



June 2, 2014

Mr. James R. Deutsch, Director
Reclamation Division
North Dakota Public Service Commission
600 E. Boulevard Ave.
Bismarck, ND 58505

PERMITTING & RECLAMATION DEPARTMENT
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RE: ND Permit ACPG-9701 Revision 7 Round 1 Technical Deficiency Comment (dated 7/25/2013) Response.

Dear Mr. Deutsch:

Please find enclosed 10 CDs providing American Colloid Company (ACC) Permit ACPG-9701 Revision 7 Round 1 Technical Review Comment Response to the Reclamation Division's July 25, 2013 Round 1 technical review comments. Revision No. 7 to ACPG-9701 proposes to add 149.28 acres to the permit through addition of the Tompkins Mine Area.

The Division requested the following 72 items be satisfactorily addressed before they will recommend Commission action on this application. Additional items have been added to the end of the list to address permit modification needs associated with the permit areas based on Division monthly inspections and resultant discussions.

General

1. Please include a print scale in the legend of every map in the permit and review each map to ensure the map is legible at the chosen print scale. For example, the word font is too small on the maps in Sections 2.7.4(i), 2.7.4(h), Section 3.2, and Section 4.12(c). (GAW)

Various maps have been revised as requested

Section 1.0 – General Introduction

2. Please revise the Technical Data portion of the General Introduction in Section 1.0 by adding James D. Strait, Ethnoscience, Inc. as he conducted the cultural resource inventory for the Tompkins Mine Addition Area; Dr. David Bickel, Bickel Consulting, LLC, for conducting the alluvial valley floor study for the Tompkins Mine Area addition; and Kelly Krabbenhoft, KDK Consulting of Fargo conducted a wildlife survey and vegetation inventory of the permit in 2007, which should also be listed. A previous listing for KDK in this section is erroneously labeled as KTK Consulting. Also, included should be Prairie Soil Consulting, LLC for conducting the soil survey. Please add any other individuals or companies who conducted baseline contract work for the Tompkins Addition Area as required by NDAC 69-05.2-05-02(3). (BEB, GAW, WTG)

Revised as requested.

Section 1.1 – Introductory Information

3. Please update the Revision Summary listing in Section 1.1.2 because the Seventh Revision summary states that Revision 8 was submitted to add 149.28 acres to the permit for the Tompkins Amendment and this should be changed to Revision 7. (BEB, GAW)

Revised as requested.

4. Sections 1.1.5.2(c) and 1.1.5.3(c) provide unsigned approval forms from Fischbein Township for road use permits and mine disturbance permits within 100 feet of 127th Ave. SW. Please incorporate signed and dated copies of those forms into those sections of the permit and clarify if 127th Ave. SW is a County or Township Road. It appears that a portion of this road located east of the Tompkins property is a County Road as indicated in Section 2.7.1 rather than a Township Road. Please include the properly executed forms in the permit and clarify road ownership/classification as requested. (BEB, GAW, WTG)

127th Avenue SW is a Township Road and text has been updated as appropriate. Signed approval forms have been included as requested.

Section 1.2 – Legal Information

5. The Certificate of Liability Insurance provided in the permit in Section 1.2.5 expired on June 1, 2013 and it appears the Notice of Cancellation or Coverage Reduction form has been expired for some time. Please update these sections of the permit with current information. (BEB)

Sections 1.2.5 and 1.2.5(a) have been revised as requested with current Certificate of Liability Insurance and Notice of Cancellation or Coverage Reduction forms.

Section 1.3 – Business Entity/Compliance Information

6. If changes to the officers and directors and/or organization structure have occurred from what is currently provided in the permit, please update the Organizational Structure information in Section 1.3.1 accordingly. (BEB)

Updated as appropriate.

7. Once approval has been received from Fischbein Township for road use and mine disturbance within 100 feet of 127th Ave. SW, please update the spreadsheet in Section 1.3.5, Other Licenses and Permits to reflect Township approval. (BEB)

Revised as requested.

8. The table containing other licenses and permits in Section 1.3.5 shows that the Air Pollution permit from the ND Department of Health expired on May 21, 2013. Please revise to show that Permit M77001 has been renewed as required by NDAC 69-05.2-06-04. (GAW)

Revised as requested; current air permit expires 5/21/2018.

9. Both of the hyperlinks provided in Section 1.3.6, Relationship to Areas Designated Unsuitable for Surface Mining, do not work. Please repair the links. (BEB)

Links corrected as requested.

Section 2.2 – Ground Water Hydrology

10. Please add the corresponding monitoring well numbers e.g. LP #1, LP #2, LP #3, etc. to the Water Well Drillers Reports (Tompkins) that are provided in Section 2.2.2(c). Simply hand writing the monitoring well numbers at the top of each Well Driller's Report will be adequate. Alternatively, bookmarks providing the corresponding monitoring wells numbers would also be adequate. (BEB)

Completed as requested.

11. Ground Water Narrative in the second paragraph of Section 2.2 provides previous permitting information for either the Page or Perkins Mines application and describes that the Harmon Lignite aquifer outcrops northwest of the permitted area along Highway 12. Further narrative describes that ground water in the Harmon lignite and the beds above it are discharged north of the mining area leaving the Leonardite and its overburden unsaturated. It appears likely from the permit narrative that the location description of these discharge areas could be in or around the Tompkins Mine Area. Please add to the narrative by describing whether or not the Tompkins Mine is the area described in the permit and whether or not seeps or springs were inventoried in the Tomkins Mine Area. If seeps or springs are located within the permit or adjacent area, please show their locations on the Water Well Location Map, Section 2.2.2(c) and further discuss them in the appropriate narrative. (BEB)

ACC was currently unable to confirm the citation for the Page/Perkins area statement that "groundwater from the Harmon Lignite and the beds above it are discharged north of the mining area, leaving the Leonardite and its overburden unsaturated". The remainder of the Page and Perkins area discussion appears to reflect the citations added to the end of Section 2.2.2 and utilized for the Tompkins area discussion. These documents, particularly the Boughten report, indicate that the lignite outcrop area is a recharge area for the Harmon Lignite aquifer; however the Tomkins amendment area has a very low hydraulic conductivity and associated recharge contribution. The Tompkins Amendment area is indicated by Boughten to occur in a transitional area between a confined aquifer to the north and an unconfined aquifer to the south. Section 2.9(a) Probable Hydrologic Consequences, states that occurrence of lignite in only 15 of the 63 test drill holes suggests discontinuous strata within the area, in which case it would not be expected to serve as an aquifer in that area.

