
MONITORING AND MITIGATION PLAN FOR SURFACE WATER AND GROUNDWATER PARKDALE QUARRY

Prepared for



Prepared by

*David W. Bieber. PG
Manager of Geology/Survey
Martin Marietta West Division
1627 Cole Blvd., Ste 200
Lakewood, CO 80401*

November 15, 2021

Table of Contents

LIST OF FIGURES ii

LIST OF APPENDICES..... ii

1. INTRODUCTION 1

2. DESCRIPTION OF OPERATIONS..... 2

3. MONITORING AND MITIGATION PLAN OBJECTIVES 3

4. HYDROLOGIC SETTING..... 4

 4.1 Surface Water..... 4

 4.2 Groundwater 6

5. PROPOSED MONITORING NETWORK 8

 5.1 Surface Water Monitoring 8

 5.2 Groundwater Monitoring 9

6. REPORTING 11

7. MITIGATION OF POTENTIAL IMPACTS TO WATER RESOURCES..... 12

8. REFERENCES 13

LIST OF FIGURES

Figure 1. Site Location Map

Figure 2. Land Ownership and Site Layout

Figures 3A and 3B. Cross-sections Depicting the Granite Pit

Figure 4. Locations of USGS and CDPHE Surface Water Monitoring Stations with Background Data for Carrant and Tallahassee Creeks

Figure 5. Apparent Groundwater Flow Direction within the Granite in the Parkdale Quarry Area

Figure 6. Site Geology and Locations of Groundwater Users Near the Parkdale Quarry

Figure 7. Proposed Surface Water Monitoring Locations

Figure 8. Proposed Groundwater Monitoring Locations

LIST OF TABLES

Table 1. Summary of Background Data for Carrant Creek

Table 2. Summary of Background Data for Tallahassee Creek

Table 3. Summary of Springs on or within one-mile of the Overall Mining Area

Table 4. Completion Details for Monitoring Wells in the BLM Mining Area

Table 5. Summary of Water Level Data for the BLM Mining Area

Table 6. Summary of Pumping Test Data for the BLM Mining Area

Table 7. Water Quality Analyses for Granitic Bedrock in the BLM Mining Area

Table 8. Proposed Surface Water and Groundwater Monitoring Locations

Table 9. Monitored Analytes with Trigger Levels for Mitigation

Table 10. Summary of Indicators and Mitigation Measures for Impacts to Water Resources

LIST OF APPENDICES

Appendix A. DWR Well Records

Appendix B. Water Resources Supporting Information

1. INTRODUCTION

Front Range Aggregates, LLC (Front Range) proposes to expand their current mining operation north onto public lands owned by the United States and managed by the Department of Interior, Bureau of Land Management (BLM). The currently permitted mining area encompasses approximately 513.2 acres. The current mining permit boundary includes approximately 103 acres where Precambrian granite crops out at the surface, approximately 65 acres of which are permitted for mining. The expansion area (BLM Permit Area) is made up of approximately 1,400 acres. The BLM Permit Area includes an approximate 700-acre granite disturbance/active mining area (BLM Mining Area) bordered on the east, north, and west by an approximate 700 total acre buffer area where mining-related disturbance will not occur (Buffer Area). The existing quarry and BLM Permit Area (overall mining area) are located in Fremont County, Colorado, about nine miles northwest of Cañon City. The general location of the Parkdale Quarry is shown on the Site Location Map (Figure 1) and the relative location of the areas making up the quarry are shown on the Land Ownership and Site Layout (Figure 2). This Surface and Groundwater Mitigation and Monitoring Plan (MMP) is being developed in cooperation with DRMS to address the following topics:

1. Monitoring of surface water and groundwater quality including data collection that will be used to support adaptive management of mining practices as necessary.
2. Monitoring of groundwater availability to detect changes in groundwater levels that could adversely affect water supplies near the Permit Area. In the event that potentially adverse impacts are detected, the mine operator will initiate a focused analysis in coordination with applicable regulatory agencies to determine if the impacts are related to mining activities at the Parkdale Quarry. If impacts are determined to be the result of mining of the Parkdale Quarry, the operator will initiate actions for timely replacement of mining-affected water supplies.

2. DESCRIPTION OF OPERATIONS

The Parkdale Quarry has operated since 1997 and produces construction aggregate, railroad ballast, and rip rap from an alluvial deposit and granite bedrock located on private land north of the Arkansas River (Figure 2). The majority of current activities occur from an approximately 65-acre area of granitic bedrock near the northeast corner of the private land. Water for the quarry is groundwater that collects in the alluvial pit and is augmented through an approved Substitute Water Supply Plan (SWSP). The mine currently uses about 1,500 gallons per minute (gpm) of water at the wash plant, most of which is recycled. About 14 gpm is also applied to haul roads for dust control. Future mined material will be transported from the mining area to the processing plant by conveyor, so trucking distances will be similar to current conditions. As new aggregate processing equipment is added, equipment and processing procedures that utilize water conservation technology will be incorporated. As a result, water usage for the quarry expansion will be similar to current usage and will be obtained from the same sources.

The quarry expansion on BLM land will be developed in five phases that progress from northwest to southeast over the projected 100-year plus mine life. The phases include the West Pit, West Central Pit, Central Pit, East Central Pit, and the East Pit (Figure 2). Development of the haul road accessing the West Pit is scheduled to begin in 2022, with pit development and production mining starting in 2024. Mining will be conducted using standard hillside mining techniques that employ blasting to fracture the granitic bedrock followed by excavation and loading onto haul trucks for transport to a dump hopper feeding the conveyor facilities.

Groundwater monitoring data indicates that the quarry expansion will be partially developed below the existing water table in the Mining Area as shown in the cross-sections depicting the granite pit, Figures 3A and 3B. The predicted groundwater inflow during operation ranges from about 15 to 27 gpm (ERM 2019 and Whetstone 2019) and is low enough that active dewatering of bedrock in advance of mining will not be required. Free flowing groundwater and stormwater that enters the quarry will be routed to settling ponds for infiltration or discharge to Currant or Tallahassee Creek per the approved Colorado Department of Public Health and the Environment (CDPHE) Colorado Discharge Permit System (CDPS) Discharge Permit.

Surface disturbances will be reclaimed concurrently with mining. Final reclamation of the site will be conducted in accordance with the Mining and Reclamation Plan (Martin Marietta 2019) and applicable requirements of existing Colorado Division of Reclamation and Mine Safety and Fremont County permits, and BLM. Final reclamation will include abandonment of monitoring wells used for the operation in accordance with procedures set forth by the Colorado Division of Water Resources.

3. MONITORING AND MITIGATION PLAN OBJECTIVES

The MMP is intended to provide a systematic framework for the collection of surface water and groundwater data for the Parkdale Quarry. The objectives of the MMP are to:

1. Identify and describe streams, springs, and groundwater within one-mile of, but outside of the permit boundary that could be negatively impacted by the quarry expansion.
2. Describe the methodology and list the stations that will be used to monitor surface water and groundwater, in and adjacent to, the Permit Area.
3. Establish the schedule for surface water and groundwater quality monitoring.
4. Specify analytes for analysis of water quality samples.
5. Establish a framework for the review and reporting of collected data to facilitate decision making for adaptive management of mining operations and mitigation to water resources if needed.
6. Describe mitigation measures that will be implemented in the event that adverse impacts to water resources occur from expansion of the quarry.

4. HYDROLOGIC SETTING

4.1 Surface Water

The overall mining area is located on the flank of Cactus Mountain and drains southwest toward Currant and Tallahassee Creeks. Drainages within the planned Mining Area are intermittent or ephemeral and flow for limited periods during most years in response to direct precipitation and snowmelt. One perennial stream and four springs occur within the BLM Permit Area boundary, along with one perennial stream in the current permit area (Figure 4). The streams include Currant Creek in the buffer area of the BLM Permit Area and Tallahassee Creek within the current permit boundary. The springs include Cactus Mountain Spring, Cactus Mountain South Spring, and Parkdale South Spring which are located in the Mining Area, and Parkdale Spring located in the Buffer Area. An additional five springs are located within one-mile of the BLM Mining Area, but outside of the Project boundary (Figure 4).

4.1.1 Currant Creek

Currant Creek is a perennial stream that flows south through the Buffer Area, approximately 1,000 feet west of the western portion of the BLM Mining Area, to its confluence with Tallahassee Creek. The stream channel is within the Buffer Area, is separated from the Mining Area for the planned quarry by an approximate 200 to 300-foot tall ridgeline, and will not be disturbed by the mining operation. Designated beneficial uses of Currant Creek include Class 1 Coldwater Aquatic Life, Existing Recreation, Agriculture, and Water Supply. Streamflow and water quality data for Currant Creek are available from three stations located above its confluence with Cottonwood Creek (Figure 4). Stations 07094090 and 383150105225500 were monitored by the USGS. Station 21COL001-7110 was monitored by CDPHE. Available data from the stations on Currant Creek are presented in Appendix B of this report, in Appendix F of the Draft Environmental Impact Statement Parkdale Mineral Materials Competitive Sale DOI-BLM-CO-F020-2019-0013-EIS (BLM 2020b), in Appendix F of the Final Environmental Impact Statement for the Proposed Competitive Mineral Materials Sale (COC-078119) at Parkdale, Fremont County, Colorado (BLM 2020c), and are summarized in Table 1. The monitored parameters did not meet all applicable water quality standards in 5 CCR 1002-31 and 1002-3 of the Colorado Code of Regulations. Constituents reported to exceed water quality standards in Currant Creek include the following:

- Alpha Particles, which exceeded the domestic water supply standard in ten of twelve samples tested; and
- Chromium, which exceeded the standards for aquatic life in three of ten samples tested.

The mainstem of Currant Creek from its source in Park County to the confluence of Tallahassee Creek is not 303 (d) listed in the 2020 Colorado Integrated Report (CDPHE 2020a) and is assessed as meeting all of its designated beneficial uses.

4.1.2 Tallahassee Creek

Tallahassee Creek is a perennial stream that flows southeast through the existing permit area to its confluence with the Arkansas River. Though classified as a perennial stream in the USGS National Hydrography Dataset, most years during summer months, Tallahassee Creek is an intermittent stream from downstream of the confluence of Currant Creek to where Tallahassee Creek enters the

Arkansas River. The stream channel for TallahasseeCreek will not be modified within the Mining Area, but disturbance of the creek may periodically occur on private land during operation of the quarry. Designated beneficial uses of Tallahassee Creek include Class 1 Coldwater Aquatic Life, Existing Recreation, Agriculture, and Water Supply. Streamflow and water quality data for Tallahassee Creek are available from four stations (Figure 4). Stations 07094300 and 382917105225200 were monitored by the USGS and are located above the confluences of Currant Creek and the Arkansas River, respectively. Stations 21COL001-Tallahassee04 and 21COL001-7115 are located above and below the confluence of Currant Creek, respectively, and were monitored by CDPHE. Available data from the stations are presented in Appendix F of the Final Environmental Impact Statement for the Proposed Competitive Mineral Materials Sale (COC-078119) at Parkdale, Fremont County, Colorado (BLM 2020b) and are summarized in Table 2. The monitored parameters did not meet all applicable water quality standards in 5 CCR 1002-31 and 1002-3 of the Colorado Code of Regulations. Constituents reported to exceed water quality standards in Tallahassee Creek include the following:

- Alpha Particles, which exceeded the domestic water supply standard in six of eleven samples tested;
- Beta Particles, which exceeded the domestic water supply standard in one of twelve samples tested;
- Chromium, which exceeded the standards for aquatic life in one of twelve samples tested; and
- Manganese, which exceeded the domestic water supply standard in 22 of 30 samples tested.

The mainstem of Tallahassee Creek from the confluence of South Tallahassee Creek to the confluence with the Arkansas River is not 303 (d) listed in the 2020 Colorado Integrated Report (CDPHE 2020a) and is assessed as meeting its designated beneficial uses.

4.1.3 Springs

Ten springs are located on or within one-mile of the overall mining area (Figure 6, Table 3). Cactus Mountain Spring, Cactus Mountain South Spring, and the Parkdale South Spring are located in the Mining Area, and Parkdale Spring located in the Buffer Area are located within the BLM Permit Area. The other springs within one-mile of the mining area are located outside of the Project Boundary. BLM intends to withdraw Federal Reserved Water Rights on Cactus Mountain Spring and Parkdale Spring as part of the mineral materials contract for the site as referenced in Decision Record, Proposed Competitive Mineral Materials Sale (COC-078119) at Parkdale, Fremont County, CO, DOI-BLM-CO-F020-2019-0013 EIS, Mitigation Measure 5, Surface, Ground Water, and Water Quality.

The four springs within the BLM Permit Area were surveyed by BLM during November 2019. Cactus Mountain, Cactus Mountain South, and Parkdale springs were all flowing at about 0.25 gpm. Parkdale South Spring was dry. The springs are recharged by infiltration of precipitation on the overlying watersheds and discharge from bedrock in intermittent drainages on the southwest side of Cactus Mountain. The water rights for Parkdale Spring and Cactus Mountain Spring were withdrawn by BLM in 2020.

Currant, and Narrow Canyon springs are located on BLM land north and northwest of the BLM Mining Area (Figure 6). Narrow Canyon spring was surveyed by the BLM near the end of June in 2016. Narrow Canyon Spring was flowing at the time of observation, but at a very low rate (Table

3). Narrow Canyon Spring is located in the channel of an intermittent tributary to Currant Creek. Current Spring was surveyed at the end of August in 2012 at which time it was dry.

Campbell King Spring 1, Tallahassee Ditch No. 2 Spring, Harvey Brothers Twelve Mile Spring, and Wheaton College Spring¹⁶ are located on private land and only limited information including the spring locations and elevations are available. Location information for the springs is summarized in Table 3.

4.2 Groundwater

Groundwater near Parkdale Quarry is recharged by infiltration of precipitation on upland areas based on groundwater monitoring data. It flows laterally away from high points following topography to discharge at streams and springs at lower elevations. The apparent flow directions within the granite area are shown on Figure 5. The average precipitation at the site is about 17 inches annually (BLM 2017a) with recharge to groundwater estimated to be about 0.16 inches per year (ERM 2019).

Four hydrostratigraphic/aquifer units are recognized on and within one-mile of the overall mining area. They include Quaternary alluvium in Arkansas River and Tallahassee Creek streamchannels and feeder drainages, Mesozoic sedimentary rocks north and south of the BLM Permit Area, and Precambrian granitic rocks that are divided into weathered granite near the surface and competent but fractured granite below a depth of about 20 feet (ERM 2020). Alluvium occurs over bedrock in intermittent drainages on slopes and as thicker deposits in the Tallahassee and Currant Creek drainages and underlying and adjacent to the Arkansas River. The alluvium is the unit mined in the alluvial deposit portion of the Parkdale Quarry. Sedimentary rocks rest unconformably on granite near the southern boundary of the BLM Permit Area and are in fault contact with granite north and east of the planned quarry expansion (Figure 6). The faults potentially cause compartmentalization of groundwater flow across the structures by the disruption of stratigraphy and juxtaposition of rock types with different hydraulic characteristics.

4.2.1 Groundwater Levels and Direction of Flow

Groundwater levels in granitic bedrock within the BLM Mining Area are documented by three monitoring wells installed by Martin Marietta (Table 4), which were monitored for level in December, 2018; May, August, and November, 2019; and February, 2020. The observed depths to groundwater ranged from about 7 to 129 feet below ground level, and water levels fluctuate seasonally by up to 28 feet (Table 5). The apparent direction of groundwater flow is southeast away from Cactus Mountain and toward the Arkansas River. Observed groundwater elevations within the BLM Permit Area range from about 6,022 to 6,262 feet which is 82 to 322 feet higher than the planned minimum pit floor elevation of 5,940 feet.

4.2.2 Hydraulic Characterization Data

Hydraulic characterization data for granitic bedrock within the BLM Mining Area are available from single well tests performed in monitoring wells MW-1, MW-3, and MW-10. The results of the tests are summarized in Table 6 and indicate hydraulic conductivities ranging from 0.0019 to 0.0065 ft/day (ERM 2019). The average hydraulic conductivity from the three tests is calculated to be 0.0037 ft/d, which is considered to be a reasonable estimate of the bulk hydraulic conductivity of fractured granite below 20 feet depth (ERM 2020).

4.2.3 Water Quality Data

Limited background groundwater quality data for the BLM Permit Area are available from eleven samples collected in 2018, 2019, and 2020. The samples indicate that groundwater in granite has near neutral pH (6.64-7.71), low to moderate concentrations of total dissolved solids (318-437 mg/l), and meets water quality standards for the monitored parameters with the exceptions of uranium, gross alpha radiation, and radium (Table 7). The gross alpha radiation level was corrected for Uranium, but was not corrected for Radon as specified in Table 1 of the Interim Narrative Standard. Based on the regional geology, the uranium, radium, and radionuclides are likely naturally occurring.

4.2.4 Groundwater Users

Groundwater users within a two-mile radius of the overall mining area have been identified by a records search of the Colorado Division of Water Resources (DWR) well database (Appendix A). The results of the search indicate that 97 wells are located within two miles of the overall mining area (Figure 6). The majority of wells are situated east and northeast of the Project in areas underlain by Mesozoic-age sedimentary rocks. The site and regional geology is depicted on Figure 6, including the general distribution of aquifer units. Eight wells are reported to be located on the south side of the Parkdale Fault in an area underlain by granitic bedrock. The reported well locations south of the Parkdale Fault appear to be in error based on a review of aerial photographs and drilling records that indicate the wells are completed in sedimentary rocks. The true locations of those wells are unknown, but the wells are most likely located on the north side of the Parkdale Fault.

A review of water level data from the DWR database indicates that groundwater elevations within two miles of the overall mining area range from about 5,657 to 7,041 feet elevation. Reported groundwater elevations vary widely over relatively short distances with differences in elevation often exceeding 100 to 200 feet between wells located within 1,000 to 2,000 feet of each other. Although the accuracy of the DWR data is affected by a number of factors including errors in the reported well locations and surface elevations and the range of time over which the groundwater levels were measured, the reported variability is consistent with groundwater systems in low-permeable rocks that are poorly interconnected over short distances.

5. PROPOSED MONITORING NETWORK

The proposed surface water and groundwater monitoring locations for Parkdale Quarry are summarized in Table 8 and shown in Figures 7 and 8. Water quality samples will be collected prior to the start of ground-disturbing activities to establish a pre-mining baseline. Samples will be collected from Currant and Tallahassee creeks (CC-1, CC-2, TC-2, and TC-1), and from the four springs within the permit boundary (SP-1, SP-2, SP-3, and SP-4). Water monitoring will continue throughout the life of the mine and continue for a minimum of four quarters after mining. Additional wells will be installed and monitored no less than one-year prior to the start of mining of Phases 1, 2, and 3.

5.1 Surface Water Monitoring

The proposed surface water monitoring network for the Parkdale Quarry includes four stations that will be established by FRA to monitor streams and four stations that will be established by FRA to monitor springs (Figure 7). Stations CC-1 and CC-2 will monitor Currant Creek upstream and downstream of the BLM Mining Area, respectively. Station TC-1 will monitor Tallahassee Creek above the confluence with the Arkansas River and station TC-2 will monitor Tallahassee Creek above the confluence of Currant Creek. Stations SP-1, SP-2, SP-3, and SP-4 will monitor Cactus Mountain Spring, Cactus Mountain South Spring, Parkdale Spring, and Parkdale South Spring, respectively.

The proposed monitoring frequency for surface water is quarterly for five quarters prior to mining activities within the specified phases to establish a baseline. Quarterly sampling will continue for a minimum of one year after mining activities have begun in each phase. After this point, the monitoring frequency will continue twice annually with monitoring events occurring in May during expected spring high flow/groundwater and October during expected low flow/groundwater for the duration of the mine phase or until mining eliminates the sampling location in the case of a spring. The monitored parameters will include field parameters for pH, temperature, specific conductance (SC), dissolved oxygen (DO), and turbidity, and laboratory testing for pH and Total Suspended Solids (TSS). If there is no flow at the specified location at the time of monitoring, that will be noted, and no additional data or sample will be collected at that location during that quarter. If one or more monitoring locations cannot reasonably be accessed at the scheduled monitoring time, monitoring will be delayed until all stations can be accessed within a three-day period.

5.1.1 Surface Water Monitoring Procedures

Water quality samples for each station will be collected so as to avoid channel or bottom disturbances that could affect water chemistry. Where multiple stations exist on the same stream, sampling will begin at the downstream site and move upstream. Standard operating procedures for surface water monitoring include the following:

- Ideally, monitoring of surface water locations will be scheduled for one day to help reduce variability due to flow conditions. However, in the event that all monitoring cannot be completed in one day, the monitoring will be conducted in a maximum three-day period. A general site inspection will be performed upon arrival at each station, and comments regarding site conditions will be recorded on the field sampling record.
- All field instruments will be calibrated according to manufacturers' specifications at the beginning of each day.

5.2 Groundwater Monitoring

The proposed groundwater monitoring network for the Parkdale Quarry includes three existing wells that monitor groundwater in fractured granite within the BLM Mining Area, and up to four new wells installed as mining progresses that will monitor groundwater in fractured granite between the BLM Mining Area and groundwater users located to the north and east of the Project (Figure 8). Monitoring wells MW-1 and MW-3 will be used as points of compliance to evaluate adverse impacts to groundwater that might affect offsite receptors.

Groundwater monitoring will continue in the three existing monitoring wells (MW-1, MW-3 and MW-10), and up to three additional monitoring wells will be installed no less than one and one-quarter year prior to mining of a particular mine phase, and monitored throughout the life of the mine, as follows:

- Phase 1 West Pit (MW-6);
- Phase 2 West Central Pit, (MW-5);
- and Phase 3 Central Pit (MW-4).

Quarterly water level monitoring and water quality sampling will occur for five quarters prior to mining activities within the specified phases to establish a baseline. Quarterly level monitoring and sampling will continue for four quarters after mining activities have begun in each phase. After this point, level monitoring and sampling will continue twice annually in the spring and fall. Water level monitoring may be reported as quarterly levels using a water level meter to measure levels. The monitored water quality parameters will include field measurements of pH, temperature, and SC. Additionally, MW-1 and MW-3 will be used as a down-gradient compliance wells.

Laboratory analysis for radionuclides will be performed in MW-1 and MW-3 for a minimum of five additional quarters starting in the fourth quarter of 2021. Given that the radionuclide data collected to date represents pre-mining conditions it is likely that groundwater in the area of the mine is naturally high in radionuclides. Consequently, following the collection of the additional data the applicant will prepare a summary of the analyses and present all of the results along with the maximum and minimum concentration/activity for the parameters. The maximum concentration/activity of the radionuclide will be set as the standard. Natural seasonal variability may occur during future monitoring that may result in a higher limit. Therefore, the limit may be adjusted based on additional monitoring. The results of the additional monitoring will be included in the annual report and based on the results as of the date of the annual report a decision will be made in consultation with DRMS as to whether the monitoring frequency should be adjusted or monitoring for radionuclides be discontinued.

Wells MW-1 and MW-3 are located within the proposed mining area. No less than 90 days prior to the time where MW-1 and/or MW-3 will be destroyed by the mining, a replacement well will be installed in a location within 500 feet of the well being replaced that has already been mined or is otherwise unlikely to be destroyed by mining activities.

