

2023 ANNUAL HYDROLOGY REPORT

HAYDEN GULCH TERMINAL LOADOUT

PERMIT C-92-081

MARCH 2024



Submitted To: Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Prepared By: Hayden Gulch Terminal, LLC
PO Box 670
Hayden, CO 81639

TABLE OF CONTENTS

1.0 INTRODUCTION	4
1.1 BACKGROUND.....	4
2.0 METEOROLOGICAL	5
3.0 GROUNDWATER	6
3.1 WATER LEVELS	6
3.2 GROUNDWATER QUALITY	7
4.0 SURFACE WATER	8
5.0 SUMMARY	10

FIGURES

1. Monitoring Site Locations

APPENDICES

- A. Meteorological Data
- B. Groundwater Quality Data
- C. Groundwater Hydrographs
- D. Surface Water Quality Data

1.0 INTRODUCTION

This Annual Hydrology Report presents the hydrologic monitoring data collected for the 2023 water year (October 2022 - September 2023) at the Hayden Gulch Terminal, LLC Hayden Gulch Loadout (HGT). The AHR fulfills the reporting requirements under the Colorado Division of Reclamation, Mining, and Safety (CDRMS) Permit No. C-1992-081.

1.1 BACKGROUND

The HGT is a former coal loadout located in Routt County, approximately 2 miles southeast of Hayden, Colorado (Figure 1). The tipple and coal storage area were reclaimed in 2011, followed by the east office in 2013, and the west office in 2014. On February 18, 2022, the Division approved bond release package SL-2, allowing for the release of the reclaimed rail spur area. This area has been transferred to the Town of Hayden as part of their Track to Trails program and will serve as a recreational park for residents and visitors. On January 4, 2024, the Division approved bond release package SL-3, allowing the haul road to remain in place and be transferred to the Routt County for use as a public county road. Only 2.3 acres of agricultural/hayland along Highway 40 remains in the permit.

2.0 METEOROLOGICAL

Meteorological data for the 2023 water year is presented in Appendix A. The 2023 data was obtained from NOAA weather station USC00053867 located in Hayden, Colorado (www.ncdc.noaa.gov/cdo-wb/). A total of 20.99 inches of precipitation was measured in 2023, which is 2.78 inches greater than the 1981-2023 average of 18.21 inches. November, December, January, March, and June were wetter than normal, but the remaining months were drier than normal. Potential snowpack runoff, as estimated by totaling November through March precipitation, was 14.12 inches, which was 6.45 inches above the 1981-2023 average of 7.67 inches.

3.0 GROUNDWATER

The HGT groundwater monitoring program includes one monitoring well (HGDAL4). Monitoring well HGDAL3 was abandoned in late 2021 and is no longer part of the groundwater monitoring program. The following table identifies the water bearing unit HGDAL4 is screened in and its required monitoring frequency and parameter list. The well location is shown on Figure 1. Groundwater monitoring was completed by experienced personnel and samples were collected following the monitoring practices described in Tab 13 of Permit C-1992-081. All samples were analyzed by ACZ Laboratories.

Site	Unit	Monitoring Frequency		Parameter List
		Water Level	Water Quality	
HGDAL4	Dry Creek Alluvium	A	A	GW

Note

HGDAL3 was abandoned in December 2021 for the SL-2 Bond Release

A: Annual

GW: Field conductivity, field pH, field temperature, dissolved iron, dissolved manganese, total dissolved solids

3.1 WATER LEVELS

The static water level and groundwater quality measured at HGDAL4 for the 2023 water year is included in Appendix B and the water level hydrograph is provided in Appendix C. In 2023, the contractor employed by Peabody to monitor the groundwater wells at Empire Mine, Foidel Creek Mine, Hayden Gulch Terminal, Sage Creek Mine, Yoast Mine, and SIIW Mine, mistakenly overlooked HGDAL4 and did not collect a sample. Upon realizing this mistake in March, Peabody immediately collected a groundwater sample. HGDAL4 will be monitored again during the typical May/June timeframe for the 2024 Water Year. The static water level measured at HGDAL4 was within its historic range. The water table in the alluvial well fluctuates in response to seasonal precipitation events, with the water table typically at its highest during the spring snowmelt season and then declining through late summer/early fall in response to the dry conditions.

3.2 GROUNDWATER QUALITY

Groundwater points of compliance (GWPOC) were determined to be unwarranted at the Hayden Gulch Loadout (CDRMS GWPOC Determination Memo dated June 5, 2008). The basis for this finding were: 1) alluvial groundwater in this area has naturally elevated total dissolved solids concentrations which results in the groundwater having a “Limited Use and Quality” designation; and, 2) insufficient hydraulic head is present to allow for any recharge originating at the site to migrate into the underlying, low permeable, Lewis Shale. Native groundwater in the Lewis Shale exhibits high concentrations of dissolved solids, and irrigation return water upstream of the HGST which is in contact with soils derived from the Lewis Shale, also contribute to elevated concentrations of selenium and dissolved solids. Table B.1 includes the analytical results for well HGDAL4. The monitoring conducted for this year continues to support CDRMS findings.

4.0 SURFACE WATER

The HGT is located principally (former coal handling facility area and majority of the railroad spur) in the lower portion of the Dry Creek watershed (Yampa River Segment 13h). The surface water monitoring program includes two NPDES outfalls and two instream sample points. The following table provides the required monitoring frequency and parameter list for each of these points. See Figure 1 for the locations of the surface water monitoring points. Surface water monitoring was completed by experienced personnel and samples were collected following the monitoring practices described in Tab 13 of Permit C-1992-081. All samples were analyzed by ACZ Laboratories.