No visual indicators of seeps, springs, or wetlands (anticipated with discharge areas) were observed within the Tompkins Amendment area during various 2013 field visits, but one wetland area (on the east side) was identified by the vegetation consultant in 2007 (see [Section 5.0 - Wetlands](#) and [Section 5.1 Wetlands Map](#)). The entire amendment area supported a consistent stand of wheat stubble in August 2013, with exception of the uncropped upland native area on the south side of the amendment and tame (smooth brome) dominated ditches along the primary roads. The closed basin on the north side supported a wheat crop with no visual indications of stress from excess soil moisture or other hydric indicators, and a soil sample in the north closed

basin lacked hydric soils indicators of low chroma, gley, mottles, etc. to a depth of 24 inches. Similarly, the potential ponding area on the east side of the Amendment, along the Township road below the proposed sediment pond, supported a smooth brome vegetation community with no hydric vegetation indicators at the time of the 2013 field visit. One small area just west of the proposed east pond location appears in aerial photos as having a different color signature than the area around it; this coincides with the wetland area identified in 2007 as presented in Section 5.0 of the applicatin. The area in question was not apparent during general review of the Tompkins project area in August, but was specifically observed in the field with Guy Welsh during the December inspection. It did not appear to be a depressional ponding area as initially assumed, and while it did support a vegetation species (forb, unable to identify at the time of the field visit) not common to the surrounding cropland, it also supported what appeared to be a typical stand of wheat stubble under the relatively wet conditions experienced in 2013. Historical Google Earth aerial photos also indicate that this has historically been cropped. This area is not extensively studied in 2013 and conclusively identified; it appears to be a bentonite outcrop area with a small temporary or seasonal seep resulting from lateral flow along the top of the shallow, impermeable bentonite during years in which hydrology supports such seepage.

Sections 2.2.1, 2.2.2 and 2.9(a) have been revised.

12. Please describe or summarize in Section 2.2 plans for restoration of approximate pre-mining recharge capacity of the reclaimed permit area as required by NDAC 69-05.2-16-15. Restoration of recharge capacity may consist of such items as contemporaneous revegetation, concave landscape development and ephemeral catchments, retention of developed water resources, wetlands, etc. (BEB)

Section 2.2.2 Ground Water Narrative has been updated to include Performance Standards for Hydrologic Balance and Protection of Ground Water Recharge Capacity as requested.

Section 2.3 – Geology

13. A portion of the General Geology Narrative, Section 2.3.1, could be rephrased to provide clarity regarding the occurrence of Leonardite in the permit area. Within the second paragraph it is stated that “...*marketable Leonardite only lies in areas where overburden ranges in thickness from approximately 3 feet to 20 feet where the zone of oxidation has not penetrated to great depths.*” We recommend you consider re-writing that sentence to clarify that Leonardite is located within the oxidized zone and it is because of the described oxidation processes and its’ effect on lignite that Leonardite (oxidized lignite) is present in the permit area, or something similar to that. (BEB)

The section has been modified as requested, as well as similar text in Section 2.9(a).

14. There appears to be some text link issues with Section 2.3.8, Thin Overburden Calculations. The link to Section 2.3.8 erroneously takes the reader to the overburden thickness isopach map; and Section 2.3.8(a) (Page) also takes the reader to the overburden thickness isopach; and Section 2.3.8(b) (Perkins) takes the reader to the thin overburden calculations for the Page Mine; and the thin overburden calculations for Tompkins Mine takes the reader to the thin overburden calculations for the Perkins Mine. Please provide the thin overburden calculations for the Tompkins Mine and redirect all of the links in Section 2.3.8 to their correct locations. (BEB)

The Section 2.3.8 TOC hyperlinks have been repaired.

15. In Section 2.3.4, Drillhole Information, please describe American Colloid's method of casing, sealing, or otherwise managing drillholes and boreholes within the permit area to prevent toxic drainage from entering ground waters and minimize disturbance to the prevailing hydrologic balance. NDAC 43-02-01-14 describes the drillhole sealing/backfilling procedures to comply with the requirements of the State Geologist. (NDAC 69-05.2-14) (BEB)

Text has been added to Section 2.3.4 to address the procedures for immediate permanent plugging of drill holes.

Section 2.4 – Fish and Wildlife Resources

16. Please revise Section 2.4.1, Fish and Wildlife Narrative and Section 2.4.4, Current Status of Fish and Wildlife Tompkins Mine Area, to include fish and wildlife resource information for the areas adjacent to the proposed permit area as required by NDAC 69-05.2-08-15. Section 2.4 states that the habitat types are shown on the Pre-Mine Land Use and Vegetation Maps, Section 2.7.3, but the Pre-Mine Land Use and Vegetation Map for the Tompkins property, Section 2.7.4, includes information for only the proposed permit area and does not include the adjacent areas. Please provide the information as required by the rule. (GAW)

Sections 2.4.1 and 2.4.4 have been modified to include reference the 0.5-mile buffer area vegetation community/habitat types as well as Map 2.4.4.1 *Tompkins Wildlife Habitat Map* which has also been added to the permit.

