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Permanent People Tribunal

RE: Peoples' Permanent Tribunal on Human Rights, Hydraulic Fracturing and Climate Change

Dear Permanent Peoples Tribunal,

My name is Eunice Mary Brower, the Environmental Program Manager for the Native Village of Nuiqsut, on the North Slope of Alaska. I have been working for the tribal council for the village of Nuiqsut since November of 2015. I am writing to you today to give testimony on our human rights, hydraulic fracturing, and climate change in our environment.

We face many issues here on the North Slope of Alaska with oil and gas activities increasing in the area and moving ever closer to Nuiqsut. Conoco Phillips is currently drilling (and we think hydraulic fracturing) an exploration well (called Putu 2) within the city limits, less than three miles from our village¹. This is only part of a much bigger project that extends piece by piece known as the LONS17².

Not only do we have hydraulic fracturing issues, there many concerns that came up with the changes to the environment that surround us.

The permafrost is at risk in Nuiqsut because of the drilling and fracking that is happening nearby. According to the study, "Cumulative geocological effects of 62 years of infrastructure and climate change in ice-rich permafrost landscapes, Prudhoe Bay Oilfield, Alaska", published in 2015:

¹ [Elwood Brehmer, ConocoPhillips to drill Putu with unprecedented mitigation steps, Alaska Journal of Commerce, 01/24/2018, http://www.alaskajournal.com/2018-01-24/conocophillips-drill-putu-unprecedented-mitigation-steps#.WsLEPcgh2IY](http://www.alaskajournal.com/2018-01-24/conocophillips-drill-putu-unprecedented-mitigation-steps#.WsLEPcgh2IY)

² <https://aws.state.ak.us/OnlinePublicNotices/Notices/View.aspx?id=187944>

³ Raynolds, M., Walker, D., Ambrosius, K. et al. Cumulative geocological effects of 62 years of infrastructure and climate change in ice-rich permafrost landscapes, Prudhoe Bay Oilfield, Alaska, *Global Change Biology* (2014), http://www.geobotany.uaf.edu/library/pubs/WalkerDA2014_agc14-01.pdf

Many areas of the Arctic are simultaneously affected by rapid climate change and rapid industrial development. These areas are likely to increase in number and size as sea ice melts and abundant Arctic natural resources become more accessible. Here, we determine the cumulative geocological effects of 62 years (1949-2011) of infrastructure- and climate-related changes in the Prudhoe Bay Oilfield, the oldest and most extensive industrial complex in the Arctic, and an area with extensive ice-rich permafrost that is extraordinarily sensitive to climate change. We demonstrate that thermokarst has recently affected broad areas of the entire region, and that a sudden increase in the area affected began shortly after 1990 corresponding to a rapid rise in regional summer air temperatures and related permafrost temperatures. We also present a conceptual model that describes how infrastructure-related factors, including road dust and roadside flooding are contributing to more extensive thermokarst in areas adjacent to roads and gravel pads. By 2010, over 34% of the intensively mapped area was affected by oil development. In addition, between 1990 and 2001, coincident with strong atmospheric warming during the 1990s, 19% of the remaining natural landscapes (excluding areas covered by infrastructure, lakes and river floodplains) exhibited expansion of thermokarst features resulting in more abundant small ponds, greater microrelief, more active lakeshore erosion and increased landscape and habitat heterogeneity. This transition to a new geocological regime will have impacts to wildlife habitat, local residents and industry.

I'd like to talk more about the permafrost in the surrounding area around Nuiqsut. Thawing ice wedges along the river bank are eroding more quickly than in the past. While erosion has always happened along the river, climate change has made permafrost more vulnerable to erosion. Lakes form as areas of permafrost thaw. These lakes sometimes drain from thawing too deep and connecting to a stream. There are beaded streams near Nuiqsut, where a stream is connecting small pools. There are low centered polygons⁴, where water ponds in the center of polygons is a sign that ice wedges are growing. There are also high centered polygons, where water ponds on the edges of the polygon, are a sign of thawing ice wedges.

Nuiqsut sits on the edge of the Colville River that is eroding. Changes in the permafrost are also affecting food storage for our traditional foods we catch. Some of the ice cellars are in jeopardy because they are melting, and we can no longer store food in them. This is creating a food crisis, if we can't store our food like we have been since we have known it traditionally in the ground as an ice cellar and having to throw away food that have spoiled because of the thawing permafrost, we have to purchase walk-in freezers to store our food that we catch traditionally and that cost us money to keep running and keep cold.

We have many issues and concerns about hydraulic fracturing which has been ongoing in the environment we live in since 1965 on the North Slope of Alaska. Now it's 2018, it's been fifty-three years and there is still a lack of studies on the environmental effects of hydraulic fracturing. According to a statement made by oil and gas commission petroleum engineer Cathy Forester at a recent Alaska Forum on the Environment meeting, there are only nine field inspectors that regulate hydraulic fracturing in the entire state of Alaska and it's been five years since hydraulic fracturing has been reviewed in the state.

There have not been any studies in how this hydraulic fracturing is changing our environment or any monitoring of how it changes the permafrost. I know that in July of 2017, when the State of Alaska had to do a shutdown of a well site that was operated by BP Exploration Alaska in Prudhoe Bay because of the infrastructure was shifting due to the permafrost melting, which was affecting the operations of those wells. But they deny it was because it was climate change, and it was actually was their operations that are causing changes to the climate. At the Alaska Forum on the Environment, industry presented information from other areas such as

⁴ <https://www.usgs.gov/media/images/permafrost-national-petroleum-reserve-alaska>

Pennsylvania, and other states but did not have any information specific to hydraulic fracturing in the State of Alaska; one of my questions and concerns about the lack of research on the impacts of hydraulic fracturing on the environment, wildlife, water quality, and health of the citizens that live in the extended environment in Alaska.

