STATE OF COLORADO

Girardi - DNR, Chris <chris.girardi@state.co.us>

Alamosa #2 / Swift Pit GWMP Draft

2 messages

Sydney Connor <Sydney@lewicki.biz> Thu, Jan 9, 2025 at 2:42 PM
To: "chris.girardi@state.co.us" <chris.girardi@state.co.us>, "jared.ebert@state.co.us" <jared.ebert@state.co.us>
Cc: Ben Miller <ben@lewicki.biz>, Paul Bottini <paul@southwayco.com>

Good afternoon,

Here is a draft of the GWMP for Southway's Alamosa #2 / Swift Pit. First, we would like to confirm that the sampling locations are adequate for the DRMS so they can get installed as soon as possible.

Thanks,

Sydney Connor

Lewicki & Associates

sydney@lewicki.biz

(719) 323-9867

Alamosa #2 Swift Pit Water Monitoring Plan 250109.pdf
1710K

Girardi - DNR, Chris <chris.girardi@state.co.us> Mon, Jan 13, 2025 at 11:25 AM
To: Sydney Connor <Sydney@lewicki.biz>
Cc: "jared.ebert@state.co.us" <jared.ebert@state.co.us>, Ben Miller <ben@lewicki.biz>, Paul Bottini <paul@southwayco.com>

Good morning,

Please note I've only reviewed the groundwater monitoring well locations and not the Groundwater Monitoring Plan in its entirety.

The Division feels that GW-1 through GW-4, given they are located at the corners of the permit boundary, are insufficient to characterize water quality or how water quality impacts could be migrating offsite. The Division suggests moving GW-1 through GW-4 closer to the open groundwater ponds, as well as adding four (4) additional groundwater monitoring wells (GW-5 through GW-8) to provide better resolution of groundwater concentrations across the site and potentially bracket water quality impacts.

I've attached a revised monitoring well location figure that takes into account these suggested changes.

In addition, the Division notes that an evaluation regarding Point of Compliance (POC) wells can not be determined until after groundwater monitoring wells have been surveyed and a general groundwater flow direction has been established.

Thanks,

Chris Girardi

Environmental Protection Specialist Intern

COLORADO
Division of Reclamation, Mining and Safety
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GroundwaterSamplingLocations.pdf
209K

Alamosa #2/Swift Pit

Groundwater Monitoring Plan

January 2025

By:

Southwest Ready Mix

Represented by:

Lewicki & Associates

Contents

Introduction

This groundwater quality monitoring plan will be implemented at the Alamosa #2 or Swift Pit, located approximately 2.5 miles northeast of Alamosa, CO. This plan outlines the methods that the mine operator, Southwest Ready-Mix, will follow to monitor potential impacts to groundwater quality from ongoing backfilling operations using concrete containing rebar. This plan is intended to meet the requirements of the Division of Reclamation, Mining, and Safety (DRMS) Mineral Rules and Regulations Rule 3.1.7(7)(b) and the Colorado Department of Public Health & Environment (CDPHE) Regulation No. 41. The site is not located within any classified groundwater areas; therefore, the statewide regulations (CDPHE Regulation 41) will be followed.

The Swift Pit is already in operation, so pre-operational groundwater data cannot be taken. This monitoring plan utilizes an upstream-downstream monitoring approach to evaluate potential impacts from the concrete and rebar backfill materials on groundwater quality. Monitoring wells positioned hydraulically upgradient of the pit will provide background water quality data, while downgradient wells will be used to detect any changes in water quality that may result from interaction with the backfill materials. By comparing upstream and downstream water quality parameters, any potential impacts from the concrete and rebar materials can be identified and assessed.

The on-going mining operation directly interacts with groundwater as it infiltrates freely into the pit. The pit's natural gravel composition provides some filtering capacity, however, the presence of rebar in the backfill material necessitates monitoring for potential chemical interactions that could affect groundwater. Based on these conditions, quarterly sampling and analysis of groundwater chemistry will be conducted at both upstream and downstream monitoring locations to evaluate any changes in water quality parameters that might indicate impacts from the backfill materials.

