2022 ANNUAL HYDROLOGY REPORT

SENECA II-W MINE

PERMIT C-82-057

April 2023

Submitted To: Colorado Division of Reclamation, Mining and Safety
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SENECA Coal Company

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1.0 INTRODUCTION

This Annual Hydrology Report presents the hydrologic monitoring data collected during the 2022 water year (October 2021 – September 2022) at the Seneca Coal Company's (SCC) Seneca II-W Mine (SIIW). The AHR fulfills the reporting requirements under the Colorado Division of Reclamation, Mining, and Safety (CDRMS) Permit No. C-82-057.

1.1 BACKGROUND

SIIW is a surface coal mine located in Routt County, approximately 9 miles south of Hayden, Colorado (Figure 1). Mining began at SIIW in August 1990. Production ceased in 2005 and the last of the coal at SIIW was removed in January 2006. The mine has been reclaimed and vegetated for many years and SCC is actively pursuing bond release.

2.0 METEOROLOGICAL

Meteorological data for the 2022 water year is presented in Appendix A. The 2022 data was obtained from NOAA weather station USC00053867 located in Hayden, Colorado (www.ncdc.noaa.gov/cdo-wb/). A total of 18.74 inches of precipitation was measured in 2022, which is 0.60 inches less than the 1981-2022 average of 18.14 inches. October, December, April, May, and September were wetter than normal, but the remaining months were drier than normal. Potential snowpack runoff, as estimated by totaling November through March precipitation, was 6.87 inches, which was 0.64 inches below the 1981-2022 average of 7.51 inches.

3.0 GROUNDWATER

The SIIW groundwater monitoring program includes 14 monitoring wells. The following table includes the wells monitored, the water bearing unit they are screened in, the frequency of monitoring, and the required parameters list. The monitoring well locations are shown on Figure 1. Groundwater monitoring was completed by experienced personnel using accepted monitoring practices. All samples were analyzed by ACZ Laboratories.

Site	Unit	Monitoring Frequency		Parameter List
		Water Level	Water Quality	
DCAL-02	Dry Creek Alluvium	A	A	GW Long
WHAL7-2	Hubberson Gulch Alluvium	A	A	GW Long
WOV14	Wadge Overburden	A	A	GW Long
WOV17	Wadge Overburden	A	A	GW Short
WOV25	Wadge Overburden	A	A	GW Long
WW14	Wadge Coal	A	A	GW Long
WW17	Wadge Coal	A	A	GW Short
WW25	Wadge Coal	A	A	GW Long
WSOV25	Sage Creek Overburden	A	A	GW Long
WSC25	Sage Creek Coal	A	A	GW Long
WWCOV25	Wolf Creek Overburden	A	A	GW Long
WWC17	Wolf Creek Overburden	A	NR	NR
WWC25	Wolf Creek Coal	A	A	GW Long
WWCU25	Wolf Creek Underburden	A	A	GW Long

Note
A: Annual
NR: Not Required
GW Long: Field conductivity, field pH, field temperature, fluoride, dissolved iron, dissolved manganese, nitrate, nitrite, dissolved selenium, sulfate, total dissolved solids
GW Short: Field conductivity, field pH, field temperature, dissolved iron, dissolved manganese, total dissolved solids

3.1 WATER LEVELS

The static water levels measured during the 2022 water year are included with the groundwater quality data in Appendix B. Water level hydrographs for each of the

wells are also provided in Appendix C. The static water level was measured at all wells except for WSC25 and WWC17. The WSC25 well casing was damaged, and a measurement could not be made. The measurement of the static water level at WWC17 was mistakenly overlooked by the third-party contractor in 2022. Water level monitoring at WWC17 will resume in 2023. The water levels measured at the remaining wells were all within their respective historic range.

Water levels in the water bearing units at SIIW exhibit seasonal fluctuations. The water table in the shallow alluvial wells fluctuates in response to seasonal precipitation events, with the water table typically at its highest during the spring snowmelt seasons and then declining through late summer/early fall in response to the dry conditions. The water levels in the bedrock overburden and coal seams also fluctuate in response to recharge from seasonal precipitation but are partially influenced by interactions with groundwater in the reclaimed mine spoil. Due to the bedrock unit depths and lower hydraulic conductivity the water level fluctuations are typically muted relative to the fluctuations observed in the shallow alluvium.

3.2 Groundwater Quality

Monitoring well DCAL-02 serves as the Groundwater Point of Compliance (GWPOC) for SIIW (see Technical Revision 63). This well is screened within the Dry Creek Alluvium and is located downgradient of the mines permit boundary. Only a small portion of the SIIW mining area is located within the Sage Creek Watershed and a GWPOC for the Sage Creek Alluvium was deemed unnecessary because the spoil groundwater flows to the west along the dipping bedrock, away from the Sage Creek tributaries. GWPOC bedrock wells were also deemed unnecessary because of the limited potential for the mine to negatively impact the quality of bedrock groundwater. The low hydraulic conductivity of the bedrock units inhibits groundwater from migrating away from the mine and low permeable confining layers further isolate groundwater at the mine from the nearest aquifer, the Trout Creek Sandstone. Bedrock groundwater has not historically been used in this area because its undisturbed, ambient, quality is marginal to unsuitable for both livestock and irrigation purposes and the yields are low.

Analytical results for the groundwater monitoring conducted in 2022 are provided in Appendix B. Table B.1 provides a comparison of the DCAL-02 samples to the Dry Creek Alluvial GWPOC water quality standards established in TR-63. Table B.2 includes the analytical results for the remaining monitoring wells, however a comparison to water quality standards is not made as these wells are not GWPOC's. The groundwater quality at well DCAL-02 met all applicable water quality standards.

Predictions for the expected TDS increases to be observed at various monitoring wells were made in the Probable Hydrologic Consequences (PHC, Tab 17) section of the SIIW Permit Application Package (PAP). The following table outlines these predictions along with this year's observed value.

Well	Predicted TDS (mg/L)	This Years TDS (mg/L)
WHAL7-2	1299	1260
WOV14	4385	1790
WOV17	4295	4410*
WOV25	-	786
WW14	2630	4610*
WW17	3002	658
WW25	-	444

Note
*Indicates value above prediction

In 2022, the TDS at two of the seven wells exceeded the predicted TDS value. Its important to acknowledge that the TDS predictions were intended to demonstrate the potential average increase in postmining groundwater quality adjacent to the mine pits and were not intended to be compared to a singular well. This is illustrated through the application of the predicted Wadge Overburden TDS value (4295 mg/L) to WOV17. The 4295 mg/L value was calculated by multiplying the predicted 5.5% increase in TDS for this area to the pre-mine TDS average (4072 mg/L) measured at several Wadge Overburden Wells. However, the pre-mine average TDS at WOV17 was 8043 mg/L, which was already significantly greater than the predicted value. In this instance a more appropriate comparison would be to compare the 2022 WOV17 TDS to its baseline average times the estimated 5.5% increase (8043 + 5.5% = 8485 mg/L). This indicates that the 2022 value of

4410 mg/L is a significant improvement and well within the projected value at this location. Regardless, both wells with TDS above the predicted post mine value are screened within the bedrock and the low hydraulic conductivity of these units will continue to limit the extent of the TDS changes to groundwater in close proximity to the mine.

4.0 SURFACE WATER

SIIW lies within the Dry Creek and Sage Creek Watersheds. The majority of the permit area drains to the west towards Hubberson Gulch (a tributary to Dry Creek) and Dry Creek, which flows north to the Yampa River. The remainder of the permit area drains northeast towards Sage Creek, which flows north-northeast to the Yampa River. The following table includes the list of SIIW surface water monitoring points, the watershed they are located in, the frequency of monitoring, and the required parameters list. See Figure 1 for the location of the surface water monitoring points. Surface water monitoring was completed by experienced personnel using accepted monitoring practices. All samples were analyzed by ACZ Laboratories.

Site	Type	Watershed	Monitoring Frequency		Parameter List
			Flow	Water Quality	
WSH9	Surface Water	Dry Creek	June/Sept	June/Sept	SW Short
NPDES17	NPDES	Dry Creek	M	M	NPDES
NPDES16	NPDES	Dry Creek	M	M	NPDES
WSH7*	Surface Water	Dry Creek	NR	NR	NR
NPDES6	NPDES	Dry Creek	M	M	NPDES
WSHF1	Surface Water	Dry Creek	SA	SA	SW Long
NPDES5	NPDES	Dry Creek	M	M	NPDES
WSD5	Surface Water	Dry Creek	SA	SA	SW Long
NPDES15	NPDES	Sage Creek	M	M	NPDES
NPDES9	NPDES	Sage Creek	M	M	NPDES
WSSF3	Surface Water	Sage Creek	SA	SA	SW Long

Note

*Monitoring at WSH7 was suspended per TR-69. However, since samples were collected in 2022 the location is retained on the monitoring list and the results have been reported.

SA: Semiannual during spring snowmelt and summer baseflow

NR: Not Required

M: Monthly

SW Long: Field conductivity, field pH, field temperature, total recoverable iron, dissolved manganese, total mercury, ammonia, nitrate, nitrite, dissolved selenium, sulfate, sulfide, total dissolved solids, total suspended solids

SW Short: Field conductivity, field pH, field temperature, total recoverable iron, dissolved manganese, total suspended solids, total dissolved solids

NPDES: See NPDES permit CO-0000221

The Colorado Water Quality Control Commission (CWQCC) has established segment specific aquatic life water quality standards (CDPHE, Reg. 33) for upper Dry Creek (Yampa River Segment 13d) and Sage Creek (Yampa River Segment 13e). Therefore, the following surface water quality discussion has been organized by drainage basin. The 2022 Water Year surface water quality data is provided in Appendix D. Samples from this year's stream points are compared to both the Colorado Department of Public Health & Environment (CDPHE) surface water agricultural use standards (CDPHE, Reg. 31) and the appropriate segment specific aquatic life water quality standards. Samples from NPDES outfalls are compared to NPDES discharge limits as well as the segment specific aquatic life standards. Additional discussion of the water quality in each stream segment follows.

4.1 Dry Creek

Analytical results for the 2022 surface water monitoring conducted at the four Dry Creek stream points is provided in Table D.1 of Appendix D and the results of the Dry Creek outfalls are included in Tables D.2 through D.5. There was an exceedance of the 1 mg/L NPDES discharge limit for total recoverable iron at Outfall 016 (NPDES16) and an exceedance of the 2.618 mg/L chronic aquatic life manganese standard at Outfall 006 (NPDES6) in 2022. The total recoverable iron exceedance at Outfall 016 occurred on April 19th. Duplicate samples were collected, with the maximum iron concentration being 1.74 mg/L. This sample did not exceed the Yampa Segment 13d chronic aquatic life total recoverable iron spring standard (Mar-Apr) of 3.040 mg/L. Synoptic watershed monitoring completed during the April 19th monitoring event indicated that the total recoverable iron at all downstream Dry Creek monitoring points was compliant with the Yampa Segment 13d chronic aquatic life total recoverable iron standard. The Seneca Mine Complex CPDS permit has been on administrative extension since 2011 and no changes to the permit may occur until it is renewed. At that time, it is expected that the monthly average iron limit, which is based on surface water quality limits, will be updated to reflect the chronic aquatic life standard.

The chronic aquatic life manganese standard was exceeded at Outfall 006 (NPDES6) during January. The manganese concentration (2.69 mg/L) was just above the 2.618

mg/L chronic standard. This result appears to be an anomaly as there have been no other exceedances of the chronic water quality standard in the last three years. The manganese dropped to 0.071 mg/L during the next monitoring event and remained less than 0.2 mg/L for the remainder of the year. No exceedances of the manganese standard occurred at the Dry Creek stream points in 2022. There were no other exceedances of the NPDES discharge limits or Yampa Segment 13d water quality standard at the four Dry Creek NPDES Outfalls in 2022.

The stream points were compliant with all agricultural use standards and all Yampa Segment 13d aquatic life standards except for total recoverable iron, sulfide, and mercury. Total recoverable iron exceeded the Yampa Segment 13d chronic aquatic life standard once at steam point WSH9. The exceedance occurred during the April 19th monitoring event. WSH9 is located upstream of the mines NPDES outfalls and samples collected from stream points WSH7, WSHF1, and WSD5 during the same monitoring event were all compliant with the total recoverable iron standard. Dry Creek Outfalls 005, 006, 016, and 017 were also sampled on April 19th and the total recoverable iron was compliant with the Yampa Segment 13d chronic aquatic life standard at all locations. There were no other exceedances of the iron standard at the Dry Creek stream points in 2022.

The method detection limit for the sulfide analysis (MDL: 0.02 mg/L) conducted by SCC's lab exceeds the 0.002 mg/L CDPHE Yampa Segment 13d aquatic life standard for un-ionized sulfide (H_2S). All of the sulfide samples analyzed in 2022 were non-detect. The analytical method employed by the lab detects both dissolved sulfides and acid-soluble metallic sulfides that are present in suspended matter and provides a single cumulative concentration. Dissolved sulfide includes both the ionized (HS^-) and toxic un-ionized forms of hydrogen sulfide (H_2S). The distribution of sulfide between the un-ionized hydrogen sulfide and ionized form is dependent on the temperature and pH. At low pH most of the dissolved sulfide exists as the toxic un-ionized hydrogen sulfide. In alkaline waters, like those present at SIIW, most of the dissolved sulfide is present as non-toxic ionized sulfide. Therefore, it is not expected that these non detects represent exceedances of the sulfide aquatic life standard.

The method detection limit for mercury (0.2 ug/L) used by SCC's lab for stream points WSHF1 and WSD5 is above the 0.01 ug/L aquatic life standard for mercury. None of

the samples collected during 2022 exceeded the labs method detection limit. The CDPHE performed a reasonable potential analysis for the Seneca NPDES outfalls and mercury monitoring was dropped from all outfalls except Outfall 005, which did not have enough sample data for CDPHE to complete the analysis. Based on historic data its not expected that there were true exceedances of the mercury standard.

4.2 Sage Creek

Analytical results for the 2022 surface water monitoring conducted at Sage Creek stream point WSSF3 is provided in Table D.6 of Appendix D and the analytical results for the two outfalls that report to Sage Creek are included in Table D.7. There were no exceedances of the NPDES discharge limits or Yampa Segment 13e aquatic life standards at Outfalls 009 and 015 in 2022. As discussed in Section 4.1, the lab used by SCC has a method detection limit for mercury and sulfide that are above the Segment 13e water quality standard. None of the samples collected from WSSF3 in 2022 exceed the labs mercury or sulfide method detection limit. There were no other exceedances of the Yampa Segment 13e water quality standards at WSSF3.

In the Probable Hydrological Consequences (PHC, Tab 17) section of the SIIW PAP, predictions were made for the expected TDS increases to be observed at several stream points. The following table outlines these predictions along with this year's average concentration.

Stream Point	Predicted TDS (mg/L)	Mean TDS (mg/L)*
WSHF1	2527	2200
WSD5	2451	1690
WSSF3	626**	1650

* Duplicates removed from average calculation

** Predicted TDS value does not account for later contributions from Yoast Mine (C-1994-082). Predicted TDS concentration at WSSF3 in Yoast Mine PHC is 2118 mg/L.

The 2022 annual average TDS at Dry Creek monitoring points WSHF1 and WSD5 were below the concentrations predicted in the SIIW PHC. The 2022 annual average TDS at Sage Creek WSSF3 exceeded the SIIW PHC predictions. Although the TDS at Sage Creek monitoring point WSSF3 exceeds the SIIW PHC prediction its important to recognize

that this location also receives drainage from the Yoast Mine (C-1994-082). The Yoast Mine was permitted approximately 12 years after SIIW and the contributions from Yoast were not considered at the time of the SIIW PHC predictions. Therefore, a more meaningful comparison of the current TDS at WSSF3 would be to the 2118 mg/L value predicted for WSSF3 in the Yoast Mine PHC. The 1650 mg/L average TDS measured in 2022 remains nearly 500 mg/L less than the predicted post mine concentration and indicates that neither operation has had a significant impact on the potential use of these surface waters for agriculture or livestock purposes.

5.0 SPRINGS

The SIIW monitoring program includes nine spring sites. The following table includes the list of springs monitored, the frequency of monitoring, and the required parameters list. See Figure 1 for the location of the spring points. Spring monitoring was completed by experienced personnel using accepted monitoring practices. All samples were analyzed by ACZ Laboratories.

