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Mr. Duane Spencer
Buffalo Field Office Manager
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Via Overnight Mail (UPS) and Email (Fort_Crk_WYMail@blm.gov)

RE: Augusta Unit Zeta CBNG POD Draft Environmental Assessment

Dear Mr. Spencer:

Lance Oil and Gas Company (LOG), a wholly owned subsidiary of Anadarko Petroleum Corporation, appreciates this opportunity to review the subject draft EA and FONSI and offers the following comments for BLM's consideration as it finalizes the documents.

2.1 Alternative A – No Action

BLM needs to acknowledge that this alternative does not meet the stated purpose and need which is to allow LOG to exercise its lease rights granted by the United States to develop the federal oil and gas leasehold. Furthermore, the No Action alternative must also disclose that due to intermingled state and private lands within the project area, implementation of a no action alternative would not mean that CBNG development in the area would cease.

2.3.2.2. Vegetation

BLM would require LOG to, "temporarily fence reseeded areas, if not already fenced, for at least two complete growing seasons to insure reclamation success on problematic sites (e.g. close to livestock watering source, erosive soils etc.)." Following that statement BLM indicates that the fencing measure is "performance based". LOG agrees with BLM that this measure should be performance based with the understanding that LOG will determine if fencing is needed given site specific conditions.

2.3.2.3 Wildlife

BLM notes that Greater Sage-grouse (GSG) surveys, ". . . must encompass all sagebrush shrublands within 0.5 miles of the proposed activity". In this instance,

BLM is creating a critical conflict with its proposed limitation restricting site visits to one per month during the breeding and nesting season. As currently drafted, LOG's biologist must complete all surveys for all proposed activity that will occur during the breeding season in a single visit. Then, if development occurs in subsequent time periods LOG must decide between visiting the well site for operational reasons and conducting surveys. As discussed below, LOG believes the well visit limitation is not supportable and should be removed. In the event BLM declines to revise this provision, it must, at a minimum, clarify which activities will be covered by the limitation.

To address noise impacts at GSG leks, BLM states that noise should not, "exceed 49 decibels (10 dBA above background) at the display ground". Does BLM have background data that clearly identifies existing background noise levels at nearby leks? How will BLM take into account existing noise levels from development on fee surface, existing traffic and other sources? LOG is concerned that noise levels at the leks may already exceed 49 dBA.

2.3.2.4.2. Mountain Plover

LOG finds the statements, "outside of occupied black-tailed prairie dog colonies, a mountain plover nesting survey following U.S. Fish and Wildlife Service protocol is encouraged prior to construction initiation, as project modifications can be made if necessary to protect nesting plovers and natural gas production. If requested in writing, then authorization may be granted for construction activities to occur between August 1 and March 15, outside the mountain plover breeding season. A mountain plover nesting survey following U.S. Fish and Wildlife Service protocol shall be conducted during the first available survey period (May 1 – June 15). Additional measures such as monitoring and activity restrictions may be applied if mountain plovers are documented." confusing and inconsistent with past standards for addressing construction activities in mountain plover habitat. First, it appears that BLM is requesting mountain plover surveys across the entire project area regardless if habitat exists or not. LOG requests that surveys be limited solely to mountain plover breeding and nesting habitats. Second, exception requests are normally granted for the period when mountain plover are present and conducting breeding and nesting activities. LOG objects to the COA that requires specific authorization to conduct construction activities when breeding and nesting activities are not occurring (August 1 and March 15).

2.3.2.6 Noise

LOG requests clarification regarding the degree to which noise mufflers will be installed on compressor engines to reduce exhaust noise. What receptors are being protected? What standards must be met? Will BLM consider other sound mitigation technologies that achieve the desired goal or condition?

2.3.2.7 Air Quality

LOG requests BLM to clarify the requirement to implement dust suppression, "with at least 50% control efficiency" for purposes of achieving compliance. How will this be measured and will it take into consideration specific soil types?