1. Background Information

1.1. Site Description

The Swift Pit is located roughly 2.5 miles northeast of Alamosa in Alamosa County, Colorado. The site is located at 37.4936, -105.8213. The site is a total of 39.3 acres.

The Swift Pit is a relatively flat site with a combination of openly disturbed areas, ponds, and previously backfilled and reclaimed pits. It is largely isolated from any major water features apart from some wetlands and irrigation ditches off site. The site is mostly flat with a slight gradient to the south-southeast. The surrounding area is mostly undeveloped and agricultural land with two residences to the north and northeast.

The site location is shown in the vicinity map in Figure 1 below.

Figure 1 – Vicinity Map

The geology of the site is composed of a fluvial sand, pebble gravel, and cobbly pebble gravel alluvium deposit created by glaciation in the Rio Grande River area. The deposit is overlain by approximately 8 inches of topsoil. The operator has not confirmed the deposit thickness as they only mine up to 10 feet of gravel where the deposit appears to continue in depth. Based on geologic mapping of the area, the deposit is estimated to be 15-35 feet thick. The bedrock below the deposit is likely sedimentary rock or shale at an unknown depth.

The aquifer present at the site is the Unconfined San Luis Valley aquifer. This aquifer is approximately two-five feet below the surface. The alluvial aquifer is unconfined and is part of the greater Rio Grande River Basin. The aquifer is approximately 100 feet thick at the site. The hydraulic conductivity of the aquifer ranges from 5 to 100 feet/day[1]. The aquifer is recharged by surface water in various ponds and canals throughout the basin. Underlying this aquifer is the confined San Luis Valley aquifer which will not be interacted with as it is around 1,000-2,000 feet below the surface.

There is not enough groundwater level data near the site to develop a potentiometric surface. However, the location and flow of the Rio Grande River, as well as the topography of the site indicate that groundwater is moving south. Groundwater direction will be confirmed during baseline water quantity testing. After which, a potentiometric model will be developed.

A baseline map showing proposed wells and existing hydrologic conditions of the site is attached in Appendix 1.

[1] *Section 10,- Conceptual Understanding and Groundwater Quality of the Basin-Fill Aquifer in the San Luis Valley, Colorado and New Mexico*, U.S. Department of the Interior.

1.2. Groundwater Characterization

Water quality and quantity sampling will take place at six locations for five quarters to establish groundwater characterization. Quality sampling will take place at four groundwater wells (GW-1, GW-2, GW-3, and GW-4).

Two pond locations (W-5 and W-6) will also be sampled for supplemental quality data. The pond sampling will provide more direct measurements closer to mining and backfill activities, offering more immediate insights into potential environmental impacts to compare to the groundwater well data. The western pond is currently used as wash plant water supply, but has historic backfill present. The eastern pond is currently being backfilled and serves as the settling pond for wash plant activities. Therefore, these two sampling locations are expected to have higher levels of TSP's and other parameters.

Each sample point can be seen on the map in Appendix 1 and on Figure 2. Details on the sampling locations are provided in Table 1.

