FCC Environmental Assessment

RESTORATION
Science & Engineering, LLC

Horseshoe Exploration Ice Pad

North Slope Borough, Alaska

FCC Notification ID: 144130
70° 2'45.927"N, 151° 7'8.428"W

FRN: 0025922493

On Behalf of:
Armstrong Energy, LLC
510 L Street, Suite 310
Anchorage, AK 99501

Prepared By:
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November 2016

ACRONYMS

BFE	base flood elevation
CHA	Critical Habitat Area
CFR	Code of Federal Regulations
Corps	United States Army Corps of Engineers
EA	Environmental Assessment
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
LEDPA	Least Environmentally Damaging Practicable Alternative
NEPA	National Environmental Policy Act
T&E	Threatened and Endangered Species
SHPO	State Historic Preservation Office
USFWS	United States Fish & Wildlife Service

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1.0 INTRODUCTION

The National Environmental Policy Act (NEPA) of 1969 requires federal agencies to provide descriptive information to evaluate potential environmental consequences associated with the proposed action on the human environment.

Pursuant to 47 CFR § 1.1307(a), the Federal Communications Commission (FCC) implements NEPA by requiring licensees to examine actions which may have a significant environmental effect on:

- wilderness areas;
- wildlife preserves;
- Threatened and Endangered (T&E) species or designated Critical Habitat Areas (CHA);
- Section 106 historic properties or Native religious sites;
- floodplains;
- significant changes in surface features (i.e. wetland fill, deforestation, or water diversion);
- antenna towers and/or supporting structures equipped with high intensity white lights in residential areas; and
- human exposure to radiofrequency radiation.

Under the FCC's NEPA regulations, an Environmental Assessment (EA) is required for activities which may have a significant environmental effect on resources listed above.

On behalf of Armstrong Energy LLC (Armstrong), Restoration Science & Engineering LLC (RSE) has completed a NEPA evaluation and determined based upon best-available hydrological data that the Horseshoe Communications Tower facility is located within the Colville River floodplain. Accordingly, RSE has prepared this EA pursuant to the FCC's NEPA regulations, including 47 CFR § 1.1311.

2.0 PURPOSE AND NEED

Armstrong is proposing exploration of hydrocarbon deposits from its oil and gas leasehold on the North Slope of Alaska. The communication tower on the Horseshoe 1 Exploration Ice Pad is proposed to support the exploration project targeting oil deposits south of the North Slope community of Nuiqsut. Project activities require the construction of a temporary (November 2016 through May 2017) communication tower on the Horseshoe 1 Exploration Ice Pad. The FCC Notification ID number for the proposed exploration pad tower is 144130.

The Project is located in the North Slope Borough (NSB). Kuukpik Corporation owns the surface estate of lands at the drill sites and lands traversed by the infield ice roads. Surface ownership is the Kuukpik Corporation, jointly managed by the Arctic Slope Regional Corporation (ASRC) and the State of Alaska, through the Alaska Department of Natural Resources (ADNR). The Project will explore subsurface mineral resources that are shared by the State of Alaska and the ASRC. None of the project facilities are located on or near Native allotments.

As this is a temporary exploration activity on State-owned land during frozen winter conditions, no additional NEPA consultation has been required for this project with the exception of this EA.

3.0 SITE INFORMATION

The Horseshoe 1 Exploration Ice Pad will be located on the east side of the Colville River, approximately 10.3 air miles south of the native village of Nuiqsut.

3.1 Description of Facilities

The Horseshoe 1 Communications Tower will be located at approximately 70° 2' 45.927" N, 151° 7' 8.428" W (WGS Datum 84) with a site elevation of approximately 20 feet above sea level. Note these coordinates have been refined from the initial tower notification description based upon ice pad layout, and do not alter or affect the outcome of the environmental assessment or agency determinations. The communications lot consists of a temporary 8 foot by 20 feet module housing associated electronics. The tower is a ROAN 45 equipped with a 5.8 gigahertz microwave dish that will wirelessly connect to camps and rigs. Power will be delivered from camp generators independent of the tower and module. The communication antenna subject to FCC environmental review in this EA is an approximate 40-foot self-supporting tower. No cables, guy wires, or lights will be used in the installation and maintenance of the tower.

3.2 Local Conditions

The Project is within the Arctic Coastal Plain physiographic region at elevations ranging from sea level to 100 feet above sea level. The landscape of the Arctic Coastal Plain is generally flat with landforms between drainages dominated by patterned ground, shallow lakes and ponds, and wetlands resulting from poorly drained soils. As is typical on the North Slope, the Project is located on permafrost where the subsurface is perennially frozen to depths of approximately 1,500 to 2,000 feet.

The communication tower will be constructed atop an ice pad during the 2016-2017 winter. Ice roads and ice pads are single season infrastructure and do not require a United States Army Corps of Engineers (Corps) permit. Ice roads for construction, materials, and personnel transportation will be constructed with a minimum of 6 inches of ice over snow cover to support expected loads and protect the vegetation and organic soil beneath. Ice roads will also be constructed to avoid ice-

road sensitive vegetation, such as willows, that extend above the snow level, per North Slope Borough permit stipulations. Water for ice roads and ice pads will be obtained from permitted surface water sources.

3.3 Community

The economic structure of the NSB is dominated by oil and gas development and the taxes and business opportunities generated by those activities. The social structure of the NSB retains important elements of Iñupiat culture and society, but also is affected, both directly and indirectly, by oil-related development in the region.

An Environmental Impact Statement (EIS) prepared for the Nunashak drilling program located immediately adjacent to, and in some areas overlapping, the Project area, supports analysis of Public Interest Review and evaluation of environmental justice in accordance with Executive Order (EO) 12898 Environmental Justice in Minority Populations and Low-Income Populations. EO 12898 requires that federal agencies ensure their programs, policies, and activities (including issuing permits) do not have a "disproportionately high and adverse effect on minority or low-income populations."

Oil-related development, including the installation of communication towers, are an integral component of the political, economic, and social make-up of the NSB. Much of the NSB operates in a mixed economy: a cash economy supported almost entirely by oil and gas activities, and a subsistence economy that is an important element of the social and cultural makeup of NSB communities.

Oil and gas development projects and associated infrastructure in the NSB are likely to affect, to various degrees, the economy and social well-being of the borough and individual communities. While the impacts of the Project will be assessed as project permitting efforts progress, oil and gas development projects in the NSB generally have a positive effect on the borough's tax income and bonding capabilities. Impacts of oil and gas development projects on the subsistence economy and on social well-being depend on project location and specifics and are generally assessed on a project-specific basis.

3.4 Site Selection

The communications tower will be situated upon the Horseshoe 1 Exploration Ice Pad. The pad location was selected based upon the following factors:

- Results of seismic data and exploratory drilling
- ADNR lease areas and NSB permissions
- Maximum avoidance of freshwater features
- Project access and resource availability
- Minimization of environmental impacts

The final project location was determined to be the least environmentally damaging practicable alternative (LEDPA). The ice pad was selected in a location sufficient for associated infrastructure and utilities including the communication tower.

4.0 REVIEW OF FCC ENVIRONMENTAL CRITERIA

On behalf of Armstrong, RSE conducted an environmental review of resources potentially affected by the Horseshoe Communications Tower in accordance with 47 CFR § 1.1307, the results of which are summarized below. Appendices A through E contain supporting documentation.

4.1 Officially Designated Wilderness Areas

The Horseshoe exploration project is not located within an officially designated wilderness area. The land is jointly owned by the State of Alaska and Kuukpik Native Corporation, designed non-wilderness. Alaska Department of Natural Resources (ADNR) mapping showing the designations for this site is included in Appendix A to this EA.

4.2 Officially Designated Wildlife Preserves

The Horseshoe exploration project is not located within a designated wildlife preserve. Additional information regarding fish and wildlife consultation is below. ADNR mapping showing the designations for this site is included in Appendix A to this EA.

4.3 Listed Threatened or Endangered Species

The United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System online resource tool identified the Horseshoe ice pad as being located within the current known ranges of the Alaska-breeding Steller's eider (*Polysticta stelleri*), spectacled eider (*Somateria fischeria*), and the Polar bear (*Urus maritimus*), but not within any designated critical habitat areas.

Spectacled Eider & Steller's Eider

The UFWS listed both eider species as threatened; the spectacled eider on May 10, 1993 (58 FR 27474), and the Alaska-breeding population of Steller's eiders on June 11, 1997 (62 FR 31748). Spectacled and Alaska-breeding Steller's eiders nest on the North Slope, migrate to the Chukchi Sea, and continue along the western coast of Alaska to and from wintering and molting areas further south. The tower is within the general flight path and altitude of eider migratory routes. Therefore, some individuals may be at risk of colliding with towers. Due to limited information regarding exact movements of eiders along the coast, the collision risk cannot be accurately assessed for these locations. However, the anticipated risk of listed eiders colliding with the telecommunications facilities is so low as to be discountable, given the tower lacks lighting, guy wires, and are temporary in nature limited to the winter season.

Polar Bear

On May 15, 2008, the USFWS listed the Polar bear as threatened (73 FR 28212). The action areas are located within discrete village boundaries, with a high frequency of human activity. Preferred Polar bear habitats, such as those used for denning, feeding and resting, are not present within any action area. Development at each site is secured during project activities and Armstrong policy is explicit in the careful handling and disposal of bear attractants. Armstrong additionally maintains rigid spill response and control measures to minimize the possibility of the release of onsite releases of contaminants or toxic substances to which Polar bears may be exposed. Effects to Polar bears are expected to be insignificant; accordingly, the species is not likely to be adversely affected by the action areas.

USFWS concurrence was issued on September 30, 2016 and is included as Appendix B to this EA.

4.4 Historic Properties, Cultural Resources, and Native Religious Sites

On behalf of Armstrong Energy, Chuck Mobley & Associates reviewed the proposed project area and associated infrastructure locations, and conducted tribal consultation pursuant to the requirements of Section 106 of the National Historic Preservation Act. Mr. Mobley & Associates did not identify sites, structures, or object significant in American or Pre-American history, architecture, archeology, engineering, or culture. The State Historic Preservation Office (SHPO) reviewed cultural resource findings submitted by Mr. Mobley. SHPO issued concurrence with findings of "no adverse effect to historic properties" for the Horseshoe communication towers on October 28, 2016. Copies of SHPO's concurrences and the FCC E106 Form are provided in Appendix C.

4.5 Local Outreach and Religious Sites

Coordinated public outreach for the Horseshoe 1 project has been ongoing throughout 2016. Most recent participation meetings were hosted on August 12, 2016 for the Kuukpik Corporation and August 8, 2016 with the village of Nuiqsut. Armstrong hosts meetings with the North Slope Borough every other month, and conducts presentations open to the public in Nuiqsut every other month. No issues with drilling support infrastructure such as communication towers, have been identified in these meetings. A power point presentation and meeting minutes from the August 8, 2016 community meeting are provided as Appendix D to this EA. Residents did not raise concerns regarding cultural or religious significance of the proposed site. Additional tribal notifications have been conducted through the FCC Tower Notification System, with no issues raised by those contacted. Details are presented in the E106 Form, attached.

Because the proposed communication tower will be located temporarily (one season) atop an ice pad, no impacts to cultural or religious sites are within the foreseeable impact of this project. The cultural resources E106 Form and SHPO concurrence included in Appendix C address these issues in greater detail.

4.6 Floodplains

The proposed project area is located within the flood plain of the Colville River. The area is not mapped by FEMA and FIRM map was identified. Additional details of the local hydrology and flood events are described below. Proposed work is to be conducted exclusively during winter months when no flood events occur along the frozen River. The communication tower will be demobilized from the site prior to spring break up and the possibility of flood. No fill will be installed as part of the installation of the communication tower.

