THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 390.38.004

July 17, 2017

Elizabeth Bordeaux, President
Native Village of Atqasuk
PO Box 91108
Atqasuk, AK 99791-0108

Re: Cleanup Complete Determination: Atqasuk Research Camp Area 1 and Atqasuk Research Camp Area 2, in Response to Removal Action Report at Atqasuk Research Camp, Area 1 &2, November 8, 2016

Dear Ms. Bordeaux:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the two Contaminated Sites Program projects titled: Atqasuk Research Camp Area 1 NALEMP, and Atqasuk Research Camp Area 2 NALEMP, located at about 2 miles northeast of Atqasuk. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Atqasuk Research Camp Area 1 NALEMP and Atqasuk Research Camp Area 2 NALEMP, which is located in the DEC office in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
Atqasuk Research Camp Area 1 NALEMP
Atqasuk Research Camp Area 2 NALEMP
about 2 miles northeast of Atqasuk
Atqasuk, AK 99791

Name and Mailing Address of Contact Party:
Elizabeth Bordeaux, President
Native Village of Atqasuk
PO Box 91108
Atqasuk, AK 99791

DEC Site Identifiers:
File No.: 390.38.004
Hazard ID.: 26082 (Area 1)
Hazard ID.: 26083 (Area 2)

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background
The Atqasuk area has traditionally been used for hunting and fishing by Inupiat people. During the late 1800s and early 1900s, bituminous coal was mined in Atqasuk and hauled to Barrow, Alaska, to support the whaling industry.

Atqasuk Research Camp, Area 1 and Area 2, was previously used by the military. Beginning in 1944, the U.S. Navy, through the office of Naval Petroleum and Oil Shale Reserves, conducted explorations for oil in northern Alaska. From 1944 until 1954, the Navy directed a program of petroleum exploration in naval PET-4, which was later renamed the National Petroleum Reserve in Alaska (NPRA), in northwestern Alaska. In 1947, the Office of Naval Research (ONR) began the Naval Arctic Research Laboratory (NARL) in Barrow. In 1953, NARL shutdown PET-4 and in 1954, the PET-4 Camp was turned over to ONR and subsequently the U.S. Air Force requested use of the Navy facilities to support the construction of the Distant Early Warning Line Radar Stations, which operated until 1971.

Despite thorough records research via communication with Atqasuk Village; the Internet; the US Army Corps of Engineers; the Bureau of Land Management (BLM); the Bureau of Indian Affairs; and the National Archives and Records Administration, any specific mention of the Atqasuk Research Camp: Area 1 and 2 was unable to be located. However, 55-gallon drums remaining in the area are marked "USN" and "PROPERTY OF AIR FORCE US ARMY" and a relay station building is located at Area 1.

This region is currently used for hunting, fishing, and subsistence food gathering purposes by the surface landowners and residents of Atqasuk. The area is also used as a winter trail by residents. The surface lands are owned by the Atqasuk Village Corporation. The subsurface lands are owned by the BLM who has designated this area as part of the NPRA. In addition to the relay station building with suspected lead based paint and the drums with suspected associated petroleum contamination, lead-acid batteries, a propane tank, antennae parts, and miscellaneous metal debris were found at the sites.

Contaminants of Concern
Contaminants of potential concern upon initial investigation were petroleum products that remained in drums, lead-acid batteries, polychlorinated biphenyl (PCB) based paint, lead-based paint (LBP), and petroleum-contaminated soil. An initial 2010 soil sample from Area 1 was analyzed for diesel range organics (DRO), residual range organics (RRO), gasoline range organics (GRO), volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAH), and Resource Conservation and Recovery Act (RCRA) metals with no exceedances above cleanup levels. Subsequent soil sampling in 2016 found RRO in exceedance of cleanup levels at a concentration of 13,700 mg/kg. The interior of the relay station building was tested for LBP and PCB paint in 2016. Lead was found in the building at a concentration of 12.9 mg/kg. Based on the analyses conducted, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- Residual Range Organics (RRO)
- Lead

Cleanup Levels
The Arctic Zone ingestion cleanup level for RRO and human health cleanup level for lead established in 18 AAC 75.341 (d), Table B2 applies to this site. RRO was detected in soil above this cleanup level and lead was detected in the paint on the interior of the relay station building. Migration to groundwater soil cleanup levels are not applicable at this site because the site is underlain by continuous permafrost.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Surface Water (µg/L)
RRO	13,700	1,100
Lead	400	15

mg/kg = milligrams per kilogram
µg/L = micrograms per liter

Characterization and Cleanup Activities

Characterization and cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in 2011. These activities are described below.

