Enclosure: State of Alaska Comments on the Point Thomson Draft Environmental Impact Statement (DEIS)

Page 2-27, Section 2.4.2.4 Common: Other Infrastructure: Fugitive dust from gravel mining and gravel storage is not addressed in the DEIS air quality sections. It is not clear to what extent fugitive dust will be generated during mining or generated from gravel storage piles. What, if any, mitigations measures are being considered in the project design to address these problems?

Page 3-32, Section 3.4.3, Air Quality Standards, Table 3.4-1: Footnote g needs to be updated. The Alaska Ambient Air Quality standards now have a 1 hour SO_2 standards in place.

Page 3-33, Section 3.4.5, Ambient Air Quality: The data for Badami is over ten years old. Please describe briefly the value this data adds to the analysis.

Section 3.6, Figure 3.6-1, Surface Water Hydrology. The Liberty Mine Site next to the Duck Island Mine Site is not depicted on the figure. The pipeline bridge is downstream of the vehicle bridge over the West Channel Sagavanirktok River.

Section 3.6 Hydrology and Section 3.6.4.7 Lakes. In the first paragraph it says "Prospective users must apply for water use permit with the Alaska Department of Natural resources (ADNR), who sets permit limits for each source but no amount of water or proportion of water is guaranteed to a permitted user." This statement should be clarified. First, all water withdrawal, impoundment, or diversion must be permitted by ADNR. ADNR does set the quantities allowed for use based on hydrology, recharge, fish presence, etc. It should be clarified that an applicant can apply for either a water right or a temporary water use authorization. A water right gives the holder the right to the water as specified on the permit or certificate of appropriation. This amount of water is only allocated to the holder of the water right and is not available for other users. A temporary water use authorization has no rights and may be allocated to other users.

Page 3-67, Section 3.7.3.2, Water Discharges: The top paragraph in this section reads "*The discharge of treated domestic wastewater to surface water requires a discharge permit from ADEC. The type of permit needed depends on whether the discharge occurs in fresh (AKG-57-0000) or marine (AKG-57-1000) waters."* This sentence is overly general. We would suggest the following: "The type of domestic wastewater discharge permit needed depends on a variety of factors, including, but not limited to: discharge volume, chemistry, and location; receiving water characteristics, including quality and quantity; whether the discharge is to fresh or marine waters, etc. Accordingly, the applicable domestic wastewater APDES discharge permits for the Point Thomson project are AKG-57-0000 and AKG-57-1000."

Page 3-171, Section 3.12, last paragraph. Most freshwater species such as Arctic grayling or round whitefish do not migrate to low salinity estuarine or nearshore waters in summer. These species may occasionally be found in these waters during summer.

Page 3-181, Section 3.12, first paragraph. The statement that a gravel mine site (Sag Site C) contains 88 times more water than overwintering areas in the Sagavanirktok River (Hemming 1988) refers to that portion of the West Channel Sagavanirktok River at or immediately downstream of the Sagavanirktok River Bridge. Additional overwintering area exists in the Sagavanirktok River, particularly in the East Channel Sagavanirktok River.

Page 3-182, Section 3.12, seventh paragraph. Same comment as page 3-171.

Section 3.12, Figure 3.12-3. Additional overwintering habitat occurs in the East Channel Sagavanirktok River. See Morris (2000). Morris, W.A. 2000. Seasonal movements of broad whitefish (Coregonus nasus) in the freshwater systems of the Prudhoe Bay Oil Field. M.S. Thesis. University of Alaska, Fairbanks. 71 pp.

Page 5-43, Section 5.4.4.4, Air Quality Impacts Figure 5.4: Air permits require a demonstration that air quality standards can be met at the ambient air boundary, often a fence line. The contour plots showing pollutant concentrations indicate that the CFP Ambient Air Boundary, which appears to include the entire pad. Discussions with the proponent have indicated that passersby sometimes stop at the existing facilities and the facility will continue to welcome passersby, particularly if they are in need to assistance. Does the modeling boundary include areas where passersby may have access?

Page 5-53, Section 5.4.7, Alternative E: Coastal Pads with Seasonal Ice Access Road: Alternatives D and E both include a five year drilling plan, yet the drilling impacts of Alternative E "would be of greater duration than Alternatives B,C, and D due to the five year drilling program. Please explain the difference.

Page 5-55, Section 5.4.9.2, Cumulative Impacts: This section discusses cumulative impacts from other potential projects. The scenario presented assumes that the Point Thomson project would precede Shell's exploration drilling in the Beaufort Sea OCS and that ADEC air permitting would not allow deterioration of ambient air quality. The scenario does not appear to examine the potential for Shell's exploration drilling preceding the Point Thomson development or the potential for Shell's exploration drilling being contemporaneous with the construction and development of the Point Thomson project. Those could be important scenarios to consider when addressing cumulative impacts.

Page 5-86, Section 5.6, Ice Infrastructure. As Alternative C, as well as Alternative D, proposes to use seasonal ice roads to transport modules rather than barging, significantly greater impact will occur from these ice roads to streams in the area, particularly the Sagavanirktok River. The heavy modules proposed for this project will likely require grounded ice to cross streams. As the Sagavanirktok River can have flow late into the winter, grounding the ice may not be possible without substantial impacts to fish, fish habitat, and ice road operations. This section, as well as others in this document, should assess these impacts. Additional storage pads for modules near West Dock as well as the potential impacts of getting the modules from West Dock to the Endicott Road should also be examined.

Page 5-86, Section 5.6, Pipelines. This section should include a discussion of the potential impacts of pipeline crossings to fish and fish habitat as the export pipeline in this alternative ties in with the Endicott Pipeline west of the East Channel Sagavanirktok River rather than at Badami. The pipeline crossing of the East Channel of the Sagavanirktok River may be problematic as flow may be present in winter when pipeline installation is likely to occur. The discussion should include the effects of both elevated and buried pipeline installation as well as water management and maintenance of fish habitat upstream and downstream of the crossing location.

Page 5-87, Section 5.6, Table 5.6-8, Alternative C- Impact Evaluation for Hydrologic Regime. This table states gravel pads would have a major impact on drainage patterns whereas the gravel access road and infield gravel roads would have moderate impacts to drainage patterns. It would appear that gravel roads would have a far greater impact to drainage patterns than would gravel pads. This assessment should be clarified

Page 5-93, Section 5.6, Ice Infrastructure. See Alternative C page 5-86 comments.

Page 5-110, Section 5.7.2, Permits: The second paragraph in this section has a sentence that reads "*Permits AKG-57-0000 and AKG-57-1000 are issued by the ADEC and cover wastewater discharges during construction and operations to the tundra and marine waters."* This sentence lacks specificity, because these two general permits do not cover all wastewater discharges during construction and operations. This sentence is also somewhat misleading in that the water quality standards, on which the APDES permits are based, specifically protect uses for marine and fresh water (which tundra falls under). ADEC suggests the following instead: "General Permits AKG-57-0000 and AKG-57-1000 are issued by the ADEC and cover domestic wastewater discharges during construction and operations to surface fresh waters (including tundra) and marine waters."