5.2.1 Well Installation and Testing

It is proposed that new monitoring wells be installed using a phased approach based on the planned mining sequence and observations from the three existing wells. The applicant will install the wells prior to mining in the BLM Permit Area such that five quarters of sampling will be performed to document pre-mining groundwater conditions. As proposed, monitoring well MW-6 will be installed prior to the start of mining in the Phase 1 (West Pit), MW-5 will be installed prior to the start of mining in the Phase 2 (West-central Pit), and MW-4 will be installed prior to the start of

mining in the Phase 3 (Central Pit). MW-4, MW-5, and MW-6 will be used to collect baseline/background water level and water quality data, and also be used to detect changes in water levels and water quality during mining in that area.

The new wells for the groundwater monitoring network will be installed by a Colorado licensed water well driller following the applicable well construction rules in the Code of Colorado Regulations. The wells will be screened at and below the water table in granitic bedrock with the final depths, screened intervals, filter packs, and other relevant details being determined in the field by the supervising engineer or geologist.

Monitoring wells that are no longer needed for monitoring groundwater on the Parkdale Quarry will be abandoned as part of the site reclamation process in accordance with procedures set forth by the Colorado Division of Water Resources in coordination with DRMS and BLM.

5.2.2 Groundwater Monitoring Procedures

Water levels for each well will be measured using an electrical water level sounder (e-tape) or other applicable method. Water samples will be collected using a disposable bailer, a dedicated low-flow pump, or a pump deployed from the surface and decontaminated between wells.

Samples of groundwater for measurement of field parameters and laboratory analysis will be collected using either the conventional three casing volume purge sampling method or the micro-purge sampling method. The conventional groundwater sampling method requires that three casing volumes of water be evacuated from the well before the sample is collected. The intent is to remove stagnant water from the well casing to ensure that the sample is representative of water in the formation. The micro-purge sampling method does not require that three casing volumes be evacuated from the well prior to sample collection. Instead it relies on low pumping rates (typically 0.1 to 0.5 L/min) from an intake located in the well screen to collect a representative sample of formation water with minimal disturbance of water in the well casing. Standard operating procedures for groundwater monitoring include the following:

- A general site inspection will be performed upon arrival at each monitoring well and comments regarding site conditions will be recorded on the field sampling record.
- A physical water level measurement will be completed for each well prior to sample collection.
- All field instruments will be decontaminated and calibrated according to manufacturers' specifications at the beginning of each day.
- Samples of groundwater from each well will be collected using either the conventional or the micro-purge sampling method.
- Only certified clean bottles will be used to store and ship samples for laboratory analysis.
- Chain-of-custody (COC) forms and custody seals will be used for all samples shipped to the laboratory.

6. REPORTING

Monitoring results for streams, springs, and groundwater will be provided to DRMS on the 28th day after the quarter of completion of each monitoring event and receipt of applicable analytical data. If an analyte exceeds a standard, the appropriate agency will be notified, as applicable, within five days of receipt of the relevant lab data with a report to follow in 30 days. The information provided will include tabulated summaries of flow measurements and water quality analyses, laboratory reports, and water level data. Submission will be in the form of a letter report with copies of the analytical data, and will be transmitted electronically.

7. MITIGATION OF POTENTIAL IMPACTS TO WATER RESOURCES

The mitigation measures summarized in Table 10 are actions that may be implemented by the quarry operator to avoid, minimize, or correct unintended adverse impacts to water resources. Potential adverse impacts from the quarry expansion were identified in the Environmental Impact Statement (EIS) for the competitive mineral materials sale at Parkdale (BLM2020b) and include:

- Alteration of groundwater levels and quality, and reduction of groundwater availability to users and springs outside of the permit boundary.
- Alteration of water quality in Currant and Tallahassee Creeks.

Increased Total Dissolved Solids (TDS), TSS, and turbidity in surface water can be caused by runoff, and in groundwater by infiltration of stormwater from mining disturbed areas.

8. REFERENCES

- Colorado Department of Natural Resources Division of Water Resources (DWR) 2020a. Colorado Division of Water Resources online water rights database. Available online: <https://data.colorado.gov/Water/DWR-WaterRight-Net-Amounts/acsg-f33s/data>. Accessed January 3, 2020.
- Colorado Department of Natural Resources Division of Water Resources (DWR) 2020b. Rules and Regulations for Water Well Construction, Pump Installation, Cistern Installation, and Observation Hole/Well Construction, 2 CCR 402-2.
- Colorado Department of Public Health and Environment (CDPHE) 2020a. Integrated Water Quality Monitoring and Assessment Report 2020.
- Colorado Department of Public Health and Environment (CDPHE) 2020b. Regulation No. 31 – The Basic standards and Methodologies for Surface Water, 5 CCR 1002-31.
- Colorado Department of Public Health and Environment (CDPHE) 2020c. Regulation No. 32 – Classification and Numeric Standards for Arkansas River Basin, 5CCR 1002-32.
- Colorado Department of Public Health and Environment (CDPHE) 2020c. Regulation No. 41 – The Basic Standards for Ground Water, 5CCR 1002-41.
- ERM 2020. Hydrogeologic Assessment, Parkdale Quarry Expansion Area.
- Martin Marietta 2019. Parkdale Quarry Expansion Mineral Materials Competitive Sale COC-078119 Mining and Reclamation Plan.
- United States Department of Interior Bureau of Land Management (BLM) 2020a. Decision Record for the Proposed Compleitive Minerals Material Sale (COC-078119) at Parkdale, Fremont County, Colorado. DOI-BLM-CO-F020-2019-0013-EIS.
- United States Department of Interior Bureau of Land Management (BLM) 2020b. Draft Environmental Impact Statement Parkdale Mineral Materials Competitive Sale DOI-BLM-CO-F020-2019-0013-EIS (BLM 2020b
- United States Department of Interior Bureau of Land Management (BLM) 2020c. Proposed Compleitive Minerals Material Sale (COC-078119) at Parkdale, Fremont County, Colorado, Final Environmental Impact Statement, DOI-BLM-CO-F020-2019-0013-EIS.
- United States Geological Survey (USGS) 2005. National Hydrography Dataset, HUC 1102. Available online: <http://prd-tnm.s3-website-us-west-2.amazonaws.com/?prefix=StagedProducts/Hydrography/NHD/HU4/HighResolution/GDB/>. Release date 3/14/2005. Accessed 10/2/2017.
- Whetstone 2019. Scoping-Level Analysis of Area Potentially Affected by Drawdown Related Impacts for the Parkdale Quarry Expansion.
-

FIGURES



Figure 1. Site Location Map

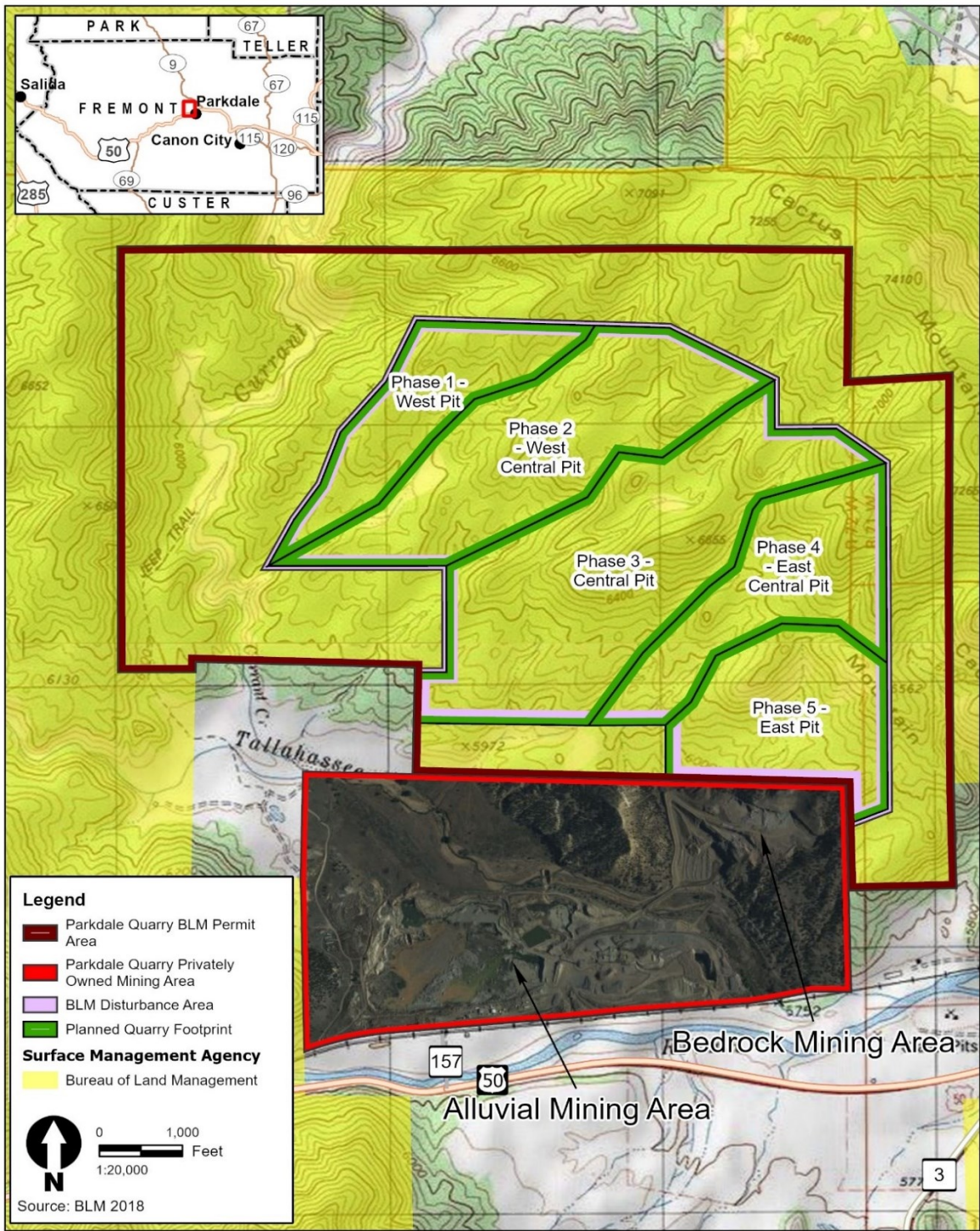


Figure 2. Land Ownership and Site Layout

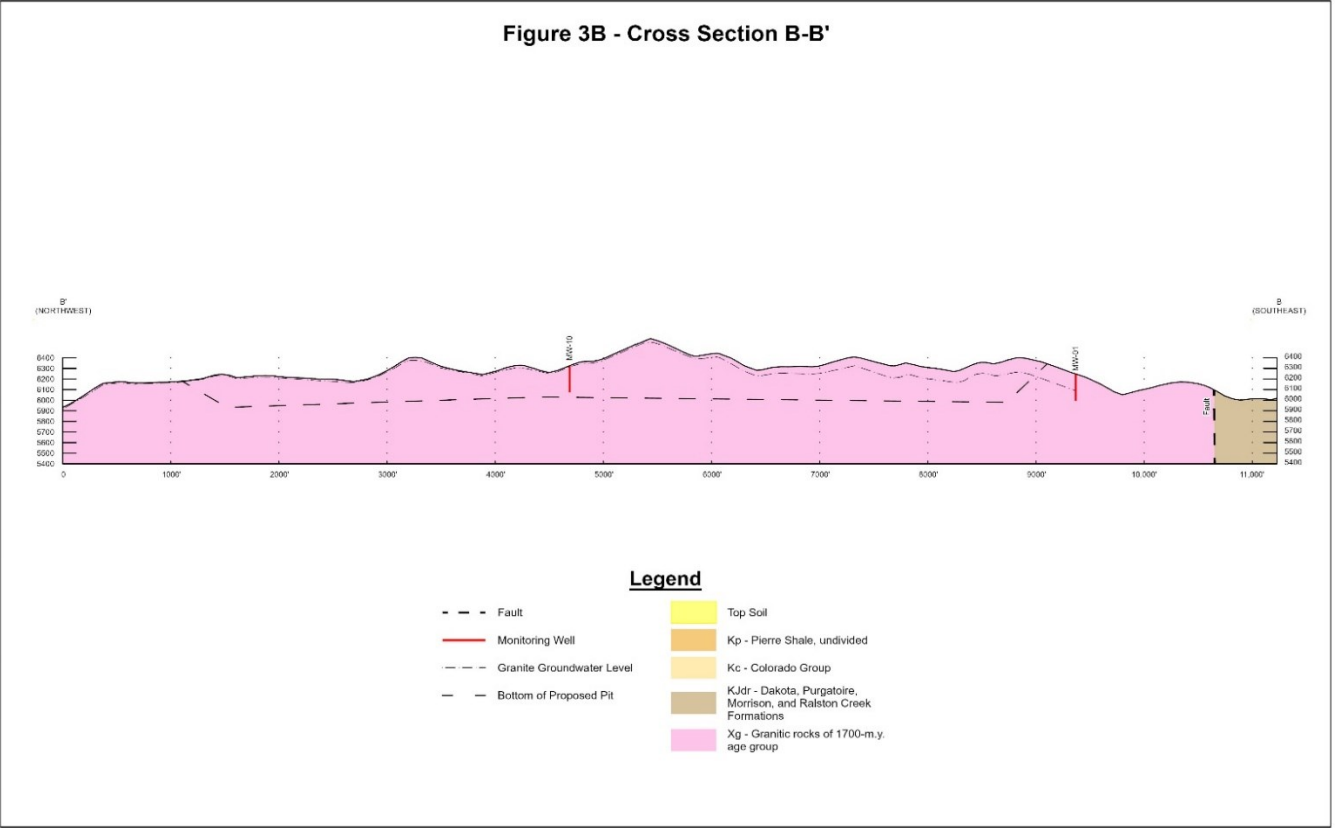
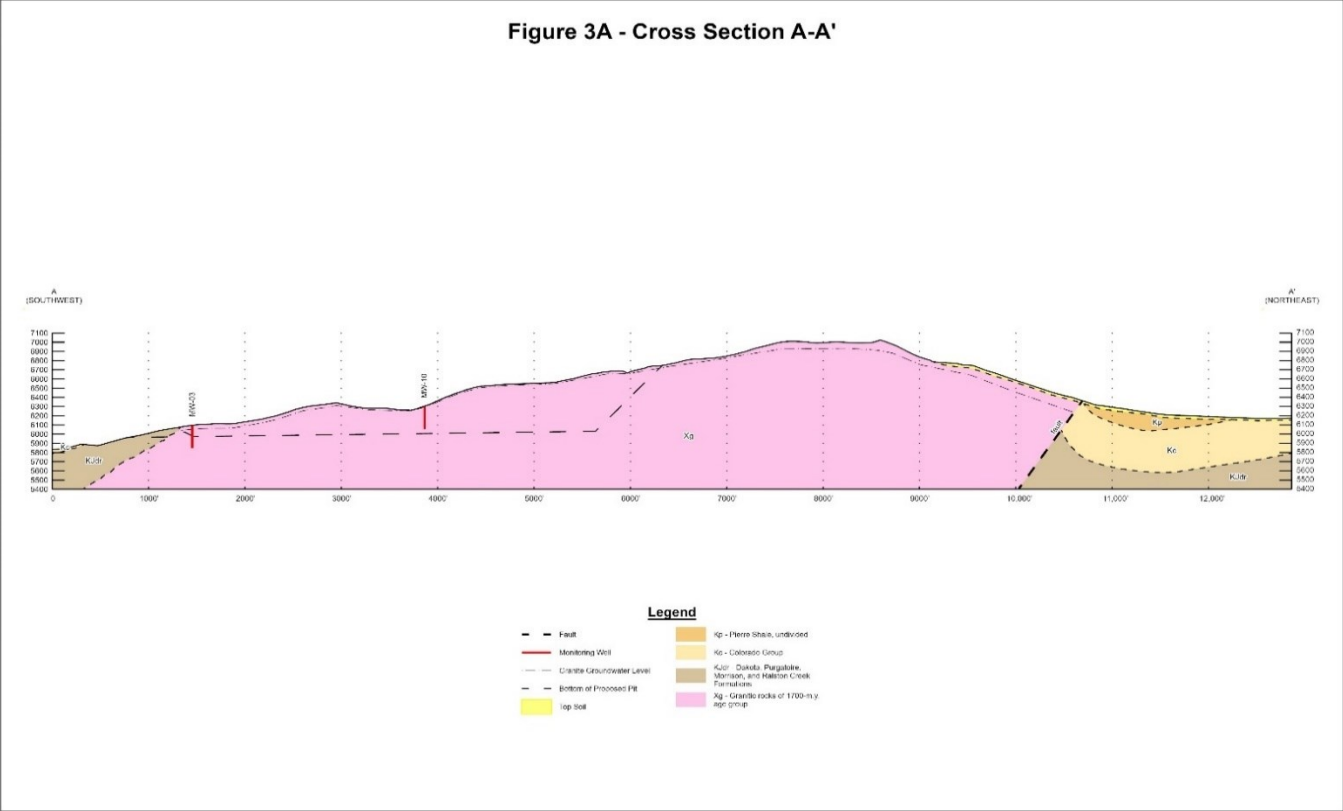


Figure 3A and 3B. Cross-sections Depicting the Granite Pit

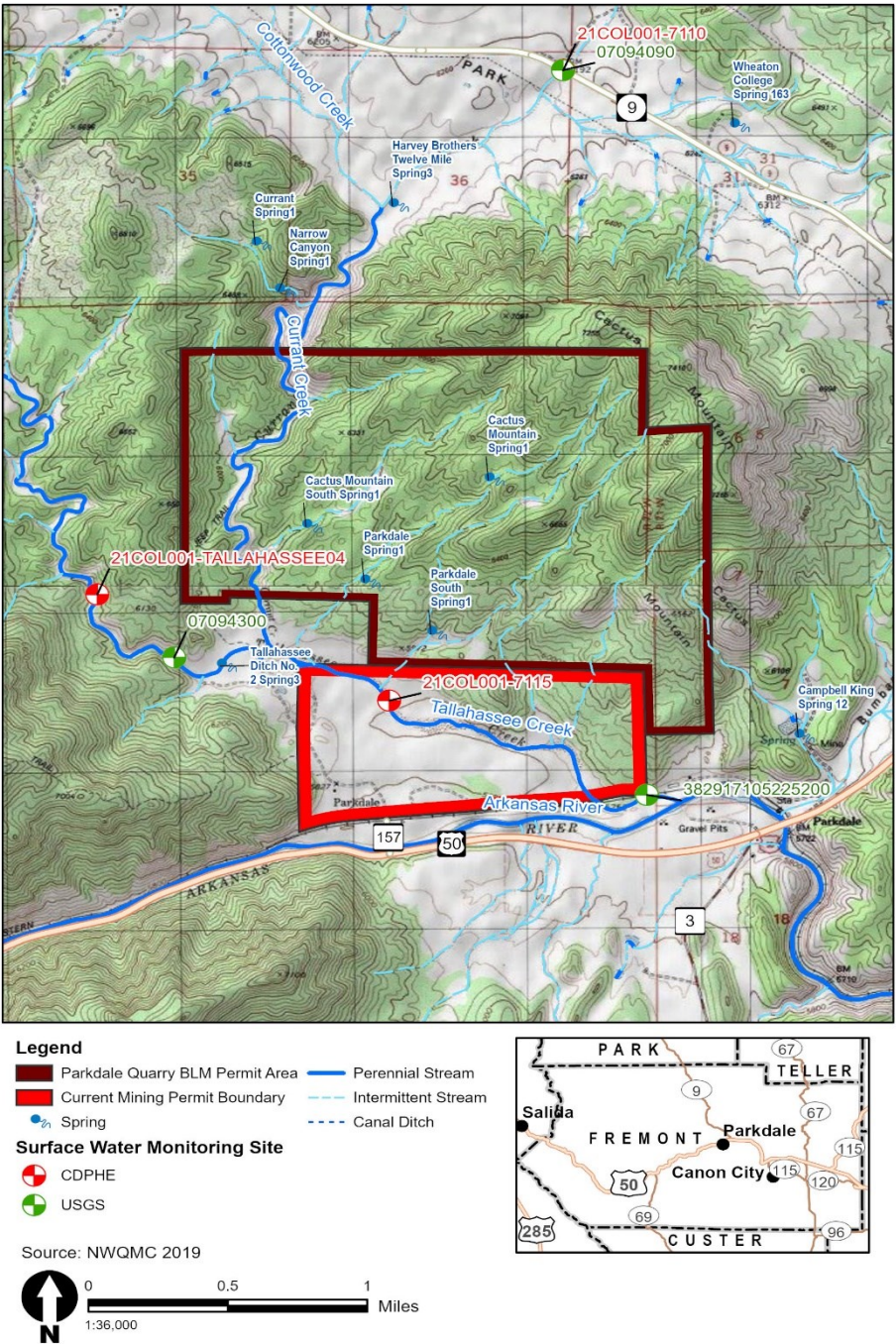


Figure 4. Locations of USGS and CDPHE Surface Water Monitoring Stations with Background Data for Curren and Tallahassee Creeks

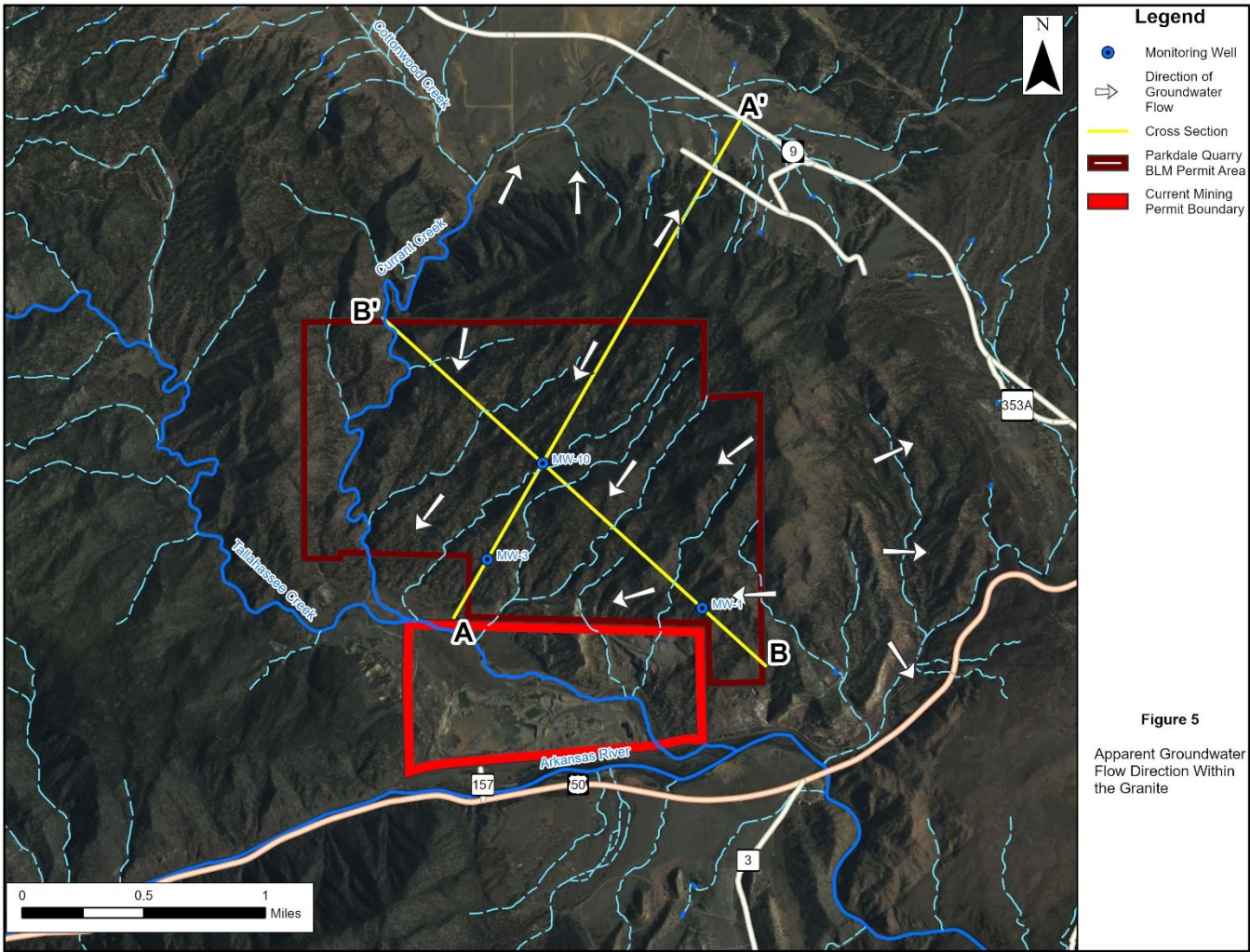


Figure 5. Apparent Groundwater Flow Direction within the Granite in the Parkdale Quarry Area