17. The fourth paragraph of Section 2.4.1, Fish and Wildlife Narrative, states that the premine land use vegetation maps are presented in Section 2.7.3. However, Section 2.7.3 pertains to the Perkins property only. Please correct this discrepancy. (GAW)

Section 2.4.1 has been updated as requested

Section 2.6 – Surface Water Information and Monitoring Plan

18. Page 2 of Section 2.6.1, Surface Water and Hydrologic Narrative, lists nine reasons why surface water quality will not be affected within the permit, and items a and f appear to be incomplete sentences. Please review the listing and complete the sentences with your intended wording. (BEB)

Section 2.6.1 has been updated to reflect missing text.

19. Narrative on the first page of Section 2.6.1, Surface Water and Hydrologic Narrative, states that water will not be pumped from the permitted property and we recommend you consider redacting that statement in the event that off-permit discharges are required as a result of concentrated snow melt runoff or precipitation events that fill the sedimentation ponds. If not done so already, we also recommend that you contact the State Health Department and have your NDPDES Permit No. 0026077 amended to incorporate new discharge points for the Tompkins Mine Area as it appears your current permit authorizes discharges only from T130N, R99W, which does not include the Tomkins property. (BEB)

No changes have been made to the referenced paragraph in Section 2.6.1; water will be managed in sediment ponds designed for evaporation, used to water roads for dust control, and pumped back into an open pit if necessary under extreme conditions. Offsite flow is not being utilized due to a lack of flow channel adequacy outside of the amendment area. The subtle channels to the north and east were surveyed to 1-foot contours and survey data indicated that flow/ponding issues would arise off site in both directions.

20. Please expand the paragraph on page 2 of Section 2.6.2 pertaining to surface water samples to indicate the current sampling frequency for the surface water sites are identified in the surface water monitoring plan. The surface water sample frequency should remain at once every other year, at a minimum, since the surface water quality has been variable and surface water sites could not always be sampled as scheduled. The reference or link to the surface water monitoring plan described in Section 2.9 should also remain in this narrative. (NDAC 69-05.2-16-05) (RLK) 2.2.2

Section 2.6.2 has been revised as requested. Section 2.9(a) provides hydrologic consequence information; Section 2.2.2 discusses and the Surface Water Monitoring Plan.

Section 2.7 - Pre-Mine Land Use and Vegetation

21. A sentence in the Tompkins Mine Area narrative in Section 2.7.1, states that there are no other manmade features located on the permit area, but the Existing Structures Map, Section 3.2(a) shows power lines in the permit area on the east and south sides of the tract. Please review and revise as necessary. (GAW)

Section 2.7.1 has been revised as requested.

22. Please review and correct as appropriate the following which appear to be copy/paste errors on page 1 of Section 2.7.4(a). Please change Section 2.7.3(a) on the upper and lower left of the document to Section 2.7.4(a). Also, change the revised date of 1/98 in the lower right corner to be consistent with the Tompkins soil survey report dated 2007. Similar copy/paste errors need to be addressed at the bottom of the page in Section 2.7.4(f). (ZAT)

Sections 2.7.4(a) and 2.7.4(f) have been revised as requested.

23. On page two of Section 2.7.4, please change the incorrect NDAC 69-05.2-08-08(1)(b) cite listed behind the bolded title Native Grassland Mapping Units Range Site Description to NDAC 69-05.2-08-08(1)(c). (ZAT)

Citation in Section 2.7.4 has been corrected as requested.

24. It has been more than five years since baseline land use, vegetation and wildlife habitat information was collected. Please have the consultants or company personnel revisit the tract and verify that the information in Sections 2.4 and 2.7 is still accurate or update as necessary. NDAC 69-05.2-05-01 requires information that is current. (GAW)

ACC permitting specialist M. Smith revisited the track in August 2013 and verified that landuse conditions and vegetation/wildlife habitat communities remained as presented in the original baseline documents. No sections were updated.

25. A sentence in the first paragraph on page 1 of Section 2.7.4 states that the Modified Palmer Drought Index for the area was below zero for most of the previous 24 months. Although Section 2.7.4 is dated December 2007, the specific time period of the 24 month period is not clear. Narratives at the top of page 2 of Section 2.7.4 state high spring moisture resulted in above average production of the native grassland. Please revise to clarify if the area was wet dry, or normal during the inventory period(s). (NDAC 69-05.2-05-02) (GAW)

Vegetation assessments were conducted June 24, 2007. The Modified Palmer Drought Index as reviewed on line for that time frame indicated that most months from January 2006 – June 2007 were normal (-1.99 to +1.99 inches from average) with exception of a wetter (+2-2.99) April 2006 and drier (- 2-2.99) July/August 2006 and June 2007. Therefore spring conditions prior to sampling were generally normal with the month of June a bit drier than normal.

Section 2.7.4 has been revised as requested.

26. A sentence in the second paragraph on page 1 of Section 2.7.4 states that the cropland has an estimated average yield of 25 bushels of wheat per acre. Please update the narrative to clarify how this average yield value was determined. (GAW)

Section 2.7.4 has been revised as requested.

27. Section 2.7.4(e) indicates that the shallow range site was sampled in 2007 but the dominant native grassland mapping unit is a silty site. Please revise the second paragraph on page 1 of Section 2.7.4 to clarify why the shallow site was sampled to provide an assessment of the ecological condition of the native grassland rather than the dominant site. (GAW)

The non-dominant Shallow Loamy range site was chosen for sampling because the dominantly occurring Silty site was dominated to an extreme by invasive cool season grass species. The Shallow site retained more remnants of native species present and represented the best range condition and similarity index (though still very poor). The Silty site was in very poor condition and reflected a very low similarity index.

