

BASIN COOPERATIVE SERVICES

A BASIN ELECTRIC SUBSIDIARY

GLENHAROLD MINE
1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA 58501-0564
PHONE: 701/223-0441
FAX: 701/224-5322

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SEP 30 2008

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PUBLIC SERVICE COMMISSION



September 29, 2008

FROM DIRECTOR - RECLAMATION DIV.

Date: _____

Action: _____

Info. Only: _____

Info & File: _____

Mr. James R. Deutsch
Reclamation Director
Public Service Commission
600 East Boulevard
Bismarck, ND 58505-0480

Re: Bond Release No. 6 – Permit BCGH-8204

Dear Mr. Deutsch:

Enclosed are 4 copies of revised documents to Bond Release No. 6 per PSC review dated January 16, 2008. This application includes 20 tracts and 47 Sub Areas. The total revised acreage is 1759.81 acres. Total bond requested was changed from \$3,014,264 to \$3,013,900.

If you have questions, please contact me at the following address.

Leland Olds Power Station
3901 Hwy 200 A
Stanton, North Dakota 58571-9417

Phone no: 701-745-7242
Email: dnilson@bepc.com

Sincerely,

David J. Nilson
Reclamation Administrator

Attachment

cc: Permit BCGH-8204
Mike Murray

6 RC-07-678 Filed 09/30/2008 Pages: 11
Response to Technical Deficiency Letter Filed
Basin Cooperative Services
Dave Nilson

**PSC
Item**

PSC Comments/ BCS Response

Attachment II – Metes and Bounds Descriptions

1. There seems to be some fairly significant discrepancies in the tract acreages between what the Reclamation Division calculates using the metes and bounds descriptions and what is reported in the bond release as shown in the table below (differences for the other tracts were 0.05 acres or less):

(Table)

Please explain these differences in acres since the closing distances would not account for such differences or provide the necessary corrections. (SAS)

Response: Our Attachment II has been corrected. The revised information is included with this correspondence.

Attachment VIA – Tract History, Bonding and Vegetation Data

2. Please include Tract 7 in the list of tracts with permanent ponds in the Reclaimed Water Resources Summary paragraph on Page 3 of Attachment VI. (GAW)

Response: Tract 7 was included with the list of permanent ponds on page 3.

3. Please include a discussion about how management of the reclaimed tracts and native grassland reference areas has been similar during the responsibility period and provide a discussion about the range condition of the reference areas. (GAW)

Response: A discussion on reference and reclaimed area management was included on page 84 of Attachment VI.

4. Please include a discussion on why it is appropriate to only use the silty reference area to calculate the annual climatic correction factor considering that other reference areas were established at the Glenharold Mine. (GAW)

Response: A discussion on the use of the silty reference area to calculate the annual climatic correction factor was included on page 84 of Attachment VI.

5. In the Tract 4 discussion, please include additional information about the shelterbelt plantings (conservation or replacement plantings, species planted, spacing, re-planting, management, etc.) and discuss if the plantings are well established and if they are functioning as intended. Discuss if any specific revegetation performance standards apply to these shelterbelts and if they have met the applicable revegetation standard with the supporting documentation (see page 3 of Appendix A of the Vegetation Document). (GAW)

Response: Additional information regarding the shelterbelts in Tract 4 is provided on pages 29 and 30

Attachment VI. Site numbers that identify those shelterbelts are found on Attachment IX.

We called these shelterbelts voluntary tree/shrub plantings. They were placed within cropland or potential cropland areas for enhancement purposes. From a conservation standpoint, they will minimize the effects of wind erosion and provide wildlife habitat. We consider them to be normal conservation practices and no specific standards apply other than a determination that they have been successfully established. We consider them to be successfully established.

6. In the Tract 8 discussion, please discuss how access was provided to Tract 8A, the dynamite storage site. This bond release application and the annual maps do not show disturbance for an access trail to the storage site. Please discuss this issue in Attachment VIA and clarify what performance standards apply to the access trail to the site. (GAW)

Response: Access was on an old trail (Skyline Drive) used to support mining in the late 1960's. This trail was used to provide access to the Dynamite storage area but was not redisturbed and used to support mining activity. No performance standards apply.