Atqasuk Research Camp Area 1:

Area 1 required Building Demolition and Debris Removal (BD/DR). The known BD/DR material included two 55-gallon drums, a metal relay station building, eight 12-volt lead acid batteries, a propane tank attached to the building, a 40-foot antennae tower, and miscellaneous metal debris, antenna parts, and wires scattered through the site. As part of the Atqasuk Research Camp Area 1 & Area 2, Draft Step III Site Assessment Report, one soil sample and one water sample were collected in August 2010. There were no contaminants detected in the water samples collected. The soil sample was collected near two empty drums approximately 550-feet southwest of the relay station building. The location of the water sample was not provided in the report. Arsenic was the only soil sample parameter that was found above regulatory levels. However, arsenic is considered within normal background levels for the region and was not a contaminant of concern.

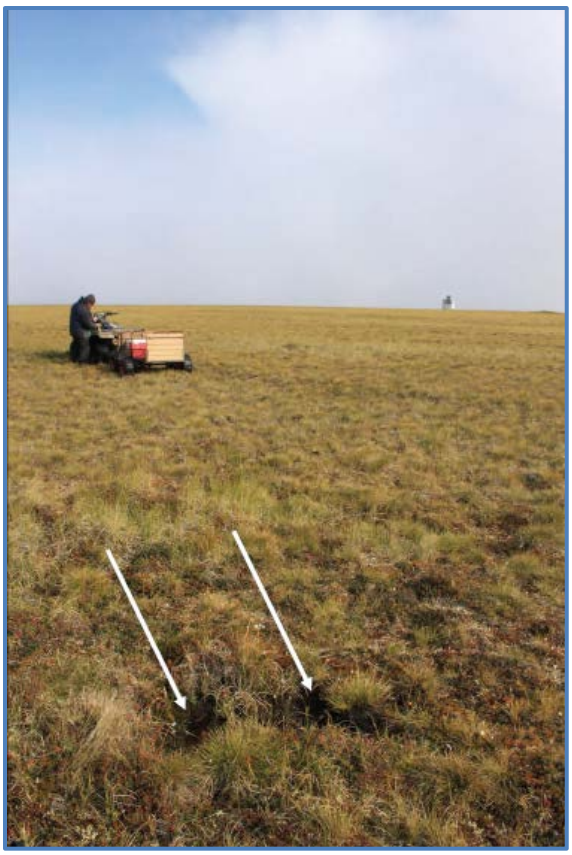


Figure 1 - Drum sampling locations with relay staion building in background (TPECI, 2016)

Soils at the site of the two drums were also screened and sampled in August 2010. Petroleum contamination in the form of discoloration or a visible sheen was not evident by direct observation of the soil, and laboratory results indicated DRO concentrations were below the applicable cleanup level. The drums were removed and disposed of in the fall of 2015. Three screening samples were collected in August 2016, which did not indicate a high level of petroleum hydrocarbons, however two confirmation samples were collected and RRO was detected above cleanup levels at 24,500 mg/kg. The samples were analyzed using silica gel cleanup and laboratory chromatograms, and it was determined that the RRO concentration was elevated due to biogenic interference.

The relay station building was sampled for LBP and PCB paint in April 2016. Samples of wall insulation, pipe insulation, surface paint, and floor tiles were collected. Laboratory results for LBP ranged 9.8–12.9 mg/kg. PCB contamination was not detected. The relay station interior contamination was slated for abatement in May 2016 and contaminated interior wall paneling was removed and disposed of at the local landfill.

Atqasuk Research Camp Area 2:

BD/DR impacts included 121 55-gallon drums, six drilling mud containers with associated mud piles, six empty cylinders, two metal tracks, a steel tank approximately 3 feet by 12 inches in diameter, approximately 100 feet of hollow steel support beams (4 inches in diameter), one nine-foot long metal drilling pipe (1.5 inches in diameter), approximately 20 feet of flexible plastic tubing, and miscellaneous small metal debris scattered throughout the site. Visible stained soil and signs of seepage and soil discoloration were present at the site.