Site	Type	Watershed	Monitoring Frequency		Parameter List
			Flow	Water Quality	
HGSD1	Surface Water	Dry Creek	SA	SA	SW
NPDES1H	NPDES	Dry Creek	M	M	NPDES
NPDES2H	NPDES	Dry Creek	M	M	NPDES
HGSD3	Surface Water	Dry Creek	SA	SA	SW

Note

SA: Semiannual

M: Monthly

SW: Field conductivity, field pH, field temperature, total recoverable iron, dissolved manganese, nitrate, nitrite, dissolved selenium, total dissolved solids, total suspended solids

NPDES: See NPDES permit COG85008

Analytical results for the 2023 monitoring conducted at stream point HGSD1 and HGSD3 are provided in Table D.1. Analytical results for NPDES outfalls NPDES1H and NPDES2H are provided in Table D.2. Although Outfall NPDES1H did no discharge in 2023, NPDES2H discharged in April and May. There were no exceedances of NPDES permit limits or instream water quality standards at NPDES2H. Exceedances of the chronic dissolved selenium aquatic life standard occurred at monitoring point HGSD1 in June and July. HGSD1 is located upstream of the reclaimed Hayden Gulch site and the selenium concentration was not influenced by any activities at the site. There were no exceedances of the chronic aquatic life selenium standard at downstream point HGSD3. Dry Creek flows through the selenium laden Lewis Shale and the elevated selenium is likely the result of natural contributions and irrigation return

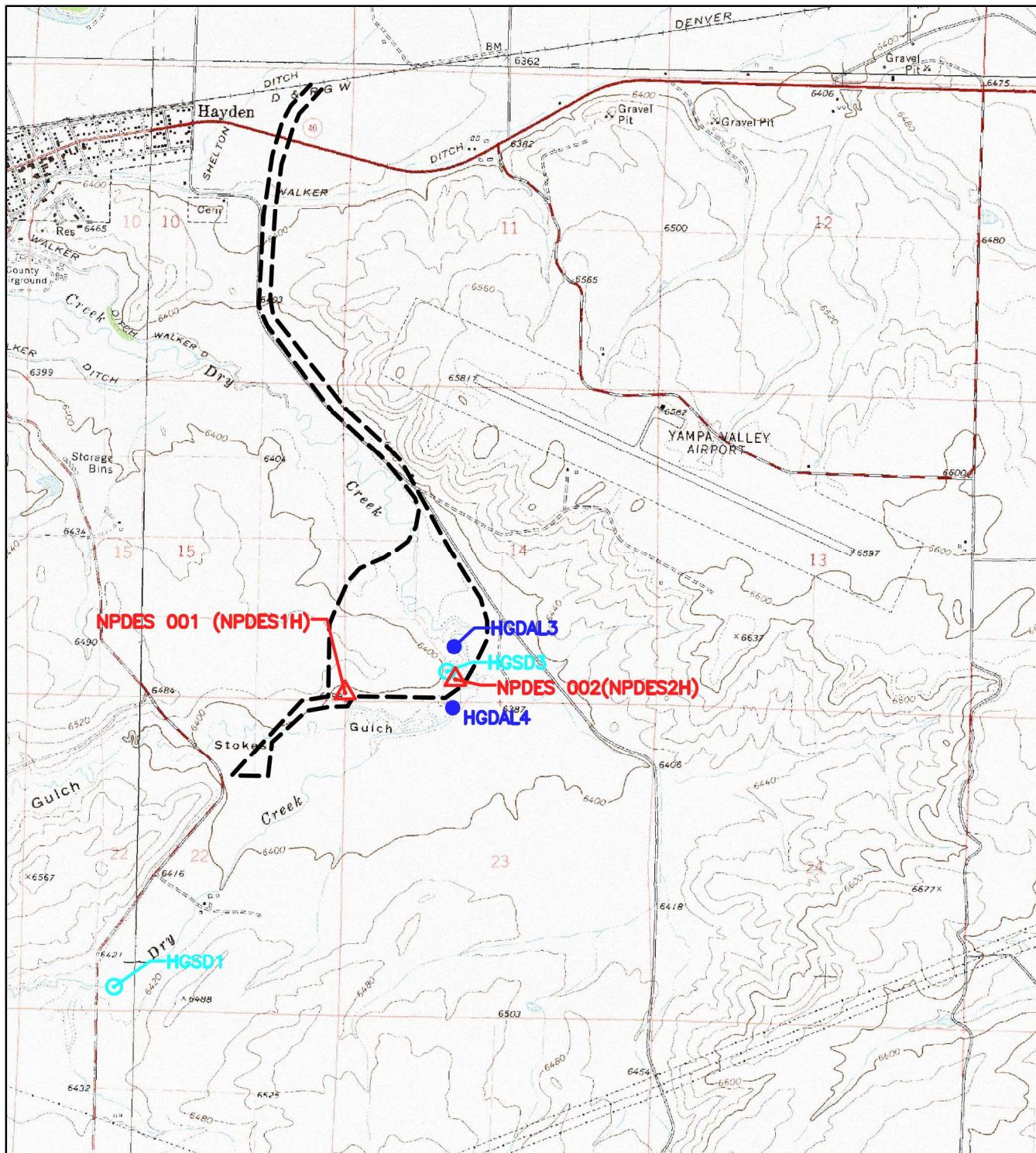
water that contacts soils derived from the Lewis Shale. There was also one exceedance of the Yampa Segment 13h agricultural use manganese standard at upstream point HGSD1. CWQCC Regulation 31 specifies that the 0.2 mg/L manganese agricultural use standard is only applicable when irrigation water is applied to soils with pH lower than 6.0. The soils in this area are alkaline and the agriculture standard is therefore not applicable. The dissolved manganese measured at HGSD1 was significantly less than the Yampa Segment 13h acute and chronic manganese standards. There were no other exceedances of the Yampa Segment 13h acute and chronic aquatic life standards or agricultural use standards in 2023.

