



Public Service Commission

State of North Dakota

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December 11, 2014

Mr. Troy Leingang
Environmental Manager
Coteau Properties Company
204 County Rd. 15
Beulah, ND 58523

Dear Mr. Leingang:

The Reclamation Division has completed a technical review of the application for Revision No. 18 to Permit NACT-0201 at Coteau Properties Company's Freedom Mine. The following items need to be satisfactorily addressed before the Reclamation Division will recommend Commission approval of this revision and prepare other documents that will be needed for OSM to process the federal mine plan modification to allow mining on additional federal coal tracts.

Section 1.2 – Legal Information

Section 1.2.7 – Relation to Mining – Prohibited Areas

1. The section line and road closure map provided in Section 1.2.7.1 was updated for Revision 18; however, the boundary was not updated to include the area being added to the permit in the NE1/4 of Section 11. Please revise as appropriate. (RLK/FSE)
2. Please update the map in Section 1.2.7.1, to identify areas approved for mining activities within 100 feet of the road right-of-way along County Road 26 and County Road 15 as appropriate. The map identifies the road segments as areas of projected operations within 100 feet of the ROW. Section 1.2.9 contains several approvals mostly from July 2004 granting permission to work within 100 feet of the south or west side, as appropriate, for the County Roads 26 and 15. NDAC 69-05.2-05-02 (RLK)
3. Please update the Section 1.2.7.1 map to show the nearby roads discussed in Section 3.1.1.6 including the route that is planned to be opened when County Road 15 is closed. While the narrative in Section 3.1.1.6 refers the reader to the Pit Layout and Facilities map regarding this discussion, there is little to no public road information beyond the permit area to identify the alternate routes of travel. NDAC 69-05.2-09-07 (RLK)

Section 1.2.9 – Mercer County Section Line Right-of-way Closure and Setback Waiver Documents

4. Please organize Section 1.2.9, Mercer County Section Line Right-of-way Closure and Setback Waiver Documents, with bookmarks so that information in the 36 page document can easily be found. NDAC 69-05.2-05-02 (GAW)
5. It does not appear Section 1.2.9 includes the Mercer County Commission resolution to temporarily close the section line between Section 5 and Section 6, T144N, R88W, where construction of sedimentation pond P-W06-01 is ongoing. Please review and add the approved resolution if necessary. (WTG)

Section 1.5 – Identification of Interest and Rights of Entry

6. Please review the easements of record listings for the lands being added to Permit NACT-0201 with Revision 18. County Road 15 passes through the northeast portion of Section 11, but there is no listing of an easement for this road in the Tract Summary for Tracts 109 and 110. The Tract 110 information mentions easements for that portion of this road located in Section 2 but not Section 11. Please review and update as necessary. (GAW)
7. The Surface and Coal Ownership Map, Section 1.5.3, indicates that Tract 48 is being permitted for surface disturbance only but the Pit Layout and Facilities Map, Section 3.1.3 shows truck shovel pits on this tract. Please revise as necessary. (GAW)
8. Please update Sections 1.5.1 and 1.5.2 with current mailing addresses for Keith Bitner, Corey Walz and Linette Buchfink. Certified notification letters to these individuals were returned or unclaimed. Once we receive the correct addresses, we will send them new notices giving them the opportunity (30 days after their receipt of a certified mailing) to file comments or request an informal conference on this revision application. NDCC 38-14.1-18(2) (GAW)

Section 2.1 – Geology

9. Site specific geology narrative provided under both the Geomorphology and Physiography subsections of Section 2.1.2 describes Renner Trench as trending north-south across the eastern edge of the permit area and the references to Renner Trench in this narrative should be changed to Beulah Trench. As you're aware, Renner Trench is located several miles to the east of the permit, while Beulah Trench essentially defines and follows most of the eastern boundary of the permit area. Please correct. (BEB)
10. Please update the narrative under the Stratigraphy subsection of Section 2.1.2 which states that *"The lignite deposit has been removed by glacial meltwater along both the eastern and western portions of the permit area."* None of the Beulah or Lower Beulah lignite seams or rider seams along the western portion of the permit area has been removed by glacial meltwater as evidenced in several of the geology maps that are provided in the permit. Please correct. (BEB)
11. Please update the Geologic Cross Section Location Map, Overburden Isopach Map, and Structural Contour Map, Sections 2.1.9.1, 2.1.10, and 2.1.11, respectively, to add the approximate 120-acre addition to the permit in the NE1/4 of Section 11, T145N, R88W. (BEB)

Section 2.2 – Surface Water Hydrology

12. Please update the Surface Water Features Map, Section 2.2.2, to incorporate the 120-acre addition of land to the permit in the NE1/4 of Section 11. (BEB)
13. The watersheds delineated on the Surface Water Features Map, Section 2.2.2, differ from the watershed delineations on the pre-mine PHC map, Section 2.2.5, particularly for the watersheds north of West Antelope Creek. Please review and revise as appropriate. NDAC 69-05.2-08-04 (RLK)
14. Please show the topography and drainage route for a distance of at least one half mile past the permit boundary or a distance necessary to clearly identify the path drainage from the mine will take once it leaves the permit boundary. The Surface Water Features Map, Section 2.2.2, and the probable hydrologic consequences maps in Section 2.2.5 and 2.2.6 do not show information beyond the permit boundary to show the immediately adjacent area that may be impacted by a change in drainage. The drainage in Sections 11, 12, 13 and 14 are not well defined and thus the additional information is necessary to show the water course downstream of the permit area. NDAC 69-05.2-08-04, NDAC 69-05.2-09-02 and 09 (RLK)

Section 2.2.4 – Surface Water Hydrologic Consequences

15. Please revise the narrative on page 11 of Section 2.2.4 to clarify the drainage area acreage changes for the permit area. The narrative states that 118 acres from the West Antelope drainage would drain to Spring Creek in the post mine setting but the acreage change for the Spring Creek drainages provided in the summary tables indicates a 131 acre increase in drainage area. Also the summary tables shows a 149 acre reduction in the Antelope Creek drainage area but the reason for this additional 31 acre change in drainage area is not clear in the narrative. (RLK)
16. Please update the “Stability Analysis of Reclaimed Drainage Channels” and “Effects of Future Mining Operations on Surface Waters Features” narratives that begins on page 20 of Section 2.2.4 to address all planned disturbances to ephemeral and intermittent streams in Mine Areas 1 and 3. The first sentence of the first paragraph of “Effects of Future Mining Operations on Surface Waters Features” on page 20 states that the information presented addresses impacts during the first 25 years of mining and the Stability Analyses of Reclaimed Drainage Channels focuses on only 4 watersheds. Please update these two sections of the permit to address all drainage channels in areas where detailed mining plans are now being provided. (GAW)
17. The first two paragraphs of the “Stability Analysis of Reclaimed Drainage Channels” portion of Section 2.2.4 states that a representative reclaimed channel cross section consisting of a 10-foot flat bottom was used and that a flow velocity of 5 ft/sec was considered non-erosive. Please revise to show the actual estimated flow velocities in the representative portion of each reclaimed drainageway channel, and the expected velocities in the most erosive section of each drainage way. It may also be appropriate to discuss any substantial changes between the final graded topography and the planned post mine topography used to determine channel stability for watersheds WAC-06, WAC-07, WAC-08 and WAC-09. The last paragraph on page 20 states that a short duration storm event, 25-year/6 hour event, was used to determine stability, and the last paragraph on page 21 states that the stability analysis results are shown on “the following four pages” which is assumed to mean Tables 1, 2 and 3. None of these tables are for a 25-year/6 hr storm event. Also, we have determined that Coteau needs to conduct this analysis using the

100-year/6 hour storm event. Additional analysis is necessary to ensure the proposed postmining topography meets the requirements of subsections 3 and 8 of NDCC 38-14.1-24 and NDAC 69-5.2-16-01(1). (GAW/JRD)

