



April 11, 2014

Mr. James R. Deutsch  
Director, Reclamation Division  
Public Service Commission  
600 E Boulevard Ave, Dept 408  
Bismarck, ND 58505-0480

Dear Mr. Deutsch:

Re: Revision No. 27  
KRSB-8603

Per your letter of March 25, 2014, enclosed are three CD's in electronic format. Individual comments are set forth below followed by Dakota Westmoreland's responses and a list of the revised information.

**Table of Contents**

1. Please update the Table of Contents to include subsection "M" in Section 2.5, Wildlife Inventory and Plan. (GAW)
  - The Table of Contents has been changed per request. Subsections J-M of Section 2.5 were re-organized in the Table of Contents per request #41.
2. Please include Exhibit 2.7.4, Premining and Postmining Land Use Acres, as an exhibit in Section 2.7 in the Table of Contents. (GAW/RLK)
  - Exhibit 2.7.4 was added to the Table of Contents.

**Section 1.1 - Application and Support Documents**

3. The Revision Narrative and Listing of Revised Information for Revision 28 to KRSB-8603 dated August 8, 2013 on page 42 of Subsection I. (Application History) of Section 1.1 is not the version that was approved with Revision 28. Please replace the version dated August 8, 2013 with the approved version dated October 10, 2013. (WTG)
  - Page 42 has been replaced with the approved October 10, 2013 list of revised information.

20 RC-13-70 Filed 04/11/2014 Pages: 20  
Response to the technical review letter filed by the applicant  
Dakota Westmoreland Corporation  
Paula Gores



#### Section 1.4 – Business Entity Information

4. The application of significant Revision 27 to KRSB-8603 was evaluated by the Office of Surface Mining (OSM) Applicant/Violator System (AVS) following its completeness approval to determine if any violations were associated with the applicant that may hinder revision approval. The evaluation returned 18 outstanding violations for which the Commission requested an evaluation narrative report from the OSM-AVS Office that researched the effect of settlement agreements on the evaluation results. The evaluation narrative report stated that all violations had been resolved through settlement with the Island Creek Corp. and were linked to Dakota Westmoreland by Robert P. King of the Westmoreland Coal Company. A copy of the evaluation narrative report is enclosed. Although the 18 violations have been resolved to the Commission's satisfaction, any future AVS evaluations of Dakota Westmoreland permit applications will return the same violations while Mr. King has an ownership or control relationship with Dakota Westmoreland. The listing of these resolved violations with each AVS evaluation may cause unwarranted concern for the Commission that could be alleviated by an explanation in Permit KRSB-8603 (and KRSB-8802 with Revision 29). We therefore request that a new exhibit (presumably titled Exhibit 1.4.8) be inserted into Section 1.4 of the permit that explains the circumstances of Mr. King's former ownership or control relationship(s) with companies associated with the resolved violations and describes relevant facts of the Island Creek Corp. settlement in a format similar to Exhibit 1.4.7, Jesse General Trucking Corporation. (WTG)
  - As requested, new Exhibit 1.4.8 has been added to the permit. Please note, and as explained in the exhibit, Mr. Robert King was not employed with CONSOL [Island Creek Coal Company (ICC) is a subsidiary of CONSOL] at the time of the violations. All violations associated with ICC were settled on August 31, 1991.

#### Section 1.4 - Part B - Property Interests

5. As required by NDAC 69-05.2-06-01(1)(a), please review and revise as necessary the inconsistency between the surface and coal ownership of the E $\frac{1}{2}$ E $\frac{1}{2}$  of Section 30 listed as Lyle and Patricia Winkler on page 1.4.19 of Section 1.4, and the surface and coal ownership of the E $\frac{1}{2}$ E $\frac{1}{2}$  of Section 30 listed as P. and C. Winkler on Exhibit 1.4.1 (Surface and Mineral Ownership Map). (WTG)
  - The discrepancy has been resolved.
6. As required by NDAC 69-05.2-06-01(1)(a), please provide the names and addresses of the owners of record of surface and coal subsurface rights contiguous to the permit area extending one-quarter mile from the permit boundary. Several contiguous owners appear to be absent from the existing list on pages 1.4.20-21 in Section 1.4 if they are not also surface or coal owners within the permit area, e.g., Lyle and Patricia Winkler. Please also update the heading on page 1.4.20 to clarify that the list includes ownership within and contiguous to the permit area. (WTG)
  - The names and addresses for the missing surface and coal owners of contiguous properties have been added. Despite a diligent search of local and online directories, we were unable to find an address for one owner. We also amended the heading as suggested.
7. On page 1.4.21, in the Names and Addresses of Apparent Surface and Subsurface Owners of Record of Section 1.4, please review the name Weigel, Janice P. Janice's last name is listed as Ziegler in the ownership, in the Public Notice and she signed the lease as Zeigler. Please review and revise as appropriate. (ZAB)
  - Janice is now Janice Ziegler in the ownership listing.

8. Please review the Right of Entry and Operation Information table found on page 1.4.27 and update to include the acreage being added with Revision 27. (ZAB)

➤ The table has been updated.

9. Please update the Surface Owner Notification Table on page 1.4.28 to include surface owners of the acreage being added with Revision 27. (ZAB)

➤ The table information has been brought up to date.

10. Please add bookmarks to the 1.4 narrative that include titles such as Business Entity Information and Coal and Surface Ownership. Also please include a bookmark for the Public Notice for each Revision. (ZAB)

➤ Bookmarks have been added per request.

### **Section 2.1 – Geological Inventory**

11. Please update the structure narrative on page 2.1.7 to describe the structural low/synclinal feature and resultant dipping of the Beulah-Zap bed in the SW1/4 of Section 20, with continuation into Sections 29 and 30, just outside the permit area. Please note if these structural features will have any effect on planned mining operations or pit water handling issues in that area of the proposed Iron pits. (BEB)

➤ The pitch of the coal bed in Section 20 and portions of Section 29 has been added to the narrative. A comment on pit dewatering was also added.

12. Continuing narrative on page 2.1.7 describes the permit area cropline boundary and notes that it is displayed in the B-Z structure contour map, Exhibit 2.1.8, and a hyperlink is provided; however, updates to this map have eliminated the cropline depiction on the map. Please retain the B-Z cropline on this map and add the Schoolhouse cropline to this same map as required by NDAC 69-05.2-08-05(2)(g). Assuming sufficient information is available, please also add the Spaer cropline to the map, which outcrops to the north in Sections 17 and 18 and to the west toward Coyote Creek. (BEB)

➤ The BZ and Schoolhouse croplines for minable coal have been added to Exhibit 2.1.8. There are no plans to mine the Spaer coal bed. There is insufficient information to supply a coal outcrop line for the Spaer bed.

13. As required by NDAC 69-05.2-08-02(1)(i)(j), please note in the Geological Inventory narrative whether or not there are any known locations of abandoned underground or surface mines with the permit addition area and adjacent areas. (BEB)

➤ Verbiage was added to page 2.1.8 pertaining to abandoned mines.