5.0 SUMMARY

No significant hydrologic impacts attributable to the HGT were noted. The groundwater level HGDAL4 was within its historic range. Groundwater monitoring continues to demonstrate that the native Dry Creek alluvium contains naturally elevated concentrations of dissolved solids, providing further support for CDRMS's determination that it is of limited use and quality. Exceedances of the selenium chronic aquatic life standard and manganese agricultural use standard occurred at stream monitoring point HGSD1. HGSD1 is located upstream of the reclaimed Hayden Gulch site and the selenium and manganese was not influenced by any activities at the site. Dry Creek flows through the selenium laden Lewis Shale and the elevated selenium was likely the result of natural contributions and irrigation return water that contacts soils derived from the Lewis Shale. CWQCC Regulation 31 specifies that the 0.2 mg/L manganese agricultural use standard is only applicable when irrigation water is applied to soils with pH lower than 6.0. The soils in this area are alkaline and the agriculture standard is therefore not applicable. There were no exceedances of the NPDES permit limits or water quality standards at the Hayden Gulch outfalls.

T06N

R88W R87W



LEGEND

-  GROUNDWATER
-  SURFACE WATER
-  NPDES
- PERMIT BOUNDARY

0 2500'
SCALE

IMAGE SOURCE:
DIGITAL RASTER GRAPHIC COUNTY MOSAIC BY NRCS
OF ROUTT COUNTY, COLORADO FROM GEOSPATIAL
DATA GATEWAY ([HTTPS://GDG.SC.EGOV.USDA.GOV](https://gdg.sc.egov.usda.gov))
DOWNLOADED 10/16

FIGURE 1 MONITORING SITE LOCATIONS

HAYDEN GULCH TERMINAL LOADOUT
HAYDEN GULCH TERMINAL, LLC
PEABODY ENERGY

 **WWCENGINEERING**

DESIGNED BY: WWC
DRAWN BY: SDG
CHECKED BY: TNS
DATE: 2019

APPENDIX A
METEOROLOGICAL DATA

PERIOD OF RECORD PRECIPITATION SUMMARY													
Water Year	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
2023	1.23	2.06	4.12	3.79	1.04	3.11	1.37	0.52	1.69	0.29	1.33	0.44	20.99
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	1.69	1.54	1.68	1.61	1.33	1.50	1.91	1.75	1.11	1.24	1.30	1.54	18.21

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.

**Record of Climatological
Observations**
These data are quality controlled and may not
be identical to the original observations.
Generated on 02/23/2024

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)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	10	01	58	40	56	0.15		0.0		0.0								
2022	10	02	65	45	53	0.12		0.0		0.0								
2022	10	03	67	40	60	0.00		0.0		0.0								
2022	10	04	68	40	61	0.00		0.0		0.0								
2022	10	05	68	34	62	0.00		0.0		0.0								
2022	10	06	71	35	65	0.00		0.0		0.0								
2022	10	07	70	33	64	0.00		0.0		0.0								
2022	10	08	71	37	62	0.00		0.0		0.0								
2022	10	09	71	36	61	0.00		0.0		0.0								
2022	10	10	69	35	64	0.00		0.0		0.0								
2022	10	11	68	32	63	0.00		0.0		0.0								
2022	10	12	69	31	59	0.00		0.0		0.0								
2022	10	13	69	32	60	0.00		0.0		0.0								
2022	10	14	70	28	61	0.00		0.0		0.0								
2022	10	15	70	27	60	0.00		0.0		0.0								
2022	10	16	67	27	59	0.00		0.0		0.0								
2022	10	17	68	26	59	0.00		0.0		0.0								
2022	10	18	69	27	60	0.00		0.0		0.0								
2022	10	19	71	29	64	0.00		0.0		0.0								
2022	10	20	72	30	64	0.00		0.0		0.0								
2022	10	21	68	27	61	0.00		0.0		0.0								
2022	10	22	68	32	60	0.00		0.0		0.0								
2022	10	23	60	30	32	0.54		0.5		0.0								
2022	10	24	37	26	33	0.01		T		0.0								
2022	10	25	35	27	34	0.08		T		0.0								
2022	10	26	44	29	34	0.15		1.0		0.0								
2022	10	27	34	25	33	0.18		1.0		0.0								
2022	10	28	51	20	40	0.00		0.0		0.0								
2022	10	29	53	24	45	0.00		0.0		0.0								
2022	10	30	54	27	46	0.00		0.0		0.0								
2022	10	31	56	23	47	0.00		0.0		0.0								
Summary			62	31		1.23		2.5										

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 NCEI'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.

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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)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	11	01	62	28	54	0.00		0.0		0.0								
2022	11	02	63	32	53	0.00		0.0		0.0								
2022	11	03	53	28	29	0.32		2.0		2.0								
2022	11	04	35	16	30	0.09		1.0		2.0								
2022	11	05	45	26	43	0.12		0.5		0.0								
2022	11	06	43	27	32	0.36		4.0		2.0								
2022	11	07	62	31	52	0.00		0.0		0.0								
2022	11	08	62	34	46	0.00		0.0		0.0								
2022	11	09	59	29	29	0.16		2.0		2.0								
2022	11	10	32	19	25	0.04		1.0		2.0								
2022	11	11	32	11	21	0.00		0.0		2.0								
2022	11	12	41	11	30	0.00		0.0		1.0								
2022	11	13	45	15	30	0.00		0.0		0.0								
2022	11	14	34	14	24	0.00		0.0		0.0								
2022	11	15	28	9	18	0.23		4.5		3.0								
2022	11	16	30	5	18	0.00		0.0		3.0								
2022	11	17	31	11	24	0.02		0.5		3.0								
2022	11	18	24	11	11	T		0.5		3.0								
2022	11	19	32	-3	19	0.00		0.0		3.0								
2022	11	20	43	6	26	0.00		0.0		2.0								
2022	11	21	45	12	30	0.00		0.0		2.0								
2022	11	22	47	11	31	0.00		0.0		2.0								
2022	11	23	34	10	29	0.10		1.3		3.0								
2022	11	24	38	19	29	T		T		3.0								
2022	11	25	42	12	29	0.00		0.0		2.0								
2022	11	26	43	16	32	0.00		0.0		2.0								
2022	11	27	37	27	29	0.11		2.0		3.0								
2022	11	28	38	25	30	T		T		3.0								
2022	11	29	30	11	11	0.51		6.0		8.0								
2022	11	30	35	6	20	0.00		0.0		8.0								
Summary			42	17		2.06		25.3										

