Williams Fork Mine

2023 Annual Hydrology Report

Submitted February 2024

To: Colorado Division of Reclamation, Mining, and Safety

BY: Moffat County Mining, LLC

Williams Fork Mine

2023 ANNUAL HYDROLOGY REPORT
Permit No. C-1981-044

Submitted to:

Colorado Division of Reclamation Mining and Safety
Denver, Colorado

Submitted by:

Moffat County Mining, LLC
Oak Creek, Colorado

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

2023 ANNUAL HYDROLOGY REPORT

1.0 INTRODUCTION

The following Annual Hydrology Report (AHR) presents hydrologic monitoring data from the Williams Fork underground mine sites near Craig, Colorado for the 2023 calendar year. Site locations are described below. This AHR is provided in fulfillment of reporting requirements under the Colorado State Division of Reclamation, Mining and Safety (DRMS), Permit No. C-81-044. All references to "2023" in this report refer to the 2023 calendar year (January 1, 2023 through December 31, 2023). Monitoring results for prior calendar years (1983 through 2021) are presented in previous AHRs, although selected historical data (period of record – POR) are summarized in some of the tables and figures within this AHR.

Following a discussion of Site Location and Background, this AHR provides a section on the 2023 Hydrologic Monitoring Program, which is further divided into the following subsections:

1) Groundwater Monitoring
2) Surface Water Monitoring

This is followed by the Summary and Conclusions Section. Tables, Figures, and back-up documentation are located in the tabbed sections at the back of this AHR.

2.0 SITE LOCATION AND BACKGROUND

Williams Fork No. 5 and Eagle No. 6 Mines are underground coal mines located approximately seven miles south of Craig, Colorado, on State Highway 13. The mine sites, and adjacent area lie along the northern foot of the Williams Fork Mountains, which trend east to west. The elevation of the permit area ranges from a low of approximately 6,130 feet in the Big Bottom area, to a high of about 7,400 feet in the Williams Fork Mountains. The entire operation is located in Moffat County, Colorado. The general location of the site is shown on Figure 1.

There are two (2) major northwestern Colorado Rivers, which intersect the permit area. These are: 1) the Yampa River and 2) the Williams Fork River. The Yampa River runs from north to south through the permit area, while the Williams Fork River runs from south to north and intersects the Yampa River just north of the mine facilities area. The northern portion of the permit area is dominated by the Big Bottom alluvium, while the southern and eastern portions of the permit area are dominated by the Williams Fork Mountains and the riverbeds of the Yampa and Williams Fork Rivers.

The Eagle Mine sites are located in an area, which has been historically mined by surface and underground mining. The earliest records of mining indicate that underground mining began in this area in the late 1920's

and early 1930's, while surface strip mining began around 1975. The major mines which have operated in the past are: 1) Wise Hill (1,2,3,4), Williams Fork Strip (1,2,3), and Trapper Strip. The Trapper Strip Mine began operations in 1976 and has continued to date.

Underground mining began at the Eagle No. 5 Mine in 1972, under a subsidiary of the Zigler Coal Co. The Cyprus Empire Corporation (CEC), a subsidiary of the Cyprus Coal Company, subsequently acquired the mines from Zigler in 1982, and began operating under an approved Colorado Mine Land Reclamation Board permit in August, 1983. In 1999**,** CEC was acquired by RAG EC. In April 2004, RAG EC was acquired by Peabody Energy, with the mine owned by Peabody's subsidiary, BTU, and the mine name changing to BTU Empire Corporation (BTU EC). In December 2009, the mine name was changed to William's Fork Mine (WFM)

Hydrologic monitoring has been conducted at the mine site since 1980, primarily by CEC/RAG EC/BTU EC/WFM personnel. A private company (Two Pines Inc.) has also been contracted to assist with some of the hydrologic monitoring over the years. Water quality samples are currently analyzed by ACZ Laboratories, Inc., of Steamboat Springs, Colorado, an USEPA certified laboratory.

The Eagle No. 5 Mine, mining the "F" Coal Seam of the Cretaceous Age Williams Fork Formation, originally utilized room-and-pillar mining methods until 1985, when economics dictated a change to the longwall mining method. The aerial extent of the underground workings in the Eagle No. 5 Mine was approximately 2,040 acres in early 1990, when the No. 5 mine was sealed and mining moved to the Eagle No. 6 Mine. Full production in the Eagle No. 6 Mine began in late 1990, with coal extraction from the underlying "E" Coal Seam of the Williams Fork Formation. Coal mined at the No. 5 and No. 6 Mines was loaded on unit trains at the mine facility area and hauled by rail to market. The 5A portals and a short section of the No. 5 Mine mains were used for access to the Eagle No. 6 Mine. The aerial extent of the underground workings in the Eagle No. 6 Mine (underlying portions of the No. 5 Mine) was approximately 640 acres at in late 1995, when mining ceased. The mines were subsequently in temporary cessation (TC), until Williams Fork re-activated water monitoring during the second quarter of 2006, in anticipation of WFM considering options for future re-activation of the mine site, and because a bond release application was also being contemplated for the Utah Tract and Williams Fork Strip Pit portions of the mine property.

During the third quarter of 2013, the mine reverted back to TC monitoring (discussed further below). In July 2013 all power was shut down on the mine property. Within a month or so of the shut-down, the site substation was partially dismantled.

In May 2014, copper thieves were discovered on site and apprehended by the Moffat County Sherriff's department. The thieves' activities had resulted in $500,000 to one million dollars-worth of damage between the main warehouse and the multi-services building on site. Security cameras were subsequently installed on site, and a security company was hired to inspect the site daily.

In November 2016, WFM requested deactivation of TC status, in anticipation of upcoming reclamation of

the site. Reclamation continued through 2023, the final seeding to took place in the fall of 2023.

3.0 2023 HYDROLOGIC MONITORING PROGRAM

The WFM hydrologic monitoring program includes data collected specifically to meet requirements of the CDRMS, as well as data collected to meet the requirements of the Colorado Wastewater Discharge Permit System (CDPS). Note that "CDPS" parameters were formerly referred to as National Pollutant Discharge Elimination System (NPDES) parameters in prior AHRs. Specific monitoring locations are illustrated on Figure 2.

In June 2001, Technical Revision TR01-32 was approved, allowing suspension of many DRMS hydrologic monitoring requirements while the mine was in temporary cessation (TC). In 2005 BTU EC began to examinate options for future re-activation of the mine site. In view of this considerations, BTU EC reverted back to the active monitoring plan (pages 1 – 14 of Exhibit 29), during the second quarter of 2006. In the third quarter of 2013 the mine reverted back to temporary cessation monitoring, as it was decided that there were no short term plans to reactivate mining.

WFM personnel is responsible for adhering to the monitoring requirements of its CDPS permit. Note that data acquisition required under the TC monitoring plan, only include sites:

- Bedrock well TR-7A,
- Alluvial well AVF-5,
- Surface water sites (Williams Fork) WF-1, WF-2,
- CDPS (Permit CO-0034142) sites:
    - 1) Mine discharge No. 5 Mine sump [CDPS Outfall 003, a.k.a. site 5D];
    - 2) Mine discharge 7 North Angle Well Bore [CDPS Outfall 024, a.k.a. site 9P3], and
    - 3) Spring - No. 1 StripPit [CDPS Outfall 022, a.k.a. site 1SP].

In 2016 TC was lifted and reclamation of the mine site began.

Table 1A presents a summary of hydrologic monitoring requirements for these sites under TC (modified from TR01-32, Appendix D of the TC monitoring plan). Table 1B outlines monitoring and sites required when off of TC. Water quality monitoring includes field parameters (Table 2), surface water quality parameters under TC (Table 3A), and off of TC (Table 3B). CDPS parameters (Table 4) are the monitoring requirements page from CDPHE CDPS permit CO-0042142.

3.1 GROUNDWATER MONITORING

3.1.1 BEDROCK WELLS

Three sandstone aquifers are found beneath the subject site. In ascending order, they are: Trout Creek

Sandstone, Middle Sandstone, and Twentymile Sandstone. The Eagle No. 5 and Eagle No. 6 Mines are located between the Trout Creek Sandstone and the Middle Sandstone.

Water Levels

Trout Creek Sandstone: Water level measurements in the Trout Creek Sandstone No. 5 Mine well are shown on Figure 3. Historical annual water level fluctuations of 20 to 200 feet have been observed at this well but no seasonal pattern is evident. Note that recent water levels (2006 to date) were lower than levels measured prior to TC. This drop is apparently from consistent subsurface dewatering with the No. 5 mine pump. Levels remained relatively consistent from 2006 through 2013 with some variation due to periodic down time from malfunctions of the No. 5 mine pump. During the last quarter of 2012, the pump failed, resulting in no discharge. The pump was replaced in the spring of 2012, but stopped operating in July 2013 when power was removed from the site. The higher water level for No 5 starting in 2016 indicates how the water level had risen without pump dewatering over the years. In September of 2020 reclamation efforts made it impossible to get a reading during the 4th quarter due to well obstruction. Water level readings resumed in 2021. The 5 Mine Well water level continues to slowly rise as the mine fills with water. The former Okie Plaza Trout Creek well was abandoned in June 1994 as mining advanced through its location.

Middle Sandstone: The water levels in the Middle Sandstone formation as measured in wells TR-4, TR-7a, 81-01, 83-01, 83-02, and 83-03. Historically these show fluctuations which are apparently related to dewatering and past subsidence associated with Mines 5 and 6. Wells TR-4 water levels appear to be slightly rising since 2008 (Fig. 4). Levels in TR-7A (Fig. 5) have risen about 50 feet since 2013. There was one outlier in the spring of 2020 that dropped the well level by 40 feet but the well has since returned to the prior level. It is unclear if there was a reading error or what caused the drop. The water level has remained steady through 2021. 81-01 is relatively consistent with that seen prior to TC (Fig. 6). The water levels in 83-01 (Fig. 7) have been on the rise since monitoring was reactivated in 2006, with consistent seasonal fluctuations. The water levels in well 83-02 (Fig. 8) are consistent with those found since monitoring was reactivated in 2006. The water level decline of about 150 feet from 1987 to mid 1990 in well 83-02 was determined to be related to mine dewatering as Mine 5 workings approached the location of the well. The more abrupt 200 foot decline in water levels observed in 1990 is thought to be a drawdown response due to subsidence as it is located only a few hundred feet horizontally from an F seam longwall panel which was mined in a similar time frame. The water level stabilized until 1994 when it recovered to the 1983 levels. Water levels in 83-02 have been stabile since 2006.

Wells TR-4 and 83-03 are located at greater distance horizontally from the active operations for mines 5 and 6. Water levels in Well TR-4 (Fig. 4) historically appear to be related to the fluctuations observed on all three of the down gradient Middle Sandstone Wells: 81-01, 83-01 and 83-02. The water level decline in TR-4 prior to 1984 and the subsequent recovery up to 1988 closely parallels the trends observed in Wells 81-01 and 83-01. The decline during the first part of 1991 also parallels the trend in these two wells. However, the

rapid decline during the last part of 1989 and the first part of 1990 appears to follow the trend observed in Well 83-02 although the magnitude of decline is considerably less. In 2023, Well 83-02, was unable to be sampled due to obstruction in the pipe. Unusually large fluctuations for TR-4 for 1999 through 2000 have been attributed to a faulty pressurized line system.

Well 83-03 (Fig.9) is the Middle Sandstone monitoring well located furthest (more than 1.5 miles) from active underground operations for Mines 5 and 6. The overall trend from 1984 through 2000 and again in 2006 to date suggests a similar trend to the other Middle Sandstone wells. Well 83-03 has remained steady throughout the history of the well. It is located along the Yampa River and is artesian. The pressure at the well has consistently measured between 32 PSI and 36 PSI, until this year. The hydrant is leaking and a pressure reading is not stable. The water levels in the Middle Sandstone wells had either recovered or stabilized in 1995. Note that in early 2008 and 2009 there were drops in the water level, after which water levels stabilized and started to rise again in 2012. The reason for the drops is unclear. A larger drop of over 125 feet occurred after the TC ended in 2017 and monitoring resumed, the water has since stabilized and is on a steady mild incline.

Historically, the groundwater gradient in the Middle Sandstone in the vicinity of the mining operation generally decreases from the southeast to the northwest.

Twentymile Sandstone: Monitoring results to date (Fig. 10) showed no apparent change in the water levels in the Twentymile Sandstone that could be attributable to mining activities. Wells 259 and 84-01 remained relatively stable. 9 Mine well has exhibited a stable level since the beginning of monitoring. In 2023, 9 Mine Well was unable to be sampled due to obstruction in casing.

Historically, the groundwater gradient in the Middle Sandstone in the vicinity of the mining operation generally decreases from the southeast to the northwest.

Water Quality

Trout Creek Sandstone: The field parameter data for No. 5 Mine well does not suggest any significant mining related water quality impacts to the Trout Creek Sandstone. The water quality data for this Trout Creek Sandstone well is summarized on Table 5. A plot of field conductivity measurements is presented in Figure 11. Note that conductivity values for the No. 5 Mine well following the 2006 removal from TC appear elevated compared to earlier historical values. This may be related to consistent pumping at this site.

Note that the No. 5 dewatering pump was damaged during the fourth quarter of 2010 and was removed and replaced with another pump in June 2012 when the area was dry enough to bring in a crane. In July 2013 all power was removed from the facility, and pumping ceased.

Middle Sandstone: The field parameter data for the three Middle Sandstone wells (TR-4, TR-7A, 81-01) was reviewed. Water quality data are summarized in Tables 6 through 11. Plots of field conductivity for these Middle Sandstone Wells are presented in Figure 12. The conductivity measurements recorded in wells TR-7A , TR-4, and 81-01 remain stable as compared to recent historic values. Note that wells TR-4 and 81-01 exhibited elevated conductivity values after monitoring was re-initiated in 2006 when removed from TC. The reason for that effect is unknown. In 2022 TR-4 showed a large drop in conductivity values during the first two quarters. The values have since been on a slight upward trend. The reason for the drop is unknown.

Wells TR-7A and TR-4 have historically indicated a slight reduction in concentrations of major ions over time. Historically, all three wells have shown a reduction in concentrations of iron which shows considerable variation in concentrations. The general reduction in iron concentrations may be the result of better purging of well bore volumes prior to sampling.

Twentymile Sandstone: The recent field parameter data for the two Twentymile Sandstone wells 259, does not suggest a significant impact or trend. Figure 13 shows historical conductivity data. The 9 Mine well exhibited a rise in conductivity in 2010, appeared to stabilize in mid-2011 and went up again in 2016 after TC but has since stabilized and is on a mild downward trend. Water quality data for these Twentymile Sandstone wells are summarized in Tables 12 through 14. Conductivity values continue to increase for well 259. In 2023, no data was collected at 9 Mine Well due to obstruction in well.

In summary, elevated conductivity values were detected in the Trout Creek and Middle Sandstones. However, the overall water quality of these, as well as the Twentymile Sandstone does not indicate obvious adverse impacts related to Mines 5 and 6.

3.1.2 MINE WATER DISCHARGE

The 7 North Angle (7NA) well site (associated with CDPS Outfall 024, a.k.a. site 9P3 by DRMS) was a mine dewatering well site that would eventually discharge into the Williams Fork River. The Eagle No. 5 Mine sump discharge is CDPS Outfall 003, a.k.a. site 5D. It is also a mine dewatering pump. Under TC, monitoring of these sites remains the same as in the active mining monitoring plan, however 9P3 has not discharged since 2001, and no near future discharge is anticipated.

Site 5D has not discharged since about July 2013, when power was removed from the site. No near future discharge is anticipated from this site either. Please consult prior AHRs for historical data.

There was no active pumping performed at the mine since July 2013. A plot of the measured discharge for this point is presented in Figure 14. Figure 15 is a historical monthly tabulation of flow measurements.

3.1.3 ALLUVIAL WELLS

Under TC, water data in the Williams Fork River Alluvium is monitored via alluvial well AVF-5, which is located adjacent to the underground discharge sediment ponds area (See Figure 2). Under TC, AVF-5 is measured for water level and field parameters on an annual basis (between July 20th and August 30th) concurrent with the Williams Fork surface water sampling (site WF-1). No water quality analyses were required for AVF-5 under TC.

Out of TC, alluvial wells AVF-3, AVF-5, and AVF-6 require quarterly water quality monitoring (See Table 1B). These wells are located in the general area of the loadout facilities and underground discharge sediment ponds. Historically, groundwater levels in the alluvium have remained fairly regular, with normal seasonal fluctuations, apparently related to changes in river levels. POR groundwater levels are plotted in Figure 16. The data indicates no impact on alluvial water levels related to mining.

Field parameter data for these alluvial wells are presented in Tables 15 through 17. POR water quality data is provided in Tables 15A through 17A. A plot of field electric conductivity versus time is presented in Figure 17. There has been no conclusive evidence of seasonal variation of water quality in the alluvium. Overall, over the past 5 years, the wells show conductivity levels within the historic readings or a slightly downward trend.

3.2 SURFACE WATER MONITORING

3.2.1 Rivers

There are two rivers in the vicinity of the mine site. The Yampa River flows in a southeasterly direction across the mine site. The Yampa River drains most of the northwest corner of Colorado and part of south-central Wyoming. The second river is the Williams Fork, which is a major tributary of the Yampa River. The Williams Fork River joins the Yampa River on the mine property. Monitoring data is collected for the Williams Fork River. The Williams Fork River gaging station (WF-2) is near the confluence with the Yampa River, downstream of the Eagle No. 5 Mine discharge. The staff gage (WF-1) is located upstream of the mine discharge points. WF-2 is also monitored concurrent with WF-1.

The flow data for WF-2 was historically provided by the United States Geologic Survey (USGS) via one gaging station and one staff gage for collection of Williams Fork River flow data (former site 09249750). however, their monitoring of the Williams Fork stations was discontinued in 2001. In 2010 the State Division

of Water Resources (Office of State Engineer) reactivated the site. Data for the former USGS site can be found on the State Water Resources website under station No. WMFKMHCO. A copy of their 2023 daily average flow data is provided at the back of this AHR under Support Data.

Historically, comparisons between up gradient site WF-1, and down gradient site WF-2, have not show any stream depletion impacts from mine dewatering. Summaries of WF-1 and WF-2 water quality data are presented in Tables 18 through 19. POR data is provided in Tables 18A and 19A, respectively. A plot of upstream and downstream dissolved solids measurements for the river is presented in Figure 18. Water quality data does not show any significant variation from expected values. The comparisons of data from the upstream and downstream station on the Williams Fork River indicate that there is no detectable effect of mining on river water quality. As expected, dissolved solids decrease with increasing flow rate in the rivers, due to dilution from runoff.

3.2.2 Springs

There is one active spring on the mine site area, known as the No. 1 Strip Pit Discharge, or 1SP. There are a few other ephemeral springs and local permanent "damp spots" in the area; however, their combined flow is normally less than 5-10 gpm, and therefore are not significant. The 1SP Discharge is a CDPS monitoring point (Outfall 022). There is no sediment pond associated with this spring. Spring water runs down a narrow path through a vegetative filter, drops down onto an isolated sand bar, and during the spring discharges directly to the Williams Fork River. The POR discharges for the 1SP are presented in Figure 19. 2023 discharge data is presented in Figure 20. The site flows sporadically during the spring. The discharge typically begins in March during the spring melt and is generally dry by the end of June. 1SP is typically dry from July through November, and freezes over from December into February/March.

Table 20 provides 2023 data for this site, while Table 20A provides POR data. A plot of POR total dissolved solids for 1SP is presented in Figure 21, and POR iron concentrations are presented on Figure 22. Figure 21 indicates TDS concentrations that are consistent with historic concentrations. Figure 22 illustrates the variable nature of total recoverable iron concentrations in 1SP discharge. Since 2002 there has been slight general upward trend in iron concentrations, however these levels are still within historic ranges seen for this site. We will continue to monitor this trend.

3.2.3 Ponds

There was no recorded discharge from any on-site sediment ponds in 2023.

4.0 SUMMARY AND CONCLUSIONS

The subject mine site ceased active mining operations in 1995, thus total mined acreage has not changed since then. The site went in and out of Temporary Cessation (TC) until 2016 when it was removed from TC to commence final reclamation. The site was taken off TC in November 2016 for reclamation and will continue until further notice. DRMS will be notified of our intensions well in advance.

No significant, unpredicted, or adverse environmental impacts were noted during hydrologic monitoring for 2023. All environmental precautions have been taken to a max extent during the reclamation process. BMP are being followed. During 2018 most of the major structures were demolished and removed from site. Final grading started in 2019 and reclamation grading was finalized in 2022 and the final seeding took place in the fall of 2023.

TABLES

Table: 5 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: 5MN, NO. 5 Mine Well, Trout Creek Sandstone Datum: 6143.62

Date	3/21/2023	6/19/2023	9/19/2023
Depth to Water (FT)	15.98	11.5	6

POWER HAS BEEN DISCONNECTED AND WATER LEVEL IS TOO LOW TO OBTAIN SAMPLE SINCE 2013

Table: 6 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: T4, Well TR-4, Middle Sandstone Datum: 6308.3

			Date	3/21/2023		6/19/2023		9/19/2023		11/15/2023	
			Depth to Water (FT)	9.55		6.99		6.7		4.96	
Type	Parameter	Fraction	Units	Result	Detection	Result	Detection	Result	Detection	Result	Detection
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L			420	Y				
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L			36.7	Y				
ANION	Chloride	N	MG/L			13.4	Y				
ANION	Sulfates	N	MG/L			269	Y				
CATION	Calcium	D	MG/L			47.3	Y				
CATION	Magnesium	D	MG/L			25.2	Y				
CATION	Sodium	D	MG/L			198	Y				
FIELD	pH, Field	N	S.U.	7.68	Y	7.7	Y	6.7	Y	8.6	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1580	Y	1330	Y	2120	Y	1760	Y
FIELD	Temperature, Field	N	DEG-C	10.1	Y	14.8	Y	12.5	Y	14	Y
NUTRIENT	Nitrate Nitrogen	N	MG/L			0.1	N				
NUTRIENT	Nitrite Nitrogen	N	MG/L			0.05	N				
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L			0.1	N				
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L			457	Y				
PHYSICAL	Hardness	N	MG/L			222	Y				
PHYSICAL	Hydroxide as OH	N	MG/L			20	N				
PHYSICAL	pH, Lab	N	S.U.			8.56	Y				
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM			1230	Y				
PRIMARY	Arsenic	D	UG/L			1	N				
PRIMARY	Cadmium	D	UG/L			0.25	N				
PRIMARY	Lead	D	UG/L			1.04	Y				
PRIMARY	Mercury	D	UG/L			1	N				
PRIMARY	Selenium	D	UG/L			0.25	N				
SECONDARY	Iron	D	UG/L			190	Y				
SECONDARY	Manganese	D	UG/L			56	Y				
SECONDARY	Zinc	D	UG/L			50	N				
TRACE	Boron	D	UG/L			102	Y				
TRACE	Molybdenum	D	UG/L			100	N				

Table: 6A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: T4, Well TR-4, Middle Sandstone Datum: 6308.3

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	5/20/2009	6/19/2023	10	542	550	690	386	103
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	6/27/1996	6/19/2023	9	43.8	38	112	2	30.1
ANION	Chloride	N	MG/L	3/30/1981	6/19/2023	39	12.1	3	41	1	15.2
ANION	Sulfates	N	MG/L	3/30/1981	6/19/2023	39	178	53	620	2	237
CATION	Calcium	D	MG/L	7/8/1983	6/19/2023	31	10.7	4.6	100	2	19.7
CATION	Magnesium	D	MG/L	7/8/1983	6/19/2023	31	14.4	8	51.3	1	11.8
CATION	Sodium	D	MG/L	7/8/1983	6/19/2023	31	199	41	553	16.3	218
FIELD	pH, Field	N	S.U.	1/26/1982	11/15/2023	112	8.5	8.6	9.5	6.7	0.526
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1/26/1982	11/15/2023	112	839.47	360	2410	180	781.73
FIELD	Temperature, Field	N	DEG-C	5/27/1982	11/15/2023	108	11.5	11	26.5	4.5	2.78
NUTRIENT	Nitrate Nitrogen	N	MG/L	3/5/1985	6/19/2023	30	0.04	0.03	0.1	0.01	0.02
NUTRIENT	Nitrite Nitrogen	N	MG/L	9/15/1986	6/19/2023	9	0.02	0.01	0.05	0.01	0.02
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	3/30/1981	6/19/2023	41	0.06	0.04	0.1	0.02	0.04
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	3/30/1981	6/19/2023	35	339	255	630	117	181
PHYSICAL	Hardness	N	MG/L	5/5/2011	6/19/2023	10	66.2	34	222	18	74.4
PHYSICAL	Hydroxide as OH	N	MG/L	6/11/1992	6/19/2023	15	10	20	20	0	9
PHYSICAL	pH, Lab	N	S.U.	3/30/1981	6/19/2023	39	8.55	8.6	10.3	6.9	0.606
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	3/30/1981	6/19/2023	39	922	520	2340	180	823
PRIMARY	Arsenic	D	UG/L	7/8/1983	6/19/2023	31	3	1	40	1	7
PRIMARY	Cadmium	D	UG/L	7/8/1983	6/19/2023	31	4.6	3	50	0.25	8.8
PRIMARY	Lead	D	UG/L	7/8/1983	6/19/2023	31	15.9	20	50	0.1	14.1
PRIMARY	Mercury	D	UG/L	7/8/1983	6/19/2023	31	0.5	0.2	1	0.1	0.4
PRIMARY	Selenium	D	UG/L	7/8/1983	6/19/2023	31	0.87	1	2	0.2	0.56
SECONDARY	Iron	D	UG/L	3/5/1985	6/19/2023	30	315	106	1510	10	439
SECONDARY	Manganese	D	UG/L	7/8/1983	6/19/2023	31	21	11	56	5	17
SECONDARY	Zinc	D	UG/L	7/8/1983	6/19/2023	31	56	10	990	5	170
TRACE	Boron	D	UG/L	7/8/1983	6/19/2023	31	92.7	50	220	10	78.5
TRACE	Molybdenum	D	UG/L	7/8/1983	6/19/2023	31	70	50	200	5	50