2.3.3 General

In the General section item number 14, BLM specifies that utility corridors will be "expediently" reclaimed. Table 2.3.1 specifies those well sites where expedient reclamation is required based on site specific soil conditions (fragile and erosive soils). To remain consistent with other requests for expedient reclamation, LOG requests that BLM revise this requirement and identify those utility corridors or portions of corridors where soil conditions warrant this effort. Additionally, the term *expediently* should be clearly defined.

2.3.3 Wildlife – Big Game (Site Specific Mitigation Measures)

The EA provides that the operator will provide BLM with a proposed work schedule at the pre-construction meeting and a work summary report, due by the 12th of each month. This report shall summarize the work activities from the previous month, and what activities were conducted, where the work was conducted, when the work was conducted, *and any elk observations shall be recorded* (emphasis added). The report shall also include the proposed activity for the next month. The summary report shall be compared with the elk monitoring data to evaluate cause and effect relationships."

LOG objects to this requirement and requests that it be eliminated. Any data used for scientific purposes or for purposes of adaptive management must be based in sound science and scientific inquiry principles. Concerns include susceptibility of data to observer bias and error (visual acuity, interest, experience, training), lack of defined observation protocols, lack of a study design indicating how data will be interpreted and/or utilized, lack of biologic training for field crews, lack of a control from which to compare observations, lack of assurances that all observations get reported, etc. This is not a scientific methodology that could or should be used to support adaptive management.

LOG also believes the requirement for monthly reporting of a work summary is overly burdensome. Moreover, the analysis fails to provide sufficient justification for imposition of this requirement and does not, in the alternative, provide analysis of other less burdensome requirements that would meet the unspecified goal of this measure.

2.3.3 Wildlife – Raptors

LOG requests clarification on BLM's request that raptor nest productivity checks, ". . . be conducted for the first five years following project completion." The cause for uncertainty is the term "project completion". At what point in the CBNG well/facility life cycle will the project be defined as completed?

2.3.3 Wildlife – Bald Eagles

BLM's proposed management action to alleviate impacts to bald eagles that seasonally limits project related actions from occurring within one mile of bald eagle habitat along the Upper Powder River should not apply to this project due to the fact that the project lies more than one mile from that water body. LOG does not believe this statement to be applicable to the Augusta Unit Zeta POD and therefore requests that it be stricken from the final EA document.

2.3.3 Wildlife – Greater sage-grouse

The BLM proposes that a sage-grouse survey will be conducted by a biologist following the most current Wyoming Game and Fish Department (WGFD) protocol. LOG requests that BLM clarify that if the surveys are negative for lek attendance and/or nesting activity that an exception to the seasonal timing condition of approval (COA) would be granted.

LOG is particularly concerned with BLM's proposal to limit "well metering, maintenance and other site visits" to one visit per month during the breeding and nesting season for the life of the project. As the BFO noted in the Carr Draw III Draft FONSI, "it is Wyoming's position that . . . activities located outside of identified sage-grouse Core Areas be allowed to move forward with lesser restrictions" thus LOG considers this COA inconsistent with the State of Wyoming goals for managing sage-grouse habitat. Carr EA/FONSI at 3. BLM proposes this onerous COA for protection of habitats outside of focus/core area absent a clear and convincing demonstration of its effectiveness and an attendant assessment that other less restrictive measures would meet the resource management goal.

Additionally, BLM fails to recognize the obligations, some mandated by law that LOG would be hindered in meeting if this provision is imposed. LOG reminds BLM that these regulations charge the operator of federal oil and gas leases with an affirmative responsibility to prevent waste, assure proper measurement, disposition, and protection of production (43 CFR 3162.7), comply with applicable laws and regulations, lease terms, Onshore Oil and Gas Orders, Notice to Lessees and other orders and instructions of the authorize officer (43 CFR 3162.1), ensure environmental and safety obligations are met (43 CFR 3162.5) and ensure safety precautions are implemented (43 CFR 3162.5). LOG requires consistent and reliable access to well sites and other facilities for purposes that

are reasonably necessary and incidental to the development of minerals for reasons of safety, environmental protection and site security. Furthermore, there may be additional state and/or federal obligations, such as Storm Water Protection Plan monitoring, for which LOG would maintain a similar statutory obligation. Based on this, LOG believes BLM must remove the provision so as not to impede reasonable access to the well sites. The frequency and duration of well site and facility visits, for purposes of compliance with federal and state regulations, permits and policies, must be left to the discretion of the operator.

