

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 8
UNDERGROUND INJECTION CONTROL PROGRAM
STATEMENT OF BASIS**

PERMITTEE:	Hilcorp Energy Company
FACILITY NAME AND API:	Argenta Ute #2 SWD API 05-067-06164
PERMIT NUMBER:	CO20845-04426
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PERMIT TYPE:	Class II, Individual Permit
FACILITY LOCATION:	Argenta Ute #2 SWD NW/SE Section 31, T34N, R10W Lat/Long: 37.144631, -107.971179 Ignacio Blanco Field La Plata County, Colorado

INTRODUCTION

This Statement of Basis gives the derivation of site-specific UIC permit conditions and reasons for them. Referenced sections and conditions correspond to sections and conditions in CO20845-04426 (Permit).

EPA UIC permits regulate the injection of fluids into underground injection wells so that the injection does not endanger underground sources of drinking water (USDWs). EPA UIC permit conditions are based upon the authorities set forth in regulatory provisions at 40 C.F.R. parts 2, 124, 144, 146 and 147, and address potential impacts to underground sources of drinking water. In accordance with 40 C.F.R. § 144.35, issuance of this Permit does not convey any property rights of any sort or any exclusive privilege, nor authorize injury to persons or property or invasion of other private rights, or any infringement of other applicable federal, tribal, state, or local laws or regulations. Under 40 C.F.R. § 144 Subpart D, certain conditions apply to all UIC Permits and may be incorporated either expressly or by reference.

General permit conditions for which the content is mandatory and not subject to site-specific differences (40 C.F.R. parts 144, 146 and 147) are not discussed in this document.

Upon the Effective Date when issued, the Permit authorizes the construction and operation of injection well or wells so that the injection does not endanger USDWs. The Permit is issued for the operating life of the injection well or project unless terminated for reasonable cause under 40 C.F.R. § 144.40 and can be modified or revoked and reissued under 40 C.F.R. § 144.39 or § 144.41. The Permit is subject to EPA review at least once every five (5) years to determine if action is required under 40 C.F.R. § 144.36(a).

The Permit will expire upon delegation of primary enforcement responsibility (primacy) for applicable portions of the UIC Program to an approved state or tribal program, unless the delegated agency has the authority and chooses to adopt and enforce this Permit as a tribal or state permit.

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PART I. Background

Hilcorp Energy Corporation, hereinafter referred to as the “Permittee,” submitted an application for an Underground Injection Control (UIC) Program permit for the following injection well or wells:

Argenta Ute #2 SWD

The application, including the required information and data necessary to issue or modify a UIC permit in accordance with 40 C.F.R. parts 2, 124, 144, 146 and 147, was reviewed and determined by EPA to be complete.

The Argenta Ute #2 Saltwater Disposal Well (SWD) well was originally drilled as a production well and converted to a non-commercial injection well in 1998. A major modification reclassifying the Argenta Ute #2 SWD well to a commercial injection well occurred in March of 2002.

In January 2024, HilCorp notified EPA of a casing leak located at below 5515’ depth which is located within the approved injection zone of 5050’ to 5964’. A permit modification is needed to modify the Maximum Allowable Injection Pressure since the original permit calculated the MAIP based on a depth of 5661’. During the review of the previously issued permit, additional modifications were identified. To update the permit to current standards and to incorporate the necessary permit modifications, EPA is proposing to revoke and reissue the existing permit.

With this permitting action, the permit is being revoked and reissued under the provisions of 40 C.F.R. § 144.39 to: modify the maximum allowable injection pressure, correctly identify all USDWs; update the permit to address omissions from prior permit actions; update the mechanical integrity testing methods in the permit requirements; clarify ownership information under Hilcorp Energy Company; and reclassify the permit to a non-commercial injection well. Hilcorp intends to inject produced water into the Argenta Ute #2 SWD; the produced water is a byproduct of Hilcorp operated natural gas wells in the Ignacio Blanco Field.

PART II. Site Characterization and Siting

A. Hydrogeologic Setting

The Argenta Ute #2 SWD well is located in the Ignacio Blanco Field (Field Number 38300), south of the town of Durango, CO and east of Hwy 550 in Bondad, CO. The Ignacio Blanco Field is in the northern end of the San Juan Basin, north of the Colorado-New Mexico State line.

1. Stratigraphy of the Argenta #2 SWD well.

The EPA's geological review for UIC wells involves detailed site characterization to ensure injected fluids don't harm USDWs, focusing on the integrity of confining layers, and the suitability of the injection zone. Descriptions of these geologic intervals and the UIC regulatory requirements are provided below.

Underground Sources of Drinking Water (USDWs)

The Safe Drinking Water Act (SDWA) protects underground sources of drinking water (USDWs) from endangerment due to underground injection. Therefore, it is important to identify USDWs in the area of the proposed injection. USDWs are aquifers or the portions thereof which: 1) currently supply any public water system; or 2) contains a sufficient quantity of groundwater to supply a public water system; and currently supplies drinking water for human consumption; or contain fewer than 10,000 mg/l total dissolved solids (TDS). See 40 C.F.R. § 144.3.

