

2020 ANNUAL HYDROLOGY REPORT

HAYDEN GULCH TERMINAL LOADOUT

PERMIT C-92-081

MARCH 2021



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

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1.0 INTRODUCTION

This Annual Hydrology Report presents the hydrologic monitoring data collected during the 2020 water year (October 2019 - September 2020) 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.

2.0 METEOROLOGICAL

Meteorological data for the 2020 water year is presented in Appendix A. The 2020 data was obtained from NOAA weather station USC00053867 located in Hayden, Colorado (www.ncdc.noaaa.gov/cdo-wb/). A total of 18.19 inches of precipitation was measured in 2020, which is 0.8 inches less than the 1981-2020 average of 18.27 inches. January through March were wetter than normal, but the remaining months were drier than average. Snowpack runoff, as estimated by totaling November through March precipitation, was 10.57 inches, which was 3.02 inches above the 1981-2020 average of 7.55 inches.

3.0 GROUNDWATER

The HGT groundwater monitoring program includes two monitoring wells. The following table identifies the water bearing unit the wells are screened in and their required monitoring frequency and parameter list. The monitoring well locations are 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	
HGDAL3	Dry Creek Alluvium	A	A	GW
HGDAL4	Dry Creek Alluvium	A	A	GW

Note

A: Annual

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

3.1 WATER LEVELS

The static water levels measured during the 2020 water year are included in Appendix B with the groundwater quality data. Water level hydrographs for each of the wells are also provided in Appendix C. Although the static water levels were only required to be monitored annually, they were measured twice in 2020. Both static water level measurements at well HGDAL3 were within the historic range. However, at HGDAL4 the water level measured during the fall monitoring event was the lowest in its period record (9.04 ft btoc). The HGT has been inactive for several year and no alluvial groundwater was utilized by the facility in 2020. The water table in the 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 low water level measured at HGSDAL4 in the fall was likely just a reflection of the water tables natural response to 2020's dry summer and fall.

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 permeability, 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 the two alluvial monitoring wells. The monitoring conducted 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 2020 water monitoring conducted at stream point HGSD1 and HGSD3 are provided in Table D.1. Analytical results for NPDES outfalls HPDES1H and NPDES2H are provided in Table D.2. A temporary modification of the chronic dissolved selenium aquatic standard to current conditions is in place for Yampa Segment 13h (see CWQCC Regulation 33). There were no exceedances of NPDES permit limits or instream water quality standards at the outfalls in 2020 as neither one discharged. Dry weather conditions have prevented discharges from both outfalls since 2011. One exceedance of the Segment 13h aquatic life standards occurred at the HGT stream points in 2020. The total recoverable chronic iron standard (1 mg/L) was exceeded at monitoring point HGSD1 on June 2nd. HGSD1 is located upstream of

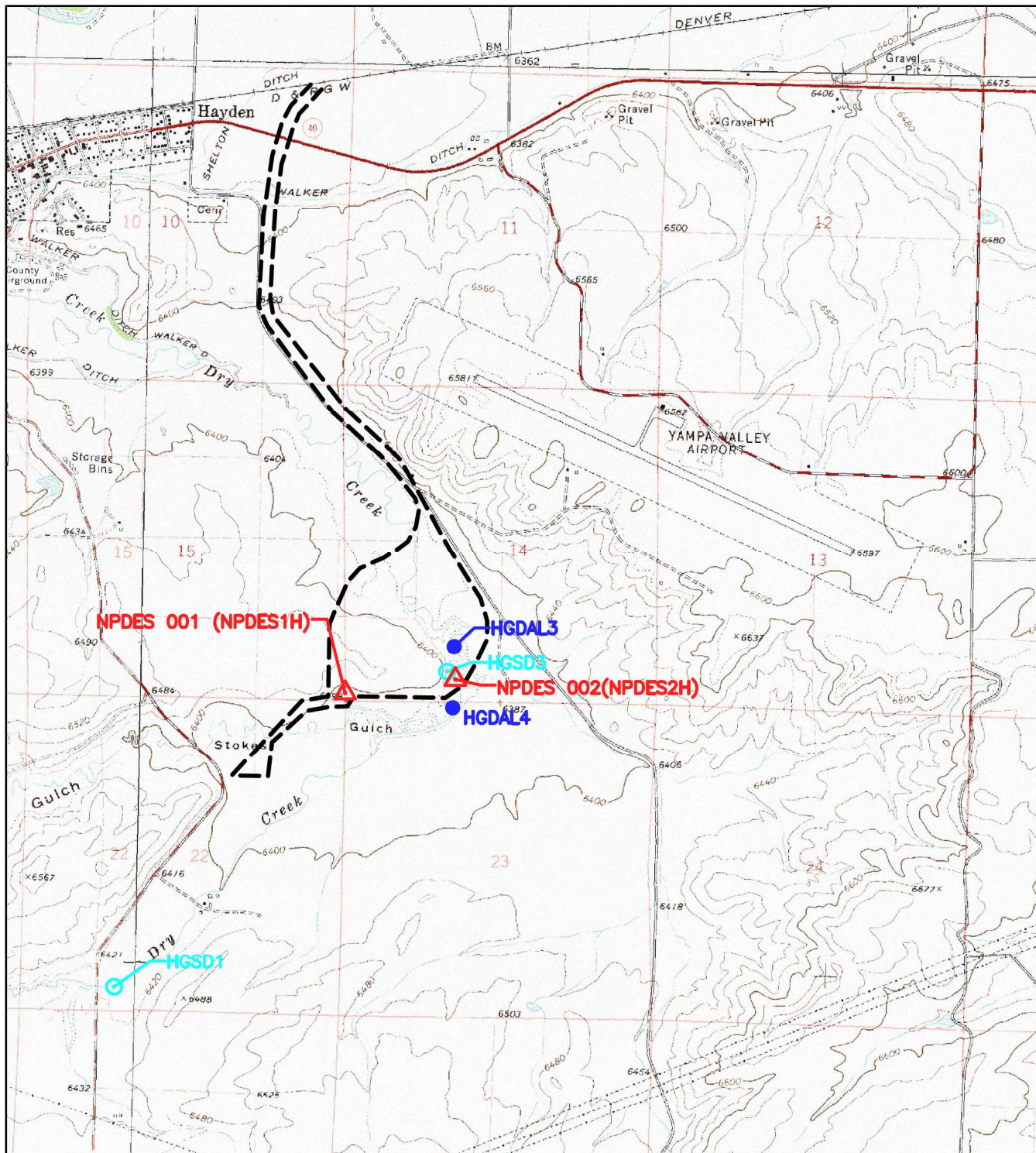
HGT and measures Dry Creeks water quality prior to any potential influence from HGT. The total recoverable iron measured at downstream point HGSD3 during the same June 2nd event was compliant with the chronic standard. Total recoverable iron at the Dry Creek stream points is strongly correlated (r^2 : 0.98) with suspended solids which become naturally elevated during rain and snow melt runoff events (Figure D.1). This suggests the iron measured at HGSD1 was the result of natural erosional processes that occur within the watershed. There were no other exceedances of the Yampa Segment 13h aquatic life or agricultural use standards at the HGT surface water monitoring points.