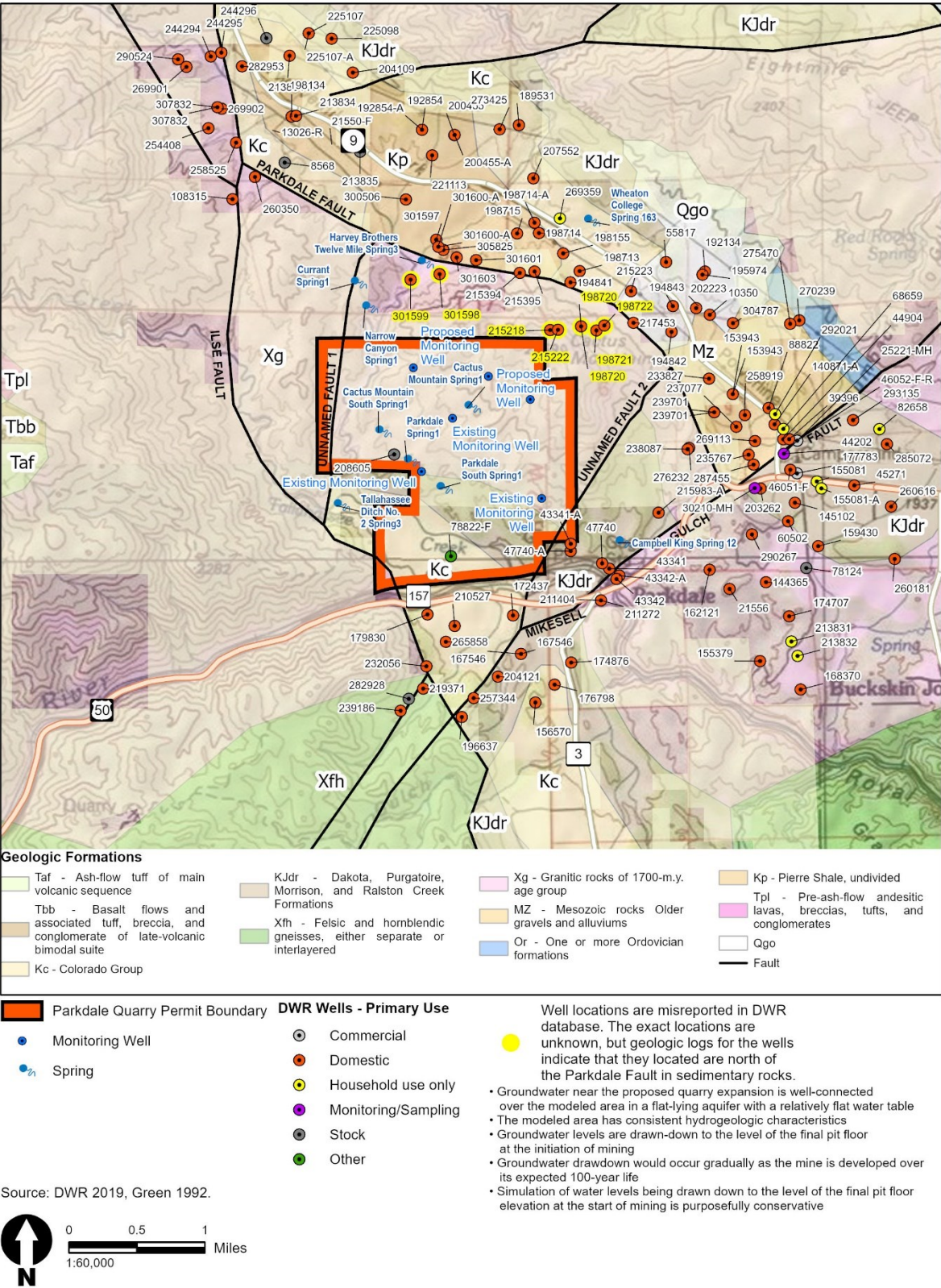


Figure 6. Site Geology and Locations of Groundwater Users Near the Parkdale Quarry

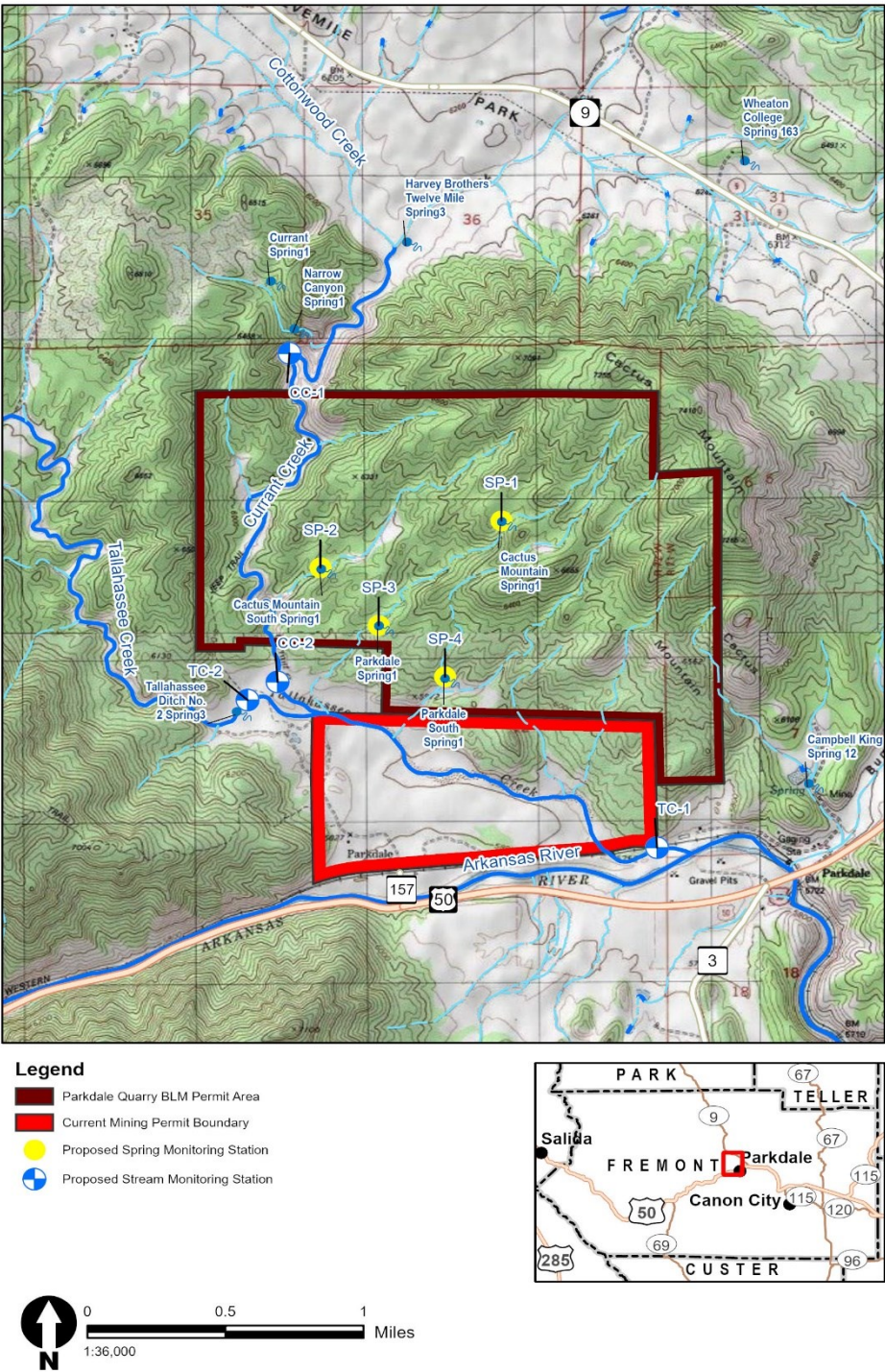


Figure 7. Proposed Surface Water Monitoring Locations

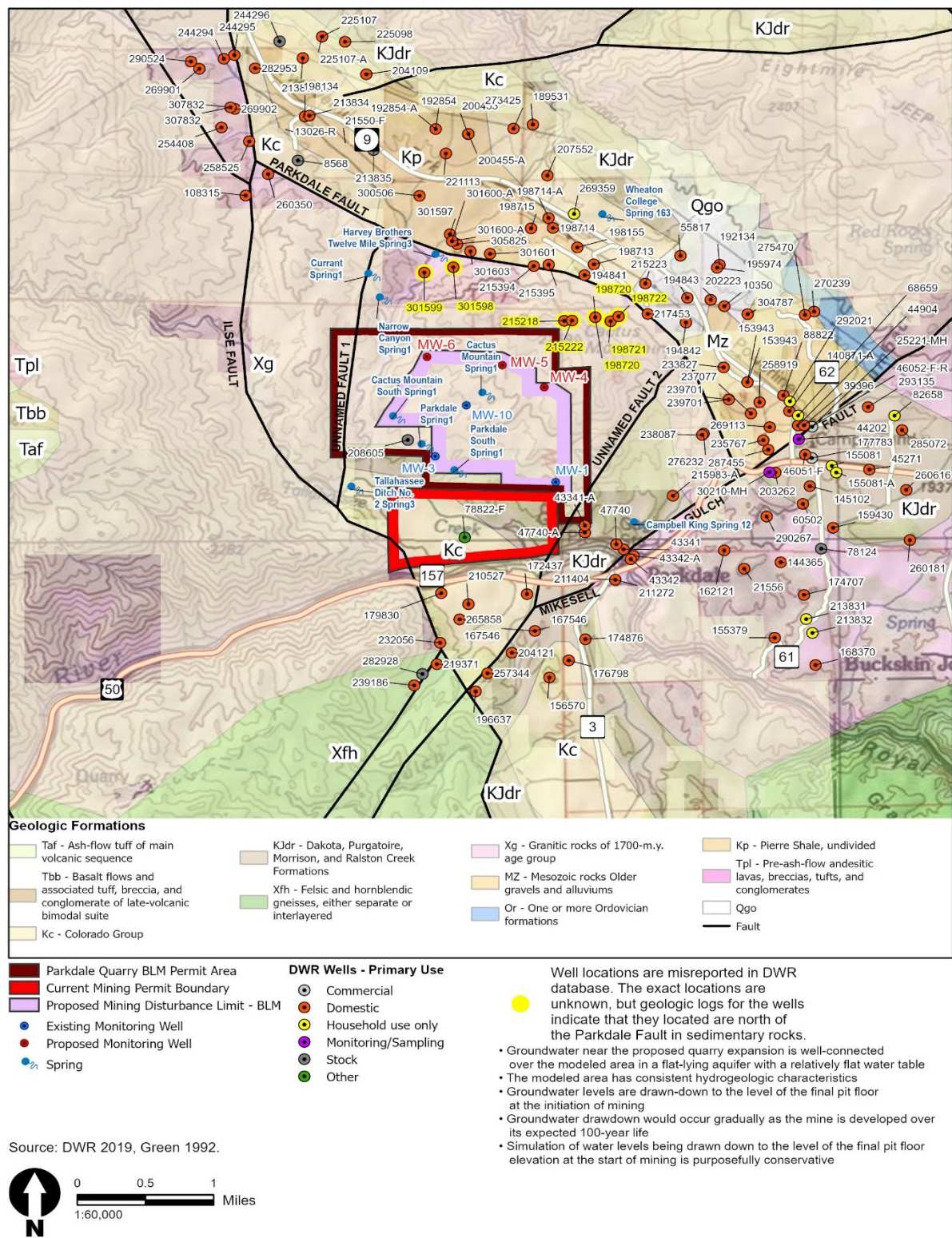


Figure 8. Proposed Groundwater Monitoring Locations

TABLES

Table 1. Summary of Background Data for Currant Creek

Station	Period of Record	Number of Samples	Range of Measured Streamflows	Water Quality Analyses
USGS 07094090	01/13/1981 – 09/21/1982	12	0.30 – 31 cfs	Streamflow, field parameters, selected ions, metals, and radionuclides
USGS 383150105225500	4/22/72	1	--	Field parameters, major ions, nutrients, iron and manganese
CDPHE 21COL001-7110	08/17/2010	1	--	Field parameters, alkalinity, hardness, nutrients, selected ions and metals

Table 2. Summary of Background Data for Tallahassee Creek

Station	Period of Record	Number of Samples	Range of Measured Streamflows	Monitored Parameters
USGS 07094300	01/13/1981 – 09/21/1982	11	0.01 – 31 cfs	Streamflow, field parameters, selected ions, metals, and radionuclides
USGS 382917105225200	06/03/1987 – 10/21/1992	14	0.14 – 44 cfs	Streamflow, field parameters, alkalinity, TDS, nutrients, and metals
CDPHE 21COL001-Tallahassee04	0/14/1980	1	--	Field parameters, alkalinity, hardness TDS, TSS, nutrients, selected ions and metals
CDPHE 21COL001-7115	09/12/2005 – 06/21/2011	3	--	Field parameters, E. Coli, alkalinity, hardness, nutrients, major ions and metals

Table 3. Summary of Springs on or within one-mile of the Overall Mining Area

Spring	Latitude	Longitude	Elevation (ft)	Discharge (gpm)	Date Monitored
Springs within the BLM Mining Area					
Cactus Mountain Spring ¹	38.50599	-105.39281	6,480	0.25	11/19/2019
Cactus Mountain South Spring ¹	38.50336	-105.40489	6,040	0.25	11/19/2019
Parkdale Spring ¹	38.5002	-105.40104	6,140	0.25	11/19/2019
Parkdale South Spring ¹	38.49727	-105.39662	5,920	No Flow	11/19/2019
Springs Near the BLM Mining Area					
Currant Spring ¹	38.51939	-105.40823	6,200	No Flow	08/24/2012
Tallahassee Ditch No. 2 Spring ³	38.49544	-105.41055	5,920	Unknown	--
Narrow Canyon Spring ¹	38.51673	-105.40668	6,300	Very Low	06/27/2016
Campbell King Spring ^{1 2}	38.49140	-105.37232	5,840	Unknown	--
Harvey Brothers Twelve Mile Spring ³	38.52156	-105.39913	6,120	Unknown	--
Wheaton College Spring ^{16 3}	38.52605	-105.37654	6,250	Unknown	--

Sources: ¹ BLM Royal Gorge Field Office (BLM 2019)

² National Hydrography Dataset (USGS 2005)

³ Colorado Division of Water Resources Water Rights Database (Appendix A)

Table 4. Completion Details for Monitoring Wells in the BLM Mining Area

Well ID	Latitude	Longitude	Casing Elevation (ft amsl)	Total Depth (ft btoc)	Well Casing	Screened Interval (ft btoc)
MW-1	38.496541°	-105.382685°	6,252.7	239	2-inch PVC	20-239
MW-3	38.499052°	-105.399946°	6,075.8	249	2-inch PVC	20-249
MW-10	38.504486°	-105.394678°	6,271.6	251	2-inch PVC	20-251

Notes: amsl – above mean sea level

btoc – below top of casing

Data source, ERM 2019

Table 5. Summary of Water Level Data for the BLM Mining Area

Date	MW-1		MW-3		MW-10	
	DTW (ft btoc)	WLE (ft amsl)	DTW (ft btoc)	WLE (ft amsl)	DTW (ft btoc)	WLE (ft amsl)
12/7/2018	103.63	6149.11	47.52	6028.23	11.19	6260.37
12/11/2018	104.13	6148.61	47.55	6028.2	9.76	6261.8
5/14/2019	123.99	6128.75	38.38	6037.37	10.17	6261.39
8/29/2019	127.71	6125.03	49.19	6026.56	18.69	6252.87
11/19/2019	129.4	6123.34	49.9	6025.85	14.28	6257.28
2/28/2020	131.6	6121.14	53.64	6022.11	12.49	6259.07

Notes: amsl – above mean sea level

btoc – below top of casing

Data source, ERM 2020

Table 6. Summary of Pumping Test Data for the BLM Mining Area

Well ID	Average Pumping Rate (gpm)	Pumping Duration (min)	Maximum Drawdown (ft)	Saturated Thickness (ft)	Transmissivity (ft ² /d)	Hydraulic Conductivity (ft/d)	Hydraulic Conductivity (cm/sec)
MW-1	0.136	110	10.5	134.9	0.26	0.0019	6.7E-07
MW-3	0.716	74	99.8	201.4	0.63	0.0027	9.5E-07
MW-10	0.960	102	≈128	241.2	1.57	0.0065	2.3E-06

Note: Data source, ERM 2020

**Table 7. Water Quality Analyses for Granitic Bedrock in the BLM Mining Area
(Reported Levels are Totals verses Soluble)**

Parameter	Standard ¹	MW-1 ⁴		MW-3 ⁴					MW-10 ⁴				
		12/11/2018	5/14/2019	12/11/2018	5/13/2019	8/28/2019	11/19/2019	2/26/2020	12/12/2018	5/13/2019	8/28/2019	11/19/2020	2/26/2020
Field Parameters													
pH (s.u.)	6.6 – 8.5	7.71	7.16	7.65	7.12	7.13	7.62	7.62	7.55	6.64	6.91	6.89	--
Temperature (°C)	--	14.68	20.26	16.4	17	18	17.3	16.9	13.43	12.86	14.71	14.3	--
Specific Conductance (µS/cm)	--	587	475	480	379	411	461	448	602	480	617	735	--
Solution Parameters and Major Ions													
Alkalinity (mg CaCO ₃ /L)	--	190	188	176	168	--	--	--	253	228	190	--	--
TDS (mg/L)	500	406	417	338	318	--	--	--	437	420	--	--	--
Calcium (mg/L)	--	67.6	75.8	50.2	48.1	--	--	--	81.4	76.4	--	--	--
Chloride (mg/L)	250	8	7.5	11.6	9.9	--	--	--	8	7.5	--	--	--
Potassium (mg/L)	--	2.9	3.03	2.36	2.13	--	--	--	2.55	1.64	--	--	--
Magnesium (mg/L)	--	15.8	15.1	11.4	10.6	--	--	--	16.5	14.8	--	--	--
Silicon	--	7.66	7.64	9.95	10.7	--	--	--	13	13.2	7.66	--	--
Sodium (mg/L)	--	23.7	23.1	30.7	28.2	--	--	--	22.6	20	--	--	--
Sulfate (mg/L)	250	99	95.8	63.2	55.7	--	--	--	86.3	85.9	--	--	--
Nutrients													
Nitrate (N mg/L)	10	5.7	6.5	1.9	2.6	--	--	--	0.12	0.087	--	--	--
Phosphorus, total (mg/L)	--	0.28	0.31	0.98	0.41	--	--	--	3.1	0.81	--	--	--
Dissolved Metals													
Aluminum (mg/L)	5	< 0.1	< 0.1	< 0.1	< 0.1	--	--	--	< 0.1	< 0.1	--	--	--
Antimony (mg/L)	0.006	< 0.008	< 0.008	< 0.008	< 0.008	--	--	--	< 0.008	< 0.008	--	--	--
Arsenic (mg/L)	0.01	< 0.0004	0.0004	0.00059	0.00043	--	--	--	0.00042	0.0004	--	--	--
Barium (mg/L)	2	0.0183	0.0207	0.0314	0.0189	--	--	--	0.0391	0.034	--	--	--

Monitoring and Mitigation Plan – Parkdale Quarry

Parameter	Standard ¹	MW-1 ⁴		MW-3 ⁴					MW-10 ⁴				
		12/11/2018	5/14/2019	12/11/2018	5/13/2019	8/28/2019	11/19/2019	2/26/2020	12/12/2018	5/13/2019	8/28/2019	11/19/2020	2/26/2020
Cadmium (mg/L)	0.005	< 0.0002	< 0.0002	< 0.0002	< 0.0002	--	--	--	< 0.0002	< 0.0002	--	--	--
Chromium, total (mg/L)	0.1	< 0.004	< 0.004	< 0.004	< 0.004	--	--	--	< 0.004	< 0.004	--	--	--
Cobalt (mg/L)	0.05	< 0.002	< 0.001 ^a	< 0.0004	< 0.0004	--	--	--	< 0.002	< 0.002	--	--	--
Copper (mg/L)	0.2	< 0.004	< 0.004	< 0.004	< 0.004	--	--	--	0.0084	0.0052	--	--	--
Iron (mg/L)	0.3	0.179	0.122	0.139	0.0822	--	--	--	0.221	0.14	--	--	--
Lead (mg/L)	0.05	< 0.001	< 0.001	< 0.001	< 0.001	--	--	--	< 0.001	< 0.001	--	--	--
Manganese (mg/L)	0.2	0.005	0.0029	0.0098	0.0128	--	--	--	0.0241	0.005	--	--	--
Molybdenum (mg/L)	0.21	0.04	0.0188	0.141	0.155	--	--	--	0.0383	0.0073	--	--	--
Nickel (mg/L)	0.1	0.0052	< 0.0040	< 0.0040	0.0112	--	--	--	0.0102	< 0.0040	--	--	--
Selenium (mg/L)	0.05	0.0029	0.0038	0.0032	0.0022	--	--	--	0.0012	0.0012	--	--	--
Uranium (mg/L)	0.0168	0.0173	0.0137	0.0212	0.0197	0.0167	--	--	0.0382	0.0167	0.0126	--	--
Zinc (mg/L)	2	< 0.020	< 0.020	< 0.020	< 0.020	--	--	--	< 0.020	< 0.020	--	--	--
Radionuclides													
Gross Alpha (pCi/L)	--	19	18	47	47	38	38.8	--	120	25	31	18	--
Adjusted Gross Alpha (pCi/L) ²	15	7.41	8.82	32.8	33.8	26.81	27.11 ³	--	94.41	13.81	22.56	9.56 ³	--
Gross Beta (pCi/L)	50 pCi/L screening	22	28	71	65	14	17.5	--	200	34	20	7.25	--
Radium 226 (pCi/L)	5 ⁴	1	1.2	2.3	1.3 ⁵	0.6	0.15	--	4.4 ⁵	1.4	2.6 ⁵	1.32	--
Radium 228 (pCi/L)	5 ⁴	1.5	2.7	2.2	9.7 ⁵	1.9	1.32	--	3.1 ⁵	2.6	2.6 ⁵	1.32	--
Uranium 234 (pCi/L)	--	16	19	21	17	20.8	21.6	--	25	11	10.1	9.88	--
Uranium 235 (pCi/L)	--	0.07	0	1.2	-0.27	0.505	0.475	--	0.96	-0.64	0.277	0.219	--
Uranium 238 (pCi/L)	--	9.06	6.45	9.99	7.28	7.66	8.53	--	17.2	7.44	5.95	4.53	--

¹

Notes: The referenced water quality standard is the lower of the drinking water standard, human health standard, or agricultural standard.