Site	Type	Unit	Monitoring Frequency		Parameter List
			Discharge	Water Quality	
S-46 (WSPG46)	Spring	Native	A	A	SW Long
S-47 (WSPG47)	Spring	Native	A	A	SW Short
S-50 (WSPG50)	Spring	Native	A	A	SW Long
S-7 (WSPG7)	Spring	Native	A	A	SW Long
Spoil Spring 1 (WSSPG1)	Spring	Spoils	A	A	SW Short
Spoil Spring 2 (WSSPG2)	Spring	Spoils	A	A	SW Long
Spoil Spring 3 (WSSPG3)	Spring	Spoils	A	A	SW Long
Spoil Spring 4 (WSSPG4)	Spring	Spoils	A	A	SW Long
Spoil Spring 5 (WSSPG5)	Spring	Spoils	A	A	SW Long

Note
A: Annual
SW Long: Field conductivity, field pH, field temperature, total recoverable iron, dissolved manganese, total mercury, ammonia, nitrate, nitrite, dissolved selenium, sulfate, sulfide, total dissolved solids, total suspended solids
SW Short: Field conductivity, field pH, field temperature, total recoverable iron, dissolved manganese, total suspended solids, total dissolved solids

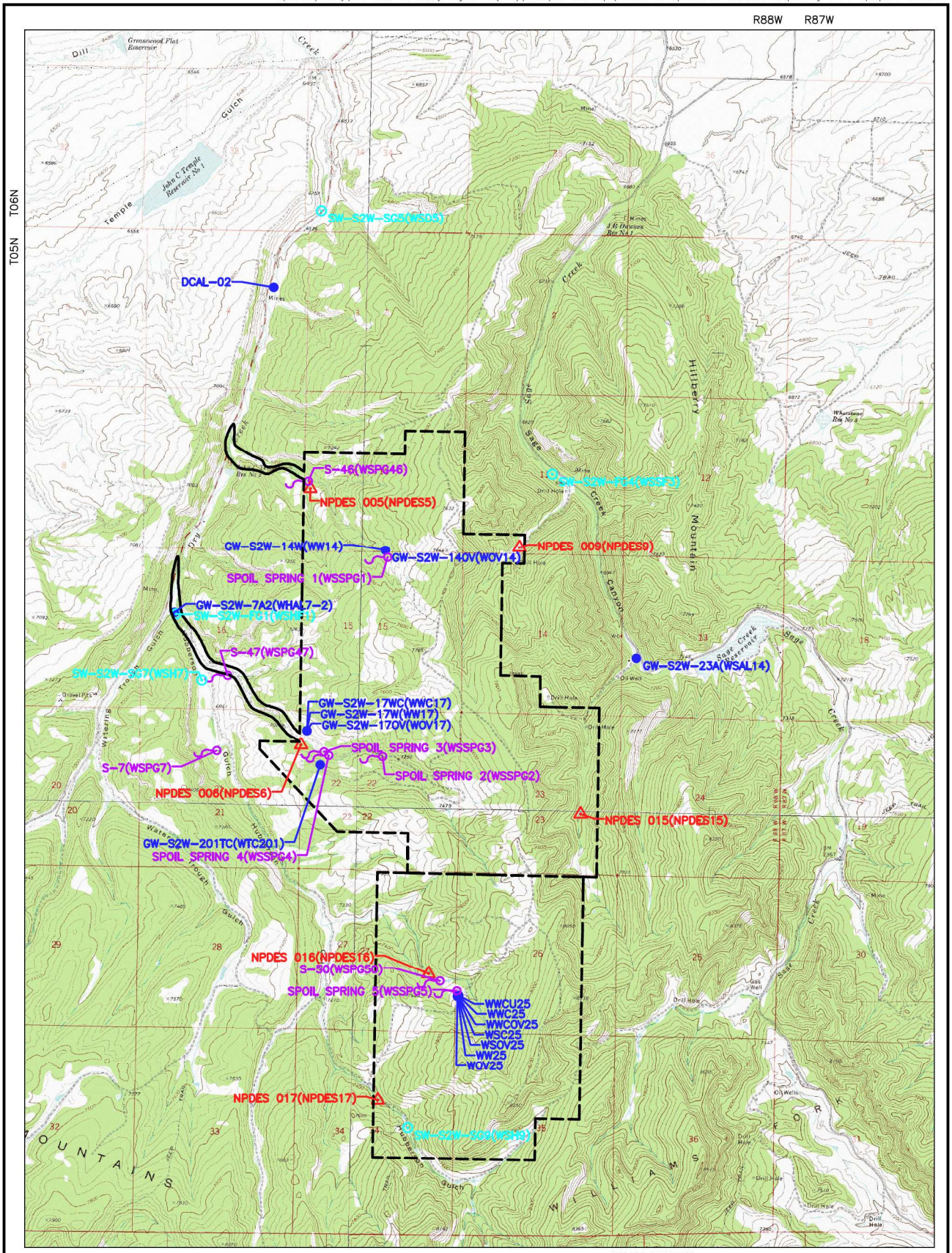
Four native springs and five spoil springs were monitored in 2022. The primary land use in this area, including the reclaimed mine parcels, is livestock grazing and wildlife habitat. Therefore, the water quality data collected from both the native and spoil springs are compared to the CWQCC Agricultural Use standards established in CDPHE Regulation 31.

Table E.1 in Appendix E includes the analytical results for the spring samples collected in 2022. As is described in the approved SIIW Hydrologic Monitoring Plan (see Tab 15, Appendix 15.3A) springs with flow less than 5 gpm should only be analyzed for field parameters. This is because it is often difficult to collect a

representative sample from diffuse flow without disturbing, and inadvertently collecting, sediments and organic matter that can produce false positive metal results. Water from non-flowing, pooled spring water, should also not be collected as stagnant water is often strongly influenced by bacteria and low oxygen conditions that alter the water chemistry. In 2022 three of the native springs had measured flows less than 5 gpm however water quality samples were inadvertently collected from these locations. Although these results should be considered unrepresentative, all of the spring samples were compared to the Agricultural Use Water Quality Standards for discussion purposes. None of the Agricultural Use Standards were exceeded at the native or spoil springs. The 0.2 mg/L Manganese standard is only applicable when irrigation water is applied to acidic soils (<6.0 pH). For alkaline soils, as are found in the SIIW area, a more appropriate standard would be 10 mg/L (EPA, 1976). Therefore, none of the manganese results above 0.2 mg/L were considered exceedances of the standard.

6.0 SUMMARY

No significant hydrologic impacts attributable to the activities at the SIIW were noted during 2022. Groundwater levels in all monitoring wells were within their historic range. No exceedances of the groundwater quality standards were observed at the GWPOC. One exceedance of the total recoverable iron chronic aquatic life standard occurred in Dry Creek upstream of the mine discharges. However, the total recoverable iron measured at the mine outfalls and Dry Creek downstream stream points during the same event was compliant with the standard. No other exceedances of the surface water quality standards were observed at the stream points in 2022.



GROUNDWATER
SURFACE WATER
NPDES
SPRING
PERMIT BOUNDARY

IMAGE SOURCE:
DIGITAL RASTER GRAPHIC COUNTY MOSAIC BY NRCS OF ROUTT COUNTY, COLORADO FROM GEOSPATIAL DATA GATEWAY (HTTPS://GDG.SC.EGOV.USDA.GOV) DOWNLOADED 10/16

0 3000'
SCALE

DESIGNED BY: JAH	FIGURE 1 MONITORING SITE LOCATIONS
DRAWN BY: SDG	
CHECKED BY: TNS	SENECA II WEST MINE PEABODY SAGE CREEK MINING, LLC PEABODY ENERGY
DATE: 2019	WWC ENGINEERING

APPENDIX A

METEOROLOGICAL DATA

PERIOD OF RECORD PRECIPITATION SUMMARY													
Water Year	**OCT**	**NOV**	**DEC**	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**TOTAL**
2022	1.82	0.62	2.79	1.18	0.85	1.43	2.07	3.14	0.61	1.14	0.99	2.1	18.74
2021	0.87	0.74	1.46	1.03	1.59	1.67	0.5	1.02	0.15	0.86	1.09	1.46	12.44
2020	1.90	1.37	2.60	2.53	2.40	1.67	1.75	1.63	0.77	0.71	0.43	0.43	18.19
2019	2.14	1.81	1.62	2.45	1.46	2.89	1.66	1.88	3.57	0.38	0.44	1.53	21.83
2018	2.45	1.31	1.36	1.65	1.92	1.90	2.95	0.85	0.15	0.15	1.33	0.17	16.19
2017	1.29	0.91	2.06	2.70	1.47	0.84	2.06	1.85	0.13	1.68	0.46	1.74	17.19
2016	1.39	1.90	2.55	2.65	1.16	1.40	3.02	1.94	0.40	0.81	0.19	1.02	18.43
2015	1.60	2.10	1.84	0.55	1.02	1.30	1.60	4.36	0.61	2.36	1.53	0.90	19.77
2014	2.69	1.75	1.42	2.02	0.78	1.96	1.19	2.58	0.72	1.50	3.77	0.87	21.25
2013	0.86	0.46	3.21	1.02	0.73	1.29	3.58	1.67	0.06	0.46	1.48	2.76	17.58
2012	1.41	1.65	0.36	0.87	1.97	0.50	1.13	0.22	0.15	2.43	0.55	1.56	12.80
2011	2.18	1.91	2.98	1.59	2.09	2.52	4.50	3.56	0.85	1.82	0.65	1.14	25.79
2010	1.22	0.77	1.24	0.75	0.90	0.73	1.98	2.80	1.34	1.19	1.56	0.62	15.10
2009	0.53	1.16	1.38	2.80	0.60	1.32	1.40	1.89	2.08	0.51	1.04	0.48	15.19
2008	1.41	0.13	3.36	2.51	1.70	1.64	0.94	1.68	0.37	0.57	0.75	0.91	15.97
2007	2.64	0.76	0.86	1.04	1.34	1.46	0.62	0.87	0.33	0.52	1.12	2.72	14.28
2006	2.27	2.04	2.01	1.78	0.58	1.06	0.95	0.93	0.24	1.48	2.71	2.75	18.80
2005	1.34	1.68	0.50	1.49	0.84	0.99	1.97	1.41	3.36	0.57	1.57	1.30	17.02
2004	0.44	2.90	1.58	0.74	1.64	0.40	1.57	1.26	0.86	1.00	1.44	2.76	16.59
2003	1.88	1.09	1.28	0.74	1.95	0.99	2.57	1.15	1.33	0.47	0.62	1.83	15.90
2002	1.14	1.17	0.54	0.88	0.92	1.06	1.39	0.40	0.37	0.78	1.26	1.94	11.85
2001	0.67	1.60	1.16	0.96	1.41	1.07	1.28	1.15	0.85	1.11	2.06	1.66	14.98
2000	0.43	0.61	1.66	1.66	1.68	1.46	1.84	1.94	0.54	0.75	2.38	2.00	16.95
1999	1.85	0.81	1.13	2.13	0.99	0.57	3.21	2.00	1.39	2.10	1.85	0.78	18.81
1998	2.37	1.08	0.95	1.34	1.93	1.77	1.77	0.62	2.51	1.50	0.48	1.50	17.82
1997	1.79	2.39	1.69	2.88	0.97	0.48	3.19	2.75	1.60	1.05	3.57	5.48	27.84
1996	1.32	2.20	1.26	3.60	2.19	0.99	1.34	2.10	1.00	1.33	0.35	1.37	19.05
1995	0.95	2.09	0.68	1.47	0.97	0.82	3.36	4.48	1.54	1.23	0.73	2.69	21.01
1994	3.02	1.61	1.16	0.69	1.13	0.56	1.85	1.07	0.43	0.24	0.98	0.72	13.46
1993	1.46	1.48	1.33	2.28	1.66	1.53	2.55	1.14	1.29	0.65	1.37	1.39	18.13
1992	1.18	2.79	0.85	0.88	1.16	1.20	1.66	3.08	1.15	4.38	0.95	0.98	20.26
1991	3.20	1.71	1.18	1.75	0.86	2.42	1.09	0.96	1.74	1.59	2.00	1.32	19.82
1990	0.77	1.38	2.08	0.65	1.64	1.54	1.36	1.12	1.38	1.14	0.51	1.22	14.79
1989	0.13	2.79	1.13	1.02	2.50	1.38	0.45	1.39	0.53	1.82	1.33	1.52	15.99
1988	1.27	1.22	2.32	2.80	0.70	1.31	0.83	1.85	1.93	0.60	1.03	2.31	18.17
1987	2.65	1.00	0.56	1.28	1.35	1.50	1.60	1.92	0.64	1.78	1.35	0.46	16.09
1986	3.51	4.19	1.34	0.79	3.01	1.59	2.70	0.99	1.00	1.65	1.96	2.12	24.85
1985	2.61	1.68	1.80	2.40	1.01	2.40	3.77	1.40	0.68	1.28	0.64	1.17	20.84
1984	2.16	2.82	5.03	0.59	0.43	2.31	2.68	1.33	2.36	1.84	2.61	1.31	25.47
1983	1.64	1.52	1.03	1.10	1.66	2.17	2.28	1.57	2.76	1.88	1.08	0.79	19.48
1982	3.76	0.78	2.51	1.71	0.62	2.64	1.92	0.97	0.46	1.60	1.19	2.64	20.80
1981	1.09	0.33	0.43	0.53	0.45	2.50	0.69	3.97	1.65	2.24	1.12	1.33	16.33
AVG	1.70	1.53	1.63	1.56	1.34	1.46	1.92	1.78	1.09	1.27	1.30	1.57	18.14

Note

Data from October 1980 to February 1982, and 2011 Water Year and later, from U.S. Department of Commerce - NOAA - Hayden Station. All other data from Seneca II Mine Meteorological Station with Belfort Weighing Bucket Rain Gage. Site relocated to USGS site on August 31, 1991. Precipitation recorded in inches.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 01/20/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2021	10	01	60	36	60	0.00		0.0		0.0								
2021	10	02	67	36	66	0.00		0.0		0.0								
2021	10	03	68	36	66	0.00		0.0		0.0								
2021	10	04	72	40	68	0.00		0.0		0.0								
2021	10	05	73	41	68	0.00		0.0		0.0								
2021	10	06	70	40	60	0.00		0.0		0.0								
2021	10	07	68	41	60	0.00		0.0		0.0								
2021	10	08	60	41	52	0.03		0.0		0.0								
2021	10	09	55	40	44	0.36		0.0		0.0								
2021	10	10	51	36	45	0.12		0.0		0.0								
2021	10	11	57	31	53	0.00		0.0		0.0								
2021	10	12	53	32	35	0.12		T		0.0								
2021	10	13	36	25	34	0.26		3.0		0.0								
2021	10	14	39	28	35	0.07		0.0		0.0								
2021	10	15	40	25	39	0.00		0.0		0.0								
2021	10	16	59	23	52	0.00		0.0		0.0								
2021	10	17	68	31	60	0.00		0.0		0.0								
2021	10	18	68	32	53	0.00		0.0		0.0								
2021	10	19	53	32	40	0.14		0.0		0.0								
2021	10	20	54	24	48	0.02		0.0		0.0								
2021	10	21	60	30	57	0.00		0.0		0.0								
2021	10	22	62	30	52	0.00		0.0		0.0								
2021	10	23	55	30	52	0.00		0.0		0.0								
2021	10	24	56	35	50	0.11		T		0.0								
2021	10	25	70	32	62	0.00		0.0		0.0								
2021	10	26	64	30	32	0.50		1.0		1.0								
2021	10	27	42	28	40	0.09		0.5		0.0								
2021	10	28	48	25	47	0.00		0.0		0.0								
2021	10	29	54	32	54	0.00		0.0		0.0								
2021	10	30	59	20	55	0.00		0.0		0.0								
2021	10	31	55	28	51	0.00		0.0		0.0								
Summary			58	32		1.82		4.5										

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

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U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 01/20/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2021	11	01	51	36	46	0.01		0.0		0.0								
2021	11	02	51	36	46	0.37		0.0		0.0								
2021	11	03	51	38	48	0.03		0.0		0.0								
2021	11	04	56	30	55	0.00		0.0		0.0								
2021	11	05	60	29	51	0.00		0.0		0.0								
2021	11	06	64	28	57	0.00		0.0		0.0								
2021	11	07	69	32	51	0.00		0.0		0.0								
2021	11	08	57	34	45	0.00		0.0		0.0								
2021	11	09	55	26	50	0.00		0.0		0.0								
2021	11	10	50	34	37	0.03		0.0		0.0								
2021	11	11	44	30	44	0.00		0.0		0.0								
2021	11	12	45	34	44	T		0.0		0.0								
2021	11	13	52	29	48	0.00		0.0		0.0								
2021	11	14	55	24	45	0.00		0.0		0.0								
2021	11	15	58	31	49	0.00		0.0		0.0								
2021	11	16	55	35	43	0.00		0.0		0.0								
2021	11	17	43	20	25	0.06		0.5		0.0								
2021	11	18	44	14	40	0.00		0.0		0.0								
2021	11	19	52	29	42	0.00		0.0		0.0								
2021	11	20	45	34	35	0.12		0.5		0.0								
2021	11	21	43	19	32	0.00		0.0		0.0								
2021	11	22	47	18	35	0.00		0.0		0.0								
2021	11	23	50	18	48	0.00		0.0		0.0								
2021	11	24	48	24	27	T		T		0.0								
2021	11	25	40	10	30	0.00		0.0		0.0								
2021	11	26	48	18	33	0.00		0.0		0.0								
2021	11	27	48	20	34	0.00		0.0		0.0								
2021	11	28	50	22	39	0.00		0.0		0.0								
2021	11	29	53	24	40	0.00		0.0		0.0								
2021	11	30	51	16	35	0.00		0.0		0.0								
		Summary	51	26		0.62		1.0										

Empty, or blank, cells indicate that a data observation was not reported.