7. Please mention that portions of Tract 14A were inadvertently sprayed with a herbicide that seriously affected the species composition of the reclaimed tract, and include more recent sampling data showing the species composition of the tract. (GAW)

Response: This was added in the Management section. Data collected in 2008 were added to the Vegetation Data folder on the CD and summary statistics were added to TABLE 2 – COVER SUMMARY

8. Table 2 in Attachment VI(B) indicates that there is a portion of Tract 19B that has a fish and wildlife post-mine land use yet this land use is never mentioned in the discussion (Attachment VI(A)) of this tract and the area is not labeled on Attachment V. Please label the tract on Attachment V and mention this land use and its size in the discussion of Tract 19 in Attachment VI(A). (SAS)

Response: This was identified as part of Tract 19B on Attachment V. Also the Missouri Breaks Game Management Area is delineated on that plate and therefore no changes were made. A discussion concerning this area was added on page 80 of Attachment VIA.

9. Page 26 indicates that the cropland tract is Sub Area 4A when it is marked as Sub Area 4C on Attachment V and VI(B). Please correct. (SAS)

Response: Page 26 was changed. The designation 4C for cropland is correct.

10. On the addendum to final bond release application forms, several of the tracts are “checked” indicating that there was some type of premine developed water supply and information is required as a provision of evidence that the water supply has been replaced. The summary information of reclaimed water resources section states that there were no premine developed water resources removed by mining operations, and the forms are not required to be checked under this category. Please correct the addendum. (BEB)

Response: Forms were reviewed and changes were made on the attached page 3.

11. The discussion for Tract 7, developed water resource, states “Water Quality information for Ponds 8-8c”. It appears this should be Pond 18-8c. Please review and correct. (MDB)

Response: This was corrected

12. In the Summary Analysis of Reclamation Success, Page 55 of Attachment VI(A), please reference the letters in Attachment VI(C) where the surface owners of Tracts 10, 11 and 12 have agreed to allow their property to be combined with other property for the purpose of demonstrating revegetation success. (GAW)

Response: This information was added on page 55

13. Please include a discussion of the variance of the 10-year liability period that has been approved for a portion of Tract 10A. (DKM)

Response: This was added on page 55.

Attachment VI(B) – Vegetation Summary Data

14. The 1999 adjusted yield values for Tract 2A are incorrect in Table 1, Yield Summary, according to Table T2A-4 in the Vegetation Data section (T2A_Standards.xls). The reclaimed and adjusted values should be 2093 and 1903 respectively, not 2293 and 2376 as listed. Please make the necessary corrections. (GAW)

Response: The reclaimed yield should be 2293 (see data file). However, the adjusted yield standard was incorrect. It should be 1903 lbs per acre. A recalculation of the Adjusted Yield Standard per PSC comment 21 changed 1903 to 1917 lbs per acre. This was changed on Table 1.

15. The 2002 adjusted yield standard for Tract 4D in Table 1, Yield Summary, is listed as 15.75 rather than 1,575. Please correct this error. (GAW)

Response: A recalculation of the Adjusted Yield Standard per PSC comment 21 changed this yield value from 1575 lbs per acre to 1585 lbs/acre. This was corrected on Table 1.

16. The 2006 sampling data for Tract 5A indicates that the yield was 2,024.3 lbs/acre. However, Table 1, Yield Summary, and Table T51-5 (T5A-Standards.xls) indicate that it produced 1951 lbs/ac in 2006. Please review and correct as necessary. (GAW)

Response: Table 1 and Table T5A-5 were changed to the correct value of 2024.3 lbs per acre.

