

Best Management Practices Report

HE 6 Well Pad Form 2A

Kinder Morgan CO₂ Company, LP

INTRODUCTION

This Form 2A Best Management Practices Report includes the Best Management Practices (BMPs) and reclamation plans for Kinder Morgan's proposed HE 6 well pad in accordance with Colorado Oil and Gas Conservation Commission's (COGCC) Form 2A requirements. Additional information on BMPs recommended for the associated pipeline and access road is included with the HE 6 Project Specific Data Sheet (PSDS) included with Kinder Morgan's Regional Stormwater Management Plan (RSWMP) for oil and gas construction activities for McElmo Dome and Doe Canyon. The PSDS also includes BMP construction diagrams and additional general stormwater information. Both the PSDS and RSWMP can be obtained from Kinder Morgan and are in accordance with Colorado Department of Public Health and Environment (CDPHE) stormwater guidelines. The contact information for the Kinder Morgan representative is:

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PROJECT DESCRIPTION

The proposed project would be located on fairly level terrain (1-3 degree slopes), in previously undisturbed natural vegetation. Construction would include the removal of top soil to create a level pad (360 feet by 350 feet) for drilling and the grading of a new approximately 300-foot long access road to connect with an existing road.

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

The maximum disturbance associated with the proposed well pad is 2.54 acres.

EXISTING SOIL DATA AND ESTIMATED RUNOFF COEFFICIENT BEFORE AND AFTER CONSTRUCTION

Surface geology of the project area and vicinity consists of Dakota sandstone and Burro Canyon Formation, which is sandstone, shale, and conglomerate and a sandstone dominated formations of all ages. Surveyed soil type for the project area consists of Wetherill loam 3-6 percent slopes (NRCS 2011¹).

Wetherill loam 3-6 percent slopes consists of 85 percent Wetherill soils and 15 percent contrasting inclusions and is found associated with hills and mesas. Wetherill loam soils are very deep, moderately well drained, and have a moderately slow permeability. The available water capacity is high and the

potential rooting depth is 60 inches or more. Runoff is high and water erosion is severe. The shrink-swell potential for Wetherill loam is moderate (NRCS 2011¹).

¹ Natural Resources Conservation Service (NRCS). 2011. Web Soil Survey. Available online at: <http://websoilsurvey.nrcs.usda.gov/app/>. Accessed December 7, 2011.

DESCRIPTION OF EXISTING VEGETATION AND ESTIMATE OF PERCENT OF GROUND COVER

The vegetation in proposed project is dominated by piñon (*Pinus edulis*) and juniper (*Juniperus osteosperma*) trees, and big sage (*Artemisa tridentata*). Approximately 40 piñon or juniper trees will be removed to construct the proposed project. Overall vegetation cover was visually estimated to be 45%.

NAME OF RECEIVING WATER AND TYPE OF OUTFALLS

The nearest perennial water, per the U.S. Geological Survey (USGS) topographic map, is McElmo Creek, which is located approximately 15 miles southwest of the project area. Surface drainage from the proposed project area would generally flow southwest through unnamed drainages, into Hovenweep Canyon, the through Yellow Jacket Canyon, and eventually into McElmo Creek. There are no perennial water sources, wetlands, seeps, springs, or riparian areas within the proposed project area or surrounding area.

PROJECT-SPECIFIC BMPs

The following site-specific BMPs were identified by Ecosphere during the field visit conducted November 21, 2011. Site-specific BMPs will be installed before and during the construction process. BMP construction diagrams are included in the RSWMP. BMPs will be maintained or amended by Kinder Morgan as site conditions change throughout the construction and reclamation process. Stormwater inspections will occur as stipulated in the RSWMP and required by the Colorado Department of Public Health and Environment (CDPHE). A map showing the BMP locations is attached. Site-specific BMPs will be inspected and maintained until vegetation reaches 70 percent of the pre-construction cover as mandated by the COGCC and CDPHE.

BMP # 1: Two hundred feet of fiber wattles will be installed around the northeast corner of the well pad (Photo 1, BMP Map). No BMPs are required for the access road.

BMP #2: Disturbed portions of the well pad not necessary for operation and maintenance of the well will be re-contoured and roughened to blend into the surrounding terrain. In addition, a landowner approved seed mix will be applied at the appropriate time using seeding and mulching methods outlined in the RSWMP.

If BMPs for the access road are needed, the stormwater inspector will recommend them at a later date.



Photograph 1. Looking northeast from the center stake, to where the wattles (BMP 1) will be installed.

PROJECT BMP MAP