5.0 SUMMARY

No significant hydrologic impacts attributable to the HGT were noted during 2020. Groundwater levels generally fell within their historic range and exhibited typical seasonal fluctuations. 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. A single exceedance of the total recoverable iron chronic aquatic life standard occurred at upstream monitoring point HGSD1. There were no exceedances of the NPDES permit limits or water quality standards at the HGT outfalls or downstream monitoring point.

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

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

FIGURE 1 MONITORING SITE LOCATIONS

HAYDEN GULCH TERMINAL LOADOUT
HAYDEN GULCH TERMINAL, LLC
PEABODY ENERGY



APPENDIX A
METEOROLOGICAL DATA

PERIOD OF RECORD PRECIPITATION SUMMARY													
Water Year	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
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	1.72	1.57	1.60	1.58	1.34	1.45	1.96	1.77	1.13	1.28	1.31	1.55	18.27

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.

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

Generated on 02/02/2021

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.
2019	10	01	72	27	67	0.00		0.0		0.0								
2019	10	02	67	28	52	0.00		0.0		0.0								
2019	10	03	75	25	69	0.00		0.0		0.0								
2019	10	04	73	33	65	0.00		0.0		0.0								
2019	10	05	66	22	54	0.00		0.0		0.0								
2019	10	06	58	28	50	0.00		0.0		0.0								
2019	10	07	69	23	61	0.00		0.0		0.0								
2019	10	08	71	23	66	0.00		0.0		0.0								
2019	10	09	72	34	46	0.00		0.0		0.0								
2019	10	10	46	20	25	0.09		1.5		0.0								
2019	10	11	44	6	39	0.00		0.0		0.0								
2019	10	12	59	16	52	0.00		0.0		0.0								
2019	10	13	65	18	57	0.00		0.0		0.0								
2019	10	14	65	23	56	0.00		0.0		0.0								
2019	10	15	64	21	58	0.00		0.0		0.0								
2019	10	16	71	28	64	0.00		0.0		0.0								
2019	10	17	72	29	64	0.00		0.0		0.0								
2019	10	18	64	29	43	0.21		2.0		0.0								
2019	10	19	54	22	47	0.00		0.0		0.0								
2019	10	20	48	25	32	0.27		2.0		2.0								
2019	10	21	37	25	35	0.40		4.0		4.0								
2019	10	22	38	23	34	0.00		0.0		2.0								
2019	10	23	44	28	35	0.08		T		2.0								
2019	10	24	37	16	32	0.10		1.0		1.0								
2019	10	25	49	19	43	0.00		0.0		0.0								
2019	10	26	64	24	54	0.00		0.0		0.0								
2019	10	27	54	18	18	0.30		6.0		6.0								
2019	10	28	19	5	17	0.13		2.0		6.0								
2019	10	29	21	8	8	0.27		2.5		6.0								
2019	10	30	12	-6	6	0.05		0.5		6.0								
2019	10	31	30	-4	24	0.00		0.0		6.0								
Summary			54	21		1.90		21.5										

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.