Confining Zones

A confining zone is a geological formation, part of a formation, or a group of formations that limits fluid movement above and below the injection zone. The regulations at 40 C.F.R. § 146.22(a) require that Class II wells be sited in such a fashion that they inject into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of review. The confining zones at this well site meet this requirement. The confining layers for the Mesaverde injection zone are identified in Table 2.1 and described below.

Injection Zone

An injection zone is the specific geological layer or formation, group of formations, or part of a formation that receives fluids through a well. The proposed injection zone is the Mesaverde, and details on the Mesaverde are provided in Table 2.1 and described below. Injection into the Mesaverde is consistent with the UIC regulations in this case because the Mesaverde is not a USDW.

TABLE 2.1 GEOLOGIC SETTING AT ARGENTA UTE #2

Formation Name or Stratigraphic Unit	Top MD (ft)*	Base MD (ft)*	TDS Range (mg/l)	Lithology	Designation
San Jose	0	1,980	~566	Sandstone	USDW
Ojo Alamo	1,980	2,059	700 to 6,300	Sandstone	USDW
Kirtland	2,059	2,828	~3,500	Siltstone and sandstone	USDW
Fruitland	2,828	3,328	8,243	Sandstone and Coal	USDW
Pictured Cliffs	3,328	3,521	1,400 to 21,000	Sandstone	USDW
Lewis Shale	3,521	5,050	-	Shale	Confining Layer
Mesaverde	5,050	5,964	11,007 ¹	Sandstone	Injection Zone
Mancos	5,964	6,006	-	Shale	Confining Layer

* depths are approximate values at the wellbore

San Jose: Estimated 0 to 1,980' in the Argenta Ute #2. The San Jose Formation is mostly sandstone with some mudstone beds. The San Jose Formation thickness increases from west to east from 200 feet to 2,400 feet (USGS, 1996). The San Jose is the main aquifer within this formation, and it has an approximate TDS concentration of 566 mg/L (Stone, 1983). Based on the TDS, the San Jose is

¹ The produced water sample submitted with the original permit application, dated January 5, 1998, for the Argenta Ute 2 SWD reported a TDS of 11,007 mg/l. Therefore, no aquifer exemption was necessary for the Mesaverde Formation at the well location.

considered a USDW.

Ojo Alamo: Estimated 1,980' to 2,059' in the Argenta Ute #2. Lithology is characterized by overlapping sheetlike sequences of conglomeritic sandstones that contain interbedded shale lenses. The sandstones are medium to very coarse grained and often conglomeratic, containing pebbles of various compositions that decrease in size and quantity from west to east across the basin (Colorado Geological Survey, 2020). The estimated TDS concentration of this aquifer ranges from 700 to 6,300 mg/L (Stone, 1983). Based on reported TDS values, the Ojo Alamo is considered a USDW.

Kirtland: Estimated 2,059' to 2,828' in the Argenta Ute #2. The overall lithology is characterized by interbedded and repetitive sequences of non-marine channel sandstone, siltstone, shale, and claystone (USGS, 1996). Utilizing the specific conductance to determine a resulting TDS concentration yields a TDS of approximately 3,500 mg/L. Based on this TDS value, the Kirtland is considered a USDW.

Fruitland: Estimated 2,828' to 3,328' in the Argenta Ute #2. The Fruitland formations lithology is characterized by interbedded repetitive sequences of non-marine channel sandstone with sandy and carbonaceous shale, clayey sandstone, and coal (USGS, 1996). The TDS for the Fruitland is reported at 8,243 mg/L. Based on this TDS value, the Fruitland is considered a USDW.

Pictured Cliffs: Estimated 3,328' to 3,521' in the Argenta Ute #2. The Pictured Cliffs Formation in the lower part consists of orange to gray, very fine-grained sandstone interbedded with subordinate amount of gray shale and siltstone. The upper part consists of ledge-forming, medium-to thick-bedded sandstone. Regionally, specific conductance of water from the Pictured Cliffs Sandstone normally exceeds 2,000 μ mhos in or near outcrop areas and exceeds 30,000 μ mhos in deeper, gas producing areas, which is equivalent to TDS concentrations of approximately 1,400 mg/L to 21,000 mg/L (Stone, 1983). Based on this TDS value range, the Pictured Cliffs is considered a USDW.

Lewis Shale: Estimated 3,521' to 5,050' in the Argenta Ute #2. A series of more or less sandy shales and clays, of gray or drab color, very similar in character to Mancos shale (USGS, 1996). The Lewis shale can range from 0 feet to 1,800 feet thick and is known as a confining unit to the Fruitland-Pictured Cliffs Aquifer (Colorado Geological Survey, 2020). The Lewis Shale meets the confining zone requirement because shale acts as a crucial confining layer (or aquitard/aquiclude). Its fine clay/silt particles create very small pores, giving it low permeability that restricts groundwater flow, effectively trapping water in underlying aquifers, creating pressurized confined aquifers, and protecting USDWs above from contamination. The Lewis shale formation is considered a confining layer and is not considered a USDW.

Mesaverde: Estimated 5,050' to 5,964' in the Argenta Ute #2. The Mesaverde Group consists of three formations: Cliff House Sandstone, Menefee Formation, and Point Lookout Sandstone. The group is described as interbedded light gray sandstone and gray shale in the upper part; massive, light-buff, ledge-forming sandstone containing thin lenticular coal beds in the lower part. The Mesaverde Group is the injection zone for the well and is confined above by the Lewis Shale and below by the underlying Mancos Shale. The water sample submitted with the original permit application indicated it is not a USDW at this location.

