

Interim Reclamation Plan

Red Rocks Oil and Gas Development Plan Amendment 2

This Interim Reclamation Plan has been prepared by Desert Eagle Operating, LLC (DEO) for its Red Rocks Oil and Gas Development Plan – Amendment 2 in Las Animas County, Colorado. Amendment 2 consists of five proposed conventional vertical helium gas wells. The Plan addresses the Colorado Energy & Carbon Management Commission (ECMC) requirement at Rule 304.c.(16) to prepare an Interim Reclamation Plan, the criteria in Rule 1003, and ECMC guidance. The five proposed locations are listed in Table 1.

Table 1. Locations

Location	Qtr Qtr	Section/Township/Range	Lat/Lon
Red Rocks 1-09	SE¼NE¼	Section 1, T30S R55W	37.460372, -103.517227
Red Rocks 1-15	NW¼NE¼	Section 1, T30S R55W	37.465009, -103.522500
Red Rocks 35-01	SE¼SE¼	Section 35, T29S R55W	37.467959, -103.537764
Red Rocks 35-08A	NE¼SE¼	Section 35, T29S R55W	37.473477, -103.536136
Red Rocks 35-10	SW¼NE¼	Section 35, T29S R55W	37.475925, -103.541431

1.0 Site Descriptions

DEO proposes to develop helium gas using one conventional vertical helium gas well at each location. The wells will be drilled with air using a water well-sized drill rig. Wells will be approximately 1,900 feet deep. 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 DEO wells already drilled in the area. There will be no fluid storage on site during production.

The locations are on fee surface leased from a private landowner. The locations will produce fee minerals. The environmental setting is arid rangeland, which is sparsely vegetated.

Site elevations are listed in Table 2.

Table 2. Site Elevations

Location	Elevation (feet)
Red Rocks 1-09	5,472
Red Rocks 1-15	5,486
Red Rocks 35-01	5,555
Red Rocks 35-08A	5,560
Red Rocks 35-10	5,547

Estimated disturbance acreages for each Oil and Gas Location are listed in Table 3.

Table 3. Location Disturbance

Disturbance	Disturbance (ac)
Oil and Gas Location	1.10
Working Pad Surface	1.00
Production Pad	0.20
Interim Reclamation	0.90

Estimated durations for each phase of development are listed in Table 4.

Table 4. Phases of Development

Phase	Days
Construction	2
Drilling	5
Completion	5
Interim Reclamation	10
Production	10 years (est.)

2.0 Soil Description

Soil units and their boundaries are shown on the Form 2A, Soil Unit Maps. Soil units are listed in Table 5.

Table 5. Soil by Location

Location	Oil and Gas Location	Access	Off-location Flowline
Red Rocks 1-09	DaE	DaE, VT, WC	DaE, VT
Red Rocks 1-15	DaE	DaE, VT, WC	No new disturbance
Red Rocks 35-01	DaE, WC	WC	No new disturbance
Red Rocks 35-08A	VT	VT	VT
Red Rocks 35-10	DaE, VT	VT	VT

DaE – Dalerose-Rock outcrop complex, 3 to 25 percent slopes. Well drained. Approximately 1 inch available water capacity. 6 to 20 inches to restrictive feature.

VT – Villedry-Travessilla complex, 1 to 8 percent slopes. Well drained. 1.6 to 6.6 inches available water capacity. 6 to 40 inches to restrictive feature.

WC – Plughat-Villegreen complex, 1 to 4 percent slopes. Well drained. 6.0 to 9.6 inches available water capacity. 30 to 51 inches to restrictive feature.

3.0 Oil and Gas Location Pre-Disturbance Vegetation Composition

The area has existing disturbances from producing helium gas wells, dirt roads, and historical ranching operations.

Predominant vegetation by location is listed in Table 6. The findings are based on November 16-19, 2023 environmental field review. Percent vegetation cover by location is listed in Table 7.

Table 6. Vegetation

Location	Vegetation
Red Rocks 1-09	Great Plains yucca, sideoats grama, blue grama, gambel oak
Red Rocks 1-15	Tree cholla, one-seed juniper, sideoats grama, blue grama
Red Rocks 35-01	Tree cholla, one-seed juniper, Great Plains yucca, blue grama
Red Rocks 35-08A	Tree cholla, one-seed juniper, Great Plains yucca, blue grama
Red Rocks 35-10	Tree cholla, one-seed juniper, Great Plains yucca, blue grama

Table 7. Percent Vegetation Cover

Location	Vegetation Cover (%)
Red Rocks 1-09	70
Red Rocks 1-15	75
Red Rocks 35-01	75
Red Rocks 35-08A	70
Red Rocks 35-10	75

4.0 Identification of Reference Area

Reference Area coordinates are listed in Table 8. Reference Areas were identified during the November 2023 environmental field review based on locations with soil properties, vegetation, and cover consistent with the Oil and Gas Locations. Reference Areas are illustrated on the Reference Area Maps submitted with the Form 2As.

