

# Reclamation and Stormwater Inspection

August 17, 2017

Operator: NOBLE ENERGY INC- #100322

Location ID: 433936

Weld County, CO

SWSE Section 11 T9N R59W

Chris Binschus  
Reclamation Specialist, COGCC



**COLORADO**  
Oil & Gas Conservation  
Commission

Department of Natural Resources

Inspection Photos  
Location Name: LC 11-16 /Multi  
Location ID: 433936

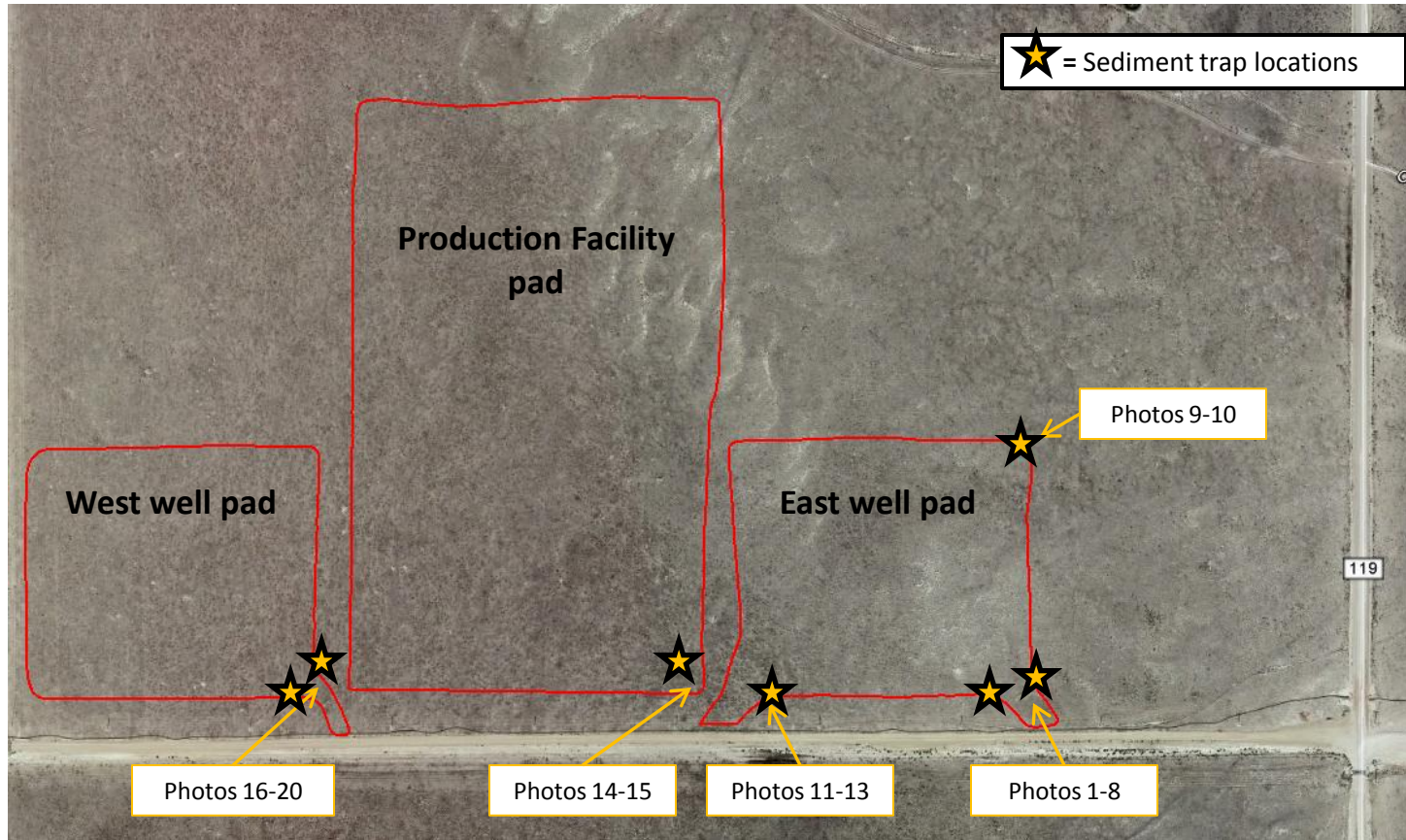


Photo reference points to help illustrate approximate locations of the subject photo.