14. Geomorphology narrative on page 2.1.7 describes steep-sided draws and topographic relief within portions of the permit and adjacent area and a hyperlink to Exhibit 2.1.8 is provided, which is the structure contour map of the top of the Beulah-Zap Bed. We believe the intent of this narrative was to provide a link to Exhibit 2.1.7, Geologic Cross-Sections Map, which more clearly and accurately depicts topographic relief within the permit and adjacent areas. Please redirect the hyperlink to Exhibit 2.1.7 if that is your intent. (BEB)

➤ The link was changed to Exhibit 2.1.7.

15. Exhibit 2.1.1 provides the required geophysical logs for the permit area; however, there are no bookmarks associated with the geophysical logs for Revision No. 22 or Revision No. 27 in this

section. Please provide bookmarks for these approximate 50 logged holes so that they can be quickly retrieved without having to search the entire document. (BEB)

➤ Bookmarks have been added to Exhibit 2.1.1 per request.

16. Please provide bookmarks for Exhibit 2.1.2, Test Hole and Monitoring Wells Lithologic Logs. Currently, the bookmark location is labeled as "DAKOTA WESTMORELAND CORPORATION". (BEB)

➤ Bookmarks have been added per request.

17. Please provide bookmarks for Exhibit 2.1.3, Overburden Analyses, for all of the listed overburden drill holes. Also, narrative on the first page of this exhibit indicates that Revision No. 27 adds 982.2 acres to the permit area, and this should be changed to state that the revision adds 892.2 acres to the permit. (BEB)

➤ Exhibit 2.1.3 was changed to state that Revision No. 27 added 892.2 acres.

18. Coal analyses narrative for Revision No. 27 on the first page of Exhibit 2.1.4 describes the addition of the new coal analyses data for Revision No. 22 and should be revised to state the addition of new coal analyses data for Revision No. 27. Similarly to the deficiencies described above, there are no bookmarks in this exhibit to enable the reader to navigate through the several hundred pages of documents that are provided. Please provide bookmarks for this data. (BEB)

➤ The exhibit was changed to note Revision 27. Bookmarks were added to assist navigation.

19. Surface contour elevation numbering on the Sampling Locations Map, Exhibit 2.1.7, is virtually impossible to read in the electronic format that is provided. Please change the font style or size so that surface elevations provided on this map are legible. (BEB)

➤ Contour fonts were changed to increase legibility.

20. NDAC 69-05.2-08-02(1)(d) requires that elevations of drill holes used for collecting geologic, ground water, and overburden information be depicted on a map. Please depict the surface elevations of all the drill holes that are shown on Exhibit 2.1.7. Simply adding the surface elevation (ft.) under the drill hole number is generally how this information is presented. Although not required, we ask that you provide drill hole ID, location, depth, and elevation information in table format, in addition to providing the elevation information on a map. (BEB)

➤ Borehole elevations were added to Exhibit 2.1.7.

## **Section 2.2 - Surface Water Hydrology – Inventory & Monitoring**

21. Please include the symbol for the stream types in the map legend on the Surface Water Monitoring Map, Exhibit 2.2.7. The current version only lists the label for the stream type but no accompanying symbol is provided. (RLK)

➤ The appropriate symbols were added to the legend.

22. Section 2.2, Surface Water Hydrology – Inventory & Monitoring: Please include water quality samples from the developed water resources in or near the mine disturbance proposed in Revision 27 or plans to obtain such samples as required by NDAC 69-05.2-08-07(3)(6). The permit should also include some basic physical information on each pond or dugout such as surface area, approximate depth, and useable season. The developed water resources of interest include the dugout in the NE 1/4

of Section 20, pond in the SW1/4 of Section 20, pond in the SW1/4 of Section 21, dugout in the SW1/4 of Section 22, dugout in the SE1/4 of Section 22, and pond in the SE1/4 of Section 22. (RLK)

- A discussion on all developed water resources in the Revision #27 area was added to page 2.2.4. A plan to collect water quality samples from said resources in the spring of 2014 was also added. The dugout in Section 20 is a non-functional resource. The dugout does not hold water.

### Section 2.3 – Groundwater Hydrology

23. Narrative on page 2.3.3 in Hydrogeology of the General, Adjacent and Permit Area, describes that monitoring wells 2030-2037 were installed to monitor the area added in this permit revision and the sentence should be changed for future clarification to state that the wells were installed to monitor the areas added with Revision No. 27. (BEB)
- “Revision No. 27” was added to clarify the intent of the wells.
24. Table 2.3.3 on page 2.3.17 describes a total of 19 water supply wells within the permit and adjacent area; however, the Water Supply Locations Map, Exhibit 2.3.7, either does not depict the locations for, or improperly labels, the Reich/Unruh Fox Hills domestic well and the Reich No. #2 stock well. Please review and update as necessary. (BEB)
- The Reich/Unruh well was relabeled on Exhibit 2.3.7. Reich#2 well was added to Exhibit 2.3.7.
25. Known Uses of Groundwater on page 2.3.19 states that Fetch Wells No. 2 and 3 (Schoolhouse) are located up-gradient of the permit area; however, they are now located within the permit area and it may be more appropriate to state that the wells are now positioned upgradient of planned coal removal operations within the permit, if that is the case. For clarification, please specify in the narrative whether the upgradient classification is intended to mean topographically or hydraulically, meaning hydraulic gradient, or both. (BEB)
- Verbiage was added to show that Fetch No.1 is located hydraulically up-gradient and that wells No. 2 and No. 3 will be physically located in the acreage covered by Revision #27..
26. Pleasant Valley Farmstead water well narrative describes planned house removal at the farm and removal of PVF wells No. 1 and 2 as mining moves through the area. Please update the narrative if these plans have changed. (BEB)
- The narrative is correct. Exhibit 2.3.7 was checked against Exhibit 3.2.1 and the wells will be removed.
27. We ask that you review and update if necessary, all of the narrative provided in the permit for the water wells, seeps and springs in Section 2.3C: Known Uses of Groundwater. In most cases, distances of the wells and springs to the permit area have now decreased than what is described because of expansion of the permit area boundary to the south. Also, if any impacts have been documented to any of the wells and springs from what is described in the permit, please provide those updates. (BEB)
- Section 2.3C was updated per request. No impacts have been documented to any of the wells and springs from what is described in the permit.
28. *Reclaimed Land Saturated Zones* narrative on page 2.3.16 contains language describing that reclamation monitoring wells on reclaimed land will consist of two nested wells, one in the base of spoils and one in the next lowest significant aquifer below depth of mining and this language is proposed to be struck from this section with Revision No. 27. Please retain this language because this paired-well post-mining system of ground water monitoring is a reclamation requirement. (BEB)