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

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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)	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.
2019	11	01	35	12	25	0.00		0.0		6.0								
2019	11	02	41	10	32	0.00		0.0		4.0								
2019	11	03	45	18	37	0.00		0.0		3.0								
2019	11	04	49	30	40	0.00		0.0		2.0								
2019	11	05	51	20	37	0.00		0.0		1.0								
2019	11	06	54	21	40	0.00		0.0		0.0								
2019	11	07	51	17	36	0.00		0.0		0.0								
2019	11	08	65	36	57	0.00		0.0		0.0								
2019	11	09	61	24	42	0.00		0.0		0.0								
2019	11	10	58	22	37	0.00		0.0		0.0								
2019	11	11	41	20	25	0.00		0.0		0.0								
2019	11	12	50	13	36	0.00		0.0		0.0								
2019	11	13	52	23	40	0.00		0.0		0.0								
2019	11	14	53	19	37	0.00		0.0		0.0								
2019	11	15	59	22	47	0.00		0.0		0.0								
2019	11	16	49	25	39	0.00		0.0		0.0								
2019	11	17	51	18	36	0.00		0.0		0.0								
2019	11	18	52	28	40	0.00		0.0		0.0								
2019	11	19	62	23	50	0.00		0.0		0.0								
2019	11	20	50	34	39	0.14		0.0		0.0								
2019	11	21	39	27	29	0.16		1.5		1.0								
2019	11	22	29	23	28	0.18		3.0		3.0								
2019	11	23	39	18	29	0.00		0.0		2.0								
2019	11	24	43	15	33	0.00		0.0		2.0								
2019	11	25	38	23	31	0.05		0.5		2.0								
2019	11	26	38	17	17	0.45		5.0		7.0								
2019	11	27	35	2	25	0.00		0.0		7.0								
2019	11	28	45	22	35	0.00		0.0		5.0								
2019	11	29	51	23	30	0.05		0.5		2.0								
2019	11	30	30	19	19	0.34		4.5		6.0								
Summary			47	21		1.37		15.0										

Empty, or blank, cells indicate that a data observation was not reported.
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			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.
2019	12	01	30	5	20	0.00		0.0		5.0								
2019	12	02	39	10	29	0.00		0.0		4.0								
2019	12	03	43	25	27	0.00		0.0		3.0								
2019	12	04	41	21	29	0.00		0.0		2.0								
2019	12	05	34	26	32	0.65		7.0		9.0								
2019	12	06	38	28	30	0.00		0.0		8.0								
2019	12	07	37	12	32	0.00		0.0		7.0								
2019	12	08	37	28	29	0.25		1.0		8.0								
2019	12	09	32	27	27	T		0.5		8.0								
2019	12	10	34	19	27	0.00		0.0		8.0								
2019	12	11	29	10	25	T		T		8.0								
2019	12	12	33	16	30	0.15		2.0		10.0								
2019	12	13	36	28	28	0.32		3.0		12.0								
2019	12	14	31	24	26	0.55		8.5		19.0								
2019	12	15	26	0	5	0.02		0.5		19.0								
2019	12	16	15	-6	4	0.00		0.0		19.0								
2019	12	17	18	-8	11	0.00		0.0		19.0								
2019	12	18	22	2	16	0.00		0.0		19.0								
2019	12	19	21	2	13	0.00		0.0		16.0								
2019	12	20	28	4	20	0.00		0.0		15.0								
2019	12	21	32	11	26	0.00		0.0		14.0								
2019	12	22	33	15	24	0.00		0.0		14.0								
2019	12	23	28	14	26	0.00		0.0		14.0								
2019	12	24	38	16	26	0.00		0.0		13.0								
2019	12	25	37	24	29	0.24		2.5		15.0								
2019	12	26	29	16	16	T		0.5		15.0								
2019	12	27	16	3	8	0.00		0.0		15.0								
2019	12	28	19	7	12	0.38		4.5		19.0								
2019	12	29	14	0	0	0.04		0.8		19.0								
2019	12	30	20	0	12	0.00		0.0		19.0								
2019	12	31	18	-1	14	0.00		0.0		19.0								
Summary			29	12		2.60		30.8										

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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 02/02/2021

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.
2020	01	01	26	14	22	0.35		4.5		22.0								
2020	01	02	29	18	19	0.16		2.5		23.0								
2020	01	03	27	16	24	0.00		0.0		23.0								
2020	01	04	31	9	18	0.00		0.0		20.0								
2020	01	05	28	5	20	0.00		0.0		19.0								
2020	01	06	31	10	12	0.05		0.5		19.0								
2020	01	07	33	12	16	0.00		0.0		18.0								
2020	01	08	28	8	27	0.00		0.0		18.0								
2020	01	09	28	19	23	0.31		3.0		21.0								
2020	01	10	23	3	3	0.12		2.0		22.0								
2020	01	11	15	-7	13	0.06		1.0		22.0								
2020	01	12	23	13	19	0.10		2.0		23.0								
2020	01	13	28	12	24	0.06		1.0		21.0								
2020	01	14	38	7	28	0.00		0.0		20.0								
2020	01	15	28	9	11	0.20		5.0		24.0								
2020	01	16	30	9	17	0.00		0.0		22.0								
2020	01	17	36	10	21	0.17		1.5		23.0								
2020	01	18	22	-1	15	0.00		0.0		22.0								
2020	01	19	26	3	13	0.00		0.0		21.0								
2020	01	20	28	3	18	0.00		0.0		21.0								
2020	01	21	36	16	29	0.06		T		21.0								
2020	01	22	34	26	28	0.20		3.0		22.0								
2020	01	23	28	20	26	0.21		3.0		23.0								
2020	01	24	30	13	25	0.00		0.0		22.0								
2020	01	25	35	23	24	0.07		1.0		21.0								
2020	01	26	38	17	30	0.00		0.0		20.0								
2020	01	27	31	22	26	0.25		2.0		22.0								
2020	01	28	34	13	18	0.00		0.0		22.0								
2020	01	29	29	17	26	0.00		0.0		21.0								
2020	01	30	27	17	17	0.16		3.0		23.0								
2020	01	31	25	5	20	0.00		0.0		23.0								
Summary			29	12		2.53		35.0										