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U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Record of Climatological Observations

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Generated on 01/20/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2021	12	01	57	22	42	0.00		0.0		0.0								
2021	12	02	60	25	42	0.00		0.0		0.0								
2021	12	03	57	25	40	0.00		0.0		0.0								
2021	12	04	57	20	42	0.00		0.0		0.0								
2021	12	05	52	20	39	0.00		0.0		0.0								
2021	12	06	39	19	36	0.00		0.0		0.0								
2021	12	07	48	27	35	0.00		0.0		0.0								
2021	12	08	42	16	39	0.00		0.0		0.0								
2021	12	09	40	30	31	T		0.0		0.0								
2021	12	10	31	13	19	0.30		3.0		2.0								
2021	12	11	30	-5	17	0.00		0.0		2.0								
2021	12	12	38	8	24	0.00		0.0		2.0								
2021	12	13	47	10	31	0.00		0.0		1.0								
2021	12	14	50	21	37	0.00		0.0		1.0								
2021	12	15	48	15	21	0.28		3.0		3.0								
2021	12	16	32	5	25	0.00		0.0		3.0								
2021	12	17	30	15	22	0.20		2.5		5.0								
2021	12	18	30	-2	15	0.00		0.0		5.0								
2021	12	19	34	2	17	0.00		0.0		5.0								
2021	12	20	36	5	21	0.00		0.0		4.0								
2021	12	21	37	9	25	0.00		0.0		4.0								
2021	12	22	37	7	28	0.00		0.0		3.0								
2021	12	23	43	23	38	T		T		2.0								
2021	12	24	42	22	25	0.97		14.0		14.0								
2021	12	25	38	20	28	0.00		0.0		12.0								
2021	12	26	37	19	23	0.13		2.0		12.0								
2021	12	27	34	12	28	0.00		0.0		12.0								
2021	12	28	28	8	19	0.27		3.0		14.0								
2021	12	29	24	12	19	0.14		3.0		15.0								
2021	12	30	34	18	33	0.00		0.0		13.0								
2021	12	31	33	20	20	0.50		10.0		19.0								
Summary			40	15		2.79		40.5										

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National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	01	01	20	0	3	T		T		19.0								
2022	01	02	27	-10	10	0.00		0.0		17.0								
2022	01	03	24	-6	9	0.00		0.0		17.0								
2022	01	04	32	3	27	0.00		0.0		17.0								
2022	01	05	34	20	32	0.23		2.5		17.0								
2022	01	06	43	14	39	0.27		3.5		16.0								
2022	01	07	54	24	36	0.00		0.0		12.0								
2022	01	08	45	18	18	0.25		4.0		16.0								
2022	01	09	31	2	8	0.00		0.0		16.0								
2022	01	10	28	0	9	0.00		0.0		16.0								
2022	01	11	31	2	15	0.00		0.0		14.0								
2022	01	12	38	2	20	0.00		0.0		14.0								
2022	01	13	36	10	30	0.00		0.0		13.0								
2022	01	14	35	12	28	T		T		13.0								
2022	01	15	34	7	20	0.00		0.0		13.0								
2022	01	16	31	4	17	0.00		0.0		13.0								
2022	01	17	32	4	17	0.00		0.0		13.0								
2022	01	18	36	8	18	0.00		0.0		13.0								
2022	01	19	32	4	21	0.00		0.0		13.0								
2022	01	20	29	12	24	0.02		0.5		13.0								
2022	01	21	38	20	25	0.28		4.0		17.0								
2022	01	22	28	8	8	0.01		T		17.0								
2022	01	23	31	1	11	0.00		0.0		17.0								
2022	01	24	29	-2	17	0.00		0.0		17.0								
2022	01	25	37	10	11	0.12		1.5		18.0								
2022	01	26	27	-5	15	0.00		0.0		18.0								
2022	01	27	33	2	11	0.00		0.0		18.0								
2022	01	28	33	-3	8	0.00		0.0		18.0								
2022	01	29	38	0	11	0.00		0.0		17.0								
2022	01	30	32	-3	10	0.00		0.0		17.0								
2022	01	31	28	-4	17	0.00		0.0		17.0								
Summary			33	5		1.18		16.0										

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Station: **HAYDEN, CO US USC00053867**

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	02	01	25	2	8	0.00		0.0		17.0								
2022	02	02	20	-16	3	0.00		0.0		17.0								
2022	02	03	21	-17	5	0.00		0.0		17.0								
2022	02	04	30	-5	15	0.00		0.0		17.0								
2022	02	05	32	0	17	0.00		0.0		17.0								
2022	02	06	35	12	17	0.00		0.0		16.0								
2022	02	07	38	4	22	T		T		16.0								
2022	02	08	37	4	23	0.00		0.0		15.0								
2022	02	09	36	10	30	0.00		0.0		15.0								
2022	02	10	43	22	33	0.00		0.0		15.0								
2022	02	11	44	10	27	0.00		0.0		14.0								
2022	02	12	38	2	22	0.00		0.0		14.0								
2022	02	13	37	6	22	0.00		0.0		14.0								
2022	02	14	45	2	30	0.00		0.0		14.0								
2022	02	15	47	13	35	0.00		0.0		14.0								
2022	02	16	37	24	25	0.16		2.0		16.0								
2022	02	17	37	0	13	0.00		0.0		16.0								
2022	02	18	38	10	29	0.00		0.0		16.0								
2022	02	19	43	12	24	0.00		0.0		15.0								
2022	02	20	46	9	40	0.00		0.0		15.0								
2022	02	21	40	20	34	0.00		0.0		15.0								
2022	02	22	34	0	5	0.19		2.0		17.0								
2022	02	23	15	1	6	0.35		4.0		21.0								
2022	02	24	30	0	10	0.05		1.0		21.0								
2022	02	25	32	0	10	0.10		1.5		22.0								
2022	02	26	36	-10	13	0.00		0.0		22.0								
2022	02	27	38	-3	17	0.00		0.0		21.0								
2022	02	28	44	4	26	0.00		0.0		20.0								
Summary			36	4		0.85		10.5										

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			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	03	01	52	12	31	0.00		0.0		20.0								
2022	03	02	51	22	34	0.00		0.0		19.0								
2022	03	03	60	22	37	0.00		0.0		18.0								
2022	03	04	53	24	37	T		0.0		18.0								
2022	03	05	44	29	29	0.42		2.0		19.0								
2022	03	06	41	14	18	T		T		19.0								
2022	03	07	32	3	14	0.00		0.0		19.0								
2022	03	08	41	0	25	T		T		19.0								
2022	03	09	32	12	16	0.18		3.0		21.0								
2022	03	10	22	-1	3	0.06		1.0		21.0								
2022	03	11	33	-16	19	0.00		0.0		21.0								
2022	03	12	50	12	30	0.00		0.0		20.0								
2022	03	13	46	10	33	T		T		20.0								
2022	03	14	46	21	33	0.06		1.0		21.0								
2022	03	15	53	12	41	0.00		0.0		20.0								
2022	03	16	41	31	38	0.25		1.5		21.0								
2022	03	17	47	22	30	0.02		T		20.0								
2022	03	18	46	14	40	0.00		0.0		20.0								
2022	03	19	50	12	40	0.00		0.0		20.0								
2022	03	20	52	30	47	0.00		0.0		19.0								
2022	03	21	47	22	34	0.02		0.5		19.0								
2022	03	22	41	12	36	T		T		19.0								
2022	03	23	48	12	36	0.00		0.0		19.0								
2022	03	24	51	22	43	0.00		0.0		18.0								
2022	03	25	58	23	53	0.00		0.0		17.0								
2022	03	26	63	33	53	0.00		0.0		15.0								
2022	03	27	67	34	57	0.00		0.0		12.0								
2022	03	28	68	34	55	0.00		0.0		8.0								
2022	03	29	55	32	37	0.42		T		5.0								
2022	03	30	50	32	43	0.00		0.0		4.0								
2022	03	31	54	22	49	0.00		0.0		0.0								
Summary			48	18		1.43		9.0										

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation

"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.

"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 01/20/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	04	01	53	24	52	0.11		0.0		0.0								
2022	04	02	61	23	61	0.00		0.0		0.0								
2022	04	03	61	33	53	0.00		0.0		0.0								
2022	04	04	53	24	53	0.00		0.0		0.0								
2022	04	05	53	30	30	T		T		0.0								
2022	04	06	49	14	43	0.00		0.0		0.0								
2022	04	07	53	14	50	0.00		0.0		0.0								
2022	04	08	60	23	60	0.00		0.0		0.0								
2022	04	09	63	31	57	0.00		0.0		0.0								
2022	04	10	57	20	40	0.18		1.0		0.0								
2022	04	11	45	30	45	0.00		0.0		0.0								
2022	04	12	55	20	32	0.32		5.0		2.0								
2022	04	13	34	12	26	0.07		1.0		2.0								
2022	04	14	48	10	48	0.05		0.5		1.0								
2022	04	15	50	30	50	0.00		0.0		0.0								
2022	04	16	60	30	54	0.00		0.0		0.0								
2022	04	17	55	34	54	0.33		0.5		0.0								
2022	04	18	70	30	70	0.00		0.0		0.0								
2022	04	19	70	32	66	0.00		0.0		0.0								
2022	04	20	66	34	62	0.00		0.0		0.0								
2022	04	21	72	40	72	0.00		0.0		0.0								
2022	04	22	72	38	38	T		0.0		0.0								
2022	04	23	42	31	33	0.85		4.0		2.0								
2022	04	24	55	32	55	0.02		T		0.0								
2022	04	25	55	22	55	0.00		0.0		0.0								
2022	04	26	58	30	58	0.00		0.0		0.0								
2022	04	27	70	35	70	0.00		0.0		0.0								
2022	04	28	73	34	64	0.00		0.0		0.0								
2022	04	29	64	32	47	0.14		1.5		0.0								
2022	04	30	60	24	60	0.00		0.0		0.0								
		Summary	58	27		2.07		13.5										

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation

"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.

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U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 01/20/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	05	01	66	28	55	0.00		0.0		0.0								
2022	05	02	59	32	57	0.68		0.0		0.0								
2022	05	03	60	32	32	0.16		0.5		1.0								
2022	05	04	48	32	46	0.18		2.0		0.0								
2022	05	05	68	40	67	0.00		0.0		0.0								
2022	05	06	73	42	67	0.00		0.0		0.0								
2022	05	07	67	45	50	0.06		0.0		0.0								
2022	05	08	62	40	55	0.16		0.0		0.0								
2022	05	09	55	32	55	0.05		0.0		0.0								
2022	05	10	70	24	64	0.00		0.0		0.0								
2022	05	11	77	41	70	0.00		0.0		0.0								
2022	05	12	70	40	57	0.00		0.0		0.0								
2022	05	13	65	24	65	0.00		0.0		0.0								
2022	05	14	72	30	72	0.00		0.0		0.0								
2022	05	15	78	40	78	0.00		0.0		0.0								
2022	05	16	81	46	74	0.00		0.0		0.0								
2022	05	17	78	40	65	T		0.0		0.0								
2022	05	18	75	42	75	0.00		0.0		0.0								
2022	05	19	75	40	73	0.00		0.0		0.0								
2022	05	20	73	30	49	0.47		6.0		0.0								
2022	05	21	53	20	53	T		T		0.0								
2022	05	22	62	31	57	0.00		0.0		0.0								
2022	05	23	57	33	57	0.06		0.0		0.0								
2022	05	24	60	34	60	0.00		0.0		0.0								
2022	05	25	68	31	68	0.00		0.0		0.0								
2022	05	26	78	40	78	0.00		0.0		0.0								
2022	05	27	83	46	76	0.00		0.0		0.0								
2022	05	28	76	42	66	0.00		0.0		0.0								
2022	05	29	66	40	41	0.86		0.0		0.0								
2022	05	30	55	34	43	0.40		0.0		0.0								
2022	05	31	66	30	55	0.06		0.0		0.0								
Summary			68	36		3.14		8.5										

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation

"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.

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U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 01/20/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	06	01	75	30	73	0.00		0.0		0.0								
2022	06	02	87	47	77	0.00		0.0		0.0								
2022	06	03	83	46	73	0.00		0.0		0.0								
2022	06	04	81	43	73	0.00		0.0		0.0								
2022	06	05	73	50	70	0.01		0.0		0.0								
2022	06	06	74	44	71	0.19		0.0		0.0								
2022	06	07	76	41	74	0.00		0.0		0.0								
2022	06	08	79	39	72	0.00		0.0		0.0								
2022	06	09	86	52	83	0.00		0.0		0.0								
2022	06	10	89	45	84	0.00		0.0		0.0								
2022	06	11	91	50	84	0.00		0.0		0.0								
2022	06	12	90	55	88	0.00		0.0		0.0								
2022	06	13	88	48	65	0.00		0.0		0.0								
2022	06	14	67	43	66	0.00		0.0		0.0								
2022	06	15	77	33	76	0.00		0.0		0.0								
2022	06	16	87	38	85	0.00		0.0		0.0								
2022	06	17	93	52	78	0.00		0.0		0.0								
2022	06	18	78	60	72	0.03		0.0		0.0								
2022	06	19	76	54	71	0.15		0.0		0.0								
2022	06	20	71	42	67	0.00		0.0		0.0								
2022	06	21	80	35	78	0.00		0.0		0.0								
2022	06	22	81	45	79	0.00		0.0		0.0								
2022	06	23	82	50	70	0.03		0.0		0.0								
2022	06	24	73	46	71	0.12		0.0		0.0								
2022	06	25	81	46	75	0.00		0.0		0.0								
2022	06	26	82	53	79	0.00		0.0		0.0								
2022	06	27	86	50	85	0.00		0.0		0.0								
2022	06	28	88	51	86	0.00		0.0		0.0								
2022	06	29	86	50	62	T		0.0		0.0								
2022	06	30	76	54	61	0.08		0.0		0.0								
		Summary	81	46		0.61		0.0										

Empty, or blank, cells indicate that a data observation was not reported.

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"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation

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U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 01/20/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	07	01	83	51	80	0.28		0.0		0.0								
2022	07	02	83	51	73	0.03		0.0		0.0								
2022	07	03	84	50	78	0.02		0.0		0.0								
2022	07	04	88	52	86	0.00		0.0		0.0								
2022	07	05	86	57	70	T		0.0		0.0								
2022	07	06	83	53	70	0.00		0.0		0.0								
2022	07	07	87	51	84	T		0.0		0.0								
2022	07	08	91	52	88	0.00		0.0		0.0								
2022	07	09	94	52	90	0.00		0.0		0.0								
2022	07	10	92	53	81	0.00		0.0		0.0								
2022	07	11	90	55	87	0.00		0.0		0.0								
2022	07	12	92	51	89	0.00		0.0		0.0								
2022	07	13	90	51	80	0.00		0.0		0.0								
2022	07	14	92	53	90	0.06		0.0		0.0								
2022	07	15	90	61	78	0.06		0.0		0.0								
2022	07	16	87	57	84	0.23		0.0		0.0								
2022	07	17	90	56	89	0.00		0.0		0.0								
2022	07	18	92	56	87	0.03		0.0		0.0								
2022	07	19	91	57	80	0.00		0.0		0.0								
2022	07	20	90	55	90	0.00		0.0		0.0								
2022	07	21	91	52	89	0.00		0.0		0.0								
2022	07	22	94	53	86	0.00		0.0		0.0								
2022	07	23	90	61	69	0.10		0.0		0.0								
2022	07	24	71	56	61	0.22		0.0		0.0								
2022	07	25	85	51	82	0.00		0.0		0.0								
2022	07	26	89	51	86	0.00		0.0		0.0								
2022	07	27	91	52	86	0.00		0.0		0.0								
2022	07	28	87	55	68	0.00		0.0		0.0								
2022	07	29	84	52	76	0.11		0.0		0.0								
2022	07	30	89	50	82	0.00		0.0		0.0								
2022	07	31	87	53	85	0.00		0.0		0.0								
Summary			88	54		1.14		0.0										

Empty, or blank, cells indicate that a data observation was not reported.