18. Please update the “Stability Analysis of Reclaimed Drainage Channels” and “Effects of Future Mining Operations on Surface Waters Features” narratives that begins on page 20 of Section 2.2.4 for compliance with NDAC 69-05.2-16-07 which requires that intermittent stream channels be restored to their natural meandering shape that approximates the pre-mine channel characteristics. The northwest branch of intermittent stream SC-08 in Section 6 is only about half as long as it was prior to mining (10,009 feet premining compared to 5,248 feet postmining) and it is shorted up considerably in Section 5 (2,365 feet pre-mine vs 1,851 feet post-mining). The intermittent stream in Section 14 (WAC-12) is about 1200 feet shorter postmining that it was prior to mining. Please revise the postmine topography and Section 2.2.4 to comply with NDCC 38-14.1-24(3) and (8). *(Also, please note that NDAC 69-05.2-16-06(5) requires mine operators to re-establish ephemeral stream channels that are diverted to a longitudinal profile and cross section that is approximate to the pre-mining channel characteristics. We believe this performance standard is also applicable to streams that are mined and reclaimed in order to meet the requirements of subsections 3 and 8 of NDCC 38-14.1-24.)* (GAW/RLK/JRD)
19. The length of ephemeral reclaimed drainage channel appears to be substantially shorter than the length of the corresponding pre-mine drainage channels for SC-04, WAC- 01 and WAC-17 as shown in Section 2.2.9. Please revise the channel shape to include channel sinuosity that will provide channel length and slope that more closely represents the pre-mine conditions. The Section 2.2.4 narrative should also describe how the planned reclaimed drainages will be as stable as the pre-mine drainage channels or refer the reader to the appropriate section of the permit if discussed elsewhere. NDAC 69-5.2-16-01(1) and NDCC 38-14.1-24(3) and (8) (RLK)
20. Please update the “Stability Analysis of Reclaimed Drainage Channels” and “Effects of Future Mining Operations on Surface Waters Features” narratives that begins on page 20 of Section 2.2.4 to include information regarding pre- and post-mine channel length, sinuosity, floodplain widths and erosive velocities in each recreated drainage way. Estimated peak flow velocities should be provided incrementally throughout each channel listed in Section 2.2.9, Ephemeral Drainage Profiles. Also, as stated above, we have determined that Coteau needs to conduct this analysis using the 100-year/6 hour storm event. NDAC 69-5.2-16-01(1) and NDCC 38-14.1-24(3) and(8) (RLK/GAW/JRD)
21. Please revise the post mine topography for the drainage SC-04 as appropriate to remove the sudden change in slope depicted near Station 0-500 on the stream profile provided in Section 2.2.9 or provide an explanation in the narrative detailing how this section of channel slope will be stabilized. NDAC 69-5.2-16-01(1) and NDCC 38-14.1-24(3) and (8) (RLK)

Section 2.2.9 – Ephemeral Drainage Profiles

22. Please revise the drainage profiles listed in Section 2.2.9 to show the pre and post mining percent slope of the drainage ways between each station point and provide an elevation line for each 4 foot contour interval rather than each 20 foot interval or use other method(s) such as an exaggerated vertical elevation scale in relation to the horizontal scale to show pre- and post-mining differences. The profiles as presented provide very little information that is meaningful.

For example, the 8% slope in the bottom of SC-08 between stations 2+500 and 3+000 is not noticeable on the profile as presented. NDCC 38-14.1-24(3) (GAW/RLK)

Section 2.3 – Ground Water Hydrology

23. Please update all applicable maps in Section 2.3 to incorporate the 120-acre addition of land to the permit in the NE1/4 of Section 11. (BEB)

Section 2.3.1 – Hydrogeology of the Permit and Adjacent Areas

24. A significant washout and its associated alluvial aquifer essentially split the permit area in two from east to west and occupy an approximately 2.5 mile length within the permit in portions of Sections 10, 11, 15, and 16, T145N, R88W. Substantial volumes of ground water and aquifer hydraulic head are associated with this feature; however, no information is provided in the permit regarding the feature. Please update Section 2.3.1 by describing this feature and more importantly, by describing the recharge/discharge relationship of ground water contained within the alluvial sediments of this feature with ground water of the truncated Beulah Bed, as well as the recharge/discharge relationship with Antelope Creek Aquifer that it conflues with in the SE1/4 of Section 11. Also, please attempt to reasonably quantify the loss of ground water contribution from this feature to Antelope Creek Aquifer and the probable impacts of water quality to down-gradient water users following planned removal of the Beulah coal seam from all sides of this feature, except at its confluence area with Antelope Creek Aquifer in the Beulah Trench. (BEB)

Section 2.3.3 – Aquifer Potentiometric Maps

25. Please review your collected and documented field data and, if any significant changes to the baseline ground water levels have been realized in the proposed mine areas north of West Antelope Creek, please update and refresh the Aquifer Potentiometric Maps, Sections 2.3.3.1 through 2.3.3.4 (in particular because these potentiometric surface maps have not been updated in the permit in over a decade). We ask that the baseline potentiometric maps provided at the time of permit application remain in the permit for historical context and that additional/updated maps be provided in a new and different subsection, such as 2.3.3.1a. (BEB)

Section 2.3.4 – Aquifer Hydraulic Properties

26. Please check your conversion calculations for measurement of hydraulic conductivity on page 1 of Section 2.3.4. The fourth paragraph describes the range of hydraulic conductivity values in the permit area to be on the order of 10 to 1000 feet per day (10^{-5} to 10^{-3} centimeters per second). It appears the correct metric conversion range should be 10^{-3} to 10^{-1} centimeters per second. Please review and correct as necessary. (BEB)

Section 2.3.5 – Ground Water Potentiometric Surface Information

27. Please update all water level hydrographs provided in the permit in Sections 2.3.5.1 through 2.3.5.5. These hydrographs have not been updated since 2001 and permit information is required to remain current. (BEB)

Section 2.3.6 – Ground Water Quality Information

28. The first paragraph in Section 2.3.6 describes the lignite seams in the WMA as belonging to the Sentinel Butte Member of the Fort Union Formation. For accuracy and consistency in the permit, this should be changed to the Sentinel Butte Formation of the Fort Union Group. (BEB)

Section 2.3.7 – Ground Water Use Information

29. The table in Section 2.3.7.1 provides detailed summary information for certified wells and springs and ground water use information in the permit and adjacent area. Please incorporate an additional column or columns to depict probable impacts of mining to each of those ground water resources and probable hydrologic reclamation actions to be undertaken by Coteau if diminution or destruction of the resource occurs. (BEB)
30. Information provided in the table of Section 2.3.7.1 has not been updated since 2011 with Revision No. 12 to NACT-0201. Changes to well/spring ownership (Keller's, etc.) and any other ownership or other changes need to be updated. Any additional well and developed spring or significant natural spring certifications or re-certifications that may have been conducted since 2011 should also be updated in this table in the permit at this time. (BEB)

Section 2.3.8 – Ground Water Probable Hydrologic Consequences

31. Ground Water Drawdown narrative that is provided in this section can be updated now with radius of influence drawdown information documented from mining operations conducted in the WMA since 2006. Existing permit narrative provides estimates of the radius of influence from data generated from mining operations associated with the EMA. Please update the narrative to provide accurate, documented drawdown and radius of influence information from the WMA/MA1 permit area experienced during the last 8 years of mining within Permit NACT-0201. (BEB)
32. The first paragraph under *Probable Impacts to Domestic Wells and Developed Springs* states that a total of 76 wells and developed springs have been documented and certified within the permit area or within a one-mile radius; however, previous narrative in the first paragraph of Ground Water Use Information, Section 2.3.7, describes a total of 91 certified wells and springs inventoried within the permit area and within a one-mile radius of the permit area. If necessary, please review and resolve this discrepancy or further clarify the difference between those totals. (BEB)
33. Please update and expand the narrative and other information provided under the *Probable Impacts to Domestic Wells and Developed Springs* section of the Probable Hydrologic Consequences. As specifically noted in this section, information provided is geared towards the “initial ten years of mining operations, 2007 to 2017 within the southeast quadrant of the permit area”. Information provided in this section must now include probable hydrologic consequences or potential impacts and replacement options for all identified and certified developed and natural springs and certified wells located within the entire permit area and adjacent area. (BEB)