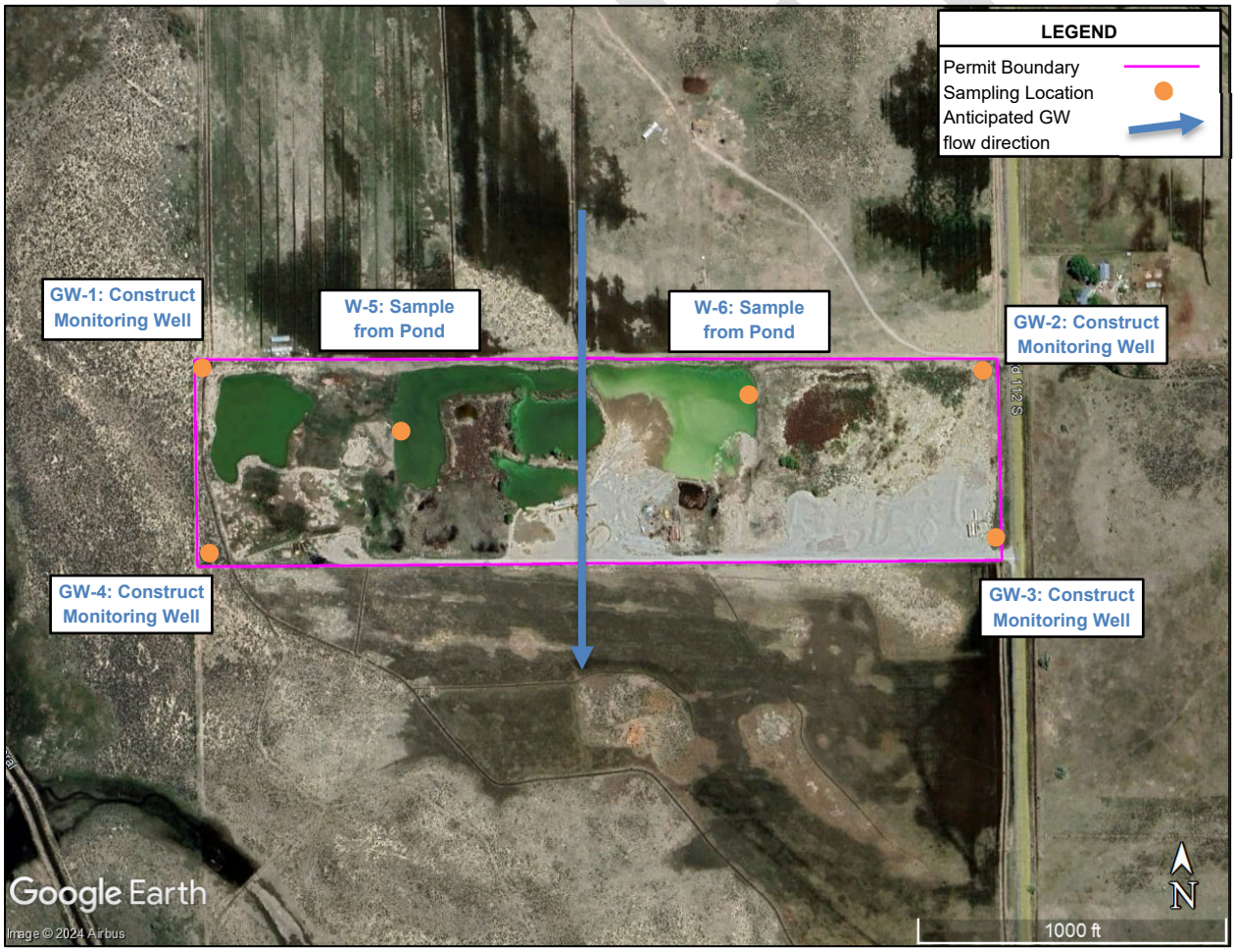

Figure 2 – Groundwater Sampling Locations

Table 1 – Groundwater & Pond Sampling Location Data

ID	Location Description	Lat	Long	Surface Elev. (ft)	Top of Casing Elev. (ft)	Total Depth (ft)	Depth to Water (ft)	Completion Date
GW-1	Northwestern corner of permit area	TBD	TBD	TBD	TBD	TBD	TBD	TBD
GW-2	Southwestern corner of permit area	TBD	TBD	TBD	TBD	TBD	TBD	TBD
GW-3	Northeastern corner of permit area	TBD	TBD	TBD	TBD	TBD	TBD	TBD
GW-4	Southeastern corner of permit area	TBD	TBD	TBD	TBD	TBD	TBD	TBD
W-5	Wash Plant Supply Water Pond	Approx. 37.495	Approx. -105.824	N/A	N/A	N/A	Approx. 2-4 ft. below top of pond	N/A
W-6	Actively Backfilling Pond	Approx. 37.495	Approx. -105.828	N/A	N/A	N/A	Approx. 2-4 ft. below top of pond	N/A

1.2.1. Monitoring Well Installation

All wells being used for monitoring will be constructed by a licensed contractor following the State Engineer's Office (SEO) guidelines. Construction information and lithology for each well will be provided in Appendix 3 under the associated CDWR permit documents. Other characteristics of the wells are provided in Table 1 above. Table 2 below lists CDWR permit numbers for each of these wells.