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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.
2020	02	01	32	14	25	0.00		0.0		22.0								
2020	02	02	33	6	23	0.00		0.0		22.0								
2020	02	03	38	14	14	0.07		0.5		22.0								
2020	02	04	14	1	1	0.00		0.0		22.0								
2020	02	05	12	-10	9	T		T		22.0								
2020	02	06	21	8	21	0.67		10.5		31.0								
2020	02	07	36	8	35	0.67		4.0		33.0								
2020	02	08	44	29	29	0.00		0.0		29.0								
2020	02	09	29	14	14	0.17		2.0		31.0								
2020	02	10	29	-4	10	0.00		0.0		31.0								
2020	02	11	10	-13	3	0.00		0.0		31.0								
2020	02	12	26	1	11	0.00		0.0		29.0								
2020	02	13	34	6	19	0.07		1.5		29.0								
2020	02	14	31	1	26	0.00		0.0		28.0								
2020	02	15	31	10	25	0.00		0.0		28.0								
2020	02	16	32	21	29	0.20		4.0		32.0								
2020	02	17	30	19	19	0.23		3.0		32.0								
2020	02	18	19	-8	8	0.00		0.0		32.0								
2020	02	19	18	-1	5	0.00		0.0		32.0								
2020	02	20		-20		0.00		0.0		32.0								
2020	02	21	31	-17	16	0.00		0.0		29.0								
2020	02	22	33	2	26	0.00		0.0		29.0								
2020	02	23	34	22	25	0.23		2.5		30.0								
2020	02	24	26	9	20	0.09		1.5		29.0								
2020	02	25	20	4	11	T		T		29.0								
2020	02	26	24	-6	20	0.00		0.0		28.0								
2020	02	27	32	9	25	0.00		0.0		28.0								
2020	02	28	34	5	24	0.00		0.0		28.0								
2020	02	29	39	6	30	0.00		0.0		28.0								
Summary			28	4		2.40		29.5										

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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.
2020	03	01	41	15	32	T		T		27.0								
2020	03	02	32	19	23	0.02		0.3		26.0								
2020	03	03	33	4	27	0.00		0.0		26.0								
2020	03	04	34	11	28	0.00		0.0		26.0								
2020	03	05	40	12	32	0.00		0.0		26.0								
2020	03	06	42	21	34	0.00		0.0		25.0								
2020	03	07	51	22	42	0.00		0.0		24.0								
2020	03	08	45	32	33	0.15		0.0		21.0								
2020	03	09	40	30	35	0.15		0.5		21.0								
2020	03	10	43	29	36	T		0.0		19.0								
2020	03	11	43	24	40	0.01		0.0		18.0								
2020	03	12	48	29	39	0.11		0.0		16.0								
2020	03	13	43	25	38	0.07		0.5		15.0								
2020	03	14	45	33	44	0.03		0.0		14.0								
2020	03	15	52	27	47	0.00		0.0		13.0								
2020	03	16	52	23	42	0.00		0.0		12.0								
2020	03	17	54	29	51	0.00		0.0		11.0								
2020	03	18	51	26	39	0.00		0.0		9.0								
2020	03	19	39	29	32	0.17		T		8.0								
2020	03	20	40	25	32	0.29		3.0		7.0								
2020	03	21	45	21	39	0.00		0.0		6.0								
2020	03	22	43	28	38	0.45		4.0		10.0								
2020	03	23	43	23	32	0.19		1.5		9.0								
2020	03	24	48	29	46	T		T		6.0								
2020	03	25	46	32	41	0.00		0.0		5.0								
2020	03	26	52	24	42	0.00		0.0		3.0								
2020	03	27	42	26	33	0.03		T		3.0								
2020	03	28	39	21	35	T		T		2.0								
2020	03	29	45	24	39	0.00		0.0		T								
2020	03	30	49	26	47	0.00		0.0		0.0								
2020	03	31	57	31	52	0.00		0.0		0.0								
Summary			44	24		1.67		9.8										