Table: 7 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: T7A, Well TR-7A, Middle Sandstone Datum: 6244.3

			Date	3/21/2023		6/19/2023		9/19/2023		11/15/2023	
			Depth to Water (FT)	98.14		89.36		89.33		89.13	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L			196	Y				
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L			19.1	Y				
ANION	Chloride	N	MG/L			1.18	Y				
ANION	Sulfates	N	MG/L			1.9	Y				
CATION	Calcium	D	MG/L			6.84	Y				
CATION	Magnesium	D	MG/L			26.6	Y				
CATION	Sodium	D	MG/L			32.4	Y				
FIELD	pH, Field	N	S.U.	8.52	Y	8.1	Y	8.7	Y	8.3	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	440	Y	440	Y	300	Y	450	Y
FIELD	Temperature, Field	N	DEG-C	10.2	Y	14.9	Y	15.5	Y	14.1	Y
NUTRIENT	Nitrate Nitrogen	N	MG/L			0.034	Y				
NUTRIENT	Nitrite Nitrogen	N	MG/L			0.05	N				
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L			0.034	Y				
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L			215	Y				
PHYSICAL	Hardness	N	MG/L			127	Y				
PHYSICAL	Hydroxide as OH	N	MG/L			20	N				
PHYSICAL	pH, Lab	N	S.U.			8.71	Y				
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM			361	Y				
PRIMARY	Arsenic	D	UG/L			1	N				
PRIMARY	Cadmium	D	UG/L			0.25	N				
PRIMARY	Lead	D	UG/L			6.97	Y				
PRIMARY	Mercury	D	UG/L			1	N				
PRIMARY	Selenium	D	UG/L			0.25	N				
SECONDARY	Iron	D	UG/L			472	Y				
SECONDARY	Manganese	D	UG/L			17	Y				
SECONDARY	Zinc	D	UG/L			23	Y				
TRACE	Boron	D	UG/L			37	Y				
TRACE	Molybdenum	D	UG/L			100	N				

Table: 7A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: T7A, Well TR-7A, Middle Sandstone Datum: 6244.3

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	5/20/2009	6/19/2023	10	205	203	250	183	19.7
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	6/25/1996	6/19/2023	9	22.5	19.1	34.8	12	7.43
ANION	Chloride	N	MG/L	3/30/1981	6/19/2023	39	3.24	2	8	1	1.97
ANION	Sulfates	N	MG/L	3/30/1981	6/19/2023	39	20.9	10	85	1	21.6
CATION	Calcium	D	MG/L	6/29/1983	6/19/2023	31	7.28	6	28	2	5.51
CATION	Magnesium	D	MG/L	6/29/1983	6/19/2023	31	26.2	27.4	32	14	5.26
CATION	Sodium	D	MG/L	6/29/1983	6/19/2023	31	36.2	33	63	19.6	9.97
FIELD	pH, Field	N	S.U.	1/26/1982	11/15/2023	115	8.62	8.62	10.1	7.1	0.475
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1/26/1982	11/15/2023	115	406	392	1320	122	115
FIELD	Temperature, Field	N	DEG-C	5/27/1982	11/15/2023	110	11.7	11.4	21	5.4	2.38
NUTRIENT	Nitrate Nitrogen	N	MG/L	3/5/1985	6/19/2023	30	0.036	0.032	0.1	0.02	0.018
NUTRIENT	Nitrite Nitrogen	N	MG/L	6/11/1992	6/19/2023	7	0.02	0.01	0.05	0.01	0.02
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	3/30/1981	6/19/2023	42	0.073	0.09	0.35	0.02	0.061
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	3/30/1981	6/19/2023	36	187	198	239	127	30.2
PHYSICAL	Hardness	N	MG/L	5/5/2011	6/19/2023	10	131	131	146	120	8.33
PHYSICAL	Hydroxide as OH	N	MG/L	6/11/1992	6/19/2023	15	10	20	20	0	9
PHYSICAL	pH, Lab	N	S.U.	3/30/1981	6/19/2023	39	8.718	8.76	10.14	6.5	0.546
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	3/30/1981	6/19/2023	39	378	370	600	265	57.9
PRIMARY	Arsenic	D	UG/L	6/29/1983	6/19/2023	31	3	1	40	1	7
PRIMARY	Cadmium	D	UG/L	6/29/1983	6/19/2023	31	3.1	3	10	0.06	2.5
PRIMARY	Lead	D	UG/L	6/29/1983	6/19/2023	31	24.7	20	290	0.7	50.7
PRIMARY	Mercury	D	UG/L	6/29/1983	6/19/2023	31	0.5	0.2	1	0.1	0.4
PRIMARY	Selenium	D	UG/L	6/29/1983	6/19/2023	31	0.88	1	2	0.25	0.55
SECONDARY	Iron	D	UG/L	3/5/1985	6/19/2023	30	312	80	3780	10	684
SECONDARY	Manganese	D	UG/L	6/29/1983	6/19/2023	31	24	22	50	10	10
SECONDARY	Zinc	D	UG/L	6/29/1983	6/19/2023	31	23.1	10	102	5	21.7
TRACE	Boron	D	UG/L	6/29/1983	6/19/2023	31	40	40	100	10	21
TRACE	Molybdenum	D	UG/L	6/29/1983	6/19/2023	31	70	50	200	10	50

Table: 8 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: 01, Well 81-01, Middle Sandstone Datum: 6413.0

			Date	3/21/2023		6/19/2023		9/19/2023		11/15/2023	
			Depth to Water (FT)	257.81		248.16		252		252.2	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L			328	Y				
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L			8	Y				
ANION	Chloride	N	MG/L			41.5	Y				
ANION	Sulfates	N	MG/L			490	Y				
CATION	Calcium	D	MG/L			99.9	Y				
CATION	Magnesium	D	MG/L			118	Y				
CATION	Sodium	D	MG/L			36.1	Y				
FIELD	pH, Field	N	S.U.	7.81	Y	7.2	Y	6.9	Y	7.5	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1480	Y	1480	Y	1720	Y	1780	Y
FIELD	Temperature, Field	N	DEG-C	9.6	Y	13.7	Y	10.2	Y	4.5	Y
NUTRIENT	Nitrate Nitrogen	N	MG/L			0.07	Y				
NUTRIENT	Nitrite Nitrogen	N	MG/L			0.05	N				
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L			0.07	Y				
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L			336	Y				
PHYSICAL	Hardness	N	MG/L			735	Y				
PHYSICAL	Hydroxide as OH	N	MG/L			20	N				
PHYSICAL	pH, Lab	N	S.U.			8.32	Y				
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM			1370	Y				
PRIMARY	Arsenic	D	UG/L			1	N				
PRIMARY	Cadmium	D	UG/L			0.25	N				
PRIMARY	Lead	D	UG/L			0.35	Y				
PRIMARY	Mercury	D	UG/L			1	N				
PRIMARY	Selenium	D	UG/L			0.25	N				
SECONDARY	Iron	D	UG/L			1840	Y				
SECONDARY	Manganese	D	UG/L			356	Y				
SECONDARY	Zinc	D	UG/L			50	N				
TRACE	Boron	D	UG/L			33	Y				
TRACE	Molybdenum	D	UG/L			100	N				

Table: 8A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: 01, Well 81-01, Middle Sandstone Datum: 6413.0

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	5/20/2009	6/19/2023	10	364	338	480	278	68
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	5/20/2009	6/19/2023	7	20	20	20	1	8
ANION	Chloride	N	MG/L	5/20/2009	6/19/2023	12	36.5	40.1	44.3	7	10.9
ANION	Sulfates	N	MG/L	5/20/2009	6/19/2023	12	362	370	490	170	87.7
CATION	Calcium	D	MG/L	5/20/2009	6/19/2023	12	98.1	101	120	69	15.3
CATION	Magnesium	D	MG/L	5/20/2009	6/19/2023	12	101	106	118	54	16.8
CATION	Sodium	D	MG/L	5/20/2009	6/19/2023	12	34.6	34.6	48.7	22	5.97
FIELD	pH, Field	N	S.U.	2/13/2019	11/15/2023	20	7.36	7.26	7.81	6.9	0.252
FIELD	Specific Conductivity, Field	N	UMHOS/CM	2/13/2019	11/15/2023	19	1400	1370	1780	1300	135
FIELD	Temperature, Field	N	DEG-C	2/13/2019	11/15/2023	20	10.5	10.9	13.7	4.5	1.68
NUTRIENT	Nitrate Nitrogen	N	MG/L	5/20/2009	6/19/2023	12	0.05	0.05	0.1	0.01	0.02
NUTRIENT	Nitrite Nitrogen	N	MG/L	5/12/2022	6/19/2023	2	0.05	0.05	0.05	0.05	0
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	5/5/2011	6/19/2023	20	0.09	0.1	0.1	0.03	0.02
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	5/20/2009	6/19/2023	12	333	333	390	278	35.7
PHYSICAL	Hardness	N	MG/L	5/5/2011	6/19/2023	10	669	666	736	588	49.6
PHYSICAL	Hydroxide as OH	N	MG/L	5/5/2011	6/19/2023	11	20	20	20	20	0
PHYSICAL	pH, Lab	N	S.U.	5/20/2009	6/19/2023	12	8.11	8.1	8.32	7.75	0.163
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	5/20/2009	6/19/2023	12	1250	1270	1380	880	147
PRIMARY	Arsenic	D	UG/L	5/20/2009	6/19/2023	12	1	1	2	1	0.5
PRIMARY	Cadmium	D	UG/L	5/20/2009	6/19/2023	12	0.4	0.5	0.5	0.25	0.12
PRIMARY	Lead	D	UG/L	5/20/2009	6/19/2023	12	0.71	0.33	5	0.1	1.4
PRIMARY	Mercury	D	UG/L	5/20/2009	6/19/2023	12	0.9	1	1	0.2	0.2
PRIMARY	Selenium	D	UG/L	5/20/2009	6/19/2023	12	0.57	0.3	2	0.25	0.62
SECONDARY	Iron	D	UG/L	5/20/2009	6/19/2023	12	4850	4500	12800	30	3250
SECONDARY	Manganese	D	UG/L	5/20/2009	6/19/2023	12	242	219	372	98	86.7
SECONDARY	Zinc	D	UG/L	5/20/2009	6/19/2023	12	50	50	50	5	10
TRACE	Boron	D	UG/L	5/20/2009	6/19/2023	12	40	40	80	20	17
TRACE	Molybdenum	D	UG/L	5/20/2009	6/19/2023	12	90	100	100	50	20

Table: 9 2023 Annual Hydrology Report
Williams Fo: Water Year Monitoring Data

Site: 301, Well 83-01, Middle Sandstone Datum: 6172.13

Date	3/21/2023	6/19/2023	9/19/2023	11/15/2023
Depth to Water (FT)	25.87	21.02	20.8	21.4

Table: 10 **2023 Annual Hydrology Report**
Williams Fork Mine **Water Year Monitoring Data**

Site: 302, Well 83-02, Middle Sandstone Datum: 6678.50

Date	3/21/2023	6/19/2023	9/19/2023	11/15/2023
Depth to Water (FT)				

Unable to obtain water level in 2023

Table: 11 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: 303, Well 83-03, Middle Sandstone Datum: 6131.22

Date	3/21/2023	6/19/2023	9/19/2023	11/15/2023
Depth to Water (FT)	0	0	0	0
PSI	32	*	*	*

Artesian Well

*Hydrant broken - unable to obtain accurate pressure reading

Table: 12 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: 259, Well 259, Twentymile Sandstone Datum: 6128.0

			Date	3/21/2023		6/19/2023		9/19/2023		11/15/2023	
			Depth to Water (FT)	0		0		0		0	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L			265	Y				
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L			5.9	Y				
ANION	Chloride	N	MG/L			1.6	Y				
ANION	Sulfates	N	MG/L			70.1	Y				
CATION	Calcium	D	MG/L			54	Y				
CATION	Magnesium	D	MG/L			22.3	Y				
CATION	Sodium	D	MG/L			33.3	Y				
FIELD	pH, Field	N	S.U.	7.74	Y	7.5	Y	7.5	Y	7.8	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	640	Y	620	Y	520	Y	700	Y
FIELD	Temperature, Field	N	DEG-C	9.8	Y	13.1	Y	15.7	Y	4.9	Y
NUTRIENT	Nitrate Nitrogen	N	MG/L			0.1	N				
NUTRIENT	Nitrite Nitrogen	N	MG/L			0.05	N				
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L			0.1	N				
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L			271	Y				
PHYSICAL	Hardness	N	MG/L			227	Y				
PHYSICAL	Hydroxide as OH	N	MG/L			20	N				
PHYSICAL	pH, Lab	N	S.U.			8.35	Y				
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM			554	Y				
PRIMARY	Arsenic	D	UG/L			1	N				
PRIMARY	Cadmium	D	UG/L			0.25	N				
PRIMARY	Lead	D	UG/L			0.5	N				
PRIMARY	Mercury	D	UG/L			1	N				
PRIMARY	Selenium	D	UG/L			0.25	N				
SECONDARY	Iron	D	UG/L			1180	Y				
SECONDARY	Manganese	D	UG/L			29	Y				
SECONDARY	Zinc	D	UG/L			50	N				
TRACE	Boron	D	UG/L			62	Y				
TRACE	Molybdenum	D	UG/L			100	N				

Table: 12A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: 259, Well 259, Twentymile Sandstone Datum: 6128.0

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	5/20/2009	6/19/2023	11	125	58.9	265	8.2	113
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	11/25/1996	6/19/2023	9	7.6	5.9	20	1	7.5
ANION	Chloride	N	MG/L	3/30/1981	6/19/2023	37	6.84	3.71	30.6	1	7.18
ANION	Sulfates	N	MG/L	3/30/1981	6/19/2023	37	38.6	49	95	1	29.4
CATION	Calcium	D	MG/L	6/29/1983	6/19/2023	29	28	21	76	2.4	23
CATION	Magnesium	D	MG/L	6/29/1983	6/19/2023	29	13	12	24.2	1.1	9.17
CATION	Sodium	D	MG/L	6/29/1983	6/19/2023	29	23.7	23.4	39.3	4.7	11
FIELD	pH, Field	N	S.U.	1/26/1982	11/15/2023	110	7.58	7.65	9.21	6	0.637
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1/26/1982	11/15/2023	110	428	466.5	1440	109.2	246.9
FIELD	Temperature, Field	N	DEG-C	5/27/1982	11/15/2023	106	10.9	11	18.9	4	2.76
NUTRIENT	Nitrate Nitrogen	N	MG/L	3/5/1985	6/19/2023	28	0.04	0.02	0.1	0.01	0.02
NUTRIENT	Nitrite Nitrogen	N	MG/L	6/11/1992	6/19/2023	7	0.02	0.01	0.05	0.01	0.02
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	3/30/1981	6/19/2023	41	0.066	0.08	0.26	0.02	0.049
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	3/30/1981	6/19/2023	36	150	201	271	6.8	94
PHYSICAL	Hardness	N	MG/L	5/5/2011	6/19/2023	10	107	37.5	230	25	97.4
PHYSICAL	Hydroxide as OH	N	MG/L	6/11/1992	6/19/2023	15	20	20	20	0	8
PHYSICAL	pH, Lab	N	S.U.	6/29/1981	6/19/2023	36	7.8	7.94	9.2	5.9	0.748
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	3/30/1981	6/19/2023	37	368	469	575	67	192
PRIMARY	Arsenic	D	UG/L	6/29/1983	6/19/2023	29	3	1	40	1	7
PRIMARY	Cadmium	D	UG/L	6/29/1983	6/19/2023	29	3	3	10	0.06	2.5
PRIMARY	Lead	D	UG/L	6/29/1983	6/19/2023	29	28	20	380	0.1	69
PRIMARY	Mercury	D	UG/L	6/29/1983	6/19/2023	29	0.5	0.2	1	0.1	0.4
PRIMARY	Selenium	D	UG/L	6/29/1983	6/19/2023	29	1.1	1	6	0.25	1.1
SECONDARY	Iron	D	UG/L	3/5/1985	6/19/2023	28	963	80	7400	10	1960
SECONDARY	Manganese	D	UG/L	6/29/1983	6/19/2023	29	97.2	50	330	7	94.2
SECONDARY	Zinc	D	UG/L	6/29/1983	6/19/2023	29	73.8	50	540	5	122
TRACE	Boron	D	UG/L	6/29/1983	6/19/2023	29	63	60	240	10	43
TRACE	Molybdenum	D	UG/L	6/29/1983	6/19/2023	29	70	50	200	10	50

Table: 13 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: 401, Well 84-01, Twentymile Sandstone Datum: 6307.47

Date	3/21/2023	6/19/2023	9/19/2023	11/15/2023
Depth to Water (FT)	46.89	46.07	46.8	46.65

Table: 14 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: 9MN, #9 Mine Well, Twentymile Sandstone Datum: 6383.29

			Date									
			Depth to Water (FT)									
Type	Parameter	Fraction	Units	Result	Detection	Result	Detection	Result	Detection	Result	Detection
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L								
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L								
ANION	Chloride	N	MG/L								
ANION	Sulfates	N	MG/L								
CATION	Calcium	D	MG/L								
CATION	Magnesium	D	MG/L								
CATION	Sodium	D	MG/L								
FIELD	pH, Field	N	S.U.								
FIELD	Specific Conductivity, Field	N	UMHOS/CM								
FIELD	Temperature, Field	N	DEG-C								
NUTRIENT	Nitrate as NO3	N	MG/L								
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L								
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L								
PHYSICAL	Hardness as CACO3	N	MG/L								
PHYSICAL	Hydroxide as OH	N	MG/L								
PHYSICAL	pH, Lab	N	S.U.								
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM								
PRIMARY	Arsenic	D	UG/L								
PRIMARY	Cadmium	D	UG/L								
PRIMARY	Lead	D	UG/L								
PRIMARY	Mercury	D	UG/L								
PRIMARY	Selenium	D	UG/L								
SECONDARY	Iron	D	UG/L								
SECONDARY	Manganese	D	UG/L								
SECONDARY	Zinc	D	UG/L								
TRACE	Boron	D	UG/L								
TRACE	Molybdenum	D	UG/L								

2022/2023: Obstruction in well. Unable to obtain water level or sample.

Table: 14A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: 9MN, #9 Mine Well, Twentymile Sandstone Datum: 6383.29

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	5/20/2009	4/14/2021	8	370	392	480	259	90
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	6/13/1996	4/14/2021	6	10	20	20	1	10
ANION	Chloride	N	MG/L	3/30/1981	4/14/2021	31	14.6	4	54.7	2	18.2
ANION	Sulfates	N	MG/L	3/30/1981	4/14/2021	31	90.8	50	365	4	91
CATION	Calcium	D	MG/L	6/29/1983	4/14/2021	24	81.6	79.7	163	35.1	29.4
CATION	Magnesium	D	MG/L	6/29/1983	4/14/2021	24	41.1	33	87.3	22	16.7
CATION	Sodium	D	MG/L	6/29/1983	4/14/2021	24	21.042	16.95	43.5	9.9	9.4706
FIELD	pH, Field	N	S.U.	1/26/1982	12/12/2021	103	7.36	7.3	8.7	6.6	0.425
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1/26/1982	12/12/2021	103	785	640	3500	428	376
FIELD	Temperature, Field	N	DEG-C	5/27/1982	12/12/2021	99	13.1	12.2	23.1	9.7	2.81
NUTRIENT	Nitrate Nitrogen	N	MG/L	3/5/1985	4/14/2021	23	0.04	0.03	0.08	0.02	0.02
NUTRIENT	Nitrite Nitrogen	N	MG/L	6/19/1995	6/15/1999	4	0.01	0.01	0.01	0.01	0
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	3/30/1981	4/14/2021	37	0.055	0.04	0.12	0.02	0.036
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	3/30/1981	4/14/2021	31	301	296	441	193	46.1
PHYSICAL	Hardness	N	MG/L	5/5/2011	5/18/2020	8	513	481	767	358	121
PHYSICAL	Hydroxide as OH	N	MG/L	6/4/1992	4/14/2021	13	10	20	20	0	9
PHYSICAL	pH, Lab	N	S.U.	3/30/1981	4/14/2021	32	7.89	7.88	9.1	7	0.403
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	3/30/1981	4/14/2021	32	728	620	1470	380	266
PRIMARY	Arsenic	D	UG/L	6/29/1983	4/14/2021	24	3.7	1.2	40	0.5	8
PRIMARY	Cadmium	D	UG/L	6/29/1983	4/14/2021	24	3	3	10	0.07	2.5
PRIMARY	Lead	D	UG/L	6/29/1983	4/14/2021	24	10	20	50	0.1	10
PRIMARY	Mercury	D	UG/L	6/29/1983	4/14/2021	24	0.5	0.2	1	0.1	0.4
PRIMARY	Selenium	D	UG/L	6/29/1983	4/14/2021	24	1	1	4	0.2	0.88
SECONDARY	Iron	D	UG/L	3/5/1985	4/14/2021	23	613	140	3760	10	986
SECONDARY	Manganese	D	UG/L	6/29/1983	4/14/2021	24	242	61.5	1150	40	329
SECONDARY	Zinc	D	UG/L	6/29/1983	4/14/2021	24	259	124	1200	10	296
TRACE	Boron	D	UG/L	6/29/1983	4/14/2021	24	41	30	90	20	21
TRACE	Molybdenum	D	UG/L	6/29/1983	4/14/2021	24	70	50	200	10	50

Table: 15 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: AV3, Well AVF-3, Williams Fork Alluvium Datum: 6137.95

			Date	3/21/2023		6/19/2023		9/19/2023		11/15/2023	
			Depth to Water (FT)	Dry		7.28		Dry		Dry	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L			157	Y				
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L			3.1	Y				
ANION	Chloride	N	MG/L			1.74	Y				
ANION	Sulfates	N	MG/L			6.2	Y				
CATION	Calcium	D	MG/L			38.9	Y				
CATION	Magnesium	D	MG/L			9.47	Y				
CATION	Sodium	D	MG/L			5.21	Y				
FIELD	pH, Field	N	S.U.			7.8	Y				
FIELD	Specific Conductivity, Field	N	UMHOS/CM			330	Y				
FIELD	Temperature, Field	N	DEG-C			13.5	Y				
NUTRIENT	Nitrate Nitrogen	N	MG/L			1.68	Y				
NUTRIENT	Nitrite Nitrogen	N	MG/L			0.029	Y				
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L			1.71	Y				
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L			160	Y				
PHYSICAL	Hardness	N	MG/L			136	Y				
PHYSICAL	Hydroxide as OH	N	MG/L			20	N				
PHYSICAL	pH, Lab	N	S.U.			8.37	Y				
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM			286	Y				
PRIMARY	Arsenic	D	UG/L			0.58	Y				
PRIMARY	Cadmium	D	UG/L			0.25	N				
PRIMARY	Lead	D	UG/L			0.38	Y				
PRIMARY	Mercury	D	UG/L			1	N				
PRIMARY	Selenium	D	UG/L			0.64	Y				
SECONDARY	Iron	D	UG/L			410	Y				
SECONDARY	Manganese	D	UG/L			399	Y				
SECONDARY	Zinc	D	UG/L			50	N				
TRACE	Boron	D	UG/L			77	Y				
TRACE	Molybdenum	D	UG/L			100	N				