Page 5-125, Section 5.8, Key Findings. Alternative B is listed as having moderate impacts to vegetation and wetlands whereas Alternative D is listed with minor impacts. However, Tables 5.8-3 (ALT B) and 5.8-9 (ALT D) indicate gravel roads and pads in Alternative D impact more wetlands than do the roads and pads in Alternative B. This apparent discrepancy should be examined and rectified if necessary.

Page 5-361, Section 5.12, third paragraph. As there are no spawning Dolly Varden in the project area, the discussion of impacts to spawning Dolly Varden should be eliminated.

Page 5-370, Section 5.12, second paragraph. Culverts in fish streams would be corrugated metal pipe unless hydraulic and fish passage analyses indicated a structural steel line pipe could meet the fish passage criteria for the design type and size of fish.

Page 5-370, Section 5.12, sixth paragraph. Fish could move in or out of flooded mine sites if the sites were connected with an adequate channel to fish-bearing waters. They would not be restricted to spring flooding events in this case. Only if the site were isolated from a stream by a sufficient distance would colonization and movements be intermittent.

Arctic grayling do not typically migrate to estuarine and nearshore waters in spring for feeding and rearing.

Page 5-371, Section 5.12, Pile Driving/Blasting. Under this alternative (C), bridges would be required over the Sagavanirktok River. As a result, pile driving would be required in reaches of the river where known fish overwintering occurs. In addition, the export pipeline would cross this river and would require pile driving for a pipeline bridge to span the river if an elevated crossing was the chosen design.

Page 5-371, Section 5.12, Pipeline/VSM Crossings. If the export pipeline were to be buried in wide braided floodplains (e.g., East Channel Sagavanirktok River) under this alternative, additional impacts such as changes in water quality, maintenance of surface and subsurface flow to downstream fish overwintering areas, disturbance, changes to available habitat and other effects need to be evaluated.

Page 5-371, Section 5.12, first paragraph. Fish overwintering areas do occur in the Sagavanirktok River in the area of road crossing discussed in Alternative C. Thus, impacts from pile driving may occur to fish.

Page 5-371, Section 5.12, third paragraph. This section should discuss the impacts of installing a buried pipeline crossing across the Sagavanirktok River and other major crossings, as this will likely be the mode selected for crossing these rivers because of distance and ice concerns. This discussion should include maintenance of flow, if present, across the pipeline centerline, disturbance to overwintering fish, sedimentation and turbidity impacts, as well as impacts to channel morphology and stream hydrology.

Page 5-372, Section 5.12, first paragraph. This section states powerlines to the airstrip and mine site would be buried in the roadbed. Elsewhere, the text indicates these lines will be buried 15 ft from edge of the road (see page 5-77).

Page 5-635, Section 5.24.1, Hazardous Material and Waste Management: This section discusses the Oil Discharge and Prevention Contingency Plan (ODPCP) and notes that a new ODPCP would be required for the project. It should be clarified in the document that updates to the existing October 2008 ODPCP will require a plan amendment under 18 AAC 75.415. It should also be noted that the October 2008 plan was specifically for drilling operations and the full project will require a spill response plan to include all categories of activities at the facility under 18 AAC 75.430 – 440.

Page 5-635, Section 5.24.1 Hazardous Material and Waste Management: Paragraph one of this section discusses the Waste Management Plan which addresses storage, transportation, and disposal of wastes during construction, drilling, and operations. It should be clarified in the document whether this plan also addresses wastes generated during a spill or release incident or if a separate waste management plan will need to be developed as a result of a spill or release incident. It should also be clarified if there are any differences in wastes generated from spills or discharges upstream of the central pad or from downstream of the central pad.

Page 5-635, Section 5.24.1 Hazardous Material and Waste Management: Paragraph three of this section notes that wastes would be handled in accordance with the North Slope industry standard, *Alaska Waste Disposal and Reuse Guide,* also known that the "Red Book". This reference should be included in the references section in Chapter 9. It would also be worthwhile to provide or summarize the applicable statutory and regulatory authorities covered in the Red Book.

Page 5-637, Section 5.24.2.1, Size Classification: This section describes the size categories for oil and hazardous materials spills and cites to a reference (BLM 2004). Chapter 9 provides references called out as BLM 2004a and BLM2004b. It should be clarified which reference document is being cited.

Page 5-640, Section 5.24.2.3, Phases of Oil Field Development: This section discusses the factors that may delay spill cleanup. Bullet two identifies one factor as "*Time intensive search identified by the Supervisory Control and Data Acquisition (SCADA) system as the likely source.*" It is not clear what this sentence is describing.

Page 5-651, Section 5.24.7.2, Pipeline Leak Detection: The text in the third paragraph of this section indicates that computer-based gain/loss volume trending would be used to identify low rate

or seepage releases below the 1.5 to 2 percent-by-volume detection threshold bounded by flow measurement equipment. It is not clear if the pipeline leak detection system will have continuous capability to detect a daily discharge equal to not more than one percent of daily throughput as required by 18 AAC 75.055(a)(3). This should be clarified.

Page 5-651, Section 5.24.7.2, Pipeline Leak Detection: The second bullet in this section indicates that the applicant will use measures such as aerial and ground patrols whenever practical to provide direct observation and identification of leak locations. It is not clear if in addition to measures to provide direct observation of leak location, if weekly aerial surveillance of the pipeline will occur, unless precluded by safety or weather conditions. This should be clarified to ensure that the activities will be consistent with 18 AAC 75.055(a)(3).

Page 5-653, Section 5.24.8, Spill Scenarios: The first paragraph in this section describes a 2,000 gallon spill as a "small spill" despite the fact that this conflicts with the size classification for spills provided in Section 5.24.2.1. This section categorizes small spills as ranging from 10 to 99.9 gallons and large spills from 1,000 to 100,000 gallons. This spill characterization should be clarified to match the classifications used elsewhere in the document.

Arctic National Wildlife Refuge

We appreciate Secretary Salazar's acknowledgement in his December 9, 2011 letter to Governor Sean Parnell (attached) that Title X of the Alaska National Interest Lands Conservation Act (ANILCA) "*does not designate the coastal plain of the Arctic National Wildlife Refuge as a wilderness study area.*" The letter also states related errors have been corrected; however, the DEIS still contains inaccurate or misleading statements about Congressional direction for the Arctic Refuge 1002 area, and as such, continues to place an inappropriate and excessive emphasis on the proposed project's impacts to refuge wilderness-related values. It appears the source for much of the inaccurate information comes from the draft revised Arctic National Wildlife Refuge Comprehensive Conservation Plan (CCP) and DEIS. Since the draft Arctic Refuge CCP/DEIS is a nonbinding draft document, which contains no preferred alternative, is based on incorrect legal premises, and is not a final agency action, it is inappropriate to rely on it, either directly or indirectly, as source material for the Point Thomson DEIS. The DEIS should instead refer to current management guidance contained in the final 1988 Arctic Refuge CCP.

