NORTH AMERICAN COAL CORPORATION

OTTER CREEK MINE

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February 15, 2012

Mr. James R. Deutsch
Reclamation Director
ND State Public Service Commission
600 East Boulevard, Dept. 408
Bismarck, North Dakota 58505

RE: Otter Creek Mining Permit NAOC-0802

Dear Mr. ~~Deutsch~~ Jim:

The Otter Creek Mining Company submits the following responses to the review items from your July 7, 2010 letter required to be addressed prior to approval for the above-referenced permit revision.

Section 1.1.6 - Schedule of Violations

1. ***Since the Indian Head Mine that was operated by the Bellaire Corporation has been totally bond released for more than 5 years, it no longer needs to be listed in this section of the permit. NDCC 38-14.1-14(1)(g). (SAS)***

   Section 1.1.6 has been updated to reference the stand-alone document containing legal, compliance, and related information for Otter Creek Mining Permit NAOC-0802 and for all North American Coal operations in North Dakota.

2. ***Please provide Schedule of Violations information for the two mines operated by the wholly-owned subsidiaries of North American Coal; namely the Camino Real Fuels, L.L.C. at the Eagle Pass Mine (Dos Republicas Coal Partnership) and the Demery Resource Company, L.L.C. at the Five Forks Mine (Five Forks Mining, L.L.C.). NDCC 38-14.1-14(1)(g) requires the information for any violations "...incurred by the applicant in connection with any surface coal mining operation..." since both operations are listed in Section 1.3.1 and North American Coal is the operator at both mines. (SAS)***

   Section 1.1.6 has been updated to reference the stand-alone document containing legal, compliance, and related information for Otter Creek Mining Permit NAOC-0802 and for all North American Coal operations in North Dakota.

Section 1.2.5 - Certificate of Liability Insurance

3. ***Please add the copies of the liability insurance endorsements that were recently submitted to indicate that the requirements of NDCC 38-14.1-14(3) have been met. (SAS)***

   As per e-mail correspondence with Mike Berg on 02/14/2012, the existing endorsements in the Otter Creek Permit are acceptable as is. The 2012 Certificate of Liability has been inserted into Section 1.2.5.

Section 1.3.2 - Names of Other Mines

4. ***The Eagle Pass and Five Forks Mines should be included in this section since both are operated and wholly-owned subsidiaries of North American Coal, and are listed in Section 1.3.1. (SAS)***

   Please see updated Section 1.3.2.

Section 1.5 - Identification of Interests and Rights of Entry

5. ***The Surface and Coal Ownership Map, Section 1.5.3, indicates Tracts 7, 25, and 27 are being permitted for surface disturbance only, but the Pit Layout and Facilities Map, Section 3.1.5, shows that mining is scheduled to occur on these tracts. Based on a review of the coal leases for these tracts in Section 1.5.1, it appears that Otter Creek does not have the right to mine these tracts (at least 75% of coal ownership leased). Otter Creek must either provide the necessary documents indicating that they have the right to mine these tracts or review the Pit Layout and Facilities Map to show no mining on these tracts. (GAW)***

   The Pit Layout and Facilities Map, Section 3.1.5, has been revised to show no mining in Tracts 7, 25, and 27.

6. ***Lease #2322 for Tract 25 is not a certified copy of the signed lease. Please replace with a copy of the lease that has been recorded in the county courthouse and certified by the County Register of Deeds as required by NDAC 69-05.2-06-03(1). (SAS)***

   A certified copy of Lease No. 02322 has been scanned and relinked to Tract 25.

7. ***It appears that the primary lease term (and in some cases, the second lease term) for the following tracts has expired or will soon expire: Tracts 1, 2, 3, 4, 5 (lease 02248), 17, 18, 21, and 22. Please provide documentation that these leases have been extended or will otherwise remain valid. (SAS & DKM)***

All leases that have expired and were extended have had Affidavits of Renewal added and relinked to their associated Tract.

A new Certificate of Authenticity was also added.

Any leases expiring in the future will be handled at that time; any documentation acquired in the process will be added and relinked to their appropriated Tract.

Section 1.5 has been updated throughout to make the information current with all documentation received by the Land Office since the completeness review.

Section 2.1 - Cultural and Historic Resources

8. ***In Section 2.1.3 (Site List and Recommendation Table) either remove Site 32OL456 from the list or indicate that it is located outside the permit boundary (e.g., Sites 32OL370 and 32OL468 were not included on the table). (DKM)***

Please see updated Section 2.1.3.

9. ***In Section 2.1.1, Cultural Resource Narrative, please provide a plan for reporting the discovery and mitigation, if necessary, of any previously unrecorded cultural resource sites. NDCC 38-14.1-14(1)(u)(b). (DKM)***

Please see additional language added to Sec. 2.1.1.

10. ***Please provide plans for marking the appropriate buffer zone of the significant sites (unless previously mitigated) in the field once any operations (including pond construction) are within 1000 feet of the site. Appropriate buffers on all unmitigated significant or undetermined sites should also be depicted on the Pit Layout and Facilities Map, Section 3.1.5. (DKM)***

Please see added language in Section 2.1.1, and revised Pit Layout and Facilities Map, Section 3.1.5.

Section 2.2 - Description of Ground Water Hydrology

11. ***Please revise the narrative in the second paragraph on page 3 of Section 2.2.2 to provide a past-tense account of the 2009 aquifer pump test on lignites to be disturbed in the first two years of mining. If the pump test in Section 5 was conducted in 2009 as planned, please incorporate the new information into the permit by supplementing or corroborating the aquifer test information that is currently presented in the permit. (BEB)***

Please find changes made as requested.

12. ***Tables presented as Sections 2.2.12 and 2.2.16 describe monitoring well 22-14 as being screened in the Hagel Bed, although the Ground Water Monitoring Schedule in Table 1 of Section 2.2.6 describes the screened interval as being Qal Channel Fill. There is no well completion report available, although review of the lithology and geophysical logs appear to confirm an open hole production well installed through two lignite seams. Please review and update as needed. (BEB)***

Please find changes made in Section 2.2.6 to Well 22-14 screened interval to Hagel.

13. ***Conflicting information is provided for monitoring well 27-1R in the Ground Water Monitoring Schedule of Section 2.2.6, in the Monitoring Well Information spreadsheet of Section 2.2.12, and in the Completion Details of Monitoring Wells spreadsheet in Section 2.2.16. The Ground Water Monitoring Schedule places the well in Section 32, the Monitoring Well Information spreadsheet places the well in Section 24, and the Completion Details of Monitoring Wells spreadsheet provides two listings of the same well in the spreadsheet with both locations cited. We have noted that the well location maps in Sections 2.2.8 and 2.2.17 place the well in Section 24. Please review and update as necessary. (BEB)***

Please find changes made to Well 27-1R location in Section 2.2.6 to Section 24.

14. ***Please correct the typographical error concerning the measuring point elevation of ground water monitoring well 33-1 as provided in the Completion Details of Monitoring Wells spreadsheet of Section 2.2.16. The spreadsheet labels the measuring point as being 2,028.48 feet, although it appears the correct elevation should probably be 1,998.48 feet. (BEB)***

Please find groundwater elevation changed to 2025.7.

15. ***Table 1 in the Ground Water Monitoring Schedule of Section 2.2.6 provides the exact same coordinate location for monitoring wells 52-1 and 52-2, and separately for wells 53-2 and 53-3, and perhaps others. We realize these are nested wells and located near each other, although the wells were likely spaced a couple of feet to ten feet apart during the installation process and a corrected location would be beneficial to us and Otter Creek Mining Company for incorporating accurate well site locations into a database. Please check your location records for these well sites and update as necessary. (BEB)***

Please see corrected coordinates.

16. ***Please attempt to assign a screened interval designation for ground water monitoring well 56-1 and incorporate that information into the spreadsheets that are associated with this particular well such as the Monitoring Well Information spreadsheet of Section 2.2.12, the Ground Water Monitoring Schedule of Section 2.2.6, and perhaps other sections as well. At present, the screened interval is noted as being questionable or unknown. Based on the location of the well it appears that it should be assigned as Qal Channel Fill, although the well completion report in Section 2.2.14 indicates that a 4-foot thick coal seam was encountered at 40 feet below surface and the lithologic log for this hole indicates a 5-foot thick coal seam was also encountered at 40 feet below surface. However, other maps and data in the permit place the monitoring well off-coal beyond the Kinneman Creek and Hagel crop lines. In order for collected data to be usable and assigned to a specific hydrostratigraphic unit as a component of the ground water monitoring plan, an assignment of the screened interval will need to be determined. (BEB)***

    Please find a screened interval of the Hagel Interval/Qal since the well is located on the subcrop of the Hagel coal seam.

17. ***Please provide the screened stratigraphic unit designation for ground water monitoring well 52-1 in the Completion Details of Monitoring Wells, Section 2.2.16. Other spreadsheets in the permit reference this well as being screened in the Hagel Bed, although the completion spreadsheet labels the unit as Coal Lake. (BEB)***

    Please find changes made as requested.

18. ***Section 2.2.23a provides a table delineating water quality data by well number which incorporates a column for the sampling dates. It appears the sampling dates were intended to be listed in descending order with the earliest or most recent sampling date at the bottom and the older sampling dates on top. However, there is an exception with regard to a handful of wells in which samples were collected in 2007. The issue appears to be an Excel formatting exception, and an attempt to maintain consistency with other tables provided in the application would be appreciated. Also, monitoring well 7-1 provides information for the same sampling date (12/29/2007) at both the top and bottom rows. Please review this table and if deemed necessary, place the sampling dates in a consistent order and eliminate any duplicate rows of data. (BEB)***

    Please find changes made as requested.