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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			"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)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	12	01	46	7	41	0.00		0.0		7.0								
2022	12	02	45	11	11	0.26		4.0		11.0								
2022	12	03	27	1	27	0.00		0.0		11.0								
2022	12	04	39	26	35	T		T		8.0								
2022	12	05	39	28	28	0.52		6.0		13.0								
2022	12	06	31	15	15	0.34		5.0		17.0								
2022	12	07	23	2	17	0.07		1.0		17.0								
2022	12	08	33	13	13	0.36		5.0		19.0								
2022	12	09	24	5	15	0.00		0.0		19.0								
2022	12	10	28	4	18	0.00		0.0		17.0								
2022	12	11	29	13	24	0.00		0.0		17.0								
2022	12	12	38	23	27	T		T		16.0								
2022	12	13	27	13	16	0.34		4.0		19.0								
2022	12	14	24	15	20	0.24		4.5		23.0								
2022	12	15	20	10	11	0.11		1.5		23.0								
2022	12	16	12	-3	0	0.00		0.0		22.0								
2022	12	17	14	-7	-1	0.00		0.0		21.0								
2022	12	18	18	-8	1	0.00		0.0		20.0								
2022	12	19	15	-10	4	0.00		0.0		20.0								
2022	12	20	23	-1	20	0.00		0.0		20.0								
2022	12	21	35	16	30	T		T		19.0								
2022	12	22	30	-13	-11	0.17		2.5		20.0								
2022	12	23	17	-15	17	0.00		0.0		19.0								
2022	12	24	30	17	28	0.04		1.5		19.0								
2022	12	25	36	14	32	0.00		0.0		18.0								
2022	12	26	41	29	33	0.00		0.0		17.0								
2022	12	27	40	16	32	0.26		2.0		19.0								
2022	12	28	35	27	27	0.58		5.0		23.0								
2022	12	29	29	14	19	0.03		0.5		21.0								
2022	12	30	22	6	21	0.06		1.0		21.0								
2022	12	31	39	21	31	0.74		7.0		28.0								
Summary			29	9		4.12		50.5										

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

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**Record of Climatological
Observations**
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Generated on 02/23/2024

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.
2023	01	01	40	31	37	T		T		27.0								
2023	01	02	37	26	26	0.12		1.5		25.0								
2023	01	03	26	20	23	0.19		2.5		27.0								
2023	01	04	29	13	13	0.02		0.5		26.0								
2023	01	05	29	5	19	0.00		0.0		25.0								
2023	01	06	32	17	30	0.40		6.0		31.0								
2023	01	07	38	19	19	0.16		2.0		30.0								
2023	01	08	28	11	24	0.00		0.0		30.0								
2023	01	09	38	13	33	0.00		0.0		29.0								
2023	01	10	43	31	39	0.33		4.0		28.0								
2023	01	11	39	28	28	0.28		4.0		32.0								
2023	01	12	28	8	18	0.05		1.5		33.0								
2023	01	13	33	13	23	0.00		0.0		30.0								
2023	01	14	34	15	27	0.00		0.0		29.0								
2023	01	15	38	26	34	0.10		1.0		29.0								
2023	01	16	34	24	29	0.11		2.0		30.0								
2023	01	17	30	16	25	T		T		30.0								
2023	01	18	27	20	21	0.30		4.0		33.0								
2023	01	19	21	0	12	0.00		0.0		32.0								
2023	01	20	17	2	11	0.00		0.0		32.0								
2023	01	21	20	7	11	T		0.5		31.0								
2023	01	22	23	5	15	0.00		0.0		31.0								
2023	01	23	21	3	10	0.00		0.0		30.0								
2023	01	24	23	4	10	T		T		29.0								
2023	01	25	20	7	11	0.02		0.5		29.0								
2023	01	26	22	1	17	0.08		1.5		31.0								
2023	01	27	25	17	23	0.67		8.0		39.0								
2023	01	28	32	23	23	0.26		3.0		40.0								
2023	01	29	27	8	8	0.37		5.0		44.0								
2023	01	30	9	-1	1	0.33		4.5		48.0								
2023	01	31	7	-26	-4	0.00		0.0		47.0								
Summary			28	12		3.79		52.0										

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"s" This data value failed one of NCEI's quality control tests.