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U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Generated on 01/20/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	08	01	91	56	72	0.15		0.0		0.0								
2022	08	02	85	56	74	0.02		0.0		0.0								
2022	08	03	87	54	81	0.00		0.0		0.0								
2022	08	04	91	53	90	0.00		0.0		0.0								
2022	08	05	90	57	71	0.00		0.0		0.0								
2022	08	06	91	58	89	0.00		0.0		0.0								
2022	08	07	89	53	82	0.00		0.0		0.0								
2022	08	08	90	48	87	0.00		0.0		0.0								
2022	08	09	93	51	91	0.00		0.0		0.0								
2022	08	10	95	60	91	0.00		0.0		0.0								
2022	08	11	93	55	86	0.00		0.0		0.0								
2022	08	12	90	54	88	0.02		0.0		0.0								
2022	08	13	89	60	83	0.00		0.0		0.0								
2022	08	14	86	59	68	0.32		0.0		0.0								
2022	08	15	82	54	66	0.04		0.0		0.0								
2022	08	16	84	54	75	0.00		0.0		0.0								
2022	08	17	87	49	85	0.00		0.0		0.0								
2022	08	18	89	49	81	0.00		0.0		0.0								
2022	08	19	85	53	74	0.00		0.0		0.0								
2022	08	20	74	48	63	0.00		0.0		0.0								
2022	08	21	76	52	67	0.36		0.0		0.0								
2022	08	22	85	48	84	0.00		0.0		0.0								
2022	08	23	87	52	81	0.00		0.0		0.0								
2022	08	24	86	53	83	0.02		0.0		0.0								
2022	08	25	83	51	72	0.00		0.0		0.0								
2022	08	26	82	49	68	0.00		0.0		0.0								
2022	08	27	85	47	70	0.06		0.0		0.0								
2022	08	28	81	47	75	0.00		0.0		0.0								
2022	08	29	85	46	80	0.00		0.0		0.0								
2022	08	30	90	47	88	0.00		0.0		0.0								
2022	08	31	90	50	85	0.00		0.0		0.0								
Summary			87	52		0.99		0.0										

Empty, or blank, cells indicate that a data observation was not reported.

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U.S. Department of Commerce
National Oceanic & Atmospheric Administration
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Current Location: Elev: 6467 ft. Lat: 40.4926° N Lon: -107.2548° W
Station: **HAYDEN, CO US USC00053867**

Record of Climatological Observations

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Generated on 01/20/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	09	01	90	49	84	0.00		0.0		0.0								
2022	09	02	91	48	88	0.00		0.0		0.0								
2022	09	03	92	56	88	0.00		0.0		0.0								
2022	09	04	94	49	67	0.00		0.0		0.0								
2022	09	05	92	47	87	0.00		0.0		0.0								
2022	09	06	92	46	85	0.00		0.0		0.0								
2022	09	07	94	47	88	0.00		0.0		0.0								
2022	09	08	91	49	81	0.00		0.0		0.0								
2022	09	09	81	47	73	0.02		0.0		0.0								
2022	09	10	73	37	69	0.00		0.0		0.0								
2022	09	11	85	35	77	0.00		0.0		0.0								
2022	09	12	85	39	80	0.00		0.0		0.0								
2022	09	13	80	44	62	0.00		0.0		0.0								
2022	09	14	73	46	71	0.04		0.0		0.0								
2022	09	15	71	51	60	0.25		0.0		0.0								
2022	09	16	69	45	66	0.21		0.0		0.0								
2022	09	17	74	47	73	0.37		0.0		0.0								
2022	09	18	80	43	76	0.00		0.0		0.0								
2022	09	19	83	42	79	0.00		0.0		0.0								
2022	09	20	79	46	64	0.05		0.0		0.0								
2022	09	21	71	47	55	0.34		0.0		0.0								
2022	09	22	71	51	64	0.44		0.0		0.0								
2022	09	23	69	35	65	0.00		0.0		0.0								
2022	09	24	72	35	68	0.00		0.0		0.0								
2022	09	25	76	36	72	0.00		0.0		0.0								
2022	09	26	79	40	73	0.00		0.0		0.0								
2022	09	27	79	42	73	0.00		0.0		0.0								
2022	09	28	82	46	72	0.00		0.0		0.0								
2022	09	29	73	47	60	0.00		0.0		0.0								
2022	09	30	61	48	50	0.38		0.0		0.0								
Summary			80	45		2.10		0.0										

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation

"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.

"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

APPENDIX B

GROUNDWATER QULITY DATA

Table B.1. Groundwater analytical results for Point of Compliance (POC) well DCAL-02 during water year 2022.

Location	Date	Static Water Level FT BTOC	SPC, Field N UMHOS/CM	pH, Field N S.U.	Temp., Field N DEG-C	Fluoride N MG/L	Iron D MG/L	Manganese D MG/L	Nitrate N. N MG/L	Nitrite N. N MG/L	Selenium D UG/L	Sulfates N MG/L	TDS, Lab N MG/L
DCAL-02	5/3/2022	9.62	2140	7.46	10.5	0.35	0.611	1.46	0.032	< 0.01	< 2	657	1520
Seneca II-W GWPOC Standards*		-	-	6.5 - 8.5	-	2	8.06	2.55	10	1	20	1511	3195

Notes

* See Seneca II-W Mine Technical Revision 63 (TR-63) for GWPOC standards

Bold Exceeds groundwater quality standard

Table B.2. Groundwater analytical results for Non-Point of Compliance wells during water year 2022.

Location	Date	Static Water Level FT BTOC	SPC, Field N UMHOS/CM	pH, Field N S.U.	Temp., Field N DEG-C	Fluoride N MG/L	Iron D MG/L	Manganese D MG/L	Nitrate N. N MG/L	Nitrite N. N MG/L	Selenium D UG/L	Sulfates N MG/L	TDS, Lab N MG/L
WHAL7-2	5/3/2022	5.38	1850	7.3	9.6	0.27	0.264	1.55	< 0.02	< 0.01	< 2	457	1260
WOV14	5/3/2022	14.4	2390	7.08	9.5	0.7	0.097	0.31	0.088	< 0.01	< 2	939	1790
WOV17	5/3/2022	48.51	5310	7.03	9.9		< 0.3	0.094					4410
WOV25	5/3/2022	23.89	1160	8.02	10.4	0.45	0.21	< 0.01	2.76	< 0.01	6	355	786
WSC25*	5/3/2022		1040	7.31	8.1	0.16	0.306	0.012	0.047	< 0.01	< 2	204	656
WSOV25	5/3/2022	4.61	1110	7.28	8.3	0.23	0.588	0.076	< 0.02	< 0.01	< 2	146	672
WW14	5/3/2022	10.71	4660	6.65	9.2	1.23	4.04	1.13	0.112	< 0.01	< 2	2900	4610
WW17	5/3/2022	16.14	1170	7.81	10.4		0.068	< 0.01					658
WW25	5/3/2022	23.42	710	8.2	8.9	0.88	0.06	< 0.01	5.46	< 0.01	< 2	143	444
WWC17**													
WWC25	5/3/2022	2.31	1460	8.35	8.2	0.56	1.24	< 0.01	< 0.02	< 0.01	< 2	196	870
WWCOV25	5/3/2022	87.63	2280	6.95	8.7	0.24	0.74	0.194	< 0.02	< 0.01	< 2	859	1830
WWCU25	5/3/2022	100.74	1150	8.81	8.9	1.31	0.146	< 0.01	< 0.02	< 0.01	< 2	68	664

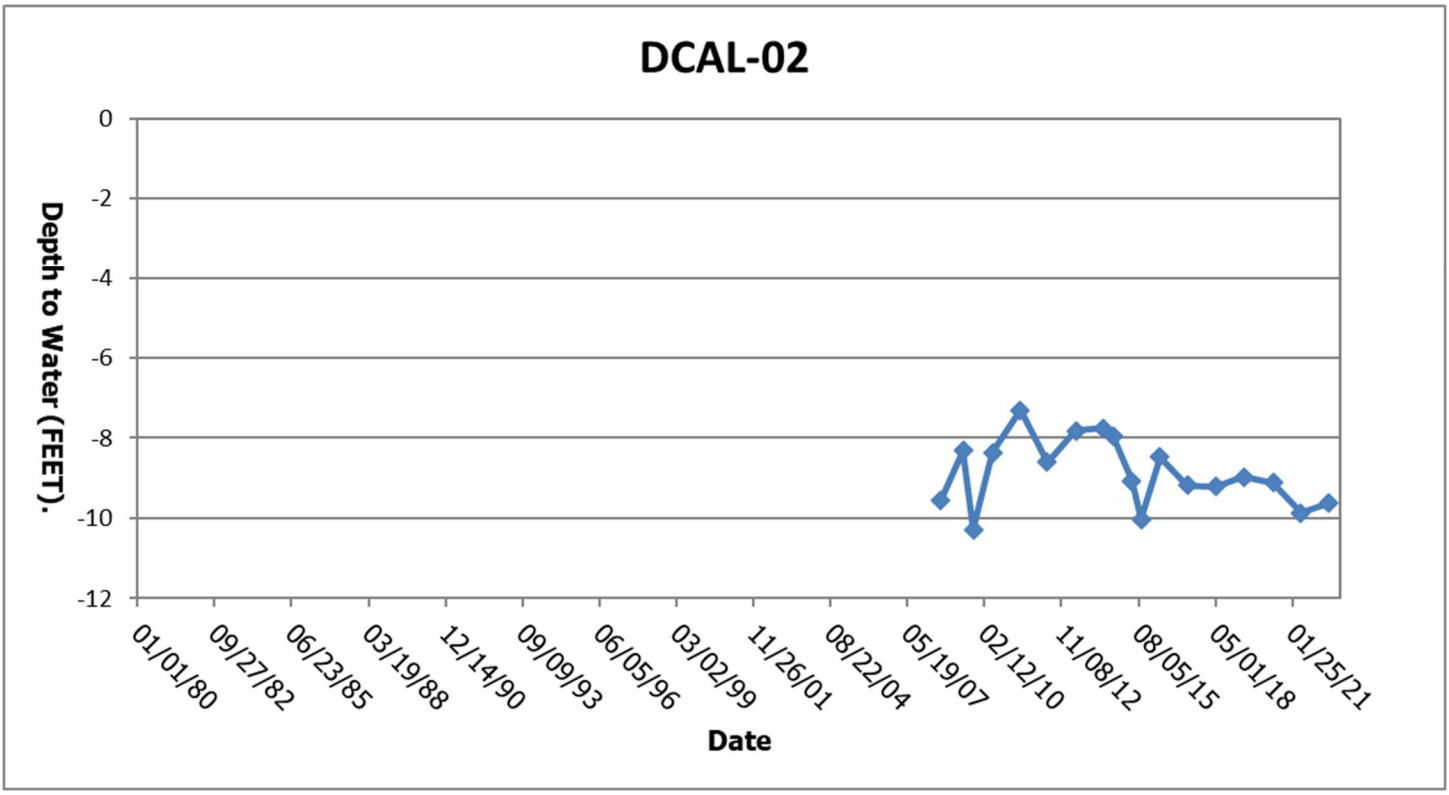
Note

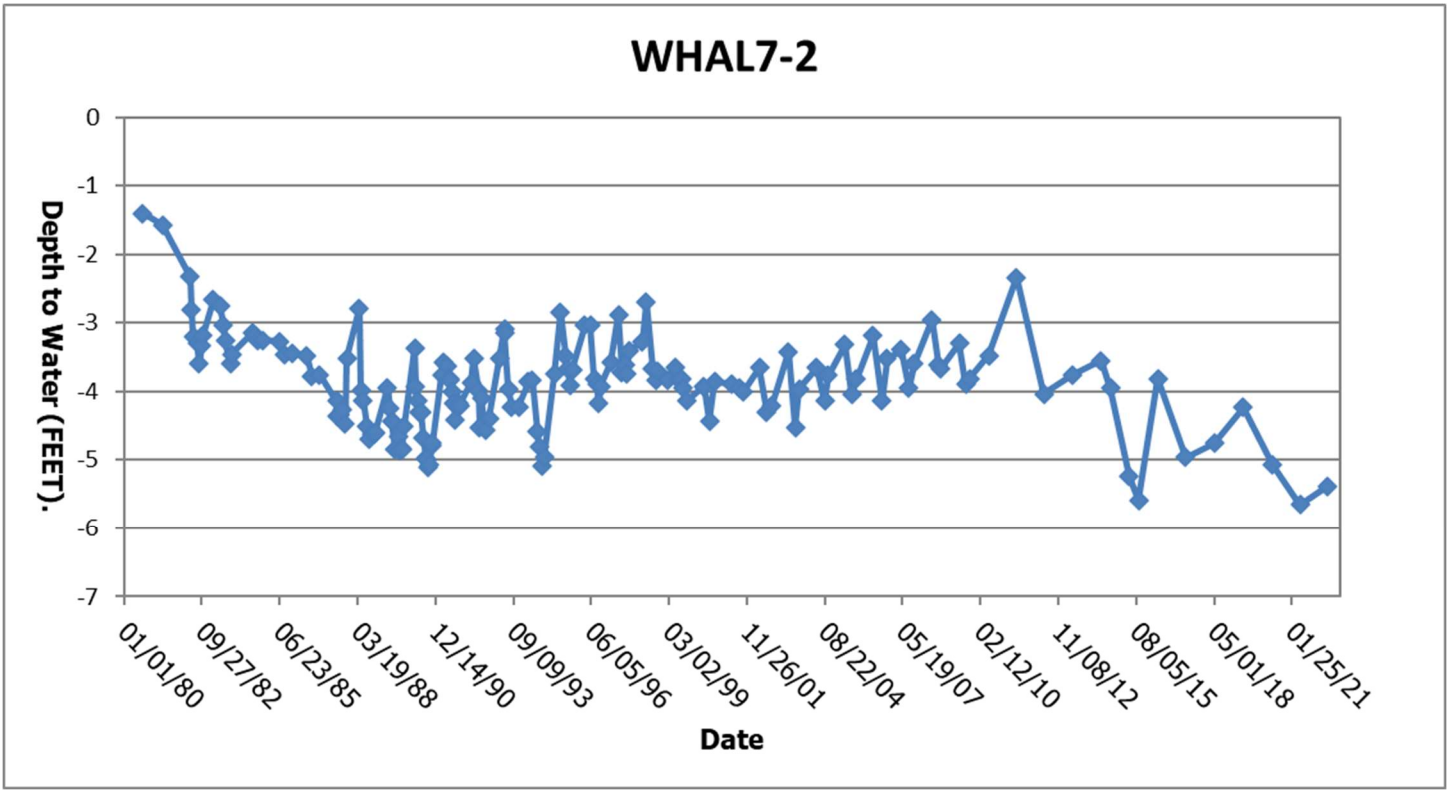
* The well casing at WSC25 is damaged and the static water level could not be measured

