J. E. STOVER & ASSOCIATES, INC.

743 HORIZON COURT, SUITE 334
GRAND JUNCTION, COLORADO 81506
PHONE: (970) 245-4101

MINE ENGINEERING
MINE RECLAMATION

CIVIL ENGINEERING
CONST. MANAGEMENT

March 4, 2024

Mr. Clayton Wein
Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Snowcap Coal Company, Inc.
Annual Hydrology Report – 2023WY
Permit No. C-1981-041

Dear Mr. Wein:

On behalf of Snowcap Coal Company, Inc., enclosed is a copy of its annual hydrology report for the 2023 water year. This submission is designed to supplement previous submissions and should be added to the 3-ring binder provided in 1993. The index pages should replace the previous index pages; the report, diagrams, tables and map should be inserted following the 2023 tab page; and the data pages should be added to or replace existing pages in the data pages binder.

Sincerely,

Tonya K. Hammond

Tonya K. Hammond
Owner's Representative
Snowcap Coal Company, Inc.

Enclosures

cc: SCC File

SNOWCAP COAL COMPANY, INC.
ANNUAL HYDROLOGY REPORT INDEX

Surface Water

SA-# - Rapid Creek, quality monitored near SWGS-04 (Discontinued 1986)
SB-# - Upper Colorado River, quality (Discontinued 1993)
SC-# - Lower Colorado River, quality (Discontinued 1993)
SD-# - Outfall 001, weekly and monthly field and lab data (Discontinued 2002)
SE-# - Outfall 002, weekly and monthly field and lab data (Discontinued 2002)
SF-# - Outfall 004, weekly and monthly field and lab data (Discontinued 2001)
SG-# - SWSG-01, Lower Rapid Creek, daily flows and hydrograph (Discontinued 2016)
SH-# - SWGS-02, Cottonwood Creek, daily flows and hydrographs (Discontinued 2016)
SI-# - SWGS-03, Upper Rapid Creek, daily flows and hydrographs (Discontinued 2016)
SJ-# - SWGS-04, Lower Rapid Creek, daily flows and hydrographs (Discontinued 1986)
SK-# - SWGS-05, Upper Cottonwood Creek, daily flows and hydrographs (Discontinued 1998)
SL-# - Outfalls 001, 002 & 016, WET test (Discontinued 2005)
SM-# - Outfall 004, WET test (Discontinued 1999)
SN-# - Outfall 001, quality (Discontinued 2001)
SO-# - Outfall 002, quality (Discontinued 2001)
SP-# - Outfall 004, quality (Discontinued 1999)
SQ-# - Colorado River, USGS station 09095500 data
SR-# - Coal Canyon Drainage, SWGS-06 & -07, flows (Discontinued 2016)
SS-# - Jerry Creek, SWGS-08 & -09, flows (Discontinued 2011)
ST-# - Spring and Seep Surveys (Discontinued 2005)
SU-# - Outfall 016, quality
SV-# - Outfall 016, Weekly and monthly field and laboratory data

Ground Water

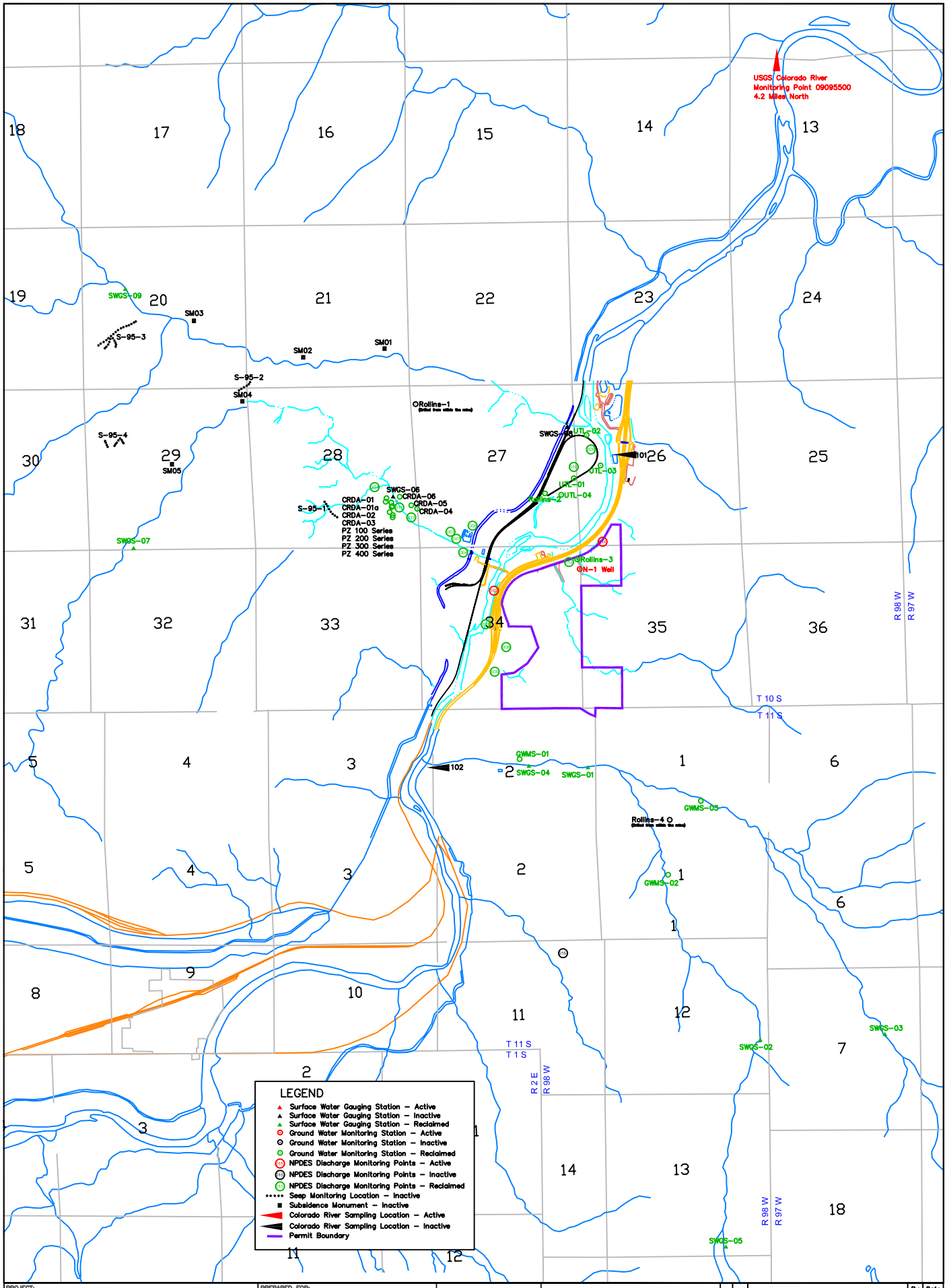
GA-# - Cottonwood Creek and Rapid Creek Groundwater Levels GWMS 01A, 01B, 02A, 02, 03A, 03B (Discontinued 2016)
GB-# - Unit Train Loadout Groundwater Level UTL-01, 02, 03, 04 (Discontinued 2011)
GC-# - Cameo Refuse Disposal Area Ground Water CRDA & PZ #s (Discontinued 2016)
GD-# - Water Quality Data UTL-02 UTL-04 (Discontinued 2010)
GE-# - Rollins Sandstone Wells depth to water and water quality Rollins-1, 2, 3, 4 (Discontinued 2011)

