine  
 2022 Annual Hydrology Report

Plot of Flow and Conductivity



S-17  
 Freeman Gulch - Spring 17  
 Elevation - 7110

Initiated	5/9/1996	5/9/1996	5/9/1996
Activated	12/7/2000	12/7/2000	12/7/2000
Date	11/8/2022	9/7/2022	5/11/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	2.11	20.00	0.00	0.00	0.00	0	0	0
FieldComment										
ph	su	8.40	8.61	8.80						
Conductivity	umhos/cm	480.00	532.50	580.00						
Temperature	Celsius	8.40	16.33	25.00						
Lab Parameters	UNITS									
Bicarbonate	mg/L	266.00	280.25	298.00						
Chloride	mg/L	2.00	2.50	3.00						
Conductivity	umhos/cm	511.00	538.25	586.00						
Hardness	mg/L	177.00	200.00	216.00						
Nitrate-Nitrite	mg/L	<MDL	0.02	0.04						
Oil and Grease	mg/L	<MDL	<MDL	<MDL						
pH	su	8.10	8.25	8.40						
Phosphate	mg/L	<MDL	0.01	0.03						
ResidueFilterable-TDS	mg/L	300.00	342.50	380.00						
ResidueNonFilterable-TSS	mg/L	<MDL	72.00	134.00						
SAR		1.15	1.50	2.08						
Sulfate	mg/L	20.00	27.50	30.00						
Aluminum	mg/L	0.10	2.52	5.42						
Arsenic	mg/L	<MDL	0.001	0.005						
Cadmium	mg/L	<MDL	<MDL	<MDL						
Calcium	mg/L	42.00	50.33	55.00						
Copper	mg/L	<MDL	0.003	0.01						
Iron (Total)	mg/L	0.10	2.80	6.08						
Lead	mg/L	<MDL	0.01	0.02						
Magnesium	mg/L	17.50	18.05	19.00						
Manganese (Total)	mg/L	<MDL	0.04	0.09						
Mercury	mg/L	<MDL	<MDL	<MDL						
Molybdenum	mg/L	<MDL	<MDL	<MDL						
Selenium	mg/L	<MDL	0.0003	0.001						
Sodium	mg/L	38.30	47.70	62.70						
Zinc	mg/L	<MDL	0.02	0.04						

Baseline Closed at end of 2000 Monitoring Season

\* Site not accessible 1Q

The monitoring point location for S-17 is located on the southern facing slopes of Freeman Gulch and is accessed by foot from trails that originate on the Hubbard Creek Road.

S-18  
 Terror Creek - Spring 18  
 Elevation - 7750

Initiated	6/28/1999	6/28/1999	6/28/1999
Activated			
Date	11/9/2022	9/28/2022	6/23/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation					
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.72	5.00						
FieldComment								No flow	No flow	No flow
ph	su	6.7	8.0	10.2						
Conductivity	umhos/cm	220	381	670						
Temperature	Celsius	2.9	10.5	17.8						
Lab Parameters	UNITS									
Bicarbonate	mg/L	167.7	248.2	401.0						
Chloride	mg/L	<MDL	<MDL	<MDL						
Conductivity	umhos/cm	331.1	426.0	600.0						
Hardness	mg/L	115.9	165.6	266.0						
Nitrate-Nitrite	mg/L	<MDL	1.09	2.13						
Oil and Grease	mg/L	<MDL	<MDL	<MDL						
pH	su	6.52	7.72	8.33						
Phosphate	mg/L	<MDL	<MDL	<MDL						
ResidueFilterable-TDS	mg/L	117.5	229.6	377.0						
ResidueNonFilterable-TSS	mg/L	1	22	64						
SAR		1.35	1.49	1.68						
Sulfate	mg/L	14.41	21.34	25.73						
Aluminum	mg/L	<MDL	0.86	1.59						
Arsenic	mg/L	<MDL	0.008	0.010						
Cadmium	mg/L	<MDL	0.002	0.002						
Calcium	mg/L	30.0	43.7	66.8						
Copper	mg/L	<MDL	<MDL	<MDL						
Iron (Total)	mg/L	0.023	0.750	1.800						
Lead	mg/L	<MDL	0.01	0.01						
Magnesium	mg/L	8.92	13.76	24.20						
Manganese (Total)	mg/L	<MDL	0.02	0.02						
Mercury	mg/L	<MDL	0.00004	0.00004						
Molybdenum	mg/L	<MDL	<MDL	<MDL						
Selenium	mg/L	<MDL	0.070	0.086						
Sodium	mg/L	36.0	44.0	53.8						
Zinc	mg/L	0.01	0.02	0.03						

The area of concern for monitoring point S-18 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

The monitoring point for S-18 is located on an unmapped road in an un-named gulch which discharges eventually into Terror Creek. The flow from S-18 contributes to Pond 6, which is just below it.

\* Site not accessible 1Q

S2-2  
 Hubbard Creek - Spring 2-2  
 Elevation - 6740

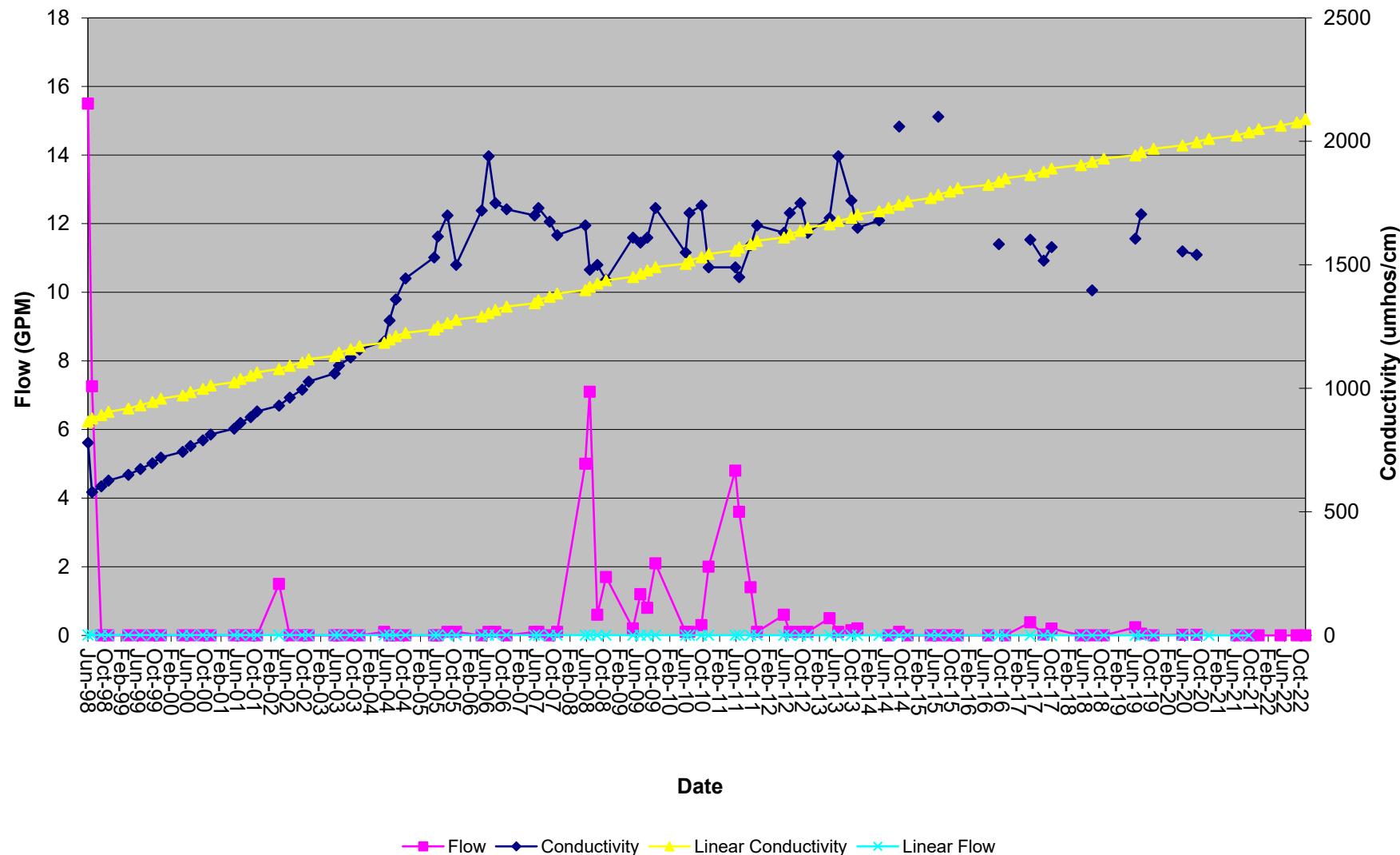
Initiated	6/9/1998	6/9/1998	6/9/1998
Activated	9/15/2001	9/15/2001	9/15/2001
Date	11/8/2022	9/6/2022	5/11/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Damp	Damp
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.0	1.5	15.5	0.0	0.5	7.1	0	0	0
FieldComment										
ph	su	6.9	7.5	8.0	7.4	8.6	9.3			
Conductivity	umhos/cm	580	680	780	930	1623	2100			
Temperature	Celsius	11.5	12.3	13.2	0.1	14.4	26.3			
Lab Parameters	UNITS									
Bicarbonate	mg/L	339	350	361	489.6	536.9	584.2			
Carbonate	mg/L	<MDL	<MDL	<MDL	15.6	19.5	23.4			
Chloride	mg/L	2	3	3	<MDL	2.5	2.5			
Conductivity	umhos/cm	685	702	718	1042.2	1142.9	1243.7			
Hardness	mg/L	208	212	215	132.5	144.6	156.7			
Nitrate-Nitrite	mg/L	0.07	0.09	0.12	<MDL	<MDL	<MDL			
Oil and Grease	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL			
pH	su	7.7	7.8	7.8	8.5	8.7	8.8			
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL			
ResidueFilterable-TDS	mg/L	390.0	420.0	450.0	941	964	987			
ResidueNonFilterable-TSS	mg/L	38.0	49.0	60.0	130	252	374			
SAR		<MDL	<MDL	<MDL	8.6	10.4	12.3			
Sulfate	mg/L	40.0	40.0	40.0	179.5	199.0	218.6			
Aluminum	mg/L	1.94	2.15	2.36	0.19	0.48	0.77			
Arsenic	mg/L	<MDL	<MDL	<MDL	0.077	0.092	0.107			
Cadmium	mg/L	<MDL	<MDL	<MDL	0.010	0.011	0.012			
Calcium	mg/L	51.5	52.5	53.6	24.70	27.91	31.11			
Copper	mg/L	<MDL	<MDL	<MDL	<MDL	0.013	0.013			
Iron (Total)	mg/L	1.56	1.90	2.25	0.375	1.948	3.520			
Lead	mg/L	<MDL	<MDL	<MDL	<MDL	0.06	0.06			
Magnesium	mg/L	19.4	19.6	19.8	17.19	18.19	19.18			
Manganese (Total)	mg/L	0.017	0.021	0.024	0.012	0.023	0.034			
Mercury	mg/L	<MDL	<MDL	<MDL	0.0001	0.0002	0.0003			
Molybdenum	mg/L	<MDL	<MDL	<MDL	<MDL	0.005	0.005			
Selenium	mg/L	<MDL	<MDL	<MDL	0.005	0.076	0.146			
Sodium	mg/L	69.4	78.6	87.8	247.8	273.4	299.0			
Zinc	mg/L	0.02	0.02	0.02	0.02	0.03	0.03			

\* Site not accessible 1Q

### Plot of Flow and Conductivity



S2-3  
 Hubbard Creek - Spring 2-3  
 Elevation - 6740

Initiated	6/9/1998	6/9/1998	6/9/1998
Activated	9/15/2001	9/15/2001	9/15/2001
Date	11/8/2022	9/7/2022	5/11/2022

Summary Information

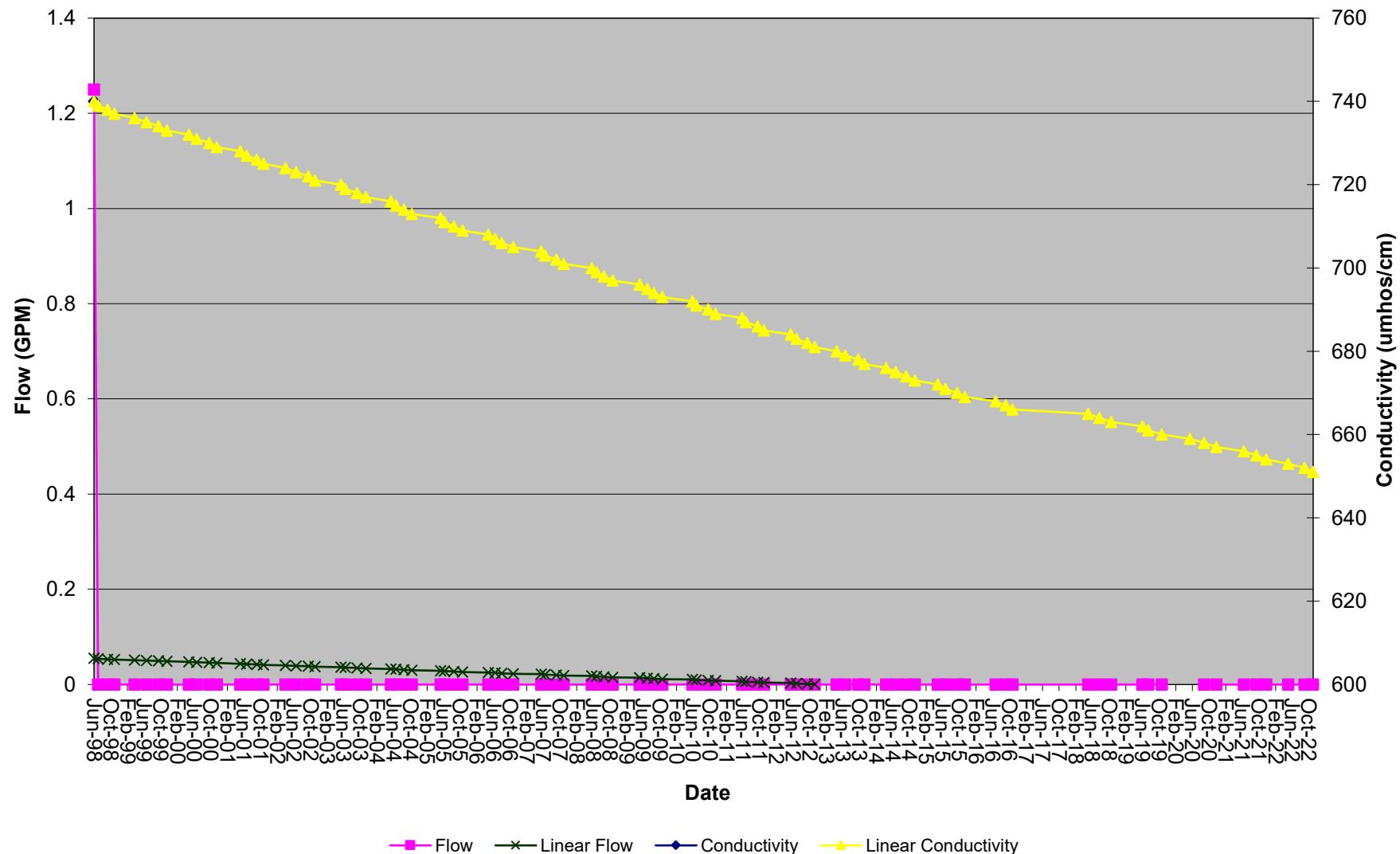
Field Parameters	UNITS	Baseline			Operation			Damp	Dry	Dry
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.0	0.2	1.3	0.0	0.01	1.00	0	0	0
FieldComment										
ph	su	7.8	7.8	7.8						
Conductivity	umhos/cm	740	740	740						
Temperature	Celsius	12.1	12.1	12.1						
Lab Parameters	UNITS									
Bicarbonate	mg/L									
Chloride	mg/L									
Conductivity	umhos/cm									
Hardness	mg/L									
Nitrate-Nitrite	mg/L									
Oil and Grease	mg/L									
pH	su									
Phosphate	mg/L									
ResidueFilterable -TDS	mg/L									
ResidueNonFilterable-TSS	mg/L									
SAR										
Sulfate	mg/L									
Aluminum	mg/L									
Arsenic	mg/L									
Cadmium	mg/L									
Calcium	mg/L									
Copper	mg/L									
Iron (Total)	mg/L									
Lead	mg/L									
Magnesium	mg/L									
Manganese (Total)	mg/L									
Mercury	mg/L									
Molybdenum	mg/L									
Selenium	mg/L									
Sodium	mg/L									
Zinc	mg/L									

Influenced by the disturbance of Freeman Gulch

\* Site not accessible 1Q

The monitoring point for S2-3 is located along the same old coal exploration road used to access S2-2. It is located near the bottom of Freeman Gulch, along the upper edge of the road.

### Plot of Flow and Conductivity



S2-9  
 Hubbard Creek - Spring 2-9  
 Elevation - 6320'

Initiated	4/1/1999	4/1/1999	4/1/1999	4/1/1999
Activated	9/24/1999	9/24/1999	9/24/1999	9/24/1999
Date	11/3/2022	9/6/2022	6/8/2022	3/28/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.0	1.3	3.8	0.0	0.00	0.00	0	0	0	0
FieldComment								Dry	Dry	Dry	Dry
ph	su	7.5	7.5	7.5							
Conductivity	umhos/cm	1340	1340	1340							
Temperature	Celsius	4.6	4.6	4.6							
Lab Parameters	UNITS										
Bicarbonate	mg/L										
Chloride	mg/L										
Conductivity	umhos/cm										
Hardness	mg/L										
Nitrate-Nitrite	mg/L										
Oil and Grease	mg/L										
pH	su										
Phosphate	mg/L										
Residue Filterable-TDS	mg/L										
Residue NonFilterable-TSS	mg/L										
SAR											
Sulfate	mg/L										
Aluminum	mg/L										
Arsenic	mg/L										
Cadmium	mg/L										
Calcium	mg/L										
Copper	mg/L										
Iron (Total)	mg/L										
Lead	mg/L										
Magnesium	mg/L										
Manganese (Total)	mg/L										
Mercury	mg/L										
Molybdenum	mg/L										
Selenium	mg/L										
Sodium	mg/L										
Zinc	mg/L										

The monitoring point for S2-9 is found along the Hubbard Creek road near the mouth of Freeman Gulch. The flow and field parameters are measured at the outlet end of a 24" culvert that directs this runoff from this spring into Hubbard Creek.

S2 - 10  
 Hubbard Creek - Spring 2-10  
 Elevation - 6320'

Initiated	4/1/1999	4/1/1999	4/1/1999	4/1/1999
Activated	9/24/1999	9/24/1999	9/24/1999	9/24/1999
Date	11/3/2022	9/6/2022	6/8/2022	3/28/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.0	0.9	3.6	0.0	0.1	4.2	0	0	0	0
FieldComment											
ph	su	7.4	7.4	7.4	8.0	8.6	10.2				
Conductivity	umhos/cm	840	840	840	940	1294	1670				
Temperature	Celsius	4.9	4.9	4.9	4.0	17.2	24.6				
Lab Parameters	UNITS										
Bicarbonate	mg/L				570.7	570.7	570.7				
Chloride	mg/L				<MDL	<MDL	<MDL				
Conductivity	umhos/cm				1048.5	1048.5	1048.5				
Hardness	mg/L				375.48	375.48	375.48				
Nitrate-Nitrite	mg/L				<MDL	<MDL	<MDL				
Oil and Grease	mg/L				11.39	11.39	11.39				
pH	su				8.34	8.34	8.34				
Phosphate	mg/L				<MDL	<MDL	<MDL				
Residue Filterable-TDS	mg/L				1052	1052	1052				
Residue NonFilterable-TSS	mg/L				15	15	15				
SAR					0.29	0.29	0.29				
Sulfate	mg/L				205.39	205.39	205.39				
Aluminum	mg/L				0.25	0.25	0.25				
Arsenic	mg/L				0.0066	0.0066	0.0066				
Cadmium	mg/L				<MDL	<MDL	<MDL				
Calcium	mg/L				53.4	53.4	53.4				
Copper	mg/L				0.06	0.06	0.06				
Iron (Total)	mg/L				0.51	0.51	0.51				
Lead	mg/L				0.08	0.08	0.08				
Magnesium	mg/L				58.8	58.8	58.8				
Manganese (Total)	mg/L				0.03	0.03	0.03				
Mercury	mg/L				0.0002	0.0002	0.0002				
Molybdenum	mg/L				<MDL	<MDL	<MDL				
Selenium	mg/L				0.0068	0.0068	0.0068				
Sodium	mg/L				12.94	12.94	12.94				
Zinc	mg/L				0.055	0.055	0.055				

Influenced by the disturbance of Freeman Gulch.

The monitoring point for S2-10 is found along the Hubbard Creek road near the mouth of Freeman Gulch. The flow and field parameters are measured where the flow crosses the Hubbard Creek road, just before it enters Hubbard Creek.

S3-1  
 Sheep Corral - Spring 3-1  
 Elevation - 6840

Initiated	5/21/2003	5/21/2003	5/21/2003
Activated	5/21/2003	5/21/2003	5/21/2003
Date	11/8/2022	9/6/2022	5/11/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM				0.00	0.66	6.34			
FieldComment								Dry	Dry	Dry
ph	su				6.8	8.0	8.6			
Conductivity	umhos/cm				968	1237	1520			
Temperature	Celsius				4.1	10.5	19.5			
Lab Parameters	UNITS									
Bicarbonate	mg/L				489.0	489.0	489.0			
Chloride	mg/L				3.0	3.0	3.0			
Conductivity	umhos/cm				845.0	845.0	845.0			
Hardness	mg/L				326.0	326.0	326.0			
Nitrate-Nitrite	mg/L				0.2	0.2	0.2			
Oil and Grease	mg/L				0.0	<MDL	0.0			
pH	su				7.8	7.8	7.8			
Phosphate	mg/L				0.0	<MDL	0.0			
Residue Filterable-TDS	mg/L				557.0	557.0	557.0			
Residue NonFilterable-TSS	mg/L				0.0	<MDL	0.0			
SAR					2.2	2.2	2.2			
Sulfate	mg/L				96.3	96.3	96.3			
Aluminum	mg/L				0.0	<MDL	0.0			
Arsenic	mg/L				0.0	<MDL	0.0			
Cadmium	mg/L				0.0	0.0	0.0			
Calcium	mg/L				83.3	83.3	83.3			
Copper	mg/L				0.0	<MDL	0.0			
Iron (Total)	mg/L				0.0	<MDL	0.0			
Lead	mg/L				0.0	<MDL	0.0			
Magnesium	mg/L				28.6	28.6	28.6			
Manganese (Total)	mg/L				0.0	<MDL	0.0			
Mercury	mg/L				0.0	<MDL	0.0			
Molybdenum	mg/L				0.0	0.0	0.0			
Selenium	mg/L				0.1	0.1	0.1			
Sodium	mg/L				108.0	108.0	108.0			
Zinc	mg/L				0.0	<MDL	0.0			

The area of concern for monitoring point S3-1 was affected by the mining operation before its establishment. Therefore, all recorded monitoring events are considered Operational.

\* Site not accessible 1Q

There is no baseline collection possible for points initiated after the influence of mining.

S5-2  
 Powerline Seep - Spring 5-2  
 Elevation - 7200

Initiated	10/29/2012	10/29/2012	10/29/2012
Activated			
Date	10/5/2022	9/8/2022	6/23/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.34	0.34	0.34						
Temperature	Celsius	9.2	9.2	9.2						
Conductivity	umhos/cm	850	850	850						
pH	su	7.6	7.6	7.6						
Field Comments										
Lab										

The area of concern for monitoring point S5-2 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

S6-6  
 Terror Creek - Spring 6-6  
 Elevation - 7860

Initiated	7/19/1983	7/19/1983	7/19/1983
Activated	7/22/2012	7/22/2012	7/22/2012
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.10	3.10				0	0	0
Temperature	Celsius	15.8	18.3	21.1						
Conductivity	umhos/cm	239	298	432						
pH	su	7.8	8.3	8.7						
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L	117.1	117.1	117.1						
Carbonate	mg/L									
Chloride	mg/L	1	1	1						
Conductivity	umhos/cm	235	235	235						
Hardness	mg/L	95	95	95						
pH	su	7.9	7.9	7.9						
Residue Filterable-TDS	mg/L	132	132	132						
ResidueNon Filterable-TSS	mg/L	32	32	32						
SAR		0.71	0.71	0.71						
Sulfate	mg/L	10	10	10						
Calcium (Dissolved)	mg/L	25	25	25						
Magnesium (Total)	mg/L	8	8	8						
Sodium (Dissolved)	mg/L	16	16	16						
Potassium	mg/L									
TDS Ratio (grav./calc.)										

The area of concern for monitoring point S6-6 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

\* Site not accessible 1Q

S7-4  
 Steven's Gulch - Spring 7-4  
 Elevation - 7780

Initiated Date	7/19/1983	7/19/1983	7/19/1983
	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation		
		Min	Ave	Max	Min	Ave	Max
Flow	GPM	0.00	1.80	11.13			
Temperature	Celsius	8.1	12.1	24.3			
Conductivity	umhos/cm	250	336	530			
pH	su	6.6	7.5	8.2			
Field Comments						Dry	Dry
Lab Parameters	UNITS						
Bicarbonate	mg/L	40.9	155.3	225.7			
Chloride	mg/L	<MDL	7.58	22.33			
Conductivity	umhos/cm	226	286	353			
Hardness	mg/L	124.53	149.11	184.00			
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL			
Oil and Grease	mg/L	<MDL	<MDL	<MDL			
pH	su	6.6	7.4	8.2			
Phosphate	mg/L	<MDL	<MDL	<MDL			
Residue Filterable-TDS	mg/L	172	218	305			
Residue Non Filterable-TSS	mg/L	11	35	52			
SAR		0.25	0.77	2.63			
Sulfate	mg/L	<MDL	8.71	14.82			
Aluminum (TREC)	mg/L	<MDL	0.024	0.024			
Arsenic (TREC)	mg/L	<MDL	0.026	0.026			
Cadmium (TREC)	mg/L	<MDL	0.02	0.02			
Calcium (TREC)	mg/L	25.30	25.30	25.30			
Copper (TREC)	mg/L	0.01	0.01	0.01			
Iron (TREC)	mg/L	0.35	0.47	0.58			
Lead (TREC)	mg/L	0.04	0.04	0.04			
Magnesium (TREC)	mg/L	13.0	15.0	18.0			
Manganese (TREC)	mg/L	0.01	0.01	0.01			
Mercury (TREC)	mg/L	<MDL	0.00007	0.00007			
Molybdenum (TREC)	mg/L	<MDL	0.002	0.002			
Selenium (TREC)	mg/L	<MDL	0.018	0.018			
Sodium (TREC)	mg/L	12.99	12.99	12.99			
Zinc (TREC)	mg/L	<MDL	0.01	0.01			

The area of concern for monitoring point S7-4 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

\* Site not accessible 1Q

S7-9  
 Terror Creek - Spring 7-9  
 Elevation - 7800

Initiated	7/19/1983	7/19/1983	7/19/1983
Activated	7/22/2012	7/22/2012	7/22/2012
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.01	0.27	0.00	0.00	0.00			
Temperature	Celsius	8.6	11.3	15.2						
Conductivity	umhos/cm	271	614	791						
pH	su	7.0	7.5	8.0						
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L	139.1	326.2	427.0						
Carbonate	mg/L									
Chloride	mg/L	1.0	5.7	11.0						
Conductivity	umhos/cm	259.0	522.3	678.0						
Hardness	mg/L	104.0	264.3	347.0						
pH	su	6.7	7.5	8.0						
Residue Filterable-TDS	mg/L	144.0	327.0	425.0						
ResidueNon Filterable-TSS	mg/L	94.0	129.3	170.0						
SAR		0.1	0.6	0.9						
Sulfate	mg/L	4.0	26.0	43.0						
Calcium (Dissolved)	mg/L	30.0	68.0	88.0						
Magnesium (Total)	mg/L	7.0	23.0	31.0						
Sodium (Dissolved)	mg/L	3.0	24.7	38.0						
Potassium	mg/L									
TDS Ratio (grav./calc.)										

The monitoring point for Spring 7-9 is located on an east facing slope that drains down toward Terror Creek.

\* Site not accessible 1Q

S7-10  
 Terror Creek - Spring 7-10  
 Elevation - 7880

Initiated	8/1/1983	8/1/1983	8/1/1983
Activated	12/31/2013	12/31/2013	12/31/2013
Date	10/10/2022	8/31/2022	6/22/2022

Field Parameters	UNITS	Summary Information						no visible flow	
		Baseline			Operation				
		Min	Ave	Max	Min	Ave	Max		
Flow	GPM	0.00	1.56	18.75	0.00	1.05	3.75	0.05	
Temperature	Celsius	1.6	7.81	21.7	6.40	7.90	10.30	8.3	
Conductivity	umhos/cm	190	480	660	7.10	580.78	690.00	690	
pH	su	7.0	7.6	8.4	6.58	7.44	7.99	7.83	
Field Comments									
Lab Parameters	UNITS								
Bicarbonate	mg/L	142.00	259.51	384.00	241.77	296.89	352.00		
Chloride	mg/L	<MDL	6.8	54.6	4.6	7.8	10.9		
Conductivity	umhos/cm	292	487	722	542	561	580		
Hardness	mg/L	3.00	203.62	258.00	214.04	220.02	226.00		
Nitrate-Nitrite	mg/L	0.3	0.3	0.31	<MDL				
Oil & Grease	mg/L	<MDL	<MDL	<MDL	<MDL				
pH	su	6.76	7.58	8.59	7.08	7.22	7.35		
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL				
Residue Filterable-TDS	mg/L	190	319	476	358	394	430		
Residue NonFilterable-TSS	mg/L	<MDL	57	272	14	14	14		
SAR		0.470	0.920	3.959	1.610	2.785	3.959		
Sulfate	mg/L	0.4	22.0	49.8	35.9	42.9	49.8		
Aluminum (TREC)	mg/L	0.023	0.023	0.110	0.110	0.110	0.110		
Arsenic (TREC)	mg/L	0.0100	0.0100	0.0100	0.0010	0.0010	0.0010		
Cadmium (TREC)	mg/L	0.020	0.020	0.020	0.002	0.002	0.002		
Calcium (TREC)	mg/L	36.1	36.1	54.9	43.5	49.2	54.90		
Copper (TREC)	mg/L	0.0010	0.0010	0.0120	0.0120	0.0120	0.0120		
Iron (TREC)	mg/L	0.06	0.22	0.49	0.02	0.17	0.31		
Magnesium (TREC)	mg/L	24.70	24.70	25.60	21.50	23.55	25.60		
Manganese (TREC)	mg/L	<MDL	0.0123	0.0260	0.0260	0.0260	0.03		
Mercury (TREC)	mg/L	0.0000	0.0000	0.0000	0.00002	0.00002	0.00002		
Molybdenum (TREC)	mg/L	0.003	0.003	0.003	0.001	0.001	0.001		
Selenium (TREC)	mg/L	0.023	0.023	0.023	0.003	0.003	0.003		
Sodium (TREC)	mg/L	32.3	32.3	133.1	55.8	94.5	133.1		
Zinc (TREC)	mg/L	0.006	0.006	0.011	0.011	0.011	0.011		

This spring consists of a small 2' x 5' area of exposed rocks. Spring water bubbles up through the rocks. (Hanna, 99)

Activated December 31, 2013

\* Site not accessible 1Q

S8-5  
 Terror Creek - Spring 8-5  
 Elevation - 7800

Initiated	7/19/1983	7/19/1983	7/19/1983
Activated	7/15/2012	7/15/2012	7/15/2012
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0	0.50	8.62	0.00	0.00	3.00			
Temperature	Celsius	7.5	13.80	24.4						
Conductivity	umhos/cm	660	746.00	920						
pH	su	7.3	8.01	8.8						
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L	334	397.13	475						
Carbonate	mg/L									
Chloride	mg/L	6	8.50	11						
Conductivity	umhos/cm	606	686.00	774						
Hardness	mg/L	247	315.13	380						
pH	su	7.0	7.89	8.2						
Residue Filterable-TDS	mg/L	355	404.38	460						
Residue NonFilterable-TSS	mg/L	4	146.00	502						
SAR		0.89	0.99	1.24						
Sulfate	mg/L	30	40.13	56						
Calcium (Dissolved)	mg/L	64.1	75.60	96.7						
Magnesium (Total)	mg/L	21.1	30.71	36.0						
Sodium (Dissolved)	mg/L	31.9	40.14	48						
Potassium	mg/L	1.10	1.10	1.10						
TDS Ratio (grav./calc.)		1.11	1.11	1.11						

The monitoring point for Spring 8.5 is located on an east facing slope that drains down toward Terror Creek.

S21  
 Terror Creek - Spring 21  
 Elevation - 7100

Initiated	4/15/1983	4/15/1983	4/15/1983
Activated	12/1/2010	12/1/2010	12/1/2010
Date	10/12/2022	9/8/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			#DIV/0!	Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0	1.03	7.5	0	0.93	9.11				
Temperature	Celsius	2.5	12.1	20.2	4	9.16	16.2				
Conductivity	umhos/cm	360	687	907	667	1157.11	1592				
pH	su	7.2	7.9	8.5	7.65	9.12	17.1				
Field Comments					0	#DIV/0!		0	Dry	Dry	Dry
Lab Parameters	UNITS								*		
Bicarbonate	mg/L	268	388.56	456	93.08	294.04	495				
Carbonate	mg/L	<MDL	0.23	3.5							
Chloride	mg/L	2	8.78	14	10.4	16.10	21.8				
Conductivity	umhos/cm	555	679.72	775	434	636.00	838				
Hardness	mg/L	279	350.00	442	323	335.31	347.625				
Nitrate-Nitrite	mg/L				0.1	0.10	0.1				
Oil/Grease	mg/L				<MDL	<MDL	<MDL				
pH	su	7	7.88	8.4	7.76	7.93	8.09				
ResidueFilterable-TDS	mg/L	330	408.44	535	340	463.50	587				
ResidueNonFilterable-TSS	mg/L	2	24.92	106	6.6	11.80	17				
SAR		0.48	0.65	1	2.259	2.785	3.31				
Sulfate	mg/L	30	50.22	91	89.6	96.66	103.72				
Calcium (Dissolved)	mg/L	58	84.47	108							
Magnesium (Total)	mg/L	25	33.81	42	35.4	43.90	52.4				
Sodium (Dissolved)	mg/L	22	27.92	44							
Potassium	mg/L	2	2.00	2							
TDS Ratio (grav./calc.)		1	1.00	1							
Aluminum, TREC	mg/L				<MDL	0.20	0.2				
Arsenic, TREC	mg/L				<MDL	0.00	0.001				
Cadmium, TREC	mg/L				<MDL	0.00	0.002				
Calcium, TREC	mg/L				52.8	64.00	75.2				
Copper, TREC	mg/L				<MDL	0.01	0.01				
Iron, TREC	mg/L				0.0855	0.18	0.27				
Lead, TREC	mg/L				<MDL	0.06	0.06				
Manganese, TREC	mg/L				0.0108	0.04	0.06				
Mercury, TREC	mg/L				<MDL	3.000E-05	3.000E-05				
Molybdenum, TREC	mg/L				<MDL	0.00	0.001				
Selenium, TREC	mg/L				<MDL	0.01	0.007				
Sodium, TREC	mg/L				96.8	111.90	127				
Zinc, TREC	mg/L				<MDL	0.01	0.01				

\* Site not accessible 1Q

S33-4  
 Sheep Corral - Spring 33-4  
 Elevation - 7790

Initiated	10/30/1997	10/30/1997	10/30/1997
Activated	12/1/2001	12/1/2001	12/1/2001
Date	11/9/2022	8/22/2022	5/11/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			*
		Min	Ave	Max	Min	Ave	Max	
Flow	GPM	0.0	0.0	0.0	0.0	0.0	0.0	
FieldComment							Dry	Dry
ph	su							
Conductivity	umhos/cm							
Temperature	Celsius							
Lab Parameters	UNITS							*
Bicarbonate	mg/L							
Chloride	mg/L							
Conductivity	umhos/cm							
Hardness	mg/L							
Nitrate-Nitrite	mg/L							
Oil and Grease	mg/L							
pH	su							
Phosphate	mg/L							
ResidueFilterable-TDS	mg/L							
ResidueNonFilterable-TSS	mg/L							
SAR								
Sulfate	mg/L							
Aluminum	mg/L							
Arsenic	mg/L							
Cadmium	mg/L							
Calcium	mg/L							
Copper	mg/L							
Iron (Total)	mg/L							
Lead	mg/L							
Magnesium	mg/L							
Manganese (Total)	mg/L							
Mercury	mg/L							
Molybdenum	mg/L							
Selenium	mg/L							
Sodium	mg/L							
Zinc	mg/L							

This spring was found during the fall of 1997 and was not locatable after 1998.

\* Site not accessible 1Q

The monitoring point for S33-4 (Spring 33-4) is located above P33-3 in a roadless fork. Evidence of a dry spring was found in October and has not been relocated.