19. ***Please check your location information notes for the Darrell Schulte Spring #2 in Section 33. The Spring Certification Summary information in Section 2.2.10 and the mapped location in Section 2.2.9 provide conflicting information for the location of***

this spring. The mapped location places the spring in the SW¼NE¼ of Section 33 and the summary spreadsheet places the spring in the SW¼NW¼ of Section 33. (BEB)

Please find changes made as requested.

20. ***Since springs and seeps are considered to be part of ground water resources, we ask that you supplement the narrative of Water Bearing Formations and Hydrogeology, Section 2.2.2, with a discussion describing the seeps and springs that have been inventoried in the permit and adjacent area, the likely producing hydrostratigraphic units, and their usage as a water resource in the area. We realize the spreadsheet in Section 2.2.10 provides an accounting and information for 14 certified springs within the permit area, although we are unsure if this represents all of the seeps and springs that have been inventoried. If there are additional springs/seeps within the permit area that are not included in the spreadsheet and have not been certified, please identify them and provide a discussion in the narrative describing the selection process in determining which springs were certified and which were not. (BEB)***

Please find the requested discussion has been provided in Section 2.2.2 (pp. 8 - 9).

21. ***Please update the heading name for Section 2.2.11, "Well Certification Field Data Forms" to "Well and Spring Certification Field Data Forms", to more accurately characterize the content of the section. (BEB & WTG)***

Please find changes made as requested.

22. ***In the narrative concerning artesian pressure on page 8 of Section 2.2.2, the statement is made that "In the Kinneman Creek Bed, well 29-1, nested with 29-1, has an artesian head..." It appears the intent of the narrative was to state that "In the Kinneman Creek Bed, well 29-2, nested with 29-1, etc." Please review and revise as deemed necessary. (BEB)***

Please find changes made as requested.

23. ***Ground Water Hydrologic Setting narrative in the first paragraph of Section 2.2.1 references the ground water divide in the Square Butte Creek Aquifer as being located in the SE¼ of Section 20, T143N, R84W and based on other submitted data in the permit the location information should possibly be changed to indicate the ground water divide as being located in the SW¼ of Section 20. Please review and update as deemed necessary. (BEB)***

Please find changes made as requested.

24. Ground Water Recharge narrative in Section 2.2.2 indicates that some of the linear wetlands occupying ephemeral drainageways within the permit area may serve both as ground water recharge and discharge sites depending upon precipitation and runoff. However, by definition in NDAC 69-05.2-01-02(29), an ephemeral stream/drainage has a channel bottom that is always above the local water table which would seem to eliminate the possibility of the drainageways or linear wetlands acting as a ground water discharge zone, unless the drainageway(s) actually function as an intermittent stream/channel. Please review and determine whether or not some of the described ephemeral drainageways may actually function, and be classified as intermittent streams. Also, a discussion of ground water interflow in this circumstance would be appropriate to supplement the narrative. Please review and revise as necessary. (BEB)

The clause at the end of definition NDAC 69-05.2-01-02(29) is a hydrologic generalization that does not apply to all instances of ephemeral streams. Reaches of ephemeral streams can be in contact with saturated zones yet not receive enough ground water discharge to provide observable base flow. This can be due to a low discharge rate, evapotranspiration, seasonality, downgradient water movement within channel alluvium, or a combination of factors. Such interaction with saturated zones may be important in maintaining wetlands or pools in the drainageway.

(29). "Ephemeral stream" means a stream which flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice, and which has a channel bottom that is always above the local water table.

It should not be concluded from exclusion based on this definition that a drainage in contact with a saturated zone and receiving discharge from it must necessarily be an intermittent stream. Reaches of ephemeral streams can and do receive ground water discharge but in insufficient quantities to maintain a month of continuous flow to meet the definition an intermittent stream.

(50). "Intermittent stream" means a stream or part of a stream that flows continuously for at least one month of the calendar year as a result of ground water discharge or surface runoff.

The conflicting language has been modified in Section 2.2.2 (p. 2) of this application. However, to accommodate fuller and more meaningful description of ground water and surface water interactions along drainageways in North Dakota mine areas, it is suggested that the Clause, "and which has a channel bottom that is always above the local water table" be considered a generality and not a criterion of an ephemeral stream.

25. ***The third paragraph of narrative in the Ground Water Probable Hydrologic Consequences of Section 2.2.5 makes the statement that "The Tavis Creek Bed is not predicted to be affected by mining." We understand the intent and meaning of the sentence given the context of the preceding narrative, but please supplement this closing statement by specifically stating that water quantity and water quality of the Tavis Creek Bed is not expected to be affected by mining (assuming that was your intention). (BEB)***

Please find changes made as requested.

26. ***The second paragraph of narrative under the Ground Water Resources and Uses portion of the PHC in Section 2.2.5 describes the inventory of 96 active and abandoned water supply wells and springs. It appears that a couple of additional wells/springs (total of 98) have been added to the inventory and were not accounted-for in the narrative. Please either revise the narrative to provide an updated number of wells/springs or simply eliminate the running tally portion of the narrative altogether. (BEB)***

Please find changes made as requested.

27. ***It is our understanding the Southwest Pipeline Project will provide piped rural water in the near future (2013-2015) for areas near the Otter Creek Mine and we recommend supplementing the HRP narrative in Section 2.2.5 concerning water supply replacement with consideration given to connection to rural water as a viable water replacement option available to Otter Creek Mining Company. (BEB)***

Please find changes made as requested.

28. ***We believe the permit narrative accurately describes the function of reclaimed spoils and its negligible role in recharge of localized aquifers particularly in the near-term. However, as described in NDAC 69-05.2-09-12(1)(d), please provide a plan for restoring the approximate recharge capacity of the general permit area as required by NDAC 69-05.2-16-15. Narrative in the ground water PHC/HRP describes options of recharge enhancement to the post-mining alluvial fills and adjacent bedrock remnants and could be expanded to describe restoration of recharge capacity to the broader areas of backfilled spoils mine-wide e.g., reduced topographic slopes, revegetation, concave landscape development, wetland replacement, other DWR's, etc. Please expound on these and any other potential reclamation recharge components in addition to the descriptive narrative that is already provided in the Ground Water Hydrologic Reclamation Plan of Section 2.2.5. (BEB)***

Please find the discussion in Section 2.2.5 (pp. 4 - 5) has been expanded as requested.

29. ***Please add to the Potentiometric Surface Maps of Sections 2.2.19a through 2.2.19d the location and well numbers of the various ground water monitoring wells screened in the particular hydrostratigraphic units for which static water level data was used in development of the potentiometric contours. Incorporation of well numbers and locations on the maps was also requested by the State Water Commission during their permit application review. NDAC 69-05.2-08-06(1)(d). (BEB)***

Please find changes made as requested.

30. ***The Lithologic Logs in Section 2.2.13 provide separately the geologists drilling log in addition to a monitoring well completion report for monitoring well 16-1R that is located in the SE¼ of Section 8. However, the lithology reported for the well in the separate documents is somewhat different and the information presented may not pertain to the same well. Please review and if necessary, eliminate the erroneous or unnecessary document from the submittal. (BEB)***

Please find changes made as requested.

31. ***Please correct the typographical error in the Well Certification Field Data Forms of Section 2.2.11 where the Martin Bornemann Spring #2 is listed as Sprint #2. (BEB)***

Please find changes made as requested.

32. ***In Otter Creek's response to the completeness review items, additional mining is now planned in portions of Section 2, T142N, R85W. Two springs have been identified within the NW¼ of Section 2 and the landowner preference statement of Dale M. Berg and Cynthia K. Berg states that they want their spring to be re-developed. Based on the landowner preference statement, it appears that at least one of the springs was, or currently is, developed and will likely be destroyed by mining activities and the planned construction of sediment Pond P-02-03. These springs have been incorporated into the Surface Water Monitoring Plan; however, they are not included in the Well and Spring Certification Summary and Probable Effects of Mining table in Section 2.2.10 or the Location Map in Section 2.2.9. Please update the permit as needed to address probable water replacement requirements for these springs. (BEB & WTG)***

Please find changes made as requested.

<u>Section 2.3 - Description of Geology</u>

33. ***Please revise the first paragraph of the General Geology narrative in Section 2.3.1 in which the physiographic region of the Otter Creek Mine permit area is described as being situated on the Coteau Slope, southwest of the Missouri Coteau and northeast of the Missouri Trench. This physiographic description appears to be a carry-over from***

the Falkirk Mine permit narrative and should be amended to place the physiographic location of the permit area on the Missouri Plateau (or Missouri Slope Upland). (BEB)

Please see changes made as requested.

34. ***Exhibit 1 of Section 2.3.1 displaying the Hagel Coal Bed locations shows the Coteau Properties Freedom Mine as being included in the Hagel Lignite Reserve Area. Please indicate in the General Geology Narrative of Section 2.3.1 if this USGS-mapped interpretation is erroneous and should be disregarded because the Beulah/Beulah-Zap Bed is the target coal seam at the Freedom Mine as opposed to the Hagel Bed. Conversely, please indicate in the narrative if the Beulah/Beulah-Zap Bed and the Hagel Bed are correlative units that have simply been assigned differing names due to their distal location. (BEB)***

The intent of the narrative in Section 2.3.1 and Exhibit 1 is to show the extent of the Hagel lignite reserve in North Dakota and where it is currently being mined or has been mined in the past. Exhibit 1 depicts the part of the Hagel reserve under the area the Freedom Mine is situated. Although the Freedom Mine is not currently mining the Hagel seam, it does exist in this area and may be economically mined in some places.