Mine Inflows

MA-# - South Portal inflow and quality data (Discontinued 1999)
MB-# - North Portal inflow and quality data (Discontinued 1999)

Consumptive Use

CA-# - Palisade Domestic Water and Preparation Plant, meter readings (Discontinued 2000)



PROJECT: SNOWCAP COAL COMPANY, INC.

TITLE: ROADSIDE NORTH AND SOUTH MINES MONITORING LOCATION MAP

DWG. NAME: 2023 AHR

DRMS I.D. No. C-1981-041

SCALE: NTS

PREPARED FOR:
SNOWCAP COAL COMPANY, INC.
743 Horizon Ct., Ste 334
Grand Junction, CO 81506
(970) 241-8118

PREPARED BY: J. E. STOVER & ASSOCIATES
743 Horizon Ct., Suite 334
Grand Jct., CO 81506

DIGITIZED	TKH	03/03/04
DRAWN:		
CHECKED:	JES	03/03/04

REVISIONS		By	Date
1	2023 Annual Hydrologic Map (Oct 2022 thru Sept 2023)	TKH	03/24

REFERENCES
C:\D_Drive\Spars\Old-D-Drive\PowderhornCoal\Powderhorn\ahr\2023MonitoringLocationMap

SNOWCAP COAL COMPANY, INC.
2023 ANNUAL HYDROLOGY REPORT
OCTOBER 1, 2022 THROUGH SEPTEMBER 30, 2023

Introduction

During the 2023 Water Year, the Year, the reclaimed mines were in cessation, pending final bond release. Mining ceased at the Roadside Portals on December 2, 1999. The North Mine was sealed on February 10, 2000. The Roadside South Mine was sealed on April 12, 2000. The South Fan was sealed May 22, 2000. The 2 West Portals were sealed on April 24, 2000. Production at the Roadside North utilized room and pillar mining with continuous miners and shuttle cars.

Reclamation of CRDA-2 was completed in 2002. The sediment retained by the drop structures in Coal Canyon was harvested for cover material. Material excavated during construction of the upper diversion ditch was also used as cover material. A small amount of cover material was obtained from CBA-1. Topsoil was obtained from Topsoil Stockpiles 2, 7, 8 and 9. Reclamation of CRDA-1 was also completed in 2002. Cover material was obtained from CBA-2. The road to CRDA-1 was left open to accept coal and refuse material from other ongoing reclamation activities. The road begins at the west end of Haul Rd No. 5 and extends to the top of CRDA-1.

The North Portal was regraded to approximate original contour during 2002. Backfill material came from areas filled near Coal Creek and around the coal stockpile area.

During 2002 the RSRDA was graded to final contours. The existing cover was graded off of the slope and used as cover below the first bench. Refuse material was cut from the pile to establish two 10' - 15' wide benches on 30' to 40' elevation intervals. This refuse material was placed in an extension of the pile to the north. Cover material was obtained from the RSRDA borrow area.

During 2003, a portion of the conveyor corridor was regraded and seeded. This work extended from the culvert under Excel’s frontage road to the culvert under the railroad loop. The conveyor bridge over the Colorado River was removed during the year.

During 2004, the conveyor corridor, from the Xcel culvert south to Transfer Building #2 and east of the Colorado River where the conveyor tube crossed the river, was graded to approximate original contours and seeded.

No reclamation was performed in 2005 or 2006.

During 2007, a permit revision (PR3) was approved to change the land use at the South Portal from Fish and Wildlife to Industrial/Commercial. Final grading was completed for the approved reclamation plan.

During 2008, seeding was completed at the South Portal and the “G” Substation was removed, graded to approximate original contours and seeded.
During 2009, the rail spur lying south of I.9 Road was reclaimed, graded and seeded. A phase

III bond release (SL5) was approved on the reclaimed conveyor corridor lying south of I.9 Road, and a permit revision (PR4) was approved to change the land use at the Unit Train Loadout from Fish and Wildlife to Industrial/Commercial. Halliburton Energy Services purchased the UTL and began construction of their commercial sand plant operations.

During 2010 coal fines from the UTL were hauled to CRDA-1 and reclamation of CRDA-1 road was finalized in September. Ponds 1 and 2, sewage lagoons, topsoil pile 4 along with other areas of the UTL were reclaimed, regraded and reseeded. A phase III bond release (SL6) was approved for the Commercial/Industrial portion of the South Portal.