During the summers of 2014 and 2015 the debris, drums, and a small volume of soil were removed from Area 2. Some drums contained black oily substance, which was drained into a five gallon bucket and disposed of by incineration in a Smart Ash® burner with a used oil burning attachment along with used oils. The black oily substance was not analyzed prior to disposal. Emptied drums were bagged into Super Sacks® slated for removal to the Atqasuk landfill for disposal.

Stained soil was bagged and removed during the summer of 2014. During the spring of 2015 a majority of the drums, debris, and soil was brought to the landfill and the soil was staged separately at the landfill to await screening and sampling. Soil volume totaled less than one cubic yard. The remaining drums, debris, and soil was brought to the landfill during the spring of 2016. It is suspected that the bagged soil that was staged separately from the landfill waste was inadvertently incorporated into the landfill during the spring of 2015.

Figure 2 - Drum stockpile and debris (photo TPECI, 2016)

In August 2016, 15 soil samples were field screened and seven confirmation samples taken at Area 2. Samples were analyzed for DRO, GRO, RRO, BTEX, and PAHs. DRO and RRO were detected, however contamination levels did not exceed applicable cleanup levels.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g) when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative non-carcinogenic risk standard at a hazard index of one across all exposure pathways.

Based on a review of the environmental record, DEC has determined that residual contaminant concentrations

meet the human health cumulative risk criteria for residential land use.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

Table 2 – Exposure Pathway Evaluation - Atqasuk Research Camp Area 1

Pathway	Result	Explanation
Surface Soil Contact	De Minimis Exposure	Impacted surface soils with concentrations above regulatory cleanup levels were removed and disposed of. Remaining RRO contamination in soil measured above cleanup levels was attributed to biogenic interference and confirmed with subsequent testing.
Sub-Surface Soil Contact	Pathway Incomplete	Sub-surface soil was not evaluated for contamination and is not expected to harbor contamination above cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	No contamination has been detected in the sub-surface.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	No contamination has been detected in the sub-surface. Lead contamination within the relay building has been removed.
Groundwater Ingestion	Pathway Incomplete	Supra-permafrost groundwater is not a potential drinking water source.
Surface Water Ingestion	Pathway Incomplete	Surface water analyzed did not detect contamination.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Bioaccumulative contaminants of concern (lead) have been removed from the interior of the relay building.
Exposure to Ecological Receptors	Pathway Incomplete	Bioaccumulative contaminants of concern (lead) have been removed from the interior of the relay building.

Table 3 – Exposure Pathway Evaluation - Atqasuk Research Camp Area 2

Pathway	Result	Explanation
Surface Soil Contact	De Minimis Exposure	Impacted surface soils with concentrations above regulatory cleanup levels were removed and disposed of.
Sub-Surface Soil Contact	Pathway Incomplete	Sub-surface soil was not evaluated for contamination and is not expected to harbor contamination above cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	No contamination has been detected in the sub-surface.

Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	No contamination has been detected in the sub-surface. Lead contamination within the relay building has been removed.
Groundwater Ingestion	Pathway Incomplete	Supra-permafrost groundwater is not a potential drinking water source.
Surface Water Ingestion	Pathway Incomplete	Surface water analyzed did not detect contamination.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Bioaccumulative contaminants of concern (lead) have been removed from the interior of the relay building.
Exposure to Ecological Receptors	Pathway Incomplete	Bioaccumulative contaminants of concern (lead) have been removed from the interior of the relay building.

Notes to Table 2: "De Minimis Exposure" means that in DEC's judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. "Pathway Incomplete" means that in DEC's judgment contamination has no potential to contact receptors. "Exposure Controlled" means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

DEC Decision

Soil contamination has been determined to be below the approved applicable cleanup levels. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325(i). A "site" as defined by 18 AAC 75.990 (115) means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. (See attached site figure.)

