

Inspection Photos

09/20/2019

Operator: BISON OIL & GAS II LLC # 10661

Location ID: 455519

Weld County, CO

Aaron Trujillo

NE Reclamation Specialist

COGCC

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Photo 1: Photo taken from the culvert on the north end of the pad. Photo shows sufficient outlet protection has not been installed above culvert outlet.



Photo 2: Continued from photo 1. Photo shows geotextile has not been placed under the rip-rap.

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Photo 3: Photo taken from the perimeter stormwater diversion ditch on the south end of the location. Photo shows stormwater appears to have eroded the slopes of the location with sediment deposition within the ditch. Operator appears to have repaired erosion, however, it does not appear as though operator has installed BMPs to stabilize slope, or maintained ditch filled with sediment to ensure proper functioning condition.



Photo 4: See comments under photo 3.

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Photo 5: See comments under photo 3.



Photo 6: Photo taken from the sediment trap inlet on the south end of the location. Operator has placed geotextile under the rip-rap. Inlet has been constructed with a horizontal grade/cut without sufficient inlet/slope protections. This is not good engineering practices.

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Photo 7: Photo taken from the culvert on the north end of the pad. Photo shows sufficient outlet protection has not been installed above culvert outlet. Erosion degradation around culvert evident.



Photo 8: Photo taken from the outlet of the sediment trap on the north end of the location. Photo shows geotextile has been placed beneath the rip-rap of the outlet. Operator appears to have only used a single-type large aggregate within outlet



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Photo 9: Photo of outlet at the sediment trap on the northeast end of the location. Operator appears to have installed outlet with a combination of sufficient, and appropriately sized (large/small) aggregate with a geotextile lining; Outlet appears to have been installed in accordance with good engineering practices.



Photo 10: Photo of inlet at the sediment trap on the northeast end of the location, facing southeast. Photo shows BMP has not been constructed in accordance with good engineering practices and is missing sufficient inlet protections. Erosion degradation evident at inlet and diversion ditch. Additionally, operator appears to have installed a wattle at the inlet without repairing ditch.

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Photo 11: Continued from photo 10.



Photo 12: Continued from photo 10.

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Photo 13: Continued from photo 10.



Photo 14: : Photo taken from the slopes on the east end of the location. Photo shows stormwater appears to have eroded the slopes of the location. Operator appears to have repaired erosion, however, it does not appear as though operator has installed BMPs to stabilize slope. Photo also shows areas where operator tracked slope along the contour of the slopes, rather than up and down. As a result, rill erosion has formed on areas of the slopes (arrow)

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Photo 15: Continued from photo 14. Photo shows areas where operator tracked slope along the contour of the slopes, rather than up and down. As a result, rill erosion has formed on areas of the slopes



Photo 16: See comments under photo 14.

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Photo 17: See comments under photo 15.



Photo 18: Photo of inlet at sediment trap on the southeast end of the location.

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Photo 19: Photo taken from the sediment trap on the northwest corner of the location. Photo shows BMP has not been constructed in accordance with good engineering practices with sufficient inlet/outlet and slope protection. Photo shows erosion degradation evident at inlet.



Photo 20: See comments under photo 19.



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Photo 21: See comments under photo 19.



Photo 22: See comments under photo 19.

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Photo 23: Continued from photo 22. Photo shows outlet has not been constructed in accordance with good engineering practices.



Photo 24: Photo taken from the culvert on the access road north of the pad. Photo shows sufficient outlet protection has not been installed above culvert outlet. Erosion degradation around culvert evident.



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Photo 25: Photo taken from the culvert on the access road north of the pad. Photo shows sufficient outlet protection has not been installed above culvert outlet. Erosion degradation around culvert evident.



Photo 26: See comments under photo 25.



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Photo 27: See comments under photo 25.



Photo 28: See comments under photo 25.