Enclosure 2 – Additional Comments on Original and Supplemental Class III Report

Comments on Original Report:

General Comments:

As indicated in the corrections for the Supplemental Report, detailed descriptions should be given for all lithic artifacts recorded and recovered from testing. Each site form should have at minimum a list or table that lists tool and debitage types by lithic material type. Some site forms have descriptions for surface artifacts, but most ties lack adequate description of the artifacts found in test units. Synthesis and interpretation of lithics discovered should be added to the site descriptions.

Specific Comments:

1. Correct acres surveyed on report cover sheet; does not agree with area inventoried in Table 1-1. Also correct date of fieldwork to actual days the fieldwork took place.

2. State Historical Preservation Office (SHPO) Site Summary Table: SHPO concurrence should be blank if no previous SHPO consultation on the site. Contributing should be blank (this column is for specifying whether segments of eligible sites are contributing and is generally used only in relation to segmenting a site in a determination of effects). Correct that all sites are in the area of potential effects (APE). Correct the land ownership in the table as needed [OK to select the dominant if there are two ownerships because a cultural resource management tracking tool (CRMTracker) allows only one]. Also be sure that land ownerships on site forms are correct.

3. Page 1-1. Specify acres of project that are split estate (private surface, Federal minerals) separately from the private surface-private minerals lands in text and on Table 1 and show where they are located. Clarify exactly what area was inventoried. The project area in Sec 17 shown on the map is not included in the list of locations.

4. Figure 2 caption (p. 1-3): omit “location of cultural resources,” which is not on this map.

5. P. 7-51 Add descriptions of flake types and materials to site description for 48CK2086.

6. P. 7-54. Evaluation of 48CK2087 (cairn) should state that it is unevaluated under Criterion A. It is okay to say that the temporal and cultural contexts are unknown to you, but not that they are not possible. Tribes may have information or cultural material might be buried under cairn. Delete “undiscoverable antiquity.” The cairn might be dated by helium or other appropriate method. Cairn is not on a ¼ ¼ section or other cadastral location. Replace this cadastral marker speculation with historic document research. Do the general land offices (GLOs) for this

location contain surveyor's notes which locate a cadastral point here and state how it was marked? Make these edits on site form also.

7. P. 7-70. Correct National Register recommendation text for 48CK2092 which contains the eligibility statement of 48CK2091.

8. Section 1 of many site forms need correction of land ownership: CK2077 and CK2082 are private and state. CK2083 is only state, not private. CK2087 is private surface and BLM minerals, not BLM surface. Etc.

9. Table 6-1: It is unclear to what the comment "marginal" is referring. Omit "No context" for site 48CK2087, which has a clear topographic and viewshed context.

10. P. 5-1. Martin 1999 reference is missing from References Cited.

Comments on Supplemental Report:

General Comments:

1. Any revisions to site descriptions in the final report need to be corrected in the corresponding site forms. The final report should be reviewed and typographical errors corrected.

2. Location of inventory area on all project maps does not agree with the map and list of sections and aliquot parts in the revised inventory report of October 2010 (Figure 2). Clarify what land in Section 17 was inventoried.

3. All maps that show sites color coded to indicate site eligibility should have all eligible sites shown as the same color regardless of whether you recommend they need additional testing or not.

4. Provide additional available photographs and stratigraphic profile maps for all test units (that are not already provided) and for backhoe trenches. Provide photographs of cultural materials along cut banks where not already provided (for example, CK2071, CK2072).

5. Remove designation of contributing portion for all sites; none have enough evidence for this determination (CK2073, CK2076, CK2083).

6. Number the magnetometer blocks on maps. Number the 2011 test units on maps and in the text. In the text for each site, fully describe the 2011 test units conducted during the remote sensing, including soils, stratigraphy, and so forth. Explain and justify the depths of the 2011 magnetometer block anomaly test units. Including the following:

    a. Describe fully the 2011 testing near Feature 1 of CK2071.

    b. CK2072. The reviewer cannot compare the results in Appendix A with the testing because the way blocks are oriented with regard to northings and eastings is not apparent on the site map (p. 40ff). Also, describe the seventh 2011 test unit shown on the map at the west end of the site.

    c. CK2077. Fully describe the test unit placed at the magnetometer anomaly (p. 60).

    d. CK2083. Describe 2011 test unit in magnetometer block in text if it was large enough to provide any soils information and show its location on map (Figure 48).