17. The 1998 reclaimed yield value for Tract 15A is listed as 1,875 in Table 1, but file S8_Tract_15_1998p.xls shows that the yield was 1,785.2 in 1998. Please review and correct as necessary. (GAW)

Response: Numbers were transposed. The value of 1775 lbs/acre was changed to 1785 lbs/acre. This was changed on Table 1 and in file T15A_Standards.xls on the new CD enclosed with this correspondence.

18. Table 1 indicates that Tract 7B was seeded in 2000; however, the variance request for this area (submitted on Feb. 19, 2007 and approved on April 19, 2007) indicates that the area was seeded in 1998. Please review and make the appropriate corrections. (DKM)

Response: Table 1 was changed to 1998.

19. In the Tract 8 Description, please state that there are no specific diversity and seasonality standards for this tract since it is subject to the 1975 reclamation law. However, please discuss if the species composition of the reclaimed land is compatible with the surrounding undisturbed lands. This is needed since invasive introduced species dominate the site rather than the seeded native species. (GAW)

Response: The discussion regarding species diversity for Tract 8 was added to Appendix VI. Only productivity is required under the 1975 law. A discussion regarding diversity is required under the 1977 law.

20. Table 2 of Attachment VI(B) lists the number of native species that comprise at least 3 percent of the relative species composition. However, a review of the data shows that BCS is rounding values between 2.45 percent and 2.99 percent up to the nearest whole number which is 3.0. The revegetation guidelines require that a native species contribute at least 3 percent of the relative composition to be counted towards meeting the diversity count requirement. Please revise and do not round up and count species contributing less than 3.0 percent of the composition towards meeting the diversity standard. (GAW)

Response: All cover files provided in the Attached CD were reviewed and modified. Table 2 was changed. Would a relative cover value of 2.9 not count if it was necessary to achieve species diversity?

21. The reference area's actual yield values are being applied to all soil series that have the same range site. However, in some instances the NRCS expected yield of the soil map units of the reference area is not identical to the premine range sites soil map unit. Thus, the climatic correction factor should be used for all soil map units that have expected yield values different than the reference area's soil map unit. For example, a Temvik silty site has an expected NRCS yield value of 2000 lbs/acre whereas an Amor silty site has an NRCS expected yield of 1,800 lbs/acre, but both are silty range sites. Please review the adjusted yield standard calculation standards and update accordingly if the adjusted standard should be higher than that presently computed. Our review of the data indicates that the adjusted yields for Tracts T1, T2A, T4D, T6A, T7A and T14A need to be updated as the Krem and Savage mapping units have a higher expected yield than the corresponding reference area. (GAW/BTG)

Response: Recalculated Adjusted Yield Standards for areas listed in this comment are compared to the Adjusted Yield Standards provided in the original Bond Release Application. This comparison is provided in the following table.

<u>Tract</u>	<u>SubArea</u>	<u>Application Table No.</u>	<u>Data Year</u>	<u>lbs/acre</u>			
				<u>Recl. Yield</u>	<u>Application Standard</u>	<u>Recalc. Standard</u>	<u>Standard Diff</u>
T1	1B	T1B-4	1999	2093	1648	1789	141
		T1B-5	2000	2266	1960	1922	-38
		T1B-6	2001	2826	2248	2309	61
T2	2A	T2A-4	1999	2293	1903	1917	14
		T2A-5	2000	2338	1861	1870	9
		T2A-6	2001	2827	1933	1950	17
T4	4D	T4D-4	2002	1997	1575	1585	10
		T4D-5	2003	3063	1593	1633	40
		T4D-6	2004	1799	1581	1602	21
T6	6A	T6A-4	2004	1432	1385	1390	5
		T6A-5	2006	1957	1241	1241	0
		T6A-6	2007	2466	1600	1591	-9
T7	7A	T7A-4	2005	2177	1814	1834	20
		T7A-5	2006	1964	1283	1276	-7
	7B	T7B-4	2004	1459	1412	1418	6
		T7B-5	2005	2459	1814	1834	20
T14	14A	T14A-4	1996	3211	1606	1521	-85
		T14A-5	1998	1804	1328	1306	-22
		T14A-6	1999	2648	1673	1675	2

In all comparisons, where the reclaimed yield is compared to the recalculated adjusted yield standard there is no change in the result. All reclaimed grassland areas exceeded the standard.

