



LEASE PLAN OF OPERATIONS APPLICATION

State of Alaska

Department of Natural Resources, Division of Oil & Gas

550 W. 7th Ave, Suite 1100, Anchorage, AK 99501-3563

Phone: 907-269-8800 Fax: 907-269-8943

Permitting Email: dog.permitting@alaska.gov



SECTION I: APPLICANT INFORMATION	
1. Applicant:	2. Applicant Contact:
Name: JADE Energy Alaska LLC	First Name: Erik Last Name: Opstad
Mailing Address: P.O.Box 112212	Title: Managing Director
City: Anchorage	Is the Mailing Address the same as Applicant's Mailing Address? If "No", please provide information below: <input checked="" type="checkbox"/> Yes
State: Alaska Zip Code: 99511-2212	Mailing Address: Enter Mailing Address.
Phone: 907-244-5210 Fax: 907-345-5821	City: Enter City. State: Enter State. Zip Code: Enter Zip Code.
Email: erik.opstad@jadeenergyllc.net	Phone: Enter Phone. Fax: Enter Fax.
	Email: Enter Email.
SECTION II: THIRD PARTY INFORMATION (Fill out this section only if you are applying for the Applicant)	SECTION III: APPLICATION DATE AND NUMBER (FOR OFFICE USE ONLY)
Third Party Company Name: Enter 3rd Party Company Name.	Application Date:
First Name: Enter First Name. Last Name: Enter Last Name.	
Title: Enter Title.	
Mailing Address: Enter Mailing Address.	
City: Enter City.	
State: Enter State. Zip Code: Enter Zip Code.	
Phone: Enter Phone. Fax: Enter Fax.	
Email: Enter Email.	
Describe the affiliation to the Applicant: Describe your affiliation to the Applicant.	Application Number:
SECTION IV: PROJECT INFORMATION	
1. Project Name:	JADE Exploration/Appraisal Program
2. Proposed Start Date:	12/1/2021
3. Project Description:	
Describe what and where: JADE Energy LLC (JADE) plans on drilling the JADE 1 exploration and delineation well from an ice exploration pad during winter season in 2021/2022. Drilling and support operations will be conducted during open tundra winter travel season and will be supported by using the "Winter Trail" snow road that runs from Deadhorse to the Point Thomson Unit (PTU) area. JADE owns & operates State O&G lease ADL 343112 (Segment 2) which is within ExxonMobil's PTU, approximately 60 air miles east of Deadhorse and 59 air miles west of Kaktovik. JADE 1 will be drilled 3.7 miles southeast of the PTU airstrip. The ice pad will be accessed by an ice road running from PTU gravel lease roads and from the "Winter Trail" snow road running from Deadhorse.	

SECTION V: LAND STATUS		
1. State Mineral Estate:		
Are supplemental pages for land status included in Appendix C? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Affected ADL: 28330	Date Effective: 9/1/1965	Date Assigned: 8/8/1966
Oil And Gas Lessee(s): EXXONMOBIL ALASKA PRODUCTION INC. (EMAP); HILCORP NORTH SLOPE, LLC (HILCORP) - Notification Lessee; CHEVRON U.S.A. INC (CHEVRON); CONOCOPHILLIPS ALASKA, INC. (CPAI)		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL 50666		
Jointly Managed Lands: No		
Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5a (MTRS) and in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T010N, R015E Section 17	Varies – GPS coordinates in Appendix C
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Affected ADL: 28331	Date Effective: 9/1/1965	Date Assigned: 12/4/2006
Oil And Gas Lessee(s): EMAP; HILCORP - Notification Lessee; CHEVRON; CPAI		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL 50666		
Jointly Managed Lands: No		
Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5a (MTRS) and in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T010N, R015E Sections 26, 35, 36	Varies – GPS coordinates in Appendix C
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Affected ADL: 28333	Date Effective: 9/1/1965	Date Assigned: 8/8/1966
Oil And Gas Lessee(s): EMAP; HILCORP - Notification Lessee; CHEVRON; CPAI		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL 50666		
Jointly Managed Lands: No		
Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5a (MTRS) and in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T010N, R015E Sections 23	Varies – GPS coordinates in Appendix C
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Affected ADL: 28334	Date Effective: 9/1/1965	Date Assigned: 11/28/1969
Oil And Gas Lessee(s): EMAP; HILCORP - Notification Lessee; CHEVRON; CPAI		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL 50666		
Jointly Managed Lands: No		

Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5a (MTRS) and in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T010N, R015E Sections 28, 27	Varies – GPS coordinates in Appendix C
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Affected ADL: 392909 Date Effective: 8/1/2015 Date Assigned: 2/1/2018 Oil And Gas Lessee(s): ARMSTRONG ENERGY LLC- Notification Lessee; OIL SEARCH (ALASKA), LLC Surface Ownership: State of Alaska Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Special Use Lands: ADL 5066 Jointly Managed Lands: No Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5a (MTRS) and in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T009N, R017E Sections 25, 26	Varies – GPS coordinates in Appendix C
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
2. State of Alaska Surface Lands:		
Are supplemental pages for land status included in Appendix C? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Oil And Gas Mineral Estate Owner: Click here to enter text. Access Authorization(s): Click here to enter text. Special Use Lands: Click here to enter text. Jointly Managed Lands: Click here to enter text. Other Considerations: Click here to enter text.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Oil And Gas Mineral Estate Owner: Click here to enter text. Access Authorization(s): Click here to enter text. Special Use Lands: Click here to enter text. Jointly Managed Lands: Click here to enter text. Other Considerations: Click here to enter text.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Oil And Gas Mineral Estate Owner: Click here to enter text. Access Authorization(s): Click here to enter text. Special Use Lands: Click here to enter text. Jointly Managed Lands: Click here to enter text. Other Considerations: Click here to enter text.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.

Click here to enter text.	Click here to enter text.	Click here to enter text.	
3. Private Lands:			
Are supplemental pages for land status included in Appendix C? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Oil And Gas Mineral Estate Owner: Click here to enter text. Surface Ownership And Access Agreement(s): Click here to enter text. Special Use Lands: Click here to enter text. Jointly Managed Lands: Click here to enter text. Other Considerations: Click here to enter text.			
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates	
Click here to enter text.	Click here to enter text.	Click here to enter text.	
Click here to enter text.	Click here to enter text.	Click here to enter text.	
Click here to enter text.	Click here to enter text.	Click here to enter text.	
Oil And Gas Mineral Estate Owner: Click here to enter text. Surface Ownership And Access Agreement(s): Click here to enter text. Special Use Lands: Click here to enter text. Jointly Managed Lands: Click here to enter text. Other Considerations: Click here to enter text.			
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates	
Click here to enter text.	Click here to enter text.	Click here to enter text.	
Click here to enter text.	Click here to enter text.	Click here to enter text.	
Click here to enter text.	Click here to enter text.	Click here to enter text.	
Oil And Gas Mineral Estate Owner: Click here to enter text. Surface Ownership And Access Agreement(s): Click here to enter text. Special Use Lands: Click here to enter text. Jointly Managed Lands: Click here to enter text. Other Considerations: Click here to enter text.			
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates	
Click here to enter text.	Click here to enter text.	Click here to enter text.	
Click here to enter text.	Click here to enter text.	Click here to enter text.	
Click here to enter text.	Click here to enter text.	Click here to enter text.	
SECTION VI: BOND INFORMATION			
Bonded Company: Enter Bonded Company. Type: Enter Bond Type. Number: Enter Bond Number. Amount: Enter Bond Amount.			
Bonding Company: Enter Bonding Company. Mailing Address: Enter Mailing Address. City: Enter City. State: Enter State. Zip Code: Enter Zip Code. Phone: Enter Phone. Fax: Enter Fax. Email: Enter Email.			
SECTION VII: SEQUENCE AND SCHEDULE OF OPERATIONS			
Project Milestone #	Project Milestone	Proposed Start Date	Proposed End Date
1.	Barge drill rig to PTU Central Pad; stage at PTU West Pad	9/21/2021	10/21/2021
2.	Perform aerial survey/AIR & FLIR for polar bear dens	12/1/2021	12/15/2021
3.	Stake and pre-pack ice roads & pads	12/15/2021	1/2/2022

4.	Construct ice roads and ice drill pads within PTU	1/2/2022	1/16/2022
5.	Mobilize drill rig and tangibles from West Pad to drill pad	1/16/2022	1/28/2022
6.	Drill and test JADE 1	1/29/2022	3/21/2022
7.	Release drill rig; move all equipment and supplies off ice to PTU West Pad and stage for use by others	3/21/2022	4/10/2022
8.	Conduct summer cleanup and tundra remediation	4/10/2022	4/27/2022

SECTION VIII: PROJECTED USE REQUIREMENTS

1. Describe the proposed operations, including the location and design, of Well Sites:

The exploration well will be drilled to a depth of about 11,000 feet true vertical depth (TVD) to test stacked conventional objectives within the Brookian Reservoir resource, which is 25 API Gravity oil, contained within overpressured reservoir sands found throughout the PTU and nearby Badami Oil Field. JADE will use the Nordic #3 (or similar) mobile land drilling rig. Wells will be designed and permitted in accordance with the Alaska Oil and Gas Conservation Commission (AOGCC) regulations. The wells also may be tested and hydraulically stimulated/flow tested, and may include laterals, sidetracks, or additional penetrations from the same exploration pad. Operations also may include wireline logging and related seismic surveys, such as vertical seismic profiles (VSPs). JADE has developed and will maintain a well control plan for its drilling program that includes primary and secondary blowout prevention systems, a well capping program, and a relief well plan designed for successful operation in arctic conditions. All operations will be from ice pads as shown in Figures 4b, 5e, 6b and 7 in Appendix A. The original proposed pad location for JADE 1 was inspected in mid-August 2020 during field work, with the pad located and mapped based on terrain considerations and to avoid damaging willows, which are an important food source and habitat for local wildlife. The ice pad footprint will be 500 feet by 500 feet in plan, covering approximately 5.7 acres.

2. Describe the proposed operations, including the location and design, of Buildings:

General pad layouts are shown in Figure 7 in Appendix A. Temporary facilities on the drill ice pad used to support the JADE Exploration/Appraisal Program will include a satellite office camp, storage and laydown areas, communication tower and connexes, and maintenance shops. JADE has access to and has signed a facility sharing agreement with ExxonMobil Alaska Production Inc. (EMAP) to use PTU facilities and heavy equipment. Facilities covered by the agreement include staging at several pads, a Class I disposal well on the Central Pad, infield gravel lease road system, year-round gravel airstrip, Service Pier for barging, module offloading facility, and support infrastructure. The PTU Central Pad also includes other infrastructure needed to support drilling operations, such as crew camps, offices, warehouses, and maintenance shops; electric power-generating and distribution facilities; on-pad buried and above-grade power and telecommunication cables; treatment systems for drinking water and disposal of wastewater in the Class I disposal well; waste management facilities; below-grade utilitiways for utilities piping (such as diesel, methanol, fuel gas, instrument air, potable water, grey water, and raw sewage); communications facilities; and storage for diesel fuel (see below), water, and chemicals.

3. Describe the proposed operations, including the location and design, of Fuel and Hazardous Substances:

About 8,000 gallons of ultra-low sulfur diesel fuel (USLD) will be hauled along the Winter Trail by Steigers in 4,000-gallon fuel sloops from Deadhorse every third day and immediately transferred to rig and equipment day tanks or stored for JADE in the PTU Tank Farm at the PTU Central Pad in double-walled aboveground storage tanks (ASTs) staged within secondary containment areas (SCAs) providing 110% of AST volume plus seasonal precipitation containment. An spreader truck will fuel ancillary equipment such as heaters, light plants, and heavy equipment. Fuel and hazardous substance storage will comply with State and federal oil pollution prevention and contingency requirements found in 18 AAC 75, 40 CFR 112 and NSBMC § 19.50 and § 19.70. ASTs used to store flammable and combustible liquids are regulated by the EPA and will comply with the International Fire Code (IFC) and 13 AAC 50.025. Additionally, fuel storage, handling, transfers, and spill reporting will be conducted in accordance with JADE Exploration/Appraisal Oil Discharge Prevention and Contingency Plan (ODPCP) which has been approved by the ADEC (ADEC 19-CP-5253), plus North Slope Environmental Field Handbook (NSEFH) and the Alaska Safety Handbook (ASH). All bulk hazardous fluid and fuel transfers will be conducted in accordance with the fluid transfer guidelines in JADE's Fluid Transfer Checklist (found in Appendix A in the JADE ODPCP). A variety of commonly used water-based mud (WBM) drilling fluids & additives will be used to provide and maintain the correct drilling mud formulation for the conditions being drilled. Other drill fluid chemicals, required for testing and well stimulation, also may be brought in. The various additives are provided in 5-gallon pails, 55-gallon drums or a variety of different sized (250-400 gal) isocontainers that are regulated by the USDOT and/or EPA and will be stored within SCA. All fuel and drill fluid SCAs are inspected daily by the on-site spill technician. All unused products will be returned to the supplier. All used fluids will be disposed of in accordance with JADE's Waste Management Plan and other applicable guidance documents and contract/ballot agreements. During fuel and fluid transfer operations, and equipment storage or maintenance activities, the site will be protected from leaking or dripping fuel and hazardous substances by using drip pans or other surface liners designed to catch and hold fluids under the equipment or by creating a specialized area using an impermeable liner or other suitable containment mechanism. Appropriate spill response equipment, as required in the ODPCP, will be staged on location and managed/maintained by an on-site spill technician contracted through Alaska Clean Seas. Trained spill technicians & fuel contractor personnel (oil handlers), operating under the Fluid Transfer Procedures, will attend all fuel & fluid transfer operations at all times. A copy of the JADE ODPCP will be kept on site at all times for guidance in controlling and cleaning up any accidental discharges of fuels, lubricants, or produced fluids. The plan will include immediate response actions, reporting requirements, communication trees, receiving environments, spill cleanup mobilization response times, well control information and spill prevention guidance. Information related to immediate response actions, receiving environments, spill cleanup mobilization response times and well control can be found in the JADE ODPCP. Drilling, service and well testing contractors will all have approved Spill Prevention Control and Countermeasure (SPCC) Plans for tanks and containers to be operated at exploration sites in support of the drilling and testing operations. Contractor crews also will be trained in the appropriate response & prevention strategies.

4. Describe the proposed operations, including the location and design, of Solid Waste Sites:

WASTE MANAGEMENT AND DISPOSAL. All waste management activities will be conducted in general accordance with the JADE Exploration/Appraisal Waste Management Plan (JADE WMP) and in conformance with JADE HSE Management Policies; the JADE WMP is being updated to reflect using new methods of drilling wastes storage. Additionally, the latest versions of the Alaska Safety Handbook (ASH), the North Slope Environmental Field Handbook (NSEFH) and the Alaska Waste Disposal & Reuse ("Redbook") Guide are adopted as guidance, reference and standard operating procedures and workplace "best" safety, environmental and waste management practices for JADE operations.

RCRA-EXEMPT WASTES. Four waste streams exempt from regulation as Resource Conservation and Recovery Act (RCRA) hazardous wastes ("RCRA-exempt wastes") per 40 CFR 261.4 and 261.7 will be generated during operations. These include: 1) E&P fluids and solids from drilling and testing operations; 2) residue and rinsate found in "RCRA empty" containers; 3) household hazardous wastes; and, 4) domestic wastewater from camps and envirovacs. Up to 4,000 barrels (bbls) of drilling wastes and another 4,000 bbls of test fluids will be generated during drilling, and then temporarily stored onsite before being hauled along the Winter Trail by Piston Bullys in 210-bbl sealed, self-contained steel Arctic Cutting Boxes™ and disposed by injection in either offsite Class I & Class II UIC disposal wells or onsite by annular injection. Non-oily E&P solid drill cuttings may also be hauled the NSB SA 10 landfill for beneficial reuse as sanitary cover if acceptance criteria are met. Finally, on-site disposal through annular injection may be conducted, as approved by the AOGCC (using Sundry Form 10-403). All waste disposal methods will be managed and tracked by using North Slope Manifest procedures. Residue and tank rinsate found in RCRA-empty tanks and vessels will be manifested, hauled and disposed by injection in offsite Class I or II disposal injection wells as they are generated at tank wash bays after drilling and testing operations. RCRA-exempt household hazardous wastes generated from camp operations will be combined with domestic wastewater and temporarily stored in the camp sewage tank modules before being hauled to the NSB-SA-10 wastewater treatment plant for disposal. The camp is expected to generate less than 3,000 gallons per day of domestic wastewater and less than 1 gallon per day of household hazardous wastes.

NON-HAZARDOUS NON-EXEMPT SOLID WASTE. Non-hazardous solid waste will be stored on site in Municipal Solid Waste (MSW) and Construction & Demolition (C&D) dumpsters that will be hauled to and disposed in the NSB SA10 landfill. MSW and C&D dumpsters will be managed to avoid potential wildlife interactions by covering. Metal will be collected and sent offsite for recycling. Oily waste will be managed & stored on-site until transport to an approved disposal facility. Used oil will be packaged in drums for transport & be recycled or disposed at an approved facility.

HAZARDOUS and UNIVERSAL WASTES. RCRA-hazardous wastes expected to be generated during construction, drilling and production operations include very small quantities of Characteristic Hazardous and Universal Wastes (as defined by 40 CFR 261.3) will be managed on-site in Satellite Accumulation Areas (SAAs), manifested and then transported to approved disposal or recycling facilities at the completion of the field operations.

5. Describe the proposed operations, including the location and design, of Water Supplies:

During operations, up to 5,000 gallons per day (gpd) potable water will be required for domestic use in crew camps on the PTU Central Pad. Potable water will be provided by EMAP. For other fresh water uses, JADE is applying for a temporary water use authorization (TWUAs) from ADNRL/DML&W for withdrawal of ice chips and water from nearby lakes. This water use will total about 8 million gallons (Mgal) as follows: 6 Mgal for ice road and ice pad construction and maintenance (fresh water and ice chips combined) and 1 Mgal for drilling operations and 2 Mgal for stimulating and testing each well. Snow will be removed from a portion of the PTU Minesite prior to water withdrawal to help provide access for water trucks and ice trimmers. Water pumped will be transported by low ground pressure vehicles or rolling stock once winter tundra travel is approved by ADNRL. Rolling stock will only use trails that have been improved with a firm ice surface or packed snow to support the weight and pressure of the vehicles. Snowmelt and other run-off from Project facilities will be managed through implementation of JADE Best Management Practices (BMPs) and a Storm Water Pollution Prevention Plan (SWPPP) pursuant to ADEC authorization under the Alaska Pollutant Discharge Elimination System (APDES) general permit for north slope activities (NS GP AKG32000).

6. Describe the proposed operations, including the location and design, of Utilities:

N/A. Electrical, natural gas, sewer and water utilities will not be designed or located on the ice pads. Rig operations will be self contained, powered by generators. Smaller dual generator sets will provide power to camps, offices, and other facilities. Satellite phone service and internet will be available at each field camp. Operational radio communications will utilize fixed base stations and truck-mounted radio equipment, with small communication satellite dishes placed at each pad. Potable water will be hauled to the site and domestic wastewater hauled from the site (see Subsections VIII-4 and VIII-5). Emissions sources for the construction, drilling, and operations will be similar to equipment and sources at other exploration drilling projects on the North Slope. Therefore, air emissions sources from the Project related to construction, drilling and operations will be authorized under an ADEC Oil or Gas Drilling Rigs Minor General Permit MGP1.

7. Describe the proposed operations, including the location and design, of Material Sites:

N/A. All operation activities on the Winter Trail snow road, JADE 1 ice road and ice pad.