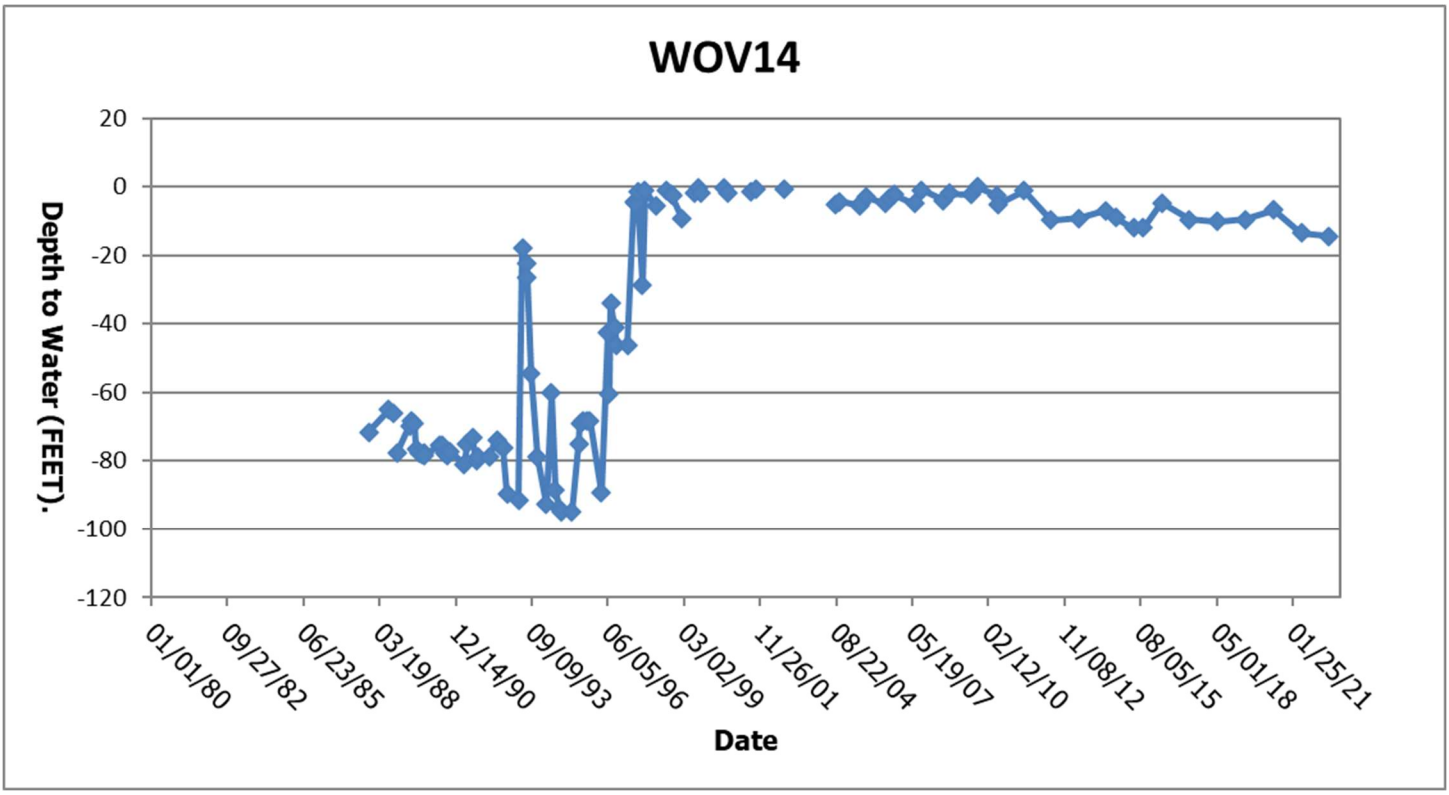
** The measurement of the static water level at WWC17 was accidentally missed during the 2022 monitoring season

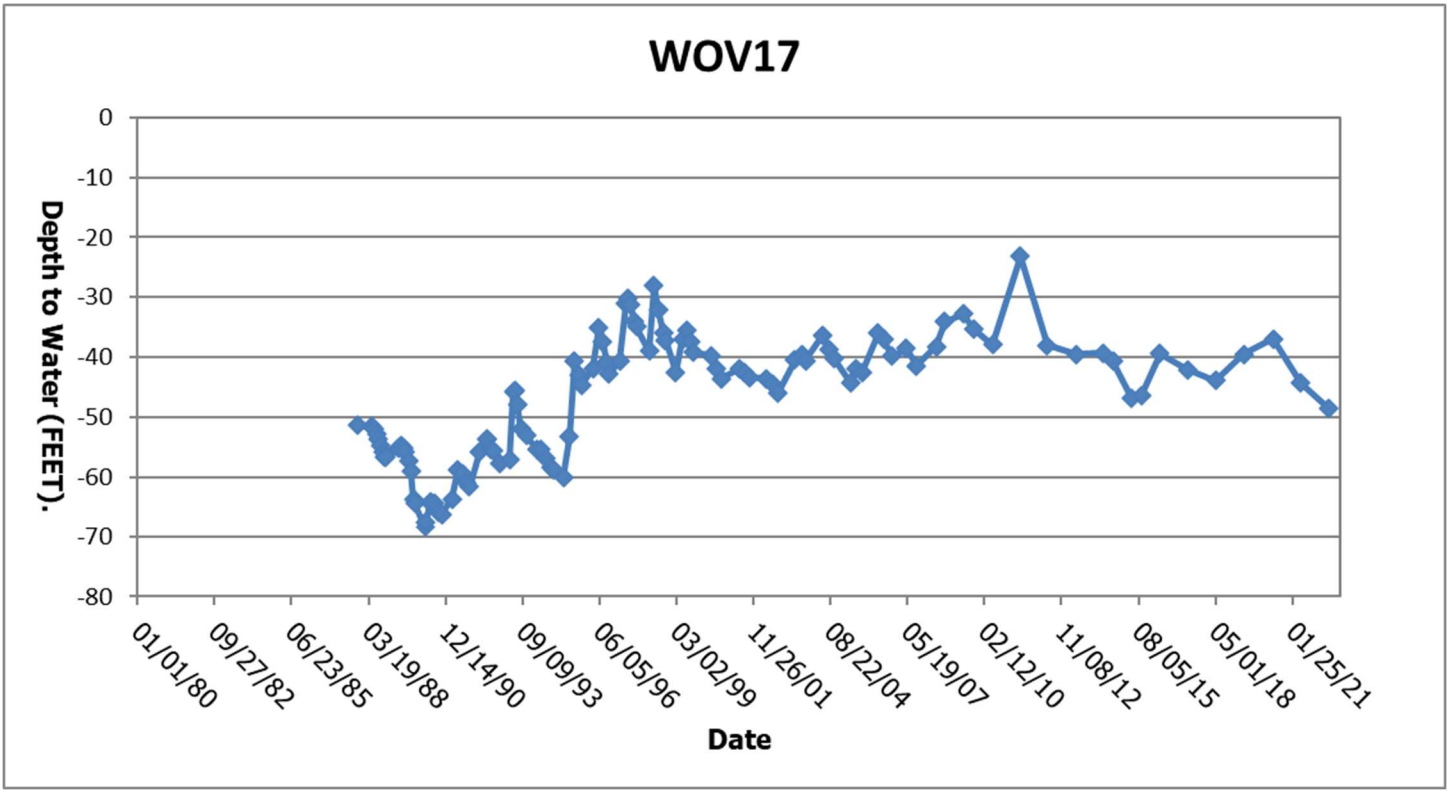
APPENDIX C

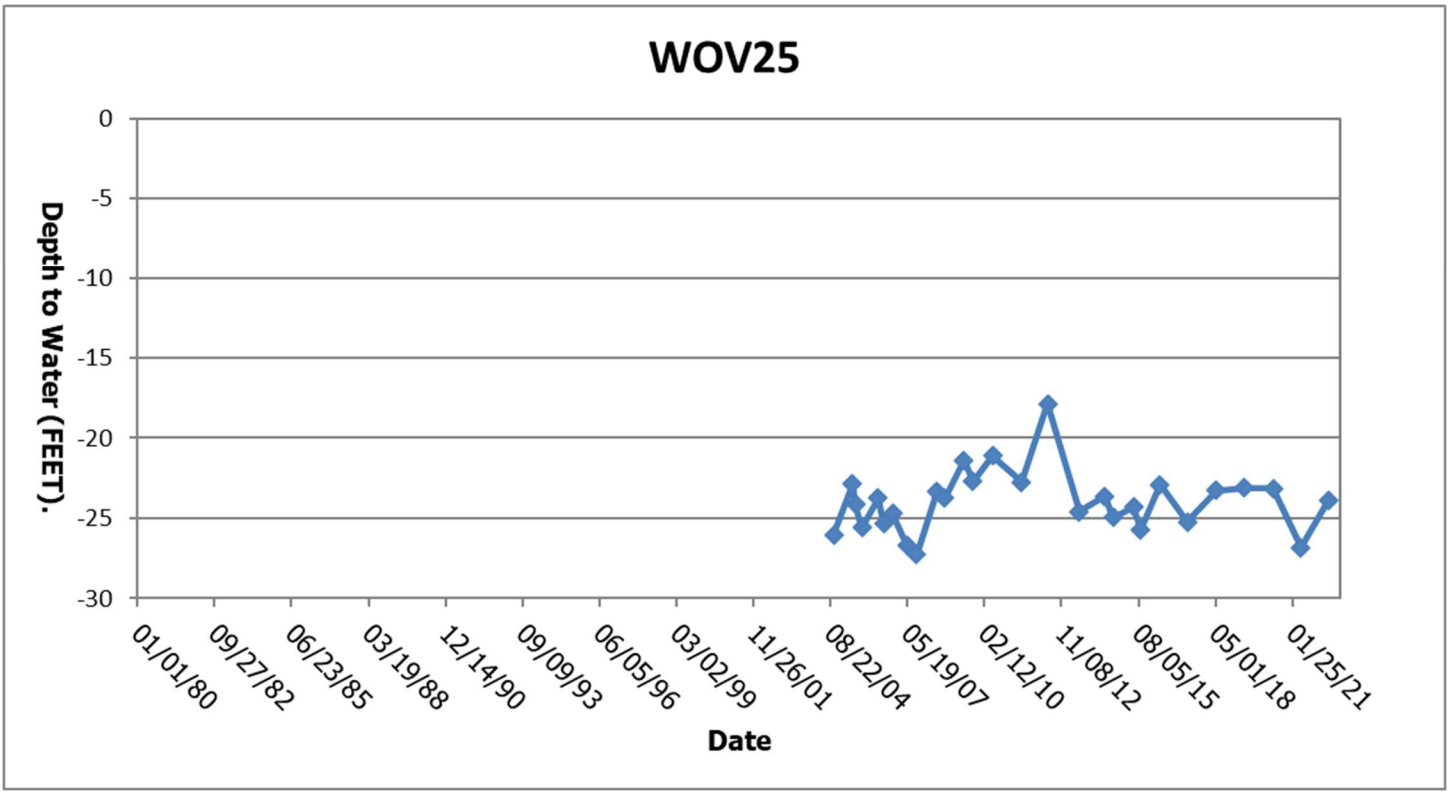
GROUNDWATER HYDROGRAPHS

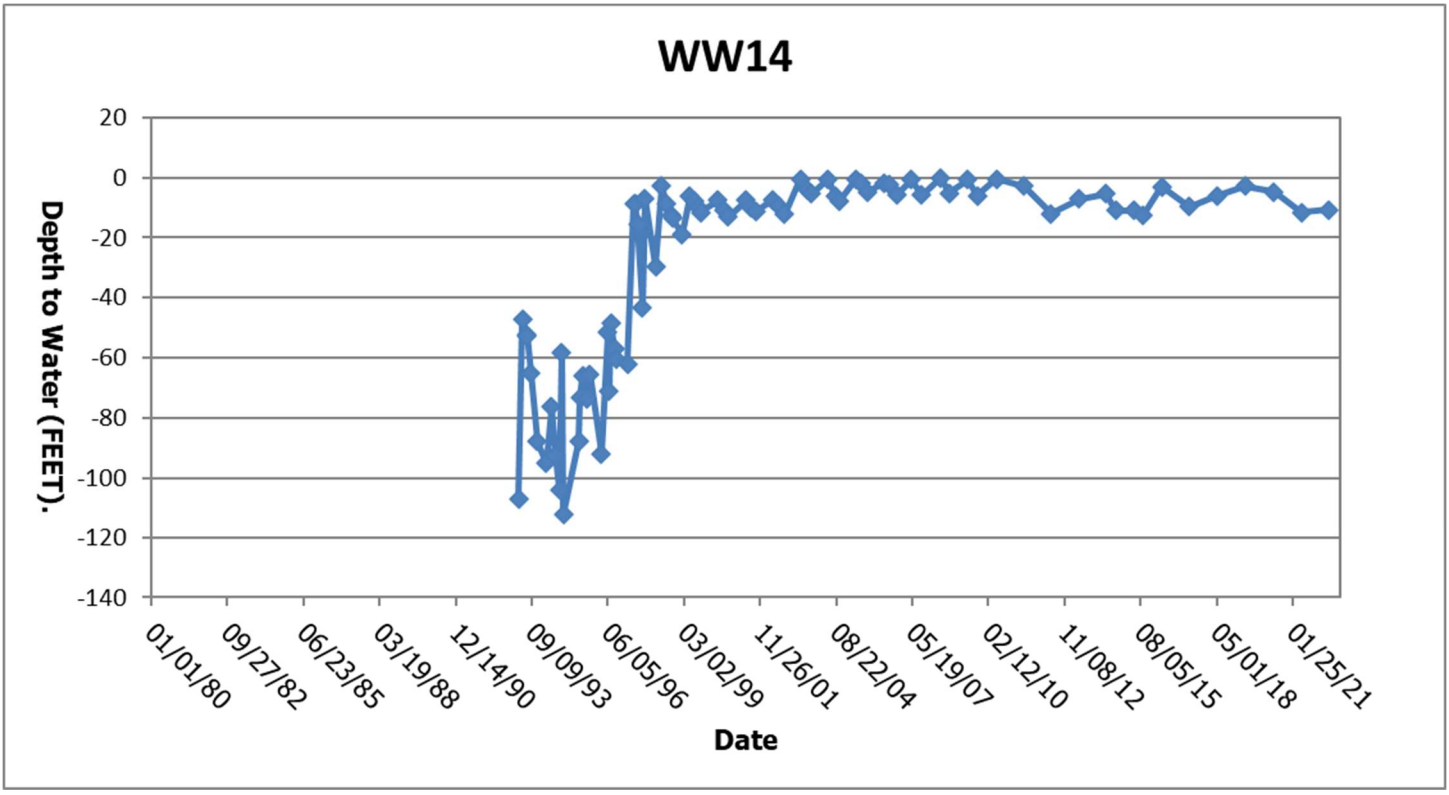

DCAL-02
Depth to Water (FEET).
0
-2
-4
-6
-8
-10
-12
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date

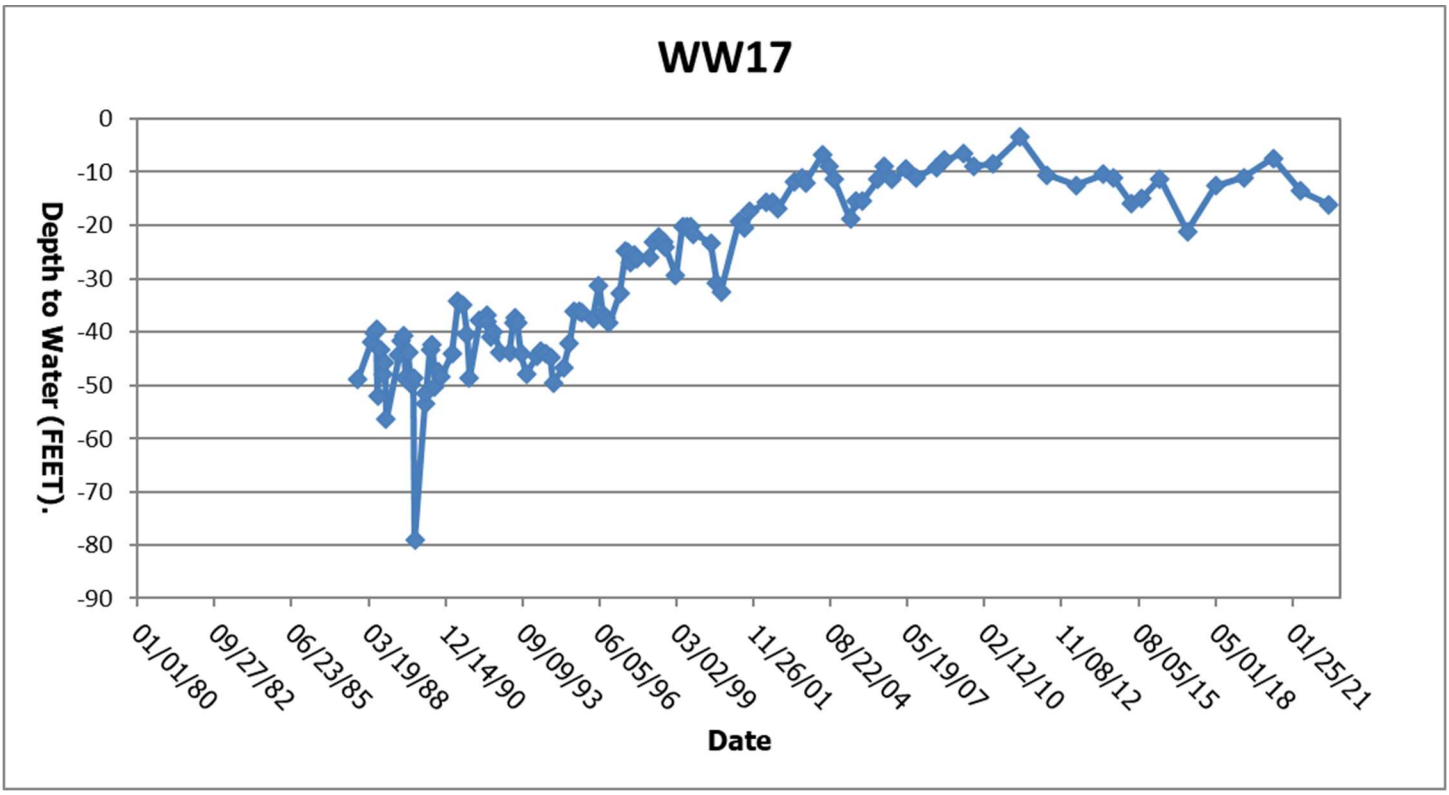

WHAL7-2
Depth to Water (FEET).
0
-1
-2
-3
-4
-5
-6
-7
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date