During 2011 Pond 7, sumps and ditches at the North Decline and Pond 8 at the South Portal were reclaimed, regraded and reseeded. A phase III bond release (SL7) was approved for the UTL, Railroad Loop, the remainder of the conveyor corridor and the permanent flood control dike.

During 2012 Ponds 6, 10, 11 and 13, CBA#1 Sump and miscellaneous sedimentation control features at the North Portal and along Coal Creek were reclaimed, regraded and reseeded. A permit revision (PR5) was approved allowing Coal Creek and Coal Gulch to remain in their present alignment and allows for the North Portal upper diversion ditch and a portion of Topsoil Pile 2 to remain as permanent features.

During 2013 Pond 9 was reclaimed, regraded and reseeded.

No reclamation was performed in 2014.

No reclamation was performed in 2015.

No reclamation was performed in 2016. Bond release application SL8 was approved on November 14, 2015. With this approval 128 surface disturbed acres achieved Phase III release; 136.5 surface disturbed acres achieved Phase II release and 22.2 surface disturbed acres achieved Phase I release. Also released with SL-8 were 1288.9 unaffected acres and 744 undisturbed acres overlying underground workings.

No reclamation was performed in 2017. A permit revision (PR6) was approved to change the land use at the Roadside North Portal Area from Fish and Wildlife to Industrial/Commercial. Bond release applications SL9 and SL10 were approved releasing 13.1 acres from Phase II liability and 13.6 acres from Phase III liability. Also released were 0.2 acres of undisturbed acres overlying underground workings.

No reclamation was performed in 2018.

During 2019 a hydrologic communication repair above the South Portal Mine was completed as approved by TR69. This repair generated a disturbance of 0.4 acres which was regraded, seeded and mulched.

No reclamation was performed in 2020. Bond release application SL11 was approved releasing 2.4 acres from Phase II liability and 10.4 acres from Phase III liability. Also released with SL11 were 291.3 undisturbed acres overlying underground workings.

No reclamation was performed in 2021.

No reclamation was performed in 2022.

No reclamation was performed in 2023. The 0.4 acre hydrologic communication repair above the South Portal Mine that was reclaimed in 2019 was disturbed by the surface land owner. The operator repaired the disturbance and re-seeded the 0.4 acres. New straw waddles and a 3-strand wire fence were installed.

The general format of this report is the same as in previous years.

Surface Water

Water flow and quality on the Colorado River is monitored by the U.S. Geologic Survey (USGS) at various locations. The closest location is Station No. 09095500, which is located upstream approximately 7 miles north east of the mine site. Water quality and flow from this site are used as a general representation of the Colorado River up gradient of the mining operation. There is a diversion to the Government Highline Canal, the addition of Plateau Creek and the addition of other minor drainages between the monitoring site and the mine site. Data Pages SQ-130 through SQ-133 includes information supplied by USGS on this site during the 2023 Water Year. The total flow at this site for the Year was 3,153,950 acre-feet which is 115% of the normal average flow for the period 1934 - 2023 (2,737,990). The estimated TDS load for the Year was 1.48 million tons. This estimate is made by converting values for conductivity reported on page SQ-133 to TDS per acre feet and multiplying by the monthly flow in acre feet. The low flow for the Year was recorded as 933 CFS on December 19, 2022. The river was carrying approximately 1.21 tons of TDS per acre-foot on December 19, 2022. This flow and TDS load equates to approximately 2244 tons of Total Dissolved Solids, TDS, being carried by the river past the mine that day. The mine discharge on January 4, 2023 (the closest monthly analysis), was 120.2 gpm @ 1240 mg/l TDS; resulting in approximately 0.89 tons of TDS being discharged. Comparing the calculated TDS load in the River at low flow and the mine discharge near the same date, the maximum increase in the River's TDS as a result of mine discharge would have been 0.04%.

The surface water monitoring points on Cottonwood and Rapid Creeks were suspended from monitoring with the approval of TR67 on February 23, 2016 therefore no current of future monitored will be conducted. Past monitoring of these points can be found on data pages SG-61, SG-62, SH-28 and SI-28. The Cottonwood and Rapid Creek flumes associated with SWGS 01, SWGS 02 and SWGS 03 were removed in August 2016.

Monitoring on Coal Creek and Jerry Creek started in 1995. The crest stage gages installed in Coal Canyon drainage and Jerry Creek in 1996 were destroyed by a storm in the summer of

1998. Discussions with DRMS indicated there was no need to monitor the upstream locations SWGS 07 and 09. The creeks were then only monitored at the lower monitoring points. The ephemeral flow in Coal Creek was measured at culverts located between the two refuse disposal areas, SWGS 06. These culverts provided a stable cross section and were accessible throughout the year. The intermittent flow in Jerry Creek was measured at the culvert near the Highline Canal, SWGS 08. Beginning July 1999, instantaneous flows were monitored monthly. Monitoring was suspended for Jerry Creek (SWGS 08) with the approval of TR62 on 11/8/11. Monitoring was suspended for Coal Creek (SWGS 06) with the approval of TR67 on February 23, 2016. Therefore, no monitoring was performed during the Year.

There were four seeps included in the hydrologic monitoring in 1995. The locations of the seeps are shown on the Hydrologic Monitoring Map. They are located adjacent to Coal Canyon drainage and Jerry Creek. They are primarily evident by the white staining on the hillsides from evaporation of the seeps. None of them flow to the creek channel but generally evaporate within a couple of hundred feet of the source. On April 19, 2006, Snowcap Coal Company submitted a technical revision, TR50, requesting to discontinue seep monitoring. The request was approved by the Division on July 25, 2006. Therefore, no monitoring was performed during the Year.