8. Describe the proposed operations, including the location and design, of Roads:

Figures showing the features required to support drilling and testing (e.g., Winter Trail snow road, JADE 1 ice road and ice pad) for this winter exploration program are in Appendix A. The GPS coordinates referenced in this application are included in Appendix C. The proposed TWR alignment and ice pad locations and coordinates in Appendices A & C reflect the results of fieldwork conducted by JADE in mid-August 2019 where a field team mapped routes and locations that avoided higher, drier tundra covered by shrubs, forbs and tussock vegetation. Winter 2021/2022 operations will include pre-packing and constructing short ice roads from PTU gravel lease roads to access the JADE 1 drill site where ice pads will be built to support drilling operations. Ice roads will be built to accommodate drill rig moves, and ice pads will be built to safely carry out drilling and support operations. Ice roads and ice pads will be constructed and maintained using the generally accepted practices for the North Slope, subject to ADNRL opening criteria for winter tundra travel in the Coastal Plain. Pre-packing of the trail will be requested prior to the official tundra opening to drive frost down and preserve early snow. Additionally, Winter Trail snow road crossings at established subsistence and winter trails will be constructed to provide a smooth transition to ensure trail users have safe passage. Upon completion of use, Winter Trail snow road ramped stream crossings will be slotted, breached, or weakened to facilitate breakup and minimize potential impacts to stream banks.

9. Describe the proposed operations, including the location and design, of Airstrips:				
As part of a the EMAP ballot agreement, JADE will use the existing 5,000-foot gravel airstrip at PTU for crew changes and limited re-supply. The PTU airstrip has with appropriate lighting and control systems. to accommodate up to 30- passenger aircraft.				
10. Describe the proposed operations, including the location and design, of All Other Facilities and Equipment:				
HEAVY EQUIPMENT. A list of typical equipment used to support drilling activities is provided in Appendix C. Equipment types will be the same that is used for North Slope oil and gas operations and will be obtained from North Slope contractors. MEDICAL EVACUATION (per JADE Medical Evacuation Plan) Resources will be mobilized from the Greater Prudhoe Bay Unit in the event of a major medical issue or fire to provide additional emergency response, per an existing Ballot Agreement. Medical evacuation, if necessary, will be provided by helicopter or fixed-wing aircraft, using the PTU airstrip, and flying or driving to the Beacon Clinic in Deadhorse for patient stabilization and/or transfer to a Medevac jet to an Anchorage hospital facility. If the weather precludes fixed/rotary medevac operations, the patient will be transported via Steiger or Pisten Bully to the Fairweather Deadhorse Aviation Center (DAC) for evacuation.				
11. If another permit(s) is required for the above described Projected Use Requirements, provide the following information:				
Agency	Permit Type	Permit Number	Application Status	Projected Use Requirement(s)
ADNR/DOG	Lease Plan of Operations	TBD	Pre-App, Draft	1 to 10
AOGCC	Permit to Drill	TBD	Draft	5, 7
AOGCC	Sundry Approvals	TBD	Draft	5, 7
AOGCC	Well Control Emergency Response Plan	Reviewed	Complete	5, 7
ADNR/DML&W	Land Use Permit (LUP)	TBD	Draft	3, 4, 5, 7 & 9
ADNR/DML&W	Letters of Non-objection pursuant to LUP to cross Hilcorp, ENI, Oil Search and EMAP O&G leases	None	Draft	3, 4, 5, 7 & 9
ADNR/DML&W	Temporary Water Use Authorizations	TBD	Draft	3, 4
ADNR/OHA	State Historic Preservation Office (SHPO) Determination	No Historic Properties Affected Stamp	Complete	3, 5
ADEC/AQ	MGP1 Air Quality Permit for Land Drill Rigs	TBD	Awaiting signed rig contract before submittal	6, 8
ADEC/SPAR	Oil Discharge Prevention and Contingency Plan	19-CP-5253	Approved	6, 8
ADEC/EH	Solid Waste Management Plan	None	Draft updated	3, 4, 5, 6, 7, 8 & 9
ADEC/ED	Temporary Storage of Drilling Wastes Plan	Approval letter	Pre-App, Draft	6, 8
ADEC/APDES	APDES General Permit for North Slope (NS GP AKG332000) SWPPP & BMP	TBD	Draft	4
NSB/Planning and Community Services	NSB Traditional Land Use Inventory (TLUI) Certificate of Clearance	TBD	Approved	4, 5
NSB/Planning and Community Services	NSB LMR Development Permits	TBD	Draft:	2, 3, 4
ADF&G/EH	Title 16 Fish Habitat for water withdrawal and Winter Trail snow road and ice road river crossings	TBD	Draft	4, 5, 7, 9

ADF&G/PS	Public Safety Permit	TBD	Polar Bear Plan submitted to USFW; same plan and updated Wildlife Interaction Plan to be submitted	3 to 10
USACOE/AK	CWA Section 401 Permit for screed dredgine and barging	POA-2020-00347	Approved and complete	1
USFWS	Polar Bear Incidental Hazing Authorization – 1 year	TBD	Submitted	2 to 10
USFWS	Polar Bear Incidental Hazing and Take Authorization – 5 years	TBD	Started	2 to 10

SECTION IX: REHABILITATION PLAN

1. Proposed Level of Infrastructure, Facilities and Equipment Removal:

Upon completion of drilling and evaluation operations, the well will either be plugged and abandoned (P&A) or suspended in accordance with AOGCC regulations. Equipment and structures will be removed from the Project area at the end of the season. The ice pad and road will be tight bladed to remove dark-colored drips missed by the ACS spill technician and the resulting snow will be thawed with resulting oily water disposed of at a permitted disposal facility. Trash and debris will be removed and transported for disposal at a permitted disposal facility. JADE will conduct an inspection, stickpicking and tundra remediation operations via helicopter in Summer 2022 to ensure that EMAP, NSB and State cleanup requirements have been met.

2. Description of Restoration and Rehabilitation Activities for Vegetation, Habitat, Impacted Wildlife, and Other Applicable Resources:

All activities will be conducted from compacted snow roads, ice road and ice pad, but impacts to vegetation and habitat may occur. Therefore, JADE will inspect the Project area following snowmelt in 2022 during “stickpicking” to confirm that tundra damage did not occur. If tundra damage is discovered, JADE will consult with the State and the NSB to determine the appropriate methods for restoration, and incorporate them into a Tundra Damage Rehabilitation/Remediation Plan that meets requirements found in NSBMC § 19.30, 19.500 and § 19.60, ADL 343112 lease conditions, and specific State requirements. The Plan will address the area, type, and extent of damage and will be developed in accordance with the Alaska Coastal Revegetation & Erosion Control Guide (developed by the State of Alaska Plant Materials Center), the Streambank Revegetation and Protection Guide (developed by the Alaska Department of Fish and Game), and other relevant guidance documents. Agency personnel will be invited to verify that rehabilitation operations are complete and that any issues identified are addressed.

SECTION X: OPERATING PROCEDURES DESIGNED TO MINIMIZE ADVERSE EFFECTS

Describe operating procedures designed to prevent or minimize adverse effects on other natural resources and other uses of the Lease area and adjacent areas including:

Fish and Wildlife Habitats: Pad and roads constructed of ice or covered by snow will only be used in winter months during the open winter tundra travel season. Streams will be crossed in shallow waters that normally freeze to bottom or will be bridged using temporary bridges founded on ice ramps and abutments. Willow habitats were identified/located during fieldwork in mid-August 2019; ice road alignments will be staked to avoid them. In summary, all JADE activities will be conducted to minimize impacts on fish and wildlife. This includes mitigation measures outlined in the ADL lease stipulations and adherence to State of Alaska and NSB land management regulations and permit requirements. A wildlife avoidance & interaction plan and a bear avoidance interaction plan (for both grizzly and polar bear) has been prepared and updated, and will be included in the site orientation for all Project personnel.

Historic and Archeological Sites: JADE has completed a consultation, survey and fieldwork to inventory prehistoric, historic, and archeological sites (“resources”) on and around the proposed ice pads and ice road alignments. This was done by Mobley & Associates, Inc. (Mobley) in September 2020. As part of the survey, TLUI data was obtained by from the NSB Inupiat Heritage and Language Center (NSB IHLC) and reviewed, along with data from Alaska Heritage Resource Survey and National Register of Historic Places. This data and a field report also were submitted for review by the NSB Cultural Resources Office and the ADNOR/OHA State Historic Preservation Office (“SHPO”). The data and field report both indicate there are no archaeological, historic or cultural resources within the ice road alignments ice pad footprints; most are found several miles to the north along the Beaufort Sea shoreline. Additionally, JADE has created a series of 500-foot buffers (“environmentally sensitive zones”) around several sites identified by Mobley during the study, where traffic will be excluded. Combined with drilling operations limited to winter when the ground is frozen and covered snow, these zones will help provide adequate protection for the historic and archaeological resources. Finally, it is JADE’s intention that historic, cultural or archaeological resources (or suspected resources) discovered during Project activities are not to be

disturbed under any circumstance. This will be achieved by providing training to all field personnel on what to do as part of required Project orientation. If archaeological sites are discovered during Project activities, the following steps will be taken: 1) Project personnel discovering historical or archaeological (or suspected) resources during operations will not disturb materials in place at the site of discovery and mark the area with flagging tape; 2) Project personnel will stop all activities and then inform their job supervisor so as to contact JADE's onsite representative; 3) JADE will then report these properties to SHPO and NSB ILHC for identification and assessment, and 4) JADE will then use identification and assessment consultations to guide further planned activities in the site area

Public Use Areas: The proposed operations occur within the Kaktovik Subsistence Use area (reference Figure 8 in Appendix A). JADE will conduct operations to minimize any adverse effects on subsistence uses and avoid conflicts with private, commercial & industrial users. Additionally, if potential subsistence issues are identified, subsistence representatives will be contacted and updated during drilling and testing operations to minimize impacts. The permitting actions associated with the exploration wells will be public noticed as part of the permitting processes. If there are concerns with regards to the Project, JADE will be receptive and pro-active. Although public access to the JADE ice pads must be restricted due to safety concerns, JADE will provide shelter and assistance in emergency situations to subsistence users.

Other Uses: **PERMITS and LEASES:** ADL Oil & Gas leases in the Project area are shown in Figures 4, 4a, 4b, 9, 9a to 9e in Appendix A. Other ADL leases and permits are shown by Meridian, Township, Range, Section (MTRS) designation in Figures 5, 5a to 5e. JADE will contact all leasees and permittees before entering their surface lands and gain approval through letters of non objection (see Section VII Project Use Requirements, Subsection 11 for a complete list of other ADL leases and permits). **SIMOPS:** The only other use in the general area will be possible activities by other oil & gas companies or geophysical companies. When identified, JADE will contact those companies to discuss and avoid simops problems. **TRAINING PROGRAMS:** JADE's training program has been designed to inform each individual of the environmental, social, and cultural concerns that relate to their job functions. Training components include a review of permit stipulations and requirements, cultural awareness, spill prevention and reporting, wildlife interaction, site specific safety, waste management practices, etc. All personnel will participate in a specific training program module for bear safety and a briefing of the Bear Avoidance, Interaction, and Mitigation Plan. In addition, JADE employees and contractors are required to complete an 8-hour training program provided by the North Slope Training Cooperative (NSTC). A Field Environmental Handbook, Alaska Safety Handbook, and a North Slope Visitor's Guide are used for the training. The training program includes classes on the Alaska Safety Handbook, personal protective equipment, camp and safety orientation, hazard communication, HAZWOPER Level I, and Environmental Awareness. Additionally, Finally, JADE also requires that all company personnel and contractors attend rig and location safety meetings (pre-tour, SIMOPS, and weekly), as well as participate in the contractor's safety practice ("Risk Assessment/JSEA, PTW, STOP," etc. programs) on-site training orientation, and required weekly safety meetings. Topics discussed in safety meetings will include various emergency action drills (scheduled and unscheduled) familiarizing workers with the wildlife interaction plans, warnings and hazing methods, and reporting requirements; reviewing spill/incident reporting requirements and spill prevention measures, reviewing fluid transfer procedures, and general hazard identification regarding the various chemicals used in drilling operations and other activities; reviewing cold weather operations and personal protection. **INTERACTING with LOCAL COMMUNITIES and COMMUNITY GROUPS.** As part of the permitting process, JADE has published public notices detailing planned winter drilling program operations in Utqiagvik, Fairbanks and Anchorage, and has been responding to requests for additional information (RFAI) from individuals and non-government organizations interested in the Project.

SECTION XI: GLOSSARY OF TERMS

Term #	Term	Term Definition
1.	AAC	Alaska Administrative Code
2.	ADEC	Alaska Department of Environmental Conservation
3.	ADEC/AQ	ADEC Division of Air Quality
4.	ADEC/DW	ADEC Division of Water
5.	ADEC/EH	ADEC Division of Environmental Health
6.	ADEC/SPAR	ADEC Spill Prevention and Response
7.	ADEC/APDES	ADEC Alaska Pollutant Discharge Elimination System
8.	ADF&G	Alaska Department of Fish and Game
9.	ADF&G/DH	ADF&G Division of Habitat
10.	ADF&G/PS	ADF&G Division of Public Safety

SECTION XII: CONFIDENTIALITY

The undersigned hereby requests that each page/section of this application marked confidential be held confidential under AS 38.05.035(a)(8).

APPLICANT CONTACT:


Signature

Erik Opstad
Name

Managing Director.
Title

18 September 2021
Date

Include maps here.

MAP SUMMARY

Figure 1: General Vicinity Map

Figure 2: Norths Slope Alaska Vicinity Map

Figure 3: JADE Lease ADL 343112 within Point Thomson Unit

Figures 4a and 4b: North Slope Lease Ownership by Notification Lessee Area

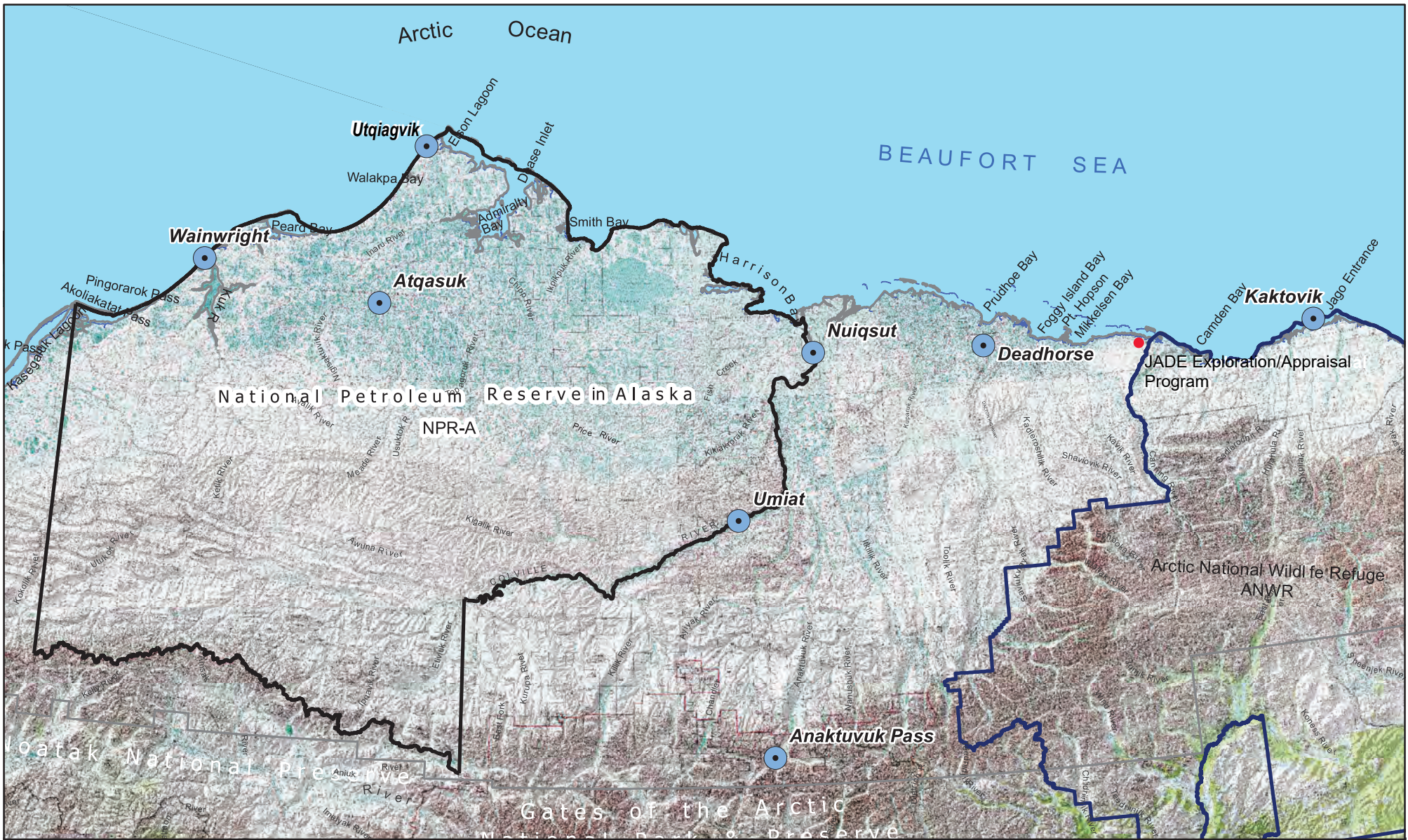
Figure 5 JADE Subprogram Areas: Index Map
and Figures 5a to 5d – Subprogram Area 1: Winter Trail - Aerial MTRS

Figure 6a and 6b: Subprogram Area 2: Ice Roads and Pads w/in PTU – Aerial and Topo MTRS

Figure 7: Proposed Drilling Operations Layout

Figure 8: Kaktovik Subsistence Area of Influence

Figure 9: Proposed Winter Trail & Ice Roads Index Map - Land Estate Summary
and Figures 9a to 9f Land Estate Information Summary by Section Along Proposed
Winter Trail & Ice Roads