7. Fully describe all testing results including soils stratigraphy and cultural remains. Describe backhoe test results in text. Describe 2012 test units in text, not just list

in table. Description of 2012 tests can be a summary and synthesis not a repeat of details in the table. Including the following:

a. CK2072. Define and describe F2 formally in the text and on the site form. Provide photographs and stratigraphic profiles of the test units not included in the site form, particularly those that contained cultural remains, as T1, 3, and 10.

b. CK2077. The FCR cluster in TU12 (shown in site form, p. 45) should be described in the text; it could be evidence of a nearby feature. Clarify whether 2 quartzite blocks that were exposed on surface (shown in photograph of TU1 in site form) are they culturally modified? Briefly clarify this in description of test unit in the text. Productive test units are throughout the site and not just near the cut bank.

c. CK2083 (p. 66ff). Explain and justify locations of 2012 test units. Fully describe and interpret cultural materials discovered in the test units. Adjust site boundary in Figure 48 to include T1 and the FCR found in the arroyo nearby. Table 2 says that T4 is 20 m north of F1; correct to reflect revised map (October 2012).

d. CK2084 (p. 75). NRCS soils maps indicate that the site is in Cushman loam which is typically 30 inches deep; the testing may not have sampled enough portions of the site to check for the presence of deeper soils. Is lag gravel actually present on the site or is your statement of site function speculation rather than inferred from data observed? Flakes recorded on the site may be an undercount, since more were observed during the tribal site visit on September 13, 2011.

e. CK2086 (p. 79). Fully describe soil stratigraphy in 2010 test unit and justify why stopped excavation at 25 cm.

f. CK2089 (p. 82). Fully describe 2010 text units. Brief description lacks soils description for 18-25 cm. Did both tests have identical results? Fully describe 2012 test units in text. Table 2, p. 29 is missing the soils descriptions for T1. The artifacts left on the text unit surfaces should be fully described and interpreted. Report should include photographs and stratigraphic profiles of all test units.

8. Fully describe and interpret all cultural remains discovered in test units and all artifacts and features recorded on the surface where this information is lacking (for example, CK 2098, CK2093). Many tools and debitage have little to no description and interpretation. Each site form should have at minimum a list or table that lists tools and debitage types by lithic material type. Other examples include the following:

a. CK2073. Fully describe Feature 1 (size, depth below surface, etc.) and include photograph in report. Site form is missing section 8B.

b. CK2084 (p. 75) lists 2 tan quartzite (what artifacts are tan Q).

c. CK2086. Describe flake types and materials.

9. Fully describe soils where descriptions are lacking and interpret the soil stratigraphy sampled in test units and synthesize the results. For example, what is your interpretation of the sandy deposit at the top of T13 at CK2072 (Table 2, p. 22)? Compare and interpret the locations of dark/organic strata exposed on the surface and encountered in test units. A table does not replace descriptions and interpretations in the report text. The report lacks interpretation of the soil horizons. Since alluvial sediments can be difficult and complex, if the archaeologists do not have adequate soils training to do this, a geoarchaeologist or soils scientist with archaeological site experience would need to complete this work and it could be done during the assessment of effects.

10. For sites with stone features that will be evaluated during Native American consultation, eligibilities should state that the sites are unevaluated under Criterion A (CK2070, CK2076, CK2087).

11. Site evaluations should be revised to reflect realistic expectations of the types of data that can be obtained from scattered test units that examine a small percentage of a site. Negative results of magnetometer work cannot be used to justify not eligible since the method did not work. The site evaluations in the report and Table 1 (summary of the evaluations) contain speculations which are not substantiated by evidence. Scattered tests rarely demonstrate 'contextual integrity' which usually requires block excavations. Small size of FCR should not be used to claim lack of integrity since the collection method may have pulverized it. Prehistoric living surfaces normally have artifacts scattered on the living surface (and trampled) while people are living there.

    a. CK2071, 2077, and 2072. Conclusive evidence is not provided that all cultural remains below 30 cm in these sites were transported there by rodents. Cultural materials in bank exposures in several locations were deeper than 30 cm.

    b. CK2072. Adequate evidence is not presented to justify "Most of the site area is severely eroded (Table 1)." Also text concerning deflated, rodents, and water eroded is exaggerated since there are intact portions of the site and also untested portions. Site description (p.43-44) lacks evidence of the amount of bioturbation in the entire site and the effect of bioturbation if any in each test unit containing cultural remains. Report presents no data supporting assumption of slow rate of deposition at site or long exposure of cultural remains prior to burial. Alluvium nearly always has a relatively rapid rate of deposition. Bone condition could be due to acidic soils and/or moisture held in soils within strata above calcium carbonate deposition rather than long exposure. Many bones exposed on the surface at various sites are in good condition. Presence of deeper strata containing faunal remains has

not been taken into consideration in the site evaluation. The site has well demonstrated stratification.

c. CK2077. Evaluation of site ignores the cultural data present in the most recently buried cultural stratum. Report has a photograph of one test unit that appears to show rodent burrows below the stratum containing cultural remains. No evidence is presented that rodent burrows have destroyed the entire site's integrity. Archaeologists have excavated vast numbers of significant sites that contained rodent burrows. It is untrue that no evidence of intact cultural remains was found (Table 1). The evaluation ignores that fact that 68.75% of test units were positive. Interpretation of testing results is inadequate and evaluation lacks mention of the site potential to provide information about antelope-sized animal procurement in area focused on bison hunting, widespread occurrence of porcellanite in the site which might contribute information about patterns of seasonal movements, etc.

d. CK2093. Fully describe the debitage recorded (p. 86). Are there lag gravels on site or adjacent to the site that are suitable as source materials to support the interpretation of the site as a lithic reduction station. FCR must be plotted on the site map in order for reviewers to assess the site and the adequacy of testing. The report presents no evidence that soil identified in test units, which is up to 38 cm deep, was mixed and collapsed. Site evaluations cannot be based on unsupported assumptions. Map the location of the plowing and reseeding and show in relationship to the locations of artifacts and test units on the site. Reviewers cannot evaluate CK2093 without a map of the new disturbance location.

e. CK2083 (p. 17-18). The oversized map of proposed impacts shows a monitoring well at the south end of the site.