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, P.O. Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

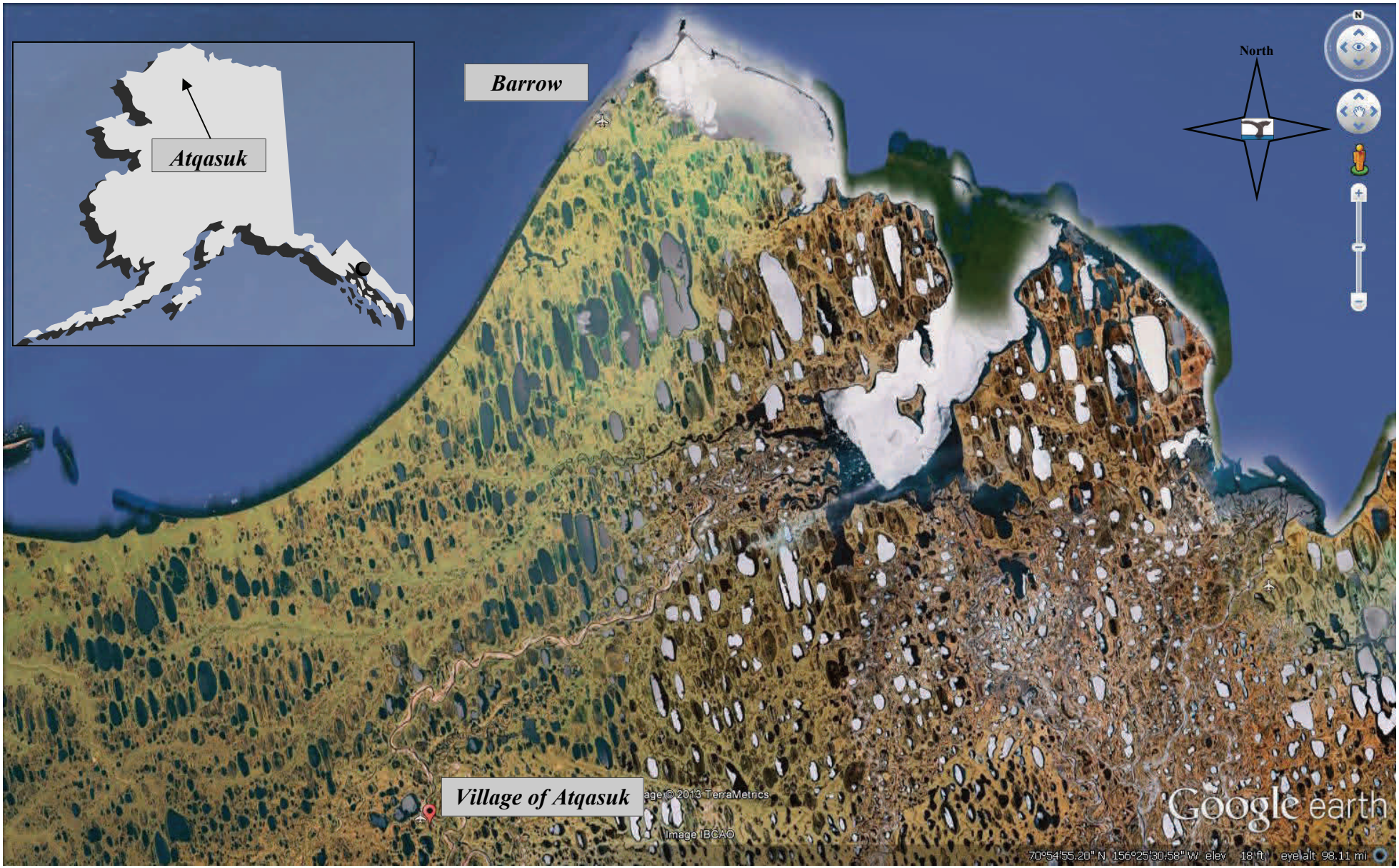
If you have questions about this closure decision, please feel free to contact me at (907) 451-2166, or email at john.carnahan@alaska.gov.

