

15 May 2019



Public Service Commission

State of North Dakota

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INSPECTION REPORT

DATE OF INSPECTION: April 26, 2018

TYPE OF INSPECTION: Partial

PERMITTEE - MINE: Coteau Properties Company - Freedom Mine

PERMITS INSPECTED: NACT-9501

PERSONS ACCOMPANYING INSPECTORS: Clyde Eisenbeis, Jerome Boeshans and Jaymie Boeshans

INSPECTION CONDITIONS: The inspection was conducted between 10:00 a.m. and 12:30 p.m. CDT. Skies were clear and the temperature was near 55° F. Access was unrestricted.

GENERAL

This inspection was conducted to follow-up the January 18, 2018 meeting between the Reclamation Division staff and Clyde Eisenbeis, a co-surface owner of the NW $\frac{1}{4}$ of Section 34, T146N, R88W, Mercer County, ND. Mr. Eisenbeis' land is located off-permit and adjacent to Surface Coal Mining Permit NACT-9501 at the Coteau Properties Freedom Mine. Mr. Eisenbeis alleges that mining on adjacent land has caused damage to his property.

The E $\frac{1}{2}$ of Section 34 is part of Surface Coal Mining Permit NACT-9501. Surface mining and reclamation activities occurred on portions of the E $\frac{1}{2}$ of Section 34. The E $\frac{1}{2}$ of Section 34 and all of the affected areas in the watersheds up gradient from the Eisenbeis property in the NW $\frac{1}{4}$ of Section 34 have been reclaimed. This includes the removal of two sediment ponds that were reclaimed and seeded in 2014 and 2016.

In the fall of 2012, Coteau reconstructed an pre-existing diversion located along the east side of the NW $\frac{1}{4}$ of Section 34 such that runoff from the NE $\frac{1}{4}$ of Section 34 passes to a county road ditch located along the north side of the NW $\frac{1}{4}$ of Section 34. The Reclamation Division was not involved with re-construction of the diversion.

The diversion was reconstructed in its original location and the reconstruction included the removal of sediment from the road ditch on the north side of the NW $\frac{1}{4}$ of Section 34 and the installation of Flexcrete (a concrete flex matting) through the road ditch to create a Texas style crossing for equipment access to the field. The locations of the diversion, county road ditch, and Flexcrete crossing are depicted on Figure

1. Figure 1 also depicts the locations where the photographs in Figures 2 through 11 were taken. Figures 2 and 3 are photographs of the Flexcrete crossing. Mr. Eisenbeis claims Coteau did not have the proper authorization to reconstruct the diversion on his property and the deeper road ditch now limits equipment access to his land. Mr. Eisenbeis said one potential renter was not interested in leasing his cropland because of poor access to his field.

The current tenants, Jerome and Jaymie Boeshans, have rented the NW $\frac{1}{4}$ of Section 34 for the past two years. During the inspection, Boeshans' said they cannot move a semi and other equipment into the field because of the size and slopes of the flexcrete crossing in the road ditch. Boeshans' grew beans in 2016 and canola in 2017. They chose these crops, in part, because they produce less volume of seed at harvest. Boeshans' are considering planting corn this year, but they have concerns because corn produces more volume at harvest. Last year when harvesting canola, the flexcrete crossing could only be crossed with half-loaded grain carts resulting in twice the normal trips across the tract. Boeshans' are concerned about the additional time, hassle and cost associated with moving grain off the field.

The diversion and its associated berm are generally well established with perennial vegetation, primarily smooth brome grass. Figure 4. Vegetation is not well established on approximately 100 feet of the west side of the diversion berm and some soil sloughing has occurred in this area. Figure 5. This area is down slope from the drainage of reclaimed sediment pond P-H34-04.

Runoff from the north drainage in the NE $\frac{1}{4}$ of Section 34 enters the reconstructed diversion in the NW $\frac{1}{4}$ of Section 34 at a right angle and drops approximately 10 feet to the bottom of the diversion. This entry point is lined with concrete flex matting and the site appears stable after this year's spring snow runoff event(s). This drop structure was originally constructed of Creflex blocks; however, much of the Creflex was replaced with Flex-A-Mat in June 2017 when erosional features were repaired. Figure 6.

The road ditch on the north side of the NW $\frac{1}{4}$ of Section 34 is generally well established with perennial vegetation that includes smooth brome grass, reed canary grass, cattails and other species. The only noxious weed observed was Absinth wormwood; however, Jaymie Boeshans stated Canada thistle was present during the growing season last year. A head cut was observed in the road ditch about 100 feet west of where the diversion enters the road ditch. This feature needs to be stabilized to prevent future erosion.

Other erosional features were observed on the Eisenbeis property and most were located in the E $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 34. It appeared these erosional features were created from runoff that occurred last spring because canola stubble from last year's crop was present in these features. Only minor sediment deposition from runoff that occurred this spring was observed (up to an inch or two of deposition in portions of the older erosional features). The erosional features varied in size and the largest one observed was approximately 16 inches deep, 2 feet wide and 25 feet long. Figures 7, 8, and 9.

Additional erosional features were observed in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 34 where runoff from the field enters a natural drainageway. These erosional features appeared to have formed last year. Figure 10. Several handfuls of erosion control fabric and an anchoring staple were collected in the field during the inspection.

The drainageway through the Eisenbeis cropland in the southwest corner of the NW $\frac{1}{4}$ of Section 34 was inspected. Surface water runoff from watersheds southwest of the Eisenbeis property flows through a box culvert under County Road 15 a few hundred yards south of the Eisenbeis property into a natural

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drainageway in cropland in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 34. The natural drainageway extends northward into the Eisenbeis property at the southwest corner of the NW $\frac{1}{4}$ of Section 34 and continues meandering northward through the Eisenbeis cropland. With the exception of a small portion of the southwest corner, the drainageway is cropped when it is dry enough to support planting equipment; during wet years the drainageway and adjacent area are left idle. The drainageway was too wet to be cropped in 2017 but the field was cultivated when it dried out last summer or fall. Figure 11.

GROUND WATER

The water elevation in groundwater monitoring wells located along the south side of the SW $\frac{1}{4}$ of Section 27, T146N, R88W and in the northwest corner of Section 27 were checked after meeting with Mr. Eisenbeis and the Boeshans'. The water table level of the monitoring wells along the south side of the SW $\frac{1}{4}$ of Section 27 had groundwater levels approximately 27 feet below the surface and the ground water level was within 2 feet of the surface in the northwest corner of Section 27.



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Environmental Scientist



Bruce Beechie
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cc: Sarah Flath
Clyde Eisenbeis
OSM Casper Field Office
Mercer County Auditor

Figure 1. Location of the diversion, road ditch, Flexcrete crossing and photographs taken in the NW¼ of Section 34



**Figure 2. Flexcrete crossing in the road ditch on the north side of the NW¼ of Section 34.
Photograph taken facing east.**



**Figure 3. Flexcrete crossing in the road ditch on the north side of the NW¼ of Section 34.
Photograph taken facing west.**



Figure 4. Diversion on the east side of the NW¼ of Section 34.



Figure 5: Soil sloughing on the west side of the diversion berm.



Figure 6. Concrete flex matting at the inlet where water enters the diversion from the NE¼ of Section 34.



Figure 7: Erosional features on cropland in NW1/4 of Section 34.



Figure 8: Erosional features on cropland in NW1/4 of Section 34



Figure 9: Erosional features on cropland in NW1/4 of Section 34



Figure 10: Erosional features on cropland in the NW1/4 of Section 34.



Figure 11: Drainageway in southwest corner of NW1/4 of Section 34.