² The adjusted gross alpha level is the gross alpha level ~~corrected~~ for the uranium concentration. However, the water quality standard is based on Gross Alpha less Uranium and Radon.

³ Uranium was not analyzed in this sample, so the lowest uranium concentration detected in this well was used.

⁴ This is the United States Environmental Protection Agency proposed standard, there is currently no domestic water supply standard for radium.

⁵ The sum of radium 226 and 228 for the sample exceeds the domestic water supply standard per the 2000 EPA radionuclides rule.

Data Source ERM 2020

Bolded and shaded values exceed domestic water supply standards in CCR5 1002-41

-- No test performed

Table 8. Proposed Surface Water and Groundwater Monitoring Locations

Station	Description	Monitoring Frequency	Monitored Parameters	Comment
CC-1	Current Creek upstream of BLM Mining Area	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
CC-2	Current Creek downstream of BLM Mining Area	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
TC-1	Tallahassee Creek downstream of Parkdale Quarry	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
TC-2	Tallahassee Creek upstream of Currant Creek	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
SP-1	Cactus Mountain Spring	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
SP-2	Cactus Mountain South Spring	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
SP-3	Parkdale Spring	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
SP-4	Parkdale South Spring	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
MW-1	Existing monitoring well in granite near the southeast portion of the BLM Mining Area	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Quarterly water levels, biannual field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
MW-3	Existing monitoring well in granite near the southwest portion of the BLM Mining Area	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Quarterly water levels, biannual field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area
MW-4	New monitoring well in granite on east edge of BLM Mining Area on west side of unnamed fault 2	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Quarterly water levels, biannual field parameters, analytes noted in Table 9	To be installed prior to disturbance of the Phase 3 Central Pit
MW-5	New monitoring well in granite on north edge of BLM Mining Area on the south side of the Parkdale Fault	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Quarterly water levels, biannual field parameters, analytes noted in Table 9	To be installed prior to disturbance of the Phase 2 West Central Pit
MW-6	New monitoring well in granite on north edge of BLM Mining Area on the south side of the Parkdale Fault	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Quarterly water levels, biannual field parameters, analytes noted in Table 9	To be installed prior to disturbance of the Phase 1 West Pit
MW-10	Existing Monitoring Well in granite near the central portion of the BLM Mining Area	Quarterly for minimum of 5 quarters before mining and 4 quarters after, then biannually.	Quarterly water levels, biannual field parameters, analytes noted in Table 9	Monitoring to begin prior to ground disturbing activities in the BLM Mining Area

Table 9. Monitored Analytes with Trigger Levels for Mitigation

Parameter	Water Quality Standards Surface Water Discharge	Water Quality Standard (Monitoring Wells MW-4, MW-5, MW-6, MW-10)	Water Quality Standard ⁽¹⁾ (Point of Compliance Monitoring Wells MW-1 and MW-3)	Water Quality Standard Upstream Points CC-1 and TC-2 (Tallahassee and Currant Creeks)	Water Quality Standard Downstream Points CC-2, TC-1 (Tallahassee and Currant Creeks)	Surface Water Quality Standard (Four Springs within the Permit Boundary)
Field Parameters						
pH (s.u.)	6.5 to 9.0 (daily maximum)	See Comment Below	6.5 to 8.5 (DWS)	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported
Temperature (°C)	--	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported
Specific Conductance (µS/cm)	--	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported
Turbidity (NTU)	--	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported	Value Recorded and Reported
Dissolved Oxygen (mg/L)	--	--	--	Value Recorded and Reported	6.0 (7.0 – Spawning)	--
Solution Parameters and Major Ions						
Total Dissolved Solids (mg/L)	--	See Comment Below	Background 0 to 500; Greater of 400 or 1.25X Background. Background 501 to 10,000; 1.25X Background. Background >10,000; No limit.	See Comment Below	--	--
Total Suspended Solids (mg/L)	30 (30-day average) 45 (7-day average)	R	R	R	R	R
Ammonia (mg/L)	--	--	--	Value Recorded and Reported	TVS	--
Chloride (mg/L)	--	See Comment Below	250	Value Recorded and Reported	250	--
Corrosivity	--	See Comment Below	Noncorrosive (DWS)	--	--	--
Nitrate (NO3) (mg/L)	--	See Comment Below	10.0 as N (HHS)	Value Recorded and Reported	10	--
Nitrite (NO2) (mg/L)	--	See Comment Below	1 as N (HHS)	Value Recorded and Reported	0.05	--

Monitoring and Mitigation Plan – Parkdale Quarry

Parameter	Water Quality Standards Surface Water Discharge	Water Quality Standard (Monitoring Wells MW-4, MW-5, MW-6, MW-10)	Water Quality Standard ⁽¹⁾ (Point of Compliance Monitoring Wells MW-1 and MW-3)	Water Quality Standard Upstream Points CC-1 and TC-2 (Tallahassee and Currant Creeks)	Water Quality Standard Downstream Points CC-2, TC-1 (Tallahassee and Currant Creeks)	Surface Water Quality Standard (Four Springs within the Permit Boundary)
Total Nitrate + Nitrite	--	See Comment Below	10.0 as N (HHS)	See Comment Below	--	--
Sulfate (mg/L)	--	See Comment Below	250 (DWS)	Value Recorded and Reported	WS	--
Inorganic Compounds						
Aluminum (mg/L)	--	See Comment Below	5 (A)	--	--	--
Antimony (mg/L)	--	See Comment Below	0.006 (HHS)	--	--	--
Arsenic (mg/L)	--	See Comment Below	0.01 (HHS)	Value Recorded and Reported	0.34	--
Barium (mg/L)	--	See Comment Below	2 (HHS)	--	--	--
Beryllium (mg/L)	--	See Comment Below	0.004 (HHS)	--	--	--
Boron (mg/L)	--	See Comment Below	0.75 (A)	--	--	--
Cadmium (mg/L)	--	See Comment Below	0.005 (HHS)	Value Recorded and Reported	0.005	--
Chromium, total (mg/L)	--	See Comment Below	0.1 (HHS)	Value Recorded and Reported	0.05	--
Cobalt, total (mg/L)	--	See Comment Below	0.05 (A)	--	--	--
Copper - Dissolved (µg/L)	Report 30-day average and maximum daily average.	See Comment Below	0.2 (DWS)	Value Recorded and Reported	TVS	Value Recorded and Reported
Iron (mg/L)	--	See Comment Below	0.3 (DWS)	Value Recorded and Reported	1.0	--
Lead (mg/L)	--	See Comment Below	0.05 (HHS)	Value Recorded and Reported	0.05	--
Lithium (mg/L)	--	See Comment Below	2.5 (A)	--	--	--
Manganese (mg/L)	--	See Comment Below	0.2 (DWS)	Value Recorded and Reported	TVS/WS	--
Molybdenum (mg/L)	--	See Comment Below	0.21 (HHS)	Value Recorded and Reported	150	--
Nickel (mg/L)	--	See Comment Below	0.1 (HHS)	Value Recorded and Reported	0.1	--
Radon	--	See Comment Below	No Standard Established	--	--	--

Monitoring and Mitigation Plan – Parkdale Quarry

Parameter	Water Quality Standards Surface Water Discharge	Water Quality Standard (Monitoring Wells MW-4, MW-5, MW-6, MW-10)	Water Quality Standard ⁽¹⁾ (Point of Compliance Monitoring Wells MW-1 and MW-3)	Water Quality Standard Upstream Points CC-1 and TC-2 (Tallahassee and Currant Creeks)	Water Quality Standard Downstream Points CC-2, TC-1 (Tallahassee and Currant Creeks)	Surface Water Quality Standard (Four Springs within the Permit Boundary)
Selenium (mg/L)	--	See Comment Below	0.05 (HHS)	Value Recorded and Reported	TVS	--
Silver (mg/L)	--	See Comment Below	0.02 (A)	Value Recorded and Reported	TVS (Trout)	--
Thallium (mg/L)	--	See Comment Below	0.002 (HHS)	--	--	--
Uranium (mg/L)	--	See Comment Below	0.0168 (HHS)	--	--	--
Vanadium (mg/L)	--	See Comment Below	0.1 (A)	--	--	--
Zinc (mg/L)	--	See Comment Below	2 (A)	Value Recorded and Reported	TVS	--
Organic Compounds						
Oil and Grease (mg/L)	10 (Only analyzed for if a visible sheen is noted)	--	--	--	(Only analyzed for if a visible sheen is noted in downstream sample and not in upstream sample)	-
Radionuclides						
Adjusted Gross Alpha (pCi/L) ^(1, 2)	--	See Comment Below	15 (HHS)	--	--	--
Gross Beta (mrem/year) ⁽¹⁾	--	See Comment Below	4 (HHS)	--	--	--
Comments						
	Current standard as per the site discharge permit.	MW-3, MW-5, and MW-6 are upgradient from the mining are and thus provide background data for water quality.	The compliance standard for the compliance wells will be the greater of the premining background level in that well and the water quality standard.	CC-1 and TC-2 are upstream background sampling locations.	The compliance standard will be the greater of the upstream background level and the listed Regulation 34 water quality standard for Tallahassee Creek.	Based on current standard as per the site discharge permit.

NOTES:

(1) - The referenced water quality standard is the lower of the drinking water standard, human health standard, or agricultural standard.

s.u. = Standard Units

°C = Degrees Centigrade

-- = Analyte/Property Not Tested For

R – Reported, Action Level Not Established.

µS/cm = MicroSiemens per Centimeter

mg/L = Milligrams per Liter

mV = Millivolts

NTU = Nephelometric Turbidity Units

mg CaCO₃/L = Milligrams Calcium Carbonate per Liter

µg/L = Micrograms per Liter

pCi/L = PicoCuries per Liter

A = Agricultural Standard

DWS = Drinking Water Standard

HHS Human Health Standard

TVS = Table Value Standard

WS = Water Supply Standard

Table 10. Summary of Indicators and Mitigation Measures for Impacts to Water Resources

Impact	Indicators	Mitigation
Alteration of Water Quality in Currant Creek.	<ul style="list-style-type: none"> Increased SC or turbidity at CC-2 compared to CC-1 of greater than 10%.. Differences in pH from CC-1 to CC-2 that is greater than 0.5 pH units and that is less than a pH of 6.5 or greater than a pH of 9.0. Observation of runoff from mining disturbed areas entering the creek combined with an exceedance of a water quality standard as set forth in Table 9. 	<ul style="list-style-type: none"> Initiate investigation in coordination with DRMS to determine cause Implement BMPs if applicable. Adaptive management of mining practices to eliminate sources of contamination
Alteration of water quality in Tallahassee Creek.	<ul style="list-style-type: none"> Increasing trends in SC or turbidity, at TC-1 compared to TC-2 over five quarters. Differences in pH from TC-2 to TC-1 that is greater than 0.5 pH units and that is less than a pH of 6.5 or greater than a pH of 9.0.. areas entering the creek combined with an exceedance of a water quality standard as set forth in Table 9. 	<ul style="list-style-type: none"> Initiate investigation in coordination with DRMS to determine cause Implement BMPs if applicable. Adaptive management of mining practices to eliminate sources of contamination.
Alteration of water quality or flow at springs outside the permit boundary.	<ul style="list-style-type: none"> Monitored parameters for springs outside of the BLM Mining Area indicate a trend of increasing concentrations of analytes over a five quarter period compared to the pre-disturbance baseline. 	<ul style="list-style-type: none"> Initiate investigation in coordination with DRMS to determine cause. Adaptive management of mining practices to minimize or eliminate impacts to spring flows and water quality.
Alteration of groundwater levels and water quality that affects availability or usability for groundwater users.	<ul style="list-style-type: none"> Changes or trends in monitored water quality parameters in monitoring wells compared to pre-disturbance baseline data that exceed the applicable water quality standard. Complaints from nearby groundwater users about decreasing water levels or water quality in offsite wells when those trends are also present in onsite monitoring wells. 	<ul style="list-style-type: none"> Initiate investigation in coordination with DRMS to determine cause.

APPENDIX A

DWR Well Records

DWR Well Records for Water Resources Study Area

Permit	Current Status	Contact Name	DIV	WD	County
25221MH	Well Constructed	MASSEY, LEE	2	12	FREMONT
30210MH	Well Constructed	SHIPPEY, RONALD	2	12	FREMONT
78124	Well Constructed	BARTLESON	2	12	FREMONT
88822	Well Constructed	LITTLEFIELD, GEORGE L	2	12	FREMONT
140871-A	Well Constructed	CROWFOOT, FLOYD	2	12	FREMONT
145102	Well Constructed	PRUETT, FLOYD D	2	12	FREMONT
153943	Well Constructed	NUTLY, ALBERT J.	2	12	FREMONT
43341-A	Well Constructed	AJET	2	12	FREMONT
153943	Well Constructed	NUTLY, MARY ANN	2	12	FREMONT
155081	Well Constructed	KRESKI, JOHN	2	12	FREMONT
155081-A	Well Constructed	MORENO LEIDY SASTOQUE	2	12	FREMONT
155379	Well Constructed	BURKHOLDER NORMAN L & CONNIE J	2	12	FREMONT
47740-A	Well Constructed	KING ALEXANDER CAMPBELL	2	12	FREMONT
159430	Well Constructed	TOLLIS, GENE P	2	12	FREMONT
162121	Well Constructed	BROWN, MARK N	2	12	FREMONT
168370	Well Constructed	JOHNSON CURTIS & BLACKHE HELENE	2	12	FREMONT
174707	Well Constructed	TOLLIS, ERNIE P	2	12	FREMONT
177783	Well Constructed	KRIZMAN, ARTHUR	2	12	FREMONT
192134	Well Constructed	BOWERS SPENCER & LINDSEY	2	12	FREMONT
46051F	Well Constructed	CAMP SCHIRADO LLC	2	12	FREMONT
194842	Well Constructed	DUNCAN, GEORGIA L	2	12	FREMONT
194843	Well Constructed	EMBRY, JACK	2	12	FREMONT
194841	Well Constructed	SKEPI, ESAT	2	12	FREMONT
194841	Well Constructed	ROFOFSKY, DAVID W.	2	12	FREMONT
195974	Well Constructed	KUEHL, ROBERT N	2	12	FREMONT
198721	Well Constructed	WILTSE DONALD CHARLES	2	12	FREMONT
198714	Well Constructed	EMBRY, DON J	2	12	FREMONT
198722	Well Constructed	WILTSE DONALD CHARLES	2	12	FREMONT
198715	Well Constructed	BEDFORD RUSSELL & SHARON LEE	2	12	FREMONT
198155	Well Constructed	MOSER MICHAEL & SWENSUN PHYLLIS	2	12	FREMONT
198713	Well Constructed	BAXTER, PAUL	2	12	FREMONT
202223	Well Constructed	ROBINSON, SAMUEL G	2	12	FREMONT
203262	Well Constructed	SHIPPEY, RONALD	2	12	FREMONT
207552	Well Constructed	MILLS ART & PATRICIA	2	12	FREMONT
208605	Well Constructed	COOPER DONALD E & MARTHA J	2	12	FREMONT
213831	Well Constructed	LESKOSKY, BERNICE P	2	12	FREMONT
213835	Well Constructed	MARCHAND GARY JOANN & HELEN	2	12	FREMONT
213832	Well Constructed	LESKOSKY, BERNICE P	2	12	FREMONT
215223	Well Constructed	BAUM, DOUGLAS W	2	12	FREMONT
198714-A	Well Constructed	IGLESIAS, FIDEL	2	12	FREMONT
215395	Well Constructed	DYE, WILLIAM E	2	12	FREMONT
215222	Well Constructed	GARETT, CAROL M	2	12	FREMONT
215394	Well Constructed	BRADSHAW DEAN & PATRICIA	2	12	FREMONT
215218	Well Constructed	BEAN, KEITH D	2	12	FREMONT
217453	Well Constructed	AMMEL HARVEY D & DEANNA L	2	12	FREMONT
221113	Well Constructed	KEELER, JOHN	2	12	FREMONT

DWR Well Records for Water Resources Study Area

Permit	Current Status	Contact Name	DIV	WD	County
233827	Well Constructed	CROSBY, JACKIE	2	12	FREMONT
235767	Well Constructed	NORHOLM, COLLEEN	2	12	FREMONT
237077	Well Constructed	SCHOMCKER DENNIS & KATHLEEN	2	12	FREMONT
238087	Well Constructed	HEYEN RON & JEANETTE	2	12	FREMONT
239701	Well Constructed	ASQUITH, JOHN	2	12	FREMONT
239701	Well Constructed	CARROLL, JANICE	2	12	FREMONT
46052F-R	Well Replaced	CAMP SCHIRADO LLC	2	12	FREMONT
258919	Well Constructed	SIMS JONATHAN M & PASLEY WHITNEY N	2	12	FREMONT
260350	Well Constructed	MARCHAND RANCH	2	12	FREMONT
43342-A	Well Constructed	WILLIAMS, BLAIR	2	12	FREMONT
270239	Well Constructed	TATUM MATTHEW C & KATIA	2	12	FREMONT
275470	Well Constructed	LYNN, STUART C.	2	12	FREMONT
275470	Well Constructed	LYNN, SALLY J.	2	12	FREMONT
276232	Well Constructed	LEWIS-MARTIN, CLAIRE	2	12	FREMONT
215983-A	Well Constructed	CLARK, JAMES	2	12	FREMONT
287455	Well Constructed	PHILLIPS, MICHAEL F	2	12	FREMONT
290267	Well Constructed	ELDRED JACQUE & MARKUS	2	12	FREMONT
292021	Well Constructed	CHALMERS HUGH & ROXANE	2	12	FREMONT
78822F	Well Constructed	FRONT RANGE AGGREGATES LLC	2	12	FREMONT
300506	Well Constructed	BARGER, TROY C	2	12	FREMONT
301600	Well Replaced	FEDIE, MARK	2	12	FREMONT
301597	Well Constructed	TABISH MARK & WENDY	2	12	FREMONT
301601	Well Constructed	FEDIE, MARK	2	12	FREMONT
301598	Well Constructed	SANDERS, JAMES W.	2	12	FREMONT
301603	Well Constructed	FEDIE, MARK	2	12	FREMONT
301598	Well Constructed	SANDERS, NANCY	2	12	FREMONT
301600-A	Well Constructed	CABAY, HEATHER L.	2	12	FREMONT
301600-A	Well Constructed	CABAY, JASON J.	2	12	FREMONT
144365	Well Constructed	ALVIES, DIANE	2	12	FREMONT
44904	Well Constructed	MASSEY, JAN E	2	12	FREMONT
21556	Well Constructed	FREDICKSON WALKER & BOMBERG	2	12	FREMONT
10350	Well Constructed	GOWDY, BENITA F	2	12	FREMONT
44202	Well Constructed	TYLER, ROGER	2	12	FREMONT
8568	Well Constructed	BARTGIS KELLY D & PAMELA J	2	12	FREMONT
47740	Well Constructed	CF&I STEEL CORPORATION	2	12	FREMONT
39396	Well Constructed	MASSEY, JAN E	2	12	FREMONT
43341	Well Constructed	CF & I STEEL CORP	2	12	FREMONT
43342	Well Constructed	CF & I STEEL CORP	2	12	FREMONT
55817	Well Constructed	MOUNT, IMOGEAN	2	12	FREMONT
108315	Well Constructed	BARTGIS KELLY D & PAMELA D	2	12	FREMONT
60502	Well Constructed	STEWART, LEONARD	2	12	FREMONT
68659	Well Constructed	WINKIEWICZ, FRANK	2	12	FREMONT
304787	Well Constructed	CAIN, DANIEL E	2	12	FREMONT
46052F-R	Well Constructed	SCHIRADO, RHONDA J.	2	12	FREMONT
305825	Well Constructed	BARRY, KENNETH J.	2	12	FREMONT
269359	Well Constructed	OWENS RICHARD W & KRISTY ANN	2	12	FREMONT

DWR Well Records for Water Resources Study Area

Permit	Current Status	Contact Name	DIV	WD	County
301599	Well Constructed	HOUDEK, GRETCHEN	2	12	FREMONT
198720	Well Constructed	ANDERSON, DONALD	2	12	FREMONT
198720	Well Constructed	SLEZAK, SUSAN	2	12	FREMONT
269113	Well Constructed	ALVIES, DIANE	2	12	FREMONT
312799	Well Constructed	PARKER, CHRISTOPHER A.	2	12	FREMONT

DWR Well Records for Water Resources Study Area

Permit	Designated Basin	Management District	Denver Basin Aquifer	PM	Township	Range
25221MH	<Null>	<Null>	No	S	18.0 S	71.0 W
30210MH	<Null>	<Null>	No	S	18.0 S	71.0 W
78124	<Null>	<Null>	No	S	18.0 S	71.0 W
88822	<Null>	<Null>	No	S	18.0 S	71.0 W
140871-A	<Null>	<Null>	No	S	18.0 S	71.0 W
145102	<Null>	<Null>	No	S	18.0 S	71.0 W
153943	<Null>	<Null>	No	S	18.0 S	71.0 W
43341-A	<Null>	<Null>	No	S	18.0 S	71.0 W
153943	<Null>	<Null>	No	S	18.0 S	71.0 W
155081	<Null>	<Null>	No	S	18.0 S	71.0 W
155081-A	<Null>	<Null>	No	S	18.0 S	71.0 W
155379	<Null>	<Null>	No	S	18.0 S	71.0 W
47740-A	<Null>	<Null>	No	S	18.0 S	71.0 W
159430	<Null>	<Null>	No	S	18.0 S	71.0 W
162121	<Null>	<Null>	No	S	18.0 S	71.0 W
168370	<Null>	<Null>	No	S	18.0 S	71.0 W
174707	<Null>	<Null>	No	S	18.0 S	71.0 W
177783	<Null>	<Null>	No	S	18.0 S	71.0 W
192134	<Null>	<Null>	No	S	17.0 S	71.0 W
46051F	<Null>	<Null>	No	S	18.0 S	71.0 W
194842	<Null>	<Null>	No	S	18.0 S	71.0 W
194843	<Null>	<Null>	No	S	17.0 S	71.0 W
194841	<Null>	<Null>	No	S	17.0 S	71.0 W
194841	<Null>	<Null>	No	S	17.0 S	71.0 W
195974	<Null>	<Null>	No	S	17.0 S	71.0 W
198721	<Null>	<Null>	No	S	18.0 S	71.0 W
198714	<Null>	<Null>	No	S	17.0 S	71.0 W
198722	<Null>	<Null>	No	S	18.0 S	71.0 W
198715	<Null>	<Null>	No	S	17.0 S	71.0 W
198155	<Null>	<Null>	No	S	17.0 S	71.0 W
198713	<Null>	<Null>	No	S	17.0 S	71.0 W
202223	<Null>	<Null>	No	S	17.0 S	71.0 W
203262	<Null>	<Null>	No	S	18.0 S	71.0 W
207552	<Null>	<Null>	No	S	17.0 S	71.0 W
208605	<Null>	<Null>	No	S	18.0 S	72.0 W
213831	<Null>	<Null>	No	S	18.0 S	71.0 W
213835	<Null>	<Null>	No	S	17.0 S	72.0 W
213832	<Null>	<Null>	No	S	18.0 S	71.0 W
215223	<Null>	<Null>	No	S	17.0 S	71.0 W
198714-A	<Null>	<Null>	No	S	17.0 S	71.0 W
215395	<Null>	<Null>	No	S	17.0 S	71.0 W
215222	<Null>	<Null>	No	S	18.0 S	71.0 W
215394	<Null>	<Null>	No	S	17.0 S	71.0 W
215218	<Null>	<Null>	No	S	18.0 S	71.0 W
217453	<Null>	<Null>	No	S	18.0 S	71.0 W
221113	<Null>	<Null>	No	S	17.0 S	72.0 W