Sincerely,

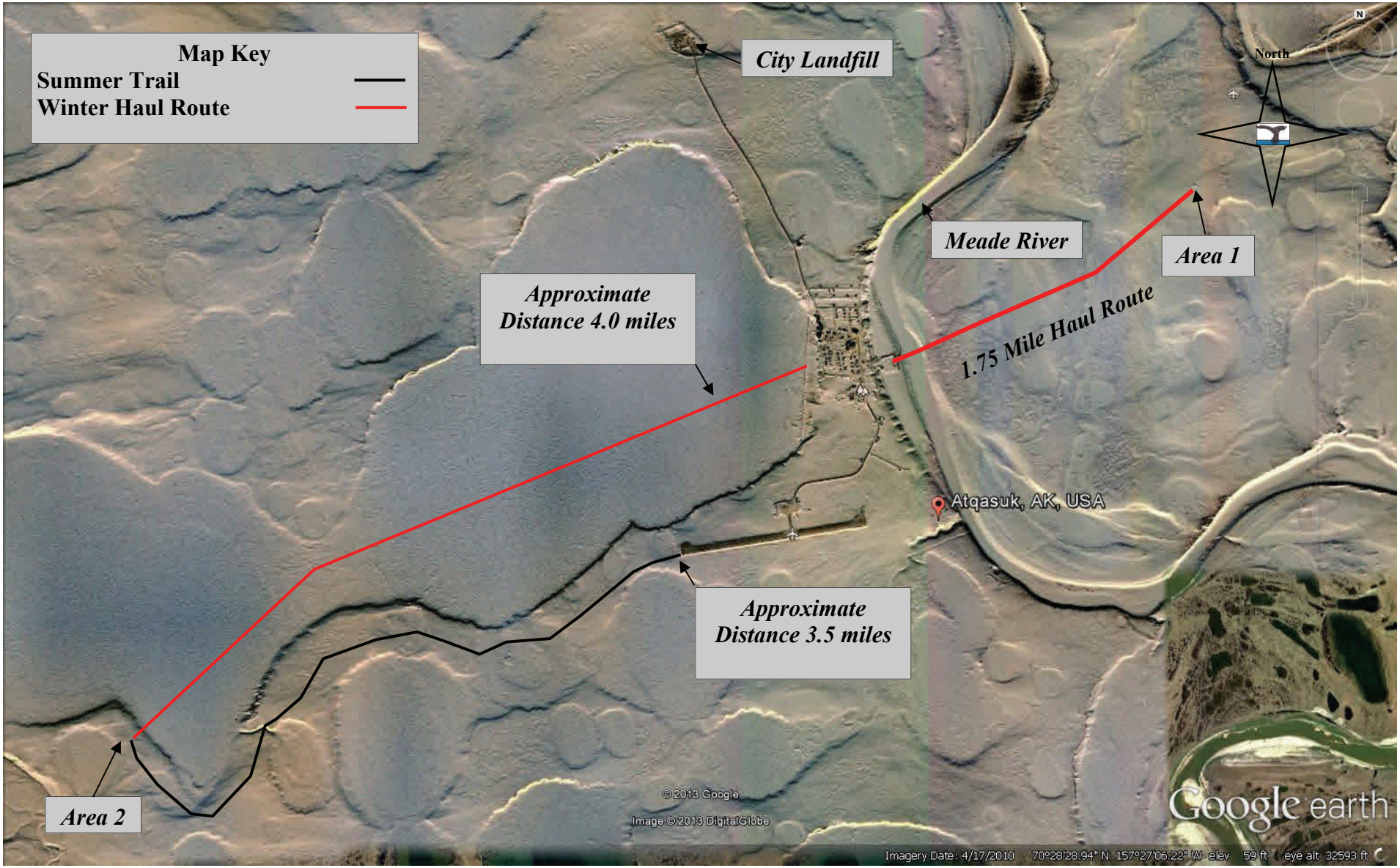
John Carnahan
Project Manager

Attach: Location Figures from Travis/Peterson report, 2016.

cc: Spill Prevention and Response, Cost Recovery Unit



Travis/Peterson Environmental Consulting, Inc. 3305 Arctic Boulevard, Suite 102 Anchorage, AK 99503 907-522-4337	**Native Village of Atqasuk** **P.O. Box 91108** **Atqasuk, Alaska 99791**		**General Location Map** **Removal Action Report, Figure #1**
Project No: 1486-03	**File: Jupiter\backup\Wade\1486-03\Figures**	**Date: 11/16**	**Scale: None**



Travis/Peterson Environmental Consulting, Inc. 3305 Arctic Boulevard, Suite 102 Anchorage, AK 99503 907-522-4337	**Native Village of Atqasuk** **P.O. Box 91108** **Atqasuk, Alaska 99791**	**Atqasuk Research Camp Area 1 and Area 2** **Removal Action Report, Figure #2**

Project No: 1486-03	**File: Jupiter\backup\Wade\1486-03\Figures**	**Date: 11/16**	**Scale: None**