Section 2.4.1 – Pre-Mining Land Use and Vegetation

34. New language at the end of the first paragraph on page 1 of Section 2.4.1, Methods, states that pre-mining assessments were reviewed on the lands located in the northern portion of the permit area during the 2013 growing season. Coteau's December 11, 2013 response to our pre-renewal letter states that the pre-mining land uses for the southern portion of the permit area will be reviewed in 2014. Please revise the permit with this updated information at this time and edit the first paragraph of page 1 of Section 2.4.1 accordingly. (GAW)
35. A new sentence at the end of the first paragraph on page 2.4.1 – Methods, states that Pre-Mining assessments were reviewed for Sections 3, 4, 9, 10, 11, 14, 15 and 16 of T145N, R88W. Please revise to clarify why pre-mining assessments were reviewed for only these tracts. The October 17, 2013 pre-renewal letter requested that the pre-mining land uses of all areas in the permit that have not yet been disturbed by mining activities be reviewed and updated accordingly if pre-mine land use changes have been made by the landowners since the permit was issued over 10 years ago and the native tree and shrub maps was to be reviewed to ensure that it was still accurate. NDAC 69-05.2-11-01(2) (GAW)
36. Please provide additional justification or reasoning why tame pastureland in Tract 56 is now being considered native grassland. Aerial imagery appears to show old field boundaries around these tame pastureland areas and the table on page 3 of Section 2.4.2 continues to indicate that crested wheatgrass and smooth brome grass are the dominant species, over 70% of the relative species composition and that native species only comprise about 5% of the composition. Areas dominated with introduced species that were tilled at one time should be considered tame pastureland rather than native grassland as discussed in the tame pastureland narrative on page 2 of Section 2.4.2. (GAW)
37. Please review the land use designations of the acreage being added to the permit in the NE1/4 of Section 11. The land use map and pre-mine land use table identifies areas that are not being farmed as cropland. This includes an area located south of the wetland W11-1-145-88 and an area in the north central portion of the N1/2 of the NE1/4 of Section 11 that comprise about 5 acres and 20 each, respectively, and the underground pipeline corridor. Some of these areas were noted ponding water during a brief inspection of the property in October of 2014 and it appeared that a portion of this area has been affected by gravel mining or some other type of disturbance. Perhaps the area was affected when County Road 15 was constructed through this property. The detailed soil survey identifies most of these areas as prime farmland (Grail, Arnegard and Bowdle) but it does not appear that these areas are capable of being cropped. Please review this issue and revise Section 2.4.2 to properly classify and characterize these tracts which should include revising the Qualitative Assessment for Tract 58. This should also include a discussion about when the water line and County Road 15 were constructed through this tract since these features were not present at this location when Permit NACT-9001 was issued. (GAW)

Section 2.4.2 - Pre-Mining Land Use and Vegetation Narrative

38. Narrative on page 14 of Section 2.4.2 describes reaches of intermittent streams in Sections 5, 6, 7, 8; reaches of intermittent streams in Sections 3, 4, 10, 14; and reaches of intermittent streams in Section 23, 26, 27, and 28. We ask that you add the Township/Range number designations to the

PLSS Section location descriptions because the described stream locations fall within different Townships in the permit area. (BEB)

39. The last paragraph of Section 2.4.2, Methods, states that all roads were included in the surrounding land use but public roads are being listed separately with Revision 18. The table in Section 2.4.2 now shows that there are 250 acres of roads in the permit. Please revise the narrative to explain the changes with Revision 18. (GAW)
40. Please update Section 2.4.2, Pre-Mining Land Use and Vegetation Narrative, to discuss how wetland W11-1-145-88 can be considered a temporary wetland in cropland if the area has not been tilled since the early 1990's. Please also provide a detailed narrative describing the nature and variability of the vegetation of this wetland as required by NDAC 69-05.2-08-08(1)(d)(4). (GAW)
41. The pre-mine topography map shows that a portion of the cropland located in the N $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 11, T145, R88W, is a closed depression and the area has not been farmed for the past decade. Please discuss why this area is not considered a temporary or more permanent wetland rather than cropland. (GAW)
42. The narrative at the bottom of Tract 56 (Section 10) of Section 2.4.2 states that changes were made after a reassessment in 2014, but the methods section of Section 2.4.1 states that the reassessment was made in 2013. Please review and revise as necessary. (GAW)
43. Please update Tract 58 of Section 2.4.2 to address the acreage being added to the permit. The qualitative assessment indicates that no wetlands were identified in this tract, but a wetland (W11-1-145-88) is identified on the postmine land use map (presumably an undisturbed wetland) and Section 2.4.10 shows 6.7 acres of temporary wetlands on the tract. (GAW)
44. The Pre-Mining Land Use and Ownership Table, Section 2.4.4, has been updated to show that there are 242.5 acres of wetlands but Table 2.4.10, Wetland Acreage Summary, indicates that there are 238.0 acres of seasonal or more permanent wetlands. It appears that this acreage difference is associated with wetlands in intermittent streams. For example, the pre-mine land use table shows that there are 5.4 acres of wetlands in Tract 48, but Table 2.4.10 indicates that this tract only contains 4.0 acres of wetlands. Please review and revise to clarify. (GAW)

Section 2.4.3 – Pre-Mining Land Use and Vegetation Map

45. Two shelterbelts located in Section 16, Tract 72, have been added to Section 2.4.18, Shelterbelt Description, with Revision 18, but these features are not depicted or identified on the Pre-Mine Land Use Map, Section 2.4.3. Please depict and label these features. (GAW)

Section 2.4.7 – Range Site Acreage Summary

46. The Range Site Acreage Summary table in Section 2.4.7 includes roads and perhaps right-of-ways according to notations at the bottom and left side of the table and the total native grassland acreage amounts in the table in Section 2.4.7 is about 54 acres more than the amount listed in the table in Section 2.4.4. In the Methods section (2.4.1) of the permit and in Sections 2.4.7 and 2.4.8, please clarify if “public roads” are included in the tables in Sections 2.4.7 and Section 2.4.8 or if the roadways mentioned are now referring only to private roads and improved trails. (GAW)

Section 2.4.10 – Wetland Acreage Summary

47. Section 2.4.10, Wetland Acreage Summary, is being revised with Revision 18 to show a total loss of about 5 acres of wetlands in the permit and significant changes were made in some tracts, for example, Tract 49 which had 12.1 acres of seasonal wetland but changes with Revision 18 reduces the value to 2.1 acres. However, there have been no apparent changes to the delineations on the pre-mine land use map, Section 2.4.3. Please explain these wetland acreage changes in the Methods section (2.4.1) of the permit and revise the Pre-Mining Land Use and Vegetation Map, Section 2.4.3, so the information is consistent between these sections of the permit. (GAW)

Section 2.5.5 - Prime Farmlands

48. Please update Section 2.5.5 to add Makoti silt loam (94) as a prime farmland soil map unit that occurs in both the acres being transferred to NACT-0201 from NACT-9001 and the existing permit acreage in the E½E½ of Section 11, T145N, R88W. (WTG)

Section 2.5.10 - Soil Survey and Prime Farmland Map

49. Please review the soil map unit delineations and labels in Section 11, T145N, R88W, for the acres being transferred to NACT-0201 from NACT-9001 and update as necessary. It appears that a Grail loam (16) soil map unit in the SE¼NE¼ has been incorrectly labeled as Bowdle loam (28). Please also update Section 2.5.3.1 (Table 4 - Mapping Unit Acreage by Tract) and Section 2.5.3.2 (Table 5 - Total Mapping Unit Acreage for Permit Area) if necessary to reflect any updates to the soil survey map. (WTG)
50. Please label the NRCS prime farmland soil map units in Section 11, T145N, R88W, for the acres being transferred to NACT-0201 from NACT-9001. (WTG)