- ANWR Boundary
- NPR-A Boundary
- Villages and Other Communities
- NSB Boundary

NOTE: THIS MAP BASED ON FIGURE 4 IN THE
 NUIQSUT COMPREHENSIVE DEVELOPMENT
 PLAN 2015-2035 FINAL DRAFT

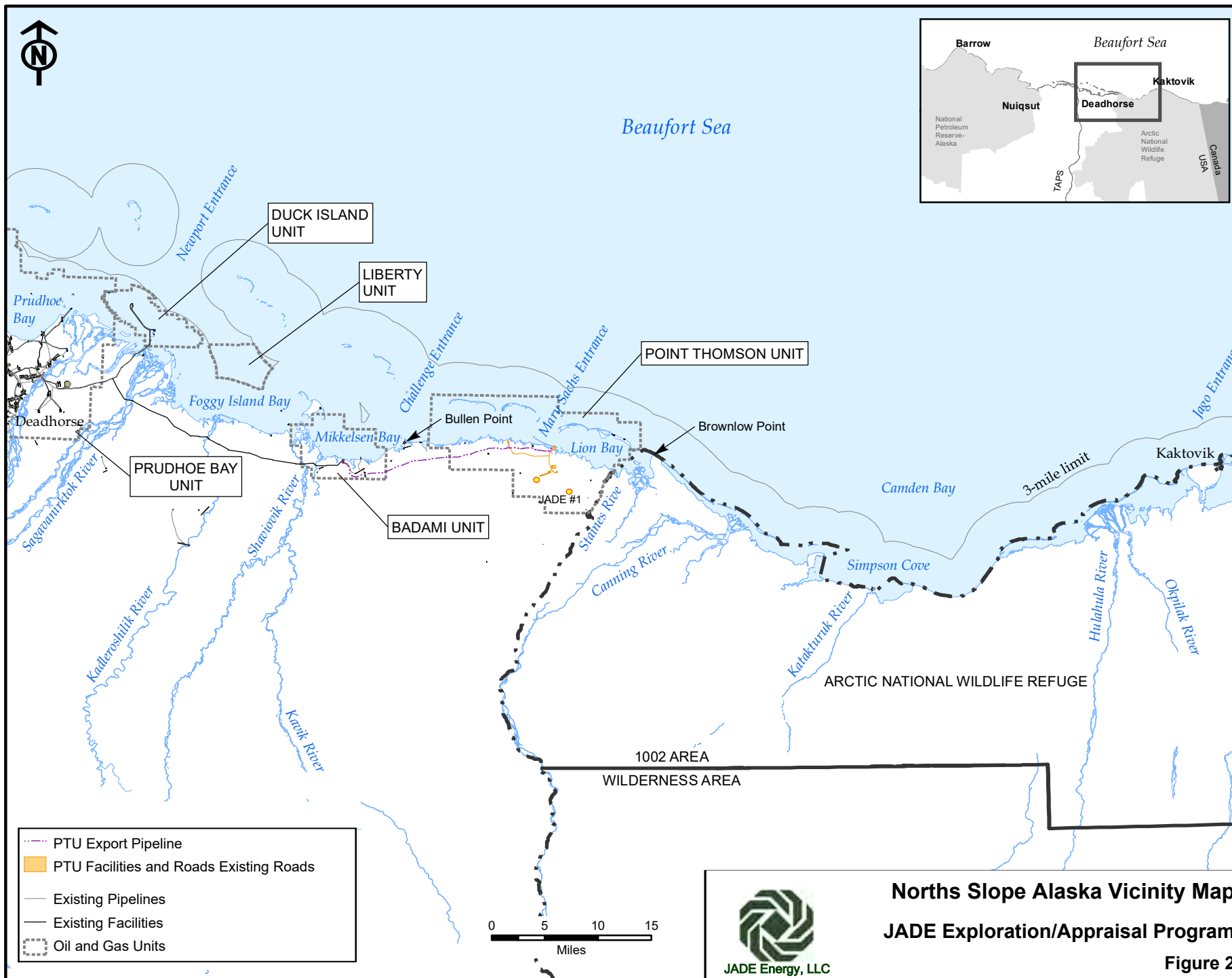


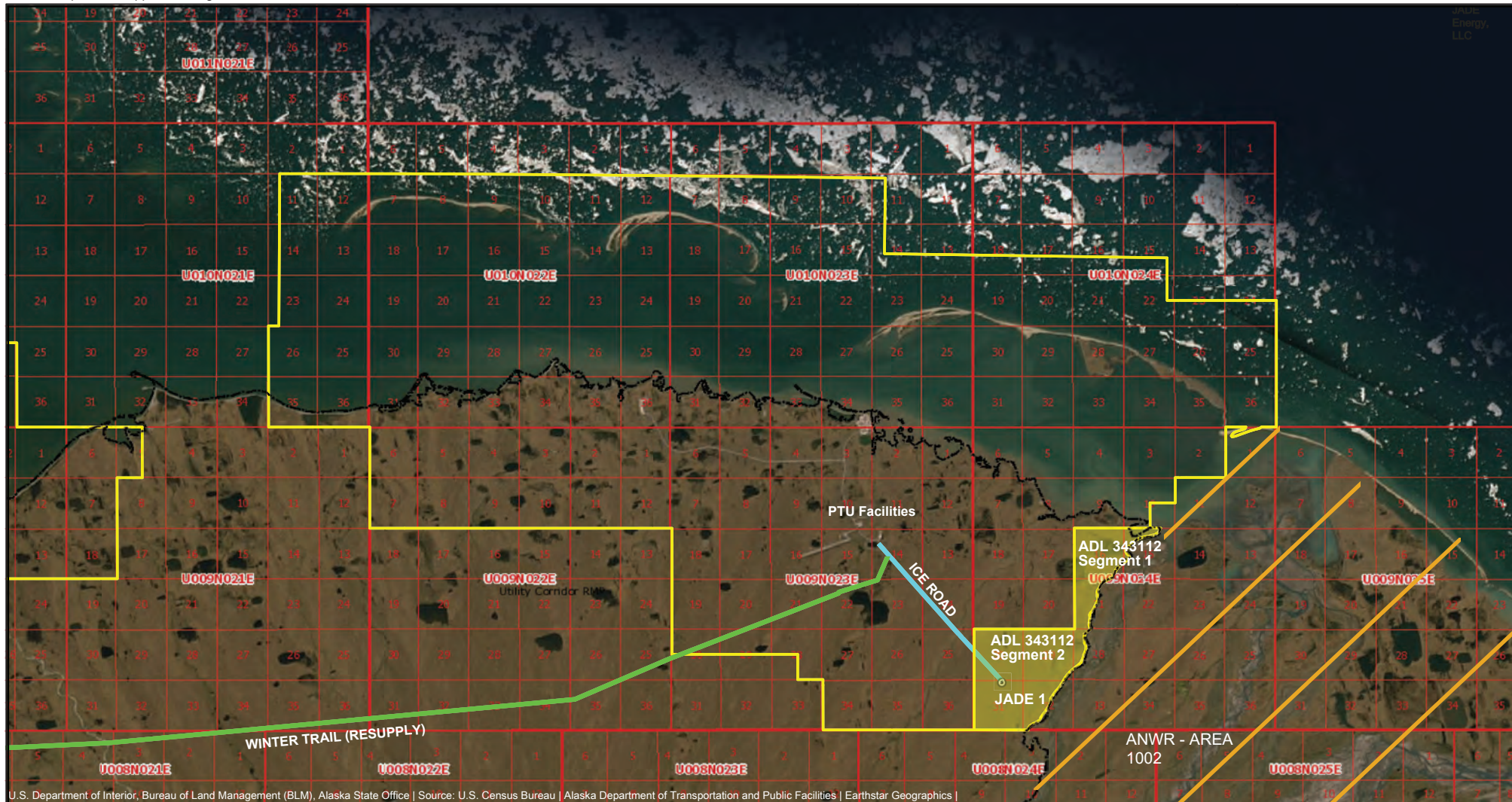
General Vicinity Map

JADE Exploration/Appraisal Program

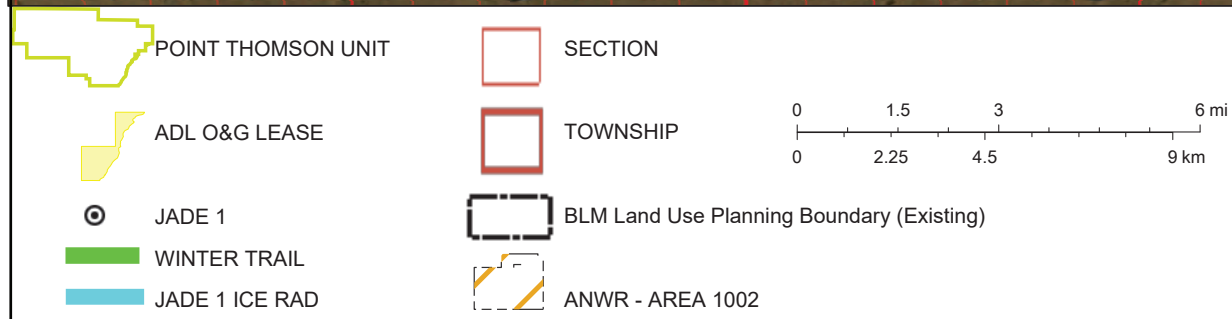


Figure 1





U.S. Department of Interior, Bureau of Land Management (BLM), Alaska State Office | Source: U.S. Census Bureau | Alaska Department of Transportation and Public Facilities | Earthstar Geographics |

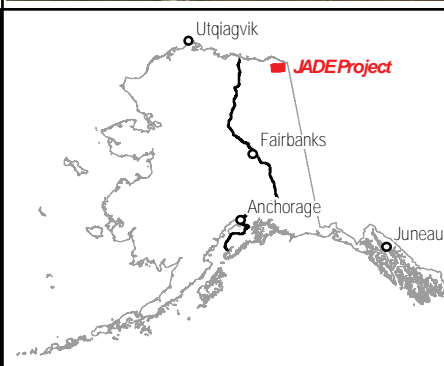
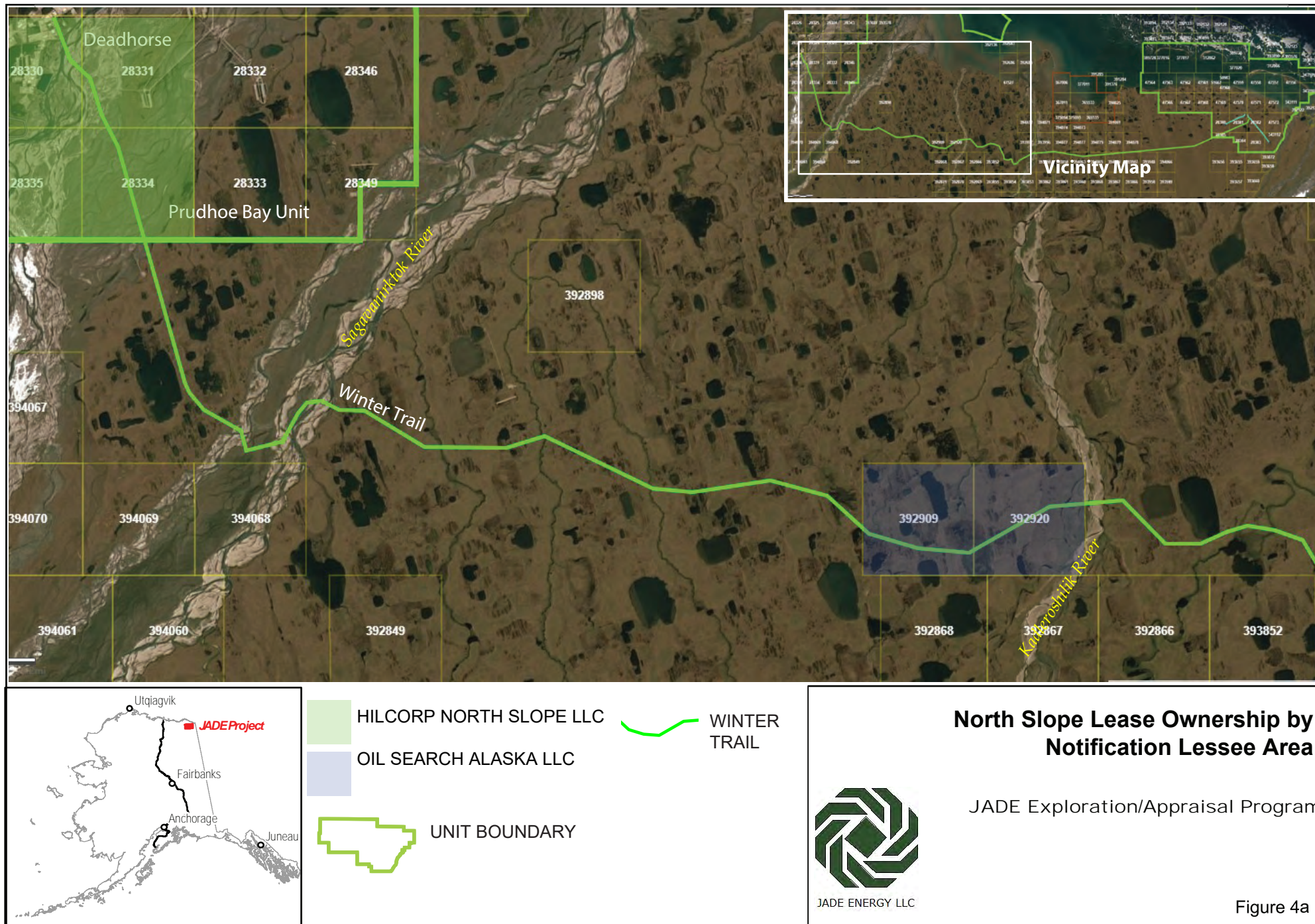


JADE Lease ADL 343112 within Point Thomson Unit



JADE Exploration/Appraisal Program

Figure 3



North Slope Lease Ownership by Notification Lessee Area

JADE Exploration/Appraisal Program

Figure 4a

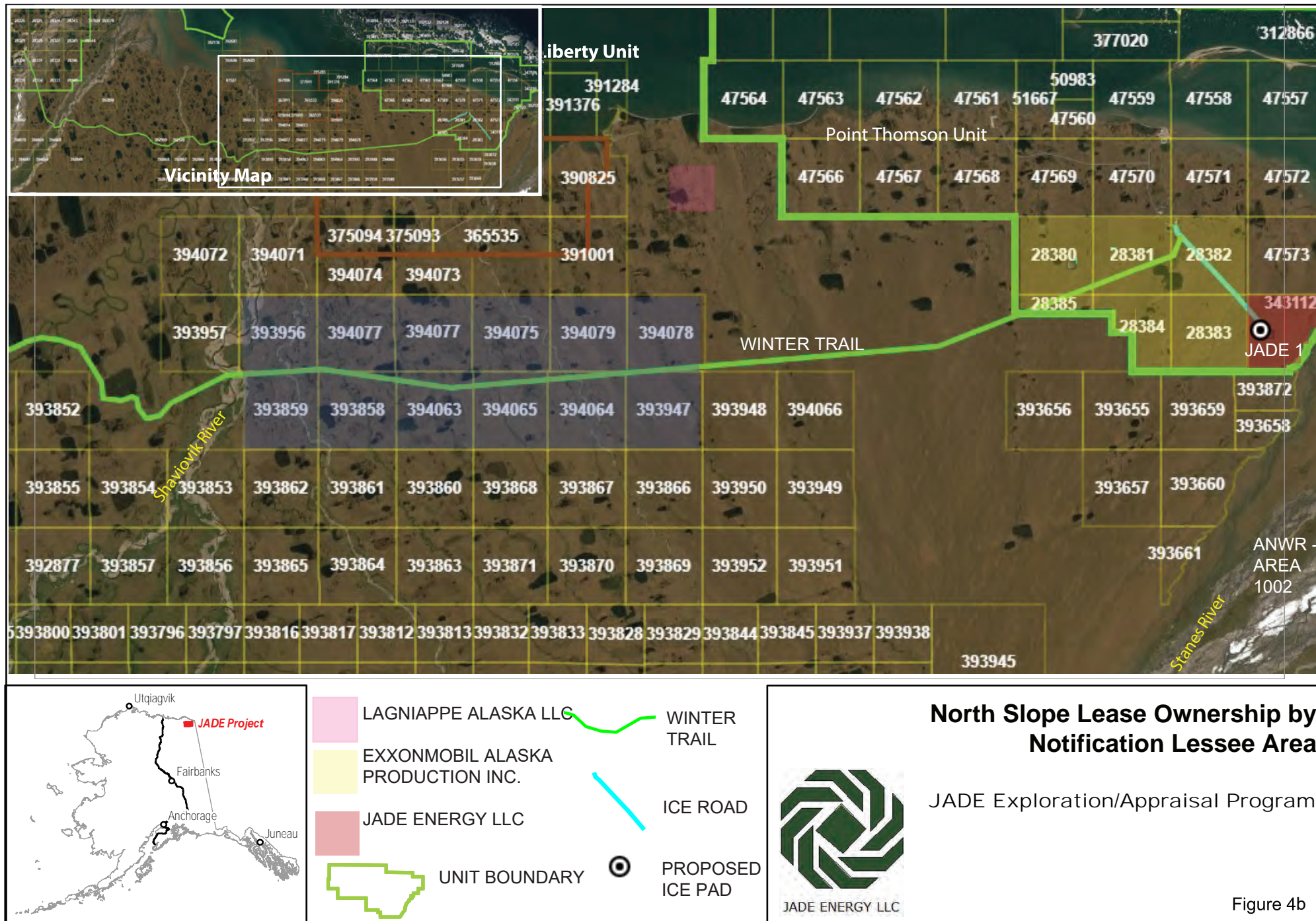
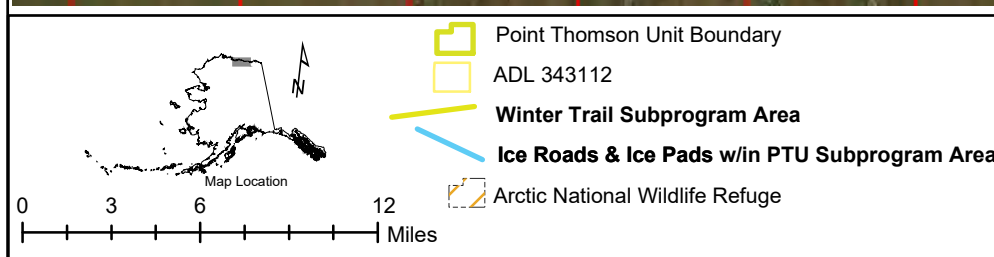
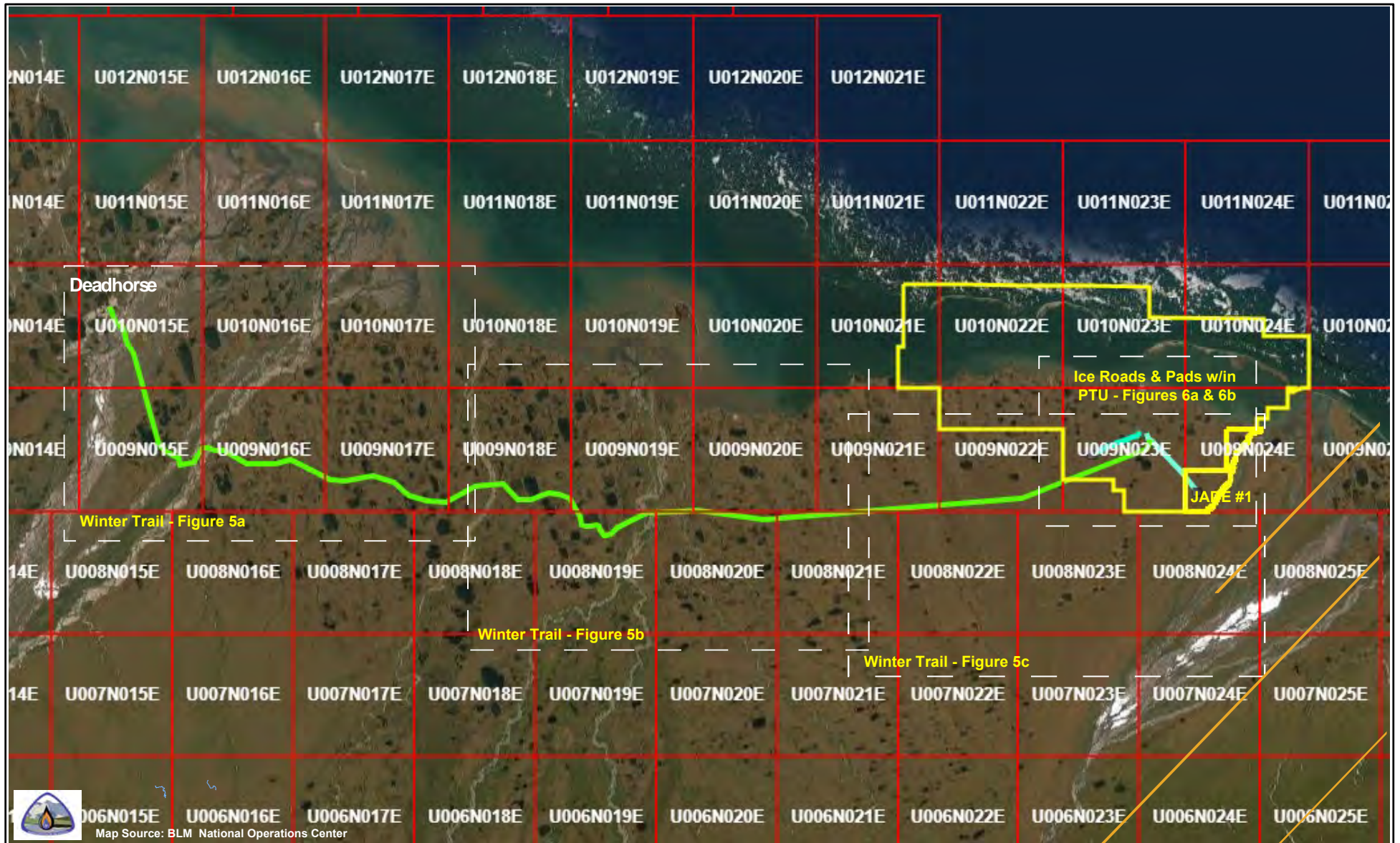