The Colville River is the largest river on the Alaska Arctic Coastal Plain. The 20,700 square mile drainage basin extends from the northern flank of the Brooks Range to the Arctic Ocean and drains approximately 30 percent of the North Slope of Alaska. The Colville River Delta (CRD) is a complex network of seaward flowing distributary channels, which extend approximately 30 miles from the head of the CRD near the mouth of the Itkulik River to the ocean. The East Channel, adjacent to the proposed Horseshoe 1 ice pad, receives approximately 77 to 87 percent of the flow, while the Nigliq Channel receives the remainder.

The hydrology of the Colville River in the project area is dominated by the spring breakup flood event, which commences with the arrival of the snowmelt run-off from the drainage basin. As snowmelt increases, the accumulating melt water fills the many river channels; the channel ice rises and falls with fluctuating stage but remains in place, impeding flow in the channels. Eventually, the channel ice begins to break apart and flows downstream. The downstream progression of the fractured channel ice results in frequent ice jams which escalate flooding. Subsidiary channels, swales, hydraulically connected lakes, and low-lying delta terrain provide relief for the accumulating floodwater. The duration and intensity of the spring breakup flood event is largely affected by temperatures and the rate of melting in the drainage basin. Typically, after reaching a peak, floodwaters rapidly decrease as channel ice continues to break apart and move out of the CRD. During the winter months (October – April), discharge drastically decreases and ice develops in the river channels to an average thickness of 6 feet. It is during this time Armstrong proposes execution of the Horseshoe 1 project and temporary installation of the communication tower.

4.7 Surface Water Features

The project area is located within jurisdictional wetlands. Landforms between drainages are dominated by patterned ground, shallow lakes and ponds, and wetlands resulting from poorly drained soils. Impacts to surface water will be avoided by conducting work exclusively in the winter months when wet conditions are frozen and covered in snow. The proposed communication tower will be dismantled and demobilized prior to spring thaw, and will result in no change to surface water features.

4.8 Tower Lighting

No high intensity white lights will be installed at the Horseshoe Exploration Ice Pad communication

tower. Pictures of the proposed specified tower are included in Appendix E.

4.9 Radiofrequency Radiation

The tower is a ROAN 45 equipped with a 5.8 gigahertz microwave dish that will wirelessly connect to camps and rigs. Power will be delivered from camp generators independent of the tower and module. The facility does not cause exposure to workers or the general public at levels of radiofrequency radiation in excess of applicable FCC guidelines.

5.0 RECOMMENDATION

Although the proposed location of the Horseshoe 1 exploration communication tower is within the Colville River floodplain, the temporary nature of the tower will be scheduled specifically during frozen months when no flooding occurs. No fill will be used in the installation of the tower.

The proposed exploration is located on State- and Native-owned land. Activities will occur exclusively during winter months in frozen conditions. No wetlands will be impacted as part of the proposed winter activities. The FCC is the sole federal agency stakeholder for this project. No other NEPA consultation is required for this phase of the exploration program applicable to the communication tower herein described. As the communication tower represents a small component of the larger development project in the area that has been uniquely permitted, RSE recommends a Finding of No Significant Impact for the communication tower based on the results of this EA.

6.0 REFERENCES

National Wetlands Inventory Online Database.
<https://www.fws.gov/wetlands/data/mapper.html> Accessed September 12, 2016.

Repsol. Colville River Delta Two-Dimensional Surface Water Model Report. June 2015.

Repsol. Jurisdictional Determination Report. June 2015.

Repsol. Nanushuk Wildlife Technical Report. June 2015.

Repsol. Nanushuk Project Water Resources Background for the Lower Colville, Miluveach, and Kachmach Rivers. June 2015.

Respsol. Nanushuk Project. Socioeconomics Technical Report. June 2015.

USFWS IPac Database. https://ecos.fws.gov/ipac/ Accessed September 12, 2016.

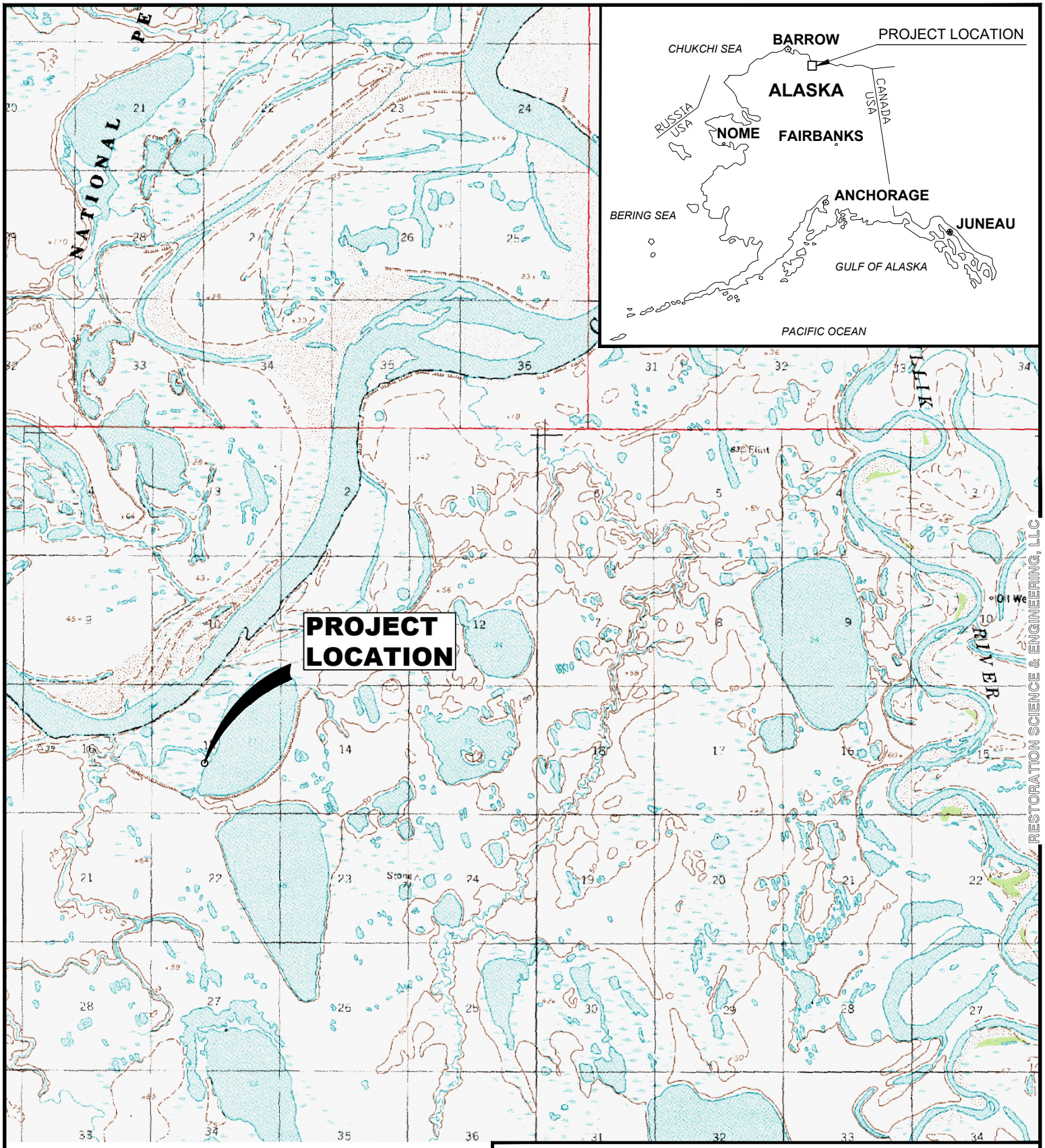
Appendices:

A – Land Use Mapping
B – USFWS Concurrence
C – E106 Form and SHPO Concurrence
D – Community Participation Documentation
E – Photos

APPENDIX A

Mapping

- Vicinity Map
- AK Dept. Natural Resources Land Ownership & Use
- Alaska Wilderness Areas
- United States Wilderness Areas
- National Wetlands Inventory



RESTORATION SCIENCE & ENGINEERING, LLC

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GRAPHIC SCALE
1"=1M (APPROX)

ARMSTRONG ENERGY
FCC TOWER EA
HORSESHOE EXPLORATION PAD

VICINITY MAP
LAT: 70° 2' 45.927" N
LONG: 151° 7' 8.428"W

HARRISON BAY, ALASKA

JOB NO: 16-1588	DRAWN: MSB
DATE: 11.1.2016	CHECKED: AF

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ALASKA DEPARTMENT OF NATURAL RESOURCES PUBLIC & PRIVATE RESOURCE MAP

