APR 2 4 2006

# MEMORANDUM
Department of Natural Resources

# STATE OF ALASKA
Office of Habitat Management and Permitting

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| TO: | Shane Walker<br>Project Review Coordinator<br>Office of Project Management and Permitting<br>Anchorage | DATE:<br><br><br>TELEPHONE:<br>FAX: | April 24, 2006<br><br><br>459-7281<br>456-3091 |
| FROM: | Robert F. "Mac" McLean<br>Office of Habitat Management & Permitting<br>Fairbanks | SUBJECT: | See Below |
| SUBJECT: | Alaska Natural Gas Development Authority<br>Glennallen to Palmer Spur Line<br>ACMP Review (AK0602-02JP) and JPO Scoping Comments | | |

The Office of Habitat Management and Permitting (OHMP) has reviewed the February 24, 2006 Alaska Natural Gas Development Authority (ANGDA) Conditional Right-of-Way (ROW) Lease documents: Commissioner's Analysis, Proposed Decision and Action; Draft February 1, 2006 ROW Lease for the Glennallen to Palmer Pipeline; and the April 12, 2005 ANGDA Environmental Report.

Portions of the proposed gasline are located within the Matanuska-Susitna Borough Coastal District; specifically the Moose Creek crossing, portions within the City of Palmer, and those portions near the Parks-Glen Highway Intersection located outside the Palmer Hay Flats State Game Refuge.

We have reviewed those portions of the gasline located within the Matanuska-Susitna Borough Coastal District. We have also solicited and received comments from the Alaska Department of Fish and Game which are incorporated in part below. OHMP finds the proposed activity consistent with the Standards of the ACMP. Specifically, the proposal to directionally bore or bury the gasline under all river crossings will have no long-term affect on natural water flow or the active floodplain. Revegetation of the buried gasline will ensure that natural vegetation within riparian management areas are maintained.

We offer the following non-coastal zone related comments for incorporation into your submittal to the Joint Pipeline Office.

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## Exhibit A, Stipulations to the Draft February 1, 2006 ROW Lease

Page 28, Section2.13.2 Regulation of Access: We recommend that "fish" be included in the following language, "...to protect the public, wildlife, fish, and livestock from hazards associated with the operation and maintenance of the PIPELINE."

Page 34, Section 2.15.5.2.1 Zones of Restricted Activities: ADF&G is not aware of any collared bears in the area that would enable them to locate dens prior to construction activities. However, during pre-construction and construction activities, dens may be discovered in the field. We recommend the following revision to the stipulation describing setbacks from known bear dens:

> "Construction and major maintenance activities begun between October 15 and April 30 shall not be conducted within one-half mile of a known occupied brown bear den, unless alternative mitigation measures are approved by the Commissioner and ADF&G. A lessee who encounters an occupied bear den must report it to the Division of Wildlife Conservation, ADF&G, within 24 hours (Palmer at 746-6300 or Glennallen at 822-3461). Mobile activities shall avoid such discovered dens by one-half mile unless alternative mitigation measures are approved by the Commissioner and ADF&G. Non-mobile facilities will not be required to be relocated."

Page 35, Section 2.15.9.2, Use of Explosives: We recommend that the following language be include within this section.

> "FISH PROTECTION: Explosives should not be detonated within, beneath, or adjacent to fresh waters that support fish during periods when fish are present unless the detonation of the explosive produces an instantaneous pressure rise in the water body of no more than 2.7 psi or unless the water body, including its substrate, is frozen. Explosives should not produce a peak particle velocity greater than 0.5 inches per second in a spawning bed during the early stages of egg incubation.

## Commissioner's Analysis, Proposed Decision and Action, February 24, 2006

Page 16, Fish Habitat Management: References to the Habitat Standard under 6 AAC 80.130 should be updated to reflect the new standards under 11 AAC 112.