- The strikethrough was amended to retain installation of nested wells.
29. Please update the narrative in Section 2.3E, Ground Water Monitoring Plan, to account for new monitoring wells 2030-2037 that were added in 2012 for Revision No. 27, and also update Table 2.3.5 to account for the recently added wells, in addition to any other changes or updates that may be required. (BEB)
- The section 2.3E narrative has been updated. Table 2.3.5 was updated to include wells 2030-2037.
30. Please provide your plan describing restoration of approximate recharge capacity as required by NDAC 69-05.2-16-15. (BEB)
- Verbiage was added to page 3.2.27 per request.
31. Please add bookmarks to Exhibit 2.3.2, Well Completion Summaries, for monitoring wells 2020-2037. Also, the bookmarks for wells 949A and 949B do not work. Please address. (BEB)
- The appropriate bookmarks were added to the exhibit.
32. Please provide bookmarks in Well and Spring Certifications, Exhibit 2.3.8, to help navigate through the 100+ pages of documents that are provided. (BEB)
- Bookmarks were added to Exhibit 2.3.8. The 1991 Fetch No. 2 certification was also added to the exhibit. The well certification date in narrative 2.3 for Unruh No. 1 was changed to 10/2/1985.
33. Probable Hydrologic Consequences narrative, Section 2.3D on page 2.3.29, adequately describes the presence of intermittent streams in portions of the Revision No. 27 area with streamflow headwater locations in Sections 21, SW1/4 of Section 22 and SE1/4 of Section 22. Continuing narrative describes the source units of the many seeps and springs supporting intermittent flow in these reaches; however, no additional information is provided regarding these seeps/springs. Their locations need to be shown on the Water Supply Locations Map in Exhibit 2.3.7 and if any of the springs have been developed, certification information needs to be provided in the permit. Please address these issues. (BEB)
- Two additional seeps were identified on Exhibit 2.3.7, one in Section 22 and another in Section 21. These seeps were added to Table 2.3.3. Verbiage was added to page 2.3.29 to identify seeps that feed the intermittent streams of subject. Page 2.3.29 states that one of the streams flows across the SE ¼ of Section 22. The headwaters of this stream is in Section 27. A spring is already identified in this area on Exhibit 2.3.7.

#### **Section 2.4 – Soils Inventory**

34. Please correct the overlapping text that appears in the Soils Capabilities narrative on page 2.4.3. (RLK/WTG)
- The text overlap has been corrected.
35. Please review the 326.4 acres listed for Fetch et al. ownership in the S½ of Section 21 in Table 2.4.1 of Section 2.4 (Soils Inventory) and revise as necessary because it appears that the acreage should not exceed 320 acres. (WTG)
- The Fetch et al. acreage has been corrected.

36. As required by NDAC 69-05.2-10-01(3), the Commission provided the Natural Resources Conservation Service with the prime farmland reclamation plan submitted under NDAC 69-05.2-09-15. The agency's response (copy enclosed) provides the following comment for Subsection B (Soils Capabilities) on page 2.4.3 that needs to be addressed: (WTG)
- The narrative of Section 2.4, Page 2.4.3 states "Amor soils are often subject to cropping because they have few limitations. A IIe unit is assigned to the 0-6% slope category and IIIe is characteristic of the 0-6% slopes". The last sentence should read "... IIIe is characteristic of the 6-9% slopes."*
- The text has been corrected.
37. As required by NDAC 69-05.2-05-02(1) and NDAC 69-05.2-09-15(5) for the approval to mix prime farmland and non-prime farmland subsoil for reclaiming prime farmland, please revise the last paragraph of page 2.4.5 in Subsection C (Prime Farmland Investigation) of Section 2.4 as follows (and also revise related exhibits): (WTG)
- a. Add a reference to Exhibit 2.4.11 for a summary of the topsoil and subsoil analysis data discussed on page 2.4.5, and also add a reference to Exhibit 2.4.2 for the complete listing of soil pedon analysis data for the permit area.
- References to Exhibits 2.4.2 and 2.4.11 have been added to the text.
- b. Although a general comparison of prime and nonprime soil characteristics in the S½ of Section 21 is appropriate because no mining is proposed in the parcel, the comparison of prime and nonprime soil characteristics in the S½ of Section 22 Gold Pits should be more specific. Assuming that Gold Pit soil salvaged from Terence Schmidt property in the adjoining NE¼ of Section 22 and W½ of Section 23 will continue to be handled separately, the comparison of prime and nonprime soil characteristics in the S½ of Section 22 should be limited to the dominant nonprime soil map units in the mining disturbance area that would be salvaged with the 2.1 acres of prime farmland. As measured on Exhibit 3.5.3 (Post Mining Topography), the mining disturbance area for the S½ of Section 22 includes about 105 acres. Please note that the pedon analysis summaries presented in Exhibit 2.4.11 will require revision to reflect the dominant nonprime soil map units in the mining disturbance area by removing Krem samples 22-1 and 22-2, while adding Flaxton samples 101 and 23-14, and also using Williams sample 100 to represent sampled map unit delineations that extend into the S½ of Section 22. The narrative on page 2.4.5 should be revised as appropriate to reflect the revised data summaries. Mention should be made to soil map unit 81E with an explanation that no subsoil will be salvaged from this map unit as indicated on Exhibit 2.4.7. While revising Exhibit 2.4.11 please also review the SAR value of 3.05 ascribed to Flaxton topsoil samples 22-5 and 22-6 that is not supported by analysis data in Exhibit 2.4.2. It appears that the averaged SAR value should be listed as less than 1.
- Exhibit 2.4.11 has been revamped by removing the Krem soils and adding the Flaxton samples as suggested. The narrative on p. 2.4.5 has also been revised in accordance with the changes to Exhibit 2.4.11. The reference to the 81E map unit has been placed in the Section 3.4 narrative discussion on prime soil handling.
38. Please review and revise as necessary the following inconsistencies between the soil map unit numerical legend on page 4 of the 2010 soil survey report (Exhibit 2.4.10) and the corresponding 2010 soil survey soil map unit legend listed on the Composite Soil Survey map (Exhibit 2.4.7): (WTG)
- a. Map unit 57B, Flaxton sandy loam, 3 to 6 percent slopes of the 2010 soil survey report is listed as map unit 57B Flaxton sandy loam, 1 to 6 percent slopes on the Composite Soil Survey map.
- b. Map unit 59, Parshall sandy loam, 1 to 3 percent slopes of the 2010 soil survey report is not listed on the Composite Soil Survey map.