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**Photo 1.** Photo taken from the east well pad, east entrance along the west side, facing Northeast. Operator has installed a second sediment trap near the entrance of the location. A discharge point was observed at the cattle guard as shown above. Embankment material and embankment construction does not appear to be sufficiently compacted, as it appears unconsolidated material could be contributing to sediment loss. Sediment trap outlet area does not appear to be properly constructed to capture outlet flows. Sediment trap size could be enlarged to help capture sediment laden stormwater runoff.



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**Photo 2.** Photo taken from the previous sediment trap, facing North. Operator has installed a shallow ditch from the outlet area of the upgradient sediment trap to the inlet area of the downgradient sediment trap. Operator has installed filtrex wattles along the shallow ditch. Appears stormwater flows are going around the embankment berm of the downgradient sediment trap.

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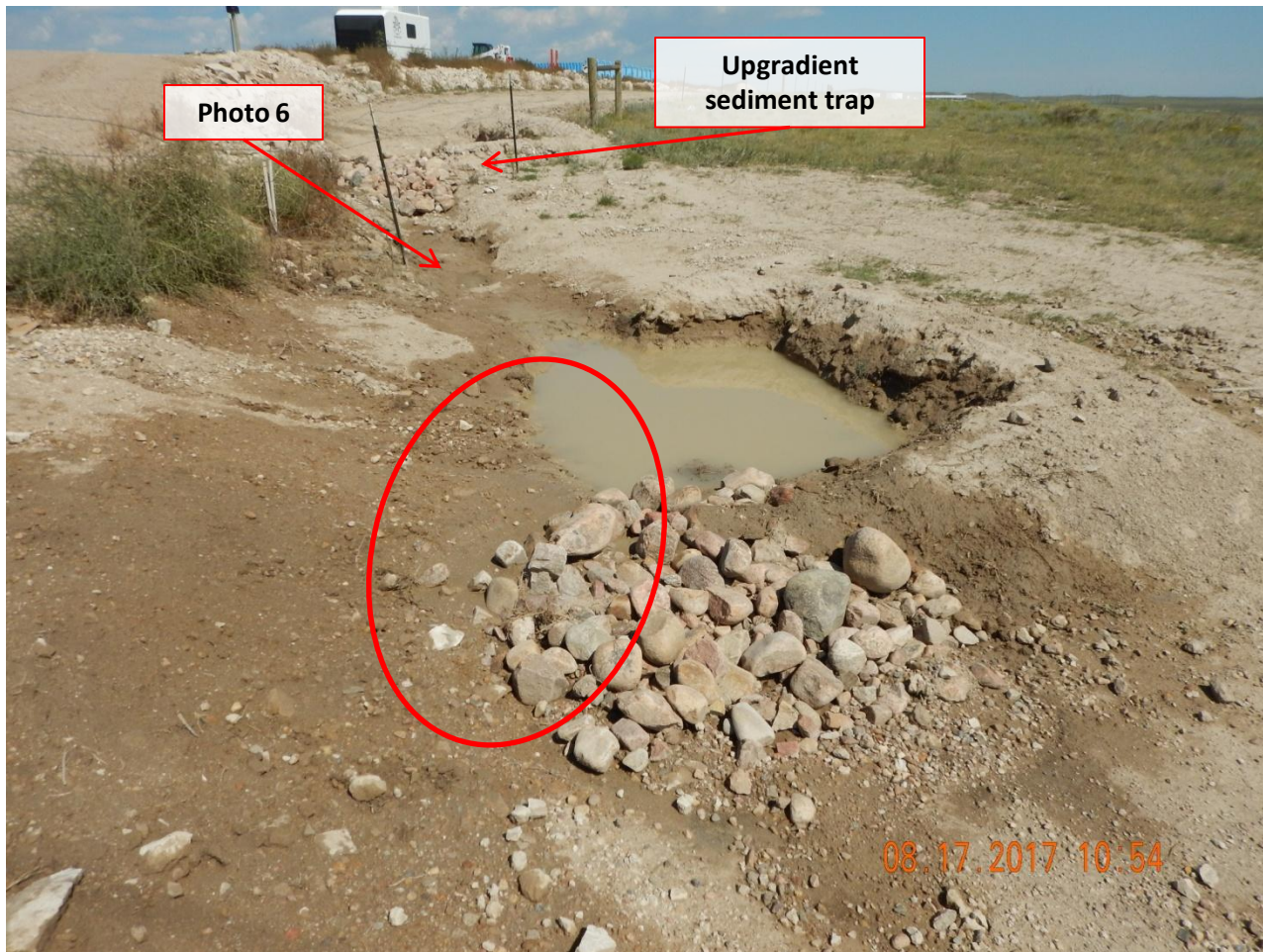
**Photo 3.** Photo taken from the previously mentioned upgradient sediment trap, facing West. Appears the Operator has enlarged the sediment trap size with a stabilized outlet area. Embankment material and embankment construction does not appear to be sufficient compacted, as it appears unconsolidated material could be contributing to sediment loss. Appears the Operator has re-installed surface roughening along the southern perimeter of the location. Refer to Photo 4 for a picture taken of the sediment trap from the July 11, 2017 inspection.