There are so many issues to deal with; degradation of ambient air quality resulting from increases in volatile organic compounds and other hazardous air pollutants, including diesel emissions, dust and particulate matter; contamination of groundwater and our drinking water source which is the nearby lake, contamination of rivers, streams, and lakes which also regenerate the drinking water source, the permanent removal of several billion gallons per year of fresh water from the earth's hydrologic cycle; heavy truck traffic during both development and operational phases of hydraulic fracturing, with resulting air pollution from diesel exhaust; noise pollution from round the clock operations; damage to the soils, land, and ecosystems; loss of property value due to the effects of nearby fracking operations; community disruption and adverse impacts on quality of life; increased risk of accidents, well blowouts, fires, explosions, and vehicle crashes. These are keeping us from accessing our right to access clean water to drink, clean air to breathe, and a safe environment for us to live in, with all these rights being taken away or limited to us!

There are also many adverse impacts from climate change resulting from accidental raw methane releases caused by inadequate well design or construction, leaks, accidents, and other fugitive emissions, nitrogen oxides are formed when fuel is at high temperatures, vehicles are idled for twenty-four hours per day seven days a week and sometimes left sitting at sites and pads. There are two major emission sources which are motor vehicles and stationary fuel combustion sources, nitrogen dioxide, when inhaled, can irritate lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections.

There are many cases of respiratory illnesses in this community, in fact there have been studies of a village about the same size of Nuiqsut but not near any oil and gas operations, and the results are that Nuiqsut residents are seen two more times in the clinic compared to that village of comparison in size. The clinic is in shortage of nebulizers and much needed medications for respiratory issues such as asthma, and the risks are so great that the children get sickly with what they call Respiratory syncytial virus (RSV). They are having difficulty breathing, and even get sent out for higher of level care facilities that can provide the care that is needed. Due to the high risks of hazardous air pollutants and contaminants in the air there are high rates of cancer and not just cancer but other conditions to the endocrine systems, changes to environment for the human population and wildlife are at great risks. We are a population of 450 and there have two cases of leukemia in this small village, and high numbers of cancer in our people.

These concerns are not being addressed by any of the industry contacts that we deal with daily. We have also tried to bring up these concerns to the local municipal government, the North Slope Borough, who permits oil and gas companies exploring and developing most of the lands that are opened to oil and gas leasing; resource development districts are being administratively approved and can be developed regardless of what the community of Nuiqsut expresses, even if a majority of the residents are opposed to these types of activities.

We have also brought up these concerns to the State of Alaska, Department of Conservation about having air monitoring done but because of the lack of funding it hasn't gotten done. We have also worked with the Bureau of Land Management which manages some of the surrounding lands, they didn't do any baseline data collection before development, they haven't done any air monitoring either, so how can they assess what changes there have been to the air quality? The people have expressed changes to the air and they find every reason to do modeling in the Supplemental Environmental Impact Assessments and not provide real time actual results that air monitoring has been done or offer any real time monitoring even if we tried to ask them if that is an available option, yet the funding still is a limited source and they haven't done any planning to budget it as requested.

Our way of life to live freely off the local subsistence that gives us sustenance to endure the arctic as we have since time immemorial is in great jeopardy because of the changes to the climate, the arctic is changing because of the carbon and methane that is being released from emissions from the oil and gas operations that are occurring here unregulated, even though we have discussed that there is a Methane Mitigation Act and that's not being enforced here in Alaska.

Not only because of climate change but because of fracking; fracking releases hazardous air pollutants into our environment in which we live and thrive; even threatening the caribou, the fish, the whale, and the migrating birds that we hunt all year round are being impacted and changed as well in their environment that is being contaminated. The animals are being threatened by the changes to the environment, they have become sickly, and thin, the caribou, the fish have been impacted as well. The waters have become warmer and a fish mold called *saprolegnia* as infecting the fish, even while the eggs are developing into a fish!

Hydraulic Fracturing from man-made islands can impact our whales, a sustenance that we depend on for most of the year in great abundance for us. The whales are in jeopardy if the oil and gas companies do have a spill or incident in the ocean like the Exxon Valdez Spill. Even our fish we get from the rivers are being changed.

Our traditional hunting grounds are at significant risk from the climate changes happening so quickly we have to adapt to the changes on the sea ice when hunting for whales. We now have a much shorter time spent at whaling. The lack of ice puts our hunters at risk and we have to hunt earlier as the animals change in response to weather changes their migration times are shifting whether it be for birds, fish, caribou, seals, moose, and whale they follow changes to the seasons in the arctic.

Our people are being threatened by these changes and are not being protected or respected in their environment. The citizens in Nuiqsut do not even have protections as the other North Slope villages like Utqiagvik and Kaktovik in protecting our whaling subsistence way of life because of the oil leases are in a development district area. We do not have protections to the waters that are being changed from the permitted discharges from the oil and gas companies from their produced waters being released to the local waters. The very small critters known as the krill and small sea mammals to the fish and whales that migrate the waters of the Beaufort Sea are being impacted, and we at the top of the food chain are also being impacted as well.

Sincerely,

Eunice Mary Brower

Eunice Mary Brower
Environmental Manager