In addition, the DEIS places considerable emphasis on the Arctic Refuge's national symbolic value and the public discourse regarding management direction of the 1002 area. We question the overall relevance of these issues to the DEIS and the related discussions, which are subjective, one-sided, and default in favor of wilderness protection. This bias results in an analysis that fails to consider the inappropriateness of emphasizing wilderness protection in the 1002 area, given the proximity to federal OCS development and adjacent State oil and gas lease lands.

Statements that are based on a misinterpretation of ANILCA or that are inherently subjective inappropriately skew and over-inflate the refuge values that are the basis for the DEIS' impact analysis. We therefore question the basis for most of the analyses that relate to the Arctic Refuge and request the Corps not only correct the inaccurate and inflammatory information, as noted below and in the page-specific comments that follow, but also revise the corresponding impact analyses and potential mitigation accordingly.

ANILCA Section 1002

In Section 1002 of the Alaska National Interest Lands Conservation Act (ANILCA), Congress provided separate direction for the 1002 area of the Arctic Refuge, which did *not* include studying the area for its wilderness qualities or interim preservation of wilderness qualities (i.e. page 3-208) as indicated throughout the DEIS. Section 1002(h) of ANILCA called for a report to Congress that described the natural resources (including the mineral resources) of the 1002 area, evaluated the potential impacts of development in the coastal plain, and made recommendations regarding further exploration and development in the coastal plain. This report was completed and submitted to Congress in 1987, which included the Secretary of Interior's recommendation that the 1002 area be made available for oil and gas leasing. Furthermore, the 1002 area was not included in the ANILCA Section 1317 wilderness review conducted in conjunction with the 1988 Arctic Refuge Comprehensive Conservation Plan (CCP), nor was it part of the wilderness study required in ANILCA Section 1001 and further addressed in Section 1004, which excluded conservation system units designated by ANILCA.

Original Range Purposes

The DEIS also inappropriately emphasizes the original Range purposes as established by PLO 2214. Contrary to information cited in the DEIS (page 3-205, 4th paragraph), the 1988 CCP states that ANILCA "*redesignated" the original 8.9 million-acre….Range as the Arctic National Wildlife Refuge"* and "*…declared the purposes for which the Arctic Refuge was established and shall be managed include:*"

> *(i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine caribou herd (including the participation in coordinated ecological studies and management of this herd and the Western Arctic caribou herd), polar bears, grizzly bears, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds and Arctic char and grayling;*
>
> *(ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;*
>
> *(iii) to provide, in a manner consistent with purposes set forth in subparagraph (i) and (ii), the opportunity for continued subsistence uses by local residents; and*
>
> *(iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in subparagraph (i), water quality and necessary water quantity within the refuge.* (1988 CCP, Summary Page xi)

Nowhere in the 1988 CCP does it state that the original Range purposes of "*…preserving unique wildlife, wilderness, and recreational values*" continue to apply to the redesignated Refuge (page 3-205), which includes the 1002 area.

ANILCA Section 305 recognizes that prior authorities, such as PLO 2214, remain "*in force and effect except to the extent that they are inconsistent with this Act or the Alaska Native Claims Settlement Act and, in any such case, the provisions of such Acts shall prevail.*" However, ANILCA Section 303(2), which established the Refuge and redesignated the Range as part of the Refuge, does not include "[*preservation of*] *unique . . . wilderness… values*" (PLO 2214) in the list of purposes for which the Refuge was established and is to be managed. Instead, wilderness areas within wildlife refuges are specifically identified in Section 702 of ANILCA, and Section 702(3) specifically designated a portion of the original Range. The wilderness preservation management directive in PLO 2214 therefore applied only to the

original Range, and has been superseded by the formal wilderness designation of the original Range in ANILCA section 702(3), which does not include the 1002 area. As such, not only has the wilderness directive in PLO 2214 been superseded by the formal wilderness designation in ANILCA section 702(3), but it cannot be read into the management intent for the rest of the Refuge, which is set forth in ANILCA Section 303(2). In fact, wilderness preservation is pointedly absent from the list of purposes for which the Refuge was established and should not in any way be used as the basis for analyzing project impacts to the Refuge.

Appendix N, Visual Resource Assessment

The Visual Resource Assessment is a prime example of how this misinformation is being inappropriately applied in the DEIS. As stated above, the 1002 area was not included in the ANILCA Section 1001 wilderness study, or the 1988 Section 1317 Arctic Refuge wilderness review, therefore, statements included in the Appendix, such as "*ANILCA indicated that, until Congress determined otherwise, the 1002 Area was to be administered to maintain presently existing wilderness character and potential for inclusion in the National Wilderness Preservation System*" (page 3 and 23) and "*The 1002 Area of the Arctic Refuge is a "minimal management" wilderness study area*" (page 25) are inaccurate, as is applying the term "*de facto wilderness*" to Refuge non-designated wilderness. Only Congress can designate Wilderness and "de facto" wilderness violates that authority. Using BLM manual guidance to designate the 1002 Area as a "Special Area" on that basis for the purposes of this analysis is also inappropriate. As such, the very basis for the "high" sensitivity rating applied to the 1002 area is flawed.

The Appendix also includes ample discussion of the scenic values that are located *within* the Refuge for which the Refuge is managed; however, the purpose of the analysis is to determine the visual impacts of the proposed project, which is located *off* refuge lands. The scenic values of the refuge would not be impacted by the proposed project, which is located outside the refuge boundary; therefore, it is unreasonable to expect mitigation for facilities that are merely being viewed by visitors within the Refuge. Given the proposed project is located outside the refuge boundary, adjacent to lands that have similar potential for oil and gas development, and ample refuge lands (approximately 19 million acres) remain available *without* the potential for such visual impacts, the proposed mitigation on page 97, which requires "*creating greater distance between corridors or view points and industrial facilities*…" is unreasonable and must be eliminated from consideration. ANILCA established clear boundaries for conservation system units (CSU) and did not include "buffers" for further protection. Treating surrounding lands as a "buffer" for this CSU is inappropriate, especially considering the management intent for the surrounding lands has been apparent since statehood. We suggest the Refuge instead advise interested visitors that development occurring outside the refuge boundary may be visible during certain conditions and to plan their visit accordingly. The State of Alaska should not be expected to manage its oil and gas lease lands as though they were within a refuge.

Page-Specific Comments: Arctic National Wildlife Refuge

Page ES-5, Proximity to Arctic Refuge. The Executive Summary states that opening the 1002 Area to oil and gas development is not considered reasonably foreseeable at this time and is not an issue that will be addressed in this DEIS. However, in many places of this DEIS contrary statements are made. Page specific examples follow. In addition, a wilderness designation in the 1002 area

would be equally unlikely, as it would also require congressional action. We request the final EIS reflect there is an equal probability associated with both actions.

Page ES-56, Visual Aesthetics. When discussing visual aesthetics in the area, projects on federal OCS lands, also within close proximity to the Arctic Refuge, need to be disclosed in the DEIS and considered in the visual impacts analysis. Additionally, this section should also note that the project would take place on State land, managed for oil and gas exploration and development, and that the project area is located outside of the Refuge boundary.