Table 8. Reference Areas

Location	Reference Area
Red Rocks 1-09	37.460969, -103.516878
Red Rocks 1-15	37.465290, -103.521788
Red Rocks 35-01	37.467175, -103.537614
Red Rocks 35-08A	37.474003, -103.535858
Red Rocks 35-10	37.475258, -103.541206

5.0 Known Weed Infestations

There were no noxious weeds identified at any of the Oil and Gas Locations during the November 2023 environmental field review. Two specimens of wavyleaf thistle (*Cirsium undulatum*) identified at the Red Rocks 35-01 location are not Colorado Department of Agriculture listed A, B, or C species.

6.0 Off-location Flowlines

Areas of soil disturbance for new off-location flowlines are listed in Table 9 and shown on Related Location and Flowline Maps submitted with the Form 2As.

Table 9. New Off-location Flowline Disturbance

Location	New Off-location Flowline (ft)	New Off-location Flowline (ac)
Red Rocks 1-09	2,050	0.94
Red Rocks 1-15	0	0
Red Rocks 35-01	0	0
Red Rocks 35-08A	1,260	0.58
Red Rocks 35-10	20	0.01

Each helium well will tie into the existing Red Rocks gathering system. Three of five locations require new off-location flowlines for the tie in, as listed in Table 9. In that case, off-location flowline corridor disturbance will be an estimated 20 feet wide for installation of a 2-foot-wide flowline trench and 8-inch polyethylene flowline. The trench will be approximately 48 inches deep with 3 feet of soil cover.

Vegetation, topsoil, and subsoil will be segregated during flowline installation. Topsoil will be segregated based on changes in physical characteristics. It will be windrowed along the flowline trench. After flowline installation and integrity testing, the trench will be backfilled. The soil layers will be replaced in the order in which they were removed. The operator will identify appropriate soil amendments to promote vegetative growth. Seeding and revegetation will provide cover and prevent blowing soil, erosion, and weed propagation. The area will be monitored for vegetation growth. Where needed, the soil will be amended or reseeded to promote revegetation.

7.0 Access Roads

DEO will use existing and new access roads. Access roads will be approximately 15 feet wide. Areas of soil disturbance for new access are listed in Table 10 and shown on Access Road Maps submitted with the Form 2As.

Access roads will remain in place during production. During final reclamation, new access roads not subsumed within the landowner's road network under the SUA will be reclaimed in the same manner as the Oil and Gas Locations.

Table 10. New Access Disturbance

Location	New Access (ft)	New Access (ac)
Red Rocks 1-09	910	0.31
Red Rocks 1-15	70	0.02
Red Rocks 35-01	140	0.05
Red Rocks 35-08A	130	0.04
Red Rocks 35-10	210	0.07

8.0 Removal of Drilling, Re-entry, Completion Equipment and All Associated Debris and Waste Materials (1003.a)

After well drilling and completion, each production pad will be downsized to approximately 0.20 acres. The well driller will clear equipment and materials in preparation for interim reclamation. Any open holes, cellars, rat holes, or other boreholes will be backfilled per industry standards. During final reclamation, surface equipment, abandoned flowline risers, and any debris will be removed from the location.

9.0 Management of Waste Material

Waste materials will not be left onsite after well drilling and completion. Waste material, volume, and final disposal is described in the Form 2A, Waste Management Plan.

10.0 Identification of Interim Reclamation Areas No Longer in Use (1003.b)

Reclaimed areas are shown on the Form 2A, Facility Layouts. An approximately 0.20-acre production pad will not be reclaimed at each location. During production, this area will support well operation, the off-location helium gas line, and maintenance activities.

11.0 Compaction Alleviation (1003.c)

To decompact soil layers, areas to be reclaimed will be ripped to an estimated depth of 18 inches unless restrictive features are encountered at a shallower depth. Decompaction will be used to improve the soil structure and to promote soil aeration, water infiltration, and microbial activity, which will promote plant growth.

12.0 Recontouring

The Oil and Gas Locations are relatively flat, as shown on the Form 2A, Construction Layout Drawings. There will be no anticipated cut or fill needed to support well drilling. Topsoil will be stockpiled on the locations and will be restored on the reclaimed areas. Reclaimed areas will be blended with the surrounding surface to restore the natural grade and hydrology patterns. Staked stormwater wattles will be placed to protect the area from stormwater run on and runoff.

