

HA #4 Well Pad 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 HA #4 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 HA #4 Project Specific Data Sheet (PSDS). BMP diagrams and additional general stormwater information is included with Kinder Morgan's Regional Stormwater Management Plan (RSWMP) for oil and gas construction activities for McElmo Dome and Doe Canyon. 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 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 on agricultural land converted to CRP (Conservation Reserve Program). The location is fairly level and uniformly covered with reseeded vegetation. The proposed access would traverse habitat consisting of a patchwork of piñon-juniper woodland and scrubland. Slopes within the proposed disturbance range from 1-7 degrees. Disturbance would include the removal of top soil to create a level pad (360 feet by 350 feet) for drilling.

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

The maximum disturbance associated with the proposed well pad would be up to 2.5 acres.

EXISTING SOIL DATA AND ESTIMATED RUNOFF COEFFICIENT BEFORE AND AFTER CONSTRUCTION

Surface geology of the project area and vicinity consists of loam residium, slope alluvium, and Eolian deposits derived from sandstone and shale. Surveyed soil type for the proposed well pad project area consists of Wetherill loam 1-3 percent slopes (NRCS 2011¹).

Wetherill loam 1-3 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.

To estimate the runoff coefficient for the site before and after construction, Typical “C” Values (EPA 2007²) is located in Section C.2 of the State of Colorado Storm Water Management Plan Guidance Document (CDPHE 2011³). The runoff coefficient for the project area is expected to vary between 0.1 and 0.3 (unimproved areas) and is not expected to change significantly following construction.

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

² Environmental Protection Agency (EPA). 2007. Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites. Available online at: http://www.epa.gov/npdes/pubs/sw_swppp_guide.pdf. Accessed December 7, 2011.

³ Colorado Department of Public Health and Environment (CDPHE). 2011. Available online at: http://www.cdphe.state.co.us/wg/PermitsUnit/PERMITS/CONSTRUCTION/SWCONSTINSTR_SWMPGUIDE.pdf. Accessed December 7, 2011.

DESCRIPTION OF EXISTING VEGETATION AND ESTIMATE OF PERCENT OF GROUND COVER

The proposed well pad would be located on agricultural land converted to CRP. Vegetation within the well pad location includes slender wheat, crested wheat, cheat grass and tumbleweed, vegetative cover was visually estimated at 40 percent. The proposed access would traverse habitat consisting of a patchwork of piñon-juniper woodland and scrubland. Vegetation within the access corridor includes bluegrass, Indian rice grass, antelope bitterbrush, and Mormon tea. Vegetative cover was visually estimated at 25 percent. The proposed project area contains no riparian or aquatic habitats.

NAME OF RECEIVING WATER AND TYPE OF OUTFALLS

The nearest perennial water—indicated on the U.S. Geological Survey (USGS) topographic map—is the San Juan River, located 30-40 miles southwest of the project area. Drainage from the proposed project would flow generally southwest through several named and unnamed ephemeral and intermittent drainages to the San Juan River. 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 the field visit conducted November 17, 2011. Site specific BMPs should be installed pre-construction and during the construction process. BMP diagrams are included in the RSWMP. 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 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 installed pre-construction and during the construction process and will continue to be maintained until vegetation reaches 70% of the pre-construction cover as mandated by the COGCC and CDPHE.

BMP 1: Fiber wattles will encompass the entire western periphery of the well pad and will continue wrapping approximately 100 feet of the southern periphery.

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

outlined in the PSWMP.

Photograph 1. Looking at the southwestern periphery of the well pad location



BMP 3: A culvert will be placed under the access and have a wattle placed at the culvert outlet (NAD 83 Zone 12N 37.5190, -108.8526).

Photograph 1. Looking north at a swale that crosses the access route



PROJECT BMP MAP