S34-7  
 Sheep Corral - Spring 34-7  
 Elevation - 7390

Initiated	10/27/1997	10/27/1997	10/27/1997
Activated	6/1/2002	6/1/2002	6/1/2002
Date	11/8/2022	9/7/2022	5/11/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max			
Flow	GPM	0.00	0.30	4.41	0.0	0.03	1.00			
FieldComment								Dry	Dry	Dry
ph	su	6.8	7.5	8.0	7.2	7.9	8.4			
Conductivity	umhos/cm	160	258	300	330	625	1170			
Temperature	Celsius	5.9	11.2	19.8	3.7	13.6	24.5			
Lab Parameters	UNITS							*		
Bicarbonate	mg/L	200	200	200						
Chloride	mg/L	4	4	4						
Conductivity	umhos/cm	420	420	420						
Hardness	mg/L	129	129	129						
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL						
Oil and Grease	mg/L	4	4	4						
pH	su	8.0	8.0	8.0						
Phosphate	mg/L	<MDL	<MDL	<MDL						
ResidueFilterable-TDS	mg/L	230	230	230						
ResidueNonFilterable-TSS	mg/L	138	138	138						
SAR		<MDL	<MDL	<MDL						
Sulfate	mg/L	30.0	30.0	30.0						
Aluminum	mg/L	3.51	3.51	3.51						
Arsenic	mg/L	0.001	0.001	0.001						
Cadmium	mg/L	<MDL	<MDL	<MDL						
Calcium	mg/L	37.0	37.0	37.0						
Copper	mg/L	<MDL	<MDL	<MDL						
Iron (Total)	mg/L	3.58	3.58	3.58						
Lead	mg/L	<MDL	<MDL	<MDL						
Magnesium	mg/L	8.9	8.9	8.9						
Manganese (Total)	mg/L	0.113	0.113	0.113						
Mercury	mg/L	<MDL	<MDL	<MDL						
Molybdenum	mg/L	<MDL	<MDL	<MDL						
Selenium	mg/L	<MDL	<MDL	<MDL						
Sodium	mg/L	41.0	41.0	41.0						
Zinc	mg/L	0.03	0.03	0.03						

\* Site note accessible 1Q

The monitoring point for S34-7 is located just to the south of an old coal exploration road which winds down Sheep Corral Gulch.

S34-10  
 Dove Gulch - Spring 34-10  
 Elevation - 6640

Initiated	6/2/1998	6/2/1998	6/2/1998	6/2/1998
Activated				
Date	11/3/2022	9/6/2022	6/16/2022	3/28/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Damp	Damp
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.0	0.6	11.0	0.0	0.4	16.4				
FieldComment								Dry	Dry	Damp	Damp
ph	su	7.3	7.4	7.4	8.2	8.4	8.7				
Conductivity	umhos/cm	320	435	550	1160	1340	1689				
Temperature	Celsius	8.2	9.1	10.6	6.7	11.6	19.6				
Lab Parameters	UNITS										
Bicarbonate	mg/L	325	335	344	284.2	284.2	284.2				
Carbonate	mg/L	<MDL	<MDL	<MDL	3.6	3.6	3.6				
Chloride	mg/L	5	5	5	0.86	0.86	0.86				
Conductivity	umhos/cm	622	681	740	1032.1	1032.1	1032.1				
Hardness	mg/L	170	186	202	236.3	236.3	236.3				
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL				
Oil and Grease	mg/L	<MDL	<MDL	<MDL	2.43	2.43	2.43				
pH	su	7.8	7.8	7.8	8.43	8.43	8.43				
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL				
ResidueFilterable-TDS	mg/L	370	400	430	751	751	751				
ResidueNonFilterable-TSS	mg/L	<MDL	31	62	29	29	29				
SAR		<MDL	<MDL	<MDL	3.39	3.39	3.39				
Sulfate	mg/L	40	50	60	194.69	194.69	194.69				
Aluminum	mg/L	0.07	1.96	3.86	0.25	0.25	0.25				
Arsenic	mg/L	<MDL	0.001	0.001	0.064	0.064	0.064				
Cadmium	mg/L	<MDL	<MDL	<MDL	0.015	0.015	0.015				
Calcium	mg/L	40.1	43.4	46.8	55.4	55.4	55.4				
Copper	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL				
Iron (Total)	mg/L	0.05	1.65	3.26	0.102	0.102	0.102				
Lead	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL				
Magnesium	mg/L	16.9	18.8	20.7	23.8	23.8	23.8				
Manganese (Total)	mg/L	<MDL	0.027	0.055	<MDL	<MDL	<MDL				
Mercury	mg/L	<MDL	<MDL	<MDL	0.0001	0.0001	0.0001				
Molybdenum	mg/L	<MDL	<MDL	<MDL	0.01	0.01	0.01				
Selenium	mg/L	0.001	0.001	0.001	0.0036	0.0036	0.0036				
Sodium	mg/L	70.2	77.4	84.6	119.8	119.8	119.8				
Zinc	mg/L	<MDL	0.01	0.03	0.011	0.011	0.011				

The monitoring point for S34-10 is located high on the northern facing slopes that forms the Dove Gulch Canyon. It is accessed on foot from the remnants of an old coal exploration road in the mouth of Dove Gulch. It is one of three springs found in this location, originating in the sandstone outcrop and discharges via sheet flow into Dove Gulch.

S34-19  
 Hubbard Creek - Spring 34-19  
 Elevation - 6460

Initiated	6/9/1998	6/9/1998	6/9/1998	6/9/1998
Activated				
Date	11/3/2022	9/6/2022	6/8/2022	3/28/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation		
		Min	Ave	Max	Min	Ave	Max
Flow	GPM	0.0	0.2	7.5			
FieldComment							
ph	su	7.1	7.9	8.6			
Conductivity	umhos/cm	149	1008	2400			
Temperature	Celsius	3.3	13.5	22.4			
Lab Parameters	UNITS						
Bicarbonate	mg/L	434	434	434			
Chloride	mg/L	9	9	9			
Conductivity	umhos/cm	911	911	911			
Hardness	mg/L	197	197	197			
Nitrate-Nitrite	mg/L	0.1	0.1	0.1			
Oil and Grease	mg/L	<MDL	<MDL	<MDL			
pH	su	7.6	7.6	7.6			
Phosphate	mg/L	<MDL	<MDL	<MDL			
ResidueFilterable-TDS	mg/L	550	550	550			
ResidueNonFilterable-TSS	mg/L	<MDL	<MDL	<MDL			
SAR		<MDL	<MDL	<MDL			
Sulfate	mg/L	290.0	290.0	290.0			
Aluminum	mg/L	0.2	0.2	0.2			
Arsenic	mg/L	<MDL	<MDL	<MDL			
Cadmium	mg/L	<MDL	<MDL	<MDL			
Calcium	mg/L	44.7	44.7	44.7			
Copper	mg/L	<MDL	<MDL	<MDL			
Iron (Total)	mg/L	0.2	0.2	0.2			
Lead	mg/L	<MDL	<MDL	<MDL			
Magnesium	mg/L	20.8	20.8	20.8			
Manganese (Total)	mg/L	0.006	0.006	0.006			
Mercury	mg/L	<MDL	<MDL	<MDL			
Molybdenum	mg/L	<MDL	<MDL	<MDL			
Selenium	mg/L	0.002	0.002	0.002			
Sodium	mg/L	132.0	132.0	132.0			
Zinc	mg/L	<MDL	<MDL	<MDL			

The area of concern for monitoring point S34-19 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

The monitoring point for S34-19 is found along the Hubbard Creek Trail. It is a diverse flow along the upper edge of the trail.

S34-20  
 Hubbard Creek - Spring 34-20  
 Elevation - 6440

Initiated	6/2/1998	6/2/1998	6/2/1998	6/2/1998
Activated				
Date	11/3/2022	9/6/2022	6/8/2022	3/28/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation		
		Min	Ave	Max	Min	Ave	Max
Flow	GPM	0.0	0.0	0.6			
FieldComment					Dry	Dry	Dry
ph	su	7.6	7.8	8.2			
Conductivity	umhos/cm	860	1140	1320			
Temperature	Celsius	12.5	18.4	24.1			
Lab Parameters	UNITS						
Bicarbonate	mg/L						
Chloride	mg/L						
Conductivity	umhos/cm						
Hardness	mg/L						
Nitrate-Nitrite	mg/L						
Oil and Grease	mg/L						
pH	su						
Phosphate	mg/L						
ResidueFilterable-TDS	mg/L						
ResidueNonFilterable-TSS	mg/L						
SAR							
Sulfate	mg/L						
Aluminum	mg/L						
Arsenic	mg/L						
Cadmium	mg/L						
Calcium	mg/L						
Copper	mg/L						
Iron (Total)	mg/L						
Lead	mg/L						
Magnesium	mg/L						
Manganese (Total)	mg/L						
Mercury	mg/L						
Molybdenum	mg/L						
Selenium	mg/L						
Sodium	mg/L						
Zinc	mg/L						

The area of concern for monitoring point S34-20 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

The monitoring point for S34-20 is found along the Hubbard Creek Trail. It is a diverse flow along the upper edge of the trail.

S34-21  
 Hubbard Creek - Spring 34-21  
 Elevation - 6430

Initiated	6/2/1998	6/2/1998	6/2/1998	6/2/1998
Activated				
Date	11/3/2022	9/6/2022	6/8/2022	3/28/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.0	0.5	10.7	0.0	0.1	4.0	0	0	0	0
FieldComment											
ph	su	7.6	7.6	7.6	7.4	7.8	8.4				
Conductivity	umhos/cm	620	620	620	700	1531	1980				
Temperature	Celsius	18.7	18.7	18.7	15.3	19.7	26.4				
Lab Parameters	UNITS										
Bicarbonate	mg/L	454	454	454							
Chloride	mg/L	6	6	6							
Conductivity	umhos/cm	831	831	831							
Hardness	mg/L	226	226	226							
Nitrate-Nitrite	mg/L	0.2	0.2	0.2							
Oil and Grease	mg/L	3.0	3.0	3.0							
pH	su	8.1	8.1	8.1							
Phosphate	mg/L	<MDL	<MDL	<MDL							
ResidueFilterable-TDS	mg/L	490	490	490							
ResidueNonFilterable-TSS	mg/L	<MDL	<MDL	<MDL							
SAR		<MDL	<MDL	<MDL							
Sulfate	mg/L	70	70	70							
Aluminum	mg/L	0.18	0.18	0.18							
Arsenic	mg/L	<MDL	<MDL	<MDL							
Cadmium	mg/L	<MDL	<MDL	<MDL							
Calcium	mg/L	52.9	52.9	52.9							
Copper	mg/L	<MDL	<MDL	<MDL							
Iron (Total)	mg/L	0.14	0.14	0.14							
Lead	mg/L	<MDL	<MDL	<MDL							
Magnesium	mg/L	22.9	22.9	22.9							
Manganese (Total)	mg/L	<MDL	<MDL	<MDL							
Mercury	mg/L	<MDL	<MDL	<MDL							
Molybdenum	mg/L	<MDL	<MDL	<MDL							
Selenium	mg/L	<MDL	<MDL	<MDL							
Sodium	mg/L	105.0	105.0	105.0							
Zinc	mg/L	<MDL	<MDL	<MDL							

The monitoring point for S34-21 is found along the Hubbard Creek Trail. It is a diverse flow along the upper edge of the trail.

S34-22  
 Hubbard Creek - Spring 34-22  
 Elevation - 6700

Initiated	6/2/1998	6/2/1998	6/2/1998	6/2/1998
Activated				
Date	11/3/2022	9/6/2022	6/16/2022	3/28/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.0	1.5	35.0	0.0	0.3	13.6	0	0	0	0
FieldComment								Dry	Dry	Dry	Dry
ph	su	7.2	7.3	7.4	7.8	8.0	8.4				
Conductivity	umhos/cm	230	230	230	1260	1499	1808				
Temperature	Celsius	17.2	17.2	17.2	8.5	9.9	12.1				
Lab Parameters	UNITS										
Bicarbonate	mg/L	302	302	302	285.4	285.4	285.4				
Carbonate	mg/L	12	15	18	18.1	18.1	18.1				
Chloride	mg/L	4	4	4	<MDL	<MDL	<MDL				
Conductivity	umhos/cm	602	602	602	1011.5	1011.5	1011.5				
Hardness	mg/L	171	171	171	238.8	238.8	238.8				
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL				
Oil and Grease	mg/L	<MDL	<MDL	<MDL	2.41	2.41	2.41				
pH	su	8.2	8.2	8.2	8.8	8.8	8.8				
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL				
ResidueFilterable-TDS	mg/L	380	380	380	854	854	854				
ResidueNonFilterable-TSS	mg/L	<MDL	<MDL	<MDL	40	40	40				
SAR		<MDL	<MDL	<MDL	4.19	4.19	4.19				
Sulfate	mg/L	50	50	50	223.91	223.91	223.91				
Aluminum	mg/L	0.31	0.31	0.31	0.23	0.23	0.23				
Arsenic	mg/L	<MDL	<MDL	<MDL	0.064	0.064	0.064				
Cadmium	mg/L	<MDL	<MDL	<MDL	0.026	0.026	0.026				
Calcium	mg/L	38.3	38.3	38.3	53.9	53.9	53.9				
Copper	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL				
Iron (Total)	mg/L	0.27	0.27	0.27	0.187	0.187	0.187				
Lead	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL				
Magnesium	mg/L	18.3	18.3	18.3	25.3	25.3	25.3				
Manganese (Total)	mg/L	<MDL	<MDL	<MDL	0.1	0.1	0.1				
Mercury	mg/L	<MDL	<MDL	<MDL	0.0001	0.0001	0.0001				
Molybdenum	mg/L	<MDL	<MDL	<MDL	0.01	0.01	0.01				
Selenium	mg/L	<MDL	<MDL	<MDL	0.0048	0.0048	0.0048				
Sodium	mg/L	74.4	74.4	74.4	149	149	149				
Zinc	mg/L	<MDL	<MDL	<MDL	0.006	0.006	0.006				

The monitoring point for S34-22 is located high on the northern facing slopes that forms the Dove Gulch Canyon. It is accessed on foot from the remnants of an old coal exploration road in the mouth of Dove Gulch. It is one of three springs found in this location, originating in the sandstone outcrop and discharges via sheet flow into Dove Gulch.

S34-23  
 Hubbard Creek - Spring 34-23  
 Elevation - 6650

Initiated	6/2/1998	6/2/1998	6/2/1998	6/2/1998
Activated				
Date	11/3/2022	9/6/2022	6/16/2022	3/28/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.0	3.5	75.0	0.0	0.1	4.6	0	0	0	0
FieldComment								Dry	Dry	Dry	Dry
ph	su	7.6	7.8	8.0	8.5	8.5	8.5				
Conductivity	umhos/cm	320	390	460	900	900	900				
Temperature	Celsius	12.1	14.0	15.9	9.0	9.0	9.0				
Lab Parameters	UNITS										
Bicarbonate	mg/L	249	268	287							
Chloride	mg/L	2	3	4							
Conductivity	umhos/cm	537	545	552							
Hardness	mg/L	169	171	173							
Nitrate-Nitrite	mg/L	<MDL	0.01	0.02							
Oil and Grease	mg/L	<MDL	<MDL	<MDL							
pH	su	8.1	8.3	8.4							
Phosphate	mg/L	<MDL	<MDL	<MDL							
ResidueFilterable-TDS	mg/L	330	335	340							
ResidueNonFilterable-TSS	mg/L	<MDL	11	22							
SAR		<MDL	<MDL	<MDL							
Sulfate	mg/L	30	40	50							
Aluminum	mg/L	0.32	0.95	1.57							
Arsenic	mg/L	<MDL	<MDL	<MDL							
Cadmium	mg/L	<MDL	<MDL	<MDL							
Calcium	mg/L	40.5	41.8	43.1							
Copper	mg/L	<MDL	<MDL	<MDL							
Iron (Total)	mg/L	0.25	0.77	1.29							
Lead	mg/L	<MDL	<MDL	<MDL							
Magnesium	mg/L	15.9	16.1	16.4							
Manganese (Total)	mg/L	<MDL	0.013	0.026							
Mercury	mg/L	<MDL	<MDL	<MDL							
Molybdenum	mg/L	<MDL	<MDL	<MDL							
Selenium	mg/L	0.001	0.001	0.001							
Sodium	mg/L	59.8	61.1	62.4							
Zinc	mg/L	<MDL	0.005	0.010							

The monitoring point for S34-23 is located high on the northern facing slopes that forms the Dove Gulch Canyon. It is accessed on foot from the remnants of an old coal exploration road in the mouth of Dove Gulch. It is one of three springs found in this location, originating in the sandstone outcrops and discharges via sheet flow into Dove Gulch.

S34-24  
 Hubbard Creek - Spring 34-24  
 Elevation - 6390

Initiated	6/2/1998	6/2/1998	6/2/1998	6/2/1998
Activated	4/1/2002	4/1/2002	4/1/2002	4/1/2002
Date	11/3/2022	9/6/2022	6/16/2022	3/28/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			0	0	0	0
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.00	0.06	0.91	0.0	0.00	0.10	0	0	0	0
FieldComment								Dry	Dry	Dry	Dry
ph	su	7.8	7.8	7.8	7.8	8.0	8.2				
Conductivity	umhos/cm	1010	1010	1010	1210	1740	2400				
Temperature	Celsius	19.0	19.0	19.0	9.0	20.3	24.8				
Lab Parameters	UNITS										
Bicarbonate	mg/L										
Chloride	mg/L										
Conductivity	umhos/cm										
Hardness	mg/L										
Nitrate-Nitrite	mg/L										
Oil and Grease	mg/L										
pH	su										
Phosphate	mg/L										
ResidueFilterable-TDS	mg/L										
ResidueNonFilterable-TSS	mg/L										
SAR											
Sulfate	mg/L										
Aluminum	mg/L										
Arsenic	mg/L										
Cadmium	mg/L										
Calcium	mg/L										
Copper	mg/L										
Iron (Total)	mg/L										
Lead	mg/L										
Magnesium	mg/L										
Manganese (Total)	mg/L										
Mercury	mg/L										
Molybdenum	mg/L										
Selenium	mg/L										
Sodium	mg/L										
Zinc	mg/L										

The monitoring point for S34-24 is found along the Hubbard Creek Trail. It is a diverse flow along the upper edge of the trail.

Baseline Information for Point S34-24 is derived from events beginning on 6/2/98 through 4/1/02.  
 Point influenced by mining on 4/1/02.

Initiated	6/2/1998	6/2/1998	6/2/1998	6/2/1998
Activated	10/30/2008	10/30/2008	10/30/2008	10/30/2008
Date	11/3/2022	9/6/2022	6/16/2022	3/28/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM				0.0	0.4	5.0	0	0	0	0
FieldComment							No visible flow	Dry	Dry	Damp	
ph	su				8.1	8.4	8.8				
Conductivity	umhos/cm				800	916	1088				
Temperature	Celsius				5.0	10.5	17.9				
Lab Parameters	UNITS										
Bicarbonate	mg/L				335	335	335				
Carbonate	mg/L				37	37	37				
Chloride	mg/L				3	3	3				
Conductivity	umhos/cm				759	759	759				
Hardness	mg/L				120	120	120				
Nitrate-Nitrite	mg/L				0.03	0.03	0.03				
Oil and Grease	mg/L				<MDL	<MDL	<MDL				
pH	su				8.8	8.8	8.8				
Phosphate	mg/L				<MDL	<MDL	<MDL				
ResidueFilterable-TDS	mg/L				490	490	490				
ResidueNonFilterable-TSS	mg/L				19	19	19				
SAR					5.99	5.99	5.99				
Sulfate	mg/L				67	67	67				
Aluminum	mg/L				0.61	0.61	0.61				
Arsenic	mg/L				<MDL	<MDL	<MDL				
Cadmium	mg/L				<MDL	<MDL	<MDL				
Calcium	mg/L				27.6	27.6	27.6				
Copper	mg/L				<MDL	<MDL	<MDL				
Iron (Total)	mg/L				0.51	0.51	0.51				
Lead	mg/L				0.0004	0.0004	0.0004				
Magnesium	mg/L				12.4	12.4	12.4				
Manganese (Total)	mg/L				<MDL	<MDL	<MDL				
Mercury	mg/L				<MDL	<MDL	<MDL				
Molybdenum	mg/L				<MDL	<MDL	<MDL				
Selenium	mg/L				0.0016	0.0016	0.0016				
Sodium	mg/L				149	149	149				
Zinc	mg/L				<MDL	<MDL	<MDL				

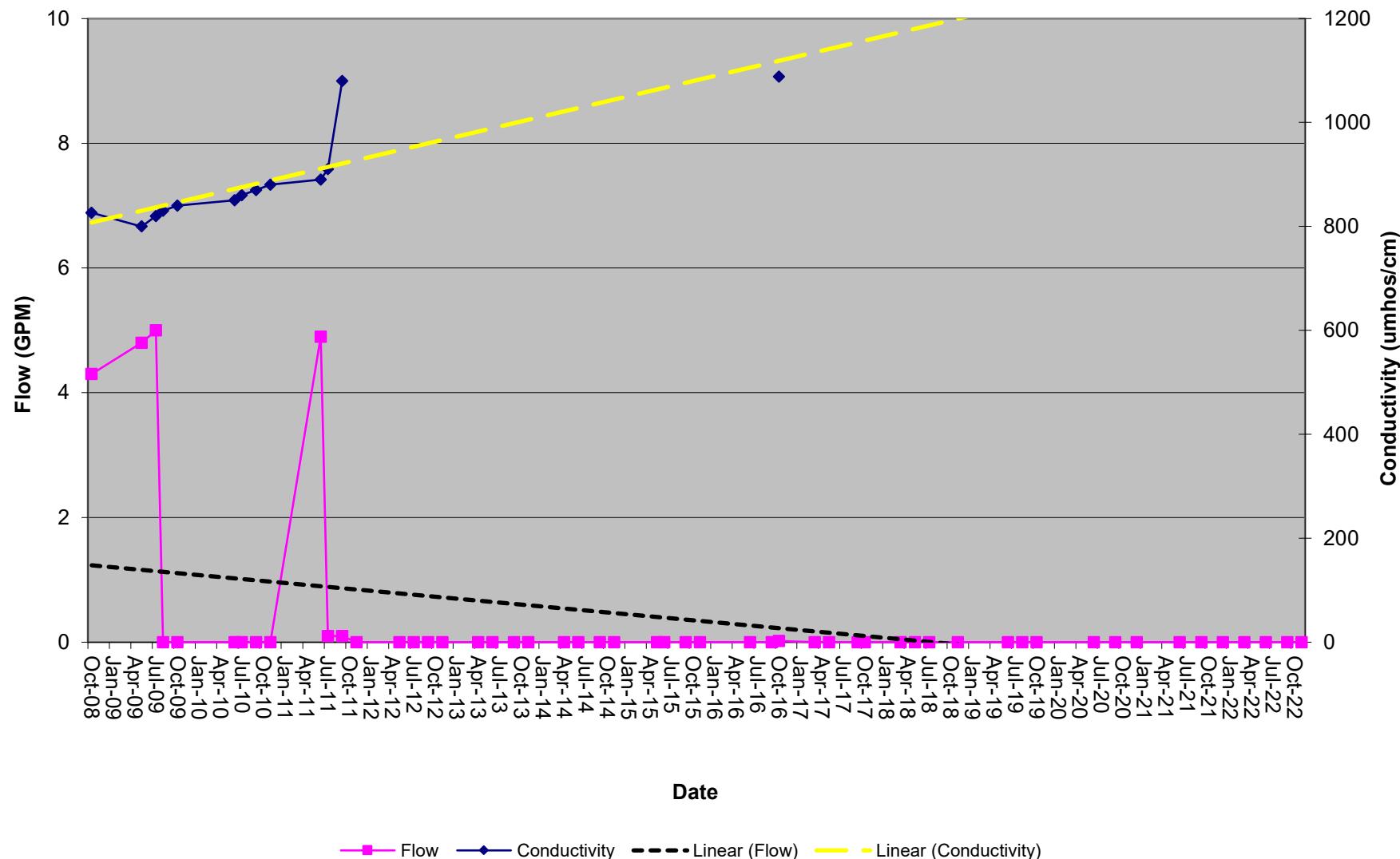
The area of concern for monitoring point S34-25 was affected by the mining operation before its establishment. Therefore, all recorded monitoring events are considered operational.

The monitoring point for S34-25 is found on drill site GVB-8A-A, 8A & 9D in the Dove Gulch drainage.

There is no baseline collection possible for points initiated after the influence of mining.

Bowie Resources, LLC  
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Plot of Flow and Conductivity



S34-25 - Dove Gulch Spring and Pond 34-25

Figure 59

D2-1  
 Sheep Corral - Drainage System  
 Elevation - 6360

Initiated	11/6/1998	11/6/1998	11/6/1998	11/6/1998
Activated	11/1/2003	11/1/2003	11/1/2003	11/1/2003
Date	11/2/2022	9/28/2022	6/12/2022	3/28/2022

Field Parameters	UNITS	Summary Information						Operation			
		Baseline			Operation			Min	Ave	Max	Min
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.00	0.32	4.55	0.00	0.36	13.60	0	0	0	0
FieldComment								Dry	Dry	Dry	Dry
ph	su	7.1	7.8	8.4	7.4	8.1	8.6				
Conductivity	umhos/cm	940	1210	1640	1140	1499	2000				
Temperature	Celsius	4.1	11.1	19.4	5.0	16.8	25.4				
Lab Parameters	UNITS										
		Bicarbonate	mg/L	540	540	540	398.95	593.87	772.59		
		Chloride	mg/L	11	11	11	<MDL	15.41	20.81		
		Conductivity	umhos/cm	1230	1230	1230	1173.0	1508.7	1847.3		
		Hardness	mg/L	291	291	291	228.45	325.43	372.55		
		Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL	<MDL	1.866	2.730		
		Oil and Grease	mg/L	<MDL	<MDL	<MDL	<MDL	2.060	4.050		
		pH	su	8.2	8.2	8.2	7.8	8.4	8.9		
		Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL		
		ResidueFilterable-TDS	mg/L	790	790	790	824	1060	1321		
		ResidueNonFilterable-TSS	mg/L	<MDL	<MDL	<MDL	1.0	64.9	296.0		
		SAR		5.3	5.3	5.3	1.34	5.08	11.30		
		Sulfate	mg/L	190	190	190	230.00	275.24	380.32		
		Aluminum	mg/L	0.39	0.39	0.39	0.057	0.377	1.23		
		Arsenic	mg/L	<MDL	<MDL	<MDL	0.0017	0.054	0.142		
		Cadmium	mg/L	<MDL	<MDL	<MDL	<MDL	0.006	0.015		
		Calcium	mg/L	49.8	49.8	49.8	36.9	55.3	66.6		
		Copper	mg/L	<MDL	<MDL	<MDL	<MDL	0.284	0.552		
		Iron (Total)	mg/L	0.3	0.3	0.3	0.10	0.49	1.22		
		Lead	mg/L	<MDL	<MDL	<MDL	<MDL	0.03	0.05		
		Magnesium	mg/L	40.6	40.6	40.6	33.1	45.5	57.3		
		Manganese (Total)	mg/L	0.01	0.01	0.01	<MDL	0.053	0.084		
		Mercury	mg/L	<MDL	<MDL	<MDL	<MDL	0.0001	0.0002		
		Molybdenum	mg/L	<MDL	<MDL	<MDL	<MDL	0.003	0.003		
		Selenium	mg/L	<MDL	<MDL	<MDL	0.0002	0.0492	0.1680		
		Sodium	mg/L	205	205	205	54.8	200.8	393.8		
		Zinc	mg/L	<MDL	<MDL	<MDL	<MDL	0.032	0.090		

\* Not accessible

The D2-1 Monitoring point is at the lower extreme of Sheep Corral Gulch. It is located just below the Hubbard Creek Road, just north of the Blue Ribbon Mine.

D21-1  
 Terror Creek - Confluence w/NFG  
 Elevation - 5760

Initiated	3/23/2010	3/23/2010	3/23/2010	3/23/2010
Activated				
Date	11/2/2022	9/28/2022	6/13/2022	

Field Parameters	UNITS	Summary Information						Operation			
		Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Flow	CFS	0.02	5.63	46.00			12.1	7.6	29.5		
FieldComment									***		
ph	su	7.1	8.4	9.0			8.53	8.63	7.85		
Conductivity	umhos/cm	79	312	820			192	281	162.7		
Temperature	Celsius	0.4	10.3	20.6			5.7	15.5	14.9		
Lab Parameters	UNITS										
Bicarbonate	mg/L	39.70	126.77	292.00				85.6	71.1		
Chloride	mg/L	0.6	43.0	188.5				<MDL	1.27		
Conductivity	umhos/cm	65	300	744				186	158		
Hardness	mg/L	31.50	136.40	297.20				78	66		
Nitrate-Nitrite	mg/L	<MDL	0.197	0.570				<MDL	<MDL		
Oil and Grease	mg/L	<MDL	<MDL	<MDL				<MDL	<MDL		
pH	su	6.77	7.90	8.53				7.4	8		
Phosphate	mg/L	<MDL	0.061	0.280				0.0682	0.0558		
ResidueFilterable-TDS	mg/L	1	223	494				120	108		
ResidueNonFilterable-TSS	mg/L	<MDL	36	302				6	8		
SAR		0.25	0.69	1.70				0.39	0.37		
Sulfate	mg/L	1.23	26.20	72.03				9.4	12.2		
Aluminum (TREC)	mg/L	0.008	0.633	1.750				0.381	0.92		
Arsenic (TREC)	mg/L	0.000	0.013	0.060				0.00038	0.00048		
Cadmium (TREC)	mg/L	0.002	0.006	0.020				<MDL	<MDL		
Calcium (TREC)	mg/L	6.05	28.41	67.30				17.5	16.7		
Copper (TREC)	mg/L	0.002	0.007	0.017				<MDL	<MDL		
Iron (TREC)	mg/L	0.06	0.95	11.70				0.423	0.86		
Lead (TREC)	mg/L	0.00	0.01	0.05				0.00024	0.0005		
Magnesium (TREC)	mg/L	2.96	15.19	44.40				8.34	5.79		
Manganese (TREC)	mg/L	<MDL	0.934	23.700				0.012	0.029		
Mercury (TREC)	mg/L	0.00001	0.00006	0.00012				<MDL	<MDL		
Molybdenum (TREC)	mg/L	0.000	0.003	0.008				<MDL	<MDL		
Selenium (TREC)	mg/L	<MDL	0.00784	0.03600				<MDL	0.00018		
Sodium (TREC)	mg/L	3.45	18.78	67.50				7.77	6.84		
Zinc (TREC)	mg/L	0.003	0.025	0.110				<MDL	<MDL		

The area of concern for monitoring point D21-1 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

The D21-1 Monitoring point is at downstream Terror Creek-Confluence w/NFG.

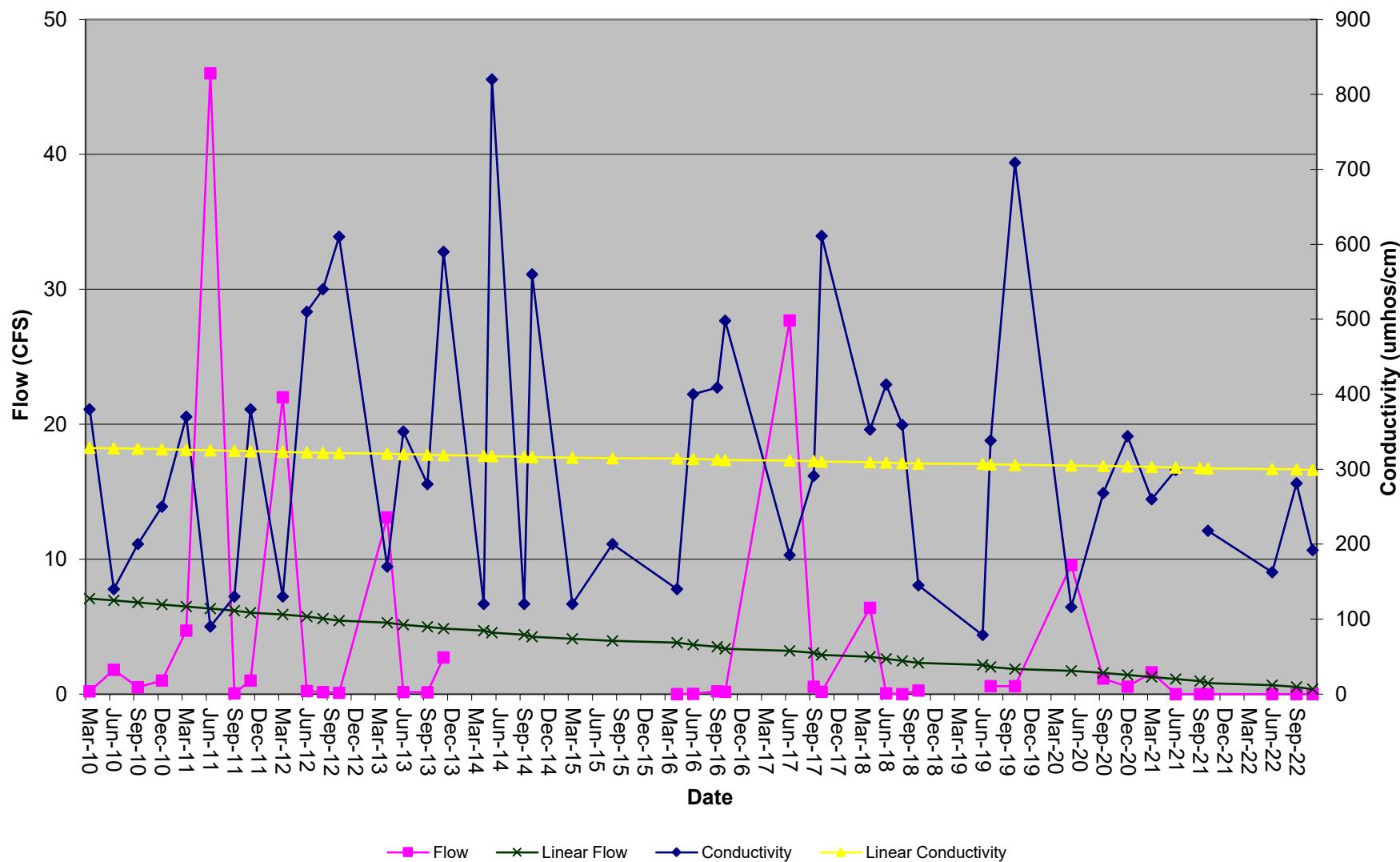
\* Stream flow too low for measurement

\*\* Stream flow too high for measurement

\*\*\* Site not accessible

Bowie Resources, LLC  
 Bowie No. 2 Mine  
 2022 Annual Hydrology Report

Plot of Flow and Conductivity



D21-1 - Terror Creek Drainage System

Figure 62

D32-4  
 Terror Creek - Drainage System  
 Elevation - 7480

Initiated	3/23/2010	3/23/2010	3/23/2010	3/23/2010
Activated				
Date	11/1/2022	9/8/2022	6/8/2022	

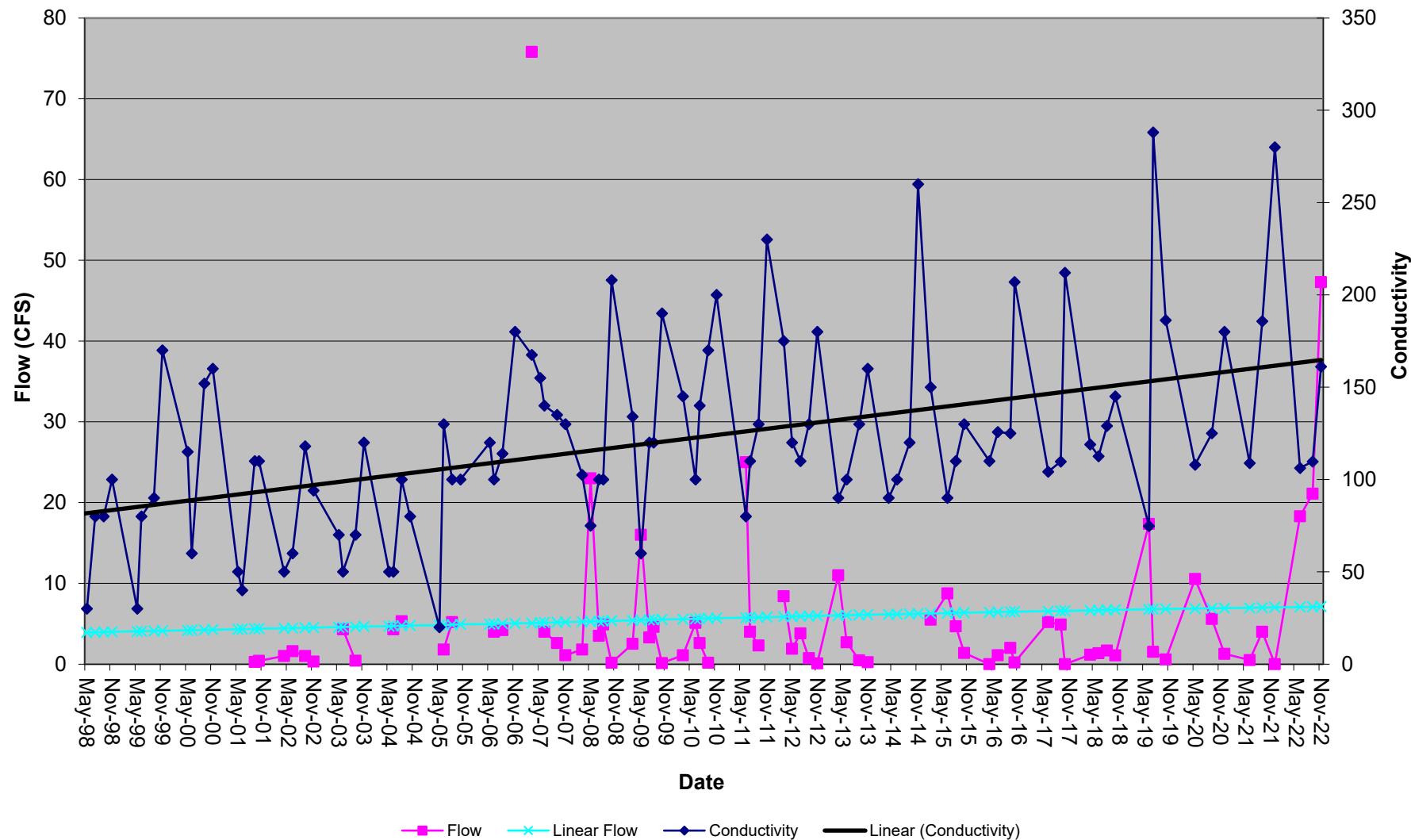
Field Parameters	UNITS	Summary Information			Operation			Min	Ave	Max
		Baseline	Min	Ave	Max	Min	Ave			
Flow	CFS	0.04	6.26	75.80				18.3	21.1	47.3
FieldComment										*
ph	su	6.9	8.1	8.8				8.3	8.1	7.9
Conductivity	umhos/cm	20	120	288				161.1	109.7	106.2
Temperature	Celsius	0.0	9.6	19.0				0.2	16.9	9.4
Lab Parameters	UNITS									
Bicarbonate	mg/L	1.7	61.9	144.6				71.6		55.8
Chloride	mg/L	<MDL	4.6	76.9				1.53		1.2
Conductivity	umhos/cm	60.8	130.0	429.0				148		96
Hardness	mg/L	22.3	57.1	192.3				66.0		46.0
Nitrate-Nitrite	mg/L	<MDL	0.7	8.1				<MDL		<MDL
Oil & Grease	mg/L	<MDL	2.4	6.4				<MDL		<MDL
pH	su	6.6	7.5	8.3				7.3		7.9
Phosphate	mg/L	<MDL	0.14	1.37				0.0180		0.0868
ResidueFilterable-TDS	mg/L	37	116	342				106		90
ResidueNonFilterable-TSS	mg/L	<MDL	29	450				8.0000		12.0000
SAR		<MDL	0.78	28.16				0.2600		0.2400
Sulfate	mg/L	<MDL	8.2	54.8				1.8		<MDL
Aluminum (TREC)	mg/L	<MDL	1.30	11.17				0.531		1.73
Arsenic (TREC)	mg/L	<MDL	0.0097	0.1680				0.0003		<MDL
Cadmium (TREC)	mg/L	<MDL	0.4202	11.2000				<MDL		11.2
Calcium (TREC)	mg/L	<MDL	13.9	65.4				15.5		
Copper (TREC)	mg/L	<MDL	0.005	0.050				<MDL		<MDL
Iron (Dissolved)	mg/L	<MDL	5.97	165.00				0.063		<MDL
Iron (TREC)	mg/L	0.020	0.956	5.420				0.587		1.36
Lead (TREC)	mg/L	<MDL	0.0078	0.0500				0.00045		0.00048
Magnesium (TREC)	mg/L	<MDL	5.35	11.10				6.55		4.39
Manganese (TREC)	mg/L	<MDL	0.043	0.277				0.027		0.033
Mercury (TREC)	mg/L	<MDL	0.00007	0.00027				<MDL		<MDL
Molybdenum (TREC)	mg/L	<MDL	0.037	0.900				<MDL		<MDL
Selenium (TREC)	mg/L	<MDL	0.005	0.024				<MDL		0.00015
Sodium (TREC)	mg/L	2.3	5.3	20.3				4.85		3.7
Zinc (TREC)	mg/L	<MDL	0.023	0.160				<MDL		<MDL

The area of concern for monitoring point D32-4 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

The D32-4 Monitoring Point is on upper Terror Creek. It is located at the Cottonwood Stomp ford. This point is used to obtain conductivity, pH and temperature readings. The irregular stream channel found at this location does not provide an adequate method of determining flow values. Flow values are taken by Resource Engineering.