Section 2.7.4 has been modified to reflect this information.

28. The last sentence on page 3 of Section 2.7.4 states that the silty site has the potential to produce about 1,200 to 1,700 pounds of air-dry herbage per acre during a normal growing season but Section 2.7.4(f) shows that all of the silty range site soils have an average potential yield of 1,650 lbs. per acre. Please explain this average yield difference. (GAW)

According to the consultant, at the time the baseline document was written the range site information from the old NRC'S MLRA 54 range site description was utilized utilized to calculated potential production. The average silty site production should have been the midpoint of 1350-1900 (1625), but was erroneously calculated at 1650. Section 2.7.4 and Section 2.7.4(f) have been updated to reflect the corrected number of 1625 lbs/acre. The range sites were defined twice in the previous version of the report; the second set of paragraphs have been removed from the document.

29. Please include a map in Section 2.7.4 showing the location where the native grassland was sampled in 2007. (GAW)

The sample location in the Shallow Range Site was added to Section 2.7.4(i) Native Grassland Map Units.

30. Please include a map or aerial photograph that delineates the existing mapping units for the cropland as required by NDAC 69-05.2-08-08(1)(a)(1). (GAW, ZAT)

Section 2.7.4(j) Cropland Mapping Units has been added as requested.

31. Section 2.7.4(h) is listed as the Vegetation Map in the table of contents but is labeled as the Native Grassland Map Units map and Section 2.7.4(i) on the map itself. It appears that this map would be more appropriately labeled as the Pre-Mine Land Use Map. Please revise or correct this inconsistency. (GAW)

Section 2.7.4(h) is labeled as the Vegetation map in the title bar and file name.

32. The Surface Water Management narrative in Section 3.6.1 states that there is a closed basin south of the north sediment pond. Please mention the existence of this feature and discuss why this site is not considered a temporary wetland. Please also discuss why the soils of this feature would not be mapped separately. Please explain why the Heil clay loam and Dimmick clay loam soil mapping units are not considered wetlands if they are hydric soils. Aerial photography indicates that several areas in this field were too wet in 2012 to accommodate herbicide application equipment. (NDAC 69-05.2-08-08(1)(2)(d)) (GAW)

Section 3.6.1 has been revised as requested; Section 5.0 has also been revised regarding the topic of wetlands.

The basin referenced in the comment supports deep soils with infiltration rates that apparently prevent saturation or saturation for periods of time sufficient to support hydrophytic vegetation.

Section 2.8 - Soil Resources

33. As required by NDAC 69-05.2-09-15(4), please reference the Section 4.2.7(b)(3) Post Mining Contours map (as noted in a related deficiency) in the Section 2.8.4(b) Prime Farmland Reclamation narrative paragraph for the potential locations where prime farmland acreage will be respread. (WTG)

The reference has been added to Section 2.8.4(b) as requested.

34. Please add a legend to the Prime Farmland Map, 2.8.4(c), which identifies the mapping units, including ArB – Arnegard loam, 2 to 6 percent slopes, and GeA – Gail silt loam, 0 to 2 percent slopes. (ZAT, WTG)

The soil mapping unit legend has been added to Map 2.8.4(c) Prime Farmland as requested.

35. Please expand the narrative of the Tompkins Mine Area in Section 2.8.1 to include the information required by NDAC 69-05.2-09-15(1). Please also remove the reference to the Web Soil Survey of Adams County, and instead list the *Soil Survey of Bowman County, North Dakota (1975)* as the cooperative soil survey that identified the prime farmland in the Tompkins Mine Area. The additional information for this section required by NDAC 69-05.2-09-15(1) for the prime farmland soil map units is available from the NRCS Soil Data Mart website. (WTG)

Section 2.8.1 has been updated as requested.

Section 2.9 – Probable Hydrologic Consequences

36. Please change the name of this section to *Ground Water and Surface Water Probable Hydrologic Consequences*. Often, the ground water PHC is located within the ground water section of the permit and the surface water PHC is located within the surface water section of the permit. The current location for this section is acceptable as long as you specify in the heading that this is the location for both ground water and surface PHC determinations. (BEB)

Section 2.9(a) has been modified as requested.

37. The third sentence on page 1 of Section 2.9(a), PHC for Tompkins Mine Area, states that “*To aquifers occur above the leonardite seam*” and this appears to be a typographical error. If the intention is to state that “*No aquifers occur...*” then please revise the sentence to eliminate the possibility for misinterpretation of the sentence. (BEB)

The sentence in Section 2.9(a) was modified to correctly state that “no” aquifers occur above the leonardite seam.

38. The watershed boundary on the north side of the Tompkins permit area is depicted differently on the maps for Premine Drainages, Section 2.7.5(A), and Post Mining Contours, Section 4.2.7(b)(3). For the PHC determinations it seems that these boundaries should be the same as there should be no changes to the topography outside the permit boundary. Please review and revise the watershed boundaries and the watershed/flow information provided in the tables in Section 2.9(a) as appropriate. (NDAC 69-05.2-05.02 and NDAC 69-05.2-08-04(3)) (RLK)

Section 2.7.5(a) Premine Drainages has been renamed Section 2.9(b) to house in a more appropriate section of the permit. Section 2.9(a) and Section 4.2.7(b)(3) have been updated to reflect matching drainage areas outside the disturbance boundary.

39. The Postmine Peak Flow Calculations table in the Section 2.9(a) narrative does not include information for the Southwest Drainage Area depicted on premine drainages map, Section 2.7.5(A), but the Post Mining Contours, Section 4.2.7(b)(3), indicates this watershed will be affected by mining. Please revise the information as appropriate. (NDAC 69-05.2-05.02 and NDAC 69-05.2-08-04(3)) (RLK)

The table has been removed from Section 2.9(b) and is rather referenced as occurring in Section 3.6.1(c), which includes the accurate drainage basin references. The Southwest drainage basin is referenced as appropriate.

