

Inspection Photos

API: 05-041-06072

Operator: HILCORP ENERGY COMPANY

Inspection and Photo Date: 5/14/2018



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Commission**

Department of Natural Resources

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Inspection Photos



Photo 1. Facing east on the access road. Rock rip/rap can be seen in the drainage channel. Rock check dams have been lowered to allow water flow per previous inspection.



Inspection Photos



Photo 2. The drainage channel extends far out into the pasture. This is additional disturbance caused by erosion. The channel needs to be recontoured to grade and reclaimed/reseeded. A proper sediment trap should be constructed. This corrective action has not been completed. This photo depicts noncompliance of the corrective action.



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API: 05-041-06072 | Date: 5/14/2019

Inspection Photos



Photo 3. Standing out in the pasture facing northwest toward the road. The erosion channel has not been reclaimed and there is rock rip/rap scattered along the channel. This photo depicts noncompliance of the corrective action.



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Inspection Photos



Photo 4. Rock rip/rap can be seen in the drainage channel. Rock check dams have been lowered to allow water flow. Weed debris has been removed from the channel. This photo depicts compliance of the corrective action.



Inspection Photos



Photo 5. Rock check dams have been installed further up the road from the gate shown in photo 4. This photo depicts compliance of the corrective action.



Inspection Photos



Photo 6. Facing north toward the access road. The side of the road was stabilized with straw blanket and vegetation is establishing. This photo depicts compliance of the corrective action.



Inspection Photos



Photo 7. The inlet culvert rock rip/rap has been lowered to allow sediment to settle and not restrict stormwater flow. This photo depicts compliance of the corrective action.



Inspection Photos



Photo 8. The outlet culvert rock rip/rap has been lowered to allow sediment to settle and not restrict stormwater flow. However, there was no geotextile installed underneath the outlet protection per good engineering practice. This photo depicts noncompliance of the corrective action.



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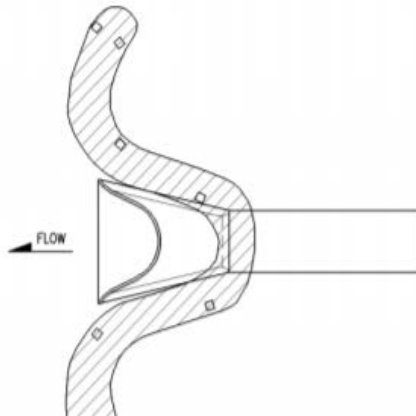
Department of Natural Resources

API: 05-041-06072 | Date: 5/14/2019

Inspection Photos

Outlet Protection

Outlet protection prevents scour and erosion at the outlet of a channel or conduit by reducing the speed of stormwater. Outlet protection is comprised of geotextile fabric and riprap placed at the outlet.



Poor installation of outlet protection. Geotextile was not placed under the riprap and not enough rock was used. As a result, stormwater is undercutting the existing rock.

Photo 9. These diagrams from CDOT manual describe the requirement for geotextile to be installed for outlet protection underneath rock rip/rap.



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Department of Natural Resources

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Inspection Photos



Photo 10. Rock check dams have been installed along the side of the road up gradient from the culverts. This photo depicts compliance of the corrective action.



Inspection Photos



Photo 11. Vegetation is beginning to establish along the side of the access road where disturbance occurred. Rock check damns have been installed up gradient along the road. This photo depicts compliance of the corrective action.



Inspection Photos



Photo 12. Facing south toward the reclaimed access road and location. Vegetation appears to be establishing. This photo depicts compliance of the corrective action.



Inspection Photos



Photo 13. Facing south at the location. Wattles are installed at the bottom of the location. This photo depicts compliance of the corrective action.



Inspection Photos



Photo 14. South side of the location. This area was reseeded and germination was observed. This photo depicts compliance of the corrective action, however this area needs to be monitored for successful revegetation.



Inspection Photos



Photo 15. There is desirable vegetation germinating in the seeded area. There is also undesirable vegetation establishing that will need to be controlled. This photo depicts compliance of the corrective action, however seeded areas need to be monitored for successful revegetation.



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