Mancos Shale: Estimated 5,964' to 6,006' in the Argenta Ute #2. Lithological characteristics are

generally defined as a silty and sandy marine shale with interbedded sandstones and limestones (USGS, 1996). The shale is generally dark gray, silty in parts, calcareous in varying amounts, and locally bentonitic. Thick beds of bentonite are common in most parts of the Mancos. The Mancos Shale is the lower confining unit of the Mesaverde Group and meets the requirement as a confining layer as a shale. Similar to the Lewis Shale, the shale material acts as a confining layer for the Mesaverde.

B. Area of Review (40 C.F.R. § 146.6)

The area of review (AoR) calculation is to determine the distance in which the pressures in the injection zone may cause the migration of the injection and/or formation fluids into a USDW. The area of review (AoR) must be determined by one of two methods: calculating the zone of endangering influence (ZEI) in accordance with 40 C.F.R. § 146.6(a) or determining a fixed radius in accordance with 40 C.F.R. § 146.6(b).

The AoR for this permit is ¼ mile and was determined by using the fixed radius. In making this determination, the EPA considered the factors in 40 C.F.R. § 146.6(b)(2). The hydrogeology is discussed in the section above. EPA reviewed analytical data of the injectate provided by Hilcorp. Lab analysis from 12/28/2023 reported a 975 mg/L total dissolved solids (TDS) level. This TDS level of the injectate is significantly lower than the 11,007 mg/l TDS reported in the Mesaverde formation. The historical population in the Bondad, Colorado is characterized by a mix of industrial, utility, agricultural, and rural residential land uses. Bondad, CO is historically cited to have a population of around 30 residents, it lacks formal municipal census data due to its limited size.

1. Wells in the AoR

EPA evaluated the AoR consistent with 40 C.F.R. § 146.24(a) and determined that a fixed-radius AoR of ¼ mile is appropriate and protective of underground sources of drinking water (USDWs). As shown on the AoR map (Figure 1), six wells fall within the ¼-mile boundary. Review of well records indicates these wells do not provide a pathway for fluid migration out of the injection zone into a USDW because: they do not penetrate the confining zone that isolates the injection interval; they have been properly plugged and abandoned with cement; they are not drilled into the Mesaverde Formation associated with the project, and they lack any conduit (e.g., open annuli or compromised casing/cement) that could transmit fluids.

Given these conditions, the wells within the AoR do not compromise confining unit integrity or create hydraulic communication with USDWs. Therefore, a ¼-mile fixed-radius AoR is sufficient to identify and address potential migration pathways and is protective under 40 C.F.R. § 146.24(a). The AoR map (Figure 1) identifies 6 wells within the ¼ mile AoR boundary.

Well	API	Well Classification	Status	Depth
Bondad 31-2	05-067-07665	Coalbed Methane Gas Well	PA Plugged and Abandoned	300' MD
Argenta #6	05-067-06200	Methane Gas Well	PR Producing Well	3,523' MD
Argenta Ute 3A	05-067-09382	Coalbed Methane Gas Well	PR Producing Well	3,611' MD

75728-F (industrial)	AU #3A Associated well	Industrial Water Well	Active	Fruitland Pictured Cliffs
Argenta Ute #3 (EPA)	05-067-06442	Methane Gas Well	PR Producing Well	3,336' TD
70912-F (industrial)	AU #3 associated well	Industrial Water Well	Active	Unnamed aquifer

MD = measured depth

TD = total depth

Bondad 31-2: the well does not penetrate the confining zone and was plugged and abandoned in 1996.

Argenta #6: The well is drilled to a depth of 3,523 MD, the well does not penetrate into the Mesaverde. No conduit exists between the Argenta #6 and Argenta Ute #2 well.

Argenta Ute #3: The well was originally spudded 8/24/1981 and completed to a depth of 8,267 ft.² The long string casing was cemented up to 2,525 ft, with the intermediate casing cemented from 3,622 ft. to 2,255 ft³. On July 7, 1998, a whipstock and sidetrack were completed to a TD of 3,336 ft. into the Fruitland formation. Review of CBL data for the well indicates that the casing is cemented with 60-80% bond on the intermediate string from 70 ft to 3,622 ft and the well no longer penetrates the Mesaverde. No conduit exists between the Argenta #3 and Argenta Ute #2 well.

Argenta Ute #3A: The well is completed to a depth of 3,604'. The well is cemented from the surface to the bottom, with the CBL indicating a strong bond between the casing and cement⁴. The well does not penetrate into the Mesaverde. No conduit exists between the Argenta #3A and Argenta Ute #2 well.

75728-F and 70912-F: are water wells utilized to facilitate the mining of minerals, as designated under CRS 37-90-137(7). These wells are drilled into the 'Fruitland Pictured Cliffs' and 'unnamed aquifers', respectively, and do not penetrate into the Mesaverde. No conduit exists between the 75728-F, 70912-F and Argenta Ute #2 well.

² ECMC well data Argenta Ute #3 (EPA), Document ID: 700318, WELLS121797.tif

³ EPA Statement of Basis, AMPECO Argenta Ute #3 SWD Well, COS2526-2633

⁴ CBL October 24, 2008, ECMC Document Number 01376070.