Page ES-57, Noise. This section needs to acknowledge that ANILCA allows for airplane, snowmachine and motorboat use in the Arctic Refuge so that any perceived nuisances from aircraft would be put into perspective.

Page ES-76/77, Table ES-2, Comparison of Impacts. The Visual Aesthetics portion states that the project would contrast strongly with the surrounding viewshed. However, oil and gas exploration has and will continue to be authorized by the State in this area, and this project is proposed on State land designated and managed for oil and gas exploration and development. Additionally, the federal government has recently authorized oil and gas activities on federal OCS lands less than 15 miles away from the Refuge. Thus, it is inappropriate to imply that this project may be the only one of its kind in the area.

Page 3-197, 3.13.1 Key Information About Land Ownership, Land Use, and Land Management. The contention that examination of broader land ownership and management in the vicinity of the project is warranted because the landscape is principally flat and treeless is unfounded. The project would occur on State land, designated and managed for oil and gas exploration and development. We request more adequate justification as to why the study area includes lands not included in the applicant's proposal.

Page 3-201, 3.13.3 Land Ownership. The last sentence of the top paragraph states: "*Offshore, the state and federal governments have sold oil and gas leases. Shell Exploration and Production Company has been actively preparing for drilling 12 to 15 miles offshore of the Canning / Staines River delta*." It does not appear that this information was provided or considered in the visual and noise impact portions of this DEIS.

Page 3-205, 3.13.5.3 U.S. Government – Arctic Refuge, first paragraph. As confirmed in the 1988 CCP, ANILCA re-designated the Arctic Range as part of the Arctic Refuge and established new purposes, superseding those that applied to the original Range. We request this paragraph be revised to include *quoting* the ANILCA purposes, and suggest the following:

> ~~The Arctic Refuge was first~~ PLO 2214 established the ~~as a~~ "Arctic National W~~w~~ildlife R~~r~~ange" "for the purposes of preserving unique wildlife, wilderness, and recreation values" (USFWS 2008b). In 1980 the Alaska National Interest Lands Conservation Act (ANILCA) ~~enlarged~~ established the Arctic National Wildlife Refuge and redesignated the original ~~wildlife~~ range ~~to 19 million acres and renamed it a~~ as part of the Arctic ~~r~~Refuge.~~ with the following~~ The purposes for which the Refuge was established and managed include:
>
> *(i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine caribou herd (including the participation in coordinated ecological studies*

and management of this herd and the Western Arctic caribou herd), polar bears, grizzly bears, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds and Arctic char and grayling;

(ii) *to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;*

(iii) *to provide, in a manner consistent with purposes set forth in subparagraph (i) and (ii), the opportunity for continued subsistence uses by local residents; and*

(iv) *to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in subparagraph (i), water quality and necessary water quantity within the refuge.* (ANILCA § 303(2)(B))

Page 3-205, 3.13.5.3 U.S. Government – Arctic Refuge, second paragraph, third sentence. The study required by ANILCA Section 1001 did not include any lands within the Arctic National Wildlife Refuge.

> *The Secretary* ***shall initiate and carry out a study of all Federal lands*** *(other than submerged lands on the Outer Continental Shelf) in Alaska north of 68 degrees north latitude and east of the western boundary of the National Petroleum Reserve – Alaska,* ***other than lands*** *included in the National Petroleum Reserve – Alaska and* ***in conservation system units established by this Act****.* (ANILCA 1001(a)) [Emphasis added]

Therefore, we request this sentence be removed from the EIS as it is not relevant.

Page 3-205, 3.13.5.3 U.S. Government – Arctic Refuge, fourth paragraph. The 1988 CCP does not discuss the original Range purposes as indicated in the second sentence. As discussed above, we also question the statement "*the refuge is managed largely for its wildlife resources and wilderness values both inside and outside of the designated wilderness area."* There is no direction in ANILCA to manage non-designated wilderness to preserve "wilderness values," nor is wilderness an express purpose of the Arctic Refuge. We request this sentence be removed.

Page 3-205-3-206, 3.13.5.3 U.S. Government – Arctic Refuge, quotation. To provide a broader perspective on what activities are allowed in minimal management, we request the full description for minimal management from page 184 of the current 1988 Arctic Refuge CCP be included in the final EIS.

> *Management under this category is directed at maintaining the existing conditions of areas that have high fish and wildlife values or other resource values. Minimal management areas are suitable for wilderness designation, although the Service's wilderness proposals do not necessarily include all lands in the minimal management category. Areas proposed for wilderness designation would be placed in minimal management until actually designated by Congress. Opportunities for public use and access would be available for subsistence purposes and for traditional activities such as hunting, fishing and trapping. Traditional motorized access via floatplanes and motorboats would be permitted. Guiding and outfitting services and related temporary support facilities would be permitted in minimal management areas. Oil and gas studies would be permitted where compatible with refuge purposes. Prescribed burning and minor habitat improvements could be permitted in minimal management areas where compatible with refuge purposes. Fishery development facilities may be built in these areas if they are compatible with the purposes of the refuge and it can be demonstrated that they are not necessary to achieve management objectives. The Service would*

focus its efforts primarily on management studies and survey/inventory programs to increase the refuge's resource data base, and examine refuge management techniques.

Page 3-207, 3.14.2 Review and Adequacy of Information Sources for the Arctic Refuge. It appears that some of the information for the DEIS comes from the Draft Revised Arctic Refuge CCP, either directly or indirectly from conversations with Refuge staff. It is inappropriate to utilize information from this source material as it is still in draft, and as such, is not valid management guidance for the Refuge. As clearly stated on page 1-1 of the draft CCP:

> *When the Revised Plan* ***is finalized****, it will replace the current management direction as described in the* [*1988*] *Arctic National Wildlife Refuge Final Comprehensive Conservation Plan/Environmental Impact Statement/Wilderness Review/Wild River Plan… and associated record of decision….* (draft Arctic CCP, page 1-1) [Emphasis added.]

Moreover, the draft Revised CCP did not identify a preferred alternative and is based on inaccurate legal premises. Use of the draft Revised CCP as the basis for analysis in this DEIS indicates an impermissible pre-decisional intent.

Page 3-208, first paragraph, last sentence. Consistent with the general comment above, ANILCA did not simply enlarge and rename the Arctic Range. ANILCA established the Arctic Refuge and redesignated the Arctic Range as part of it, with distinctly new purposes. We request this sentence be revised as noted above.

Page 3-208, 3.14.3, Arctic Refuge Purposes and Management, fourth bullet. When Congress established the Arctic Refuge it did not designate the 1002 area as a wilderness study area or require interim management to preserve wilderness character for possible future designation by Congress. We request this bullet be deleted.

Page 3-208, 3.14.3, Arctic Refuge Purposes and Management, second paragraph. The Arctic Range purposes, not the Arctic Refuge purposes, were spelled out in PLO 2214. In addition, consistent with the general comment above (and the 1988 CCP), the original Range purposes were superseded by the ANILCA purposes specified in Section 303(2)(B), which do not include a wilderness purpose. The Refuge's designated wilderness is managed to protect wilderness characteristics, consistent with the Wilderness Act, as amended by ANILCA. We request this section be corrected and offer the following edits for your consideration.