HORSESHOE EXPLORATION PAD LOCATION MAP

HARRISON BAY, ALASKA

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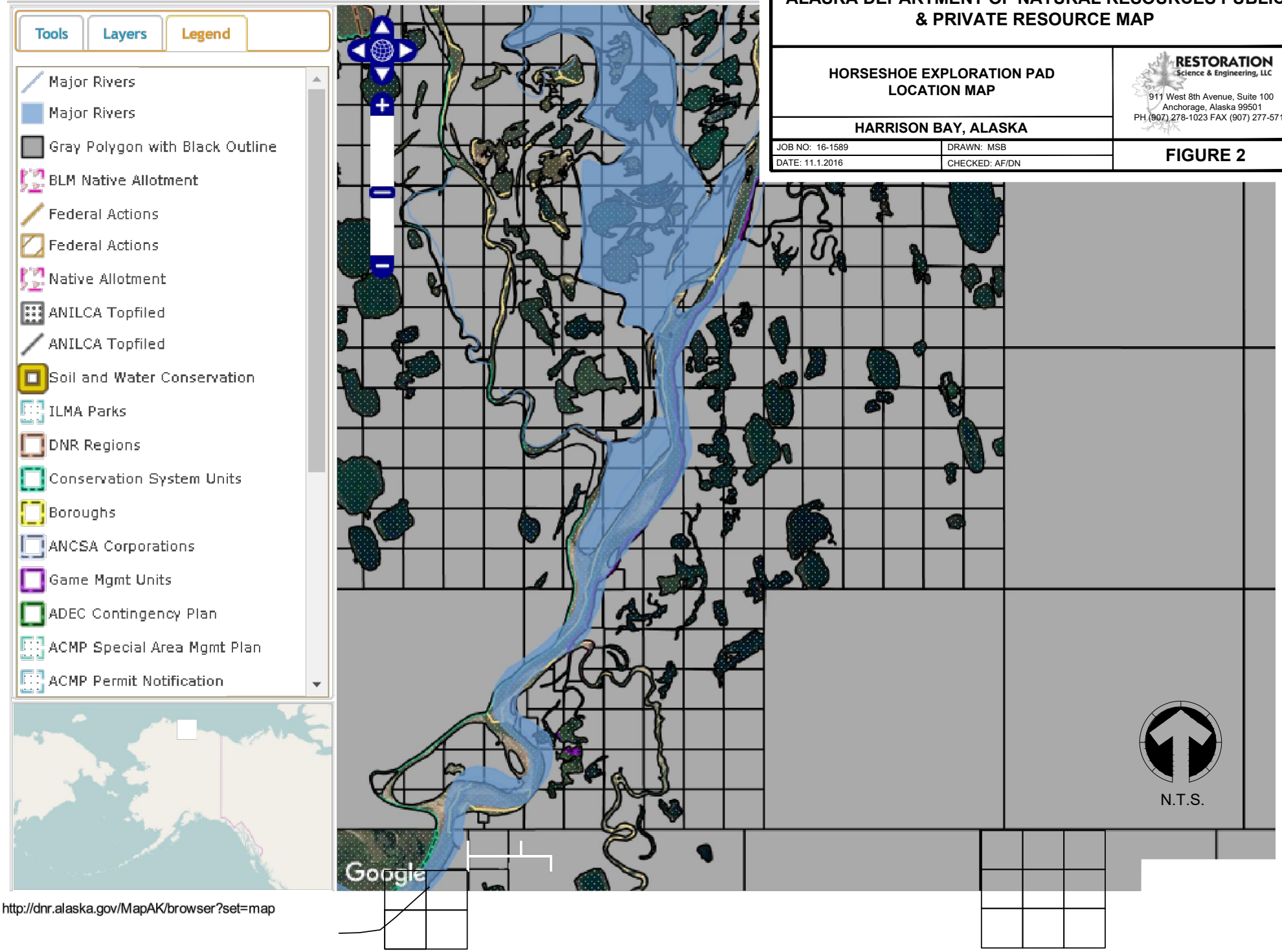
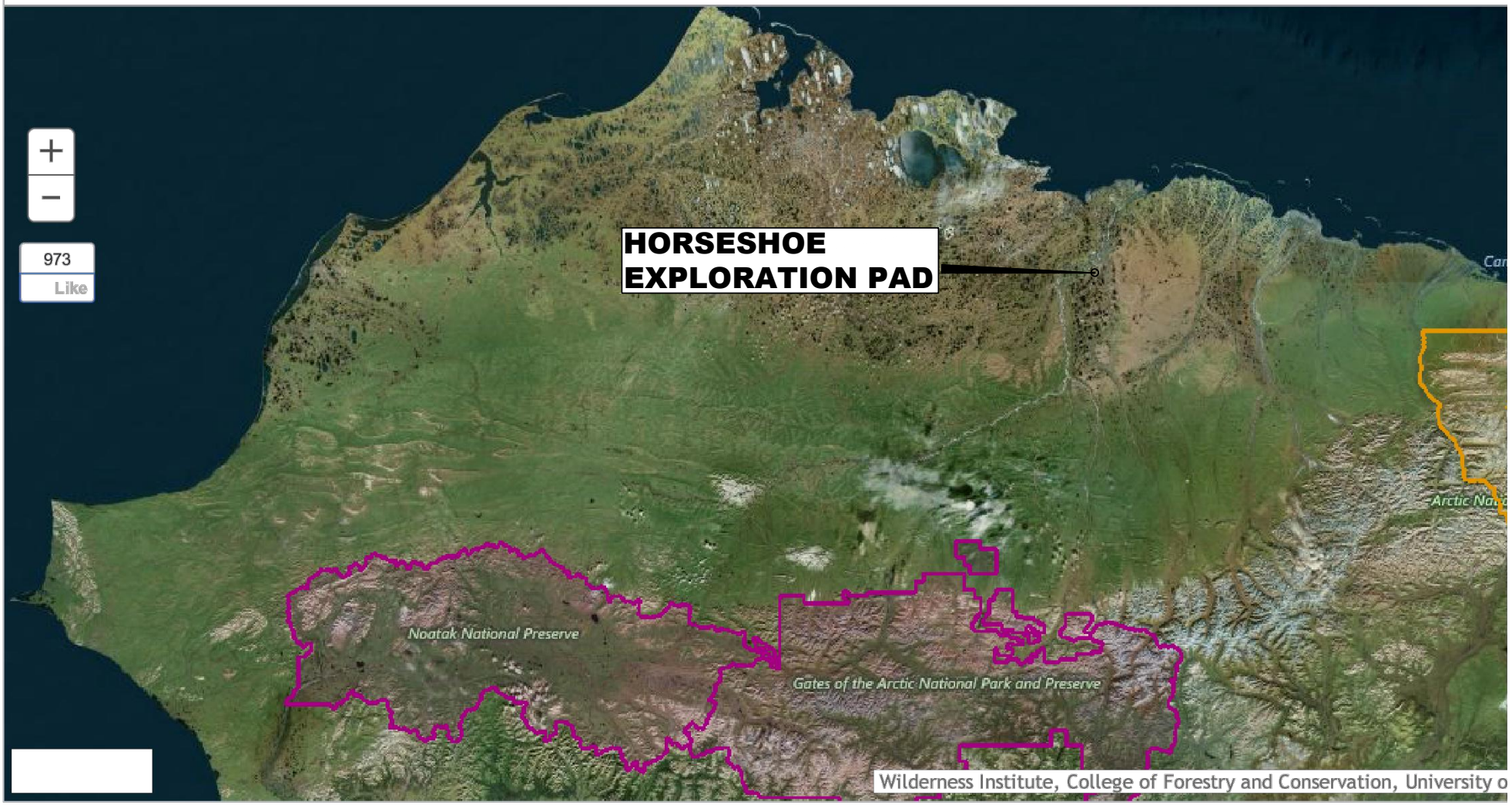
JOB NO: 16-1589	DRAWN: MSB
DATE: 11.1.2016	CHECKED: AF/DN

FIGURE 2



http://dnr.alaska.gov/MapAK/browser?set=map



Latitude/Longitude: 70.335181, -146.150815

Wildernesses Managed By: Bureau of Land Management; Fish and Wildlife Service; Forest Service; National Park Service

N.T.S.

BUREAU OF LAND MANAGEMENT WILDERNESS MAP

HORSESHOE EXPLORATION PAD
LOCATION MAP

HARRISON BAY, ALASKA

JOB NO: 16-1589	DRAWN: MSB
DATE: 11.1.2016	CHECKED: AF/DN

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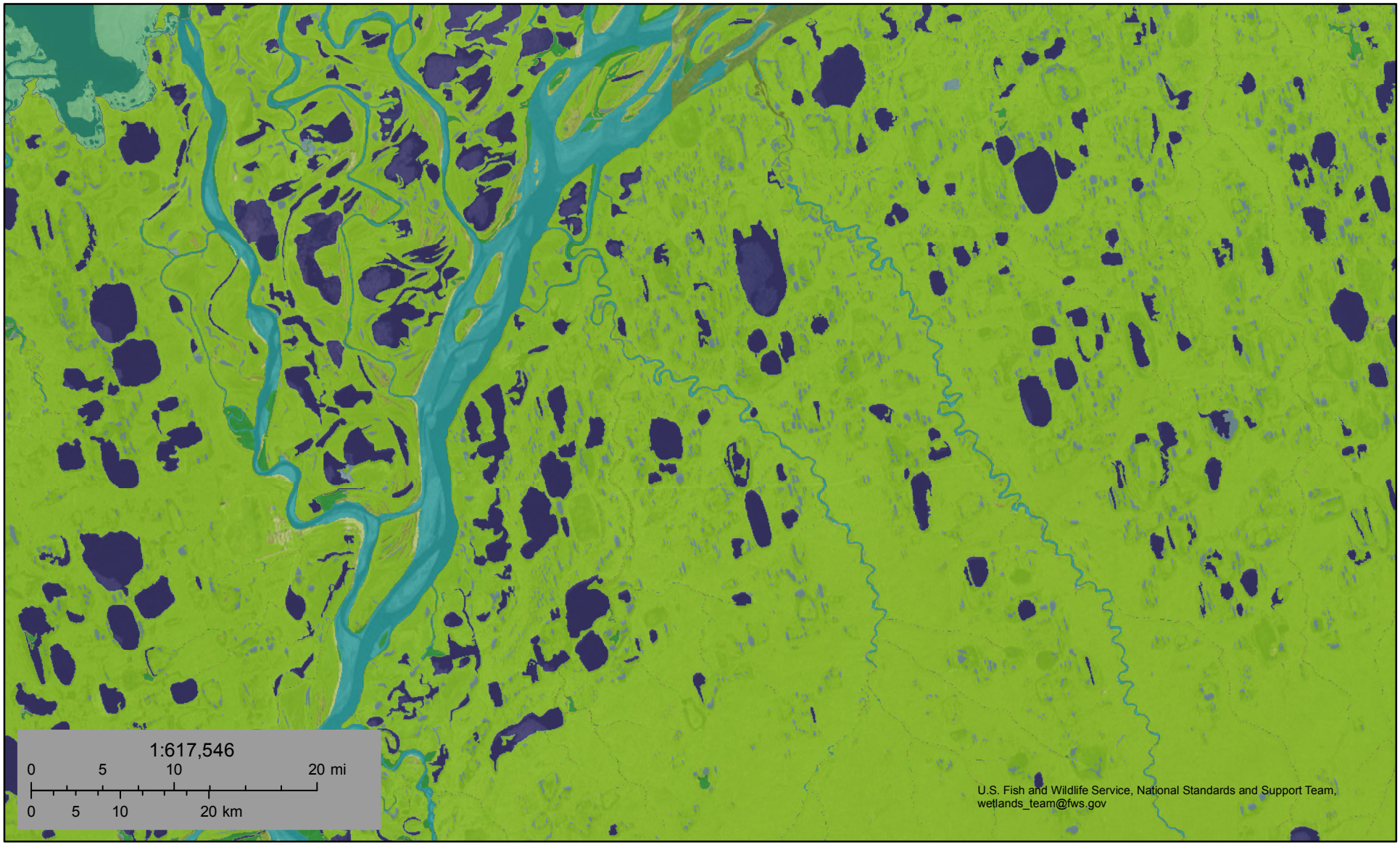
FIGURE 3

U.S. Fish and Wildlife Service

National Wetlands Inventory

Armstrong Exploration



September 21, 2016

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

APPENDIX B

Fish & Wildlife Consultation

September 16, 2016

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Bob Henszey
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Re: Section 7 Endangered Species Act Consultation Request
Armstrong Energy Pikka & Horseshoe Exploration Program Telecommunication Towers

Mr. Henszey,

On behalf of Armstrong Energy, LLC (Armstrong) and pursuant to the Endangered Species Act (ESA), Restoration Science & Engineering (LLC) is initiating informal Section 7 consultation and requesting concurrence from the U.S. Fish and Wildlife Service (the Service) that proposed temporary telecommunication towers located on four (4) pads throughout the Pikka and Horseshoe Exploration Area (map attached) are not likely to adversely affect threatened or endangered species (T&E).

The proposed exploration is located on State- and Native-owned land. Activities will occur exclusively during winter months in frozen conditions. No wetlands will be impacted as part of the proposed winter activities. The Federal Communications Commission (FCC) is the sole federal agency stakeholder for this project. No other NEPA consultation is required for this phase of the exploration program applicable to the communication towers herein described. The FCC requires completion of a brief "NEPA checklist" in lieu of full environmental assessments, of which consultations are included as appendices.

The four (4) communication towers each consist of a temporary 8 foot by 20 feet module housing associated electronics. The towers are ROAN 45 equipped with a 5.8 gigahertz microwave dish that will wirelessly connect to camps and rigs. Power will be delivered from camp generators independent of the tower and module. The communication antennae subject to Federal Communications Commission (FCC) environmental review are approximate 40-foot self-supporting towers. No cables or guy wires will be used in the installation and maintenance of the tower. According to the manufacturer, the same design and communication system has been used over the past ten years in the same region. The towers will be erected in November or December of 2016 and dismantled in April or May of 2017 prior to spring breakup.