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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.
2020	04	01	62	33	54	0.00		0.0		0.0								
2020	04	02	54	23	26	0.32		4.0		4.0								
2020	04	03	39	6	37	0.00		0.0		0.0								
2020	04	04	54	20	50	0.00		0.0		0.0								
2020	04	05	60	32	56	0.00		0.0		0.0								
2020	04	06	63	30	57	0.00		0.0		0.0								
2020	04	07	63	29	58	0.00		0.0		0.0								
2020	04	08	63	27	59	0.00		0.0		0.0								
2020	04	09	69	32	66	0.00		0.0		0.0								
2020	04	10	66	34	55	0.00		0.0		0.0								
2020	04	11	62	26	52	0.00		0.0		0.0								
2020	04	12	52	21	31	0.31		1.0		0.0								
2020	04	13	31	15	27	T		T		0.0								
2020	04	14	40	10	38	0.00		0.0		0.0								
2020	04	15	42	28	35	0.04		T		0.0								
2020	04	16	35	25	29	0.42		4.0		2.0								
2020	04	17	44	8	42	0.00		0.0		0.0								
2020	04	18	51	28	40	0.07		0.0		0.0								
2020	04	19	56	28	42	0.02		0.0		0.0								
2020	04	20	59	29	56	0.00		0.0		0.0								
2020	04	21	64	29	56	0.00		0.0		0.0								
2020	04	22	62	28	58	0.00		0.0		0.0								
2020	04	23	59	34	44	0.10		0.0		0.0								
2020	04	24	55	36	53	0.25		0.5		0.0								
2020	04	25	61	34	58	0.00		0.0		0.0								
2020	04	26	58	34	54	0.06		0.0		0.0								
2020	04	27	71	36	67	0.16		0.0		0.0								
2020	04	28	67	43	64	T		0.0		0.0								
2020	04	29	73	40	73	0.00		0.0		0.0								
2020	04	30	77	41	72	0.00		0.0		0.0								
Summary			57	28		1.75		9.5										

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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.
2020	05	01	74	43	70	0.08		0.0		0.0								
2020	05	02	70	42	54	0.14		0.0		0.0								
2020	05	03	68	40	61	0.01		0.0		0.0								
2020	05	04	61	33	54	0.30		T		0.0								
2020	05	05	64	26	61	0.00		0.0		0.0								
2020	05	06	72	34	69	0.00		0.0		0.0								
2020	05	07	69	36	54	0.00		0.0		0.0								
2020	05	08	63	27	59	0.00		0.0		0.0								
2020	05	09	63	29	59	0.00		0.0		0.0								
2020	05	10	70	27	65	0.00		0.0		0.0								
2020	05	11	65	41	52	0.55		0.5		0.0								
2020	05	12	71	41	67	0.00		0.0		0.0								
2020	05	13	67	41	57	0.00		0.0		0.0								
2020	05	14	63	40	55	0.17		0.0		0.0								
2020	05	15	62	42	45	0.24		0.0		0.0								
2020	05	16	62	38	60	0.00		0.0		0.0								
2020	05	17	77	39	74	0.00		0.0		0.0								
2020	05	18	81	45	79	0.00		0.0		0.0								
2020	05	19	79	39	74	0.00		0.0		0.0								
2020	05	20	74	51	61	0.00		0.0		0.0								
2020	05	21	65	30	64	0.00		0.0		0.0								
2020	05	22	73	36	71	0.00		0.0		0.0								
2020	05	23	71	37	52	0.03		0.0		0.0								
2020	05	24	57	33	53	0.10		T		0.0								
2020	05	25	63	29	62	0.00		0.0		0.0								
2020	05	26	73	31	68	0.00		0.0		0.0								
2020	05	27	76	41	70	0.00		0.0		0.0								
2020	05	28	80	43	78	0.00		0.0		0.0								
2020	05	29	85	46	80	0.00		0.0		0.0								
2020	05	30	80	48	63	0.00		0.0		0.0								
2020	05	31	79	47	77	0.01		0.0		0.0								
Summary			70	38		1.63		0.5										

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Observation Time Temperature: 1800 Observation Time Precipitation: 1800

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
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			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.
2020	06	01	85	52	83	T		0.0		0.0								
2020	06	02	83	45	81	0.00		0.0		0.0								
2020	06	03	81	42	75	0.00		0.0		0.0								
2020	06	04	83	47	73	0.00		0.0		0.0								
2020	06	05	89	47	84	0.00		0.0		0.0								
2020	06	06	84	49	61	0.17		0.0		0.0								
2020	06	07	74	42	69	0.00		0.0		0.0								
2020	06	08	69	39	43	0.00		0.0		0.0								
2020	06	09	60	36	57	0.53		0.0		0.0								
2020	06	10	70	35	68	0.00		0.0		0.0								
2020	06	11	76	40	73	0.00		0.0		0.0								
2020	06	12	84	43	81	0.00		0.0		0.0								
2020	06	13	82	56	71	0.00		0.0		0.0								
2020	06	14	79	49	78	0.00		0.0		0.0								
2020	06	15	84	39	81	0.00		0.0		0.0								
2020	06	16	83	45	80	0.00		0.0		0.0								
2020	06	17	80	36	68	0.00		0.0		0.0								
2020	06	18	71	34	70	0.00		0.0		0.0								
2020	06	19	74	43	71	0.00		0.0		0.0								
2020	06	20	76	36	71	0.00		0.0		0.0								
2020	06	21	77	42	70	0.00		0.0		0.0								
2020	06	22	81	43	78	0.00		0.0		0.0								
2020	06	23	83	47	82	0.00		0.0		0.0								
2020	06	24	87	49	86	0.00		0.0		0.0								
2020	06	25	86	50	69	0.00		0.0		0.0								
2020	06	26	81	45	69	0.00		0.0		0.0								
2020	06	27	84	45	82	0.03		0.0		0.0								
2020	06	28	84	48	81	0.00		0.0		0.0								
2020	06	29	81	54	67	0.00		0.0		0.0								
2020	06	30	67	40	64	0.04		0.0		0.0								
Summary			79	44		0.77		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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U.S. Department of Commerce
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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.**