In the original application GHM reference areas are used to represent all premine soil series' of the same range site. The use of combined range site acreage regarding the soil series was approved in the permit. Section 4.7.5.1.1 of the permit states:

“Reference areas and NRCS technical standards will be used to represent a majority of the premine range sites. Table 4.7-11 lists the relative percentage of area of each pre-mine range site for Mine Areas I, II, III and IV. “

This section of the permit also states:

“With this approach, approximately 84 percent of the disturbed native grassland area within all four mine areas will be represented by reference areas. NRCS yield data, corrected for climatic variation in the year sampled will be used for 15.7 percent of the

disturbance area”.

It would seem that changing procedures to compare yields of reclaimed areas with the adjusted yield standard at the time of Final Bond Release is unnecessary. We believe the use of GHM reference areas is justified and probably a lot more accurate in the real world. If this method was thought to be inadequate, it should have been discussed during ongoing permit review and updating process that happens ever 2 ½ years.

22. It appears Kentucky bluegrass is being counted as a native species for two of the three years being used to demonstrate revegetation success for Tracts 13A and 14A. Please review the cover data in files Tracts_13_14_96c.xls and Tracts_13_14_99c.xls and update Table 2 accordingly. (GAW)

Response: This was changed on the listed data files and on Table 2.

23. Table 2 shows that a total of 6 grass species were detected on Tracts 16C and 16H in 1998, but the data in file SubAreas_16B_16E.xls shows that 9 were present. Please review and update Table 2 as necessary. (GAW)

Response: Table 2 was changed.

24. The 2005 cover data for Tracts 16B and 16E shows that warm season species comprised 17.9% of the relative composition. This value is listed accordingly for Tract 16B in Table 2 but a value of 11.5% is listed for Tract 16E. Please explain or otherwise correct as necessary. (GAW)

Response: These vegetation sites were sampled together and the relative cover of 17.9% was correct for both tracts.

25. Please indicate the land use for Tract 20 in Table 1. (SAS)

Response: This was added to Table 1.

26. Table 2 indicates a land use of NE GMA for Tract 19 that is not listed in Table 1. Please be consistent and list that land use in Table 1 and state that no production data is necessary. (SAS)

Response: This was added to Table 1.

27. The land use for Tract 20 in Table 2 is listed as hayland but in Attachment VI(A) it is listed as grassland. Please correct accordingly. (SAS)

Response: This was changed to grassland on Table 2 and will be listed as grassland in Table 1.

28. The calculations used to prove that productivity has been met for the cropland area are not correct as currently outlined in Tables 4 through 11 based on the single yield standard that has been approved for the prime and non-prime cropland. These tables should be deleted and current Tables 12 through 15 should be revised and renumbered accordingly. The renumbered Tables 12 through 15 need to show how the adjusted standard was calculated using Climatic Correction Method 1 as outlined in the permit in Subsection 4.7.5.3.1.1 or justify why you are now using Method #4. Please remember that the prior cropping adjustment only applies to the

wheat yields, **not** oats. Since the 2004, 2005, and 2006 wheat yields exceeded the adjusted yield standard, the 2003 oats yields do not have to be included to demonstrate reclamation success. (SAS)

Response: Method 1 requires a Cropland Reference Area. The location of this reference field would have been on undisturbed cropland owned by Lee Stephens south of the disturbance area. When Mr. Stephens decided to quit raising cereal grains and seeded his field to alfalfa, the use of Climatic Correction Method #1 should have been changed to Method #4.

Because of this the landuse change, Method #4 was used to calculate the Adjusted Yield Standards for 2004, 2005 and 2006. Wheat yield standards were calculated on both prime and non-prime premine soils and weighted by acreage in Tables 10, 11 and 12 to determine the Single Yield Standard. Oats yields for 2003 were dropped and tables 5, 6 and 12 were deleted. All application tables were renumbered and are listed in the following table:

Also, USDA-NASS data for 2006 received from the PSC in May of this year was included.