Table: 15A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: AV3, Well AVF-3, Williams Fork Alluvium Datum: 6137.95

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	3/16/2009	6/19/2023	28	410	500	601	97	162
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	3/16/1996	6/19/2023	28	10.1	2.55	20	1	9.31
ANION	Chloride	N	MG/L	6/29/1981	6/19/2023	114	196	180	2300	1.54	228
ANION	Sulfates	N	MG/L	6/29/1981	6/19/2023	114	281	277	531	4.4	119
CATION	Calcium	D	MG/L	3/30/1983	6/19/2023	107	110	112	167	27.1	27
CATION	Magnesium	D	MG/L	3/30/1983	6/19/2023	107	68.8	73	104	6.99	21.9
CATION	Sodium	D	MG/L	3/30/1983	6/19/2023	107	175	180	288	2.58	62.9
FIELD	pH, Field	N	S.U.	1/26/1982	6/19/2023	154	7.42	7.4	8.7	6.8	0.276
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1/26/1982	6/19/2023	154	1622.004	1650	2750	280	397.1241
FIELD	Temperature, Field	N	DEG-C	5/27/1982	6/19/2023	150	9.45	9	18.5	3.7	2.97
NUTRIENT	Nitrate Nitrogen	N	MG/L	3/26/1984	6/19/2023	103	0.141	0.06	1.68	0.01	0.211
NUTRIENT	Nitrite Nitrogen	N	MG/L	12/4/1986	6/19/2023	30	0.015	0.01	0.05	0.01	0.011
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	6/29/1981	6/19/2023	114	0.258	0.1	1.99	0.01	0.333
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	6/29/1981	6/19/2023	107	408	408	980	97	109
PHYSICAL	Hardness	N	MG/L	3/16/1992	6/19/2023	28	438	525	661	111	178
PHYSICAL	Hydroxide as OH	N	MG/L	8/14/1991	6/19/2023	52	10	20	20	0	9
PHYSICAL	pH, Lab	N	S.U.	6/29/1981	6/19/2023	114	7.78	7.8	8.4	6.7	0.348
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	6/29/1981	6/19/2023	114	1668	1720	2700	196	497.3
PRIMARY	Arsenic	D	UG/L	3/30/1983	6/19/2023	107	2.31	1	40	0.2	5.47
PRIMARY	Cadmium	D	UG/L	3/30/1983	6/19/2023	107	3.51	5	10	0.05	2.22
PRIMARY	Lead	D	UG/L	3/30/1983	6/19/2023	107	22	20	100	0.1	20
PRIMARY	Mercury	D	UG/L	3/30/1983	6/19/2023	107	0.5	0.2	10	0.1	1
PRIMARY	Selenium	D	UG/L	3/30/1983	6/19/2023	107	1.54	1	25.6	0.1	2.63
SECONDARY	Iron	D	UG/L	3/26/1984	6/19/2023	103	289	60	3460	5	587
SECONDARY	Manganese	D	UG/L	3/30/1983	6/19/2023	107	153	128	934	5	151
SECONDARY	Zinc	D	UG/L	3/30/1983	6/19/2023	107	35.7	10	1180	5	115
TRACE	Boron	D	UG/L	3/30/1983	6/19/2023	106	112	100	280	10	46.8
TRACE	Molybdenum	D	UG/L	3/30/1983	6/19/2023	107	60	50	200	10	50

Table: 16 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: AV5, Well AVF-5, Williams Fork Alluvium Datum: 6132.59

			Date	3/21/2023		6/19/2023		9/19/2023		11/15/2023	
			Depth to Water (FT)	7.92		6.29		8.7		10.1	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	691	Y	738	Y	594	Y	705	Y
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	20	N	33.3	Y	20	N	23.9	Y
ANION	Chloride	N	MG/L	28.3	Y	45	Y	45.8	Y	41.9	Y
ANION	Sulfates	N	MG/L	259	Y	404	Y	465	Y	434	Y
CATION	Calcium	D	MG/L	40.9	Y	58.5	Y	58.3	Y	62	Y
CATION	Magnesium	D	MG/L	20.3	Y	26.6	Y	26.4	Y	28.4	Y
CATION	Sodium	D	MG/L	354	Y	450	Y	414	Y	422	Y
FIELD	pH, Field	N	S.U.	7.6	Y	7.6	Y	7.2	Y	7.6	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1790	Y	2340	Y	2000	Y	2060	Y
FIELD	Temperature, Field	N	DEG-C	5.8	Y	13.4	Y	18.5	Y	8	Y
NUTRIENT	Nitrate Nitrogen	N	MG/L	1.2	Y	20.2	Y	5.97	Y	2.04	Y
NUTRIENT	Nitrite Nitrogen	N	MG/L	0.05	N	0.498	Y	0.191	Y	0.04	Y
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	1.2	Y	20.7	Y	6.16	Y	2.08	Y
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	691	Y	771	Y	594	Y	728	Y
PHYSICAL	Hardness	N	MG/L	186	Y	256	Y	254	Y	272	Y
PHYSICAL	Hydroxide as OH	N	MG/L	20	N	20	N	20	N	20	N
PHYSICAL	pH, Lab	N	S.U.	7.9	Y	8.42	Y	6.9	Y	8.3	Y
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	1720	Y	2330	Y	2150	Y	2180	Y
PRIMARY	Arsenic	D	UG/L	0.61	Y	0.82	Y	0.55	Y	0.43	Y
PRIMARY	Cadmium	D	UG/L	0.075	Y	0.101	Y	0.147	Y	0.085	Y
PRIMARY	Lead	D	UG/L	0.4	Y	0.5	N	0.5	N	0.5	N
PRIMARY	Mercury	D	UG/L	1	N	1	N	1	N	1	N
PRIMARY	Selenium	D	UG/L	6.1	Y	41.7	Y	5.29	Y	5.05	Y
SECONDARY	Iron	D	UG/L	79	Y	150	N	150	N	150	N
SECONDARY	Manganese	D	UG/L	472	Y	131	Y	303	Y	47	Y
SECONDARY	Zinc	D	UG/L	50	N	50	N	50	N	50	N
TRACE	Boron	D	UG/L	273	Y	290	Y	395	Y	337	Y
TRACE	Molybdenum	D	UG/L	100	N	100	N	100	N	100	N

Table: 16A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: AVF, Well AVF-5, Williams Fork Alluvium Datum: 6132.59

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	3/16/2009	11/15/2023	33	824	749	1200	594	175
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	3/16/1996	11/15/2023	33	16.2	14.6	59.6	1	15.8
ANION	Chloride	N	MG/L	6/29/1981	11/15/2023	119	28.1	27	47.9	7	8.3
ANION	Sulfates	N	MG/L	6/29/1981	11/15/2023	119	210	190	733	4	174
CATION	Calcium	D	MG/L	3/30/1983	11/15/2023	112	69.2	50.8	225	28.3	42
CATION	Magnesium	D	MG/L	3/30/1983	11/15/2023	112	43.1	28.7	149	12.2	30
CATION	Sodium	D	MG/L	3/30/1983	11/15/2023	112	309	336	967	6.09	119
FIELD	pH, Field	N	S.U.	1/26/1982	11/15/2023	158	7.43	7.4	9.7	6.3	0.341
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1/26/1982	11/15/2023	158	1747.11	1700	3700	220	455.722
FIELD	Temperature, Field	N	DEG-C	5/27/1982	11/15/2023	154	10.2	10.1	18.7	2	3.76
NUTRIENT	Nitrate Nitrogen	N	MG/L	3/26/1984	11/15/2023	109	0.703	0.05	26.4	0.01	3.25
NUTRIENT	Nitrite Nitrogen	N	MG/L	12/4/1986	11/15/2023	33	0.0354	0.01	0.5	0.01	0.0894
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	6/29/1981	11/15/2023	120	1.37	0.1	74	0.02	7.13
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	6/29/1981	11/15/2023	113	782.9	807	1215	243	173.8
PHYSICAL	Hardness	N	MG/L	3/16/1992	11/15/2023	33	199	199	272	121	41.2
PHYSICAL	Hydroxide as OH	N	MG/L	8/14/1991	11/15/2023	56	10	20	20	0	9
PHYSICAL	pH, Lab	N	S.U.	6/29/1981	11/15/2023	119	7.87	7.8	9.72	6.9	0.425
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	6/29/1981	11/15/2023	119	1725	1730	2580	860	287.2
PRIMARY	Arsenic	D	UG/L	3/30/1983	11/15/2023	112	2.12	1	40	0.3	5.33
PRIMARY	Cadmium	D	UG/L	3/30/1983	11/15/2023	112	3.25	4	10	0.07	2.29
PRIMARY	Lead	D	UG/L	3/30/1983	11/15/2023	112	22.3	20	310	0.1	32.4
PRIMARY	Mercury	D	UG/L	3/30/1983	11/15/2023	112	0.5	0.2	1	0.1	0.4
PRIMARY	Selenium	D	UG/L	3/30/1983	11/15/2023	112	2.81	2	41.7	0.1	5.02
SECONDARY	Iron	D	UG/L	3/26/1984	11/15/2023	107	116	40	2100	10	258
SECONDARY	Manganese	D	UG/L	3/30/1983	11/15/2023	112	324	170	2000	5	386
SECONDARY	Zinc	D	UG/L	3/30/1983	11/15/2023	112	28.2	10	477	5	48.4
TRACE	Boron	D	UG/L	3/30/1983	11/15/2023	112	252	270	440	30	106
TRACE	Molybdenum	D	UG/L	3/30/1983	11/15/2023	112	60	50	200	10	50

Table: 17 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: AV6, Well AVF-6, Williams Fork Alluvium Datum: 6146.23

				Date	3/21/2023		6/19/2023		9/19/2023		11/15/2023	
				Depth to Water (FT)	6.93		5.79		8.07		8.3	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	335	Y	427	Y	551	Y	618	Y
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	20	N	20	N	20	N	20	N
ANION	Chloride	N	MG/L	3.45	Y	5.32	Y	58.4	Y	28.9	Y
ANION	Sulfates	N	MG/L	77.5	Y	244	Y	827	Y	546	Y
CATION	Calcium	D	MG/L	61.3	Y	95.2	Y	229	Y	189	Y
CATION	Magnesium	D	MG/L	38.5	Y	57.8	Y	139	Y	118	Y
CATION	Sodium	D	MG/L	42.3	Y	62.6	Y	135	Y	110	Y
FIELD	pH, Field	N	S.U.	7.4	Y	7.4	Y	7.2	Y	7.5	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	760	Y	1110	Y	1830	Y	1940	Y
FIELD	Temperature, Field	N	DEG-C	6.6	Y	10.9	Y	22.7	Y	3.9	Y
NUTRIENT	Nitrate Nitrogen	N	MG/L	0.1	N	0.181	Y	0.396	Y	0.034	Y
NUTRIENT	Nitrite Nitrogen	N	MG/L	0.05	N	0.011	Y	0.018	Y	0.05	N
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	0.1	N	0.192	Y	0.414	Y	0.034	Y
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	335	Y	427	Y	551	Y	618	Y
PHYSICAL	Hardness	N	MG/L	312	Y	476	Y	1140	Y	958	Y
PHYSICAL	Hydroxide as OH	N	MG/L	20	N	20	N	20	N	20	N
PHYSICAL	pH, Lab	N	S.U.	7.6	Y	8.25	Y	6.6	Y	7.9	Y
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	705	Y	1090	Y	2260	Y	1950	Y
PRIMARY	Arsenic	D	UG/L	1	N	0.54	Y	0.52	Y	0.33	Y
PRIMARY	Cadmium	D	UG/L	0.25	N	0.25	N	0.25	N	0.25	N
PRIMARY	Lead	D	UG/L	0.18	Y	0.18	Y	0.5	N	0.12	Y
PRIMARY	Mercury	D	UG/L	1	N	1	N	1	N	1	N
PRIMARY	Selenium	D	UG/L	0.25	N	0.33	Y	0.43	Y	0.56	Y
SECONDARY	Iron	D	UG/L	149	Y	316	Y	168	Y	130	Y
SECONDARY	Manganese	D	UG/L	124	Y	155	Y	379	Y	105	Y
SECONDARY	Zinc	D	UG/L	50	N	50	N	53	Y	50	N
TRACE	Boron	D	UG/L	104	Y	92	Y	102	Y	97	Y
TRACE	Molybdenum	D	UG/L	100	N	100	N	100	N	100	N

Table: 17A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: AV6, Well AVF-6, Williams Fork Alluvium Datum: 6146.23

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	3/16/2009	11/15/2023	33	456	480	618	284	96.9
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	3/16/1996	11/15/2023	33	11	14	20	1	9
ANION	Chloride	N	MG/L	6/29/1981	11/15/2023	119	23.8	20	92	3.2	19
ANION	Sulfates	N	MG/L	6/29/1981	11/15/2023	119	322	310	827	10	186
CATION	Calcium	D	MG/L	3/30/1983	11/15/2023	112	125	126	234	30.3	47.2
CATION	Magnesium	D	MG/L	3/30/1983	11/15/2023	112	70.1	71.2	139	19.5	23.8
CATION	Sodium	D	MG/L	3/30/1983	11/15/2023	112	131	116	451	30	82.9
FIELD	pH, Field	N	S.U.	1/26/1982	11/15/2023	157	7.37	7.39	8.22	6.8	0.251
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1/26/1982	11/15/2023	157	1506.41	1590	3000	630	341.659
FIELD	Temperature, Field	N	DEG-C	5/27/1982	11/15/2023	153	10.4	10.5	23.1	3.9	3.66
NUTRIENT	Nitrate Nitrogen	N	MG/L	3/26/1984	11/15/2023	108	0.0524	0.025	0.5	0.02	0.0738
NUTRIENT	Nitrite Nitrogen	N	MG/L	12/4/1986	11/15/2023	34	0.018	0.01	0.05	0.01	0.015
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	6/29/1981	11/15/2023	120	0.076	0.04	0.47	0.02	0.0851
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	6/29/1981	11/15/2023	113	523	530	917	263	127
PHYSICAL	Hardness	N	MG/L	3/16/1992	11/15/2023	33	506	476	1140	258	203
PHYSICAL	Hydroxide as OH	N	MG/L	8/14/1991	11/15/2023	57	10	20	20	0	9
PHYSICAL	pH, Lab	N	S.U.	6/29/1981	11/15/2023	118	7.76	7.7	8.6	6.6	0.374
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	6/29/1981	11/15/2023	119	1428	1430	2260	556	399.1
PRIMARY	Arsenic	D	UG/L	3/30/1983	11/15/2023	112	2.1	1	40	0.2	5.3
PRIMARY	Cadmium	D	UG/L	3/30/1983	11/15/2023	112	3.35	4.5	11	0.06	2.42
PRIMARY	Lead	D	UG/L	3/30/1983	11/15/2023	112	21	20	130	0.1	21
PRIMARY	Mercury	D	UG/L	3/30/1983	11/15/2023	112	0.5	0.2	1	0.1	0.4
PRIMARY	Selenium	D	UG/L	3/30/1983	11/15/2023	112	2.04	1	32	0.1	4.84
SECONDARY	Iron	D	UG/L	3/26/1984	11/15/2023	108	165	91	1600	5	232
SECONDARY	Manganese	D	UG/L	3/30/1983	11/15/2023	112	146	123	769	8	121
SECONDARY	Zinc	D	UG/L	3/30/1983	11/15/2023	112	23	10	100	5	21
TRACE	Boron	D	UG/L	3/30/1983	11/15/2023	112	108	90	390	20	70.7
TRACE	Molybdenum	D	UG/L	3/30/1983	11/15/2023	112	60	50	200	10	50

Table: 18 2023 Annual Hydrology Report
Williams] Water Year Monitoring Data

Site:WF1, Williams Fork River, Upstream Datum: 6142.39

			Date	1/14/2023		2/25/2023		3/21/2023		4/10/2023	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
FIELD	pH, Field	N	S.U.	7.83	Y	7.61	Y	7.7	Y	7.5	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	640	Y	600	Y	630	Y	720	Y
FIELD	Temperature, Field	N	DEG-C	2.3	Y	1.9	Y	0.9	Y	8	Y
PHYSICAL	Acidity	N	MG/L					20	N		
PHYSICAL	pH, Lab	N	S.U.					7.5	Y		
PHYSICAL	Solids, Total Suspended	N	MG/L	20	N	20	N	7	Y	92	Y
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L					372	Y		
SECONDARY	Iron	TR	UG/L					298	Y		
SECONDARY	Manganese	TR	UG/L					18	Y		

Table: 18 2023 Annual Hydrology Report
Williams] Water Year Monitoring Data

Site:WF1, Williams Fork River, Upstream Datum: 6142.39

			Date	5/20/2023		6/19/2023		7/12/2023		8/8/2023	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
FIELD	pH, Field	N	S.U.	7.3	Y	7.8	Y	8.5	Y	8.5	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	240	Y	240	Y	330	Y	390	Y
FIELD	Temperature, Field	N	DEG-C	7	Y	13.4	Y	25.4	Y	22.8	Y
PHYSICAL	Acidity	N	MG/L			20	N				
PHYSICAL	pH, Lab	N	S.U.			8.36	Y				
PHYSICAL	Solids, Total Suspended	N	MG/L	241	Y	104	Y	9	Y	31	Y
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L			160	Y				
SECONDARY	Iron	TR	UG/L			3120	Y				
SECONDARY	Manganese	TR	UG/L			46	Y				

Table: 18 2023 Annual Hydrology Report
Williams]Water Year Monitoring Data

Site:WF1, Williams Fork River, Upstream Datum: 6142.39

			Date	9/6/2023		10/24/2023		11/15/2023		12/13/2023	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
FIELD	pH, Field	N	S.U.	8.3	Y	8.4	Y	8.4	Y	6.9	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	410	Y	380	Y	670	Y	530	Y
FIELD	Temperature, Field	N	DEG-C	24.2	Y	15	Y	4.1	Y	3.8	Y
PHYSICAL	Acidity	N	MG/L	20	N			20	N		
PHYSICAL	pH, Lab	N	S.U.	8.6	Y			8.1	Y		
PHYSICAL	Solids, Total Suspended	N	MG/L	20	N	20	N	20	N	32	Y
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L	258	Y			284	Y		
SECONDARY	Iron	TR	UG/L	281	Y			137	Y		
SECONDARY	Manganese	TR	UG/L	11	Y			50	N		

Table: 18A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site:WF1, Williams Fork River, Upstream Datum: 6142.39

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
2003 - SW PA	Sulfates	N	MG/L	6/19/1981	5/31/1990	13	76	66	138	21	40.4
FIELD	pH, Field	N	S.U.	1/26/1982	12/13/2023	335	9.6	8.1	524	6.9	28.2
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1/26/1982	12/13/2023	334	538.76	555.5	1125	8.77	161.57
FIELD	Temperature, Field	N	DEG-C	5/27/1982	12/13/2023	330	8.94	7.95	27.8	0	7.24
PHYSICAL	Acidity	N	MG/L	3/23/1984	11/15/2023	110	4.81	1.5	20	-241	25.3
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	6/19/1981	2/12/1997	14	163	180	225	69	52.1
PHYSICAL	pH, Lab	N	S.U.	6/19/1981	11/15/2023	121	8.21	8.3	8.79	7.3	0.316
PHYSICAL	Solids, Total Suspended	N	MG/L	6/19/1981	12/13/2023	327	82.66	16	2810	2	251.2
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L	6/19/1981	11/15/2023	125	320	322	588	94	111
SECONDARY	Iron	TR	UG/L	3/23/1984	11/15/2023	91	1790	360	29700	60	4300
SECONDARY	Manganese	TR	UG/L	6/19/1981	11/15/2023	103	59.7	35	582	5	79.7

Table: 19

Williams Fork Mine

2023 Annual Hydrology Report

Water Year Monitoring Data

Site:WF2, Williams Fork River, Upstream Datum: 6119.87

			Date	1/14/2023		2/25/2023		3/21/2023		4/10/2023	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
FIELD	pH, Field	N	S.U.	7.84	Y	7.63	Y	7.7	Y	7.5	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	650	Y	590	Y	660	Y	700	Y
FIELD	Temperature, Field	N	DEG-C	2.2	Y	2	Y	1.1	Y	7.8	Y
PHYSICAL	Acidity	N	MG/L					20	N		
PHYSICAL	pH, Lab	N	S.U.					7.3	Y		
PHYSICAL	Solids, Total Suspended	N	MG/L	20	N	20	N	5	Y	98	Y
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L					392	Y		
SECONDARY	Iron	TR	UG/L					283	Y		
SECONDARY	Manganese	TR	UG/L					21	Y		

Table: 19

Williams Fork Mine

2023 Annual Hydrology Report

Water Year Monitoring Data

Site:WF2, Williams Fork River, Upstream Datum: 6119.8

			Date	5/20/2023		6/19/2023		7/12/2023		8/8/2023	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
FIELD	pH, Field	N	S.U.	7.2	Y	7.3	Y	8.3	Y	8.5	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	240	Y	240	Y	340	Y	410	Y
FIELD	Temperature, Field	N	DEG-C	6.9	Y	13.2	Y	24.1	Y	21.6	Y
PHYSICAL	Acidity	N	MG/L			20	N				
PHYSICAL	pH, Lab	N	S.U.			8.36	Y				
PHYSICAL	Solids, Total Suspended	N	MG/L	240	Y	91	Y	11	Y	9	Y
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L			164	Y				
SECONDARY	Iron	TR	UG/L			3370	Y				
SECONDARY	Manganese	TR	UG/L			46	Y				

Table: 19

Williams Fork Mine

2023 Annual Hydrology Report

Water Year Monitoring Data

Site:WF2, Williams Fork River, Upstream Datum: 6119.8

			Date	9/6/2023		10/24/2023		11/15/2023		12/13/2023	
Type	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
FIELD	pH, Field	N	S.U.	8.4	Y	7.4	Y	8.4	Y	7	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	400	Y	470	Y	420	Y	540	Y
FIELD	Temperature, Field	N	DEG-C	24	Y	14.9	Y	4.9	Y	1.7	Y
PHYSICAL	Acidity	N	MG/L	20	N			20	N		
PHYSICAL	pH, Lab	N	S.U.	8.4	Y			8.3	Y		
PHYSICAL	Solids, Total Suspended	N	MG/L	7	Y	5	Y	20	N	20	N
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L	278	Y			276	Y		
SECONDARY	Iron	TR	UG/L	286	Y			144	Y		
SECONDARY	Manganese	TR	UG/L	13	Y			50	N		

Table: 19A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site:WF2, Williams Fork River, Upstream Datum: 6119.87

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
2003 - SW PA	Sulfates	N	MG/L	6/19/1981	12/7/1983	12	80.9	85	144	21	39
FIELD	pH, Field	N	S.U.	1/26/1982	12/13/2023	341	8.04	8.07	8.83	6.77	0.396
FIELD	Specific Conductivity, Field	N	UMHOS/CM	1/26/1982	12/13/2023	340	543.44	559.5	1200	174.9	166.8
FIELD	Temperature, Field	N	DEG-C	5/27/1982	12/13/2023	336	8.86	7.9	27.8	0	7.11
PHYSICAL	Acidity	N	MG/L	3/23/1984	11/15/2023	112	4.73	2	20	-245	25.5
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	6/19/1981	2/12/1997	13	179	203	223	71	51.7
PHYSICAL	pH, Lab	N	S.U.	6/19/1981	11/15/2023	123	8.22	8.3	8.7	7.1	0.282
PHYSICAL	Solids, Total Suspended	N	MG/L	6/19/1981	12/13/2023	330	82.2	14	2800	2	244
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L	6/19/1981	11/15/2023	127	329	334	602	85	112
SECONDARY	Iron	TR	UG/L	3/23/1984	11/15/2023	93	1900	330	36300	100	5060
SECONDARY	Manganese	TR	UG/L	6/19/1981	11/15/2023	104	61.2	30	693	5	91.9