> *Arctic Refuge purposes were spelled out in ~~a public land order that established the original "wildlife range" in 1960 and in~~ ANILCA in 1980. The USFWS manages the Arctic Refuge for a variety of purposes, including to conserve fish and wildlife populations and habitats in their natural diversity, fulfill international treaty obligations, provide for continued subsistence opportunities, and ensure water quality ~~from meeting treaty obligations to maintaining opportunities for subsistence to preserving wildlife and wilderness values~~. Additionally, the Wilderness Act as modified by ANILCA provides direction for the Refuge's designated wilderness. Refuge management is directed by a Comprehensive Conservation Plan (CCP; USFWS 1988).*

Page 3-208, 3.14.3 Arctic Refuge Purposes and Management, last paragraph, last sentence. ANILCA and the Wilderness Act did not establish a strict "protective" management regime. Section 303(2)(B)(i) of ANILCA states one purpose of the Arctic Refuge is "*to conserve fish and wildlife populations and habitats*…," and Section 2(a) of the Wilderness Act states that "protection" is the

direct result of "*preservation of [ ] wilderness character*." Furthermore, protection implies Refuge these resources are not to be utilized, which is contrary to Congressional intent. We therefore request the final EIS refer to the Service's responsibilities as conserving fish and wildlife resources instead of protecting resources, consistent with refuge purposes. We recommend a word search to identify other areas in the DEIS where the language is similar.

Page 3-211, 3.14.3.1 Fish and Wildlife, second paragraph. The State of Alaska is responsible for the sustainability of all fish and wildlife within its borders – regardless of land ownership or designation – and has the authority, jurisdiction, and responsibility to manage, control, and regulate fish and wildlife populations, including for subsistence purposes, unless specifically preempted by federal law. The USFWS also has trust responsibilities for fish and wildlife on Refuge lands. Therefore we request the following rewrite,

> *The USFWS~~, while having jurisdiction over wildlife within the Arctic~~ Refuge~~,~~ has an interest in the welfare of species that use the Arctic Refuge lands, including those species that move across its borders and potentially back and forth between federal and state-owned lands (USFWS 2008d)*

Page 3-211, 3.14.3.1 Fish and Wildlife, second paragraph. Referring to minimal management as the "status quo" is confusing. A variety of management actions are available under minimal management. For example,

> *Prescribed burning and minor habitat improvements could be permitted in minimal management areas where compatible with refuge purposes. Fishery development facilities may be built in these areas if they are compatible with the purposes of the refuge and it can be demonstrated that they are necessary to achieve management objectives.* (Current (1988) Arctic Refuge CCP at page 184)

We request the DEIS instead mirror language found in the current CCP and offer the following suggestion for your consideration.

> *. . . Minimal Management, including in the 1002 Area, is directed at maintaining the existing conditions of areas that have high fish and wildlife values or other resource values ~~is to maintain the status quo for animal species using those areas~~.*

Page 3-211, 3.14.3.2 Traditional and Current Human Uses, first paragraph. Consistent with the general comment above and the 1988 Arctic Refuge CCP, the purposes of the original Range do not apply to the Refuge. We request the third sentence be revised so as not to imply ANILCA purposes are additive by replacing "added" with "established."

Page 3-212, 3.14.4 The Arctic Refuge's National Values. It is inaccurate to state that Congress created a dichotomy for the coastal plain with the passage of ANILCA. ANILCA Section 1002 very clearly articulates the study requirements for the 1002 area, which did not include studying the area for potential wilderness designation or interim management for potential designation.
A dichotomy only exists if the original Range purposes are mistakenly applied to the 1002 area. Consistent with the above general comment, the wilderness preservation management directive in PLO 2214 was superseded by the formal wilderness designation of a portion of the original Range in ANILCA Section 702(3), which does not include the Section 1002 area. We therefore request this statement be removed from the final EIS.

This comment also applies to page 3-245 where the language is similar; however, we also recommend conducting a word search to identify and change other sections where similar statements are repeated.

Page 3-212, 3.14.4 The Arctic Refuge's National Values, third paragraph. The third paragraph states: "*For wilderness proponents, the Arctic Refuge is symbolic of the concept of wilderness in the U.S. value system. It is important not just to those who visit it (addressed in Section 3.18, Recreation) but also symbolically to those who may not visit, similar to the Little Bighorn Battlefield or Statue of Liberty National Monuments might be to Americans who never visit Montana or New York.*" Such subjective, idealistic statements about the intangible values of the Refuge cannot be measured or mitigated for and are outside the scope of this EIS, given the project is occurring on State oil and gas lease lands, outside the refuge boundary. We also note the source for many of these types of statements are not cited.

In addition, the source for the last sentence in this paragraph is the USFWS Wilderness Stewardship Policy. It is inappropriate to refer to this policy when discussing the 1002 area, because it was not part of the Section 1001 wilderness study, the 1988 Section 1317 Arctic Refuge wilderness study or designated as wilderness by ANILCA.

Page 3-243, 3.18 Recreation, fourth sentence. Consistent with the general comment above and the 1988 Arctic Refuge CCP, wilderness recreation is limited to designated wilderness in the secondary study area. We therefore disagree with the statement, "*Recreation in the study area is principally a backcountry, **wilderness recreation** experience.*" [Emphasis added] and request the following rewrite:

> *Recreation in the study area is principally a backcountry~~, wilderness recreation~~ experience~~,~~ and activities include river recreation, hunting, fishing, and hiking.*

Page 3-243, 3.18.1 Key Information About Recreation, first paragraph. Consistent with the general comment above and the 1988 Arctic Refuge CCP, the 1002 area was not part of the Section 1001 wilderness study, the Section 1317 Arctic Refuge wilderness review, nor was it designated as wilderness by ANILCA. It is also not being managed in the interim under the minimal management category for potential designation as wilderness. Therefore, we request the following rewrite,

> *That portion of Arctic Refuge within the primary study area, known as the 1002 Area, is managed ~~in part to preserve its wilderness qualities~~ under the minimal management category ~~until such time that Congress either acts to open the area to oil and gas development or officially designate it as wilderness~~.*

This comment also applies to page 3-245 where the language is similar. We further request a word search to identify and change other portions of the plan with similar language.

Page 3-243, 3.18.1 Key Information About Recreation, second paragraph. Since designated wilderness does not exist on State lands and the entire Arctic Refuge is not designated wilderness, we request the following revision:

> *The Arctic Refuge and adjacent state land provide vast areas of undeveloped land ~~and wilderness~~ where visitors can encounter scenery and wildlife with a high degree of isolation (with its associated challenges and risks).*

Page 3-244, 3.18.3 Recreation in the Study Area, first paragraph. Recreation in designated wilderness accounts for only a small portion of the secondary study area and wilderness recreation is not the principle experience across the whole study area. We request the following modification to the first sentence:

Recreation in the study area is principally a backcountry ~~and wilderness~~ recreation experience.