There was no discharge from CDPS discharge points 005 thru 015 during the Year. These outfalls covered sediment pond discharges. Discharge point 015, now inactive, was permitted to allow pumping water from the south end of the Roadside South Portal out the 2 West portals. All sediment ponds associated with an outfall have previously received full bond release by DRMS. Discharge point 016 is permitted for gravity discharge from the northwest intake pool. It replaced outfalls 001 and 002 on March 31, 2002.

Discharge point 001 was primarily used as an overflow to a mine water system for the preparation plant during mine operations. During March and April 2000, a discharge pipe was installed from the No. 2 South Mains sump to outfall 001. The routing of this 4-inch diameter pipe is presented on permit Figure 14-6. The capacity of this discharge pipe was about 75 gpm. Flow ceased at discharge point 001 on March 31, 2002. Discharge point 001 was reclaimed during the 1st quarter of 2008 and is no longer operational.

Discharge point 002 was water siphoned from the reclaimed Northwest Intake Portal at the Roadside South Portals. Mine inflows that were not pumped to the preparation plant were routed to an abandoned portion of the mine for discharge from this point. The preparation plant was shut down during December 1999 so all mine inflows in excess of those handled by outfall 001, flow north to the lower portion of the mine where they were handled by the siphon, outfall 002. Flow ceased at discharge point 002 on March 31, 2002.

The following table presents the total dissolved solids concentration in Outfall 002.

Average TDS from Pages SE-8 ≡ SE-11 Outfall 002				
Water Year	1999	2000	2001	2002
TDS (mg/l)	1558	1560	1500	1500

Discharge point 016 was put into service April 1, 2002. Discharge began April 3, 2002. This gravity discharge point handles all of the water that flows into the sealed South Portal. Since it is a gravity discharge point, the flow discharged will equal the flow into the mine. Table M23-1 presents a summary of the monthly flow from the mine. Data page SV-22 presents a listing of flow and water quality monitoring performed at this site during the Year. Data page SU-7 includes a full suite analysis performed on a sample collected during the Year. The average TDS value at discharge point 016 for the Year was 1210 mg/l.

Whole Effluent Toxicity (WET) tests were not performed during the Year. On May 3, 2005, Snowcap Coal Company requested, via letter to the CDPHE, the WET tests be terminated. This request was granted and the CDPS Permit was amended on June 27, 2005, becoming effective on August 1, 2005.

Ground Water

The ground water monitoring points on Cottonwood and Rapid Creeks were suspended from monitoring with the approval of TR67 on February 23, 2016, therefore no monitored was conducted for the Year. The monitoring wells associated with GWMS01 A&B, GWMS02 A&B, and GWMS03 A&B were plugged and abandoned on August 24, 2016. A copy of the abandonment report was included in the 2016 AHR.

Piezometers CRDA-01 thru 06 at the Cameo Refuse Disposal Areas (CRDA) No. 1 and No. 2 were not monitored during the Year. The monitoring was suspended for these piezometers with the approval of TR67 on February 23, 2016. The piezometers were removed and backfilled in May 2016 as specified on page 14-31 of SCC's permit document. Past monitoring shows the water levels in the piezometers were consistently below their critical depths and information can be found on data pages GC-1 through GC-25.

The past results of water level measurements at the unit train loadout are listed on Data page GB-2. Monitoring of these piezometers was discontinued with the approval of SL7 in April 2011 and the UTL-01, UTL-02, UTL-03 and UTL-04 piezometers were sealed and reclaimed on May 17, 2011. The Well Abandonment Reports were included in DRMS's quarterly report dated July 7, 2011. No monitoring was performed during the Year.

A former mine dewatering hole (N-1) located at the North Decline area of the mine is used to monitor the water level in the abandoned portions of the Roadside South Portal. Since discharge point 016 was put into service, the water level in N-1 is virtually constant and it is expected to stay at an elevation of about 4758. The results of monitoring N-1 are presented in Table M23-2.

In order to characterize the Rollins Sandstone two surface and two underground wells were installed during June 1997. The surface wells, Rollins-2 and Rollins-3, were installed at the unit train loadout and the north decline respectively. The underground wells, Rollins-1 and Rollins-4, were installed in the North and South Portals respectively. Depth to water ranged from 56.5 feet below grade in the North Decline well to artesian in the North Portal well. Monitoring of these wells was performed in accordance with permit requirements. Prior depth to water data is presented on data page GE-1-1. Rollins-1 was sealed in December 1999 and Rollin-4 was sealed in April 2000. Rollins-2 and 3, with the approval of SL-7, were sealed in May 2011. The Well Abandonment Reports were included in DRMS's quarterly report dated July 7, 2011. No monitoring was performed during the Year.

Mine Water

There was no annual mine inflow study performed during the Year since the North and South Portals have been sealed. The last annual mine inflow was performed during December 1999 and reported in the 1999 report.

Discharge Monitoring Reports (DMRs)

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.

Consumptive Use

There was no consumptive use during the Year.

Impacts

The average total dissolved solids for the mine discharges calculated with total flow for the Year yields the tons of TDS discharged for the year. Outfall 016 discharged a total of 290.3 tons of TDS to the river during the Year.

The 2023 TDS discharge represents 0.020% of the 1.48 million tons calculated to be carried by the River. At the Roadside South Portal, water is expected to perpetually discharge through outfall 016.

Based on flume monitoring from 1985 to 2016, no effects of mining were detected on flows in Cottonwood and Rapid Creeks. Mining ceased at the Roadside Portals on December 2, 1999. No further mining from either portal is anticipated in the foreseeable future.

Consumptive use will be insignificant in the future because mining and washing of coal has ceased. Consumptive use, if needed, will be for hydro-seeding and dust control during reclamation operations.