Table: 20

Williams Fork Mine

2023 Annual Hydrology Report

Water Year Monitoring Data

Site: 1SP, Spoil Spring Datum: 6120.0

			Date	4/11/2023		4/18/2023		5/8/2023		5/10/2023		5/12/2023	
FIELD	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detect**	**Result**	**Detection**	**Result**	**Detection**
FIELD	Flow	N	CFS	0.178	Y	0.12	Y	0.043	Y	0.043	Y	0.039	Y
FIELD	pH, Field	N	S.U.	7.6	Y	7.7	Y	7.8	Y	7.9	Y	7.3	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	2060	Y	2150	Y	2260	Y	2100	Y	2210	Y
FIELD	Temperature, Field	N	DEG-C	12.2	Y	10.7	Y	16.5	Y	18.6	Y	12.8	Y
PRIMARY	Arsenic	PD	UG/L	0.34	Y							0.49	Y
PRIMARY	Arsenic	T	UG/L	0.43	Y							0.48	Y
PRIMARY	Cadmium	PD	UG/L	0.25	N							0.25	N
PRIMARY	Chromium	TR	UG/L	50	N							50	N
PRIMARY	Copper	PD	UG/L	50	N							50	N
PRIMARY	Lead	PD	UG/L	0.5	N							0.5	N
PRIMARY	Mercury	T	UG/L	1	N							1	N
PRIMARY	Selenium	PD	UG/L	7.78	Y							0.63	Y
TRACE	Nickel	PD	UG/L	40	N							40	N
TRACE	Sulfide	N	UG/L	100	N							100	N
SECONDARY	Iron	TR	UG/L	150	N	150	N					150	N
SECONDARY	Manganese	PD	UG/L	14	Y							57	Y
SECONDARY	Silver	PD	UG/L	25	N							25	N
SECONDARY	Zinc	PD	UG/L	50	N							50	N
PHYSICAL	pH, Lab	N	S.U.	8.1	Y							8.2	Y
PHYSICAL	Solids, Total Suspended	N	MG/L	20	N	20	N					5	Y
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	2080	Y							2460	Y
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L	1580	Y	1900	Y					1990	Y

Table: 20

Williams Fork Mine

2023 Annual Hydrology Report

Water Year Monitoring Data

Site: 1SP, Spoil Spring Datum: 6120.0

			Date	5/17/2023		5/24/2023		5/31/2023		6/6/2023		6/21/2023	
FIELD	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detect**	**Result**	**Detection**	**Result**	**Detection**
FIELD	Flow	N	CFS	0.029	Y	0.022	Y			0.008	Y	0.008	Y
FIELD	pH, Field	N	S.U.	7.7	Y	7.4	Y			7.6	Y	7.4	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	2270	Y	2400	Y			2660	Y	2340	Y
FIELD	Temperature, Field	N	DEG-C	18.2	Y	14.8	Y			18.4	Y	17.3	Y
PRIMARY	Arsenic	PD	UG/L							0.63	Y		
PRIMARY	Arsenic	T	UG/L							0.58	Y		
PRIMARY	Cadmium	PD	UG/L							0.25	N		
PRIMARY	Chromium	TR	UG/L							50	N		
PRIMARY	Copper	PD	UG/L							100	N		
PRIMARY	Lead	PD	UG/L							0.5	N		
PRIMARY	Mercury	T	UG/L							1	N		
PRIMARY	Selenium	PD	UG/L							0.5	N		
TRACE	Nickel	PD	UG/L							80	N		
TRACE	Sulfide	N	UG/L							100	N		
SECONDARY	Iron	TR	UG/L			122	Y			350	Y		
SECONDARY	Manganese	PD	UG/L							471	Y		
SECONDARY	Silver	PD	UG/L							50	N		
SECONDARY	Zinc	PD	UG/L							100	N		
PHYSICAL	pH, Lab	N	S.U.							8.3	Y		
PHYSICAL	Solids, Total Suspended	N	MG/L			5	Y			10	Y		
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM							2950	Y		
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L			2060	Y			2290	Y		

Table: 20

Williams Fork Mine

2023 Annual Hydrology Report

Water Year Monitoring Data

Site: 1SP, Spoil Spring Datum: 6120.0

			Date	6/26/2023		7/5/2023		7/12/2023		8/2/2023	
FIELD	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**	**Result**	**Detection**
FIELD	Flow	N	CFS	0.008	Y	0.008	Y	0.005	Y	0.002	Y
FIELD	pH, Field	N	S.U.	7.3	Y	7.2	Y	7.2	Y	7	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM	2520	Y	2290	Y	2530	Y	2830	Y
FIELD	Temperature, Field	N	DEG-C	16.5	Y	18	Y	18.9	Y	18.7	Y
PRIMARY	Arsenic	PD	UG/L			0.67	Y			0.72	Y
PRIMARY	Arsenic	T	UG/L			0.73	Y			1.06	Y
PRIMARY	Cadmium	PD	UG/L			0.25	N			0.25	N
PRIMARY	Chromium	TR	UG/L			50	N			50	N
PRIMARY	Copper	PD	UG/L			100	N			50	N
PRIMARY	Lead	PD	UG/L			0.5	N			0.5	N
PRIMARY	Mercury	T	UG/L			1	N			1	N
PRIMARY	Selenium	PD	UG/L			0.17	Y			0.25	N
TRACE	Nickel	PD	UG/L			80	N			40	N
TRACE	Sulfide	N	UG/L			100	N			100	N
SECONDARY	Iron	TR	UG/L	676	Y	782	Y	874	Y	1140	Y
SECONDARY	Manganese	PD	UG/L			826	Y			1010	Y
SECONDARY	Silver	PD	UG/L			50	N			25	N
SECONDARY	Zinc	PD	UG/L			100	N			50	N
PHYSICAL	pH, Lab	N	S.U.			8.2	Y			7.4	Y
PHYSICAL	Solids, Total Suspended	N	MG/L	20	N	5	Y	5	Y	8	Y
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM			2750	Y			2900	Y
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L	2230	Y	2270	Y	2320	Y	2410	Y

Table: 20

Williams Fork Mine

2023 Annual Hydrology Report

Water Year Monitoring Data

Site: 1SP, Spoil Spring Datum: 6120.0

			Date	8/8/2023		9/6/2023	
FIELD	**Parameter**	**Fraction**	**Units**	**Result**	**Detection**	**Result**	**Detection**
FIELD	Flow	N	CFS	0.002	Y	0	Y
FIELD	pH, Field	N	S.U.	7.1	Y		
FIELD	Specific Conductivity, Field	N	UMHOS/CM	3030	Y		
FIELD	Temperature, Field	N	DEG-C	18.6	Y		
PRIMARY	Arsenic	PD	UG/L				
PRIMARY	Arsenic	T	UG/L				
PRIMARY	Cadmium	PD	UG/L				
PRIMARY	Chromium	TR	UG/L				
PRIMARY	Copper	PD	UG/L				
PRIMARY	Lead	PD	UG/L				
PRIMARY	Mercury	T	UG/L				
PRIMARY	Selenium	PD	UG/L				
TRACE	Nickel	PD	UG/L				
TRACE	Sulfide	N	UG/L				
SECONDARY	Iron	TR	UG/L	1070	Y		
SECONDARY	Manganese	PD	UG/L				
SECONDARY	Silver	PD	UG/L				
SECONDARY	Zinc	PD	UG/L				
PHYSICAL	pH, Lab	N	S.U.				
PHYSICAL	Solids, Total Suspended	N	MG/L	10	Y		
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM				
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L	2490	Y		

Table: 20A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: 1SP, Spoil Spring Datum: 6120.0

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
FIELD	Flow	N	CFS	1/3/1984	9/6/2023	551	0.0597	0.04	0.67	0	0.0728
FIELD	pH, Field	N	S.U.	5/28/1982	8/8/2023	1264	8.01	8	9.06	6.6	0.34
FIELD	Specific Conductivity, Field	N	UMHOS/CM	5/28/1982	8/8/2023	1263	1638.88	1630	3080	585	260.479
FIELD	Temperature, Field	N	DEG-C	5/28/1982	8/8/2023	1260	9.44	9.6	30	0	5.7
FIELD	Arsenic	PD	UG/L	11/20/2012	8/2/2023	51	0.71	0.6	5	0.3	0.67
FIELD	Arsenic	T	UG/L	9/22/1983	8/2/2023	53	0.809	0.77	2	0.4	0.33
PRIMARY	Cadmium	PD	UG/L	11/20/2012	8/2/2023	51	0.43	0.5	3	0.1	0.39
PRIMARY	Chromium	TR	UG/L	11/20/2012	8/2/2023	51	50	50	50	50	0
PRIMARY	Copper	PD	UG/L	11/20/2012	8/2/2023	51	50	50	100	50	10
PRIMARY	Lead	PD	UG/L	11/20/2012	8/2/2023	51	0.5	0.5	3	0.1	0.4
PRIMARY	Mercury	T	UG/L	1/17/1983	8/2/2023	57	0.8	1	1	0.1	0.3
PRIMARY	Selenium	PD	UG/L	11/20/2012	8/2/2023	51	1.24	0.3	17.9	0.1	3.15
TRACE	Nickel	PD	UG/L	11/20/2012	8/2/2023	51	41	40	80	10	13
TRACE	Sulfide	N	UG/L	5/31/1990	8/2/2023	51	96	100	210	10	28
SECONDARY	Iron	TR	UG/L	3/23/1984	8/8/2023	345	413	250	2350	0.16	435
SECONDARY	Manganese	PD	UG/L	11/20/2012	8/2/2023	51	481	471	1450	14	350
SECONDARY	Silver	PD	UG/L	11/20/2012	8/2/2023	51	30	30	50	25	5.4
SECONDARY	Zinc	PD	UG/L	11/20/2012	8/2/2023	51	57	50	330	10	42
PHYSICAL	pH, Lab	N	S.U.	9/28/1981	8/2/2023	186	8.11	8.1	8.5	7.08	0.228
PHYSICAL	Solids, Total Suspended	N	MG/L	9/28/1981	8/8/2023	663	11	6	76	1	9.2
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	9/28/1981	8/2/2023	186	2046	2090	2950	7.8	368.6
PHYSICAL	Total Dissolved Solids, Lab	N	MG/L	9/28/1981	8/8/2023	214	1351	1226	5160	820	459.4

Table: 21 **2023 Annual Hydrology Report**

Williams Fork Mine **Water Year Monitoring Data**

Site: 9BF Datum: 6308.3

				Date	3/21/2023		6/19/2023		9/19/2023		11/15/2023	
				Depth to Water (FT)	48.74		40.69		40.7		42.38	
Type	**Parameter**	**Fraction**	**Units**		**Result**	**Det**	**Result**	**Det**	**Result**	**Det**	**Result**	**Det**
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L		188	Y	213	Y	304	Y	384	Y
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L		20	N	20	N	20	N	20	N
ANION	Chloride	N	MG/L		3.52	Y	8.67	Y	22.3	Y	22.6	Y
ANION	Sulfates	N	MG/L		78.7	Y	329	Y	431	Y	409	Y
CATION	Calcium	D	MG/L		24.8	Y	51.9	Y	76.3	Y	76.5	Y
CATION	Magnesium	D	MG/L		15.8	Y	35.2	Y	51.9	Y	52.3	Y
CATION	Sodium	D	MG/L		63.9	Y	103	Y	150	Y	159	Y
FIELD	pH, Field	N	S.U.		7.2	Y	7.3	Y	6.7	Y	7.3	Y
FIELD	Specific Conductivity, Field	N	UMHOS/CM		570	Y	1060	Y	1410	Y	1620	Y
FIELD	Temperature, Field	N	DEG-C		11.2	Y	10.7	Y	14.1	Y	9.7	Y
NUTRIENT	Nitrate Nitrogen	N	MG/L		2.04	Y	2.28	Y	0.022	Y	0.039	Y
NUTRIENT	Nitrite Nitrogen	N	MG/L		0.05	N	0.021	Y	0.05	N	0.049	Y
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L		2.04	Y	2.3	Y	0.022	Y	0.088	Y
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L		188	Y	213	Y	304	Y	384	Y
PHYSICAL	Hardness	N	MG/L		127	Y	275	Y	404	Y	406	Y
PHYSICAL	Hydroxide as OH	N	MG/L		20	N	20	N	20	N	20	N
PHYSICAL	pH, Lab	N	S.U.		6.9	Y	7.93	Y	6.8	Y	8.5	Y
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM		521	Y	983	Y	1410	Y	1460	Y
PRIMARY	Arsenic	D	UG/L		0.46	Y	0.67	Y	1	N	1.37	Y
PRIMARY	Cadmium	D	UG/L		0.25	N	0.25	N	0.25	N	0.076	Y
PRIMARY	Lead	D	UG/L		0.24	Y	0.59	Y	0.18	Y	0.27	Y
PRIMARY	Mercury	D	UG/L		1	N	1	N	1	N	1	N
PRIMARY	Selenium	D	UG/L		0.37	Y	2.09	Y	0.4	Y	0.24	Y
SECONDARY	Iron	D	UG/L		131	Y	87	Y	89	Y	91	Y
SECONDARY	Manganese	D	UG/L		21	Y	18	Y	25	Y	89	Y
SECONDARY	Zinc	D	UG/L		312	Y	380	Y	50	N	65	Y
TRACE	Boron	D	UG/L		532	Y	570	Y	670	Y	663	Y
TRACE	Molybdenum	D	UG/L		100	N	100	N	100	N	100	N

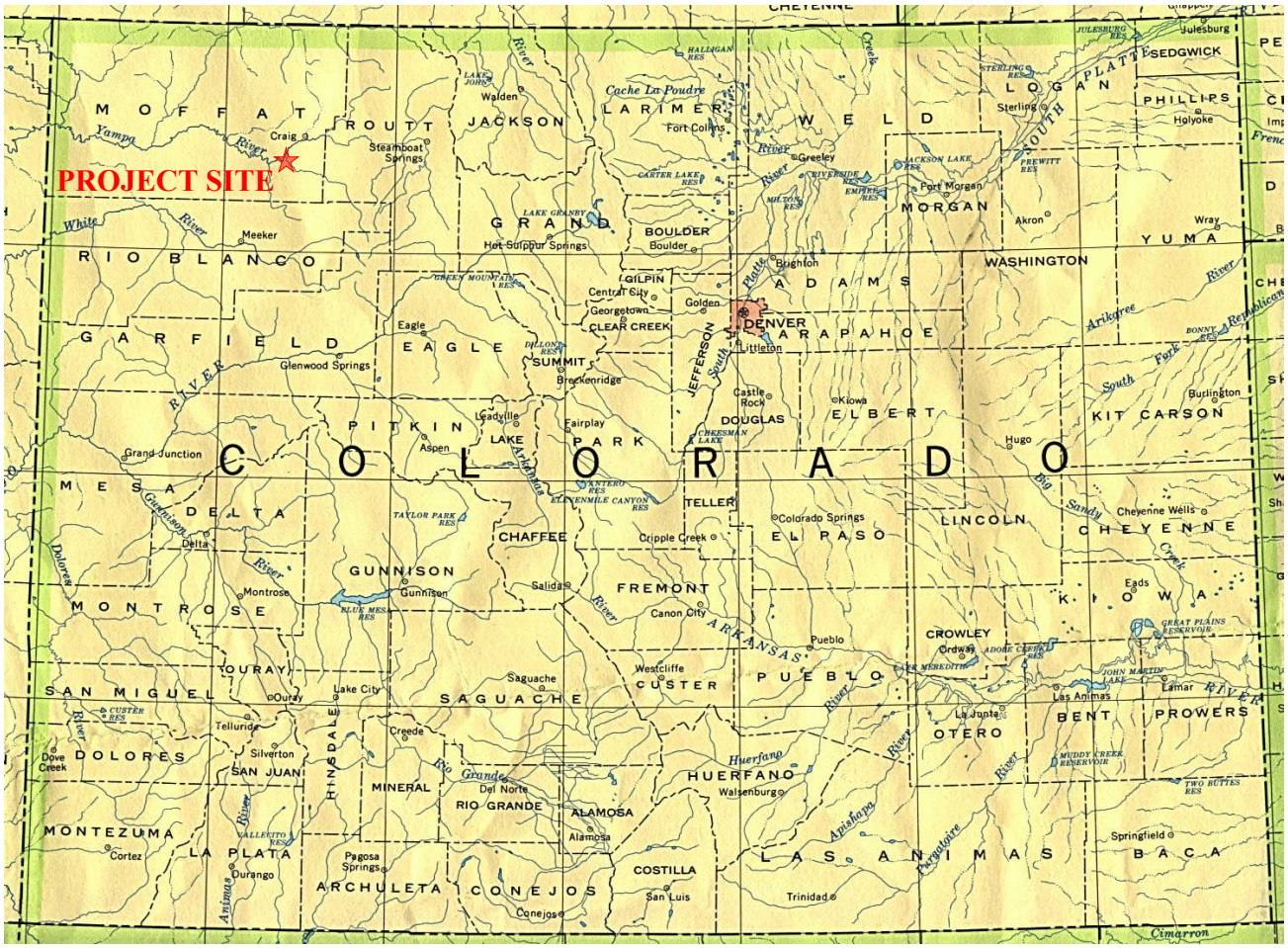
Table: 21A **2023 Annual Hydrology Report**

Williams Fork Mine **Period of Record**

Site: 9BF Datum: 6308.3

Type	Parameter	Fraction	Units	Start Date	End Date	Count	Average	Median	Max	Min	STD
ANION	Alkalinity, Bicarbonate as CaCO3	N	MG/L	6/10/2010	11/15/2023	29	423	361	1100	102	222
ANION	Alkalinity, Carbonate as CaCO3	N	MG/L	6/10/2010	11/15/2023	22	20	20	20	1	7
ANION	Chloride	N	MG/L	6/10/2010	11/15/2023	35	21.3	19.6	57	3.52	12.3
ANION	Sulfates	N	MG/L	6/10/2010	11/15/2023	35	242	250	520	18	135
CATION	Calcium	D	MG/L	6/10/2010	11/15/2023	35	50.2	51.7	87.3	24.8	16.9
CATION	Magnesium	D	MG/L	6/10/2010	11/15/2023	35	33.6	35.2	57.6	15.8	12
CATION	Sodium	D	MG/L	6/10/2010	11/15/2023	35	183	146	493	63.9	110
FIELD	pH, Field	N	S.U.	11/29/2016	11/15/2023	29	7.15	7.16	7.67	6.7	0.203
FIELD	Specific Conductivity, Field	N	UMHOS/CM	11/29/2016	11/15/2023	28	1130	1140	1850	570	292
FIELD	Temperature, Field	N	DEG-C	11/29/2016	11/15/2023	28	12.9	12.7	19.2	9.4	1.93
NUTRIENT	Nitrate Nitrogen	N	MG/L	6/10/2010	11/15/2023	38	0.406	0.05	3.19	0.01	0.849
NUTRIENT	Nitrite Nitrogen	N	MG/L	3/21/2022	11/15/2023	5	0.056	0.05	0.08	0.05	0.014
NUTRIENT	NO3-NO2 Nitrogen	N	MG/L	2/15/2011	11/15/2023	56	0.833	0.555	3.27	0.02	0.948
PHYSICAL	Alkalinity as CaCO3, @ pH 4.5	N	MG/L	6/10/2010	11/15/2023	35	432	366	957	102	215
PHYSICAL	Hardness	N	MG/L	2/15/2011	11/15/2023	30	275	299	455	127	93.6
PHYSICAL	Hydroxide as OH	N	MG/L	2/15/2011	11/15/2023	32	20	20	20	20	0
PHYSICAL	pH, Lab	N	S.U.	6/10/2010	11/15/2023	35	7.82	8	8.5	6.8	0.461
PHYSICAL	Specific Conductivity, Lab	N	UMHOS/CM	6/10/2010	11/15/2023	35	1290	1200	2320	521	436
PRIMARY	Arsenic	D	UG/L	6/10/2010	11/15/2023	35	2.01	0.74	30	0.22	5.15
PRIMARY	Cadmium	D	UG/L	6/10/2010	11/15/2023	35	0.99	0.3	10	0.05	2.1
PRIMARY	Lead	D	UG/L	6/10/2010	11/15/2023	35	3.68	0.43	50	0.1	11.7
PRIMARY	Mercury	D	UG/L	6/10/2010	11/15/2023	35	0.9	1	1	0.2	0.2
PRIMARY	Selenium	D	UG/L	6/10/2010	11/15/2023	35	2.66	0.5	20.5	0.1	4.69
SECONDARY	Iron	D	UG/L	6/10/2010	11/15/2023	35	180	140	1210	20	212
SECONDARY	Manganese	D	UG/L	6/10/2010	11/15/2023	35	59.9	50	129	10	37.7
SECONDARY	Zinc	D	UG/L	6/10/2010	11/15/2023	35	138	50	830	5	203
TRACE	Boron	D	UG/L	6/10/2010	11/15/2023	35	595	610	690	440	71.3
TRACE	Molybdenum	D	UG/L	6/10/2010	11/15/2023	35	90	100	100	50	20

FIGURES



SCALE

0 50 100

MILES

GENERAL LOCATION MAP

I:\Environmental\CDMG - CDRMS\AHR\WF FIGURE 1.doc

FIGURE 1

R92W R91W T6N T5N

W4K HENRKEY OTIS, DENNIS & WENDY BTU EMPIRE HINKEMEYER MURRAY, MARVIN HENSLEY HOLLAND, ROY & D RIESER, LOUIS GERBER, JULIE SNARE, MAX & SHIRL FEDDE, NORMAN & CAROL STEELE, ROBERT MITCHELL, JAMES ARNOLD, ERNEST MITCHELL, BOB FOLKS, FRANCES, MERLEAN & NEIL MITCHELL, JAMES MITCHELL, BOB FECK, CLAYTON YOSTUS, ROBERT WELKER, GLENNON MITCHELL, JAMES BLM STEELE, ROBERT STATE STATE STATE STATE BLM STATE

DEAKINS, RICHARD J-MAR FARMS, LLC SILVER, DORMAN & MARY ROBERTS, CHARLES LEWIS, JANE COLOWYO COAL CO., L.P. STATE OF COLORADO THE YAMPA PROJECT POWER PLANT MOFFAT / CITY LAND FILL MACK, B & NORMAN & CARO 903

ELLGEN, LARRY & GARY STATE BTU EMPIRE J-MAR FARMS, LLC OSBOURN BROS, INC. COLOWYO COAL CO., L.P. BLM YAZZIE ELLGEN, LARRY & GARY HAXTON SPRING ELLGEN, LORENCE & RAEOLA BTU EC PERMIT BOUNDARY BLM #1 STRIP PIT BTU EMPIRE WISE HILL NO. 4 #5 & #6 MINE #5 MINE SUMP PONDS STATE NO. 9BF NO. 9 TMSS 7NA PERMIT BOUNDARY BLM ELLGEN, LORENCE & RAEOLA NO.5 WASTE WATER BTU EMPIRE COAL CO. L.P. COLOWYO COAL CO., L.P. RAFTOPOULOS, JOHN & STEVE OKIE PLAZA TCSS (ABANDONED 1994) TRAPPER MINING COMPANY BLM COLOWYO COAL CO., L.P. BLM COLOWYO COAL CO., L.P. BLM BLM COLOWYO COAL CO., L.P. BLM ELLGEN, LORENCE HATHHORN, STANLEY BLM HATHHORN HATHHORN, S. McKUNE, W. HOELAND, M.J. McINTYRE MEAD RANCH PARTNERSHIP BLM RAFTOPOULOS, JOHN & STEVE RAFTOPOULOS, AGNEW RAFTOPOULOS RAFTOPOULOS, JOHN & STEVE BLM FEDERAL GLASS, KENNETH GLASS, KENNETH ROSS JR.