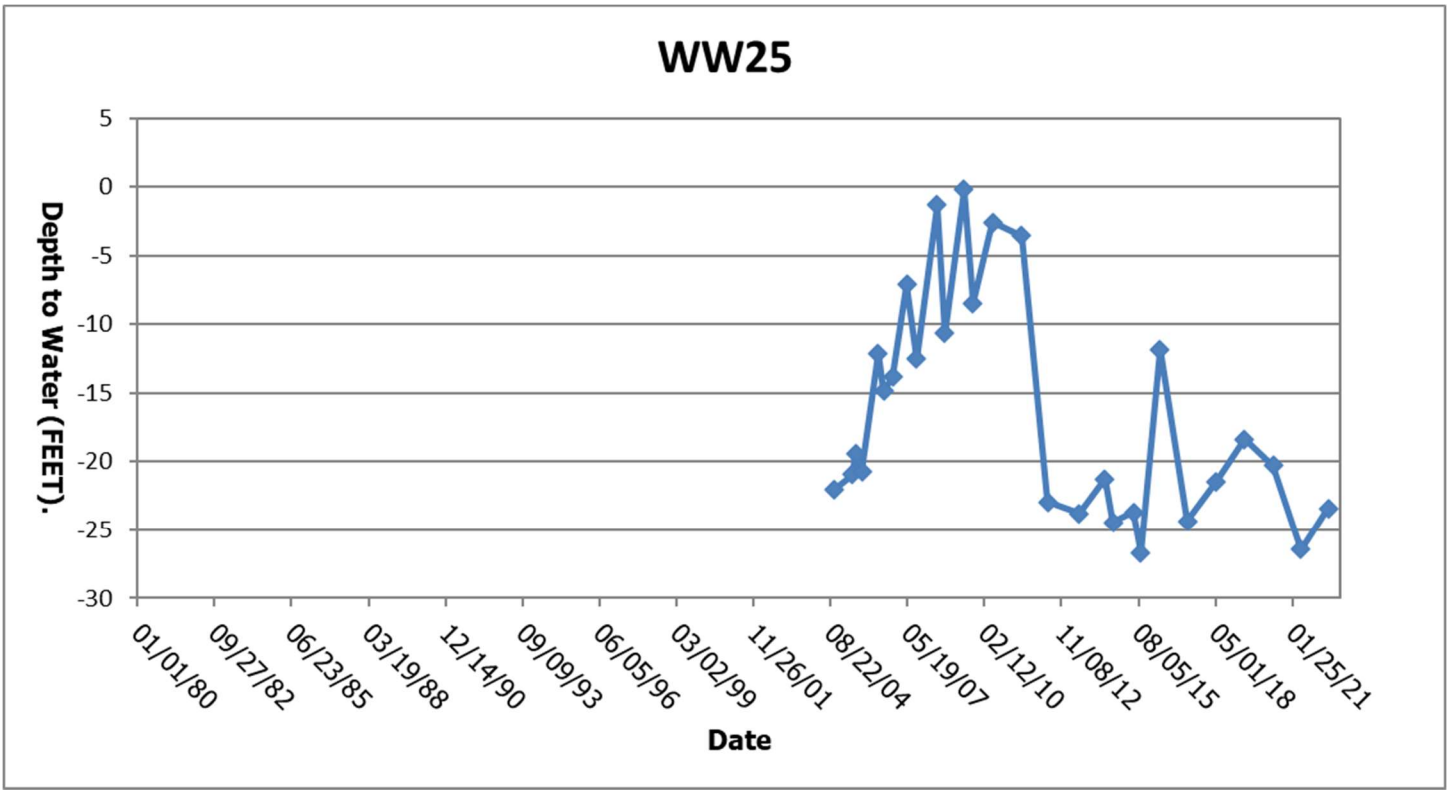

WOV14
Depth to Water (FEET).
20
0
-20
-40
-60
-80
-100
-120
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date

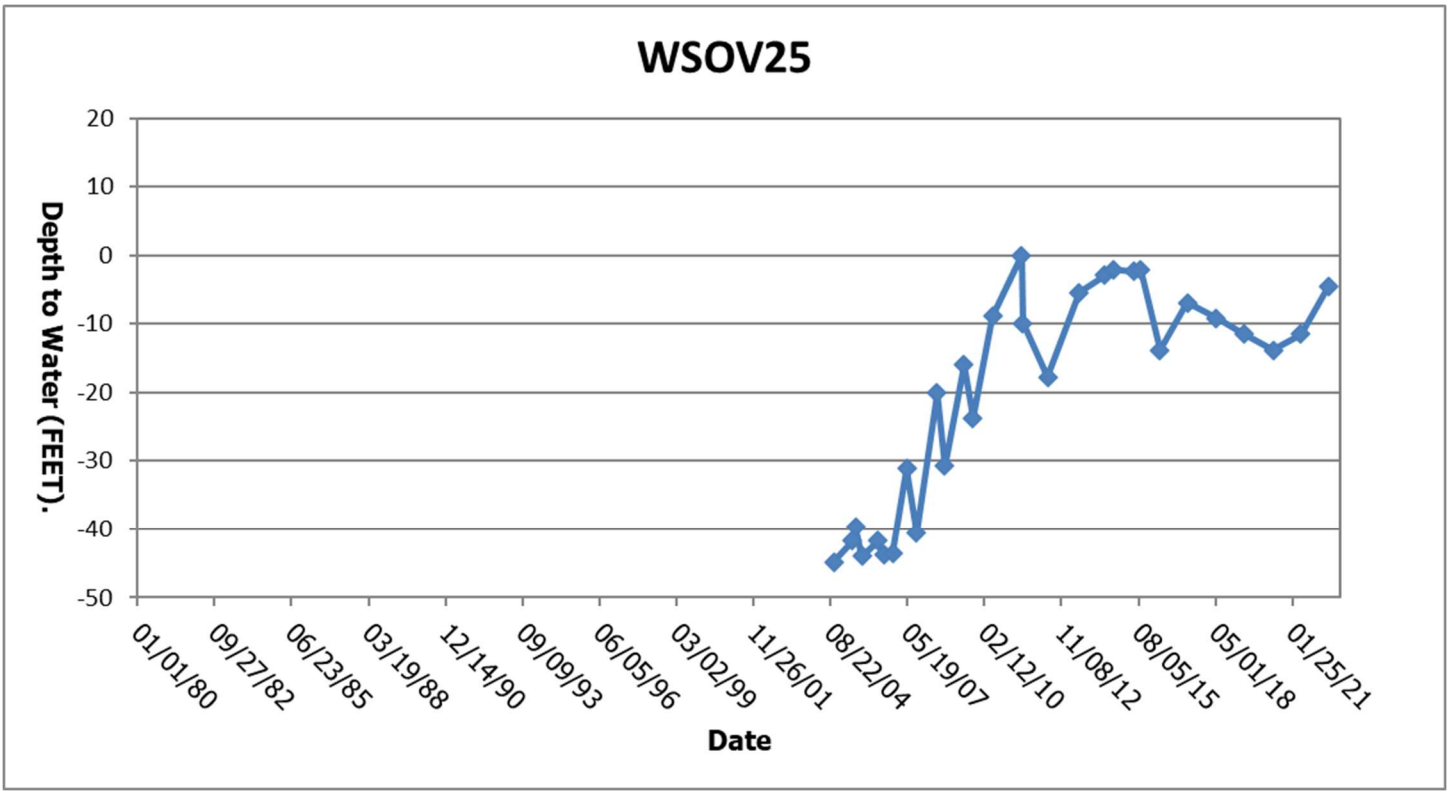

WOV17
Depth to Water (FEET).
0
-10
-20
-30
-40
-50
-60
-70
-80
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date

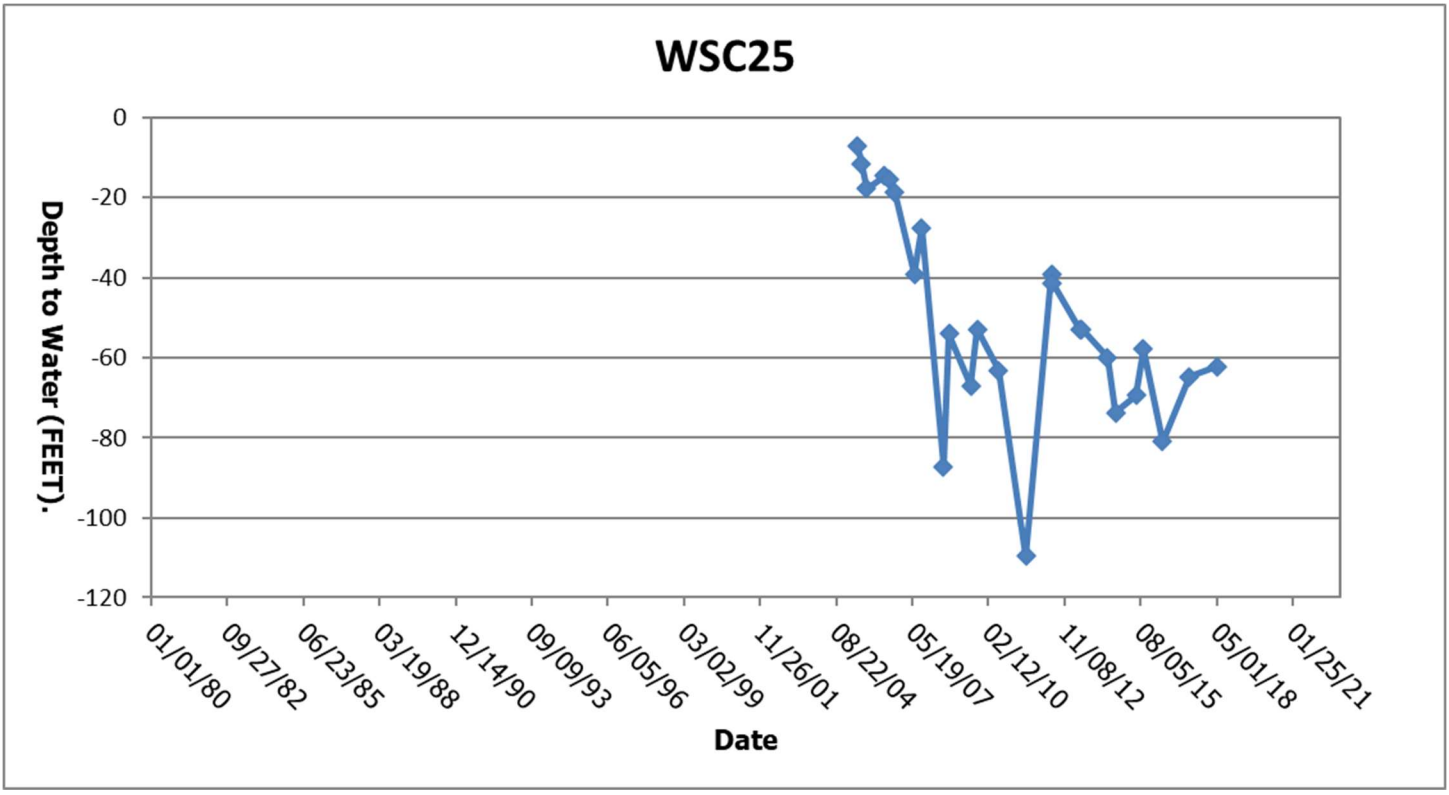

WOV25
Depth to Water (FEET).
0
-5
-10
-15
-20
-25
-30
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date

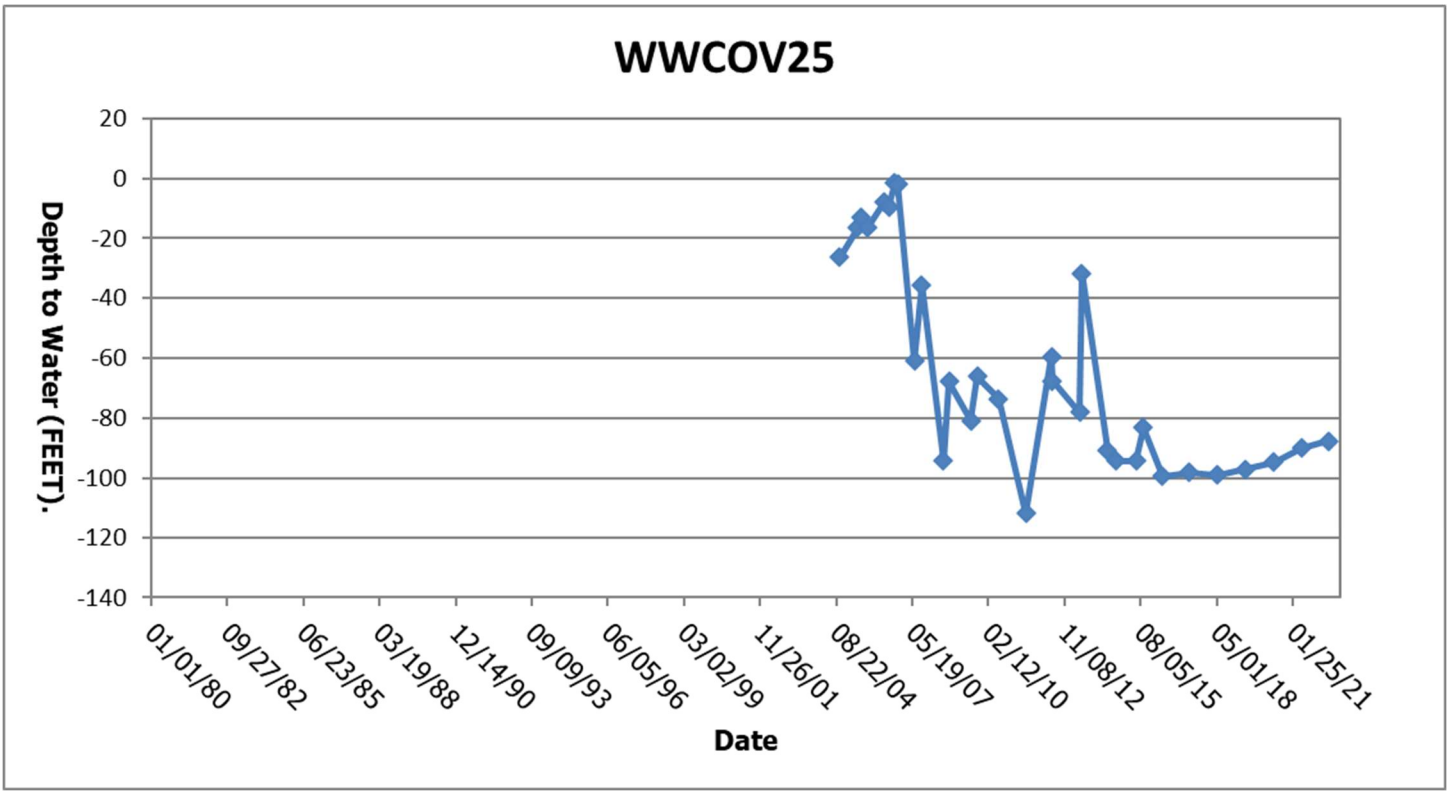

WW14
Depth to Water (FEET).
20
0
-20
-40
-60
-80
-100
-120
-140
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date