ROADSIDE SOUTH PORTAL DISCHARGE

2023 WATER YEAR

OUTFALL 016

DATE	DAYS	METER	K-GAL.	GPM
9/14/2022		53,829		
10/10/2022	26	57,674	3,845	102.7
10/18/2022	8	58,875	1201	104.3
11/1/2022	14	61,059	2184	108.3
11/8/2022	7	62,244	1185	117.6
11/16/2022	8	63,589	1345	116.8
12/5/2022	19	66,983	3394	124.0
12/13/2022	8	68,407	1424	123.6
1/4/2023	22	72,214	3807	120.2
1/23/2023	19	75,242	3028	110.7
2/6/2023	14	77,286	2044	101.4
2/14/2023	8	78,544	1258	109.2
3/6/2023	20	81,930	3386	117.6
3/15/2023	9	83,341	1411	108.9
4/3/2023	19	86,411	3070	112.2
4/11/2023	8	87,496	1085	94.2
5/1/2023	20	90,084	2588	89.9
5/5/2023	4	90,712	628	109.0
Installed new meter				
5/5/2023	0	0		
5/9/2023	4	621	621	107.8
6/5/2023	27	5,163	4542	116.8
6/13/2023	8	6,639	1476	128.1
7/3/2023	20	10,343	3704	128.6
7/11/2023	8	11,646	1303	113.1
8/1/2023	21	14,675	3029	100.2
8/14/2023	13	16,432	1,757	93.9
9/5/2023	22	19,334	2,902	91.6
9/13/2023	8	20,439	1,105	95.9
Total	364		**57,322**	
			Average	**109.4**

File TM3

Snowcap Coal Company, Inc.

N-1 Monitoring Well
North Decline
2023

N-1 Top of Pipe - Elevation 4833

Date	Depth to Water	Elevation
10/10/2022	75.35	4757.65
10/18/2022	75.37	4757.63
11/7/2022	75.31	4757.69
11/7/2022	75.32	4757.68
12/5/2022	75.31	4757.69
1/4/2023	75.33	4757.67
1/23/2023	75.36	4757.64
2/6/2023	75.35	4757.65
3/6/2023	75.30	4757.70
3/14/2023	75.32	4757.68
4/11/2023	75.36	4757.64
5/1/2023	75.34	4757.66
5/9/2023	75.33	4757.67
6/5/2023	75.29	4757.71
6/13/2023	75.25	4757.75
7/3/2023	75.30	4757.70
7/11/2023	75.34	4757.66
8/1/2023	75.38	4757.62
8/14/2023	75.40	4757.60
9/5/2023	75.40	4757.60
9/13/2023	75.37	4757.63

Min	75.25	4757.60
Max	75.40	4757.75
Average	75.34	4757.66

Desired Range 4755 to 4762

Water-Data Report 2023

09095500 COLORADO RIVER NEAR CAMEO, CO -- Continued

DISCHARGE, CUBIC FEET PER SECOND
YEAR 2022-10-01 to 2023-09-30
DAILY MEAN VALUES

[e, Value has been estimated.]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	2022	2022	2022	2023	2023	2023	2023	2023	2023	2023	2023	2023
1	2,460	1,750	1,210	1,780	1,180	1,320	1,460	6,660	14,300	11,200	3,210	2,510
2	2,610	1,650	1,420	1,950	1,060	1,290	1,490	8,590	13,900	10,800	3,450	2,680
3	2,790	1,670	1,650	1,610	1,110	1,360	1,570	10,200	13,500	10,500	3,770	2,640
4	2,500	1,730	1,370	1,560	1,230	1,300	1,690	11,900	12,100	10,400	4,100	2,580
5	2,400	1,730	1,440	1,490	1,250	1,310	1,700	13,500	11,600	9,860	3,910	2,550
6	2,230	1,700	1,590	1,410	1,310	1,370	1,640	13,000	12,400	9,280	3,400	2,490
7	2,090	1,690	1,610	1,500	1,390	1,420	1,560	11,900	13,200	8,780	3,220	2,440
8	2,040	1,700	1,470	1,520	1,310	1,440	1,610	10,900	14,400	8,250	3,120	2,390
9	1,980	1,700	1,520	1,420	1,290	1,390	1,780	10,900	15,400	7,890	2,950	2,310
10	1,920	1,720	1,250	1,730	1,290	1,440	2,020	12,300	15,200	7,470	2,710	2,300
11	1,920	1,720	1,270	1,810	1,190	2,480	2,430	13,100	14,600	7,110	2,620	2,420
12	1,920	1,630	1,380	1,630	1,240	2,140	3,030	13,600	14,400	6,900	2,560	2,480
13	1,880	1,580	1,550	1,470	1,320	1,920	3,790	13,800	13,700	6,780	2,610	2,560
14	1,880	1,560	1,530	1,420	1,290	1,790	4,620	14,000	12,900	6,330	2,600	2,580
15	1,770	1,610	1,440	1,500	1,300	2,120	4,440	14,100	13,300	5,980	2,540	2,580
16	1,910	1,640	1,260	1,620	1,240	2,350	3,750	14,900	14,800	5,610	2,500	2,620
17	1,990	1,470	e1,010	1,540	1,180	1,750	3,390	16,000	14,500	5,140	2,510	2,590
18	2,010	1,450	e959	1,570	1,150	1,530	3,630	16,200	13,800	5,030	2,530	2,510
19	2,120	1,470	e933	1,480	1,250	1,410	4,120	16,000	13,300	4,870	2,570	2,480
20	2,070	1,400	e936	1,310	1,260	1,440	4,140	15,700	13,800	4,620	2,560	2,510
21	2,050	1,280	1,180	1,290	1,290	1,730	3,670	15,900	14,600	4,650	2,500	2,480
22	2,080	1,310	1,340	1,340	1,640	2,010	3,330	16,100	15,400	4,620	2,440	2,450
23	2,430	1,360	1,280	1,380	1,450	1,890	3,100	16,300	16,300	4,450	2,370	2,400
24	2,510	1,360	1,240	1,360	1,330	1,660	2,930	16,700	16,100	4,090	2,390	2,350
25	2,360	1,470	1,310	1,360	1,300	1,540	3,120	16,900	15,400	3,800	3,120	2,340
26	2,280	1,400	1,390	1,330	1,310	1,480	3,280	16,600	14,800	3,670	2,950	2,300
27	2,360	1,410	1,440	1,240	1,340	1,410	3,420	16,600	14,300	3,610	2,910	2,280
28	2,180	1,560	1,640	1,270	1,320	1,380	4,000	16,300	13,600	3,480	2,740	2,260
29	2,030	1,440	1,600	1,380		1,350	4,550	15,600	12,600	3,320	2,720	2,220
30	1,910	1,490	1,490	1,350		1,470	5,220	15,900	11,600	3,120	2,590	2,220
31	1,830		1,420	1,320		1,520		15,700		3,080	2,500	
Total	66,510	46,650	42,130	45,940	35,820	50,010	90,480	435,900	419,800	194,700	88,670	73,520
Mean	2,145	1,555	1,359	1,482	1,279	1,613	3,016	14,060	13,990	6,280	2,859	2,451
Max	2790	1750	1650	1950	1640	2480	5220	16900	16300	11200	4100	2680
Min	1770	1280	933	1240	1060	1290	1460	6660	11600	3080	2370	2220
Ac-ft	131,900	92,530	83,560	91,120	71,050	99,190	179,500	864,500	832,700	386,200	175,900	145,800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2023, BY WATER YEAR (WY)