Beyond the concerns stated above, BLM has wholly failed to address emergency situations and to specify under what conditions an exception to the COA could be obtained. At a minimum, the BFO should clarify that the restriction does not apply to emergency situations and include a definition of what constitutes an emergency situation. More importantly, the BFO has failed to disclose the potential operational and safety concerns that are implicated by limiting visits to one per month and to evaluate the potential impacts. Although telemetry can be employed to monitor wells, not all concerns can be identified through telemetry and require on-site review by personnel to ensure that all operations are in good working order. For example, telemetry would not pick up flow line settling that could indicate a leak, power outages, erosion or other similar events that can only be identified by on-site personnel. If visits are limited to once a month, a situation that may have been identified early on and rectified could become a serious issue potentially affecting the environment and subjecting an operator to fines and sanctions. Furthermore, repairing any identified problems can not necessarily be accomplished in a single visit or coordinated for that day when third party contractors are required. Once a repair has been undertaken, a prudent operator needs to verify that the action taken has actually rectified the problem; as such BLM's COA could prohibit this necessary action.

LOG believes the BFO needs to revise its decision to allow for more frequent site visits and to provide for emergency actions. Restriction that limit site visits to once per month should be limited to core and focus area habitats only. For areas outside of core and focus area habitats, LOG suggests that BLM coordinate with industry to develop travel management plans that provides the least restrictive level of protection during the nesting and brood rearing season which meets resource management objectives while providing for the safe and responsible conduct of permitted operations.

LOG also believes that the magnitude of protection efforts imposed for GSG should be proportional to the magnitude of risk of impact from CBNG to nesting/brood rearing GSG. As such, BLM treats the habitat in Augusta Unit Zeta as if it was occupied by significant number or density of nesting GSG or could ever become sustainably populated when compelling evidence demonstrates otherwise. BLM needs to consider the following:

- BLM conducted onsite inspections of 67 well pad locations, surveyed up to 20 miles of access road utility corridors and observed only a single instance evidence of GSG use of the area (no individual birds or additional evidence was observed over 7 days on onsite inspections). This indicates little if any consistent use for brood rearing or winter habitat needs throughout the rest of the POD;
- Without any substantiating documentation, BLM predicts "the proposed action *will most likely contribute* to the extirpation of the local sage-grouse population and subsequent abandonment of the 2 leks within 2 miles of the project area" despite application of well site/facility visit limitations and other conservation measures (emphasis added);
- As of February 23, 2009, there are approximately 393 existing wells and associated infrastructure within four miles of the 2 leks - an area of 61.7 square miles. The existing well density in this area is approximately 6.4 wells/section. Due to this level of development there is strong potential that the population(s) breeding at these leks may become extirpated without the federal development (Augusta Unit Zeta Draft EA page 84);
- Lek data presented in Table 3.8 suggest lek attendance has, since the early 1990's, declined with consistent reports of only 0-2 birds present. This indicates an extremely low population in the area;
- The predominant declines in lek attendance predate CBNG development in the area, and the causation for those declines has neither been identified nor disclosed. Without identification and analysis, it must be assumed those causal forces remain;
- A 4 mile radii encompasses an area of 50 square miles being protected for minimal number of birds. As a comparison, a 2 mile radii encompasses 12.5 square miles. BLM is conditioning 50 square miles for a few birds and/or an admittedly extirpated population;
- For lands within the Augusta Unit Zeta POD, the overall density of GSG nests necessarily decreases as the radii from the lek increases. It therefore follows, that the magnitude of benefit versus risk resulting from imposition of stringent COAs drops off rapidly at increasing distances from a lek. This is particularly relevant for leks such as those found near the Augusta Unit Zeta POD that are documented with extremely low attendance for nearly 20 years;
- Given declining low lek attendance numbers, the magnitude of risk of impacts to nesting and brood rearing habitats rapidly declines with increasing distance from the lek;
- Lyon and Anderson 2003 (EA page 83) management recommendations state that, "traffic disturbance of 1-12 vehicles per day during the breeding season might reduce *nest-initiation rates* and increase distances moved from leks during nest-site selection. . . . even with restrictions, hens may have been affected by road disturbance, suggesting that further traffic restrictions should be considered." (emphasis added);