- c. Map unit 120B, Flaxton Variant sandy loam, 3 to 6 percent slopes of the 2010 soil survey report is listed as map unit 120B Flaxbar sandy loam, 3 to 6 percent slopes on the Composite Soil Survey map.
- The map unit table on Exhibit 2.4.7 has been corrected for items a. and c. Map unit 59, Parshall sandy loam, is an extraneous artifact and has been removed from the soil survey report.
39. Please review and revise as necessary the following apparent errors of topsoil or subsoil salvage thickness labels on two soil map units in the SW $\frac{1}{4}$  of Section 22 on the Composite Soil Survey map (Exhibit 2.4.7): (WTG)
- a. The subsoil salvage thickness label of 50 inches for soil map unit 81E in the N $\frac{1}{2}$ SW $\frac{1}{4}$  appears to be in error. The 2007 and 2005 soil survey reports state that subsoil thickness ranges from 12 to 15 inches for soil map unit 81E.
- b. The topsoil salvage thickness label of 10 inches and the subsoil salvage thickness label of 50 inches for soil map unit 113 in the E $\frac{1}{2}$ SW $\frac{1}{4}$  appear to be in error. The 2007 soil survey report states that there is no suitable plant growth material salvage for soil map unit 113 because of salinity and a high seasonal water table.
- The subsoil depth for the 81E unit has been corrected. We chose not to change the subsoil lift depth for the 113 unit. Although the map unit description notes that there is no SPGM salvage because of salinity and a high water table, we believe this is only true of some sites. The same statement is made in the 2010 report, but the only 113 units, found in the E $\frac{1}{2}$  of the SE $\frac{1}{4}$  of Section 23, have removal thicknesses of 24/36. Consequently, we are removing this statement from the 2010 report. The small pothole depression that is the location of the 113 unit in the E $\frac{1}{2}$ ,SE $\frac{1}{4}$  of Section 22 is not influenced by springs, unlike most if not all of the other 113 units in the 2007 report and does not appear to have significant salinity issues as judged by the appearance of the surface soils and crops. So, due to the unique site characteristics and small size, we prefer to keep the lift designations as they are.
40. Please review and revise as necessary the following apparent errors related to Cabba clay loam soil map units in the 2010 soil survey report (Exhibit 2.4.10): (WTG)
- a. A soil map unit description for 81D (Cabba clay loam, 9 to 15 percent slopes) is absent from the report. Please insert footnotes for the numerical and alphabetical soil map unit legends on pages 4 and 5 of the report referring the reader to the 2007 soil survey report (Exhibit 2.4.9) for an 81D soil map unit description if the correct soil map unit description is not available for insertion in the report.
- Footnotes were added for the 81D map unit and a note was added to the narrative for the map unit descriptions.
- b. The soil map unit description for 81E Cabba clay loam, 15 to 40 percent slopes (page 13) describes a subsoil thickness ranging from 51 to 56 inches but the labels for 81E soil map units in the SW $\frac{1}{4}$  of Section 23 list no subsoil salvage, and the 2007 and 2005 soil survey reports state that subsoil thickness ranges from 12 to 15 inches for soil map unit 81E.
- The topsoil and subsoil depths given for the 81E unit were modified to correspond to mapped lift depths.

#### **Section 2.5 – Wildlife Inventory and Plan**

41. Please re-organize Section 2.5 so that subsection J, Wildlife Monitoring Studies, which is actually the Annual Wildlife Monitoring Plan, is not located in the middle of this section between original baseline

inventory information and the results of inventories completed for the Revisions 16, 22 and 27 addition areas. NDAC 69-05.2-05-02 (GAW)

- The 2.5 narrative has been re-organized. The Wildlife Monitoring Studies verbiage was moved to the end of the document.

42. Please include a title and bookmarks in Exhibit 2.5.11 and group the information into subsections by Revision Number. NDAC 69-05.2-05-02 (GAW)

- Bookmarks were added to Exhibit 2.5.11. Information was bookmarked individually to aid navigation.

### **Section 2.6 – Pre-Mining Vegetation Inventory**

43. Please include a bookmark title in Exhibit 2.6.2, Range Site and Ecological Site Descriptions, so that a reader can determine which Exhibit is being viewed when opened. NDAC 69-05.2-05-02 (GAW)

- The bookmark was added to identify which exhibit is open.

44. Please revise Exhibit 2.6.9, Pre-mining Land Uses and Vegetation Map Units, to more clearly identify the boundaries between the various land uses and to label go-back fields and crested wheatgrass and smooth bromegrass areas of influence. The use of similar colors to distinguish different land uses on this map is confusing. For example, green is being used to identify both shelterbelts and old go-back fields. Also please identify the native grassland sampling sites more clearly as the light gray symbols are difficult to see on the air photo background. NDAC 69-05.2-05-02 (GAW)

- Hues of native grassland and go-back/oldfield areas have been changed, and a darker shade of gray has been selected for the native grassland sampling sites and range condition and similarity index ratings.

45. Please revise Exhibit 2.6.13, Range Site and Ecological Site Vegetation Composition so that the information is organized in a clear and understandable manner. This Exhibit should include a title and bookmark subsections. The first page of this Exhibit has been relabeled as Revision 27 but the information on this page pertains to the Revision 16 addition area. Revision 16 information should remain as revised with Revision 16. The actual information for the Revision 27 addition, Rangeland Similarity Index information, has been included on pages 10 through 19 of this 37 page pdf in between Revision 22 and 19 information which is very confusing. This information should be presented in a chronological order. Please revise to meet the requirements of NDAC 69-05.2-05-02. (GAW)

- Bookmarks were added to the beginning of each subsection. Although the title block indicates the most recent revision of the exhibit contents, headings in each table indicate the applicable revision area for the table data. For instance, the heading of the table on the first page indicates that the data pertains to the revision 16 area. As requested, we have moved the similarity index sheets to the end of the exhibit so that a chronological sequence is maintained.

46. Please include a title and subsection bookmarks in Exhibit 2.6.14, Historic Reference Area Data, so the information is organized and understandable. (GAW)

- Bookmarks were added to each subsection.

47. Please revise Exhibit 2.6.14 to include species composition information from the past few years to demonstrate that the reference areas are being maintained in acceptable ecological condition. Also, there needs to be a discussion demonstrating that the reference areas adequately represent the land being added with Revision 27. (GAW)

- Exhibit 2.6.14 has been updated with data through 2013, including an assessment of range condition. The narrative of Section 2.6 has been expanded with a discussion on the utility of the current reference areas to represent the revision 27 area native grassland.

### Section 2.7 – Land Use

48. Exhibit 2.7.3, Alternative Postmining Land Use, shows that 1.7 acres of Industrial/Commercial land located in the S1/2 of Section 17 is to be converted to native grassland. Please explain this land use change in Section 2.7 as it appears the county road located along the south side of Section 17 is going to be replaced as it existed prior to mining. Also, no other industrial commercial land is identified on this tract on the pre-mining land use maps. Please review and revise as necessary to clarify. (GAW)
  - The exhibit has been corrected by removing the acreage.
49. A post mine DWR depicted in the SE1/4 of Section 16 on the Post Mine Land Use Map, Exhibit 2.7.1, is not listed in Exhibit 2.7.3 as a change in land use acreage for land owned by M. Gunsch. Please review and revise as appropriate. (RLK)
  - The DWR acreage has been added to Exhibit 2.7.3.
50. Please revise Exhibit 2.7.1, Postmining Land Use, to more clearly delineate the boundaries between the various land uses. The boundaries between the cropland and native grassland in Sections 21 and 22 and between the native grassland and tame pastureland in Section 23 are not clearly identified. NDAC 69-05.2-05-02 (GAW/RLK)
  - The exhibit has been revised by changing colors and adding boundaries and labels where appropriate to more clearly depict boundaries.
51. The Pre-Mine Land Use Map, Exhibit 2.6.9, identifies a dugout developed water resource on the Schmidt property in the SW1/4 of Section 22 but the post mine land use map, Exhibit 2.7.1 does not show this feature. The revision does not describe any disturbance to this area. Please describe in the permit why the developed water resource will be removed or revise the exhibit as appropriate. (RLK)
  - The dugout is shown on Exhibit 2.7.1, but not labeled with the tag “DWR”. We have labeled all developed water resources on Exhibit 2.7.1 to clarify their status.
52. Please include bookmarks in Exhibit 2.7.2, Land Use Preference Letters, so that surface owner information can be easily found without paging through the entire section. NDAC 69-05.2-05-02 (GAW)
  - Bookmarks were added.
53. Exhibit 2.7.3, Alternative Postmining Land Use, shows that 3 acres of native grassland will be converted to developed water resources in the NE1/4 of Section 16 but the developed water resource is not shown on the Postmine Land Use Map, Exhibit 2.7.1 or represented on the land use comparison table, Exhibit 2.7.4. Please review and correct as necessary. (GAW/RLK)
  - With the reclamation of pond 86, this row has been removed from the table.
54. Exhibit 2.7.3, Alternative Postmining Land Use, shows that 1.9 acres of native grassland will be converted to developed water resources in the SE1/4 of Section 18 and the postmine land use map shows that sediment pond 94 will be retained directly above an undisturbed spring fed dugout. Please revise Section 2.7 to discuss and justify why a third stockpond is going to be developed on this tract when the surface owner did not request an additional pond in his preference statement. (GAW)

- The preference statements for ponds 87 and 94 have been appended to Exhibit 2.7.2. The landowner wants a larger stock pond capable of handling more livestock than the small existing dugout. This is the reason for retaining Pond 94.