Section 2.5.12 - Projected Soil Respread Depth Map

51. Please update Section 2.5.12 if necessary to reflect any changes in the mining disturbance boundary depicted on Section 3.1.3 (Pit Layout and Facilities Map) in Section 11, T145N, R88W, for the acres being transferred to NACT-0201 from NACT-9001. Please also update the permit boundary if any changes are made to the map. (WTG)

Section 2.7 – Fish and Wildlife Resources

52. Please update Section 2.7.2, Fish and Wildlife Summary, to include a discussion and description of the fish and wildlife habitat of the acreage being added to the permit with Revision 18. This should include a discussion about whether there is any unique or high value fish and wildlife habitat in the addition area, and the proximity of piping plover designated critical habitat in relation to the permit area. Relevant fish and wildlife information from Permit NACT-9001 related to the area being added to the permit should now be included in Permit NACT-0201. (GAW)
53. Table 2, Federal Threatened, Endangered and Candidate Species found in Mercer County, ND, Section 2.7.6.2, has been partially updated to include threatened, endangered and candidate species information effective February 2014. However, this Table documents the Threatened and Endangered species list information at the time baseline wildlife surveys were conducted for

Permit NACT-0201. Please revise the table to include a current listing of all threatened, endangered, candidate and proposed species while retaining information regarding the species list when baseline wildlife information was obtained for Permit NACT-0201. (GAW)

54. Please update Section 2.7.3, Mining Impacts, and any other appropriate section of the Fish and Wildlife Resources portion of the permit to address whether the permit area contains any potential habitat for the three species "Proposed" to be listed and the two "Candidate" species covered by the Endangered Species Act. A detailed analysis of the habitat requirements for these species should be included along with a discussion about whether or not the permit area contains suitable habitat. A separate discussion regarding this issue should be made for each federal coal tract that Coteau is proposing to be mined in the permit with this revision since this revision is a mine plan modification that will require Department of Interior approval. There should also be a discussion about whether any surveys for these species have been conducted in the permit area in the past and the results of those surveys. NDAC 69-05.2-13-08(2) (GAW)
55. Please update Section 2.7.3, Mining Impacts, and Section 2.7.7, Consolidated Wildlife Habitat Monitoring Plan, to address carrying out surveys for the Northern Long-Eared Bat which is expected to be added to the Endangered Species Act in April of 2015. The Reclamation Division believes that acoustic surveys should be completed in woodlands that may be capable of supporting this species that are to be affected by mining, such as those in the drainages in Sections 5, 6, 7 and 8 in the south mine area, and any other deciduous woodland communities that will be directly or indirectly affected by mining activities such as woodlands along West Antelope Creek. NDAC 69-05.2-13-08 (GAW)

Section 2.8 – Cultural Resources

56. New cultural resource narrative on page 3 of Section 2.8.1 describes the location of 32ME1513 as being within Section 22, T146N, R82W (this location is at the Falkirk Mine); however, the cultural resource summary table in Section 2.8.2 and the Pit Layout and Facilities map both describe and depict the location as being within T145N, R88W, which appears to be the correct location. Please review and update. (BEB)
57. Please revise the narrative on page 3 of Section 2.8.1 to provide an updated account of cultural resource work that was proposed for 2014 and has now been completed. Any other updates to the cultural resources summary table and/or recent SHPO correspondence should also be added at this time in the appropriate sections. (BEB)

Section 3.1 – Operations – General

58. Please revise the Operations/Reclamation Narrative, Section 3.1.1, to explain how coal is going to be removed from the pits located adjacent to the south side of West Antelope Creek without impacting the intermittent stream. The Pit Layout and Facilities Map indicate that a dragline will be used to uncover this coal but operationally this does not appear feasible without encroaching on the stream buffer zone or impacting the stream. NDAC 69-05.2-09-01 (GAW)
59. Revision 18 deletes much of the language regarding the dragline storage site located in the NE1/4 of Section 14. Please retain the pertinent historic information, such as SPGM stripping and respread on cut slopes for stabilization purposes and include current plans for this area. NDAC 69-05.2-09-01 (GAW)

60. The mining sequence in MA3 alternates across a drainage that will not be mined in Sections 10, 11, 14 and 15, according to Section 3.3.2, Pit Layout and Facilities Plan Map. Please address how the dragline will relocate/move across this drainage. (FSE)

Section 3.1.1.2 – Mining Method Narrative

61. Newly added information to Mining Methods Narrative on page 7 of Section 3.1.1.2, describes the location of cultural resource site 32ME1513 as being located in the NE1/4 of Section 22, T146N, R82W and this needs to be changed to T145N, R88W. Also, please update the narrative regarding cultural resource site 32ME1571. (BEB)

Section 3.1.1.3 – Reclamation Procedures and Schedule

62. Please revise the narrative discussing Reclamation Delay Area No. 1 on page 3 of Section 3.1.1.3 to clarify the time period for which the variance is requested. Please also label this reclamation delay area (Reclamation Variance Area 1) on the Pit Layout and Facilities Map to be consistent with how the other reclamation delay areas are labeled. (GAW)
63. The narrative for variance area No. 2 states that it is “for the eastern pits in the E1/2 Section 14” but the Pit Layout and Facilities Map identifies Variance Area 2 as also containing a significant portion of the W½ of Section 14 and a portion of Section 11. The need for the variance is justified by stating that pit advancement will be slow with only two or three pits annually. However, the 2019 and 2020 pit areas are 1500 and 1200 feet wide, respectively, which means that 8 to 10 pits will be mined each year. Please review and revise to provide accurate and proper justification for such a large reclamation variance area. (GAW)
64. Please divide Variance Area No. 3 into at least two separate variance request areas with one area being associated with the 16-year cessation pit area and the other being the interface between the north and south mine areas located primarily in the S1/2 of Sections 33 and 34. It is not appropriate to request a 31 year reclamation variance for the entire area as currently stated. The variance area description must clearly state the time period when each variance area is to be reclaimed. It appears that a 20 year variance period will be needed for each variance area based on the proposed mining plan. (GAW)
65. New variance request narrative on page 3 of Section 3.1.1.3 describes several areas in MA1 for which variance from the 3-year reclamation requirement is being requested and it appears the NE1/4 of Section 34, T145N, R88W, should be added to this listing along with the appropriate justification. (BEB)
66. Please review Mine Area 3 coal removal plans and the justification for a variance from the 180-day grading requirements, NDAC 69-05.2-21-01, to determine if additional time (more than shown in the Project Reclamation Time Schedule) will be needed in areas where the pits mined at different times meet. For example, the truck shovel pits in the SE1/4 of Section 3 that are to be mined in 2024 and 2025 are adjacent to 2021 and 2022 pits. A similar situation exists in Section 4 of T145N, R88W and near the section corner common to Sections 9, 10, 15 and 16 of T144N, R88W. If more time will be needed in these areas, please justify the variance request and provide a reclamation schedule for these areas. (GAW)

Section 3.1.1.6 – Land Owner and Public Access

67. Please update Section 3.1.1.6, Land Owner and Public Access, to include information that discusses how the county road located on the east side of Section 11 was affected by mining activities that occurred in Permit NACT-9001, and Coteau's plans for replacing this road to its original location (see paragraph 2 on page 2 of Section 3.2.1 of Permit NACT-9001). (GAW)

Section 3.1.1.9 – Intermittent Stream Buffer Zones

68. The last sentence of the third paragraph on Section 3.1.1.9 states that "However, as previously mentioned, the types of mining activities that will encroach into a stream buffer zone will be addressed in a permit revision, which will serve as a request to conduct the proposed activities." Language following this statement references several sections of the permit, including the Pit Layout and Facilities Map where disturbances to intermittent stream buffer zones are shown. Please revise the Intermittent Stream Buffer Zones section to clarify and specify any revisions that have been approved to date to allow disturbances to intermittent streams and clearly identify where mining related activities have been approved within the stream buffer zone. (GAW)