YS-1 81-19 WSS YAW-1 83-03 MSS YAW-2 81-04b WSS YAW-5 YAW-6 YAW-3 81-03a WSS TR-4 MSS 84-01 TMSS 9A-P1 (018) Y-2 TR-7a MSS HR-P1b (004) 259 TMSS 83-01 MSS AVF-5 AVF-3 AVF-6 81-01 MSS 83-02 MSS 86-01 ES WF-1

LEGEND

- PERMIT BOUNDARY
- 86-01 — GROUNDWATER MONITOR WELL
- AVF-6 — ALLUVIAL MONITOR WELL
- WF-6 — STREAM WATER QUALITY MONITOR
- WF-1 — STREAM QUALITY & QUANTITY MONITOR
- A — MINE DISCHARGE LOCATION
- 1 — STREAM GAUGE
- HAXTON SPRING — SPRING
- WSS — WHITE SANDSTONE
- TMSS — TWENTYMILE SANDSTONE
- MSS — MIDDLE SANDSTONE
- TCSS — TROUT CREEK SANDSTONE
- ES — "E" SEAM
- 9A-P1 — POND

SITES MONITORED UNDER TEMPORARY CESSATION TR01-32

WF-1 — TC SITES HIGHLIGHTED CIRCLE

N

COLORADO

MOFFAT COUNTY MINING, LLC

Peabody ENERGY

FIGURE 2
WILLIAMS FORK MINES
HYDROLOGIC MONITORING PROGRAM
LOCATION MAP

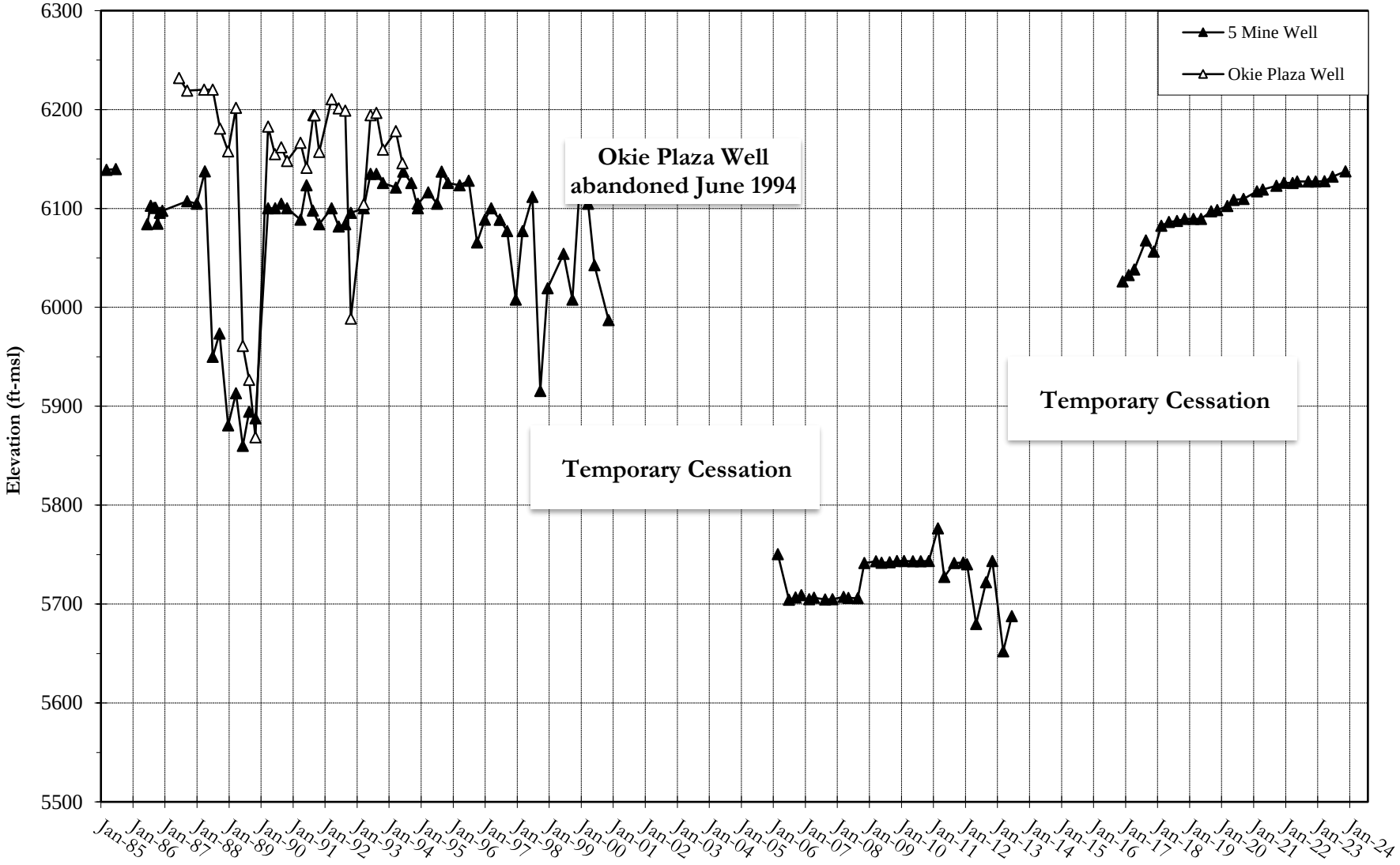
DESIGNED BY:	FJJ	COUNTRY:	USA
DRAWN BY:	KEC	STATE/PROVINCE:	Colorado
APPROVED BY:	Supervisor	GCS:	T 6 N, R 91 W
DATE:	2018 03 06	DRAWING/SHEET:	1 of 1
SCALE:	1" =1000'	C.I.:	0'

