



Public Service Commission

State of North Dakota

DKM

PSC - 4

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INSPECTION REPORT

DATE OF INSPECTION: August 31, 2011

TYPE OF INSPECTION: Partial

PERMITTEE - MINE: Coteau Properties Company - Freedom Mine

PERMITS INSPECTED: NACT-8102, NACT-8203, NACT-8401, NACT-8503, NACT-8601,
NACT- 9001, NACT-9101, NACT-9501, NACT-0201

PERSONS ACCOMPANYING INSPECTORS: Terence Schmidt

INSPECTION CONDITIONS: The inspection was conducted between 9:40 a.m. and 4:45 p.m. CDT. Skies were overcast in the morning and partly cloudy in the afternoon. The temperature was near 80° F. Access was unrestricted.

OVERBURDEN/COAL REMOVAL

The 902 dragline was operating in the SW $\frac{1}{4}$ of Section 31, Permit NACT-0201. Later in the afternoon, coal trucks were noted traveling to the pit west of Ramp 4 in Permit NACT-0201. The 933 truck/shovel fleet was removing overburden from the N $\frac{1}{2}$ of Section 3 and hauling the material to the SW $\frac{1}{4}$ of Section 31, Permit NACT-0201. The 931 shovel was pre-benching in the SW $\frac{1}{4}$ of Section 25 and the overburden was being hauled to the NE $\frac{1}{4}$ of Section 36.

SURFACE WATER MANAGEMENT

The pre-mine diversion located along the east side of the NW $\frac{1}{4}$ of Section 34 (Permit NACT-9501) was inspected. This diversion is located outside of the permit boundary but overflows from sediment ponds P-H34-04 and P-H34-05 as well as undisturbed areas between the ponds and off-permit diversion flow into this diversion. During the August 16, 2011 inspection, a gully was noted below this diversion in cropland in the northeast corner of the NW $\frac{1}{4}$ of Section 34. After reviewing the pond discharge reports for the two upstream ponds, it was decided that a more thorough inspection of the area was warranted. During this inspection, two additional gullies were found in the cropland in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 34. Mr. Schmidt and Mr. Kirk stated that all controlled discharges from sediment ponds P-H34-04 and P-H34-05 have been piped to areas west of the diversion thus bypassing the diversion altogether. These discharge points were inspected even though no discharges were occurring from these ponds at the time of this

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inspection. The discharge point for pond P-H34-04 is located close to the natural drainage channel near the center of the W½ of Section 34. The discharge point for pond P-H34-05 is near the drainageway in the S½SW¼ of Section 27. Discharges from these two ponds have not been passing through the premine diversion located along the east side of the NW¼ of Section 34. The gullies in the cropland may have formed when these ponds overflowed this past spring due to snowmelt and heavy spring precipitation. There was no evidence of active erosion in the cropland field below pond P-H34-04. Apparently the diversion was able to handle the flow from this pond, but the north end of the diversion was not able to handle the runoff when both ponds overflowed. Some very minor erosion (head cut) was observed in the drainageway below pond P-H34-04 near the intersection of the diversion and the drainageway. In addition, a small erosion feature was noted near the discharge point of pond P-H34-05. This feature will need to be stabilized prior to future releases from this pond. Energy dissipaters were in place at the ends of the discharge pipes for both of these ponds. Photographs of the diversion and erosion in the field were taken and are on file with the Reclamation Division.

The following ponds were briefly inspected and the water levels in relation to the permanent pool elevation stakes were noted.

Water Management Feature	Comment(s)
P-H34-05	Water 1 foot below PPE. Large gully where water enters the northeast corner of this pond.
P-H34-04	Water about 2.5 feet below PPE.
P-H27-02	Water 2 to 3 feet below PPE.
P-D18-01	Water about 3 feet below PPE.
P-W04-01	Being constructed.

A dozer was doing repair work on the upper reaches of the drainageway leading to pond P-H34-05. A delayed grade approval request area is located above this pond.

SUITABLE PLANT GROWTH MATERIAL REMOVAL/RESPREAD

Scrapers were stripping topsoil and subsoil from the area where sediment pond P-W04-01 was being constructed. Topsoil has been stripped from an access trail leading to this pond site and the topsoil and subsoil were being placed in piles along this access trail. Scrapers were also stripping overburden from this area for construction of the embankment of the pond. A dozer was working to remove SPGM from the pool area of the pond. It appeared that most of the topsoil had been removed from the pool area of the pond. Stakes in the pool area of the pond indicated that a portion of the pool area was deep lift SPGM removal area. However, this deep lift soil mapping unit borders an area of zero lift in the drainageway a short distance north of the embankment. Photographs of the SPGM removal operations and pond construction activities were taken and are on file with the Reclamation Division.