55. The net change in land uses for DWC ownership in Section 20 shown in Exhibit 2.7.3 do not agree with the change in acreage for DWC shown in Exhibit 2.7.4, Pre-mining and Post-mining Land Use Acres. The differences appear to be more than a few tenths of an acre for cropland, hayland, shelterbelts and native grassland. Please review and revise as appropriate. (RLK)

- The figures for some of the conversions for DWC in Exhibit 2.7.3 have been revised.

56. The surface water narrative indicates mining will disturb the pre-mine DWRs in the SW1/4 of Section 17 and no replacement appears to be planned in Section 17. Exhibit 2.7.3 does not show a corresponding land use change for the F. Keogh property in the S1/2 of Section 17. The post-mine land use map, Exhibit 2.7.1 and the land use comparison table, Exhibit 2.7.4 indicate the 1.7 acres of DWRs in Section 17 will not be replaced. Please revise as appropriate. (RLK/GAW)

- The information for conversion of the DWRs in the S $\frac{1}{2}$  of Section 17 has been added to Exhibit 2.7.3.

57. The surface water narrative indicates the pre-mine DWR in the NE1/4 of Section 20 will be disturbed by mining and no replacement appears to be planned in Section 20 for this feature. The size of the feature was not found in the permit and an alternate post-mine land use for the DWR area is not listed in Exhibit 2.7.3. Please revise as appropriate. (RLK)

- At roughly 0.03 acres, this essentially non-functional developed water resource was too small to register using a least significant measure of 0.1 acre.

#### **Section 2.10 – Cultural Resources Inventory and Protection Plan**

58. The Cultural Resources Inventory listing and significance determination status on page 2.10.4 has not been updated since Revision No. 22. Please update this table with current information regarding investigations, results and correspondence. (BEB)

- The Cultural Resources Inventory listing has been updated.

59. We have been unable to locate cultural resource investigation reports, correspondence, or any other information for lands included in the Revision No. 27 addition area within the S $\frac{1}{2}$ S $\frac{1}{2}$  of Section 21 and the NW1/4 of Section 23, T143N, R88W. For clarification of the various investigation areas, dates of investigations and depictions of cultural resource site locations, a consolidated map displaying all of this information is requested. Please provide the cultural resource information for these two areas. (BEB)

- Exhibit 2.10.11 has been moved to Exhibit 2.10.12 and Exhibit 2.10.12 has moved to Exhibit 2.10.13. Exhibit 2.10.11 now consists of the 2007 Class III Cultural Resources Inventory covering the S $\frac{1}{2}$  of Section 22 and the N $\frac{1}{2}$  of Section 23. The 2010 Class III Cultural Resources Inventory, Exhibit 2.10.12, covers the SW $\frac{1}{4}$  of Section 23, and four other sections. Exhibit 2.10.2 previously contained correspondence in the original permit submittal, this exhibit was deleted with Revision 19. Exhibit 2.10.2 now consists of "Cultural Resource Site Locations and References." This information should aid in the PSC's review of the aforementioned.

The Class III cultural resource investigation for the S½S½ of Section 21 is scheduled for the week of April 14, 2014. We expect a "Draft Final Report" in approximately 30 days. Based on preliminary work, the University of North Dakota, Anthropology Research, does not expect to find any significant sites. Dakota Westmoreland respectfully requests the Public Service Commission add a condition to the permit approval that we will not conduct any mining activities in the area until such report has been reviewed and accepted by the ND SHPO.

### **Section 3.1 – General Mine Plan**

60. Please revise Section 3.1, General Mine Plan, to include bookmarked subsections (Subsections A, B, C, D, E, and F) so that information can be found without scrolling through the whole section. NDAC 69-05.2-05-02. (GAW)
- 
61. In the narrative provided for intermittent stream buffer disturbance beginning on page 3.1.6, please include pond/sump 99E as an area of past and potential future disturbance within the stream buffer zone. (RLK)
- Sump 99E was added as a potential area for disturbance in the future.
62. The Pit Layout and Facilities Map, Exhibit 3.1.2 and West Haul Road Extension map, Exhibit 3.1.8 show a new haul road route to the east of the Iron pit sequence through undisturbed land in Section 21. The haul road is not discussed in Section 3.1 and it is not clear why the haul road could not be aligned approximately on the section line between Sections 20 and 21 to the present haul road for the Silver pit. Please elaborate on the reasons why the proposed haulroad alignment is advantageous. Also, justify the additional disturbance this proposed haulroad would create in light of NDAC 69-05.2-13-05 that requires minimizing disturbances on lands where coal is not removed. In the light of the increase industrial activity, also please discuss any purpose or function the road could reasonably be expected to serve beyond the coal mining scheduled in this permit. (RLK)
- Verbiage was added to Section 3.1 to justify the haul road. It should be noted that SPGM will have to be removed between the Iron pit and the stockpiles in Section 21 regardless of haulroad placement. The proposed plan also minimizes linear feet of haulroad required to be maintained.
63. The Pit Layout and Facilities Map, Exhibit 3.1.2, shows a proposed scoria storage area in the SW¼ of Section 21. Please consider locating this storage area on an area of previous disturbance rather than on undisturbed land. NDAC 69-05.2-13-05 (RLK)
- In considering a different placement of the proposed scoria storage area, DWC feels that current placement is the best option. With future scoria coming from quarries south of our proposed permit, DWC selected this area to reduce cross traffic in this hazardous area. The proposed scoria storage area will allow scoria to be delivered by independent contractors without crossing any major mining transportation arteries. The scoria storage pile was reduced in size to reduce land disturbance. The storage area was moved south to assist with drainage control. As indicated in the response to deficiency #59, no mining activity/scoria placement will ensue until the cultural resources site report has been reviewed and accepted.

### **Section 3.2 – Surface Water Management**

64. Water Management, Exhibit 3.2.44: Please correct the elevation on the elevation/capacity for Pond 104. The highest elevation value is listed as 1974.1 but the value should be 1984.1. (BAJ)
- The appropriate value was changed.

65. The surface water management plan does not include specific information or plans for controlling sediment from the proposed scoria storage location. If the site cannot be located within a mine disturbance area with stripped drainage to a sediment pond, then a site-specific sediment control plan must be provided for the proposed stockpile location. (RLK)

- Verbiage was added to page 3.2.50 regarding the drainage of the proposed storage area.