None of the towers are lighted. Towers will be temporarily erected upon pre-permitted ice pads, and in one instance, at the Pikka Staging Pad, on a pre-existing gravel pad. The subject towers are located within the current known ranges of the Steller's eider (*Polysticta stelleri*), spectacled eider

(*Somateria fischeria*), and the Polar bear (*Urus maritimus*), but do not occur within any designated critical habitat area.

The information contained in this letter constitutes an evaluation of potential biological impacts on T&E species listed under the ESA. We conclude the facilities are not likely to adversely affect T&E species (ESA, Section 7 (a)(2)) and request your concurrence on this matter.

PROJECT AREA

These four (4) communications facilities comprise discrete action areas.

- Pikka Exploration Ice Pad: 70°14'38.18"N, 150°49'36.51"W
- Pikka Staging Pre-Existing Gravel Pad: 70°14'54.73"N, 150°17'15.74"W
- Horseshow Exploration Ice Pad: 70° 3'10.99"N, 150°25'58.67"W
- Horseshoe Staging Ice Pad: 70° 2'39.74"N, 151° 7'32.02"W

The communication tower will be constructed atop an ice pad during the 2016-2017 winter. Ice roads and ice pads are single season infrastructure and do not require a United States Army Corps of Engineers (Corps) permit. Ice roads for construction, materials, and personnel transportation will be constructed with a minimum of 6 inches of ice over snow cover to support expected loads and protect the vegetation and organic soil beneath. Ice roads will also be constructed to avoid ice-road sensitive vegetation, such as willows, that extend above the snow level, per North Slope Borough permit stipulations. Water for ice roads and ice pads will be obtained from permitted surface water sources.

LISTED SPECIES AND POTENTIAL EFFECTS

Spectacled Eider & Steller's Eider

The Service listed both eider species as threatened; the spectacled eider on May 10, 1993 (58 FR 27474), and the Alaska-breeding population of Steller's eiders on June 11, 1997 (62 FR 31748). Spectacled and Alaska-breeding Steller's eiders nest on the North Slope, migrate to the Chukchi Sea, and continue along the western coast of Alaska to and from wintering and molting areas further south. The towers are within the general flight path and altitude of eider migratory routes. Therefore, some individuals may be at risk of colliding with towers. Due to limited information regarding exact movements of eiders along the coast, the collision risk cannot be accurately assessed for these locations. However, the anticipated risk of listed eiders colliding with the telecommunications facilities is so low as to be discountable, given the towers lack lighting, guy wires, and are temporary in nature limited to the winter season.

Polar Bear

On May 15, 2008, the Service listed the Polar bear as threatened (73 FR 28212). The action areas are located within discrete village boundaries, with a high frequency of human activity. Preferred Polar bear habitats, such as those used for denning, feeding and resting, are not present within any action area. Development at each site is secured during project activities and Armstrong policy is

explicit in the careful handling and disposal of bear attractants. Armstrong additionally maintains rigid spill response and control measures to minimize the possibility of the release of onsite releases of contaminants or toxic substances to which Polar bears may be exposed. Effects to Polar bears are expected to be insignificant; accordingly, the species is not likely to be adversely affected by the action areas.

CONCLUSION

We conclude the above-listed temporary Armstrong telecommunications towers are not likely to adversely affect listed eiders or Polar bears. We request the Service's concurrence with this finding.

Regards,

Arran Forbes

RESTORATION SCIENCE & ENGINEERING

Attachments:

A. Location Map
B. Site Photographs

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Fairbanks Fish and Wildlife Field Office
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Fairbanks, Alaska 99701
September 30, 2016

Arran Forbes
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Anchorage, Alaska 99501

Re: Section 7 ESA Endangered Species Act Consultation Request
Armstrong Energy Pikka & Horseshoe Exploration Program Telecommunication Towers

Dear Ms. Forbes:

This letter is in response to your request for consultation on endangered and threatened species, and critical habitats pursuant to section 7 of the Endangered Species Act of 1973 (ESA), as amended. The U.S. Fish & Wildlife Service (Service) has reviewed the proposed action to determine if it would adversely affect listed species under our jurisdiction. Three species listed as threatened under the ESA occur in the project area: spectacled eiders (*Somateria fischeri*), Alaska-breeding Steller's eiders (*Polysticta stelleri*), and polar bears (*Ursus maritimus*). In addition, polar bear critical habitat was recently reinstated by the Ninth Circuit Court of Appeals. Due to the reinstatement, we evaluate potential effects of the proposed action to polar bear critical habitat below.

THE PROPOSED ACTION

We understand Armstrong Energy proposes to install four temporary communication towers at existing ice and gravel pads on the North Slope (Figure 1) under authority of the Federal Communications Commission (FCC). We understand Restoration Science & Engineering, LLC is consulting on behalf of Armstrong Energy (Armstrong), the licensee, and non-federal representative designated by the FCC for the proposed project.

The four temporary communications towers would each consist of an approximately 40 ft (12.2 m) self-supporting (i.e., no guy wires) tower and 8 × 20 ft (2.4 × 6.1 m) module housing associated electronics. Power would be delivered from camp generators. Towers would be unlighted and they would be erected in November or December, 2016 and dismantled in April or May of 2017 prior to breakup. Ice road and pads would be constructed by Armstrong and other Industry entities for purposes ancillary to installation of the proposed communication towers.

THE ACTION AREA

The action area includes the four locations where the temporary communications towers would be deployed on the North Slope of Alaska. Specifically, these locations are the Pikka Exploration Pad, Pikka Staging Pad, Horseshow Exploration pad, and Horseshow Staging Pad (Figure 1). With the exception of the Pikka Staging pad, which is a pre-existing gravel pad, all other pads would be single-season ice infrastructure.

EFFECTS OF THE ACTION ON LISTED SPECIES

Project effects on listed eiders

The Service listed the spectacled eider on May 10, 1993 (58 FR 27474) and the Alaska-breeding population of the Steller's eider as threatened on June 11, 1997 (62 FR 31748). Spectacled and Steller's eiders can occur in the project area between May and September, although they occur at low densities and Steller's eiders are particularly rare.

Spectacled and Steller's eiders may migrate through, or nest within the action area. However, because the proposed installation would not be in place during the period when listed eiders nest (June 1 - July 31), direct effects to nesting eiders would be extremely unlikely. Nonetheless, because listed eiders may be present in the action area as early as May, before the towers would be dismantled, migrating eiders or those making local movements could conceivably collide with the towers. Eiders are known to fly at low altitudes (32 ft [10 m]), and this tendency to fly near the ground puts eiders at risk of striking even relatively low objects in their path. However, due to their low density, we anticipate risk of listed eider mortality from collisions with the communication structures would be very low. Furthermore, because the towers would be unlighted, the risk collision caused by attraction and disorientation is likely reduced. Finally, because the towers would be un-guyed, and located adjacent to communications modules, it is likely eiders would divert around the communications facilities as they detect and avoid other structures.

Because 1) listed eider density in the action areas is low, 2) towers would be dismantled shortly after listed eiders arrive in the action area in May, 3) towers would be unlighted and un-guyed, and 3) eiders would likely divert around towers as they detect and avoid other structures; an appreciable level of injury or death to listed eiders from collisions with the proposed temporary communication towers is not anticipated. Therefore we expect effects of the proposed action on listed eiders would be insignificant.

Project effects on polar bears

The Service listed the polar bear as a threatened species under the ESA on May 15, 2008 (73 FR 28212). Polar bears may occasionally pass through or den in the action area, although their density is low and encounters are expected to be infrequent. Transient (non-denning) bears that enter the action area could be disturbed by the presence of humans or equipment noise. However, we expect disturbances would be minor and temporary because transient bears would be able to respond to human presence or disturbance by departing the area. Furthermore for reference, the Service is providing standard *Polar Bear Interaction Guidelines* (attached) for personnel to follow in the unlikely event polar bears are encountered during the proposed activities.

In addition to transient animals, female polar bears may den at low densities in the action area. Denning polar bears may be particularly susceptible to disturbance. For example, disturbance from associated ice road construction and other activities could potentially cause females to abandon dens before cubs are able to survive. However, we understand Armstrong and other Industry entities responsible for constructing ice road infrastructure will coordinate with the Service's Marine Mammals Management Office (MMM) in conducting pre-construction den detection with forward looking infrared surveys or other techniques. Furthermore, MMM may provide Armstrong with additional recommendations or stipulations (e.g., through Letters of Authorization) to further avoid or minimize potential impacts to denning polar bears.

Because (1) the density of polar bears in the action area is low; (2) encounters with polar bears are expected to be infrequent; (3) behavioral effects to transient bears would be minor and temporary; (4) mitigation measures included in the attached interaction guidelines, as well as recommendations or stipulations provided by MMM, would minimize potential impacts in the event transient or denning polar bears are encountered; and (5) the low probability of polar bears denning in the action area, we expect effects of the proposed action on polar bears would be insignificant.

Project effects to polar bear critical habitat

On October 29, 2009, the Service proposed critical habitat for polar bears (74 FR 56058) and a final rule designating critical habitat was issued on December 7, 2010 (75 FR 76086). However, the U.S. District Court for the District of Alaska issued a decision to the Service on January 11, 2013 which vacated and remanded the final rule on polar bear critical habitat in *Alaska Oil and Gas Association et al. v. Salazar et al* (D. Alaska)(3:11-cv-00025-RRB). On February 29, 2016 the Ninth Circuit Court of Appeals upheld the final polar bear critical habitat rule on all points.

The proposed action would occur within Unit 2, terrestrial denning habitat, of designated polar bear critical habitat. Although the temporary communication towers would have no impact on terrestrial denning habitat, construction of ice road infrastructure could potentially impact a very small proportion of terrestrial denning habitat during the 2016-2017 winter season. However because, 1) the project footprint is limited in size and construction of permanent infrastructure would not occur, 2) the majority of the action area lacks topographic features (e.g., coastal bluffs and river banks that accumulate snow and support denning (Figure 1), and 3) Armstrong has committed to coordinate with MMM on conducting pre-construction den detection surveys; the Service concludes impacts to habitat associated with the proposed project would not appreciably diminish the value of terrestrial denning habitat for the survival and recovery of polar bears.

CONCLUSION

The proposed action presents a minor collision risk to listed eiders in the project area. However, due to low densities of these species and the configuration of the communication towers, we expect the effects of collision risk to be insignificant. Furthermore, although the proposed activities could temporarily disturb polar bears in the project area, due to low densities of this

species and minimization measures in place, we expect the effects of disturbance to be insignificant. Additionally, destruction or adverse modification of polar bear critical habitat is not expected. Therefore the Service concludes the proposed action is not likely to adversely affect listed eiders or polar bears. Preparation of a Biological Assessment or further consultation under section 7 of the ESA is not necessary at this time. Thank you for the opportunity to comment on this project. If you need further assistance, please contact Kaithryn Ott at (907) 456-0277.

Sincerely,

ACTING FOR:

Robert J. Henszey
Branch Chief
Planning and Consultation

Figure 1. Four locations where the temporary communication towers would be installed on the North Slope near Nuiqsut, Alaska.

POLAR BEAR INTERACTION GUIDELINES

These Polar Bear Interaction Guidelines (Guidelines) were developed to ensure activities are conducted in a manner that avoids conflicts between humans and polar bears. Polar bears are protected under the Marine Mammal Protection Act (MMPA), and were listed as a threatened species under the Endangered Species Act (ESA) in 2008. The MMPA and ESA both prohibit the "take" of polar bears without authorization. Take includes disturbance/harassment, as well as physical injury and killing of individuals.