12. Revise Summary of Subsurface Testing (p. 96) by removing unsubstantiated assumptions and providing more information about the cultural remains discovered and site stratigraphy. The report lacks proof that all deeper cultural remains resulted from rodent burrowing, that contextual integrity is lacking, that cultural material had lain on the surface and was shuffled around prior to burial, that the alluvial soils were deposited slowly. Placing test units where surface finds occur biases results to locating the most recent cultural component and it is not a valid argument to use this result to assume that deeper cultural deposits are lacking. The soil stratigraphy shown in photographs of test units has not been fully interpreted in the report. No sites have been tested adequately to define non-contributing portions.

13. Table 3 (p. 98-100). Add a column for assessment of effects and separate this information from comments. The large scale map of proposed effects provides the most exact information. For some sites the assessment of effects in the text site descriptions and on the site forms will need to be revised based on the more detailed information on the large scale map. The small scale Figure 72 is fine for inclusion in the text, but you also need to include the more detailed oversized

map as part of the final report. Revise “Summary of Proposed Effects” on page 97.

14. Synthesis of information about local prehistory obtained during the inventory is skimpy and does not do justice to the information recovered (p. 102).

Specific Comments:

1. P. 12, paragraphs 1 and 2. Soils descriptions need to use objective not slanted language. “Where topsoil has developed” biases reader to assume badlands terrain, when in reality top soil is developed throughout the project area although some upper horizons may have partially eroded. Portions of the terrace deposits have eroded but referencing their “top soil’ is irrelevant to assessing whether they may contain buried cultural materials. Project area has very limited exposure of bedrock. There are very deep soils and sediments in project area, but the soils description sounds like ‘thin’ soils are everywhere. Giving known soil depths (as provided in the NRCS soils mapping section) is more useful. For the purpose of assessing potential for buried cultural remains, all of the soils and all of the sedimentary strata are of interest. The alluvial and aeolian soils along drainages contain the bulk of the sites and are of especial interest. These two paragraphs lack any mention of the deep soils and sediments in the terraces.

2. P. 14. Describe fully the soil samples collected from CK1603 (size, location, contents, why collected) in the site description text and on the site form for this site.

3. P. 15. The methodology used to excavate clayey soils (demolition hammers, oscillating screens) is not standard practice and can result in damage and pulverization of artifacts and floral and faunal remains (as recognized on p. 16). Because the method used can result in under-recovery of artifacts and under recognition of levels that may contain cultural remains, the report should specify which units and levels had this recovery method if this information was recorded.

4. P. 16. Statement on curation can end at “proper repository.” The site forms will have the details. Text states all artifacts were collected from tests; note here the omissions on some sites. Describe what data were collected from back hoe tests and how you examined the stratigraphy of trench walls and the fill removed.

5. Table 2: (p. 21; CK2072) T12 is missing the 2 FCR in 0-10 cm referenced on p. 27 of site form. Table is missing CK2072, Test Unit 14 and Backhoe 4, 5, and 6 (p. 22 and 24). Is part of the soil description for backhoe 5 missing (it says you excavated 65 cm of paralithic bedrock; original Table 2 before revision. p. 24)? Backhoe 6 is missing length (Table 2 before revision. p. 24).

6. P. 28 (CK2083) Spell out UMF under Test Unit 5; for Test Unit 3 clarify if orthoquartzite is FCR or debitage.

7. P. 47, Figure 20. Include on the CK2072 map the artifacts and features recorded in the surface inventory (likely will need to be an oversized map for readability). Plot the location of F2 which was defined during the testing. Label magnetometer block numbers and magnetometer shovel tests on map and include their number designations in text.

8. P. 52 (CK2074). Table 2 states that T1 had 5 FCR fragments on the surface; add this information to text.

9. P. 59 and Figure 37 (CK2077). Number the 2011 test units in text and on map. Map has A1 and A2; A2 not described in text. Give full description of the endscraper (including information of chert color/type, flaking pattern, evidence of utilization).

10. P. 65, Figure 37. Is all debitage at the two locations on the map or are some locations of debitage not mapped?

11. P. 95. Abundant publications on the Lance Formation are available and indicate that where cement is present it is calcareous. Typically this region has siliceous cobbles and pebbles that derive from Black Hills formations. It would be helpful if you describe where you observed siliceous gravels in the project area and relate these observations to sites where you interpret the site activity to include knapping of local cobbles/pebbles.

12. P. 101, Figure 72. Need more complete LEGEND for this map.

13. Site form for CK2072: Photograph for TU 5 says it is MR1, but Table 2 (and table in site form) lists T6 as MR1. Need a stratigraphic profile (or annotated photograph) of the TU6 described on the table so that we can see the location of the flake and the two deep locations of bone fragments.