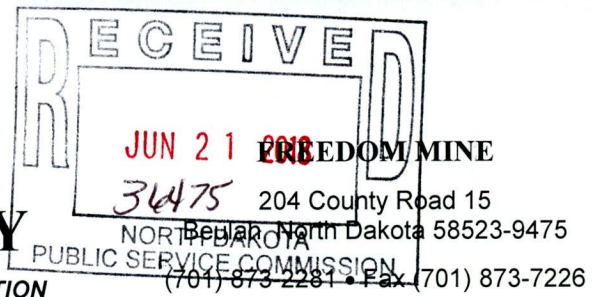


THE COTEAU PROPERTIES COMPANY

A SUBSIDIARY OF THE NORTH AMERICAN COAL CORPORATION



June 19, 2018

Mr. Dean K. Moos
Director Reclamation Division
Public Service Commission
600 East Boulevard Avenue
Department 408
Bismarck, ND 58505-0480

Dear Mr. Moos:

This letter is in response to your letter dated May 14, 2018. Provided are responses to each of the following questions or requests.

- 1. What was the condition of the pre-existing north/south diversion between the NE $\frac{1}{4}$ and NW $\frac{1}{4}$ of Section 34 and the pre-existing road ditch on the south side of the road between the NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 34 and the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 27 prior to reconstruction? Were these features in functional condition and capable of handling the flows from the premine watershed?***

The diversion was in poor condition. It was silted in areas and blown out in others. There were also small trees or shrubs growing in the diversion channel. There was little to no elevation difference between the field and diversion bottom and between the field, ditch bottom, and the road top. The ditch had filled in with sediment over the years and when water did flow in this area, it mostly flattened out over a broad area and flooded into the adjoining field.

The diversion was not capable of handling pre-mining flows. This is evident by the erosion shown in Figures 1 and 2, attached. Figures 1 and 2 are aerial photographs of the field from 1977 and 1996 respectively.

- 2. Was the original diversion capable of handling the flows from the upstream areas during and following mining and reclamation activities?***

No. As indicated above, the diversion was not capable of handling pre-mining flows and it was not capable of handling flows during mining and reclamation activities even though runoff was controlled during mining and reclamation activities. From 1999 to 2015, a large portion of runoff from the watershed above the diversion was captured by sedimentation ponds P-H34-04 and P-H34-05. While in place, these ponds were discharged around the downstream cropland through HDPE poly pipe into the main channel flowing through the center of the NW $\frac{1}{4}$ of Section 34. This was done to avoid exacerbating the erosion that was already occurring regularly on the east side of the crop field prior to and during mining

activities. Therefore, it can clearly be concluded that if erosion was occurring when runoff was captured, the existing diversion would not have had the capacity to handle the flows when the ponds were removed.

It should be noted that flows during mining and following mining are less than the flows which occurred pre-mining. It should also be noted that erosion and flooding occurred in the subject field long before mining, as can be shown by viewing aerial photos, including Figures 1 and 2, dating back several decades prior to Coteau entering the area.

3. *Is there evidence that the original diversion overtopped during mining and reclamation (i.e., prior to being reconstructed)?*

The producer approached Coteau in both 2010 and 2011 about aiding in repairing erosion in the field while the sediment ponds were in place and functioning. Additionally, Figure 3 is the original ground topography survey prior to reconstruction of the diversion. As can be seen in the drawing, there are several areas that show erosion west or below the diversion. Figure 3 includes two cross-sections of the existing diversion, one at the entrance of watershed 14-14 and one at the entrance of watershed 14-15. Both cross-sections indicate that runoff would flow across the diversion to the west uninterrupted. This survey was collected on November 29, 2011, after installation of the sedimentation ponds, but prior to the reconstruction of the diversion or removal of any sedimentation ponds.

Mining operations did not cause increased flows and erosion was already occurring prior to any mining operations in the area. As noted above, flows were less during and following mining than the flows pre-mining.