35. ***Please incorporate coal core analyses information for OC07036C into the spreadsheet of Section 2.3.4. The coal quality information for this sample is available in the permit on page 75 of Section 2.3.9. (BEB)***

Please see changes made as requested.

36. ***Please revise the Drill Hole Information narrative in Section 2.3.6. Additional drill hole information was acquired in 2009 in response to a completeness deficiency and an additional 36 holes were drilled within the permit area and that information was incorporated into the permit. The narrative mentions several times that information for (72) drill holes is included in Section 2.3.6a and this narrative should be revised to indicate that information is available for (108) holes, which would account for the additional information added to the permit with the 2009 drilling project. (BEB)***

Please see changes made as requested.

37. ***We understand that backfilling drill holes with cuttings is currently allowed by the State Geologist as an acceptable method of drill hole reclamation, but we disagree with the statement that backfilling drill holes with drill cuttings serves to prevent the comingling of ground water in areas where multiple aquifers are penetrated by drilling.***

Unless Otter Creek can provide specific information or reference documentation indicating that this backfilling procedure has been proven to prevent co-mingling of ground waters, we ask that you please eliminate that particular sentence from the Drill Hole Sealing Procedure narrative of Section 2.3.10. (BEB)

Please see changes made as requested.

38. ***Please eliminate the bookmarks and information provided for labeled overburden drill holes OC07012C and OC07029 that are included with the lithologic logs in Section 2.3.7a. The lithologic logs of these labeled drill holes are not provided in the section, they are not labeled on the Drill Hole Location Map, and the drill holes have apparently not been used for providing baseline permit information. The information provided for OC07012C is actually the coring log for drill hole OC07013C and the bookmark for OC07029 is a dead bookmark that does not advance the reader to anything. Please eliminate the information and bookmarks associated with these drill holes from Section 2.3.7a. (BEB)***

Please see changes made as requested.

Section 2.4.1 - Fish and Wildlife Report

39. ***Appendices I and II are repeatedly referenced in the narratives of Section 2.4.1 and are listed as bookmarks in digital format, but it is not clear which information is in the Appendices when printed. Even though this is an electronic permit, please consider revising so that pages labeled "Appendices I and II" are present when printed. NDAC 69-05.2-05-02. (GAW)***

Appendices I and II in Section 2.4.1 have been labeled respectively.

40. ***Please update Section 2.4.1 to include the results of the 2009 Wildlife Surveys. This information may be incorporated into baseline information or included as a stand-alone report. The narrative in the opening paragraph under the Methodology section should then be revised accordingly and the additional grassland breeding bird site should be depicted on a map. (GAW)***

Please see updated Sections 2.4.1 and 2.4.1a.

41. ***Please show the specific route(s) traveled when conducting the grassland breeding bird surveys in the NE¼ of Section 31 and discuss the appropriateness of determining species density using all 123.49 acres as shown in Table 2 of Appendix II. Additional details regarding the protocol/methodology used should be included to allow one to understand how species density was determined on such a large area. (GAW)***

Please see updated narrative in Section 2.4.1.

42. ***A sentence in the Threatened or Endangered Species/100 Species of Concern narrative on page 4 of Section 2.4.1, Fish and Wildlife Resources Report, states that a listing of all Federal threatened, endangered and candidate species found in ND at the time the surveys were completed is included in Appendix II and an up-to-date list is shown in Table 1 of Section 2.4.3. Table 1 of Section 2.4.3 cannot be found and the T & E species narrative on page 3 of Section 2.4.3 references Table 5 of Appendix III in Section 2.7.3. Appendix III of Section 2.7.3 is the plant species list for Otter Creek permit area. A sentence in the first paragraph on page 13 of Section 2.4.1 discusses threatened and endangered species and references Table 5 of Appendix II of Section 2.7.3, but Table 5 of Appendix II is a hayland summary table. Please review and correct the narratives and links accordingly. In any event, it appears that Table 5 in Appendix II of Section 2.4.1 is the ND threatened, endangered and candidate species list but it is Oliver County specific and does not include the western prairie fringed orchid or the Dakota skipper as a candidate species. Please include a complete list of all threatened, endangered and candidate species found in ND and review and update as necessary. (GAW)***

Please see updated narrative and tables in Sections 2.4.1.

43. ***Please discuss if the study area and proposed permit area contains plant or animal species or plant communities identified as state or globally sensitive according to the ND Natural Heritage Inventory database or if any of these species were identified during the wildlife and baseline vegetation surveys. (GAW)***

Please see updated narrative in Section 2.4.1.

44. ***In the Wetlands narrative of Section 2.4.1, please include a discussion of Square Butte Creek and if the wetlands habitat delineated are associated with stream systems or if they are prairie pothole basins, or a combination of both. (GAW)***

Please see updated narrative in Section 2.4.1.

45. ***Please expand the discussion regarding surveys conducted for the Dakota Skipper butterfly to identify which ecological sites or plant communities were determined to be suitable habitat within the permit area and include the dates of the surveys that were conducted during peak flight dates. Discuss if any hesperiine butterflies were observed, the methodology used and the qualifications of the people doing the surveys. (GAW)***

Please see updated narrative in Section 2.4.1.

46. ***Please include a narrative in the Fish and Wildlife Report that specifically states whether there is any designated critical habitat for any threatened, endangered or candidate species within or adjacent to the proposed permit area. NDAC 69-05.2-09-15 (3)(a). (GAW)***

Please see updated narrative in Section 2.4.1.

47. ***Please include a narrative in the Fish and Wildlife Report indicating if there are any habitats of unusually high value for fish and wildlife, such as important streams, wetlands, riparian areas, cliffs supporting raptors, areas offering special shelter or protection, migration routes (whooping crane), or protection and wintering areas as required by NDAC 69-05.2-08-15. Also, indicate if the woodlands, wetlands, shelterbelts and native grassland in this proposed permit area should be considered high value fish and wildlife habitat. (GAW)***

Please see updated narrative in Section 2.4.1.

48. ***NDAC 69-05.2-08-15 requires that the application include fish and wildlife resource information for the permit and <u>adjacent</u> area. The Wildlife Inventory Plan Map included a 1-mile buffer zone around the proposed permit area yet almost no information is being provided for the study area beyond the proposed permit area. Please provide site specific resource information for the buffer zone sufficient to determine if the area is likely to include listed or proposed endangered or threatened, or their critical habitat, or habitats of unusually high value for fish and wildlife. The land uses or habitat types for the adjacent area should be delineated on the Wildlife Habitat and Study Area Location Map, Section 2.4.1a, as was shown on the map included with the Wildlife Inventory Plan. (GAW)***

Please see updated sections 2.4.1 and 2.4.1a.

49. ***A distinction is made between tall shrub woodland habitat types and deciduous/tall shrub woodland habitat types on page 10 of Section 2.4.1 and on Table 2. However, these habitat types cannot be distinguished on the Pre-Mining Wildlife Habitat and Study Area Location Map, Section 2.4.1a. Please revise the map to clearly distinguish these two different habitat types. (GAW)***

Please see updated 2.4.1a.

50. ***Please mention the presence of western snowberry communities within the native grassland tracts in the permit area and discuss the importance and value of this species for wildlife. (GAW)***

Please see updated narrative in Section 2.4.1.

51. ***Please delineate and identify, to the extent practical, all small miscellaneous habitat types such as grassed waterways, grassed hilltops, saline seeps and other features that are not actually annually cultivated, but located within cropland areas on the Wildlife Habitat and Study Area Location Map, Section 2.4.1a. Such features appear to exist in the cropland located in the SE¼ of Section 32, SE¼ of Section 31, S½ of Section 35 and the S½NW¼ of Section 1. Likewise, although Square Butte Creek does not meet the definition of a separate land use, its presence as a wildlife habitat should be recognized on the map. (GAW)***

Please see updated Section 2.4.1a.

52. ***In Section 2.4.1b – Square Butte Creek Deep Water Evaluation, please clarify which wetlands, as labeled and delineated on the Pre-Mining Wetland Map, Section 5..., are associated with information pertaining to the 12 stops, and list the dates they were evaluated. (GAW)***

Please see updated Section 2.4.1b.

Section 2.4.2 - Fish and Wildlife Management Plan

53. ***A sentence on page 3 of Section 2.4.2 states that all native grassland acres will be reclaimed post-mining but the Pre- and Post-Mining Land Use Acreage Comparison table in Section 4.1.3 shows a loss of 102.5 acres of native grassland post-mining. Please review and revise the statement accordingly. Given that native grassland is more valuable to wildlife than cropland, please include a discussion about replacing habitat loss associated with the reduced acreage of native grassland and include terrestrial enhancement measures as required by NDAC 69-05.2-09-17. (GAW)***

Please see updated Section 2.4.2.