Section 3.1.2 – Pre-Mining Topography and Existing Structures Map

69. Section 1.5.1, Identification of Interests and Rights of Entry, indicates that the Southwest Water Authority has an easement in the NE1/4NE1/4 of Section 11 (Tract 109), but this feature is not shown on the map. Also, Roughrider Electric Cooperative has an easement for this tract, but no electrical line is shown. Please show these features on the map as required by NDAC 69-05.2-08-02(1)(f). (GAW)
70. The Pre-Mining Topography and Existing Structures Map, Section 3.1.2, identifies an improved gravel road in the NE1/4NE1/4 of Section 11 but this is a paved temporary relocated county road according to Permit NACT-9001 and there is no easement of record for this road in Section 1.5.1, Identification of Interests and Rights of Entry. Please compare the Pre-Mining Topography and Existing Structures Maps in Permits NACT-9001 and NACT-0201 and reconcile the differences or otherwise revise to provide clarity. (GAW)

Section 3.1.3 – Pit Layout and Facilities Map

71. Please change the map's legend for the unleased federal coal tracts from "Pending Federal Coal" to "Unleased Federal Coal" to more accurately reflect the status of these federal coal tracts. Use of "pending" implies Coteau has applied for a federal lease on the tracts designated in that manner, but we do not believe that is the current situation. (JRD)
72. Please clearly depict the complete alignments (including stationing) for the Equipment Access Road and Mine Area 3 Haulroads 3-1, 3-2 and 3-3 on the *Pit Layout and Facilities Map* or in a separate map (Transportation Facility Map). (FSE)
73. Narrative in the last paragraph of Section 3.1.8 states that the alignment of the 903 deadhead trail can be found on the Pit Layout and Facilities Map, but the deadhead route is not depicted on the map. Please depict and label the route on the Pit Layout and Facilities Map, Section 3.1.3. (BEB/GAW)

74. Please revise the Pit Layout and Facilities Map, Section 3.1.3, to show the extent of all planned disturbance as required by NDAC 69-05.2-09-02(2) and (3) and the extent of the planned disturbance to woodlands located outside of the mineral removal areas. This would include the woodlands in the main drainages above sediment ponds P-W08-01 and P-W08-02. A sentence in the last paragraph on page 1 of Section 3.1.1 states that woodlands will be avoided where feasible. (GAW)
75. Please consider relocating sediment pond P-W08-01 upstream closer to the section line common to Sections 5 and 8 to avoid woodlands as required by NDAC 69-05.2-13-05 and NDAC 69-05.2-13-08(6). (GAW)
76. We recommend Coteau revise the Pit Layout and Facilities Map, Section 3.1.3, to **not** show overburden and SPGM stockpiles and a haul road on state and private lands located in the W½ of Section 16 of T144N, R88W, or an overburden stockpile in the NE¼ of Section 12 of T144N, R89W. To the extent possible, we believe these stockpiles should be placed on Coteau owned reclaimed lands to comply with NDAC 69-05.2-13-05 and NDCC 38-18-06. The surface owner notification maps included in the permit to show compliance with NDCC 38-18-06(1) did not show disturbance to these lands as is now being proposed. If these stockpiles are not moved, a new notice must be provided to the surface owners in order to be in compliance with the Surface Owners Protection Act. (GAW/JRD)
77. The Pit Layout and Facilities Map, Section 3.1.3, shows mining within 500 feet of an occupied farmstead located in the NE1/4 of Section 4. The Surface and Subsurface Ownership Map, Section 1.5.3 identifies this area as being permitted for surface disturbance only. Please review and revise to show compliance with NDAC 69-05.2-04-01.4 and NDCC 38-18-06(3). (GAW)
78. Please revise the Pit Layout and Facilities Map, Section 3.1.3, to not show any mining related disturbance within 100 feet of the north side of West Antelope Creek in Sections 23, 26, 27 and 28 until such time the permit is updated to provide all details of the proposed mining activities and demonstrate full compliance with NDAC 69-05.2-16-06, -07 and -20. Currently, the 2030-2045 and 2041-2045 mining blocks show mining through this intermittent stream even though a stream buffer zone is depicted on the north side of this stream. (GAW/DKM/JRD)

Section 3.1.6 – Post Mining Cross Sections

79. Please place a footnote somewhere on the Post-Mining Cross-Sections maps in Section 3.1.6, that the cross-section transect locations are viewable on the Post-Mining Topography Development Map, Section 3.1.9. (BEB)

Section 3.1.8 – Temporary Cessation of Mining Plan

80. The second paragraph under the Stability section of Section 3.1.8 mentions the un-respread spoils “south” of the pit and the area without topsoil “north” of the highwall. It is not clear what is meant with the reference to “north” and “south” given the pit’s northwest –southeast orientation. Please revise to provide better clarity and more details. (GAW)

Section 3.2 – Transportation Facilities

81. Please modify Section 3.2.8, MA3 Haulroad 3-1, to include additional details about the modification that Coteau is planning for the equipment access road. 69-05.2-24-01(3) (FSE)
82. Sections 3.2.9.1, MA3 Haulroad 3-2, shows 4-48" CMP crossing the road between Sta. 6+00 and 7+00 that are not shown in the Water Management Plan Map or Pit Layout and Facilities Map. Please revise to include all planned culverts on one of these maps. (FSE)

Section 3.3 – Surface Water Management

83. Sediment pond P-W07-01 is located several thousand feet below where coal will be mined in the drainageway. Please consider revising the pond location to minimize disturbance to lands where coal removal is not planned. It appears that this pond could be replaced with several water management features placed closer to the mineral removal boundary. NDAC 69-05.2-13-05 (GAW)
84. For each water structure design, please include the method that Coteau will use to dewater the pond or sump. The narrative should address if the pond or sump will be discharged by pumping, by gravity or a combination of methods. When the gravity method is used, please include the drawdown structure in the design details. (FSE)
85. It appears that conditions for existing sump S-W14-01 have changed since it was originally designed and constructed. The watershed has increased and the dragline storage area is scheduled to be removed. Please review Section 3.3.8.1, Details of Sump S-W14-01, and address any changes and make the appropriate corrections. (FSE)
86. The *Surface Water Management Plan Map*, Section 3.3.2, and *Pit Layout and Facility Map*, Section 3.1.3 both show two ponds labeled as pond P-W03-01 and P-W04-01 (one each in T144N, R88W, and one each in T145N, R88W). A different naming convention will need to be used for one of the duplicate pond numbers (presumably those located in T145N, R88W) so they can easily be distinguished from the other pond with the same identifying number. (FSE)
87. Pond P-W08-01 is proposed to be built in 2015 according to the Pond Construction and Reclamation Schedule, Section 3.3.4, but a design is not included for this pond. Since this pond will be constructed within the next year, Coteau is encouraged to include the design plans with this revision. (FSE)
88. In the Design of Impoundment P-W14-02, Section 3.3.34, the details of the emergency spillway shown in the design specifications do not match those shown in Section 3.3.34.1. For example, Section 3.3.34 shows a bottom width of 25 feet and sideslopes of 15:1; however, Section 3.3.34.1 shows a bottom width of 14 feet and sideslopes of 3:1. Please review and make appropriate corrections. (FSE)
89. The narrative in the second to last paragraph of the Design of Impoundment P-W11-01, Section 3.3.38, states that the emergency spillway will be constructed with a 40 foot level control section but the design details shows 45 feet control section. Please review and make appropriate corrections. (FSE)

Section 3.3.2 – Surface Water Management Plan Map

90. Please revise the Surface Water Management Plan map, Section 3.3.2, to show the topography adjacent to the permit in Sections 1, 2, 12, 13 and 24 of T145N, R88W, to clearly show where discharges from ponds P-W11-01, P-D11-01, S-W11-02, P-W11-05 and Sump S-W11-04 will flow off-permit. (GAW)
91. Please provide a preliminary surface water management plan for the proposed disturbances that would drain off-permit in the NE¼ of Section 4, T145N, R88W, where mining with truck/shovel is proposed to begin in 2026. NDAC 69-5.2-09-09 (RLK)
92. Please provide a preliminary surface water management plan for the NW¼SW¼ of Section 27 T145N, R88W, generally west of Pond P-27-02 and the planned cession pit. Even though mining is planned to be suspended until 2034, we are requesting the surface water management information for this area due to its proximity to the current disturbance and water management structures will be required before mining resumes in the area. NDAC 69-5.2-09-09 (RLK)