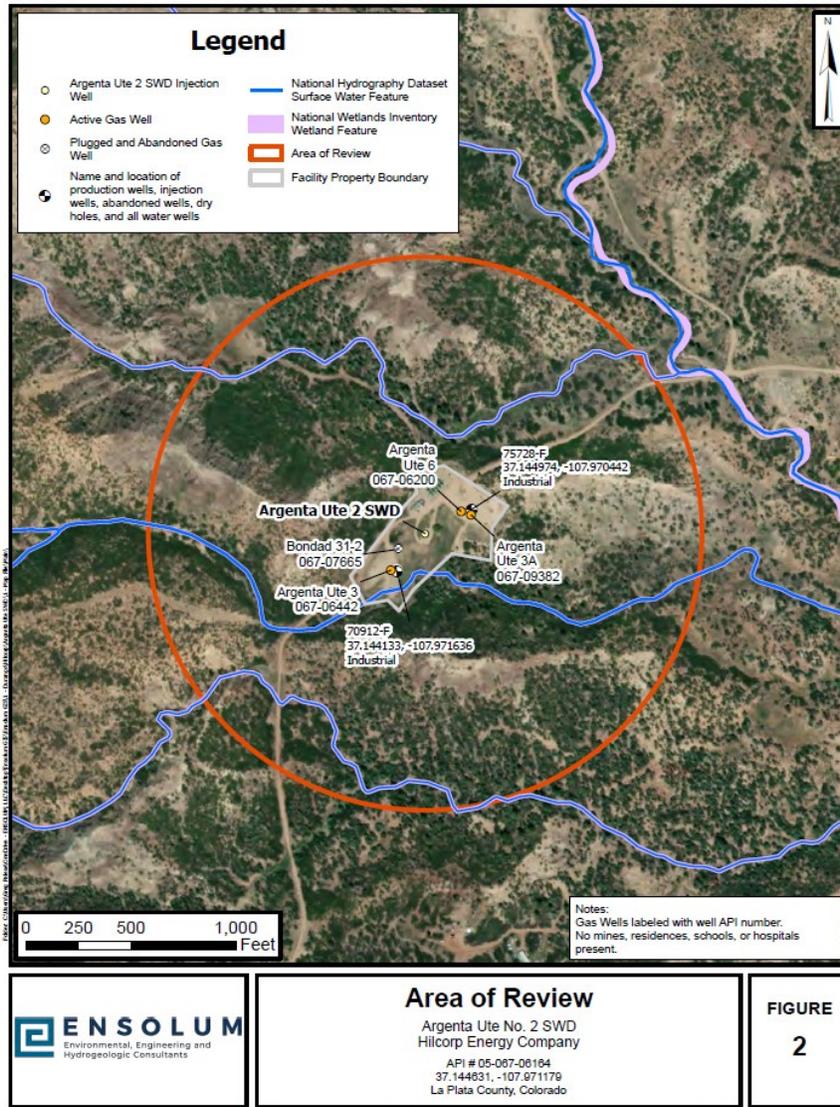


Figure 1 Hilcorp identified wells and Surface water diversions Argenta Ute #2 SWD

2. Faults and Seismicity

In addition to review of the formations and wells within the ¼ mile fixed radius, EPA reviewed U.S. Geologic Service (USGS) data (Figure 2) to determine if any faults are within the AoR, or if any earthquakes have occurred near the wells.