54. ***According to the Pre- and Post-Mining Land Use Acreage Comparisons table, Section 4.1.3, Otter Creek is proposing to only replace the pre-mine shelterbelt acreage. However, given that this is an important habitat type for wildlife, please consider interspersing additional field windbreaks in the cropland fields as required by NDAC 69-05.2-13-08(6)(j). If interspersing trees in the cropland is not practical, please include a statement why this is not practical or warranted and include other terrestrial enhancement measures. NDAC 69-05.2-09-17. (GAW)***

As discussed in our meeting, it is not practical for Otter Creek to intersperse field windbreaks in the cropland fields because the majority of land within the permit is privately owned. All the landowner preference statements requested no reduction or the addition of cropland acres. By adding windbreaks into the cropland, we would be decreasing cropland. The above referenced rule refers to using trees, fence lines, etc. to break up large blocks of cropland. Cropland makes up less than half the land uses in this permit, and there are not extremely large blocks of cropland. The cropland is also surrounded by native grassland, and therefore numerous fence lines. The resulting mosaic of habitat is similar to the pre-mine habitat.

55. ***In Section 2.4.2, Fish and Wildlife Management Plan, please discuss Square Butte Creek and plans to avoid disturbance to stream channels as required by NDAC 69-05.2-13-08 and specifically state whether there are any other important habitats of unusually high value that will be avoided, or where disturbance will be minimized. The Fish and Wildlife Management Plan should specifically state that Otter Creek Mining Company will use the best technology currently available to minimize disturbance and adverse impacts on fish and wildlife and related environmental values, and additional enhancement measures should be included as required by NDAC 69-05.2-09-17(1). (GAW)***

Please see updated Section 2.4.2.

56. ***Please mention all of the pre-mining habitat types in the first paragraph of Section 2.4.2. Woodlands are listed in Table 4.1.3 but not mentioned in this paragraph. (GAW)***

Please see updated Section 2.4.2.

Section 2.4.3 - Wildlife Monitoring Plan

57. ***Please include a copy of the "100 species of concern listed for North Dakota" and reference the location of this document in the last paragraph on page 3 of Section 2.4.3. (GAW)***

Please see updated Section 2.4.3. The list was added as Table 7 in Section 2.4.1.

Section 2.6 - Surface Water Information and Monitoring Plan

58. ***The bookmark for Table 4 of Section 2.6.3 denotes the "Monthly Mean Flow by Year at &SGS", etc. and should be changed to indicate at USGS Station. Please correct the typographical error. (BEB)***

Please see updated bookmark.

59. ***Narrative in the second paragraph of Section 2.6.3 discusses well and spring certifications, although the link provided with the discussion (2.2.14) sends the reader to the Well Completion Reports. Please redirect the link to the Well Certification Field Data Forms in Section 2.2.11. (BEB & WTG)***

The link has been redirected to Section 2.2.11, Well Certification Field Data Forms.

60. ***In Section 2.6.5c, Tables 1 and 2 do not correspond with the watersheds depicted on Maps 2.6.5a and 2.6.5b. For instance, watershed SB-2 is shown as having 2,077 acres on the Post-Mining Map and is listed in tables as having 15 acres post-mining. Also 23 watersheds are shown on the map and only 22 watersheds are reported in the tables. Please make the necessary changes to the Water PHC so the maps and data correspond. (MDB)***

Incorrect tables were published in the original submittal. The correct tables have been inserted.

61. ***Please insert "water" following "surface" in the first sentence on page 1of Section 2.6.3. (WTG)***

Please see updated Section 2.6.3.

62. ***The first sentence of the second paragraph on page 1 of Section 2.6.3 states that the monitoring site quality data falls into five groupings, but it appears that only four are described. In addition, the abbreviation described for springs and seeps (SPR) differs from that used (SPG) in Section 2.6.4, in Section 2.6.8, and in Section 5.1.1c. It appears that the only other use of the "SPR" abbreviation is in Table 4 of Section 5.1.1 so the correction to "SPG" in these two locations would resolve the issue. Please review and correct as necessary. (WTG)***

Please see updated Section 2.6.3 and Table 4 of Section 5.1.1.

63. ***The reference to water quality data in the last paragraph on page 1 in Section 2.6.3 lists Tables 2 and 3, but water quality data is only listed in Table 2. Table 3 contains flow data. Please correct as necessary. (WTG)***

Please see updated Section 2.6.3.

64. ***As required by NDAC 69-05.2-08-04(1), please provide a description of all 14 developed water resources (stockponds) within the permit boundary. Although some information for these features is included in Sections 2.6.3, 2.6.4, 2.6.5, and 2.6.8, there should be one table in Section 2.6.3 that lists the site identification, location, use, date surveyed, type, water sampling date(s) (if sampled), spillway or embankment condition, estimated pool size, conditions, features, and whether or not it will be disturbed. Additional documentation could include a photograph of each pond with documentation of designation and date. Please also describe and provide links to the maps where these features are shown (Sections 2.6.4 and 2.7.2). (WTG)***

Please see updated Section 2.6.3.

65. ***The first paragraph on page 4 of Section 2.6.3 references stage-discharge curves in Section 2.6.8, but this section contains only the table of monitoring stations. Perhaps wording used in the fifth paragraph of page 1 in Section 2.6.7 stating that "curves will be available" could be used here as well. Please review and correct as necessary. (WTG)***

Please see updated Section 2.6.3.

66. ***Please review the description for Site ID SRO-NW6-142-84 in Table 2 of Section 2.6.3. Based on a review of Section 2.6.4 and Section 2.6.8, it appears that the site is in the SW¼ of Section 6 and should therefore be described as SRO-SW6-142-84. Please review and correct as necessary. (WTG)***

Please see updated Table 2 in Section 2.6.3.

Section 2.6.5 - Probable Hydrologic Consequences

67. ***Although several of the hyper-links in Section 2.6.5 functioned properly, most of them did not. Please check the links and repair them if necessary. (WTG)***

Please see repaired hyperlinks in Section 2.6.5.

Section 2.6.6 - References

68. ***The references linked to this section appear to be more applicable to reclamation rather than surface water resources. Please review and correct if necessary. (WTG)***

Section 2.6.6 has been updated to reflect the references that are more applicable to Section 2.6 as a whole.

Section 2.6.7 - Surface Water Monitoring Plan

69. ***In the narrative on spring sampling in the third paragraph on page 2, it appears that the link to Section 2.2.14 (Well Completion Reports) to access spring sampling done in conjunction with well and spring certification should instead be directed to Sections 2.2.10 (Well and Spring Certification Summary and Probable Effects of Mining) and 2.2.11 (Well and Developed Spring Certification Field Data Forms). Please review and correct as necessary. (WTG)***

The link has been redirected to Sections 2.2.10, Well and Spring Certification Summary and Probable Effects of Mining, and 2.2.11, Well and Developed Spring Certification Field Data Forms.

Section 2.6.8 - Surface Water Monitoring Stations, Sampling and Frequency

70. ***It appears that the locations have been inadvertently reversed for spring SPG5-1-142-84 (station number 15) and dugout SP6-1-142-84 (station number 16). The correct location for spring SPG5-1-142-84 (station number 15) appears to be 5BCC, while the correct location for dugout SP6-1-142-84 (station number 16) appears to be 6ADD. Please review and correct as necessary. (WTG)***

Please see updated Section 2.6.8.

71. ***As noted in a related deficiency in Section 5.1.1, please provide footnotes for monitoring station numbers 6, 7, and 13 to explain that these three springs are also certified springs in Section 2.2.10. (WTG)***

Please see updated Section 2.6.8.

Section 2.7 - Pre-Mining Land Use and Vegetation

72. ***The paragraph for developed water resources on page 11 of Section 2.7.1 needs to be expanded with explanations and links that will inform the reader where information for these features is available elsewhere in the permit. Explanatory sentences with links should provide the following information in this paragraph: where these features are (or will be) described (see related deficiency in Section 2.6.3); where these features are shown (see related deficiency in Section 2.7.2); where water quality information for these features is available (Section 2.6.3); which of these features are part of the Surface Water Monitoring Plan (Section 2.6.7); and, how the features are addressed in the probable hydrologic consequences of mining (Section 2.6.5). (WTG)***

Please see updated Section 2.7.1.

73. ***Please delineate all of the woodlands on the Pre-Mine Land Use Map, Section 2.7.2, and the Wildlife Habitat and Study Area Location Map, Section 2.4.1a, as required by NDAC 69-05.2-08-08(1)(a). The woodland mapping units must be shown on the Pre-Mining Land Uses and Associated Mapping Units Map, Section 2.7.2a, or some other appropriately scaled map to show the woodland mapping units. The associated tables and narratives in Section 2.7 and 4.1, Post-Mining Land Use and Revegetation, will need to be updated accordingly. Identifying the woodlands on the land use map and depicting the woodland mapping units and listing the acreage of each woodland type by surface owner is required even if the woodland is not going to be disturbed. There was no agreement with the PSC to identify only woodlands greater than 0.1 acres in size. This was only allowed once many years ago for one specific permit area at another mine that contained an abundance of trees and shrubs. Given the technology available today, it is very feasible to delineate woodland sites smaller than 0.1-acre, similar to what was done on the Existing Structures Map, Section 3.2.2, which depicts trees and shelter belts. (GAW)***

Based on our meeting on Feb. 3rd, 2011, Falkirk delineated the woodlands on the Wildlife Habitat and Study Area Location Map. Please see updated Sections 2.4.1, 2.4.1a, and 2.7.1.