\* Not Accessible

### Plot of Flow and Conductivity



D33-14  
 Upper Sheep Corral Gulch  
 Elevation - 7320

Initiated	11/6/1998	11/6/1998	11/6/1998	11/6/1998
Activated	11/1/2003	11/1/2003	11/1/2003	11/1/2003
Date	11/1/2022	9/8/2022	6/8/2022	

Field Parameters	UNITS	Summary Information					
		Baseline			Operation		
		Min	Ave	Max	Min	Ave	Max
Flow	GPM	0.00	0.00	0.00	0.00	2.01	98.86
FieldComment							*
ph	su			6.5	7.9	8.5	8.21
Conductivity	umhos/cm			330	677	807	721
Temperature	Celsius			2.0	8.1	26.5	3.2
Lab Parameters	UNITS						
		124.0	278.0	392.0	328		274
			1.2	2.0	2.7	2.43	2.71
		192.0	512.5	670.0	664		601
			63	84	118	63	75
		<MDL	0.56	2.13	<MDL		0.031
		<MDL	0.82	0.82	<MDL		<MDL
		6.82	7.93	8.50	8		8.2
		<MDL	0.03	0.04	<MDL		0.0372
		126	307	406	406		350
		<MDL	3	3	<MDL		<MDL
		0.71	4.93	7.70	7.7		6
		6.50	32.64	42.50	39.6		38.5
		<MDL	<MDL	<MDL	<MDL		<MDL
		0.009	0.009	0.009	<MDL		<MDL
		<MDL	<MDL	<MDL	<MDL		<MDL
		20.0	24.8	32.7	20		23.4
		<MDL	<MDL	<MDL	<MDL		<MDL
		0.02	0.05	0.08	<MDL		<MDL
		<MDL	<MDL	<MDL	<MDL		<MDL
		3.00	4.80	8.78	3.08		4.04
		0.01	0.01	0.02	<MDL		<MDL
		<MDL	<MDL	<MDL	<MDL		<MDL
		0.000	0.017	0.051	0.00013		0.00029
		12.1	95.8	139.0	139		119
		<MDL	<MDL	<MDL	<MDL		0.032

\* Site not accessible during 1Q

Not enough water for sample during 2Q 2018

The location for monitoring point D33-14 can be found just to the south of an old coal exploration road winding through Sheep Corral Gulch. It is just above Spring and Pond SP34-11.

\* flow not provided in field notes

D34-13  
 Dove Gulch - Drainage System  
 Elevation - 6440

Initiated	10/31/1997	10/31/1997	10/31/1997	10/31/1997
Activated				
Date	11/3/2022	9/6/2022	6/8/2022	3/28/2022

Field Parameters	UNITS	Summary Information			Operation			0	0	0	0				
		Baseline			Operation										
		Min	Ave	Max	Min	Ave	Max								
Flow	GPM	0.00	0.00	0.00				0	0	0	0				
FieldComment								Dry	Dry	Dry	Dry				
ph	su														
Conductivity	umhos/cm														
Temperature	Celsius														
Lab Parameters	UNITS														
Bicarbonate	mg/L														
Chloride	mg/L														
Conductivity	umhos/cm														
Hardness	mg/L														
Nitrate-Nitrite	mg/L														
Oil and Grease	mg/L														
pH	su														
Phosphate	mg/L														
ResidueFilterable-TDS	mg/L														
ResidueNonFilterable-TSS	mg/L														
SAR															
Sulfate	mg/L														
Aluminum	mg/L														
Arsenic	mg/L														
Cadmium	mg/L														
Calcium	mg/L														
Copper	mg/L														
Iron (Total)	mg/L														
Lead	mg/L														
Magnesium	mg/L														
Manganese (Total)	mg/L														
Mercury	mg/L														
Molybdenum	mg/L														
Selenium	mg/L														
Sodium	mg/L														
Zinc	mg/L														

The area of concern for monitoring point D34-13 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

The location for D34-13 is at the lower extreme of Dove Gulch, along the western edge of Hubbard Creek Trail.

**D34-14**  
**Hubbard Creek - Drainage System**  
**Elevation - 6560**

Initiated	9/30/1996	9/30/1996	9/30/1996	9/30/1996
Activated	4/1/2002	4/1/2002	4/1/2002	4/1/2002
Date	11/3/2022	9/6/2022	6/8/2022	3/28/2022

Field Parameters	UNITS	Summary Information									
		Baseline			Operation			Min	Ave	Max	
		Min	Ave	Max	Min	Ave	Max				
Flow	CFS	0.12	23.57	220.00				6.2	0.1	39.0	70.0
FieldComment											
ph	su	6.8	8.1	8.9				8.3	8.8	7.6	8.8
Conductivity	umhos/cm	50	203	347				222	237	101	159
Temperature	Celsius	0.2	9.3	20.9				3.7	11.6	12.6	2.9
Lab Parameters	UNITS										
Bicarbonate	mg/L	36.1	99.8	187.0				97.5		51.6	
Chloride	mg/L	<MDL	4.74	84.89				5.16		0.95	
Conductivity	umhos/cm	82.1	198.2	439.0				207		90	
Hardness	mg/L	<MDL	83.99	150.00				90		44	
Nitrate-Nitrite	mg/L	<MDL	1.711	41.530				<MDL		<MDL	
Oil & Grease	mg/L	<MDL	0.973	2.330				<MDL		<MDL	
Phosphate	mg/L	<MDL	0.63	8.33				0.019		0.0558	
ResidueFilterable-TDS	mg/L	33	142	353				134		68	
ResidueNonFilterable-TSS	mg/L	<MDL	20.3	166.0				9		12	
SAR		<MDL	1.11	20.50				0.46		0.23	
Sulfate	mg/L	<MDL	30.36	1234.8				8.4		13.9	
Aluminum (TREC)	mg/L	<MDL	0.680	9.690				0.456		0.903	
Arsenic (TREC)	mg/L	<MDL	0.0072	0.1290				0.00052		0.00047	
Cadmium (TREC)	mg/L	<MDL	0.3268	11.3000				<MDL		<MDL	
Calcium (TREC)	mg/L	4.57	23.62	43.60				25.6		12.4	
Copper (TREC)	mg/L	<MDL	0.009	0.200				<MDL		<MDL	
Iron (Dissolved)	mg/L	<MDL	<MDL	<MDL				0.188		0.136	
Iron (TREC)	mg/L	0.010	0.552	13.600				0.716		0.824	
Lead (TREC)	mg/L	<MDL	0.081	2.800				0.00025		0.00032	
Magnesium (TREC)	mg/L	0.42	6.49	16.30				6.38		3.05	
Manganese (TREC)	mg/L	<MDL	0.105	3.900				0.22		0.025	
Mercury (TREC)	mg/L	<MDL	0.00009	0.00079				<MDL		<MDL	
Molybdenum (TREC)	mg/L	<MDL	0.042	1.130				<MDL		<MDL	
Selenium (TREC)	mg/L	<MDL	0.0804	3.2700				<MDL		0.00016	
Sodium (TREC)	mg/L	3.16	12.44	42.00				10.0		3.5	
Zinc (TREC)	mg/L	<MDL	0.016	0.116				<MDL		<MDL	

The area of concern for monitoring point D34-14 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

The location for the D34-14 monitoring point is on Hubbard creek just below the igneous intrusion noted as Iron Point. The location can be found where a sapling has been painted white. The point where field parameters were taken did not provide an adequate method to determine flow values. Flow values are taken by Resource Engineering.

Deer-low  
 Canal - Deer Trail Ditch  
 Elevation - 5920

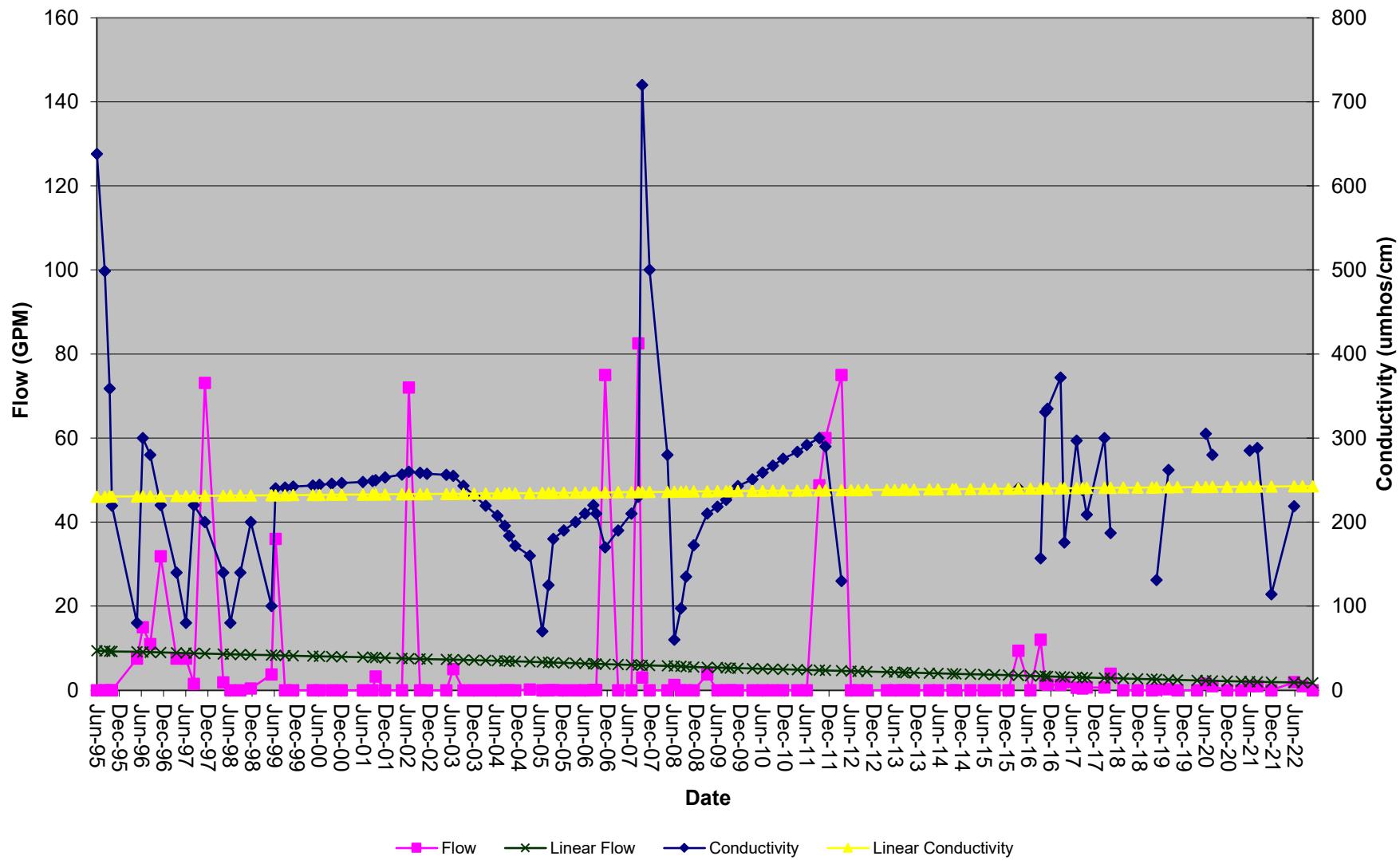
Initiated	6/14/1995	6/14/1995	6/14/1995
Activated	3/30/1997	3/30/1997	3/30/1997
Date	11/8/2022	8/16/2022	6/7/2022

Field Parameters	UNITS	Summary Information			Operation			Ditch off	
		Baseline Min	Ave	Max	Operation Min	Ave	Max		
Flow	GPM	0	8	32	0	6	83		0.98 1.93
Water Level in Flume	Feet				0.00	0.17	0.40		0.38 0.4
Field Comment									
ph	su	6.8	8.3	9.0	7.1	8.4	9.2		8.1 8.1
Conductivity	umhos/cm	80	276	638	60	226	720		219 114
Temperature	Celsius	4.9	13.1	21.2	3.1	11.8	21.5		19.2 13.3
DO	mg/L	0.0	3.7	10.7	0.0	6.3	14.7		14.7 0.01
Lab Parameters	UNITS								
Bicarbonate	mg/L	41	70	118	39	92	131		53.1
Chloride	mg/L	<MDL	1	2	<MDL	1.8	4.0		1.3
Chromium III CrIII	mg/L				<MDL	<MDL	<MDL		
Chromium VI CrIV	mg/L				<MDL	<MDL	<MDL		
Cyanide, Total	mg/L				<MDL	<MDL	<MDL		
Conductivity	umhos/cm	97	148	238	98	191	308		106
Hardness	mg/L	48	67	96	33	82	119		50
Nitrate-Nitrite	mg/L	<MDL	0.07	0.17	<MDL	0.01	0.04		<MDL
Nitrate	mg/L	<MDL	0.08	0.17	<MDL	0.47	2.69		<MDL
Nitrite	mg/L	<MDL	0.01	0.02	<MDL	0.00	0.01		
Dissolved Oxygen		0	0	0	<MDL	7.93	7.95		
Ammonia	mg/L				0.10	0.18	0.25		
Oil and Grease	mg/L	<MDL	<MDL	<MDL	<MDL	2	2		<MDL
pH	su	7.5	7.8	8.0	7.7	8.1	8.6		8.1
Phosphate	mg/L	<MDL	0.03	0.08	<MDL	0.03	0.08		<MDL
ResidueFilterable-TDS	mg/L	30	93	150	70	165	302		100
ResidueNonFilterable-TSS	mg/L	6	101	286	<MDL	15	41		18
SAR		0.21	0.38	0.68	<MDL	0.82	6.50		0.25
Sulfate	mg/L	<MDL	7	10	<MDL	11	20		<MDL
Sulfide S	mg/L				<MDL	<MDL	<MDL		
Aluminum (TREC)	mg/L	0.25	3.03	7.68	0.14	0.62	1.58		1.07
Arsenic (TREC)	mg/L	<MDL	0.001	0.002	<MDL	0.0019	0.0150		0.00057
Boron	mg/L				0.78	0.78	0.78		
Cadmium (TREC)	mg/L	<MDL	0.001	0.003	<MDL	0.01	0.05		<MDL
Calcium (TREC)	mg/L	13.4	18.8	26.9	9.1	23.1	33.8		14.1
Copper (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.004	0.017		<MDL
Iron (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.06	0.15		0.091
Iron (TREC)	mg/L	0.45	3.83	9.79	0.10	0.81	5.29		0.963
Lead (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.0054	0.0400		0.00055
Magnesium (TREC)	mg/L	3.4	4.9	6.9	2.5	6.1	8.6		3.46
Manganese (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	1.6	6.2		
Manganese (TREC)	mg/L	0.012	0.075	0.193	0.001	0.039	0.166		0.017
Mercury (TREC)	mg/L	<MDL	0.00007	0.0002	<MDL	0.00005	0.0002		<MDL
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.0003	0.0010		<MDL
Nickel	mg/L				<MDL	<MDL	<MDL		
Selenium (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.002	0.010		0.00013
Silver	mg/L				<MDL	<MDL	<MDL		<MDL
Sodium (TREC)	mg/L	3.7	7.6	15.3	3.9	11.2	31.5		4.2
Zinc (TREC)	mg/L	0.03	0.03	0.04	<MDL	0.02	0.05		<MDL

The lower end of Deer Trail Ditch is monitored at a point where the ditch empties into the Fire Mountain Canal.

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Plot of Flow and Conductivity



Deer-low - Canal - Deer Trail Ditch

Figure 69

**Deer-up**  
**Canal - Deer Trail Ditch**  
**Elevation - 5960**

Initiated	6/14/1995	6/14/1995	6/14/1995
Activated	3/30/1997	3/30/1997	3/30/1997
Date	11/8/2022	8/16/2022	6/7/2022

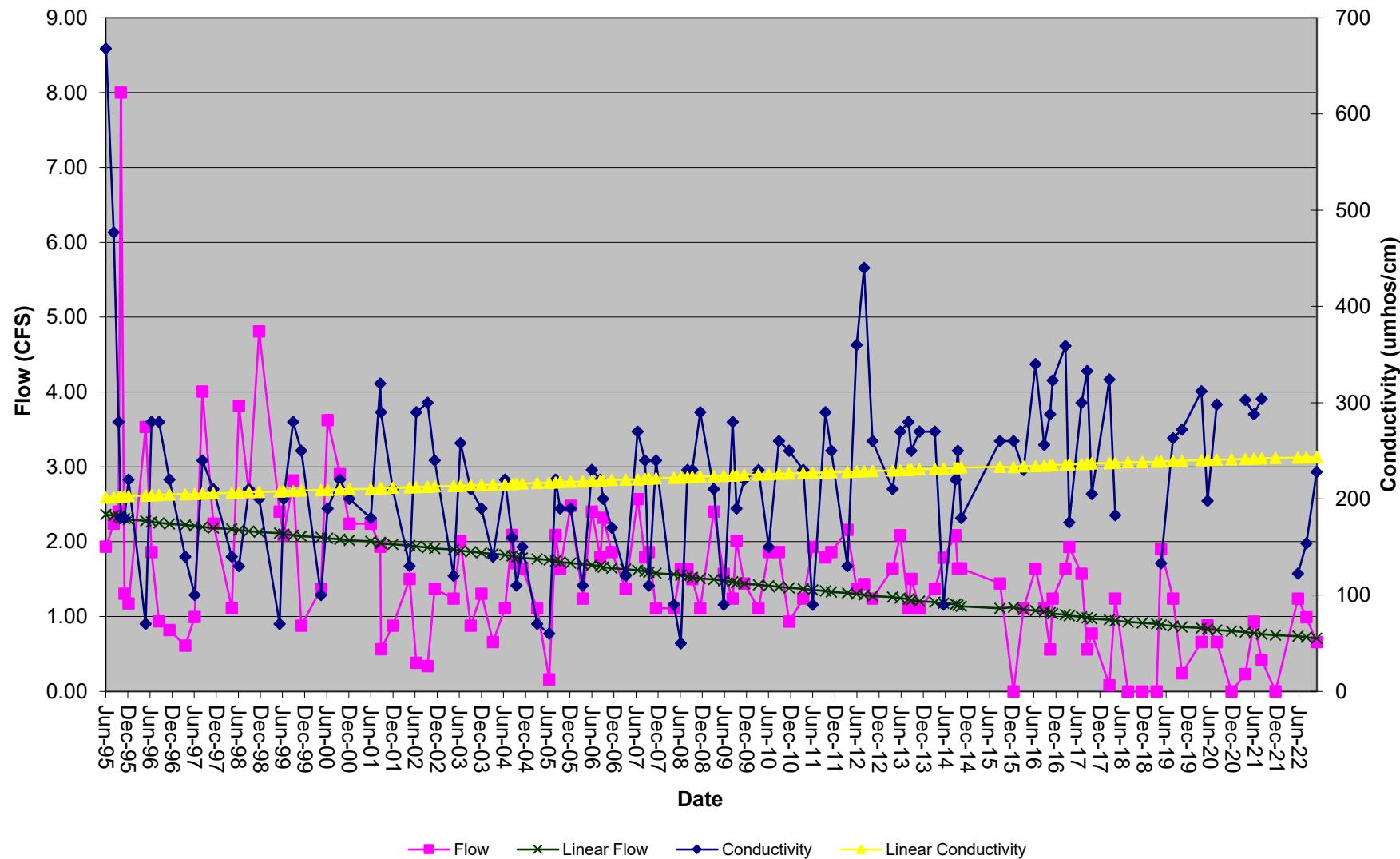
Field Parameters	UNITS	Summary Information			Operation					
		Baseline Min	Baseline Ave	Baseline Max	Operation Min	Operation Ave	Operation Max			
Flow	CFS	0.8	1.8	3.5	0.1	1.5	4.8	0.66	0.99	1.24
Water Level in Flume	Feet	0.23	0.37	0.59	0.05	0.33	0.72	0.20	0.26	0.30
FieldComment										
ph	su	6.4	8.5	9.1	7.4	8.4	9.1	8.5	7.4	8.3
Conductivity	umhos/cm	70	286	668	50	214	440	228	154	122
Temperature	Celsius	0.8	11.4	20.3	0.2	9.7	22.1	4.4	16.7	10.1
DO	mg/L	0.0	3.5	7.7	0.0	9.5	69.9	20.1	16.7	0.3
Lab Parameters	UNITS							* New DO meter 2Q		
Bicarbonate	mg/L	51.0	73.0	117.0	-42.5	102.4	176.0			47.8
Hydroxide	mg/L	0	0	0	0	0	0			
Chloride	mg/L	<MDL	1.67	3.00	<MDL	19.31	190.50			1.4
Chromium III CrIII	mg/L				<MDL	<MDL	<MDL			
Chromium VI CrIV	mg/L				<MDL	0.01	0.01			<MDL
Cyanide, Total	mg/L				<MDL	<MDL	<MDL			<MDL
Conductivity	umhos/cm	100	148	235	85	245	573			99
Hardness	mg/L	42	61	94	<MDL	94	168			47
Nitrate-Nitrite	mg/L	<MDL	0.02	0.07	<MDL	0.20	1.25			<MDL
Nitrate	mg/L	<MDL	0.02	0.07	<MDL	0.33	2.87			<MDL
Nitrite	mg/L	<MDL	0.01	0.02	<MDL	0.003	0.016			<MDL
Dissolved Oxygen	mg/L	0	0.00	0.00	<MDL	9.375	10.850			
Ammonia	mg/L				<MDL	0.149	0.290			<MDL
Oil and Grease	mg/L				<MDL	4.3	5.5			<MDL
pH	su	7.6	7.8	8.1	0.1	7.9	8.7			8.0
Phosphate	mg/L	<MDL	0.01	0.03	<MDL	6.74	141.00			
ResidueFilterable-TDS	mg/L	50	100	150	60	184	475			98
ResidueNonFilterable-TSS	mg/L	<MDL	25	52	<MDL	12	40			15
SAR		0.24	0.37	0.62	<MDL	0.72	2.29			0.24
Sulfate	mg/L	<MDL	10	20	<MDL	12.4	37.5			<MDL
Sulfide S	mg/L				<MDL	0.13	0.13			
Aluminum (TREC)	mg/L	0.24	1.09	1.77	<MDL	0.38	2.03			1.05
Arsenic (TREC)	mg/L	<MDL	0.0003	0.0010	<MDL	0.0049	0.0300			0.00049
Boron	mg/L				<MDL	0.82	1.40			<MDL
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.006	0.040			<MDL
Calcium (TREC)	mg/L	11.8	17.2	26.5	8.29	28.41	134.00			13.3
Copper (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.004	0.019			<MDL
Iron (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.07	0.25			0.116
Iron (TREC)	mg/L	0.38	1.19	1.85	0.03	10.89	618.00			0.94
Lead (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.0097	0.1000			0.0004
Magnesium (TREC)	mg/L	3.0	4.4	6.7	2.5	7.6	17.6			3.4
Manganese (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.7	6.7			
Manganese (TREC)	mg/L	0.02	0.03	0.03	0.002	0.880	26.700			0.025
Mercury (TREC)	mg/L	<MDL	0.0001	0.0002	<MDL	0.00007	0.0004			<MDL
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.003	0.011			<MDL
Nickel	mg/L				<MDL	0.0088	0.0120			<MDL
Selenium (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.0037	0.0230			<MDL
Silver	mg/L				<MDL	0.0030	0.0030			<MDL
Sodium (TREC)	mg/L	3.6	7.1	13.8	3.8	18.4	66.5			3.78
Zinc (TREC)	mg/L	0.01	0.02	0.03	<MDL	0.01	0.04			<MDL

The upper end of Deer Trail Ditch is monitored at the headgate located on Hubbard Creek. This monitoring point is fitted with a 2' Parsi

Negative Acidity value indicates equivalent value of alkalinity

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Plot of Flow and Conductivity



Deer-up - Canal - Deer Trail Ditch

Figure 71

FMC-low  
 Canal - Fire Mountain Canal  
 Elevation - 5920'

Initiated	5/19/1999	5/19/1999	5/19/1999
Activated	5/19/1999	5/19/1999	5/19/1999
Date	8/16/2022	6/7/2022	3/28/2022

Field Parameters	UNITS	Summary Information								
		Baseline		Operation			Dry			
		Min	Ave	Max	Min	Ave				
Flow	CFS				44	162	182	175	175	
FieldComment										
ph	su				6.8	8.2	8.9	8.3	8.2	
Conductivity	umhos/cm				40	148	280	204		
Temperature	Celsius				5.4	12.3	22.1	17.8	8.2	
DO	mg/L				0.0	8.9	81.6	15.4	0.1	
Lab Parameters	UNITS									
Bicarbonate	mg/L				25	78.7	133.8	111.00	33.40	
Chloride	mg/L				<MDL	8.0	51.0	1.89	1.35	
Conductivity	umhos/cm				71	167	346	195	77	
Hardness	mg/L				27.58	78.93	521.00	98	36	
Nitrate-Nitrite	mg/L				<MDL	0.35	2.70	<MDL	0.045	
Oil and Grease	mg/L				<MDL	46.51	68.00	<MDL	<MDL	
pH	su				6.4	7.8	8.4	8	7.9	
Phosphate	mg/L				<MDL	0.05	0.24	0.0589	0.0341	
ResidueFilterable-TDS	mg/L				40	121	300	244	64	
ResidueNonFilterable-TSS	mg/L				<MDL	74	474	436	51	
SAR					<MDL	0.50	1.55	0.4	0.21	
Sulfate	mg/L				<MDL	12.13	51.86	6.3	5.4	
Aluminum (TREC)	mg/L				<MDL	1.45	12.70	2.13	1.46	
Arsenic (TREC)	mg/L				<MDL	0.0048	0.1000	0.00232	0.00058	
Cadmium (TREC)	mg/L				<MDL	0.0068	0.1000	<MDL	<MDL	
Calcium (TREC)	mg/L				7.45	20.1	37.1	30.8	11.2	
Copper (TREC)	mg/L				<MDL	0.015	0.149	<MDL	<MDL	
Iron (TREC)	mg/L				0.02	1.50	12.30	2.43	1.25	
Lead (TREC)	mg/L				<MDL	0.0066	0.0500	0.00831	0.00098	
Magnesium (TREC)	mg/L				0.06	4.30	15.20	5.21	2.02	
Manganese (TREC)	mg/L				0.007	0.046	0.222	0.197	0.026	
Mercury (TREC)	mg/L				<MDL	0.000186	0.003000	<MDL	<MDL	
Molybdenum (TREC)	mg/L				<MDL	0.004	0.02	<MDL	<MDL	
Selenium (TREC)	mg/L				<MDL	0.0020	0.0120	<MDL	0.00016	
Sodium (TREC)	mg/L				2.8	11.1	41.4	8.96	2.82	
Zinc (TREC)	mg/L				<MDL	0.038	0.630	<MDL	<MDL	

The area of concern for monitoring point FMC-low was affected by the mining operation before its establishment. Therefore, all recorded monitoring events are considered operational.

The lower monitoring point for the Fire Mountain Canal is located at a point just south of its crossing under old State Hwy 133. Flow data is received from Fire Mountain Canal records (Trey Dennison 970-527-5166 or cell 970-589-2857).

\* Flow at full capacity near Somerset from their website. Did not receive a call back with actual values.

\*\* Average flow values from last five years

Note: The Fire Mountain Canal was dry before field parameters could be obtained 3Q (2021)

FMC-up  
 Canal - Fire Mountain Canal  
 Elevation - 5960'

Initiated	5/19/1999	5/19/1999	5/19/1999
Activated	5/19/1999	5/19/1999	5/19/1999
Date	8/16/2022	6/7/2022	3/28/2022

Field Parameters	UNITS	Summary Information			Operation			Dry
		Baseline Min	Ave	Max	Min	Ave	Max	
Flow	CFS				13	158	182	
FieldComment								
ph	su				7.0	8.2	8.9	8.2
Conductivity	umhos/cm				40	143	290	87
Temperature	Celsius				4.9	12.2	22.2	9.7
DO	mg/L				0.0	8.8	82.3	0.2
Lab Parameters	UNITS							
Bicarbonate	mg/L				2.00	75.56	147.00	31.2
Chloride	mg/L				<MDL	10.2	103	1.29
Conductivity	umhos/cm				64	171	402	84
Hardness	mg/L				27.78	71.15	172.49	84
Nitrate-Nitrite	mg/L				<MDL	0.28	2.15	0.049
Oil and Grease	mg/L				<MDL	<MDL	<MDL	<MDL
pH	su				6.6	7.8	8.6	7.7
Phosphate	mg/L				<MDL	0.05	0.24	<MDL
ResidueFilterable-TDS	mg/L				40	121	364	64
ResidueNonFilterable-TSS	mg/L				<MDL	87	692	692
SAR					<MDL	0.47	1.77	0.21
Sulfate	mg/L				<MDL	11.39	51.86	6.7
Aluminum (TREC)	mg/L				<MDL	1.96	22.50	22.5
Arsenic (TREC)	mg/L				<MDL	0.0045	0.0450	0.00468
Cadmium (TREC)	mg/L				<MDL	0.0022	0.0100	<MDL
Calcium (TREC)	mg/L				2.3	20.3	45.0	20.4
Copper (TREC)	mg/L				<MDL	0.0153	0.1440	0.023
Iron (TREC)	mg/L				0.03	2.06	26.30	26.30
Lead (TREC)	mg/L				<MDL	0.0057	0.0300	0.0152
Magnesium (TREC)	mg/L				1.5	4.5	14.6	8.0
Manganese (TREC)	mg/L				0.007	0.058	0.494	0.494
Mercury (TREC)	mg/L				<MDL	0.00004	0.00018	<MDL
Molybdenum (TREC)	mg/L				<MDL	0.004	0.030	<MDL
Selenium (TREC)	mg/L				<MDL	0.0019	0.0110	0.0005
Sodium (TREC)	mg/L				2.8	10.3	36.6	4.3
Zinc (TREC)	mg/L				<MDL	0.018	0.090	0.087

The area of concern for monitoring point FMC-up was affected by the mining operation before its establishment. Therefore, all recorded monitoring events are considered operational.

The upper monitoring point for the Fire Mountain Canal is located where the ditch crosses Hubbard Creek.  
 Flow data is received from Fire Mountain Canal records (Trey Dennison 970-527-5166 or cell 970-589-2857).

\* Flow at full capacity near Somerset from their website. Did not receive a call back with actual values.

\*\* Average flow values from last five years

Note: The Fire Mountain Canal was dry before field parameters could be obtained 3Q (2020)

Free-low  
 Freeman Gulch - Drainage System  
 Elevation - 7560

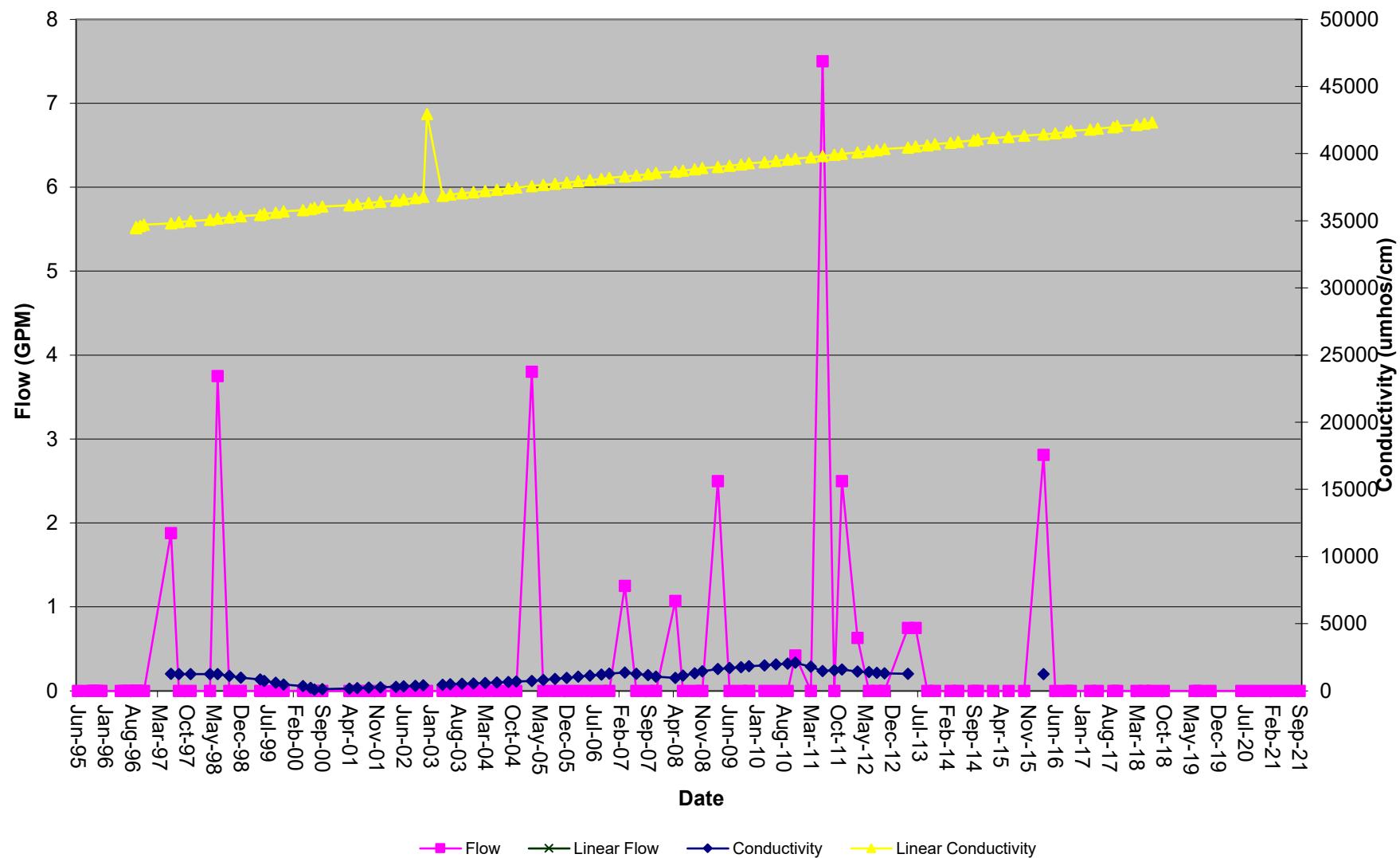
Initiated	6/12/1995	6/12/1995	6/12/1995	6/12/1995
Activated	6/23/1999	6/23/1999	6/23/1999	6/23/1999
Date	11/3/2022	9/6/2022	6/8/2022	3/28/2022

Field Parameters	UNITS	Summary Information						Operation			
		Baseline			Operation			Min	Ave	Max	Min
		Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.00	0.24	3.75	0.00	0.27	7.50	0	0	0	0
FieldComment								Dry	Dry	Dry	Dry
ph	su	8.3	8.5	8.6	7.3	8.2	8.6				
Conductivity	umhos/cm	1240	1250	1260	90	1303	2100				
Temperature	Celsius	18.4	19.8	21.2	0.6	12.3	23.0				
Lab Parameters	UNITS										
		mg/L	594	604	614	238.6	342.4	543.9			
Bicarbonate	mg/L										
Chloride	mg/L		16	18	19	3.06	8.13	11.41			
Conductivity	umhos/cm		1170	1190	1210	1321	1754	2470			
Hardness	mg/L		404	430	456	308.0	404.7	578.9			
Nitrate-Nitrite	mg/L		<MDL	<MDL	<MDL	0.48	0.48	0.48			
Oil and Grease	mg/L		<MDL	<MDL	<MDL	<MDL	<MDL	<MDL			
pH	su		8.3	8.3	8.4	7.6	7.7	7.8			
Phosphate	mg/L		<MDL	<MDL	<MDL	<MDL	<MDL	<MDL			
ResidueFilterable-TDS	mg/L		730	765	800	1056	1263	1590			
ResidueNonFilterable-TSS	mg/L		<MDL	3	6	6	36	90			
SAR			2.48	2.63	2.78	2.91	4.45	5.30			
Sulfate	mg/L		130	130	130	316.9	382.4	507.5			
Aluminum (TREC)	mg/L		0.13	0.21	0.29	<MDL	0.40	0.61			
Arsenic (TREC)	mg/L		<MDL	<MDL	<MDL	0.002	0.005	0.006			
Cadmium (TREC)	mg/L		<MDL	<MDL	<MDL	0.002	0.005	0.010			
Calcium (TREC)	mg/L		56.4	61.2	65.9	50.80	66.93	98.40			
Copper (TREC)	mg/L		<MDL	0.005	0.01	0.01	0.02	0.02			
Iron (TREC)	mg/L		0.11	0.15	0.19	0.06	0.08	0.10			
Lead (TREC)	mg/L		<MDL	<MDL	<MDL	0.02	0.03	0.03			
Magnesium (TREC)	mg/L		64.1	67.5	70.8	44.0	57.7	80.9			
Manganese (TREC)	mg/L		0.010	0.013	0.016	0.00	0.03	0.06			
Mercury (TREC)	mg/L		<MDL	<MDL	<MDL	0.00001	0.00006	0.00008			
Molybdenum (TREC)	mg/L		<MDL	<MDL	<MDL	<MDL	0.003	0.005			
Selenium (TREC)	mg/L		<MDL	<MDL	<MDL	<MDL	0.016	0.018			
Sodium (TREC)	mg/L		120	124	127	163.0	199.3	223.5			
Zinc (TREC)	mg/L		<MDL	0.01	0.03	<MDL	0.03	0.06			

Baseline Information for Point Free-low is derived from events beginning 6/12/95 through 6/23/99.  
 Point influenced by mining on 6/23/99.