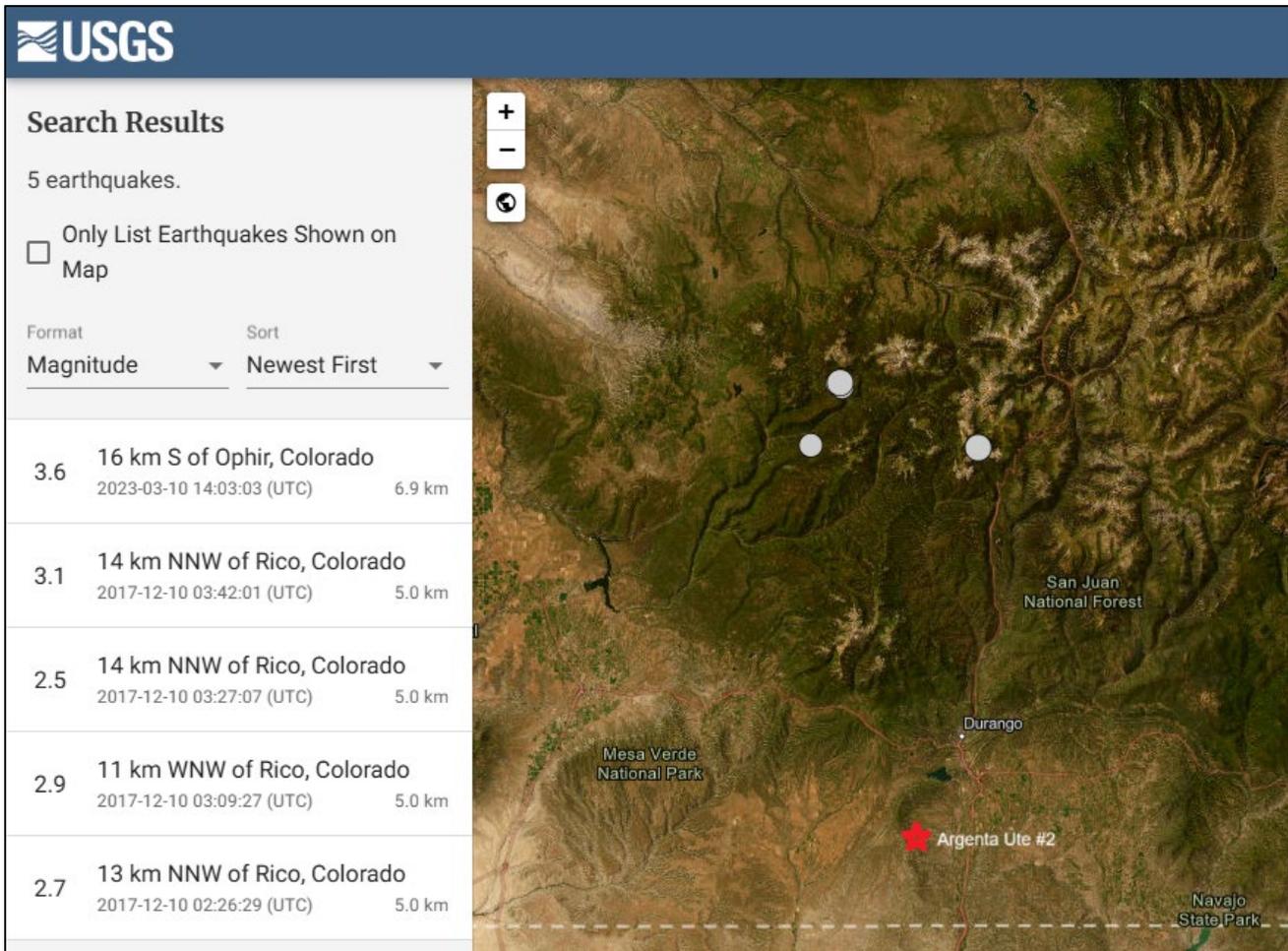


Figure 2 Earthquake data from USGS in relationship to Argenta Ute #2 well.

No faults exist in or near the ¼ mile fixed AoR for the Argenta Ute #2 well. The nearest faults, designated as the Class B Unnamed Faults Near San Miguel Canyon, are located approximately 60 miles north of the well location.

C. Seismicity Assessment

EPA reviewed USGS earthquake data from 1995-2025 within a 50 mi. radius of the well. Earthquakes in the area are co-located with the unnamed faults near San Miguel Canyon. Five earthquakes, from 2017 to 2023, occurred north of the well and range from 2.5 to 3.6 in magnitude. These earthquakes are not related to the Argenta Ute #2 well operation, and this determination is based on the location of the earthquakes, the previous 30 years of well operation, and the limited pressures in the ¼ mile AoR radius which would not induce earthquakes over a 50-mile distance away from the site.

PART III. Well Construction (40 C.F.R. § 146.22)

A. Casing and Cement (40 C.F.R. § 146.22(b)(1); 146.8)

Class II UIC regulations require that wells be cased and cemented to prevent the movement of fluids into or between USDWs. Cementing is crucial in injection wells to ensure long-term well integrity by

providing zonal isolation, which prevents injected fluids from migrating into USDWs. Hilcorp provided detailed construction plans that including casing, cementing, tubing, and packer specifications for the Argenta Ute #2 well, these are provided in the permit in Attachment I – Well Construction Requirements.

The Argenta Ute #2 well was originally constructed in 1977 as a Mesaverde gas production well and was converted to a Mesaverde water disposal well in 1998. The cement bond log (CBL)⁵ from 1977 shows good cementing from 4,400 ft. to 5,964 ft., with areas of <50% cement bond from 4,950-5,100 to ~5,375. Review of well completion logs indicated that the cement bond log did not provide information on a critical interval from 3,500 ft. to 5,000 as required by 40 C.F.R. 146.22. On November 5, 2025, Hilcorp performed a workover CBL to confirm cement coverage. A follow up MIT⁶ was run on November 7, 2025; the MIT was performed at 1,000 psig and passed with no pressure loss.

Review of the 2025 CBL results suggests fluid movement from the injection zone into USDWs above is unlikely based on the amount of >80% cement bond coverage. The CBL demonstrates >80% bond over the upper confining layer (Lewis Shale) from 3,405 to 5,050 feet to approximately 1,602 feet, totaling 3,448 feet of competent cement bond for zonal isolation. The CBL demonstrates the presence of adequate cement to protect USDWs. Remediation of the well and existing cement is not necessary.

The passing mechanical integrity test (MIT) and revised CBL were added to the administrative record.

PART IV. Corrective Action Plan (40 C.F.R. § 144.55)

Corrective Action Plan (CAP)

No corrective action is required at this time as EPA’s evaluation did not identify migration pathways that would impact USDWs within the area of review.