40. It is not clear how or why the East Drainage Area and Southeast Drainage Area are separated on the Premine Drainages map, Section 2.7.5(A) and the premine peak flow table in Section 2.9(a) since the dividing line between the watersheds crosses the bottom of a swale or basin and the east drainage area will ultimately drain to the southeast drainage area. Also the southeast drainage is absent on the post mining contours map and flow calculation table. Please review and revise as appropriate. (NDAC 69-05.2-05.02 and NDAC 69-05.2-08-04(3)) (RLK)

Section 2.7.5(a) Premine Drainages has been renamed Section 2.9(a) to house in a more appropriate section of the permit. The Southeast drainage has been combined with the East drainage as requested.

The observation is correct that the Southeast Drainage Area would eventually drain into the depression of the East Area. In initial designs for hydrologic control what was labeled as the Southeast basin was intended to be controlled with a sediment fence. After further survey data was collected and further evaluation performed, the Southeast basin was included with the East basin and its contributing drainage controlled by the East pond. The postmining drainage basins shown on Section 4.1.7(b)(3) show premine basins that were altered or affected with mining, though some like the West 1 and West 2 basins receive no postmine runoff from mined lands, as their upper reaches were directed eastward in reclamation.

Section 3.1 – Operation Plan – General

41. The backfilling calculation table for the Perkins Mine Area, Section 3.1.5(b), is the Revision 6 version dated 2/08 while the filing instructions indicates this section was to have been updated with Revision 8. Please update as appropriate. (RLK)

Section 3.1.5(b) has been updated as requested.

42. Please include the permit boundary on the Pit Layout and Facilities Map, Section 3.1.3(c). (GAW)

Section 3.1.3(c) has been revised as requested.

43. Section 3.1.3(c) is labeled as the "Mining Map" in the map legend but is listed as the Pit Layout and Facilities Map in the Permit table of contents. Please label and refer to the map in a consistent manner. (GAW)

References to Section 3.1.3(c) have been modified as needed for consistent reference as Pit Layout and Facilities Map.

44. The narratives for Pits N6, N7, N8, S6, S7, S8 and S9 in Section 4.1.5(c) mentions that these pits will be backfilled using material from an "OVB Borrow Area". Please revise Section 3.1, Operation Plan, to discuss the OVB Borrow Areas and show these "borrow areas" on the Pit Layout and Facilities Map, Section 3.1.3(c). A thorough justification will be needed if these borrow areas are located on lands where coal is not removed for compliance with NDAC 69-05.2-13-05 which requires minimizing disturbances on lands where coal is not removed. (GAW)

The map in Section 3.1.3(c) has been modified to reflect the borrow areas and Sections 3.1.1 and 4.1.5(c) text has been modified to include explanation of why borrow areas are required.

45. Please revise the Pit Layout and Facilities Map, Section 3.1.3(c), to show all access trails and corridors that will be used as corridors to transport spoil and SPGM in the permit area. For example, show the access corridor that will be used to haul spoil from Temporary Pile No. 1 to Pits N5, N6, N7 and N8 if Pits N1, N2 and N3 are going to be reclaimed by the dates listed in Section 4.1.7(b)(1). It appears that access corridors will need to be left open across Pits N1 and

N2 and these features (access roads) should be shown on the Pit Layout and Facilities Map. (GAW)

Section 3.1.3(c) Pit Layout and Facilities Map has been modified as requested.

Section 3.2 - Existing Structures

46. Please make the following changes to Section 3.2(a), Existing Structures Map, for clarity. (ZAT)

- a) In the NW1/4 of Section 35, please clarify what the light blue ovals represent. If the ovals with zigzag lines are areas disturbed prior to 1971 Law, please change the color to black to be consistent with the legend.

Section 3.2(a) Existing Structures Map has been modified for clarity as requested.

- b) Please review all labels on the map. Change the font color, style and/or size to make all labels legible when viewed at 100%. Currently, some labels are not legible at 100% and are run together at 200%. The font for underground bunker, abandoned house/shed and electrical sub-station is an acceptable font and size, but should be a more visible color.

Section 3.2(a) Existing Structures Map has been modified for clarity as requested.

- c) Please use a more visible color and increase the font size of section numbers. The section numbers should be legible at 100%.

Section 3.2(a) Existing Structures Map has been modified for clarity as requested.

- d) In the NE1/4 of Section 35, please clarify if the power lines end or continue to the north. Also, please use one color consistently for power lines on the map. We suggest using the dark blue since purple is used for the half-mile buffer line.

Section 3.2(a) Existing Structures Map has been modified for clarity as requested.

- e) Please use black for the US Highway 12 label.

Section 3.2(a) Existing Structures Map has been modified for clarity as requested.

47. Please clarify if there is a culvert under the public road located below the sediment pond that will be constructed in the southeast corner of Tract 1 and show this feature on the Existing Structures Map. Please also discuss if this culvert is sufficient to handle expected runoff events in the Water Management section of the permit. (GAW)

A culvert does not exist under the Township road and none will be installed. Runoff under pre-mine conditions seasonally ponds along the Township Road. See Section 3.6.1 Tompkins Surface Water Study and Erosion Control Plan for surface water hydrology and management information.

48. Please correct the direction reference for the bunker and abandoned house that appear to be north-northwest of the Tompkins Mine on the existing structures map rather than northeast as currently described in the narrative. (WTG)

Section 3.2 text revised to reflect the accurate direction.