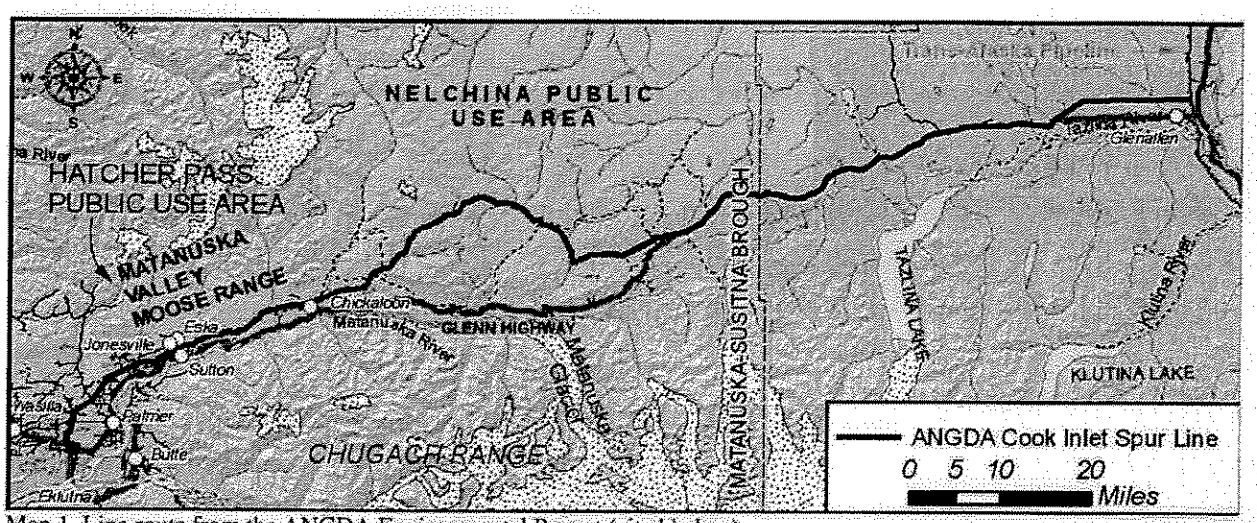
Page 35, Description of Resources and Existing Uses along the ANGDA Project Route, Wildlife: We recommend that this section be revised to include a reference to fish and wildlife resource information contained within the April 12, 2005, ANGDA Glennallen to Palmer Spur Gas Pipeline Environmental Report.

## ANGDA Environmental Report Glennallen to Palmer Spur Gas Pipeline, April 12, 2005

Impacts to Wildlife: The primary citation is the 1985 ADF&G Habitat Management Guides, which do not include current wildlife distribution information within the area. Staff from the

ADF&G office in Glennallen provided updated information (below) that should be incorporated into the Environmental Report and addressed within the Commissioner's Analysis.

In addition, ADF&G area wildlife staff have noted that the portion of the pipeline route that veers away from the Glenn Highway from Boulder Creek to Sheep Mountain, within Game Management Unit 13A (Map 1), cuts through key caribou (*Rangifer tarandus*), moose (*Alces alces*), grizzly bear (*Ursus arctos*), DEall sheep (*Ovis dalli*), and wolverine (*Gulo gulo*) habitat. More detailed information on wildlife resource values and potential impacts within this area are provided below.



Map 1. Line route from the ANGDA Environmental Report (cited below).

## CARIBOU

The Nelchina Caribou Herd (NCH) calves in the Nelchina Public Use Area, and has been documented through the calving and post-calving period (May 15 to July 30) in the Upper Caribou Creek drainage, where the route is proposed. Concentrations of vulnerable post-calving caribou have been found on a regular basis from the Upper Oshetna River, south to Mazuma Creek and into Caribou Creek (Map 2).

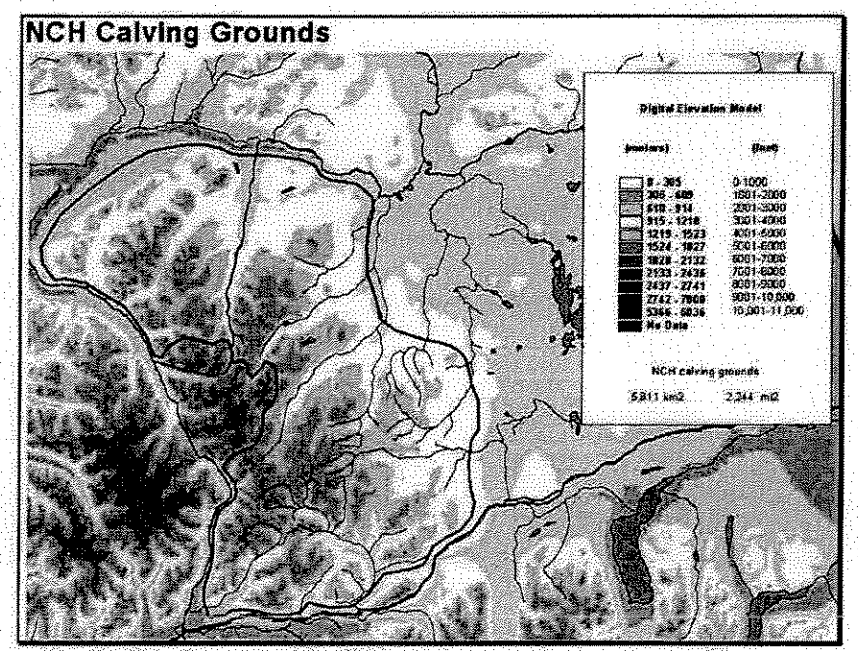
During calving and post-calving, caribou generally avoid construction activities and travel routes. Construction activities may need to be timed or modified to minimize potential impacts on calf survival.