74. ***The Pit Layout and Facilities Map, Section 3.1.5, shows mining will disturb small patches of trees and shrubs (not identified as woodlands) located in Sections 29, 1 and 2, thus the last sentence on page 4 of Section 2.7.1 is incorrect as is the first sentence of the second paragraph on page 5 of Section 2.7.1. Please update for compliance with NDAC 69-05.2-08-08(1)(a)(4), (c)(1) and (c)(4). (GAW)***

Based on our meeting on Feb. 3rd, the locations of isolated volunteer trees will be included in section 2.4. However, these volunteers consist mostly of individual tress and do not qualify as woodlands. Therefore, they will not be actively replaced. It is very likely that isolated trees will be replaced by volunteer trees post mine.

75. ***A sentence on page 5 of Section 2.7.1 states that the distribution of the various woody plant communities (map units) within the woodlands is shown on the map in Section 2.7.2a; however, the individual map units are not depicted in Section 2.7.2a. Please identify the woodland mapping units on the Pre-Mining Land Uses and Associated Mapping Unit Map, Section 2.7.2a, as required by NDAC 69-05.2-08-08(1)(a)(4). (GAW)***

Please see updated 2.7.2a.

76. ***Please describe the methodology used to determine ecological condition of the major ecological sites. The narrative on page 8 of Section 2.4.1 states that the methodology is described in detail in Section 4.1.6. The narrative on page 1 of Section 4.1.6 simply references the NRCS website. Please outline the methodology and protocols used during the inventory process. Mention if samples were air dried or if NRCS growth curves were used to estimate production and discuss if sample weights were adjusted for utilization. Include copies of relevant NRCS forms and charts used. (GAW)***

Please see updated Section 2.7.1.

77. ***In the native grassland and woodland narratives in Section 2.7.1, Pre-Mining Land Use and Vegetation narrative, please discuss how western snowberry was dealt with in terms of land use classification. The woodland narrative, as presently written, indicates that larger communities of western snowberry were considered woodland but typically, western snowberry communities that are not associated with tall shrubs or trees are not considered woodlands. This species is only listed in 4 of the Rangeland Similarity Index worksheets even though it is quite prevalent on some of the tracts of native grassland. Please include a narrative that properly characterizes the extent of this species on the native grassland. (GAW)***

Please see updated Section 2.7.1.

78. ***Please revise the discussion in Section 2.7.1 to mention if the study area and proposed permit area is known to contain any plant species or plant communities identified as state or globally sensitive according to the ND Natural Heritage Inventory data base, or if any of these species were identified during the wildlife and baseline vegetation surveys. (GAW)***

Please see updated Section 2.7.1.

79. ***The last sentence on page 10 of Section 2.7.1 states that the occurrence of rare or endangered plant species was determined from a list entitled Vascular Plants of North Dakota that was a supplement to the 1995 version of our Revegetation Success Standards document. This supplement has not been included in our Revegetation Success Standards document since that time and has not been properly maintained. Therefore, please compare the species identified on the permit area during the wildlife and baseline vegetation studies with the current list of rare plants in ND that is being maintained by the ND Natural Heritage Program, ND Parks and Recreation Department, [1600 E. Century Ave., Suite 3, Bismarck, ND 58503. Kathy Duttenhefner, 701-328-5357] and update the narrative accordingly. (GAW)***

Please see updated Section 2.7.1.

Section 2.7.2 - Pre-Mine Land Use Map

80. ***Cropland/hayland is delineated in the northern portion of the SW¼ of Section 1. However, there was no evidence that this tract had ever been cultivated during a PSC review of the permit area. Please review and update as necessary the Pre-Mine Land Use Map, Section 2.7.2a, and all associated narratives and tables. (GAW)***

Please see updated Sections 2.7.2, 2.7.3, 4.1.2, and 4.1.3.

81. ***The CRP field located in the SW¼ of the NW¼ of Section 1 contains an old gravel pit and/or an abandoned farmstead site but this is not shown on the Pre-Mine Land Use Map or the Wildlife Habitat and Study Area Location Map, Section 2.4.1a. If the area was not previously cultivated, it would not have been eligible for the CRP program. Such features should be identified and properly characterized even if they are combined with the adjacent land use. Please review and update to properly characterize this feature. (GAW)***

Please see updated Section 2.4.1a and 2.7.1.

82. ***In Section 2.7.2a, please include a map showing the location where transects were placed within the woodland communities to obtain the data included in Appendix VII. NDAC 69-05.2-05-02. (GAW)***

Please see updated map in Section 2.4.1a.

83. ***Please consider either bolding or increasing the font size for the land use symbols on the Pre-Mine Land Use Map to make them more legible. (WTG)***

Please see updated map in Section 2.7.2.

84. ***Please review the county road labels on the Pre-Mine Land Use Map. According to our review of the NDDOT road classifications, the only county roads for the permit area are all along the southern permit boundary and the southern-most two miles along the eastern permit boundary. Unimproved section line rights-of-way should be distinguished from the improved county roads. Please review and correct as necessary, and remove the county road label on ND Highway 31. (WTG & GAW)***

Please see updated map in Section 2.7.2.

85. ***Please correct the legend attribution for the aerial photography to state that it is from the National Agriculture Imagery Program administered by the USDA Farm Service Agency. (WTG)***

Please see updated map in Section 2.7.2.

86. ***Please label each of the 14 developed water resources (stockponds) shown on the map with the site identification number listed for each feature in the permit in Table 1 of Section 2.6.5. These features are labeled in Section 2.6.4, but they should also be labeled in Section 2.7.2. The site identification number is necessary to cross-reference the feature's location with feature data presented in Sections 2.6.3, 2.6.5, and 2.6.8. (WTG)***

Please see updated Sections 2.6.3 and 2.6.4. Per our phone conversation on Feb. 8th, 2011, I updated the legend on 2.6.4 to include the wording "developed water resources" and I updated the narrative in 2.6.3 to include the wording "developed water resources" to the second paragraph to clarify that stock ponds/dugouts are DWR's. We prefer not to clutter up Section 2.7.2 - Pre-mine Land Use Map with labels for DWR's. Section 2.6.3 directs the reader of the narrative to the Surface Water Monitoring Sites Map - Section 2.6.4 to view the locations of the monitoring sites.

Section 2.7.3 - Appendixes I - VII

87. ***Please account for the wetlands in the NW¼ and N½SW¼ of Section 5 in the detailed summary of Pre-Mining Land Use Acreage Information sheet for Karen Boehm in Table 1, Appendix II of Section 2.7.3. (GAW)***

Please see the updated Section 2.7.2, 2.7.2a, 2.7.3, 4.1.2, and 4.1.3.

88. ***Please correct the legal description on Howard Bubel and John Bubel's property in Table 1, Appendix II of Section 2.7.3. The legal description lists the NW¼ but it appears it should be the NE¼. (GAW)***

Please see revised Table 1, Appendix II, Section 2.7.3.

89. ***In Appendix IV of Section 2.7.3, many of the estimated average yield values listed for native grassland soil mapping units vary with the values listed in Table 1 of the most recent version (July 2003) of our Revegetation Success Standards Document. Notes at the bottom of Appendix IV indicate the values were derived from the 2003 version of our Success Standards Document. Please review and revise as necessary or include NRCS documentation supporting the values used in Appendix IV. (GAW)***

Please see the updated Table 1, Appendix IV of Section 2.7.3.

90. ***Please include a listing of the acreage of each shelterbelt for each surface owner by tract. Appendix II includes the total acreage of shelterbelts for each surface owner. Drawings are included in Appendix VI with a scale, but the acreage of each shelterbelt is not listed. A shelterbelt in the S½ of Section 35 is identified as being partially located on two separate landowner tracts and it is unclear how many acres of the planting are associated with the two surface owners. Please revise to clearly identify the acreage of each shelterbelt for each surface owner as required by NDAC 69-05.2-08-08(1)(c)(1). (GAW)***

Please see updated Appendix VI in Section 2.7.3.

91. ***In Appendix IV, please change the cropland yield for Straw loam, channeled to 20% (currently rated NR) and Rauville silty clay loam, 0-1 percent slopes at 35% (currently rated 70%) in the cropland yield column. (SAS)***

Please see the updated Appendix IV of Section 2.7.3.

<u>Section 2.8 - Soil Resources</u>

92. ***As required by NDAC 69-05.2-24-07(1)(d), please include a statement in the soil respread of associated features paragraph on page 4 of Section 2.8.1 that roadbeds will be ripped, plowed, or scarified during road reclamation. (WTG)***

Please see added narrative in Section 2.8.1. Also, the incorrect grid distance of 200' for OB sample density was revised to 400' in Section 2.8.1

93. ***When cross-referencing the Section 4.2.4, Reclamation Costs, with Section 2.8.2d, SPGM Soil Volumes by tract, Section 2.8.2d indicates Tract 24 for Howard and John Bubel will have only 11.6 acres of disturbance. However, Section 4.2.4 indicates much more disturbance for this tract. Also respread thickness is projected at 36 inches where as Section 4.2.4 indicates 48 inches of respread. Please correct accordingly. (Please see the related deficiency in Section 4.2.4 before adjusting). (MDB)***

The acres listed in 2.8.2d are from the projected terrain modification boundary line. This takes in to account acres mined. The acres shown in 4.2.4 Worst Case Bonding are for both mining disturbance and associated disturbance areas. However, please see 4.2.4 for the updated respread thicknesses.