Section 3.4 – Air Quality

49. Please revise Section 3.4.1, Fugitive Dust Control Plan, to clarify if the truck box will be covered to ensure leonardite does not blow out when being transported to the processing plant and specifically provide a fugitive dust control plan for County or Township Road 127th Ave SW. (GAW)

Section 3.4.1 was revised as requested.

Section 3.5 – Transportation Facilities

50. Please consider using a more visible color than light yellow/green for mine haul roads on the Transportation Facilities Map, Section 3.5.2, so the haul road is easily visible when viewed at 100%. (ZAT)

Section 3.5.2 Transportation Facilities Map has been revised for legibility as requested.

Section 3.6 – Surface Water Management

51. The labels for the sample locations depicted on the Water Well/Stormwater Location Map, Section 3.6.2, are not legible. Please adjust the font size and/or color for the labels as appropriate. (RLK)

See Section 2.2.2b for storm water and well sampling locations. Section 3.6.2 has been renamed "Major Area Watersheds" and shows the permit area, topography and the major watershed basins.

52. Please adjust the color and/or line weight for the watershed boundaries depicted on the Water Well/Stormwater Location Map, Section 3.6.2, to clearly distinguish the watershed boundaries from the contour lines. (RLK)

The Section 3.6.2 map has been renamed "Major Area Watersheds" and revisions have been made as requested.

53. Please revise Section 3.6 as necessary, to show the entire watershed boundaries including the area adjacent to the proposed permit boundary as required by NDAC 69-05.2-9-09. A map, Figure 4, Drainage Basins, in Section 3.6.1(c), shows the watersheds within the permit boundary but it is not clear how runoff will flow beyond the pond that is to be located on the north side of the permit and it appears that water may pond in this area. (GAW)

An additional "Figure 4b" has been included in Section 3.6.1(c) to show a larger coverage and the drainage areas adjacent to the mine. As discussed in Section 3.6.1(c) neither the North nor East sediment ponds will drain off site; both will be managed to avoid off site discharges. Also see the response for Comment #54 below.

54. Please revise the Surface Water Management section (3.6.1) of the Tompkins Mine Area to explain how water is going to flow to the north pond. The topographic map, Figure 3 of Section 3.6.1(c), shows that water will flow from the SPGM stockpiles located in the northwest part of the permit area to the closed depression rather than to the north pond. Please revise Figure 3 of Section 3.6.1(c), or include a separate surface water management map, that shows where diversions will be placed to direct runoff to water management features. Please also revise the map to show all water management features that will be needed including silt fences, sumps, stripped drainageways and diversions that will need to be installed. Obviously, the haulroad ditches will be stripped of SPGM but it is not clear if these ditches will be used for water management purposes. Please provide more clarity. (NDAC 69-05.2-09-02(5)) (GAW)

The Tompkins Mine Area portion of Section 3.6.1 has been modified and references Section 3.6.1(c) Tompkins Amendment Water Study and Erosion Control Plan which provides detailed surface water management information. The North pond is situated in a small swale between two slightly elevated ridges and the contributing drainage is quite small and localized. Separate flow will go to the natural basin labeled Closed Basin North; at times this flow will also go into the active N pits. Topsoil stockpiles will have individual ring ditches and sumps for sediment control. Flow from what is labeled the Northeast Drainage area will be controlled with sediment fence and may discharge to the north. As pits progress we anticipate the use of temporary localized ditches and sumps to ensure runoff does not flow onto unprotected topsoil. An additional figure has been added to the Erosion Control Plan to show the general topsoil stripping progression and the ditches, sumps, and culverts have been added to the rest of the figures.

Section 4.1 - Post-Mining Land Use and Revegetation

55. On the Post Mining Land Use Map, Section 4.1.2(c), please remove the Native label in the SW1/4SE1/4 of Section 35 that is incorrectly located on cropland. Also, please increase the font size of the labels so that they are legible at the print scale. (ZAT, GAW)

The label has been removed from Map 4.1.2(c) as requested. Legibility and print scale have been addressed as requested.

56. Section 4.1.3, Seed Mixes, indicates that revegetation will be initiated with wheat and Section 4.1.5(c) states that SPGM will be seeded immediately once redistribution is complete but the Reclamation Schedule Variance, Section 4.1.7(b)(1), states that seeding will occur annually in October of each year. Please clarify if winter wheat will be used to initiate the 10-year revegetation period given the time of the year planting is planned and revise Section 4.1.5(c) to clarify if rock picking will be necessary prior to initiating revegetation. To comply with NDAC 69-05.2-22-04, please rephrase discussion in Section 4.1.5(c) to state that seeding will be done during the first normal period for favorable planting conditions after suitable plant growth materials have been spread. (GAW, ZAT)

Section 4.1.5(c) has been revised as requested.

57. Please revise the second sentence to comply with NDAC 69-05.2-22-05 by changing may be to will be. The second sentence should read, "Straw mulch and crimping will be utilized in the event that seeding is delayed or as an additional soil stabilization measure until vegetation cover is established. (ZAT)

Section 4.1.5(c) has been modified as requested.

58. The first paragraph of Section 4.1.5(c) states that “redistributed spoil will be regarded to approximate the contours of the surrounding topography. Please change the word “regarded” to “re-graded” if that is what is meant and consider revising to state that the area will be re-graded to approximate original contour rather than to the surrounding topography. (GAW)

Section 4.1.5(c) has been modified as requested.