Section 3.3.4 – Pond Construction and Reclamation Schedule

93. Please revise Section 3.3.4, Pond Construction and Reclamation Schedule, to include ponds P-W04-01, P-W03-01 (both located in T145N, R88W), P-D11-01, P-W11-04, P-W11-05, and P-W16-01 and sump S-W11-04. Also, please review the reclamation date listed for pond P-W32-01. (FSE/GAW/RLK)

Section 4.1 – Postmining Land Use Plans

94. Follow-up to Completeness Item No. 6 of our letter dated September 23, 2014 in which Coteau indicated the issue will be addressed during the technical review. Please include an assessment that shows that the pre-mine land use capabilities will be restored on each tract of land by surface owner where disturbance is planned through 2032. This assessment can be based on soils that NRCS considers “farmlands of statewide importance”. The pre-mine capabilities of non-cropland areas must be replaced as required by NDCC 38-14.1-24(2) and the reclamation plan for these areas must address restoring the pre-mine capabilities. This may involve increasing topsoil respread depths on some reclaimed native grassland areas that had the potential to be converted to cropland in the pre-mine condition. (GAW)
95. Follow-up to Completeness Item No. 6 of our letter dated September 23, 2014 in which Coteau indicated the issue will be addressed during the technical review. Please include a summary of the pre- and post-mining land uses for the area included in, and west of the cessation pit to ensure that premining cropland located in the southern portion of Mine Area I is being replaced in this same area. This includes all of the land that is to be mined through 2034. The postmining topography and land use map shows that all of the land in the N1/2 and SE1/4 of Section 34 is cropland (480 acres) but the pre- and postmining Land Use Comparison Table, Section 4.1.3, indicates that only 263.6 acres of cropland is to be reclaimed in this area. Please review the values listed in the table in Section 4.1.3 to ensure the information is consistent with what is shown on the Postmining Topography and Land Use Map and make the land use boundaries on this map more clear and distinct. (GAW)

96. Please revise Section 4.1.1, Narrative, to discuss what constitutes the land use "Roads" as listed in Section 4.1.3, Pre- and Post-Mining Land Use Comparison Table. Also, please discuss how improved and unimproved section line trails will be replaced. NDAC 69-05.2-09-13(1)(a) requires an explanation of the support facilities needed to achieve the postmining land use and it is not clear how cropland that is not adjacent to "roads" will be accessed. For example, the cropland that is to be reclaimed in the NW $\frac{1}{4}$ of Section 10, SW $\frac{1}{4}$ of Section 31 and N $\frac{1}{2}$ of Section 3 are in isolated areas where steep slopes and significant drainage ways cross the section line right-of-ways, or the cropland is isolated by barriers such as streams and railroad tracks. Please include plans for providing reasonable access to all tracts of reclaimed cropland and hayland. (GAW)
97. Please update Section 4.1.1, Narrative, to include a reference to the permit section where information regarding the replacement of pre-mine water supplies can be found that meets the requirements of NDAC 69-05.2-16-17. NDAC 69-05.2-09-13 requires an explanation of the necessary support facilities and in some instances it appears water sources other than stockponds will be needed. Please revise to provide clarity. (GAW)
98. Please revise the Narrative, Section 4.1.1, to include a detailed discussion about reconstructing each intermittent stream that will be affected by mining activities as required by NDAC 69-05.2-16-07(4). This narrative should also provide detailed plans for reconstructing ephemeral drainages in the larger watershed to ensure stability as required by NDCC 38-14.1-24(3). (GAW)
99. Please revise Section 4.1.1, Narrative, or Section 4.2, Revegetation Procedures, Establishment and Management, to explain how Coteau intends to stabilize steep long slopes that are planned in Mine Area 3. The Narrative Predicting Potential for Re-establishment of Vegetation in Section 3.1.1.1 does not appropriately address the likelihood of establishing vegetation and preventing sheet and rill erosion from occurring on long steep slopes where the potential for water erosion is high. Please consider using the Revised Universal Soil Loss Equation (RUSLE) for soil loss predictions with an analysis of the pre and postmining slope length (LS) factors used in the soil loss equation. NDCC 38-14.1-14(2)(h) (GAW)
100. Please revise Section 4.1.1, Narrative, to include a discussion of the fen wetland mitigation plan. According to Section 4.1.3, Pre and Post-Mining Land Use Comparison Table, it appears that Coteau is planning to replace an additional 10.85 acres of wetlands in this permit. Please revise to provide clarity. (GAW)
101. Please revise the appropriate subsections of Section 4.1, Post-Mining Land Use Plans, to show a water source for the native grassland tracts that are to be reclaimed in the W $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 6, T144N, R88W, and S $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 11, 145N, R88W, to comply with NDCC 38-14.1-14(2)(f) which requires support facilities to achieve the postmine land use. (GAW)
102. Please revise the appropriate subsections of Section 4.1, Post-Mining Land Use Plans, to show a water resource for the native grassland that is to be reclaimed in the NW $\frac{1}{4}$ of Section 14, T144N, R88W. This tract of native grassland had a developed water resource prior to mining and it needs to be replaced with an equivalent source as required by NDAC 69-05.2-16-17. (GAW)
103. Leon and Corrine Walz requested additional trees in their land owner preference statement but Section 4.1.3 does not show additional trees being planted on their property. Please revise to comply with the landowners wishes, or discuss the consideration given to their preference for

additional trees as required by NDCC 38-14.1-14(2)(d) and explain why the additional trees cannot be provided. (GAW)

104. The ND Department of Trust Lands asked for sizable watersheds in each 80 acre tract per quarter section of land and water developments and 2.5 acres of trees in each 80 acre tract. Please revise Section 4.1 as necessary to comply with the surface owner request, or discuss the consideration given to their preferences as required by NDCC 38-14.1-14(2)(d) and explain why the landowners request is not achievable. (GAW)
105. Please revise Section 4.1.1, Narrative, to fully explain the Industrial postmining land uses planned for the lands that are to be reclaimed in the NE and SE corners of Section 14, T145N, R88W. Please provide additional details regarding these industrial areas. Definitive industrial land use plans should be in place, including County Zoning, prior to reclaiming to an industrial use. Otherwise, these lands should be returned to agricultural purposes. NDAC 38-14.1-24(2) (GAW)
106. Four large wetlands are proposed to replace twelve pre-mine seasonal wetlands in Section 15 of T145N, R88W. One large wetland is proposed to replace four smaller seasonal wetlands and the upper reaches of an intermittent stream in the SE $\frac{1}{4}$ of Section 15, which is privately owned. Please revise to create a greater number of wetland features with greater wetland diversity and include a few wetlands in upland areas where most existed prior to mining, or otherwise explain how the four large wetlands will have wildlife values that equal or exceed those of the twelve premine seasonal wetlands. (GAW/JRD)
107. Cropland is shown on ephemeral drainages with large watersheds in Sections 4, 10 and 15, T145N, R88W, SW $\frac{1}{4}$ of Section 31, T145N, R87W, and SW $\frac{1}{4}$ of Section 3, T145N, R88W. Please revise so that large ephemeral drainages are not flowing through cropland or show these areas as grassed waterways. (GAW)
108. Please review the locations of all planned reclaimed woodlands so they better “fit” the revised Post-Mining Land Use Map, Section 4.1.2. The postmining woodland planting in the SE $\frac{1}{4}$ of Section 36 is shown on top of a hill and woodland plantings in the SW $\frac{1}{4}$ of Section 5 are shown on southwest facing aspects. As you’re aware, woodland success is greatly enhance by proper site selection, such as concave, north facing slopes. (GAW)
109. Please include a table that lists each reclaimed shelterbelt and woodland that is to be planted in the permit area with details regarding its planned size and revegetation schedule. NDAC 69-05.2-09-11. (GAW)