In addition, the following sentence is illogical, and is not based on any objective or factual foundation: "*Recreationists in general likely are aware that the state land is managed differently and that oil and gas exploration activities have occurred or could occur even as most assume that they will not observe such activities*." If recreationists are aware the land is managed for oil and gas exploration, it is not logical for them to assume they would not observe any such activities.

Page 3-244, 3.18.3 Recreation in the Study Area, third paragraph. In the last sentence of the third paragraph it is mentioned that Kaktovik residents reported at the time of project scoping meetings that they can see nighttime glow in the sky above the current project activities. The baseline studies of the project viewshed should, but fail to, consider these actual conditions.

Page 3-244, 3.18.3 Recreation in the Study Area, fourth paragraph, third sentence. We question the statement that the coast is "*without communities or buildings*" when summer subsistence camps and cabins are scattered along the coast from Flaxman Island to Kaktovik.

Page 3-245, 3.18.3 Recreation in the Study Area, first full paragraph. The statement that the "*Arctic Refuge and State of Alaska allow some uses of snowmobiles, motorboats and airplanes…*" is incomplete. The discussion needs to instead clarify that Section 1110(a) of ANILCA provides for the use of snowmachines, motorboats, airplanes and non-motorized surface transportation for traditional activities and for travel to and from villages and homesites on Refuge lands. In addition, the final EIS must recognize that while the use of these federally protected transportation methods may affect recreationalists' experiences; a certain level of mechanized or motorized use should be expected in the study area.

Page 3-250, 3.18.5.1 Recreation on the Arctic Refuge. Recreational opportunities in the Arctic Refuge are not unique, since similar experiences can be achieved in most every conservation system unit in Alaska. We also question the need for this section as this information is encapsulated more precisely in the previous section, Recreation by Nonresidents of the Area. Furthermore, the language in the first half of this section is highly infused with subjective statements that apply to the Refuge as a whole instead of the specific study area. We question the appropriateness of including this type of information in what is supposed to be an objective analysis of the proposed project.

Additionally, we question whether this type of analysis was used to consider perceived impacts to Refuge visitors during the review of OCS oil and gas activities on federal land north of the Refuge.

Page 3-255, 3.19 Visual Aesthetics. This section, and other related sections within this DEIS, fail to consider potential future oil and gas activities on federal land north of the Refuge, as well as other oil and gas activities on State land near the Refuge. With all of the oil and gas leases in the area it appears reasonable to assume that oil and gas activities, and related structures and noises, should be expected in this area.

Page 3-255, 3.19.1 Key Information About Visual Aesthetic Resources, first paragraph. We request that the first sentence be revised to acknowledge that the project is located on State land managed for oil and gas exploration and development. We question the use of the baseline conditions which erroneously assumes that other oil and gas activities have not, or will not continue to, take place.

Page 3-255, 3.19.1 Key Information About Visual Aesthetic Resources, second paragraph. The no action alternative should not assume an untouched condition because exploratory drilling has already occurred, and will continue to occur on this State owned and managed land, as well as on federally owned and managed land in the area.

Page 3-255, 3.19.1 Key Information About Visual Aesthetic Resources, third paragraph. It is erroneous to assume that most users of the area are thought to be fairly sensitive to visual changes. The project is proposed on State land managed for oil and gas exploration and development. Those who visit the area for oil and gas-related purposes should be considered in this analysis and probably have a different sensitivity level.

Page 3-260, 3.19.3.3 Sensitivity Level Analysis, second paragraph. Consistent with the general comment above, Congress did not mandate the 1002 area *"be managed for their potential future inclusion in the National Wilderness Preservation System."* On the contrary, the 1002(h) report recommended the 1002 area be opened to oil and gas development. Therefore, the very basis for rating the primary study area as having a "high" sensitivity is flawed. See additional comments below regarding Appendix N.

Page 3-263, 3.19.3.5 Visual Resource Classes and Objectives. All of the data considered in this assessment relates to management of the Arctic Refuge. Again, the proposed project would occur outside of the Refuge, on State land managed for oil and gas exploration and development; therefore, assessing only Refuge-oriented values is inappropriate.

Page 3-267, 3.20.2 Review and Adequacy of Information Sources for Noise. The proposed project is consistent with the use of the area as the project would occur on State land managed for oil and gas exploration and development. In addition, there are other oil and gas projects recently authorized in the area, including on federal lands. As such, the analysis should take into consideration that related noises should be expected in the project area.

Page 3-317, 3.22.3 Subsistence Definition and Relevant Legislation. The justification in this section that the proposed project could affect subsistence resources located on refuge lands does not make the federal subsistence program relevant to this EIS and we request it be removed. In addition, we request the following edits to reflect state management of subsistence harvest within the project area:

> *Subsistence hunting and fishing in the project area is ~~are~~ regulated ~~under a dual management system~~ by the State of Alaska ~~and the federal government. Federal subsistence law regulates federal subsistence uses; state law regulates state subsistence uses. The federal government recognizes subsistence priorities for rural residents on federal public lands or in certain waters with a federal reserved water right.~~ The State of Alaska considers all Alaskan residents to have an equal right to participate in subsistence hunting and fishing activities when resource abundance and harvestable surpluses are sufficient to meet the demand for all subsistence and other uses.*

. . .

~~*Federal subsistence law is based on Title VIII of the 1980 ANILCA and regulations found in 36 CFR 242.1 and 50 CFR 100.1. Federal regulations recognize subsistence activities based on a person's residence in Alaska, defined as either rural or nonrural. Only individuals who permanently reside outside federally designated nonrural areas are considered rural residents and qualify for subsistence harvesting on federal lands under federal subsistence regulations. Nonrural residents may harvest fish and game on most federal lands (unless the lands are closed to non-federally qualified subsistence uses); however these harvests occur under state regulations. Under federal law, "subsistence uses means the customary and traditional uses by rural Alaska residents of wild renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for customary trade" (ANILCA Title VIII Section 803). Because the project area is on state lands, the federal subsistence program does not apply to harvests within the project area; however, p*~~*Project activities could affect subsistence uses outside the project area on nearby federal lands (e.g., the Arctic National Wildlife Refuge). In addition, resources that migrate through the Point Thomson area, including caribou, waterfowl, and migratory fish such as arctic cisco, may be harvested elsewhere on state, federal, or private lands.*

. . .

Subsistence activities could include, but are not limited to, hunting, fishing, trapping, wood gathering, and berry picking.

Page 4-10, Reasonably Foreseeable Future Oil and Gas Actions in Close Proximity to Point Thomson. The author states that there are also hydrocarbon resources currently planned for exploration and development within OCS leases approximately 15 miles offshore of the Point Thomson area. However, it does not appear that this information was considered in the visual aesthetics assessment of this DEIS. It appears that this project, which is proposed on State land, has been erroneously presented as the only activity of its kind to occur in the area.