Figure 4b

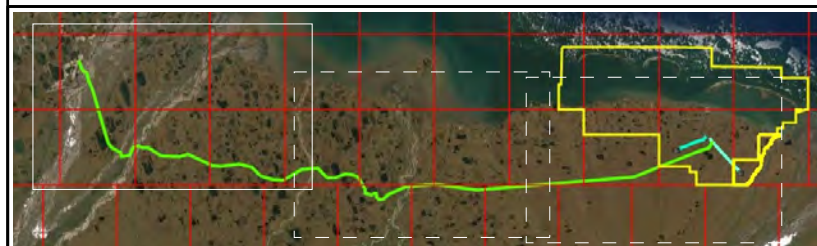
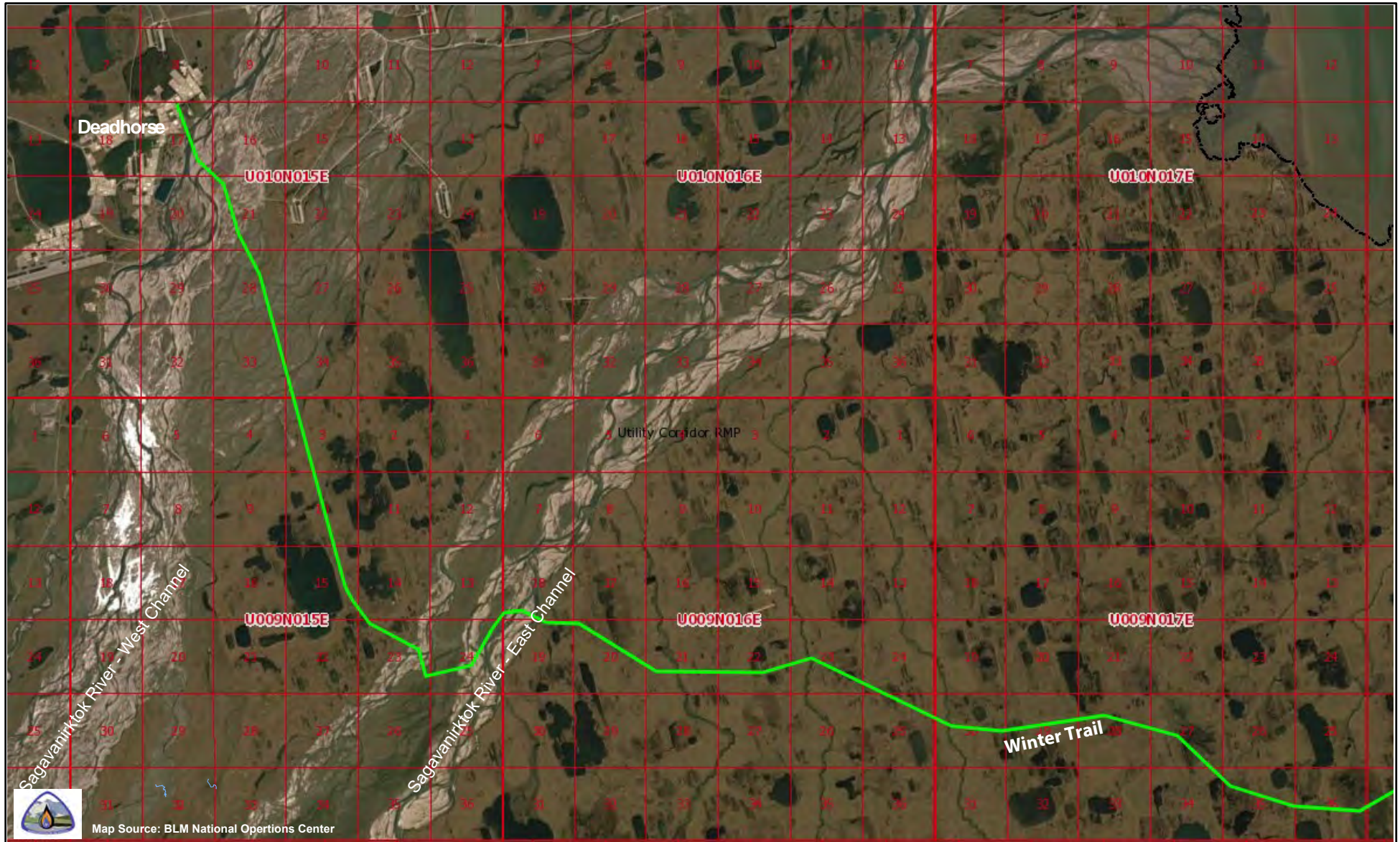


JADE Energy, LLC

JADE Subprogram Areas: Index Map

JADE Exploration/Appraisal Program

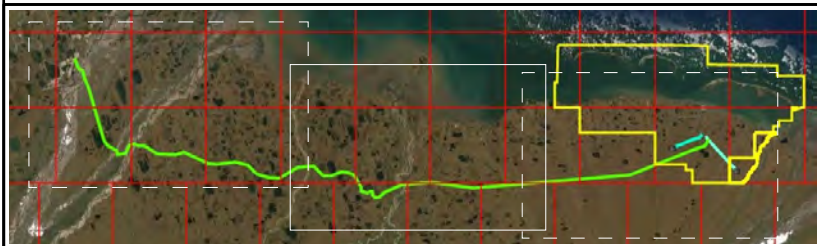
Figure 5



Subprogram Area 1: Winter Trail

JADE Exploration/Appraisal Program

Figure 5a

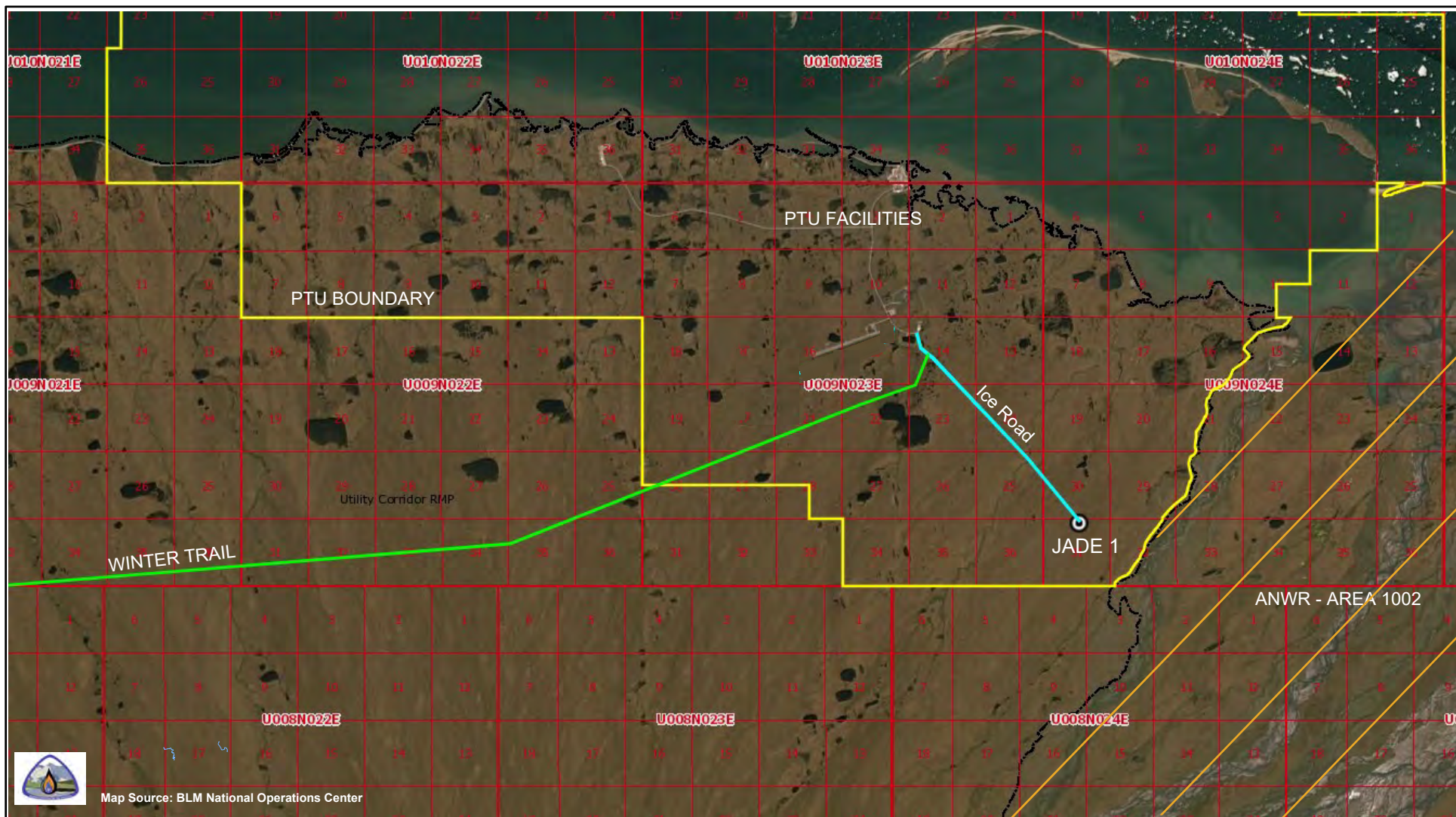


JADE ENERGY LLC

Subprogram Area 1: Winter Trail

JADE Exploration/Appraisal Program

Figure 5b

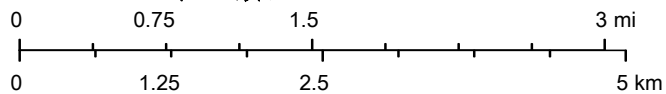
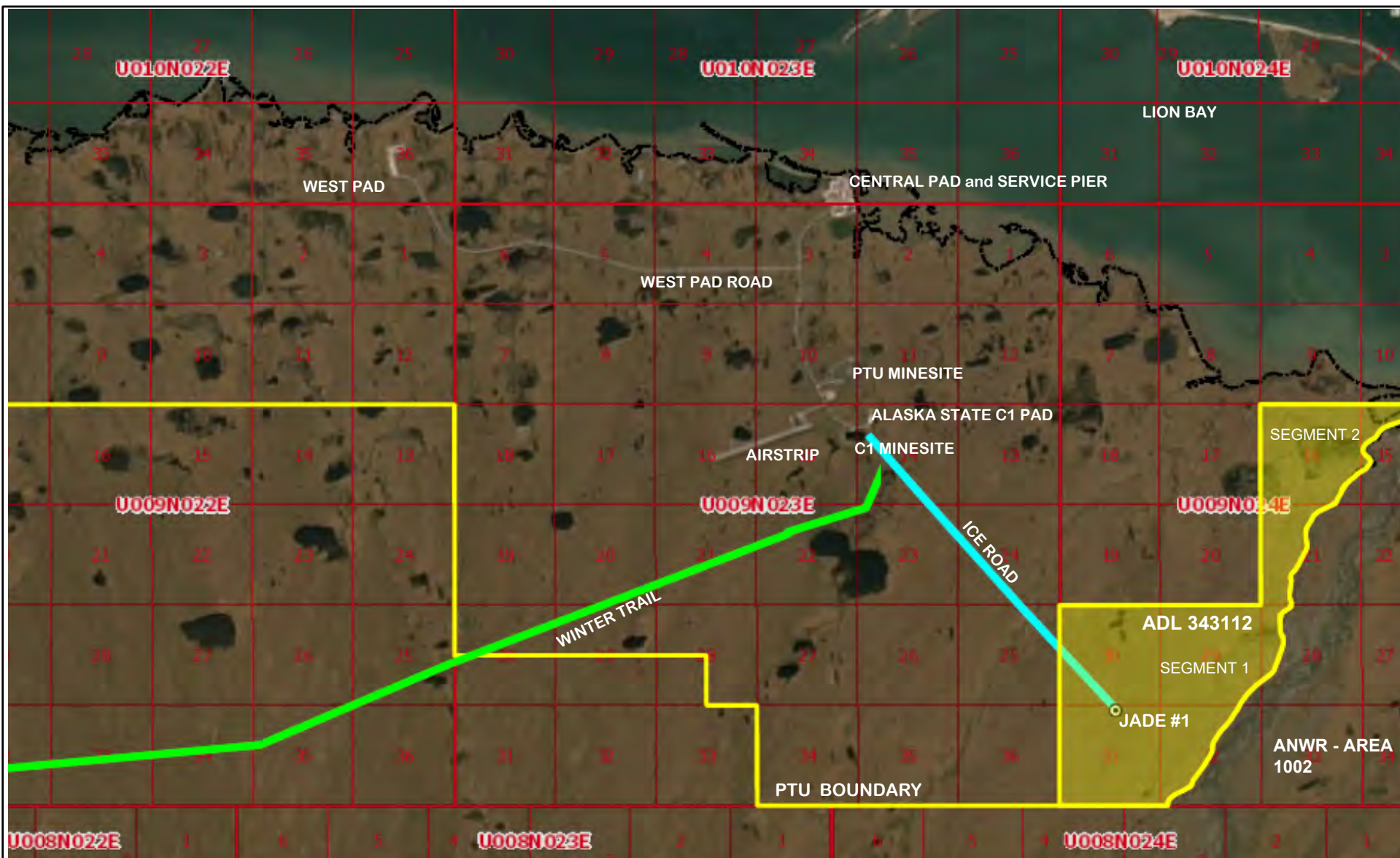


JADE Energy, LLC

Subprogram Area 1: Winter Trail

JADE Exploration/Appraisal Program

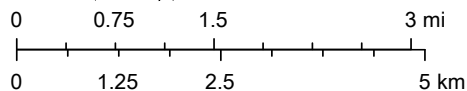
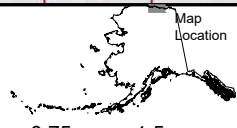
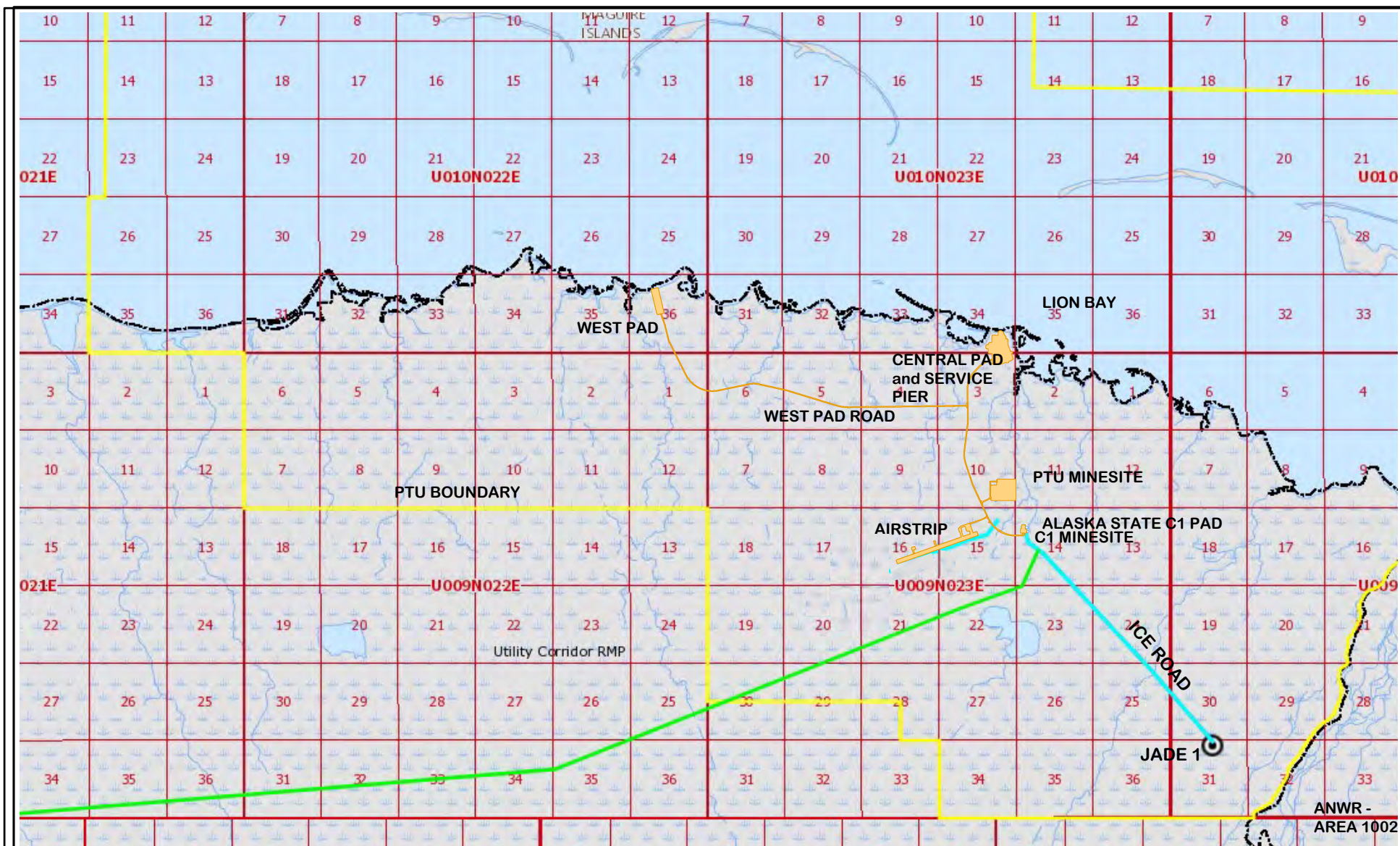
Figure 5c