Table 2 – CDWR Well Permits

ID	CDWR Permit No.	Use
GW-1	TBD	Monitoring
GW-2	TBD	Monitoring
GW-3	TBD	Monitoring
GW-4	TBD	Monitoring

1.2.2. Groundwater Quantity

The water level will be quantified with at least 15 months (once a month for five quarters) of static water level measurements the groundwater well sampling locations (GW-1 through GW-4). The water level will be measured using depth measuring equipment such as a sounder from the top of the well casing, using the sampling methods outlined later in this plan. Data will be recorded in table and graph format in Appendix 1. This data will be analyzed to show the water level against time in graph format. A potentiometric groundwater model will be developed from this quantity data to ensure that downgradient monitoring is in the correct location to characterize downstream water qualities. Quantity sampling will not continue after 15 months unless abnormalities are identified or as otherwise requested by the DRMS.

1.2.3. Groundwater Quality

The water quality will be determined with at least five quarters of water quality sampling at the four groundwater well sampling locations. Field and laboratory samples will be taken quarterly at groundwater wells GW-1, GW-2, GW-3, and GW-4 and at the two pond locations W-5 and W-6.

Quality sampling of the four groundwater wells will be compared to Regulation 41 standards and parameters using the sampling methods described in this plan. Data will be recorded in a table and reported in Appendix 1. The two upgradient monitoring locations (GW-1 and GW-2) will determine the background quality of the groundwater aquifer, while the two downgradient monitoring locations (GW-3 and GW-4) will determine the quality of water after it has interacted with the backfill materials.

The two freshwater pond locations strictly serve to provide additional information to in-situ conditions, and are not required to meet Regulation 41 standards as the quality in these ponds are not indicative of the overall aquifer conditions. They will be taken with the methods described in this plan and reported in Appendix 1.

2. Predicted Impacts to Hydrologic Balance

Predicted impacts to the hydrologic balance are not anticipated to be present at the Swift Pit. Groundwater flows freely through the pit so quantity should not be affected. The presence of rebar in the concrete backfill materials has the potential to impact groundwater quality, however this is unlikely as the pit acts as a gravel filter preventing pollution from travelling in the aquifer. Additionally, concrete is a common backfilling method, and it usually contains rebar. Potential parameters that could show effects from rebar-groundwater interaction include iron and other heavy metals that may be present in the rebar.

The two pond sampling locations are anticipated to show higher levels of sediment and other potential pollutants related to wash plant activities and backfilling. However, the presence of these potential pollutants in the ponds does not indicate an impact on the hydrologic balance.

The sampling and monitoring methods in this plan will work to identify any impacts that may be occurring from the presence of rebar in the pit. Also, outlined in this plan are actions to take in the case that adverse impacts to the groundwater are encountered.

3. Groundwater Monitoring Plan

This groundwater monitoring plan will be enacted at the Swift Pit to identify and quantify any potential impacts of mining and pond backfilling to the local groundwater aquifer.

3.1. Groundwater Points of Compliance

As this is an actively operating pit with previously backfilled areas, Point of Compliance (POC) testing will vary from the typical mining operation. The two down-gradient wells will serve as the POC's in this plan to ensure compliance with Regulation 41 groundwater standards as well as to identify any major differences in quality from the upstream wells. The five quarters of data collection will serve as both background data from the upstream wells, and as POC data from the downstream wells. Additionally, the fresh-water pond sampling at W-5 and backfilled pond sampling at W-6 will provide additional information that should be helpful in identifying the direct effects of rebar presence in backfill. These two locations will not represent compliance with groundwater standards.