Page 5-389/390, 5.13.3.3 Land Management – Federal. The Executive Summary states that opening the Arctic Refuge to oil and gas development is not considered reasonably foreseeable at this time and is not an issue that will be addressed in this DEIS. However, this section states that development at Point Thomson could spur debate and pressure Congress to make a decision to either open the 1002 area to oil and gas drilling or to formally include it in the Wilderness Preservation System. These are contradictory statements. We also reiterate our earlier comment that opening the Arctic Refuge to oil and gas development is equally as foreseeable as a wilderness designation for the coastal plain. Both require congressional action.

Page 5-390, 5.13.3.5 Land Use. We request the analysis consider that this State land is and has been designated for oil and gas exploration and development, even if such uses may also allow for the other identified current land uses.

Page 5-397, 5.14 Arctic National Wildlife Refuge, Key Findings, third bullet. This finding, which states: "*impacts to wilderness perception would be moderate, essentially irreversible, and perception of change would potentially apply to areas of the refuge beyond the extreme northwest corner of the refuge, and among people nationwide*" is based entirely on subjective, intangible values, which cannot be measured or mitigated for, and as such, should be outside the scope of this EIS.

Page 5-398, 5.14.1 Methodology, sixth bullet. This bullet states that the methodology for the analysis includes potential impacts, including Congressional designation of the 1002 area for oil and gas leasing; however, the Executive Summary states that is beyond the scope of this EIS.

Page 5-402, 5.14.3.1 Construction, Drilling , and Operation. The "Congressional Designation of the 1002 Area" section discusses how this project may influence the 1002 area debate in Congress; however the Executive Summary states that this is outside of the scope of this EIS.

Page 5-404, 5.14.5.2 Cumulative Impacts, second paragraph. Why does the no action alternative fail to mention the reasonably foreseeable future actions mentioned in this section?

Page 5-404, 5.14.5.2 Cumulative Impacts, third paragraph. The last bulleted sentence mentions how this project will affect the debate to open the 1002 area to oil and gas development, yet according to the Executive Summary of this DEIS this is outside of the scope of this EIS.

Page 5-404, 5.14.6 Alternatives Comparison and Consequences. The last sentence on this page again references how this project may affect the debate to open the 1002 area to oil and gas development, yet according to the Executive Summary of this DEIS this is outside of the scope of this EIS.

Page 5-449-451, 5.18 Recreation. Consistent with the general comment above, it is inappropriate to equate "backcountry" with "wilderness" when the recreational experience is occurring outside designated wilderness. It is also inappropriate to consider the "*perception of loss of opportunity for wilderness recreation experience*" by those who do not even plan to visit the Refuge. As such, we disagree with the overall findings in this section that the proposed project would cause "major impacts" to the approximately 100 visitors who do visit the study area and the unquantified number of non-visitors.

Page 5-465-477, Figures 5.19-1 – 5.19-7. These pre-existing and proposed condition photos are sized differently and as such, do not provide an accurate comparison. We recommend they be of equal size.

Page 5-486, 5.19.5.2 Impact Evaluation for the Action Alternatives, second paragraph. The first bulleted sentence implies that this is the only oil and gas activity in the area. It would be appropriate to note that oil and gas activities have recently been authorized on other State lease sites in the immediate vicinity, as well as on federal lands just a few miles offshore of the Refuge.

Page 5-488, 5.19.7.2 Cumulative Impacts, second paragraph. References to the Shell Oil proposal should also be included elsewhere in this document when discussing the potential visual impacts, including in Appendix N, as well as in discussion of the no action alternative. In regards to the no action alternative, there are other oil and gas development projects in the area; therefore, it is inappropriate to maintain that the viewshed would maintain a pre-2009 condition if the no action alternative were chosen.

Page 7, Appendix F, 1.1.17 ANILCA. We request the second paragraph be removed from the Appendix as ANILCA Sections 810 and 1320 are not applicable to this project. We also suggest the following edits to the first paragraph, including also citing ANILCA PL 96-487 (94 Stat. 2371):

> *ANILCA (16 USC 410hh-3233 and 43 USC 1602-1784) created over 100 million acres of new and expanded national parks, refuges, monuments, conservation areas, recreation areas, forests, designated*

wilderness, and wild and scenic rivers in the State of Alaska, for the preservation of "nationally significant" natural resources. However, ANILCA has a number of unique ~~rules and~~ provisions intended to allow for infrastructure and economic growth, access for subsistence and ~~and for people to move around Alaska, pursue~~ traditional activities ~~and lifestyles, and maintain their heritage~~ while protecting Alaska's natural resources.

Additionally, ANILCA Section 101(d) could be quoted:

> *This Act provides sufficient protection for the national interest in the scenic, natural, cultural and environmental values on the public lands in Alaska, and at the same time provides adequate opportunity for satisfaction of the economic and social needs of the State of Alaska and its people…*

Page 10, Appendix F, 1.3.2 Arctic Refuge Comprehensive Conservation Plan. This section incorrectly states that the Point Thomson Project is located within the Draft Revised Arctic Refuge CCP planning area. As previously noted the proposed project is located outside the refuge boundary on State oil and gas lease lands.

Page 1, Appendix N, Summary, second paragraph. It seems inappropriate to use a pre-2009 scenario as a baseline condition, as this suggests that a pre-2009 scenario is one of unaltered land. In actuality much of the land in the area has been designated for oil and gas exploration and development for some time, as evidenced by such things as the federal government's authorization of oil and gas exploration and development on the OCS just a few miles from this project, as well as recent State oil and gas lease sales, which are located even closer to the Refuge than this project.

Page 3, Appendix N, Chapter 2, first paragraph. It would be appropriate to mention all of the oil and gas activities that occur in the area. The proposed project is not the first oil and gas activity to occur in this area. As such, we believe that it is inappropriate to use sentences such as "The sensitivity of viewers mostly is high," as this does not accurately reflect the interests of everyone in this area.

Page 3, Appendix N, Chapter 2, third paragraph. Too much emphasis has been placed on the values and sensitivities of visitors to the Refuge in this DEIS, and not enough on others who visit the project area, including the purpose for which the State manages the area – oil and gas exploration and development.

Page 4, Appendix N, 2.2 Defining the Study Area, first paragraph. When discussing the study area, it is important to also state that the proposed project would be located on State land designated for oil and gas exploration and development. There are numerous other projects on State and federal land that have already been authorized, and as such, visitors to the area likely expect that oil and gas related structures may exist in the area.

Page 7, Appendix N, 2.3 Defining the Base Condition. This paragraph indicates that the baseline condition assumes that no exploratory drilling and associated activities have taken place in the project area. This seems to be an inappropriate baseline, because, as the author acknowledges, exploratory drilling and associated activities, as well as other oil and gas related projects, have and will continue to take place in this area.

Page 8, Appendix N, 2.4 Types of Visual Impact. If scoping comments are going to be cited in regards to how caribou move near pipelines, we suggest that this be balanced with scientific articles on the subject – including articles that may offer contrasting observations or findings.

Page 13, Appendix N, 3.2 Scenic Quality Observation. We request an additional section in this portion of Appendix N that notes other potential changes to the landscape – such as recently authorized oil and gas activities on federal and State land.