In addition to sea ice, polar bears use marine waters and lands in northern Alaska for resting, feeding, denning, and seasonal movements. They are most likely to be encountered within 25 miles of the coastline, especially along barrier islands during July-October. Polar bears may also be encountered farther inland, especially females during the denning period (October-April). Polar bears may react differently to noise and human presence. The general methods for minimizing human-bear conflicts are to: 1) avoid detection and close encounters; 2) minimize attractants; and 3) recognize and respond appropriately to polar bear behaviors. These Guidelines provide information for avoiding conflicts with polar bears during air, land, or water-based activities.

Unusual sightings or questions/concerns can be referred to: Susanne Miller or Craig Perham, Marine Mammals Management Office (MMM Office), 1-800-362-5148; or to Sarah Conn (907) 456-0499 of the Fairbanks Fish & Wildlife Field Office (FFWFO).

When operating aircraft:

- If a polar bear(s) is encountered, divert flight path to a minimum of 2,000 feet above ground level or ½ mile horizontal distance away from observed bear(s) whenever possible.

When traveling on land or water:

- Avoid surprising a bear. Be vigilant—especially on barrier islands, in river drainages, along bluff habitat, near whale or other marine mammal carcasses, or in the vicinity of fresh tracks.

- Between October and April special care is needed to avoid disturbance of denning bears. If activities are to take place in that time period the MMM Office should be contacted to determine if any additional mitigation is required. In general, activities are not permitted within one mile of known den sites.

- Avoid carrying bear attractants (such as strongly scented snacks, fish, meat, or dog food) while away from camp; if you must carry attractants away from camp, store foods in air-tight containers or bags to minimize odor transmission until you return them to "bear-resistant" containers.*

- If a polar bear(s) is encountered, remain calm and avoid making sudden movements. Stay downwind if possible to avoid allowing the bear to smell you. Do not approach polar bears. Allow bears to continue what they were doing before you encountered them. Slowly leave the vicinity if you see signs that you've been detected. Be aware that safe viewing distances will vary with each bear and individual situation. Remember that the closer you are to the animal, the more likely you are to disturb it.

- If a bear detects you, observe its behavior and react appropriately. Polar bears that stop what they are doing to turn their head or sniff the air in your direction have likely become aware of your presence. These animals may exhibit various behaviors:

    - *Curious* polar bears typically move slowly, stopping frequently to sniff the air, moving their heads around to catch a scent, or holding their heads high with ears forward. They may also stand up.

    - *A threatened or agitated* polar bear may huff, snap its jaws together, stare at you (or the object of threat) and lower its head to below shoulder level, pressing its ears back and swaying from side to side. These are signals for you to begin immediate withdrawal by backing away from the bear. If this behavior is ignored, the polar bear may charge. Threatened animals may also retreat.

    - In rare instances you may encounter a *predatory* bear. It may sneak or crawl up on an object it considers prey. It may also approach in a straight line at constant speed without exhibiting curious or threatened behavior. This behavior suggests the bear is about to attack. Standing your ground, grouping together, shouting, and waving your hands may halt the bear's approach.

- If a polar bear approaches and you are in the bear's path—or between a mother and her cubs—get out of the way (without running). If the animal continues to approach, stand your ground. Gather people together in a group and/or hold a jacket over your head to look bigger. Shout or make noise to discourage the approach.

- If a single polar bear attacks, defend yourself by using any deterrents available. If the attack is by a surprised female defending her cubs, remove yourself as a threat to the cubs.

When camping:

- Avoid camping or lingering in bear high-use areas such as river drainages, coastal bluffs and barrier islands.

- Store food and other attractants in "bear-resistant" containers*. Consider the use of an electric fence as additional protection. Do not allow the bear to receive food as a reward in your camp. A food-rewarded bear is likely to become a problem bear for you or someone else in the future.

- Maintain a clean camp. Plan carefully to: minimize excess food; fly unnecessary attractants out on a regular basis (i.e. garbage, animal carcasses, excess anti-freeze or petroleum products); locate latrines at least ¼ mile from camp; and wash kitchen equipment after every use.

- If a polar bear approaches you in camp, defend your space by gathering people into a large group, making noise and waving jackets or tarps. Continue to discourage the bear until it moves off. Have people watch the surrounding area in case it returns later, keeping in mind that polar bears are known to be more active at night. Additional measures to protect your camp, such as electric fences or motion sensors can be used.

Harassment of polar bears is not permissible, unless such taking (as defined under the MMPA) is imminently necessary in defense of life, and such taking is reported to FWS within 48 hours.

*Containers must be approved and certified by the Interagency Grizzly Bear Committee as "bear-resistant." Information about certified containers can be found at http://www.igbconline.org/html/container.html.

APPENDIX C

Cultural Resources Consultation

FCC Form 620

Notification Date: **7AM EST 10/19/2016**
File Number: **0007495983**

FCC Wireless Telecommunications Bureau
New Tower ("NT") Submission Packet

Approved by OMB
3060 – 1039
See instructions for
public burden estimates

General Information

1) (Select only one) **(UA)** **NE** – New **UA** – Update of Application **WD** – Withdrawal of Application	
2) If this application is for an Update or Withdrawal, enter the file number of the pending application currently on file.	File Number: **0007495983**

Applicant Information

3) FCC Registration Number (FRN): **0025922493**
4) Name: **Armstrong Energy, LLC, Horseshoe Oil/Gas Exploration Project, Colville River, North Slope, Alaska**

Contact Name

5) First Name: **Robert**	6) MI:	7) Last Name: **Britch**	8) Suffix:
9) Title: **Senior Advisor, Armstrong Energy LLC**			

Contact Information

10) P.O. Box:	**And /Or**	11) Street Address: **510 L. Street Suite 310**		
12) City: **Anchorage**			13) State: **AK**	14) Zip Code: **99501**
15) Telephone Number: **(907)240-5830**		16) Fax Number:		
17) E-mail Address: **bbritch@alaska.net**				

Consultant Information

18) FCC Registration Number (FRN): **0025944794**
19) Name: **Charles M. Mobley & Associates**

Principal Investigator

20) First Name: **Charles**	21) MI: **M**	22) Last Name: **Mobley**	23) Suffix:
24) Title: **Owner, Charles M. Mobley & Associates**			

Principal Investigator Contact Information

25) P.O. Box: **534**	**And /Or**	26) Street Address: **200 West 34th Avenue**		
27) City: **Anchorage**			28) State: **AK**	29) Zip Code: **99503**
30) Telephone Number: **(907)653-1937**		31) Fax Number:		
32) E-mail Address: **charlesmmobley@gmail.com**				

Professional Qualification

33) Does the Principal Investigator satisfy the Secretary of the Interior's Professional Qualification Standards?	(**X**) **Y**es ( ) **N**o

34) Areas of Professional Qualification:

(**X**) Archaeologist

(**X**) Architectural Historian

( ) Historian

( ) Architect

( ) Other (Specify) _____

Additional Staff

35) Are there other staff involved who meet the Professional Qualification Standards of the Secretary of the Interior?	(**X**) **Y**es ( ) **N**o

If "YES," complete the following:

36) First Name: **Ottar**	37) MI:	38) Last Name: **Mobley**	39) Suffix:

40) Title:

41) Areas of Professional Qualification:

(**X**) Archaeologist

( ) Architectural Historian

( ) Historian

( ) Architect

( ) Other (Specify) _____

Site Information

Tower Construction Notification System

1) TCNS Notification Number: **144130**

Site Information

2) Positive Train Control Filing Subject to Expedited Treatment Under Program Comment: ( ) Yes (X) No

3) Site Name: **Horseshoe Exploration Pad**

4) Site Address: **North Slope of Alaska, 13 air miles south of Nuiqsut**

5) Detailed Description of Project:

The communication tower on the Horseshoe ice pad is proposed to support an exploration project targeting oil deposits. Project activities require the construction of a temporary (November 2016 through May 2017) communication tower on an ice pad.

6) City: **Nuiqsut**	7) State: **AK**	8) Zip Code: **99789**

9) County/Borough/Parish: **NORTH SLOPE**

10) Nearest Crossroads: **None. Rural Area.**

11) **NAD 83** Latitude (DD-MM-SS.S): **70-02-32.9** (X) N or ( ) S

12) **NAD 83** Longitude (DD-MM-SS.S): **151-07-43.7** ( ) E or (X) W

Tower Information

13) Tower height above ground level (include top-mounted attachments such as lightning rods): **12.2** ( ) Feet (X) Meters

14) Tower Type (Select One):

( ) Guyed lattice tower

( ) Self-supporting lattice

( ) Monopole

(X) Other (Describe): Building with Tower

Project Status

15) Current Project Status (Select One):

(X) Construction has not yet commenced

( ) Construction has commenced, but is not completed Construction commenced on: _____

( ) Construction has been completed Construction commenced on: _____

Construction completed on: _____

Determination of Effect

14) Direct Effects (Select One):

( ) No Historic Properties in Area of Potential Effects (APE)

( ) No Effect on Historic Properties in APE

(**X**) No Adverse Effect on Historic Properties in APE

( ) Adverse Effect on one or more Historic Properties in APE

15) Visual Effects (Select One):

( ) No Historic Properties in Area of Potential Effects (APE)

( ) No Effect on Historic Properties in APE

(**X**) No Adverse Effect on Historic Properties in APE

( ) Adverse Effect on one or more Historic Properties in APE

Tribal/NHO Involvement

1) Have Indian Tribes or Native Hawaiian Organizations (NHOs) been identified that may attach religious and cultural significance to historic properties which may be affected by the undertaking within the APEs for direct and visual effects?	(**X**) **Y**es ( ) **N**o

2a) Tribes/NHOs contacted through TCNS Notification Number: **144130** Number of Tribes/NHOs: **0**

2b) Tribes/NHOs contacted through an alternate system: Number of Tribes/NHOs: **1**

Tribe/NHO Contacted Through TCNS

3) Tribe/NHO FRN:
4) Tribe/NHO Name:

Contact Name

5) First Name:	6) MI:	7) Last Name:	8) Suffix:
9) Title:			

Dates & Response

10) Date Contacted _____ 11) Date Replied _____

( ) No Reply

( ) Replied/No Interest

( ) Replied/Have Interest

( ) Replied/Other

Other Tribes/NHOs Contacted

Tribe/NHO Information

1) FCC Registration Number (FRN):
2) Name: **Native Village of Nuiqsut**

Contact Name

3) First Name: **Margaret**	4) MI:	5) Last Name: **Pardue**	6) Suffix:
7) Title: **President**			

Contact Information

8) P.O. Box:	**And /Or**	9) Street Address: **2205 2nd Ave**		
10) City: **Nuiqsut**			11) State: **AK**	12) Zip Code: **99789**
13) Telephone Number: **(907)480-3010**		14) Fax Number:		
15) E-mail Address: **native.village@astacalaska.net**				
16) Preferred means of communication: ( ) E-mail (**X**) Letter ( ) Both				

Dates & Response

17) Date Contacted **10/06/2016** 18) Date Replied _____

(**X**) No Reply

( ) Replied/No Interest

( ) Replied/Have Interest

( ) Replied/Other

Historic Properties

Properties Identified

1) Have any historic properties been identified within the APEs for direct and visual effect?	(X) Yes ( ) No
2) Has the identification process located archaeological materials that would be directly affected, or sites that are of cultural or religious significance to Tribes/NHOs?	(X) Yes ( ) No
3) Are there more than 10 historic properties within the APEs for direct and visual effect? If "Yes", you are required to attach a Cultural Resources Report in lieu of adding the Historic Property below.	( ) Yes (X) No