With the division's approval, sampling frequency can be reduced or ceased through a Technical Revision (TR). Results of quantity and quality sampling will be provided to the DRMS with the annual report. If adverse effects are identified, the DRMS will be notified immediately and the operator will start a water quality mitigation plan to be approved by the DRMS.

Groundwater quality will be determined to be out of compliance if there are exceedances of the Regulation 41 standards present in the downstream wells that do not correspond with the upstream well data. Additionally, any significant changes in non-Regulation 41 parameter limits between the upstream and downstream wells will be noted. Groundwater quantity will be determined to be out of compliance if the depth to water from the surface is significantly different between upstream and downstream locations.

4. Sampling Methods

This section identifies the sampling methods that will be used to quantify the groundwater conditions at the Swift Pit.

4.1. Sampling Location

The sampling locations, including frequency and sampling type, are detailed in the table below.

Table 3 – Sampling Type and Frequency

	Background Sampling (5 Quarters Minimum)		POC Sampling (5 Quarters Minimum)		Supplemental Sampling (5 Quarters Minimum)
ID	**Quantity Sampling Frequency**	**Quality Sampling Frequency**	**Quantity Sampling Frequency**	**Quality Sampling Frequency**	**Quality Sampling Frequency**
GW-1	Monthly	Quarterly	--	--	--
GW-2	Monthly	Quarterly	--	--	--
GW-3	--	--	Monthly	Quarterly	--
GW-4	--	--	Monthly	Quarterly	--
W-5	--	--	--	--	Quarterly
W-6	--	--	--	--	Quarterly

4.2. Sampling Frequency

Groundwater sampling will occur for at least five quarters at the Swift Pit. One sample per quarter will be taken at each of the groundwater sampling locations to define the background and current POC conditions of groundwater (GW-1, GW-2, GW-3, and GW-4). Supplemental sampling will occur at the same rate in the ponds (W-5 and W-6). If adverse impacts are not identified during this period of sampling, the frequency may be decreased or ceased with approval from the DRMS.

4.3. Sampling Parameters

The operator or qualified person will perform field and laboratory analysis of their samples for the water quality parameters identified in Table 4. These parameters are consistent with those required by the DRMS for Construction Material Sites, derived from Regulation 41 Tables 1-4. All laboratory analysis of the groundwater samples will be performed by a State of Colorado

certified laboratory that follows industry standards and quality assurance/quality control (QA/QC) procedures.

Table 4 – Water Quality Parameters

Analyte		Table Value Standard (mg/L unless stated otherwise)	Reg.41 Table Reference (1-4)
1	pH (Field)	6.5-8.5 units	2 & 3
2	TDS	400, or 1.25 x Background	4
3	Chloride - Dissolved	250	2
4	Fluoride - Dissolved	2	3
5	Nitrate (NO3)	10	1
6	Nitrite (NO2)	1.0	1
7	Nitrite + Nitrate as Nitrogen	10	1
8	Sulfate - Dissolved	250	2
9	Aluminum - Dissolved	5	3
10	Antimony - Dissolved	0.006	1
11	Arsenic - Dissolved	0.01	1
12	Barium - Dissolved	2	1
13	Beryllium - Dissolved	0.004	1
14	Boron - Dissolved	0.75	3
15	Cadmium - Dissolved	0.005	1
16	Chromium - Dissolved	0.1	1 & 3
17	Cobalt - Dissolved	0.05	3
18	Copper - Dissolved	0.2	3
19	Iron - Dissolved	0.3	2
20	Lead - Dissolved	0.05	1
21	Lithium - Dissolved	2.5	3
22	Manganese - Dissolved	0.05	2
23	Mercury - Dissolved	0.002	1
24	Molybdenum - Dissolved	0.21	1
25	Nickel - Dissolved	0.1	1
26	Selenium - Dissolved	0.02	3
27	Silver - Dissolved	0.05	1
28	Thallium - Dissolved	0.002	1
29	Uranium - Dissolved	0.0168-0.03	1
30	Vanadium - Dissolved	0.1	3
31	Zinc - Dissolved	2	3

4.4. Sampling Procedure

The following protocol will be used for the collection and testing of water samples by field personnel. This procedure was developed using the *SESCPROC-301-R3: Groundwater Sampling Operating Procedure* and *LSASDPROC-201-R6: Surface Water Sampling* published by the United States Environmental Protection Agency (EPA).