### **Section 3.3 – Blasting Plan**

66. Exhibit 3.3.1 – Blasting Map: Please revise the Blasting Map so that it complies with NDAC 69-05.2-09-04(8)(b). The maximum permissible weight of explosives to be detonated is established by NDAC 69-05.2-17-05(7). The map must show the maximum weight of explosives by intervals not exceeding four hundred feet [121.92 meters] and continue until the maximum amount specified in NDAC 69-05.2-09-04(1). (BAJ)

- Exhibit 3.3.1 was changed per request. Table 3.3.1 was changed on page 3.3.5 of the Section 3.3 narrative.

### **Section 3.4 - Suitable Plant Growth Material Handling Plan**

67. As required by NDAC 69-05.2-09-15(4), please revise the last sentence of page 3.4.6 extending onto page 3.4.7 of Subsection 6 (Prime Farmland) to state that the potential reclaimed prime farmland locations are shown on Exhibit 3.5.3 (Post Mining Topography). At your discretion you may retain the reference to Exhibit 3.4.1 provided that the locations are retained on Exhibit 3.4.1. (WTG)

- The reference to Exhibit 3.5.3 has been added to page 3.4.7.

68. As noted in a deficiency item in Section 2.4, the Commission provided the Natural Resources Conservation Service with the prime farmland reclamation plan submitted under NDAC 69-05.2-09-15. The agency's response (copy enclosed) provides the following comment for Subsection 6 (Prime Farmland) on page 3.4.7: (WTG)

*The narrative of Section 3.4, Page 3.4.6 appears to represent that NRCS supplied spring wheat yield data. Currently NRCS does not deliver or maintain yield data in North Dakota.*

Please revise the narrative and associated table on page 3.4.7 by replacing the estimated yield values with productivity indexes.

- We were a bit uncertain in how to interpret the comment from NRCS, but have removed references to the agency in the narrative so that it would not be perceived as having supplied any yield data. Narrative on p 3.4.7 has also been amended to clarify that the yields were derived from productivity indices.

69. Please replace "In" with "If" to begin the third sentence in the last paragraph of page 3.4.7. (WTG)

- The typo has been corrected.

70. Please revise the narrative for proposed mixing of prime farmland and nonprime farmland subsoil in the S½ of Section 22 on pages 3.4.7 and 3.4.8 to reflect the revised soil pedon analysis data presented on Exhibit 2.4.11 for the mining disturbance area. (WTG)

- The narrative has been revised per the modifications to the soil pedon data presented in Exhibit 2.4.11.

### Section 3.5 – Backfilling and Grading

71. As required by NDAC 69-05.2-09-15(4), and as noted in deficiency item No. 19 of the February 18, 2014 KRSB-8603 midterm permit review letter, please depict the potential prime farmland respread areas on Exhibit 3.5.3 (Post Mining Topography). (WTG)
- Exhibit 3.5.3 was updated to show potential prime farmland respread areas (Section 22).
72. Please revise the Postmining Topography Map, Exhibit 3.5.3, to not show any topography changes on lands beyond the mineral removal boundary. The Postmining Topography Map shows hills (appear to be the contours of the in-place stockpiles) where the SPGM stockpiles are located in the SE1/4 of Section 21, N1/2 of Section 16, NW1/4 of Section 15 and in Section 17 and the haulroad in Sections 14 and 15 is shown as a postmine feature as are sediment ponds 86, 85, 84, 91 and 93A, all of which must be reclaimed. (GAW)
- All recommended changes were made to Exhibit 3.5.3.
73. Please revise the major drainage way that is to be reconstructed in the NW1/4 of Section 22 by including secondary drainages and sinuosity to increase slope length and decrease steepness similar to what existed prior to mining as required by NDAC 69-05.2-16-07(4)(b) and (c). Slight changes are being proposed at the north end of this drainage with Revision 27 and we recommend including the details for wetlands that will be replaced in this drainage. (GAW)
- The recommended changes were made to Exhibit 3.5.3. The drainageway was modified to resemble the original ground configuration. The slopes have been adjusted also. The surface owner does not want any wetlands established on this tract.

### Section 3.7 – Revegetation Plan

74. DWC is proposing to remove prairie sandreed from the native grassland seed mixture with Revision 27 without any explanation. The Reclamation Division will not allow changes that result in the seed mixture becoming less diverse. Please revise to create a more diverse seed mix, provide justification for any changes being proposed, and retain a record of what has already been planted in the permit. (GAW/RLK)
- We have reinstated prairie sandreed at a lower rate. We recognize the virtue of a diverse native grassland seed mix, as evidenced by the nine grass species it has contained in recent years. However, we have noted very little, if any establishment of prairie sandreed over the years. The cost appears to be unjustified by the very poor results. However, we are willing to continue with sandreed for a while in the hope that the results will improve. The changes to the rates of other species are based on overall establishment, cover, and production results on native grassland seedings to date. These results suggest that a strengthening of persistent cool season grass seed numbers and a reduction in switchgrass may be profitable in terms of meeting standards.
75. Please revise the title or link provided for Exhibit 3.7.4, Prime Farmland Production Estimate, in the Table of Contents since the exhibit is currently titled Estimated Crop Yields (deleted with Revision #19) in the Table of Contents. (RLK/GAW)
- The title of the exhibit in the table of contents has been changed.
76. Please update the annual cropland narrative to account for additional prime farmland in the Revision 27 area and the additional yield standard information provided in Exhibits 3.7.3 and 3.7.4. (RLK)

- The narrative has been amended to recognize that multiple prime farmland tracts will be disturbed and also to clarify the approach for evaluation of success.

77. Please revise the description in the first line of the spreadsheet table provided in Exhibit 3.7.3, Premining Production/Unadjusted Technical Standards. The word "Iron" in the first line of the table appears to be in error since the information pertains to the entire permit area. (RLK)

- The table heading has been corrected.

78. In Exhibit 3.7.3, please correct the description and estimated yield information for soil map unit 58D. The soil survey information in Section 2.2 identifies the map unit as Flaxton-Zahl rather than Flaxton-Cabba as listed. (RLK)

- The description has been corrected; the production estimate did not change.

79. In Exhibit 3.7.4, the total cropland acreage for R & J Gunsch (ESW22) of 81.4 acres does not agree with the 75 acres of premine cropland listed for the tract in Exhibit 2.7.4 and Exhibit 3.7.3. Please review and revise as appropriate. (RLK)

- The Gunsch acreage has been corrected.

80. Exhibit 3.7.4 appears to provide the combined prime and non-prime cropland yield estimate for the tracts containing prime farmland rather than providing production estimates specific to prime farmland as the title in the table may suggest. Please consider revising the title of the table to something similar to *Spring Wheat Production Estimate for Tracts Containing Prime Farmland*. Also please correct "Acres" in the table footnote. (RLK)

- The table title has been changed and the footnote corrected.