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Plot of Flow and Conductivity



Free-flow - Freeman Gulch Drainage System

Figure 75

**Free-up**  
**Freeman Gulch - Drainage System**  
**Elevation - 6360**

Initiated	6/12/1995	6/12/1995	6/12/1995	6/12/1995
Activated	6/28/1999	6/28/1999	6/28/1999	6/28/1999
Date	11/3/2022	9/6/2022	6/8/2022	3/28/2022

Field Parameters	UNITS	Summary Information			Operation			Dry	Dry	Dry	*
		Baseline Min	Ave	Max	Min	Ave	Max				
Flow	GPM	0.00	0.00	0.00	0.00	0.24	10.30	0	0	0	
FieldComment								Dry	Dry	Dry	*
ph	su				6.68	7.50	8.00				*
Conductivity	umhos/cm				710.00	723.50	759.00				
Temperature	Celsius				7.20	8.65	11.50				
Lab Parameters	UNITS										
Bicarbonate	mg/L				323.00	341.50	360.00				
Chloride	mg/L				<MDL	<MDL	2.20				
Conductivity	umhos/cm				519.00	587.50	656.00				
Hardness	mg/L				237.00	241.00	245.00				
Nitrate-Nitrite	mg/L				0.00	<MDL	0.00				
Oil and Grease	mg/L				0.00	<MDL	0.00				
pH	su				7.37	7.37	7.55				
Phosphate	mg/L				0.02	<MDL	0.02				
ResidueFilterable-TDS	mg/L				418.00	429.00	429.00				
ResidueNonFilterable-TSS	mg/L				7.40	<MDL	7.40				
SAR					1.86	1.86	1.91				
Sulfate	mg/L				96.50	<MDL	96.50				
Aluminum	mg/L				0.00	<MDL	0.00				
Arsenic	mg/L				0.00	<MDL	0.00				
Cadmium	mg/L				0.02	0.02	0.02				
Calcium	mg/L				66.10	67.70	67.70				
Copper	mg/L				0.00	<MDL	0.00				
Iron (Total)	mg/L				0.03	0.03	0.07				
Lead	mg/L				0.00	<MDL	0.00				
Magnesium	mg/L				17.40	18.50	18.50				
Manganese (Total)	mg/L				0.01	0.01	0.01				
Mercury	mg/L				0.11	<MDL	0.11				
Molybdenum	mg/L				0.00	<MDL	0.00				
Selenium	mg/L				0.08	0.08	0.08				
Sodium	mg/L				57.60	68.20	68.20				
Zinc	mg/L				0.00	<MDL	0.00				

\* Site in accessible due to snow

Upper Freeman Gulch is monitored just below Pond 2 at the upper end of Freeman Gulch, near drill holes DH34-B and DH34-C.

Note: Site was not accessible during 1Q 2018

HUB-low  
 Hubbard Creek - Drainage System  
 Elevation - 5880

Initiated	9/30/1996	9/30/1996	9/30/1996	9/30/1996
Activated	6/23/1999	6/23/1999	6/23/1999	6/23/1999
Date	11/1/2022	8/16/2022	6/8/2022	

Field Parameters	UNITS	Summary Information									
		Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Flow	CFS	2.90	19.67	85.51	0.04	25.07	294.00	6.2	0.1	39.0	70.0
FieldComment											*
ph	su	8.0	8.5	9.3	7.1	8.3	9.0	8.6	8.0	7.6	
Conductivity	umhos/cm	80	198	390	50	309	850	245	162	116	
Temperature	Celsius	2.3	11.1	20.2	0.3	9.6	21.7	2.9	16.8	11.0	
Lab Parameters	UNITS										
Bicarbonate	mg/L	62	115	155	28	140	690	106			51
Chloride	mg/L	<MDL	1.7	3.0	<MDL	25.3	203.6	3.72			1.21
Conductivity	umhos/cm	118	254	406	87	321	711	232			104
Hardness	mg/L	49	96	138	0.06	124.19	315.52	97			48
Nitrate-Nitrite	mg/L	<MDL	0.05	0.29	<MDL	0.18	1.62	<MDL			<MDL
Oil and Grease	mg/L	<MDL	3.0	3.0	<MDL	3.0	3.0	<MDL			<MDL
pH	su	7.5	7.9	8.3	6.9	8.0	8.4	7.4			7.9
Phosphate	mg/L	<MDL	0.004	0.030	<MDL	0.04	0.27	0.0558			0.0558
ResidueFilterable-TDS	mg/L	100	163	260	60	230	563	146			86
ResidueNonFilterable-TSS	mg/L	<MDL	33	170	<MDL	21	200	<MDL			32
SAR		<MDL	0.47	1.04	<MDL	0.84	2.62	0.58			0.27
Sulfate	mg/L	<MDL	17	50	<MDL	32	102	12.4			<MDL
Aluminum (TREC)	mg/L	0.05	0.58	1.91	<MDL	19.63	733.00	0.295			1.24
Arsenic (TREC)	mg/L	<MDL	0.0004	0.0010	<MDL	0.0073	0.0600	0.00049			0.00057
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.010	0.040	<MDL			<MDL
Calcium (TREC)	mg/L	13.8	26.2	36.7	8.5	32.0	70.7	27.2			13.6
Copper (TREC)	mg/L	<MDL	0.001	0.010	<MDL	0.008	0.060	<MDL			<MDL
Iron (TREC)	mg/L	0.09	0.54	1.44	0.06	0.35	1.28	0.56			1.25
Iron (Dissolved)	mg/L	0.00	#DIV/0!	0.00	0.07	0.13	0.17	0.17			0.13
Lead (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.0130	0.0700	0.00018			0.00054
Magnesium (TREC)	mg/L	3.6	7.4	11.2	2.4	11.1	34.6	6.9			3.4
Manganese (TREC)	mg/L	0.009	0.016	0.034	<MDL	0.022	0.080	0.014			0.034
Mercury (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00007	0.00018	<MDL			<MDL
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.006	0.030	<MDL			<MDL
Selenium (TREC)	mg/L	<MDL	0.001	0.010	<MDL	0.0039	0.0200	0.00013			0.00017
Sodium (TREC)	mg/L	5.3	15.9	27.6	3.6	24.6	73.0	12.9			4.2
Zinc (TREC)	mg/L	<MDL	0.01	0.04	<MDL	0.009	0.037	<MDL			<MDL

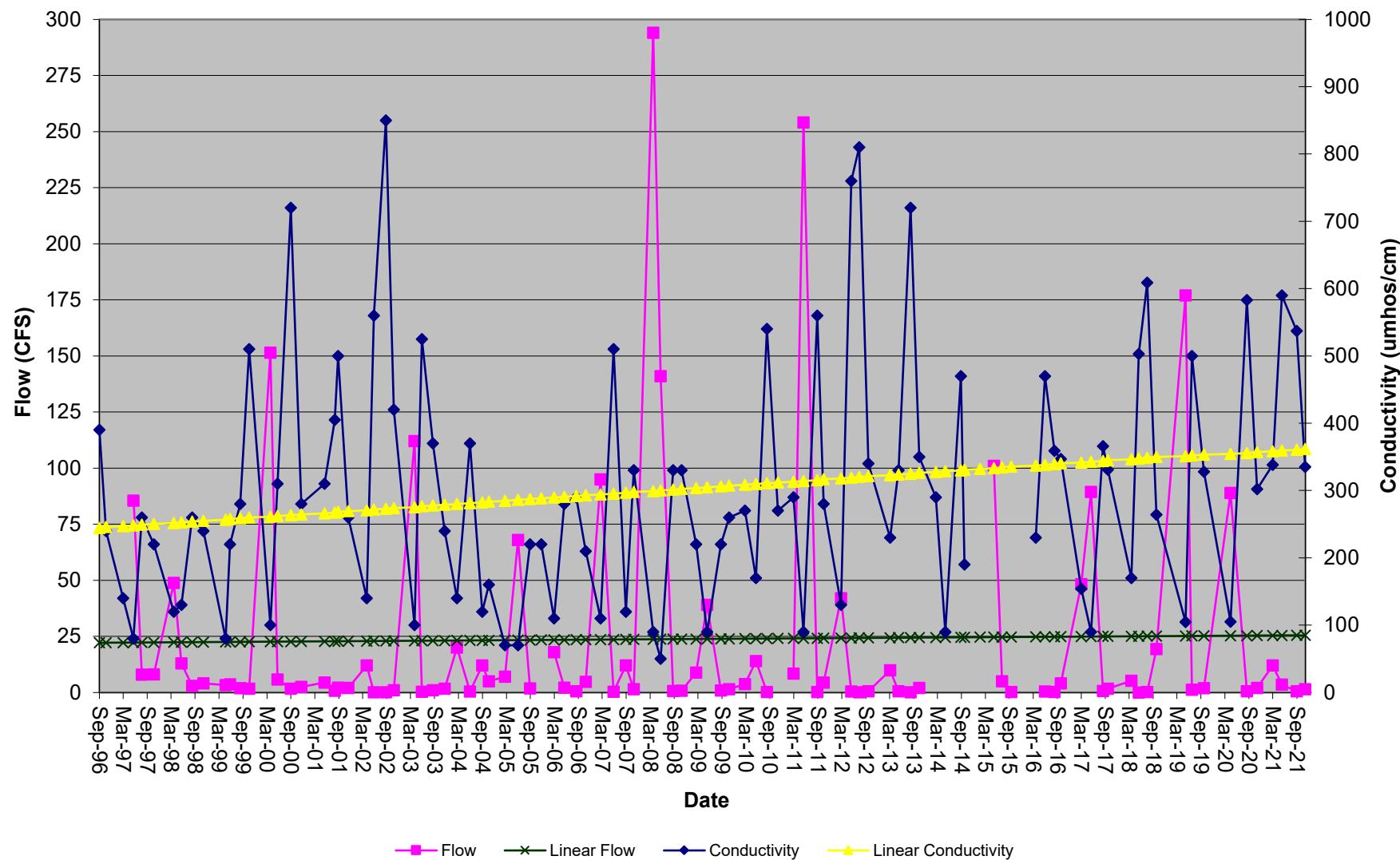
Note 1: USGS did not collect flow values.

\* Flow not provided

The Lower Hubbard Creek monitoring point is located at a concrete box culvert under the Union Pacific railroad track just above the North Fork of the Gunnison. Flow values are taken from USGS site # 9132960

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Plot of Flow and Conductivity



Hub-low - Hubbard Creek Drainage System

Figure 78

**NFG-low**  
**North Fork - Drainage System**  
**Elevation - 5680**

Initiated	9/30/1996	9/30/1996	9/30/1996
Activated	3/31/1997	3/31/1997	3/31/1997
Date	11/2/2022	8/16/2022	6/13/2022

Field Parameters	UNITS	Summary Information						Operation					
		Baseline			Operation								
		Min	Ave	Max	Min	Ave	Max						
Flow	CFS	99	292	610	30	479	3080		252	1560			
FieldComment								**					
ph	su	8.1	8.4	8.7	5.0	8.3	9.1	8.6	8.3	7.9			
Conductivity	umhos/cm	160	180	200	26	191	356	49	244	26			
Temperature	Celsius	4.0	8.5	14.6	0.3	10.9	22.6	4.6	17.7	11.5			
DO	mg/L				0.0	9.3	91.7	24.1	17.3	0.96			
Lab Parameters	UNITS												
Bicarbonate	mg/L	95	100	105	28.1	82.6	148.0			38.8			
Chloride	mg/L	2.00	2.50	3.00	<MDL	23.47	288.30	1.86		1.03			
Chromium III CrIII	mg/L				<MDL	<MDL	<MDL	<MDL					
Chromium VI CrIV	mg/L				<MDL	<MDL	<MDL						
Cyanide, Total	mg/L				<MDL	<MDL	<MDL	<MDL					
Conductivity	umhos/cm	201	222	242	78	207	754			87			
Hardness	mg/L	84	85	85	<MDL	83.26	270.40			39			
Nitrate	mg/L	<MDL	0.08	0.16	<MDL	0.33	3.90	<MDL					
Nitrate-Nitrite	mg/L	0.00	0.08	0.16	<MDL	<MDL	<MDL	<MDL		<MDL			
Nitrite	mg/L	<MDL	<MDL	<MDL	<MDL	0.002	0.010	<MDL					
Ammonia	mg/L	<MDL	<MDL	<MDL	<MDL	0.06	0.31	<MDL					
Oil & Grease	mg/L	<MDL	<MDL	<MDL	<MDL	4	5	<MDL		<MDL			
pH	su	8.0	8.0	8.0	7.0	7.9	8.8	7.6		7.7			
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.10	1.50			<MDL			
ResidueFilterable-TDS	mg/L	130	140	150	50	154	692	144		68			
ResidueNonFilterable-TSS	mg/L	<MDL	3	6	<MDL	22	141			15			
SAR		0.55	0.61	0.66	<MDL	0.60	2.42			0.23			
Sulfate	mg/L	10.0	15.0	20.0	<MDL	15.8	82.5	12.3		5.9			
Sulfide S	mg/L				<MDL	0.04	0.04	<MDL					
Aluminum (TREC)	mg/L	0.10	0.15	0.21	<MDL	0.41	1.77			0.674			
Arsenic (TREC)	mg/L	<MDL	0.001	0.001	<MDL	0.0054	0.0500	0.00137		0.00036			
Boron	mg/L				0.02	0.46	1.35	0.035					
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.0029	0.0180	<MDL		<MDL			
Calcium (TREC)	mg/L	24.6	24.8	25.0	6.9	26.6	132.0	<MDL		11.9			
Copper (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.012	0.198	0.012		<MDL			
Iron, Dissolved	mg/L	<MDL	<MDL	<MDL	<MDL	0.35	12.90	<MDL		<MDL			
Iron (TREC)	mg/L	0.14	0.21	0.27	<MDL	0.49	4.25	4.25		0.544			
Lead (TREC)	mg/L	<MDL	0.010	0.020	<MDL	0.0104	0.1500	0.00239		0.00035			
Magnesium (TREC)	mg/L	5.30	5.50	5.70	1.98	5.98	18.80			2.13			
Manganese (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.146	2.900	<MDL					
Manganese (TREC)	mg/L	0.021	0.090	0.160	0.007	0.046	0.802	0.103		0.014			
Mercury (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00007	0.00030	<MDL		<MDL			
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.004	0.030	<MDL		<MDL			
Nickel	mg/L				<MDL	0.010	0.010	<MDL					
Selenium (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.003	0.034	0.00025		0.00016			
Silver	mg/L				<MDL	<MDL	<MDL	<MDL					
Sodium (TREC)	mg/L	11.5	12.2	12.9	3.0	14.5	91.5			3.3			
Zinc (TREC)	mg/L	0.02	0.02	0.03	<MDL	0.02	0.16	<MDL		<MDL			

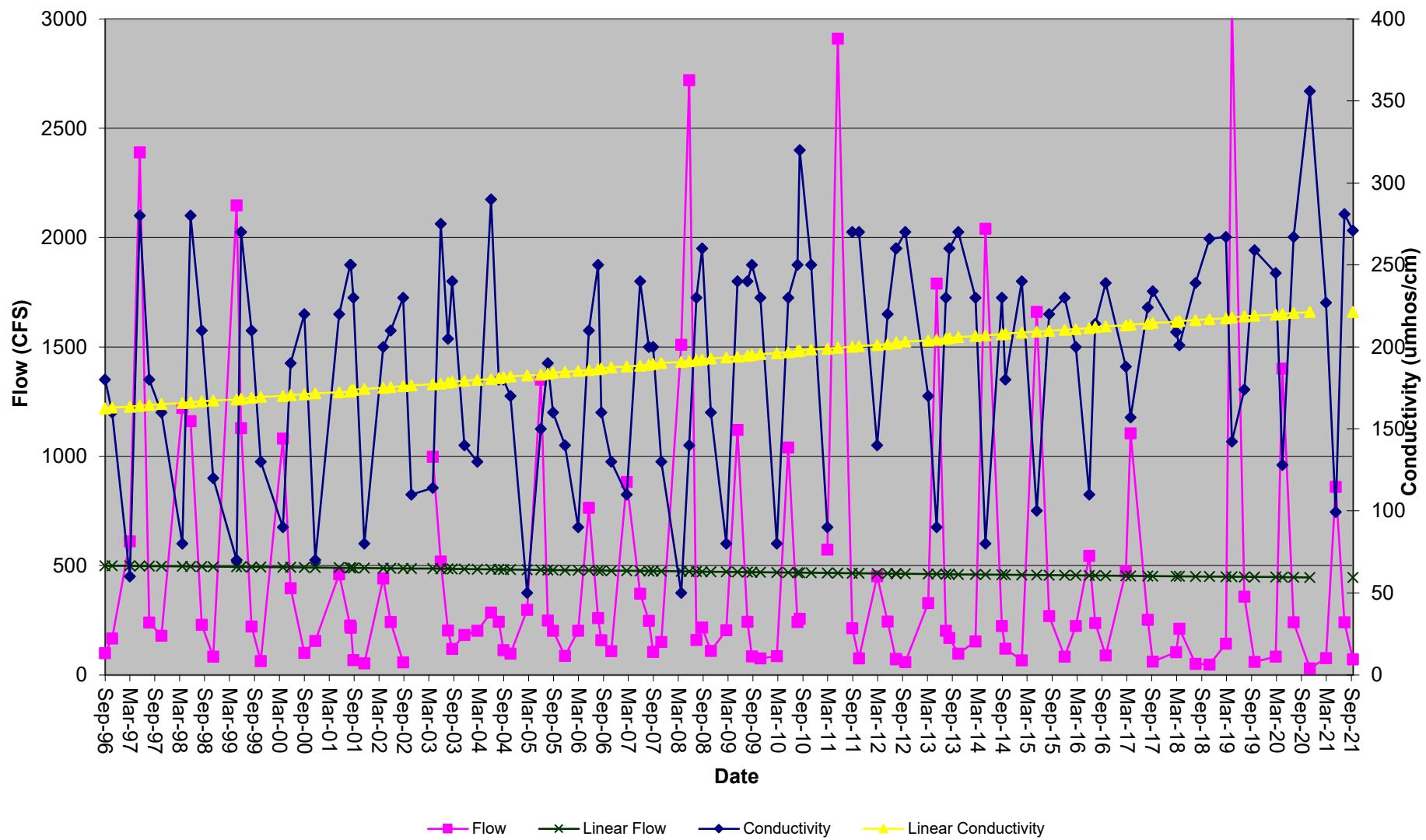
Field parameters, except flow, for the Lower North Fork of the Gunnison River are taken on the river approximately 1500' below the confluence of Terror Creek and the North Fork of the Gunnison. Flow data for the North Fork of the Gunnison river is obtained from USGS station #09132500.

\* Site not accessible 1Q

\*\* No data, covered in ice

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Plot of Flow and Conductivity



NFG-low - North Fork Drainage System

Figure 80

**NFG-up**  
**North Fork - Drainage System**  
**Elevation - 5880**

Initiated	9/30/1996	9/30/1996	9/30/1996	9/30/1996
Activated	3/31/1997	3/31/1997	3/31/1997	3/31/1997
Date	11/1/2022	8/16/2022	6/8/2022	

Field Parameters	UNITS	Summary Information			Operation				
		Baseline Min	Ave	Max	Min	Ave	Max		
Flow	CFS	99	292	610	30	479	3080		252
FieldComment								**	*
ph	su	8.1	8.5	8.8	7.1	8.3	9.7		8.1
Conductivity	umhos/cm	160	167	180	50	177	320		228.0
Temperature	Celsius	3.6	7.3	13.7	0.2	10.3	22.6		16.9
DO	mg/L				0.1	9.8	91.2		10.2
Lab Parameters	UNITS								
Bicarbonate	mg/L	88	93	98	31	82	203		48.3
Chloride	mg/L	2.0	2.5	3.0	<MDL	27.8	471.5		1.94
Chromium III CrIII	mg/L				<MDL	<MDL	<MDL		<MDL
Chromium VI CrIV	mg/L				<MDL	0.008	0.008		<MDL
Cyanide, Total	mg/L				<MDL	0.067	0.081		<MDL
Conductivity	umhos/cm	185	205	225	7	198	668		102
Hardness	mg/L	74	77	79	26.5	78.9	253.0		86.00
Nitrate	mg/L	<MDL	0.05	0.09	<MDL	0.36	3.47		<MDL
Nitrate/Nitrite	mg/L	0.00	0.05	0.09	<MDL	0.3	3		<MDL
Nitrite	mg/L	<MDL	<MDL	<MDL	<MDL	0.004	0.017		<MDL
Ammonia	mg/L	<MDL	<MDL	<MDL	<MDL	0.04	0.23		<MDL
Oil & Grease	mg/L	<MDL	<MDL	<MDL	<MDL	7	11		<MDL
pH	su	7.9	8.0	8.0	6.9	7.9	9.0		7.5
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.12	1.90		<MDL
ResidueFilterable-TDS	mg/L	120	130	140	9	146	522		356
ResidueNonFilterable-TSS	mg/L	10	11	12	<MDL	23	131		36
SAR		0.42	0.60	0.78	<MDL	0.64	2.39		0.31
Sulfate	mg/L	10	15	20	<MDL	18	80		7.9
Sulfide S	mg/L				<MDL	0.05	0.05		<MDL
Aluminum (TREC)	mg/L	0.08	0.18	0.27	<MDL	16.57	691.00		1.43
Arsenic (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.0038	0.0350		0.00221
Boron	mg/L					0.02	0.45		0.035
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.007	0.031		<MDL
Calcium (TREC)	mg/L	21.9	22.9	24.0	7.0	24.3	138.0		<MDL
Copper (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.012	0.197		0.014
Iron, Dissolved	mg/L				<MDL	0.77	22.80		<MDL
Iron (TREC)	mg/L	0.09	0.09	0.09	0.03	2.07	81.00		4.86
Lead (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.0107	0.1200		0.0045
Magnesium (TREC)	mg/L	4.70	4.70	4.70	0.13	5.32	23.40		0.133
Manganese (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.49	4.66		<MDL
Manganese (TREC)	mg/L	0.011	0.015	0.019	<MDL	0.167	7.600		0.133
Mercury (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00006	0.00022		<MDL
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.004	0.030		<MDL
Nickel	mg/L				<MDL	0.01	0.01		<MDL
Selenium (TREC)	mg/L	<MDL	<MDL	<MDL	<MDL	0.003	0.027		0.00031
Silver	mg/L				<MDL	<MDL	<MDL		<MDL
Sodium (TREC)	mg/L	8.6	12.0	15.3	3.2	129.5	5420.0		<MDL
Zinc (TREC)	mg/L	0.020	0.025	0.030	<MDL	0.016	0.143		0.027

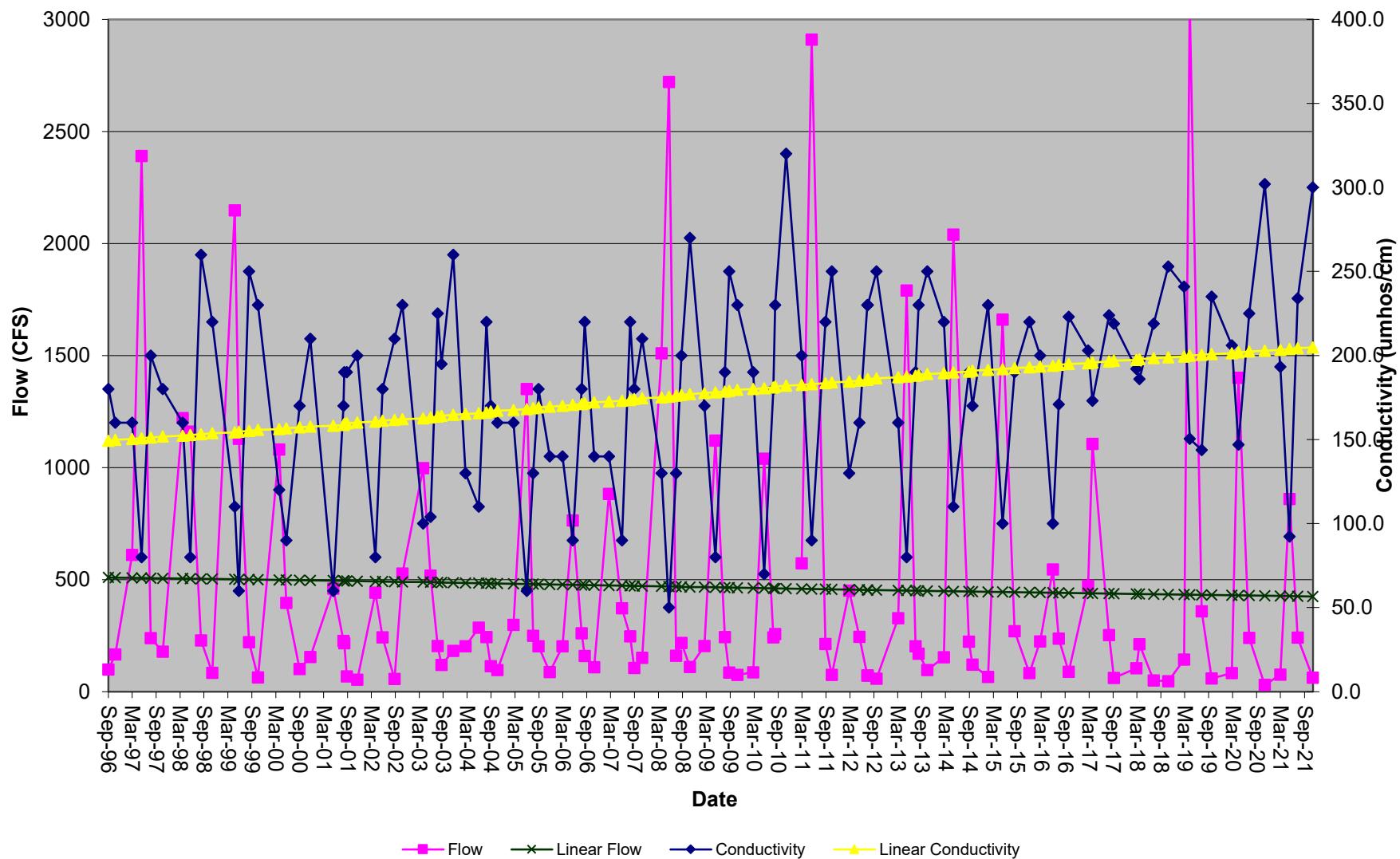
Field parameters, except flow in the Upper North Fork of the Gunnison River monitoring point are taken on the river just above its confluence with Hubbard Creek. Flow data for the North Fork of the Gunnison river is obtained from USGS station #09132500.

\* Site not accessible

\*\* No data, covered in ice

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Plot of Flow and Conductivity



NFG-up - North Fork Drainage System

Figure 82

Steph-low  
 Stevens Draw - Drainage System  
 Elevation - 7000'

Initiated	7/12/1995	7/12/1995	7/12/1995	7/12/1995
Activated	7/1/2002	7/1/2002	7/1/2002	7/1/2002
Date	10/12/2022	8/22/2022	5/2/2022	

Field Parameters	UNITS	Summary Information			Operation			Dry	Dry	Dry	*				
		Baseline			Operation										
		Min	Ave	Max	Min	Ave	Max								
Flow	GPM	0.00	0.19	4.00				0	0	0					
FieldComment								Dry	Dry	Dry	*				
ph	su	7.9	8.2	8.4											
Conductivity	umhos/cm	1020	1139	1310											
Temperature	Celsius	3.8	10.8	17.2											
Lab Parameters	UNITS														
Bicarbonate	mg/L	452	495	554											
Chloride	mg/L	14	16	20											
Conductivity	umhos/cm	1020	1093	1180											
Hardness	mg/L	343	382	433											
Nitrate-Nitrite	mg/L	0.02	0.20	0.97											
Oil and Grease	mg/L	<MDL	1	4											
pH	su	8.0	8.2	8.3											
Phosphate	mg/L	<MDL	<MDL	<MDL											
ResidueFilterable-TDS	mg/L	660	718	780											
ResidueNonFilterable-TSS	mg/L	<MDL	21	58											
SAR		<MDL	2.28	3.22											
Sulfate	mg/L	150	170	190											
Aluminum	mg/L	0.05	0.53	1.71											
Arsenic	mg/L	<MDL	0.001	0.002											
Cadmium	mg/L	<MDL	<MDL	<MDL											
Calcium	mg/L	49.4	59.6	72.4											
Copper	mg/L	<MDL	0.002	0.010											
Iron (Total)	mg/L	0.27	0.82	2.57											
Lead	mg/L	<MDL	<MDL	<MDL											
Magnesium	mg/L	41.3	55.9	66.2											
Manganese (Total)	mg/L	0.070	0.211	0.566											
Mercury	mg/L	<MDL	<MDL	<MDL											
Molybdenum	mg/L	<MDL	<MDL	<MDL											
Selenium	mg/L	<MDL	0.0002	0.001											
Sodium	mg/L	99.8	120.0	152.0											
Zinc	mg/L	<MDL	0.01	0.03											

The area of concern for monitoring point Steph-low has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

The monitoring point location for Lower Stevens Draw is located in Stevens Draw, just below Pond 1 and Spring 14. It is accessed by a southern fork of the Stevens Draw road.

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Plot of Flow and Conductivity

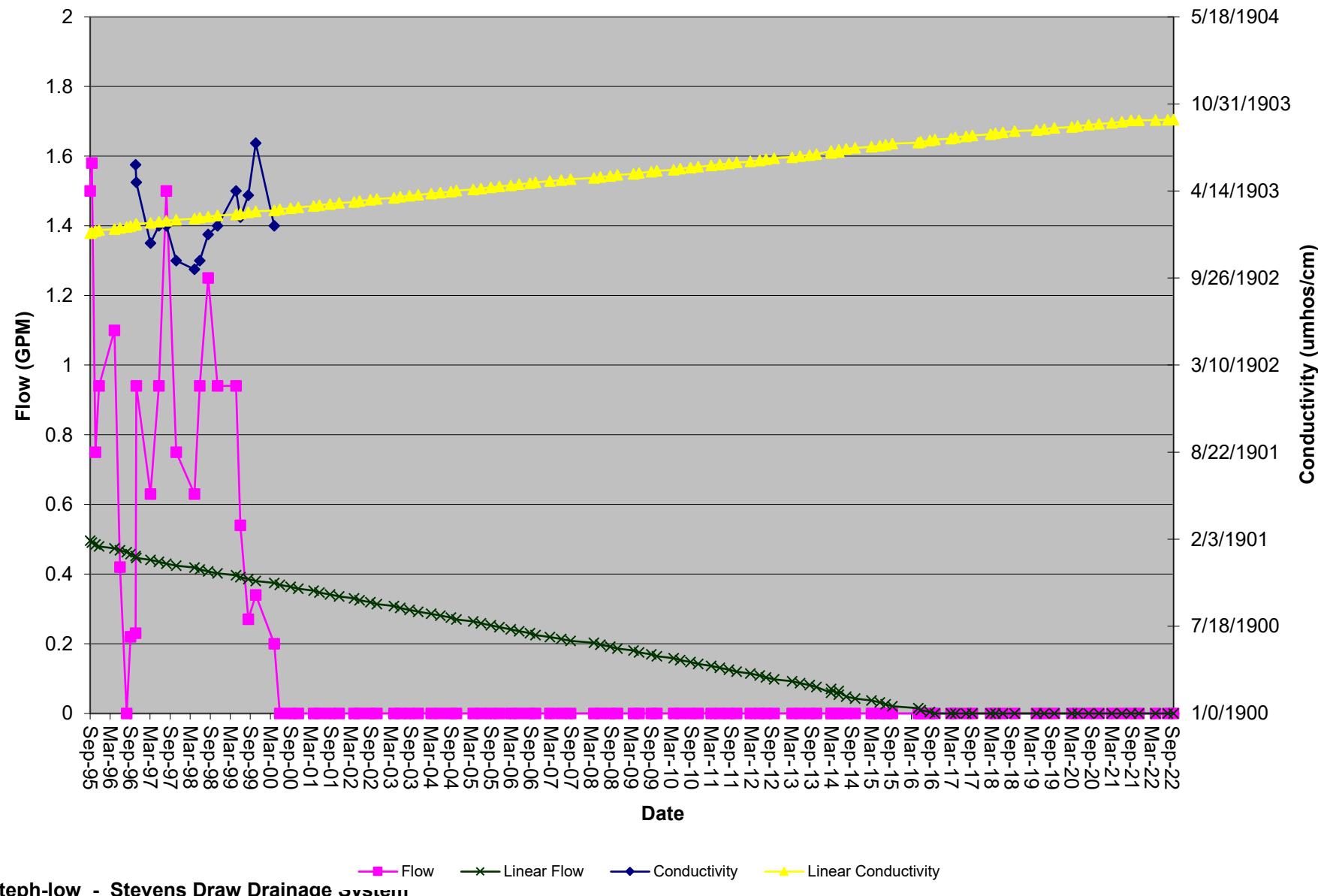


Figure 84

Steph-up  
 Stevens Draw - Drainage System  
 Elevation - 7920'

Initiated	7/12/1995	7/12/1995	7/12/1995	7/12/1995
Activated	7/1/2002	7/1/2002	7/1/2002	7/1/2002
Date	10/12/2022	8/22/2022	5/2/2022	

Field Parameters	UNITS	Summary Information			Operation			Dry	Dry	Dry	*
		Baseline Min	Ave	Max	Operation Min	Ave	Max				
Flow	GPM	0.00	0.15	5.00	0.00	0.05	3.75	0	0	0	
FieldComment								Dry	Dry	Dry	*
ph	su				7.7	7.7	7.7				
Conductivity	umhos/cm				200	200	200				
Temperature	Celsius				11.2	11.2	11.2				
Lab Parameters	UNITS										
Bicarbonate	mg/L										
Chloride	mg/L										
Conductivity	umhos/cm										
Hardness	mg/L										
Nitrate-Nitrite	mg/L										
Oil and Grease	mg/L										
pH	su										
Phosphate	mg/L										
ResidueFilterable-TDS	mg/L										
ResidueNonFilterable-TSS	mg/L										
SAR											
Sulfate	mg/L										
Aluminum	mg/L										
Arsenic	mg/L										
Cadmium	mg/L										
Calcium	mg/L										
Copper	mg/L										
Iron (Total)	mg/L										
Lead	mg/L										
Magnesium	mg/L										
Manganese (Total)	mg/L										
Mercury	mg/L										
Molybdenum	mg/L										
Selenium	mg/L										
Sodium	mg/L										
Zinc	mg/L										

\* 1Q 2022 site inaccessible

The monitoring point for Upper Stevens Draw is located in Stevens Draw, just below Spring 11. It is accessed by the Stevens Draw road.

Baseline Information for Point Steph-up is derived from events beginning 7/12/95 through 7/1/02.  
 Point influenced by mining on 7/1/02.