Part V. Pre-Injection Logs and Test/Authorization to Inject

A. Required logging and testing

The permit requires well logging and testing requirements, and these are specified in Section A.4. Pre-Injection Logs and Tests; B.9. Well Logging and Testing Requirements, and Attachment V. There are also Sampling requirements in Attachment III. Per these requirements, the Permittee must perform the following logging and testing prior to getting an authorization to inject (ATI):

- Provide sample results of the injectate for TDS, pH, specific conductivity/conductance, specific gravity and major ions. The purpose of this sample is to monitor the nature and composition of the injectate to verify compliance with the permit and ensure that the calculated maximum allowable injection pressure (MAIP) is accurate.
- Perform a standard annulus pressure test for part I mechanical integrity. This is to ensure that

⁵ A Cement Bond Log (CBL) is an acoustic logging tool used to evaluate the quality, compressive strength, and integrity of the cement sheath bonding the steel casing to the geological formation. It ensures zonal isolation, preventing fluid migration between zones and ensuring long-term well integrity.

⁶ MIT Test Results (post well work) - Argenta Ute 2 SWD - 11072025

the well has mechanical integrity and would not allow movement of fluid through the well to contaminate a USDW.

Hilcorp has provided an updated CBL, performed an MIT following the CBL and provided the required information in 40 C.F.R. 146.24(c) with their application materials. The CBL demonstrated good cement coverage, so no additional external demonstration of external integrity is required in the permit.

B. Authorization to Inject

The Argenta Ute #2 conducted the Part I Standard Annulus Pressure Test on January 29, 2024 and EPA declined witnessing the well. The results of that test were reviewed by EPA and showed a passing MIT. Once the permit becomes effective, HilCorp is authorized to resume injection, having complied with all authorization to inject permit requirements.

PART VI. Well Operation Requirements (40 C.F.R. § 146.23)

A. Injection interval (40 C.F.R. §§ 144.12 and 146.22(a))

The permit requires that injection must only occur in the Mesaverde Formation. Movement of fluid outside of this approved injection zone is prohibited.

B. Injection Fluid Limitation (40 C.F.R. 146.23(b))

Fluids injected into Class II wells must meet the definition at 40 C.F.R. § 144.6(b). These include: fluids (1) which are brought to the surface in connection with conventional oil or natural gas production that may be commingled with waste waters from gas plants which are an integral part of production operations unless those waters are classified as a hazardous waste at the time of injection, (2) used for enhanced recovery of oil or natural gas, and (3) used for storage of hydrocarbons which are liquid at standard temperature and pressure. Waste not exempted from RCRA Subtitle C hazardous waste such as unused fracturing fluids or acids, gas plant cooling tower cleaning wastes, service wastes and vacuum truck wastes are not approved for injection.

This permit authorizes injection of the following Class II fluid: Hilcorp-operated natural gas wells in the Ignacio Blanco Field and those fluids brought to the surface in connection with oil or natural gas production, and may be commingled with waste waters from gas plants which are an integral part of production operations unless those waters are classified as hazardous waste at the time of injection.. The permit requires baseline sampling prior to authorization to inject and before introducing any new source of injectate. Required parameters include pH, TDS, conductivity, and specific gravity, using methods consistent with 40 C.F.R. 136.3 and/or 40 C.F.R. 260.11, to ensure compatibility with the injection zone and protect USDWs.

If the Permittee wishes to make changes to the authorized fluids, they must comply with Section B. Well Operation, 6. Injection Fluid Limitation of the permit; changes to injected fluids may require a permit modification.

C. Volume Limitation

There is no limitation on the fluid volume permitted to be injected into the Argenta Ute #2 well. The injection volume at the Argenta Ute #2 well is controlled by the Maximum Allowable Injection Pressure (MAIP), injection rate, and the non-endangerment standard, to ensure fluids remain contained within the designated zone and prevent contamination. As specified in the Permit, in no case shall injection pressure exceed the MAIP. In this case, the injection zone is not a USDW; therefore, an aquifer exemption is unnecessary.

D. Injection Pressure Limitation (40 C.F.R. § 146.23)

40 C.F.R. § 146.23(a)(1) requires that the injection pressure at the wellhead must not exceed a maximum calculated limit to ensure that the pressure during injection does not initiate new fractures or propagate existing fractures in the confining zone adjacent to the USDWs.

To limit the injection pressure, the Permit requires that the Permittee calculate the MAIP using the formula provided in the Permit under Section B – Well Operation, 4. Injection Pressure Limitation. The initial MAIP for this permitting action is calculated using the values in Attachment II - Operating Requirements, 3. Maximum Allowable Injection Pressure (MAIP).

The values the Permittee must use in the equation are determined by the following, as specified in Attachment II of the Permit:

Fracture Gradient: The **FG** value for each well must be determined by conducting a step rate test. The results of the test will be reviewed and approved by the Director.

Specific Gravity: The value for **SG** must be obtained from the fluid analysis of a representative sample of the injection fluid, as required in Attachment III.

Depth: The value for **D** is the depth of the top perforation of the as-built well.