59. The third paragraph on page 1 of Section 4.1.5(c) states that 5.83 acres of native grassland will be converted to cropland. First, it is not appropriate to change the land use on lands that will not be disturbed by mining activities and the Pit Layout and Facilities Map indicates that only about 1.8 acres of native grassland will be affected by mining activities. Second, most of the native grassland that is to be affected by mining activities will not be actually mined (associated disturbance) thus the topography will not be altered and some of this area is too steep (13.5% slope) to accommodate the proposed land use change. The Reclamation Division believes that cropland is not suited on areas with slopes greater than 9 percent and that these steeply sloping areas should be managed as perennial hayland, tame pastureland, or native grassland. Please review and revise to meet the alternative post-mining criteria listed in NDAC 69-05.2-23-03(3)(a). (GAW)

Section 4.1.5(c) has been revised to correct the amount of grassland disturbed and proposed for conversion to cropland. Based on ArcGIS calculations, a total of 5.8 acres of grassland occurs within the Amendment boundary and 2.6 acres within the Disturbance boundary. Of the 2.6 acres within the Disturbance boundary, 1.0 acre is within the pit boundary. Therefore, 1.6 acres of premine native area may be disturbed but not mined and all disturbed area will be seeded to cropland per landowner request.

Per Section 4.2.8(d) Postmine Slope Summary calculations, 0.41 acres of land with slopes greater than 9% will be modified. That 0.41 acres on the edge of the disturbance boundary will either be avoided during disturbance or reclamation will occur in such a manner that all resulting slopes are blended and are adequate for cropping. This premine noncropped area is too small to manage as hayland or pastureland, lacks a water source, and is bounded by a power line right-of-way and the Highway 12 to the south and cropland to the north, east and west.

60. Please revise the third paragraph on page 1 of Section 4.1.5(c) to include reference to a perennial grass seed mixture that will be seeded on pre-mine native grassland areas that are too steep to accommodate annual tillage and include this seed mixture in Section 4.1.3 as required by NDAC 69-05.2-09-11(6). (GAW)

Section 4.5.1(c) has been revised to address addition of a seed mix; at this time the need for permanent use of this seed mix on the Tompkins area is not anticipated as the entire disturbed area will be reclaimed as cropland per the landowner's request.

61. Please review the mining sequence narratives that begin on page 1 of Section 4.1.5(c) to ensure that what is written is consistent with what is shown on the Pit Layout and Facilities Map, Section 3.1.3(c), Section 4.1.7(b)(1), Variance Request, and Section 4.2.2(c), Reclamation Schedule. For example, the narrative states that Pits N2 and N3 will be opened in the spring of 2017 and 2019, respectively, but the map shows these pits being mined in 2016 and 2017. Please review and correct as necessary. (GAW, ZAT)

Sections 4.1.5(c), 3.1.3(c), 4.1.7(b)(1), and 4.2.2(c) have been reviewed and revised as appropriate.

62. Please revise Section 4.1.5(c) to include a description that includes information adequate to predict the potential for re-establishing vegetation on all areas to be disturbed as required by NDAC 69-05.2-08-08(4). This should include approximate average topsoil and subsoil respread depths. (GAW)

Section 4.1.5(c) has been modified as requested.

63. Please revise the grading plan in Section 4.1.5(c) to explain how prime farmland soils will be reclaimed in the locations as shown on Section 4.2.7(b)(3) when the grading sequence plan states that soil from non-farmland pits will be respread on pits where prime farmland is to be respread. It is recommended that the prime farmland soils be respread in a single block in a suitable location rather than where it existed prior to mining. (GAW)

The map in Section 4.2.7(b)(3) has been revised to show prime farmland respread area in suitable location blocks as recommended rather than where they occurred prior to mining. If no suitable location is immediately available for respread at the time of stripping the prime farmland soils will be stockpiled and then respread in the proper location at a later date. A 12.7-acre respread block has been identified in the north sequence and a 5.8-acre block in the south sequence; this represents acreage equivalent to pre-mine prime farmland mapping within the disturbance area.

The grading sequence plan has been revised to specify prime farmland handling techniques.

64. Please review the narrative of Section 4.1.6(c) which states standards of 32 bushels/acre on prime cropland and 17.9 bushels/acre on nonprime cropland have been established. It appears that 17.9 bu/ac was a copy/paste error and the correct nonprime standard is likely 21.4 bu/ac, as stated in Section 2.7.4(d). However, it may be premature to establish an unadjusted cropland standard prior to knowing the actual disturbance boundary. It is recommended that some language be added to the narrative stating that this value will be re-evaluated after the disturbance boundaries have been determined. Please correct as appropriate. (ZAT, GAW)

The unadjusted nonprime standard has been corrected in Section 4.1.6(c) to reflect 21.4 bu/acre as calculated in Section 2.7.4(d) and text was added to address use of an adjusted cropland standard reflecting annual climatic conditions and based on actual disturbance area.

65. The narrative on page 1 of Section 4.1.6(c) states that a cropland control area will be established in the S1/2 of Section 2 on appropriate soil types. Cropland control areas must be managed the same (same operator) as the reclaimed area that it is intended to represent. Please clarify if one operator will be farming both tracts. (GAW)

The section has been modified to remove reference to control areas. As stated earlier in the same paragraph, successful reclamation of cropland will be based on the Productivity Index for Bowman County.

66. Section 4.1.7(b)(1), Reclamation Schedule Variance, indicates that Pits N6, N7, N8, S6, S7 and S8 and S9 will be backfilled and graded using material from a borrow area. Please provide further explanation and details for this borrow area. (GAW)

Section 4.1.7(b) text references use of borrow areas. Backfilling of Pits N6, N7, N8, S6, S7 and S8 and S9 will require additional overburden material from borrow areas to achieve post mine slope goals after mining an estimated 6-10 feet of Leonardite. The borrow areas have been designed to minimize slopes between 0%-6% to best support the post mining land use. Refer to Section 4.2.8(b)(3) Post Mining Slope Map and Section 3.1.5(c) Backfilling Calculations for volumes of overburden material that will be removed from the borrow areas.