4. *Please explain why the diversion and road ditch were reconstructed.*

As noted in a December 6, 2012, PSC inspection report the diversion was redesigned and reconstructed at the landowner's request. The diversion was reconstructed for several reasons. Coteau was approached by the producer, Wayne Eisenbeis, in 2010 about erosion which was occurring in the field. This erosion was occurring even with the sedimentation ponds in place and their discharges being routed around the field through HDPE pipe. Wayne Eisenbeis asked if Coteau could help him fill in the erosion using the washed material near the main drain. Soil in this area had accumulated to the extent that he was getting stuck when farming. Coteau hired an outside contractor to repair the erosion in the field. In the following year, 2011, additional erosion occurred in the field and Wayne Eisenbeis again approached Coteau about repair, and also asked that the diversion be improved to prevent future erosion. The owner at the time, Esther Eisenbeis, agreed with Wayne Eisenbeis's request. Wayne Eisenbeis is the nephew of Esther Eisenbeis. Even though he was not the current surface owner at the time, Clyde Eisenbeis, Esther Eisenbeis's son, became involved in the design and location of the proposed improved diversion. After several discussions with Bill Kirk from Coteau, and additional discussions with the PSC, Clyde Eisenbeis agreed the diversion should be reconstructed in its current location, as did Esther Eisenbeis. Over the years, washing from the existing diversion had filled the road ditch with sediment. The sediment needed to be removed in order for the diversion to function properly and not flood the north edge of the field.

In the interest of being a good neighbor, Coteau engaged contractors to improve the pre-existing diversion with the hope it would alleviate the erosion issues that had plagued this tract for several decades.

5. *Permit NACT-9501 includes design information for the two permanent grassed waterways that were constructed below sedimentation ponds P-H34-04 and P-H34-05 in the W½NE¼ of Section 34. Was the rebuilt diversion and road ditch designed and reconstructed to handle the combined flows from these two grassed waterways?*

Yes, the diversion was sized to divert runoff from the reclaimed watersheds as well as the undisturbed area for a 10 year 24 hour storm event or 3.12 inches of rain in 24 hours. As noted above, flows from these new grassed waterways are less than flows prior to any mining activities.

6. *Are the assumptions and conditions used in the Probable Hydrologic Consequences still valid and applicable? If not, what changes have occurred?*

Yes, the PHC is still valid; however, it is conservative. For instance, Watershed 14-15 contains a stockpond, which was not considered when modeling. The stockpond would further reduce the amount of water as it will capture a portion of the runoff before overflowing. Additionally this causes the water to slow before entering the last reach of the channel. A second stockpond with a storage capacity of 5.5 acre-feet is planned for construction in the near future in the NE¼ of Section 34. This will further reduce flows as more water is captured.

Secondly, native grassland in the post mining condition is considered as "fair" for modeling purposes. A visual inspection of the area will show that the vegetation is in much better condition than "fair." This will further reduce the Curve Number and the amount of runoff leaving the site, as more water will infiltrate the ground due to residue and plant uptake.

Third, the cropland in the NE¼ of Section 34, which was located directly below the sedimentation ponds along the west side of this quarter, has now been converted to native grasslands, reducing the amount of runoff entering the diversion.

Fourth, the cropland has been assumed to be 20% fallow and 80% crop. However, farming practices have changed and the use of fallow has been virtually eliminated in the area, thus reducing the amount of runoff from the ground.

Finally, the Antecedent Moisture Condition II (AMC-II) was used in the modeling process. The use of AMC-II is conservative for this area according to a study conducted by Schroeder, Enz, and Larsen, which reports that AMC-I conditions, exist 95.1% of the time between April 1 and October 31 in the Beulah area.

In conclusion, the PHC could be remodeled to reflect the items above, and doing so would show a reduction in the flows and volumes from what is currently shown.

7. *How many times has the rebuilt diversion overtopped since being rebuilt and under what circumstances did it overtop?*

Mr. Dean K. Moos

June 19, 2018

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To our knowledge, the diversion has overflowed twice, both times in 2014. The first overflow occurred in the spring of the year, near the south end of the diversion. This overflow was most likely caused by snow blocking the diversion and not allowing water to flow through.

The second overflow occurred later that year most likely due to a three-day rainfall event that began August 22, 2014. The rain gauge located in Section 22, T146N, R88W, approximately 1 mile north of the diversion, recorded 3.67 inches of rainfall from this three-day event. The majority of the rainfall occurred on August 23 with 3.19 inches falling in 14 hours. The intensity of the storm would equate to a 200 year/ 24 hour storm event.

These overtoppings were not caused by any mining or reclamation operations.

This ditch/diversion issue is a private matter between Coteau and the Eisenbeis family. As demonstrated, mining operations were never the source or cause of erosion in Eisenbeis fields. Past and current owners have chosen to crop the entire field in the W $\frac{1}{2}$ of Section 34 despite being in an obvious downstream location below higher elevation watersheds to the east. These upland watersheds existed pre-mining and remain post-mining. Pursuant to established water law in North Dakota, downstream owners must accept flows which come from higher adjacent uplands. If a landowner chooses to crop through obvious waterways, he does so at his own risk.

Coteau has tried to work with Clyde Eisenbeis, including by making an offer to alleviate his concerns at no expense to him, and he did not accept that offer. Coteau is always open and willing to work with landowners.

If you have any questions, please contact this office.

