



CB-4 CO2 Well Location Photos
API #05-083-06730 / Facility ID #454999
FIR #693900886 / CA #131437 & #131438
Form 4 #402202431 / FIRR #402202524

Response to CA #131437

At the time the new construction and storm water inspection was conducted by Catherine Roy on 10/3/2019, Kinder Morgan's construction contractor was in the process of stripping topsoil from the CB-4 well pad location. In fact, the topsoil removal process was still underway on the date of the inspection report (FIR #693900886, 10/7/19). The four-part information request included in CA #131437 requires verification that all topsoil has been removed from the CB-4 location. Kinder Morgan's response appears below.

1) Description of the soil profile at the location:

- a. Per the attached NRCS Custom Soil Resource Report, which was also attached to CB-4 Form 2A (Document #401584382), the project area from which topsoil was removed is identified as the following:
 - i. Map Unit Symbol – 144;
 - ii. Map Unit Name – Wetherill loam, 3 to 6 percent slopes;
 - iii. Acres in AOI – 6.6;
 - iv. Percent of AOI – 81.3%;
 - v. According to the Map Unit Description on page 18 of the NRCS Custom Soil Resource Report, and pages 46-47 of the attached NRCS Field Book for Describing and Sampling Soils, the typical soil profile for the CB-4 location is:
 1. A – 0 to 3 inches, loam;
 2. Bt – 3 to 7 inches, loam;
 3. Btk1 – 7 to 48 inches, loam;
 4. Btk2 – 48 – 60 inches, loam

2) Description of discovered topsoil depth:

- a. The depth of the topsoil horizon discovered at the CB-4 well pad ranged from three (3) to eight (8) inches, which is in general agreement with the NRCS Map Unit Description, as shown in the photograph below:



CB-4 soil profile shown in a shallow cut slope (no scale).

- 3) *Estimate of cubic yards of topsoil to be excavated, to ensure that all topsoil is removed and properly stockpiled:*
- a. Based upon the average discovered topsoil depth of 5.5 inches, the 350-foot by 400-foot well pad area is estimated to generate approximately 2,377 cubic yards (c.y.) of topsoil. The actual volume of topsoil removed from the project area, based on in-place measurements of topsoil stockpiles, is 2,735 c.y. The volume of topsoil actually removed from the project area was 15 percent greater than the estimated volume. The entire topsoil horizon has been removed and stockpiled. The photographs included below show that the topsoil horizon was removed and placed in stockpiles.



Topsoil stockpile on east side of CB-4 location.



Topsoil stockpile on south side of CB-4 location.



Topsoil stockpile on west side of CB-4 location.



Topsoil horizon removed from CB-4 location.

4) *Description of where/how topsoil will be stored:*

- a. Per the attached BLM Application for Permit to Drill (APD) Conditions of Approval (COAs), Kinder Morgan will comply with COA's #21 & #54 as written:
 - i. *The topsoil will be stored with a base layer of straw to denote the topsoil horizon. The topsoil will be stored in a height not greater than 3' tall. Additionally, continuous excelsior wattles will surround the stockpile to protect the topsoil from surface water erosion. A sign will be placed at the base of all topsoil storage areas, facing the pad production zone to denote the presence of topsoil.*
- b. The approved BLM Sundry for revised storm water controls at the CB-4 location is attached, including a diagram showing the locations of soil stockpiles that will be stabilized with hydro-mulch/tackifier.

Response to CA #131438

Although Form 42 (Doc #402185577) stated that construction of the CB-4 location would begin on 9/26/2019, mobilization of equipment and actual construction activities at the project location did not begin until 9/30/2019. Kinder Morgan's contractor did ensure that compacted perimeter berms were put in place prior to construction and there have been no precipitation events since construction began. Although Catherine Roy observed evidence of loose soil on the perimeter berms and ditches during her inspection, the perimeter controls were in place awaiting stabilization (drum compactor rolling and hydro-mulch/tackifier application). Additional stabilization of the soil on the perimeter berms and ditches has been completed as of 10/10/2019 as shown in the photographs below.



Compacted soil berm (CB-4 access road).



Compacted soil berm (east side of CB-4 location).



Compacted soil berm (north side of CB-4 location).



Compacted soil berm (northwest corner of CB-4 location).



Compacted soil berm and trench (south side of CB-4 location).



Compacted soil berm (west side of CB-4 location).