SW-01  
 West Terror Creek - Downstream  
 Elevation - 7140

Initiated	10/24/2013	10/24/2013	10/24/2013	10/24/2013
Activated				
Date	11/1/2022	9/8/2022	6/8/2022	

Summary Information									
Field Parameters	UNITS	Baseline			Operation				
		Min	Ave	Max	Min	Ave	Max		
Flow	CFS	0.01	3.43	52.00				1.31	0.48
Water Level in Flume	Feet	0.025	0.556	2.000				0.48	0.25
Temperature	Celsius	0	6.8	20.2				4.9	12.1
Conductivity	umhos/cm	8.23	138	340				122	8
pH	su	0.7	8.1	10.6				8.2	8.2
Field Comments									*
Lab Parameters	UNITS								
Bicarbonate	mg/L	37.1	68.2	90.6				61.6	58.5
Chloride	mg/L	0.56	0.88	1.40				1.4	0.96
Conductivity	umhos/cm	65.4	107	139				125	106
Hardness	mg/L	34	53.38	69.90				55	46
Acidity	mg/L	-76	-54.44	-25.00				<MDL	<MDL
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL				<MDL	<MDL
Oil and Grease	mg/L	<MDL	<MDL	<MDL				<MDL	<MDL
Phosphate	mg/L	0.017	0.07	0.24				0.0682	0.24
ResidueFilterable-TDS	mg/L	74	100	144				88	82
ResidueNonFilterable-TSS	mg/L	<MDL	12	34				<MDL	<MDL
SAR		0.226	0.321	0.505				0.27	0.34
Sulfate	mg/L	1.4	7.7	82.0				1.4	<MDL
Aluminum (TREC)	mg/L	<MDL	7.356	101.000				0.228	0.58
Arsenic (TREC)	mg/L	<MDL	<MDL	<MDL				0.00024	0.00028
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL	<MDL
Calcium (TREC)	mg/L	8.6	14.0	18.0				13.7	12
Calcium (Dissolved)	mg/L	1.2	13.9	18.2					
Copper (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL	<MDL
Iron (Dissolved)	mg/L	0.0310	3.5698	41.6000				<MDL	0.07
Iron (TREC)	mg/L	0.074	0.893	9.000				0.3	0.5
Lead (TREC)	mg/L	<MDL	<MDL	<MDL				0.00017	0.00017
Magnesium (TREC)	mg/L	0.10	4.35	6.07				4.95	3.81
Magnesium (Dissolved)	mg/L	0.89	4.72	6.09					
Manganese (TREC)	mg/L	0.0003	0.0135	0.0334				<MDL	0.013
Mercury (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL	<MDL
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL	<MDL
Selenium (TREC)	mg/L	<MDL	0.00	0.01				<MDL	0.000
Sodium (TREC)	mg/L	3.37	5.47	8.50				4.53	5.23
Sodium (Dissolved)	mg/L	3.48	5.78	8.66					
Zinc (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL	<MDL

The area of concern for monitoring point SW-01 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

Negative acidity value indicates equivalent value of alkalinity

SW-02  
 Terror Creek - Mid Stream  
 Elevation - 7040

Initiated	10/24/2013	10/24/2013	10/24/2013	10/24/2013
Activated				
Date	11/1/2022	9/8/2022	6/8/2022	

Field Parameters	UNITS	Summary Information			Operation				
		Baseline Min	Baseline Ave	Baseline Max	Operation Min	Operation Ave	Operation Max		
Flow	CFS	0.00	6.00	95.37			2.394	3.769	3.053
Water Level in Flume	Feet	0.00	0.37	3.10			0.300	0.400	0.350
Temperature	Celsius	-0.7	9.0	20.3			5.4	13.6	9.4
Conductivity	umhos/cm	2.9	126	334			110.3	112.3	111.3
pH	su	5.3	8.2	10.2			7.7	8.2	7.68
Field Comments								*	
Lab Parameters	UNITS								
Bicarbonate	mg/L	38	83	148			79.7	58.5	
Chloride	mg/L	0.57	23.48	198.50			1.64	1.1	
Conductivity	umhos/cm	65.4	179	548			166	102	
Hardness	mg/L	29.02	71.28	157.58			72	48	
Nitrate-Nitrite	mg/L	<MDL	0.22	0.61			<MDL	<MDL	
Oil and Grease	mg/L	<MDL	<MDL	<MDL			<MDL	<MDL	
pH	su	6.7	7.7	8.8			7.2	7.9	
Phosphate	mg/L	<MDL	0.64	7.79			0.0589	0.029	
ResidueFilterable-TDS	mg/L	70	147	430			120	85	
ResidueNonFilterable-TSS	mg/L	<MDL	28	174			33	14	
SAR		0.11	0.47	2.22			0.38	0.26	
Sulfate	mg/L	1.70	10.59	35.00			4.3	<MDL	
Aluminum (TREC)	mg/L	<MDL	20.713	400.000			1.24	1.57	
Arsenic (TREC)	mg/L	<MDL	0.018	0.075			0.00045	0.00043	
Cadmium (TREC)	mg/L	<MDL	0.008	0.020			<MDL	<MDL	
Calcium (TREC)	mg/L	5.42	17.81	42.00			17.7	11.7	
Copper (TREC)	mg/L	<MDL	0.004	0.010			<MDL	<MDL	
Iron (TREC)	mg/L	0.033	0.624	1.470			1.23	1.22	
Lead (TREC)	mg/L	<MDL	0.010	0.050			0.00058	0.00044	
Magnesium (TREC)	mg/L	3.24	8.29	18.10			6.8	4.48	
Manganese (TREC)	mg/L	0.01	0.03	0.05			0.052	0.026	
Mercury (TREC)	mg/L	<MDL	0.00006	0.00016			<MDL	<MDL	
Molybdenum (TREC)	mg/L	<MDL	0.004	0.006			<MDL	<MDL	
Selenium (TREC)	mg/L	<MDL	0.00464	0.02300			0.00011	0.00014	
Sodium (TREC)	mg/L	3.5	13.0	64.0			7.36	4.08	
Zinc (TREC)	mg/L	<MDL	0.027	0.060			<MDL	<MDL	

The area of concern for monitoring point SW-02 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

SW-02 is located on the East Fork of Terror Creek in the NW1/4 SE1/4 Sec 5, T13S, R91W, of the 6th P.M. A 48" Parshall flume manufactured by the Thompson Pipe and Steel Company of Denver, Colorado was installed at this location.

\* Site not accessible

**SW-05**  
**Stevens Gulch - Downstream**  
**Elevation - 6600**

Initiated	1/1/1983	1/1/1983	1/1/1983	1/1/1983
Activated				
Date	11/2/2022	9/27/2022	6/13/2022	

**Summary Information**

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry	*
		Min	Ave	Max	Min	Ave	Max				
Flow	CFS	0.00	1.22	16.94							
Water Level in Flume	Feet	0.00	0.09	1.06							
Temperature	Celsius	-0.5	10.4	23.7							
Conductivity	umhos/cm	0	565	2000							
pH	su	0.0	8.3	9.9							
Field Comments								Dry	Dry	Dry	*
Lab Parameters	UNITS										
Bicarbonate	mg/L	66	216	456							
Chloride	mg/L	<MDL	21.44	223.41							
Conductivity	umhos/cm	149	566	1560							
Hardness	mg/L	35.6	241.7	625.7							
Nitrate-Nitrite	mg/L	<MDL	0.34	0.88							
Oil and Grease	mg/L	<MDL	<MDL	<MDL							
pH	su	6.8	8.1	8.7							
Phosphate	mg/L	<MDL	0.18	0.47							
ResidueFilterable-TDS	mg/L	106	378	1130							
ResidueNonFilterable-TSS	mg/L	<MDL	35	438							
SAR		0.23	1.04	2.06							
Sulfate	mg/L	<MDL	92.8	450.0							
Aluminum (TREC)	mg/L	0.022	0.284	0.530							
Arsenic (TREC)	mg/L	<MDL	0.020	0.040							
Cadmium (TREC)	mg/L	<MDL	0.007	0.010							
Calcium (TREC)	mg/L	8.81	49.06	103.00							
Copper (TREC)	mg/L	<MDL	0.008	0.020							
Iron (TREC)	mg/L	0.03	0.38	1.46							
Lead (TREC)	mg/L	0.00	0.02	0.04							
Magnesium (TREC)	mg/L	7.10	26.36	61.20							
Manganese (TREC)	mg/L	0.01	0.52	7.30							
Mercury (TREC)	mg/L	0.00002	0.00011	0.00027							
Molybdenum (TREC)	mg/L	0.002	0.006	0.015							
Selenium (TREC)	mg/L	<MDL	0.007	0.018							
Sodium (TREC)	mg/L	9.60	32.78	64.00							
Zinc (TREC)	mg/L	0.005	0.009	0.020							

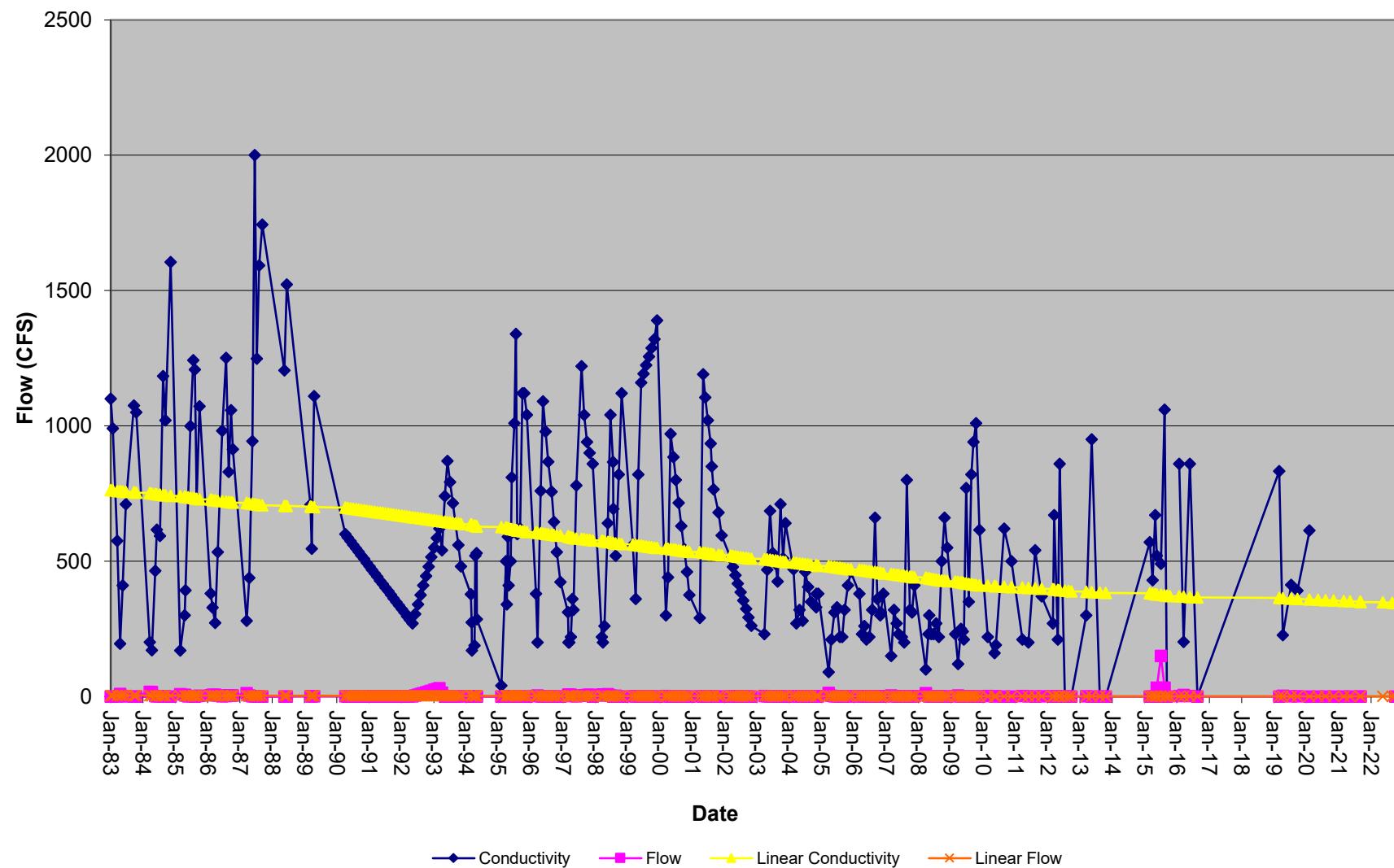
The area of concern for monitoring point SW-05 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

\* Site not accessible

The Stevens Gulch stream gauge, SW-05, is located near Bowie No. 1 mine's timber storage area in the NE1/4NW1/4, Sec 25, T13S, R92W, of the 6th P.M. A 36" Parshall flume was installed at this locations.

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Plot of Flow and Conductivity



SW-05 Stevens Gulch Drainage

Figure 89

SW-10  
 Terror Ditch  
 Elevation - 6480

Initiated	7/1/1983	7/1/1983	7/1/1983	7/1/1983
Activated				
Date	11/1/2022	9/8/2022	6/22/2022	

Summary Information

Field Parameters	UNITS	Baseline			Operation			Min	Ave	Max	Min	Ave	Max
		Min	Ave	Max	Min	Ave	Max						
Flow	CFS	0.00	3.18	12.80				3.39	4.51	5.74			
Water Level in Flume	Feet	0.00	0.43	0.87				0.5	0.6	0.7			
Temperature	Celsius	0.1	9.1	21.3				2.2	15.1	8.09			
Conductivity	umhos/cm	20	138	970				148.7	121.9	128.2			
pH	su	5.6	8.3	12.2				8.53	8.56	12.2			
Field Comments											*		
Lab Parameters	UNITS												
Bicarbonate	mg/L	25.3	79.4	188.0				83.7		54.7			
Chloride	mg/L	<MDL	17.7	186.1				1.41		1.24			
Conductivity	umhos/cm	53	171	756				139		112			
Hardness	mg/L	32	66	141				60		45			
Nitrate-Nitrite	mg/L	<MDL	0.17	0.54				<MDL		<MDL			
Oil and Grease	mg/L	<MDL	<MDL	<MDL				<MDL		<MDL			
pH	su	6.9	7.7	8.5				7.1		7.8			
Phosphate	mg/L	<MDL	<MDL	<MDL				0.09		0.026			
ResidueFilterable-TDS	mg/L	50	130	610				98		94			
ResidueNonFilterable-TSS	mg/L	<MDL	24.3	136.0				10		17			
SAR		0.11	0.63	6.43				0.32		0.31			
Sulfate	mg/L	<MDL	11.65	68.50				2.6		<MDL			
Aluminum (TREC)	mg/L	<MDL	16.792	154.000				0.319		0.98			
Arsenic (TREC)	mg/L	<MDL	0.009	0.030				0.00032		0.00038			
Cadmium (TREC)	mg/L	<MDL	0.010	0.022				<MDL		<MDL			
Copper (TREC)	mg/L	<MDL	0.006	0.010				<MDL		<MDL			
Calcium (TREC)	mg/L	6.07	15.72	22.00				14.9		11.6			
Iron (TREC)	mg/L	0.014	0.475	1.730				0.334		0.779			
Lead (TREC)	mg/L	0.000	0.013	0.060				0.00016		0.00033			
Magnesium (TREC)	mg/L	3.00	7.89	21.00				5.5		3.84			
Manganese (TREC)	mg/L	0.010	0.021	0.072				<MDL		0.013			
Mercury (TREC)	mg/L	<MDL	0.00007	0.00020				<MDL		<MDL			
Molybdenum (TREC)	mg/L	<MDL	0.0022	0.0060				<MDL		<MDL			
Selenium (TREC)	mg/L	<MDL	0.004	0.018				<MDL		<MDL			
Sodium (TREC)	mg/L	3.64	18.04	144.00				5.7		4.64			
Zinc (TREC)	mg/L	<MDL	0.014	0.050				<MDL		<MDL			

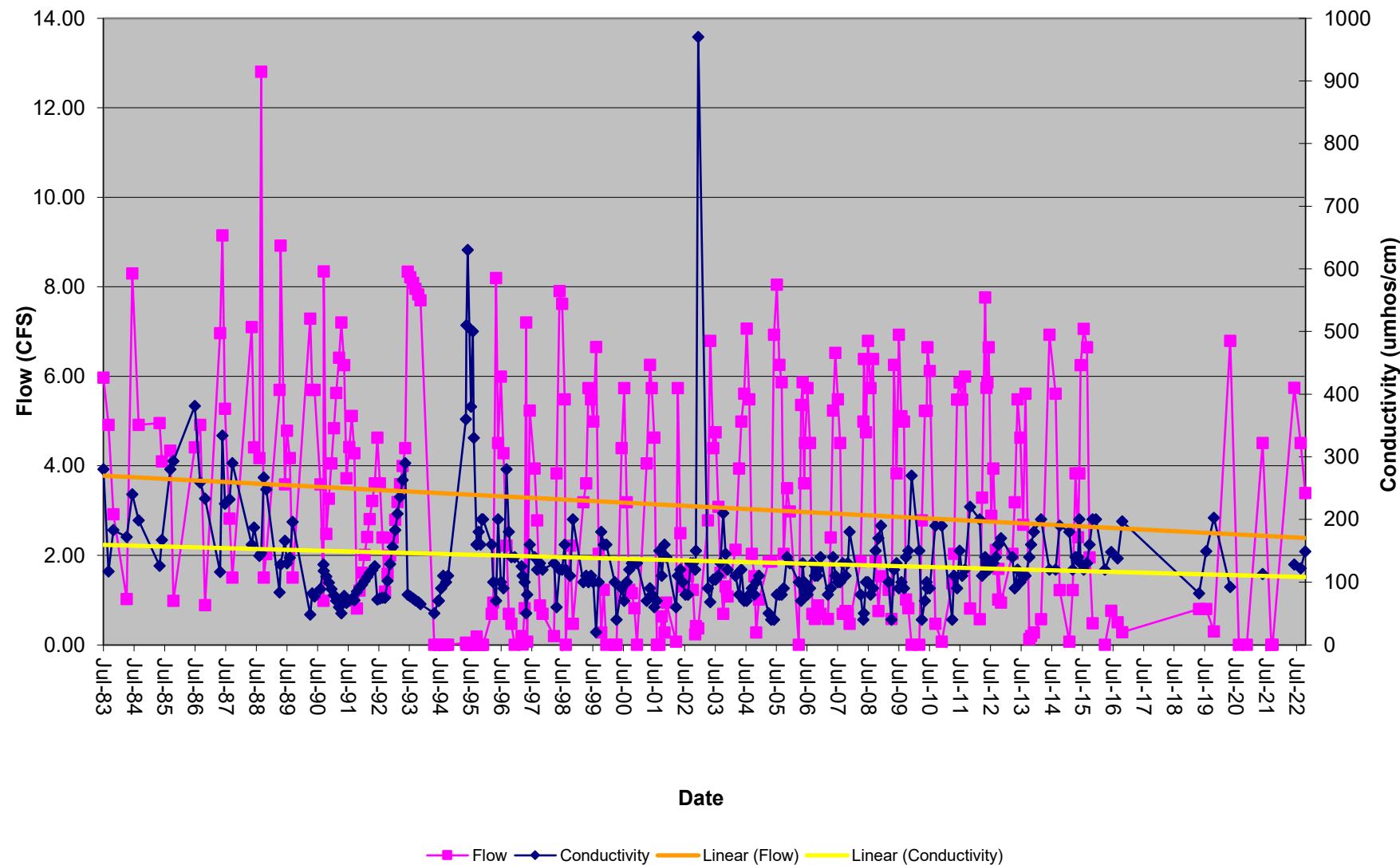
The area of concern for monitoring point SW-10 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

A stilling well and recorder were installed on a 30" Parshall flume on the Terror Ditch. This stream gauge is located in the NE1/4NE1/4, Sec 17, T13S, R91W c

\* 1Q inaccessible due to snow

\*\*\* No data in the field notes

### Plot of Flow and Conductivity



SW-11  
 Stevens Gulch - Upstream  
 Elevation - 8084

Initiated	6/6/2010	6/6/2010	6/6/2010	6/6/2010
Activated				
Date	11/2/2022	9/27/2022	6/13/2022	

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry	*
		Min	Ave	Max	Min	Ave	Max				
Flow	CFS	0	0.1	3.8							
Water Level in Flume	Feet	0	0.0	0.0							
Temperature	Celsius										
Conductivity	umhos/cm										
pH	su										
Field Comments								Dry	Dry	Dry	*
Lab Parameters	UNITS										
Bicarbonate	mg/L	55.9	63.6	71.3				*			
Carbonate	mg/L	0.0	0.0	0.0							
Chloride	mg/L	<MDL	2.8	3.0							
Conductivity	umhos/cm	98.7	107	116							
Hardness	mg/L	43.60	48.45	53.30							
Acidity	mg/L	-46.7	-42.35	-38.00							
Nitrate-Nitrite	mg/L	<MDL	0.00	0.00							
Oil and Grease	mg/L	<MDL	<MDL	<MDL							
pH	su	7.2	7.4	7.7							
Phosphate	mg/L	<MDL	0.12	0.13							
ResidueFilterable-TDS	mg/L	117	119	120							
ResidueNonFilterable-TSS	mg/L	<MDL	22	24							
SAR		0.37	0.39	0.40							
Aluminum (TREC)	mg/L	0.549	0.725	0.900							
Arsenic (TREC)	mg/L	<MDL	<MDL	0.000							
Cadmium (TREC)	mg/L	<MDL	<MDL	0.00							
Calcium (TREC)	mg/L	12.6	13.90	15.20							
Calcium (Dissolved)	mg/L	0	0.00	0.00							
Copper (TREC)	mg/L	<MDL	<MDL	0.00							
Iron (Dissolved)	mg/L	0.24	0.24	0.24							
Iron (TREC)	mg/L	0.42	0.82	1.23							
Lead (TREC)	mg/L	<MDL	<MDL	0.00							
Magnesium (TREC)	mg/L	2.94	3.34	3.73							
Manganese (TREC)	mg/L	0.03	0.06	0.08							
Mercury (TREC)	mg/L	<MDL	<MDL	0							
Molybdenum (TREC)	mg/L	<MDL	<MDL	0.000							
Selenium (TREC)	mg/L	<MDL	<MDL	0.000							
Sodium (TREC)	mg/L	5.65	5.80	5.94							
Sodium (Dissolved)	mg/L	0	0.00	0.00							
Zinc (TREC)	mg/L	<MDL	<MDL	0.00							

\* Site not accessible

SW-12  
 West Fork Terror Creek - Upstream  
 Elevation - 7920

Initiated Activated Date	5/16/1983	5/16/1983	5/16/1983	5/16/1983
	11/2/2022	9/27/2022	6/13/2022	

Field Parameters	UNITS	Summary Information			Operation			Min	Ave	Max			
		Baseline			Operation								
		Min	Ave	Max	Min	Ave	Max						
Flow	CFS	0.04	3.66	52.00				1.61	0.92	4.00			
Water Level in Flume	Feet	0.050	0.587	2.000				0.55	0.38	1			
Temperature	Celsius	0.1	6.4	14.9				2.5	8.9	12.2			
Conductivity	umhos/cm	68.8	118	180				121.2	132.5	85			
pH	su	7.24	8.2	8.9				8.6	8.0	7.6			
Field Comments										*			
Lab Parameters	UNITS												
Bicarbonate	mg/L	34.3	59.4	83.4				60.1		44			
Chloride	mg/L	<MDL	0.75	1.40				<MDL		0.96			
Conductivity	umhos/cm	53.5	89.8	121.0				114		88			
Hardness	mg/L	27.3	46.1	61.9				50		38			
Acidity	mg/L	-64.0	-46.4	-20.0				<MDL		<MDL			
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL				<MDL		<MDL			
Oil and Grease	mg/L	<MDL	<MDL	<MDL				<MDL		<MDL			
Phosphate	mg/L	<MDL	0.04	0.12				0.018		0.0713			
ResidueFilterable-TDS	mg/L	65	86	108				88.0		86.0			
ResidueNonFilterable-TSS	mg/L	<MDL	15.2	37.0				<MDL		<MDL			
SAR		0.174	0.263	0.486				0.24		0.28			
Sulfate	mg/L	1.2	2.4	3.3				1.3		<MDL			
Aluminum (TREC)	mg/L	0.104	0.623	1.710				0.468		0.429			
Arsenic (TREC)	mg/L	<MDL	<MDL	<MDL				0.00028		0.00026			
Cadmium (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL		<MDL			
Calcium (TREC)	mg/L	7.1	490.5	8630.0				12.4		9.86			
Calcium (Dissolved)	mg/L	11.2	13.3	14.6									
Copper (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL		<MDL			
Iron (Dissolved)	mg/L	0.0300	2.9342	#####						<MDL			
Iron (TREC)	mg/L	0.101	0.507	1.370				0.375		0.311			
Lead (TREC)	mg/L	<MDL	<MDL	<MDL				0.00014		0.00011			
Magnesium (TREC)	mg/L	2.35	3.98	5.58				4.66		3.3			
Magnesium (Dissolved)	mg/L	3.38	4.53	5.21									
Manganese (TREC)	mg/L	0.0011	0.0116	0.03				0.01		<MDL			
Mercury (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL		<MDL			
Molybdenum (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL		<MDL			
Selenium (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL		0.00011			
Sodium (TREC)	mg/L	2.60	4.12	7.77				3.89		3.94			
Sodium (Dissolved)	mg/L	2.69	4.22	5.97				3.89					
Zinc (TREC)	mg/L	<MDL	<MDL	<MDL				<MDL		<MDL			

The area of concern for monitoring point SW-12 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

Negative acidity value indicates equivalent value of alkalinity

\*Inaccessible due to snow

\*\* Flow to high unable to read gauge

DH-15a  
**Stevens Draw - Drill Hole**  
**Pipe Elevation - 7143.3**  
**Pipe 1.8' above ground**  
**Depth - 215'**

Initiated	6/12/1995
Activated	
Date	6/7/2022

Field Parameters	UNITS	Summary Information			Operation		
		Baseline Min	Ave	Max	Min	Ave	Max
Static Water Level	Feet				181.90	191.50	194.80
Water Elevation	Feet				6948.50	6951.80	6961.40
FieldComment							
ph	su				7.06	7.50	8.00
Conductivity	umhos/cm				2880.00	3862.78	4210.00
Temperature	Celsius				7.77	13.19	16.20
Lab Parameters	UNITS						
Bicarbonate	mg/L				897.00	1125.56	1380.00
Carbonate	mg/L				<MDL	<MDL	0.00
Chloride	mg/L				34.20	36.37	39.30
Conductivity	umhos/cm				2740.00	3615.56	3970.00
Hardness	mg/L				323.00	757.44	942.00
Nitrate-Nitrite	mg/L				<MDL	<MDL	0.00
Ammonia	mg/L				0.29	0.93	1.26
pH	su				7.35	7.81	8.10
Phosphate	mg/L				0.04	0.09	0.13
ResidueFilterable-TDS	mg/L				1980.00	2792.22	3140.00
Sulfate	mg/L				556.00	1240.78	1500.00
Arsenic (Dissolved)	mg/L				<MDL	<MDL	0.05
Cadmium (Dissolved)	mg/L				<MDL	<MDL	0.00
Calcium (Dissolved)	mg/L				50.20	130.46	167.00
Iron (Dissolved)	mg/L				<MDL	<MDL	0.20
Iron (TREC)	mg/L				0.39	6.71	53.90
Magnesium (Dissolved)	mg/L				43.10	104.29	130.00
Manganese (Dissolved)	mg/L				0.10	0.15	0.17
Manganese (TREC)	mg/L				0.13	0.18	0.23
Mercury (Dissolved)	mg/L				<MDL	<MDL	0.00
Selenium (Dissolved)	mg/L				<MDL	<MDL	0.00
Sodium (Dissolved)	mg/L				547.00	661.11	771.00
Zinc (Dissolved)	mg/L				<MDL	<MDL	0.00

DH-15a is a replacement well for DH-15. All data is considered operational.

Drill Hole 15a is located on the western edge of the Stevens Draw road.

DH-39  
**Stevens Draw - Drill Hole**  
**Pipe Elevation - 7142.65**  
**Pipe 1.2' above ground**  
**Depth - 181'**

Initiated	6/12/1995
Activated	
Date	6/7/2022

Field Parameters	UNITS	Summary Information			Operation		
		Baseline Min	Ave	Max	Operation Min	Ave	Max
Static Water Level	Feet	64.55	73.82	192.55			75.5
Water Elevation	Feet	6950.1	7068.8	7078.1			7067.15
FieldComment							
ph	su	6.8	7.3	8.3			7.71
Conductivity	umhos/cm	1010	1503	4210			2610
Temperature	Celsius	4.3	10.5	14.3			13
Lab Parameters	UNITS						
Bicarbonate	mg/L	384.69	567.54	897.00			601
Carbonate	mg/L	<MDL	2.86	25.00			25
Chloride	mg/L	1.36	18.74	47.14			29.8
Conductivity	umhos/cm	1025	1589	3970			2430
Hardness	mg/L	<MDL	437.50	940.00			429
Nitrate-Nitrite	mg/L	<MDL	0.75	7.06			<MDL
Ammonia	mg/L	<MDL	0.46	6.02			6.02
pH	su	7.0	7.6	8.5			8.2
Phosphate	mg/L	<MDL	0.14	2.96			2.96
ResidueFilterable-TDS	mg/L	443	1086	3140			1710
Sulfate	mg/L	101.25	299.33	1500.00			704
Arsenic (Dissolved)	mg/L	<MDL	0.0108	0.1730			0.00071
Cadmium (Dissolved)	mg/L	<MDL	0.007	0.035			0.000078
Calcium (Dissolved)	mg/L	6.5	86.1	167.0			90.8
Iron (Dissolved)	mg/L	<MDL	0.68	13.00			0.078
Iron (TREC)	mg/L	0.01	10.07	43.70			0.425
Magnesium (Dissolved)	mg/L	<MDL	61.9	146.0			49.2
Manganese (Dissolved)	mg/L	<MDL	1.346	60.100			0.252
Manganese (TREC)	mg/L	0.026	0.404	2.470			0.312
Mercury (Dissolved)	mg/L	<MDL	0.000264	0.00550			<MDL
Selenium (Dissolved)	mg/L	<MDL	0.006	0.021			0.00155
Sodium (Dissolved)	mg/L	95.8	224.2	670.0			423
Zinc (Dissolved)	mg/L	<MDL	0.01	0.10			<MDL

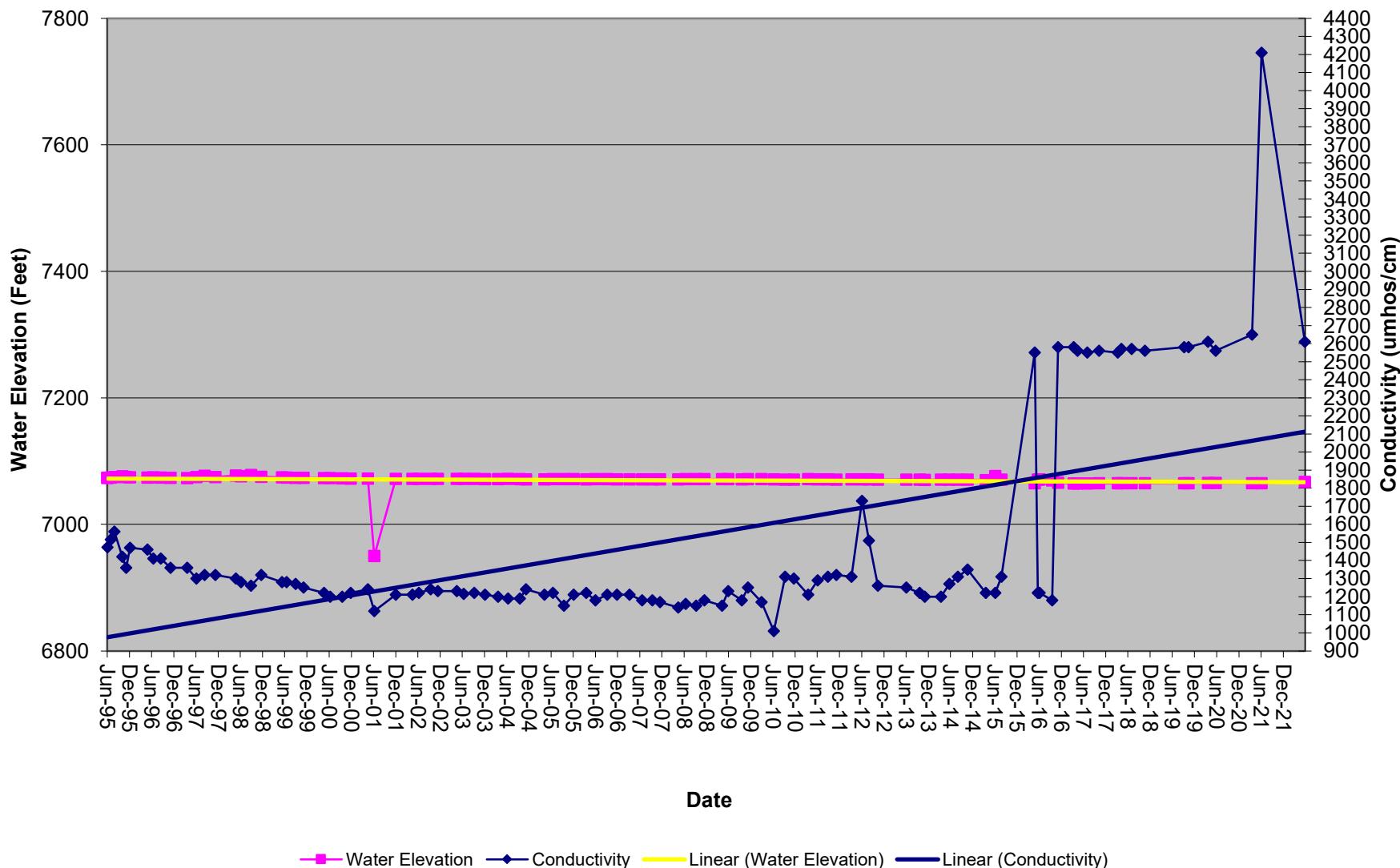
The area of concern for monitoring point DH-39 has not been affected by the mining operation. Therefore, all re monitoring events are considered Baseline.

Drill Hole 39 is located in Stevens Draw right next to Drill Hole 15. It is accessed by the Stevens Draw road.

\* Site not accessible

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 Bowie No. 2 Mine  
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**Plot of Conductivity and Water Level**



DH-39 - Stevens Draw Drill Hole

Figure 96

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 Bowie No. 2 Mine  
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Ground Water

DH-49  
**B Gulch - Drill Hole**  
**Pipe Elevation - 7203.4**  
**Pipe 0.7' above ground**  
**Depth - 324'**

Initiated	6/12/1995	6/12/1995
Activated	3/30/1997	3/30/1997
Date	6/13/2022	

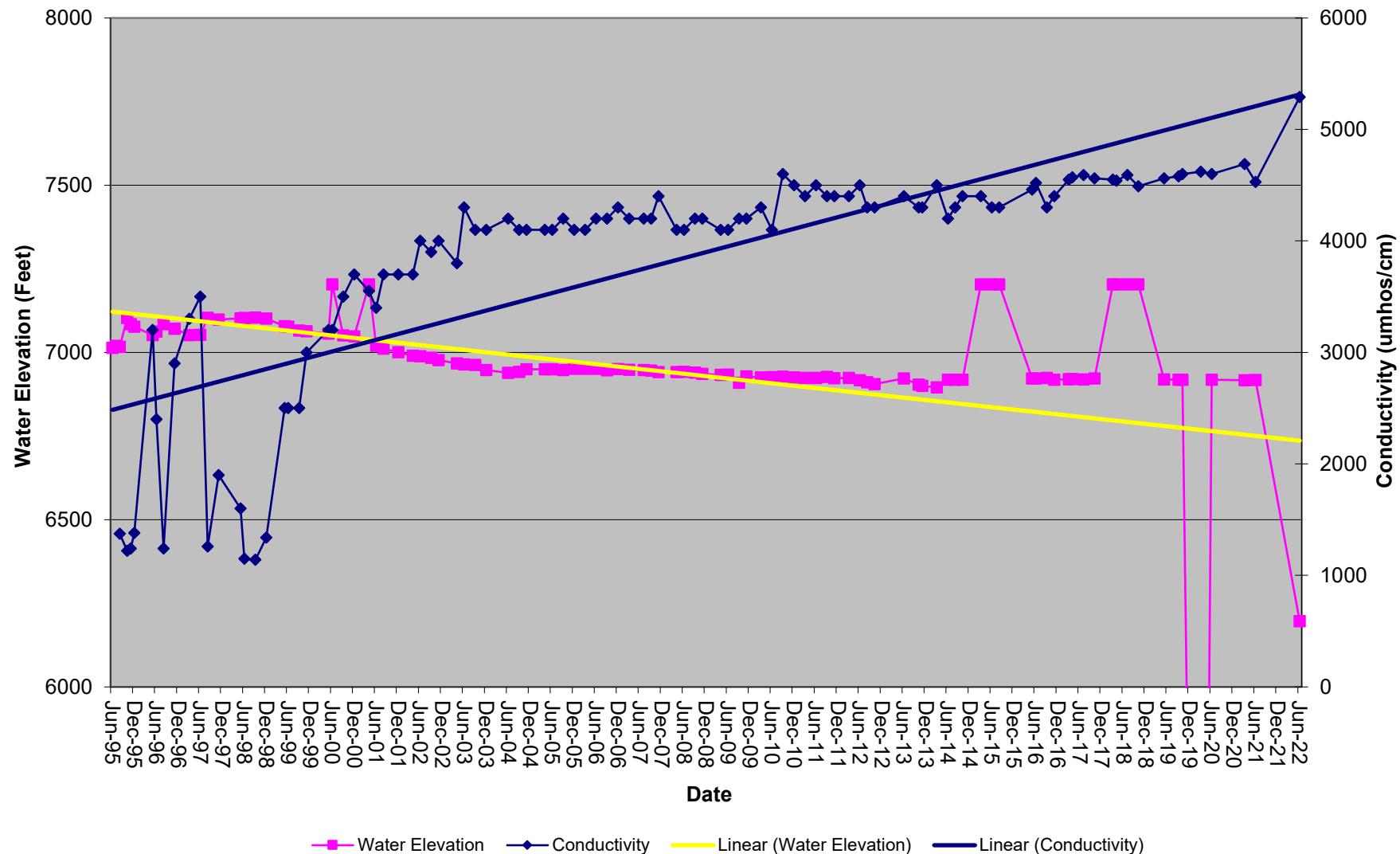
Field Parameters	UNITS	Summary Information					
		Baseline			Operation		
		Min	Ave	Max	Min	Ave	Max
Static Water Level	Feet	100.84	145.8	189.79	99.57	245.7831	311.46
Water Elevation	Feet	7013.6	7057.6	7102.6	6891.9	6957.6	7103.8
Field Comment							*
ph	su	7.1	7.3	7.5	6.9	7.4	8.2
Conductivity	umhos/cm	1220	2028	3300	1140	3987	5290
Temperature	Celsius	10	11.9	13.5	10.8	13.8	17.3
Lab Parameters		UNITS					
Bicarbonate	mg/L	496	834	1090	313.4	1470.221	2130
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL	9.34	79.46
Chloride	mg/L	14	15	16	<MDL	38.1	344.61
Conductivity	umhos/cm	1250	2023	2470	1160	3698.317	5920
Hardness	mg/L	34	300	491	<MDL	188	463
Nitrate-Nitrite	mg/L	0.63	1.0	1.43	0.028	4.87	8.9
Ammonia	mg/L	0.14	1.9	3.8	<MDL	1.15	5
pH	su	7.1	7.4	7.7	7.2	7.7	8.7
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.74	21.3
Residue Filterable (TDS)	mg/L	790	1347	1790	700	2665	3411
Sulfate	mg/L	216	362	470	180	644.92	828
Arsenic (Dissolved)	mg/L	<MDL	0.001	0.002	<MDL	0.043	0.560
Cadmium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.011	0.040
Calcium (Dissolved)	mg/L	11	62	100	0.55	33.7	98.4
Iron (Dissolved)	mg/L	0.05	0.4	1.1	<MDL	0.137	1.12
Iron (TREC)	mg/L	0.2	12.4	29.4	0.0186	31.86	1310
Magnesium (Dissolved)	mg/L	1.6	35.1	58.6	18.7	30.6	71.5
Manganese (Dissolved)	mg/L	<MDL	0.038	0.105	<MDL	0.065	0.35
Manganese (TREC)	mg/L	0.007	0.19	0.308	<MDL	2.08	68.7
Mercury (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00008	0.00050
Selenium (Dissolved)	mg/L	<MDL	0.003	0.007	<MDL	0.033551	0.283
Sodium (Dissolved)	mg/L	5.2	230.7	556	109	911	2070
Zinc (Dissolved)	mg/L	<MDL	0.003	0.01	<MDL	0.018	0.04

\* Site not Accessible

Drill Hole 49 is located just above Stevens Draw road approximately 1000 feet southwest of the mine portals. It is accessed by the Stevens Draw road.