DWR Well Records for Water Resources Study Area

Permit	Designated Basin	Management District	Denver Basin Aquifer	PM	Township	Range
233827	<Null>	<Null>	No	S	18.0 S	71.0 W
235767	<Null>	<Null>	No	S	18.0 S	71.0 W
237077	<Null>	<Null>	No	S	18.0 S	71.0 W
238087	<Null>	<Null>	No	S	18.0 S	71.0 W
239701	<Null>	<Null>	No	S	18.0 S	71.0 W
239701	<Null>	<Null>	No	S	18.0 S	71.0 W
46052F-R	<Null>	<Null>	No	S	18.0 S	71.0 W
258919	<Null>	<Null>	No	S	18.0 S	71.0 W
260350	<Null>	<Null>	No	S	17.0 S	72.0 W
43342-A	<Null>	<Null>	No	S	18.0 S	71.0 W
270239	<Null>	<Null>	No	S	18.0 S	71.0 W
275470	<Null>	<Null>	No	S	18.0 S	71.0 W
275470	<Null>	<Null>	No	S	18.0 S	71.0 W
276232	<Null>	<Null>	No	S	18.0 S	71.0 W
215983-A	<Null>	<Null>	No	S	18.0 S	71.0 W
287455	<Null>	<Null>	No	S	18.0 S	71.0 W
290267	<Null>	<Null>	No	S	18.0 S	71.0 W
292021	<Null>	<Null>	No	S	18.0 S	71.0 W
78822F	<Null>	<Null>	No	S	18.0 S	72.0 W
300506	<Null>	<Null>	No	S	17.0 S	72.0 W
301600	<Null>	<Null>	No	S	17.0 S	72.0 W
301597	<Null>	<Null>	No	S	17.0 S	72.0 W
301601	<Null>	<Null>	No	S	17.0 S	72.0 W
301598	<Null>	<Null>	No	S	17.0 S	72.0 W
301603	<Null>	<Null>	No	S	17.0 S	72.0 W
301598	<Null>	<Null>	No	S	17.0 S	72.0 W
301600-A	<Null>	<Null>	No	S	17.0 S	72.0 W
301600-A	<Null>	<Null>	No	S	17.0 S	72.0 W
144365	<Null>	<Null>	No	S	18.0 S	71.0 W
44904	<Null>	<Null>	No	S	18.0 S	71.0 W
21556	<Null>	<Null>	No	S	18.0 S	71.0 W
10350	<Null>	<Null>	No	S	18.0 S	71.0 W
44202	<Null>	<Null>	No	S	18.0 S	71.0 W
8568	<Null>	<Null>	No	S	17.0 S	72.0 W
47740	<Null>	<Null>	No	S	18.0 S	71.0 W
39396	<Null>	<Null>	No	S	18.0 S	71.0 W
43341	<Null>	<Null>	No	S	18.0 S	71.0 W
43342	<Null>	<Null>	No	S	18.0 S	71.0 W
55817	<Null>	<Null>	No	S	17.0 S	71.0 W
108315	<Null>	<Null>	No	S	17.0 S	72.0 W
60502	<Null>	<Null>	No	S	18.0 S	71.0 W
68659	<Null>	<Null>	No	S	18.0 S	71.0 W
304787	<Null>	<Null>	No	S	18.0 S	71.0 W
46052F-R	<Null>	<Null>	No	S	18.0 S	71.0 W
305825	<Null>	<Null>	No	S	17.0 S	72.0 W
269359	<Null>	<Null>	No	S	17.0 S	71.0 W

DWR Well Records for Water Resources Study Area

Permit	Designated Basin	Management District	Denver Basin Aquifer	PM	Township	Range
301599	<Null>	<Null>	No	S	17.0 S	72.0 W
198720	<Null>	<Null>	No	S	18.0 S	71.0 W
198720	<Null>	<Null>	No	S	18.0 S	71.0 W
269113	<Null>	<Null>	No	S	18.0 S	71.0 W
312799	<Null>	<Null>	No	S	17.0 S	72.0 W

DWR Well Records for Water Resources Study Area

Permit	Township_D	Range_D	Section	Q10	Q40	Q160	CoordsEW	CoordsEW Dir	CoordsNS
25221MH	-18	-71	8	<Null>	NE	NE	<Null>	<Null>	<Null>
30210MH	-18	-71	8	<Null>	SW	NE	<Null>	<Null>	<Null>
78124	-18	-71	8	<Null>	SE	SE	16 E		150
88822	-18	-71	5	<Null>	SE	SE	1086 E		1150
140871-A	-18	-71	5	<Null>	SE	SE	900 E		500
145102	-18	-71	8	<Null>	SE	NE	300 E		2600
153943	-18	-71	5	<Null>	NW	SW	2170 W		1740
43341-A	-18	-71	7	<Null>	SE	SW	4224 E		3960
153943	-18	-71	5	<Null>	NW	SW	2170 W		1740
155081	-18	-71	9	<Null>	SW	NW	600 W		1800
155081-A	-18	-71	9	<Null>	SW	NW	760 W		2080
155379	-18	-71	17	<Null>	NW	SE	2900 W		3500
47740-A	-18	-71	7	<Null>	SW	SW	890 W		1040
159430	-18	-71	9	<Null>	SW	SW	500 W		1000
162121	-18	-71	8	<Null>	SW	SW	1100 W		100
168370	-18	-71	17	<Null>	SE	SE	660 E		660
174707	-18	-71	17	<Null>	SE	NE	845 E		1745
177783	-18	-71	8	<Null>	SE	NE	150 E		1450
192134	-17	-71	32	<Null>	NW	SW	900 W		1520
46051F	-18	-71	8	<Null>	NE	NE	400 E		1300
194842	-18	-71	6	<Null>	NE	NE	400 E		800
194843	-17	-71	31	<Null>	SE	SE	400 E		200
194841	-17	-71	31	<Null>	SE	SW	2500 W		1162
194841	-17	-71	31	<Null>	SE	SW	2500 W		1162
195974	-17	-71	32	<Null>	NW	SW	800 W		1400
198721	-18	-71	6	<Null>	NE	NW	1850 <Null>		450
198714	-17	-71	31	<Null>	SW	NW	1250 W		2050
198722	-18	-71	6	<Null>	NE	NW	2300 W		450
198715	-17	-71	31	<Null>	SW	NW	400 W		2050
198155	-17	-71	31	<Null>	NE	SW	2200 W		2300
198713	-17	-71	31	<Null>	NW	SE	2850 W		1600
202223	-17	-71	32	<Null>	SW	SW	500 W		100
203262	-18	-71	8	<Null>	SW	NE	1600 E		2000
207552	-17	-71	30	<Null>	SW	SW	1000 W		100
208605	-18	-72	11	<Null>	SE	SE	530 E		725
213831	-18	-71	17	<Null>	NE	SE	850 E		2550
213835	-17	-72	26	<Null>	SE	SE	400 E		1120
213832	-18	-71	17	<Null>	NE	SE	660 E		1980
215223	-17	-71	31	<Null>	SW	SE	2000 E		800
198714-A	-17	-71	31	<Null>	SW	NW	1070 W		1640
215395	-17	-71	31	<Null>	NW	SW	1100 W		1600
215222	-18	-71	6	<Null>	NW	NW	500 W		550
215394	-17	-71	31	<Null>	NW	SW	525 W		1550
215218	-18	-71	6	<Null>	NW	NW	200 W		550
217453	-18	-71	6	<Null>	NW	NE	1910 E		390
221113	-17	-72	25	<Null>	SE	SW	2400 W		1000

DWR Well Records for Water Resources Study Area

Permit	Township_D	Range_D	Section	Q10	Q40	Q160	CoordsEW	CoordsEW Dir	CoordsNS
233827	-18	-71	5	<Null>	NE	SW	1200 W		2700
235767	-18	-71	8	<Null>	NW	NE	1980 E		660
237077	-18	-71	5	<Null>	SE	SW	2400 W		450
238087	-18	-71	8	<Null>	NW	NW	525 W		375
239701	-18	-71	5	<Null>	SE	SW	1500 W		1050
239701	-18	-71	5	<Null>	SE	SW	1500 W		1050
46052F-R	-18	-71	8	<Null>	NE	NE	59 E		169
258919	-18	-71	5	<Null>	SW	SE	2025 E		900
260350	-17	-72	26	<Null>	NW	SW	854 W		85
43342-A	-18	-71	18	<Null>	NW	NE	2415 E		10
270239	-18	-71	4	<Null>	SW	NW	336 W		546
275470	-18	-71	5	<Null>	NE	NE	26 E		646
275470	-18	-71	5	<Null>	NE	NE	26 E		646
276232	-18	-71	8	<Null>	NW	NW	582 W		321
215983-A	-18	-71	7	<Null>	NE	SE	749 E		2383
287455	-18	-71	8	<Null>	NW	NE	1814 E		1055
290267	-18	-71	8	<Null>	NW	SE	2043 E		1481
292021	-18	-71	5	<Null>	SE	SE	850 E		900
78822F	-18	-72	12	<Null>	SE	SW	1744 W		672
300506	-17	-72	36	<Null>	NE	NW	1377 W		739
301600	-17	-72	36	<Null>	SE	NE	960 E		2438
301597	-17	-72	36	<Null>	<Null>	<Null>	2595 W		2305
301601	-17	-72	36	<Null>	<Null>	<Null>	1176 E		2059
301598	-17	-72	36	<Null>	<Null>	<Null>	2589 E		1514
301603	-17	-72	36	<Null>	NW	SE	1935 E		2162
301598	-17	-72	36	<Null>	<Null>	<Null>	2589 E		1514
301600-A	-17	-72	36	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
301600-A	-17	-72	36	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>
144365	-18	-71	17	<Null>	NW	NE	1625 E		400
44904	-18	-71	8	<Null>	NE	NE	600 E		100
21556	-18	-71	17	<Null>	NE	NW	<Null>	<Null>	<Null>
10350	-18	-71	5	<Null>	NE	NE	1041 W		185
44202	-18	-71	8	<Null>	NE	NE	<Null>	<Null>	<Null>
8568	-17	-72	26	<Null>	SE	SW	<Null>	<Null>	<Null>
47740	-18	-71	7	<Null>	SW	SW	2090 W		500
39396	-18	-71	8	<Null>	NE	NE	372 E		100
43341	-18	-71	7	<Null>	SE	SW	2360 W		280
43342	-18	-71	18	<Null>	NW	NE	2530 E		140
55817	-17	-71	31	<Null>	NE	SE	<Null>	<Null>	<Null>
108315	-17	-72	34	<Null>	NE	NE	50 E		800
60502	-18	-71	8	<Null>	NE	SE	<Null>	<Null>	<Null>
68659	-18	-71	5	<Null>	SE	SE	570 E		310
304787	-18	-71	5	<Null>	NW	NE	<Null>	<Null>	<Null>
46052F-R	-18	-71	8	<Null>	NE	NE	<Null>	<Null>	<Null>
305825	-17	-72	36	<Null>	NW	SE	<Null>	<Null>	<Null>
269359	-17	-71	31	<Null>	SW	NW	<Null>	<Null>	<Null>

DWR Well Records for Water Resources Study Area

Permit	Township_D	Range_D	Section	Q10	Q40	Q160	CoordsEW	CoordsEW Dir	CoordsNS
301599	-17	-72	36	<Null>	SE	SW	<Null>	<Null>	<Null>
198720	-18	-71	6	<Null>	NE	NW	<Null>	<Null>	<Null>
198720	-18	-71	6	<Null>	NE	NW	<Null>	<Null>	<Null>
269113	-18	-71	17	<Null>	NW	NE	<Null>	<Null>	<Null>
312799	-17	-72	36	<Null>	NE	SW	<Null>	<Null>	<Null>

DWR Well Records for Water Resources Study Area

Permit	CoordsNS Dir	UTM x	UTM y	Latitude	Longitude	Location Accuracy
25221MH	<Null>	469494.8	4261460.6	38.500984	-105.349843	Spotted from quarters
30210MH	<Null>	469146.6	4261050.6	38.497277	-105.353818	Spotted from quarters
78124	S	469751.4	4260092	38.488659	-105.346841	Spotted from section lines
88822	S	469316.4	4262008	38.505911	-105.351913	Spotted from section lines
140871-A	S	469385.4	4261812.1	38.504148	-105.351113	Spotted from section lines
145102	N	469621.5	4260873.6	38.495698	-105.348365	Spotted from section lines
153943	S	468893.2	4262176.6	38.507416	-105.356774	Spotted from section lines
43341-A	N	466965.9	4260396.1	38.491301	-105.378794	Spotted from section lines
153943	S	468893.2	4262176.6	38.507416	-105.356774	Spotted from section lines
155081	N	469882.1	4261126.1	38.497983	-105.345387	Spotted from section lines
155081-A	N	469935.6	4261043.1	38.497237	-105.34477	Spotted from section lines
155379	N	469198.2	4258982.1	38.478638	-105.353135	Spotted from section lines
47740-A	S	466964.3	4260310.1	38.490526	-105.378809	Spotted from section lines
159430	S	469894.3	4260352.6	38.491012	-105.345214	Spotted from section lines
162121	S	468607.2	4260077.1	38.488485	-105.35996	Spotted from section lines
168370	S	469676.9	4258639.6	38.475568	-105.347633	Spotted from section lines
174707	N	469546.1	4259516.1	38.483462	-105.34917	Spotted from section lines
177783	N	469647.8	4261224.6	38.498862	-105.348078	Spotted from section lines
192134	S	468571.6	4263644	38.52063	-105.360529	Spotted from section lines
46051F	N	469569.2	4261268.1	38.499252	-105.348981	Spotted from section lines
194842	N	468172.4	4262925.1	38.514136	-105.365075	Spotted from section lines
194843	S	468189.8	4263233.1	38.516912	-105.36489	Spotted from section lines
194841	S	466979.5	4263523.1	38.519481	-105.378786	Spotted from section lines
194841	S	466979.5	4263523.1	38.519481	-105.378786	Spotted from section lines
195974	S	468542.5	4263606.6	38.520291	-105.360861	Spotted from section lines
198721	N	467283.4	4262946.5	38.514296	-105.375273	User supplied
198714	N	466610	4264114.6	38.524798	-105.383053	Spotted from section lines
198722	N	467376.8	4263005.6	38.514832	-105.374205	Spotted from section lines
198715	N	466350.9	4264111.6	38.524761	-105.386025	Spotted from section lines
198155	S	466894.8	4263869.6	38.522601	-105.379774	Spotted from section lines
198713	S	467088.8	4263657.1	38.520693	-105.377539	Spotted from section lines
202223	S	468465.1	4263207.6	38.516692	-105.361731	Spotted from section lines
203262	N	469215.5	4261046.1	38.497239	-105.353028	Spotted from section lines
207552	S	466546.7	4264769.1	38.530694	-105.38381	Spotted from section lines
208605	N	464881.6	4261476.6	38.500958	-105.402748	Spotted from section lines
213831	S	469570.2	4259214	38.480741	-105.348881	Spotted from section lines
213835	S	464497.9	4265099.1	38.533589	-105.407333	Spotted from section lines
213832	S	469642.9	4259041.1	38.479185	-105.34804	Spotted from section lines
215223	S	467695.6	4263414.6	38.51853	-105.370567	Spotted from section lines
198714-A	N	466557.6	4264239.1	38.525918	-105.38366	Spotted from section lines
215395	S	466555.4	4263655.6	38.52066	-105.383657	Spotted from section lines
215222	N	466827.8	4262957	38.514375	-105.380499	Spotted from section lines
215394	S	466379.9	4263640.1	38.520513	-105.38567	Spotted from section lines
215218	N	466736.4	4262954.1	38.514345	-105.381548	Spotted from section lines
217453	N	467722.4	4263035.1	38.515111	-105.370242	Spotted from section lines
221113	S	465350.8	4265051.1	38.53319	-105.397545	Spotted from section lines

DWR Well Records for Water Resources Study Area

Permit	CoordsNS Dir	UTM x	UTM y	Latitude	Longitude	Location Accuracy
233827	N	468613.3	4262362.6	38.509082	-105.359993	Spotted from section lines
235767	N	469077	4261451.1	38.500884	-105.354634	Spotted from section lines
237077	S	468931.7	4261785.6	38.503894	-105.356315	Spotted from section lines
238087	N	468355.4	4261520.1	38.501481	-105.362913	Spotted from section lines
239701	S	468672.2	4261961.1	38.505466	-105.359299	Spotted from section lines
239701	S	468672.2	4261961.1	38.505466	-105.359299	Spotted from section lines
46052F-R	N	469654	4261615.1	38.502382	-105.348024	Spotted from section lines
258919	S	469035	4261925	38.505153	-105.355137	Spotted from section lines
260350	S	463251.8	4264804.5	38.530883	-105.421614	Spotted from section lines
43342-A	N	467538.3	4260013.5	38.487873	-105.372213	Spotted from section lines
270239	N	469685.1	4263054	38.51535	-105.34773	Spotted from section lines
275470	N	469577	4263013	38.51498	-105.34897	User supplied
275470	N	469577	4263013	38.51498	-105.34897	User supplied
276232	N	468371.9	4261537	38.50163	-105.36272	Spotted from section lines
215983-A	S	468007	4260763	38.494645	-105.366873	Spotted from section lines
287455	N	469134.3	4261332	38.499813	-105.353972	Spotted from section lines
290267	S	469110.9	4260497.5	38.492291	-105.354203	Spotted from section lines
292021	S	469393.1	4261934	38.505246	-105.35103	Spotted from section lines
78822F	S	465546.7	4260255.8	38.489983	-105.395061	User supplied
300506	N	465037	4264525	38.528436	-105.401119	User supplied
301600	N	465934.2	4263996	38.523704	-105.3908	Spotted from section lines
301597	N	465393.8	4264043	38.524106	-105.397001	Spotted from section lines
301601	S	465864.5	4263795.5	38.521894	-105.39159	Spotted from section lines
301598	S	465430.6	4263630.5	38.520391	-105.396559	Spotted from section lines
301603	S	465633.7	4263827.5	38.522174	-105.394239	Spotted from section lines
301598	S	465430.6	4263630.5	38.520391	-105.396559	Spotted from section lines
301600-A	<Null>	465418	4263957	38.523332	-105.39672	Spotted from quarters
301600-A	<Null>	465418	4263957	38.523332	-105.39672	Spotted from quarters
144365	N	469273.7	4259925.1	38.487139	-105.352311	Spotted from section lines
44904	N	469488	4261632.1	38.502529	-105.349929	Spotted from section lines
21556	<Null>	468841.6	4259847.1	38.486421	-105.357262	Spotted from quarters
10350	N	468626.5	4263126.5	38.51597	-105.35988	Spotted from section lines
44202	<Null>	469494.8	4261460.6	38.500984	-105.349843	Spotted from quarters
8568	<Null>	463604.7	4264973.6	38.532422	-105.417574	Spotted from quarters
47740	S	467335.5	4260161	38.489196	-105.374545	Spotted from section lines
39396	N	469557.5	4261633.6	38.502545	-105.349132	Spotted from section lines
43341	S	467420	4260097.1	38.488623	-105.373574	Spotted from section lines
43342	N	467504.7	4259972.6	38.487504	-105.372597	Spotted from section lines
55817	<Null>	468111.8	4263759.6	38.521654	-105.365808	Spotted from quarters
108315	N	462985.3	4264539.6	38.528485	-105.424657	Spotted from section lines
60502	<Null>	469539.3	4260652.6	38.493704	-105.349298	Spotted from quarters
68659	S	469489.6	4261756.5	38.503651	-105.349916	Spotted from section lines
304787	<Null>	468901	4263025	38.515068	-105.356732	GPS
46052F-R	<Null>	469654	4261615	38.502387	-105.348034	GPS
305825	<Null>	465478	4263918	38.522989	-105.396039	GPS
269359	<Null>	466860.3	4264288.5	38.526376	-105.380203	User supplied

DWR Well Records for Water Resources Study Area

Permit	CoordsNS Dir	UTM x	UTM y	Latitude	Longitude	Location Accuracy
301599	<Null>	465089	4263565	38.519793	-105.400484	User supplied
198720	<Null>	467102.6	4262996.5	38.514742	-105.377355	User supplied
198720	<Null>	467102.6	4262996.5	38.514742	-105.377355	User supplied
269113	<Null>	469244	4260003	38.487846	-105.352665	User supplied
312799	<Null>	465271	4263730	38.521287	-105.398405	User supplied

DWR Well Records for Water Resources Study Area

Permit	Parcel Name	Address	City	State	Postal Code
25221MH	<Null>	<Null>	<Null>	<Null>	<Null>
30210MH	<Null>	<Null>	<Null>	<Null>	<Null>
78124	<Null>	<Null>	<Null>	<Null>	<Null>
88822	<Null>	<Null>	<Null>	<Null>	<Null>
140871-A	CROWFOOT/NIMMO	<Null>	<Null>	<Null>	<Null>
145102	<Null>	<Null>	<Null>	<Null>	<Null>
153943	<Null>	321 COUNTY RD 353A	CANON CITY	CO	81212
43341-A	<Null>	<Null>	<Null>	<Null>	<Null>
153943	<Null>	321 COUNTY RD 353A	CANON CITY	CO	81212
155081	<Null>	<Null>	<Null>	<Null>	<Null>
155081-A	<Null>	<Null>	<Null>	<Null>	<Null>
155379	<Null>	<Null>	<Null>	<Null>	<Null>
47740-A	<Null>	<Null>	<Null>	<Null>	<Null>
159430	<Null>	<Null>	<Null>	<Null>	<Null>
162121	<Null>	<Null>	<Null>	<Null>	<Null>
168370	<Null>	<Null>	<Null>	<Null>	<Null>
174707	<Null>	<Null>	<Null>	<Null>	<Null>
177783	<Null>	<Null>	<Null>	<Null>	<Null>
192134	KUEHL RANCHETTES	<Null>	<Null>	<Null>	<Null>
46051F	<Null>	<Null>	<Null>	<Null>	<Null>
194842	CACTUS MOUNTAIN RANCH	<Null>	<Null>	<Null>	<Null>
194843	CACTUS MOUNTAIN RANCH	<Null>	<Null>	<Null>	<Null>
194841	CACTUS MOUNTAIN RANCH	<Null>	<Null>	<Null>	<Null>
194841	CACTUS MOUNTAIN RANCH	<Null>	<Null>	<Null>	<Null>
195974	KUEHL RANCHETTES	<Null>	<Null>	<Null>	<Null>
198721	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
198714	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
198722	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
198715	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
198155	CACTUS MOUNTAIN	<Null>	<Null>	<Null>	<Null>
198713	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
202223	KUEHL RANCHETTES	<Null>	<Null>	<Null>	<Null>
203262	<Null>	<Null>	<Null>	<Null>	<Null>
207552	<Null>	<Null>	<Null>	<Null>	<Null>
208605	<Null>	<Null>	<Null>	<Null>	<Null>
213831	<Null>	<Null>	<Null>	<Null>	<Null>
213835	<Null>	<Null>	<Null>	<Null>	<Null>
213832	<Null>	<Null>	<Null>	<Null>	<Null>
215223	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
198714-A	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
215395	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
215222	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
215394	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
215218	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
217453	CACTUS MOUNTAIN ESTATES	<Null>	<Null>	<Null>	<Null>
221113	<Null>	3700 STATE HWY 9	CANON CITY	CO	81212

