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# Waste Management Plan

## Red Rocks 1-14 Red Rocks 1-16

This Waste Management Plan has been prepared by Desert Eagle Operating, LLC (DEO) for its Red Rocks 1-14 and 1-16 helium gas well locations in Las Animas County, Colorado. The Plan addresses the Colorado Oil & Gas Conservation Commission (COGCC) requirement at Rule 304.c.(11) to prepare a Waste Management Plan, COGCC’s Waste Management Plan Guidance (September 15, 2021), and the waste management criteria in Rule 905.a.(4).

DEO proposes to develop helium gas using single conventional vertical helium gas wells. The wells will be drilled with air using a water well-sized drill rig. There will be no drilling mud, hydraulic fracturing, stimulation, or flowback. The wells are not expected to produce hydrocarbons or water, based on results from wells already drilled in this area.

### 1.0 Waste Streams

DEO will develop one shallow, conventional vertical well at each location. Each well will be approximately 1,800 feet deep. The wells will be drilled with air. Freshwater will be used for dust suppression. Drilling mud will not be used.

Waste streams are listed in Attachment A by operational phase: Drilling, Completion, Production/All. For each waste stream, Attachment A lists phase, waste type, duration, containment, estimated volume, disposal, and waste classification.

Construction and Interim Reclamation are captured under “All” in Attachment A. Construction and Interim Reclamation will generate only general trash, such as food wrappers and seed and mulch packaging. Packaging will be disposed of as domestic waste.

Construction is expected to require 1 day at each location to prepare the Working Pad Surface. Interim Reclamation is expected to require 1 day at each location to replace topsoil, prepare the location for revegetation, and seed.

Fueling and equipment maintenance will not occur on the locations during production.

### 2.0 Haul Route, Waste Handling, and Waste Characterization

#### Haul Routes

The following haul routes will be used to the La Junta and Trinidad, Colorado areas:

#### La Junta

South on CR 177.9

South on CR 179

East on US 160

North on CO 109 to La Junta

#### Trinidad

South on CR 177.9

South on CR 179

West on US 160 to Trinidad

#### Drill Cuttings

The Oil and Gas Location Surface Use Agreement is accompanied by surface owner approval for burial of drill cuttings on site in a drill cuttings trench.

Drill cuttings trenches at each location are anticipated to be 24 feet long, 9 feet wide, and 6 feet deep. Trenches at each location will contain an estimated 48 cubic yards of drill cuttings. Drill cuttings will have an estimated 3 feet of

soil cover. A Form 15 will be submitted within 30 days after constructing the trenches, in accordance with Rule 908.c.(2).

Drill cuttings from the well will be handled in accordance with Rule 905.e. They will be placed temporarily in a lined, bermed area on the Working Pad Surface. This allows for drying, sampling, and receipt of analytical results before burial.

A Form 27 will be submitted for Director's approval of the operator's sampling plan, in accordance with Rule 905.e.(1). According to COGCC guidance, Rule 905.G – Drill Cuttings (January 26, 2021), the operator will collect a representative sample for each 100 cubic yards of drill cuttings. This equates to a 1-point sample at each location but, to establish a representative composite sample, DEO plans to collect a 5-point composite sample at each location. Individual aliquots will be collected across the horizontal extent of the cuttings pile. They will be collected from random depths below the surface of the cuttings pile that ensure capture of the vertical profile of the cuttings pile from the surface to the base. The composite sample will be analyzed for constituents in Table 915-1 by an accredited commercial lab to confirm that concentrations do not exceed applicable Table 915-1 levels including consideration of background levels as noted in Table 915-1, footnote 1. Drill cuttings will then be transferred to the drill cuttings trench and buried with a minimum 3 feet of soil cover.

### **Fluids**

Wells will be drilled with air using air drilling equipment and a compressor. A synthetic liner will be placed under the drill rig to capture incidental leaks or drips.

Approximately 100 bbl (4200 gallons) of freshwater will be used per well during drilling for dust suppression using a mist system. Previous wells drilled in this area have not evidenced produced water from the formation.

### **Cement**

Cement will be circulated to the surface for all casing runs. Cement is prepared on site using pallets of bulk bagged cement, freshwater, and a pump truck. An estimated 25 bbl of cement is needed per well. The pumper stops the cement in the casing when it nears the surface to avoid generating excess or waste. There will be no cement returns or excess cement requiring disposal. Unused bagged cement will be removed from the location for use at another site.

### **Other Wastes**

Incidental trash will be bagged and secured for offsite disposal as domestic trash. Incidental packaging will be containerized to prevent blowing waste before transport to the disposal facility.

### **Waste Characterization and Recordkeeping**

Wastes generated at this location will be federal E&P exempt. Waste will be characterized using a waste profile, process knowledge, and laboratory analysis as required by the commercial disposal facility. The E&P wastes transported off site will be manifested and signed by the generator and transporter. Records will be maintained at the DEO office in Dallas, Texas. Records will be provided upon request for a minimum of 5 years. Transported waste will include the information listed below.

