

## **CNE-4 Form 2A**

### **Kinder Morgan CO2 Company, LP**

#### **INTRODUCTION**

This Form 2A stormwater report includes the Best Management Practices (BMPs) and reclamation plans for Kinder Morgan's proposed CNE-4 well pad in accordance with Colorado Oil and Gas Conservation Commission's (COGCC) Form 2A requirements. BMP diagrams and additional general stormwater information is included with Kinder Morgan's Master Stormwater Management Plan (MSWMP) for oil and gas construction activities for McElmo Dome and Doe Canyon. The MSWMP can be obtained from Kinder Morgan and is in accordance with Colorado Department of Public Health and Environment (CDPHE) stormwater guidelines. The Kinder Morgan contact person is Bob Clayton and his contact information is below:

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#### **PROJECT DESCRIPTION**

The proposed well pad would be located in an active agricultural field. The proposed access road would traverse the same agricultural field. Slopes within the proposed project average 0-3 percent. Disturbance would include the removal of top soil to create a level pad (490 feet by 485 feet) for drilling. The wellhead will be the only item on the pad once the well goes to completion.

#### **ESTIMATED TOTAL AREA OF THE SITE TO UNDERGO CLEARING, EXCAVATION, OR GRADING**

The maximum disturbance associated with the proposed well pad would be 5.46 acres.

#### **EXISTING SOIL**

Parent materials found at the project site and surrounding areas include Aeolian deposits derived from unconsolidated Aeolian sand deposits; both active and stabilized. The surveyed soil map units for the project area consist of Wetherill loam 1 to 3 and 3 to 6 percent slopes (NRCS 2013<sup>1</sup>).

Wetherill loam soils occur on hills and mesas. They are well drained, have a high available water capacity, and have a rooting depth of more than 80 inches. Wetherill loam soils are made up of clay and clay loam and are the primary soils found at the proposed location.

<sup>1</sup> Natural Resources Conservation Service (NRCS). 2013. Web Soil Survey. Available online at: <http://websoilsurvey.nrcs.usda.gov/app/>. Accessed October, 2013.

**DESCRIPTION OF EXISTING VEGETATION AND ESTIMATE OF PERCENT OF GROUND COVER**

The proposed well pad would be located on an active agricultural field consisting of tilled ground with exposed dirt. No crop was observed on the fields during the October 16, 2013 field visit.

**NAME OF RECEIVING WATER AND TYPE OF OUTFALLS**

The nearest perennial water—indicated on the U.S. Geological Survey topographic map is Dove Creek, located approximately 3 miles west of the project area. Drainage from the proposed project area generally flows southwest through unnamed intermittent drainages to Dove Creek. There are no perennial water sources, wetlands, seeps, springs, or riparian areas within the proposed well pad or surrounding area.

**PROJECT-SPECIFIC BMPs**

The following listed BMPs are site-specific BMPs identified by Ecosphere during a field visit on October 16, 2013. BMP diagrams are included in the MSWMP. BMPs would be maintained or amended by Kinder Morgan as site conditions change throughout the construction and reclamation process. Stormwater inspections would occur as stipulated in the MSWMP and as required by the CDPHE. A map showing the BMP locations is attached. Site-specific BMPs will be installed pre-construction and during the construction process and will continue to be maintained until the site is determined to be finally stabilized per CDPHE requirements. Table 1 describes structural BMPs used at CNE-4.

**Table 1. Structural BMPs**

BMP	How It Works	Location
<b>Bonded Fiber Matrix (Tackifier)</b>	Bonding agents provide durability to minimize water and wind erosion while allowing for optimal rainwater penetration into soil for vegetative growth.	When needed on disturbed areas surrounding well pad.
<b>Fiber Wattle (Sediment Control Logs)</b>	Fiber Wattles on the downhill side of a disturbed area help filter contaminants from stormwater and reduce water velocity which also helps reduce soil erosion.	Parallel to edges of disturbance (EOD) and around stock piled soils.
<b>Diversion Ditch with Wattles</b>	The diversion ditch diverts run on around the well pad.	Diversion ditch would be located around the perimeter of the EOD. Wattles located every 50 ft. in diversion ditch.
<b>Fuel and Chemical Containment</b>	Fuel and chemicals stored on-site will be within secondary containment to reduce the potential for spills or off-site releases.	Where needed.
<b>Tracking Control</b>	An effective vehicle tracking control helps remove sediment (mud or dirt) from vehicle tires, reducing the potential for tracking onto off-site paved roadways.	Where needed.
<b>Earth Berm</b>	A compacted and stabilized earth berm greatly helps prevent any off-site releases.	Around perimeter of well pad.

### NON-STRUCTURAL BMPs

Table 2 includes non-structural BMPs that will be applied to the entire project area where needed beginning with construction and continuing until final stabilization is reached.

**Table 2. Non Structural BMPs**

BMP	How It Works	Location
<b>Soil Roughening</b>	Surface roughening creates small ridges and gullies with the teeth of the bucket on the front-end loader, or with the grooves of tracked equipment. These ridges and gullies go across the slope (or along the contour of the slope), trapping stormwater and helping with revegetation. To create these ridges/gullies with tracked equipment, the equipment should be run up/down the slope.	All disturbed areas where needed.
<b>Equipment Storage</b>	All equipment will be contained within the ROW disturbance	Within disturbance area where needed.
<b>Rapid Reclamation</b>	Rapid reclamation (surface contouring, surface roughening, seeding, and weed control) help to stabilize soil with vegetation and reduce runoff.	Within disturbance area where needed.
<b>Dust Mitigation</b>	Whenever needed, a water truck will be used to add moisture to the soil which will prevent the soil from becoming airborne and leaving the site.	Within disturbance area where needed.

**PROJECT BMP MAP**