0 1000 2000 3000 FEET

I:\Mandat\FIG 2 2017.dwg

PLOT OF WATER LEVELS

Trout Creek Sandstone Wells

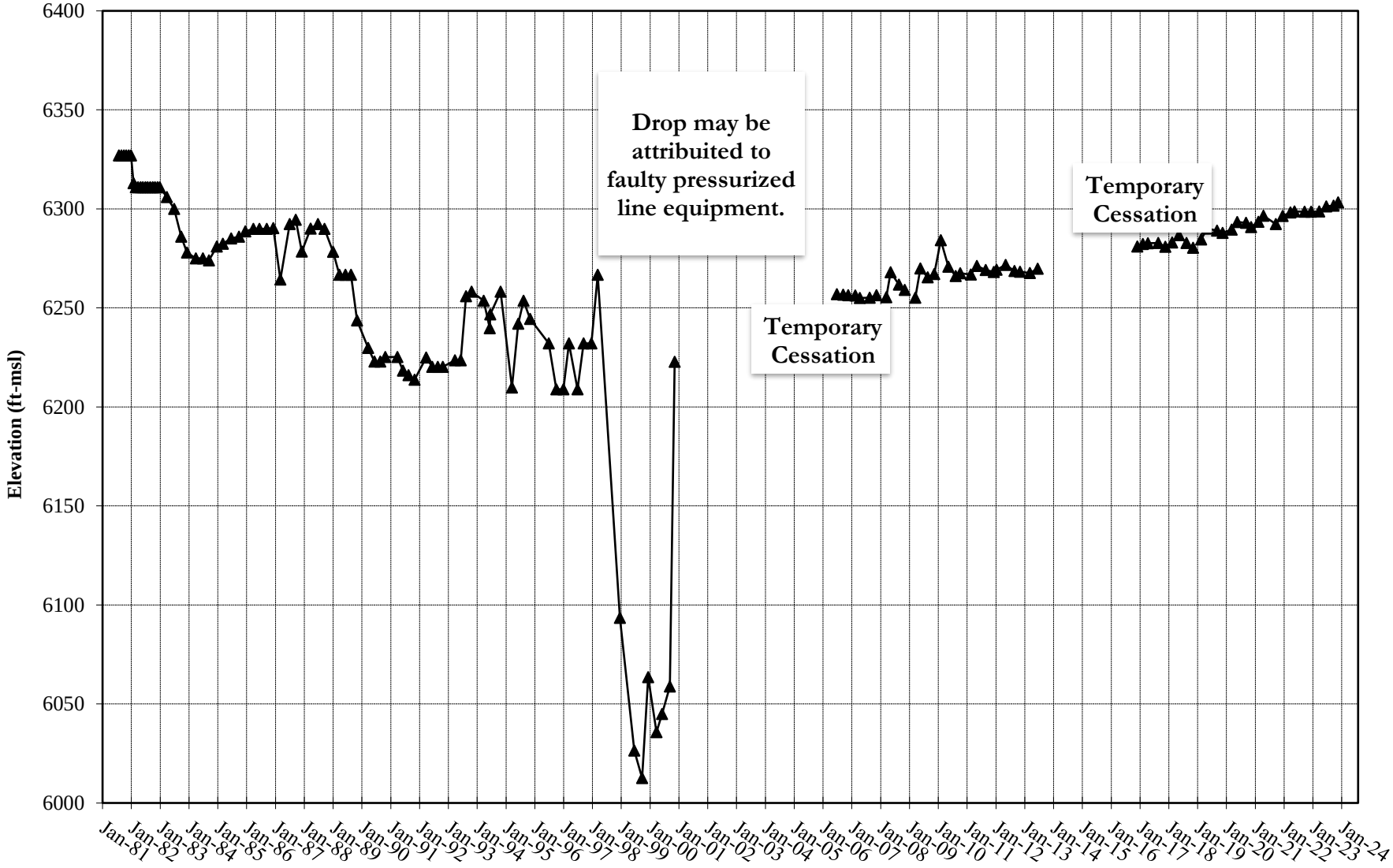


I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\3 TROUT CREEK SS WL

FIGURE 3

PLOT OF WATER LEVELS

Well TR-4, Middle Sandstone

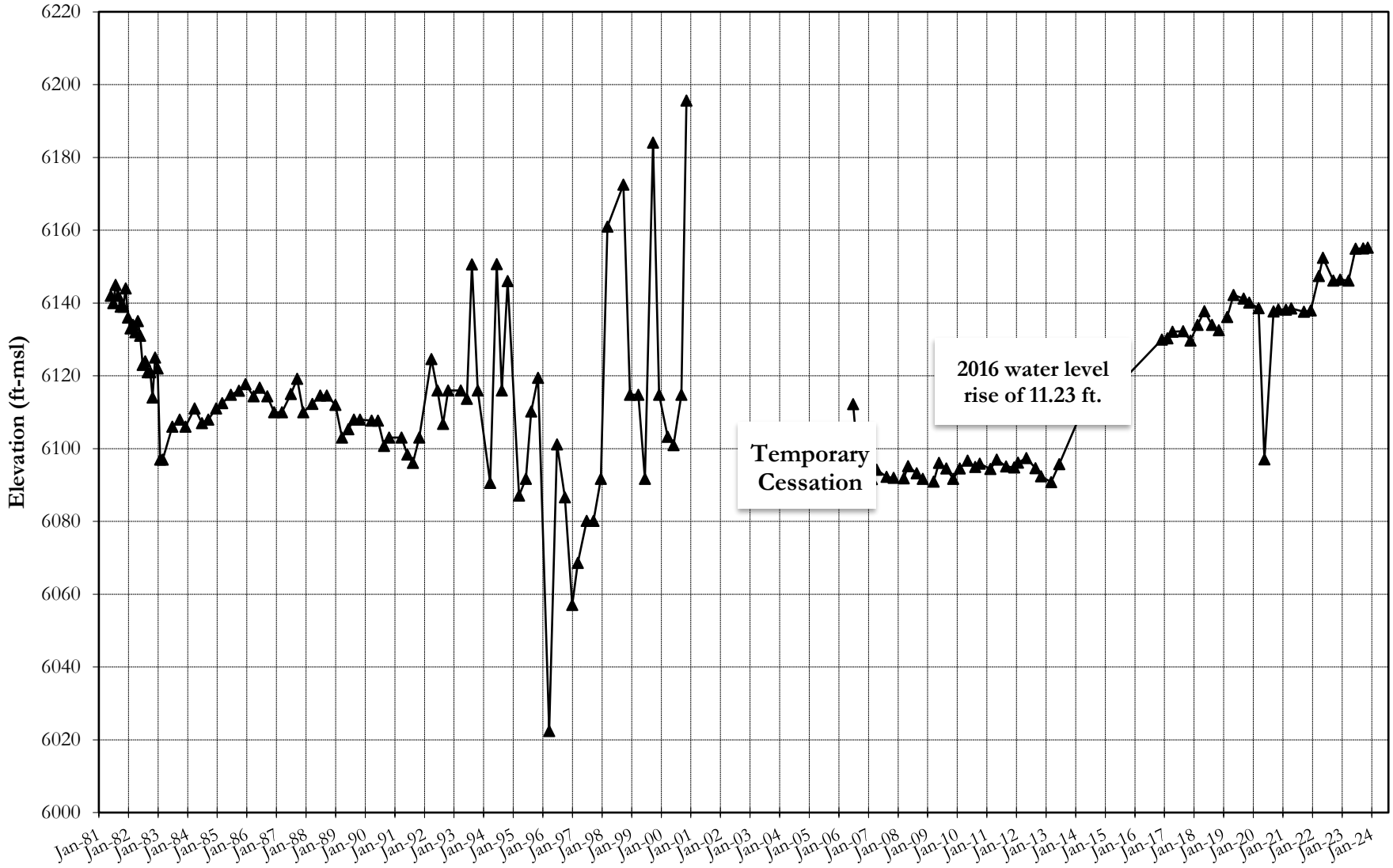


I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\4 MIDDLE SS TR-4 WL

FIGURE 4

PLOT OF WATER LEVELS

Well TR-7a, Middle Sandstone

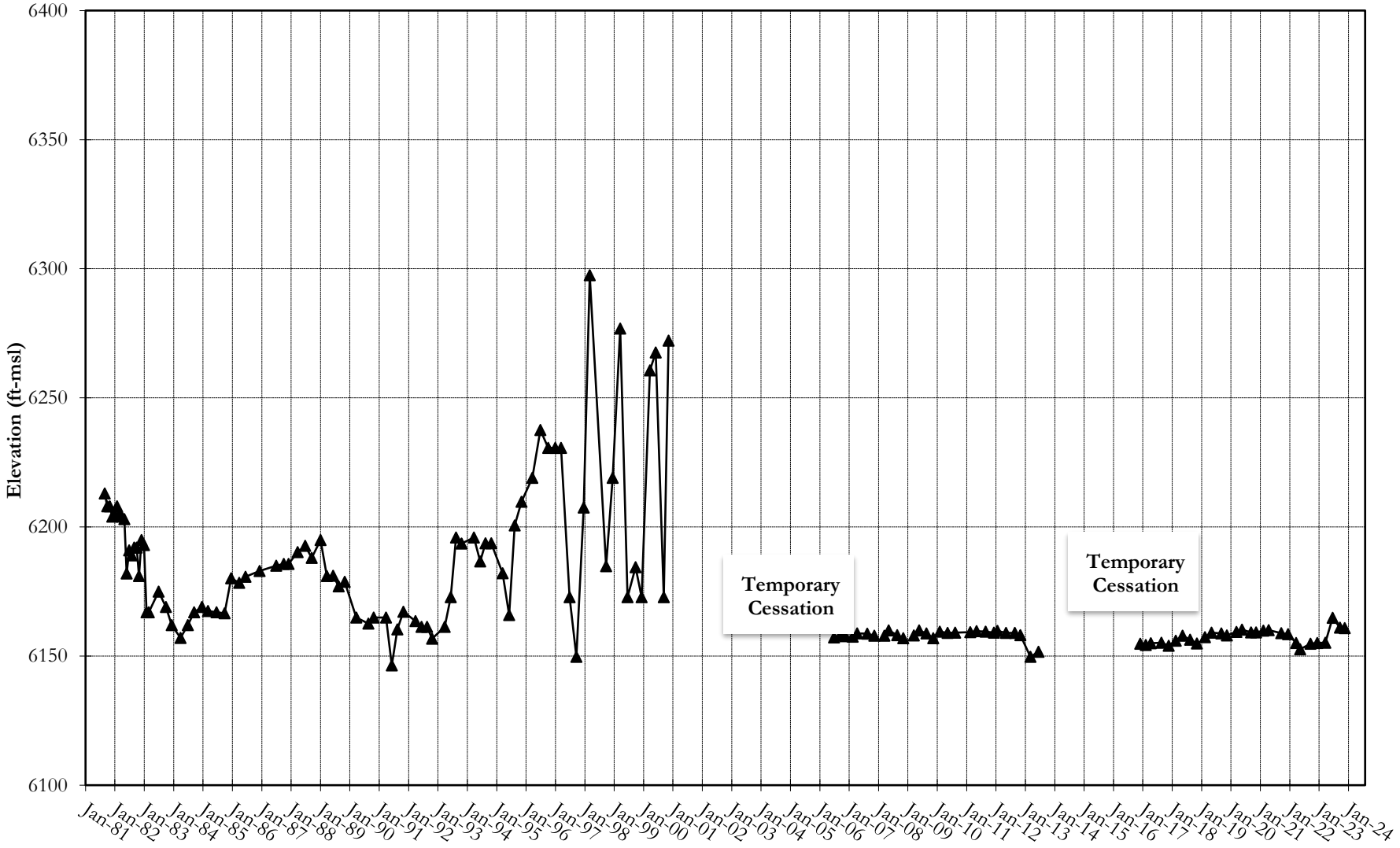


I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\5 MIDDLE SS TR-7A WL

FIGURE 5

PLOT OF WATER LEVELS

Well 81-01, Middle Sandstone

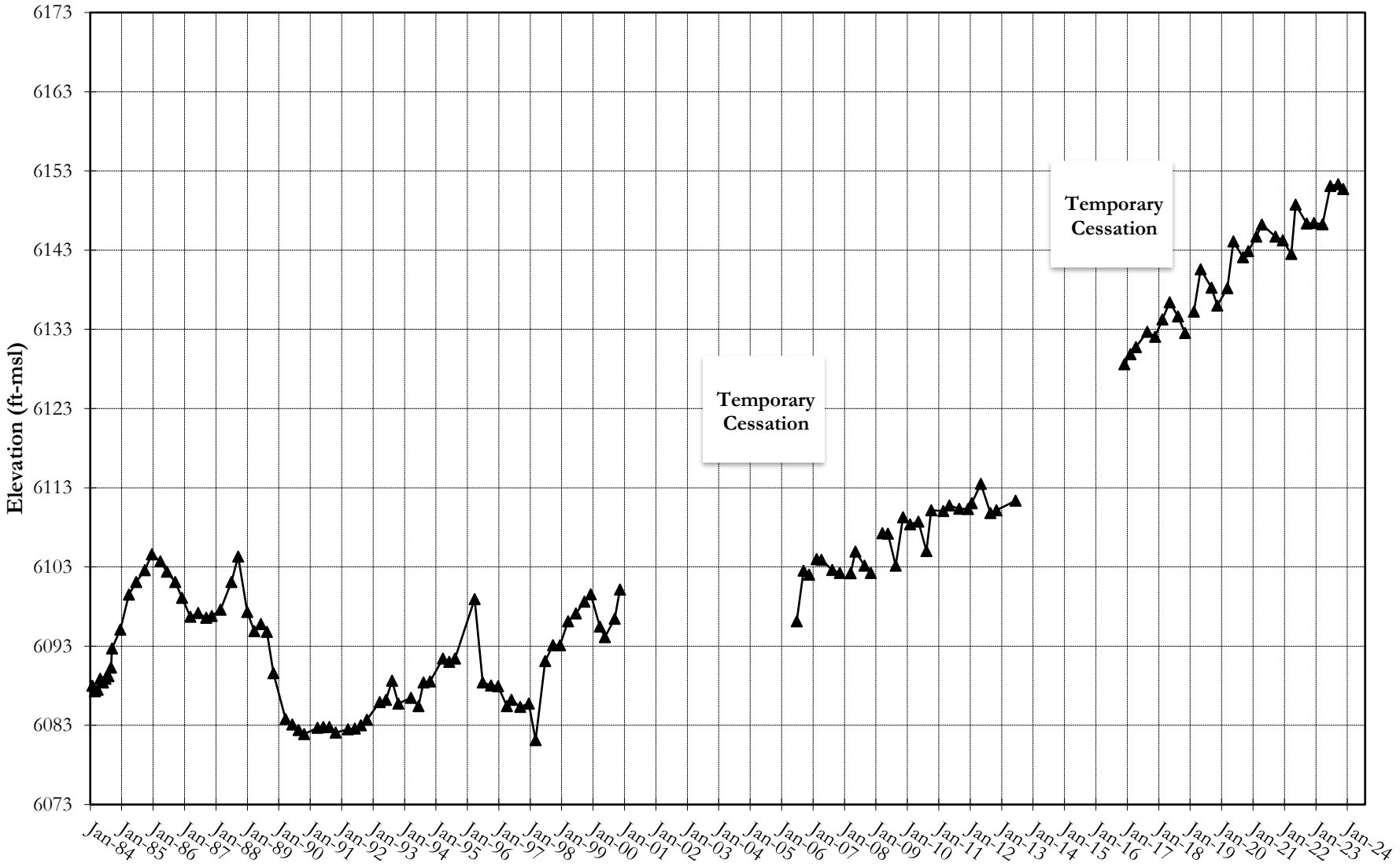


I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\6 MIDDLE SS 81-01 WL

FIGURE 6

PLOT OF WATER LEVELS

Well 83-01, Middle Sandstone

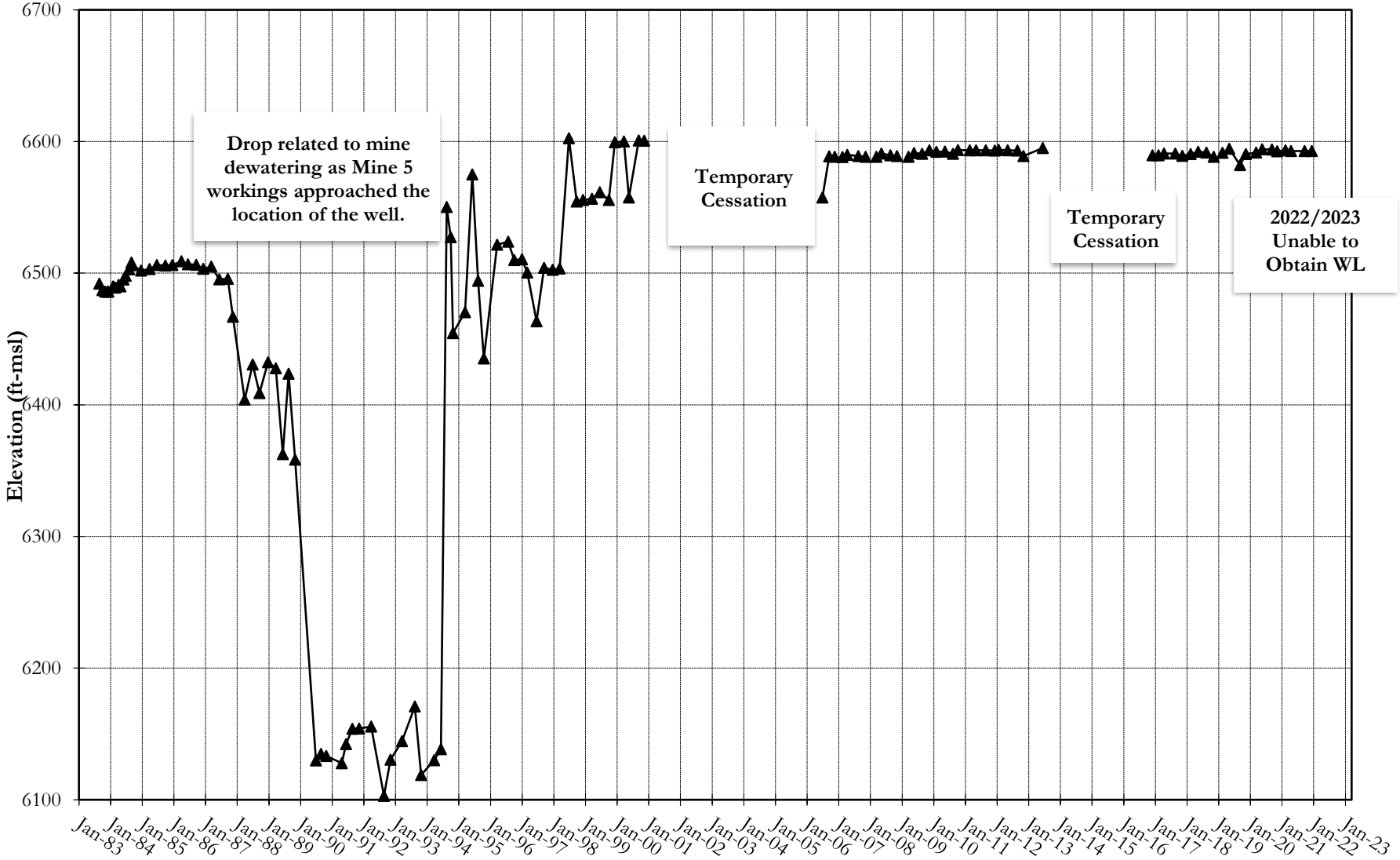


I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\7 MIDDLE SS 83-01 WL

FIGURE 7

PLOT OF WATER LEVELS

Well 83-02, Middle Sandstone



I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\8 MIDDLE SS 83-02 WL

FIGURE 8

PLOT OF WATER LEVELS

Well 83-03, Middle Sandstone

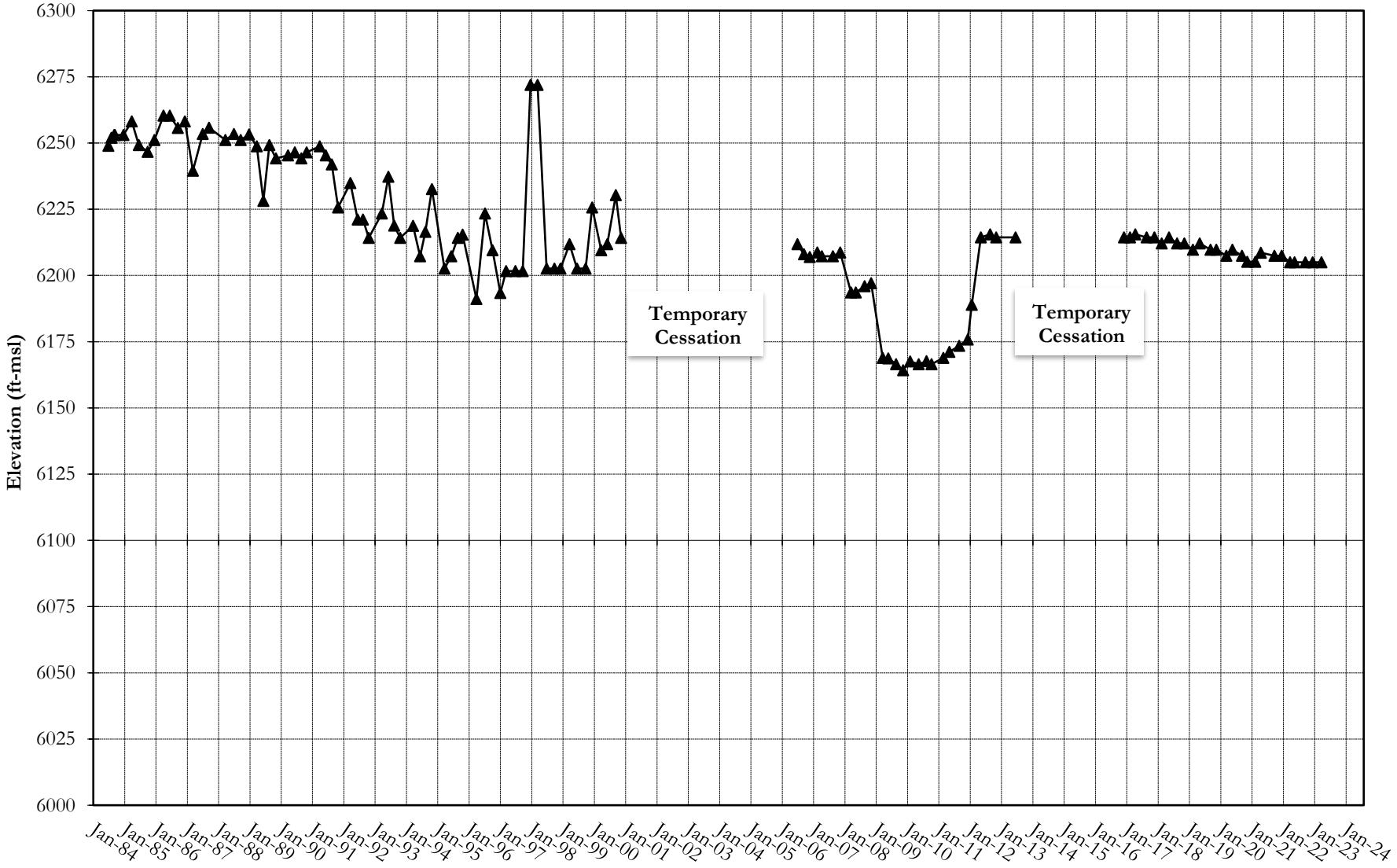


FIGURE 9

PLOT OF WATER LEVELS

Twentymile Sandstone Wells

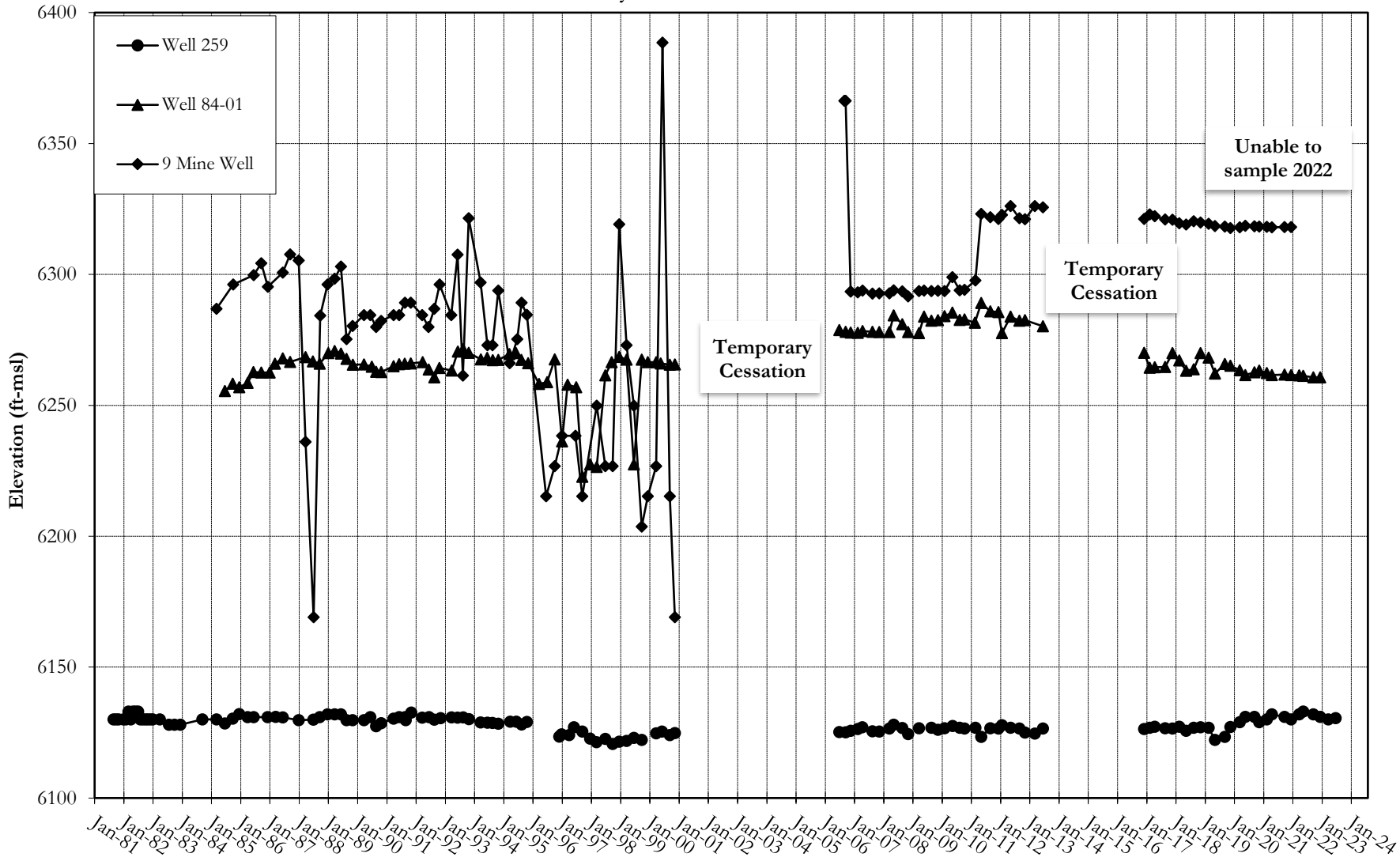
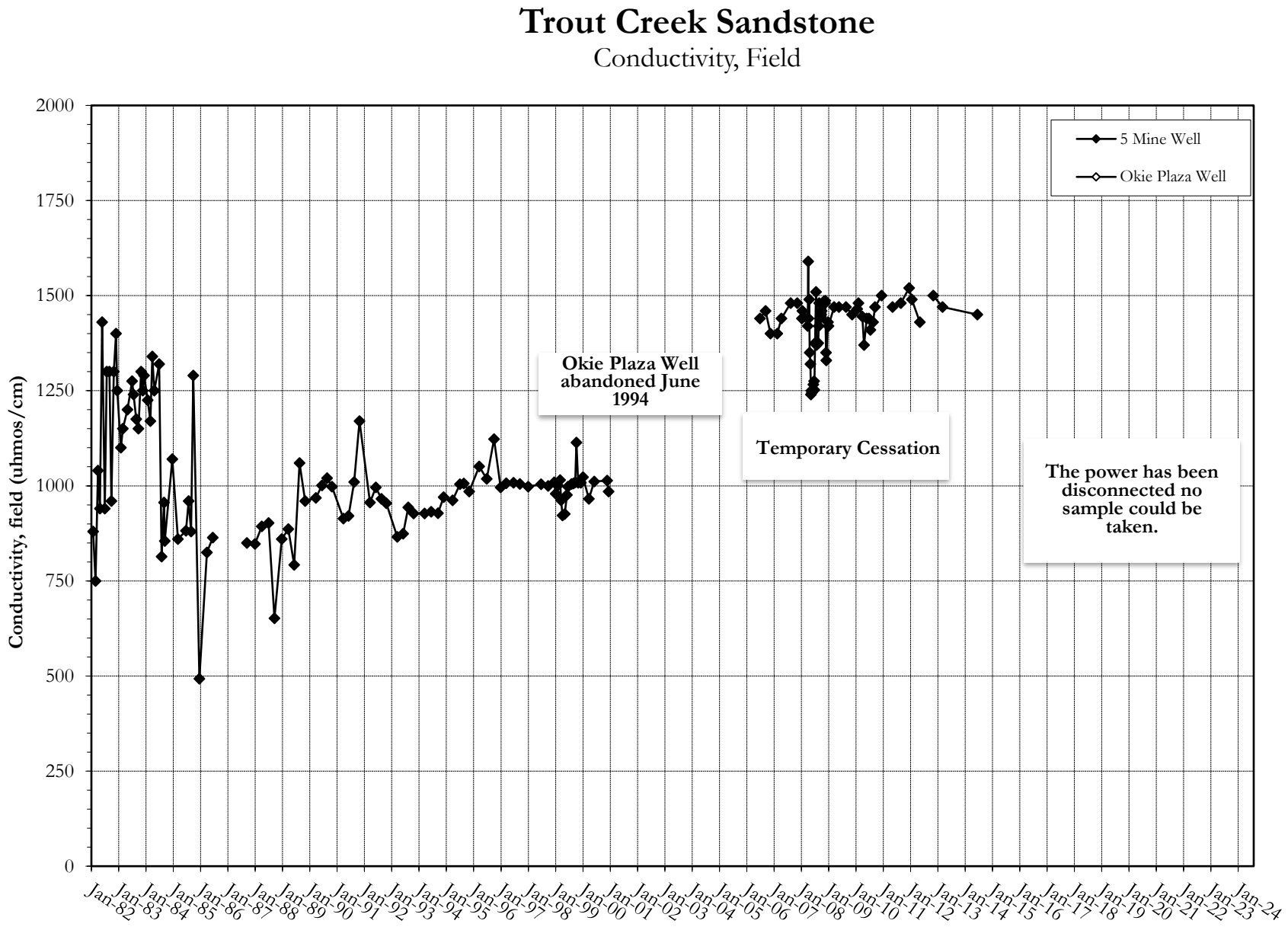
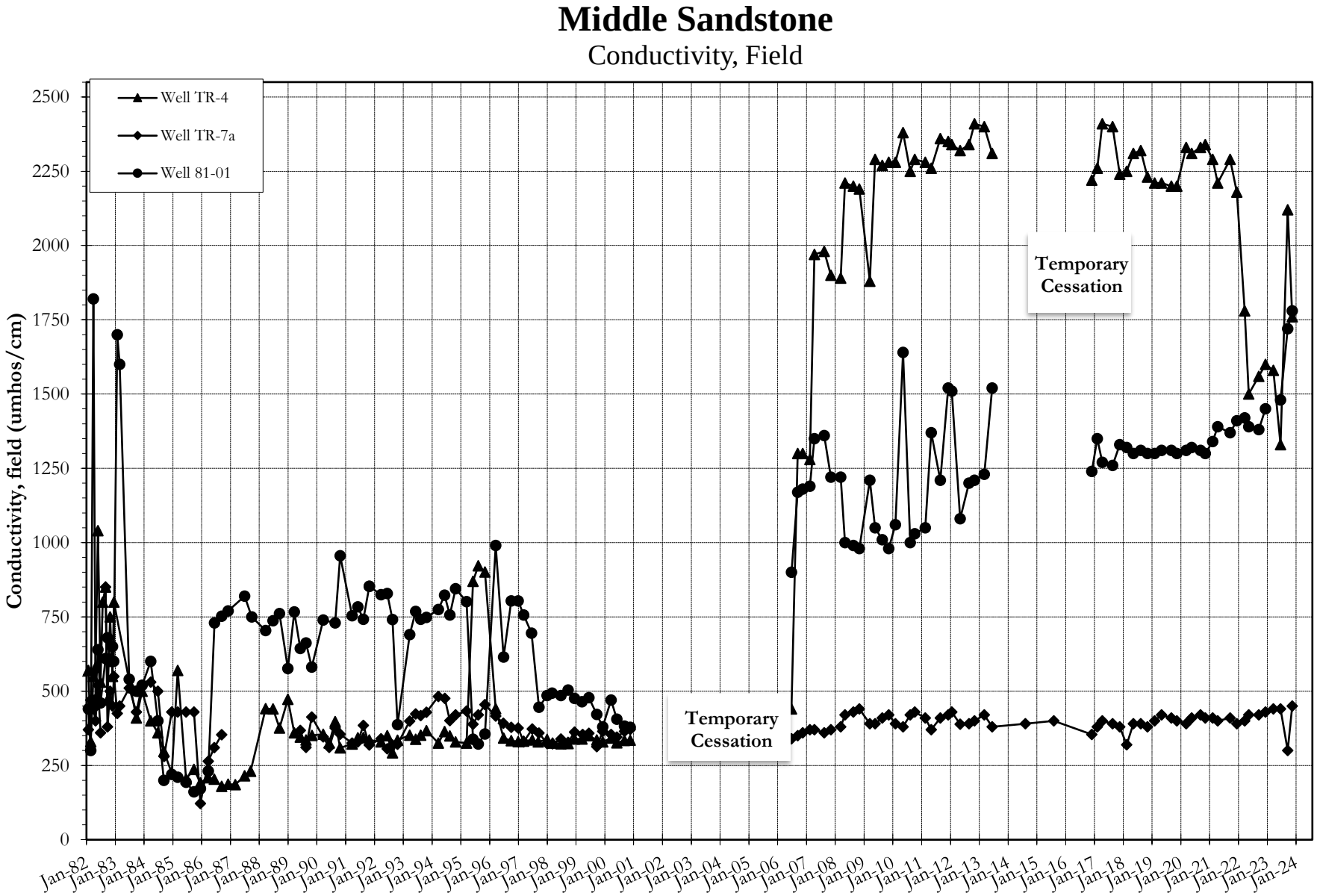


FIGURE 10



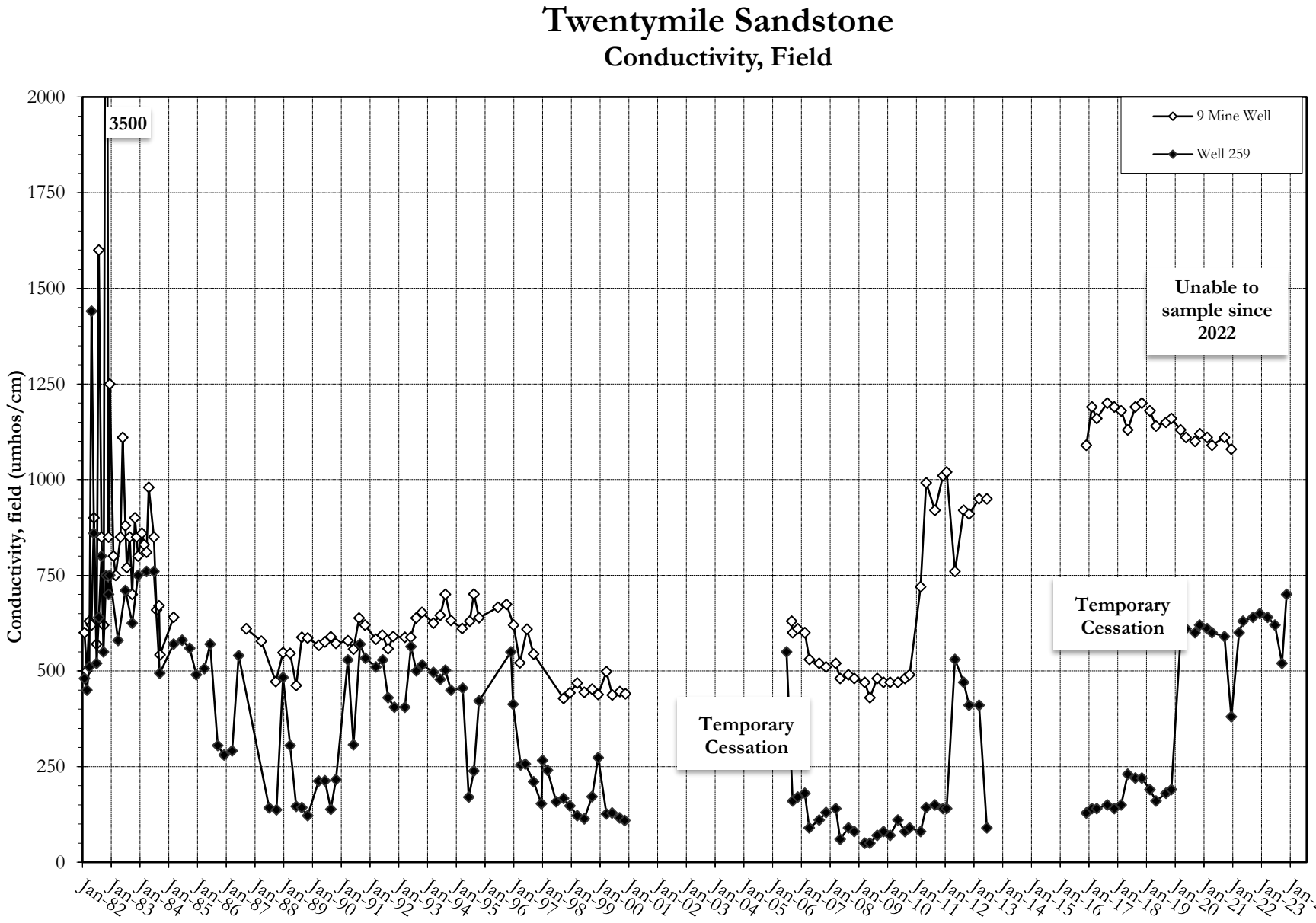
I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\11 TROUT CREEK SS EC

FIGURE 11



I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\12 MIDDLE SS EC

FIGURE 12


Twentymile Sandstone
Conductivity, Field
Conductivity, field (umhos/cm)
2000
1750
1500
1250
1000
750
500
250
0
3500
9 Mine Well
Well 259
Unable to sample since 2022
Temporary Cessation
Temporary Cessation
Jan-82
Jan-83
Jan-84
Jan-85
Jan-86
Jan-87
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Jan-00
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
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Jan-12
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Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Jan-20
Jan-21
Jan-22
Jan-23
Jan-24

FIGURE 13

Mean Annual Discharge Rate

No. 5 & 6 Mines

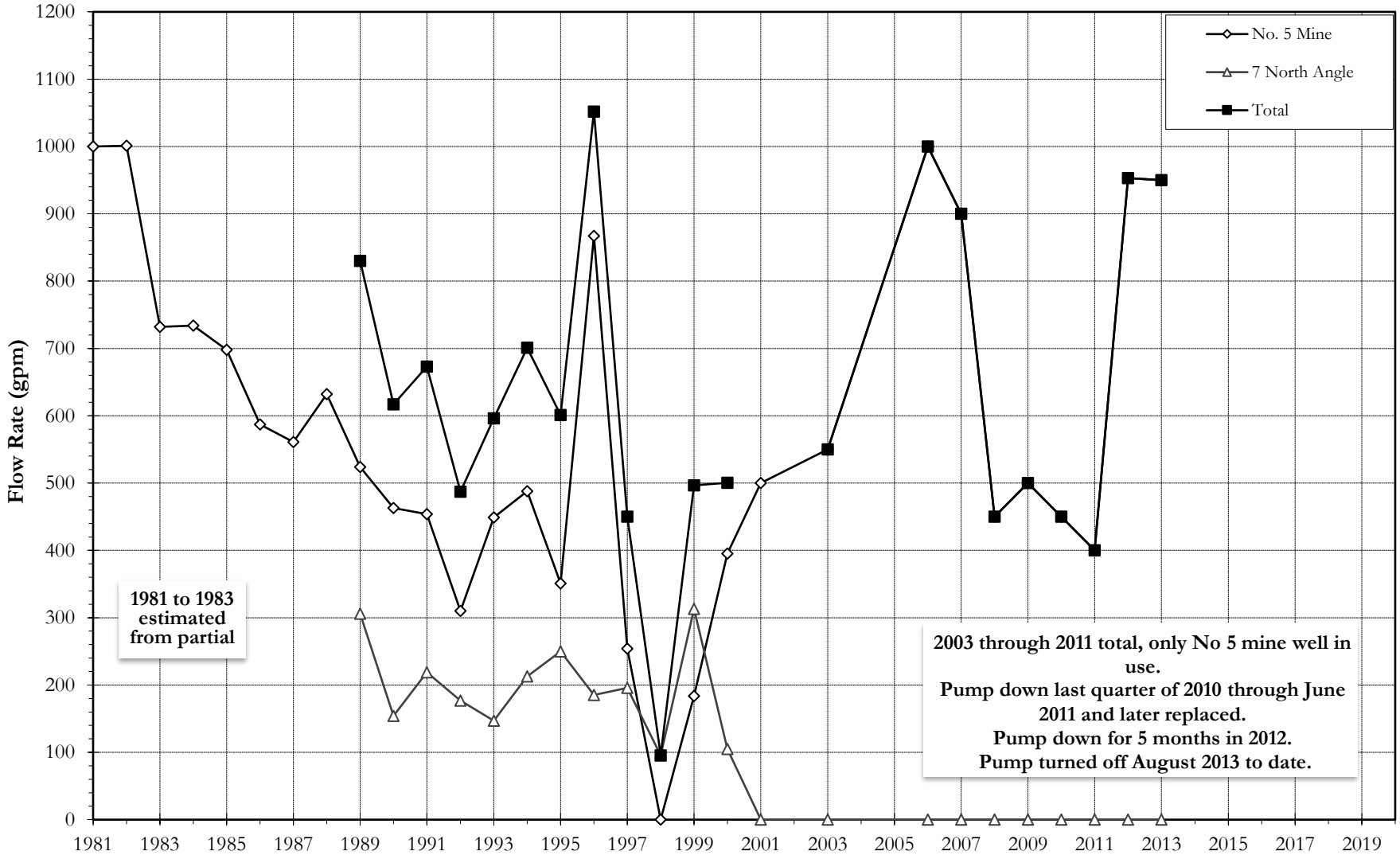
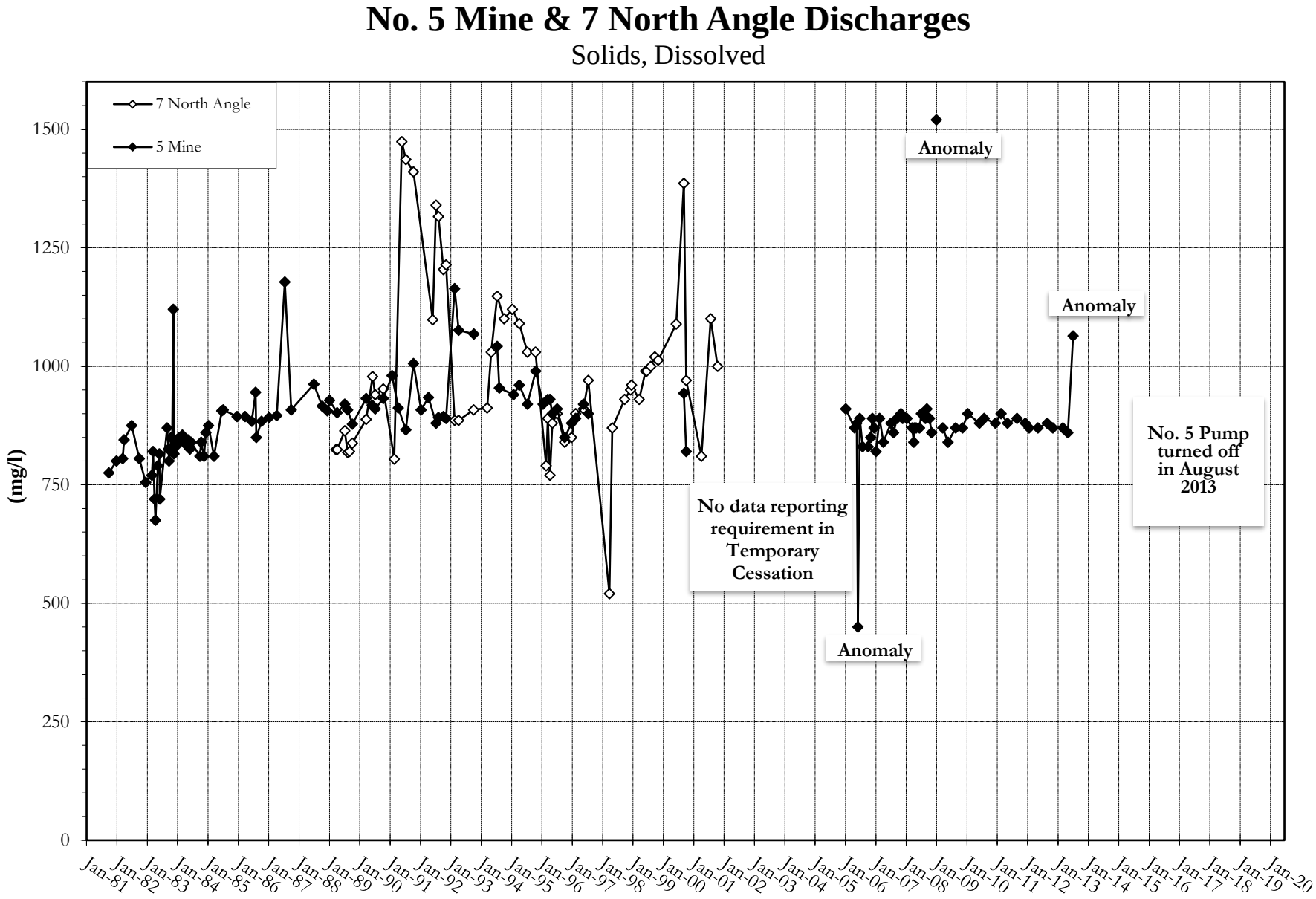