JADE Energy, LLC

Subprogram Area 2: Ice Roads and Pads w/in PTU

JADE Exploration/Appraisal Program
Figure 6a

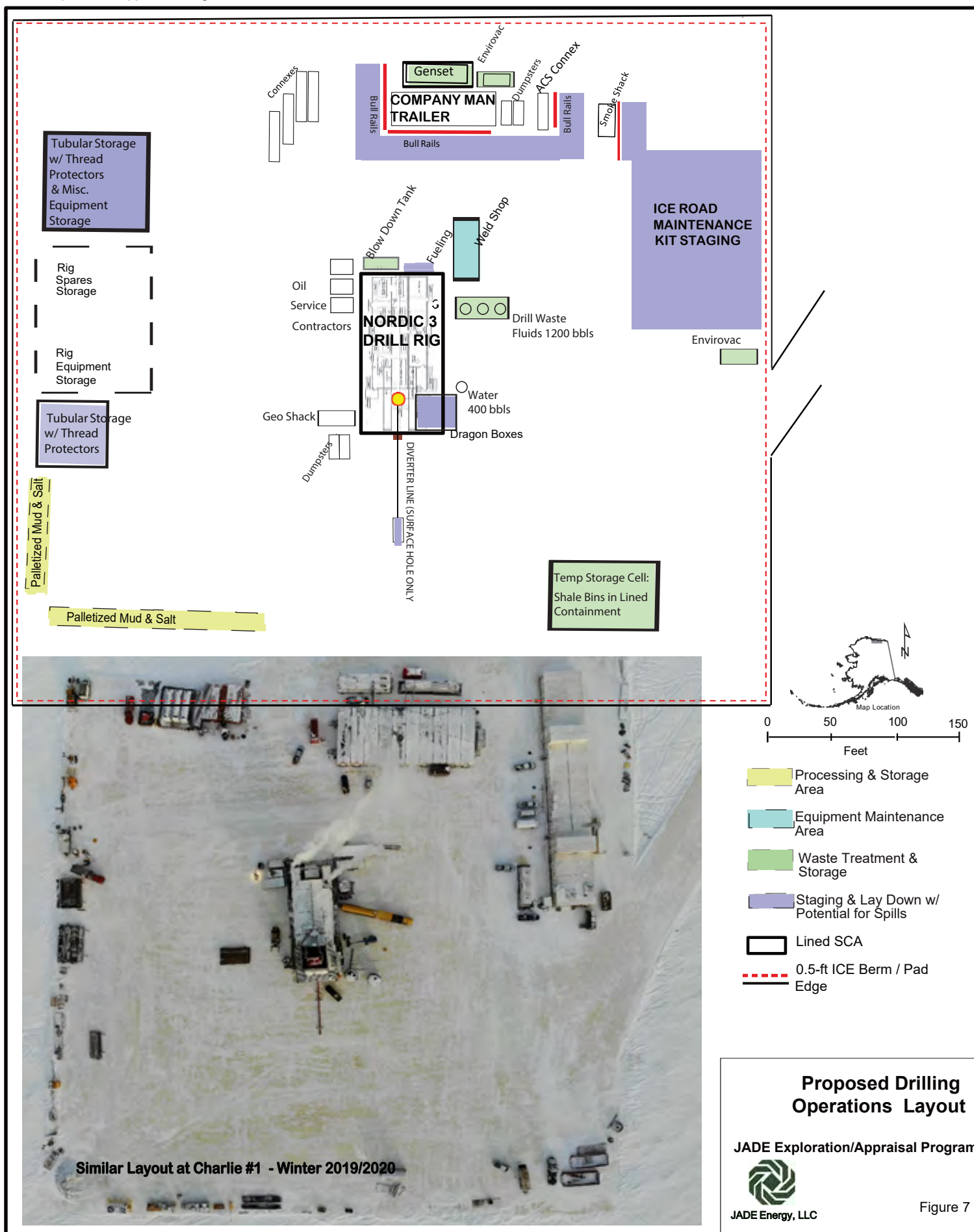


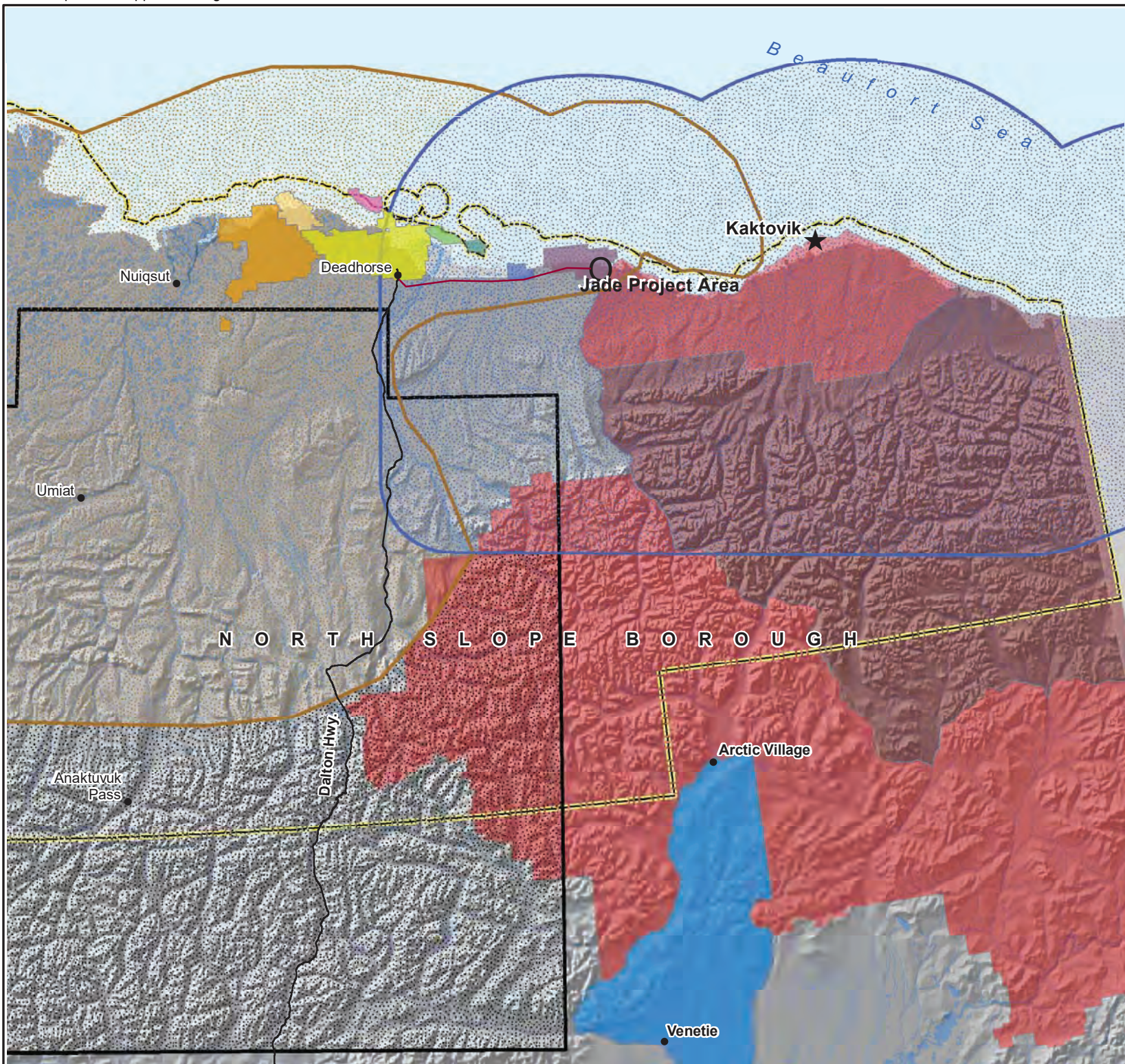
JADE Energy, LLC

Subprogram Area 2: Ice Roads and Pads w/in PTU

JADE Exploration/Appraisal Program

Figure 6b





0 5 10 20
Miles

Baseline Map is MAP 4 from Kaktovik (Draft) Comprehensive Plan with
Data Sources: ADNIR Land Information, NSB & ADNIR/DOG

- | | | |
|----------------------------------|---------------------------------|------------------|
| Kaktovik Area of Influence | Kuparuk River Unit | Badami Unit |
| Anaktuvuk Pass Area of Influence | Northstar Unit | Duck Island Unit |
| Nuiqsut Area of Influence | Point Thomson Unit | Milne Point Unit |
| North Slope Borough Boundary | Prudhoe Bay Unit | Liberty Unit |
| Venetie Tribal Lands | Arctic NWR Wilderness Area | |
| | Arctic National Wildlife Refuge | |

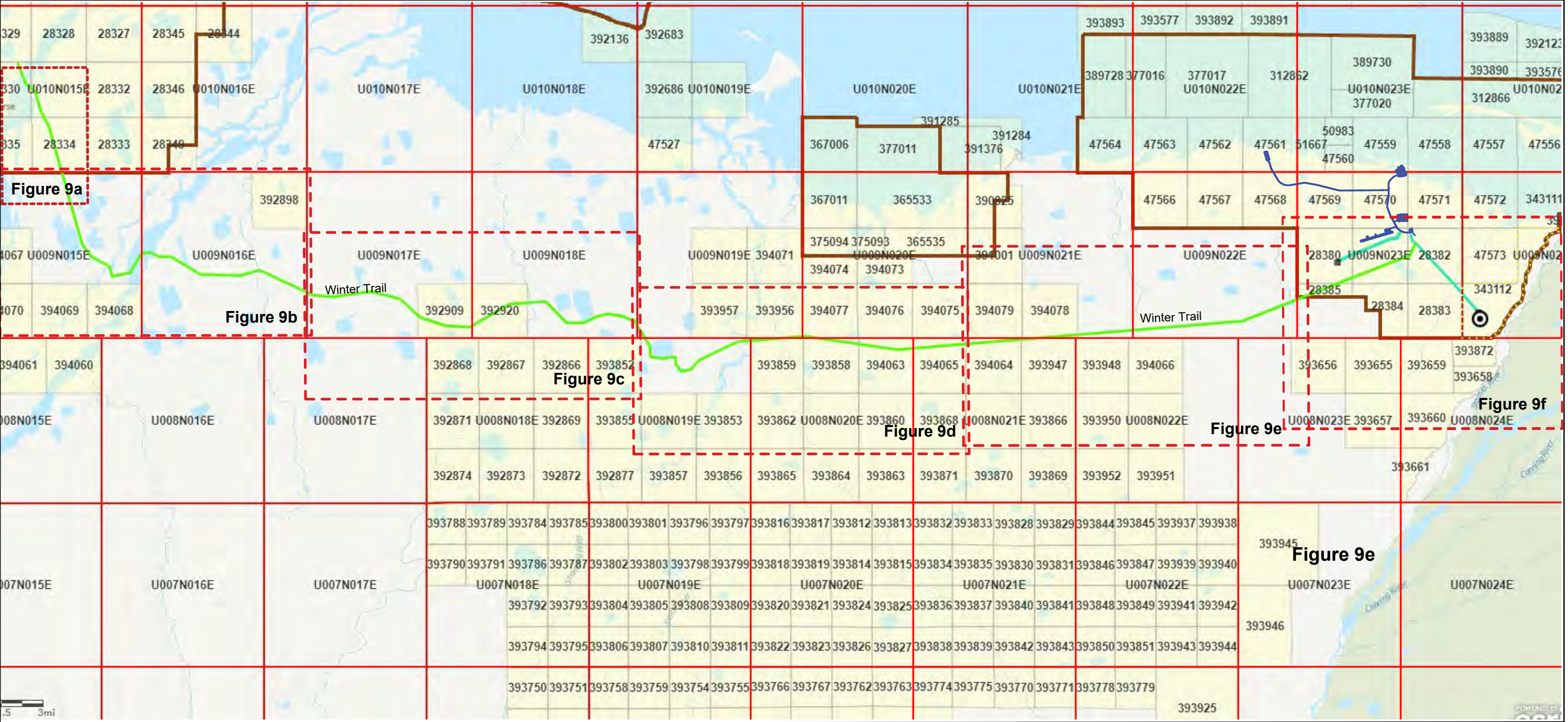
Kaktovik Subsistence Area of Influence

JADE Exploration/Appraisal Program



JADE Energy, LLC

Figure 8



Map Location

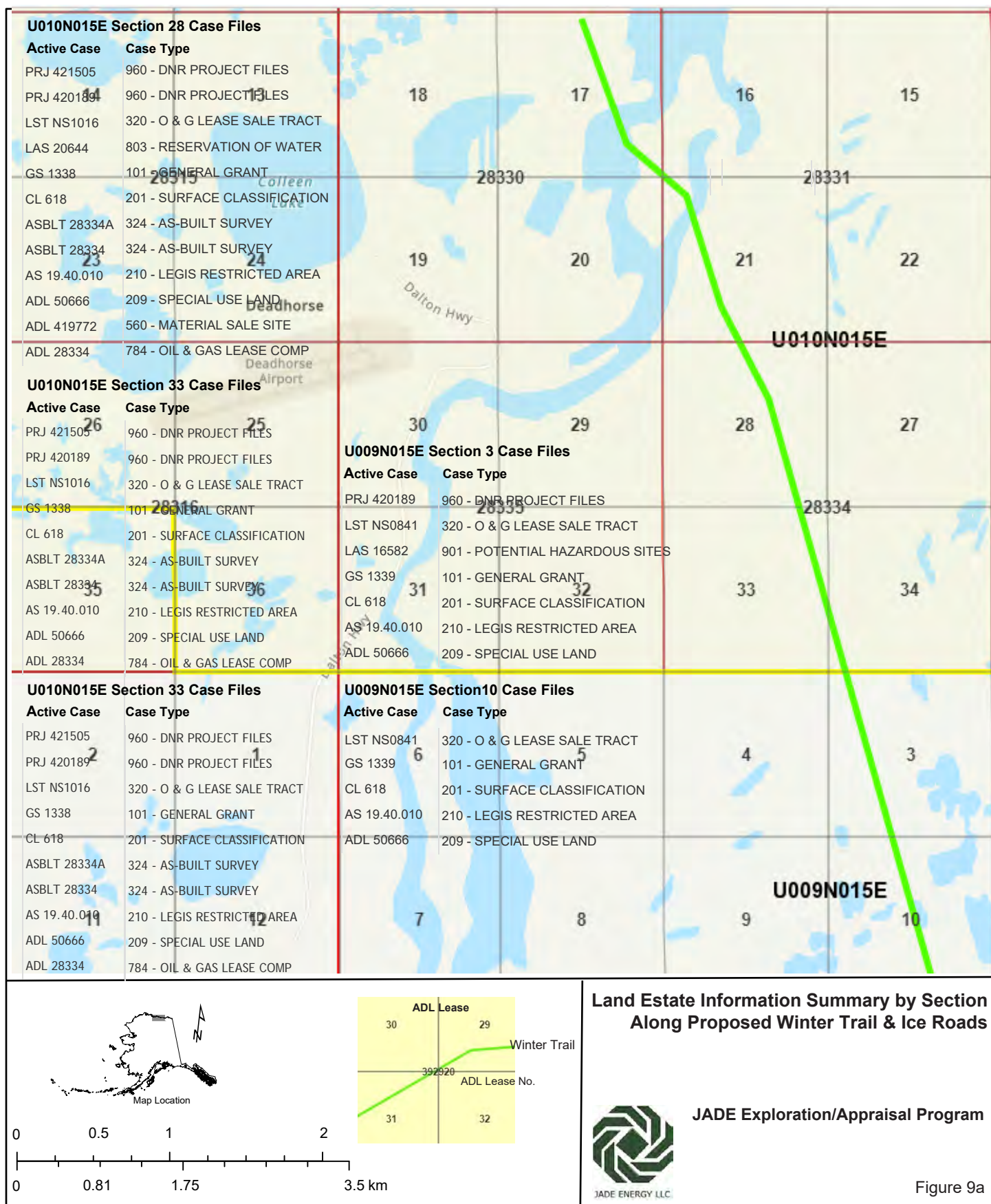
MTR
U009N018E
MTR Boundary
Winter Trail
ADL Lease No. 392920

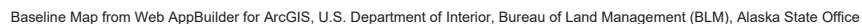
Ice Road
Proposed Drillsite

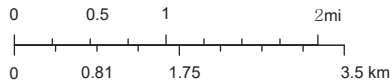
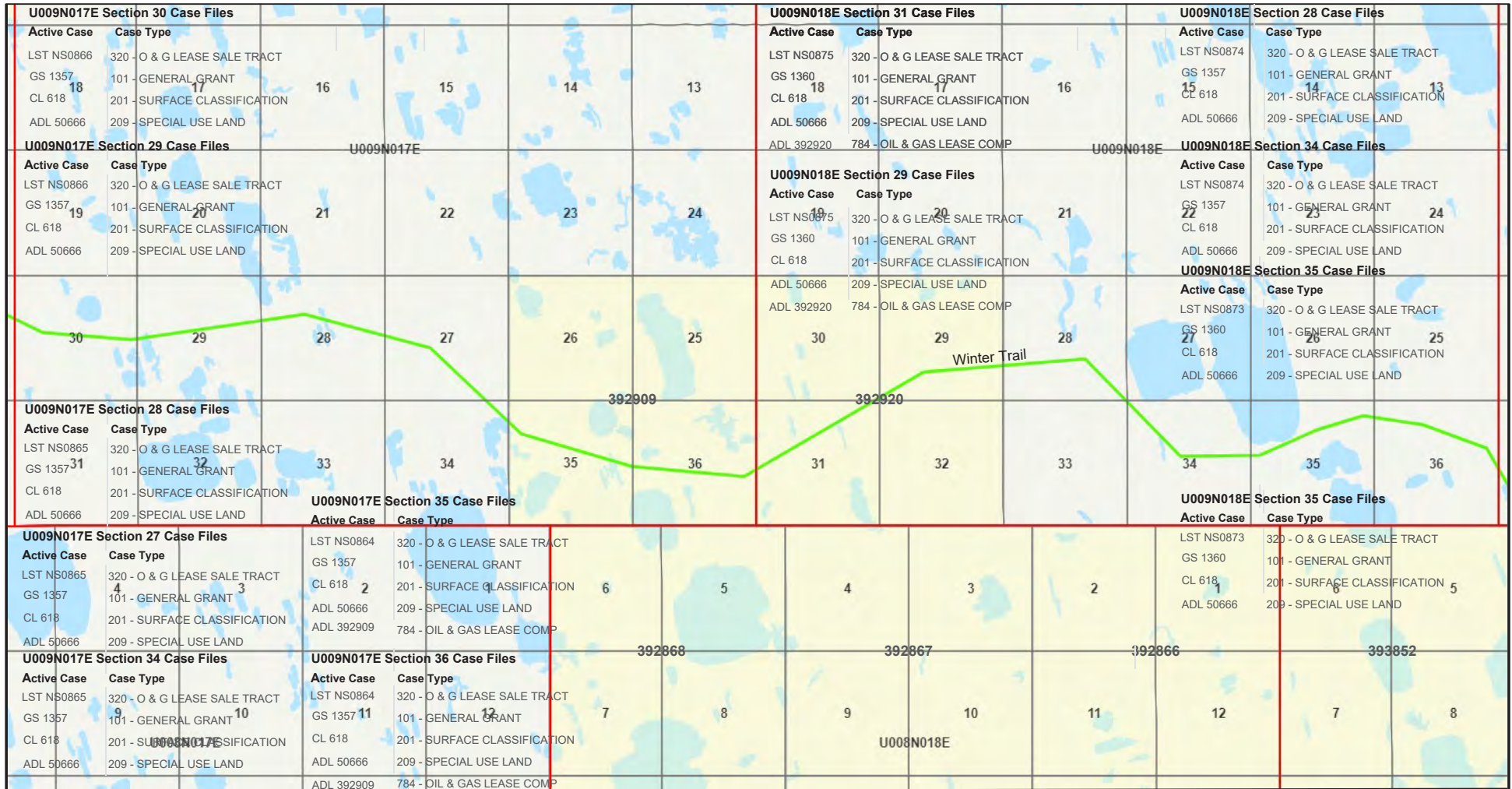
Proposed Winter Trail & Ice Roads Index Map - Land Estate Summary