    - Cited scientific references suggest that traffic might reduce *nest initiation rates*, therefore, should BLM impose this measure it should be limited to those timeframes only (i.e. mid April to late May)
- Holloran 2005 (EA page 83) reported on interaction of traffic volumes and *lek attendance* not nesting. Access roads proposed by LOG within the area where impacts occurred, as documented by Holloran (i.e. within 3 km of the lek), are limited within the Augusta Unit Zeta POD. In fact, the Hayden II lek is reported as being 3 km from the project area (EA page 57);
- BLM does not assess expected traffic volumes pre- and post-construction with attendant impact assessment based on those numbers, rather, BLM merely assumed that an unspecified traffic volume would necessitate unacceptable impacts;
- The NE Wyoming Sage-grouse Local Working Group identified priority areas for conservation efforts as being sagebrush and associated habitats supporting high numbers of sage-grouse during the breeding season (Northeast Wyoming Sage-grouse Conservation Plan, Page 43). BLM did not provide sufficient documentation in the document that the lands burdened by the subject condition of approval are of the quality sought through this conservation goal. As a frame of reference, BLM employs other recommendations from the NE Local Sage-grouse Working Group (see draft FONSI); and
- BLM failed to consider the "roughness" of the Augusta Zeta development area as it pertains to suitable nesting habitat.

2.3.3 Ute ladies-tresses orchid

LOG notes that conditions "a" and "b" either are missing or the numbering is incorrect. If additional restrictions will apply, LOG requests an opportunity to provide comment prior to issuance of the decision record.

2.3.3 Water Management

BLM would require submission of a Spill Prevention and Control and Countermeasure Plan (SPCC) for the Barber Creek Treatment Facility. Under the applicable regulations a threshold exists at which the storage of oil at this facility would trigger the requirement for completion of a SPCC plan. In fact, oil will not be stored at this facility; therefore, this statement should be eliminated from the EA.

3.3.1.1 Elk

BLM reports that there are an estimated "230 elk in the Fortification Creek herd, down from an average of 272 in 2002." LOG reviewed the WGFD 2007 Job

Completion Report and was unable to verify the 272 count. In the WGFD 2007 JCR report (page 343) it states that the estimated population for elk in 2002-2006 is 238. Please verify the correct figure with the WGFD.

4.1 Vegetation & Soils Direct and Indirect Effect

LOG requests that the following statement, "Lance Oil and Gas Company Inc. would not entertain multi-completion of a single well bore as recommended by BLM but did not make a convincing agreement (sic) why the recommendation was not feasible", be removed from the document absent documentation that multi-completion of a single well bore is indeed feasible, given the site-specific conditions present within Augusta Zeta.

4.2.1 Big Game Direct and Indirect Effects – Elk

The monitoring thresholds in the EA are not consistent with those identified in the Elk Monitoring Plan for the Fortification Creek Area May 2008 (Fortification Creek Area Draft Resource Management Plan Amendment/Environmental Assessment July 2008). LOG requests that BLM correct the erred description in the Augusta Unit Zeta EA so that it is consistent with the 2008 Elk Monitoring Plan.