### **Section 3.9 – Reclamation Cost Estimates and Performance Bond**

81. Table 3.9.2-Dozer Production Estimate: The Reclamation Division calculates the production for a D11R Dozer should be 2014 cu. yds./hr. instead of 2078 cu. yds./hr. for a 100 ft. push, and 601 cu. yds./hr. instead of 642 cu. yds./hr. for a 350 ft. push. Please correct accordingly. (BAJ)

- Dozer production was changed to 2014 and 601 cu. yds./hr. for a 100 and 350 ft push, respectively.

82. Table 3.9.3-Scraper Production Estimate: The scraper haul distance for the Iron Pit, Section 2 to 3 is listed as 500 feet. The Reclamation Division calculates the distance to be 600 feet. Please correct. (BAJ)

- Table 3.9.3 was changed to show a haul distance of 600 ft and a production of 592 yd<sup>3</sup> from Iron #2:#3.

83. Table 3.9.3-Scraper Production Estimate: The scraper haul distance for the Iron Pit, Section 5 to 6 is listed as 600 feet. The Reclamation Division calculates the distance to be 800 feet. Please correct. (BAJ)

- Table 3.9.3 was changed to show a haul distance of 800 ft and a production of 515 yd<sup>3</sup> from Iron #5:#6.

84. Table 3.9.3-Scraper Production Estimate: The scraper haul distance for the Iron Pit, Section 6 is listed as 600 feet. The Reclamation Division calculates the distance to be 700 feet. Please correct. (BAJ)

- Table 3.9.3 was changed to show a haul distance of 700 ft and a production of 535 yd<sup>3</sup> for Iron #6.
85. Table 3.9.3-Scraper Production Estimate: The scraper haul distance for the Gold Pit, Section 1 to 2 is listed as 700 feet. The Reclamation Division calculates the distance at 800 feet. Please correct. (BAJ)
- Table 3.9.3 was changed to show a haul distance of 800 ft and a production of 515 yd<sup>3</sup> from Gold #1:#2.
86. Table 3.9.3-Scraper Production Estimate: The scraper haul distance for the Gold Pit, Section 2 to 3 is listed as 700 feet. The Reclamation Division calculates the distance to be 800 feet. Please correct. (BAJ)
- Table 3.9.3 was changed to show a haul distance of 800 ft and a production of 515 yd<sup>3</sup> from Gold #2:#3.
87. Table 3.9.5-Scraper & Truck-Loader Production for Soil Respreading: Please review the acres to be respread for the Gold Pit area. The table lists a total of 102.5 acres that require topsoil and subsoil respread. Table 3.8.2 - Time Schedules show that spoil leveling will be occurring in 2016 for the Gold Pits 36–53. This area will also need SPGM respread. The Reclamation Division calculates that the total mining disturbance area that requires SPGM respread for the Gold Pits is approximately 182 acres. Please correct. (BAJ)
- Table 3.8.2 was updated to more accurately reflect our accelerated reclamation activities scheduled for the final years of the Coyote generating plant coal contract.
88. Table 3.9.5-Scraper & Truck-Loader Production for Soil Respreading: Please review the acres for the Section 15 Haulroad. Page 3.9.11 of the table lists 9.0 acres requiring SPGM respread. The Reclamation Division calculates the area to be approximately 15.5 acres using a 190 foot road width (110' road surface width plus 90 feet for ditches – widths taken from typical sections). Please correct. (BAJ)
- The Haulroad acreage for section 15 in Table 3.9.5 was changed to 15.5 acres.
89. Table 3.9.5-Scraper & Truck-Loader Production for Soil Respreading: Please review the acres for the Section 21 Haulroad. Page 3.9.11 of the table lists 12.1 acres requiring SPGM respread. The Reclamation Division calculates the area to be approximately 32 acres using a 190 foot road width (110' road surface width plus 90 feet for ditches). Please correct as necessary. (BAJ)
- The Haulroad acreage for Section 21 in Table 3.9.5 was changed to 34.7 acres. This was done calculating the length of the haulroad in Section 21 and using a 200' disturbance width.
90. Table 3.9.5-Scraper & Truck-Loader Production for Soil Respreading: For mining area Iron Section 20 – Topsoil, the 1 way haul distance is listed at 5500 feet. The Reclamation Division calculates this distance to be 6500 feet. Please correct. (BAJ)
- The one-way haul distance for Section 20 was changed from 5,500 feet to 6,500 feet.
91. Table 3.9.7 – Scraper Requirements for Reclaiming Roads & Trails: Haulroad grading for portions of haulroads in Sections 14, 15, 22, and 21 are given in the table and the portion of haulroad reclaimed identified by stations. However, the Worst Case Topography, Exhibit 3.9.2 does not include stationing, making it difficult to identify the portion of haulroad represented in the table. Also, the stationing given in the table does not appear to agree with the stationing shown on a post-construction haulroad certification map for Permit KRSB-8603 submitted on Oct. 9, 2013. Please show the correct stationing on the Worst Case Topography Map, Exhibit 3.9.2. (BAJ)

➤ Stationing was added to Exhibit 3.9.2. Table 3.9.7 was updated to show the proper stationing.

92. Table 3.9.9 – Revegetation Areas: Seeding acreage for the subsoil piles is shown as 37.3 acres. The Reclamation Division calculates the acreage to be 58 acres. This area calculation is from the 2013 Annual Map. Please correct. (BAJ)

➤ The previous acreage was calculated based on what piles were expected to exist in 2016. DWC has included all existing stockpiles because at this time it is unclear which stockpiles will be used first. Table 3.9.9 was updated to show these changes. The total acreage was calculated to be 55.7 acres. It should be noted that pile 20-03-2 was not included in the calculation as it is accounted for in the reclamation of Pond 102.

93. Table 3.9.9 – Revegetation Areas: Seeding acreage for the Gold pits is shown as 132.9 acres. The Reclamation Division calculates the acreage to be 182 acres. Please correct. (BAJ)

➤ The acreage to be seeded in the Gold pit area in 2016 and later, was recalculated and found to be 185.6 acres. Table 3.9.9 was updated to show this change.

In review of the Revision 27 application dated January 29, 2014, DWC realized that some files written to the disk were incorrect. All files in question were in section 3.2. The files were replaced with the correct files. Exhibit 3.2.38 and associated Table 3.2.38 for ponds 99E and 99W have been updated with the “as built” information.

Also enclosed are copies of the affidavits of publication for the Bismarck Tribune and the Hazen Star.

Please contact me at extension 3926 or Jeff Frohlich, extension 3908, if you have any questions.