Section 4.2 – Reclamation General

67. Please review the Requested 3 Year Variance column on the Reclamation Schedule Section 4.2.2(c) as the dates listed are less than 3 years and would not require a variance. It appears the variance information provided for Pits N1, N2, N7, S1 and S8 is not consistent with the information provided in the Variance Request Section 4.1.7(b)(1). (ZAT)

Section 4.2.2(c) has been reviewed and updated to correctly reflect the 3-yr variance request and be consistent with the information provided in the Variance Request Section 4.1.7(b)(1).

68. Please revise the seeding narrative for the north and south sequences in Section 4.2.2(c) to comply with NDAC 69-05.2-22-04. Currently, the permit states seeding is scheduled to be completed in the fall with the rest of the cropland. Please rephrase this sentence to state that seeding will be done during the first normal period for favorable planting conditions after suitable plant growth materials have been respread as required by NDAC 69-05.2-22-04. (ZAT)

Section 4.1.5c has been revised as requested (Section 4.2.2(c) is a table).

69. The first sentence in Section 4.2.4 states that *"The following reclamation costs are estimated using the July 2012 Appendix to the October, 1998 Reclamation Cost Estimating Guidelines"* and should be revised to state the following; *"The reclamation cost estimate has been developed using the latest Reclamation Cost Estimating Guidelines and the 2013 Variable Cost Updates For Policy Memorandum No. 16."* Please revise the statement. (FSE)

The statement in Section 4.2.4 has been revised as requested.

70. The post-mine contours depicted on the post-mining contour map and post mining slope map for the Tompkins Mine Area, Section 4.2.7(b)(3) and Section 4.2.8(b)(3), depict terrain modification disturbance well beyond the extent of the mine pits depicted for the Tompkins Mine Area on the Grading Sequence Map, Section 4.2.3(c) and the Pit Layout and Facilities Map, Section 3.1.3(c). The extent of changes in the proposed post-mining topography is not supported by any other information in the permit for the Tompkins area. There is no mention of borrow areas or scheduled grading for areas outside of the proposed pit sequence in Section 4.2.1, Reclamation Procedures Narrative or Section 4.2.2(c), Reclamation Schedule. Please revise the post-mine contour for the Tompkins area to reflect the proposed mine pit sequence or provide an explanation and supporting documentation for the extent of terrain modification depicted on the post mining contour map. The Post Mining Contours Map also shows the watershed boundary north of the permit boundary draining to the south while the Pre-Mining Contours map, Section 4.2.7(a)(3) shows this area draining towards the north. Please review and revise as necessary. (NDAC 69-05.2-05.02 and NDAC 69-05.2-09.02) (RLK, GAW)

The Pit Layout and Facilities Map, Section 3.1.3(c), has been revised to show the referenced borrow areas. The Pre and Post Mining Contour maps accurately depict the respective flow patterns. The portion of the pre-mine Northeast Basin located within the disturbance area is modified through mining and reclamation such that flow will be south and east; the direction of flow from the undisturbed portion of the basin (head of the drainage) located in the extreme northeast portion of the amendment area will similarly change to the south due to the elevation changes related to operations. Higher areas that shunted original flow to the northeast will be lowered through the borrow process and will no longer direct drainage in that direction.

Section 4.2.1 Reclamation Procedures narrative has also been updated to reflect the use of borrow areas in the Tompkins Amendment area.

71. Section 4.2.3(c), Grading Sequence Maps, appears nearly identical to the Pit Layout and Facilities Map, Section 3.1.3(c). Please review and revise to clarify what the difference is or the purpose of these two maps. (GAW)

The two maps currently show the same information. The pit map shows the pit layout, while the grading sequence map is a place holder for such time that regrade approval information (dates, boundaries) is included.

72. As required by NDAC 69-05.2-09-15(4), please depict the potential prime farmland respread area(s) on Section 4.2.7(b)(3) Post Mining Contours. This map currently depicts the NRCS prime farmland soil map units that should be removed because they are depicted on Section 2.8.4(c) Prime Farmland Map. As required by NDAC 69-05.2-26-04(1), the prime farmland suitable plant growth materials must be respread over mined areas that have a landscape configuration similar to that which existed in the prime farmland areas prior to mining. Although the prime farmland respread acreage should be contiguous to the extent possible, more than one potential respread area could be depicted on the map if the mining sequence requires that the prime farmland acreage be respread in separate areas. (WTG)

As indicated in Comment 63 above, the map in Section 4.2.7(b)(3) has been revised to show prime farmland respread area in suitable location blocks as recommended rather than where they occurred prior to mining. If no suitable location is immediately available for respread at the time of stripping the prime farmland soils will be stockpiled and then respread in the proper location at a later date.

A 12.7-acre respread block has been identified in the north sequence and a 5.8-acre block in the south sequence; this represents acreage equivalent to pre-mine prime farmland mapping within the disturbance area as calculated from drawing files.

ADDED:

73. Updated and replaced Section 4.2.2(b) Reclamation Schedule and Section 4.1.7(a)(1) Variance to Reclamation Schedule for Perkins Mine. The variance (Section 4.1.7(a)(1)) approval date is identified as "Pending". Also revised Section 4.1.5(b) Revegetation Procedures based on the prior documents.

74. Added revised PMT for Perkins Mine to Section 4.2.7(b)(2).

Mr. James R. Deutsch
May 2014
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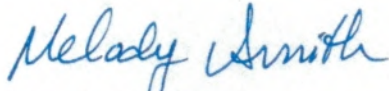
75. Added Permit ACPG-9701 Weed Management Plan as Section 4.1.8.

76. Revised seed mixes in Section 4.1.3 for the Perkins amendment area.

77. Revised the Perkins area east sediment pond water management discussion in Section 3.6.1.

If you have any questions, please contact me at 605-892-7178 or melody.smith@colloid.com.

Sincerely,



Melody Smith
Environmental Specialist
American Colloid Company
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