As cited in the Augusta Unit Zeta EA

1. The current population trend, about 3% population decrease per year, were to precipitously decline (i.e., rapid rate increase)
2. The overall total herd population were to drop below an estimated 120 animals (about 52% of the current population)
3. The rate of elk ventures outside the Fortification Creek area were to drastically increase above 15% of the herd, and/or …
4. The nature (i.e., longevity) of elk ventures outside the Fortification Creek area were to shift from mostly seasonal to mostly permanent

As cited in the Fortification Creek Planning Area RMP Amendment Draft EA - Appendix A (Elk Monitoring Plan for the Fortification Creek Area Fortification)

1. The population trend or cow:calf ratio decline 15-20% per year or greater,
2. The overall total herd population estimation drops below 120 (20% below the herd management objective)
3. The rate of seasonal elk ventures outside the FCA increases 20% above the current level (15% of the herd), and/or …
4. The longevity of elk ventures outside the Fortification Creek shifts from seasonal to permanent. Elk presently venture outside the FCA primarily during summer and autumn, and return to the FCA for winter and calving. The threshold would be reached, if 20% of the elk were to not use the crucial ranges during their crucial periods, or to not return to the FCA crucial ranges at all

4.2.3 Migratory Birds Direct and Indirect Effects

BLM states that "disturbance of the habitat types within the project area is likely to impact migratory birds". Please provide a specific reference supporting this statement. In the event BLM is not able to provide any such documentation, the statement must be removed.

The discussion by BLM addressing the use of evaporation ponds that receive a backwash stream from the conditioning ponds and attendant potential for impacts for migratory bird mortality appear to have been mistakenly incorporated from previous NEPA documents. As currently constructed, EMIT facilities utilized by LOG do not utilize evaporation ponds that would provide access for wildlife to hyper-saline waters. LOG requests that BLM remove this statement from the EA.

4.2.4 Raptors Direct and Indirect Effects

BLM documents LOG's installation of 11 miles of water pipeline and associated discharge outfalls that began in March 2008 and unnecessarily states that BLM "was not presented the opportunity to make recommendations that may have minimized effects to 22 raptor nests that fall with in 0.5 miles of that existing disturbance". LOG objects to this statement and requests that it be removed from the document. BLM is reminded that LOG, like BLM, must follow the same laws providing protection for migratory and certain raptor species (i.e. Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act). BLM failed to provide evidence that compliance with these laws did not occur. Additionally, BLM does not provide any evidence that BLM's recommendations would have resulted in more effective protection.

4.2.5.2.3 Bald Eagle Direct and Indirect Effects

LOG requests that BLM provide specific information regarding the features, on the 6.86 miles of existing overhead three-phase distribution lines that are within the project area, that it believes *may not* be in compliance with the Avian Power Line Interaction Committee's (1996) suggested practices or the Service's standards (USFWS 2002) or strike this statement from the document.

4.2.5.2.4. Black-tailed prairie dog Direct and Indirect Effects

BLM states that "no recommendations by BLM to minimize impacts to prairie dogs were accepted". Aside from the fact that BLM does not disclose the nature nor the reasonableness of these suggestions, the preceding paragraph negates the need for additional recommendations by virtue of its disclosure that planned LOG activities do not have the potential to impact prairie dogs as there are no colonies within the boundaries of the POD. Therefore, LOG requests that BLM remove this statement from the EA.

4.2.5.2.6.2 Greater sage-grouse Cumulative Effects

LOG requests that BLM correct the statement, "Based on the best available science presented above, the proposed action will most likely contribute to the abandonment of the *ten leks* within four miles of the project area." Based on previous statements and tables in the document BLM only reports two leks (EA page 57).

4.3 West Nile Virus Direct and Indirect Effects

BLM postulates that there is no evidence that treatment, either through the use of larvicides or malithion, on a site specific or basin-wide scale will have any effect on the overall spread of the disease. While this is true from a nationwide or statewide perspective it is not true from a landscape perspective. Industry effort to control mosquito larva through proper construction of water management facilities or application of larvicides at the landscape scale are effective. LOG requests that BLM recognize industry efforts to reduce incidence of mosquito larva present in its facilities.

Sincerely,

Tom Clayson