General Precautions

1) Proper safety precautions must be observed when collecting groundwater sampling. This procedure should be enacted in tandem with the judgement of a competent and experienced professional. Proper Personal Protective Equipment (PPE) should be worn depending on the conditions of the site and materials/chemicals being handled. Potential hazards of the site should be identified prior to sampling, particularly when sampling is occurring on an active mine site. All chemicals will be provided with Material Safety Data Sheets.

Prior to Sampling

1) **Laboratory Selection & Bottle Procurement:** Specific bottles will be ordered from an appropriate and certified analytical laboratory which will be used for collecting water samples. The bottles are retrieved from the lab cleaned and preconditioned. The bottles will either already be prepared with the preservative(s), or the preservative(s) will be provided from the laboratory.
2) **Decontamination:** Field sampling equipment will be cleaned and calibrated prior to sampling. This is important to get accurate data and prevent contamination of samples. The calibration of the equipment will be performed as described in the equipment manual. Decontamination of equipment will be achieved in accordance with the SESDPROC-205 Field Equipment Cleaning and Decontamination procedure published by the EPA. The procedures for the equipment to be used are as follows:
    a. **Well Sounder or Tape:**
        i. Wash with Liquinox or other appropriate equipment detergent and tap water.
        ii. Rinse with tap water.
        iii. Rinse with deionized water.
    b. **Pump and Wetted Portion of Tubing or Hose:**
        i. Disconnect power and wash exterior of pump and hose with Liquinox or other appropriate equipment detergent and tap water.
        ii. Rinse with tap water.
        iii. Rinse with deionized water.
        iv. Keep clean between uses.

1) **Depth Measurement:** The static water level of the groundwater well will be measured and recorded using a water level well sounder prior to pumping of the well. The measurement location at the top edge of the well casing will be marked with a permanent ink pen. This mark will be touched up with fresh ink each time a sample is taken.
2) **Purging the well:** The contents of the well will be purged prior to sample collection using a low-flow, submersible pump. This pump will be cleaned prior to being placed in the well. Sampling will not occur until conditions of the water have stabilized AND at least three well volumes have been removed from the well. If the required volume has been purged, and the water appears to not be stabilized, then additional purging must occur until stabilization. Stabilization of the groundwater can be determined based on the following:
    a. Water is running clear with little to no sediment for a prolonged period of time.
    b. Field measurements, such as those listed below, have stabilized.
3) **Field Measurements**: Water will be collected in a clean and empty container for various field measurements. Between sampling locations, the container must be cleaned or rinsed thoroughly, preferably with water from the source to be sampled next. The following field measurements will be taken with cleaned and calibrated meters. Field measurements will be reported in a manner that is consistent with industry standards for field sampling logbooks. An example of the logbook to be used is shown in Appendix 4.
    a. pH
    b. Temperature
    c. Dissolved Oxygen
    d. Conductivity
4) **Collecting Samples:** Water will be pumped from the well into a clean pitcher or bottle which will be used to fill the bottles from the laboratory. The bottles will be marked with the date, time, and site location of the sample as well as the person who collected the sample. If a pump controller system is used, the sample bottles may be filled directly from the well. Samples will be preserved and shipped in accordance with the method requirements. Filled sample bottles will then be placed in a cooler with ice for transport to the lab.
5) **Contamination Prevention:** Special care must be exercised to prevent contamination of samples. Samples must be stored in a secure location to prevent alteration of the sample properties. The chain of custody procedure must be followed. Sampling shall occur from the least contaminated, to the most contaminated location.
6) **Chain of Custody:** A chain of custody will be completed for the sample which indicates what analyses need to be performed, the date and time of sampling, sample identification, and who assembled the sample. The samples will be delivered to the lab the day of collection. Samples shall be custody sealed during shipment or long-term storage. Samples must remain in the custody of the sample custodian until the samples are relinquished to the laboratory.