DWR Well Records for Water Resources Study Area

Permit	Parcel Name	Address	City	State	Postal Code
233827	<Null>	<Null>	<Null>	<Null>	<Null>
235767	STAR RANCH	<Null>	<Null>	<Null>	<Null>
237077	STAR RANCH	<Null>	<Null>	<Null>	<Null>
238087	STAR RANCH	<Null>	<Null>	<Null>	<Null>
239701	STAR RANCH	<Null>	<Null>	<Null>	<Null>
239701	STAR RANCH	<Null>	<Null>	<Null>	<Null>
46052F-R	<Null>	<Null>	<Null>	<Null>	<Null>
258919	<Null>	<Null>	<Null>	<Null>	<Null>
260350	<Null>	<Null>	<Null>	<Null>	<Null>
43342-A	<Null>	<Null>	<Null>	<Null>	<Null>
270239	<Null>	<Null>	<Null>	<Null>	<Null>
275470	<Null>	1094 COUNTY ROAD 62	CANYON CITY	CO	81212
275470	<Null>	1094 COUNTY ROAD 62	CANYON CITY	CO	81212
276232	STAR RANCH	<Null>	<Null>	<Null>	<Null>
215983-A	<Null>	<Null>	<Null>	<Null>	<Null>
287455	STAR RANCH	<Null>	<Null>	<Null>	<Null>
290267	ROYAL GORGE BLUFFS	<Null>	<Null>	<Null>	<Null>
292021	CROWFOOT/NIMMO	<Null>	<Null>	<Null>	<Null>
78822F	<Null>	<Null>	<Null>	<Null>	<Null>
300506	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
301600	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
301597	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
301601	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
301598	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
301603	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
301598	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
301600-A	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
301600-A	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
144365	<Null>	<Null>	<Null>	<Null>	<Null>
44904	<Null>	<Null>	<Null>	<Null>	<Null>
21556	<Null>	<Null>	<Null>	<Null>	<Null>
10350	<Null>	<Null>	<Null>	<Null>	<Null>
44202	<Null>	<Null>	<Null>	<Null>	<Null>
8568	<Null>	<Null>	<Null>	<Null>	<Null>
47740	<Null>	<Null>	<Null>	<Null>	<Null>
39396	<Null>	<Null>	<Null>	<Null>	<Null>
43341	<Null>	<Null>	<Null>	<Null>	<Null>
43342	<Null>	<Null>	<Null>	<Null>	<Null>
55817	<Null>	<Null>	<Null>	<Null>	<Null>
108315	<Null>	<Null>	<Null>	<Null>	<Null>
60502	<Null>	<Null>	<Null>	<Null>	<Null>
68659	<Null>	<Null>	<Null>	<Null>	<Null>
304787	<Null>	<Null>	<Null>	<Null>	<Null>
46052F-R	<Null>	43595 US HWY 50	CANON CITY	CO	81212
305825	DOUBLE CREEK RANCH	<Null>	<Null>	<Null>	<Null>
269359	<Null>	2520 STATE HWY 9	CANON CITY	CO	81212

DWR Well Records for Water Resources Study Area

Permit	Parcel Name	Address	City	State	Postal Code
301599	DOUBLE CREEK RANCH	1111 HORSESHOE DR	CANON CITY	CO	81212
198720	CACTUS MOUNTAIN ESTATES	34 CACTUS DR W	CANON CITY	CO	81212
198720	CACTUS MOUNTAIN ESTATES	34 CACTUS DR W	CANON CITY	CO	81212
269113	<Null>	<Null>	<Null>	<Null>	<Null>
312799	DOUBLE CREEK RANCH	38 DOUBLE CREEK RD	CANYON CITY	CO	81212

DWR Well Records for Water Resources Study Area

Permit	Location Type	Permit Category	Permit Issued
25221MH	Well (Application/Permit)	Monitoring Hole (Notice of Intent)	2/28/1995
30210MH	Well (Application/Permit)	Monitoring Hole (Notice of Intent)	3/4/1997
78124	Well (Application/Permit)	Residential	2/20/1975
88822	Well (Application/Permit)	Residential	3/16/1977
140871-A	Well (Application/Permit)	Residential	8/20/1985
145102	Well (Application/Permit)	Residential	8/25/1987
153943	Well (Application/Permit)	Residential	4/28/1989
43341-A	Well (Application/Permit)	Residential	7/10/1989
153943	Well (Application/Permit)	Residential	4/28/1989
155081	Well (Application/Permit)	Residential	8/22/1989
155081-A	Well (Application/Permit)	Residential	8/22/1989
155379	Well (Application/Permit)	Residential	9/22/1989
47740-A	Well (Application/Permit)	Residential	5/30/1990
159430	Well (Application/Permit)	Residential	2/19/1991
162121	Well (Application/Permit)	Residential	10/23/1991
168370	Well (Application/Permit)	Residential	2/2/1993
174707	Well (Application/Permit)	Residential	11/19/1993
177783	Well (Application/Permit)	Residential	5/6/1994
192134	Well (Application/Permit)	Residential	12/27/1995
46051F	Well (Application/Permit)	General Purpose	2/1/1996
194842	Well (Application/Permit)	Residential	5/9/1996
194843	Well (Application/Permit)	Residential	5/9/1996
194841	Well (Application/Permit)	Residential	5/9/1996
194841	Well (Application/Permit)	Residential	5/9/1996
195974	Well (Application/Permit)	Residential	6/24/1996
198721	Well (Application/Permit)	Residential	10/3/1996
198714	Well (Application/Permit)	Residential	10/3/1996
198722	Well (Application/Permit)	Residential	10/3/1996
198715	Well (Application/Permit)	Residential	10/3/1996
198155	Well (Application/Permit)	Residential	9/13/1996
198713	Well (Application/Permit)	Residential	10/3/1996
202223	Well (Application/Permit)	Residential	4/17/1997
203262	Well (Application/Permit)	Residential	6/11/1997
207552	Well (Application/Permit)	Residential	1/15/1998
208605	Well (Application/Permit)	Residential	3/17/1998
213831	Well (Application/Permit)	Residential	11/12/1998
213835	Well (Application/Permit)	Residential	11/12/1998
213832	Well (Application/Permit)	Residential	11/12/1998
215223	Well (Application/Permit)	Residential	1/20/1999
198714-A	Well (Application/Permit)	Residential	2/11/1999
215395	Well (Application/Permit)	Residential	1/28/1999
215222	Well (Application/Permit)	Residential	1/20/1999
215394	Well (Application/Permit)	Residential	1/28/1999
215218	Well (Application/Permit)	Residential	1/20/1999
217453	Well (Application/Permit)	Residential	5/12/1999
221113	Well (Application/Permit)	Residential	10/8/1999

DWR Well Records for Water Resources Study Area

Permit	Location Type	Permit Category	Permit Issued
233827	Well (Application/Permit)	Residential	6/5/2001
235767	Well (Application/Permit)	Residential	8/28/2001
237077	Well (Application/Permit)	Residential	10/23/2001
238087	Well (Application/Permit)	Residential	12/4/2001
239701	Well (Application/Permit)	Residential	3/27/2002
239701	Well (Application/Permit)	Residential	3/27/2002
46052F-R	Well (Application/Permit)	General Purpose	7/25/2003
258919	Well (Application/Permit)	Residential	8/27/2004
260350	Well (Application/Permit)	Residential	11/15/2004
43342-A	Well (Application/Permit)	Residential	5/2/2006
270239	Well (Application/Permit)	Residential	8/21/2006
275470	Well (Application/Permit)	Residential	10/1/2007
275470	Well (Application/Permit)	Residential	10/1/2007
276232	Well (Application/Permit)	Residential	12/17/2007
215983-A	Well (Application/Permit)	Residential	9/11/2009
287455	Well (Application/Permit)	Residential	2/1/2012
290267	Well (Application/Permit)	Residential	2/1/2013
292021	Well (Application/Permit)	Residential	7/22/2013
78822F	Well (Application/Permit)	Gravel Pit	2/9/2015
300506	Well (Application/Permit)	Residential	3/18/2016
301600	Well (Application/Permit)	Residential	6/16/2016
301597	Well (Application/Permit)	Residential	6/16/2016
301601	Well (Application/Permit)	Residential	6/16/2016
301598	Well (Application/Permit)	Residential	6/16/2016
301603	Well (Application/Permit)	Residential	6/16/2016
301598	Well (Application/Permit)	Residential	6/16/2016
301600-A	Well (Application/Permit)	Residential	1/26/2017
301600-A	Well (Application/Permit)	Residential	1/26/2017
144365	Well (Application/Permit)	Residential	<Null>
44904	Well (Application/Permit)	Residential	3/18/1971
21556	Well (Application/Permit)	Residential	<Null>
10350	Well (Application/Permit)	Residential	<Null>
44202	Well (Application/Permit)	Residential	<Null>
8568	Well (Application/Permit)	Residential	<Null>
47740	Well (Application/Permit)	Residential	<Null>
39396	Well (Application/Permit)	Residential	9/22/1969
43341	Well (Application/Permit)	Residential	<Null>
43342	Well (Application/Permit)	Residential	<Null>
55817	Well (Application/Permit)	Residential	4/6/1972
108315	Well (Application/Permit)	Residential	<Null>
60502	Well (Application/Permit)	Residential	5/9/1972
68659	Well (Application/Permit)	Residential	5/1/1973
304787	Well (Construction Report)	Residential	3/9/2017
46052F-R	Well (Construction Report)	General Purpose	7/12/2017
305825	Well (Construction Report)	Residential	6/19/2017
269359	Well (Construction Report)	Residential	6/14/2006

DWR Well Records for Water Resources Study Area

Permit	Location Type	Permit Category	Permit Issued
301599	Well (Construction Report)	Residential	6/16/2016
198720	Well (Construction Report)	Residential	10/3/1996
198720	Well (Construction Report)	Residential	10/3/1996
269113	Well (Construction Report)	Residential	5/30/2006
312799	Well (Construction Report)	Residential	3/15/2019

DWR Well Records for Water Resources Study Area

Permit	First Beneficial Use	Permit Expires	Well Constructed	Pump Installed	Well Plugged
25221MH	<Null>	5/28/1995	3/14/1995	<Null>	<Null>
30210MH	<Null>	6/4/1997	3/21/1997	<Null>	<Null>
78124	<Null>	<Null>	10/14/1975	<Null>	<Null>
88822	11/21/1967	<Null>	<Null>	<Null>	<Null>
140871-A	<Null>	8/20/1987	10/8/1985	9/15/1995	<Null>
145102	<Null>	<Null>	9/22/1988	<Null>	<Null>
153943	1/15/1967	<Null>	<Null>	<Null>	<Null>
43341-A	<Null>	<Null>	6/15/1989	6/16/1989	<Null>
153943	1/15/1967	<Null>	<Null>	<Null>	<Null>
155081	8/31/1954	<Null>	<Null>	<Null>	<Null>
155081-A	<Null>	<Null>	6/15/1989	6/16/1989	<Null>
155379	<Null>	9/22/1991	10/21/1989	<Null>	<Null>
47740-A	<Null>	<Null>	5/29/1990	<Null>	<Null>
159430	<Null>	<Null>	3/8/1991	5/12/1992	<Null>
162121	<Null>	<Null>	11/15/1992	<Null>	<Null>
168370	<Null>	<Null>	3/11/1993	8/17/1994	<Null>
174707	<Null>	11/19/1995	<Null>	1/4/1994	<Null>
177783	<Null>	5/6/1996	10/7/1993	<Null>	<Null>
192134	<Null>	12/27/1997	4/30/1996	5/30/1996	<Null>
46051F	4/1/1996	2/1/1997	3/14/1995	3/10/1997	<Null>
194842	<Null>	5/9/1998	6/10/1996	5/18/1997	<Null>
194843	<Null>	5/9/1998	6/7/1996	2/28/1997	<Null>
194841	<Null>	5/9/1998	8/30/1996	<Null>	<Null>
194841	<Null>	5/9/1998	8/30/1996	<Null>	<Null>
195974	<Null>	6/24/1998	6/5/1996	7/1/1996	<Null>
198721	<Null>	10/3/1998	5/12/1997	<Null>	<Null>
198714	<Null>	10/3/1998	9/18/1998	<Null>	<Null>
198722	<Null>	10/3/1998	<Null>	10/20/1997	<Null>
198715	<Null>	10/3/1998	10/2/1998	10/19/1998	<Null>
198155	<Null>	9/13/1998	9/18/1996	4/19/1997	<Null>
198713	<Null>	10/3/1998	9/25/1998	<Null>	<Null>
202223	<Null>	4/17/1999	<Null>	6/10/1997	<Null>
203262	<Null>	6/11/1999	3/21/1997	7/16/2002	<Null>
207552	12/31/1950	<Null>	6/15/1968	<Null>	<Null>
208605	12/31/1960	<Null>	12/31/1960	<Null>	<Null>
213831	<Null>	11/12/2000	5/26/2000	6/23/2005	<Null>
213835	12/31/1936	<Null>	<Null>	<Null>	<Null>
213832	<Null>	11/12/2000	7/13/1987	<Null>	<Null>
215223	<Null>	1/20/2001	1/30/1999	3/16/1999	<Null>
198714-A	<Null>	2/11/2001	2/13/1999	3/11/1999	<Null>
215395	<Null>	1/28/2001	2/2/1999	2/8/2002	<Null>
215222	<Null>	1/20/2001	1/28/1999	3/22/1999	<Null>
215394	<Null>	1/28/2001	2/1/1999	4/20/2000	<Null>
215218	<Null>	1/20/2001	1/29/1999	3/19/1999	<Null>
217453	<Null>	5/12/2001	4/6/1992	<Null>	<Null>

DWR Well Records for Water Resources Study Area

221113 <Null>

10/8/2001

11/9/1999 <Null>

<Null>

DWR Well Records for Water Resources Study Area

Permit	First Beneficial Use	Permit Expires	Well Constructed	Pump Installed	Well Plugged
233827	<Null>	6/5/2003	7/31/2001	<Null>	<Null>
235767	<Null>	8/28/2003	12/27/2001	<Null>	<Null>
237077	<Null>	10/23/2003	10/31/2001	<Null>	<Null>
238087	<Null>	12/4/2003	1/3/2002	<Null>	<Null>
239701	<Null>	3/27/2004	5/2/2002	<Null>	<Null>
239701	<Null>	3/27/2004	5/2/2002	<Null>	<Null>
46052F-R	<Null>	7/25/2004	8/20/2003	8/24/2003	<Null>
258919	<Null>	8/27/2006	10/6/2004	<Null>	<Null>
260350	<Null>	11/15/2006	1/17/2005	1/21/2005	<Null>
43342-A	<Null>	5/2/2008	7/14/2006	<Null>	<Null>
270239	<Null>	8/21/2008	10/10/2006	1/11/2007	<Null>
275470	<Null>	10/1/2009	1/16/2008	4/11/2008	<Null>
275470	<Null>	10/1/2009	1/16/2008	4/11/2008	<Null>
276232	<Null>	12/17/2009	1/8/2008	1/31/2008	<Null>
215983-A	<Null>	9/11/2011	9/18/2009	9/24/2009	<Null>
287455	<Null>	2/1/2014	2/28/2012	<Null>	<Null>
290267	<Null>	2/1/2015	10/22/2013	<Null>	<Null>
292021	<Null>	<Null>	3/26/2004	<Null>	<Null>
78822F	<Null>	<Null>	10/18/2004	12/4/2004	<Null>
300506	<Null>	3/18/2018	4/13/2016	<Null>	<Null>
301600	<Null>	6/16/2018	8/25/2016	<Null>	10/6/2016
301597	<Null>	6/16/2018	9/15/2016	<Null>	<Null>
301601	<Null>	6/16/2018	8/31/2016	<Null>	<Null>
301598	<Null>	6/16/2018	3/17/2017	<Null>	<Null>
301603	<Null>	6/16/2018	9/12/2016	<Null>	<Null>
301598	<Null>	6/16/2018	3/17/2017	<Null>	<Null>
301600-A	<Null>	1/26/2019	3/15/2017	<Null>	<Null>
301600-A	<Null>	1/26/2019	3/15/2017	<Null>	<Null>
144365	7/14/1986	<Null>	<Null>	<Null>	<Null>
44904	<Null>	<Null>	<Null>	<Null>	<Null>
21556	9/23/1964	<Null>	<Null>	<Null>	<Null>
10350	8/28/1961	<Null>	<Null>	<Null>	<Null>
44202	1/14/1971	<Null>	<Null>	<Null>	<Null>
8568	4/30/1961	<Null>	<Null>	<Null>	<Null>
47740	1/7/1947	<Null>	5/29/1990	<Null>	<Null>
39396	9/26/1969	<Null>	9/26/1969	<Null>	<Null>
43341	1/7/1947	<Null>	<Null>	<Null>	<Null>
43342	1/7/1972	<Null>	<Null>	<Null>	<Null>
55817	3/21/1974	<Null>	3/21/1974	<Null>	<Null>
108315	9/8/1979	<Null>	<Null>	<Null>	<Null>
60502	3/20/1973	<Null>	3/20/1973	<Null>	<Null>
68659	5/1/1973	<Null>	5/24/1973	<Null>	<Null>
304787	<Null>	3/9/2019	4/20/2017	<Null>	<Null>
46052F-R	<Null>	7/12/2018	7/17/2017	<Null>	<Null>

DWR Well Records for Water Resources Study Area

305825 <Null>	6/19/2019	9/14/2017 <Null>	<Null>
269359 <Null>	6/14/2008	10/13/2006	3/28/2018 <Null>

DWR Well Records for Water Resources Study Area

Permit	First Beneficial Use	Permit Expires	Well Constructed	Pump Installed	Well Plugged
301599	<Null>	6/16/2018	<Null>	4/20/2018	<Null>
198720	<Null>	10/3/1998	5/12/1997	6/25/2018	<Null>
198720	<Null>	10/3/1998	5/12/1997	6/25/2018	<Null>
269113	<Null>	5/30/2008	6/8/2006	6/5/2019	<Null>
312799	<Null>	3/15/2021	6/27/2019	7/19/2019	<Null>

DWR Well Records for Water Resources Study Area

Permit	Associated Aquifers	Associated Uses	Elevation	Well Depth
25221MH	ALL UNNAMED AQUIFERS	Monitoring/Sampling	<Null>	380
30210MH	ALL UNNAMED AQUIFERS	Monitoring/Sampling	<Null>	380
78124	ALL UNNAMED AQUIFERS	Stock	<Null>	200
88822	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	<Null>
140871-A	ALL UNNAMED AQUIFERS	Domestic	<Null>	<Null>
145102	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	350
153943	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	<Null>
43341-A	ALL UNNAMED AQUIFERS	Domestic	<Null>	80
153943	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	<Null>
155081	ALL UNNAMED AQUIFERS	Household use only	<Null>	264
155081-A	ALL UNNAMED AQUIFERS	Household use only	<Null>	247
155379	ALL UNNAMED AQUIFERS	Domestic	<Null>	158
47740-A	ALL UNNAMED AQUIFERS	Domestic, Industrial	<Null>	320
159430	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	360
162121	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	250
168370	ALL UNNAMED AQUIFERS	Domestic	<Null>	300
174707	ALL UNNAMED AQUIFERS	Domestic	<Null>	200
177783	ALL UNNAMED AQUIFERS	Commercial	<Null>	175
192134	ALL UNNAMED AQUIFERS	Domestic	<Null>	175
46051F	ALL UNNAMED AQUIFERS	Domestic	<Null>	380
194842	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	395
194843	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	475
194841	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	475
194841	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	475
195974	ALL UNNAMED AQUIFERS	Domestic	<Null>	395
198721	ALL UNNAMED AQUIFERS	Domestic	<Null>	300
198714	ALL UNNAMED AQUIFERS	Domestic	<Null>	750
198722	ALL UNNAMED AQUIFERS	Domestic	<Null>	300
198715	ALL UNNAMED AQUIFERS	Domestic	0	550
198155	ALL UNNAMED AQUIFERS	Domestic	<Null>	125
198713	ALL UNNAMED AQUIFERS	Domestic	<Null>	275
202223	ALL UNNAMED AQUIFERS	Domestic	<Null>	225
203262	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	380
207552	ALL UNNAMED AQUIFERS	Domestic	<Null>	628
208605	ALL UNNAMED AQUIFERS	Stock	<Null>	110
213831	ALL UNNAMED AQUIFERS	Household use only	<Null>	550
213835	ALL UNNAMED AQUIFERS	Stock	<Null>	<Null>
213832	ALL UNNAMED AQUIFERS	Household use only	<Null>	300
215223	ALL UNNAMED AQUIFERS	Domestic	<Null>	550
198714-A	ALL UNNAMED AQUIFERS	Domestic	<Null>	350
215395	ALL UNNAMED AQUIFERS	Domestic	<Null>	600
215222	ALL UNNAMED AQUIFERS	Domestic	<Null>	700
215394	ALL UNNAMED AQUIFERS	Domestic	<Null>	350
215218	ALL UNNAMED AQUIFERS	Domestic	<Null>	675
217453	ALL UNNAMED AQUIFERS	Domestic, Storage	<Null>	335
221113	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	32