- The date of the transport
- The identity of the waste generator
- The identity of the waste transporter
- The location of the waste pickup site
- The type and volume of waste
- The name and location of the treatment or disposal site

### 3.0 Spill Response and Remediation

Previous wells drilled in the area have not produced water or hydrocarbons. The location does not require tanks for produced water or hydrocarbons.

A contingency is in place for a spill involving freshwater. DEO will berm the affected area to prevent runoff from the location.

A contingency is in place for incidental spills of equipment oil, lubricants, hydraulic fluid, or fuel. The well driller will be equipped with a spill kit consisting of absorbents (e.g., socks and bagged absorbent). Spilled material, including potentially contaminated soil, will be loaded into one or more drums for transport off site. Final disposition will be in accordance with Rule 905.b.(2) and the waste characterization and profile requirements for the licensed third-party disposal facility that will accept the waste. The facility is anticipated to be Twin Enviro Services in Trinidad, Colorado. Depending on waste type, Twin Enviro uses process knowledge or results of RCRA 8 metals and TENORM constituents prior to accepting the waste. Were a spill to occur on site that exceeds the driller's capacity to contain and control contamination, a third-party provider would be engaged for spill response and any necessary reporting under Rule 912 would be provided to COGCC.

### 4.0 Waste Minimization, Reuse and Recycling

Wells will be drilled with air, which minimizes drilling waste. There will be no hydrocarbon-based waste to reuse or recycle. Salvaged topsoil will be reused on site. It will support interim and final reclamation of the location. Waste streams will not be commingled such that they no longer qualify as solid waste or E&P exempt waste. Unused material will be removed for reuse at another drilling site and will not be stored on the location.

### 5.0 Best Management Practices

**Table 1. Best Management Practices**

<b>Best Management Practices</b>
<ul style="list-style-type: none"> <li>• Trash will be kept bagged or covered and will be removed from the location for disposal as domestic solid waste at an approved waste disposal facility.</li> </ul>
<ul style="list-style-type: none"> <li>• The operator will install and utilize bear-proof dumpsters and trash receptacles for food-related trash at all facilities that generate trash, in accordance with Rule 1202.a.(1) for black bear habitat.</li> </ul>
<ul style="list-style-type: none"> <li>• Containers will be labeled according to requirements of Rule 605.h.</li> </ul>
<ul style="list-style-type: none"> <li>• Waste streams will not be commingled such that they no longer qualify as solid waste or E&amp;P exempt waste.</li> </ul>
<ul style="list-style-type: none"> <li>• Wastes will be stored in containers or on lined containment that are chosen for compatibility and checked for leaks or integrity problems. Examples of containment include but are not limited to lined berms, lined containment, plastic totes, drums, etc.</li> </ul>
<ul style="list-style-type: none"> <li>• Good housekeeping measures will be implemented in the operating area to ensure safety and environmental health.</li> </ul>
<ul style="list-style-type: none"> <li>• Unused material will be removed for reuse at another drilling site or returned to the vendor as a product and will not be stored on the location.</li> </ul>
<ul style="list-style-type: none"> <li>• Cement returns, excess cement, oily E&amp;P waste from a spill or release, and any other E&amp;P waste will not be disposed of in the drill cuttings trench.</li> </ul>
<ul style="list-style-type: none"> <li>• Red Rocks 1-14 drill cuttings will be disposed of in a 1-14 drill cuttings trench. Red Rocks 1-16 drill cuttings will be disposed of in a 1-16 drill cuttings trench.</li> </ul>

**Attachment**

Attachment A – Table 1. Wastestreams per Well

**Attachment A**  
**Table 1. Waste Streams per Well**

<b>Phase</b>	<b>Waste Type</b>	<b>Duration</b>	<b>Containment</b>	<b>Estimated Volume</b>	<b>Disposal</b>	<b>Waste Classification</b>
Drilling	Drill cuttings	7 days	Bermed and lined area during sampling. Surface owner approved burial in on-site cuttings trench.	48 CY	Table 915-1 compliance and burial in on-location cuttings trench	E&P Waste
Completion	Cement	3 days	Bagged	0 bbl	Unused bagged cement will be removed and reused at another well site. No cement returns or excess cement anticipated.	E&P Waste
Pre-Production	Temporary toilet	Up to 30 days	Rented trailer-mounted portable toilet. Delivered to site by DEO and leveled on location for use.	1 portable toilet	Trailer back to the rental company for cleanout	Domestic sanitary waste
Production/All	General trash, packaging, non-hazardous wastes	10-year life	Container to avoid blowing trash	1 drum/month	Municipal solid waste landfill	Non-hazardous solid waste