This is summarized by table number in the following table.

<u>Table</u>	<u>Description</u>
4	2004 Prime Farmland calculated Adjusted Yield Standard
5	2004 Non-Prime Farmland calculated Adjusted Yield Standard
6	2005 Prime Farmland calculated Adjusted Yield Standard
7	2005 Non-Prime Farmland calculated Adjusted Yield Standard
8	2006 Prime Farmland calculated Adjusted Yield Standard
9	2006 Non-Prime Farmland calculated Adjusted Yield Standard
10	2004 Comparison of Adjusted Yield Standard (Single Yield Standard) with Reclaimed Area actual yield.
11	2005 Comparison of Adjusted Yield Standard (Single Yield Standard) with Reclaimed Area actual yield.
12	2006 Comparison of Adjusted Yield Standard (Single Yield Standard) with Reclaimed Area actual yield.

29. The cover pages for *Cropland Yield Documents for Tract 4, Sub-Area C* and *Comparison of Reclaimed Hayland Yields to Calculated Standards for Sub-Areas A & B*, both list the legal description of Tract 4 to be located within T144N, R84W. The correct location should be listed as T144N, R85W. Please revise. (BEB)

Response: Changes were made to the cover pages. These are included with this correspondence.

30. The 1999 reclaimed yield value for Tract 2A in Table T2A-4 of the T2_Standards.xls file is listed as being 2,093 but the value in Table 1 and S23_SubArea2A_99.xls show that the value is actually 2,293. Please correct the value listed in Table T2A-4 of T2_Standards.xls. (GAW)

Response: The data file shows the yield to be 2293 lbs/acre. Table T2A-4 of excel file T2-Standards was changed to 2293 lbs/acre. The adjusted yield standard however was incorrect and was changed to 1903 lbs/acre (see BCS response to PSC comment No. 14).

Please note that the reclaimed area yields for 2000 and 2001 that were listed on Table 1 were also incorrect. (see excel data files in the Vegetation Data folder) These should be 2338 for the year 2000 and 2827 for the year 2001. This was changed on Table 1 as well as Tables T2A-5 and T2A-6 in the file T2A_Standards.xls.

31. The 2003 reclaimed yield for Tract 4D is listed as being 2,607 in Table 1, Yield Summary, but the actual clipped yield is 3,062.7 according to the file S24_SubArea4D_03.xls. Please review and correct as necessary. Please indicate if the sweet clover yield was removed from the value listed in Table 1. (GAW)

Response: The actual yield is 3062.7. This was changed on Table 1. It was also changed on Table T4D-5 in file T4D_Standards.xls.

32. Table 1, Yield Summary, and file S18_SubArea7A_05.xls (Veg Data) show that Tract 7A produced 2177 lbs/acre in 2005. However, the value listed in Table T7A-4 (T7A_Standards.xls) is 2,242. Please correct this error. (GAW)

Response: The reclaimed yield on table T7A-4 in file T7A_Standards.xls was changed to 2177 lbs/acre

33. In file T8_Standards.xls in the Vegetative Data Section, please clarify how the standard was developed. It appears that the premine soils of the tract are identical to the silty reference area which is why a direct comparison can be made, but this needs to be clarified. (GAW)

Response: Table T8-1 was modified by adding a footnote to describe why and how the yield standard was developed.

34. Please review the 2006 relative composition cover values for Tract 8 in file S33_Tract 8_06c.xls. The values listed do not add up to 100 percent. (GAW)

Response: The excel formula used to determine relative percent was incorrect. The data file S33_Tract8_06.xls was corrected.

35. Table 1, Yield Summary, and file SubAreas_16C_16H.xls show that Tract 16C produced 1,939 lbs/acre in 1998, but the value 1,970 is listed in Table T16C-4. Please correct Table T16C-4. (GAW)

Response: Table T16C-4 was corrected.