**Photo 4.** Photo taken of the sediment trap in Photo 3 from the July 11, 2017 inspection.



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**Photo 5.** Photo taken from the east well pad, east entrance along the east side, facing Northwest. Operator has installed a second sediment trap near the entrance of the location. Embankment material and embankment construction does not appear to be sufficiently compacted, as it appears unconsolidated material could be contributing to sediment loss. Sediment trap outlet area does not appear to be properly constructed to capture outlet flows. Appears sediment laden stormwater is discharging from the western outlet area (red circle). Sediment trap size could be enlarged to help capture sediment laden stormwater runoff.



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**Photo 6.** Photo taken from the ditch area between the two sediment traps, facing West. Operator has installed a shallow ditch from the outlet area of the upgradient sediment trap to the inlet area of the downgradient sediment trap. Ditch size may not be a sufficient depth to contain both outlet flows from the upgradient sediment trap and stormwater runoff from the access road.



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**Photo 7.** Photo taken from the previously mentioned upgradient sediment trap, facing Northwest. Appears the Operator has enlarged the sediment trap size with a stabilized outlet area. Embankment material and embankment construction does not appear to be sufficient compacted, as it appears unconsolidated material is contributing to sediment loss (red circle). Refer to Photo 8 for a picture taken of the sediment trap from the July 11, 2017 inspection.



**Photo 8.** Photo taken of the sediment trap in Photo 7 from the July 11, 2017 inspection.



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**Photo 9.** Photo taken from the northeast east well pad, facing West. Appears the Operator has enlarged the sediment trap size with a stabilized outlet area. Embankment material and embankment construction does not appear to be sufficient compacted, as it appears unconsolidated material could be contributing to sediment loss . Refer to Photo 10 for a picture taken of the sediment trap from the July 11, 2017 inspection.