Baseline Information for Point DH-49 is derived from events beginning on 6/12/95 through 3/30/97.  
 Point influenced by mining on 3/30/97.

### Plot of Conductivity and Water Level



**DH-67B**  
**Hubbard Creek - B Seam Monitoring Well**  
**Elevation - 6451'**  
**Depth - 594'**

Initiated	6/29/2004
Activated	
Date	6/16/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation		
		Min	Ave	Max	Min	Ave	Max
Static Water Level	Feet	146.9	264.5	498.4			245.5
Water Elevation	Feet	5952.6	6190.1	6451.0			6205.5
FieldComment							*
ph	su	6.5	7.8	8.8			8.19
Conductivity	umhos/cm	2570	6209.4	7500			6770
Temperature	Celsius	13.4	18.7	26.5			19.8
Lab Parameters	UNITS						
Bicarbonate	mg/L	1486.3	2992.5	3838.0			3060
Carbonate	mg/L	<MDL	159.57	725.4			131
Chloride	mg/L	3.92	347.28	509			449
Conductivity	umhos/cm	497	5477	7810			6500
Hardness	mg/L	3.59	42.21	198			25
Nitrate-Nitrite	mg/L	<MDL	1.80	7.4			<MDL
Ammonia	mg/L	0.102	4.39	9.48			6.24
pH	su	7.35	8.12	9.37			8.6
Phosphate	mg/L	<MDL	0.58	5.96			0.71
ResidueFilterable-TDS	mg/L	2186	4041	8131			4270
Sulfate	mg/L	<MDL	16.82	91.58			6.7
Arsenic (Dissolved)	mg/L	<MDL	0.106	0.545			0.000174
Cadmium (Dissolved)	mg/L	<MDL	0.027	0.07			0.000267
Calcium (Dissolved)	mg/L	0.24	9.36	53.7			7.15
Iron (Dissolved)	mg/L	0.01	0.25	0.903			0.33
Iron (TREC)	mg/L	0.011	2.82	31.8			1.07
Magnesium (Dissolved)	mg/L	0.73	4.58	29.9			1.86
Manganese (Dissolved)	mg/L	<MDL	0.024	0.102			<MDL
Manganese (TREC)	mg/L	0.009	0.104	1.129			<MDL
Mercury (Dissolved)	mg/L	<MDL	0.00009	0.00044			<MDL
Selenium (Dissolved)	mg/L	0.003	0.152	1.595			<MDL
Sodium (Dissolved)	mg/L	3.885	1426.8	2291.2			1710
Zinc (Dissolved)	mg/L	<MDL	0.06	0.4			<MDL

The area of concern for monitoring point DH-67B has not been affected by the mining operation. Therefore, ε monitoring events are considered Baseline.

\*Site inaccessible due to snow for 1Q

Note 1: Sample taken in field apparently lost by laboratory.

Note 2: Special bailer for this well broke, could not get sample.

\* Site not accessible 1Q due to snow

DH-67D (Reb)  
**Hubbard Creek - D - Seam Monitoring Well**  
**Elevation - 6450'**  
**Depth - 324.8'**

Initiated	11/30/2000
Activated	
Date	6/16/2022

Field Parameters	UNITS	Summary Information			Operation		
		Baseline Min	Baseline Ave	Baseline Max	Operation Min	Operation Ave	Operation Max
Static Water Level	Feet	123.4	222.444	253.85			245.6
Water Elevation	Feet	6196.2	6227.6	6326.6			6204.4
FieldComment							*
ph	su	7.9	9.3	10.6			7.9
Conductivity	umhos/cm	6.96	6208	8780			6800
Temperature	Celsius	11.2	16.3	19.3			16.2
Lab Parameters	UNITS						
Bicarbonate	mg/L	<MDL	2816.31	4320			3050
Carbonate	mg/L	<MDL	367.576	1160			243
Chloride	mg/L	6.76	395.72	610			429
Conductivity	umhos/cm	2908	5841.47	13132			6670
Hardness	mg/L	<MDL	19.23	51.55			25
Nitrate-Nitrite	mg/L	<MDL	5.449	60.03			<MDL
Ammonia	mg/L	0.188	4.847	30.5			2.85
pH	su	7.61	8.91	9.63			8.5
Phosphate	mg/L	<MDL	2.105	48.2			0.5
ResidueFilterable-TDS	mg/L	0.15	3924	5188			4460
Sulfate	mg/L	<MDL	31.19	300			<MDL
Arsenic (Dissolved)	mg/L	<MDL	0.15548	0.915			0.00655
Cadmium (Dissolved)	mg/L	<MDL	0.745	16.6			0.000323
Calcium (Dissolved)	mg/L	<MDL	4.67	36.7			6.7
Iron (Dissolved)	mg/L	0.01	0.40	7.27			0.557
Iron (TREC)	mg/L	0.0251	3.28	99.3			0.745
Magnesium (Dissolved)	mg/L	<MDL	2.36	10.2			2.03
Manganese (Dissolved)	mg/L	<MDL	0.035	0.417			<MDL
Manganese (TREC)	mg/L	<MDL	0.866	22.7			<MDL
Mercury (Dissolved)	mg/L	<MDL	0.00009	0.00042			<MDL
Selenium (Dissolved)	mg/L	<MDL	0.15096	1.064			<MDL
Sodium (Dissolved)	mg/L	784	1619.11	3576.25			1760
Zinc (Dissolved)	mg/L	0.006	0.043	0.206			<MDL

The area of concern for monitoring point DH-67D has not been affected by the mining operation. Therefore, all monitoring events are considered Baseline.

\*Site inaccessible due to snow for 1Q

DH-67abv  
 Hubbard Creek - Monitoring Well  
 Elevation - 6450.5  
 Depth - 193'

Initiated	6/26/2005
Activated	
Date	6/16/2022

Field Parameters	UNITS	Summary Information			Operation		
		Baseline			Operation		
		Min	Ave	Max	Min	Ave	Max
Static Water Level	Feet	29.5	44.2	59.7			42.4
Water Elevation	Feet	6390.8	6406.5	6421.0			6408.6
FieldComment							*
ph	su	7.1	7.7	8.8			7.91
Conductivity	umhos/cm	2000	2652	3700			2440
Temperature	Celsius	5.6	10.3	12.6			9.6
Lab Parameters	UNITS						
Bicarbonate	mg/L	1.44	1962.32	13770.0			1100
Carbonate	mg/L	<MDL	65.6	138.5			114
Chloride	mg/L	<MDL	85.6	407.0			40.3
Conductivity	umhos/cm	1370	2791	5850			2320
Hardness	mg/L	8.54	46.05	145.95			41
Nitrate-Nitrite	mg/L	<MDL	2.8	32.3			0.056
Ammonia	mg/L	<MDL	0.9	2.5			<MDL
pH	su	7.1	8.0	9.1			8.4
Phosphate	mg/L	<MDL	0.4	1.8			0.76
ResidueFilterable-TDS	mg/L	794	1878	3900			1500
Sulfate	mg/L	<MDL	23.94	288.00			38.1
Arsenic (Dissolved)	mg/L	<MDL	0.050	0.415			0.00269
Cadmium (Dissolved)	mg/L	<MDL	0.02	0.07			<MDL
Calcium (Dissolved)	mg/L	<MDL	19.9	115.0			10.7
Iron (Dissolved)	mg/L	<MDL	0.19	2.97			0.17
Iron (TREC)	mg/L	0.01	0.57	1.82			0.809
Magnesium (Dissolved)	mg/L	<MDL	4.5	18.1			3.5
Manganese (Dissolved)	mg/L	<MDL	2.737	86.700			0.042
Manganese (TREC)	mg/L	0.006	0.042	0.132			0.067
Mercury (Dissolved)	mg/L	<MDL	0.00008	0.00036			<MDL
Selenium (Dissolved)	mg/L	<MDL	0.030	0.149			<MDL
Sodium (Dissolved)	mg/L	218	818	2093			555
Zinc (Dissolved)	mg/L	<MDL	0.022	0.067			<MDL

The area of concern for monitoring point DH-67abv has not been affected by the mining operation. Therefore, monitoring events are considered Baseline.

\*Site inaccessible due to snow for 1Q

**DH-67blw**  
**Hubbard Creek - Monitoring Well**  
**Elevation - 6466**  
**Depth - 357'**  
**Replacement Well 9/26/14**

	9/26/2014
	6/16/2022

Field Parameters	UNITS	Summary Information			
		Min	Ave	Max	
Static Water Level	Feet	244	259.477	318.55	250.7
Water Elevation	Feet	6147.5	6206.5	6222.0	6215.3
Field Comment				*	
ph	su	7.9	8.4	9.7	8.69
Conductivity	umhos/cm	4800	6369	6920	6760
Temperature	Celsius	16.1	17.65	21.1	17
Lab Parameters	UNITS				
Bicarbonate	mg/L	1460	3354.17	4150	2650
Carbonate	mg/L	<MDL	<MDL	<MDL	545
Chloride	mg/L	0.414	318	435	411
Conductivity	umhos/cm	2020	5480	6470	6460
Hardness	mg/L	6	30.79	55.1	6
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL	<MDL
Ammonia	mg/L	0.39	3.3	8.88	8.71
pH	su	7.92	8.48385	9.35	8.9
Phosphate	mg/L	0.12	0.30154	0.92	0.92
Residue Filterable-TDS	mg/L	1380	3853.08	4840	4170
Sulfate	mg/L	<MDL	16.66	26.9	10.5
Arsenic	mg/L	<MDL	<MDL	<MDL	0.00145
Cadmium	mg/L	<MDL	<MDL	<MDL	<MDL
Calcium	mg/L	2.1	7.82	15.60	2.3
Iron (Dissolved)	mg/L	0.0358	0.08838	0.167	<MDL
Iron (Total)	mg/L	0.104	0.72285	1.37	0.344
Magnesium	mg/L	0.009	2.31452	3.920	<MDL
Manganese (Dissolved)	mg/L	0.0089	0.02998	0.0899	<MDL
Manganese (Total)	mg/L	0.0014	61.3079	674	<MDL
Mercury	mg/L	<MDL	<MDL	<MDL	<MDL
Selenium	mg/L	<MDL	<MDL	<MDL	<MDL
Sodium (Dissolved)	mg/L	514	1572.62	1830	1670
Zinc	mg/L	<MDL	0.0826	0.0826	<MDL

The area of concern for monitoring point DH-67blw has not been affected by the mining. Monitoring events are considered Baseline.

Replacement well constructed September 2014

\*Site inaccessible due to snow for 1Q

**CWI-DH-58A**  
**Upper B Seam**  
**Elevation -7442.2**  
**Depth - 575'**

3/17/2015
8/18/2022

Field Parameters	UNITS	Summary Information			
		Baseline Min	Ave	Max	
Static Water Level	Feet	512.6	533.4	536.1	535.2
Water Elevation	Feet	6906.1	6908.8	6929.6	6907
Field Comment					
ph	su	7.6	8.5	17.7	7.88
Conductivity	umhos/cm	2	1592	2350	2350
Temperature	Celsius	17.7	20.0	26.2	21.5
Lab Parameters	UNITS				
Bicarbonate	mg/L	635	964	1320	1200
Carbonate	mg/L	<MDL	34.6	77.4	77.4
Chloride	mg/L	16.4	20.6	34.6	34.6
Conductivity	umhos/cm	866	1456	2180	2180
Hardness	mg/L	8.2	27.4	65.7	28.0
Nitrate-Nitrite	mg/L	<MDL	0.08	0.08	<MDL
Ammonia	mg/L	0.03	1.10	2.02	2.02
pH	su	7.59	8.26	9.03	8.6
Phosphate	mg/L	1.70	2.94	5.20	3.08
Residue Filterable-TDS	mg/L	744	1070	1430	1430
Sulfate	mg/L	<MDL	1.8	3.5	1.1
Arsenic	mg/L	<MDL	0.02472	0.06150	0.0615
Cadmium	mg/L	<MDL	<MDL	<MDL	<MDL
Calcium	mg/L	<MDL	8.8	14.0	9.37
Iron (Dissolved)	mg/L	0.012	0.163	1.750	0.139
Iron (Total)	mg/L	0.573	2.543	9.270	3.2
Magnesium (Dissolved)	mg/L	0.052	1.145	6.000	1.11
Manganese (Dissolved)	mg/L	<MDL	0.2554	2.3300	0.119
Manganese (Total)	mg/L	<MDL	0.2403	0.6240	0.172
Mercury	mg/L	<MDL	<MDL	<MDL	<MDL
Selenium	mg/L	<MDL	<MDL	<MDL	0.00081
Sodium	mg/L	141	514	3050	542
Zinc	mg/L	<MDL	0.0219	0.0219	<MDL

The area of concern for monitoring point CWI-DH-58A has not been affected by the n monitoring events are considered Baseline.

New Well beginning in December 2014.

CWI-DH-60  
 Upper B Seam  
 Elevation - 7921  
 Depth - 1085'

10/20/2014
8/18/2022

Field Parameters	UNITS	Summary Information			
		Baseline Min	Ave	Max	
Static Water Level	Feet	943.6	946.7	952.1	944.6
Water Elevation	Feet	6968.9	6974.3	6977.4	6976.4
Field Comment					
ph	su	8.0	8.3	8.5	8.25
Conductivity	umhos/cm	1062	4985	10980	1135
Temperature	Celsius	18.5	21.4	23.4	22.6
Lab Parameters	UNITS				
Bicarbonate	mg/L	5620	7298	8330	6480
Carbonate	mg/L	<MDL	<MDL	<MDL	207
Chloride	mg/L	240	299	337	329
Conductivity	umhos/cm	7820	9566	10800	10800
Hardness	mg/L	56.0	73.7	86.2	56
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL	<MDL
Ammonia	mg/L	0.84	1.66	2.84	2.49
pH	su	7.96	8.18	8.60	8.5
Phosphate	mg/L	0.05	0.21	0.48	0.48
Residue Filterable-TDS	mg/L	6070	7528	8110	8100
Sulfate	mg/L	<MDL	20.7	23.2	<MDL
Arsenic	mg/L	<MDL	0.00044	0.00045	0.00043
Cadmium	mg/L	<MDL	0.0013	0.0018	0.00121
Calcium	mg/L	11.3	16.4	21.2	11.3
Iron (Dissolved)	mg/L	0.216	28.433	532.000	0.692
Iron (Total)	mg/L	0.83	2.59	10.20	10.2
Magnesium (Dissolved)	mg/L	6.00	8.00	9.57	6.74
Manganese (Dissolved)	mg/L	0.0103	0.0145	0.0186	<MDL
Manganese (Total)	mg/L	0.0131	0.0328	0.1000	0.1
Mercury	mg/L	<MDL	<MDL	<MDL	<MDL
Selenium	mg/L	<MDL	<MDL	<MDL	<MDL
Sodium	mg/L	315	2887	3760	3120
Zinc	mg/L	<MDL	<MDL	<MDL	<MDL

The area of concern for monitoring point CWI-DH-60 has not been affected by the mining. Monitoring events are considered Baseline.

CWI-DH-60 is located southwest of projected mining. It will not be impacted by Bowie.

CWI-DH-60 was cemented to the bottom of the upper B-Seam during September 201

CWI-DH-60 was worked over and cleaned during August 2014.

DH-2010-1SS  
 Sanstone Above B-Seam  
 Elevation - 7544.4  
 Depth - 1140'

3/18/2015
8/18/2022

Field Parameters	UNITS	Summary Information			
		Baseline Min	Ave	Max	
Static Water Level	Feet	1088.3	1096.5	1104.2	1104.2
Water Elevation	Feet	6442.8	6450.5	6458.7	6442.8
Field Comment					
ph	su	7.0	8.0	11.7	11.7
Conductivity	umhos/cm	1330	1717	2790	2790
Temperature	Celsius	7.3	25.3	27.6	27.6
Lab Parameters	UNITS				
Bicarbonate	mg/L	<MDL	691	809	804
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL
Chloride	mg/L	110	151	416	168
Conductivity	umhos/cm	1110	1406	1870	1820
Hardness	mg/L	34.0	41.9	52.0	44
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL	<MDL
Ammonia	mg/L	5.0	6.6	8.1	8.1
pH	su	7.10	7.42	8.30	8.2
Phosphate	mg/L	0.5	1.7	5.2	1.4
Residue Filterable-TDS	mg/L	780	1028	1800	1800
Sulfate	mg/L	<MDL	4.05	5.40	<MDL
Arsenic (Dissolved)	mg/L	0.17	0.22	0.29	0.171
Cadmium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL
Calcium (Dissolved)	mg/L	0.1	13.7	17.2	15
Iron (Dissolved)	mg/L	0.096	0.154	0.323	0.245
Iron (Total)	mg/L	0.75	2.93	4.94	3.21
Magnesium (Dissolved)	mg/L	0.130	1.241	1.610	1.47
Manganese (Dissolved)	mg/L	0.0832	0.1043	0.1300	0.11
Manganese (Total)	mg/L	0.095	0.125	0.145	0.137
Mercury (Dissolved)	mg/L	<MDL	0.001	0.001	<MDL
Selenium (Dissolved)	mg/L	<MDL	0.0038	0.0044	0.00348
Sodium (Dissolved)	mg/L	274	324	424	414
Zinc (Dissolved)	mg/L	<MDL	0.0610	0.0900	0.09

The area of concern for monitoring point DH-2010-1SS has not been affected by the mining activities. The monitoring events are considered Baseline.

DH-2010-1SS is located in Section 5. It will be impacted by future Bowie No. 2 Mine activities.

Lab analysis is required semi-annually.

**DH-2010-1B**  
**B Seam**  
**Elevation - 7544.6**  
**Depth - 1220'**

10/16/2014
8/18/2022

Field Parameters	UNITS	Summary Information		
		Baseline Min	Ave	Max
Static Water Level	Feet	1092.4	1165.7	1998.1
Water Elevation	Feet	5549	6381	6455
Field Comment				
ph	su	7.4	11.0	23.3
Conductivity	umhos/cm	378	1769	2666
Temperature	Celsius	11.6	24.7	27.7
Lab Parameters	UNITS			
Bicarbonate	mg/L	<MDL	212.2	1040.0
Carbonate	mg/L	45	264	553
Chloride	mg/L	6.30	105.85	187.00
Conductivity	umhos/cm	336	1453	2440
Hardness	mg/L	0.0	9.8	44.0
Nitrate-Nitrite	mg/L	<MDL	0.48	1.60
Ammonia	mg/L	0.5	16.5	28.8
pH	su	8.20	10.52	11.58
Phosphate	mg/L	0.05	0.24	1.40
Residue Filterable-TDS	mg/L	253	1057	1800
Sulfate	mg/L	1.5	78.2	166.0
Arsenic (Dissolved)	mg/L	<MDL	0.0513	0.1710
Cadmium (Dissolved)	mg/L	<MDL	<MDL	<MDL
Calcium (Dissolved)	mg/L	1.54	3.65	15.00
Iron (Dissolved)	mg/L	0.0570	0.1221	0.2450
Iron (Total)	mg/L	0.20	1.46	4.31
Magnesium (Dissolved)	mg/L	<MDL	<MDL	<MDL
Manganese (Dissolved)	mg/L	<MDL	0.0231	0.1110
Manganese (Total)	mg/L	0.0068	0.0352	0.1370
Mercury (Dissolved)	mg/L	<MDL	<MDL	<MDL
Selenium (Dissolved)	mg/L	<MDL	<MDL	<MDL
Sodium (Dissolved)	mg/L	74	314	501
Zinc (Dissolved)	mg/L	<MDL	<MDL	<MDL

The area of concern for monitoring point DH-2010-1B has not been affected by the mining events. Monitoring events are considered Baseline.

DH-2010-1B is located in Section 5. It will be impacted by future Bowie No. 2 Mine when it begins production. DH-2010-1B was rehabilitated in 2014. Baseline information is collected beginning in 2014.

**AW-1**  
**Alluvial Well**  
**Top of Pipe Elevation - 5977.76'**  
**Depth - 120'**  
**Pipe 1.06' Above Ground**

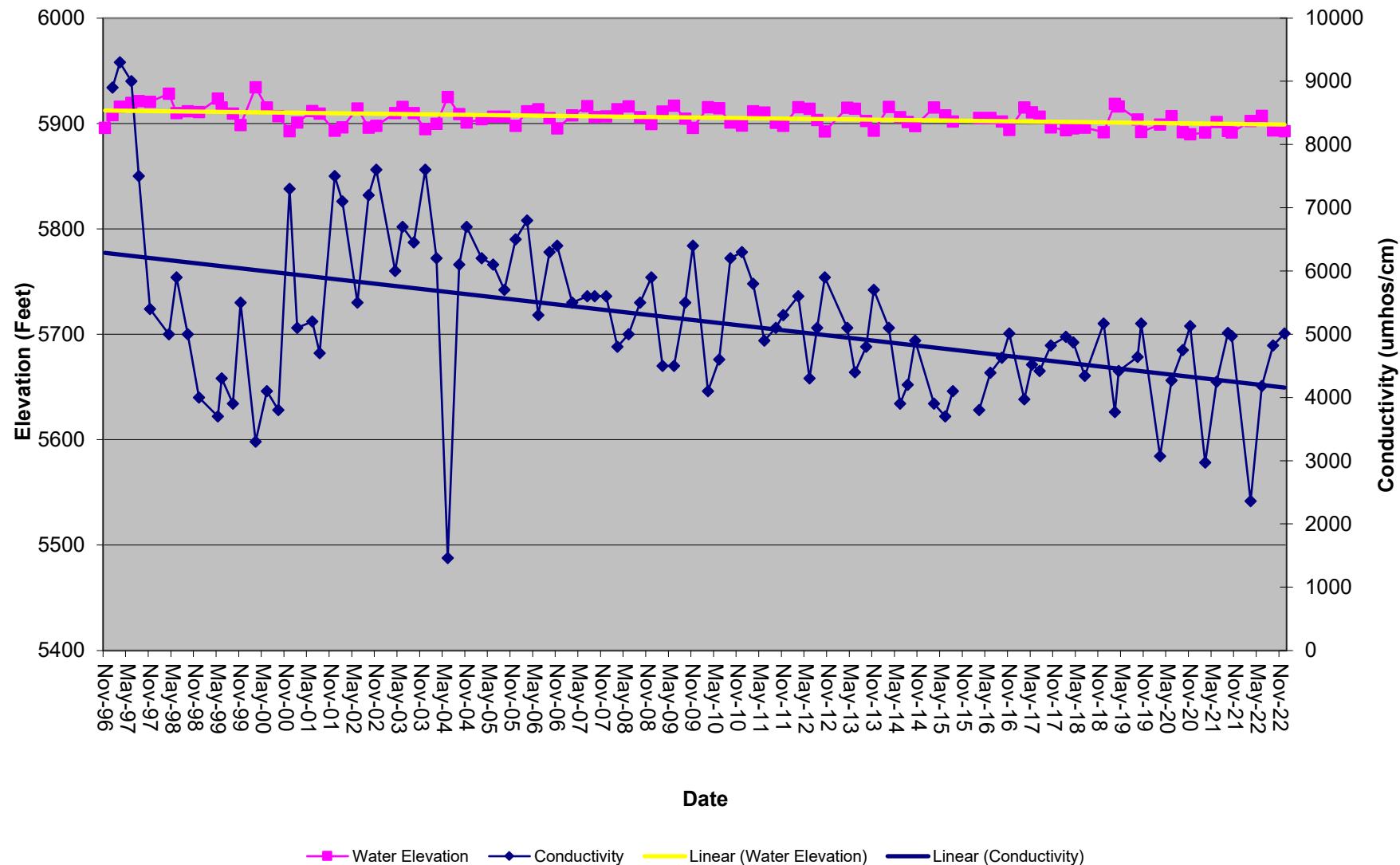
Initiated	11/23/1996	11/23/1996	11/23/1996	11/23/1996
Activated	3/27/1997	3/27/1997	3/27/1997	3/27/1997
Date	12/1/2022	9/27/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information			Operation					
		Baseline Min	Ave	Max	Operation Min	Ave	Max			
Static Water Level	Feet	61.92	71.25	82.01	43.44	72.00	88.10	85.1	84.3	70.6
Water Elevation	Feet	5895.7	5906.5	5915.8	5889.7	5905.8	5934.3	5892.66	5893.46	5907.16
FieldComment										
ph	su	7.1	7.2	7.3	7.0	7.4	12.9	7.51	7.7	7.27
Conductivity	umhos/cm	8900	9100	9300	1460	5149	9000	5010	4820	4180
Temperature	Celsius	10.2	11.3	12.4	8.7	28.5	1590.0	13.6	1590	15.3
Lab Parameters	UNITS									
Bicarbonate	mg/L	641	649	657	214.0	612.8	1165.2			733
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL	0.83	10.76			<MDL
Chloride	mg/L	77	78	79	8.5	154.9	318.5			152
Conductivity	umhos/cm	6480	7230	7980	894	5091	8610			4000
Hardness	mg/L	2750	2895	3040	<MDL	1435	4511			1230
Nitrate-Nitrite	mg/L	5.7	6.5	7.3	<MDL	3.63	11.20			2.31
Ammonia	mg/L	0.07	0.11	0.14	<MDL	0.49	8.10			<MDL
pH	su	7.4	7.6	7.8	0.0	7.4	8.5			8
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.03	0.22			0.023
ResidueFilterable-TDS	mg/L	7990	8200	8410	787	4438	8710			3170
Sulfate	mg/L	5140	5220	5300	135	2372	8330			1560
Arsenic (Dissolved)	mg/L	<MDL	0	0	<MDL	0	1			<MDL
Cadmium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.015	0.050			0.000105
Calcium (Dissolved)	mg/L	316	327	338	23.4	171.5	360.0			151
Iron (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.12	1.75			<MDL
Iron (TREC)	mg/L	0.13	0.41	0.70	0.01	0.58	2.37			0.607
Magnesium (Dissolved)	mg/L	476	505	533	53.8	281.4	961.5			206
Manganese (Dissolved)	mg/L	<MDL	0.03	0.05	<MDL	0.034	0.490			<MDL
Manganese (TREC)	mg/L	0.01	0.03	0.06	<MDL	1.525	7.440			0.049
Mercury (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00005	0.00024			<MDL
Selenium (Dissolved)	mg/L	0.026	0.031	0.035	0.001	0.219	7.400			0.00872
Sodium (Dissolved)	mg/L	1550	1625	1700	253.0	889.7	1867.5			545
Zinc (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.02	0.11			<MDL

Alluvial Wells AW-1 through AW-6 are located north of Old State Highway 133, near the entrance to the mine.

Bowie Resources, LLC  
 Bowie No. 2 Mine  
 2022 Annual Hydrology Report

**Plot of Conductivity and Water Level**



**AW-2**  
**Alluvial Well**  
**Top of Pipe Elevation - 5966.2'**  
**Depth - 50.4'**  
**Pipe 1.32' Above Ground**

Initiated	11/23/1996	11/23/1996	11/23/1996	11/23/1996
Activated	3/27/1997	3/27/1997	3/27/1997	3/27/1997
Date	12/1/2022	9/27/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information									
		Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Static Water Level	Feet	50.35	50.65	50.81	35.55	47.33	54.90	45.8	45.2	45.3	45.2
Water Elevation	Feet	5915.8	5916.0	5916.3	5911.7	5919.3	5931.1	5920.82	5921.42	5921.32	5921.42
FieldComment		Damp						DRY	DRY	DRY	
pH	su				6.8	7.1	7.7	7.29			
Conductivity	umhos/cm				989	6677	10610	989			
Temperature	Celsius				10.5	14.6	18.4	13.7			
Lab Parameters											
Bicarbonate	mg/L				345.18	792.65	1080.00				
Carbonate	mg/L				<MDL	235.47	908.00				
Chloride	mg/L				54.50	175.07	370.63				
Conductivity	umhos/cm				3770	8012	12510				
Hardness	mg/L				241.87	2845.46	4540.00				
Nitrate-Nitrite	mg/L				<MDL	3.12	9.65				
Ammonia	mg/L				<MDL	1.40	4.60				
pH	su				6.7	7.5	8.4				
Phosphate	mg/L				<MDL	0.07	0.25				
ResidueFilterable-TDS	mg/L				319	7505	11300				
Sulfate	mg/L				235	3913	6960				
Arsenic (Dissolved)	mg/L				<MDL	0.179	1.795				
Cadmium (Dissolved)	mg/L				<MDL	0.0345	0.1100				
Calcium (Dissolved)	mg/L				33	328	518				
Iron (Dissolved)	mg/L				0.02	0.09	0.26				
Iron (TREC)	mg/L				0.04	1.51	13.60				
Magnesium (Dissolved)	mg/L				170	547	970				
Manganese (Dissolved)	mg/L				<MDL	0.15	0.89				
Manganese (TREC)	mg/L				0.01	0.40	3.90				
Mercury (Dissolved)	mg/L				<MDL	0.04060	0.77000				
Selenium (Dissolved)	mg/L				0.00	0.06	0.54				
Sodium (Dissolved)	mg/L				21.0	1158.7	2212.5				
Zinc (Dissolved)	mg/L				<MDL	0.04	0.08				

Alluvial Wells AW-1 through AW-6 are located north of Old State Highway 133, near the entrance to the mine.

There is no Baseline Collection possible for points initiated after the influence of mining.

**AW-3**  
**Alluvial Well**  
**Top of Pipe Elevation - 5962.96'**  
**Depth - 150'**  
**Pipe 1.16' Above Ground**

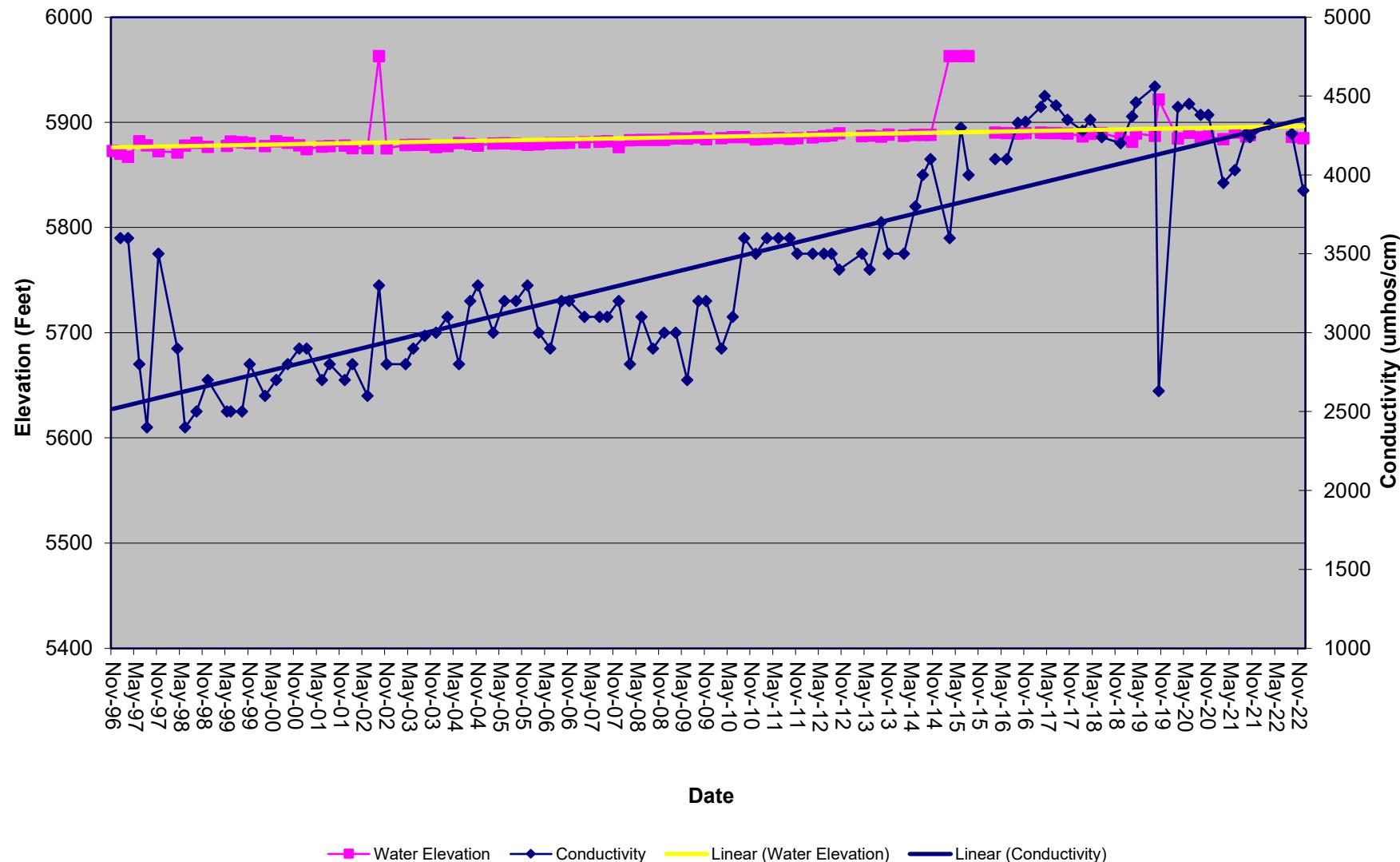
Initiated	11/23/1996	11/23/1996	11/23/1996	11/23/1996
Activated	3/27/1997	3/27/1997	3/27/1997	3/27/1997
Date	12/1/2022	9/27/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information									
		Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Static Water Level	Feet	90.23	92.97	95.82	0.00	78.44	91.54	77.9	75.3	72.3	75.4
Water Elevation	Feet	5867.1	5870.0	5872.7	5871.4	5884.5	5963.0	5885.06	5887.66	5890.66	5887.56
FieldComment									Dry		
ph	su	6.9	7.0	7.1	6.8	14.5	675.0	7.29	7.38		7.61
Conductivity	umhos/cm	3600	3600	3600	2400	3421	4560	3900	4260		4320
Temperature	Celsius	11.2	12.8	14.4	7.6	13.6	15.8	13.6	14.7		13.9
Lab Parameters	UNITS										
Bicarbonate	mg/L	851	976	1100	40	606	1080				
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL	0.83	10.76				
Chloride	mg/L	119	128	136	33.77	148.85	367.00				
Conductivity	umhos/cm	2800	2975	3150	1817	3267	4580				
Hardness	mg/L	1280	1325	1370	<MDL	1684	3354				
Nitrate-Nitrite	mg/L	<MDL	<MDL	<MDL	0.03	3.00	10.20				
Ammonia	mg/L	1.66	1.90	2.13	<MDL	0.36	2.00				
pH	su	7.2	7.3	7.5	6.9	7.5	8.5				
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.89	21.80				
ResidueFilterable-TDS	mg/L	2390	2415	2440	1750	2774	4130				
Sulfate	mg/L	870	875	880	760	1300	2030				
Arsenic (Dissolved)	mg/L	<MDL	0.001	0.001	<MDL	0.976	28.900				
Cadmium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.009	0.040				
Calcium (Dissolved)	mg/L	201	206	210	90.5	256.3	505.0				
Iron (Dissolved)	mg/L	0.19	0.33	0.46	<MDL	0.53	8.22				
Iron (TREC)	mg/L	8.00	8.23	8.46	0.03	2.57	27.50				
Magnesium (Dissolved)	mg/L	189	197	205	136	271	661				
Manganese (Dissolved)	mg/L	0.10	0.11	0.13	<MDL	0.144	1.280				
Manganese (TREC)	mg/L	0.12	0.12	0.12	0.008	3.732	111.000				
Mercury (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00007	0.00035				
Selenium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.017	0.134				
Sodium (Dissolved)	mg/L	421	433	445	105	235	682				
Zinc (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.02	0.10				

Alluvial Wells AW-1 through AW-6 are located north of Old State Highway 133, near the entrance to the mine.

There is no Baseline Collection possible for points initiated after the influence of mining.