36. The 2005 reclaimed cover value in file T5A_Standards.xls is listed as being 97.2% but Table 2 and file S19_Tract 5_05c.xls show the value to be 97.5%. Please review and update as necessary. (GAW)

Response: Table T5A-6 in file T5A_Standards.xls was changed from 97.2% to 97.5%.

37. The cover standard values for Tract 11A are listed as 73% in file T11A_Standards.xls but Table 2 lists the cover standards as 99.8% and 99.7% for the years being used. Since this area is subject to the 1978 interim rules and the 1979 reclamation law, the 73% value appears to be incorrect. It appears that a direct comparison to the shallow reference area should be made as listed in Table 2. Please review and update as necessary. (GAW)

Response: Tables T11A-4 and T11A-5 located in file T11A_Standards.xls were changed to use the total cover values from the shallow reference area.

Woodland Data

38. In the 2001 Mixed Deciduous and All Sample Sites Woodland Data for Tracts 1 and 2, the third observation value listed for the total number of trees is incorrect. Only two tree stems were recorded, but a value of 12,060 was calculated when converting the quadrant value to number of trees per acre. It appears the trees and shrubs formula's are switched in the excel spread sheets. Please review and correct as necessary. In addition, please explain why this observation was taken in 2003. (GAW)

Response: The formulas to convert stems/quadrat to stems/acre were switched.

Data were collected from woodland site 14-3-92 in 2003. No 2001 data could be found for this site and consequently, it was added to the sampling plan in 2003. The 2003 data were added to this woodland database assuming the mean values would change very little.

Attachment VII – Premine Soils

39. Please include a legend for the soil mapping units shown on Attachments VII (A-D). (GAW)

Response: This is not necessary for an adequate review of the bond release. Sources are available to assist interpretation of soil mapping units and soil names. This is provided in the permit as well as all Standards Tables provided with this bond release.

Attachment VIII

40. Attachment VIII(B) shows the 1973/1979 law boundary but the Annual Map and the narratives in Attachment VI indicate that this is the 1971/1979 law boundary. Please review and correct as necessary. (GAW)

Response: Attachment VIII(B) shows the law boundary as the 1971/1979 law boundary.

Attachment XIII – Woodland Acreage Accounting

41. Tracts 17 and 18 rather than Tract 16 are listed for the Schuman property in Table 3 of Attachment XIII. Please correct this error. This information is also listed in the Woodland Replacement Summary.xls file. (GAW)

Response: Table 3 located in the file woodland_Replacement_Summary.xls of Attachment XIII was revised to show the Shuman Property as being in Tract 16.

42. A narrative on page 71 of Attachment VI(A) for Tract 16 states that one woodland site, (6-1-85) and about half of another (6-2-86) did not meet the woodland revegetation success standards due to western x disease. The narrative states that this acreage will be replaced in Mine Area I where excess woodlands exist. Thus, the acreage of these woodlands should be deleted from Tables 1, 2 and 3 of Attachment XIII and the Woodland Replacement Summary.xls file. Aerial photography shows that there are only about 2.0 acres of woodlands established on this tract. Please edit the narrative and woodland summary data accordingly. (GAW)

Response: A total of 3.3 acres of reclaimed woodlands were deleted from tables 1, 2 and 3 in the Woodland Replacement Summary.xls file located in Attachment XIII.

Attachment X – Rangeland Reference Areas

43. Please include a page in Attachment X that lists the native grassland reference areas being used to demonstrate revegetation success and identify the soil series of the reference area. (GAW)

Response: A page was prepared and is included with this correspondence. This page consists of a table listing all GHM Reference Areas, soil series, year established and years when data were collected.

Attachment XI – Permanent Pond Maintenance Agreements

44. 1. This attachment is missing signed pond maintenance agreements for Ponds 144-85-13-8E and 144-84-18-8C as required by NDCC 38-14.1-17(7)(c)(2). (SAS)

Response: These impoundments are located on land owned by Basin Cooperative Services. Signed Maintenance Agreements are enclosed with this correspondence.