**Photo 10.** Photo taken of the sediment trap in Photo 9 from the July 11, 2017 inspection.



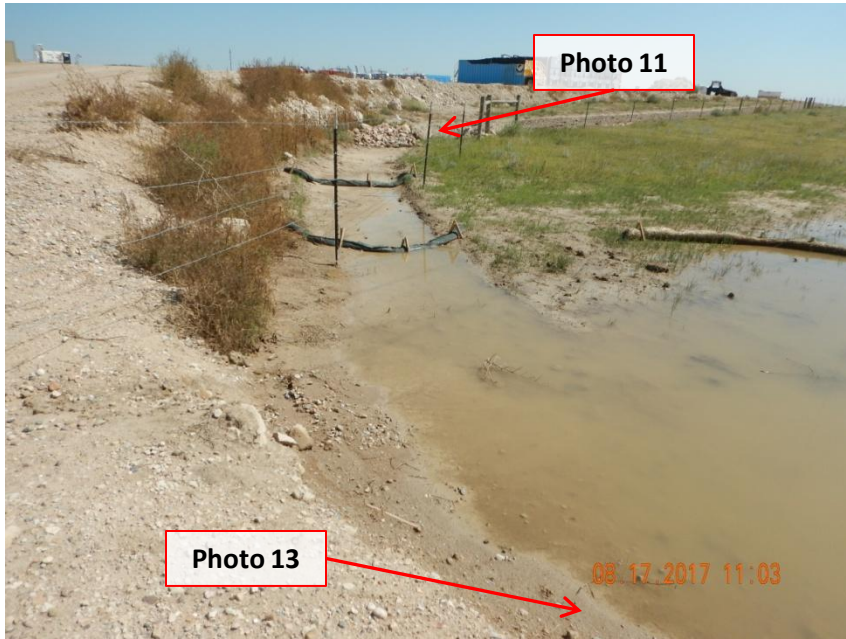
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**Photo 11.** Photo taken from the southwest east well pad, facing West. Appears the Operator has enlarged the sediment trap size with two stabilized outlet areas. However, the sediment trap size could be enlarged because it appears flows have discharged over the embankment berms. Embankment material and embankment construction does not appear to be sufficiently compacted, as it appears unconsolidated material is contributing to sediment loss.



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**Photo 12.** Photo taken from the east well pad, west entrance along the east side, facing Northeast. Operator has installed a shallow ditch from the outlet area of the sediment trap to a shallow depression area- refer to Photo 13. Because the sediment trap size is too small sediment would not have enough time to settle out before discharging out of the outlet. Wattles are intended to pool sheet flow (not filter sediment) and it appears the volume of stormwater sheet flow, likely sediment laden flow, is overtopping the wattles.



**Photo 13.** Photo taken from the previously mentioned shallow depression area, facing East. Does not appear the depression area with the wattles are pooling stormwater runoff. Appears the volume of stormwater sheet flow, likely sediment laden flow, is overtopping the wattle as shown in this photo.

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**Photo 14.** Photo taken from the southeast production facility pad, facing West. Appears the Operator has enlarged the sediment trap size. However, the sediment trap size could be enlarged because it appears flows have discharged over the embankment berms. Embankment material and embankment construction does not appear to be sufficiently compacted, as it appears unconsolidated material is contributing to sediment loss. Sediment trap outlet area does not appear to be properly constructed to capture outlet flows.



**Photo 15.** Photo taken from the previously shown sediment trap, facing Southwest. Does not appear the wattles are pooling stormwater runoff. Appears the volume of stormwater sheet flow is overtopping the wattle as shown in this photo. Sediment deposition is observed between the wattles and outside of the wattles as shown in this photo.



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**Photo 16.** Photo taken from the west well pad, east entrance along the east side, facing North. Does not appear the sediment trap size has been enlarged. It appears the Operator has moved the position of the sediment trap outlet and constructed an embankment berm. However, embankment does not appear to be sufficiently compacted, as it appears unconsolidated material could be contributing to sediment loss.



**Photo 17.** Photo taken from the west well pad, east entrance along the east side, facing Northwest. Appears the Operator has made repairs and re-installed wattles along the entrance.