DWR Well Records for Water Resources Study Area

Permit	Associated Aquifers	Associated Uses	Elevation	Well Depth
233827	ALL UNNAMED AQUIFERS	Domestic	<Null>	180
235767	ALL UNNAMED AQUIFERS	Domestic	<Null>	200
237077	ALL UNNAMED AQUIFERS	Domestic	<Null>	215
238087	ALL UNNAMED AQUIFERS	Domestic	<Null>	515
239701	ALL UNNAMED AQUIFERS	Domestic	<Null>	315
239701	ALL UNNAMED AQUIFERS	Domestic	<Null>	315
46052F-R	ALL UNNAMED AQUIFERS	Commercial	<Null>	100
258919	ALL UNNAMED AQUIFERS	Domestic	<Null>	225
260350	ALL UNNAMED AQUIFERS	Domestic	<Null>	480
43342-A	ALL UNNAMED AQUIFERS	Domestic	<Null>	240
270239	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	280
275470	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	460
275470	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	460
276232	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	580
215983-A	ALL UNNAMED AQUIFERS	Domestic	<Null>	290
287455	ALL UNNAMED AQUIFERS	Domestic	<Null>	320
290267	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	400
292021	ALL UNNAMED AQUIFERS	Household use only	<Null>	<Null>
78822F	ALL UNNAMED AQUIFERS	Other	<Null>	<Null>
300506	ALL UNNAMED AQUIFERS	Domestic	<Null>	775
301600	ALL UNNAMED AQUIFERS	Domestic	<Null>	500
301597	ALL UNNAMED AQUIFERS	Domestic	<Null>	100
301601	ALL UNNAMED AQUIFERS	Domestic	<Null>	600
301598	ALL UNNAMED AQUIFERS	Domestic	<Null>	100
301603	ALL UNNAMED AQUIFERS	Domestic	<Null>	200
301598	ALL UNNAMED AQUIFERS	Domestic	<Null>	100
301600-A	ALL UNNAMED AQUIFERS	Domestic	<Null>	100
301600-A	ALL UNNAMED AQUIFERS	Domestic	<Null>	100
144365	ALL UNNAMED AQUIFERS	Domestic	<Null>	<Null>
44904	ALL UNNAMED AQUIFERS	Domestic	<Null>	22
21556	ALL UNNAMED AQUIFERS	Domestic	<Null>	<Null>
10350	ALL UNNAMED AQUIFERS	Domestic	<Null>	<Null>
44202	ALL UNNAMED AQUIFERS	Domestic	<Null>	<Null>
8568	ALL UNNAMED AQUIFERS	Stock	<Null>	<Null>
47740	ALL UNNAMED AQUIFERS	Domestic	<Null>	320
39396	ALL UNNAMED AQUIFERS	Domestic	<Null>	220
43341	ALL UNNAMED AQUIFERS	Domestic	<Null>	<Null>
43342	ALL UNNAMED AQUIFERS	Domestic	<Null>	<Null>
55817	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	173
108315	ALL UNNAMED AQUIFERS	Domestic	<Null>	<Null>
60502	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	80
68659	ALL UNNAMED AQUIFERS	Household use only	<Null>	50
304787	ALL UNNAMED AQUIFERS	Domestic	<Null>	175
46052F-R	DAKOTA	Commercial	<Null>	250
305825	ALL UNNAMED AQUIFERS	Domestic, Irrigation	<Null>	100
269359	ALL UNNAMED AQUIFERS	Household use only	<Null>	320

DWR Well Records for Water Resources Study Area

Permit	Associated Aquifers	Associated Uses	Elevation	Well Depth
301599	ALL UNNAMED AQUIFERS	Domestic	<Null>	100
198720	ALL UNNAMED AQUIFERS	Domestic	<Null>	280
198720	ALL UNNAMED AQUIFERS	Domestic	<Null>	280
269113	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	360
312799	ALL UNNAMED AQUIFERS	Domestic, Stock	<Null>	100

DWR Well Records for Water Resources Study Area

Permit	Top Perforated Casing	Bottom Perforated Casing	Yield	Static Water Level
25221MH	60		380 <Null>	65
30210MH	40		380 <Null>	50
78124	38		200 <Null>	42
88822 <Null>	<Null>		<Null> <Null>	
140871-A <Null>	<Null>		<Null> <Null>	
145102	40		350 <Null>	50
153943 <Null>	<Null>		<Null> <Null>	
43341-A	40		80 10	37
153943 <Null>	<Null>		<Null> <Null>	
155081 <Null>	<Null>		<Null> <Null>	
155081-A	204		264 2	235
155379	20		158 <Null>	25
47740-A	200		320 <Null>	60
159430	80		360 1	85
162121 <Null>	<Null>		<Null>	100
168370	255		295 2	120
174707 <Null>	<Null>		1	41
177783	60		175 <Null>	30
192134	115		175 13	90
46051F	60		380 2.25	60
194842	335		395 5	136
194843	415		475 2	64
194841	405		455 <Null>	70
194841	405		455 <Null>	70
195974	335		395 10	6
198721	220		280 <Null>	55
198714 <Null>	<Null>		<Null> <Null>	
198722 <Null>	<Null>		5	105
198715	450		550 1.5	362
198155	105		125 8	25
198713	215		275 <Null>	50
202223 <Null>	<Null>		7	80
203262	40		380 1	50
207552	254		355 <Null>	5
208605 <Null>	<Null>		<Null> <Null>	
213831	470		530 4	200
213835 <Null>	<Null>		<Null> <Null>	
213832	200		300 <Null>	60
215223	410		550 7	135
198714-A	290		350 6	50
215395	500		600 12	190
215222	560		700 1.5	225
215394	270		330 1.75	38
215218	575		675 1.25	178
217453	160		335 <Null>	130
221113	21		32 <Null>	15

DWR Well Records for Water Resources Study Area

Permit	Top Perforated Casing	Bottom Perforated Casing	Yield	Static Water Level
233827	80		180 <Null>	80
235767	120		200 <Null>	10
237077	175		215 <Null>	102
238087	315		515 <Null>	<Null>
239701	255		315 <Null>	128
239701	255		315 <Null>	128
46052F-R	60		80 12	7
258919	185		225 <Null>	1
260350	400		480 7	30
43342-A	160		240 <Null>	90
270239	200		280 10	43
275470	380		460 7.5	0
275470	380		460 7.5	0
276232	500		580 8	100
215983-A	210		290 12	40
287455	260		320 <Null>	10
290267	320		400 <Null>	45
292021 <Null>	<Null>		<Null> <Null>	
78822F <Null>	<Null>		35 <Null>	30
300506 <Null>	<Null>		<Null> <Null>	
301600	300		500 <Null>	10
301597	40		100 <Null>	10
301601	60		580 <Null>	46
301598	21		100 <Null>	14
301603	40		200 <Null>	<Null>
301598	21		100 <Null>	14
301600-A	21		100 <Null>	11
301600-A	21		100 <Null>	11
144365 <Null>	<Null>		<Null> <Null>	
44904 <Null>	<Null>		<Null>	20
21556 <Null>	<Null>		<Null> <Null>	
10350 <Null>	<Null>		<Null> <Null>	
44202 <Null>	<Null>		<Null> <Null>	
8568 <Null>	<Null>		<Null> <Null>	
47740	200		320 <Null>	60
39396	180		220 <Null>	35
43341 <Null>	<Null>		<Null> <Null>	
43342 <Null>	<Null>		<Null> <Null>	
55817 <Null>	<Null>		<Null> <Null>	
108315 <Null>	<Null>		<Null> <Null>	
60502	40		80 <Null>	20
68659	10		50 <Null>	10
304787 <Null>	<Null>		<Null>	50
46052F-R <Null>	<Null>		<Null>	29
305825 <Null>	<Null>		<Null>	16
269359	240		320 3	85

DWR Well Records for Water Resources Study Area

Permit	Top Perforated Casing	Bottom Perforated Casing	Yield	Static Water Level
301599	24	100	15	12
198720	220	280	5	100
198720	220	280	5	100
269113	280	360	3	110
312799	<Null>	<Null>	3.5	22

DWR Well Records for Water Resources Study Area

Permit	Static Water Level Date	WDID	Associated Case Numbers	Modified
25221MH	<Null>	<Null>	<Null>	4/18/1995 0:00
30210MH	<Null>	<Null>	<Null>	5/9/1997 0:00
78124	<Null>	<Null>	<Null>	12/15/1975 0:00
88822	<Null>	<Null>	<Null>	3/10/1977 0:00
140871-A	<Null>	<Null>	<Null>	10/26/1995 0:00
145102	<Null>	<Null>	<Null>	7/6/2010 0:00
153943	<Null>	<Null>	<Null>	9/7/2018 13:34
43341-A	<Null>	<Null>	<Null>	2/1/1990 0:00
153943	<Null>	<Null>	<Null>	9/7/2018 13:34
155081	<Null>	<Null>	<Null>	8/9/1989 0:00
155081-A	<Null>	<Null>	<Null>	4/14/2016 0:00
155379	<Null>	<Null>	<Null>	11/22/1989 0:00
47740-A	<Null>	<Null>	<Null>	7/3/1990 0:00
159430	<Null>	<Null>	<Null>	7/10/1992 0:00
162121	<Null>	<Null>	<Null>	1/13/1992 0:00
168370	<Null>	<Null>	<Null>	8/22/1994 0:00
174707	<Null>	<Null>	<Null>	1/24/1994 0:00
177783	<Null>	<Null>	<Null>	5/2/1994 0:00
192134	<Null>	<Null>	<Null>	7/16/1996 0:00
46051F	<Null>	1205606	<Null>	7/16/2003 0:00
194842	<Null>	<Null>	<Null>	7/30/1997 0:00
194843	<Null>	<Null>	<Null>	4/25/1997 0:00
194841	<Null>	<Null>	<Null>	7/11/2019 13:49
194841	<Null>	<Null>	<Null>	7/11/2019 13:49
195974	<Null>	<Null>	<Null>	7/16/1996 0:00
198721	<Null>	<Null>	<Null>	1/28/2005 0:00
198714	<Null>	<Null>	<Null>	11/30/1998 0:00
198722	<Null>	<Null>	<Null>	12/2/1997 0:00
198715	<Null>	<Null>	<Null>	12/21/1998 0:00
198155	<Null>	<Null>	<Null>	4/15/1998 0:00
198713	<Null>	<Null>	<Null>	7/17/2018 12:37
202223	<Null>	<Null>	<Null>	10/16/1996 0:00
203262	<Null>	<Null>	<Null>	12/26/2013 0:00
207552	<Null>	1208304	<Null>	10/24/1997 0:00
208605	<Null>	1208308	<Null>	1/16/1998 0:00
213831	<Null>	<Null>	<Null>	7/21/2005 0:00
213835	<Null>	1205551	<Null>	8/13/1998 0:00
213832	<Null>	<Null>	<Null>	11/5/1998 0:00
215223	<Null>	<Null>	<Null>	4/15/1999 0:00
198714-A	<Null>	<Null>	<Null>	3/19/1999 0:00
215395	<Null>	<Null>	<Null>	4/12/2002 0:00
215222	<Null>	<Null>	<Null>	4/15/1999 0:00
215394	<Null>	<Null>	<Null>	6/12/2000 0:00
215218	<Null>	<Null>	<Null>	4/15/1999 0:00
217453	<Null>	<Null>	<Null>	5/3/1999 0:00
221113	<Null>	<Null>	<Null>	8/7/2018 16:31

DWR Well Records for Water Resources Study Area

Permit	Static Water Level Date	WDID	Associated Case Numbers	Modified
233827	<Null>	<Null>	<Null>	8/15/2001 0:00
235767	<Null>	<Null>	<Null>	2/7/2002 0:00
237077	<Null>	<Null>	<Null>	12/3/2001 0:00
238087	<Null>	<Null>	<Null>	3/8/2002 0:00
239701	<Null>	<Null>	<Null>	9/5/2018 14:22
239701	<Null>	<Null>	<Null>	9/5/2018 14:22
46052F-R	<Null>	1205607	<Null>	6/9/2014 0:00
258919	<Null>	<Null>	<Null>	11/15/2004 0:00
260350	<Null>	<Null>	<Null>	3/5/2014 0:00
43342-A	<Null>	<Null>	<Null>	8/17/2006 0:00
270239	<Null>	<Null>	<Null>	2/6/2007 0:00
275470	<Null>	<Null>	<Null>	10/16/2019 6:47
275470	<Null>	<Null>	<Null>	10/16/2019 6:47
276232	<Null>	<Null>	<Null>	12/15/2009 0:00
215983-A	<Null>	<Null>	<Null>	11/30/2009 0:00
287455	<Null>	<Null>	<Null>	1/15/2014 0:00
290267	<Null>	<Null>	<Null>	11/14/2013 0:00
292021	<Null>	<Null>	<Null>	5/6/2013 0:00
78822F	<Null>	1205065	<Null>	2/10/2015 0:00
300506	<Null>	<Null>	<Null>	5/8/2017 0:00
301600	<Null>	<Null>	<Null>	4/4/2017 0:00
301597	<Null>	<Null>	<Null>	10/25/2016 0:00
301601	<Null>	<Null>	<Null>	10/4/2016 0:00
301598	<Null>	<Null>	<Null>	9/11/2019 16:39
301603	<Null>	<Null>	<Null>	10/25/2016 0:00
301598	<Null>	<Null>	<Null>	9/11/2019 16:39
301600-A	<Null>	<Null>	<Null>	3/15/2018 15:33
301600-A	<Null>	<Null>	<Null>	3/15/2018 15:33
144365	<Null>	<Null>	<Null>	<Null>
44904	<Null>	<Null>	<Null>	10/12/1995 0:00
21556	<Null>	<Null>	<Null>	<Null>
10350	<Null>	<Null>	<Null>	3/12/2008 0:00
44202	<Null>	<Null>	<Null>	<Null>
8568	<Null>	<Null>	<Null>	<Null>
47740	<Null>	<Null>	<Null>	7/3/1990 0:00
39396	<Null>	<Null>	<Null>	10/8/1969 0:00
43341	<Null>	<Null>	<Null>	<Null>
43342	<Null>	<Null>	<Null>	<Null>
55817	<Null>	<Null>	<Null>	3/16/1974 0:00
108315	<Null>	<Null>	<Null>	<Null>
60502	<Null>	<Null>	<Null>	5/21/1973 0:00
68659	<Null>	<Null>	<Null>	7/5/1973 0:00
304787	<Null>	<Null>	<Null>	8/2/2017 10:17
46052F-R	<Null>	1205607	07CW0128	8/2/2017 10:31
305825	<Null>	<Null>	<Null>	10/12/2017 14:19
269359	<Null>	<Null>	<Null>	4/9/2018 13:23

DWR Well Records for Water Resources Study Area

Permit	Static Water Level Date	WDID	Associated Case Numbers	Modified
301599	<Null>	<Null>	<Null>	3/6/2019 11:59
198720	<Null>	<Null>	<Null>	10/3/2018 6:40
198720	<Null>	<Null>	<Null>	10/3/2018 6:40
269113	<Null>	<Null>	<Null>	7/10/2019 8:55
312799	<Null>	<Null>	<Null>	9/17/2019 12:12

DWR Well Records for Water Resources Study Area

Permit	More Information	Location
25221MH	https://dwr.state.co.us/Tools/WellPermits/0025221	(38.500984, -105.349843)
30210MH	https://dwr.state.co.us/Tools/WellPermits/0030210	(38.497277, -105.353818)
78124	https://dwr.state.co.us/Tools/WellPermits/0057935	(38.488659, -105.346841)
88822	https://dwr.state.co.us/Tools/WellPermits/0078591A	(38.505911, -105.351913)
140871-A	https://dwr.state.co.us/Tools/WellPermits/0256699B	(38.504148, -105.351113)
145102	https://dwr.state.co.us/Tools/WellPermits/0263499	(38.495698, -105.348365)
153943	https://dwr.state.co.us/Tools/WellPermits/0298963	(38.507416, -105.356774)
43341-A	https://dwr.state.co.us/Tools/WellPermits/0298903	(38.491301, -105.378794)
153943	https://dwr.state.co.us/Tools/WellPermits/0298963	(38.507416, -105.356774)
155081	https://dwr.state.co.us/Tools/WellPermits/0300895A	(38.497983, -105.345387)
155081-A	https://dwr.state.co.us/Tools/WellPermits/0300895B	(38.497237, -105.34477)
155379	https://dwr.state.co.us/Tools/WellPermits/0304008	(38.478638, -105.353135)
47740-A	https://dwr.state.co.us/Tools/WellPermits/0312268	(38.490526, -105.378809)
159430	https://dwr.state.co.us/Tools/WellPermits/0321527	(38.491012, -105.345214)
162121	https://dwr.state.co.us/Tools/WellPermits/0330646B	(38.488485, -105.35996)
168370	https://dwr.state.co.us/Tools/WellPermits/0348451	(38.475568, -105.347633)
174707	https://dwr.state.co.us/Tools/WellPermits/0361132	(38.483462, -105.34917)
177783	https://dwr.state.co.us/Tools/WellPermits/0366520	(38.498862, -105.348078)
192134	https://dwr.state.co.us/Tools/WellPermits/0393018	(38.52063, -105.360529)
46051F	https://dwr.state.co.us/Tools/WellPermits/0395254A	(38.499252, -105.348981)
194842	https://dwr.state.co.us/Tools/WellPermits/0396600	(38.514136, -105.365075)
194843	https://dwr.state.co.us/Tools/WellPermits/0396601	(38.516912, -105.36489)
194841	https://dwr.state.co.us/Tools/WellPermits/0397345	(38.519481, -105.378786)
194841	https://dwr.state.co.us/Tools/WellPermits/0397345	(38.519481, -105.378786)
195974	https://dwr.state.co.us/Tools/WellPermits/0400151	(38.520291, -105.360861)
198721	https://dwr.state.co.us/Tools/WellPermits/0405665J	(38.514296, -105.375273)
198714	https://dwr.state.co.us/Tools/WellPermits/0405665C	(38.524798, -105.383053)
198722	https://dwr.state.co.us/Tools/WellPermits/0405665K	(38.514832, -105.374205)
198715	https://dwr.state.co.us/Tools/WellPermits/0405665D	(38.524761, -105.386025)
198155	https://dwr.state.co.us/Tools/WellPermits/0405102	(38.522601, -105.379774)
198713	https://dwr.state.co.us/Tools/WellPermits/0405665B	(38.520693, -105.377539)
202223	https://dwr.state.co.us/Tools/WellPermits/0408084	(38.516692, -105.361731)
203262	https://dwr.state.co.us/Tools/WellPermits/0413647	(38.497239, -105.353028)
207552	https://dwr.state.co.us/Tools/WellPermits/0422989	(38.530694, -105.38381)
208605	https://dwr.state.co.us/Tools/WellPermits/0425594	(38.500958, -105.402748)
213831	https://dwr.state.co.us/Tools/WellPermits/0434435	(38.480741, -105.348881)
213835	https://dwr.state.co.us/Tools/WellPermits/0434434B	(38.533589, -105.407333)
213832	https://dwr.state.co.us/Tools/WellPermits/0437874	(38.479185, -105.34804)
215223	https://dwr.state.co.us/Tools/WellPermits/0440016C	(38.51853, -105.370567)
198714-A	https://dwr.state.co.us/Tools/WellPermits/0441008	(38.525918, -105.38366)
215395	https://dwr.state.co.us/Tools/WellPermits/0440016E	(38.52066, -105.383657)
215222	https://dwr.state.co.us/Tools/WellPermits/0440016A	(38.514375, -105.380499)
215394	https://dwr.state.co.us/Tools/WellPermits/0440016B	(38.520513, -105.38567)
215218	https://dwr.state.co.us/Tools/WellPermits/0440016D	(38.514345, -105.381548)
217453	https://dwr.state.co.us/Tools/WellPermits/0445027	(38.515111, -105.370242)
221113	https://dwr.state.co.us/Tools/WellPermits/0450736	(38.53319, -105.397545)

DWR Well Records for Water Resources Study Area

Permit	More Information	Location
233827	https://dwr.state.co.us/Tools/WellPermits/0476598	(38.509082, -105.359993)
235767	https://dwr.state.co.us/Tools/WellPermits/0481004	(38.500884, -105.354634)
237077	https://dwr.state.co.us/Tools/WellPermits/0482349	(38.503894, -105.356315)
238087	https://dwr.state.co.us/Tools/WellPermits/0484828	(38.501481, -105.362913)
239701	https://dwr.state.co.us/Tools/WellPermits/0488962	(38.505466, -105.359299)
239701	https://dwr.state.co.us/Tools/WellPermits/0488962	(38.505466, -105.359299)
46052F-R	https://dwr.state.co.us/Tools/WellPermits/0512665	(38.502382, -105.348024)
258919	https://dwr.state.co.us/Tools/WellPermits/0526341	(38.505153, -105.355137)
260350	https://dwr.state.co.us/Tools/WellPermits/0530704	(38.530883, -105.421614)
43342-A	https://dwr.state.co.us/Tools/WellPermits/3603278	(38.487873, -105.372213)
270239	https://dwr.state.co.us/Tools/WellPermits/3606244	(38.51535, -105.34773)
275470	https://dwr.state.co.us/Tools/WellPermits/3616673	(38.51498, -105.34897)
275470	https://dwr.state.co.us/Tools/WellPermits/3616673	(38.51498, -105.34897)
276232	https://dwr.state.co.us/Tools/WellPermits/3623960	(38.50163, -105.36272)
215983-A	https://dwr.state.co.us/Tools/WellPermits/3642638	(38.494645, -105.366873)
287455	https://dwr.state.co.us/Tools/WellPermits/3653791	(38.499813, -105.353972)
290267	https://dwr.state.co.us/Tools/WellPermits/3658346A	(38.492291, -105.354203)
292021	https://dwr.state.co.us/Tools/WellPermits/3659855	(38.505246, -105.35103)
78822F	https://dwr.state.co.us/Tools/WellPermits/3667100	(38.489983, -105.395061)
300506	https://dwr.state.co.us/Tools/WellPermits/3673437	(38.528436, -105.401119)
301600	https://dwr.state.co.us/Tools/WellPermits/3674526	(38.523704, -105.3908)
301597	https://dwr.state.co.us/Tools/WellPermits/3674531	(38.524106, -105.397001)
301601	https://dwr.state.co.us/Tools/WellPermits/3674529	(38.521894, -105.39159)
301598	https://dwr.state.co.us/Tools/WellPermits/3674524	(38.520391, -105.396559)
301603	https://dwr.state.co.us/Tools/WellPermits/3674530	(38.522174, -105.394239)
301598	https://dwr.state.co.us/Tools/WellPermits/3674524	(38.520391, -105.396559)
301600-A	https://dwr.state.co.us/Tools/WellPermits/3678038	(38.523332, -105.39672)
301600-A	https://dwr.state.co.us/Tools/WellPermits/3678038	(38.523332, -105.39672)
144365	https://dwr.state.co.us/Tools/WellPermits/9086935	(38.487139, -105.352311)
44904	https://dwr.state.co.us/Tools/WellPermits/9085964	(38.502529, -105.349929)
21556	https://dwr.state.co.us/Tools/WellPermits/9085750	(38.486421, -105.357262)
10350	https://dwr.state.co.us/Tools/WellPermits/9085616	(38.51597, -105.35988)
44202	https://dwr.state.co.us/Tools/WellPermits/9085951	(38.500984, -105.349843)
8568	https://dwr.state.co.us/Tools/WellPermits/9085600	(38.532422, -105.417574)
47740	https://dwr.state.co.us/Tools/WellPermits/9086011	(38.489196, -105.374545)
39396	https://dwr.state.co.us/Tools/WellPermits/9085905	(38.502545, -105.349132)
43341	https://dwr.state.co.us/Tools/WellPermits/9085942	(38.488623, -105.373574)
43342	https://dwr.state.co.us/Tools/WellPermits/9085943	(38.487504, -105.372597)
55817	https://dwr.state.co.us/Tools/WellPermits/9086087	(38.521654, -105.365808)
108315	https://dwr.state.co.us/Tools/WellPermits/9086763	(38.528485, -105.424657)
60502	https://dwr.state.co.us/Tools/WellPermits/9086131	(38.493704, -105.349298)
68659	https://dwr.state.co.us/Tools/WellPermits/9086241	(38.503651, -105.349916)
304787	https://dwr.state.co.us/Tools/WellPermits/3678593	(38.515068, -105.356732)
46052F-R	https://dwr.state.co.us/Tools/WellPermits/3680613	(38.502387, -105.348034)
305825	https://dwr.state.co.us/Tools/WellPermits/3680224	(38.522989, -105.396039)
269359	https://dwr.state.co.us/Tools/WellPermits/3604319	(38.526376, -105.380203)