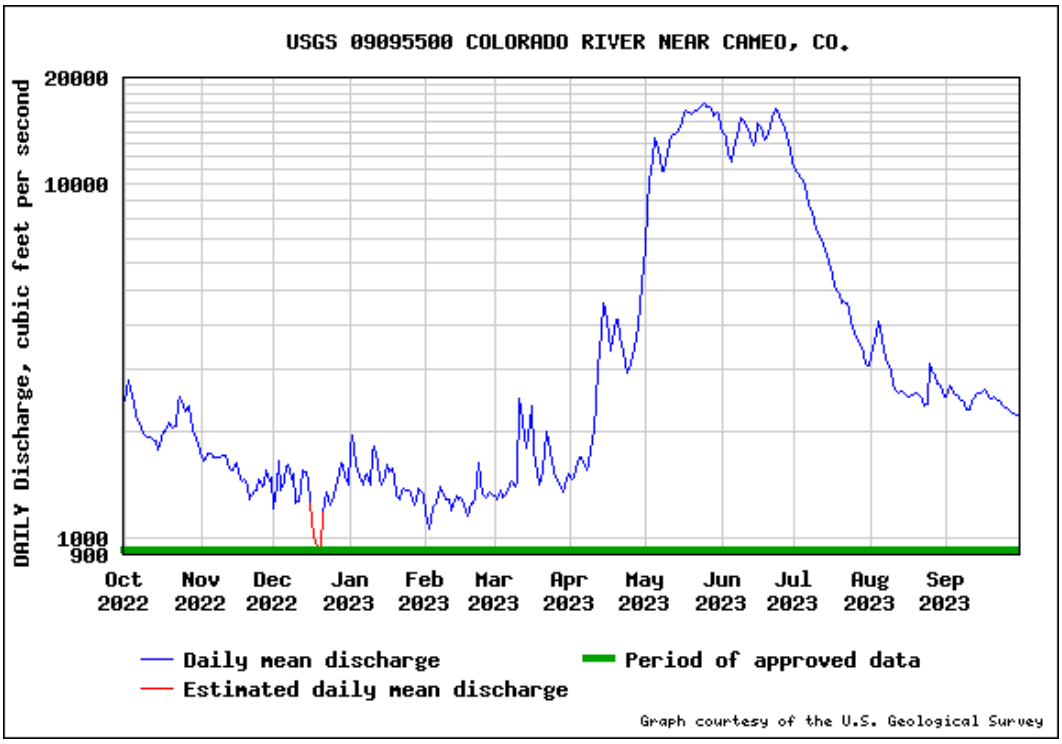
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,191	1,918	1,659	1,561	1,574	1,794	3,103	8,740	12,020	5,646	2,819	2,260
Max	3,731	3,253	3,002	2,621	2,775	3,365	8,615	20,290	25,829	17,430	6,571	4,271
(WY)	(1985)	(1985)	(1985)	(1985)	(1986)	(1986)	(1962)	(1984)	(1984)	(1957)	(1984)	(1984)
Min	1,084	1,038	1,004	940	941	1,019	1,428	2,536	2,606	1,515	1,332	1,243
(WY)	(1935)	(1935)	(1935)	(1964)	(1935)	(1935)	(2013)	(1977)	(2002)	(1934)	(1940)	(1934)

Water-Data Report 2023
09095500 COLORADO RIVER NEAR CAMEO, CO -- Continued

SUMMARY STATISTICS

	Water Year 2023		Water Years 1934 - 2023	
Annual total	1,590,000			
Annual mean	4,356		3,780	
Highest annual mean			7,605	1984
Lowest annual mean			1,751	2002
Highest daily mean	16,900	May 25	38,000	May 26, 1984
Lowest daily mean	933.0	Dec 19	608.0	Dec 23, 2012
Annual 7-day minimum	1,088	Dec 16	852.4	Dec 24, 1939
Maximum peak flow	17,300[a]	May 24	39,300[a]	May 26, 1984
Maximum peak stage	10.26	May 24	14.36	May 26, 1984
Annual runoff (cfsm)	0.545		0.473	
Annual runoff (inches)	7.40		6.43	
10 percent exceeds	13,800		9,020	
50 percent exceeds	2,260		2,150	
90 percent exceeds	1,310		1,350	

[a] Discharge affected to unknown degree by Regulation or Diversion



Water-Data Report 2023

09095500 COLORADO RIVER NEAR CAMEO, CO -- Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
YEAR 2022-10-01 to 2023-09-30
DAILY MEAN VALUES