Section 4.1.2 – Post-Mining Topography and Land Use Map

110. Please revise the Post-Mining Topography and Land Use Map to reduce slope steepness in the recreated intermittent stream channel in Section 5 of T144N, R88W, where channel slopes exceeding 8% are planned and increase channel sinuosity and channel length similar to that which existed prior to mining. NDCC 38-14.1-24(3) and NDAC 69-05.2-16-07(4) (GAW)
111. Please revise the Post-Mining Topography and Land Use Map to increase sinuosity, channel length, and the use of secondary drainages of all recreated ephemeral drainages. The drainage identified as SC-09-01 meandered through the SE $\frac{1}{4}$ of Section 1 prior to mining but this

- potential water source does not pass through this tract in the postmine setting. Please revise the post mining topography to create ephemeral drainage ways with characteristics similar to that which existed prior to mining. This should include channel length, sinuosity and floodplains where they existed prior to mining. NDCC 38-14.1-24(3) and NDAC 69-05.2-16-06(5) (GAW)
112. Please revise the Post-Mining Topography and Land Use Map to include secondary drainages throughout MA3 and in Section 5 of T14N, R88W, similar to that which exists prior to mining, meaning a similar number of such features with channel slopes not steeper than that which existed prior to mining. This is especially important along the escarpment in the N½ of Sections 10 and 11 and the SW¼ of Section 3. NDCC 38-14.1-24(3) and NDAC 69-05.2-16-06(5) (GAW)
 113. Please revise the Post-Mining Topography to minimize the acreage with slopes exceeding 12% for compliance with NDCC 38-14.1-24 (3). This statutory provision requires a postmining landscape that will provide for maximum stability, minimum soil losses from runoff and drainage patterns that will complement the surrounding terrain. Although tables in Section 3.1.5 shows an average postmining slope less than that which existed prior to mining, Coteau is changing the location of steep slopes to areas where runoff is expected to flow. Generally slope lengths and steepness should not exceed that which existed prior to mining. (GAW)
 114. Revision 18 proposes a large hill with steep long slopes near the section corner common to Sections 9, 10, 15 and 16 where one did not exist prior to mining. The elevations in this area are being increased by about 100 feet. Although Coteau owns this property, the topography needs to be shaped more similar to that which existed prior to mining. Please reduce the height of this hill and the length of the slopes for compliance with NDCC 38-14-1-24(3). (GAW)
 115. Revision 18 proposes a large high hill in the NE¼ of Section 14 that is higher than that which existed prior to mining while lowering the NE¼ of the NE¼ by up to 40 feet. The slopes length associated with this hill are too long given the steepness. Please revise to the topography so that it more closely resembles the pre-mine topography and include secondary drainages. (GAW)
 116. The Post-Mining Topography and Land Use Map, Section 4.1.2, depicts reclaimed stockpond SP-W10-02 in the NW¼ of Section 10 as an undisturbed stockpond (square shaped symbol). Please revise to properly depict this feature as a reclaimed stockpond (triangular shaped symbol). (GAW)
 117. Reclaimed stockpond SP-W10-03 is shown in a location where it only has about 13 acres of contributing watershed. Please revise to place this pond in a location where the watershed is of sufficient size to provide a reliable livestock watering source. NDCC 38-14-1-24(7) (GAW)
 118. Betty Geise requested that 30 acres of woodlands be planted on Tracts 11, 22 and 24 (SW¼ of Section 5 and NW¼ and E½SW¼ of Section 8) where only 16.9 acres were present prior to mining. Please revise to replace additional woodland acreage as requested by the surface owner or explain why this is not feasible. NDCC 38-14.1-14(2)(d) requires the applicant to state what consideration was given to the surface owners postmining land use preferences. (GAW)
 119. The surface owner requested that a dugout be placed in the SW¼ of Section 27 and one is shown at the north end of the tract. However, this dugout is adjacent to West Antelope Creek, an intermittent stream. Please consider adjusting the topography to allow adequate drainage and

- watershed for a dugout more centrally located within the tract, as appears to be the surface owner's intentions. (GAW)
120. The surface owner requested that the S½SW¼ of Section 34 be reclaimed to hayland but the postmine land use map shows that the whole quarter is being reclaimed to hayland. Section 4.1.3, Land Use Comparison Table shows 109 acres of native grassland is being replaced on this tract. Please reconcile the apparent discrepancy and revise as necessary to comply with the surface owners wishes or otherwise provide an explanation that meets the requirements of NDCC 38-14.1-14(2)(b) and (d). (GAW)
 121. Please bolster the land use boundary lines on the Post-Mining Topography and Land Use Map, Section 4.1.2, so that it is clear what is the land use boundary. For example, the land use boundaries are not clear in Section 34, T145N, R88W, and there is a red line passing through this section that adds further confusion. (GAW)
 122. Please revise the Post-Mining Topography and Land Use Map, Section 4.1.2, to show grass waterways in drainages that pass through cropland and we also recommend including grass sedimentation buffer zones around reclaimed wetlands located in reclaimed cropland. NDCC 38-14.1-24(3) and Wetland Revegetation Standards (GAW)
 123. The legend of the Post-Mining Topography and Land Use Map, Section 4.1.2, includes symbols for "undisturbed native shrub and tree communities" and "future replacement and undisturbed native shrub and tree plantings". Please clarify what is the difference between a "replacement planting" and a "future replacement planting". If both symbols will be used, please make them more distinguishable from each other. (GAW)
 124. Please consider changing the planned location of the replacement shelterbelt that is going to be planted in the NW¼ of Section 3. It would seem this shelterbelt might be more beneficial adjacent the cropland in this quarter section rather than on a south facing slope that contains steep slopes given that the farmstead has been removed and will not be replaced. (GAW)
 125. Please include an identification label for each reclaimed shelterbelt and woodland that is to be planted in the permit area on the Post-Mining Topography and Land Use Map, Section 4.1.2 so that one can easily cross-reference the planting details. NDAC 69-05.2-05-02 (GAW)
 126. Please consider moving stockpond SP-W05-01 a little further north so that it would be located closer to the middle of the quarter section. (GAW)
 127. Stockpond SP-04-01 is shown in the middle of a large recreated wetland. Please reconsider the location of this stockpond to the edge of the wetland or adjacent to it. (GAW)
 128. Please consider constructing developed water resources (dugouts) for each landowner who owns property along the intermittent stream that is going to be affected by mining in Sections 7 and 8 and the NE¼ of Section 6 of T144N, R88W. The intermittent nature of this stream will be reduced or eliminated by mining and reclamation activities as well as diminishing the water availability for livestock. NDAC 69-05.2-16-17 (GAW)
 129. Please place the label for stockpond SP-W01-01 closer to the pond symbol. (GAW)

130. There are numerous numeric values, some of which are acreage values, on the Post-Mining Topography and Land Use Map, Section 4.1.2, that do not appear to have any apparent value. For example, below the Tract 29 listing there is a 0.6, a 1.6 and 63.02 acres, numbers that do not appear to be representative of anything nearby. Please review and revise so that the numbers become meaningful or remove the unexplained numbers. The solid red line that somewhat follows the disturbance boundary and crosses through the permit area is confusing and should be removed or clearly explained. (GAW/RLK)