Pond Sampling Procedure

1) **Site Approach and Assessment:** Carefully approach the sampling location downwind if possible, keeping in mind the safety procedures of an active mine-site. Assess the sampling location to avoid disturbing bottom sediments that could contaminate the sample. Select a sampling point that is representative of the water body. Non-powdered disposable gloves should be worn during all steps of surface water sampling.
2) **Field Measurements:** Water will be collected in a clean and empty plastic containers for various field measurements. Between sampling locations, the container must be cleaned or rinsed thoroughly, preferably with water from the source to be sampled next. The following field measurements will be taken with cleaned and calibrated meters. Field measurements will be reported in a manner that is consistent with industry standards for field sampling logbooks. An example of the logbook to be used is shown in Appendix 4.
    a. pH
    b. Temperature
    c. Dissolved Oxygen
    d. Conductivity
3) **Collecting Samples:** The sample may be collected directly into the sample container by submerging it beneath the surface. Preservatives should be added immediately after the sample has been collected. Alternatively, appropriate sampling devices such as stainless steel scoops or peristaltic pumps may be used to collect water. Avoid collecting surface films, vegetation, or disturbing bottom sediments. The sample bottles will be marked with the date, time, and site location of the sample as well as the person who collected the sample. Samples will be preserved and shipped in accordance with the method requirements. Filled sample bottles will then be placed in a cooler with ice for transport to the lab.
4) **Contamination Prevention:** Special care must be exercised to prevent contamination of samples. Samples must be stored in a secure location to prevent alteration of the sample properties. The chain of custody procedure must be followed. Sampling shall occur from the least contaminated, to the most contaminated location.
5) **Chain of Custody:** A chain of custody will be completed for the sample which indicates what analyses need to be performed, the date and time of sampling, sample identification, and who assembled the sample. The samples will be delivered to the lab the day of collection. Samples shall be custody sealed during shipment or long-term storage. Samples must remain in the custody of the sample custodian until the samples are relinquished to the laboratory.

4.5. Analytical Procedures

The results from the analytical water quality testing will be evaluated through comparison with the State groundwater quality standards as well as background data from the upgradient wells. The Swift Pit is not within any WQCC specified areas that would require conformance with anything other than statewide water quality standards. Groundwater data will be provided in Appendix 2.

4.6. Site-Specific Numeric Protection Levels

Background water quality data gathering may show ambient levels of a regulated parameter at a level higher than that specified in Regulation 41. In such a case, the operator will propose a Site-Specific Numeric Protection Level through a TR. Site-Specific Numeric Protection Levels at Swift Pit will be proposed after the five quarters of sampling. They will be determined by the results of background water quality data from the two upgradient wells (GW-1 and GW-2). The Site-Specific Numeric Protection Levels will be based on the two-sigma (95-percentile) statistical value for the parameter sampled.

4.7. State Water Quality Standards

The analytical results of water quality testing will be compared to the regulatory limits established by Water Quality Control Commission (WQCC) and those otherwise defined by the DRMS. The groundwater of the Swift Pit is subject to the statewide groundwater quality standards as defined in Tables 1-4 of the WQCC Regulation 41. The site is not within any specified areas identified by the WQCC to have specific groundwater quality standards. If any exceedance of applicable water quality standards is detected at the mine, the DRMS will be notified in accordance with Rule 3.1.7(9) and the operator will initiate a water quality mitigation plan as proposed by the DRMS.