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

Generated on 02/02/2021

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.
2020	07	01	80	39	80	T		0.0		0.0								
2020	07	02	85	44	82	0.00		0.0		0.0								
2020	07	03	88	48	82	0.00		0.0		0.0								
2020	07	04	89	51	79	0.00		0.0		0.0								
2020	07	05	90	53	84	0.00		0.0		0.0								
2020	07	06	88	44	84	0.00		0.0		0.0								
2020	07	07	90	50	87	0.00		0.0		0.0								
2020	07	08	87	43	86	0.00		0.0		0.0								
2020	07	09	89	44	86	0.00		0.0		0.0								
2020	07	10	91	45	87	0.00		0.0		0.0								
2020	07	11	92	46	87	0.00		0.0		0.0								
2020	07	12	87	47	66	0.19		0.0		0.0								
2020	07	13	87	55	70	0.08		0.0		0.0								
2020	07	14	88	52	82	0.00		0.0		0.0								
2020	07	15	87	47	83	0.00		0.0		0.0								
2020	07	16	87	47	73	0.00		0.0		0.0								
2020	07	17	84	52	77	0.00		0.0		0.0								
2020	07	18	90	52	80	0.00		0.0		0.0								
2020	07	19	88	55	78	0.00		0.0		0.0								
2020	07	20	88	45	85	0.00		0.0		0.0								
2020	07	21	88	46	87	0.00		0.0		0.0								
2020	07	22	87	50	63	0.03		0.0		0.0								
2020	07	23	79	50	77	0.04		0.0		0.0								
2020	07	24	77	53	75	0.05		0.0		0.0								
2020	07	25	75	54	70	0.01		0.0		0.0								
2020	07	26	87	50	84	0.00		0.0		0.0								
2020	07	27	89	53	87	0.00		0.0		0.0								
2020	07	28	87	56	64	0.31		0.0		0.0								
2020	07	29	84	49	81	0.00		0.0		0.0								
2020	07	30	83	46	82	0.00		0.0		0.0								
2020	07	31	89	50	86	0.00		0.0		0.0								
Summary			86	49		0.71		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
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
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**Record of Climatological
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Asheville, North Carolina 28801

Generated on 02/02/2021

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.
2020	08	01	91	53	81	0.00		0.0		0.0								
2020	08	02	91	55	86	0.00		0.0		0.0								
2020	08	03	93	57	89	0.00		0.0		0.0								
2020	08	04	91	55	82	0.00		0.0		0.0								
2020	08	05	89	57	83	0.00		0.0		0.0								
2020	08	06	90	56	86	0.00		0.0		0.0								
2020	08	07	88	46	83	0.00		0.0		0.0								
2020	08	08	88	43	82	0.00		0.0		0.0								
2020	08	09	88	44	85	0.00		0.0		0.0								
2020	08	10	89	45	87	0.00		0.0		0.0								
2020	08	11	89	52	84	0.00		0.0		0.0								
2020	08	12	87	48	81	0.00		0.0		0.0								
2020	08	13	89	50	87	0.00		0.0		0.0								
2020	08	14	88	44	86	0.00		0.0		0.0								
2020	08	15	87	42	84	0.00		0.0		0.0								
2020	08	16	90	45	89	0.00		0.0		0.0								
2020	08	17	92	50	89	0.00		0.0		0.0								
2020	08	18	94	50	89	0.00		0.0		0.0								
2020	08	19	91	54	82	0.00		0.0		0.0								
2020	08	20	87	50	75	0.00		0.0		0.0								
2020	08	21	88	52	85	0.00		0.0		0.0								
2020	08	22	91	48	87	0.00		0.0		0.0								
2020	08	23	93	52	83	0.00		0.0		0.0								
2020	08	24	91	54	82	0.00		0.0		0.0								
2020	08	25	91	56	84	0.00		0.0		0.0								
2020	08	26	90	57	88	0.00		0.0		0.0								
2020	08	27	88	55	84	0.00		0.0		0.0								
2020	08	28	85	53	81	0.00		0.0		0.0								
2020	08	29	81	52	58	0.30		0.0		0.0								
2020	08	30	83	46	76	0.13		0.0		0.0								
2020	08	31	76	41	66	0.00		0.0		0.0								
Summary			89	50		0.43		0.0										