FIGURE 14

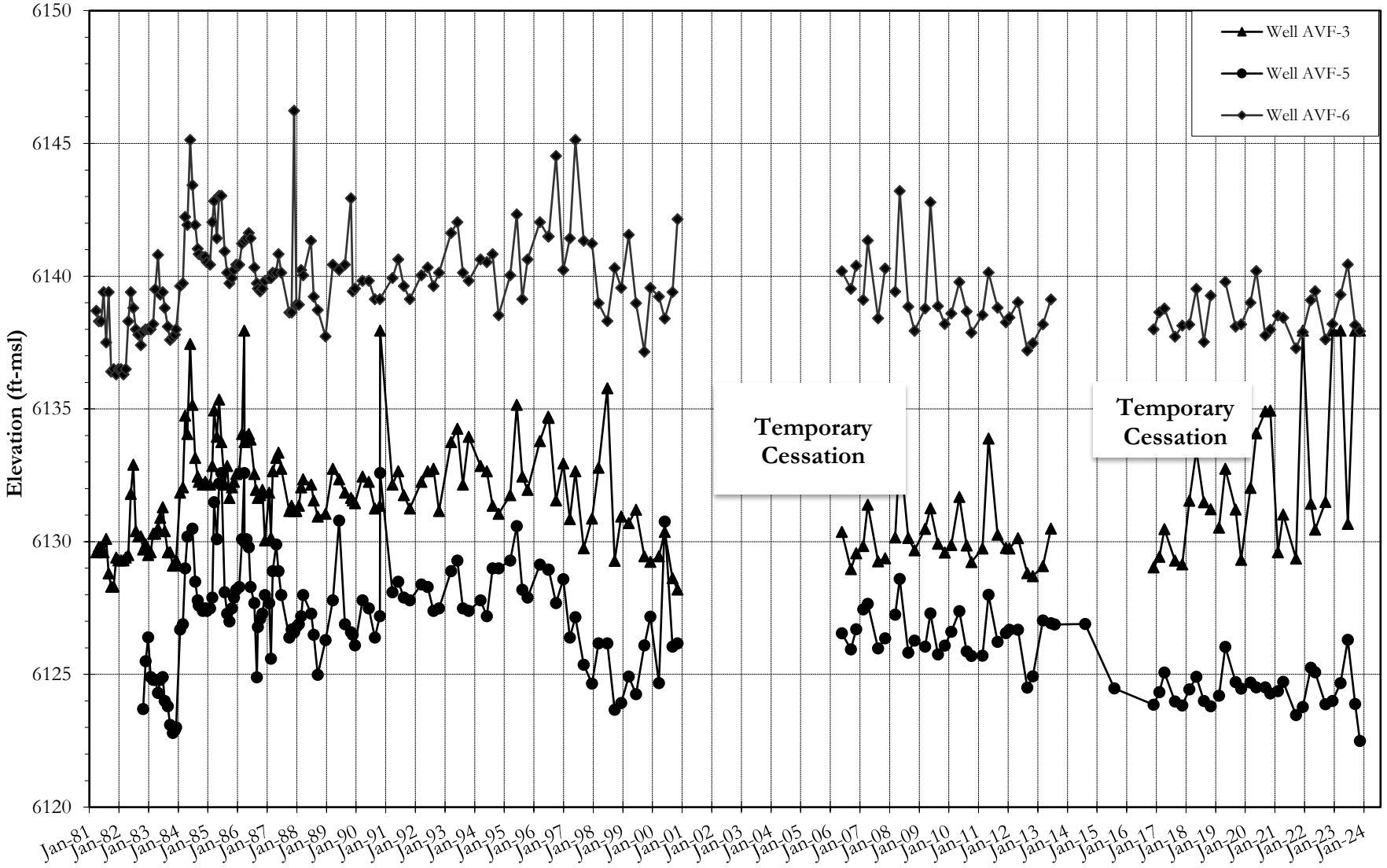


I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\15 5MN & 7NA POR TDS

FIGURE 15

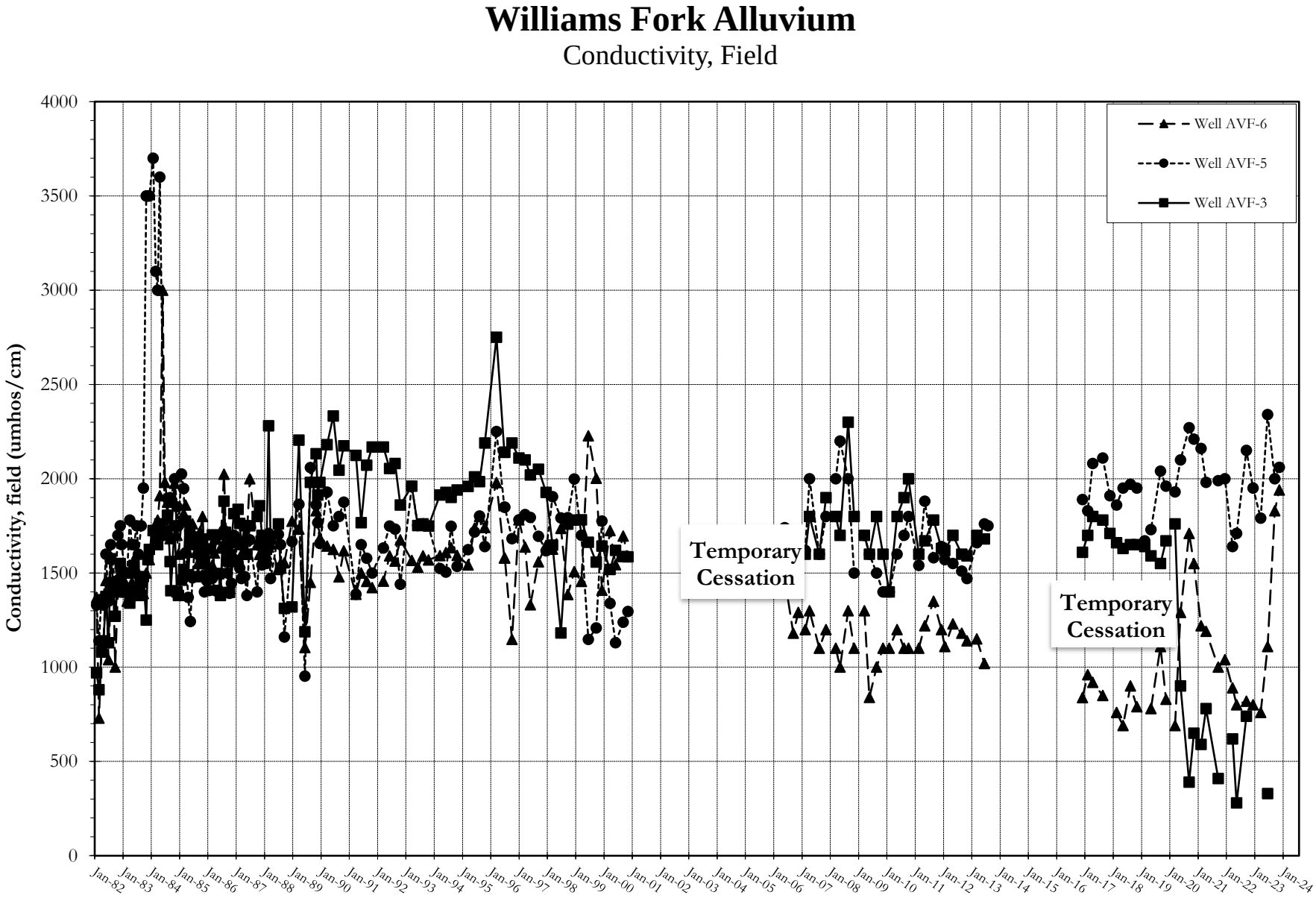
PLOT OF WATER LEVELS

Williams Fork Alluvium



I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\16 WILLIAMS FK ALLUVIUM POR WL

FIGURE 16


Williams Fork Alluvium
Conductivity, Field
Conductivity, field (umhos/cm)
Well AVF-6
Well AVF-5
Well AVF-3
Temporary Cessation
Temporary Cessation
4000
3500
3000
2500
2000
1500
1000
500
0
Jan-82
Jan-83
Jan-84
Jan-85
Jan-86
Jan-87
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Jan-00
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
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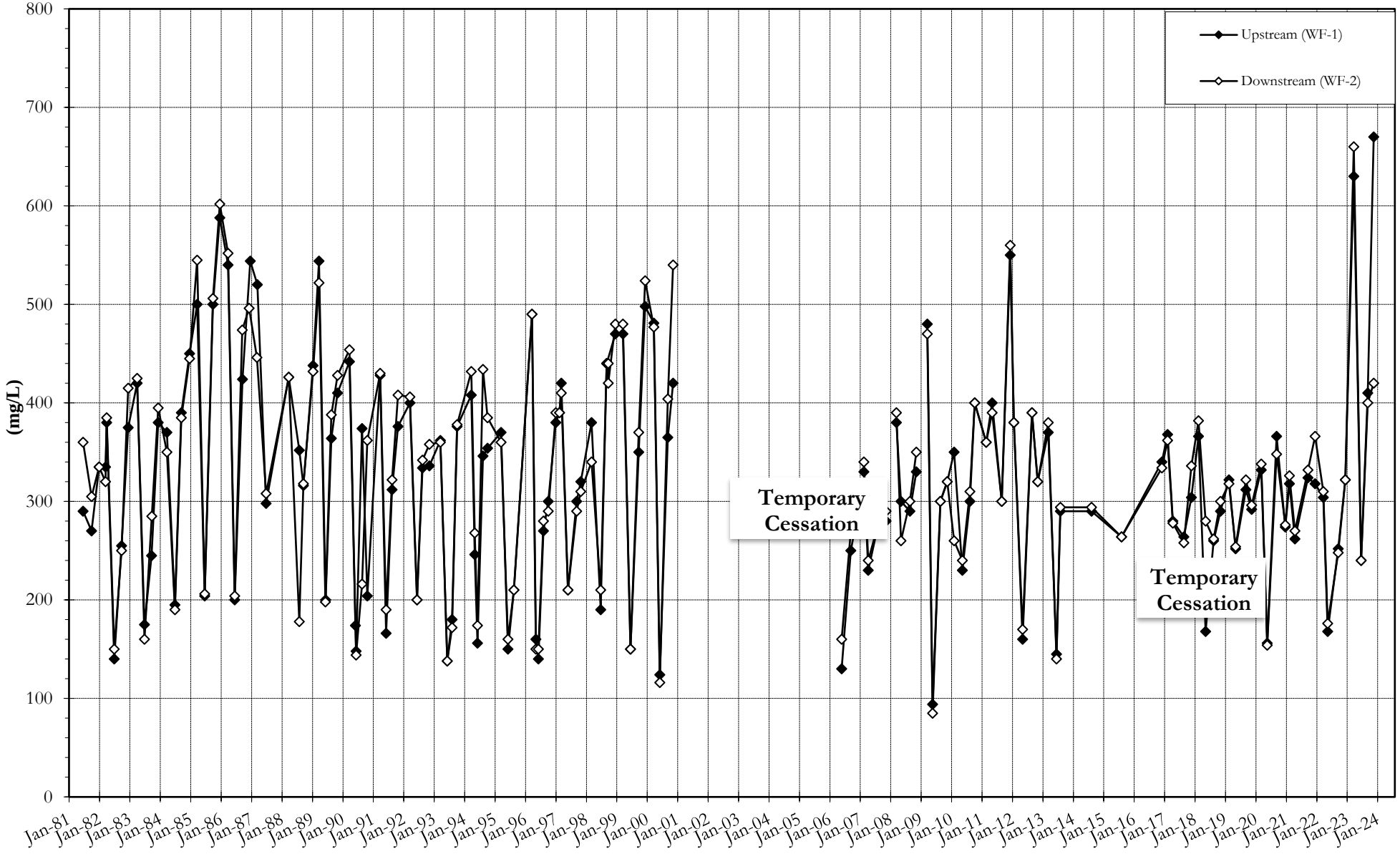
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Jan-20
Jan-21
Jan-22
Jan-23
Jan-24

FIGURE 17

Williams Fork River

Solids, Total Dissolved

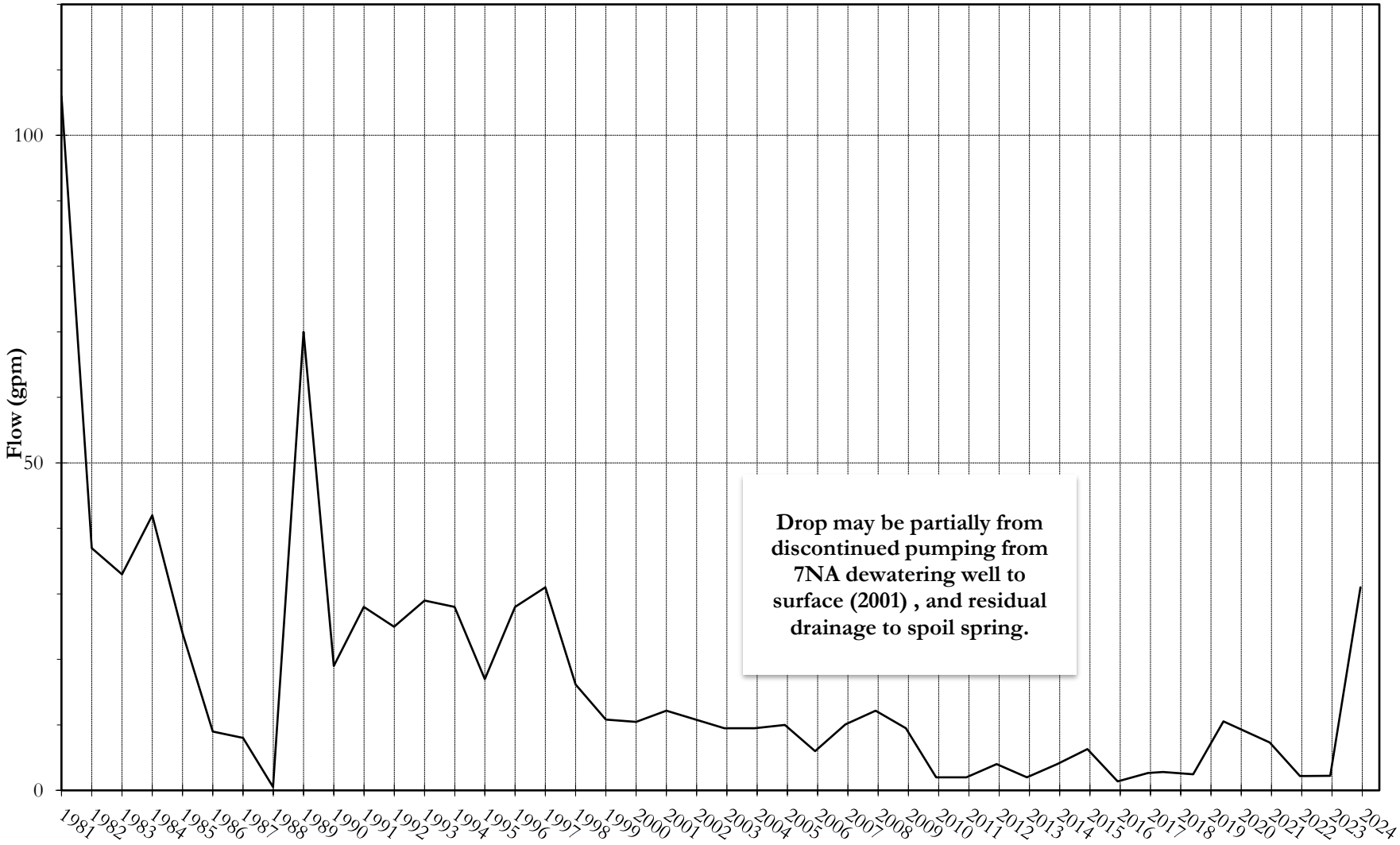


I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\18 WILLIAMS FK RIVER POR TDS

FIGURE 18

Average Discharge From No. 1 Strip Pit

Period of Record

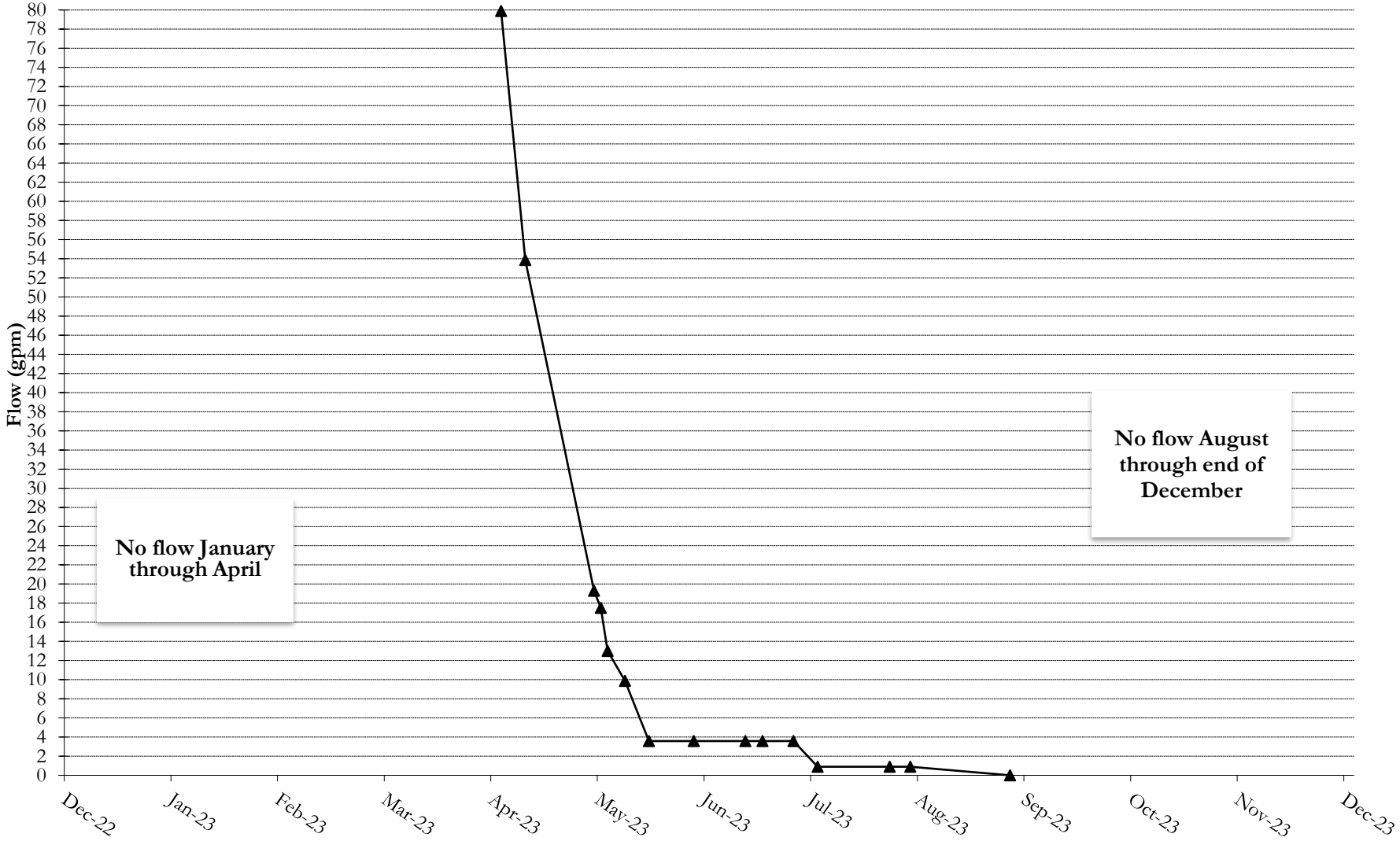


I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\19 STRIP PIT 1, 1SP POR DISCHARGE

FIGURE 19

Plot of Flow Rates

No. 1 Strip Pit Discharge, 2023 Water Year



I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\20 STRIP PIT 1, 1SP WY DISCHARGE