Historic Property

4) Property Name: **Colville #1 Peat Road**
5) SHPO Site Number: **HAR-173**

Property Address

6) Street Address: **Umiat Meridian N70.03929/W151.06928**		
7) City: **Nuiqsut**	8) State: **AK**	9) Zip Code: **99789**
10) County/Borough/Parish: **NORTH SLOPE**		

Status & Eligibility

11) Is this property listed on the National Register? Source: _____	( ) Yes (X) No
12) Is this property eligible for listing on the National Register? Source: HDR, Inc. (1916) Nanushuk Project Cultural Resources Survey Report. Draft report prepared by HDR. Inc., under contract to Armstrong Energy, LLC.	(X) Yes ( ) No
13) Is this property a National Historic Landmark?	( ) Yes (X) No

14) Direct Effects (Select One):

( ) No Effect on this Historic Property in APE

(X) No Adverse Effect on this Historic Property in APE

( ) Adverse Effect on this Historic Property in APE

15) Visual Effects (Select One):

( ) No Effect on this Historic Property in APE

(X) No Adverse Effect on this Historic Property in APE

( ) Adverse Effect on this Historic Property in APE

Local Government Involvement

Local Government Agency

1) FCC Registration Number (FRN):
2) Name: **Native Village of Nuiqsut**

Contact Name

3) First Name: **Eli**	4) MI:	5) Last Name: **Nukapigak**	6) Suffix:
7) Title: **Tribal Member**			

Contact Information

8) P.O. Box: **89169**	**And /Or**	9) Street Address:		
10) City: **Nuiqsut**			11) State: **AK**	12) Zip Code: **99789**
13) Telephone Number: **(907)480-3010**		14) Fax Number:		
15) E-mail Address: **ENukapigak@asrc.com**				
16) Preferred means of communication: ( ) E-mail (**X**) Letter ( ) Both				

Dates & Response

17) Date Contacted **07/22/2016** 18) Date Replied **07/22/2016**

( ) No Reply

( ) Replied/No Interest

(**X**) Replied/Have Interest

( ) Replied/Other

Additional Information

19) Information on local government's role or interest (optional):

Local Government Involvement

Local Government Agency

1) FCC Registration Number (FRN):
2) Name: **North Slope Borough**

Contact Name

3) First Name: **Tommy**	4) MI:	5) Last Name: **Nageak**	6) Suffix:
7) Title: **Manager, Traditional Land Use Inventory**			

Contact Information

8) P.O. Box: **69**	**And /Or**	9) Street Address:		
10) City: **Barrow**			11) State: **AK**	12) Zip Code: **99723**
13) Telephone Number: **(907)852-0440**		14) Fax Number:		
15) E-mail Address: **tommy.nageak@north-slope.org**				
16) Preferred means of communication: ( ) E-mail (**X**) Letter ( ) Both				

Dates & Response

17) Date Contacted **06/08/2016** 18) Date Replied **06/08/2016**

( ) No Reply

( ) Replied/No Interest

(**X**) Replied/Have Interest

( ) Replied/Other

Additional Information

19) Information on local government's role or interest (optional):

Mr. Nageak indicated by telephone on June 8, 2016, that there were no traditional land use sites in the area of potential effect.

Other Consulting Parties

Other Consulting Parties Contacted

1) Has any other agency been contacted and invited to become a consulting party?	( ) Yes (X) No

Consulting Party

2) FCC Registration Number (FRN):
3) Name:

Contact Name

4) First Name:	5) MI:	6) Last Name:	7) Suffix:
8) Title:			

Contact Information

9) P.O. Box:	**And /Or**	10) Street Address:		
11) City:			12) State:	13) Zip Code:
14) Telephone Number:		15) Fax Number:		
16) E-mail Address:				
17) Preferred means of communication: ( ) E-mail ( ) Letter ( ) Both				

Dates & Response

18) Date Contacted _____ 19) Date Replied _____

( ) No Reply

( ) Replied/No Interest

( ) Replied/Have Interest

( ) Replied/Other

Additional Information

20) Information on other consulting parties' role or interest (optional):

Designation of SHPO/THPO

1) Designate the Lead State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) based on the location of the tower.

SHPO/THPO

Name: **Alaska DNR, Ofc History & Archeology**

2) You may also designate up to three additional SHPOs/THPOs if the APEs include multiple states. If the APEs include other countries, enter the name of the National Historic Preservation Agency and any state and provincial Historic Preservation Agency.

SHPO/THPO Name: _____

SHPO/THPO Name: _____

SHPO/THPO Name: _____

Certification

I certify that all representations on this FCC Form 620 Submission Packet and the accompanying attachments are true, correct, and complete.

Party Authorized to Sign

First Name: **Robert**	MI:	Last Name: **Britch**	Suffix:

Signature: **Robert Britch** Date: **10/18/2016**

FAILURE TO SIGN THIS APPLICATION MAY RESULT IN DISMISSAL OF THE APPLICATION AND FORFEITURE OF ANY FEES PAID.

WILLFUL FALSE STATEMENTS MADE ON THIS FORM OR ANY ATTACHMENTS ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. Code, Title 18, Section 1001) AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

Attachments :

Type	Description	Date Entered
Tribal/NHO Involvement	Tribal/NHO Documentation	10/06/2016
Public Involvement	Public Outreach Meeting Minutes	10/06/2016
Photographs	Exploration Pad Location Photos	10/06/2016
Local Government Involvement	NSB Contact	10/06/2016
Map Documents	Horseshoe Area Map	10/06/2016
Area of Potential Effects	APE Summary	10/06/2016
Historic Properties for Visual Effects	Historic Properties Summary	10/06/2016
Historic Properties for Direct Effects	Historic Properties Summary	10/06/2016
Resumes/Vitae	CM Resume/CV	10/17/2016
Confidential	AHRS User Agreement	10/17/2016
Cultural Resources Report	Archaeology Report	10/17/2016
State-Specific Forms	Cultural Resources Report Cover Sheet	10/17/2016
Other	Britch Hardcopy Signature	10/18/2016

10·28·16 3130-3R NSB

ARMSTRONG
Energy, LLC

RECEIVED
OCT 17 2016
OHA

October 17, 2016

Ms. Judith Bittner
Office of History & Archaeology
550 W 7th Ave Suite 1310
Anchorage, AK 99501-3565

Re: Cultural Resource Investigation
Horseshoe Ice Pads and Roads-Revised
North Slope, Alaska
Armstrong Energy, LLC

Dear Ms. Bittner:

Attached is our revised final report and cover sheet prepared by Charles M. Mobley & Associates for Armstrong Energy, LLC's Horseshoe project on the Colville River, North Slope. The project involves construction of ice roads and pads this coming winter. The revision includes addition of a camp pad near the drilling pad. The pad location was surveyed this past summer, but the need for the pad was not established until the past several weeks.

Dr. Mobley recommends a determination of no historic properties affected for the project. Please contact me if questions arise. We look forward to your concurrence

If you have any questions, please contact me at (907) 240-5830.

Sincerely,

Robert P. Britch

Robert P. Britch, PE
Senior Advisor

No Historic Properties Adversely Affected
Alaska State Historic Preservation Officer
Date: 10·28·16 File No.: 3130-3R NSB 2016-01268
Please review: 36 CFR 800.13 / A.S. 41.35.070(d)

2016·01268

APPENDIX D

Community Involvement

NOTICE OF PUBLIC REVIEW PERIOD

Proposed Communication Antennae Construction

Armstrong Energy, LLC has prepared environmental assessments for the construction of three (3) Federal Communication Commission (FCC) antennae towers on the North Slope of Alaska as part of the winter 2016-2017 Horseshoe Exploration Project. The Environmental Assessments have been posted to the FCC Register for public comment and review.

The proposed temporary antennae will be approximately 40 feet in height, constructed during the winter of 2016 and dismantled in the spring of 2017. No bright lights will be installed. Armstrong Energy has consulted with the US Fish and Wildlife Service, which determined the antennae would not have adverse effects to threatened or endangered species, as well as the State Historic Preservation Office, which determined that the antennae do not adversely affect cultural resources.

Antennae registration applications and environmental assessments can be found at:

www.wireless.fcc.gov/antenna

Horseshoe Exploration Pad Antenna: ID 144130

Horseshoe Camp Pad Antenna: ID 144596

Horseshoe Staging Pad Antenna: ID 143746

The public review and comment period will be open for thirty (30) days past the date of this notice, October 31, 2016

Nanushuk Project

Armstrong Energy, LLC

MEETING MINUTES		
	Project Name:	Nanushuk Project
	Meeting Subject:	Development Community Meeting – Nuiqsut
	Date of Meeting:	8/8/2016

ATTENDED BY:	ORGANIZATION:	ATTENDED BY:	ORGANIZATION:
Ed Teng	Armstrong	14. Pamela Oyagak	
Patrick Conway (PC)	Armstrong	15. Dora Ahkiviana	
Cindy Bailey (CB)	Armstrong	16. Madison Nashoalook	
Leon Matumeak (LM)	Armstrong / All American Oilfield	17. Quinton	
Federico Lier	Armstrong	18. Teddy	
Bob Britch	Armstrong	19. George Sielak	
Jennifer Adleman	HDR	20. Carolyn Oyagak	
1. Euince Pausanna		21. James Taalak	city
2. Lydia K. Sovalik		22. Roxy Oyagak	
3. Vanessa Tagarook (signed-in twice)		23. Peter Tagarook, Jr.	
4. Vera Tagarook		24. Carl S. Brower (CB2)	Kuukpik Board
5. Irene Mekiana		25. Bryan Nukapigak	
6. Virginia Kasak		26. Charity Nukapigak	
7. Jimmy Kasak, Jr.		27. Dezi-Rae Attungowruk	
8. Peter Kosbruk		28. Glenn Taalak	
9. Devlin		29. Melissa Downey	
10. Wendy Brower		30. Jouple Nelson	
11. Raymond Ipalook		31. Lorene Brower	
12. Richard Tukle		32. Ray Kasak	
13. Eunice Mary Brower		33. Jesse Hopson	

ATTENDED BY:	ORGANIZATION:	ATTENDED BY:	ORGANIZATION:
34. Verna Hopson		40. Michael Brower	
35. Joe Nukapigak	Kuukpik Board President	41. Laura Hopson	
36. Kara Kasak		42. Julie Web	
37. Dean Katairoak		43. Jerry Sovalik	
38. Dori Gray		44. Ed Nukapigak	
39. Kylie Nelson		45. Amber Hopson	

Attendees with names to confirm (15 in total):

Trei; Kathleen N. (signed-in twice); Rulees Nukpigak; Cecelia Galler;; Camelia Souvalik; Forrest Hayukok; Clarence Hughs; Mempik; Humie Gray; Mak; Colleen Salki; Yvonne Panigeo; H. Kittle;

Two illegible attendees were noted.

AGENDA ITEMS:

Item	Agenda Item	Leader	Duration (with translation)
1.	Introductions (Armstrong and support staff)	LM	5 min
2.	Exploration update and upcoming fall meeting	PC	5 min
3.	Development update (proposed project and anticipated U.S. Army Corps of Engineers [USACE] alternatives developed based on scoping)	PC	35 min
4.	Questions and Answers	PC	5 min

ACTION ITEMS:

Item	Action Item	Action By	Date Req.
1.	Clarify what the Kuukpik Corporation board recognizes as a unit.	Armstrong	ASAP

KEY ISSUES:

1.	Will there be a boat dock and pad for vehicles?
2.	Commenter provided full name, stating that it was for the record. Are attendees able to distinguish between the opportunities for testimony and other public meetings? Is this a concern?
3.	Does Kuukpik (Joe) understand the transfer of the unit along with operator status from Repsol to Armstrong?