JADE Exploration/Appraisal Program

Figure 9





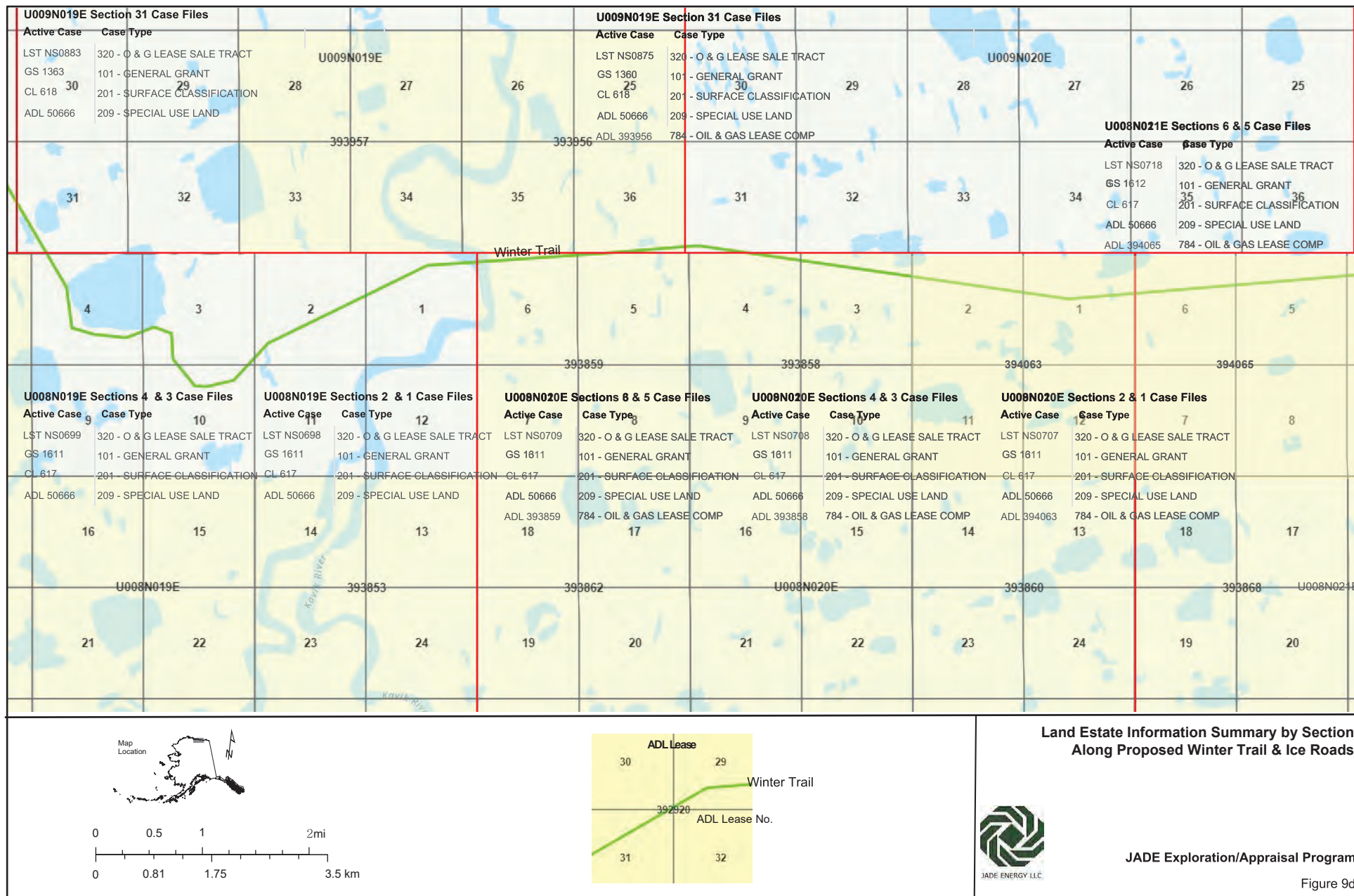


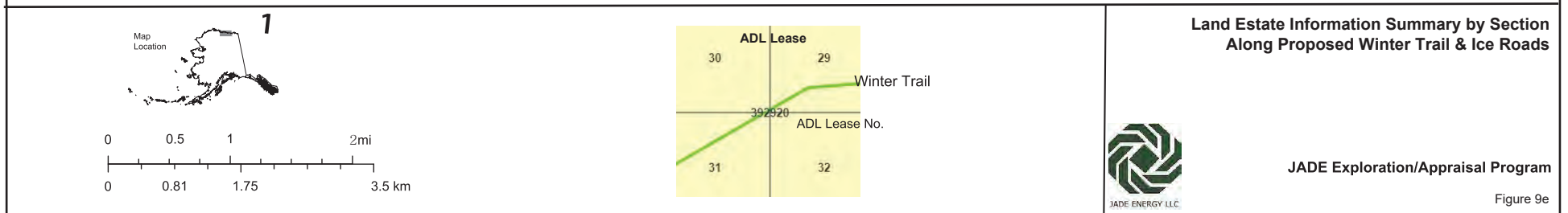
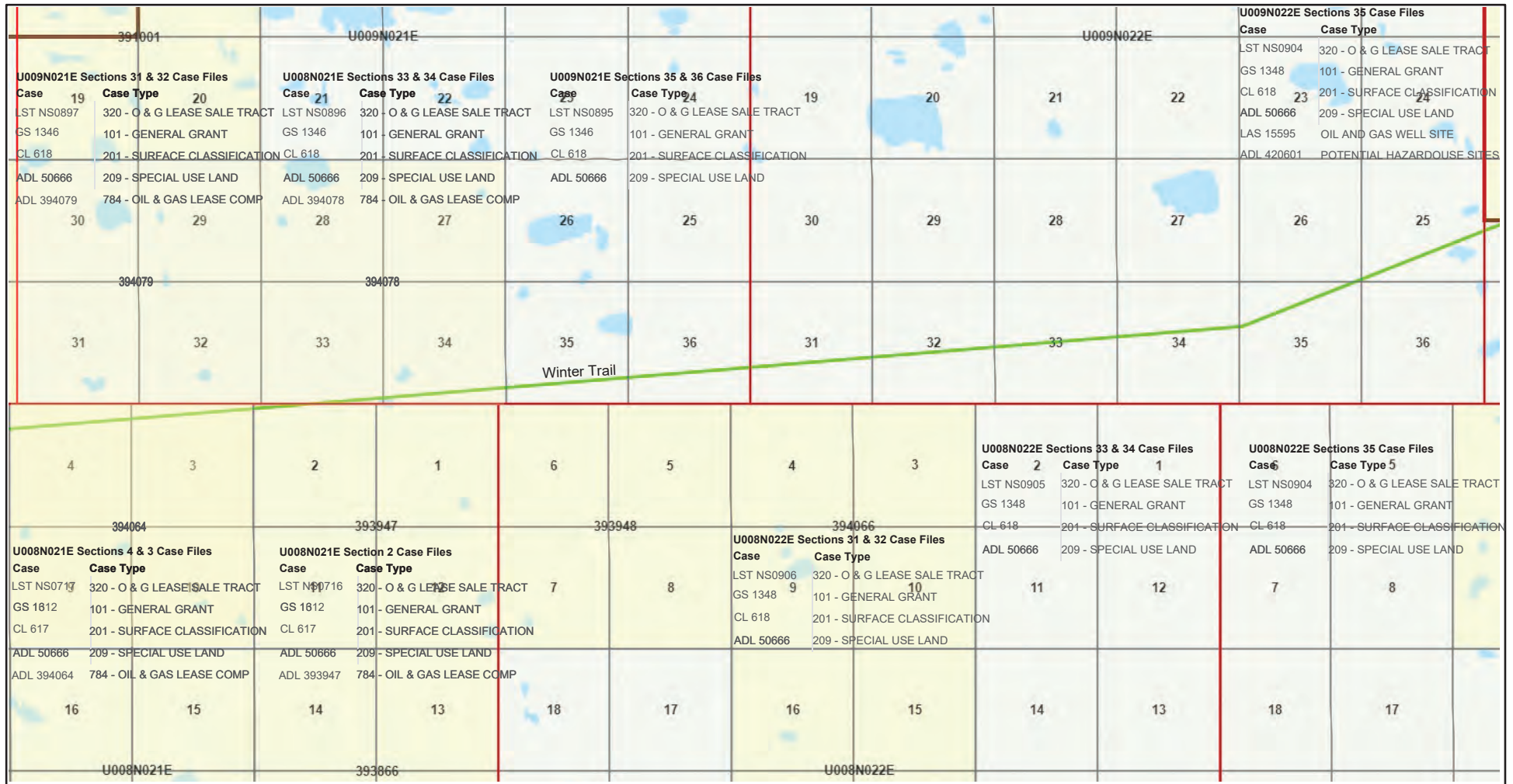
Land Estate Information Summary by Section Along Proposed Winter Trail & Ice Roads

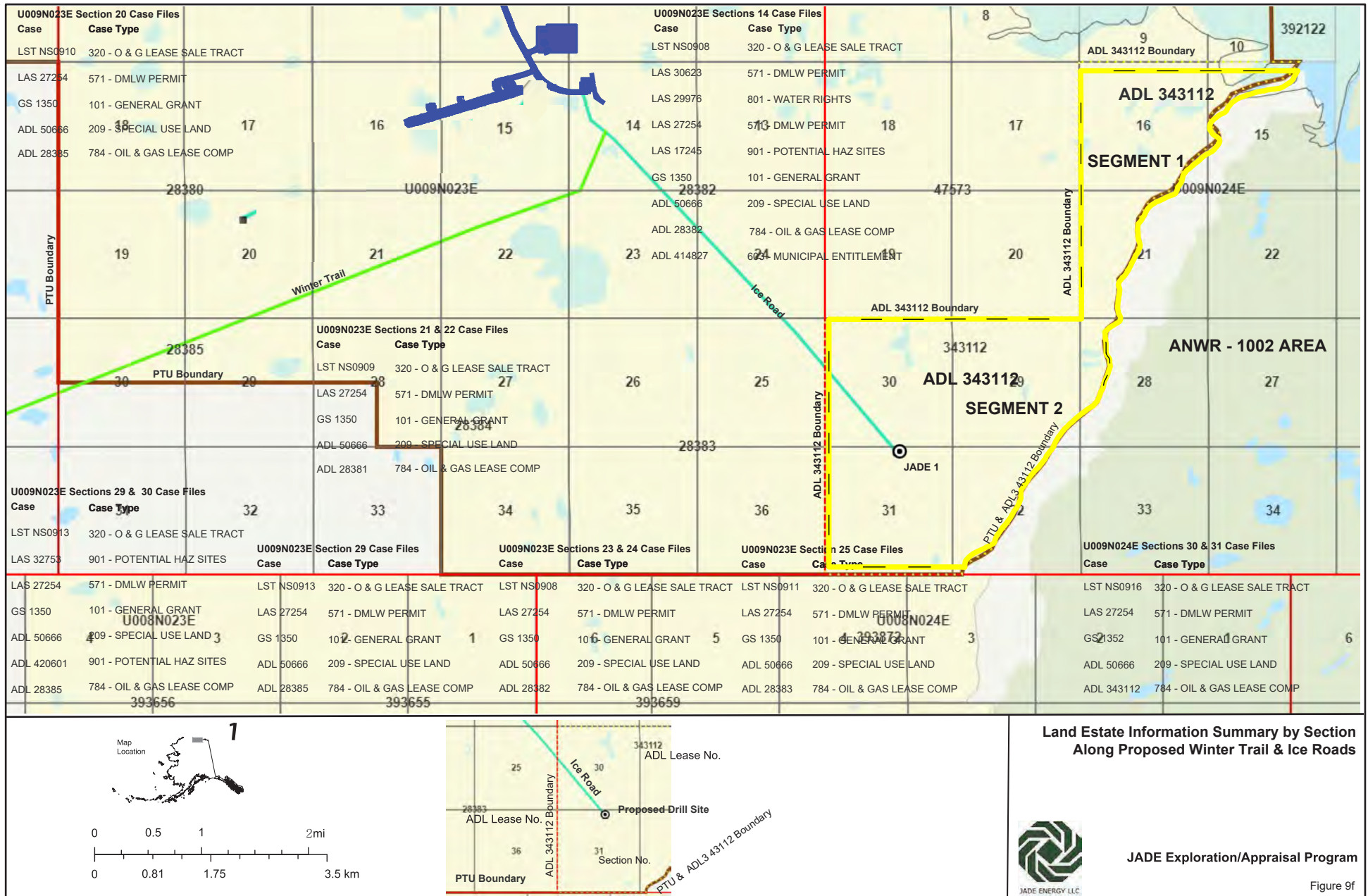


JADE Exploration/Appraisal Program

Figure 9c







APPENDIX B: MITIGATION MEASURES

Include mitigation measures here.

MITIGATION MEASURE ANALYSIS: NORTH SLOPE

The following instructions are provided for guidance to adequately complete the Mitigation Measure Analysis form.

1. The applicant shall respond to each Mitigation Measure, and all subsets of mitigation measures; i.e. A.2.d.i should be addressed and A.2.d.ii, and so forth.
2. The applicant's response shall begin by clearly indicating if the **mitigation measure is satisfied**, an **exception is requested**, or if the mitigation measure is **not applicable**.
3. The applicants' response shall then address how the proposed project clearly satisfies the mitigation measure, meets the intent of the mitigation measure, is not practicable, or is not applicable.
4. The applicant shall verify working 'in consultation with' parties other than Department of Natural Resources (DNR), Division of Oil and Gas (DO&G) by reporting meeting dates and parties present for Mitigation Measures which require consultation with parties other than DNR, DO&G; i.e. Mitigation Measure 1.b.

Please note that this form, along with the Plan of Operations Application form and the Plan of Operations, must be adequately completed before DNR DO&G will review an application for potential approval.

Revised: 4/18/2018

NORTH SLOPE	Company Response
A. Mitigation Measures	
1. Facilities and Operations	
a. Oil and gas facilities, including pipelines, shall be designed using industry-accepted engineering codes and standards. Technical submittals to the Division of Oil and Gas (DO&G) that reflect the “practice of engineering,” as defined by AS 08.48.341, must be sealed by a professional engineer registered in the State of Alaska.	A.1.a. NOT APPLICABLE. No oil and gas facilities, including pipelines are proposed as part of this Project operations and exploration activities.
b. A plan of operations shall be submitted and approved before conducting exploration, development, or production activities in accordance with 11 AAC 83.	A.1.b. MITIGATION MEASURE is SATISFIED. A Plan of Operations for the JADE Exploration/Appraisal Program is being submitted to ADNRR. ADNRR, representing the State of Alaska, is the only surface owner in the Project area whose property will be entered.
c. Facilities shall be designed and operated to minimize sight and sound impacts in areas of high residential, recreational, and subsistence use and important wildlife habitat.	<p>A.1.c. MITIGATION MEASURE is SATISFIED. Planned operations are >60 miles west of Kaktovik and >60 miles east of Deadhorse, the closest communities. An existing Winter Trail alignment will be used by Steigers and Pisten Bullys in support of drill operations. JADE will construct all river crossing snow ramps along this Winter trail to provide a smooth transition to ensure trail users have safe passage. Additionally, all crossings will be consolidated and perpendicular to watercourses and to the extent practicable will be in areas that ground naturally to avoid impacts to overwintering fish. All crossings also will be permitted by ADF&G.</p> <p>JADE also is coordinating with and updating local interests on Project siting, timing and activities as well as measures to minimize impacts to subsistence users.</p> <p>Finally, JADE will obtain applicable permits from ADNRR, ADF&G, ADEC, NSB and other federal, state, and local agencies.</p>
d. The siting of facilities, including roads, airstrips, and pipelines, is prohibited within one-half mile of the coast as measured from the mean high water mark and 500 feet of all fish bearing waterbodies.	<p>A.1.d. MITIGATION MEASURE is SATISFIED. All facilities are temporary and are not within one-half mile of the coast as measured from the mean high water mark and not within 500 feet of fish bearing water bodies.</p> <p>Finally, facilities such as gravel roads, utilities and pipelines are not part of this Project.</p>
e. Notwithstanding (d) above, the siting of facilities is prohibited within one-half mile of the banks of the Colville, Canning, Sagavanirktok, Kavik, Shaviovik, Kadleroshilik, Echooka, Ivishak, Kuparuk, Toolik, Anaktuvuk and Chandler Rivers as measured from the ordinary high water mark. Facilities may be sited, on a case-	A.1.e. MITIGATION MEASURE is SATISFIED. All facilities are temporary and are not within one-half mile of the banks of the Colville, Canning, Sagavanirktok, Kavik, Shaviovik, Kadleroshilik, Echooka, Ivishak, Kuparuk, Toolik, Anaktuvuk and Chandler Rivers as measured from the mean high

Revised: 4/18/2018

by-case basis, within the one-half mile buffer if the lessee demonstrates that siting of such facilities outside this buffer zone is not feasible or prudent, or that a location within the buffer is environmentally preferable.	water mark. Finally, facilities such as gravel roads, utilities and pipelines are not part of this Project.
f. No facilities will be sited within one-half mile of identified Dolly Varden overwintering and/or spawning areas on the Canning, Shaviovik, and Kavik rivers. Notwithstanding the previous sentence, road and pipeline crossings may only be sited within these buffers if the lessee demonstrates to the satisfaction of the Director and Alaska Department of Fish and Game (ADF&G) in the course of obtaining their respective permits, that either (1) the scientific data indicate the proposed crossing is not within an overwintering or spawning area; or (2) the proposed road or pipeline crossing will have no significant adverse impact to Dolly Varden overwintering or spawning habitat.	A.1.f. MITIGATION MEASURE is SATISFIED. All facilities are temporary and are not within one-half mile of identified Dolly Varden overwintering and/or spawning areas on the Canning, Shaviovik, and Kavik rivers. Finally, facilities such as gravel roads, utilities and pipelines are not part of this Project.
g. Impacts to important wetlands shall be minimized to the satisfaction of the Director, in consultation with ADF&G and Alaska Department of Environmental Conservation (ADEC). The Director will consider whether facilities are sited in the least sensitive areas.	A.1.g. MITIGATION MEASURE is SATISFIED. JADE winter operations & exploration activities are temporary and will take place only during winter. No wetlands impacts are expected.
h. Exploration roads, pads, and airstrips shall be temporary and constructed of ice. Use of gravel roads, pads, and airstrips may be permitted on a case-by-case basis by the Director, in consultation with Division of Mining, Land, and Water (DMLW) and ADF&G.	A.1.h. MITIGATION MEASURE is SATISFIED. JADE winter exploration roads, pads, and airstrips will be temporary and constructed of ice. No gravel roads or gravel pads will be constructed as part of proposed operations and exploration activities.
i. Road and pipeline crossings shall be aligned perpendicular or near perpendicular to watercourses.	A.1.i. NOT APPLICABLE. No road or pipelines are proposed as part of this Project operations and exploration activities.
j. Pipelines <ul style="list-style-type: none"> i. Shall use existing transportation corridors and be buried where soil and geophysical conditions permit. ii. In areas with above ground placement, pipelines shall be designed, sited, and constructed to allow for the free movement of wildlife and to avoid significant alteration of caribou and other large ungulate movement and migration patterns. iii. At a minimum, above ground pipelines shall be elevated seven feet, as measured from the ground to the bottom of the pipeline, except where the pipeline intersects a road, pad, or a ramp installed to facilitate wildlife passage. A lessee shall consider snow depth in relation to pipe elevation to ensure adequate clearance for wildlife. iv. Pipelines and gravel pads shall facilitate the containment and cleanup of spilled fluids. 	<p>A.1.j. NOT APPLICABLE. No pipelines are proposed.</p> <p>A.1.h.i. NOT APPLICABLE. No pipelines are proposed as part of Project operations and exploration activities.</p> <p>A.1.j.ii. NOT APPLICABLE. No pipelines are proposed as part of Project operations and exploration activities.</p> <p>A.1.j.iii. NOT APPLICABLE. No pipelines are proposed as part of Project operations and exploration activities.</p> <p>A.1.j.iv NOT APPLICABLE. No pipelines or gravel pads are proposed as part of Project operations and exploration activities.</p>

Revised: 4/18/2018

<p>k. Causeways and docks shall not be located in river mouths or deltas. Approved causeways shall be designed, sited, and constructed to prevent significant changes to nearshore oceanographic circulation patterns and water quality characteristics (e.g., salinity, temperature, suspended sediments) that result in exceedances of water quality criteria, and must maintain free passage of marine and anadromous fish.</p>	<p>A.1.k. NOT APPLICABLE. No Causeways or docks are proposed as part of Project operations and exploration activities.</p>
<p>l. Artificial gravel islands and bottom founded structures shall not be located in river mouths or active stream channels on river deltas, except as provided for in (m) below.</p>	<p>A.1.l. NOT APPLICABLE. No artificial gravel islands or bottom founded structures are proposed as part of Project operations and exploration activities.</p>
<p>m. Each proposed structure will be reviewed on a case-by-case basis. Causeways, docks, artificial gravel islands and bottom founded structures may be permitted if the Director, in consultation with ADF&G and ADEC, determines that a causeway or other structures are necessary for field development and that no practicable alternatives exist. A monitoring program may be required to address the objectives of water quality and free passage of fish, and mitigation shall be required where significant deviation from objectives occurs.</p>	<p>A.1.m. NOT APPLICABLE. No Causeways docks, artificial gravel islands or bottom founded structures are proposed as part of Project operations and exploration activities.</p>
<p>n. Upon abandonment of material sites, drilling sites, roads, buildings or other facilities, such facilities must be removed and the site rehabilitated to the satisfaction of the Director, unless the Director and any non-state surface owner, determines that such removal and rehabilitation is not in the state's interest.</p>	<p>A.1.n. MITIGATION MEASURE is SATISFIED. The proposed winter operations are temporary activities conducted on Winter Trail & ice road alignments, and on ice pads where temporary surface facilities will be removed prior to breakup. The wells will be plugged and abandoned (P&A) or suspended per AOGCC regulations. Remaining debris and potentially contaminated materials will be removed and disposed at approved facilities by completion of site closure. Responsible regulators will be included in inspections of all former alignment and ice pad footprints in late summer as well.</p>
<p>o. Material sites required for exploration and development activities shall be:</p> <ul style="list-style-type: none"> i. restricted to the minimum necessary to develop the field efficiently and with minimal environmental damage, ii. where practicable, designed and constructed to function as water reservoirs for future use, and iii. located outside active floodplains of a watercourse unless the Director DMLW, after consultation with ADF&G, determines that there is no practicable alternative, or that a floodplain site would enhance fish and wildlife habitat after mining operations are completed and the site is closed. 	<p>A.1.o. and A1.o.i. to A.1.o.iii. NOT APPLICABLE. Development of material sites is not part of proposed Project operations or activities.</p>

Revised: 4/18/2018

p. The Director may include plan stipulations if necessary to reduce or eliminate adverse impacts to fish and wildlife or to protect the environment.	A.1.p. MITIGATION MEASURE is SATISFIED. JADE is aware the Director may include stipulations to reduce eliminate adverse impacts to fish and wildlife or to protect the environment.
2. Fish and Wildlife Habitat	
a. The lessee shall consult with the North Slope Borough (NSB) before proposing the use of explosives for seismic surveys. The Director may approve the use of explosives for seismic surveys after consultation with the NSB.	A.2.a. NOT APPLICABLE. Detonation of explosives is not proposed as part of Project operations or activities.
b. Any water intake structures in fish bearing or non-fish bearing waters shall be designed, operated, and maintained to prevent fish entrapment, entrainment, or injury. All water withdrawal equipment must be equipped and must use fish screening devices approved by ADF&G.	A.2.b. MITIGATION MEASURE is SATISFIED. JADE is consulting with the ADN/DML&W, ADF&G and NSB Planning Department on water withdrawal. JADE will apply for and receive an ADF&G Title 16 Fish Habitat Permit and ADNR Temporary Water Use Authorization for water withdrawal from the Pt. Thomson Minesite, as allowed under ExxonMobil's rehabilitation plan. JADE will meet permit all conditions on water intake, including screen size & velocity requirements plus using screened fish pump inlets inspected & approved by ADF&G.
c. Removal of snow from fish-bearing rivers, streams, and natural lakes shall be subject to prior written approval by ADF&G. Compaction of snow cover overlying fish-bearing waterbodies is prohibited except for approved crossings. If ice thickness is not sufficient to facilitate a crossing, then ice or snow bridges may be required.	A.2.c. MITIGATION MEASURE is SATISFIED. All activities in fish-bearing water bodies, including snow removal, will be authorized under issued ADF&G Title 16 Fish Habitat Permits. Crossing fish and non-fish bearing streams will be at approved crossings only. If ice thickness is not sufficient to facilitate a crossing, then ice or snow bridges may be required.
d. Bears: i. Brown bears A. A lessee must consult with ADF&G before commencing any activities to identify the locations of known brown bear den sites that are occupied in the season of proposed activities. B. Exploration and production activities shall not be conducted within one-half mile of occupied brown bear dens unless alternative mitigation measures are approved by ADF&G. C. A lessee who encounters an occupied brown bear den not previously identified by ADF&G shall report it to the Division of Wildlife Conservation, ADF&G, within 24 hours. The lessee will avoid conducting mobile activities one-half mile from discovered occupied dens unless alternative mitigation measures are	A.2.d.i.A. MITIGATION MEASURE is SATISFIED. JADE will consult with ADF&G and identify known occupied brown bear den sites along the Winter Trail, and in the JADE 1 Project area. A.2.d.i.B. MITIGATION MEASURE is SATISFIED. JADE will move alignments and pads to ensure none are within one mile. Further, in upcoming staking of alignments & ice pads, JADE also will avoid areas that appear to be prime brown bear den habitat, keeping in mind required buffer zones of one-half mile along the alignments. A.2.d.i.C. MITIGATION MEASURE is SATISFIED. Reporting requirements in JADE's Wildlife Avoidance and Interaction Plan includes reporting newly discovered occupied brown bear dens to ADF&G/DW within 24 hours.