Beginning in late June, the herd begins to disperse. Caribou move down into the proposed pipeline alignment in larger numbers during July and August in preparation for the rut and the winter period. Though caribou harvest is reliant upon annual caribou movements, historic hunt records reveal the importance of the entire area from Chickaloon, east to the Syncline Mountains, for tier II caribou hunters. The caribou hunt begins August 10th.

## MOOSE

Moose calve throughout the proposed area, and spend a considerable portion of late summer and fall above treeline. The calving period is a particularly vulnerable period and extends from May 15 to June 15.

This area is also very important to fall moose hunters. In 2004, nearly 300 hunters pursued moose in the area, and 70 moose were harvested. Both general season hunters and tier II hunters consistently use this area. Moose hunting begins August 15th.




Map 2. Elevation map of the NCH calving grounds, the most sensitive habitat of the herd, which ranges year-round from Chickaloon (at the lower left corner of this map), northeast to Chicken along the Taylor Highway in Game Management Unit 20E.

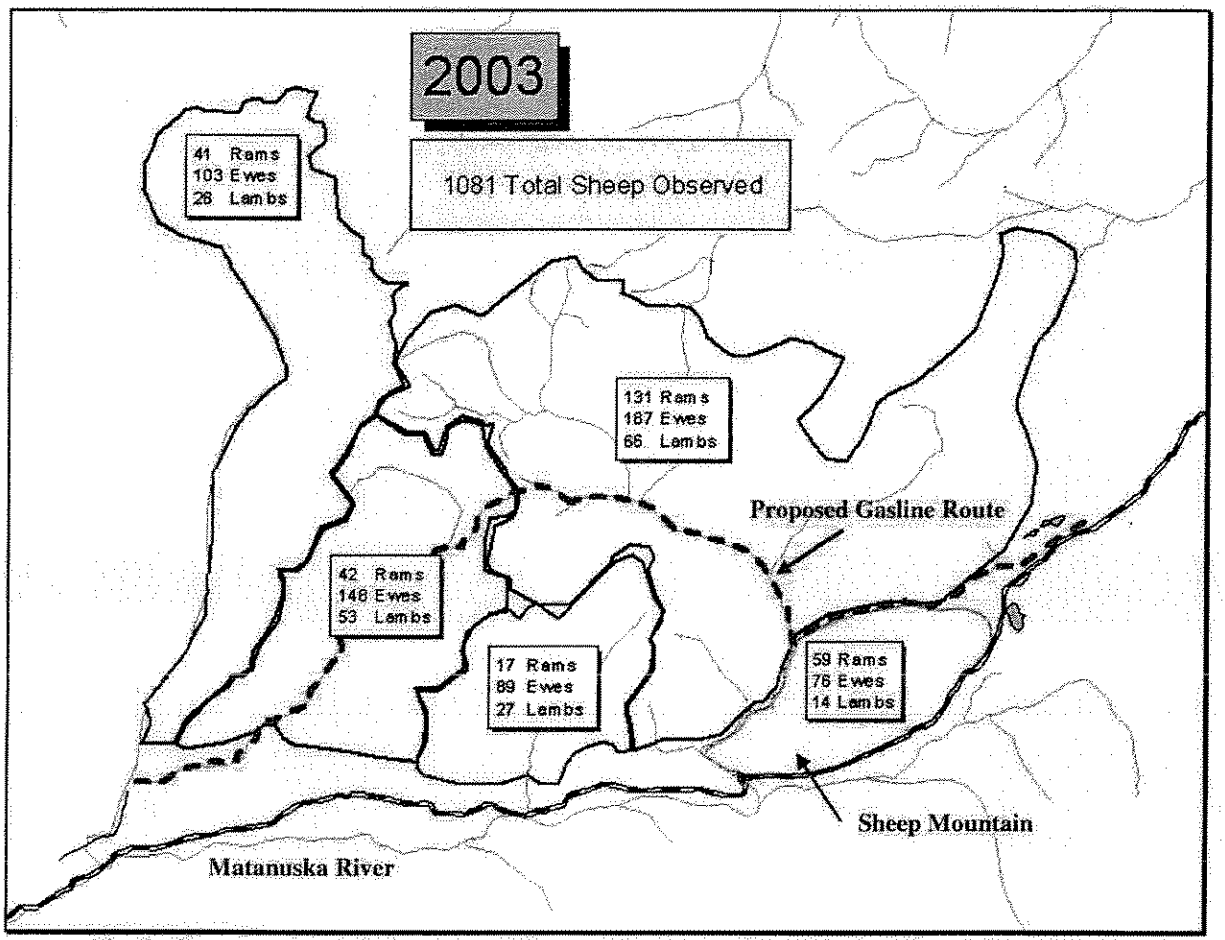
Moose will remain above treeline in the high country until mid-December to late-January, when the increasing snow depth forces them down to lower wintering areas. This area then becomes a migration corridor for moose.