### Plot of Conductivity and Water Level



Bowie Resources, LLC  
 Bowie No. 2 Mine  
 2022 Annual Hydrology Report

Ground Water

AW-4  
 Alluvial Well  
 Top of Pipe Elevation - 5977.2'  
 Depth - 60'  
 Pipe 1.12' Above Ground

Initiated	11/23/1996	11/23/1996	11/23/1996	11/23/1996
Activated	3/27/1997	3/27/1997	3/27/1997	3/27/1997
Date	12/1/2022	9/28/2022	6/6/2022	3/28/2022

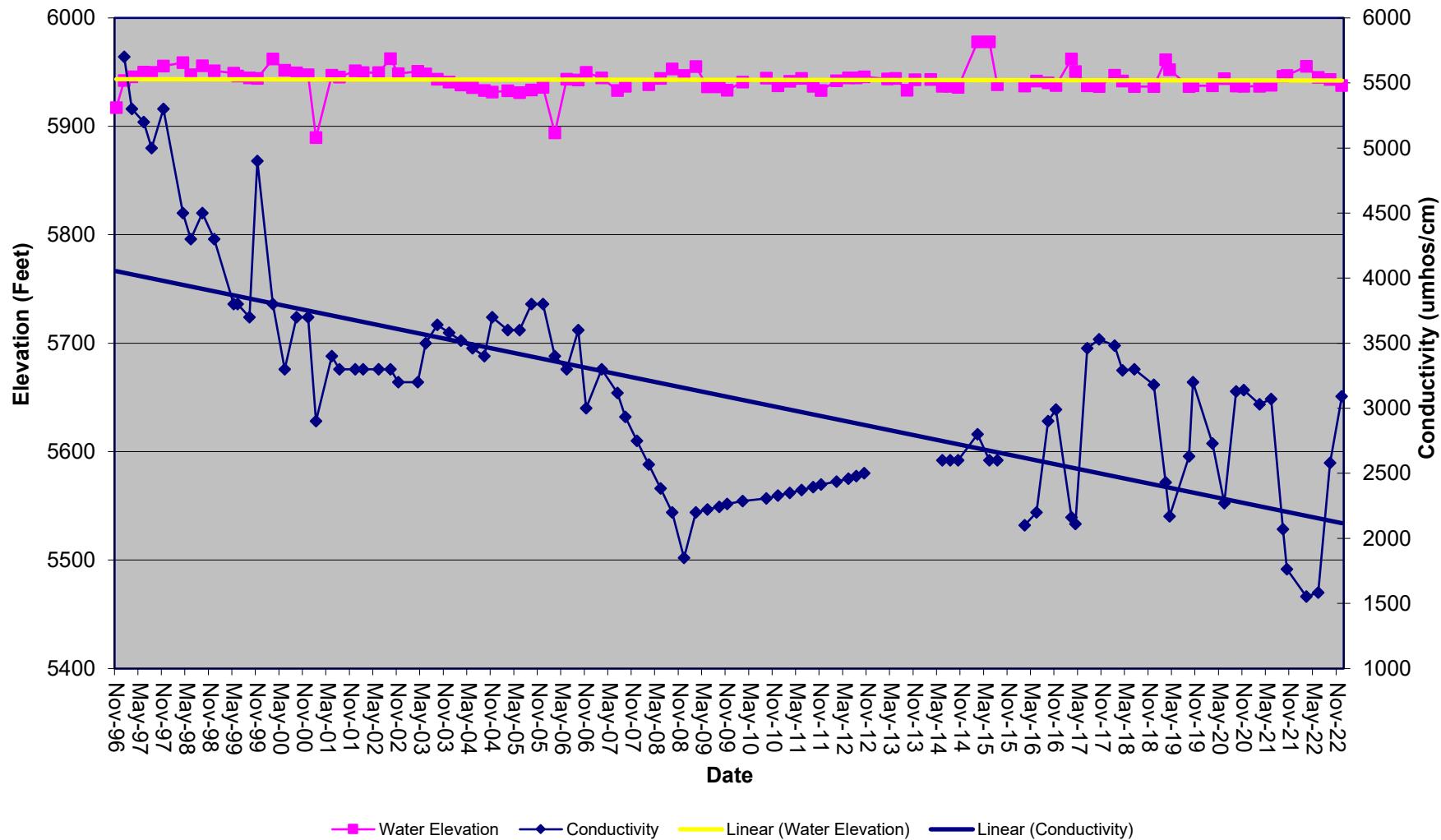
Field Parameters	UNITS	Summary Information									
		Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Static Water Level	Feet	32.42	42.94	60.78	15.54	35.28	88.38	40.2	34.7	32.7	22.6
Water Elevation	Feet	5917.1	5935.0	5945.5	5889.5	5942.6	5962.4	5937.72	5943.22	5945.22	5955.32
FieldComment											
pH	su	6.8	6.9	7.0	6.7	7.3	8.2	7.75	7.85	7.42	7.9
Conductivity	umhos/cm	5300	5500	5700	1553	3164	5300	3090	2580	1583	1553
Temperature	Celsius	11.2	11.9	12.6	8.0	12.3	15.5	8.6	12.4	14.8	13.6
Lab Parameters		UNITS									
Bicarbonate	mg/L	624	707	790	316.1	535.8	758.0		392		
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL	0.37	4.49		<MDL		
Chloride	mg/L	57	60	63	31	133	227		44.2		
Conductivity	umhos/cm	3880	4495	5110	1520	3302	9490		1520		
Hardness	mg/L	2650	2670	2690	<MDL	1017	2730		487		
Nitrate-Nitrite	mg/L	0.10	0.21	0.32	<MDL	0.56	6.75		0.051		
Ammonia	mg/L	0.09	0.22	0.34	<MDL	0.63	6.60		0.098		
pH	su	7.1	7.3	7.5	7.1	7.6	8.3		8.1		
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.97	21.30		0.2		
ResidueFilterable-TDS	mg/L	4830	5080	5330	1020	2663	4990		1020		
Sulfate	mg/L	2620	2920	3220	405	1263	2760		405		
Arsenic	mg/L	<MDL	<MDL	<MDL	<MDL	0.006	0.042		<MDL		
Cadmium	mg/L	<MDL	<MDL	<MDL	<MDL	0.00469	0.03000		<MDL		
Calcium	mg/L	465	481	496	19.8	211.0	496.0		213		
Iron (Dissolved)	mg/L	<MDL	0.04	0.07	<MDL	0.10	0.73		<MDL		
Iron (TREC)	mg/L	0.10	0.14	0.17	0.07	2.72	69.20		0.227		
Magnesium (Dissolved)	mg/L	353	357	361	71	166	362		351		
Manganese (Dissolved)	mg/L	0.22	0.43	0.64	<MDL	0.61	1.52		<MDL		
Manganese (TREC)	mg/L	0.18	0.40	0.62	0.03	60.36	1270.00		0.034		
Mercury	mg/L	<MDL	<MDL	<MDL	<MDL	0.00006	0.00030		<MDL		
Selenium	mg/L	<MDL	0.0005	0.0010	<MDL	0.0038	0.0354		0.0354		
Sodium	mg/L	590	646	702	199	372	684		400		
Zinc	mg/L	<MDL	<MDL	<MDL	<MDL	0.02	0.07		<MDL		

\*Small bailer won't reach water, casing pinched

Alluvial Wells AW-1 through AW-6 are located north of Old State Highway 133, near the entrance to the mine.

There is no Baseline Collection possible for points initiated after the influence of mining.

### Plot of Conductivity and Water Level



**AW-5 Alluvial Well**  
**Top of Pipe Elevation - 5982.14'**  
**Depth - 100'**  
**Pipe 1.14' Above Ground**

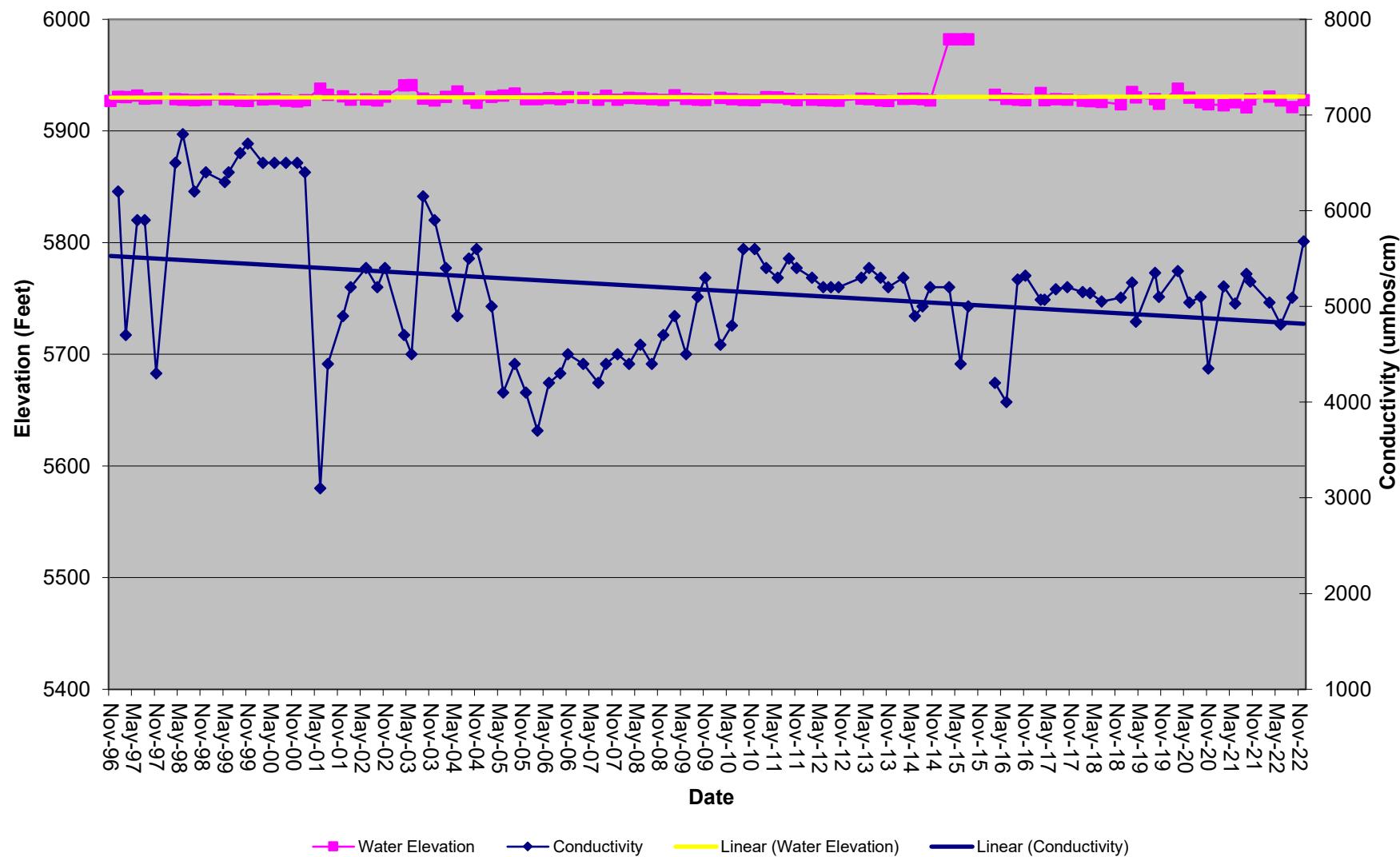
Initiated	11/23/1996	11/23/1996	11/23/1996	11/23/1996
Activated	3/27/1997	3/27/1997	3/27/1997	3/27/1997
Date	12/1/2022	9/28/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information					
		Baseline			Operation		
		Min	Ave	Max	Min	Ave	Max
Static Water Level	Feet	51.65	52.95	55.26	41.03	53.19	61.10
Water Elevation	Feet	5926.9	5929.2	5930.5	5921.0	5928.9	5941.1
FieldComment							
ph	su	7.1	7.2	7.3	6.6	7.5	51.8
Conductivity	umhos/cm	4700	5450	6200	3100	5169	6800
Temperature	Celsius	12.8	13.7	14.6	7.1	14.2	16.9
Lab Parameters	UNITS						
Bicarbonate	mg/L	566	658	750	99.05	745.16	1100.00
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL	0.98	10.76
Chloride	mg/L	49	51	52	29.0	256.2	636.5
Conductivity	umhos/cm	4270	4890	5510	378	5003	6650
Hardness	mg/L	3330	3380	3430	<MDL	2527	5318
Nitrate-Nitrite	mg/L	34.4	35.2	36.0	<MDL	14.40	46.70
Ammonia	mg/L	0.10	0.11	0.13	<MDL	0.55	2.03
pH	su	7.2	7.4	7.6	6.7	7.4	8.4
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.139	3.240
ResidueFilterable-TDS	mg/L	5390	5580	5770	3270	4721	6760
Sulfate	mg/L	3140	3385	3630	977	2320	4550
Arsenic (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.067	0.552
Cadmium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.01470	0.0690
Calcium (Dissolved)	mg/L	291	298	305	27.6	254.1	451.0
Iron (Dissolved)	mg/L	<MDL	0.03	0.06	<MDL	0.038	0.106
Iron (TREC)	mg/L	0.10	0.11	0.12	<MDL	9.11	385.00
Magnesium (Dissolved)	mg/L	633	642	650	253	516	1158
Manganese (Dissolved)	mg/L	<MDL	0.01	0.02	<MDL	0.011	0.044
Manganese (TREC)	mg/L	0.01	0.01	0.02	<MDL	0.025	0.220
Mercury (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00005	0.00035
Selenium (Dissolved)	mg/L	0.03	0.03	0.03	0.002	0.031	0.250
Sodium (Dissolved)	mg/L	523	531	539	204	427	825
Zinc (Dissolved)	mg/L	<MDL	0.01	0.03	<MDL	0.025	0.070

Alluvial Wells AW-1 through AW-6 are located north of Old State Highway 133, near the entrance to the mine.

There is no Baseline Collection possible for points initiated after the influence of mining.

### Plot of Conductivity and Water Level



Bowie Resources, LLC  
 Bowie No. 2 Mine  
 2022 Annual Hydrology Report

Ground Water

AW-6  
 Alluvial Well  
 Top of Pipe Elevation - 5981.18'  
 Depth - 112'  
 Pipe 1.38' Above Ground

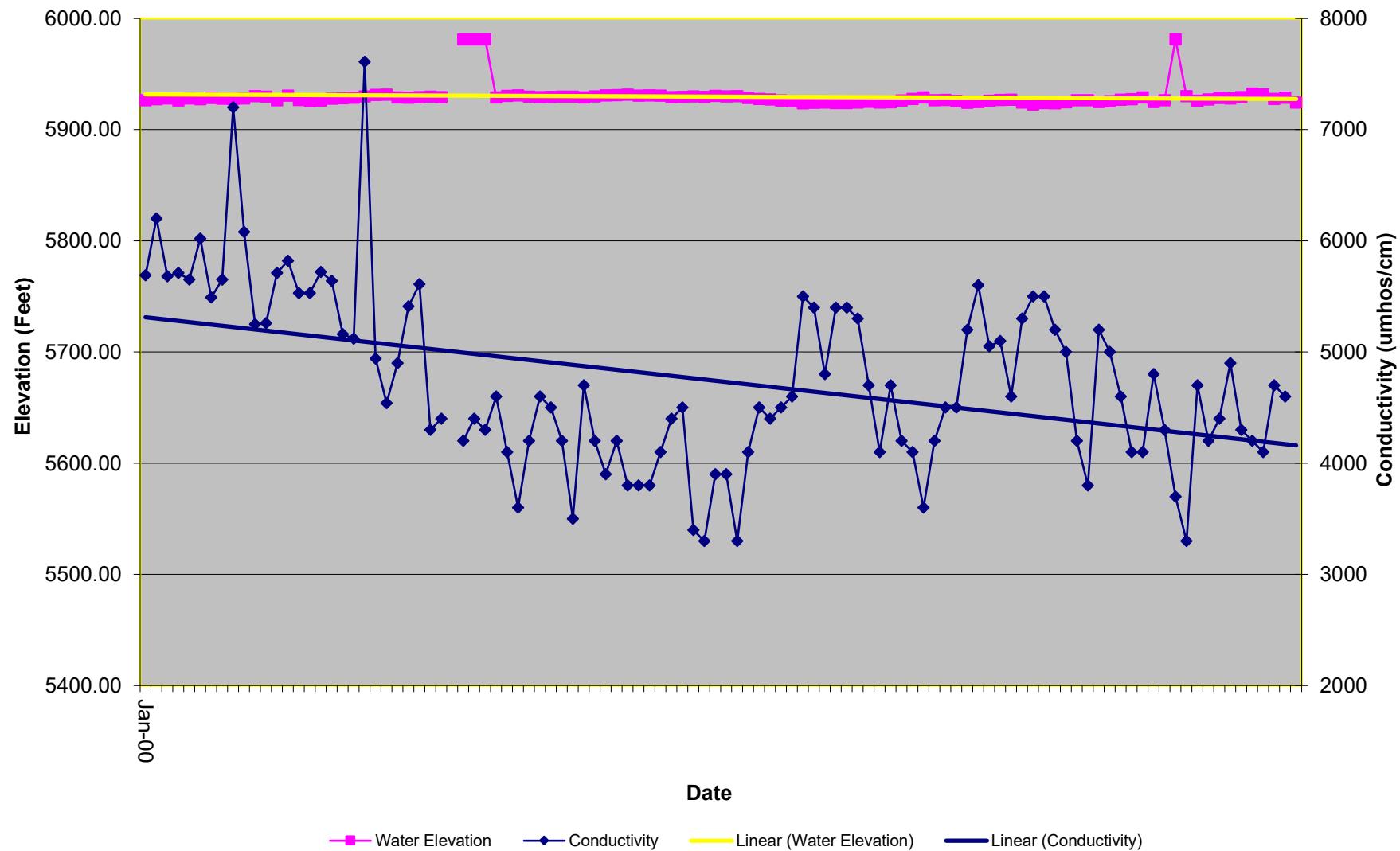
Initiated	11/23/1996	11/23/1996	11/23/1996	11/23/1996
Activated	3/27/1997	3/27/1997	3/27/1997	3/27/1997
Date	12/1/2022	9/28/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information						Operation Min	Operation Ave	Operation Max
		Baseline Min	Baseline Ave	Baseline Max	Operation Min	Operation Ave	Operation Max			
Static Water Level	Feet	52.62	54.37	56.82	0.00	52.96	58.61	54.8	53.2	53.1
Water Elevation	Feet	5924.4	5926.8	5928.6	5922.6	5928.2	5981.2	5926.38	5927.98	5928.08
FieldComment										
ph	su	7.3	7.4	7.4	7.0	7.3	8.5	7.48	7.67	7.23
Conductivity	umhos/cm	4600	4650	4700	3300	4742	7610	5690	6200	5680
Temperature	Celsius	12.4	13.5	14.6	11.6	14.1	17.8	13.3	13.7	16.1
Lab Parameters	UNITS									
Bicarbonate	mg/L	278	317	355	217.4	392.5	521.0			400
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL			<MDL
Chloride	mg/L	107	114	120	54.5	138.6	577.8			<MDL
Conductivity	umhos/cm	2580	3305	4030	3125	4537	7450			5490
Hardness	mg/L	1880	1925	1970	<MDL	1809	4787			2350
Nitrate-Nitrite	mg/L	7.3	8.1	8.8	0.0	5.0	9.0			4.2
Ammonia	mg/L	0.07	0.07	0.07	<MDL	0.36	1.56			<MDL
pH	su	7.5	7.6	7.7	7.0	7.6	8.3			8.0
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.79	21.80			0.651
ResidueFilterable-TDS	mg/L	3910	3995	4080	2440	4210	5770			5230
Sulfate	mg/L	2300	2300	2300	968	2920	33080			3140
Arsenic (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.093	0.650			<MDL
Cadmium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.011	0.040			<MDL
Calcium (Dissolved)	mg/L	248	254	260	37	235	327			301
Iron (Dissolved)	mg/L	<MDL	0.14	0.27	<MDL	0.06	0.26			<MDL
Iron (TREC)	mg/L	0.26	0.31	0.37	0.06	0.50	4.74			0.487
Magnesium (Dissolved)	mg/L	307	315	322	0.0	316.6	1015.6			388
Manganese (Dissolved)	mg/L	0.07	0.18	0.29	<MDL	0.514	15.500			<MDL
Manganese (TREC)	mg/L	0.11	0.20	0.29	<MDL	0.102	0.350			0.074
Mercury (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00008	0.00070			<MDL
Selenium (Dissolved)	mg/L	0.05	0.06	0.06	0.001	0.067	0.380			0.0351
Sodium (Dissolved)	mg/L	501	514	526	306.9	538.7	965.0			593
Zinc (Dissolved)	mg/L	<MDL	0.05	0.11	<MDL	0.02	0.07			<MDL

Alluvial Wells AW-1 through AW-6 are located north of Old State Highway 133, near the entrance to the mine.

There is no Baseline Collection possible for points initiated after the influence of mining.

### Plot of Conductivity and Water Level



**AW-7**  
**Alluvial Well**  
**Top of Pipe Elevation - 5950'**  
**Depth - 188'**  
**Pipe 2.17' Above Ground**

Initiated Activated Date	9/9/1999	9/9/1999	9/9/1999	9/9/1999
	9/9/1999	9/9/1999	9/9/1999	9/9/1999
	12/1/2022	9/28/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information			Operation				
		Baseline Min	Ave	Max	Min	Ave	Max		
Static Water Level	Feet				50.59	76.80	107.80	99.1	84.4
Water Elevation	Feet				5842.2	5873.2	5899.4	5850.9	5865.6
FieldComment									
ph	su				7.1	7.8	8.5	8.21	8.05
Conductivity	umhos/cm				300	1958	3100	2480	1901
Temperature	Celsius				10.3	12.4	14.7	11.8	14.2
Lab Parameters	UNITS								
Bicarbonate	mg/L				<MDL	346.6	511.2		359
Carbonate	mg/L				<MDL	36.9	341.5		8.9
Chloride	mg/L				13.0	131.7	539.0		76.7
Conductivity	umhos/cm				359	1957	3645		1840
Hardness	mg/L				<MDL	453.09	1093.20		327
Nitrate-Nitrite	mg/L				<MDL	1.49	7.92		0.831
Ammonia	mg/L				<MDL	0.199	1.200		<MDL
pH	su				7.1	7.9	8.6		8.3
Phosphate	mg/L				<MDL	0.05	0.31		0.0806
ResidueFilterable-TDS	mg/L				200	1414	2254		1210
Sulfate	mg/L				40.00	588.18	1110.00		518
Arsenic (Dissolved)	mg/L				<MDL	0.033	0.255		<MDL
Cadmium (Dissolved)	mg/L				<MDL	0.007	0.023		<MDL
Calcium (Dissolved)	mg/L				12.8	95.1	687.0		50.6
Iron (Dissolved)	mg/L				<MDL	0.04	0.28		<MDL
Iron (TREC)	mg/L				<MDL	0.28	1.01		0.157
Magnesium (Dissolved)	mg/L				6.3	83.4	619.0		48.7
Manganese (Dissolved)	mg/L				<MDL	0.013	0.060		0.013
Manganese (TREC)	mg/L				<MDL	0.358	4.740		0.044
Mercury (Dissolved)	mg/L				<MDL	0.00006	0.00031		<MDL
Selenium (Dissolved)	mg/L				<MDL	0.065	1.500		0.0053
Sodium (Dissolved)	mg/L				46.7	349.3	1705.0		288
Zinc (Dissolved)	mg/L				<MDL	0.020	0.040		<MDL

The area of concern for monitoring point AW-7 was affected by the mining operation before its establishment. Therefore, all recorded monitoring events are considered Operational.

Alluvial Wells AW-7 through AW-9 are located south of Old State Highway 133, near the entrance to the mine.  
 They were installed in 1999 as the result of PR-03.

\*\* Lab. data not provided

**AW-8**  
**Alluvial Well**  
**Top of Pipe Elevation - 5950'**  
**Depth - 60'**  
**Pipe 1.97' Above Ground**

Initiated	9/9/1999	9/9/1999	9/9/1999	9/9/1999
Activated	9/9/1999	9/9/1999	9/9/1999	9/9/1999
Date	12/1/2022	9/28/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information			Operation			Dry	Dry	Dry	Dry
		Baseline Min	Ave	Max	Min	Ave	Max				
Static Water Level	Feet				11.84	20.44	73.23		19.8	19.8	19.8
Water Elevation	Feet				5876.8	5929.6	5938.2		5930.2	5930.2	5930.2
FieldComment								Dry	Dry	Dry	Dry
pH	su				8.2	9.0	9.8				
Conductivity	umhos/cm				260	360	460				
Temperature	Celsius				13.2	13.9	14.7				
Lab Parameters	UNITS										
Bicarbonate	mg/L				<MDL	444.0	444.0				
Carbonate	mg/L				<MDL	0.0	0.0				
Chloride	mg/L				<MDL	213.0	213.0				
Conductivity	umhos/cm				<MDL	2020.0	2020.0				
Hardness	mg/L				<MDL	448.0	448.0				
Nitrate-Nitrite	mg/L				<MDL	0.0	0.0				
Ammonia	mg/L				<MDL	0.0	0.0				
pH	su				<MDL	7.9	7.9				
Phosphate	mg/L				<MDL	0.0	0.0				
ResidueFilterable (TDS)	mg/L				<MDL	1580.0	1580.0				
Sulfate	mg/L				<MDL	638.0	638.0				
Arsenic	mg/L				<MDL	0.0	0.0				
Cadmium	mg/L				<MDL	0.0	0.0				
Calcium	mg/L				<MDL	710.0	710.0				
Iron (Dissolved)	mg/L				<MDL	0.0	0.0				
Iron (TREC)	mg/L				<MDL	0.1	0.1				
Magnesium	mg/L				<MDL	65.8	65.8				
Manganese (Dissolved)	mg/L				<MDL	0.0	0.0				
Manganese (Total)	mg/L				<MDL	0.0	0.0				
Mercury	mg/L				<MDL	0.0	0.0				
Selenium	mg/L				<MDL	0.0	0.0				
Sodium	mg/L				<MDL	367.0	367.0				
Zinc	mg/L				<MDL	0.0	0.0				

The area of concern for monitoring point AW-8 was affected by the mining operation before its establishment. Therefore, all recorded monitoring events are considered Operational.

Alluvial Wells AW-7 through AW-9 are located south of Old State Highway 133, near the entrance to the mine.  
 They were installed in 1999 as the result of PR-03.

\* Lab. data not provided

AW-9  
**Alluvial Well**  
**Top of Pipe Elevation - 5946**  
**Depth - 80'**  
**Pipe 1.15' Above Ground**

Initiated	10/1/1999	10/1/1999	10/1/1999	10/1/1999
Activated	10/1/1999	10/1/1999	10/1/1999	10/1/1999
Date	12/1/2022	9/28/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information			Operation				
		Baseline Min	Ave	Max	Min	Ave	Max		
Static Water Level	Feet				32.42	55.86	81.60	80	69.9
Water Elevation	Feet				51.1	5826.8	5913.6	5866	5876.1
FieldComment								Dry	
ph	su				7.0	7.8	8.6		8.13
Conductivity	umhos/cm				260	1649	4400		987
Temperature	Celsius				7.6	11.7	14.9		13.9
Lab Parameters		UNITS							
Bicarbonate	mg/L				39.6	296.6	479.0		248
Carbonate	mg/L				<MDL	7.23	13.70		11.4
Chloride	mg/L				3.0	121.3	544.5		10.3
Conductivity	umhos/cm				519	1664	4350		760
Hardness	mg/L				<MDL	464.6	1530.0		161
Nitrate-Nitrite	mg/L				<MDL	1.86	7.92		0.343
Ammonia	mg/L				<MDL	0.16	1.10		<MDL
pH	su				7.4	7.9	8.5		8.4
Phosphate	mg/L				<MDL	1.50	21.60		0.0744
ResidueFilterable-TDS	mg/L				330	1188	3800		464
Sulfate	mg/L				21.8	446.5	2100.0		130
Arsenic (Dissolved)	mg/L				<MDL	0.0419	0.2880		<MDL
Cadmium (Dissolved)	mg/L				<MDL	0.00640	0.0220		<MDL
Calcium (Dissolved)	mg/L				24.1	66.7	230.0		26.4
Iron (Dissolved)	mg/L				<MDL	0.19	3.59		<MDL
Iron (TREC)	mg/L				<MDL	4.27	122.00		0.172
Magnesium (Dissolved)	mg/L				20.7	75.7	280.0		23.2
Manganese (Dissolved)	mg/L				<MDL	0.018	0.155		<MDL
Manganese (TREC)	mg/L				<MDL	0.453	11.400		<MDL
Mercury (Dissolved)	mg/L				<MDL	0.00007	0.00036		<MDL
Selenium (Dissolved)	mg/L				<MDL	0.116	3.100		0.00311
Sodium (Dissolved)	mg/L				22.1	296.8	1998.0		108
Zinc (Dissolved)	mg/L				<MDL	0.02	0.11		<MDL

The area of concern for monitoring point AW-9 was affected by the mining operation before its establishment. Therefore, all recorded monitoring events are considered Operational.

Alluvial Wells AW-7 through AW-9 are located south of Old State Highway 133, near the entrance to the mine.  
 They were installed in 1999 as the result of PR-03.

\*\* Lab. data not provided

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Ground Water

AW-11  
 Alluvial Well  
 Elevation - 5884  
 Depth - 60.86'

Initiated	12/20/2000	12/20/2000	12/20/2000	12/20/2000
Activated	2/28/2002	2/28/2002	2/28/2002	2/28/2002
Date	12/1/2022	9/28/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information						Operation			
		Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Static Water Level	Feet	11.92	38.20	50.31	19.13	43.89	57.60	53.1	40.7	33.6	52.3
Water Elevation	Feet	5833.7	5845.8	5872.1	5826.4	5840.1	5864.9	5830.9	5843.3	5850.4	5831.7
FieldComment											
pH	su	6.7	7.3	7.5	6.9	25.9	1453.0	7.65	7.92	7.38	1453
Conductivity	umhos/cm	390	760	1060	480	1087	1719	1190	1337	1482	1453
Temperature	Celsius	11.2	13.4	15.7	7.5	12.8	16.1	10.6	14.7	15.1	13.6
Lab Parameters	UNITS										
Bicarbonate	mg/L	350	367	384	177.3	314.8	536.0				455
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL	5.02	6.88				<MDL
Chloride	mg/L	2	3	3	<MDL	38.4	255.2				38.2
Conductivity	umhos/cm	671	850	1030	661	1105	2870				1420
Hardness	mg/L	587	587	587	265.0	538.3	911.7				649
Nitrate-Nitrite	mg/L	0.10	0.28	0.56	<MDL	0.66	2.70				1
Ammonia	mg/L	<MDL	0.05	0.08	<MDL	0.12	0.43				<MDL
pH	su	7.2	7.5	7.8	7.1	7.8	8.5				8.1
Phosphate	mg/L	<MDL	0.14	0.39	<MDL	1.15	20.60				0.0527
ResidueFilterable-TDS	mg/L	360	553	690	350	759	2150				960
Sulfate	mg/L	20	150	250	4.94	216.90	510.00				325
Arsenic (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.022	0.280				<MDL
Cadmium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.010	0.030				<MDL
Calcium (Dissolved)	mg/L	70.6	92.9	110.0	30.8	128.4	765.0				123
Iron (Dissolved)	mg/L	0.02	0.04	0.05	<MDL	0.19	2.46				<MDL
Iron (TREC)	mg/L	0.07	4.93	9.97	<MDL	2.44	24.30				0.904
Magnesium (Dissolved)	mg/L	46.2	64.6	75.8	37.5	109.8	748.0				82.9
Manganese (Dissolved)	mg/L	<MDL	0.02	0.03	<MDL	0.403	5.400				<MDL
Manganese (TREC)	mg/L	<MDL	0.34	0.57	<MDL	0.363	2.540				0.026
Mercury (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00008	0.00027				<MDL
Selenium (Dissolved)	mg/L	<MDL	0.001	0.002	<MDL	0.011	0.116				0.0144
Sodium (Dissolved)	mg/L	12.70	19.37	22.9	11.0	45.4	125.0				75.2
Zinc (Dissolved)	mg/L	<MDL	0.01	0.02	<MDL	0.02	0.07				<MDL

\* Could not access site

Alluvial Wells AW-11 through AW-13 are located north of the Union Pacific Railroad. They were installed in 2000 to develop baseline data for a new train loadout.

Baseline Information for AW-11 is derived from events beginning on 12/20/00 through 2/28/02.  
 Point influenced by mining on 2/28/02.

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**Ground Water**

**AW-12**  
**Alluvial Well**  
**Elevation - 5878'**  
**Depth - 45.38'**

Initiated	12/20/2000	12/20/2000	12/20/2000	12/20/2000
Activated	2/28/2002	2/28/2002	2/28/2002	2/28/2002
Date	12/1/2022	9/28/2022	6/6/2022	3/28/2022

Field Parameters	UNITS	Summary Information									
		Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Static Water Level	Feet	6.49	26.717	37.03	5.31	25.76	62.10	39.5	15.7	9.7	38.8
Water Elevation	Feet	5841.0	5851.3	5871.5	5815.9	5852.2	5872.7	5838.5	5862.3	5868.3	5839.2
Field Comment											
pH	su	7.1	7.5	7.7	6.7	7.5	8.1	7.5	7.9	7.5	7.9
Conductivity	umhos/cm	490	567	610	485	688	1640	695.0	638.0	687.0	712.0
Temperature	Celsius	10.4	13.0	16.1	7.6	13.0	16.3	10.7	15.0	15.0	14.2
Lab Parameters	UNITS										
Bicarbonate	mg/L	297	336.33	371	265.95	368.56	471.43				339
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL	5.69	8.99				<MDL
Chloride	mg/L	2	2	2	<MDL	12.9	119.0				2.43
Conductivity	umhos/cm	548	571	609	473	757	3170				647
Hardness	mg/L	318	318	318	237.0	356.8	674.3				306
Nitrate-Nitrite	mg/L	0.45	0.4733	0.51	<MDL	0.70	2.15				0.687
Ammonia	mg/L	<MDL	0.09	0.27	<MDL	0.12	0.52				<MDL
pH	su	7.4	7.6333	7.9	7.1	7.8	8.5				8.2
Phosphate	mg/L	<MDL	0.0167	0.05	<MDL	0.17	1.04				0.0806
Residue Filterable-TDS	mg/L	310	330	340	221	470	2450				376
Sulfate	mg/L	10	13.333	20	<MDL	20.4	42.4				15.9
Arsenic (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.011	0.140				<MDL
Cadmium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.011	0.040				<MDL
Calcium (Dissolved)	mg/L	51.9	54.8	57.4	3.8	163.1	677.0				71.1
Iron (Dissolved)	mg/L	0.02	8.3167	24.9	<MDL	0.61	10.28				0.07
Iron (TREC)	mg/L	0.05	42.55	83.7	<MDL	27.23	806.00				0.536
Magnesium (Dissolved)	mg/L	<MDL	25.433	42.4	<MDL	77.8	368.0				31.3
Manganese (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.075	0.621				<MDL
Manganese (TREC)	mg/L	<MDL	0.864	2.050	<MDL	4.335	119.000				0.013
Mercury (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.00008	0.00028				<MDL
Selenium (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.006	0.060				0.00055
Sodium (Dissolved)	mg/L	19.5	20.633	21.2	13.8	43.6	202.0				15.7
Zinc (Dissolved)	mg/L	<MDL	0.0033	0.01	<MDL	0.02	0.08				<MDL

\* Could not access site

\*\* Not enough water for sample/parameters

Alluvial Wells AW-11 through AW-13 are located north of the Union Pacific Railroad. They were installed in 2000 to develop baseline data for a new train loadout.

Baseline Information for AW-12 is derived from events beginning on 12/20/00 through 2/28/02.  
Point influenced by mining on 2/28/02.

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Ground Water

AW-14  
 Alluvial Well  
 Depth - 30'  
 Elevation - 5822  
 Pipe 0.78' Above Ground

Initiated	7/24/2003	7/24/2003	7/24/2003	7/24/2003
Activated	7/24/2003	7/24/2003	7/24/2003	7/24/2003
Date	12/1/2022	9/28/2022	6/7/2022	3/28/2022

Field Parameters	UNITS	Summary Information			Operation			Min	Ave	Max
		Baseline	Min	Ave	Max	Min	Ave			
Static Water Level	Feet				4.98	7.62	12.10		8.6	7.7
Water Elevation	Feet				5809.9	5814.4	5817.0		5813.4	5814.3
Field Comment										
pH	su				6.8	7.5	8.1		7.68	7.4
Conductivity	umhos/cm				2	1684	2790		1387	1802
Temperature	Celsius				7.6	12.2	15.7		15.5	13
Lab Parameters	UNITS									
Bicarbonate	mg/L				238.2	379.3	552.3			432
Carbonate	mg/L				<MDL	12.4	20.0			<MDL
Chloride	mg/L				2.0	140.5	397.0			<MDL
Conductivity	umhos/cm				650	1627	2860			1730
Hardness	mg/L				237.0	809.0	1770.2			729
Nitrate-Nitrite	mg/L				<MDL	0.7	2.7			0.131
Ammonia	mg/L				<MDL	0.66	7.61			<MDL
pH	su				6.9	7.6	8.5			8.1
Phosphate	mg/L				<MDL	1.16	20.40			0.011
Residue Filterable-TDS	mg/L				610	1226	1950			1190
Sulfate	mg/L				67.6	403.5	677.0			348
Arsenic (Dissolved)	mg/L				0.0002	0.041	0.922			0.00034
Cadmium (Dissolved)	mg/L				<MDL	0.010	0.030			<MDL
Calcium (Dissolved)	mg/L				41.6	130.4	241.0			130
Iron (Dissolved)	mg/L				<MDL	0.86	7.80			0.287
Iron (TREC)	mg/L				0.27	9.46	28.10			12.2
Magnesium-Dissolved	mg/L				7.7	143.2	914.0			98.3
Manganese-Dissolved	mg/L				0.004	0.517	2.160			0.051
Manganese (TREC)	mg/L				0.004	1.733	6.780			2.94
Mercury (Dissolved)	mg/L				<MDL	0.00010	0.00052			<MDL
Selenium (Dissolved)	mg/L				<MDL	0.019	0.116			0.00319
Sodium (Dissolved)	mg/L				40.7	134.8	991.0			112
Zinc (Dissolved)	mg/L				<MDL	0.07	0.99			<MDL

The area of concern for monitoring point AW-14 was affected by the mining operation before its establishment. Therefore all recorded monitoring events are considered operational.