An area staked as a 0/0 SPGM lift area near the access trail east of Pond P-W04-01 was inspected. Although the premine soil survey had mapped this area as a 0/0 area, it was not clear why this area was staked as a zero lift area considering the vegetative growth and species composition on the area. There was very little evidence of sodic "claypan" spots on this area. A review of the premine soils map indicates that this area is mapping unit 74B, Savage-Rhoades silt loam, 3 to 6% slopes. Another area where SPGM has not been stripped in the E½NW ¼ of Section 3 was also inspected. This area is also classified as mapping unit 74C. There was evidence of "claypan" spots on this mapping unit but the site appeared to yield reasonably well this year. The Savage-Rhoades mapping unit descriptions indicates that

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these mapping units (74B & 74C) are comprised of 40-60 percent Savage (non-sodic) and 25 to 40 percent Rhoades (sodic) soils with inclusions of Daglum, Belfield, Grail and Regent soils. Topsoil is listed as being from 7 to 14 inches deep on the Savage soil. A significant amount of area in the West Mine Area was originally mapped as 0/0 soil map units. These areas were reviewed in during a September 30, 2008 inspection and the following recommendations were made regarding the more extensive 0/0 map units in the West Mine Area.

Map Unit	SPGM Limitation	SPGM Recommendation
5 Harriet Clay Loam	sodium, salinity	No salvage due to high salinity
21C,E Searing Ringling complex	porcelanite	Salvage topsoil, especially from sideslopes
26 Playmoor-Harriet complex	salinity, sodium	No salvage due to high salinity
74B,C Savage-Rhoades complex	erosion, sodium	Salvage topsoil from at least the sod layer
75, 75B Belfield-Daglum complex	sodium	Salvage topsoil from the sod layer
85 Daglum	sodium	Salvage topsoil from at least the sod layer
89C,D,E Amor-Cabba loams	erosion	Salvage topsoil, especially from sideslopes
95, 95B,C Daglum-Rhoades complex	sodium	Salvage topsoil from the sod layer, avoid "pan" spots
96 Dogtooth	sodium	Limited topsoil salvage (sod layer) may be possible, avoid "pan" spots

In a follow-up phone discussion with Sarah Flath of Coteau, she was reminded that the above recommendations should be followed for 0/0 map units in the West Mine Area. Consideration should be given to updating the soils section in Permit NACT-0201 with this information.

REVEGETATION

Nearly all of the reclaimed native grassland in Permit NACT-9501 that is not being grazed has been hayed this year. The exception was a newer seeding in southeast corner of Section 26 or the SW¼ of Section 27. The reclaimed native grassland in the northwest corner of Section 36 of Permit NACT-9501 was briefly inspected. The seeded native species have established very well on this area and numerous native forbs were present. There was less alfalfa growing on this tract compared to the adjacent areas.

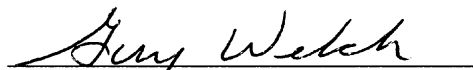
The reclaimed native grassland located in the NW¼NE¼ of Section 6, Permit NACT-9001, was inspected. This area was clipped with a rotary mower this year. Some switchgrass and sideoats grama was noted in this seeding but smooth bromegrass is abundant on the site. Reclaimed native grasslands in Section 11 and 12 of Permit NACT-9101 were also briefly inspected. The seedings in Section 12 have been hayed. The post-mine land use of a portion of the NW¼SE¼ of Section 12 will need to be further reviewed. A portion of this area (cropland) was chem.-fallowed this year but the Reclamation Division's digitized post-mine land use map shows this area as reclaimed native grassland. The reclaimed native grassland in the SW¼ of Section 11 has been idle to date this year. There was evidence of hail damage on the tract. Alfalfa and smooth bromegrass are prevalent on this reclaimed native grassland in the SW¼ of Section 11 but little bluestem and sideoats grama still persist in this seeding.

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The differential settling repair area in the SE¼ of Section 16 (NACT-9101) was inspected. A small portion of the 2010 repair area has been reshaped to accommodate drainage. Alfalfa seedlings were emerging on the site. The older portion of the repair area is becoming established with the hayland seed mixture – western and intermediate wheatgrass, switchgrass and alfalfa. Annual weeds such as horsetail, barnyard grass and pigeongrass are also present. A few young Canada thistle plants were noted and there was evidence that portions of the repair area had been sprayed, presumably to control this noxious weed. No issues were identified on this repair area to not approve the pending variance request from the 10-year re-vegetation responsibility period.



Guy A. Welch
Environmental Scientist

cc: Donn Steffan
OSM Casper Field Office
Mercer County Auditor