## GRIZZLY BEAR

Grizzly bears may be found throughout this area; however, they are most vulnerable to construction activities during their hibernation period (October 15 to April 30). If bears are disrupted during this period, they may have a hard time surviving the winter. The high country is especially critical denning habitat for sows with young cubs. From earlier work with radio-collared bears, bear dens occur throughout the proposed route area.

**DALL SHEEP**

The proposed alignment cuts through prime sheep habitat. The importance of Dall sheep in this area has long been recognized, and the Sheep Mountain viewing area (which is closed to the taking of Dall sheep) was established specifically to safeguard this resource. The most recent comprehensive sheep survey data available from ADF&G within this area are from 2003. Nearly 1,100 Dall sheep were observed in this area (Map 3).

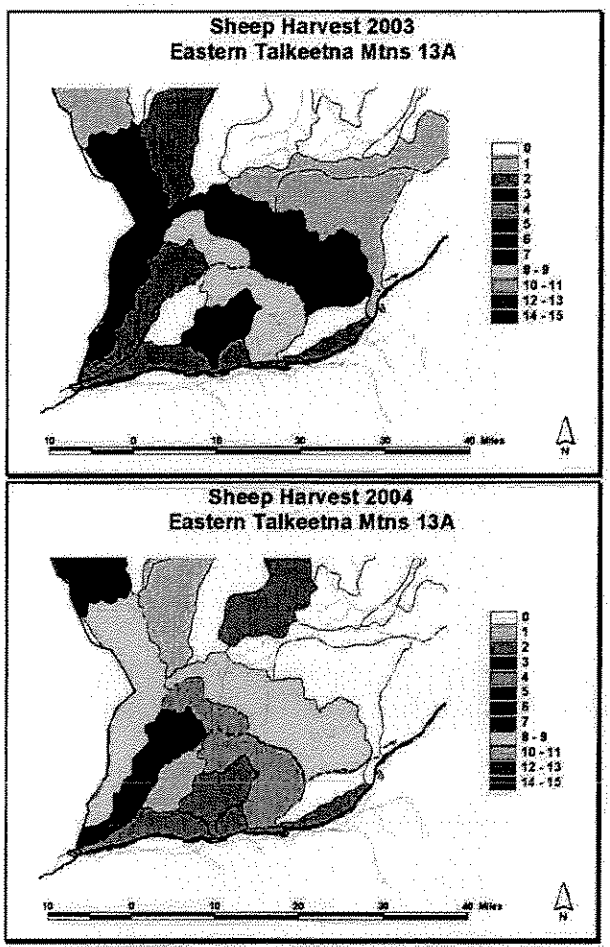



Map 3. Sheep count areas in the eastern Talkeetna Mountains, with proposed gas line route.

Of particular note is the route up the backside of Sheep Mountain. Sheep must have continual access between Sheep Mountain and the Syncline Mountains just to the north across Squaw Creek. Construction activities in this drainage should be conducted in a manner that minimizes restrictions to sheep movements. Upper Caribou Creek and Boulder Creek in particular support the highest concentrations of sheep year-round for this area.

As noted on Map 4, the area receives significant pressure from sheep hunters. In 2004, nearly 200 sheep hunters pursued sheep in this area, and over 30 rams were harvested. The sheep hunting season begins August 10th.

Increased winter snowmachine access around critical sheep wintering habitat and escape cover could result in an increase in overwinter mortality; particularly by creating a packed trail making easier travel for wolves and coyotes.



Map 4. Sheep harvest in the eastern Talkeetna Mountains, with proposed gas line route.

## NON-GAME

The eastern Talkeetna Mountains have been the focus of much wolverine research in the past. This area is excellent wolverine habitat, and it is important as a source population for maintaining wolverine numbers in the Copper River Basin. The area is productive, and wolverine have been documented emigrating out of the area to other habitats.

This area is also a raptor migratory corridor and nesting area. Of particular importance is nesting habitat for golden eagles. The cliffs are suitable for nesting because of their physical structure and proximity to large numbers of neonatal sheep and caribou that are heavily utilized as prey for the first two months of nesting by eagles.

**GENERAL ISSUES**

Hunters and recreational riders utilize off-road-vehicles (ORVs) for access to this area regularly throughout the summer and fall months. Geological formations are good natural barriers and keep much of the area free from ORV travel. Currently, access is very difficult to upper Caribou Creek beyond the confluence with Alfred Creek. If a gas line is routed up through this area, the newly created access route would allow recreational riders and hunters to easily access upper Caribou Creek, and we would expect a much larger number of users to access this remote area. We recommend incorporating measures that limit the pioneering of new access routes for recreational ORV use in this remote habitat unless it is developed as part of a unit-wide, multiple land owner/user group planning process.

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