If any exceedances of the WQCC Regulation 41 basic groundwater standards are encountered, the operator will implement the following reporting and mitigation procedures:

- Notify the DRMS of the exceedance within five (5) working days of receiving the analytical report from the laboratory.
- Implement DRMS proposed corrective actions, as defined in a subsequent TR, such as the following:
    - Identify the potential cause or source of the exceedance.
    - Implement supplemental water quality sampling. Sampling and testing of the groundwater well will be increased until the parameter(s) drop below the allowable limit. Only parameter(s) that were in exceedance will be measured as part of this supplemental sampling.
    - Consult with the Alamosa County Department of Environmental Health on appropriate mitigation methods of the exceedance.
    - Provide a report to Alamosa County staff and the DRMS with details of the exceedance, mitigation measures, and results.

4.8. Reporting

Water quality and quantity data for the minimum five quarters will be reported to the CDRMS prior to operations. Data reporting will be in table format and graph format when necessary.

4.9. Sampling Quality Assurance Project Plan (QAPP)

The operator's quality assurance methods for water sampling includes only using Colorado State certified laboratories with an industry standard Quality Assurance/Quality Control plan in place. On-site quality assurance for field sampling is included in the Sampling Procedure described in Section 1.4. Certain steps of the procedure such as clearing three well volumes before sampling and using cleaned and calibrated testing equipment help to ensure that the testing results are accurate and free of altering contaminants. Any samples that are collected will include information on who took the sample, when it was taken, sample identification, and the chain of custody. A sample data collection sheet from previous baseline monitoring at the site is provided in Appendix 5.

Appendix 1 – Map

Will be provided after the first set of groundwater quantity sampling.

Appendix 2 - Background Groundwater Quality Data

Will be provided once 5 quarters are complete.

Appendix 3 – CDWR Permits

Documents provided in the following order:

ID	CDWR Permit No.
GW-1	TBD
GW-2	TBD
GW-3	TBD
GW-4	TBD

Appendix 4 – Industry Standard Field Sampling Sheet

Groundwater Quality Sampling Form (EXAMPLE)

Site Name _____ Permit No. _____

Monitoring Point No. _____ Date/Time _____

Name of Person Sampling _____

Name of Person Filling out Form _____

Type of Monitoring Point

☐ Groundwater Monitoring Well ☐ Piezometer ☐ Other: _____

Purpose of Monitoring

☐ Baseline ☐ Point of Compliance (POC) ☐ POC Background ☐ Corrective Action Monitoring

☐ Other: _____

Monitoring Point Conditions

General Description/Condition/Other Comments: _____

_____

_____

Was water discolored? If so, describe: _____

Does water have odor? If so, describe: _____

Time pumped before sample: _____

Field Measurements

Time Sampled: _____

Weather Conditions: _____

Equipment Used: _____

Time Pumped Before Sample: _____ Pump Rate: _____

Measurements After Stabilization (Include Units):

Depth _____ Temperature _____ pH _____ Dissolved Oxygen _____

Conductivity _____Specific Conductivity_____

Appendix 5 – Chain of Custody Sample

Chain of Custody & Analytical Request Record

www.energylab.com

Page _____ of _____

Account Information *(Billing information)*

Company/Name		
Contact		
Phone		
Mailing Address		
City, State, Zip		
Email		
Receive Invoice ☐Hard Copy ☐Email	Receive Report ☐Hard Copy ☐Email	
Purchase Order	Quote	Bottle Order

Report Information *(if different than Account Information)*

Company/Name
Contact
Phone
Mailing Address
City, State, Zip
Email
Receive Report ☐Hard Copy ☐Email
Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Project Information

Project Name, PWSID, Permit, etc.	
Sampler Name	Sampler Phone
Sample Origin State	EPA/State Compliance ☐ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes

A - Air
W- Water
S - Soils/ Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

Analysis Requested

All turnaround times are standard unless marked as RUSH.

Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1							
2							
3							
4							
5							
6							
7							
8							
9							

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Relinquished by (print)	Date/Time	Signature	**Received by Laboratory (print)**	**Date/Time**	**Signature**

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number *(cash/check only)*

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.