Section 2.8.2a - High Intensity Soil Survey Report

94. ***The map unit legends in Appendix 2 appear to be missing some of the 101 map units listed in Table 4 and in Section 2.8.2c. Map units 16D, 18C, 37B, and 46B appear to be missing from the Appendix 2 numerical legend, and the alphabetical legend in Appendix 2 appears to be missing three map units. Please review and correct as necessary. (WTG)***

Please see revised Appendix 2, Section 2.8.2a.

95. ***Please provide footnotes for Appendices 4 and 5 that explain the additional letters used in the "Map Unit Sampled" column of Appendix 4 and the "Map Unit Symbol" column of Appendix 5. (WTG)***

Please see revised Appendices 4 and 5, Section 2.8.2a.

96. ***In Section 2.8.2d, Tract 22 shows current surface ownership as Karen Boehm; however, Section 1.5.3 (Tract 3 on map) indicates this tract belongs to Otter Creek. Please review and correct, as well as performing an acreage comparison between this and Section 4.2.4. (MDB)***

Please see revised Section 2.8.2d.

Section 2.8.3 - Prime Farmlands

97. ***Please clarify that the acres of prime farmland to be restored is based on the NRCS Oliver County Soil Survey (690.6 acres) as required by NDAC 69-05.2-10-03 (6)(c)(5) (SAS)***

Please see updated Section 2.8.3.

98. ***Please update the listing of prime farmland soils on page 1 to reflect the change made from descriptive slope phases listed in the SCS 1984 North Dakota Important Farmlands publication to percentage slope phases with NRCS SSURGO data. It also appears that the Tx map unit is no longer considered prime farmland where drained in Oliver County. Please review and correct as necessary. Please state in the narrative that SSURGO data was also consulted for the listing of prime farmland soils in Oliver County. Finally, please edit the prime farmland soils list so that the map unit symbol and the map unit name are on the same line. (WTG)***

Please see updated Section 2.8.3.

99. ***Otter Creek is proposing to mix prime and non-prime topsoil within the disturbance boundary based on the previous approval granted in Permit NAFK-9503 at the Falkirk Mine. It is not appropriate to justify mixing of prime and non-prime topsoil based on a comparative analysis of soils at the Falkirk Mine. The soils at the Otter Creek Mine are considerably different and any proposal to mix prime and non-prime at the Otter Creek Mine must be based on a comparative analysis of the prime and non-prime soils at the Otter Creek Mine. A review of prime and non-prime soils at Otter Creek indicates that it may be difficult to justify mixing of the prime and non-prime topsoil. (DKM)***

Please see revised language in Section 2.8.3 removing the mixing proposal from the permit.

100. ***The proposal to mix prime and non-prime subsoil is not supported by the data referenced. The SAR values for the Williams map unit sample numbers 210-4 and 210-5 from 37 to 60 inches in Appendix 5 exceed the SAR limit for subsoil. The soil survey report states in part: "About 20 percent of the soils with till parent material had elevated levels of sodium (SAR>10) in the BC or C horizons. The high levels of sodium were probably associated with residual material found at depth in many of the profiles. The occurrence of high sodium in the substratum was irregular and not predictable on a delineation by delineation basis. ... To account for this variability and common presence of residual material at depth, SPGM was limited to 50 inches on the Williams and Zahl soils." The proposal to mix prime and non-prime subsoil does not explain how Williams map unit subsoil with SAR values greater than 10 will be avoided during subsoil salvage operations. (WTG)***

Please see revised language in Section 2.8.3 removing the mixing proposal from the permit.

101. ***The narrative in the last paragraph on page 2 mentions "mixed prime/non-prime topsoil" piles. The proposal to mix prime and non-prime topsoil will be dependent on Otter Creek's justification to mix prime and non-prime topsoil as outlined above. Please revise as appropriate. (WTG)***

Please see the revised language in the last paragraph of page 2, eliminating reference to mixing.

102. ***The Arnegard soil map unit landscape position described in the second paragraph on page 3 ("slopes that range from long and smooth and nearly level to those which are gently rolling") is not consistent with that listed in Table 10 of the soil survey report (linear and concave). Please revise the "gently rolling" term in both the second and***

third paragraphs on page 3. Gently rolling generally refers to 6 to 9% slope class, which is not considered prime farmland in Oliver County. (WTG)

Please see updated Section 2.8.3.

103. Although the narrative in the fourth paragraph on page 3 states that areas eliminated as potential prime farmland landscape are shown on the Post-Mining Land Use Map, it does not appear that any such areas (nor are potential prime farmland areas) are defined on the map. Please review and correct as necessary. (WTG)

Please see updated Section 4.1.2. Added in potential prime farmland areas on map.

104. The last paragraph on page 3 states that "the depths of the prime and non-prime topsoil's are very similar throughout the entire permit area", but this statement is not supported by the wide range of 1st lift thicknesses shown in Table 4 of the soil survey report. Please revise the statement or provide supporting data. (WTG)

Please see updated Section 2.8.3.

Section 3.1 - Operation Plans

105. Please add the locations and elevations of monitoring stations used to gather air quality, temperature and precipitation data onto one of the provided maps in the operations section. NDAC 69-05.2-08-02(1)(i). (BEB)

Otter Creek used weather data collected from The National Weather Service Station in Bismarck, ND and www.intellicast.com. Otter Creek did not set up a weather monitoring station within the proposed permit.

106. The 4th paragraph on page 4 of Section 3.1.2 states that processed coal will be stockpiled in the SW¼ of Section 5. Please show the planned location of this coal stockpile on the Pit Layout and Facilities Map. (GAW)

Please see updated Section 3.1.5. The coal stock pile location has been placed on the map.

107. Please revise the dates of mining in Sections 5, 6, and 32 on the Pit Layout and Facilities Map, Section 3.1.5, as it depicts mining beginning in 2010. (MSK)

Please see updated Section 3.1.5.

108. ***Proposed sediment Ponds P-29-01 and P-32-02 are depicted on the Pit Layout and Facilities Map in Section 3.1.5 within the 500-foot setback of occupied dwellings. Please adjust to show the impoundments outside of the setback areas or indicate that waivers will be obtained prior to construction of the ponds. (MSK)***

See Section 1.3.6. Narrative has been added to indicate that a variance agreement will be obtained prior to any mining activity within the 500' setback.

109. ***The dates of mining the initial pits on the Extended Mining Plan Map, Section 3.1.6 do not correspond with the dates of mining as depicted on the Pit Layout and Facilities Map, Section 3.1.5. Please review and correct as necessary. (MSK)***

Please see updated maps in Section 3.1.5 and 3.1.6.

110. ***On Section 3.1.5, there are at least four instances in Sections 5, 6, and 32, near the bottom of the disturbance boundary, indicating that pits will be mined until 5130. Please correct this typographical error. (SAS)***

Please see updated Section 3.1.5. The 5130 is the excavator that will be used in the early years of mining. The 5130 has been changed to say "excavator."

Section 3.1.2 - Mining Methods Narrative

111. ***The Mining Method Narrative states "The initial boxcuts will be excavated with 32-yard class tractor scrapers or with a dragline...", however Section 3.1.1, Operations General, states "The excavator/scrapers is scheduled to dig the first pit in mid 2010." Please correct the discrepancy by stating an excavator may also be used for overburden removal in the Mining Methods Narrative. (MDB)***

Please see revised dates and narrative Sections 3.1.1 and 3.1.2.

112. ***The last paragraph in Section 3.1.2 states "When topsoiled areas are approved by the regulatory authority, the area will be revegetated as described in Section 4.1.5". The Reclamation Division does not approve areas after topsoil is respread as stated. Please correct. (MDB)***

Please see revised final sentence in Section 3.1.2.

Section 3.2 - Operations - Existing Structures

113. ***Please update Section 3.2.2, Existing Structures Map, so the legend corresponds with the details shown on the map. For example, creeks are shown as a solid blue line on the legend, but are a dashed and solid blue line on the map. Section line trails are shown as both county roads and trails, and trails are shown as a red dashed line on the legend and blue dashed line on the map. (MDB)***

Please see updated Section 3.2.3, Existing Structures Map.

114. ***Please update Section 3.2.2, Existing Structures Map, to correspond with the narrative concerning section line roads. The map shows all section lines as county roads; however, the narrative states that no county roads run through the interior of the permit. See item number 84. (MDB)***

Please see updated Section 3.2.3, Existing Structures Map.

115. ***The existing structures map needs to be amended to clearly show the location and current use of all buildings on and within ½ mile of the proposed permit area as required by NDAC 69-05.2-08-02(1)(e). (JRD)***

Please see updated Section 3.2.3, Existing Structures Map.

116. ***It appears portions of the coal removal areas will come within 500 feet of some farm buildings within or along the eastern, northern and western edges of the proposed permit area. Please discuss this in the existing structures narrative and, as appropriate, provide documentation showing compliance with or provide plans for complying with NDCC 38-18-07 as required by NDAC 69-05.2-09-01(5). The current discussion in Section 3.2.1 and the setback areas depicted on Sections 3.1.5 and 3.2.2 are limited to occupied dwellings on farmsteads and do not address and/or depict all farm buildings. (JRD)***

Please see updated narrative on page 1 of Section 1.3.6.

Section 3.4 - Operations - Air Pollution

117. ***Please add a short paragraph to the Climatological Data narrative of Section 3.4.4 describing the average direction and velocity of prevailing winds. NDCC 38-14.1-14(1)(p). (BEB)***

Please see updated Section 3.4.4.