"At Obs." = Temperature at time of observation

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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.
2023	02	01	16	-10	3	0.00		0.0		45.0								
2023	02	02	21	-5	10	0.00		0.0		44.0								
2023	02	03	28	-1	14	0.00		0.0		42.0								
2023	02	04	29	6	17	0.00		0.0		41.0								
2023	02	05	43	11	34	0.00		0.0		39.0								
2023	02	06	34	23	24	0.23		2.5		42.0								
2023	02	07	28	11	13	0.03		1.0		40.0								
2023	02	08	27	4	23	0.10		1.0		41.0								
2023	02	09	23	9	9	0.03		1.0		40.0								
2023	02	10	23	-1	16	0.00		0.0		40.0								
2023	02	11	31	6	19	0.00		0.0		39.0								
2023	02	12	34	9	20	0.00		0.0		38.0								
2023	02	13	26	7	20	0.00		0.0		38.0								
2023	02	14	28	9	15	0.03		0.5		38.0								
2023	02	15	26	10	12	T		T		38.0								
2023	02	16	15	-9	6	0.08		1.0		38.0								
2023	02	17	24	-2	14	0.00		0.0		38.0								
2023	02	18	27	-1	18	0.00		0.0		38.0								
2023	02	19	33	9	26	0.05		1.0		39.0								
2023	02	20	40	21	36	0.00		0.0		37.0								
2023	02	21	42	13	35	0.00		0.0		36.0								
2023	02	22	41	5	5	0.16		3.0		38.0								
2023	02	23	24	-3	20	0.11		1.5		39.0								
2023	02	24	31	13	25	0.11		1.5		40.0								
2023	02	25	34	7	24	0.00		0.0		39.0								
2023	02	26	44	16	33	0.00		0.0		38.0								
2023	02	27	37	27	29	0.00		0.0		37.0								
2023	02	28	31	21	21	0.11		1.5		37.0								
Summary			30	7		1.04		15.5										

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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)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2023	03	01	33	7	26	T		T		37.0								
2023	03	02	31	21	21	0.00		0.0		37.0								
2023	03	03	32	10	23	0.13		2.0		40.0								
2023	03	04	34	6	33	0.04		0.5		39.0								
2023	03	05	36	22	22	0.27		6.0		45.0								
2023	03	06	36	19	23	0.14		2.0		42.0								
2023	03	07	30	6	20	0.00		0.0		42.0								
2023	03	08	28	2	24	0.00		0.0		41.0								
2023	03	09	35	13	28	0.08		1.0		41.0								
2023	03	10	42	16	37	0.00		0.0		40.0								
2023	03	11	43	24	24	0.19		2.0		39.0								
2023	03	12	33	10	31	0.05		1.0		39.0								
2023	03	13	41	18	33	0.00		0.0		38.0								
2023	03	14	48	22	42	0.00		0.0		38.0								
2023	03	15	44	33	33	0.11		T		37.0								
2023	03	16	34	19	29	0.16		1.5		37.0								
2023	03	17	29	0	21	0.00		0.0		37.0								
2023	03	18	27	-1	20	0.00		0.0		37.0								
2023	03	19	37	3	34	0.00		0.0		37.0								
2023	03	20	39	23	34	0.13		1.5		37.0								
2023	03	21	39	11	35	0.32		4.0		39.0								
2023	03	22	40	29	29	0.56		6.0		42.0								
2023	03	23	40	25	30	0.18		2.0		41.0								
2023	03	24	40	19	31	0.00		0.0		40.0								
2023	03	25	32	6	24	0.40		4.5		41.0								
2023	03	26	29	4	22	0.00		0.0		41.0								
2023	03	27	28	9	23	0.00		0.0		41.0								
2023	03	28	36	5	30	0.00		0.0		41.0								
2023	03	29	49	22	45	0.00		0.0		40.0								
2023	03	30	46	30	35	0.10		1.0		40.0								
2023	03	31	37	22	32	0.25		3.0		39.0								
Summary			36	15		3.11		38.0										

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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)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2023	04	01	46	20	44	0.02		0.5		38.0								
2023	04	02	50	36	37	0.00		0.0		36.0								
2023	04	03	47	26	38	0.00		0.0		34.0								
2023	04	04	38	21	27	0.40		4.0		35.0								
2023	04	05	32	10	27	0.04		0.5		35.0								
2023	04	06	35	11	34	0.00		0.0		34.0								
2023	04	07	42	14	37	0.00		0.0		33.0								
2023	04	08	46	26	43	0.00		0.0		31.0								
2023	04	09	45	25	41	0.00		0.0		30.0								
2023	04	10	46	29	43	0.00		0.0		27.0								
2023	04	11	60	30	54	0.00		0.0		26.0								
2023	04	12	64	31	55	0.00		0.0		22.0								
2023	04	13	60	42	53	0.00		0.0		15.0								
2023	04	14	53	27	38	0.47		6.0		14.0								
2023	04	15	43	26	41	0.00		0.0		13.0								
2023	04	16	53	23	52	0.00		0.0		9.0								
2023	04	17	64	29	62	0.00		0.0		3.0								
2023	04	18	62	34	51	0.00		0.0		1.0								
2023	04	19	51	24	33	0.10		0.5		T								
2023	04	20	40	16	31	0.00		0.0		0.0								
2023	04	21	32	19	31	0.15		2.0		2.0								
2023	04	22	43	27	42	0.00		0.0		0.0								
2023	04	23	50	25	48	0.00		0.0		0.0								
2023	04	24	58	30	54	0.00		0.0		0.0								
2023	04	25	54	33	48	0.16		0.5		0.0								
2023	04	26	60	31	56	0.00		0.0		0.0								
2023	04	27	60	33	51	0.00		0.0		0.0								
2023	04	28	55	29	54	0.03		0.0		0.0								
2023	04	29	70	31	69	0.00		0.0		0.0								
2023	04	30	73	33	69	0.00		0.0		0.0								
Summary			51	26		1.37		14.0										