DWR Well Records for Water Resources Study Area

Permit	More Information	Location
301599	https://dwr.state.co.us/Tools/WellPermits/3674525	(38.519793, -105.400484)
198720	https://dwr.state.co.us/Tools/WellPermits/0405665I	(38.514742, -105.377355)
198720	https://dwr.state.co.us/Tools/WellPermits/0405665I	(38.514742, -105.377355)
269113	https://dwr.state.co.us/Tools/WellPermits/3604372	(38.487846, -105.352665)
312799	https://dwr.state.co.us/Tools/WellPermits/3690612	(38.521287, -105.398405)

DWR Well Records for Water Resources Study Area

Permit	IDKey	Shape *	Received From	Received Date	Publish Date
25221MH	0025221 184397	Point	Colorado DWR	10/22/2019	10/22/2019
30210MH	0030210 90865	Point	Colorado DWR	10/22/2019	10/22/2019
	78124 0057935 221010	Point	Colorado DWR	10/22/2019	10/22/2019
	88822 0078591A 139530	Point	Colorado DWR	10/22/2019	10/22/2019
140871-A	0256699B 94229	Point	Colorado DWR	10/22/2019	10/22/2019
	145102 0263499 17709	Point	Colorado DWR	10/22/2019	10/22/2019
	153943 0298963 393540	Point	Colorado DWR	10/22/2019	10/22/2019
43341-A	0298903 156556	Point	Colorado DWR	10/22/2019	10/22/2019
	153943 0298963 393541	Point	Colorado DWR	10/22/2019	10/22/2019
	155081 0300895A 89856	Point	Colorado DWR	10/22/2019	10/22/2019
155081-A	0300895B 150103	Point	Colorado DWR	10/22/2019	10/22/2019
	155379 0304008 141915	Point	Colorado DWR	10/22/2019	10/22/2019
47740-A	0312268 223582	Point	Colorado DWR	10/22/2019	10/22/2019
	159430 0321527 273139	Point	Colorado DWR	10/22/2019	10/22/2019
	162121 0330646B 3801	Point	Colorado DWR	10/22/2019	10/22/2019
	168370 0348451 253268	Point	Colorado DWR	10/22/2019	10/22/2019
	174707 0361132 205273	Point	Colorado DWR	10/22/2019	10/22/2019
	177783 0366520 110926	Point	Colorado DWR	10/22/2019	10/22/2019
	192134 0393018 152848	Point	Colorado DWR	10/22/2019	10/22/2019
46051F	0395254A 356256	Point	Colorado DWR	10/22/2019	10/22/2019
	194842 0396600 237908	Point	Colorado DWR	10/22/2019	10/22/2019
	194843 0396601 366654	Point	Colorado DWR	10/22/2019	10/22/2019
	194841 0397345 407717	Point	Colorado DWR	10/22/2019	10/22/2019
	194841 0397345 407716	Point	Colorado DWR	10/22/2019	10/22/2019
	195974 0400151 319708	Point	Colorado DWR	10/22/2019	10/22/2019
	198721 0405665J 299247	Point	Colorado DWR	10/22/2019	10/22/2019
	198714 0405665C 43760	Point	Colorado DWR	10/22/2019	10/22/2019
	198722 0405665K 311763	Point	Colorado DWR	10/22/2019	10/22/2019
	198715 0405665D 30500	Point	Colorado DWR	10/22/2019	10/22/2019
	198155 0405102 18209	Point	Colorado DWR	10/22/2019	10/22/2019
	198713 0405665B 390653	Point	Colorado DWR	10/22/2019	10/22/2019
	202223 0408084 83103	Point	Colorado DWR	10/22/2019	10/22/2019
	203262 0413647 170313	Point	Colorado DWR	10/22/2019	10/22/2019
	207552 0422989 123743	Point	Colorado DWR	10/22/2019	10/22/2019
	208605 0425594 171495	Point	Colorado DWR	10/22/2019	10/22/2019
	213831 0434435 328633	Point	Colorado DWR	10/22/2019	10/22/2019
	213835 0434434B 220338	Point	Colorado DWR	10/22/2019	10/22/2019
	213832 0437874 328633	Point	Colorado DWR	10/22/2019	10/22/2019
	215223 0440016C 353957	Point	Colorado DWR	10/22/2019	10/22/2019
198714-A	0441008 359065	Point	Colorado DWR	10/22/2019	10/22/2019
	215395 0440016E 298771	Point	Colorado DWR	10/22/2019	10/22/2019
	215222 0440016A 50811	Point	Colorado DWR	10/22/2019	10/22/2019
	215394 0440016B 317488	Point	Colorado DWR	10/22/2019	10/22/2019
	215218 0440016D 17261	Point	Colorado DWR	10/22/2019	10/22/2019
	217453 0445027 248894	Point	Colorado DWR	10/22/2019	10/22/2019
	221113 0450736 391917	Point	Colorado DWR	10/22/2019	10/22/2019

DWR Well Records for Water Resources Study Area

Permit	IDKey	Shape *	Received From	Received Date	Publish Date
233827	0476598 328544	Point	Colorado DWR	10/22/2019	10/22/2019
235767	0481004 215760	Point	Colorado DWR	10/22/2019	10/22/2019
237077	0482349 339906	Point	Colorado DWR	10/22/2019	10/22/2019
238087	0484828 225257	Point	Colorado DWR	10/22/2019	10/22/2019
239701	0488962 393396	Point	Colorado DWR	10/22/2019	10/22/2019
239701	0488962 393397	Point	Colorado DWR	10/22/2019	10/22/2019
46052F-R	0512665 356256	Point	Colorado DWR	10/22/2019	10/22/2019
258919	0526341 123238	Point	Colorado DWR	10/22/2019	10/22/2019
260350	0530704 227514	Point	Colorado DWR	10/22/2019	10/22/2019
43342-A	3603278 81940	Point	Colorado DWR	10/22/2019	10/22/2019
270239	3606244 115417	Point	Colorado DWR	10/22/2019	10/22/2019
275470	3616673 412695	Point	Colorado DWR	10/22/2019	10/22/2019
275470	3616673 412696	Point	Colorado DWR	10/22/2019	10/22/2019
276232	3623960 256444	Point	Colorado DWR	10/22/2019	10/22/2019
215983-A	3642638 289364	Point	Colorado DWR	10/22/2019	10/22/2019
287455	3653791 110717	Point	Colorado DWR	10/22/2019	10/22/2019
290267	3658346A 284300	Point	Colorado DWR	10/22/2019	10/22/2019
292021	3659855 216737	Point	Colorado DWR	10/22/2019	10/22/2019
78822F	3667100 337172	Point	Colorado DWR	10/22/2019	10/22/2019
300506	3673437 202210	Point	Colorado DWR	10/22/2019	10/22/2019
301600	3674526 179511	Point	Colorado DWR	10/22/2019	10/22/2019
301597	3674531 234833	Point	Colorado DWR	10/22/2019	10/22/2019
301601	3674529 179511	Point	Colorado DWR	10/22/2019	10/22/2019
301598	3674524 42913	Point	Colorado DWR	10/22/2019	10/22/2019
301603	3674530 179511	Point	Colorado DWR	10/22/2019	10/22/2019
301598	3674524 399779	Point	Colorado DWR	10/22/2019	10/22/2019
301600-A	3678038 384403	Point	Colorado DWR	10/22/2019	10/22/2019
301600-A	3678038 384402	Point	Colorado DWR	10/22/2019	10/22/2019
144365	9086935 351138	Point	Colorado DWR	10/22/2019	10/22/2019
44904	9085964 190736	Point	Colorado DWR	10/22/2019	10/22/2019
21556	9085750 123421	Point	Colorado DWR	10/22/2019	10/22/2019
10350	9085616 114140	Point	Colorado DWR	10/22/2019	10/22/2019
44202	9085951 318201	Point	Colorado DWR	10/22/2019	10/22/2019
8568	9085600 303552	Point	Colorado DWR	10/22/2019	10/22/2019
47740	9086011 279523	Point	Colorado DWR	10/22/2019	10/22/2019
39396	9085905 190736	Point	Colorado DWR	10/22/2019	10/22/2019
43341	9085942 173734	Point	Colorado DWR	10/22/2019	10/22/2019
43342	9085943 173734	Point	Colorado DWR	10/22/2019	10/22/2019
55817	9086087 197839	Point	Colorado DWR	10/22/2019	10/22/2019
108315	9086763 341072	Point	Colorado DWR	10/22/2019	10/22/2019
60502	9086131 40826	Point	Colorado DWR	10/22/2019	10/22/2019
68659	9086241 122170	Point	Colorado DWR	10/22/2019	10/22/2019
304787	3678593 285193	Point	Colorado DWR	10/22/2019	10/22/2019
46052F-R	3680613 370599	Point	Colorado DWR	10/22/2019	10/22/2019
305825	3680224 369537	Point	Colorado DWR	10/22/2019	10/22/2019
269359	3604319 86051	Point	Colorado DWR	10/22/2019	10/22/2019

DWR Well Records for Water Resources Study Area

Permit	IDKey	Shape *	Received From	Received Date	Publish Date
301599	3674525 402088	Point	Colorado DWR	10/22/2019	10/22/2019
198720	0405665I 394578	Point	Colorado DWR	10/22/2019	10/22/2019
198720	0405665I 394577	Point	Colorado DWR	10/22/2019	10/22/2019
269113	3604372 163751	Point	Colorado DWR	10/22/2019	10/22/2019
312799	3690612 401334	Point	Colorado DWR	10/22/2019	10/22/2019

DWR Well Records for Water Resources Study Area

Permit	Received Projection	File Name
25221MH	CCS - NAD83	DWR_Well_Application_Permit
30210MH	CCS - NAD83	DWR_Well_Application_Permit
78124	CCS - NAD83	DWR_Well_Application_Permit
88822	CCS - NAD83	DWR_Well_Application_Permit
140871-A	CCS - NAD83	DWR_Well_Application_Permit
145102	CCS - NAD83	DWR_Well_Application_Permit
153943	CCS - NAD83	DWR_Well_Application_Permit
43341-A	CCS - NAD83	DWR_Well_Application_Permit
153943	CCS - NAD83	DWR_Well_Application_Permit
155081	CCS - NAD83	DWR_Well_Application_Permit
155081-A	CCS - NAD83	DWR_Well_Application_Permit
155379	CCS - NAD83	DWR_Well_Application_Permit
47740-A	CCS - NAD83	DWR_Well_Application_Permit
159430	CCS - NAD83	DWR_Well_Application_Permit
162121	CCS - NAD83	DWR_Well_Application_Permit
168370	CCS - NAD83	DWR_Well_Application_Permit
174707	CCS - NAD83	DWR_Well_Application_Permit
177783	CCS - NAD83	DWR_Well_Application_Permit
192134	CCS - NAD83	DWR_Well_Application_Permit
46051F	CCS - NAD83	DWR_Well_Application_Permit
194842	CCS - NAD83	DWR_Well_Application_Permit
194843	CCS - NAD83	DWR_Well_Application_Permit
194841	CCS - NAD83	DWR_Well_Application_Permit
194841	CCS - NAD83	DWR_Well_Application_Permit
195974	CCS - NAD83	DWR_Well_Application_Permit
198721	CCS - NAD83	DWR_Well_Application_Permit
198714	CCS - NAD83	DWR_Well_Application_Permit
198722	CCS - NAD83	DWR_Well_Application_Permit
198715	CCS - NAD83	DWR_Well_Application_Permit
198155	CCS - NAD83	DWR_Well_Application_Permit
198713	CCS - NAD83	DWR_Well_Application_Permit
202223	CCS - NAD83	DWR_Well_Application_Permit
203262	CCS - NAD83	DWR_Well_Application_Permit
207552	CCS - NAD83	DWR_Well_Application_Permit
208605	CCS - NAD83	DWR_Well_Application_Permit
213831	CCS - NAD83	DWR_Well_Application_Permit
213835	CCS - NAD83	DWR_Well_Application_Permit
213832	CCS - NAD83	DWR_Well_Application_Permit
215223	CCS - NAD83	DWR_Well_Application_Permit
198714-A	CCS - NAD83	DWR_Well_Application_Permit
215395	CCS - NAD83	DWR_Well_Application_Permit
215222	CCS - NAD83	DWR_Well_Application_Permit
215394	CCS - NAD83	DWR_Well_Application_Permit
215218	CCS - NAD83	DWR_Well_Application_Permit
217453	CCS - NAD83	DWR_Well_Application_Permit
221113	CCS - NAD83	DWR_Well_Application_Permit

DWR Well Records for Water Resources Study Area

Permit	Received Projection	File Name
233827	CCS - NAD83	DWR_Well_Application_Permit
235767	CCS - NAD83	DWR_Well_Application_Permit
237077	CCS - NAD83	DWR_Well_Application_Permit
238087	CCS - NAD83	DWR_Well_Application_Permit
239701	CCS - NAD83	DWR_Well_Application_Permit
239701	CCS - NAD83	DWR_Well_Application_Permit
46052F-R	CCS - NAD83	DWR_Well_Application_Permit
258919	CCS - NAD83	DWR_Well_Application_Permit
260350	CCS - NAD83	DWR_Well_Application_Permit
43342-A	CCS - NAD83	DWR_Well_Application_Permit
270239	CCS - NAD83	DWR_Well_Application_Permit
275470	CCS - NAD83	DWR_Well_Application_Permit
275470	CCS - NAD83	DWR_Well_Application_Permit
276232	CCS - NAD83	DWR_Well_Application_Permit
215983-A	CCS - NAD83	DWR_Well_Application_Permit
287455	CCS - NAD83	DWR_Well_Application_Permit
290267	CCS - NAD83	DWR_Well_Application_Permit
292021	CCS - NAD83	DWR_Well_Application_Permit
78822F	CCS - NAD83	DWR_Well_Application_Permit
300506	CCS - NAD83	DWR_Well_Application_Permit
301600	CCS - NAD83	DWR_Well_Application_Permit
301597	CCS - NAD83	DWR_Well_Application_Permit
301601	CCS - NAD83	DWR_Well_Application_Permit
301598	CCS - NAD83	DWR_Well_Application_Permit
301603	CCS - NAD83	DWR_Well_Application_Permit
301598	CCS - NAD83	DWR_Well_Application_Permit
301600-A	CCS - NAD83	DWR_Well_Application_Permit
301600-A	CCS - NAD83	DWR_Well_Application_Permit
144365	CCS - NAD83	DWR_Well_Application_Permit
44904	CCS - NAD83	DWR_Well_Application_Permit
21556	CCS - NAD83	DWR_Well_Application_Permit
10350	CCS - NAD83	DWR_Well_Application_Permit
44202	CCS - NAD83	DWR_Well_Application_Permit
8568	CCS - NAD83	DWR_Well_Application_Permit
47740	CCS - NAD83	DWR_Well_Application_Permit
39396	CCS - NAD83	DWR_Well_Application_Permit
43341	CCS - NAD83	DWR_Well_Application_Permit
43342	CCS - NAD83	DWR_Well_Application_Permit
55817	CCS - NAD83	DWR_Well_Application_Permit
108315	CCS - NAD83	DWR_Well_Application_Permit
60502	CCS - NAD83	DWR_Well_Application_Permit
68659	CCS - NAD83	DWR_Well_Application_Permit
304787	CCS - NAD83	DWR_Well_Application_Permit
46052F-R	CCS - NAD83	DWR_Well_Application_Permit
305825	CCS - NAD83	DWR_Well_Application_Permit
269359	CCS - NAD83	DWR_Well_Application_Permit

DWR Well Records for Water Resources Study Area

Permit	Received Projection	File Name
301599	CCS - NAD83	DWR_Well_Application_Permit
198720	CCS - NAD83	DWR_Well_Application_Permit
198720	CCS - NAD83	DWR_Well_Application_Permit
269113	CCS - NAD83	DWR_Well_Application_Permit
312799	CCS - NAD83	DWR_Well_Application_Permit

DWR Well Records for Water Resources Study Area

Permit	Website
25221MH	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awbhttps://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
30210MH	
78124	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
88822	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
140871-A	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
145102	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
153943	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
43341-A	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
153943	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
155081	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
155081-A	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
155379	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
47740-A	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
159430	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
162121	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
168370	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
174707	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
177783	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
192134	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
46051F	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
194842	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
194843	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
194841	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
194841	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
195974	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
198721	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
198714	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
198722	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
198715	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
198155	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
198713	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
202223	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
203262	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
207552	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
208605	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
213831	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
213835	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
213832	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
215223	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
198714-A	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
215395	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
215222	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
215394	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
215218	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
217453	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb

DWR Well Records for Water Resources Study Area

221113 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>

DWR Well Records for Water Resources Study Area

Permit Website

233827 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 235767 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 237077 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 238087 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 239701 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 239701 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 46052F-R <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 258919 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 260350 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 43342-A <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 270239 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 275470 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 275470 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 276232 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 215983-A <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 287455 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 290267 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 292021 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 78822F <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 300506 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 301600 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 301597 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 301601 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 301598 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 301603 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 301598 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 301600-A <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 301600-A <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>

 144365 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 44904 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 21556 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 10350 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 44202 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 8568 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 47740 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 39396 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 43341 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 43342 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 55817 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 108315 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 60502 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 68659 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 304787 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 46052F-R <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>
 305825 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>

DWR Well Records for Water Resources Study Area

269359 <https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb>

DWR Well Records for Water Resources Study Area

Permit	Website
--------	---------

301599	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
198720	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
198720	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
269113	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb
312799	https://data.colorado.gov/Water/DWR-Well-Application-Permit/wumm-7awb

DWR Well Records for Water Resources Study Area

Permit	Proximity	SurfElev. (ft)	WLE (ft)
25221MH	Water Resources Study Area	6,225	6,160
30210MH	Water Resources Study Area	6,288	6,238
78124	Water Resources Study Area	6,170	6,128
88822	Water Resources Study Area	6,162	
140871-A	Water Resources Study Area	6,164	
145102	Water Resources Study Area	6,220	6,170
153943	Water Resources Study Area	6,168	
43341-A	Water Resources Study Area	5,829	5,792
153943	Water Resources Study Area	6,168	
155081	Water Resources Study Area	6,256	
155081-A	Water Resources Study Area	6,251	6,016
155379	Water Resources Study Area	5,968	5,943
47740-A	Water Resources Study Area	5,798	5,738
159430	Water Resources Study Area	6,204	6,119
162121	Water Resources Study Area	6,257	6,157
168370	Water Resources Study Area	6,115	5,995
174707	Water Resources Study Area	6,197	6,156
177783	Water Resources Study Area	6,250	6,220
192134	Water Resources Study Area	6,450	6,360
46051F	Water Resources Study Area	6,245	6,185
194842	Water Resources Study Area	6,382	6,246
194843	Water Resources Study Area	6,368	6,304
194841	Water Resources Study Area	6,393	6,323
194841	Water Resources Study Area	6,393	6,323
195974	Water Resources Study Area	6,445	6,439
198721	Water Resources Study Area	6,658	6,603
198714	Water Resources Study Area	6,218	
198722	Water Resources Study Area	6,599	6,494
198715	Water Resources Study Area	6,209	5,847
198155	Water Resources Study Area	6,303	6,278
198713	Water Resources Study Area	6,335	6,285
202223	Water Resources Study Area	6,367	6,287
203262	Water Resources Study Area	6,244	6,194
207552	Water Resources Study Area	6,203	6,198
208605	Water Resources Study Area	6,090	
213831	Water Resources Study Area	6,163	5,963
213835	Water Resources Study Area	6,189	
213832	Water Resources Study Area	6,153	6,093
215223	Water Resources Study Area	6,425	6,290
198714-A	Water Resources Study Area	6,204	6,154
215395	Water Resources Study Area	6,379	6,189
215222	Water Resources Study Area	7,179	6,954
215394	Water Resources Study Area	6,397	6,359
215218	Water Resources Study Area	7,219	7,041
217453	Water Resources Study Area	6,509	6,379
221113	Water Resources Study Area	6,253	6,238

DWR Well Records for Water Resources Study Area

Permit	Proximity	SurfElev. (ft)	WLE (ft)
233827	Water Resources Study Area	6,211	6,131
235767	Water Resources Study Area	6,090	6,080
237077	Water Resources Study Area	6,154	6,052
238087	Water Resources Study Area	6,272	
239701	Water Resources Study Area	6,209	6,081
239701	Water Resources Study Area	6,209	6,081
46052F-R	Water Resources Study Area	6,151	6,144
258919	Water Resources Study Area	6,126	6,125
260350	Water Resources Study Area	6,334	6,304
43342-A	Water Resources Study Area	5,747	5,657
270239	Water Resources Study Area	6,441	6,398
275470	Water Resources Study Area	6,383	6,383
275470	Water Resources Study Area	6,383	6,383
276232	Water Resources Study Area	6,264	6,164
215983-A	Water Resources Study Area	5,882	5,842
287455	Water Resources Study Area	6,109	6,099
290267	Water Resources Study Area	6,225	6,180
292021	Water Resources Study Area	6,175	
78822F	Water Resources Study Area	5,814	5,784
300506	Water Resources Study Area	6,171	
301600	Water Resources Study Area	6,195	6,185
301597	Water Resources Study Area	6,116	6,106
301601	Water Resources Study Area	6,259	6,213
301598	Water Resources Study Area	6,253	6,239
301603	Water Resources Study Area	6,174	
301598	Water Resources Study Area	6,253	6,239
301600-A	Water Resources Study Area	6,122	6,111
301600-A	Water Resources Study Area	6,122	6,111
144365	Water Resources Study Area	6,129	
44904	Water Resources Study Area	6,133	6,113
21556	Water Resources Study Area	6,366	
10350	Water Resources Study Area	6,344	
44202	Water Resources Study Area	6,225	
8568	Water Resources Study Area	6,259	
47740	Water Resources Study Area	5,798	5,738
39396	Water Resources Study Area	6,174	6,139
43341	Water Resources Study Area	5,794	
43342	Water Resources Study Area	5,733	
55817	Water Resources Study Area	6,423	
108315	Water Resources Study Area	6,457	
60502	Water Resources Study Area	6,202	6,182
68659	Water Resources Study Area	6,166	6,156
304787	Water Resources Study Area	6,375	6,325
46052F-R	Water Resources Study Area	6,151	6,122
305825	Water Resources Study Area	6,127	6,111
269359	Water Resources Study Area	6,252	6,167

DWR Well Records for Water Resources Study Area

Permit	Proximity	SurfElev. (ft)	WLE (ft)
301599	Water Resources Study Area	6,108	6,096
198720	Water Resources Study Area	6,819	6,719
198720	Water Resources Study Area	6,819	6,719
269113	Water Resources Study Area	6,140	6,030
312799	Water Resources Study Area	6,115	6,093