\* Dry

Alluvial Well AW-14 is located southwest of Pond K.

There is no baseline collection possible for points initiated after the influence of mining.

AW-15  
 Alluvial Well  
 Top of Pipe Elevation - 5972.52  
 Depth - 86  
 Pipe 0.3' Above Ground

Initiated	12/29/2003	12/29/2003	12/29/2003	12/29/2003
Activated	9/27/2004	9/27/2004	9/27/2004	9/27/2004
Date	12/1/2022	9/28/2022	6/7/2022	3/28/2022

Field Parameters	UNITS	Summary Information									
		Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Static Water Level	Feet	84.86	85.27	86.00	75.10	83.73	93.70	83	83	83	83.2
Water Elevation	Feet	5886.5	5887.3	5887.7	5878.8	5888.8	5897.4	5889.52	5889.52	5889.52	5889.32
FieldComment		Dry & Damp						Dry	*	*	
pH	su				7.0	7.4	7.9				7.84
Conductivity	umhos/cm				5	4482	5300				4900
Temperature	Celsius				8.4	14.2	19.1				15.1
Lab Parameters											
Bicarbonate	mg/L				507.3	603.1	750.0				
Carbonate	mg/L				<MDL	5.61	6.88				
Chloride	mg/L				119.91	248.18	418.00				
Conductivity	umhos/cm				4416	4742	5412				
Hardness	mg/L				292.0	1117.8	1486.4				
Nitrate-Nitrite	mg/L				<MDL	6.76	11.30				
Ammonia	mg/L				0.269	0.458	0.647				
pH	su				7.11	7.89	8.36				
Phosphate	mg/L				0.06	0.10	0.14				
ResidueFilterable-TDS	mg/L				3388.0	3912.8	4793.3				
Sulfate	mg/L				1563.7	1957.52	2786.42				
Arsenic	mg/L				<MDL	0.019	0.019				
Cadmium	mg/L				<MDL	0.015	0.030				
Calcium	mg/L				46.50	171.45	231.80				
Iron (Dissolved)	mg/L				0.07	1.20	2.84				
Iron (TREC)	mg/L				1.56	2.77	4.49				
Magnesium (Dissolved)	mg/L				42.7	167.5	220.4				
Manganese (Dissolved)	mg/L				0.007	0.237	0.664				
Manganese (TREC)	mg/L				0.060	0.248	0.701				
Mercury	mg/L				0.00003	0.00006	0.00010				
Selenium	mg/L				0.039	0.058	0.077				
Sodium	mg/L				428.25	787.81	1510.00				
Zinc	mg/L				0.018	0.047	0.070				

\*Not enough water for field or lab parameters

\*\* Not enough water for lab sample

Alluvial Wells AW-15 through AW-17 are located north of Old State Highway 133, below the GOB Pile.

AW-16  
 Alluvial Well  
 Top of Pipe Elevation - 5964.67  
 Depth - 75  
 Pipe 0.8' Above Ground

Initiated	12/29/2003	12/29/2003	12/29/2003	12/29/2003
Activated	9/27/2004	9/27/2004	9/27/2004	9/27/2004
Date	12/1/2022	9/28/2022	6/7/2022	3/28/2022

Field Parameters	UNITS	Summary Information						Operation			
		Baseline			Operation			Min	Ave	Max	
		Min	Ave	Max	Min	Ave	Max				
Static Water Level	Feet	68.00	69.23	70.48	61.65	72.77	83.40		73.6	73.6	73.6
Water Elevation	Feet	5894.2	5895.4	5896.7	5881.3	5891.9	5903.0		5891.07	5891.07	5891.07
FieldComment								Dry	Dry	**	**
pH	su	7.9	7.9	7.9	7.0	7.5	8.6				
Conductivity	umhos/cm	740	740	740	8	3961	8510				
Temperature	Celsius	13.7	13.7	13.7	9.9	13.6	16.9				
Lab Parameters		UNITS									
Bicarbonate	mg/L				558.0	610.0	661.9				
Carbonate	mg/L				<MDL	<MDL	<MDL				
Chloride	mg/L				43.6	49.1	54.5				
Conductivity	umhos/cm				5313.4	5876.3	6439.2				
Hardness	mg/L				2304.4	2531.6	2758.8				
Nitrate-Nitrite	mg/L				<MDL	1.49	1.49				
Ammonia	mg/L				<MDL	4.0	4.0				
pH	su				7.7	7.8	8.0				
Phosphate	mg/L				0.60	1.72	2.84				
ResidueFilterable-TDS	mg/L				5604	5770	5935				
Sulfate	mg/L				2903.8	2949.7	2995.6				
Arsenic	mg/L				0.021	0.084	0.146				
Cadmium	mg/L				0.034	0.042	0.050				
Calcium	mg/L				328.8	343.9	359.0				
Iron (Dissolved)	mg/L				0.08	0.08	0.08				
Iron (TREC)	mg/L				0.12	10.08	20.04				
Magnesium (Dissolved)	mg/L				380.3	416.3	452.3				
Manganese (Dissolved)	mg/L				0.0	0.258	0.510				
Manganese (Total)	mg/L				0.0	1.126	2.240				
Mercury	mg/L				0.00005	0.00006	0.00007				
Selenium	mg/L				0.009	0.025	0.040				
Sodium	mg/L				181.8	769.1	1356.5				
Zinc	mg/L				0.02	0.30	0.57				

Alluvial Wells AW-15 through AW-17 are located north of Old State Highway 133, below the GOB Pile.

\*Just enough water for field parameters

\*\*Not enough water for parameters

AW-17  
 Alluvial Well  
 Top of Pipe Elevation - 5950.81  
 Depth - 62  
 Pipe Flush with Ground

Initiated	12/29/2003	12/29/2003	12/29/2003	12/29/2003
Activated	9/27/2004	9/27/2004	9/27/2004	9/27/2004
Date	12/1/2022	9/28/2022	6/7/2022	3/28/2022

Field Parameters	UNITS	Summary Information									
		Baseline			Operation						
		Min	Ave	Max	Min	Ave	Max				
Static Water Level	Feet	38.40	46.51	59.00	26.40	55.54	68.60	60.1	68.6	48.6	45.1
Water Elevation	Feet	5891.8	5904.3	5912.4	5882.2	5895.3	5924.4	5890.71	5882.21	5902.21	5905.71
Field Comment								*	Dry		
pH	su	8.5	8.9	9.7	7.1	7.7	8.4			7.69	8.32
Conductivity	umhos/cm	200	264	320	870	3167	5000			2610	1832
Temperature	Celsius	1.9	7.1	12.2	9.2	12.3	19.8			13.3	13.5
Lab Parameters	UNITS										
Bicarbonate	mg/L	114.6	114.6	114.6	162.54	340.27	641.70			246	
Carbonate	mg/L	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL			<MDL	
Chloride	mg/L	2.57	2.57	2.57	14.7	127.4	224.7			37.1	
Conductivity	umhos/cm	271.7	271.7	271.7	827	3121	5230			2480	
Hardness	mg/L	76	76	76	326	1068	1836			816	
Nitrate-Nitrite	mg/L	3.05	3.05	3.05	<MDL	1.65	4.07			0.52	
Ammonia	mg/L	2.78	2.78	2.78	<MDL	0.45	0.83			<MDL	
pH	su	8.5	8.5	8.5	6.9	7.6	8.3			8.1	
Phosphate	mg/L	<MDL	<MDL	<MDL	<MDL	0.046	0.100			0.06	
Residue Filterable-TDS	mg/L	185	185	185	503	2531	4046			2030	
Sulfate	mg/L	2.1	2.1	2.1	126.36	1290.79	2230.00			1090	
Arsenic (Dissolved)	mg/L	0.016	0.016	0.016	<MDL	0.014	0.032			<MDL	
Cadmium (Dissolved)	mg/L	0.0003	0.0003	0.0003	<MDL	0.023	0.060			<MDL	
Calcium (Dissolved)	mg/L	17.26	17.26	17.26	71.9	208.0	358.8			169	
Iron (Dissolved)	mg/L	0.029	0.029	0.029	0.016	0.158	0.832			0.142	
Iron (TREC)	mg/L	0.117	0.117	0.117	0.090	1.097	10.350			0.91	
Magnesium (Dissolved)	mg/L	8.09	8.09	8.09	35.50	132.12	228.25			95.7	
Manganese (Dissolved)	mg/L	<MDL	<MDL	<MDL	<MDL	0.011	0.023			<MDL	
Manganese (TREC)	mg/L	0.041	0.041	0.041	0.007	18.215	236.000			0.024	
Mercury (Dissolved)	mg/L	<MDL	<MDL	<MDL	0.00002	0.00006	0.00013			<MDL	
Selenium (Dissolved)	mg/L	0.014	0.014	0.014	0.004	0.015	0.046			0.013	
Sodium (Dissolved)	mg/L	12	12	12	40.60	292.26	565.00			296	
Zinc (Dissolved)	mg/L	0.005	0.005	0.005	0.010	0.020	0.036			<MDL	

Alluvial Wells AW-15 through AW-17 are located north of Old State Highway 133, below the GOB Pile.

\* Not enough water for field or lab parameters

\*\*Not enough water for lab sample

P-1  
Stevens Draw - Pond 1  
Depth - 5'  
Elevation - 7080

Date	10/12/2022	8/22/2022	5/2/2022
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Field Parameters	UNITS			
Pond Inflow	GPM	0	0	0
Pond Outflow	GPM	0	0	0
Freeboard	FT	0	0	0
Water Depth	FT	0	0	0
Water Level	%	0	0	0
Field Comments		Dry	Dry	Dry

Pond 1 (P-1) results from the discharge of Spring 14 (S-14) and is located in Stevens Draw location of DH-15, DH-39 and the Lower Stevens Draw monitoring point.



1Q site inaccessible due to snow

Point P-1 has not been influenced by mining.

Figure 127

P-2  
Freeman Gulch - Pond 2  
Depth - 3'  
Elevation - 7600

Date	11/8/2022	9/6/2022	5/11/2022
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Field Parameters	UNITS			
Pond Inflow	GPM	0	0	0
Pond Outflow	GPM	0	0	0
Freeboard	FT	3	3	3
Water Depth	FT	0	0	0
Water Level	%	0	0	0
Field Comments		No discharge	No discharge	No discharge

Pond 2 (P-2) is located in Freeman Gulch, near the Upper Freeman Gulch monitoring point and is fed by the discharge of Spring 3 (S-3).



Note: Site in accessible 1Q due to snow levels

Baseline Information for Point P-2 is derived from events beginning on 11/14/95 through 9/19/99.  
Point influenced by mining on 9/19/99.

Figure 128

Date	11/9/2022	9/28/2022	5/11/2022
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Field Parameters	UNITS			
Pond Inflow	GPM	0	0	0
Pond Outflow	GPM	0	0	0
Freeboard	FT	6.5	6.5	6.5
Water Depth	FT	0	0	0
Water Level	%	0	0	0
Field Comments		Dry	Dry	Dry

Pond 3 (P-3) is located in an un-named gulch which leads to Terror Creek. This pond is fed by Spring 16 (S-16) and is accessible by a road that passes Pond 4 (P-4). This road is not shown on the map.



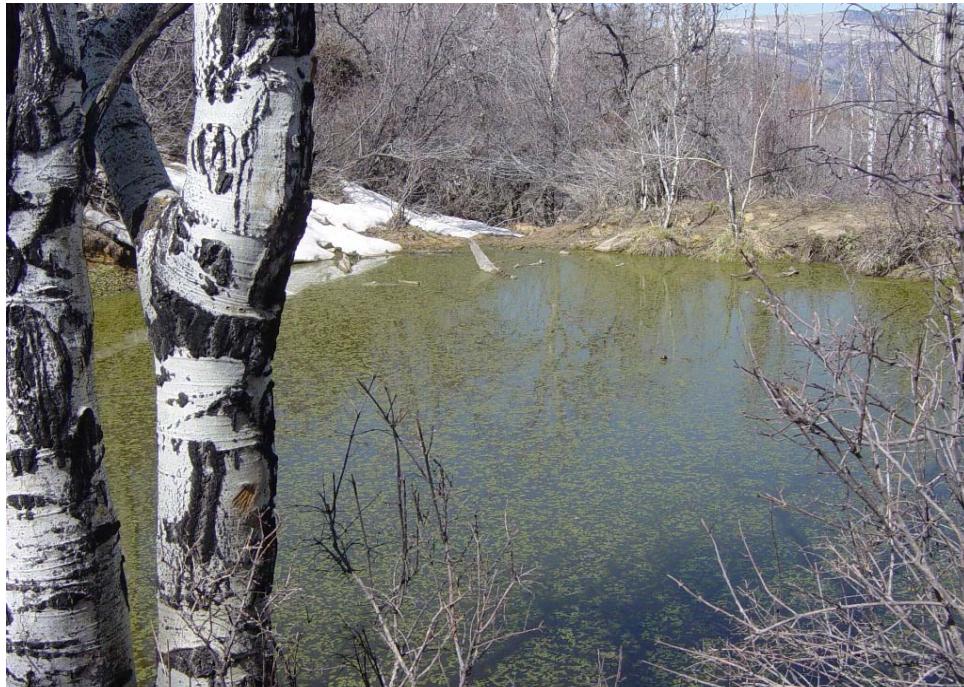
Note: Site in accessible 1Q due to snow levels

P-4  
Terror Creek - Pond 4  
Depth - 3.5'  
Elevation - 7880

Date	11/9/2022	9/28/2022	5/11/2022
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Field Parameters	UNITS			
Pond Inflow	GPM	0	0	0
Pond Outflow	GPM	0	0	0
Freeboard	FT	0.25	0.1	0.2
Water Depth	FT	3.25	3.4	3.3
Water Level	%	93	97	94
Field Comments				

Pond 4 (P-4) is located in an un-named gulch which leads to Terror Creek. This pond receives water from Springs 4 (S-4) and 4a (S-4a). It is accessible by an old exploration road.



Note: Site in accessible 1Q due to snow levels

Baseline Information for Point P-4 is derived from events beginning on 9/27/95 through 1/15/01.  
Point influenced by mining on 1/15/01.

Figure 130

P-5  
Sheep Corral - Pond 5  
Depth - 8'  
Elevation - 7800

Date	11/9/2022	8/22/2022	5/11/2022
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Field Parameters	UNITS			
Pond Inflow	GPM	0	0	0
Pond Outflow	GPM	0	0	0
Freeboard	FT	2.5	7	8
Water Depth	FT	5.5	1	0
Water Level	%	69	13	0
Field Comments				

Pond 5 (P-5) is located in an un-named gulch which feeds into Sheep Corral Gulch. This pond is fed by Springs 5 (S-5), 5a (S-5a) and 5b (S-5b) and is accessible by an old coal exploration road.



Note: Site in accessible 1Q due to snow levels

P-6  
Terror Creek - Pond 6  
Depth - 3'  
Elevation - 7880

Date	11/9/2022	9/28/2022	6/23/2022
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Field Parameters	UNITS			
Pond Inflow	GPM	0	0	0
Pond Outflow	GPM	0.0	0.0	0.0
Freeboard	FT	3.0	3.0	3.0
Water Depth	FT	0	0	0
Water Level	%	0.00	0.00	0.00
Field Comments		Dry	Dry	Dry

Pond 6 (P-6) is located in an un-named gulch which leads to Terror Creek. This pond receives water from Spring 18 (S-18).



Note: Site in accessible 1Q due to snow levels

P33-3  
Sheep Corral - Pond 33-3  
Depth - 5.5'  
Elevation - 7760

Date	11/9/2022	8/22/2022	5/11/2022
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Field Parameters	UNITS			
Pond Inflow	GPM	0	0	0
Freeboard	FT	6.5	6.5	6.5
Water Depth	FT	0	0	0
Water Level	%	0	0	0
Field Comments		Dry	Dry	Dry

Pond 33-3 (P33-3) is located in an un-named drainage which discharges into Sheep Corral. This pond apparently has no spring, and catches only run-off water in the early spring.



Note: Site in accessible 1Q due to snow levels

Baseline Information for Point P33-3 is derived from events beginning on 10/30/97 through 12/1/01.  
Point influenced by mining on 12/1/01.

Figure 133

P6-5  
**W. Fork of Terror Creek - Pond 6-5**  
**Elevation - 8020**

Initiated	7/19/1985	7/19/1985	7/19/1985
Activated			
Date	10/10/2022	8/31/2022	6/22/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation					
		Min	Ave	Max						
Outflow	GPM	0.00	0.11	2.56				0.0	0.0	0.0
Inflow	GPM	0.00	0.00	0.00				0.0	0.0	0.0
Freeboard	Feet							5	7	5
Temperature	Celsius	12.7	15.6	24.7						
Conductivity	umhos/cm	280	452	791						
pH	su	6.2	7.8	8.5						
Field Comments										
Lab Parameters	UNITS									
Bicarbonate	mg/L	164.7	290.7	420.9						
Carbonate	mg/L									
Chloride	mg/L	1	6	11						
Conductivity	umhos/cm	285	446	629						
Hardness	mg/L	127	199	320						
pH	su	7.3	7.5	7.9						
ResidueFilterable-TDS	mg/L	22	240	432						
ResidueNonFilterable-TSS	mg/L	10	185	830						
SAR		0.43	0.56	0.9						
Sulfate	mg/L	<MDL	7.7	14.0						
Calcium (Dissolved)	mg/L	31	50	74						
Magnesium (Total)	mg/L	12	22	33						
Sodium (Dissolved)	mg/L	13	19	29						
Potassium	mg/L									
TDS Ratio (grav./calc.)										

The area of concern for monitoring point P6-5 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

Note: Site in accessible 1Q due to snow levels

P7-2  
 Steven's Gulch - Pond 7-2  
 Elevation - 8190

Initiated	7/29/1985	7/29/1985	7/29/1985
Activated	6/10/2014	6/10/2014	6/10/2014
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			
		Min	Ave	Max				
Outflow	GPM	0	0.67	15.39	11.25	11.25		
Inflow	GPM	0	0.27	3.75	0.00	0.00		
Freeboard	Feet	0	1.32	3.42	6.50	6.50	6.5	6.5
Temperature	Celsius	10	16.71	27.80	15.10	15.10		
Conductivity	umhos/cm	160	248.77	321.00	170.00	170.00		
pH	su	7.2	8.46	9.70	7.7	7.7		
Field Comments						No flow		
Lab Parameters	UNITS							
Bicarbonate	mg/L	119.6	158.9	223.0				
Carbonate	mg/L							
Chloride	mg/L	<MDL	2.7	5.0				
Conductivity	umhos/cm	204.0	251.3	320.0				
Hardness	mg/L	92.0	117.0	142.0				
pH	su	6.8	7.5	8.3				
ResidueFilterable-TDS	mg/L	118.0	169.7	234.0				
ResidueNonFilterable-TSS	mg/L	10.0	100.0	538.0				
SAR		0.20	0.41	1.00				
Sulfate	mg/L	<MDL	11.3	49.0				
Calcium (Dissolved)	mg/L	22.0	27.9	35.0				
Magnesium (Total)	mg/L	9.0	11.5	15.0				
Sodium (Dissolved)	mg/L	5.0	10.0	22.0				
Potassium	mg/L							
TDS Ratio (grav./calc.)								

Activated 6/10/14

Note: Site in accessible 1Q due to snow levels

P7-7  
 Steven's Gulch - Pond 7-7  
 Elevation - 8380

Initiated	7/25/1985	7/25/1985	7/25/1985
Activated			
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max						
Inflow	GPM	0.0	0.0	0.0						
Outflow	GPM	0.0	0.0	0.4				0	0	0
Freeboard	Feet	0.00	1.85	4.80						4
Temperature	Celsius	3.1	14.6	27.1						
Conductivity	umhos/cm	227.0	381.2	829.0						
pH	su	6.4	7.6	8.1						
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L	126.9	190.5	244.0						
Carbonate	mg/L									
Chloride	mg/L	<MDL	1.6	3.0						
Conductivity	umhos/cm	219.0	303.1	460.0						
Hardness	mg/L	117.0	151.2	183.0						
pH	su	6.4	7.3	7.9						
ResidueFilterable-TDS	mg/L	142.0	204.8	276.0						
ResidueNonFilterable-TSS	mg/L	2.0	65.1	252.0						
SAR		0.2	0.4	1.0						
Sulfate	mg/L	<MDL	6.8	10.0						
Calcium (Dissolved)	mg/L	24.0	34.8	42.0						
Magnesium (Total)	mg/L	11.0	15.6	19.0						
Sodium (Dissolved)	mg/L	4.0	10.8	29.0						
TDS Ratio (grav./calc.)										

The area of concern for monitoring point P7-7 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

\*Dam Gone

\*\* Data not provided in field notes

Note: Site in accessible 1Q due to snow levels

P7-11  
 Steven's Gulch - Pond 7-11  
 Elevation - 8400

Initiated	7/25/1985	7/25/1985	7/25/1985
Activated			
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max						
Outflow	GPM	0.00	0.16	7.99				0	0	0
Inflow	GPM	0.00	0.20	7.99				0	0	0
Freeboard	Feet	0.00	1.32	2.61						
Temperature	Celsius	3.6	15.9	29.9						
Conductivity	umhos/cm	138	288	495						
pH	su	6.4	7.6	9.2						
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L	105	320	2116						
Carbonate	mg/L	<MDL	<MDL	<MDL						
Chloride	mg/L	<MDL	3	4						
Conductivity	umhos/cm	202	262	346						
Hardness	mg/L	79	122	172						
pH	su	6.3	7.4	8.3						
ResidueFilterable-TDS	mg/L	144	190	260						
ResidueNonFilterable-TSS	mg/L	2	277	3033						
SAR		0.34	0.54	1.78						
Sulfate	mg/L	<MDL	18	121						
Calcium (Dissolved)	mg/L	3.66	26.50	41.00						
Magnesium (Total)	mg/L	7.0	12.4	19.7						
Sodium (Dissolved)	mg/L	8	13	42						
TDS Ratio (grav./calc.)		1.01	1.04	1.07						

The area of concern for monitoring point P7-11 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

Note: Site in accessible 1Q due to snow levels

P8-4  
 Terror Creek - Pond 8-4  
 Elevation - 6980

Initiated Activated Date	1987	1987	1987
	10/12/2022	9/8/2022	6/22/2022

Field Parameters	UNITS	Summary Information			Baseline			1987	1987	1987
		Min	Ave	Max						
Outflow	GPM	0.0	0.0	0.0				0	0	0
Inflow	GPM	0.0	0.09	0.94				0	0	0
Freeboard	Feet	0.35	0.38	0.41						
Temperature	Celsius	6.8	10.8	18.3						
Conductivity	umhos/cm	1140	1188	1220						
pH	su	8.4	8.5	8.6						
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L									
Chloride	mg/L									
Conductivity	umhos/cm									
Hardness	mg/L									
pH	su									
ResidueFilterable-TDS	mg/L									
ResidueNonFilterable-TSS	mg/L									
SAR										
Sulfate	mg/L									
Calcium (Dissolved)	mg/L									
Magnesium (Total)	mg/L									
Sodium (Dissolved)	mg/L									
Potassium	mg/L									
TDS Ratio (grav./calc.)										

The area of concern for monitoring point P8-4 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

Note: Site in accessible 1Q due to snow levels

P12-1

Steven's Gulch - Pond 12-1  
 Elevation -7950

Initiated	7/30/1985	7/30/1985	7/30/1985
Activated	4/1/2014	4/1/2014	4/1/2014
Date	11/2/2022	9/27/2022	6/13/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	
		Min	Ave	Max						
Outflow	GPM	0.00	0.29	3.75	9.375	0.3906	9.375	0	0	0
Inflow	GPM	0.00	0.00	0.00	3.75	0.163	3.75	0	0	0
Freeboard	Feet	0.00	1.58	3.35	6.00	2.49	6.00			5.5
Temperature	Celsius	5.9	17.7	28.8	15.2		15.2			
Conductivity	umhos/cm	283	360	493	260		260			
pH	su	6.6	8.2	10.8	7.9		7.9			
Field Comments								Dry	Dry	
Lab Parameters	UNITS									
Bicarbonate	mg/L	88.0	168.4	269.6						
Carbonate	mg/L	12.4	12.4	12.4						
Chloride	mg/L	<MDL	4.5	7.0						
Conductivity	umhos/cm	256	341	487						
Hardness	mg/L	86.0	122.9	159.0						
pH	su	7.1	7.8	8.9						
ResidueFilterable-TDS	mg/L	154	215	288						
ResidueNonFilterable-TSS	mg/L	<MDL	38	160						
SAR		0.600	0.943	1.550						
Sulfate	mg/L	4.0	36.5	109.0						
Calcium (Dissolved)	mg/L	28.0	35.8	49.0						
Magnesium (Total)	mg/L	4.0	10.3	14.0						
Sodium (Dissolved)	mg/L	16.0	24.8	41.0						
TDS Ratio (grav./calc.)										

Note: Site in accessible 1Q due to snow levels

Activated 4/1/14

P12-2

Steven's Gulch - Pond 12-2  
 Elevation - 8030

Initiated	7/6/1983	7/6/1983	7/6/1983
Activated	5/15/2014	5/15/2014	5/15/2014
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Comments
		Min	Ave	Max	Min	Ave	Max	
Outflow	GPM	0	0.31	4.94	1.25		1.25	0
Inflow	GPM	0	0.19	0.38	0.00		0.00	0
Freeboard	Feet	0	0.10	0.56	4.50		4.50	4.5
Temperature	Celsius	5.4	16.33	26.30	17.20		17.20	
Conductivity	umhos/cm	239	380.35	520.00	350.00		350.00	
pH	su	6.4	8.03	9.40	7.7		7.7	
Field Comments						No Discharge		
Lab Parameters	UNITS							
Bicarbonate	mg/L	200.0	253.6	336.0				
Carbonate	mg/L	5.9	8.85	11.80				
Chloride	mg/L	2.0	4.1	9.0				
Conductivity	umhos/cm	317	395	456				
Hardness	mg/L	144.00	192.08	238.00				
Acidity	mg/L	16.0	16.0	16.0				
pH	su	7.3	7.9	8.6				
ResidueFilterable-TDS	mg/L	168	244	292				
ResidueNonFilterable-TSS	mg/L	2	330	3332				
SAR		0.330	0.613	1.260				
Sulfate	mg/L	<MDL	19.57	113.00				
Calcium (Dissolved)	mg/L	20.0	41.7	54.0				
Iron (Total)	mg/L	1.42	1.42	1.42				
Iron (Dissolved)	mg/L	0.04	0.04	0.04				
Magnesium (Total)	mg/L	16.0	21.4	29.0				
Manganese (Total)	mg/L	0.320	0.320	0.320				
Sodium (Dissolved)	mg/L	10	19.17	36.00				
TDS Ratio (grav./calc.)	%							

Activated May 15, 2014

\*Large Seep Area - Unmeasurable

Note: Site in accessible 1Q due to snow levels

P12-10  
 Steven's Gulch - Pond 12-10  
 Elevation - 7820

Initiated	7/30/1985	7/30/1985	7/30/1985
Activated			
Date	11/2/2022	9/27/2022	6/13/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry
		Min	Ave	Max	Min	Ave	Max		
Outflow	GPM	0.0	1.8	48.066				0	0
Inflow	GPM	0.0	0.3	15.00				0	0
Freeboard	Feet							6	
Temperature	Celsius	4.4	16.8	25.5					
Conductivity	umhos/cm	270	347	466					
pH	su	6.7	8.2	10.4					
Field Comments								Dry	Dry
Lab Parameters	UNITS								
Bicarbonate	mg/L	122	188.8	309					
Carbonate	mg/L	6	9	12					
Chloride	mg/L	<MDL	6.3	17					
Conductivity	umhos/cm	217	333	463					
Hardness	mg/L	98	146	209					
pH	su	7.6	8.2	9.8					
ResidueFilterable-TDS	mg/L	146	208	288					
ResidueNonFilterable-TSS	mg/L	<MDL	26.6	120					
SAR		<MDL	0.73	1.07					
Sulfate	mg/L	4	19	41					
Calcium (Dissolved)	mg/L	28	37	48					
Magnesium (Total)	mg/L	6	13	29					
Sodium (Dissolved)	mg/L	9	20	32					
TDS Ratio (grav./calc.)									

The area of concern for monitoring point P12-10 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

**Corrected monitoring information from 4/28/10 to 11/29/11.**

**Contractor has been monitoring Pond 12-9 as 12-10, but realized his error during 4/10/12 monitoring.**

**Found remnants of Pond 12-10 on 4/10/12 - has been washed out for a long time. No evidence of flow.**

Note: Site in accessible 1Q due to snow levels

P17-1  
 Coal Gulch - Pond 17-1  
 Elevation - 7340

Initiated	12/22/2004	12/22/2004	12/22/2004
Activated			
Dated	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max						
Outflow	GPM	0.0	1.7	30				0	0	0
Inflow	GPM	0.0	0.0	0.0				0	0	0
Freeboard	Feet	0.0	0.7	5.5						
Temperature	Celsius	0.5	9.0	17.5						
Conductivity	umhos/cm	40.0	151.7	570						
pH	su	7.6	8.0	8.4						
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L	40.5	56	84						
Carbonate	mg/L	<MDL	<MDL	<MDL						
Chloride	mg/L	1	3	4						
Conductivity	umhos/cm	77.8	104	146						
Hardness	mg/L	26.8	47	75						
pH	su	7.5	7.7	7.9						
ResidueFilterable-TDS	mg/L	61	80	100						
ResidueNonFilterable-TSS	mg/L	16	25	36						
SAR		0.16	0.17	0.19						
Sulfate	mg/L	<MDL	5.35	5.35						
Calcium (Dissolved)	mg/L	5.83	11.98	19.80						
Magnesium (Total)	mg/L	2.98	4.26	6.30						
Sodium (Dissolved)	mg/L	2.21	2.64	3.40						
TDS Ratio (grav./calc.)		1.07	1.36	1.82						

The area of concern for monitoring point P17-1 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

Note: Site in accessible 1Q due to snow levels

P18-1  
 Coal Gulch - Pond 18-1  
 Elevation - 7760

Initiated	7/19/1985	7/19/1985	7/19/1985
Activated	6/6/2012	6/6/2012	6/6/2012
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max	Min	Ave	Max			
Outflow	GPM	0.00	0.20	2.11	0.00	0.05	0.94	0	0	0
Inflow	GPM	0.00	0.31	1.88	0.00	0.26	4.10	0	0	0
Freeboard	Feet	0.00	2.07	2.91	0.00	0.87	3.50			
Temperature	Celsius	9.8	16.2	26.7	11.20	17.85	23.10			
Conductivity	umhos/cm	115	211	378	557.00	600.00	620.00			
pH	su	6.3	7.8	9.2	8.10	8.43	8.68			
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L	49.0	125.4	201.3						
Carbonate	mg/L	0.6	0.6	0.6						
Chloride	mg/L	<MDL	7	11						
Conductivity	umhos/cm	120	244	398						
Hardness	mg/L	54	94	153						
pH	su	6.2	7.0	7.6						
ResidueFilterable-TDS	mg/L	86	169	280						
ResidueNonFilterable-TSS	mg/L	12	178	552						
SAR		<MDL	0.21	0.47						
Sulfate	mg/L	<MDL	15	39						
Calcium (Dissolved)	mg/L	15	25	40						
Magnesium (Total)	mg/L	4	7	13						
Sodium (Dissolved)	mg/L	<MDL	5	10						
TDS Ratio (grav./calc.)										

The monitoring point for Pond 18-1 is located on a south facing slope that drains down toward the North Fork of the Gunnison River.

Note: Site in accessible 1Q due to snow levels

Baseline Information is derived from monitoring events beginning on 7/19/85 through 6/6/2012.  
 Point P18-1 influenced by mining 6/6/12.

Initiate	7/6/1983	7/6/1983	7/6/1983
Activate			
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max						
Inflow	GPM	0.00	0.27	15.708				0	0	0
Outflow	GPM	0.00	0.00	0.00				0	0	0
Freeboard	Feet	0.48	2.19	5.4						
Temperature	Celsius	2.2	16.0	29						
Conductivity	umhos/cm	206	329	500						
pH	su	5.9	7.4	8.8						
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L	109.8	187.5	268						
Carbonate	mg/L	<MDL	<MDL	<MDL						
Chloride	mg/L	<MDL	6.45	30						
Conductivity	umhos/cm	197	324	581						
Hardness	mg/L	11	128	210						
pH	su	6.8	7.3	8.3						
ResidueFilterable-TDS	mg/L	126	211	402						
ResidueNonFilterable-TSS	mg/L	6	59	158						
SAR		0.34	0.65	1.58						
Sulfate	mg/L	<MDL	18.12	119						
Calcium (Dissolved)	mg/L	23	35	56						
Magnesium (Total)	mg/L	8	12	17						
Sodium (Dissolved)	mg/L	8	18	39						
TDS Ratio (grav./calc.)		1.05	1.05	1.05						

The area of concern for monitoring point P18-4 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

Note: Site in accessible 1Q due to snow levels

Initiated	6/14/1983	6/14/1983	6/14/1983
Activated			
Date	10/10/2022	8/31/2022	6/22/2022

**Summary Information**

Field Parameters	UNITS	Baseline			Operation				
		Min	Ave	Max					
Inflow	GPM	0.0	0.0	0				0	0
Outflow	GPM	0.0	0.1	4.488				0	0
Freeboard	Feet	0.18	1.06	2.55					
Temperature	Celsius	4.2	16.9	29					
Conductivity	umhos/cm	62.0	247.1	968					
pH	su	7.0	8.3	9.8					
Field Comments							Empty/Dry		
Lab Parameters	UNITS								
Bicarbonate	mg/L	53.7	140.7	478.2					
Carbonate	mg/L								
Chloride	mg/L	<MDL	20.0	120					
Conductivity	umhos/cm	95.0	271.8	885					
Hardness	mg/L	44.0	103.3	331					
pH	su	6.3	7.2	8					
ResidueFilterable-TDS	mg/L	90.0	200.5	372					
ResidueNonFilterable-TSS	mg/L	14.0	125.0	624					
SAR		0.1	0.4	1.74					
Sulfate	mg/L	<MDL	19.6	62					
Calcium (Dissolved)	mg/L	11.0	25.3	83					
Magnesium (Total)	mg/L	3.0	9.7	30					
Sodium (Dissolved)	mg/L	1.0	10.8	50					
Potassium	mg/L								
TDS Ratio (grav./calc.)									

The area of concern for monitoring point P81 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

\* Data not provided in field notes

Note: Site in accessible 1Q due to snow levels

P82  
 Steven's Gulch - Pond 82  
 Elevation - 7580

Initiated	7/18/1990	7/18/1990	7/18/1990
Activated			
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information

Field Parameters	UNITS	Baseline			Operation			Dry	Dry	Dry
		Min	Ave	Max						
Outflow	GPM	0.00	0.10	4.90				0	0	0
Inflow	GPM	0.00	0.00	0.00				0	0	0
Freeboard	Feet	0.00	1.48	5.50						
Temperature	Celsius	7.8	17.9	28.0						
Conductivity	umhos/cm	91	237	569						
pH	su	6.4	8.5	10.0						
Field Comments								Dry	Dry	Dry
Lab Parameters	UNITS									
Bicarbonate	mg/L	51.2	134	290						
Carbonate	mg/L	1	1	1						
Chloride	mg/L	<MDL	8	25						
Conductivity	umhos/cm	104	258	623						
Hardness	mg/L	36	89	158						
pH	su	6.4	7.1	8.4						
ResidueFilterable-TDS	mg/L	75	225	566						
ResidueNonFilterable-TSS	mg/L	28	155	450						
SAR		<MDL	0.22	0.49						
Sulfate	mg/L	4	22	78						
Calcium (Dissolved)	mg/L	11	24	45						
Magnesium (Total)	mg/L	2	7	13						
Sodium (Dissolved)	mg/L	<MDL	5	14						
Potassium	mg/L									
TDS Ratio (grav./calc.)										

The area of concern for monitoring point P82 has not been affected by the mining operation. Therefore, all recorded monitoring events are considered Baseline.

\* Data not provided in field notes

Note: Site in accessible 1Q due to snow levels

P83  
 Coal Gulch - Pond 83  
 Depth - 2.5'  
 Elevation -7820

Initiated	7/18/1983	7/18/1983	7/18/1983
Activated	7/15/2013	7/15/2013	7/15/2013
Date	10/10/2022	8/31/2022	6/22/2022

Summary Information									
Field Parameters	UNITS	Baseline			Operation				
		Min	Ave	Max					
Outflow	GPM	0.00	0.18	6.24	0.00	0.00	0.00	0	0
Inflow	GPM	0.00	0.00	0.00	0.00	0.00	0.00	0	0
Freeboard	Feet	0.57	2.30	2.54	1.25	2.32	2.54		
Temperature	Celsius	9.4	18.6	27.8					
Conductivity	umhos/cm	148	354	485					
pH	su	6.9	74.7	803.0					
Field Comments							Dry		
Lab Parameters	UNITS								
Bicarbonate	mg/L	75.6	203.8	280.6					
Carbonate	mg/L	39.5	39.5	39.5					
Chloride	mg/L	<MDL	7	14					
Conductivity	umhos/cm	160	357	499					
Hardness	mg/L	70	162	234					
pH	su	6.9	7.8	9.4					
ResidueFilterable-TDS	mg/L	95	202	270					
ResidueNonFilterable-TSS	mg/L	4	77	536					
SAR		0.21	0.42	0.71					
Sulfate	mg/L	<MDL	14	29					
Calcium (Dissolved)	mg/L	13	30	54					
Magnesium (Total)	mg/L	6	21	29					
Sodium (Dissolved)	mg/L	4	13	21					
Potassium	mg/L								
TDS Ratio (grav./calc.)									

\* No data provided in field notes

Note: Site in accessible 1Q due to snow levels

# 2022 ANNUAL HYDROLOGIC MAP



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