



Public Service Commission
State of North Dakota

DKM

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INSPECTION REPORT

DATE OF INSPECTION: September 30, 2010

TYPE OF INSPECTION: Partial

PERMITTEE - MINE: Coteau Properties Company - Freedom Mine

PERMITS INSPECTED: NACT-8102, NACT-8203, NACT-8601, NACT- 9001, NACT-9501,

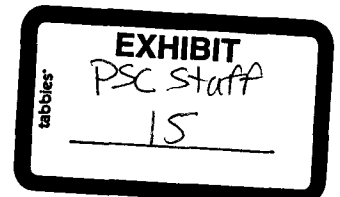
PERSONS ACCOMPANYING INSPECTORS: Joe Friedlander, Terence Schmidt and Jessica Unruh

INSPECTION CONDITIONS: The inspection was conducted between 12:15 p.m. and 3:00 p.m., CDT. Skies were clear. The temperature was near 70° F. Access was unrestricted.

ROADS

The purpose of this inspection was to further investigate an area of sediment deposition on reclaimed lands in the SE ¼ of Section 18, Permits NACT-8102 and NACT-8203. Sediment deposition in this area adjacent to the conveyor haul road was noted during the September 2 and 29, 2010 inspections. The conveyor haul road was constructed and certified in 2009 and has been in use since that time. It appears that the haul road in this area was constructed out of spoil. The general drainage pattern in this area is from the northwest to the southeast and passes under the haul road through a single culvert. A constructed stockpond is located approximately 700' upstream (northwest) of the haul road.

Sediment was deposited in the north ditch of the haul road upstream of the culvert under the haul road and on adjacent reclaimed lands north of the haul road ditch and on the south side of the haul road on areas that had been stripped of SPGM. The area of sediment accumulation on reclaimed areas on the north side of the haul road was approximately 2800 square feet in size as determined via GPS and ranged from 4-8 inches thick in the deepest areas. Two samples of the



sediment on the reclaimed area were collected for laboratory analysis. The first sample was taken approximately three feet north of the ditch stripping edge upstream of the culvert and the second sample was taken approximately 15 feet north of the ditch stripping edge. Coteau was provided split samples of the sediment for analysis. The samples collected by the Reclamation Division were dropped off at MVTL for analysis on October 1, 2010, by Mr. Mike Berg.

It was apparent that water had backed up on the north side of the road as it was flowing through the culvert due to a September 9th storm event. A strand line of vegetation debris was noted several feet higher (vertical) than the area of sediment accumulation indicating that at least 2 feet of water was ponded in this area following the September 9th storm prior to draining through the culvert. No erosion or sedimentation features were observed in the reclaimed drainage channel that extends to the northwest to the reclaimed stockpond.

It appears that the source of the sediment was from erosion of the north haul road ditch located both northeast and southwest of the haul road culvert. A gully was noted in the ditch bottom extending approximately 450' southwest and 750' northeast of the culvert. These gullies ranged from 6" to 24" wide and 6" to 18" deep. The slope of the haul road ditch bottom ranges from approximately 3 to 6% with area near the culvert being nearly level. The ditches had been seeded and the vegetative cover in the ditches was fair with areas of sparse cover, especially in portions of the ditch bottom (see photo no. 2). Coteau had repaired numerous rills and gullies on the north ditch backslope in upper reaches to the southwest of the culvert earlier this year. Repairs appear to have consisted of filling the erosion feature, reseeding the repair areas, and installation of erosion control fabric on the repair areas. Only minor erosion was noted in these repair areas. There was no evidence of repairs or best management practices (i.e., silt fences, rock check dams, erosion control fabric, etc.) having been installed in the ditch bottoms.

The September 16, 2009 haul road certification stated that the construction of the haul road was complete with the only remaining work to be done was the installation of storm water best management practices. These practices were described as disking and seeding of road ditch bottoms and slopes, and installation of silt fences adjacent to culvert installations to control erosion. In addition, Revision 50 to Permit NACT-8102 and Revision 28 to NACT-8203 indicated that best management practices will be utilized at the culvert locations. It appears that silt fences or other best management practices were never installed in the ditch bottoms. Although the September 9th storm contributed to the development of the erosion and sedimentation features, it appears that these features existed prior to the September 9th storm as evidenced by the sediment that was noted on the south side of the haul road in the September 2, 2010, inspection report.

It appears that no measures other than mulching and seeding the ditch bottoms were utilized to control erosion and sedimentation in the ditch bottom. As a result of this inspection, NOV-1004 was issued to Coteau on October 4, 2010, for failure to control erosion and sedimentation from haul roads and for failure to use appropriate sediment control measures to control erosion.

Photos of the erosion and sediment deposition are included below.

Photo 1: Looking SW on north side of haul road.



Photo 2: Looking SW on the north side of haul road.



Photo 3: Looking SW along north side of haul road, close-up of picture 2.

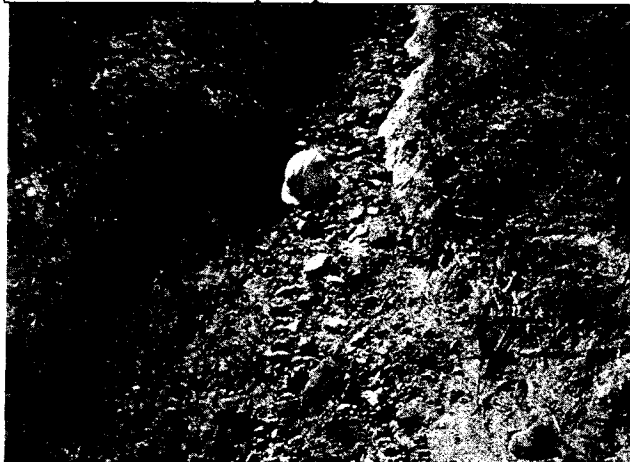


Photo 4: Looking NE along north side of haul road.



Photo 5: Looking SE down ditch on the north side of the haul road.

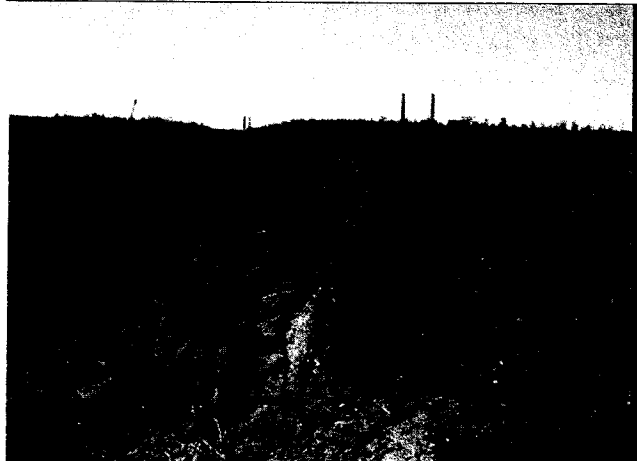
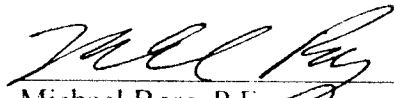


Photo 6: Sediment deposition along north side of haul road on reclaimed lands.



Photo 7: Sediment deposition along south side of haul road.




Michael Berg, P.E.
Environmental Engineer


Dean K. Moos
Assistant Director

cc: Joe Friedlander
OSM Casper Field Office
Mercer County Auditor