DISCUSSION ITEMS:	
1.	**Slide 1:** Title slide – Introductions were followed by Patrick Conway (PC): There are no major changes to the project and we will provide an update on exploration and the status of permitting the development of the Nanushuk project.
2.	**Slide 2:** Agenda – PC: The meeting topics are exploration and Nanushuk development.
3.	**Slide 3:** Exploration – PC: Exploration plans include proposing to drill two exploration wells this coming winter. Over this summer we have been conducting studies, surveying, and cultural resource studies. This has been led by Federico Lier, who introduced himself here. We are wrapping up this work now. Permit applications will be put together for the project and, once permitted, Armstrong will come back to the community in late September or early October to describe the permitted exploration work.
4.	**Slide 4:** Patrick: The location of the well sites are Pikka 1 and Horsehoe 1 [identified on the map]. These are not finalized or permitted, and we do not have access approvals yet. But we want you to know that we plan to drill two exploration wells this coming winter. We will be back to talk more about exploration at the end of September or early October.
5.	**Slides 5-6:** Nanushuk Environmental Impact Statement (EIS) process – PC: This slide is the same one shown at previous meetings. The permit application was submitted in June 2015. This permit will take the longest to obtain and is the first of many. Following the submittal of the application and toward the end of 2015, the USACE decided to prepare an EIS. In early 2016, from February to May, the USACE conducted the first step, scoping, and held meetings in Nuiqsut, Barrow, Anchorage, and Fairbanks. The purpose of the scoping process is to gather input from the public to determine what the scope of the EIS should be – including resources, impacts, and design alternatives. The USACE is developing alternatives based on scoping comments. The USACE will look at the proposed project, our proposed alternatives, and other ways that the project can be done, and will evaluate those in a draft document, the draft EIS. Between now and the beginning of 2017, the USACE will work with cooperating agencies to develop alternatives. The draft EIS document will be available for public review. The USACE will have another meeting here to present this draft, which will include the alternatives. They will take comments on the draft EIS received from that meeting and collected during the comment period, and a year later they will issue a final EIS, which will be accompanied by a Record of Decision (ROD). That would complete the EIS process. At the end of that process, a permit could be issued to the applicant, Armstrong Energy, for placement of gravel on the tundra. That's only one of many permits we would need. Armstrong would then work on North Slope Borough (NSB) and State of Alaska applications for permits. Armstrong will be back to discuss those with the community in 2017, and will have continued discussions regarding land access with Kuukpik. In particular, the NSB process, which includes zoning and master development planning, is a very public process. And while this process is going on, we will be working with Kuukpik Corporation in hopes of obtaining access to the land. The part of the permit process we're in now, the EIS, is where the USACE and cooperating agencies developing the EIS will put together the alternatives for the proposed project. I will go through the project that we proposed and the alternatives I think we are going to see.
6.	**Slide 7:** Proposed Project (map) – PC: This proposed project would include three gravel drill sites; we would drill development wells from those three sites. This one site is [identified on map] approximately 7 miles from the community and is connected by gravel road and pipe to a second site and then a third site, DS1, where there would be a process facility. The fluids would come from the two drill sites [identified] and third drill site, and they would all go to the processing facility, where the gas and the water would be separated. The oil would be shipped along a pipeline over to Kuparuk and ultimately to the Trans-Alaska Pipeline System (TAPS). The water and gas would be returned to the drill site and reinjected into the formation to maintain pressure. The drill sites would be connected by gravel road with adjacent pipeline from the Kuparuk area. The road and pipeline would cross the Miluveach River here [identified] out to the process facility and a gravel road would connect to DS3, back to DS2, and back to DS1. There would be a bridge over the Kachemach River.

	The rest of the slides will be images like that, which will represent what the USACE is currently considering as components of the draft EIS.
7.	**Slide 8:** Roadless Alternative (map) – PC: The alternatives were developed based on comments received during the scoping period. This particular alternative is a project that would not have gravel access; this would be connected via an airstrip and a seasonal ice road. This is very similar to how Alpine was developed for ConocoPhillips. There would still be gravel roads connecting the drill sites. There would still be a camp and a process facility. Pipelines would be adjacent to these roads, but this portion that goes towards the mouth of the Miluveach [identified] would be just the pipeline and in the winter would be accessed by seasonal ice road. The airstrip would involve about 30 flights per week with a fixed-wing aircraft. Some of those aircraft would be smaller aircraft for people, and some would be larger aircraft carrying in materials needed for the project. That would be during the 8- to 9-month period when there is no ice road access. We would also be required to use helicopters on a regular basis, up to about 15 flights per week.
8.	**Slide 9:** Southern Access Alternative (map) – PC: Another alternative that is being developed here is an alternative in response to comments the USACE received expressing that some would like to see a road, if there will be a gravel road, parallel to the Alpine pipeline to the extent possible. So what we think we will see from the USACE is something like this [identified]. Another response was also a desire to see the CPF farther from the river. So this in this alternative, the process facility is set back from the river quite a ways. There is an access road that crosses the Miluveach River here [identified], the Kachemach River here [identified], and the Kachemach River here again [identified], and a process facility and a camp out here [identified]. Then for the access roads there would be another crossing of the Kachemach River. All of those would be bridges.
9.	**Slide 10:** Northern Access Alternative – PC: This is another alternative. It has access along this infrastructure up here [identified]. This is based on comments received during scoping. People wanted to see us propose a project that used the existing infrastructure to the north as much as possible. This is the Nuna DS2 operated by Caleus; they constructed this access road here, but not this one [identified]. This one is parallel to the proposed road that would access the Nuna DS2, and from there it would depart the access road. The CPF, again, would be located farther away from the river and, in this case, on the east side of the Miluveach River there would be a bridge crossing the river, both road and pipeline, up to the DS. You still have a Kachemach River crossing toward DS3. This has the two bridges: one crossing the Miluveach and one crossing the Kachemach. This one has two bridges; the southern, the last one, has the four bridges.
10.	**Slide 11:** Reconfiguring of the Roads – PC: This is the last alternative that we are going to share here tonight that we think that the USACE is considering for this project. This was driven by a desire to have the roads approach the river straight up to the river, rather than parallel to it, in a perpendicular manner. The roads were reconfigured; if you look back, you will see that the roads are basically the same, as well as to move the proposed process facility as far away from the river as possible. This alternative also uses this existing Mustang Road [identified] to the extent that we could, and goes right around the north end of the Mustang project across the Miluveach River with a bridge, and then access to the third drill site as a bridge over the Kachemach River.
11.	**Slide 11 continued** – PC: The drinking water for all of these would come from a lake next to the proposed DS2. The state permitting process calls it 9211. I am not sure what that means or if it means anything to anybody here. It's this lake right here [identified].
12.	**Slide 12:** Quyanaqpak – PC: Our purpose here tonight was really to give you an update on the status on things on the permit and EIS. It is a long process there is still two years before the EIS is complete. We want to make sure we are meeting with you regularly to keep you up to date on what is happening with the process. We hope the USACE will do the same.
13.	**Bruce Nukapigak (BN)**: My name is Bruce Nukapigak, for the record. A few years back when Repsol was on this project, on the proposals there was a statement where they said they would build a boat dock and a pad for our vehicles. Is that still in the works for this project too? [continued while PC answering, inaudible] **PC:** The way that the permitting process works with the USACE... **Unknown (U):** What's your explanation for that one? What do you have to say about that? You were just about to say something. **PC:** Yes. I was just going to let them finish and respond to Bruce. Thanks Bruce. Incorporating that into the permitting process isn't really a function of how the EIS is written; it is not to say that that can't be something that is worked out. All of these drill sites and most of the access roads to those are on Kuukpik Corporation

	land. Anything we would propose to do is something that would have to be agreed upon between Armstrong and Kuukpik. That is something that would occur over the next couple of years. We don't have any approval to place any gravel on the tundra right now for our project or a boat dock or anything along those lines. **Joe Nukapigak (JN):** I want to make it clear to the public that some of that is Kuukpik land. I don't want you guys to think that Kuukpik is embedded with any oil companies at this time [or this reported project?]. Even though is it on Kuukpik land it is a long process; it takes 18 months to two years to get this process going and it's going to be... Even though Armstrong has the project from Repsol as I understand, so Armstrong is the operator for this project. Let's be clear about that. I have heard some of the proposed... When Repsol was approached about this access, establishing or building a boat dock; that remains to be seen. That will have to be talked over between who is going to be the operator and I don't think, I don't know, if that is going to be one of our objectives. We don't know yet. With Repsol and now Armstrong taking over the project and whatnot...Even though they have not admitted to you publically, it is not even, under the eyes of Kuukpik, the way we see it, it is not even unitized yet. Let me make that clear to you. Here Pikka Unit or Nuna... not unitized... trying to tell them that, they don't listen. I don't know why... That has been the process... for any other company to come to the community to make a proposal for development that is going to be in the community... in the delta. That is how this has been all along. You guys don't even know how big of a unit you are going to form. I don't even have the slightest idea. Kuukpik doesn't have the slightest idea how big of a unit... That is why the question posed by Bruce, I think that can be worked out if it's workable, if that is acceptable to the community, we will find some ways to look, to make it happen, as a community. But we are a long ways from there. From making that final decision. It has to go through the state process, federal permits. That's what I am saying at the moment. **PC:** I can't reiterate enough how early we are in the process. The EIS takes quite a bit of time. Timelines put on the project are just timelines; it will take how long it takes to complete. The purpose is to update you on where we are on the process because it can be so long, we want to make sure we are here regularly to keep you informed. I also want to share with you what we know about the process right now and where it is, and what the USACE is looking at for alternatives. At some point they are going to come back and present the alternatives to you and ask you to comment on those. I think that the sooner you have an opportunity to see those, the longer you can think about them and formulate your ideas about the things that you would rather see.
14.	**Cindy Bailey (CB)** let meeting attendees know that there are comment forms available and these can be anonymous. She also mentioned that she and Leon are in and out of the community and available if anyone wants to reach out to them.
15.	**Carl Brower (CB2)** thanked Armstrong for coming and making a monetary donation to the Nuiqsut Whaling Captains Association. [clapping]
16.	**Peter Krosbruk (PK)** mentioned a video on YouTube of someone jumping on a moose a year ago and they were just charged by the courts by wildlife officials. PC relayed a similar story about an incident in Anchorage.

GENERAL OBSERVATIONS:

The meeting started on time with a prayer before dinner was served at 5pm. Initial attendance was minimal, and advertising via CB radio and Facebook after dinner started was followed by the arrival of additional attendees. Children were able to draw and play games in an adjacent room.

60 people signed in. The majority were children.

The presentation started at 6:03pm and ended at 6:50pm, and the door prize drawing followed.