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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)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2023	05	01	78	40	68	0.00		0.0		0.0								
2023	05	02	73	46	64	0.00		0.0		0.0								
2023	05	03	75	41	72	0.00		0.0		0.0								
2023	05	04	72	44	58	0.05		0.0		0.0								
2023	05	05	66	37	60	0.00		0.0		0.0								
2023	05	06	62	34	59	0.22		0.0		0.0								
2023	05	07	60	34	55	0.02		0.0		0.0								
2023	05	08	67	35	64	T		0.0		0.0								
2023	05	09	74	36	69	0.00		0.0		0.0								
2023	05	10	74	42	63	0.00		0.0		0.0								
2023	05	11	63	44	56	0.13		0.0		0.0								
2023	05	12	62	45	59	0.02		0.0		0.0								
2023	05	13	69	39	65	0.00		0.0		0.0								
2023	05	14	72	43	62	0.00		0.0		0.0								
2023	05	15	74	43	62	T		0.0		0.0								
2023	05	16	73	40	66	0.08		0.0		0.0								
2023	05	17	76	41	73	0.00		0.0		0.0								
2023	05	18	73	43	65	0.00		0.0		0.0								
2023	05	19	72	41	68	0.00		0.0		0.0								
2023	05	20	74	42	71	0.00		0.0		0.0								
2023	05	21	77	43	70	0.00		0.0		0.0								
2023	05	22	74	42	66	0.00		0.0		0.0								
2023	05	23	74	42	68	0.00		0.0		0.0								
2023	05	24	74	44	62	0.00		0.0		0.0								
2023	05	25	76	43	70	T		0.0		0.0								
2023	05	26	80	40	73	0.00		0.0		0.0								
2023	05	27	73	42	62	0.00		0.0		0.0								
2023	05	28	72	41	61	0.00		0.0		0.0								
2023	05	29	77	40	73	0.00		0.0		0.0								
2023	05	30	79	37	75	0.00		0.0		0.0								
2023	05	31	76	42	64	0.00		0.0		0.0								
Summary			72	41		0.52		0.0										

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Generated on 02/23/2024

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)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2023	06	01	69	43	60	0.00		0.0		0.0								
2023	06	02	60	47	50	0.29		0.0		0.0								
2023	06	03	68	47	63	0.04		0.0		0.0								
2023	06	04	68	44	65	0.00		0.0		0.0								
2023	06	05	76	46	65	0.13		0.0		0.0								
2023	06	06	82	45	65	0.00		0.0		0.0								
2023	06	07	69	44	58	0.00		0.0		0.0								
2023	06	08	76	46	75	0.00		0.0		0.0								
2023	06	09	79	42	75	0.00		0.0		0.0								
2023	06	10	75	43	69	0.00		0.0		0.0								
2023	06	11	76	44	71	0.00		0.0		0.0								
2023	06	12	73	51	57	0.09		0.0		0.0								
2023	06	13	65	42	56	0.09		0.0		0.0								
2023	06	14	74	45	60	0.23		0.0		0.0								
2023	06	15	66	42	55	0.30		0.0		0.0								
2023	06	16	68	42	65	0.39		0.0		0.0								
2023	06	17	68	42	60	0.13		0.0		0.0								
2023	06	18	78	44	75	0.00		0.0		0.0								
2023	06	19	83	47	80	0.00		0.0		0.0								
2023	06	20	81	44	79	0.00		0.0		0.0								
2023	06	21	83	42	81	0.00		0.0		0.0								
2023	06	22	84	43	81	0.00		0.0		0.0								
2023	06	23	81	43	75	0.00		0.0		0.0								
2023	06	24	76	38	74	0.00		0.0		0.0								
2023	06	25	85	43	83	0.00		0.0		0.0								
2023	06	26	85	44	84	0.00		0.0		0.0								
2023	06	27	84	50	82	0.00		0.0		0.0								
2023	06	28	83	39	82	0.00		0.0		0.0								
2023	06	29	82	43	66	T		0.0		0.0								
2023	06	30	76	41	71	0.00		0.0		0.0								
Summary			76	44		1.69		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 NCEI'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.

**Record of Climatological
Observations**
These data are quality controlled and may not
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Generated on 02/23/2024

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.
2023	07	01	82	44	76	0.00		0.0		0.0								
2023	07	02	86	47	85	0.03		0.0		0.0								
2023	07	03	87	47	78	0.00		0.0		0.0								
2023	07	04	81	47	64	0.02		0.0		0.0								
2023	07	05	81	49	78	0.03		0.0		0.0								
2023	07	06	78	53	71	0.00		0.0		0.0								
2023	07	07	84	50	74	0.00		0.0		0.0								
2023	07	08	84	50	71	0.00		0.0		0.0								
2023	07	09	88	50	86	0.00		0.0		0.0								
2023	07	10	88	51	83	0.00		0.0		0.0								
2023	07	11	89	49	87	0.00		0.0		0.0								
2023	07	12	91	50	87	0.00		0.0		0.0								
2023	07	13	91	52	89	0.00		0.0		0.0								
2023	07	14	89	47	85	0.00		0.0		0.0								
2023	07	15	86	47	85	0.00		0.0		0.0								
2023	07	16	91	45	89	0.00		0.0		0.0								
2023	07	17	96	51	89	0.00		0.0		0.0								
2023	07	18	89	55	80	0.00		0.0		0.0								
2023	07	19	89	55	80	0.00		0.0		0.0								
2023	07	20	85	56	78	0.05		0.0		0.0								
2023	07	21	87	48	80	0.00		0.0		0.0								
2023	07	22	90	48	89	0.00		0.0		0.0								
2023	07	23	89	53	85	0.00		0.0		0.0								
2023	07	24	94	52	92	0.00		0.0		0.0								
2023	07	25	92	57	87	0.00		0.0		0.0								
2023	07	26	88	56	77	0.00		0.0		0.0								
2023	07	27	88	54	84	0.16		0.0		0.0								
2023	07	28	92	60	88	0.00		0.0		0.0								
2023	07	29	93	56	88	0.00		0.0		0.0								
2023	07	30	92	59	87	0.00		0.0		0.0								
2023	07	31	87	62	75	0.00		0.0		0.0								
Summary			88	52		0.29		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 NCEI'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.