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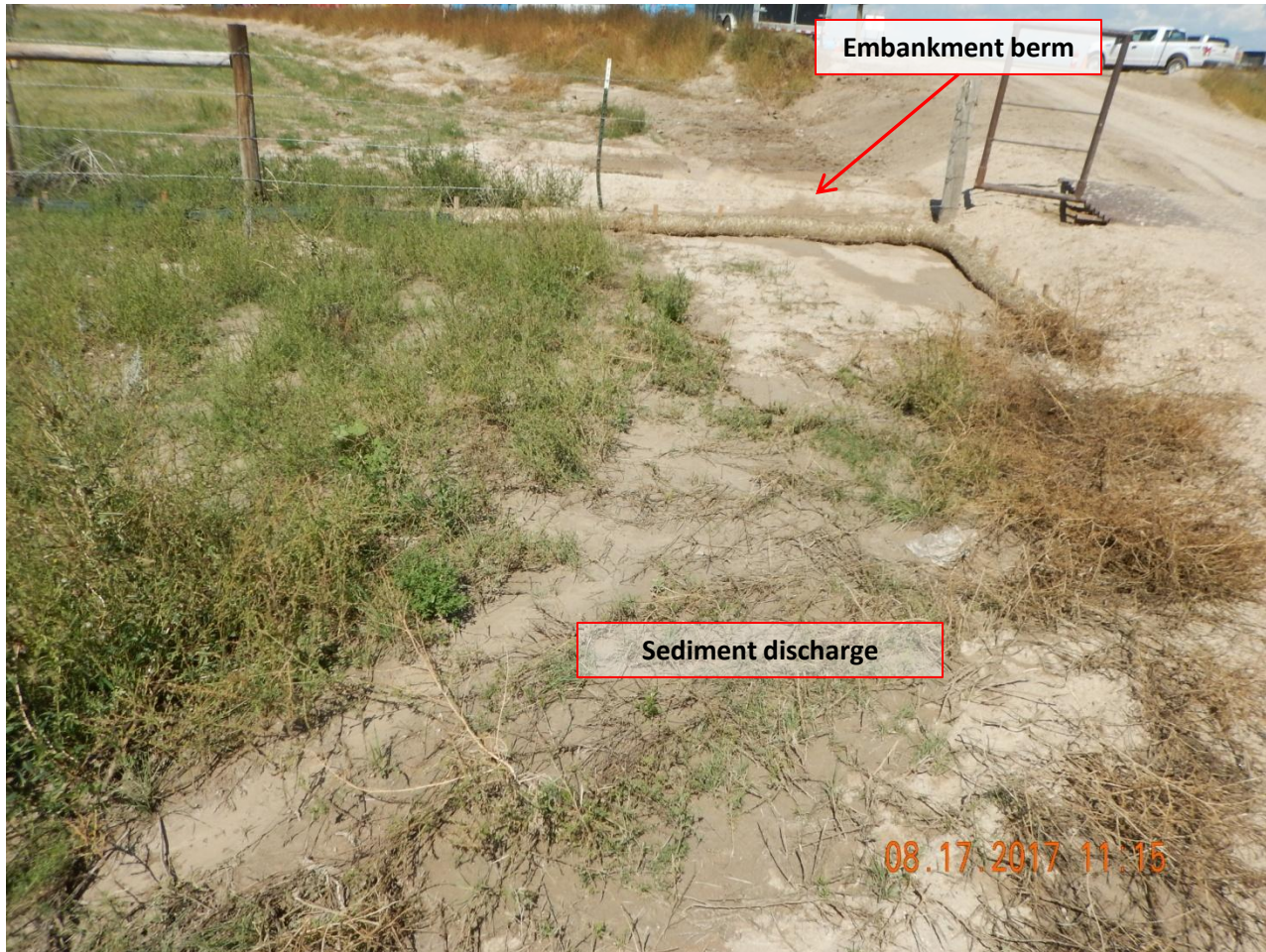
**Photo 18.** Photo taken from the west well pad, east entrance along the west side, facing West. Appears the Operator has installed a sediment trap. However, the sediment trap size could be enlarged because it appears flows have discharged over the embankment berms- see Photo 20. Embankment material and embankment construction does not appear to be sufficiently compacted, as it appears unconsolidated material is contributing to sediment loss. Refer to Photo 18 for a picture taken of this area from the July 11, 2017 inspection.



**Photo 19.** Photo taken from the area in Photo 18 from the July 11, 2017 inspection.



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**Photo 20.** Photo taken east of the previously shown sediment trap in Photo 17. Photo illustrates sediment loss from stormwater overflowing from the sediment trap. Does not appear the wattles installed along the outer perimeter of the sediment trap are preventing sediment discharge. Wattles are intended to pool sheet flow (not filter sediment).