Sincerely,



Paula Koble Gores  
Permit Coordinator  
Engineering and Environmental

/s/  
Enclosures

# DAKOTA WESTMORELAND CORPORATION

Mine: Beulah Mine  
 Permit Number: KR5B-8603  
 Revision No.: 27  
 Submittal Date: January 31, 2013<sup>1</sup>  
 Completeness: December 10, 2013<sup>2</sup>, January 15, 2014<sup>3</sup>, January 28<sup>4</sup>, January 29, 2014<sup>5</sup>  
 Technical: April 11, 2014<sup>6</sup>

## Revision Narrative

Revision No. 27 adds 892.2 acres to permit KR5B-8603 for future mining in the Iron, Gold and Silver pit locations

### Cumulative Listing of Revised Information

<u>Volume</u>	<u>Section</u>	<u>Revised Information and Instructions</u>
TOC	TOC	Revised to reflect all additions for Revision 27 <sup>1, 6</sup>
1	1.1	Add/Revised revision forms <sup>1, 2, 3, 5</sup>
1	1.3	Revised narrative (metes & bounds description) <sup>1</sup> Revised exhibit 1.3.1 <sup>1, 2, 3</sup>
1	1.4	Revised narrative <sup>1, 2, 3, 6</sup> Revised exhibit 1.4.1 <sup>1, 2</sup> Revised exhibit 1.4.2 <sup>1, 2, 3</sup> Revised exhibit 1.4.3 <sup>1, 2, 3</sup> Revised exhibit 1.4.4 <sup>3</sup>
1	1.5	Revised narrative <sup>1, 2</sup>
1	1.6	Revised narrative <sup>1, 2, 4</sup>
2	2.1	Revised narrative <sup>1, 6</sup> Revised exhibit 2.1.1 <sup>1</sup> Revised exhibit 2.1.2 <sup>1</sup> Revised exhibit 2.1.3 <sup>1</sup> Revised exhibit 2.1.4 <sup>1, 6</sup> Revised exhibit 2.1.5a <sup>1</sup> Revised exhibit 2.1.5b <sup>1</sup> Revised exhibit 2.1.6 <sup>1</sup> Revised exhibit 2.1.7 <sup>1, 6</sup> Revised exhibit 2.1.8 <sup>1</sup>
2	2.2	Revised narrative <sup>1, 2, 6</sup> Revised exhibit 2.2.7 <sup>1, 2, 6</sup> Revised exhibit 2.2.9 <sup>1</sup>

2	2.3	Revised narrative 2.3 <sup>1, 2, 6</sup> Revised exhibit 2.3.1 <sup>1</sup> Revised exhibit 2.3.2 <sup>1</sup> Revised exhibit 2.3.3 <sup>1</sup> Revised exhibit 2.3.4 <sup>1</sup> Revised exhibit 2.3.5 <sup>1</sup> Revised exhibit 2.3.6 <sup>1</sup> Revised exhibit 2.3.7 <sup>1, 6</sup> Revised exhibit 2.3.10 <sup>1</sup>
2	2.4	Revised narrative <sup>1, 2, 6</sup> Revised exhibit 2.4.2 <sup>2</sup> Revised exhibit 2.4.7 <sup>1, 6</sup> Revised exhibit 2.4.9 <sup>1, 6</sup> Added exhibit 2.4.10 <sup>1, 6</sup> Added exhibit 2.4.11 <sup>6</sup>
2	2.5	Revised narrative <sup>1, 2</sup> Revised exhibit 2.5.1a <sup>1, 2</sup> Revised exhibit 2.5.4a <sup>1</sup>
2	2.6	Revised narrative <sup>1, 2, 6</sup> Revised exhibit 2.6.1 <sup>1</sup> Revised exhibit 2.6.2 <sup>1</sup> Revised exhibit 2.6.3 <sup>1</sup> Revised exhibit 2.6.9 <sup>1, 2, 6</sup> Revised exhibit 2.6.11 <sup>1, 2</sup> Revised exhibit 2.6.12a <sup>1</sup> Revised exhibit 2.6.12b <sup>1</sup> Revised exhibit 2.6.13 <sup>1, 6</sup> Revised exhibit 2.6.14 <sup>1, 6</sup> Revised exhibit 2.6.16
2	2.7	Revised narrative <sup>1, 2</sup> Revised exhibit 2.7.1 <sup>1, 2, 6</sup> Revised exhibit 2.7.2 <sup>1, 6</sup> Added and exhibit 2.7.3 <sup>1, 2, 6</sup> Added exhibit 2.7.4 <sup>2</sup>
2	2.9	Revised exhibit 2.9.15 <sup>1</sup>
2	2.10	Revised narrative <sup>6</sup> Added exhibit 2.10.11 <sup>1</sup> Added exhibit 2.10.12 <sup>1</sup> Added exhibit 2.10.13 <sup>6</sup>
3	3.1	Revised narrative 3.1 <sup>1, 2, 3, 6</sup> Revised exhibit 3.1.1 <sup>1, 2, 3, 4</sup> Revised exhibit 3.1.2 <sup>1, 3, 4, 6</sup> Revised exhibit 3.1.3 <sup>1</sup> Revised exhibit 3.1.6 <sup>1</sup> Revised exhibit 3.1.8 <sup>1, 2</sup>

3	3.2	Revised narrative <sup>1, 2, 3, 6</sup> Revised exhibit 3.2.1 <sup>1, 2, 3</sup> Revised exhibit 3.2.7 table <sup>3, 5</sup> Revised exhibit 3.2.20 table <sup>3</sup> Revised exhibit 3.2.29 <sup>1</sup> Revised exhibit 3.2.38 & table <sup>1, 6</sup> Added exhibit 3.2.42 & table <sup>1, 2</sup> Added exhibit 3.2.43 <sup>1</sup> Added exhibit 3.2.44 & table <sup>1, 2, 6</sup> Added exhibit 3.2.45 <sup>1, 2</sup> Added exhibit 3.2.46 & table <sup>1, 2</sup> Added exhibit 3.2.47 <sup>1, 2</sup> Added exhibit 3.2.48 & table <sup>1, 2</sup> Added exhibit 3.2.49 <sup>1, 2</sup> Added exhibit 3.2.50 & table <sup>1, 2</sup> Added exhibit 3.2.51 <sup>1</sup> Added exhibit 3.2.52 & table <sup>1</sup> Added exhibit 3.2.53 <sup>1</sup> Added exhibit 3.2.54 <sup>1</sup> Added exhibit 3.2.55 <sup>1</sup> Added exhibit 3.2.56 <sup>1</sup> Added exhibit 3.2.57 <sup>1</sup>
3	3.3	Revised narrative <sup>6</sup> Revised exhibit 3.3.1 <sup>1, 2, 3, 6</sup>
3	3.4	Revised narrative <sup>1, 6</sup> Revised exhibit 3.4.1 <sup>1, 2</sup>
3	3.5	Revised narrative <sup>1, 2</sup> Revised exhibit 3.5.1a <sup>1</sup> Revised exhibit 3.5.1b <sup>1</sup> Revised exhibit 3.5.2a <sup>1</sup> Revised exhibit 3.5.2b <sup>1</sup> Added exhibit 3.5.2c <sup>1</sup> Revised exhibit 3.5.3 <sup>1, 6</sup> Revised exhibit 3.5.4a <sup>1</sup> Revised exhibit 3.5.4b <sup>1</sup>
3	3.7	Revised narrative <sup>1, 2, 6</sup> Revised exhibit 3.7.2 <sup>1</sup> Revised exhibit 3.7.3 <sup>1, 2, 6</sup> Revised exhibit 3.7.4 <sup>1, 6</sup> Revised exhibit 3.7.10 <sup>2</sup>
3	3.8	Revised narrative 3.8 <sup>1, 2, 6</sup> Revised exhibit 3.8.2 <sup>1</sup>
3	3.9	Revised narrative <sup>1, 2, 3, 6</sup> Revised exhibit 3.9.1 <sup>1</sup> Revised exhibit 3.9.2 <sup>1, 6</sup>