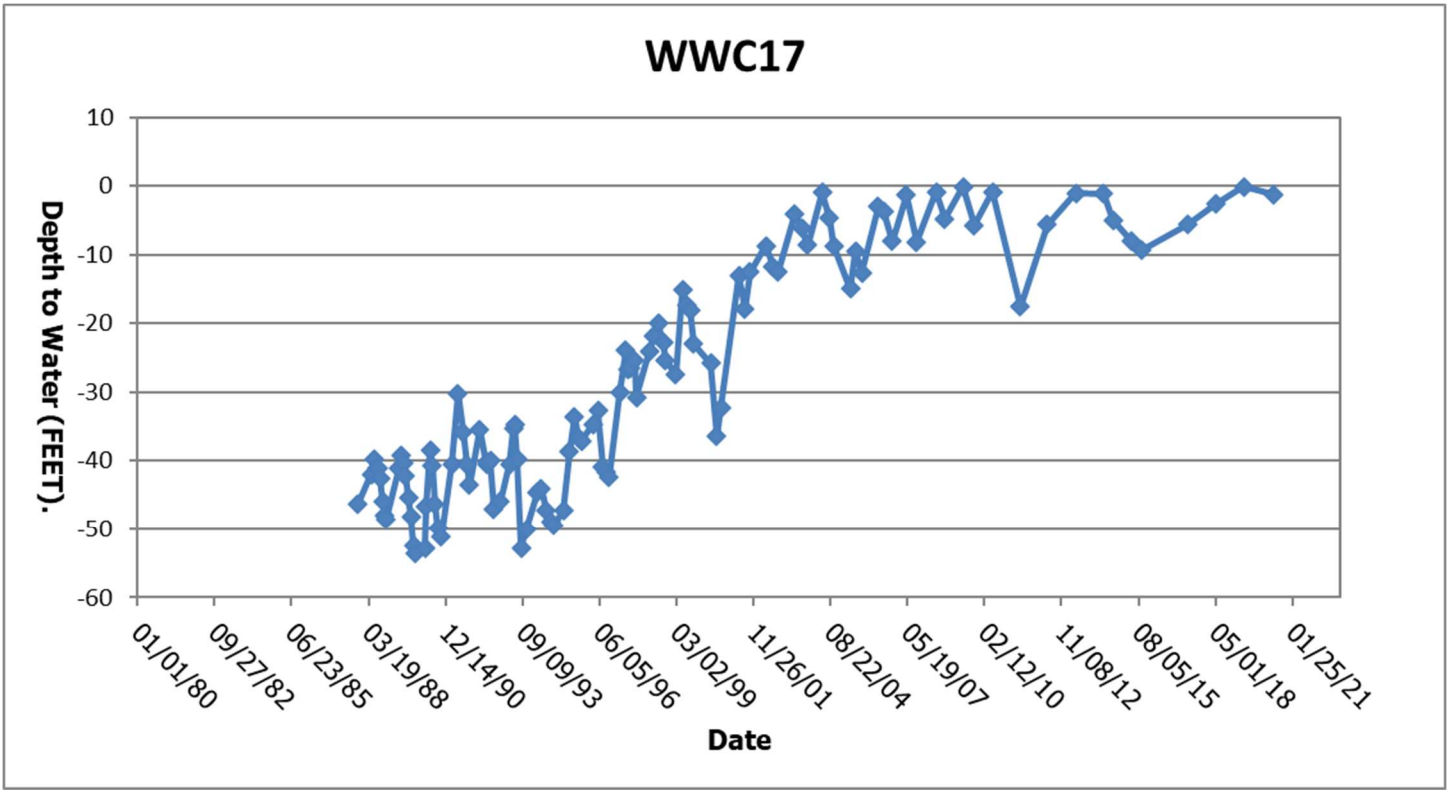

WW17
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Depth to Water (FEET).
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date

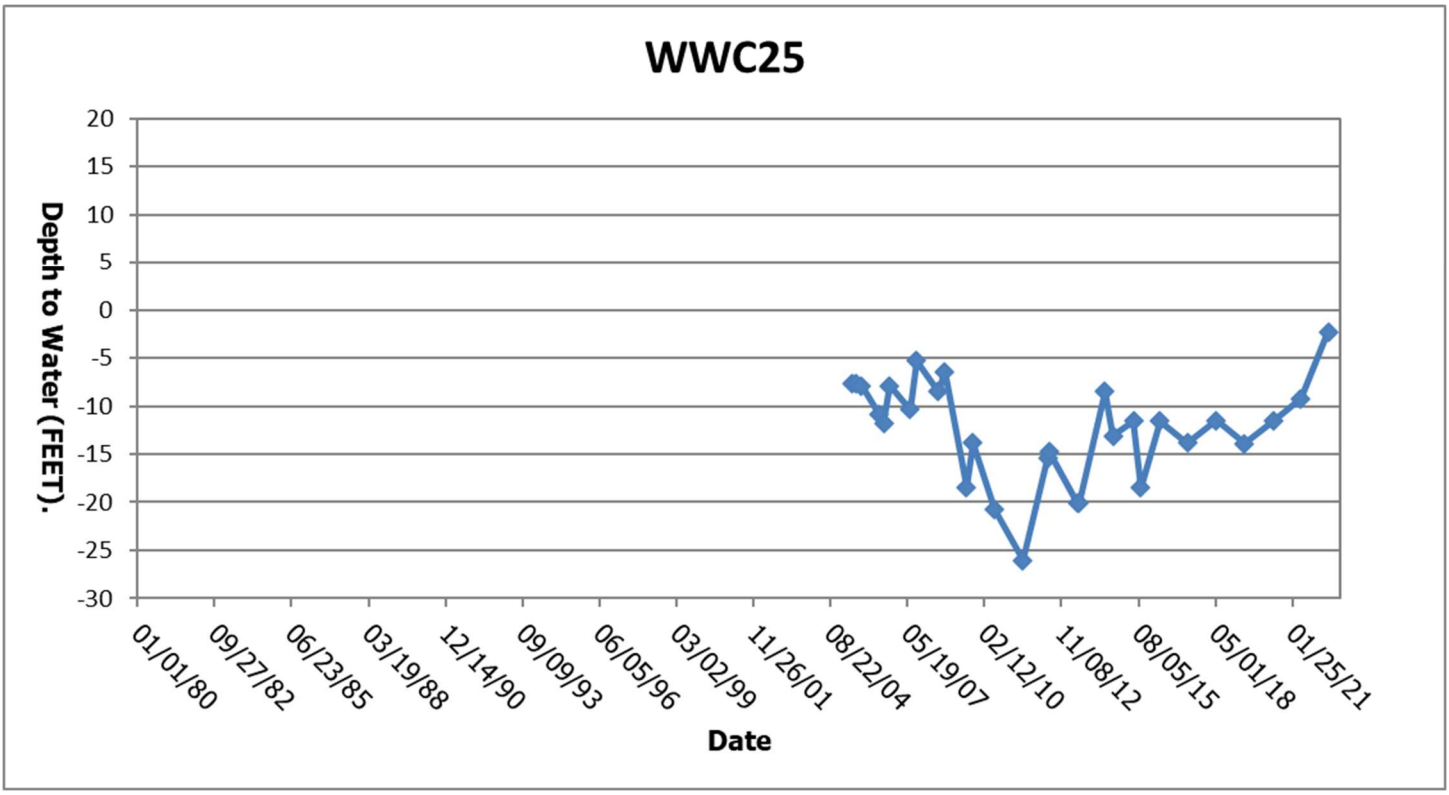

WW25
5
0
-5
-10
-15
-20
-25
-30
Depth to Water (FEET).
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date

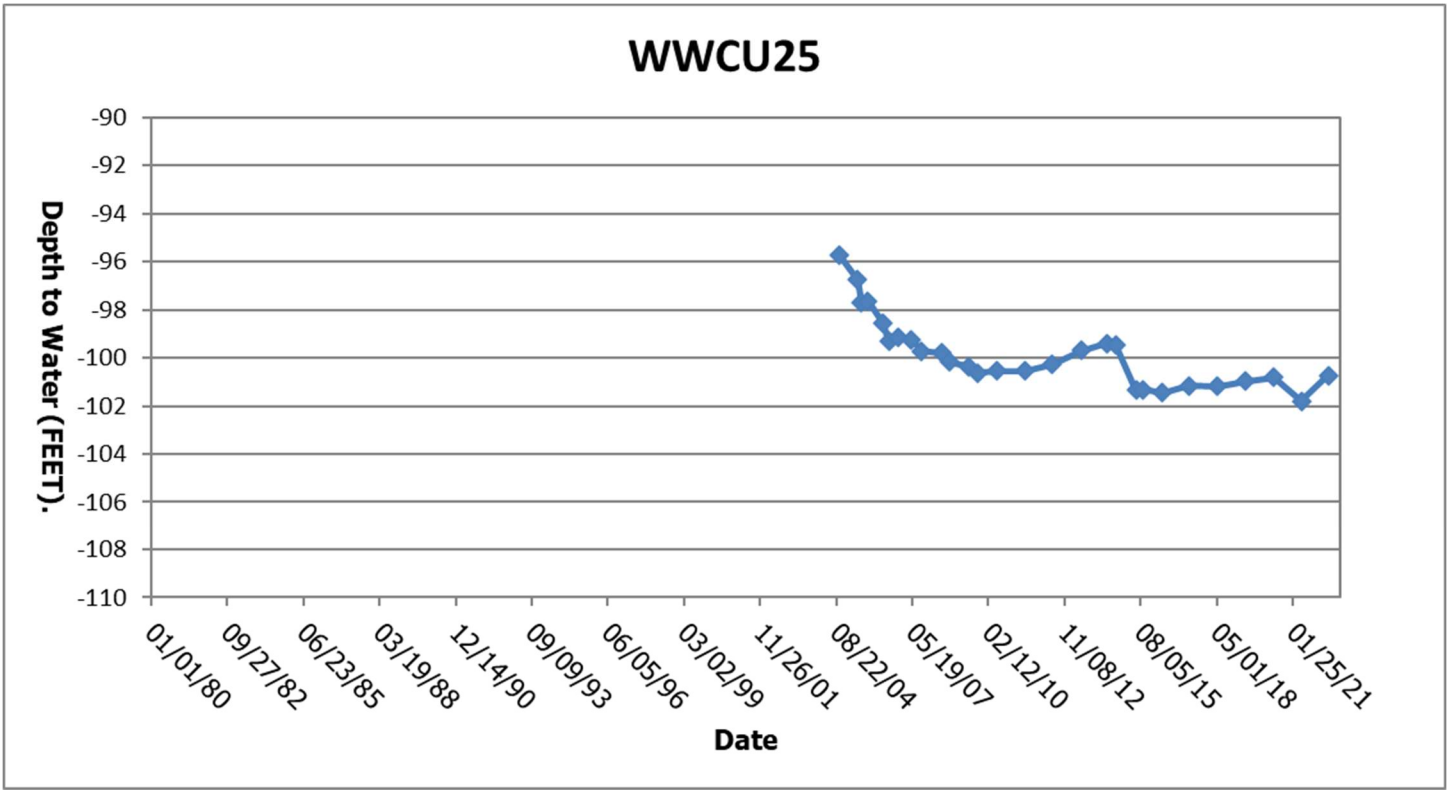

WSOV25
Depth to Water (FEET).
20
10
0
-10
-20
-30
-40
-50
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date


WSC25
Depth to Water (FEET).
0
-20
-40
-60
-80
-100
-120
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date


WWCOV25
Depth to Water (FEET).
20
0
-20
-40
-60
-80
-100
-120
-140
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date


WWC17
Depth to Water (FEET).
10
0
-10
-20
-30
-40
-50
-60
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date


WWC25
Depth to Water (FEET).
20
15
10
5
0
-5
-10
-15
-20
-25
-30
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date


WWCU25
Depth to Water (FEET).
-90
-92
-94
-96
-98
-100
-102
-104
-106
-108
-110
01/01/80
09/27/82
06/23/85
03/19/88
12/14/90
09/09/93
06/05/96
03/02/99
11/26/01
08/22/04
05/19/07
02/12/10
11/08/12
08/05/15
05/01/18
01/25/21
Date

APPENDIX D

SURFACE WATER QUALITY DATA

Table D.1 Dry Creek Yampa Segment 13d stream point analytical data for water year 2022.

Location	Date	Flow N GPM	SPC, Field N UMHOS/CM	pH, Field N S.U.	Temp., Field N C	Iron D MG/L	Iron PD MG/L	Iron TR MG/L	Manganese D MG/L	Mercury T UG/L	Ammonia N, N MG/L	Nitrate N, N MG/L	Nitrite N, N MG/L	Selenium D UG/L
WSH9	4/19/2022	134.7	1928	8.21	6.5	< 0.06	0.811	**4.93**						
WSH9	6/21/2022	0						0.735	0.126					0.25
WSH9	7/19/2022	1	952	8.18	16.2	< 0.06	0.334	0.416						
WSH9	9/6/2022	0												
WSH7	4/19/2022	1450	1378	8.3	7.7			2.69	0.0604					1.03
WSH7	4/19/2022	1450	1378	8.3	7.7	< 0.06	0.68	1.05						
WSH7	6/21/2022	81.3	2917	8.15	19.1			0.494	0.0483					0.23
WSH7	7/19/2022	0												
WSH7	9/6/2022	0												
WSHF1	4/19/2022	817	1598	8.34	8.4			1.17	0.1	**< 0.2**	< 0.05	0.325	< 0.01	1.1
WSHF1	4/19/2022	817	1598	8.34	8.4	< 0.06	0.624	2.08						1.11
WSHF1	6/21/2022	39.7	2830	7.81	10			0.296	0.396	**< 0.2**	< 0.05	<0.02	< 0.01	< 0.2
WSHF1	7/19/2022	8.2	2971	8.14	16.1	< 0.12	0.162	0.184						0.27
WSHF1	9/6/2022	0												
WSD5	4/19/2022	837	1928	8.21	6.5			0.167	0.0274	**< 0.2**	< 0.05	<0.02	< 0.01	0.98
WSD5	4/19/2022	837	1928	8.21	6.5	< 0.06	0.103	0.156						0.94
WSD5	6/21/2022	0												
WSD5	7/19/2022	0												
WSD5	9/6/2022	0												
Yampa Segment 13d Standards - Acute		-	-	6.5 - 9.0	-	-	-	-	4.738	0.01**	Varies***	100	0.05	18.4
Yampa Segment 13d Standards - Chronic		-	-	-	-	-	-	1.11 (May-Feb) 3.04 (Mar-Apr)	2.618	-	-	-	-	4.6
Agricultural Use Standards		-	-	-	-	-	-	-	0.2*	-	-	100	10	20

Location	Date	Selenium PD UG/L	Selenium TR UG/L	Sulfates N MG/L	Sulfide N MG/L	TDS, Lab N MG/L	TSS N MG/L
WSH9	4/19/2022					516	134
WSH9	6/21/2022	0.29	0.3			574	16
WSH9	7/19/2022					640	7
WSH9	9/6/2022						
WSH7	4/19/2022	0.98	1.1			1070	86
WSH7	4/19/2022					1090	89
WSH7	6/21/2022	0.22	0.25			1450	10
WSH7	7/19/2022						
WSH7	9/6/2022						
WSHF1	4/19/2022	1.06	1.11	709	**< 0.02**	1280	82
WSHF1	4/19/2022		1.08	734		1280	94
WSHF1	6/21/2022	0.2	< 0.2	1280	**< 0.02**	2350	< 5
WSHF1	7/19/2022		0.23	1630		2970	7
WSHF1	9/6/2022						
WSD5	4/19/2022	0.83	0.9	966	**< 0.02**	1690	6
WSD5	4/19/2022		0.89	947		1690	7
WSD5	6/21/2022						
WSD5	7/19/2022						
WSD5	9/6/2022						
Yampa Segment 13d Standards - Acute		-	-	-	0.002****	-	-
Yampa Segment 13d Standards - Chronic		-	-	-	-	-	-
Agricultural Use Standards		-	-	-	-	-	-

Notes

* The manganese agricultural use standard is only applicable for areas with acidic soils. This areas soils are alkaline.

** Analytic detection limit is an order of magnitude greater than the 0.01 mg/L mercury standard.

*** Table value standard (TVS) for ammonia varies based on temperature and pH. See WQCC Regulation 33 for equation.

**** Analytic detection limit is an order of magnitude greater than 0.002 mg/L sulfide standard.

Bold Analyte exceeds the Yampa Segment 13d or Agricultural Use Standards

Table D.2. Dry Creek Segment 13d NPDES Outfall 017 analytical data for water year 2022.

Location	Date	Flow N GPM	pH, Field N S.U.	Oil & Grease Y/N	Temp., Field N C	SPC, Field N UMHOS/CM	Iron D MG/L	Iron PD MG/L	Iron TR MG/L	Manganese PD MG/L	Selenium D UG/L	Selenium PD UG/L	Selenium TR UG/L	TSS N MG/L	TDS, Lab N MG/L
NPDES17	1/10/2022	0													
NPDES17	2/7/2022	0													
NPDES17	3/23/2022	0													
NPDES17	4/19/2022	44.8	8.46	N	11.7	1413			0.859			0.95	1.01		1110
NPDES17	4/19/2022						< 0.06	0.241	0.961		0.91		0.95	18	1090
NPDES17	5/9/2022	41.4	8.37	N	10.4	967			0.262			1.36	1.43		692
NPDES17	6/20/2022	28.3	8.45	N	18.2	956			0.156			0.66	0.7		684
NPDES17	7/19/2022	1.3	8.49	N	21.1	1072	< 0.06	< 0.06	0.061		0.78	0.69	0.6	5	762
NPDES17	8/17/2022	1	8.81	N	18.9	1193			0.397			0.44	0.61		852
NPDES17	9/6/2022	0													
NPDES17	10/27/2021	0													
NPDES17	11/8/2021	0													
NPDES17	12/1/2021	0													
NPDES Limit	Daily Max		6.5 - 9.0	10*	-	-	-	-	Report	Report	-	Report	-	-	Report
	Monthly Avg.		NA	NA	-	-	-	-	1	Report	-	4.6	-	-	Report
Yampa Segment 13d Standards - Acute			6.5 - 9.0	-	-	-	-	-	-	4.738	18.4	-	-	-	-
Yampa Segment 13d Standards - Chronic			-	-	-	-	-	-	Mar-Apr 3.040 May-Feb 1.110	2.618	4.6	-	-	-	-

Note

* Limit only applicable if presence of oil or grease is detected

Settleable solids data only submitted to SCC database if result exceeds limit. No exceedances occurred during this time period.