Section 3.5 - Transportation Facilities

118. ***In Section 3.5.1, Transportation Narrative, please include language pertaining to controlling erosion at the outlets of the culverts per NDAC 69-05.2-24-03(5)(b). The culverts in the access roads have exit velocities over 5 ft/s which will likely cause erosion if energy dissipaters are not used. (MDB)***

Section 3.5.1 does include language for energy dissipaters, but has been updated with additional types of energy dissipaters.

119. ***Please update Section 3.5.20, Road Relocation and Closing Plan, to clarify that the section line road between Sections 31 and 36, and Sections 1 and 6 is an improved section line road not just a two track trail. Also, Section 3.5.20 states the permit is bound by county or township roads on the north, east and south and that none of these improved county roads will be affected. However, the road on the north edge of the permit between Sections 25 and 36 and Sections 30 and 31 is shown as being closed to traffic and eventually will be mined through according to the Extended Mine Plan Map. Whether this road is an actual county or township road is also questionable since only a small portion of the road is graveled. It appears to be more of an improved section line trail. Please review the various classifications of roads and trails used throughout the permit and ensure that the classifications are consistent and accurate. (MDB)***

Please see revised narrative Section 3.5.20 and 3.2.1 discussing the perimeter roads and interior improved section lines.

Section 3.6 - Operations - Surface Water Management

120. ***Section 3.6.1 states "for this reason, Otter Creek Mine is requesting approval to not be required to remove subsoil from the pond basins in this permit area." At this time it does not appear Otter Creek will have an inventory of excess subsoil to be able to waive material as allowable under NDAC 69-05.2-15-02(2); therefore, all subsoil must be salvaged. This also applies to all runoff and diversion ditches as stated on page 6 of this section as well. Please update the narrative accordingly. (MDB)***

Section 2.8.2d shows that there will be an excess of over 3 million cubic yards of SPGM. The narrative has been updated to show that all subsoil will be removed from the pond basin. Request for approval to not be required to remove subsoil from the pond basins may be submitted at a later date.

121. ***As stated on page 6 of Section 3.6.1, Otter Creek is proposing to leave the lower reaches of waterways undisturbed above sediment ponds. This would be accomplished by installing sumps and silt fences above the undisturbed portion to aid in controlling sediment deposition. This proposal is feasible; however, the sites will need to be reviewed***

on a case by case basis to determine if the drainageway will need to be stripped or if Best Management Practices can be utilized. Please include a statement that site-specific approval will be received prior to implementing this technique. (MDB)

This paragraph has been deleted from Section 3.6.1.

122. ***In Section 3.6.1, the last paragraph states "One quarterly pond inspection will be used to prepare and submit an annual inspection report to the Public Service Commission." It should be noted that this report needs to be provided by a Registered Professional Engineer per NDAC 69-05.2-16-09(19)(d). We recommend noting this requirement in the statement. (MDB)***

Section 3.6.1 has been updated to reflect the suggested changes above.

123. ***Watershed acreages used in the routing calculations for P-05-01, P-05-02 and P-05-03 do not correspond with those shown on the Total Water Management Plan Map of Section 3.6.1a. Acreage for items such as the pond, overburden stockpiles, office/shop, and roads should also be broken out separately when calculating the CN for the pond. Please correct these discrepancies. (MDB)***

Section 3.6.4 was updated to reflect the current land uses for calculating the CN value. The appropriate acreage items were used in the original CN calculations for Sections 3.6.5 and 3.6.6.

<u>Section 4.0 - Reclamation Plans</u>

124. ***There is no discussion regarding the post-mine land use of Tracts 1, 2, 4, 10, 13, 14, 15, 16, and 28 in Section 4.1.1. These all had landowner preference statements returned. If the areas are to be left undisturbed, then a general comment to that effect should be added such as was done for other landowners whose property will remain undisturbed. (SAS)***

Please see updated Section 4.1.1.

125. ***The next to last sentence on page 3 of Section 4.1.6 concerning haylands is incorrect. The SCS median yields for tame pastureland should be used to develop an unadjusted hayland yield standard which would be corrected by Climatic Correction Method No. 1. This is done by dividing the annual county yield data for haylands by a 15-year average reported hayland yield (14 previous plus the current year), <u>not</u> the average county yield from SCS County Soil Surveys, to get the adjusted hayland standard yield for that year of data. Please correct this statement. (SAS)***

Please see updated Section 4.1.6.

Section 4.1.1 - Post-Mining Land Use Narrative

126. ***Kent and Deborah Albers requested that native trees be planted and a water supply be provided on each quarter of their land that includes reclaimed native grassland. However, Otter Creek is only planning to replace the pre-mine water sources that will be disturbed. Please revise the reclamation plans to comply with this landowner preference statement request or discuss in the narrative on page 1 of Section 4.1.1 why it is not feasible to comply with this request. (GAW)***

Please see updated Sections 4.1.1, 4.1.2, 4.1.3 and 4.1.5.

127. ***Kevin and Penny Hoesel, landowners of the SE¼ of Section 36, requested that a shelterbelt be established on their property. Please revise the reclamation plans to comply with this request or discuss why this is not feasible in the narrative on pages 3 and 4 of Section 4.1.1. (GAW)***

Please see updated Sections 4.1.1, 4.1.2, 4.1.3 and 4.1.5.

128. ***Dale and Cynthia Berg requested that trees be planted on their property located in the N½ of the N½ of the NW¼ of Section 2. Please revise to comply with this request or discuss in the narrative on page 2 of Section 4.1.1 why it is not feasible to comply with this request. The narrative incorrectly indicates that this land will not be affected by mining. (GAW)***

Please see updated Sections 4.1.1, 4.1.2, 4.1.3 and 4.1.5.

129. ***A sentence on page 6 of Section 4.1.1 states that developed water resources in Sections 1, 31, 32, and 36 will be disturbed by mining activities. It appears that the developed water resource in the NW¼ of Section 2 will also be disturbed by mining activities. Please review and revise as necessary. (GAW)***

Please see updated Section 4.1.1.

130. ***In Section 4.1.1, Post Mining Land Use Narrative, the Kent and Deborah Albers section states that Falkirk will contour the drainage to direct flow south of the farmstead. Please change this to Otter Creek. (MDB)***

Please see updated Section 4.1.1.

131. ***Section 3.5 states there are no county or township roads which need to be closed for mining, only section line trails; however, Section 4.1.2, Post-Mining Land Use Map indicates that they are county roads and Section 4.1.2a depicts cross-sections of township roads. Please correct these discrepancies between the various sections of the permit. (MDB)***

Section 3.5 is correct. There are only section line trails that will be affected according to the current projected mine plan. Please see updated Sections 4.1.2 and 4.1.2a.

Section 4.1.2 - Post-Mining Land Use Map

132. ***The pre-mine topography of the Federal coal tracts that are not scheduled to be mined must be shown on the Post-Mining Land Use Map and the terrain modification boundary line must be shown around these tracts. Please revise the Post-Mining Land Use Map accordingly. (GAW)***

This permit area contains a couple tracts of Federal coal which remains unleased at the time of the permit submittal application because it is not planned to be mined until approximately 2021. These tracts, therefore, cannot be shown as mined in Section 3.1.5 until they are leased. Otter Creek does plan on leasing and mining the Federal coal tracts depicted in the mining areas, and post-mining topography has, for that reason, been depicted for these areas on the maps in Sections 4.2.6b, 4.2.7b, and 4.1.2.

133. ***It is unclear what is defined by the magenta lines. They are not explained in the legend, and they do not appear to be associated with any consistent land uses, features, or labels. Please review and correct as necessary. (WTG)***

The magenta lines are undisturbed seasonal wetlands. They are labeled SW.

Section 4.1.5 - Revegetation Procedures and Establishment

134. ***Please revise the sentence in the shelterbelt-windbreak narrative on page 9 of Section 4.1.5 which states that only shelterbelts in Sections 1 and 6 will be disturbed by mining activities. The Pit Layout and Facilities Map of Section 3.1.5 indicates that a shelterbelt in Section 35 will also be disturbed by mining activities. (GAW)***

Please see updated Section 4.1.5.

135. ***Please include native forb species in the native grassland seed mixture. NDAC 69-05.2-09-17(1) and NDAC 69-05.2-22-01. (GAW)***

Please see updated Section 4.1.5.

136. ***Please remove the wording "greater than two pounds (PLS) per acre" in the sentence on page 2 of Section 4.1.5 that states "Changes in species composition or seeding rate changes greater than two pounds (PLS) per acre will be submitted for approval by the PSC prior to implementation" for compliance with NDAC 69-05.2-09-11. Any changes to the seed mixtures need to be submitted and approved as part of the reclamation plan. (GAW)***

Please see updated Section 4.1.5.

137. ***In the shelterbelt design plan narrative, please state that actual as-planted shelterbelt designs will be included in the permit after the shelterbelts have been planted. The Reclamation Division understands the need for allowing some flexibility in the design plans, but the permit should then be updated to include documentation of the species actually planted as required by NDAC 69-05.2-09-11. (GAW)***

Please see updated Section 4.1.5.

Section 4.2 - Reclamation - General

138. ***The Post-Mining Topography Map of Section 4.2.6b shows the drainageway to be very flat in the NE¼ of Section 1. This area is to be developed into a fairly large seasonal wetland according to the Post-Mining Land Use Map, thus a wetland basin should be depicted. Please make the necessary corrections. (MSK)***

Please see the updated post-mining topography updated in the Post-Mining Land Use Map in Section 4.1.2 and the Post-Mining Contour Map Section 4.2.6b.