Day	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023
1	946	1,100	1,230	1,150	1,310	1,270	1,310	580	347	351	825	933
2	927	1,190	1,320	1,060	1,360	1,270	1,310	521	353	360	806	903
3	905	1,210	1,300	1,120	1,380	1,290	1,310	475	367	367	742	862
4	887	1,180	1,170	1,170	1,480	1,270	1,270	449	383	367	667	875
5	899	1,170	1,240	1,180	1,370	1,270	1,240	421	395	372	649	886
6	913	1,150	1,250	1,200	1,340	1,260	1,240	420	378	388	683	884
7	939	1,150	1,180	1,240	1,290	1,240	1,220	430	358	401	747	891
8	970	1,140	1,140	1,180	1,250	1,260	1,260	448	341	417	767	900
9	987	1,130	1,210	1,190	1,260	1,230	1,250	458	328	431	784	910
10	1,000	1,130	1,220	1,150	1,280	1,210	1,170	439	321	439	826	926
11	1,010	1,130	1,290	1,090	1,280	1,060	1,090	417	328	454	874	920
12	1,020	1,130	1,370	1,160	1,320	1,080	968	401	328	458	888	891
13	1,020	1,150	1,300	1,160	1,330	1,100	820	398	334	452	897	916
14	1,030	1,180	1,210	1,200	1,280	1,160	730	393	347	466	883	857
15	1,040	1,190	1,200	1,220	1,310	1,160	676	392	350	487	893	862
16	1,070	1,180	1,260	1,170	---	1,150	694	383	336	508	908	865
17	1,020	1,190	1,310	1,170	1,320	1,170	757	366	332	539	920	872
18	992	1,230	1,460	1,200	1,360	1,210	787	357	340	567	920	876
19	989	1,260	1,600	1,190	1,360	1,280	763	355	346	564	924	891
20	961	1,270	1,600	1,210	1,320	1,330	704	359	336	591	901	894
21	982	1,280	1,540	1,260	1,300	1,320	709	354	316	598	901	890
22	982	1,360	1,500	1,320	1,210	1,220	759	352	305	598	905	897
23	952	1,380	1,360	1,290	1,210	1,240	806	347	290	599	922	898
24	917	1,340	1,320	1,280	1,240	1,250	843	343	291	620	939	910
25	894	1,320	1,340	1,260	1,260	1,280	865	338	293	662	995	925
26	920	1,270	1,300	1,260	1,270	1,320	844	341	303	691	887	934
27	944	1,270	1,230	1,260	1,300	1,320	821	337	307	699	869	943
28	967	1,260	1,140	1,300	1,290	1,350	763	336	311	707	884	949
29	994	1,200	1,130	1,320		1,370	690	342	323	725	895	957
30	1,030	1,240	1,140	1,250		1,370	635	340	339	755	895	969
31	1,070		1,160	1,280		1,330		335		785	917	
Max	1070	1380	1600	1320		1370	1310	580	395	785	995	969
Min	887	1100	1130	1060		1060	635	335	290	351	649	857
Mean	973	1213	1291	1209	1307	1246	943	394	334	530	855	903

Snowcap Coal Company, Inc.
2023 Water Year

NPDES POINT 016 — Chemical Analysis — SU-7

Field Parameters		8/14/2023
pH	SU	7.46
Conductivity	umhos/cm	1930
Temperature	(C)	21.3

Laboratory Results		8/14/2023
Carbonate (CO_3^{-2})	mg/l	<2.0
Aluminum, Dissolved	mg/l	<0.05
Arsenic, Dissolved	mg/l	<0.0002
Barium, Dissolved	mg/l	1.5
Boron, Dissolved	mg/l	0.793
Cadmium, Dissolved	mg/l	<0.00005
Calcium, Dissolved	mg/l	10.8
Chloride, Dissolved	mg/l	22.8
Chromium, Dissolved	mg/l	<0.0005
Copper, Dissolved	mg/l	<0.01
Fluoride, Dissolved	mg/l	1.8
Hardness, (as Ca Co3)	mg/l	27.0
Iron, Dissolved	mg/l	<0.06
Lead, Dissolved	mg/l	<0.0001
Magnesium, Dissolved	mg/l	5.31
Manganese, Dissolved	mg/l	0.029
Mercury, Dissolved	mg/l	<0.0002
Molybdenum, Dissolved	mg/l	<0.02
Nickel, Dissolved	mg/l	<0.008
Nitrate ($N0_3^{-1}$)	mg/l	<0.02
Phosphate (PO_4^{-3}, as P)	mg/l	0.45
Potassium, Dissolved	mg/l	2.95
Selenium, Dissolved	mg/l	<0.0001
Sodium, Dissolved	mg/l	444
Solids, Total Dissolved	mg/l	1200
Solids, Total Suspended	mg/l	<5.0
Sulfate, SO4	mg/l	9.1
Zinc, Dissolved	mg/l	<0.02
Ammonia, Nitrogen, NH_3	mg/l	0.739
Bicarbonate (HCO_3^{-1})	mg/l	964
SAR	Ratio	28.0