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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)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2023	08	01	81	56	67	0.19		0.0		0.0								
2023	08	02	81	59	77	0.22		0.0		0.0								
2023	08	03	79	54	75	0.30		0.0		0.0								
2023	08	04	83	49	78	0.05		0.0		0.0								
2023	08	05	84	48	78	0.00		0.0		0.0								
2023	08	06	82	43	76	0.00		0.0		0.0								
2023	08	07	76	48	71	0.07		0.0		0.0								
2023	08	08	80	46	69	0.00		0.0		0.0								
2023	08	09	81	41	80	0.00		0.0		0.0								
2023	08	10	85	45	77	0.00		0.0		0.0								
2023	08	11	86	51	78	0.00		0.0		0.0								
2023	08	12	85	52	78	0.02		0.0		0.0								
2023	08	13	82	52	79	0.00		0.0		0.0								
2023	08	14	85	47	82	0.00		0.0		0.0								
2023	08	15	91	46	89	0.00		0.0		0.0								
2023	08	16	92	51	83	0.00		0.0		0.0								
2023	08	17	92	52	89	0.00		0.0		0.0								
2023	08	18	90	60	69	0.02		0.0		0.0								
2023	08	19	88	56	80	0.00		0.0		0.0								
2023	08	20	92	57	90	0.00		0.0		0.0								
2023	08	21	91	55	88	0.00		0.0		0.0								
2023	08	22	88	57	61	0.23		0.0		0.0								
2023	08	23	85	51	79	0.02		0.0		0.0								
2023	08	24	81	58	75	0.13		0.0		0.0								
2023	08	25	77	55	67	0.06		0.0		0.0								
2023	08	26	85	51	83	0.02		0.0		0.0								
2023	08	27	88	56	82	0.00		0.0		0.0								
2023	08	28	84	50	81	0.00		0.0		0.0								
2023	08	29	87	52	82	0.00		0.0		0.0								
2023	08	30	90	53	85	0.00		0.0		0.0								
2023	08	31	89	46	85	0.00		0.0		0.0								
Summary			85	52		1.33		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

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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)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2023	09	01	85	50	81	0.00		0.0		0.0								
2023	09	02	84	50	80	0.00		0.0		0.0								
2023	09	03	80	50	72	0.15		0.0		0.0								
2023	09	04	72	53	57	0.07		0.0		0.0								
2023	09	05	76	40	70	0.03		0.0		0.0								
2023	09	06	85	43	80	0.00		0.0		0.0								
2023	09	07	82	40	77	0.00		0.0		0.0								
2023	09	08	83	41	79	0.00		0.0		0.0								
2023	09	09	84	42	80	0.00		0.0		0.0								
2023	09	10	81	55	74	0.00		0.0		0.0								
2023	09	11	76	44	70	0.00		0.0		0.0								
2023	09	12	78	42	75	0.00		0.0		0.0								
2023	09	13	78	40	68	0.00		0.0		0.0								
2023	09	14	68	50	58	0.04		0.0		0.0								
2023	09	15	72	39	62	0.03		0.0		0.0								
2023	09	16	77	38	72	0.00		0.0		0.0								
2023	09	17	78	41	71	0.00		0.0		0.0								
2023	09	18	78	42	58	0.03		0.0		0.0								
2023	09	19	73	42	54	0.05		0.0		0.0								
2023	09	20	76	41	73	0.04		0.0		0.0								
2023	09	21	76	47	73	0.00		0.0		0.0								
2023	09	22	73	40	57	0.00		0.0		0.0								
2023	09	23	67	30	63	0.00		0.0		0.0								
2023	09	24	73	31	67	0.00		0.0		0.0								
2023	09	25	78	35	70	0.00		0.0		0.0								
2023	09	26	80	38	76	0.00		0.0		0.0								
2023	09	27	82	39	75	0.00		0.0		0.0								
2023	09	28	82	41	76	0.00		0.0		0.0								
2023	09	29	80	37	75	0.00		0.0		0.0								
2023	09	30	82	39	71	0.00		0.0		0.0								
Summary			78	42		0.44		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

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APPENDIX B
GROUNDWATER QULITY DATA

Table B.1. Analytical results for monitoring well HDAL4 for water year 2023.

Well	Date	Depth to Water ft btoc	SPC, Field N UMHOS/CM	pH, Field N S.U.	Temp., Field N DEG-C	Iron D MG/L	Manganese D MG/L	TDS, Lab N MG/L
HGDAL4	3/13/2024	4.65	5030	7.7	4.7	<0.12	0.199	4540

