Department of Environment, Government of Yukon
PO Box 2703, Whitehorse, Yukon Y1A 2C6

November 6, 2020

Sarah LaMarr
U.S. Department of the Interior
Bureau of Land Management, Arctic District Office
222 University Ave
Fairbanks, AK 99709

Dear Ms. LaMarr:

RE: Marsh Creek East Seismic Exploration environmental assessment

I write on behalf of the Government of Yukon to state opposition to the Marsh Creek East Seismic Exploration project ("the project"), as presented. This letter will offer technical information to inform the Bureau of Land Management of the impacts that the project would have on the Porcupine caribou herd, which is a shared resource between Yukon and Alaska. The Government of Yukon has consistently identified and demonstrated that development in the Arctic National Wildlife Refuge has a high risk of significant negative impacts to wildlife populations, particularly the Porcupine caribou herd.

Potential negative impacts were demonstrated in the Government of Yukon's comments on the recently completed Coastal Plain Oil and Gas Leasing Program Environmental Impact Statement (EIS) and subsequent Record of Decision. The Government of Yukon identified several concerns with the EIS process; identified a lack of consideration of transboundary effects, socio-economic and cultural values; and demonstrated the EIS's general lack of quantitative analysis and limited scope of alternatives.

Although seismic activities were not scoped into the recently completed Coastal Plain Oil and Gas Leasing Program Environmental Impact Statement (EIS) or subsequent Record of Decision, many aspects of the project's proposed seismic activities have a similar potential for impacts. Therefore, the project should be subject, at the bare minimum, to similar mitigation efforts (e.g., Required Operation Procedure 11, Lease Stipulation 7). However, the project proposal as submitted fails to even meet the standards set by the EIS and Record of Decision.

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The Government of Yukon has reviewed the Marsh Creek East Seismic Exploration environmental assessment, and identified that the project area overlaps with habitats used most frequently by Porcupine caribou during calving and post-calving[1]. The following technical information demonstrates that the project, as submitted, is likely to have detrimental impacts to the Porcupine caribou herd. Notwithstanding the Government of Yukon's opposition to exploration or development in the Arctic National Wildlife Refuge, we offer recommendations to minimize the proposed project's impacts:

1. Seismic activities are identified to occur as late as May 31 or "tundra closure". Analysis of data from satellite GPS collared Porcupine caribou shows that cows may arrive on the calving ground as early as May 11, larger numbers begin to arrive by May 20, and a large proportion by May 26. Long term monitoring has shown that peak calving (defined as the date half of collared cows have given birth) occurs as early as May 30[2], meaning calving is occurring many days or possibly even a week earlier. Lease Stipulation 7 from the Record of Decision identifies use of heavy equipment must cease on May 20 or sooner if Porcupine caribou arrive on the Coastal Plains earlier than May 20. The proposed seismic program does not identify that activities will be halted should Porcupine caribou arrive in the project area and calves are being born. Johnson et al.,[3] found Central Arctic Caribou responded to development by displacing 5 kilometers from that disturbance. Project activities should be halted with sufficient time to ensure heavy equipment demobilization prior to caribou arrival.

2. Clean-up activities are identified for July to early August 2021, with the aid of a rotary wing aircraft flying at low level to adequately search the area and retrieve equipment. The Government of Yukon's comments on the EIS identify that caribou may still occur in post-calving aggregations during the first two weeks of July and may occur in dense groups through most of July. Further analysis of satellite GPS data identifies that Porcupine caribou usually remain in the project area into the first or second week of July. However, in some years large numbers of caribou (i.e., estimated >20,000) may occur in the project area as late as July 20. Low-level aircraft use in proximity to dense caribou aggregations with young calves can result in separation and/or trampling of calves as well as significant energy expenditures by fleeing caribou. Clean-up activities should be delayed until the last week of July or until there is confirmation that few caribou remain.

3. The project indicates 9,696 miles total of receiver and source lines; travelling roughly 100 miles per day; and undertaking 30-40 landings per day.

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[1]U.S. Department of the Interior Bureau of Land Management. Coastal Plain Oil and Gas Leasing Program Environmental Impact Statement, Final. Appendix A, Maps 3-28 to 3-31.

[2] Porcupine Caribou Technical Committee. 2019. Porcupine Caribou Annual Summary Report. Submitted to Porcupine Caribou Management Board.

[3] Johnson, H.E., T. S. Golden, L.G. Adams, D.D. Gustine, E.A. Lenart. 2019. Caribou use of habitat near energy development in Arctic Alaska. The Journal of Wildlife Management 1-12, DOI: 10.1002/jwmg.21809.

4. If this is correct, it would take 97 days to complete this activity in the absence of any weather days. The project allocates only 15 days for this activity, which indicates insufficient planning for this component of the project.

5. The project is based on standard practices for operating conditions found in areas further west. There are no large non-saline waterbodies available to draw water from, yet the project identifies water withdrawals from large lakes as a mitigation. Additionally, the Arctic National Wildlife Refuge has a significantly different topography with incised and rolling habitats, compared to the flat habitats found near Prudhoe Bay and further west that the standard practices are based on. This results in shallow and patchy snow packs in the Arctic National Wildlife Refuge. The lack of snow and early melting conditions are a primary reason that Porcupine caribou travel to this area to calve. Further consideration is required as described by Walker et al. [4], to ensure this project does not cause significant harm to critical calving and post-calving habitats.

6. The project does not specifically identify a standard like Required Operation Procedure 11 from the Record of Decision. However, should the project do so, we estimate that ~6 per cent of the project area (32,634 acres) will have compacted snow from activities. Compacted snow will melt slower, delaying available snow free habitat for calving and the phenology of vegetation which may impact on post-calving success. The impact and significance of this is unknown for a herd that is now reaching high densities and we are unaware of any analysis that have considered this adverse effect to the herd.

This program has potential for significant adverse impacts to Porcupine caribou, some of which may be long lasting to critical calving and post-calving habitats for the Porcupine caribou herd. The above examples demonstrate the need for further consideration of the proposed project to ensure significant impacts do not occur to species of shared management interest like Porcupine caribou.

The Government of Yukon remains committed to cooperative management of our shared resources with Alaska and with all our partners, as identified in the *Agreement between the Government of Canada and the Government of the United States on the Conservation of the Porcupine Caribou Herd*.

Sincerely,

Ryan Hennings
Director of Fish and Wildlife

[4] Walker, D. A., M. T. Jorgenson, M. Kanevskiy, A. K. Liljedahl, M. Nolan, M. K. Raynolds, and M. Sturm. 2019. Likely impacts of proposed 3D-seismic surveys to the terrain, permafrost, hydrology, and vegetation in the 1002 Area, Arctic National Wildlife Refuge, Alaska. Alaska Geobotany Center Publication AGC 19-01. University of Alaska Fairbanks, Fairbanks, Alaska, USA.