139. ***There appear to be several ponds that are located in Sections 1, 5, 6, 29, 31, and 32 which lie outside of the terrain modification boundary established in the Post-Mining Topography Map, Section 4.2.6b, and the Post-Mining Slope Map, Section 4.2.7b. Please include the pond disturbance areas in the Post-Mine Topography and Post-Mine Slope Maps. (MSK)***

That boundary is a terrain modification boundary, not a disturbance boundary. Therefore, the ponds do not need to be included within the boundary. The areas will be reclaimed to the pre-mine contours.

140. ***Please revise the Post-Mining Contour Map, Section 4.2.6b, and the Post-Mining Area Slope Map, Section 4.2.7b, and the Post-Mining Land Use Map, Section 4.1.2, to show***

that the pre-mine topography on the Federal coal tracts is not going to be changed. A change in topography was also noted in the SE¼ of Section 32 in the approximate location of Pond P-32-02, where no mining is proposed. Please update the topography to exclude topographical disturbance in these areas except that needed to tie into the mined lands. (GAW/MDB)

This permit area contains a couple tracts of Federal coal which remain unleased at the time of the permit submittal application because it is not planned to be mined until approximately 2022. These tracts, therefore, cannot be shown as mined in Section 3.1.5 until they are leased. Otter Creek does plan on leasing and mining the Federal coal tracts depicted in the mining areas, and post-mining topography has, for that reason, been depicted for these areas on the maps in Sections 4.2.6b, 4.2.7b, and 4.1.2.

141. ***Please update the discussion in the last paragraph on page 6 of Section 4.2.1 to clarify that, sediment ponds will not be removed any sooner than 2 years after the last augmented seeding, per NDAC 69-05.2-16-09. (MDB)***

Please see updated Section 4.2.1.

142. ***In Section 4.2.1, under the Summary of Rough Grading Conditions and Assumptions, please correct bullet point 7 as it states rough grading will normally begin within the maximum allowable 180 days. However, NDAC 69-05.2-21-01(2) requires rough backfilling and grading to be completed within one hundred and eighty days following coal removal. Please correct the narrative. It is also suggested that a statement be added to request a variance from this requirement if rough grading cannot be completed within 180 days. (MDB)***

Please see updated Section 4.2.1.

143. ***As required by NDAC 69-05.2-24-07(1)(d), please include a statement in the road reclamation paragraph on page 2 of Section 4.2.1 that roadbeds will be ripped, plowed, or scarified during road reclamation. (MDB & WTG)***

Please see updated Section 4.2.1.

144. ***In Section 4.2.2, a variance from NDCC 38-14.1-24(14) for Area A has been requested because rough grading will exceed 3 years. The request needs to be modified as NDCC 38-14.1-24(14) states that all reclamation through initial seeding or planting must be completed within 3 years, not just rough grading. Rough grading is required to be completed within 180 days per NDAC 69-05.2-21-01(2). Please revise. (MDB)***

Please see updated Section 4.2.2.

145. ***In Section 4.2.4, Reclamation Costs, several of the assumptions and conditions do not appear to be accurate. Please revise the following assumptions to more accurately depict the worst-case condition in the first bond increment: (MDB)***

a) Average angle of repose is shown as 35 degrees and average highwall angle is shown as 60 degrees, which are typical for a dragline operation; however, as currently proposed, Otter Creek will not use a dragline for overburden removal.

Please see updated Section 4.2.4 - Reclamation Costs.

b) There should not be any spoil peaks since the overburden material is going to be stockpiled.

Please see updated Section 4.2.4 - Reclamation Costs and Section 4.2.4b – Worst Case Pit Cross Sections.

146. ***In Section 4.2.4, Reclamation Costs, please include cross-sections of the pit used in calculating the bond amount as well as the proposed topography of the disturbed areas in the event of a bond forfeiture. (MDB)***

Please see added Section 4.2.4b – Worst Case Pit Cross Sections.

147. ***The Reclamation Division imported Section 4.2.4a into GIS to compare the disturbed acreage which is planned to be disturbed with those submitted by Otter Creek. The total acreage appears to be accurate; however, the breakdown of the acreage does not correspond with those submitted for the cropland in the NE¼ of Section 5 and the NW¼ of Section 5. It appears the privately owned acres are under-estimated and the mixing agreement acres are over-estimated for both subsoil and topsoil in Table 1. Please check and correct the cropland acreage in this table. (MDB)***

Please see updated Table 1. I also updated the variable costs with the July 2011 numbers.

148. ***In Section 4.2.6, please expand this section to include discussion of the assumptions and conditions used to generate the Post-Mine Topography Map, including the mass balance of material demonstrating that the proposed topography can be achieved. (MDB)***

Please see updated narrative in Section 4.2.6.

Section 5.1 - Pre-Mining Wetlands

149. ***Please show the locations where the wetlands were sampled on the Pre-Mining Wetland Location Map, Section 5.1.1a. (GAW)***

Please see updated 5.1.1a.

150. ***NWI classifies two oxbows south of Otter Creek in the SW¼ of Section 5 as seasonal wetlands. The detailed soil survey classifies the oxbows as primarily consisting of Regan loam and Lamoure silt loam soils, which are both considered to be hydric soils. Please review and update Section 5.1 as necessary or include a discussion addressing why these oxbows are not considered wetlands. (GAW)***

Please see updated map Section 5.1.1a.

151. ***Please show the Pre-Mine Springs included in Table 4 of Section 5.1.1 on the Pre-Mining Wetland Location Map, Section 5-1-1a. Also, please clarify the narrative on page 2 of Section 5.1.1 if the springs and seeps in table 4 are only a representative sample of the springs and seeps associated with the wetlands, and discuss if there are other developed and undeveloped springs and seeps associated with wetland complexes. Please reference other sections of the permit where information on the developed and undeveloped springs and seeps is being presented. Information for the pre-mine springs and seeps is scattered throughout various sections of the permit. Springs and seeps are listed in Table 4 of Section 5.1.1, Section 2.2.9 is a map showing the Certified Wells and Developed Springs, and the map in Section 2.6.2 shows spring sample locations but the spring identification labels are not consistent with Table 4. Please review and include a narrative to clarify this issue. Please also change the "Sample Area" column heading in Table 4 to read "Corresponding Spring ID in Section 2.6.4" instead to provide a cross-reference for the spring wetlands. (GAW & WTG)***

Please see updated Section 5.1.1a, Mining Wetland Location Map and the narrative & Table 4 of Section 5.1.1.

152. ***Please discuss the methodology and protocol used to determine the wetland floristic quality index and the index of plant community in integrity in Section 5.1.1 and include the appropriate references to Section 5.3. (GAW)***

Please see updated Sections in 5.1.1 and 5.3.

153. ***As noted in a related deficiency in Section 2.2.10, please expand the description of springs on page 2 to explain that the three springs inventoried as wetlands in Sections***

6, 29, and 32 are also certified springs in Section 2.2.10. A convenient way to explain the relationship would be to refer the reader to Table 4 where footnotes would list the corresponding ownership, spring number, and legal description listed for the certified spring in Section 2.2.10. (WTG)

Please see updated Table 4 of Section 5.1.1.

154. ***As noted in related deficiency in Section 2.6.3, please change the corresponding spring identification in Table 4 to use the "SPG" abbreviation rather than the "SPR" abbreviation to eliminate inconsistencies with the "SPG" naming convention used throughout Section 2.6. (WTG)***

Please see updated Table 4 in Section 5.1.1.

155. ***Please correct the legend attribution for the aerial photography to state that it is from the National Agriculture Imagery Program administered by the USDA Farm Service Agency. (WTG)***

Please see updated map Section 5.1.1a.

Section 5.2.1 - Wetlands Reclamation and Construction Operations

156. ***Section 5.2.1 indicates that wetlands will be field-fitted in appropriate topographical locations in regraded areas. Post-mine wetlands need to designed and approved prior to construction to ensure that the post-mine watershed is of adequate size to support the wetland. Please update the narrative to clarify the procedure (design plans and PSC approval) which will be undertaken prior to wetland construction. In addition, discuss replacing pre-mine wetlands that were supported by ground water with wetlands that will be supported only by surface runoff, if that is the case. (GAW & MDB)***

The design procedure for constructing post-mining wetlands has been updated in Section 5.2.1. Three post-mining wetland designs have been submitted in Section 5.2.2.

Other

157. ***It was noted that the submitted narrative, spreadsheets, and maps depict mining operations at Otter Creek beginning in 2010 and based on the projected permit review schedule and expected response time to technical and follow-up deficiencies, the Reclamation Division considers the start-up timeline of 2010 to be unrealistic. Please update information in all relevant sections of the permit application in which 2010 is depicted as the date in which mining operations are expected to begin.***

Mining dates were updated to show mining beginning in 2012.

158. Section 1.3.1, Names of Officers, Directors, and Share Holders, and Organizational Structure, has been updated to reference the stand-alone document containing legal, compliance, and related information for Otter Creek Mining Permit NAOC-0802 and for all North American Coal operations in North Dakota.

159. Section 1.3.3, Current Permits and Permit Applications, Including Pending Applications, has been updated to reference the stand-alone document containing legal, compliance, and related information for Otter Creek Mining Permit NAOC-0802 and for all North American Coal operations in North Dakota.

160. Section 5.3, References, has been updated.

Sincerely,

THE FALKIRK MINING COMPANY

D. Randall Crooke
Environmental Manager

DRC/dge