Sincerely,




Sarah J. Flath
Environmental Manager
The Coteau Properties Company

cc: Chris Friesz



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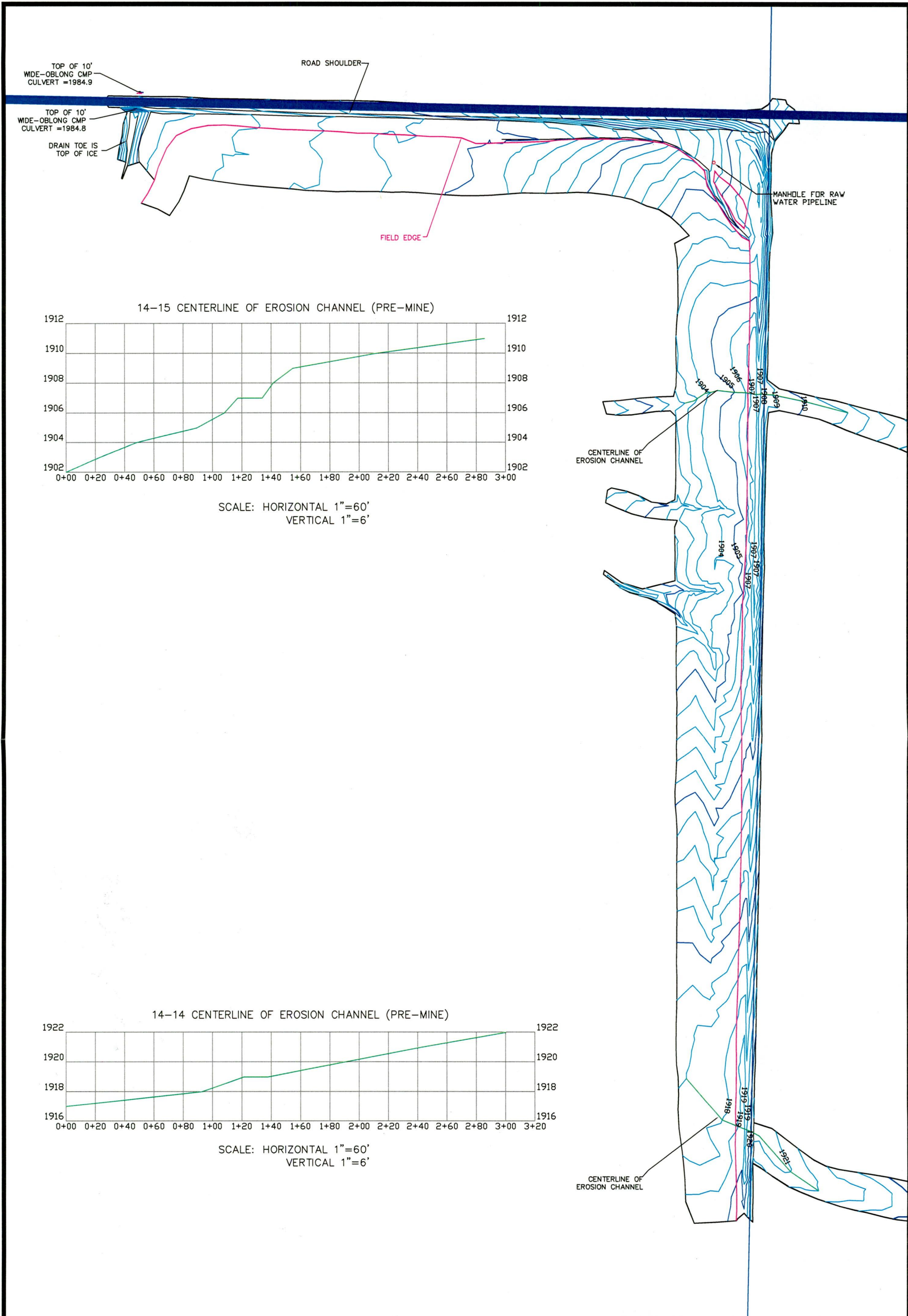
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					FIGURE 2 AERIAL PHOTO JULY 2, 1996
					SCALE: 1"=400' PAPER SIZE 11"x17" PROJECT: REVISION:

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NORTH DAKOTA PUBLIC SERVICE COMMISSION

NO. BY APP'D DATE DRAWING UPDATES



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COTEAU
THE COTEAU PROPERTIES COMPANY

FREEDOM MINE
BEULAH, ND 58523

FIGURE 3

ORIGINAL SURVEY EISENBEIS DIVERSION

NOVEMBER 29 2011

SCALE: 1"=150' PAPER SIZE 11"x17"

PROJECT: _____ REVISION: _____