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Generated on 02/02/2021

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.
2020	09	01	70	41	69	0.06		0.0		0.0								
2020	09	02	80	38	78	0.00		0.0		0.0								
2020	09	03	85	41	81	0.00		0.0		0.0								
2020	09	04	88	43	84	0.00		0.0		0.0								
2020	09	05	92	47	87	0.00		0.0		0.0								
2020	09	06	90	44	85	0.00		0.0		0.0								
2020	09	07	85	41	78	0.00		0.0		0.0								
2020	09	08	78	31	40	0.28		0.5		0.0								
2020	09	09	51	31	44	0.00		0.0		0.0								
2020	09	10	46	30	43	0.04		T		0.0								
2020	09	11	64	36	62	0.02		0.0		0.0								
2020	09	12	75	34	72	0.00		0.0		0.0								
2020	09	13	78	37	73	0.00		0.0		0.0								
2020	09	14	79	43	74	0.00		0.0		0.0								
2020	09	15	80	39	75	0.00		0.0		0.0								
2020	09	16	80	40	75	0.00		0.0		0.0								
2020	09	17	81	39	76	0.00		0.0		0.0								
2020	09	18	82	40	75	0.00		0.0		0.0								
2020	09	19	79	50	64	0.00		0.0		0.0								
2020	09	20	73	41	70	0.02		0.0		0.0								
2020	09	21	80	43	75	0.00		0.0		0.0								
2020	09	22	78	42	64	0.01		0.0		0.0								
2020	09	23	77	43	71	0.00		0.0		0.0								
2020	09	24	82	41	78	0.00		0.0		0.0								
2020	09	25	82	40	74	0.00		0.0		0.0								
2020	09	26	74	39	70	0.00		0.0		0.0								
2020	09	27	70	44	53	0.00		0.0		0.0								
2020	09	28	70		50	0.00		0.0		0.0								
2020	09	29	72	28	69	0.00		0.0		0.0								
2020	09	30	75	29	68	0.00		0.0		0.0								
Summary			77	39		0.43		0.5										

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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APPENDIX B
GROUNDWATER QULITY DATA

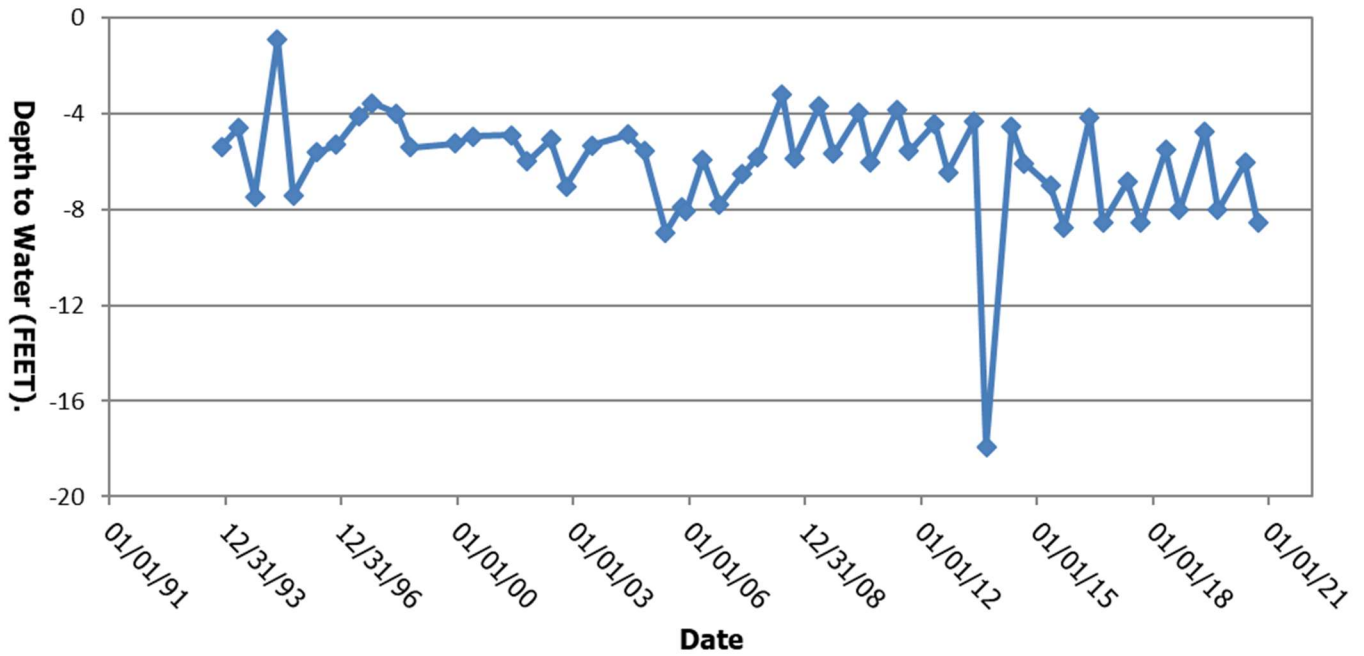
Table B.1. Analytical results for monitoring wells HGDAL3 and HDAL4 during water year 2020.