Revised: 4/18/2018

<p>approved by the Director, with concurrence from ADF&G. Non-mobile facilities will not be required to relocate.</p> <p>ii. Polar bears</p> <p>A. Consultation with the US Fish and Wildlife Service (USFWS) is required prior to commencement of any activities as required by the Endangered Species Act, and also to identify the locations of known polar bear den sites.</p> <p>B. Operations shall avoid known polar bear dens by at least one mile.</p> <p>C. A lessee who encounters an occupied polar bear den not previously identified by USFWS shall report it to the USFWS within 24 hours and subsequently avoid the new den by at least one mile.</p> <p>D. If a polar bear should den within an existing development, off-site activities shall be restricted to minimize disturbance.</p> <p>iii. For projects in proximity to areas frequented by bears, the lessee is required to prepare and implement a human-bear interaction plan designed to minimize conflicts between bears and humans. The plan shall include measures to:</p> <p>A. minimize attraction of bears to facility sites;</p> <p>B. organize layout of buildings and work areas to minimize interactions between humans and bears;</p> <p>C. warn personnel of bears near or on facilities and the proper actions to take;</p> <p>D. if authorized, deter bears from the drill site;</p> <p>E. provide contingencies in the event bears do not leave the site;</p> <p>F. discuss proper storage and disposal of materials that may be toxic to bears; and</p> <p>G. provide a systematic record of bears on the site and in the immediate area.</p>	<p>A.2.d.ii.A. MITIGATION MEASURE is SATISFIED. JADE has consulted with USFWS and received the most updated information on locations of known polar bear dens sites within the Project area.</p> <p>A.2.d.ii.B. MITIGATION MEASURE is SATISFIED. The most updated information indicates there are no known polar bear dens within one mile of Project alignments or ice pads.</p> <p>A.2.d.ii.C. MITIGATION MEASURE is SATISFIED. JADE has prepared an USFWS-approved Polar Bear Interaction Plan that includes notification information and forms to help ensure the USFWS is notified within 24 hours. JADE also has plotted optional alignments for the Winter Trail and ice roads if needed.</p> <p>A.2.d.ii.D. Not Applicable. JADE facilities are temporary; there is no existing development within the Project area.</p> <p>A.2.d.iii.A to A.2.d.iii.G. MITIGATION MEASURES are SATISFIED. JADE's Wildlife Avoidance and Interaction Plan (for brown bears) & the JADE's Polar Bear Avoidance and Interaction Plan include listed measures for JADE to protect bears and avoid human encounters. Further, JADE has added additional training during orientation to address listed measures A.2.d.iii.A., A.2.d.iii.C., and A.2.d.iii.F.</p>
--	--

Revised: 4/18/2018

e. Permanent, staffed facilities shall be sited to the extent practicable outside identified brant, white-fronted goose, snow goose, tundra swan, king eider, common eider, Steller's eider, spectacled eider, and yellow-billed loon nesting and brood rearing areas.	A.2.e. Not Applicable. There are no permanent facilities (staffed or not staffed) associated with the winter drilling program and related support operations.
f. The Director, in consultation with ADF&G, may impose additional and seasonal restrictions on activities located in, or requiring travel through or overflight of, important caribou or other large ungulate calving and wintering areas during the plan of operations approval stage.	A.2.f. MITIGATION MEASURE is SATISFIED. JADE is now aware the Director, in consultation with ADF&G, may impose additional and seasonal restrictions on activities located in, or requiring travel through or overflight of, important caribou or other large ungulate calving and wintering areas during the plan of operations approval stage.
3. Subsistence, Commercial and Sport Harvest Activities	
a. Lease-related use will be restricted if necessary to prevent unreasonable conflicts with subsistence, commercial, or sport fish and wildlife harvest activities. Traditional and customary access to subsistence areas will be maintained unless reasonable alternative access is provided to subsistence users. "Reasonable access" is access using means generally available to subsistence users. Lessees will consult the NSB, nearby communities, and native organizations for assistance in identifying and contacting local subsistence users.	A.3.a. MITIGATION MEASURE is SATISFIED. JADE operations are within the Kaktovik subsistence influence area (Figure 8). JADE will minimize effects on subsistence uses and avoid conflicts with private, users. JADE also will not restrict traditional and customary subsistence access to the Project area, except for a 100-foot safety zone around each ice pad . Note that although access to these ice pads must be restricted due to safety concerns, JADE will provide shelter and assistance in emergency situations to subsistence users. Ice roads and snow road alignments also will be constructed to allow for subsistence travel to safely and easily cross.
b. Before submitting a plan of operations that has the potential to disrupt subsistence activities, the lessee will consult with the potentially affected subsistence communities and the NSB (collectively "parties") to discuss the siting, timing, and methods of proposed operations and safeguards or mitigating measures that could be implemented by the operator to prevent unreasonable conflicts. The parties will also discuss the reasonably foreseeable effect on subsistence activities of any other operations in the area that they know will occur during the lessee's proposed operations. Through this consultation, the lessee will make reasonable efforts to ensure that exploration, development, and production activities are compatible with subsistence hunting and fishing activities and will not result in unreasonable interference with subsistence harvests.	A.3.b. MITIGATION MEASURE is SATISFIED. Starting on 28 June, JADE began consulting with the Kaktovik Native Village, City of Kaktovik, and NSB Planning & Community Services on subsistence to discuss the siting, timing, and methods of proposed operations and safeguards or mitigating measures that will be implemented by JADE to prevent unreasonable conflicts. JADE also will document discussion or agreements reached or not reached during the consultations. As most JADE exploration activities take place during winter, this will further help ensure no unreasonable interference with subsistence harvests for hunting, fishing and foraging. JADE also work with individual subsistence users to ensure no interference with trapping as well. Finally, JADE will contact subsistence representative if potential subsistence issues are identified during drilling and testing operations to minimize impacts.
4. Fuel, Hazardous Substances and Waste	
a. The lessee will ensure that secondary containment is provided for the storage of fuel or hazardous substances and sized as appropriate to container type and	A.4.a. MITIGATION MEASURE is SATISFIED. See description of the proposed operations, including the location and design of Fuel & Hazardous

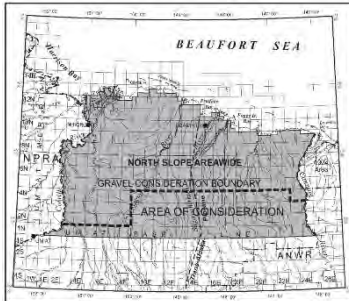
Revised: 4/18/2018

<p>according to governing regulatory requirements in 18 AAC 75 and 40 CFR 112. Containers with an aggregate storage capacity of greater than 55 gallons that contain fuel or hazardous substances will not be stored within 100 feet of a waterbody, or within 1,500 feet of a current surface drinking water source.</p>	<p>Substances in the JADE Plan of Operation for more information. Also see Figures 9 & 10 for SCA locations during drilling & testing. Fuel and hazardous substances will be stored within lined and diked secondary containment areas (SCAs) that hold 110% or more of the largest tank volume within plus seasonal precipitation. Secondary containment is discussed in detail in JADE's Oil Discharge Prevention and Contingency Plan ("Spill Plan"), which is approved by the State (ADEC Plan No. 19-CP-5253), and in JADE's Spill Prevention and Containment Contingency (SPCC) Plan. Based on planned TWR alignments, ice pad locations and operations, fuel or hazardous substances will not be stored within 100 feet of a waterbody. Additionally, no surface drinking water sources are within 1,500 feet of the proposed operations.</p>
<p>b. During equipment storage or maintenance, the site must be protected from leaking or dripping fuel and hazardous substances by the placement of drip pans or other surface liners designed to catch and hold fluids under the equipment, or by creating an area for storage or maintenance using an impermeable liner or other suitable containment mechanism.</p>	<p>A.4.b. MITIGATION MEASURE is SATISFIED. See description of the proposed operations, including the location and design of Fuel and Hazardous Substances in the Plan of Operation for more information. Additionally, JADE has adopted the most recent Alaska Safety Handbook (ASH), the North Slope Environmental Field Handbook (NSEFH), and the Alaska Waste Disposal and Reuse Guide (Red Book) as guidance for standard operating procedures and best management practices for workplace health, safety and environmental and waste management. Drip pans or liners will be placed under parked vehicles of equipment to capture fluids.</p>
<p>c. During fuel or hazardous substance transfer, secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends. Appropriate spill response equipment, sufficient to respond to a spill of up to five gallons, must be on hand during any transfer or handling of fuel or hazardous substances.</p>	<p>A.4.c. MITIGATION MEASURE is SATISFIED. See description of the proposed operations for Fuel and Hazardous Substances in the Plan of Operation for more information. The JADE spill response program requires oil handlers to have spill response kits on hand during transfers, use a minimum of two personnel during fuel transfers >500 gallons, and undergo training prior to conducting fuel transfers. Fuel and hazardous substance transfers will be performed in accordance with Fluid Transfer Procedures included JADE's Spill Plan (ADEC 19-CP-5253) and NFESH Fluid Transfer Guidelines. This includes:</p> <ul style="list-style-type: none"> • Using surface liners under all potential spill points. • Verifying adequate sorbent and other spill response materials are on hand during fuel transfers. • Training oil handler and other personnel in proper procedures for handling and transferring fuel and other hazardous fluids.
<p>d. Vehicle refueling will not occur within the annual floodplain, except as addressed and approved in the plan of operations. This measure does not apply to water-borne vessels.</p>	<p>A.4.d. MITIGATION MEASURE is SATISFIED. Based on alignments, ice pad locations and operations, refueling will not occur within the annual floodplain of streams & rivers crossed during the winter drilling program.</p>

Revised: 4/18/2018

e. All independent fuel and hazardous substance containers must be marked with the contents and the lessee's or contractor's name using paint or a permanent label.	A.4.e. MITIGATION MEASURE is SATISFIED. Per JADE's spill response program and OSHA-required Hazcom program, all fuel and hazardous substance containers will be permanently marked (labeled) with the contents and JADE's name.
f. A fresh water aquifer monitoring well, and quarterly water quality monitoring, is required down gradient of a permanent storage facility, unless alternative acceptable technology is approved by ADEC.	A.4.f. Not Applicable. There are no permanent storage facilities proposed for this Project.
g. Waste from operations must be reduced, reused, or recycled to the maximum extent practicable. Garbage and domestic combustibles must be incinerated whenever possible or disposed of at an approved site in accordance with 18 AAC 60.	A.4.g. MITIGATION MEASURE is SATISFIED. A description on the proposed operations, including the location and design of Solid Waste Sites, is in the Plan of Operation. JADE is working with the NSB and ADEC on preparing and implementing an approved solid waste management program utilizing approved recycling and disposal facilities in accordance with 18 AAC 60.
h. Proper disposal of garbage and putrescible waste is essential to minimize attraction of wildlife. The lessee must use the most appropriate and efficient method to achieve this goal. The primary method of garbage and putrescible waste is prompt, onsite incineration in compliance with State air quality regulations. The secondary method of disposal is on-site frozen storage in animal-proof containers with backhaul to an approved waste disposal facility. The tertiary method of disposal is onsite non-frozen storage in animal proof containers with backhaul to an approved waste disposal facility. Daily backhauling of non-frozen waste is required unless safety considerations prevent it.	A.4.h. MITIGATION MEASURE is SATISFIED. See description on the proposed operations, including the location and design of Solid Waste Sites in the Plan of Operation for more information. Municipal solid waste (MSW), including garbage and putrescible waste, will be stored frozen in animal-proof, covered 27-cubic yard dumpsters until full and then hauled to the NSB SA 10 Class I Landfill for disposal.
i. New solid waste disposal sites, other than for drilling waste, will not be approved or located on state property for exploration.	A.4.i. Not Applicable. No new solid waste disposal sites are planned or will be located on State property during these Project activities. Designed and approved temporary drilling waste storage sites may be used as part of JADE's solid waste management program.
j. The preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection. Drilling mud and cuttings will not be discharged into lakes, streams, rivers, or wetlands. On-pad temporary cuttings storage may be allowed as necessary to facilitate annular injection and backhaul operations. Injection of non-hazardous oilfield wastes is regulated by Alaska Oil and Gas Conservation Commission through its Underground Injection Control Program for oil and gas wells.	A.4.j. MITIGATION MEASURE is SATISFIED. See the description on the proposed operations, including the location and design of temporary drilling waste temporary storage cells in the Plan of Operation and Waste Management Plan for more information. Additionally, JADE has worked with both the NSB and ADEC as well as other North Slope Operators on preparing and implementing a solid waste management program utilizing approved recycling and disposed facilities. Waste drilling muds and cuttings will either be hauled to the Greater Prudhoe Bay Unit Grind and Inject Waste Disposal Facility (GPBU WDF) or another offsite approved facility for processing and disposal or disposed onsite by annular injection as approved by the AOGCC. Materials disposed at the GPBU G&I WDF Facility will be handled in accordance with the terms of the

Revised: 4/18/2018

	North Slope Ballot Agreement between JADE and GPBU operator Hilcorp (or other Operator if appropriate) and conditions found in JADE's 3rd party Waste Analysis Plan (WAP), also approved by GPBU operators. Drilling waste will be transported as it is generated to the extent practicable. Temporary Storage Permits will be obtained from ADEC for temporary storage of drilling waste if necessary.
5. Access	
a. Exploration activities must be supported only by ice roads, winter trails, existing road systems, or air service. Wintertime off-road travel across tundra and wetlands may be approved in areas where snow and frost depths are sufficient to protect the ground surface	A.5.a. MITIGATION MEASURE is SATISFIED. JADE's winter drilling program will be supported only by approved ice road, winter trails, existing road systems and air service.
b. Summertime off-road travel across tundra and wetlands may be authorized subject to time periods and vehicle types approved by DMLW.	A.5.b. NOT APPLICABLE. Summertime off-road travel across tundra and wetlands will not occur as part of this Project.
c. Emergency exceptions may be granted by the Director of DMLW, and the Director, if it is determined that travel can be accomplished without damaging vegetation or the ground surface on a site-specific basis.	A.5.c. MITIGATION MEASURE is SATISFIED. JADE is aware Emergency exceptions may be granted by the Director under specific conditions.
<p>d. Gravel use may be authorized on a site-specific basis if it is determined, after consulting with ADF&G and DMLW, that no practicable alternatives exist for constructing an exploration road or pad in the area south of the boundary described below and depicted in the map below:</p> <p>Beginning at the NPR-A boundary, from the northeast corner of T 1N, R 2E, then east to the northwest corner of T 1N, R 9E, then north to the northwest corner of T 4N, R 9E, then east to the northwest corner of T 4N, R 23E, then south to the southwest corner of T 4N, R 23E, then east along the top of T 3N to the ANWR boundary.</p> 	A.5.d. NOT Applicable. JADE ice roads and pads are temporary and constructed from ice. Additionally, JADE is north of the proscribed boundary.
Figure 0.1.— Gravel Consideration Boundary	

Revised: 4/18/2018

<p>e. Public access to, or use of, the lease area may not be restricted except within the immediate vicinity of drill sites, buildings, and other related structures. Areas of restricted access must be identified in the plan of operations.</p>	<p>A.5.e. MITIGATION MEASURE is SATISFIED. JADE is requesting a 100-foot safety buffer zone around the ice pads only. This means winter drilling and exploration operations will be located so that access to public waters is not blocked.</p>
<p>6. Prehistoric, Historic, and Archeological Sites</p>	
<p>a. Before the construction or placement of any structure, road, or facility supporting exploration, development, or production activities, the lessee must conduct an inventory of prehistoric, historic, and archeological sites within the area, including a detailed analysis of the effects that might result from that construction or placement.</p>	<p>A.6.a. MITIGATION MEASURE is SATISFIED. At the behest of JADE, Mobley & Associates (Mobley) conducted archaeological and cultural resource surveys in the Project area in August 2020 to identify prehistoric, historic, or archaeological sites. Mobley also obtained Traditional Land Use Inventory (TLUI) data obtained from the NSB Inupiat Heritage and Language Center (IHLC) as well as data from the ADN R Alaska Heritage Resources Survey from ADN R, State Historic Preservation Office (SHPO). Mobley also has consulted with local residents on the presence of historic or cultural resources in the Project area.</p> <p>A detailed analysis by Mobley of the effects that might result from the winter drilling program and support operations found that after buffer zones are established around known archaeological and cultural resources, these would remain unaffected by field operations. Therefore, he recommended in his report that cultural clearance be granted and that a determination of “no historic properties adversely affected” be made for this Project.</p>
<p>b. The inventory of prehistoric, historic, and archeological sites must be submitted to the Director and the Office of History and Archeology (OHA) who will coordinate with the NSB for review and comment. If a prehistoric, historic, or archeological site or area could be adversely affected by a lease activity, the Director, after consultation with OHA and the NSB, will direct the lessee as to the course of action to take to avoid or minimize adverse effects.</p>	<p>A.6.b. MITIGATION MEASURE is SATISFIED. Mobley submitted an inventory of prehistoric, historic, and archeological sites to the OHA and NSB IHLC in October 2020. JADE has since been issued a NSB TLUI certificate of Clearance and ANDR SHPO has stated No Historic Properties Will be affected by Project operations.</p>
<p>c. If a site, structure, or object of prehistoric, historic, or archaeological significance is discovered during lease operations, the lessee shall report the discovery to the Director as soon as possible. The lessee shall make all reasonable efforts to preserve and protect the discovered site, structure, or object from damage until the Director, after consultation with the State Historic Preservation Office and the NSB, has directed the lessee on the course of action to take for its preservation.</p>	<p>A.6.c. MITIGATION MEASURE is SATISFIED. JADE will notify ADN R SHPO and NSB IHLC if prehistoric, historic, or archaeological resources are discovered during JADE winter drilling program operations. JADE also will stop all work in the vicinity until an archaeologist, ADN R-SHPO, and NSB-IHLC can provide guidance. Additionally, JADE will include training procedures covering the above as part of required onsite orientation.</p>

Revised: 4/18/2018

7. Hiring Practices	
a. The lessee is encouraged to employ local and Alaska residents and contractors, to the extent they are available and qualified, for work performed in the lease area. Lessees shall submit, as part of the plan of operations, a hiring plan that shall include a description of the operator's plans for partnering with local communities to recruit, hire, and train local and Alaska residents and contractors. As a part of this plan, the lessee is encouraged to coordinate with employment and training services offered by the State of Alaska and local communities to train and recruit employees from local communities.	A.7.a. MITIGATION MEASURE is SATISFIED. JADE will provide local employment opportunities and offer contracting opportunities to Alaska and North Slope Native-owned firms, partners, and corporate subsidiaries. In summary, JADE will make the hiring of local Alaskans a priority in the planning process.
b. In accordance with Administrative Order 278, the lessee is encouraged to employ apprentice labor to perform at least 15 percent of total work hours, to the extent they are available and qualified, for work performed in the lease area. Lessees shall submit, as part of the plan of operations, a hiring plan detailing the means by which the lessee might incorporate apprentice labor.	A.7.b. MITIGATION MEASURE is SATISFIED. JADE provides local employment opportunities and contracting opportunities to Alaska and North Slope Native-owned firms, partners, and corporate subsidiaries. In summary, JADE will make the hiring of local Alaskans a priority in the planning process.
c. A plan of operations application must describe the lessee's past and prospective efforts to communicate with local communities and interested local community groups.	A.7.c. MITIGATION MEASURE is SATISFIED. As described in Section X of the plan of operations: <i>Interacting with Local Communities and Local Community Groups</i> .
d. A plan of operations application must include a training program <ul style="list-style-type: none"> i. for all personnel including contractors and subcontractors; ii. designed to inform each person working on the project of environmental, social, and cultural concerns that relate to that person's job; iii. using methods to ensure personnel understand and use techniques necessary to preserve geological, archeological, and biological resources; and iv. designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating. 	A.7.d. and A7.d.i. to A.7.d.iv MITIGATION MEASURE is SATISFIED. As described in Section X: <i>Training Programs</i> , JADE has prepared and implemented an extensive training program for all personnel and contractors working along the Winter Trail and ice road alignments and on the ice pads. This training is being updated and customized to reflect this upcoming winter drilling program and related support operations to ensure that all north slope-based Project workers (e.g., employees, contractors, subcontractors) have appropriate training.