FIGURE 20

No. 1 Strip Pit Discharge

Solids, Dissolved

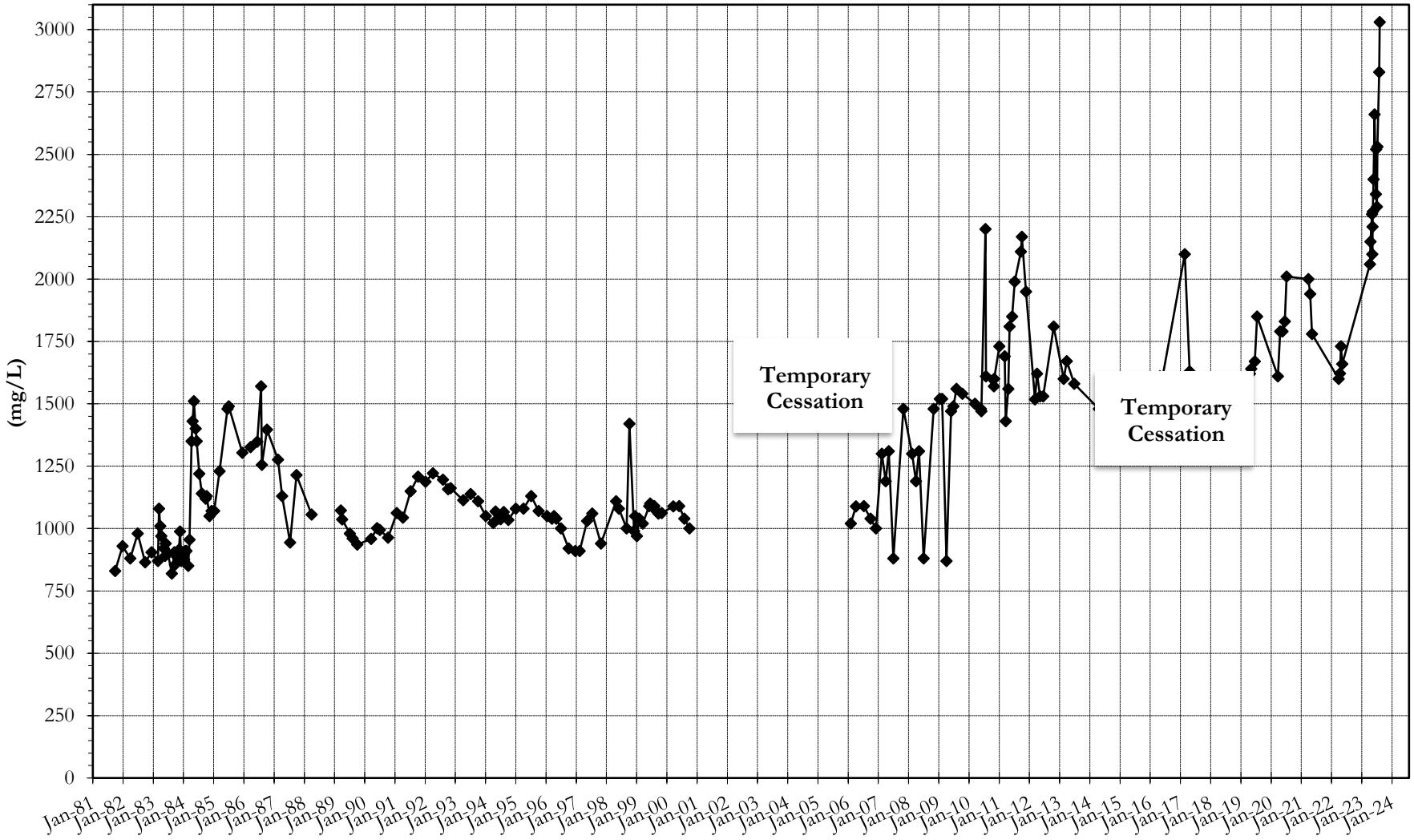
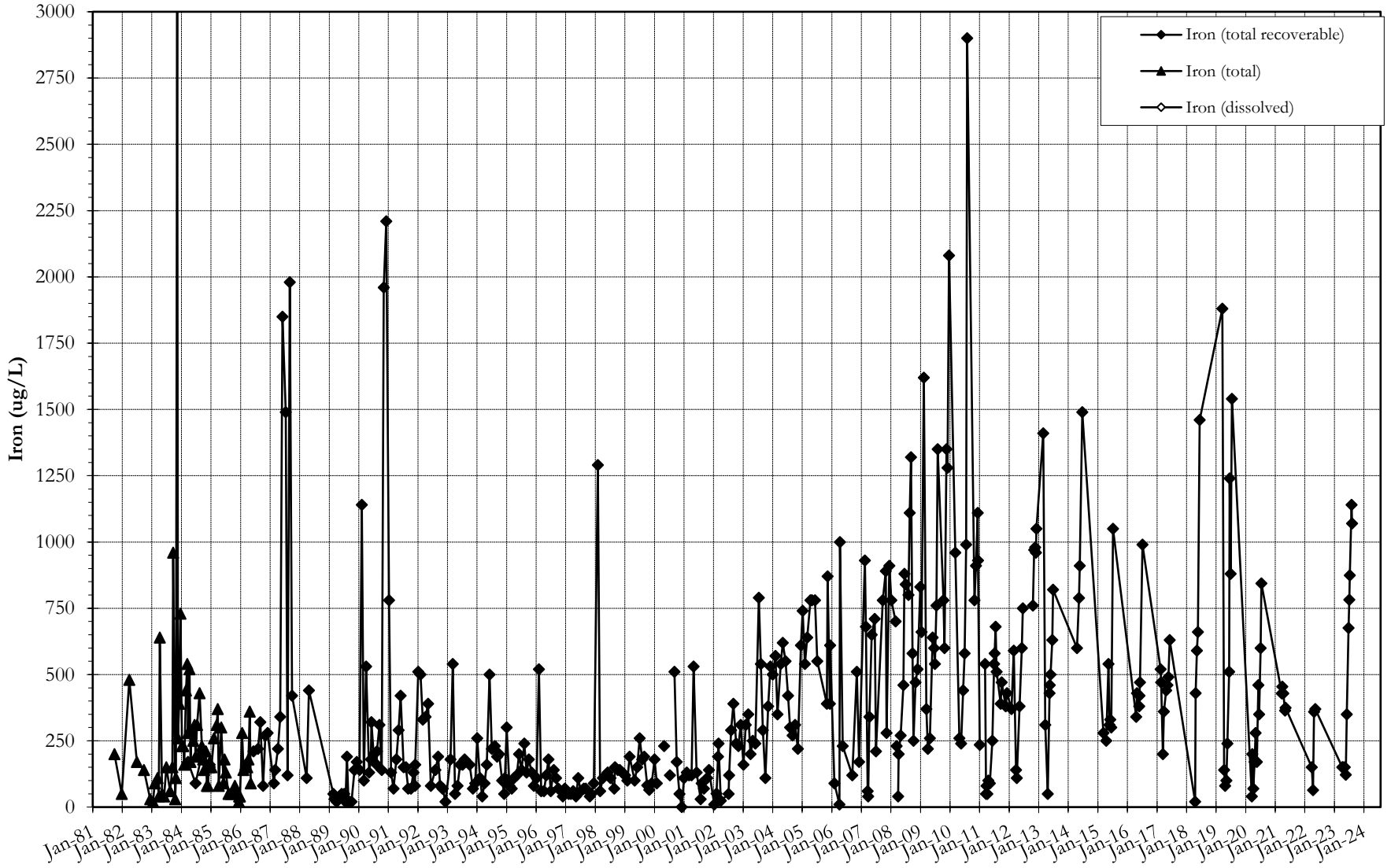


FIGURE 21

No. 1 Strip Pit Discharge

Iron - Period of Record



I:\Environmental\CDMG - CDRMS\AHR\2023\Williams Fork\Figures\22 STRIP PIT 1, 1SP POR FE

FIGURE 22

SUPPORTING DATA

2023 Williams Fork River Flow Record

Colorado DWR Site: WMFKNHCO

Site	Date Time	DISCHRG Value	Units	Observation
WMFKMHCO	01/01/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/02/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/03/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/04/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/05/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/06/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/07/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/08/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/09/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/10/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/11/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/12/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/13/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/14/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/15/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/16/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/17/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/18/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/19/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/20/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/21/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/22/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/23/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/24/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/25/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/26/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/27/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/28/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/29/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/30/2023 00:00	No reading	cfs	ICE
WMFKMHCO	01/31/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/01/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/02/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/03/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/04/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/05/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/06/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/07/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/08/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/09/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/10/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/11/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/12/2023 00:00	No reading	cfs	ICE

2023 Williams Fork River Flow Record

Colorado DWR Site: WMFKNHCO

Site	Date Time	DISCHRG Value	Units	Observation
WMFKMHCO	02/13/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/14/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/15/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/16/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/17/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/18/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/19/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/20/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/21/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/22/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/23/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/24/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/25/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/26/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/27/2023 00:00	No reading	cfs	ICE
WMFKMHCO	02/28/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/01/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/02/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/03/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/04/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/05/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/06/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/07/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/08/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/09/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/10/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/11/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/12/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/13/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/14/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/15/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/16/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/17/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/18/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/19/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/20/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/21/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/22/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/23/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/24/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/25/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/26/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/27/2023 00:00	No reading	cfs	ICE

2023 Williams Fork River Flow Record

Colorado DWR Site: WMFKNHCO

Site	Date Time	DISCHRG Value	Units	Observation
WMFKMHCO	03/28/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/29/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/30/2023 00:00	No reading	cfs	ICE
WMFKMHCO	03/31/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/01/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/02/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/03/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/04/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/05/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/06/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/07/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/08/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/09/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/10/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/11/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/12/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/13/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/14/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/15/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/16/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/17/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/18/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/19/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/20/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/21/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/22/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/23/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/24/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/25/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/26/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/27/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/28/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/29/2023 00:00	No reading	cfs	ICE
WMFKMHCO	04/30/2023 00:00	No reading	cfs	ICE
WMFKMHCO	05/01/2023 00:00	No reading	cfs	ICE
WMFKMHCO	05/02/2023 00:00	No reading	cfs	ICE
WMFKMHCO	05/03/2023 00:00	No reading	cfs	ICE
WMFKMHCO	05/04/2023 00:00	No reading	cfs	ICE
WMFKMHCO	05/05/2023 00:00	1250	cfs	
WMFKMHCO	05/06/2023 00:00	1420	cfs	
WMFKMHCO	05/07/2023 00:00	1190	cfs	
WMFKMHCO	05/08/2023 00:00	1090	cfs	
WMFKMHCO	05/09/2023 00:00	1240	cfs	

2023 Williams Fork River Flow Record

Colorado DWR Site: WMFKNHCO

Site	Date Time	DISCHRG Value	Units	Observation
WMFKMHCO	05/10/2023 00:00	1590	cfs	
WMFKMHCO	05/11/2023 00:00	1680	cfs	
WMFKMHCO	05/12/2023 00:00	1700	cfs	
WMFKMHCO	05/13/2023 00:00	1440	cfs	
WMFKMHCO	05/14/2023 00:00	1510	cfs	
WMFKMHCO	05/15/2023 00:00	1570	cfs	
WMFKMHCO	05/16/2023 00:00	1790	cfs	
WMFKMHCO	05/17/2023 00:00	1800	cfs	
WMFKMHCO	05/18/2023 00:00	1740	cfs	
WMFKMHCO	05/19/2023 00:00	1650	cfs	
WMFKMHCO	05/20/2023 00:00	1560	cfs	
WMFKMHCO	05/21/2023 00:00	1560	cfs	
WMFKMHCO	05/22/2023 00:00	1730	cfs	
WMFKMHCO	05/23/2023 00:00	1390	cfs	
WMFKMHCO	05/24/2023 00:00	1470	cfs	
WMFKMHCO	05/25/2023 00:00	1620	cfs	
WMFKMHCO	05/26/2023 00:00	1510	cfs	
WMFKMHCO	05/27/2023 00:00	1570	cfs	
WMFKMHCO	05/28/2023 00:00	1400	cfs	
WMFKMHCO	05/29/2023 00:00	1260	cfs	
WMFKMHCO	05/30/2023 00:00	1270	cfs	
WMFKMHCO	05/31/2023 00:00	1150	cfs	
WMFKMHCO	06/01/2023 00:00	992	cfs	
WMFKMHCO	06/02/2023 00:00	1020	cfs	
WMFKMHCO	06/03/2023 00:00	993	cfs	
WMFKMHCO	06/04/2023 00:00	947	cfs	
WMFKMHCO	06/05/2023 00:00	860	cfs	
WMFKMHCO	06/06/2023 00:00	877	cfs	
WMFKMHCO	06/07/2023 00:00	945	cfs	
WMFKMHCO	06/08/2023 00:00	918	cfs	
WMFKMHCO	06/09/2023 00:00	916	cfs	
WMFKMHCO	06/10/2023 00:00	815	cfs	
WMFKMHCO	06/11/2023 00:00	728	cfs	
WMFKMHCO	06/12/2023 00:00	720	cfs	
WMFKMHCO	06/13/2023 00:00	685	cfs	
WMFKMHCO	06/14/2023 00:00	635	cfs	
WMFKMHCO	06/15/2023 00:00	747	cfs	
WMFKMHCO	06/16/2023 00:00	1140	cfs	
WMFKMHCO	06/17/2023 00:00	910	cfs	
WMFKMHCO	06/18/2023 00:00	836	cfs	
WMFKMHCO	06/19/2023 00:00	742	cfs	
WMFKMHCO	06/20/2023 00:00	762	cfs	
WMFKMHCO	06/21/2023 00:00	701	cfs	

2023 Williams Fork River Flow Record

Colorado DWR Site: WMFKNHCO

Site	Date Time	DISCHRG Value	Units	Observation
WMFKMHCO	06/22/2023 00:00	684	cfs	
WMFKMHCO	06/23/2023 00:00	629	cfs	
WMFKMHCO	06/24/2023 00:00	573	cfs	
WMFKMHCO	06/25/2023 00:00	505	cfs	
WMFKMHCO	06/26/2023 00:00	464	cfs	
WMFKMHCO	06/27/2023 00:00	444	cfs	
WMFKMHCO	06/28/2023 00:00	438	cfs	
WMFKMHCO	06/29/2023 00:00	387	cfs	
WMFKMHCO	06/30/2023 00:00	360	cfs	
WMFKMHCO	07/01/2023 00:00	343	cfs	
WMFKMHCO	07/02/2023 00:00	312	cfs	
WMFKMHCO	07/03/2023 00:00	301	cfs	
WMFKMHCO	07/04/2023 00:00	283	cfs	
WMFKMHCO	07/05/2023 00:00	278	cfs	
WMFKMHCO	07/06/2023 00:00	268	cfs	
WMFKMHCO	07/07/2023 00:00	258	cfs	
WMFKMHCO	07/08/2023 00:00	232	cfs	
WMFKMHCO	07/09/2023 00:00	207	cfs	
WMFKMHCO	07/10/2023 00:00	190	cfs	
WMFKMHCO	07/11/2023 00:00	199	cfs	
WMFKMHCO	07/12/2023 00:00	184	cfs	
WMFKMHCO	07/13/2023 00:00	175	cfs	
WMFKMHCO	07/14/2023 00:00	163	cfs	
WMFKMHCO	07/15/2023 00:00	143	cfs	
WMFKMHCO	07/16/2023 00:00	139	cfs	
WMFKMHCO	07/17/2023 00:00	130	cfs	
WMFKMHCO	07/18/2023 00:00	122	cfs	
WMFKMHCO	07/19/2023 00:00	118	cfs	
WMFKMHCO	07/20/2023 00:00	124	cfs	
WMFKMHCO	07/21/2023 00:00	125	cfs	
WMFKMHCO	07/22/2023 00:00	112	cfs	
WMFKMHCO	07/23/2023 00:00	102	cfs	
WMFKMHCO	07/24/2023 00:00	97.8	cfs	
WMFKMHCO	07/25/2023 00:00	93.8	cfs	
WMFKMHCO	07/26/2023 00:00	87.2	cfs	
WMFKMHCO	07/27/2023 00:00	83.4	cfs	
WMFKMHCO	07/28/2023 00:00	83.4	cfs	
WMFKMHCO	07/29/2023 00:00	73.5	cfs	
WMFKMHCO	07/30/2023 00:00	74.6	cfs	
WMFKMHCO	07/31/2023 00:00	76.4	cfs	
WMFKMHCO	08/01/2023 00:00	86.6	cfs	
WMFKMHCO	08/02/2023 00:00	100	cfs	
WMFKMHCO	08/03/2023 00:00	96	cfs	

2023 Williams Fork River Flow Record

Colorado DWR Site: WMFKNHCO

Site	Date Time	DISCHRG Value	Units	Observation
WMFKMHCO	08/04/2023 00:00	76.8	cfs	
WMFKMHCO	08/05/2023 00:00	70.1	cfs	
WMFKMHCO	08/06/2023 00:00	67.3	cfs	
WMFKMHCO	08/07/2023 00:00	68.2	cfs	
WMFKMHCO	08/08/2023 00:00	73.5	cfs	
WMFKMHCO	08/09/2023 00:00	65.7	cfs	
WMFKMHCO	08/10/2023 00:00	62.3	cfs	
WMFKMHCO	08/11/2023 00:00	61	cfs	
WMFKMHCO	08/12/2023 00:00	56.1	cfs	
WMFKMHCO	08/13/2023 00:00	53.9	cfs	
WMFKMHCO	08/14/2023 00:00	51.1	cfs	
WMFKMHCO	08/15/2023 00:00	48.8	cfs	
WMFKMHCO	08/16/2023 00:00	45.7	cfs	
WMFKMHCO	08/17/2023 00:00	44.8	cfs	
WMFKMHCO	08/18/2023 00:00	43.7	cfs	
WMFKMHCO	08/19/2023 00:00	42.1	cfs	
WMFKMHCO	08/20/2023 00:00	40.2	cfs	
WMFKMHCO	08/21/2023 00:00	35.7	cfs	
WMFKMHCO	08/22/2023 00:00	32.8	cfs	
WMFKMHCO	08/23/2023 00:00	34.1	cfs	
WMFKMHCO	08/24/2023 00:00	39.5	cfs	
WMFKMHCO	08/25/2023 00:00	64.3	cfs	
WMFKMHCO	08/26/2023 00:00	82.2	cfs	Obs*
WMFKMHCO	08/27/2023 00:00	62.4	cfs	
WMFKMHCO	08/28/2023 00:00	50.3	cfs	
WMFKMHCO	08/29/2023 00:00	47.6	cfs	
WMFKMHCO	08/30/2023 00:00	41.2	cfs	
WMFKMHCO	08/31/2023 00:00	36.7	cfs	
WMFKMHCO	09/01/2023 00:00	33.7	cfs	
WMFKMHCO	09/02/2023 00:00	33.3	cfs	
WMFKMHCO	09/03/2023 00:00	35.4	cfs	
WMFKMHCO	09/04/2023 00:00	41.2	cfs	
WMFKMHCO	09/05/2023 00:00	51.9	cfs	
WMFKMHCO	09/06/2023 00:00	45	cfs	
WMFKMHCO	09/07/2023 00:00	38.3	cfs	
WMFKMHCO	09/08/2023 00:00	33.4	cfs	
WMFKMHCO	09/09/2023 00:00	34.6	cfs	
WMFKMHCO	09/10/2023 00:00	35.5	cfs	
WMFKMHCO	09/11/2023 00:00	35.8	cfs	
WMFKMHCO	09/12/2023 00:00	32.7	cfs	
WMFKMHCO	09/13/2023 00:00	32.8	cfs	
WMFKMHCO	09/14/2023 00:00	33.1	cfs	
WMFKMHCO	09/15/2023 00:00	35.4	cfs	

2023 Williams Fork River Flow Record

Colorado DWR Site: WMFKNHCO

Site	Date Time	DISCHRG Value	Units	Observation
WMFKMHCO	09/16/2023 00:00	37.1	cfs	
WMFKMHCO	09/17/2023 00:00	39.8	cfs	
WMFKMHCO	09/18/2023 00:00	39.2	cfs	
WMFKMHCO	09/19/2023 00:00	40.1	cfs	
WMFKMHCO	09/20/2023 00:00	40.1	cfs	
WMFKMHCO	09/21/2023 00:00	38.8	cfs	
WMFKMHCO	09/22/2023 00:00	37.4	cfs	
WMFKMHCO	09/23/2023 00:00	34.5	cfs	
WMFKMHCO	09/24/2023 00:00	34	cfs	
WMFKMHCO	09/25/2023 00:00	37.3	cfs	
WMFKMHCO	09/26/2023 00:00	36.9	cfs	
WMFKMHCO	09/27/2023 00:00	37.7	cfs	
WMFKMHCO	09/28/2023 00:00	35.9	cfs	
WMFKMHCO	09/29/2023 00:00	34.3	cfs	
WMFKMHCO	09/30/2023 00:00	33.2	cfs	
WMFKMHCO	10/01/2023 00:00	34.2	cfs	
WMFKMHCO	10/02/2023 00:00	32	cfs	
WMFKMHCO	10/03/2023 00:00	37.7	cfs	
WMFKMHCO	10/04/2023 00:00	42.5	cfs	
WMFKMHCO	10/05/2023 00:00	42.5	cfs	
WMFKMHCO	10/06/2023 00:00	41.7	cfs	
WMFKMHCO	10/07/2023 00:00	41.8	cfs	
WMFKMHCO	10/08/2023 00:00	42	cfs	
WMFKMHCO	10/09/2023 00:00	40.9	cfs	
WMFKMHCO	10/10/2023 00:00	41.2	cfs	
WMFKMHCO	10/11/2023 00:00	41	cfs	
WMFKMHCO	10/12/2023 00:00	56.4	cfs	
WMFKMHCO	10/13/2023 00:00	69.5	cfs	
WMFKMHCO	10/14/2023 00:00	57.9	cfs	
WMFKMHCO	10/15/2023 00:00	54.7	cfs	
WMFKMHCO	10/16/2023 00:00	54.9	cfs	
WMFKMHCO	10/17/2023 00:00	58.7	cfs	
WMFKMHCO	10/18/2023 00:00	58.3	cfs	
WMFKMHCO	10/19/2023 00:00	58.1	cfs	
WMFKMHCO	10/20/2023 00:00	55.4	cfs	
WMFKMHCO	10/21/2023 00:00	53.1	cfs	
WMFKMHCO	10/22/2023 00:00	51.4	cfs	
WMFKMHCO	10/23/2023 00:00	50.5	cfs	
WMFKMHCO	10/24/2023 00:00	49.1	cfs	
WMFKMHCO	10/25/2023 00:00	47.9	cfs	
WMFKMHCO	10/26/2023 00:00	48	cfs	
WMFKMHCO	10/27/2023 00:00	50.9	cfs	
WMFKMHCO	10/28/2023 00:00	55.8	cfs	

2023 Williams Fork River Flow Record

Colorado DWR Site: WMFKNHCO

Site	Date Time	DISCHRG Value	Units	Observation
WMFKMHCO	10/29/2023 00:00	61.7	cfs	
WMFKMHCO	10/30/2023 00:00	47.2	cfs	
WMFKMHCO	10/31/2023 00:00	32.3	cfs	
WMFKMHCO	11/01/2023 00:00	41.9	cfs	
WMFKMHCO	11/02/2023 00:00	55.9	cfs	
WMFKMHCO	11/03/2023 00:00	56.4	cfs	
WMFKMHCO	11/04/2023 00:00	55.6	cfs	
WMFKMHCO	11/05/2023 00:00	53	cfs	
WMFKMHCO	11/06/2023 00:00	51.1	cfs	
WMFKMHCO	11/07/2023 00:00	51.3	cfs	
WMFKMHCO	11/08/2023 00:00	52.6	cfs	
WMFKMHCO	11/09/2023 00:00	51.6	cfs	
WMFKMHCO	11/10/2023 00:00	36.7	cfs	Ice
WMFKMHCO	11/11/2023 00:00	30.4	cfs	Ice
WMFKMHCO	11/12/2023 00:00	40.5	cfs	Ice
WMFKMHCO	11/13/2023 00:00	47	cfs	Ice
WMFKMHCO	11/14/2023 00:00	50.4	cfs	Ice
WMFKMHCO	11/15/2023 00:00	51.3	cfs	Ice
WMFKMHCO	11/16/2023 00:00	51	cfs	Ice
WMFKMHCO	11/17/2023 00:00	56.8	cfs	Ice
WMFKMHCO	11/18/2023 00:00	58	cfs	Ice
WMFKMHCO	11/19/2023 00:00	54.3	cfs	Ice
WMFKMHCO	11/20/2023 00:00	54.1	cfs	Ice
WMFKMHCO	11/21/2023 00:00	53.4	cfs	Ice
WMFKMHCO	11/22/2023 00:00	48.8	cfs	Ice
WMFKMHCO	11/23/2023 00:00	41.7	cfs	Ice
WMFKMHCO	11/24/2023 00:00	55.1	cfs	Ice
WMFKMHCO	11/25/2023 00:00	43.8	cfs	Ice
WMFKMHCO	11/26/2023 00:00	13.5	cfs	Ice
WMFKMHCO	11/27/2023 00:00	15.3	cfs	Ice
WMFKMHCO	11/28/2023 00:00	0.476	cfs	Ice
WMFKMHCO	11/29/2023 00:00	24.2	cfs	Ice
WMFKMHCO	11/30/2023 00:00	32.2	cfs	Ice
WMFKMHCO	12/01/2023 00:00	33.2	cfs	Ice
WMFKMHCO	12/02/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/03/2023 00:00	36.4	cfs	Ice
WMFKMHCO	12/04/2023 00:00	76.2	cfs	Ice
WMFKMHCO	12/05/2023 00:00	24.3	cfs	Ice
WMFKMHCO	12/06/2023 00:00	31.6	cfs	Ice
WMFKMHCO	12/07/2023 00:00	37.4	cfs	Ice
WMFKMHCO	12/08/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/09/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/10/2023 00:00	0.595	cfs	Ice

2023 Williams Fork River Flow Record

Colorado DWR Site: WMFKNHCO

Site	Date Time	DISCHRG Value	Units	Observation
WMFKMHCO	12/11/2023 00:00	14.3	cfs	Ice
WMFKMHCO	12/12/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/13/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/14/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/15/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/16/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/17/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/18/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/19/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/20/2023 00:00	39.2	cfs	Ice
WMFKMHCO	12/21/2023 00:00	29.5	cfs	Ice
WMFKMHCO	12/22/2023 00:00	0.913	cfs	Ice
WMFKMHCO	12/23/2023 00:00	66.1	cfs	Ice
WMFKMHCO	12/24/2023 00:00	72.9	cfs	Ice
WMFKMHCO	12/25/2023 00:00	78.6	cfs	Ice
WMFKMHCO	12/26/2023 00:00	57.9	cfs	Ice
WMFKMHCO	12/27/2023 00:00	5.53	cfs	Ice
WMFKMHCO	12/28/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/29/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/30/2023 00:00	No reading	cfs	Ice
WMFKMHCO	12/31/2023 00:00	No reading	cfs	Ice

WMFKMHCO - WILLIAMS FORK AT MOUTH NEAR HAMILTON

CFS

2,000.00
1,800.00
1,600.00
1,400.00
1,200.00
1,000.00
800.00
600.00
400.00
200.00
0.00

Jan '23 Feb '23 Mar '23 Apr '23 May '23 Jun '23 Jul '23 Aug '23 Sep '23 Oct '23 Nov '23 Dec '23

Legend

Flags

O - Original data as collected by the data collection platform | Ssn - Parameter monitored seasonally | Obs* - Multiple flags were active during this timestep | Ice - Ice affected