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
HGDAL3	5/19/2020	6.07	14390	7.05	9.7	< 0.6	4	15200
HGDAL3	9/19/2020	8.58	12850	6.98	11.5	< 0.6	4.9	15000
HGDAL4	5/19/2020	5.98	949	7.47	11.2	< 0.3	0.48	9280
HGDAL4	9/19/2020	9.04	8050	7.55	11.3	< 0.3	10.5	8300

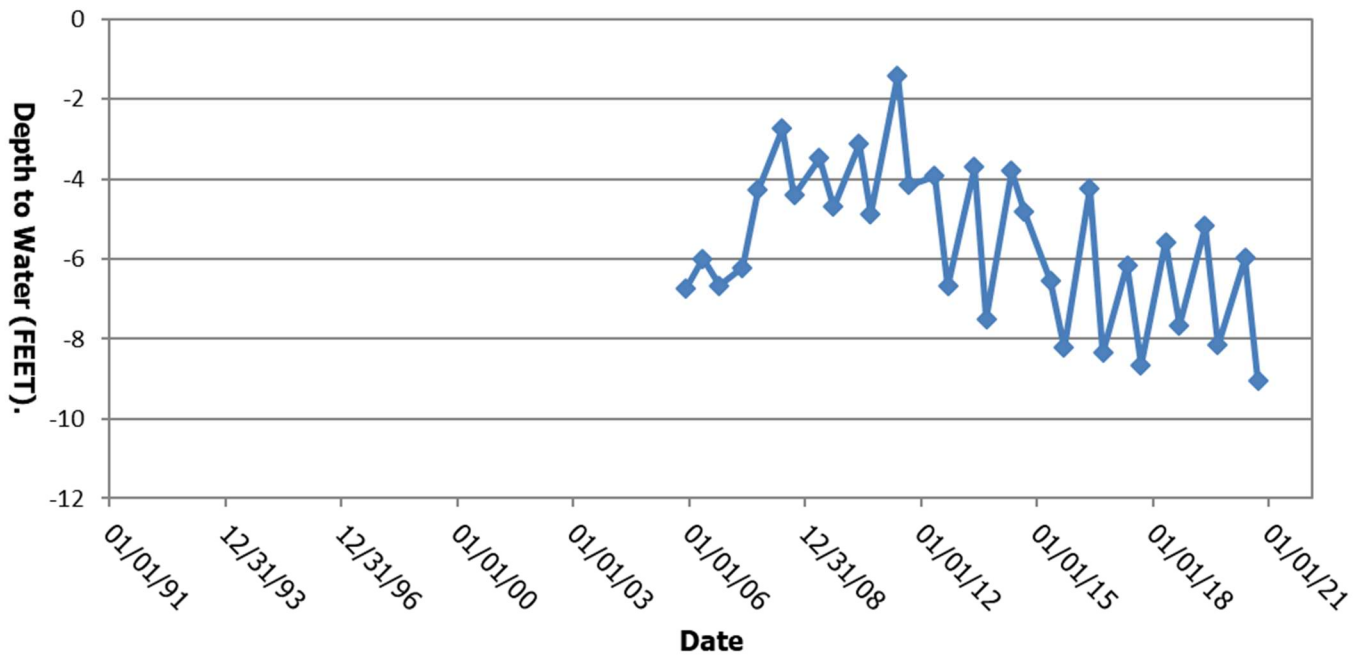
APPENDIX C

GROUNDWATER HYDROGRAPHS

HGDAL3



HGDAL4



APPENDIX D

SURFACE WATER QUALITY DATA

Table D.1 Stream point analytical data for water year 2020.

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	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	4/22/2020	6423	2546	7.52	8.9					12.5	13.1	2100	
HGSD1	6/2/2020	228.6	2177	7.8	15.6	1.1	0.04	0.23	0.02	4.7	5.1	2150	30
HGSD1	7/21/2020	7.8	3454	7.56	14.9					2.1	2.4	3990	
HGSD1	9/1/2020	1.5	4236	8.29	22.1	0.3	0.03	0.02	0.01	2.1	2.1	4120	13
HGSD3	6/2/2020	987	2487	7.89	15.8	1	0.05	0.46	0.05	17.9	18.2	2560	23
HGSD3	9/1/2020	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	-	-	TM*	-	-	-
Agricultural Use Standards		-	-	-	-	-	0.2	100	10	20	-	-	-

Notes

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

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

Table D.2 NPDES Outfall monitoring data for water year 2020.

Location	Date	Flow N MGD
NPDES1H	1/9/2020	0
NPDES1H	2/4/2020	0
NPDES1H	3/2/2020	0
NPDES1H	4/23/2020	0
NPDES1H	5/6/2020	0
NPDES1H	6/4/2020	0
NPDES1H	7/22/2020	0
NPDES1H	8/4/2020	0
NPDES1H	9/2/2020	0
NPDES1H	10/24/2019	0
NPDES1H	11/12/2019	0
NPDES1H	12/4/2019	0
NPDES2H	1/9/2020	0
NPDES2H	2/4/2020	0
NPDES2H	3/2/2020	0
NPDES2H	4/23/2020	0
NPDES2H	5/6/2020	0
NPDES2H	6/4/2020	0
NPDES2H	7/22/2020	0
NPDES2H	8/4/2020	0
NPDES2H	9/2/2020	0
NPDES2H	10/24/2019	0
NPDES2H	11/12/2019	0
NPDES2H	12/4/2019	0

Figure D.1. Suspended solids vs total recoverable iron at Dry Creek stream points HGSD1 and HGSD3 for samples collected from 1997 through 2020.