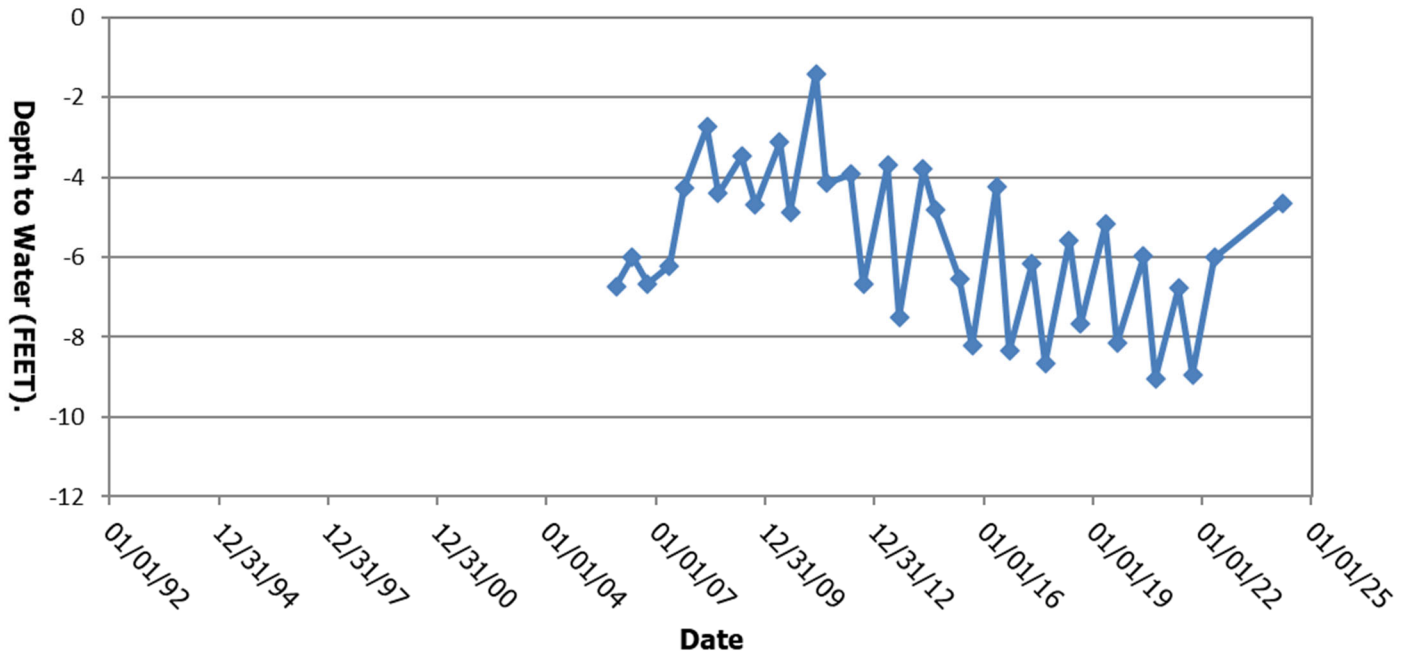
Note

HGDAL3 was abandoned as part of approved Bond Release SL-2

APPENDIX C

GROUNDWATER HYDROGRAPHS

HGDAL4



APPENDIX D

SURFACE WATER QUALITY DATA

Table D.1 Stream point analytical data for water year 2023.

Location	Date	Flow N MGD	SpC, Field N UMHDS/CM	pH, Field N S.U.	Temp., Field N C	Iron TR MG/L	Manganese D MG/L	Nitrate N. N MG/L	Nitrite N. N MG/L	Selenium D UG/L	Selenium TR UG/L	TDS, Lab N MG/L	TSS N MG/L
HGSD1	5/24/2023	8.94	1825	8.5	13.1					1.46	1.37	1770	
HGSD1	6/28/2023	0.044	4238	7.5	12.4	0.334	0.266	0.436	< 0.01	7.74	8.21	3360	13
HGSD1	7/18/2023	0.002	4214	7.6	15.6					10.8	11.7	3590	
HGSD1	9/7/2023	0											
HGSD3	6/28/2023	0.087	2774	7.9	15.1	< 0.12	< 0.02	0.035	< 0.01	3.24	2.98	2000	< 5
HGSD3	9/7/2023	0											
Yampa Segment 13h Standards - Acute		-	-	6.5 - 9.0	-	-	4.738	100	0.05	18.4	-	-	-
Yampa Segment 13h Standards - Chronic		-	-	-	-	1	2.618	-	-	4.6	-	-	-
Agricultural Use Standards		-	-	-	-	-	0.2	100	10	20	-	-	-

Notes

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

Table D.2 NPDES Outfall monitoring data for water year 2023.

Location	Date	Flow N MGD	pH, Field N S.U.	Oil & Grease Y / N	Iron TR MG/L	TDS N MG/L	TSS N MG/L	Settleable Solids D ML/L
NPDES1H	1/23/2023	0						
NPDES1H	2/9/2023	0						
NPDES1H	3/21/2023	0						
NPDES1H	4/21/2023	0						
NPDES1H	5/5/2023	0						
NPDES1H	5/25/2023	0						
NPDES1H	6/27/2023	0						
NPDES1H	7/19/2023	0						
NPDES1H	8/22/2023	0						
NPDES1H	9/8/2023	0						
NPDES1H	11/17/2022	0						
NPDES1H	12/6/2022	0						
NPDES2H	1/23/2023	0						
NPDES2H	2/9/2023	0						
NPDES2H	3/21/2023	0						
NPDES2H	4/21/2023	0.005	7.5	N	0.622	1390	15	< 0.52
NPDES2H	4/27/2023	0.005	8.8	N	0.245	1610	8	< 0.52
NPDES2H	5/5/2023	0.002	7.5	N	0.0369	2550	15	< 0.5
NPDES2H	5/25/2023	0						
NPDES2H	6/27/2023	0						
NPDES2H	7/19/2023	0						
NPDES2H	8/22/2023	0						
NPDES2H	9/8/2023	0						
NPDES2H	10/21/2022	0						
NPDES2H	11/17/2022	0						
NPDES2H	12/6/2022	0						
NPDES Limit	Daily Max		6.5 - 9.0	10	NA	Report	30	0.5
	Monthly Avg.		NA	NA	1	Report	70	Report
Yampa Segment 13h Standards - Acute			6.5 - 9.0	-	-	-	-	-
Yampa Segment 13h Standards - Chronic			-	-	1	-	-	-
Agricultural Use Standards			-	-	-	-	-	-

Note

Bold Analyte exceeds the NPDES limit, Segment 13h aquatic life standard, or Agricultural Use standard