Page 25, Appendix N, 3.3.5/3.3.6 Special Areas/Delineation of Sensitivity Level Rating Units. It is inappropriate to categorize the 1002 area as a "special area," which only serves to give Refuge values more weight than the State's land values. Since this project would occur on State land, more emphasis should be given to the State's land designations, and not those of an adjacent land owner.

Page 31, Appendix N, 3.5.3 Arctic Refuge Visual Management, last paragraph. Consistent with the general comment above, the scenic values apply to refuge lands, whereas the proposed project is on State land. As such, it seems inappropriate to use the scenic values criteria as part of the visual resource assessment.

Page 39, Appendix N, 4.2 West End Mary Sachs Island. It seems inappropriate to use a baseline condition of no structures or development, when structures and development exist and will continue to exist in the area.

Page 96, Appendix N, 4.11 Visual Contrast and Impact Conclusions. The analysis in this section does not take into consideration other oil and gas activities in the area, such as the recently authorized Shell exploration in the OCS and recent successful State oil and gas lease sales (preliminary lease sale results and maps may be viewed at http://dog.dnr.alaska.gov/). We request the final analysis recognize that these additional activities will also be occurring in the area.

Additional Page-Specific Comments

Page 7, Appendix F, 1.1.18 Coastal Zone Management Act of 1972, second paragraph. We suggest the following rewrite:

> *Per Alaska~~n s~~Statutes 44.66.020 and 44.66.030, the Alaska Coastal Management Program (ACMP) expired on July 1, 2011~~ and was withdrawn from the CZMA~~, leaving no active CZMA program in Alaska.*

Additional Comments on Appendices

Requests for Information (RFI)

RFI #63, Pad Locations and Drilling Departures: Formal (documented) comment and input by the State of Alaska, Resource Evaluation Section of the Division of Oil and Gas (DOG) on the Point Thomson project plan for the EIS process was made in response to a RFI (Request For Information) from the EIS contractor (HDR). The request (RFI #63) and DOG's response are included in Appendix D (RFI Index) of the DEIS document.

RFI #63 requested comment on the location of the proposed pad locations for the Point Thomson project and their relationship to the aerial extent of the Point Thomson reservoir. In addition, DOG was asked to comment on the likely maximum achievable drilling departures (reach) for accessing the reservoir considering existing drilling technology, geology, and reservoir characteristics specific to the project.

The Division of Oil and Gas confirmed that the aerial distribution of the reservoir depicted by the applicant (ExxonMobil) was consistent with other interpretations of the available geologic data and indicate that the main portion of the Point Thomson reservoir is located 1-3 miles (5,000 to 16,000 feet) north of the Beaufort Sea coastline. DOG also stressed that the number and bottom-hole locations of wells drilled to fully develop the resource are not fixed as of yet and will depend on both the distribution and quality of the reservoir encountered by subsequent wells, and the recovery method ultimately employed to fully develop and produce the hydrocarbon resource. The location and number of wells will likely differ between a full scale gas-cycling development and a gas blow-down development. Given these uncertainties, it is reasonable to assume development wells may need to be drilled with horizontal departures of 10,000 to over 15,000 feet from the proposed coastal location of the drill pads to adequately access the hydrocarbon resources within the Point Thomson reservoir.

A literature search showed that the maximum horizontal departure for wells recently drilled in other similar high pressure / high temperature reservoirs (primarily in the North Sea) ranged from approximately 11,000 to 13,000 feet from the sea floor. This is mainly due to increased friction as result of needing heavier weight drilling fluids (15-18 lbs/gal) to deal with the reservoir pressure and longer wellbores required for the greater horizontal departure. DOG's conclusion was that any alternative plan requiring the proposed drill pads to be located further south from the coastline could likely impact the ability to adequately access and develop the Point Thomson reservoir.

ExxonMobil also provided a Technical Brief concerning the location of the drill pads (TB#1, Appendix D) which reached conclusions similar to the State's. Exxon noted in addition though, that from a reservoir development perspective, the optimal sites for the well surface locations would be offshore due to the location of the reservoir and that drilling vertical wells would be less complex. Exxon recognized however that drilling from manmade or natural offshore islands was not feasible due to the potential environmental impact of those activities. Accessing the reservoir from the proposed onshore drill pad locations, near the coastline, requires drilling more complex and costly long departure wells but reduces the potential environmental impact. Surface well locations near the coastline allow wells to be drilled that should adequately delineate the reservoir while preserving maximum offshore reach, and to adapt to unforeseen changes in reservoir characteristics and potential different ultimate development scenarios.

Within the DEIS, four alternatives are considered to the project proposed by the applicant. Two of the alternatives (alternatives C and D) propose moving the east and west drill pads inland from the coast approximately ½ mile (2,600 feet). This is proposed to minimize coastal impact and potential for issues related to coastal erosion. In Section 2.5 of the DEIS, the different alternatives are compared and RFI #63 is cited. In discussing the possible inland location of the drill pads, it is acknowledged that doing so would reduce access to the reservoir and potentially reduce the extent to which the reservoir could be effectively produced, although it is not possible to quantify the consequences of doing so at this time due to reservoir uncertainty. The proposed project is, in part, intended to provide additional reservoir information in support of a more comprehensive development plan. The Division of Oil and Gas does not concur with the DEIS authors who claim that moving the pads inland at this initial phase of the project could have the potential trade-off where additional pads might be placed on the coast in the future in order to fully develop the Point Thomson resource.

RFI #65, Compressor Types: There was also some discussion between the contractor (HDR) and the Division of Oil and Gas concerning evaluation of the type of compression (reciprocal) proposed by the applicant for the project. Based upon these initial discussions, HDR investigated and compared the characteristics of reciprocal and centrifugal compressors for use in this project. This was carried out within RFI #65 – Compressor Comparison, #65 – Augmented Compressor Comparison, and #65b – Compressor Comparison (Appendix D, RFI Index).

The conclusions drawn from this evaluation were that within the scope of the proposed project (re-injecting approximately 200 MMscf of gas per day at a discharge pressure of 10,000 psi with a projected start-up date of 2014), reciprocal compressors were capable of handling the moderate volumes required, provided advantages in operating flexibility, were readily available and resulted in no significant environmental disadvantages.

There are potential advantages in using centrifugal compressors in development scenarios requiring increased injection volumes, such as with a full field gas cycling expansion. This is due to the increased efficiency of centrifugal compressors to handle large volumes of gas and the smaller footprint compared to that required for reciprocal compressors to handle a similarly large volume of gas. The use of reciprocal injectors in the first phase however, does not preclude later installation of centrifugal compressors if deemed necessary.

Health Impact Assessment, Executive Summary, Page ES-3, paragraph four: This paragraph discusses the potential for emissions of hazardous materials from incinerator facilities due to incomplete combustion and notes that this impact can be mitigated through stack emission monitoring. This statement implies that emission monitoring is not required at present. Incinerator monitoring will be required through the permitting process, under the authority of 18 AAC 50. This discussion on incinerator emission monitoring and hazardous materials appears repeatedly within the Health impact Assessment.

This concludes the State of Alaska's comments on the Point Thomson DEIS and attachments therein.