ROADSIDE SOUTH PORTAL DISCHARGE
OUTFALL 016 - CPDS #CO - 0027146

DATE	METER	FLOW GPM	PH SU	COND. umhos/cm	TEMP C	TSS Month	Unit	TDS Qrtly	Unit	Iron (TR) Qrtly	Unit	Arsenic (T) 2/Mo	Unit	Cadmium (PD) 2/Mo	Unit	Copper (PD) 2/Mo	Unit	Cyanide (WAD) 2/Mo	Unit	Lead (PD) 2/Mo	Unit	Selenium (PD) 2/Mo	Unit	Silver (PD) 2/Mo	Unit	Sulfide (H2S) 2/Mo	Unit
9/14/2022	53,829,000																										
10/10/2022	57,674,000	102.7	7.4	1940	22.3	< 5.0	mg/l	= 1210	mg/l	= 17.6	ug/l	< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	= 0.11	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.31	mg/l
10/18/2022	58,875,000	104.3	7.4	1910	19.7							< 0.20	ug/l	< 0.05	ug/l	= 2.66	ug/l	< 3.0	ug/l	= 0.01	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.49	mg/l
11/1/2022	61,059,000	108.3																									
11/8/2022	62,244,000	117.6	7.4	1950	22.5	< 5.0	mg/l					< 0.20	ug/l	< 0.05	ug/l	= 2.84	ug/l	< 3.0	ug/l	= 0.14	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.34	mg/l
11/16/2022	63,589,000	116.8	7.5	1940	18.2							< 0.20	ug/l	= 0.09	ug/l	= 3.14	ug/l	< 3.0	ug/l	= 0.02	ug/l	= 0.16	ug/l	< 0.10	ug/l	= 0.34	mg/l
12/5/2022	66,983,000	124.0	7.5	2000	18.1	< 5.0	mg/l					< 0.20	ug/l	= 0.06	ug/l	= 2.93	ug/l	< 3.0	ug/l	< 0.10	ug/l	= 0.13	ug/l	< 0.10	ug/l	< 0.02	mg/l
12/13/2022	68,407,000	123.6	7.5	2100	17.7							< 0.20	ug/l	< 0.05	ug/l	= 1.92	ug/l	< 3.0	ug/l	= 0.22	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.18	mg/l
1/4/2023	72,214,000	120.2	7.5	2000	15.4	< 5.0	mg/l	= 1240.0	mg/l	= 28.0	ug/l	< 0.20	ug/l	< 0.05	ug/l	= 2.8	ug/l	< 3.0	ug/l	= 0.27	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.54	mg/l
1/23/2023	75,242,000	110.7	7.5	2000	17.2							< 0.20	ug/l	< 0.05	ug/l	= 1.8	ug/l	< 3.0	ug/l	= 0.01	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.25	mg/l
2/6/2023	77,286,000	101.4	7.3	2000	20.8	< 5.0	mg/l					< 0.20	ug/l	< 0.05	ug/l	= 2.3	ug/l	< 6.0	ug/l	= 0.12	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.43	mg/l
2/14/2023	78,544,000	109.2	7.5	1860	17.9							< 0.20	ug/l	< 0.05	ug/l	= 2.1	ug/l	< 3.0	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.45	mg/l
3/6/2023	81,930,000	117.6	7.5	1990	21.2	< 5.0	mg/l					< 0.20	ug/l	< 0.05	ug/l	= 1.4	ug/l	< 3.0	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.40	mg/l
3/15/2023	83,341,000	108.9	7.5	2000	18.3							< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.45	mg/l
4/3/2023	86,411,000	112.2	7.5	2000	19.4	< 5.0	mg/l	= 1220.0	mg/l	= 20.1	ug/l	< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.49	mg/l
4/11/2023	87,496,000	94.2	7.5	1950	18.5							< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.48	mg/l
5/1/2023	90,084,000	89.9	7.3	1880	22.8	< 5.0	mg/l					< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	= 3.2	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.14	mg/l
5/5/2023	90,712,000	109.0	Old Meter Out																								
5/5/2023	0		New Meter In																								
5/9/2023	621,000	107.8	7.4	1950	22.4							< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.02	mg/l
6/5/2023	5,163,000	116.8	7.4	1930	22.3	< 5.0	mg/l					< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.34	mg/l
6/13/2023	6,639,000	128.1	7.5	1950	23.4							< 0.20	ug/l	= 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	= 0.16	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.21	mg/l
7/3/2023	10,343,000	128.6	7.4	1940	21.5	= 5.0	mg/l	= 1170.0	mg/l	= 18.7	ug/l	< 0.20	ug/l	= 0.08	ug/l	= 1.2	ug/l	< 3.0	ug/l	= 0.16	ug/l	= 0.12	ug/l	< 0.10	ug/l	= 0.22	mg/l
7/11/2023	11,646,000	113.1	7.4	1940	21.4							< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.20	ug/l	= 0.24	mg/l
8/1/2023	14,675,000	100.2	7.4	1900	23.1	< 5.0	mg/l					< 0.20	ug/l	< 0.05	ug/l	= 1.1	ug/l	= 8.8	ug/l	= 0.15	ug/l	= 0.13	ug/l	< 0.10	ug/l	= 0.77	mg/l
8/14/2023	16,432,000	93.9	7.5	1930	21.3							< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	< 0.10	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.57	mg/l
9/5/2023	19,334,000	91.6	7.5	1820	20.5	< 5.0	mg/l					< 0.20	ug/l	= 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	= 0.20	ug/l	< 0.10	ug/l	< 0.10	ug/l	= 0.35	mg/l
9/13/2023	20,439,000	95.9	7.5	1940	20.9							< 0.20	ug/l	< 0.05	ug/l	< 0.8	ug/l	< 3.0	ug/l	= 0.10	ug/l	= 0.19	ug/l	< 0.10	ug/l	= 0.43	mg/l
2023 WY	**Averages**	**109.5**	**7.4**	**1951**	**20.3**	**< 5.0**	**mg/l**	**= 1210**	**mg/l**	**= 21**	**ug/l**	**< 0.20**	**ug/l**	**< 0.05**	**ug/l**	**< 1.5**	**ug/l**	**< 3.4**	**ug/l**	**< 0.12**	**ug/l**	**< 0.11**	**ug/l**	**< 0.10**	**ug/l**	**= 0.35**	**mg/l**

Effective February 1, 2012 monitoring frequencies were changed as follows:
Flow, pH, TSS - Monthly TDS, Iron, Oil & Grease - Quarterly Arsenic, Cadmium, Copper, Cyanide, Lead, Selenium, Silver & Sulfide - 2 Days/Month