Revised: 4/18/2018

8. Definitions	
<p>a. In this document:</p> <p>i. Facilities – Any structure, equipment, or improvement to the surface, whether temporary or permanent, including, but not limited to, roads, pads, pits, pipelines, power lines, generators, utilities, airstrips, wells, compressors, drill rigs, camps, and buildings.</p> <p>ii. Hazardous substance – As defined under 42 USC 9601 – 9675 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980).</p> <p>iii. Important wetlands – Those wetlands that are of high value to fish, waterfowl, and shorebirds because of their unique characteristics or scarcity in the region or that have been determined to function at a high level using the hydrogeomorphic approach.</p> <p>iv. Minimize – To reduce adverse impacts to the smallest amount, extent, duration, size, or degree reasonable in light of the environmental, social, or economic costs of further reduction.</p> <p>v. Plan of operations – A lease plan of operations under 11 AAC 83.158 and a unit plan of operations under 11 AAC 83.346.</p> <p>vi. Practicable – Feasible in light of overall project purposes after considering cost, existing technology, and logistics of compliance with the mitigation measure.</p> <p>vi. Secondary containment – An impermeable diked area, portable impermeable containment structure, or integral containment space capable of containing the volume of the largest independent container. The containment shall, in the case of external containment, have enough additional capacity to allow for local precipitation.</p> <p>vii. Temporary – No more than 12 months.</p>	

APPENDIX C: OTHER

Insert other information here.



Appendix C Supplemental Pages

Section V LAND STATUS:
Land Status Supplemental Sections for State Mineral Estate

LAND STATUS: SUPPLEMENTAL SECTION		
1. State Mineral Estate:		
Affected ADL: 392920	Date Effective: 8/1/2015	Date Assigned: 2/1/2018
Oil And Gas Lessee(s): ARMSTONG ENERGY LLC Notification Lessee; OIL SEARCH ALASKA INC.		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL 50666		
Jointly Managed Lands: No		
Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5a (MTRS) in Appendix A.		
Affected ADL: 393956	Date Effective: 8/1/2015	Date Assigned: 8/21/2018
Oil And Gas Lessee(s): OIL SEARCH (ALASKA), LLC – Notification Lessee; LAGNIAPPE ALASKA, LLC		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL 50666		
Jointly Managed Lands: No		
Other Considerations: See Fig. 9a (Land Status Summary), Fig. 4b (ADLs), Figs. 5d, 6a & 6b (MTRS) in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T008N, R019E Section 26, 25	Varies – GPS coordinates in Appendix C
Affected ADL: 393858	Date Effective: 8/1/2015	Date Assigned: 8/21/2018
Oil And Gas Lessee(s): OIL SEARCH (ALASKA), LLC – Notification Lessee; LAGNIAPPE ALASKA, LLC		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL 50666		
Jointly Managed Lands: No		
Other Considerations: See Fig. 9a (Land Status Summary), Fig. 4b (ADLs), Figs. 5d, 6a & 6b (MTRS) in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T008N, R020E Section 3, 4	Varies – GPS coordinates in Appendix C

Affected ADL: 394063		Date Effective: 7/23/2021	Date Assigned: 8/1/2021
Oil And Gas Lessee(s): LAGNIAPPE ALASKA, LLC – Notification Lessee			
Surface Ownership: State of Alaska			
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Special Use Lands: ADL 5066			
Jointly Managed Lands: No			
Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5a (MTRS) in Appendix A.			
Project Components	Meridian, Township, Range, And Section(s)		GPS Coordinates
Winter Trail	Umiat T008N, R020E Sections 2, 11, 12		Varies – GPS coordinates in Appendix C
Affected ADL: 394065		Date Effective: 7/23/2021	Date Assigned: 8/1/2021
Oil And Gas Lessee(s): LAGNIAPPE ALASKA, LLC – Notification Lessee			
Surface Ownership: State of Alaska			
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Special Use Lands: ADL50666			
Jointly Managed Lands: No			
Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Figs. 4b (ADLs) and Figs. 5a (MTRS) in			
Project Components	Meridian, Township, Range, And Section(s)		GPS Coordinates
Winter Trail	Umiat T008N, R021E Sections 5, 6		Varies – GPS coordinates in Appendix C
Affected ADL: 394064		Date Effective: 8/1/2015	Date Assigned: 8/1/2018
Oil And Gas Lessee(s): LAGNIAPPE ALASKA, LLC – Notification Lessee			
Surface Ownership: State of Alaska			
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Special Use Lands: ADL50666			
Jointly Managed Lands: No			
Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5a (MTRS) in Appendix A.			
Project Components	Meridian, Township, Range, And Section(s)		GPS Coordinates
Winter Trail	Umiat T008N, R021E Sections 3, 4		Varies – GPS coordinates in Appendix C

Affected ADL: 393947	Date Effective: 6/25/202	Date Assigned: 7/1/2020
Oil And Gas Lessee(s): OIL SEARCH (ALASKA), LLC – Notification Lessee		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL 5066		
Jointly Managed Lands: No		
Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5b (MTRS) in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T008N, R021E Sections 1, 2	Varies – GPS coordinates in Appendix C
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Affected ADL: 394078		
Date Effective: 7/23/2021		
Date Assigned: 8/1/2021		
Oil And Gas Lessee(s): LAGNIAPPE ALASKA, LLC – Notification Lessee		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL50666		
Jointly Managed Lands: No		
Other Considerations: See Fig. 9a Land Status Summary in Appendix A. See Fig. 4a (ADLs) and Fig. 5b (MTRS) in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T009N, R021E Sections 33, 34	Varies – GPS coordinates in Appendix C
Affected ADL: 28385		
Date Effective: 9/1/1965		
Date Assigned: 11/3/1975		
Oil And Gas Lessee(s): EMAP – Notification Lessee; HILCORP; WOODBINE PETROLEUM, INC.		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Special Use Lands: ADL50666		
Jointly Managed Lands: No		
Other Considerations: See Fig. 9a (Land Status Summary), Fig. 4b (ADLs), Figs. 5d, 6a & 6b (MTRS) in Appendix A.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Winter Trail	Umiat T008N, R023E Section 30	Varies – GPS coordinates in Appendix C

Affected ADL: 28380			Date Effective: 9/1/1965			Date Assigned: 11/3/1975		
Oil And Gas Lessee(s): EMAP – Notification Lessee; HILCORP; WOODBINE PETROLEUM, INC.								
Surface Ownership: State of Alaska								
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								
Special Use Lands: ADL50666								
Jointly Managed Lands: No								
Other Considerations: See Fig. 9a (Land Status Summary), Fig. 4b (ADLs), Figs. 5d, 6a & 6b (MTRS) in Appendix A.								
Project Components			Meridian, Township, Range, And Section(s)			GPS Coordinates		
Winter Trail			Umiat T009N, R023E Sections 19, 20			Varies – GPS coordinates in Appendix C		
Affected ADL: 28381			Date Effective: 9/1/1965			Date Assigned: 11/3/1975		
Oil And Gas Lessee(s): EMAP – Notification Lessee; HILCORP								
Surface Ownership: State of Alaska								
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								
Special Use Lands: ADL50666								
Jointly Managed Lands: No								
Other Considerations: See Fig. 9a (Land Status Summary), Fig. 4b (ADLs), Figs. 5d, 6a & 6b (MTRS) in Appendix A.								
Project Components			Meridian, Township, Range, And Section(s)			GPS Coordinates		
Winter Trail			Umiat T009N, R023E Sections 22, 23, 24			Varies – GPS coordinates in Appendix C		
Affected ADL: 28382			Date Effective: 10/1/1965			Date Assigned: 12/19/1980		
Oil And Gas Lessee(s): EMAP – Notification Lessee; HILCORP								
Surface Ownership: State of Alaska								
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								
Special Use Lands: ADL50666								
Jointly Managed Lands: No								
Other Considerations: See Fig. 9a (Land Status Summary), Fig. 4b (ADLs), Figs. 5d, 6a & 6b (MTRS) in Appendix A.								
Project Components			Meridian, Township, Range, And Section(s)			GPS Coordinates		
JADE 1 Ice Road			Umiat T009N, R023E Sections 14, 23, 24			Varies – GPS coordinates in Appendix C		
Click here to enter text.			Click here to enter text.			Click here to enter text.		
Click here to enter text.			Click here to enter text.			Click here to enter text.		

Affected ADL: 28383		Date Effective: 10/1/1965	Date Assigned: 1/23/1981
Oil And Gas Lessee(s): EMAP – Notification Lessee; HILCORP			
Surface Ownership: State of Alaska			
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Special Use Lands: ADL50666			
Jointly Managed Lands: No			
Other Considerations: See Fig. 9a (Land Status Summary), Fig. 4b (ADLs), Figs. 5d, 6a & 6b (MTRS) in Appendix A.			
Project Components	Meridian, Township, Range, And Section(s)		GPS Coordinates
Winter Trail	Umiat T009N, R023E Sections 26, 25		Varies – GPS coordinates in Appendix C
JADE 1 Ice Road	Umiat T009N, R023E Section 25		Varies – GPS coordinates in Appendix C
Click here to enter text.	Click here to enter text.		Click here to enter text.
Affected ADL: 343112 Segment 2		Date Effective: 8/1/1982	Date Assigned: 7/6/1994
Oil And Gas Lessee(s): JADE ENERGY LLC – Notification Lessee; EMAP; HILCORP			
Surface Ownership: State of Alaska			
Do you have, or anticipate having an Access Agreement: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Special Use Lands: ADL50666			
Jointly Managed Lands: No			
Other Considerations: See Fig. 9a (Land Status Summary), Fig. 4b (ADLs), Figs. 5d, 6a & 6b (MTRS) in Appendix A.			
Project Components	Meridian, Township, Range, And Section(s)		GPS Coordinates
JADE 1 Ice Road	Umiat T009N, R024E Sections 30, 31		Varies – GPS coordinates in Appendix C
Winter Trail	Umiat T009N, R024E Sections 30, 31		Varies – GPS coordinates in Appendix C
JADE 1 Well Surface Hole Location	Umiat T009N, R024E Section 31		70.0976° / 146.1412°
Affected ADL: Enter ADL		Date Effective: Enter Date.	Date Assigned: Enter Date.
Oil And Gas Lessee(s): Click here to enter text.			
Surface Ownership: Click here to enter text.			
Do you have, or anticipate having an Access Agreement: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Special Use Lands: Click here to enter text.			
Jointly Managed Lands: Click here to enter text.			
Other Considerations: Click here to enter text.			
Project Components	Meridian, Township, Range, And Section(s)		GPS Coordinates
Click here to enter text.	Click here to enter text.		Click here to enter text.
Click here to enter text.	Click here to enter text.		Click here to enter text.
Click here to enter text.	Click here to enter text.		Click here to enter text.



Appendix C Supplemental Pages

Section V LAND STATUS:

**Winter Trail (Snow Road) and Ice Road Alignments, and Major
River Crossings GPS Waypoint Coordinates**

WINTER TRAIL GPS Coordinates (WGS84)

MILE POST	Latitude°	Longitude°	Description
MP0	70.2200	-148.3812	
MP0.5	70.2148	-148.3693	
MP1	70.2090	-148.3576	
MP2	70.2022	-148.3501	
MP2.5	70.1957	-148.3409	
MP3	70.1890	-148.3339	
MP4	70.1749	-148.3222	
MP5	70.1603	-148.3094	
MP6	70.1468	-148.2996	
MP7	70.1330	-148.2870	
MP7.6	70.1264	-148.2747	
MP8.3	70.1209	-148.2451	
MP8.7	70.1161	-148.2409	
MP9.4	70.1182	-148.2141	
MP10.2	70.1286	-148.1949	
MP10.6	70.1290	-148.1843	
MP10.8	70.1264	-148.1708	
MP11.3	70.1267	-148.1508	
MP12.6	70.1170	-148.1048	
MP14	70.1170	-148.0423	
MP14.8	70.1199	-148.0150	
MP16.9	70.1059	-147.9321	
MP17.6	70.1053	-147.9029	
MP19	70.1083	-147.8451	
MP20.1	70.1042	-147.7991	
MP21.1	70.0946	-147.7672	
MP22.9	70.0897	-147.6934	
MP22.6	70.1017	-147.6322	
MP25.9	70.1028	-147.5756	
MP27	70.0919	-147.5445	
MP27.6	70.0922	-147.5162	
MP28.5	70.0964	-147.4808	
MP29.6	70.0922	-147.4355	
MP30.6	70.0794	-147.4189	
MP31	70.0736	-147.4140	
MP31.6	70.0727	-147.3908	
MP31.9	70.0736	-147.3754	
MP32.2	70.0699	-147.3747	
MP32.5	70.0668	-147.3667	
MP32.9	70.0678	-147.3503	
MP33.3	70.0722	-147.3393	
MP34.9	70.0821	-147.2781	
MP37.3	70.0851	-147.1738	
MP40.7	70.0783	-147.0345	
MP53.3	70.0931	-146.5028	
MP57.9	70.1272	-146.2449	
MP60.3	70.1336	-146.2379	

**JADE 1 ICE ROAD GPS Coordinates (WGS84)**

MILE POST	Latitude°	Longitude°	Description
MP0	70.1385	-146.2445	Start End of PTU Road
MP0.25	70.1350	-146.2426	
MP2.5	70.1118	-146.1766	
MP3.7	70.0985	-146.1435	End at JADE 1 Ice Pad

PROPOSED WELL BORE LOCATION GPS Coordinates (WGS84)

MILE POST	Latitude°	Longitude°	Description
NA	70.0976	-146.1412	JADE 1 Surface Hole

MAJOR RIVER CROSSINGS GPS Coordinates (WGS84)

MILE POST	Latitude°	Longitude°	Description
MP0.7	70.2163	-148.3737	Sagavanirktok (Sag) River West Channel
MP8.2	70.1203	-148.2450	Sag River East Channel, West Branch
MP9.4	70.1191	-148.2123	Sag River East Channel, Middle Branch
MP10.7	70.1283	-148.1818	Sag River East Channel, East Branch
MP23.4	70.1023	-147.6008	Kadleroshilik River
MP35.4	70.0827	-147.2590	Shaviovik River



Appendix C Supplemental Pages

Section VIII PROJECT USE REQUIREMENTS:
Subsection 10: All Other Facilities and Equipment – Heavy
Equipment List



Section VIII Project Use Requirements

Section 10: All Other Facilities and Equipment – Heavy Equipment List

The number and types of vehicles and equipment generally used in construction and maintenance of the ice road, and drilling operations include the following:

- Tucker Snow-Cats with portable ice auger drills (2)
- Caterpillar motor graders (1)
- Caterpillar 966 loaders (4)
- Snow blowers and ice trimmers – loader mounted (2)
- Caterpillar D-6 dozers (1)
- Tractor/Maxi-Haul (30cy) dump trailers and Cat hard tail end dumps (6)
- Crew buses, vans and pickups (8)
- Tractor/325-bbl vacuum trucks (3) and
- 15 cy super suckers (3)
- 130-bbl conventional water tanker trucks and 200-bbl water buffaloes (3)
- Mechanic field service trucks (1)
- 5000-gal fuel tanker trucks (1)



Appendix C Supplemental Pages

Section XII GLOSSARY of TERMS

GLOSSARY OF TERMS: SUPPLEMENTAL SECTION		
Term #	Term	Term Definition
11	ADL	Alaska Division of Land (lease)
12	ADNR	Alaska Department of Natural Resources
13	ADNR/DML&W	ADNR Division of Mining, Land and Water
14	ADNR/OHA	ADNR Division of Parks & Recreation, Office of History and Archaeology
15	ADNR/DOG	ADNR Division of Oil and Gas
16	ADOT&PF	Alaska Department of Transportation & Public Facilities
17	AEA	Accumulate Energy Alaska, Inc.
18	AOGCC	Alaska Oil and Gas Conservation Commission
19	APDES	Alaska Pollutant Discharge Elimination System
20	ASH	Alaska Safety Handbook
21	AST	Aboveground storage tank
22	bbls	barrels
23	BMPs	Best Management Practices
24	C&D	Construction & Demolition
25	CFR	Code of Federal Regulations
26	CWA	Clean Water Act
27	E&P	Exploration & Production
28	G&I	Grind & Inject
29	gpd	gallons per day
30	IFC	International Fire Code
31	ILHC	Inupiat Heritage and Language Center
32	JADE	JADE Energy LLC
33	LNO	Letter of non-objection
34	LUP	Land Use Permit
35	MD	Measured Depth
36	MP	Mile Post
37	MSW	Municipal Solid Waste
38	NRO	Northern Regions Office
39	NS	North Slope
40	NSB	North Slope Borough
41	NSB/Planning	NSB Department of Planning
42	NSB SA-10	North Slope Borough Service Area 10
43	NSBMC	North Slope Borough Municipal Code
44	NSEFH	North Slope Environmental Field Handbook
45	NSTC	NS Training Cooperative
46	ODPCP	Oil Discharge and Contingency Plan
47	PTU	Point Thomson Unit
48	RCRA	Resource Conservation and Recovery Act
49	Redbook	Alaska Waste Disposal & Reuse Guide
50	SAAs	Satellite Accumulation Areas

GLOSSARY OF TERMS: SUPPLEMENTAL SECTION

[illegible]