Bold Analyte exceeds the NPDES limit or Yampa Segment 13d Standard

Table D.3. Dry Creek Segment 13d NPDES Outfall 016 analytical data for water year 2022.

Location	Date	Flow N GPM	pH, Field N S.U.	Oil & Grease Y/N	Temp., Field N C	SPC, Field N UMHOS/CM	Iron D MG/L	Iron PD MG/L	Iron TR MG/L	Manganese PD MG/L	Selenium D UG/L	Selenium PD UG/L	Selenium TR UG/L	TSS N MG/L	TDS, Lab N MG/L
NPDES16	1/10/2022	21.4	8.27		4	2274			< 0.06			0.56	0.52		2370
NPDES16	2/7/2022	29.3	8.21	N	2.6	2401			< 0.12			0.54	0.56		2390
NPDES16	3/23/2022	27.7	8.21	N	2.1	2268			< 0.12			0.74	0.82		2260
NPDES16	4/19/2022	128.9	8.25	N	11	1130			1.5			1.05	1.18		838
NPDES16	4/19/2022	128.9	8.25	N	11	1130	< 0.06	0.335	1.74		1.1		1.07	59	830
NPDES16	5/9/2022	101.7	8.23	N	9.7	1849			0.1			0.75	0.79		1570
NPDES16	6/20/2022	97.3	8.24	N	18	2309			< 0.12			0.35	0.44		2060
NPDES16	7/19/2022	29.8	8.18	N	21	2158	< 0.06	< 0.06	0.072	0.161	0.55	0.71	0.43	6	1950
NPDES16	8/17/2022	26.3	8.55	N	18.9	2385			< 0.12			0.35	0.39		2120
NPDES16	9/6/2022	25.9	8.77	N	20.3	2510			< 0.12			0.3	0.28		2250
NPDES16	10/27/2021	21.3	8.56	N	4.9	2168			< 0.06			0.21	0.25		2000
NPDES16	11/8/2021	23.4	8.62	N	6.9	2184			< 0.12			< 0.2	0.23		1990
NPDES16	12/1/2021	17.6	8.6	N	5.5	2126			< 0.12			0.26	0.24		2150
NPDES Limit	Daily Max		6.5 - 9.0	10*	-	-	-	-	Report	Report	-	Report	-	-	Report
	Monthly Avg.		NA	NA	-	-	-	-	1	Report	-	4.6	-	-	Report
Yampa Segment 13d Standards - Acute			6.5 - 9.0	-	-	-	-	-	-	4.738	18.4	-	-	-	-
Yampa Segment 13d Standards - Chronic			-	-	-	-	-	-	Mar-Apr 3.040 May-Feb 1.110	2.618	4.6	-	-	-	-

Note

* Limit only applicable if presence of oil or grease is detected

Settleable solids data only submitted to SCC database if result exceeds limit. No exceedances occurred during this time period.

Bold Analyte exceeds the NPDES limit or Yampa Segment 13d Standard

Table D.4. Dry Creek Segment 13d NPDES Outfall 006 analytical data for water year 2022.

Location	Date	Flow N GPM	pH, Field N S.U.	Oil & Grease Y/N	Temp., Field N C	SPC, Field N UMHOS/CM	Iron D MG/L	Iron PD MG/L	Iron TR MG/L	Manganese PD MG/L	Selenium D UG/L	Selenium PD UG/L	Selenium TR UG/L	TSS N MG/L	TDS, Lab N MG/L
NPDES6	1/10/2022	28.7	8.11	N	2.9	3330			< 0.12	**2.69**		0.31	< 0.2		3780
NPDES6	2/7/2022	28.4	8.14	N	2.3	3469			0.122			< 0.2	< 0.2		3880
NPDES6	3/23/2022	26.3	8.14	N	2.9	3398			< 0.12			0.33	< 0.2		3650
NPDES6	4/19/2022	82.3	8.16	N	9.6	1731			0.466	0.071		1.54	1.59		1430
NPDES6	4/19/2022						< 0.06	0.125	0.472		1.57		1.6	19	1450
NPDES6	5/9/2022	78.4	8.27	N	10.5	2327			< 0.12			0.96	1.2		2460
NPDES6	6/20/2022	62.7	8.11	N	17.9	3748			< 0.12			< 0.2	0.26		3840
NPDES6	7/19/2022	54.3	8.01	N	21.5	3662			0.119	0.183		1.15	0.28		3840
NPDES6	7/19/2022						< 0.12	0.108	0.116		0.63		0.28	11	3830
NPDES6	8/17/2022	37.8	8.47	N	19.9	3988			< 0.12			0.35	< 0.2		3900
NPDES6	9/6/2022	34.3	8.63	N	20.6	4188			< 0.3			0.14	< 0.1		3960
NPDES6	10/27/2021	23.7	8.38	N	5.2	3442			< 0.06	0.00982		< 0.1	< 0.2		3880
NPDES6	11/8/2021	31.3	8.37	N	7.6	3440			< 0.12			< 0.2	< 0.1		3730
NPDES6	12/1/2021	21.8	8.27	N	5.8	3200			0.259			< 0.2	< 0.2		3840
NPDES Limit	Daily Max		6.5 - 9.0	10*	-	-	-	-	Report	Report	-	Report	-	-	Report
	Monthly Avg.		NA	NA	-	-	-	-	1	Report	-	4.6	-	-	Report
Yampa Segment 13d Standards - Acute			6.5 - 9.0	-	-	-	-	-	-	4.738	18.4	-	-	-	-
Yampa Segment 13d Standards - Chronic			-	-	-	-	-	-	Mar-Apr 3.040 May-Feb 1.110	2.618	4.6	-	-	-	-

Note

* Limit only applicable if presence of oil or grease is detected

Settleable solids data only submitted to SCC database if result exceeds limit. No exceedances occurred during this time period.

Bold Analyte exceeds the NPDES limit or Yampa Segment 13d Standard

Table D.5. Dry Creek Segment 13d NPDES Outfall 005 analytical data for water year 2022.

Location	Date	Flow N GPM	pH, Field N S.U.	Oil & Grease Y/N	Temp., Field N C	SPC, Field N UMHOS/CM	Iron D MG/L	Iron PD MG/L	Iron TR MG/L	Manganese PD MG/L	Selenium D UG/L	Selenium PD UG/L	Selenium TR UG/L	TSS N MG/L	TDS, Lab N MG/L	Cadmium PD UG/L
NPDES5	1/10/2022	0														
NPDES5	2/7/2022	0														
NPDES5	3/23/2022	0														
NPDES5	4/19/2022	24.7	8.8	N	9.7	2284	< 0.12	< 0.12	0.132		1.32	1.36	1.53	18	2160	<0.05
NPDES5	5/9/2022	17.6	8.39	N	10.7	2817			< 0.12						3000	
NPDES5	6/20/2022	0														
NPDES5	7/19/2022	0														
NPDES5	8/17/2022	0														
NPDES5	9/6/2022	0														
NPDES5	10/27/2021	0														
NPDES5	11/8/2021	0														
NPDES5	12/1/2021	0														
NPDES Limit	Daily Max		6.5 - 9.0	10*	-	-	-	-	Report	Report	-	Report	-	-	Report	Report
	Monthly Avg.		NA	NA	-	-	-	-	1	Report	-	4.6	-	-	Report	Report
Yampa Segment 13d Standards - Acute			6.5 - 9.0	-	-	-	-	-	-	4.738	18.4	-	-	-	-	9.2
Yampa Segment 13d Standards - Chronic			-	-	-	-	-	-	Mar-Apr 3.040 May-Feb 1.110	2.618	4.6	-	-	-	-	1.2

Location	Date	Chromium PD UG/L	Copper PD UG/L	Lead PD UG/L	Mercury T UG/L	Nickel PD UG/L	Silver PD UG/L	Zinc PD MG/L
NPDES5	1/10/2022							
NPDES5	2/7/2022							
NPDES5	3/23/2022							
NPDES5	4/19/2022	< 0.5	0.86	0.16	0.00219	< 16	< 0.1	< 0.04
NPDES5	5/9/2022							
NPDES5	6/20/2022							
NPDES5	7/19/2022							
NPDES5	8/17/2022							
NPDES5	9/6/2022							
NPDES5	10/27/2021							
NPDES5	11/8/2021							
NPDES5	12/1/2021							
NPDES Limit	Daily Max	Report	Report	Report	Report	Report	Report	Report
	Monthly Avg.	Report	Report	Report	Report	Report	Report	Report
Yampa Segment 13d Standards - Acute		1773	50	281	-	1513	22	0.565
Yampa Segment 13d Standards - Chronic		231	29	11	0.01	168	3.5	0.428

Note

* Limit only applicable if presence of oil or grease is detected

Settleable solids data only submitted to SCC database if result exceeds limit. No exceedances occurred during this time period.

Bold Analyte exceeds the NPDES limit or Yampa Segment 13d Standard

Table D.6. Sage Creek Segment 13e stream point analytical data for water year 2022.

Location	Date	Flow N GPM	SPC, Field N UMHOS/CM	pH, Field N S.U.	Temp., Field N C	Iron D MG/L	Iron PD MG/L	Iron TR MG/L	Manganese D MG/L	Mercury T UG/L	Ammonia N. N MG/L	Nitrate N. N MG/L	Nitrite N. N MG/L	Selenium D UG/L
WSSF3	4/19/2022	2194	1818	8.07	4.9									3.08
WSSF3	4/19/2022	2194	1818	8.07	4.9			0.076	0.0114	**< 0.2**	< 0.05	<0.02	< 0.01	3.09
WSSF3	6/21/2022	0												
WSSF3	7/19/2022	0												
WSSF3	9/6/2022	0												
Yampa Segment 13e Standards - Acute		-	-	6.5 - 9.0	-	-	-	-	4.738	0.01**	0.05	100	0.05	18.4
Yampa Segment 13e Standards - Chronic		-	-	-	-	-	-	1	2.618	-	-	-	-	TM***
Agricultural Use Standards		-	-	-	-	-	-	-	0.2*	-	-	100	10	20

Location	Date	Selenium PD UG/L	Selenium TR UG/L	Sulfates N MG/L	Sulfide N MG/L	TDS, Lab N MG/L	TSS N MG/L
WSSF3	4/19/2022		3.06	958		1650	
WSSF3	4/19/2022	2.83	2.94	949	**< 0.02**	1650	< 5
WSSF3	6/21/2022						
WSSF3	7/19/2022						
WSSF3	9/6/2022						
Yampa Segment 13e Standards - Acute		-	-	-	0.002****	-	-
Yampa Segment 13e Standards - Chronic		-	-	-	-	-	-
Agricultural Use Standards		-	-	-	-	-	-

Notes

* The manganese agricultural use standard is only applicable for areas with acidic soils. This areas soils are alkaline.

** Analytic detection limit is an order of magnitude greater than the 0.01 mg/L mercury standard.

*** A current condtions temporary modification is in place for the Segment 13e chronic selenium standard.

**** Analytic detection limit is an order of magnitude greater than 0.002 mg/L sulfide standard.

Bold Analyte exceeds the Yampa Segment 13e or Agricultural Use Standards

Table D.7. Sage Creek Segment 13e NPDES Outfall 009 and 015 analytical data for water year 2022.

Location	Date	Flow N GPM	pH, Field N S.U.	Oil & Grease Y/N	Temp., Field N C	SPC, Field N UMHOS/CM	TDS, Lab N MG/L
NPDES15	1/10/2022	0					
NPDES15	2/7/2022	0					
NPDES15	3/22/2022	0					
NPDES15	4/19/2022	0					
NPDES15	5/9/2022	2.3	8.44	N	9.9	953	582
NPDES15	6/20/2022	2.1	8.08	N	17.2	861	562
NPDES15	7/19/2022	0.4	8.34	N	20.7	739	494
NPDES15	8/17/2022	0					
NPDES15	9/6/2022	0					
NPDES15	10/27/2021	0					
NPDES15	11/8/2021	0					
NPDES15	12/1/2021	0					
NPDES9	1/10/2022	0					
NPDES9	2/7/2022	0					
NPDES9	3/22/2022	0					
NPDES9	4/19/2022	0					
NPDES9	5/9/2022	0					
NPDES9	6/20/2022	0					
NPDES9	7/19/2022	0					
NPDES9	8/17/2022	0					
NPDES9	9/6/2022	0					
NPDES9	10/27/2021	0					
NPDES9	11/8/2021	0					
NPDES9	12/1/2021	0					
NPDES Limit	Daily Max		6.5 - 9.0	10*	-	-	Report
	Monthly Avg.		NA	NA	-	-	Report
Yampa Segment 13e Standards - Acute			6.5 - 9.0	-	-	-	-
Yampa Segment 13e Standards - Chronic			-	-	-	-	-

Note

* Limit only applicable if presence of oil or grease is detected

Settleable solids data only submitted to SCC database if result exceeds limit. No exceedances occurred during this time period.

Bold Analyte exceeds the NPDES limit or Yampa Segment 13d Standard

APPENDIX E

SPRING WATER QUALITY DATA

Table E.1. Analytical data for springs sampled during the 2022 water year.

Location	Date	Flow N GPM	SPC, Field N UMHOS/CM	pH, Field N S.U.	Temp., Field N C	Iron TR MG/L	Manganese D MG/L	Mercury T UG/L	Ammonia N N MG/L	Nitrate N N MG/L	Nitrite N N MG/L	Selenium D UG/L
WSPG7	6/22/2022	2.7	1768	7.4	11.3	3.72	0.00835	< 0.2	< 0.05	0.533	< 0.01	0.28
WSPG46	6/22/2022	0	2609	7.42	9.5	32.6	0.162	< 0.2	0.141	0.045	< 0.01	< 0.2
WSPG47	6/22/2022	8.9	3718	8.41	10.2	0.277	0.0927					0.27
WSPG50	6/21/2022	3.6	3416	7.09	11.9	0.547	1.18	< 0.2	0.348	0.066	< 0.01	< 0.2
WSSPG1	6/22/2022	8.3	3814	7.91	11.6	0.406	0.412					< 0.5
WSSPG2	6/22/2022	20.1	2897	7.81	12	1.14	0.0313	< 0.2	< 0.05	<0.02	< 0.01	0.51
WSSPG3	6/22/2022	31.6	3738	6.78	11	0.522	1.78	< 0.2	0.398	<0.02	< 0.01	< 0.2
WSSPG4	6/22/2022	26.3	3706	8.08	11.9	< 0.12	0.358	< 0.2	< 0.05	0.023	< 0.01	< 0.2
WSSPG5	6/21/2022	47.6	2720	7.04	11.8	0.309	1.19	< 0.2	0.358	0.057	< 0.01	< 0.2
Agricultural Use Standards		-	-	-	-	-	0.2*	-	-	100	10	20

Location	Date	Selenium PD UG/L	Selenium TR UG/L	Sulfates N MG/L	Sulfide N MG/L	TDS, Lab N MG/L	TSS N MG/L
WSPG7	6/22/2022	0.41	0.4	681	< 0.02	1410	12
WSPG46	6/22/2022	7.13	0.53	1240	< 0.075	2400	1080
WSPG47	6/22/2022	0.28	0.24			3980	< 5
WSPG50	6/21/2022	< 0.1	0.28	1040	< 0.02	2240	6
WSSPG1	6/22/2022	< 0.5	< 0.5			4260	5
WSSPG2	6/22/2022	0.51	0.76	1490	< 0.02	2790	41
WSSPG3	6/22/2022	< 0.1	< 0.2	2230	< 0.02	3930	5
WSSPG4	6/22/2022	0.33	< 0.2	2320	< 0.02	3900	< 5
WSSPG5	6/21/2022	< 0.1	< 0.2	1050	< 0.02	2260	6
Agricultural Use Standards		-	-	-	-	-	-

Notes

* The manganese agricultural use standard is only applicable where irrigation water is applied to soils with a pH value less than 6.0. The soils in this area are alkaline.

Bold Analyte exceeds the Agricultural Use Water Quality Standard