Section 4.1.3 – Pre- and Post-Mining Land Use Comparison Table

131. The Pre- and Post-Mining Land Use Comparison Table includes the SE1/4 of Section 11 of T144N, R89W, but this tract is located outside of the permit area. Please review and revise as necessary. (GAW)
132. Please retain the tract number information in the Pre- and Post-Mining Land Use Comparison Table, Section 4.1.3, so that information in other sections of the permit can be cross referenced. For example, the landowner preference statement information in Section 4.1.5 is only listed by tract and the wetland information continues to be broken down by tract rather than section. Tract ownership changes over time makes it difficult to determine the location of property without the tract number which is why this information is being retained on the post mine land use map. Please retain the tract numbers on this table and present it consistently, in the same format as Section 2.4.4- Pre-Mining Land Use and Ownership Table. (GAW/ZAB)
133. The land use acreages listed in Section 4.1.3, Pre- and Post-Mining Land Use Comparison Table appear to be different than those shown on the Post-Mining Land Use Map, Section 4.1.2, for Tracts 102 and 103, Section 34, T145N, R88W, less the SW1/4. The post mine land use for the combined tract of about 480 acres is shown as cropland but the table lists 263.6 acres of cropland for the tract. Please revise as appropriate. (RLK)
134. The land use acreages listed in Section 4.1.3, Pre- and Post-Mining Land Use Comparison Table appears to be different than those shown on the Post-Mining Land Use Map, Section 4.1.2, for Tract 104, SW1/4 of Section 34. The map identifies the post mine land use as cropland and a wetland, while the table still lists only 51.2 acres of cropland, 109 acres of native grassland, and a 0.1 acre stockpond. Please revise as appropriate. (RLK)
135. The land use acreages listed in Section 4.1.3, appear to be different than those shown on the Post-Mining Land Use Map, Section 4.1.2, for Tracts 6 and 7, Section 4 T144N, R88W, less the W1/2SW1/4 and Tract 6A. The table lists the post-mine cropland as 261.2 acres but the cropland acreage on the map appears to be approximately 40 acres located in the undisturbed portion of the S1/2 of Section 4. Please revise as appropriate. (RLK/GAW)
136. Please review the total acreages on the Pre and Post-Mining Land Use Comparison Table, which are inconsistent with the acreage totals listed in Section 2.4.4 Pre-Mining Land Use and Ownership Table. (ZAB)

Section 4.1.5 – Summary of Landowner Preference Statements and Response/Action Taken

137. Please revise Section 4.1.5, Summary of Landowner Preference Statements and Response/Action Taken, to clarify how Coteau plans to replace all pre-mine water sources on Coteau owned

property and on all tracts where no landowner preference statement was received. NDAC 69-05.2-16-17 requires that all premine water sources be replaced, but Section 4.1.5 only addresses replacing those where specific requests were made and a “no comment” is listed in the request column of tracts where no request was made. (GAW)

Section 4.2.2 – Seed Mixes

138. Please revise the Seed Mixes narrative, Section 4.2.2, to clarify how the natural riparian vegetation will be restored along affected intermittent streams as required by NDAC 69-05.2-16-07(4) and include a separate seed mixture for these areas, if necessary. The Reclamation Division believes that Coteau should commit to direct respreading riparian topsoil along portions of recreated intermittent streams where possible. Please also clarify the seed mixture(s) that will be used in recreated intermittent and ephemeral streams with large watersheds to ensure stability, and the seed mixture that will be used on grassed waterways in cropland settings. (GAW)

Section 4.3.1 – Vegetation Assessment and Success Standards Narrative

139. Please review the native tree and shrub woodlands narrative on page 2 of Section 4.3.1 to clarify if the projected acreage estimate of woodlands to be disturbed by mining activities continues to be accurate. Please also revise this narrative to state that actual as-planted woodland planting information will be periodically included in the permit so that a surface owner’s woodland density, diversity and seasonality standards can be determined. The planting mixture listed in Section 4.1.1 may vary considerably from year to year depending on species availability and actual between row width and tree spacing. (GAW)

Section 4.3.2 – Consolidated Vegetation Success Standards

140. Please revise the Consolidated Vegetation Success Standards narrative to clarify if current mining plans are going to affect established native grassland reference areas and how this issue will be addressed in the Consolidated Vegetation Success Standards Document. According to the Pit Layout and Facilities Map, it appears that a portion of the sandy site will be mined through and the shallow and thin upland reference sites will be affected by mining related associated disturbance. (GAW)

Section 4.4 – Post-Mining Wetlands

141. The second paragraph on page 2 of Section 4.4.1, Postmining Wetlands Narrative, states that spring fed and seep-fed intermittent streams will not be restored because aquifers that support these streams will be removed. Although it is true that the ground water sources will be removed with mining, NDAC 69-05.2-16-07(4) requires that steam channels be restored to their natural meandering shape that approximates premining stream channel characteristics which includes restoring the natural vegetation. Please revise to discuss restoring the intermittent stream corridors located in Section 14 and the one in Sections 5, 6, 7 and 8 to their natural meandering shape, which includes the stream channel and associated floodplain. This information could be provided in Section 2.2.4 or somewhere in Section 4.0 if appropriately referenced. (GAW)
142. The Department of Trust Lands requested that wetlands not be larger than 5 acres but created wetland CW-W36-03 is shown to be 7.1 acres in size. Please review the surface owner

preference statement and revise as necessary for compliance with NDCC 38-14.1-14(2)(b) and (d). (GAW)

Section 4.4.2.1 Undisturbed and Disturbed Wetland Acreage Summary Table

143. Please review the note at the top of each page in Section 4.4.2.1 - Undisturbed and Disturbed Wetland Acreage Summary Table which states, "NOTE: Wetland acres listed on this table pertain to those tracts of land in Permit NACT-0201 that have been disturbed, or are proposed for disturbance, by mining activities up to and including the filing of Revision 8." Please update the revision number to 18 on both pages. (ZAB)
144. Please review the pre-mining wetland acreage for Linette Buchfink in Section 4.4.2.1- Undisturbed and Disturbed Wetland Acreage Summary Table. The acreage increase from 4.6 acres to 11.1 acres with Revision 18 seems rather large. Please review and revise if appropriate. (ZAB)

Section 4.5 – Post-Mining Stockponds

145. Please update Section 4.5.2.1, Design Parameters for Post Mining Stockponds, to provide the preliminary information for the post mining stockponds proposed for the mine areas described in Revision 18, particularly the north of the highline corridor. NDAC 69-5.2-09-09 (RLK/GAW)

Other

146. The Reclamation Division has had a recent discussion with staff at OSM's western regional office about the federal mine modification that will be necessary for Revision 18 before mining will be allowed to begin on tracts containing leased federal coal in the northern part of the permit area. OSM indicated that additional information and discussion is needed to assess the possible impacts of mining on air quality, greenhouse gas emissions, cultural resources, and threatened and endangered species and candidate species. The air quality discussion will need to address compliance with National Ambient Air Quality Standards (NAAQS), North Dakota Ambient Air Quality Standards (NDAAQS), and limits air quality degradation under the Prevention of Significant Deterioration (PSD) Program. The PSD discussion needs to specifically address particulate matter with a diameter of less than or equal to 10 microns (PM10) and less than or equal to (PM2.5) microns. The North Dakota Department of Health has an ambient air quality monitoring station north of Beulah and monitoring data from this location should be helpful in addressing these and other air quality standards. The discussion also needs to address how the additional mining will affect greenhouse gas emissions and global warming as well as any issues or concerns about nitrous oxide emissions due to the use of explosives at the Freedom Mine. An update on the current status of implementing and carrying out activities under the approved cultural resources management plan should be provided. Any additional work under this plan that will be conducted in the next five years or so should be discussed as well. While other items in this letter include requests to update the list of threatened and endangered species and candidate species, such an update is also needed for the federal lands decision document. We recommend you contact Mr. Gene Hay at OSM (303-293-5036) for more information on these matters. The responses to most of these items should be discussed in the applicable sections of the permit. (JRD)

Mr. Troy Leingang
December 11, 2014
Page 23

147. During the review of this revision it was noted that some additional disturbances are being proposed that were not identified in the landowner notifications that were mailed to the surface owners prior to the submittal of the original permit application or subsequent revisions. For example as noted in item 76, a pond and SPGM and overburden stockpiles are being proposed for the western portion of the Section 16, T145N, R88W, beyond the coal removal line. These disturbances were not shown on the original or subsequent landowner notifications. Coteau must provide landowner notification to any landowner where new or modified disturbance is proposed (that was not included in the original or any subsequent notification) per NDCC 38-18-06. (DKM)

If you have any questions, please contact this office.

Sincerely,



James R. Deutsch
Director
Reclamation Division

cc: Mercer County Auditor
Gene Hay, OSM