Upon issuance, the Permit will establish an initial MAIP based on values submitted. However, because the Permit utilizes an equation to determine the MAIP, the MAIP will be recalculated when the values for the equation change. MAIP recalculations are triggered in the following circumstances:

1. A new step-rate test is conducted
2. A new analysis of the injection fluid indicates that the specific gravity sample results are greater than $(SG + \text{Specific Gravity Fluctuation Factor (SGFF)}^7)$ previously reviewed and approved
3. Perforations are added to the well above the previous perforations
4. The Permittee requests a change to the MAIP

If any of the above circumstances occur, the Permittee must provide written notification to the

⁷ The permit requires submission of fluid analysis that reports SG annually. For the SG value, the permit only requires a change of MAIP when the absolute difference of the newly submitted SG and that of the previous year is greater than 0.05. This is because the equation includes an SGFF, a factor of 0.05, that is added to the SG. This adjustment factor allows for the MAIP to be recalculated only if the newly submitted SG is greater than 0.05 from the previous year's SG, without exceeding the fracture pressure of the formation

Director and submit documentation that one or more of the circumstances has occurred. A new MAIP will only become effective after the Director has reviewed and approved the submittal and has provided written notification of a new effective MAIP. The Permit administrative record will be updated.

The permit allows the Director to set a MAIP lower than the calculated MAIP in certain circumstances to protect USDWs. For example, if during testing, the Permittee did not or is unable to perform the test at the permitted MAIP, a new MAIP will be calculated utilizing the pressure at which the test was conducted.

PART VII. Mechanical Integrity (40 C.F.R. § 146.8)

The permit requires MI to be maintained at all times. This requirement is to ensure that the injection well does not provide a conduit for fluid movement into USDWs.

The Permittee is required to demonstrate both internal (Part I) and external (Part II) integrity of the well. Part I MI corresponds to 40 C.F.R. § 146.8(a)(1), and Part II MI to 40 C.F.R. § 146.8(a)(2).

For Part I MIT, internal tests are used to verify that the tubing-casing annulus is sealed and there are no significant leaks in the packer, casing, or tubing. This is done through pressure testing of the well, which is specified in Section C – Mechanical Integrity. Well logs and testing requirements for MIT tests are specified are found in ATTACHMENT V – Logging and Testing Requirements. The permit requires a demonstration of internal MI at the following times: prior to receiving an ATI; following any workover operation that affects the tubing, packer, or casing; after a loss of MI; and at least once every 5 years; upon conversion to another well class; or during plugging and abandonment. MIT guidance for Internal (Part I) MI can be found at <https://www.epa.gov/uic/underground-injection-control-epa-region-8-co-mt-nd-sd-ut-and-wy#guidance>. The guidance provides the format for reporting the MIT results.

For Part II MIT, external tests are used to demonstrate that fluids are not migrating out of the authorized zone through cement channels behind the casing, by evaluating the cement bond log (CBL) to show that adequate cement exists to prevent significant movement of fluid out of the approved injection zone through the casing annular cement (i.e., 80% cement bond index across the confining zone.) If the CBL does not show adequate bonding, a permit can require that a radioactive tracer survey and/or temperature log must be conducted to demonstrate External (Part II) MIT. Guidance on the logging and interpretation of the cement bond log (CBL) can be found at <https://www.epa.gov/uic/underground-injection-control-epa-region-8-co-mt-nd-sd-ut-and-wy#guidance>. In this case, Hilcorp provided a CBL demonstrating external integrity of the well casing and adequate cementing. More discussion about the cement can be found above in Part III.A.

PART VIII. Monitoring, Recordkeeping and Reporting Requirements (40 C.F.R. § 146.23)

The permittee is required to provide analysis of injected fluids on an annual basis. Sampling and Reporting requirements are found in Attachment III of the Permit. This analysis is used to ensure that the injectate meets the permit requirements, confirms that the injected material remains within authorized limits, and can indicate whether a new MAIP calculation may be necessary to safeguard and verify that operations do not endanger USDWs.

Continuous/regular monitoring at the wellhead for injection pressure, bradenhead and tubing casing annulus (TCA) pressures, injection volume, cumulative fluid volume, and frequencies for reporting are specified in Attachments III and IV are required. This information is required to be reported annually as part of the Annual Report to the Director. This monitoring is necessary to confirm the mechanical integrity of the tubing, packer, and casing; provide early warning of leaks; prevent over-pressurization that could fracture confining units or cause unintended migration; protect underground sources of drinking water and other resources by verifying containment within the approved injection interval; and demonstrate continuous compliance with permit limits and operating envelopes for pressure and volume.

After the initial standard annulus pressure test for Part I MI, the well must be re-tested at least once every five years for the life of the well, and sooner if there is a significant workover, a change in operating conditions, or any monitoring indication of potential loss of integrity. Continuous or routine annulus pressure monitoring is required to be maintained to detect issues between scheduled MITs.

A. Injection Well Monitoring Program (40 C.F.R. § 144.28(g)(2))

At least once a year the Permittee must analyze a sample of the injected fluid for parameters specified in Attachment D of the Permit. This analysis must be reported to EPA annually as part of the Annual Report to the Director as required by 40 C.F.R. 144.28(h)(2). Any time a new source is added, a fluid analysis must be provided of the injection fluid that includes the new source as discussed above, in PART V Injection Fluid Limitation.

Part IX. Plugging and Abandonment Requirements (40 C.F.R. § 146.10)

A. Plugging and Abandonment Plan (P&A)

Class II wells must be plugged with cement in a manner which isolates the injection zone and prevents movement of fluid into or between USDWs. A rework of the well was conducted by Hilcorp on November 5, 2025. The results of this rework provided CBL confirmation of >80% cement in areas necessary to protect USDWs. The CBL submitted was also utilized to review the submitted P&A plan and ensure that the injection zone, confining layers, and USDW layers would be protected by meeting the minimum requirements as specified in the Region 8 Guidance No. 40: Plugging and Abandonment Requirements for Class II Injection Wells.