Armstrong Energy, LLC

NORTH SLOPE BOROUGH PLANNING COMMISSION

Nanushuk Project

9/21/2016

NANUSHUK PROJECT

Armstrong Energy, LLC

EIS Process

Environmental Impact Statement (EIS) Process

Alaska Nanushuk Development

Scoping in early 2016

- ✓ Proposed Nanushuk project
- ✓ Community meetings
- ✓ Scope of EIS
- ✓ Potential impacts and design alternatives

USACE develops Draft EIS

- Define alternatives
- Describe existing environment
- Evaluate impacts
- Public review and comments (community meetings)

USACE develops Final EIS

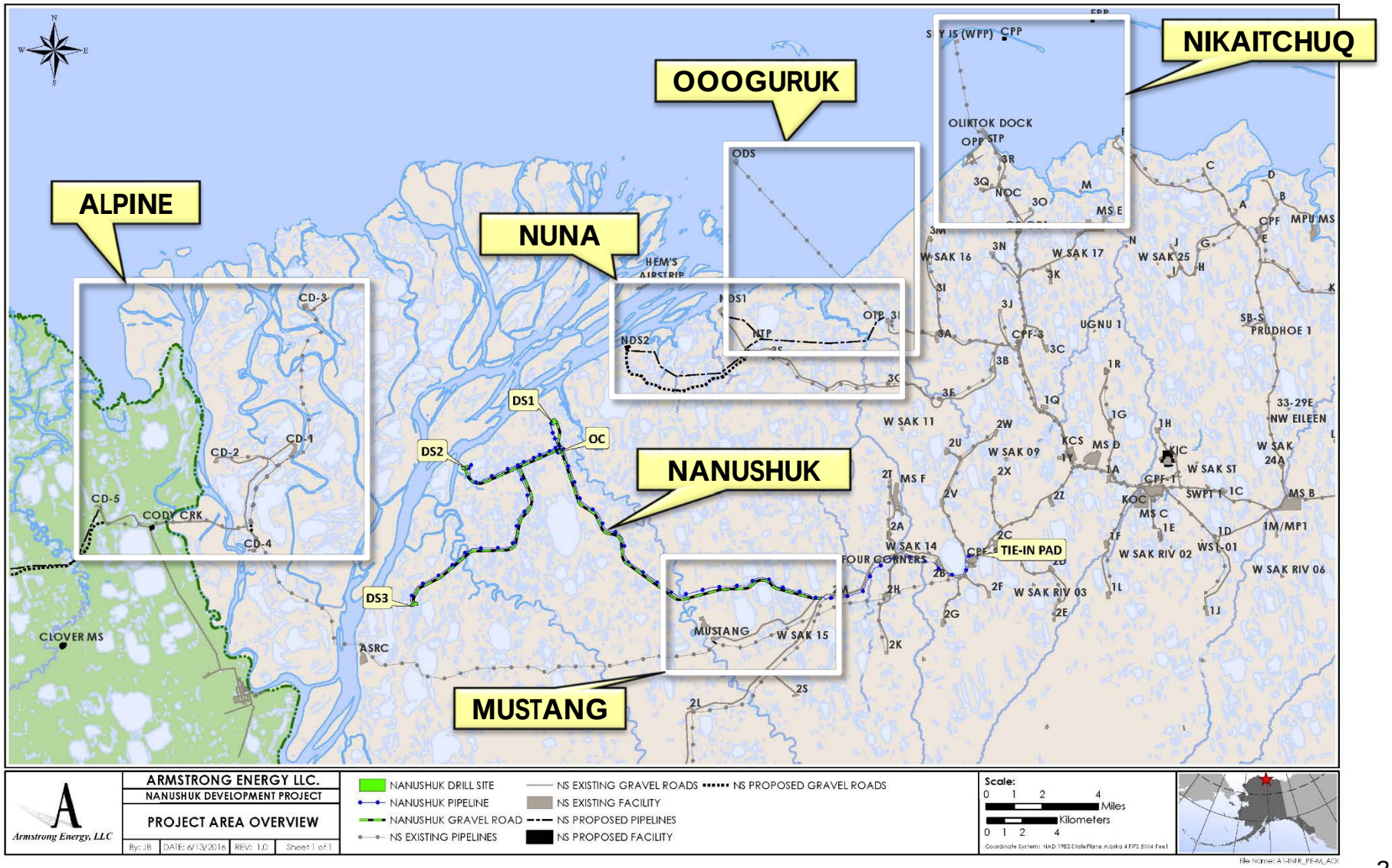
Incorporate revisions and responses to comments received

USACE issues Record of Decision

NANUSHUK PROJECT

Armstrong Energy, LLC

Project Area Overview



NANUSHUK PROJECT

Armstrong Energy, LLC

Studies and Baseline

CONDUCTED STUDIES TO-DATE:

- Wetlands
- Hydrology
- Archaeology
- Subsistence and Traditional Knowledge

Baseline information influences project design

NANUSHUK PROJECT

Armstrong Energy, LLC

2016-2017 Exploration and Appraisal Campaign

- 2 Exploration Wells Proposed
- Summer Studies in Progress to Support Permitting
  - Staking for Ice Road and Drilling Pads
  - Cultural Resource Survey Investigation
- Winter Exploration Ice Road

NANUSHUK PROJECT

Armstrong Energy, LLC

Armstrong in the Community

APPENDIX E

Photographs

Fig. 1 Horseshoe Drilling Pad Location

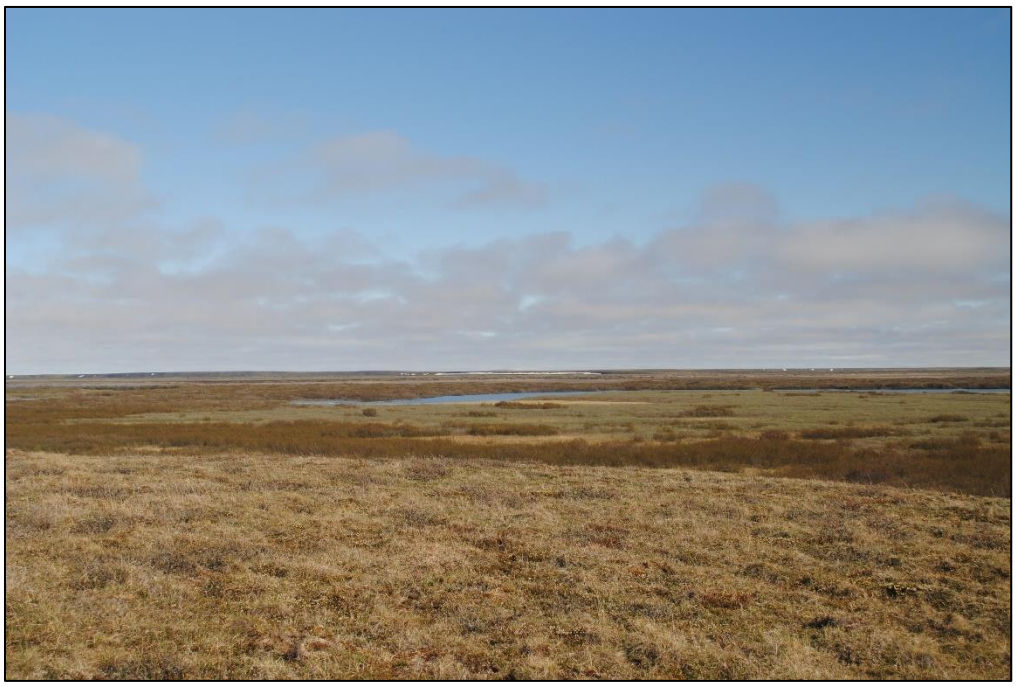


Fig. 2 Horseshoe Drilling Pad Location

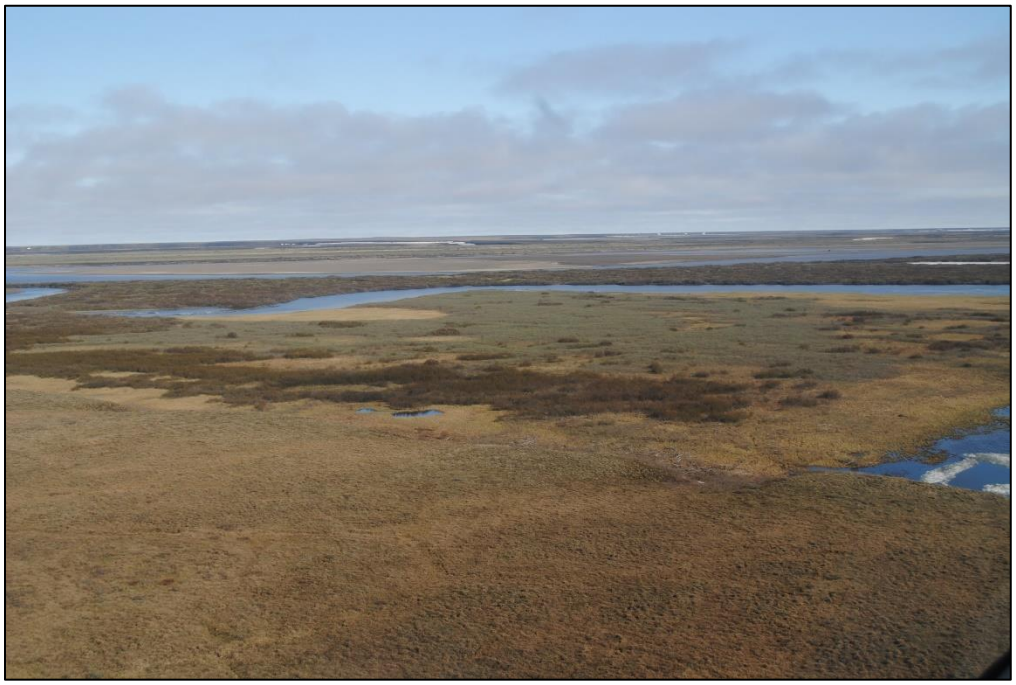


Fig. 3 Horseshoe 1 Drilling Pad Location

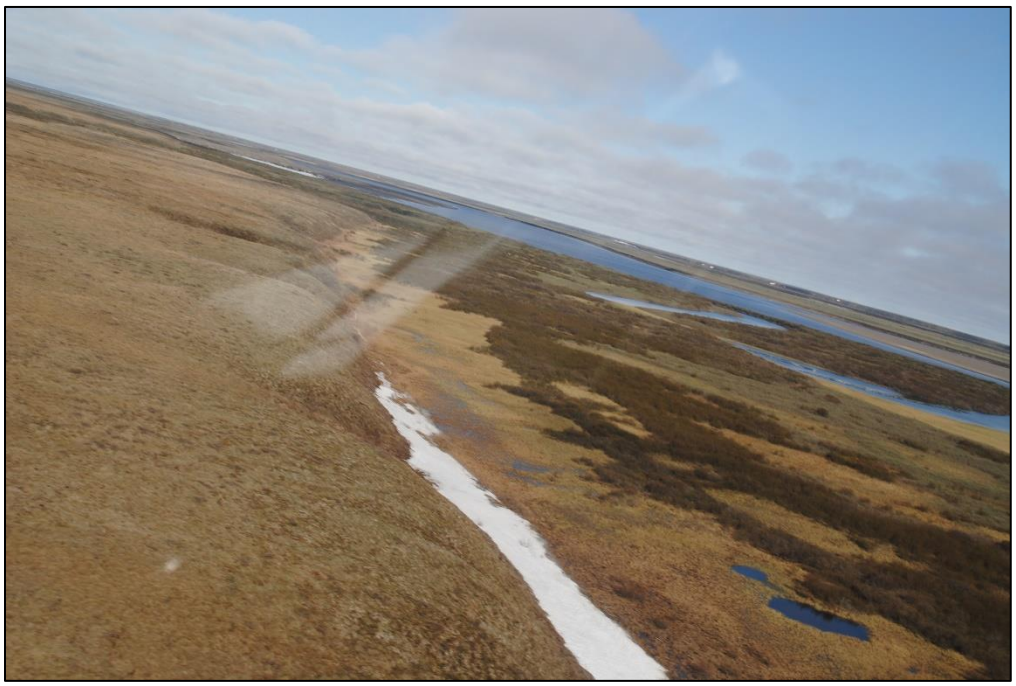


Fig. 4 Horseshoe 1 Drilling Pad Location

Fig. 5 Proposed communication module

Fig. 6 Proposed communication module