

COGCC conducted a follow-up inspection of the LC 15-01 location (Location ID 445191) on July 11, 2017 (Document 682402392). During that inspection, COGCC made the following observations:

1. Weeds: Weedy, annual Russian thistle (*Salsola tragus*) and Kochia (*Kochia scoparia*) were observed throughout most disturbance areas, including topsoil stockpiles. Operator needs to control and manage both Russian thistle and Kochia using the best available practices, as this is weed waste and will spread onto adjacent lands. At maturity, Russian thistle often breaks off at the soil line and tumble long distances with the wind, widely dispersing seed for several kilometers (Stallings et al. 1995). Seed remains viable 2-3 years (Larimer County 5th Edition Weed Management Reference Guide).
2. Protection of Soils: The topsoil stockpile has significant weed cover including Russian thistle and Kochia with no perennial vegetation that would compete with the weedy vegetation and generally work to decrease weed growth.
3. Noxious Weeds: Vegetation in portions of the interim reclamation area is predominantly undesirable weedy plant species, Russian thistle and Kochia, and is likely hindering the establishment of desirable vegetation. These areas will need to be reseeded to establish a uniform vegetation cover of at least eighty (80) percent of reference area levels.
4. Storm Water: Noble Energy (Operator) does not appear to have implemented and maintained Best Management Practices (BMPs) to control stormwater runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation per Rule 1002.f.(2). Operator does not appear to have implemented BMPs in accordance with good engineering practices per Rule 1002.f.(2). Sediment discharge was observed along the southern perimeter of the location. See attached inspection photos for more details.
5. General: Per this inspection, stormwater controls were inadequate and the Operator has not installed sediment traps or other BMPs in accordance to their own BMP Manual. The Operator has failed to implement their suggested BMP specifications. For example, the two sediment traps installed for this location (totaling 6.4 acres of disturbance) have a sediment trap volume capacity for both dry and wet storage that equals approximately 144 ft³. Based off Noble's own BMP Manual, the required sediment trap volume for one acre is 3,600 ft³. Therefore, based off Nobles BMP Manual, the sediment trap volume for the entire location would require approximately 23,040 ft³ of sediment trap volume.

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Photo 1. Photo taken from the eastern pad on top of the topsoil stockpile, facing South. Topsoil stockpiles have predominately Russian thistle growth and Kochia growth which is not in compliance with Rule 1002.c. and Rule 1003. Hydromulch application was observed on the topsoil stockpile but is only a temporary BMP.

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Photo NBL1. Weeds have been mowed where accessible, and weeds have been sprayed site-wide. Hydro-mulch will be applied once weeds die back.

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Photo 2. Photo taken from the eastern pad by the topsoil stockpile, facing South. Topsoil stockpiles were left with steep sides making it difficult to seed into for long-term stabilization and to prevent weed establishment.

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Photo NBL2. Weeds have been mowed where accessible, and weeds have been sprayed site-wide. Once the weeds have died, slopes may be re-sloped and seeded or hydro-mulch may be reapplied for stabilization

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Photo 3. Photo taken from the eastern perimeter of the location facing South. Ditch and berm BMP installed along the entire perimeter of the location.

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Photo NBL3. Weeds have been mowed where accessible, and weeds have been sprayed site-wide. Ditch was re-cut and cleaned out and perimeter ripping was reinstalled.

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Photo 4. Photo taken from the southeast location, facing West. Sediment trap size was measured at ~6'x6'x2' (width x length x depth= 72ft³) with filtrex at the overflow point of the trap.

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Photo NBL4. The sediment trap was enlarged and the ditches draining to this sediment trap were recut and cleaned out. Sediment traps are used in conjunction with other BMPs as needed to minimize the transportation of sediment in stormwater runoff

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Photo 5. Photo taken from the southern perimeter of the location, facing North. Appears repairs have been conducted based off lack of vegetative growth, recent hydromulch application, and evidence of sediment discharge beyond the perimeter ditch and berm BMP.

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Photo NBL5. Weeds site-wide have been sprayed, sediment from the discharge has been recovered, and berms at this location have been re-compacted. To avoid discharge from this point again an outlet was created on the top of the pad on the east side, with a trench and straw wattles placed approximately every 10-12' installed running south between the pad and topsoil pile connecting to perimeter ditches running into the sediment trap (see photo NBL11).

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Photo 6. Photo taken from the previous photo location, facing East. Photo illustrates stormwater runoff appears to be washing sediment over the ditch and berm BMP off location. Refer to photo 7 for more detail.

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Photo NBL6. Perimeter ditches have been re-cut and perimeter ripping was reinstalled (see photo NBL12). Sediment from this point was recovered.

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Photo 7. Close up photo taken from the southern perimeter of the location, illustrating stormwater runoff appears to be washing sediment over the ditch and berm BMP off location.

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Photo NBL7. Sediment from this area has been recovered. Perimeter ditches and ripping were reinstalled to prevent future sediment loss (photo NBL13).

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Photo 8. Photo taken from the southeast location, facing West. Sediment trap size was measured at ~6'x6'x2' (width x length x depth= 72ft³) with filtrex at the overflow point of the trap.

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Photo NBL8. Weeds have been mowed and sprayed and the slope is still stabilized with hydro-mulch. A ditch to direct runoff to the perimeter ditches and ripping were installed. Sediment traps are used in conjunction with other BMPs as needed to minimize the transportation of sediment in stormwater runoff

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3. Noxious Weeds: Vegetation in portions of the interim reclamation area is predominantly undesirable weedy plant species, Russian thistle and Kochia, and is likely hindering the establishment of desirable vegetation. These areas will need to be reseeded to establish a uniform vegetation cover of at least eighty (80) percent of reference area levels.

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Photo 9. Photo taken from the western perimeter of the location, facing North. Cut slope appears to be stabilized with hydromulch but is only a temporary BMP.

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Photo NBL9. Weeds have been mowed and sprayed and the slope is stabilized with hydro-mulch. A ditch to direct runoff to the perimeter ditches and ripping were installed (photo NBL14).

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Photo 10. Photo taken from the eastern pad, facing South. A berm ~18" has been constructed along the west, east and south pad perimeter, but does not appear to be properly compacted.

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Photo NBL10. All berms on pad have been repaired with fresh road base and recompact. The exit point for water created using a ditch to direct water to the perimeter ditches and sediment trap (photos NBL15, NBL16, NBL17)

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Additional Photos

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Photo NBL11. This photo does not match one taken by COGCC, but is provided to show the ditch between the pad and topsoil pile to direct surface flow away from the side of the pad referenced under photo NBL5.

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Photo NBL12. This photo does not match one taken by COGCC, but is provided to show a close up of the soil ripping and referenced under photo NBL6.

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Photo NBL13. This photo does not match one taken by COGCC, but is provided to show the perimeter ditch and ripping referenced under photo NBL7.

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Photo NBL14. This photo does not match one taken by COGCC, but is provided to show the ditch and ripping referenced under photo NBL9.

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Photo NBL15. This photo does not match one taken by COGCC, but is provided to show the exit point that is referenced under photo NBL10.

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Photo NBL16. This photo does not match one taken by COGCC, but is provided to show the exit point that is referenced under photo NBL10

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Photo NBL17. This photo does not match one taken by COGCC, but is provided to show the exit point that is referenced under photo NBL10.