In accordance with 40 C.F.R. § 144.51(o), the operator submitted a plugging and abandonment plan that meets the requirements of 40 C.F.R. § 146.10 and has been incorporated into the permit at Attachment VI. Specifically, the plan meets 40 C.F.R. § 146.10(a)(2), by utilizing a cast iron bridge plug (CIBP) and balance method to emplace five cement plugs isolating shallow USDWs from the injection zone. The plan meets 40 C.F.R. § 146.10(a)(3) preventing vertical movement of fluid into and between USDWs

If the permittee wishes to P&A the Argenta Ute #2 well, EPA Form 7520-19 is required to be submitted. The submission should include any updates or changes to the well since the time of Permit issuance, so that EPA can process and approve the request. Within thirty (60) days after completing the P&A, the owner or operator must submit the Plugging and Abandonment Affidavit (EPA Form 7520-19) to the

Director. The Plugging Record must be certified as accurate and complete by the person responsible for the plugging operation. Details of the P&A plan are described in Attachment E of the Permit.

PART X. Financial Responsibility (40 C.F.R. § 144.52(a)(7))

A. Demonstration of Financial Responsibility

The Permittee is required to maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director. In accordance with 40 C.F.R. § 146.24(a)(9), Hilcorp has provided evidence of financial responsibility via a surety performance bond, to the Director. The submission included an updated cost estimate for the closure, plugging, and abandonment of the injection well.

The Surety Performance Bond (No.: 106854929) is provided as evidence that Hilcorp has the financial resources to properly P&A the well. Based on the submitted valid instrument, the commensurate amount of money needed to P&A the well; Hilcorp's submission was reviewed and considered adequate by EPA's financial analyst. The estimate, original bond documentation, and approved Power of Attorney are attached as Attachment J of the application.

The Director may, on a periodic basis, require the holder of a lifetime permit to submit a revised estimate of the resources needed to plug and abandon the well to reflect inflation of such costs, and a revised demonstration of financial responsibility, as necessary.

PART XI. Considerations Under Other Federal Law (40 C.F.R. § 144.4)

A. National Historic Preservation Act (NHPA)

Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), 54 U.S.C. § 306108, requires federal agencies to consider the effects of their undertakings on historic properties and provide the Advisory Council on Historic Properties a reasonable opportunity to comment on the undertaking. Federal undertakings include any project, activity, or program funded by or under the jurisdiction of a federal agency. The EPA has determined that a decision to issue a Class II injection well permit constitutes an undertaking subject to the NHPA and its implementing regulations at 36 C.F.R. part 800.

In accordance with 36 C.F.R. § 800.3(a)(1), the EPA has determined that the permit action is for the continued operation of the facility which does not have the potential to affect historic properties because the reissuance of the Argenta Ute #2 SWD well does not authorize any physical modifications to the facility or its operations and is a wholly administrative action.

B. Endangered Species Act (ESA)

Section 7(a)(2) of the Endangered Species Act (ESA), 16 U.S.C. § 1536 (a)(2), requires federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of federally-listed threatened or endangered species (T&E) or result in the destruction or adverse modification of designated critical habitat of such species.

To assess the potential effects on T&E species, EPA utilized the U.S. Fish and Wildlife (USFWS) Information for Planning and Consultation (IPaC) tool to generate a species list for the project area.⁸ The IPaC species list contained the following species:

	Species	Status	Determination
Mammals	Gray Wolf (<i>Canis lupus</i>)	Experimental Population Non-Essential	NE
	New Mexico Meadow Jumping Mouse (<i>Zapus hudsonius luteus</i>)	Endangered	NE
Birds	Mexican Spotted Owl (<i>Strix occidentalis lucida</i>)	Threatened	NE
Fishes	Colorado Pikeminnow (<i>Ptychocheilus lucius</i>)	Endangered	NE
	Razorback Sucker (<i>Xyrauchen texanus</i>)	Endangered	NE
Insects	Monarch Butterfly (<i>Danaus plexippus</i>)	Proposed Threatened	NLJ
	Silverspot (<i>Speyeria nokomis nokomis</i>)	Threatened	NE
	Suckley's Cuckoo Bumble Bee (<i>Bombus suckleyi</i>)	Proposed Endangered	NLJ
Flowering Plants	Knowlton's Cactus (<i>Pediocactus knowltonii</i>)	Endangered	NE

*There are no critical habitats listed for the project area.

NE = No Effect, NLJ = Not likely to jeopardize.

EPA has reviewed the Argenta Ute #2 SWD well application and determined that there will be no effect on threatened or endangered species as a result of reissuance of this UIC Permit. This decision is to revise the permit to strengthen protections to USDWs for a well that has been operating as an injection well since 1998 and was originally constructed as a production well. As such, the revoke and reissue action is administrative in nature and does not include construction changes to the well or well pad. For this reason, individual analysis of effects to the mammalian, avian, aquatic and insect species was not performed because the reissuance of the Argenta Ute #2 SWD well does not authorize any physical modifications to the facility or its operations and is a wholly administrative action.

⁸ IPaC Project Code: 2025-0115152, 6/27/2025