13.0 Re-establish and Stabilize Drainage Features

During interim reclamation, Oil and Gas Locations will be recontoured to blend with the pre-disturbance surface and restore natural drainage patterns. Reclamation during the first growing season will stabilize the soils to avoid stormwater runoff. While vegetation is establishing, wattles will be placed, as needed, along perimeters of the pad corresponding to surface flow direction to prevent erosion runnels and avoid soils or sediment from leaving the locations.

14.0 Establish Desired Plant Community (1003.e)

Segregated soil horizons will be replaced in their original relative positions and contoured to reestablish natural grades. The areas will be tilled to establish a seedbed. The anticipated seed mix was identified as a site-specific seed mix in coordination with the Natural Resource Conservation Service District Conservationist, the Las Animas County Extension Service, and the surface owner. The seed mix is listed in table 11 with relative composition. The seed weight (pounds/acre) and application rate will be provided to the operator by the seed mix provider. The seed mix will be certified weed-free.

Table 11. Anticipated Seed Mix

Anticipated Species	Relative Mix
Blue Grama	20%
Sideoats Grama	25%
Western Wheatgrass	30%
Buffalo Grass	15%
Green Needlegrass	10%
TOTAL	100%

15.0 Seedbed Preparation and Seeding (1003.e)

Salvaged topsoil will be replaced and contoured to maximize erosion control and soil stability. Soil amendment may be introduced at this stage to promote moisture retention and soil stabilization. Seedbed preparation will be conducted immediately before seeding to ensure that the seedbed provides the maximum benefit for revegetation success. The reclamation provider will confirm whether drill seeding will be performed to further promote vegetation. Drill seeding is typically conducted on slopes flatter than 3:1.

Interim reclamation will be performed during the first growing season after well drilling is complete and within the anticipated 6 months described in Rule 1003.b. Early spring and fall typically are preferred seeding periods to coincide with increased precipitation and conditions favorable to seed germination.

16.0 Fencing

Fencing will be installed around wellheads, as approved by the landowner. Fencing will restrict unauthorized access and will discourage unnecessary surface disturbance, in accordance with Rules 603.h and 1002.a.(1).

17.0 Management of Invasive Plants (1003.f)

The site operator will be trained on noxious and invasive weeds to monitor at the location. Weed treatment will be conducted, where needed, to prevent establishment and spread of noxious weeds. The weed treatment will be conducted according to Colorado Department of Agriculture recommendations by weed species.

18.0 Proposed Interim Reclamation Drawing

The interim reclamation areas are shown on the Form 2A, Facility Layout Drawings. The drawings show surface flow direction and stormwater controls for control of erosion and stormwater runoff.

19.0 Reclamation Monitoring, Inspection, Maintenance, and Reporting

The site operator will be on location approximately twice weekly to monitor the wellhead, location, and flowline. The vegetative success will be monitored as part of these routine site visits. Invasive weeds, evidence of erosion, and areas requiring reseeding will be identified and addressed through weed treatment, adapting stormwater controls, and application of additional seed and soil amendment or fertilizer.

Vegetative success is considered at least 80 percent of pre-disturbance reference area cover, consistent with Rule 1003.e.(2). A plant count for plant density will be conducted to assess percent cover. Documentation will include the operator's maintenance records for the location, stormwater inspections, and Change Management Checklist.

20.0 Interim Reclamation Completion Notice, Form 4 [1003.e.(3)]

DEO will submit a Form 4 Sundry Notice describing the reclamation procedures, any mitigation measures, any changes to the final land use, and the total vegetative cover. A minimum of four photos will be taken during the growing season showing each cardinal direction to document the success of interim reclamation. One photo will document the total cover of live perennial vegetation of adjacent or nearby undisturbed land or the reference area.

21.0 Best Management Practices

Table 12. Best Management Practices

Best Management Practices	
•	Topsoil - Topsoil will be stockpiled on each location and will be restored on the reclaimed area. Salvaged topsoil will be replaced and contoured to maximize erosion control and soil stability.
•	Erosion control – Erosion controls will be installed and maintained at each location to prevent stormwater run on, runoff, and erosion. Erosion controls are shown on the Facility Layout Drawings.
•	Weed control – The locations will be monitored for the presence of invasive weeds. Invasive weeds will be treated to prevent them from establishing or spreading.
•	Seed mix – The operator will use the certified weed-free seed mix identified in this plan and in coordination with the surface owner.
•	Seeding method and Timing – Drill seeding or other method to promote vegetative success will be conducted during the first growing season and within 6 months of completion of well development.
•	Fencing – Fencing will be installed to restrict unauthorized access and discourage unnecessary surface disturbance.
•	Recontouring - Disturbed areas will be recontoured to blend with the pre-disturbance surface and restore natural drainage patterns.
•	Monitoring – Locations will be monitored for vegetative success. Locations will be reseeded where needed to establish 80 percent of pre-disturbance cover.