



UNIT 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:

Name: Great Bear Pantheon LLC

Mailing Address: 3705 Arctic Blvd, Suite 2324

City: Anchorage

State: AK Zip Code: 99503

Phone: 907-575-8914 Fax: Enter Fax.

Email: pat@greatbearpetro.com

2. Applicant Contact:

First Name: Pat Last Name: Galvin

Title: Chief Commercial Officer

Is the Mailing Address the same as Applicant's Mailing Address? If "No", please provide information below: ☒ Yes

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.

3. Unit Name Talitha Unit

4. Unit Operator Contact:

Is The Unit Operator Contact the same as the Applicant Contact? If "No", please provide information below: ☒ Yes

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 relationship between the Unit Operator and the Applicant:

[Click here to enter text.](#)

SECTION II: THIRD PARTY INFORMATION

(Fill out this section only if you are applying for the Applicant)

Third Party Company Name: Enter 3rd Party Company Name.

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.

SECTION III: APPLICATION DATE AND NUMBER

(FOR OFFICE USE ONLY)

Application Date:

Application Number:

SECTION IV: PROJECT INFORMATION		
1. Project Name:	Talitha A Well	
2. Proposed Start Date:	1/15/2021	
3. Project Description:		
Is activity discussed in the approved Plan of Development on file with the Division's Units Section? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
<p>Describe what and where:</p> <p>The Talitha A well will be drilled as winter ice road/pad supported operation. Targetted spud date is 1/25/21. It will be a vertical well drilled to the base of the Kuparuk sand to approximately 10,200'. There are multiple targets in the Brookian and Kuparuk intervals that will be evaluated. The well will be logged, cased, and will likely be fracture stimulated at the most prospective interval encountered. If logistically possible, a small lateral may be drilled into a prospective interval as well. A decision on a lateral and/or stimulation will be made based on seasonal timing and logging results. The log suites are expected to include: Quad Combo, FMI, RFT, rotary sidewall cores, NMRI, Caliper, and possibly others. Unless the results are significantly below expectations, the well is expected to be suspended for potential use as a producer.</p>		
SECTION V: LAND STATUS		
1. State Mineral Estate:		
Are supplemental pages for land status included in Appendix C? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Affected ADL: 391658	Date Effective: 5/1/2011	Date Assigned: 4/1/2012
Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC (89.2%), Borealis Alaska LLC (10.8%)		
Surface Ownership: State of Alaska		
Do you have, or anticipate having an Access Agreement: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Special Use Lands: ADL 50666		
Jointly Managed Lands: N/A		
Other Considerations: Click here to enter text.		
Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Talitha A Well	U05N012E03	69° 49' 23.11" N, -149° 5' 25.90 W
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: 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.
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
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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
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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: 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
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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 checked="" type="checkbox"/> No		
Oil And Gas Mineral Estate Owner: State of Alaska Access Authorization(s): MLW Ice Road Permit (In Process) 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
Ice Road from Dalton Hwy to Drillsite	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

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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
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3. Private Lands:

Are supplemental pages for land status included in Appendix C? ☐ Yes ☐ 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
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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
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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
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Click here to enter text.	Click here to enter text.	Click here to enter text.

SECTION VI: BOND INFORMATION

Bonded Company: U.S. Specialty Insurance Company

Type: Statewide Number: B012897 Amount: \$500,000

Bonding Company: U.S. Specialty Insurance Company

Mailing Address: 13403 Northwest Freeway

City: Houston

State: TX

Zip Code: 77040

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.	Prepack then construct Ice Road and Ice Drillpad	12/15/2020	1/15/2021
2.	Move Rig in and Rig Up	1/15/2021	1/25/2021
3.	Talitha A well spudded	1/25/2021	1/25/2021
4.	Talitha A well drilled, cased, tested, and suspended	1/25/2021	4/15/2021
5.	Rig down and move out	4/15/2021	4/30/2021
6.	Clean-Up site (Winter)	4/28/2021	4/30/2021
7.	Clean-Up site (Summer Stick Picking) – 2 days in June or July	6/30/2021	7/2/2021
8.	Enter Milestone.	Enter Date.	Enter Date.
9.	Enter Milestone.	Enter Date.	Enter Date.
10.	Enter Milestone.	Enter Date.	Enter Date.

SECTION VIII: PROJECTED USE REQUIREMENTS

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

The well site will be an ice pad located at approximately 69° 49' 23.11" N, -149° 5' 25.90 W. The layout and design of the Talitha A well site is shown on Attachment A. The ice drill pad will be approximately 500' x 230' (115,000 sq ft, 2.64 acres) as the working surface, larger at the base, and is expected to be approximately 3 feet thick.

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

Support facilities will include a satellite office camp, with an 11-bed capacity for the Company Man and alternate (sufficient for the entire crew to shelter in place in case of emergency need), storage areas (e.g., fuel storage, drilling waste or fluid components storage), and maintenance buildings. The crew will be housed at a camp (or the Aurora Hotel) in Deadhorse and shuttled to the well site for their shifts. The layout of the buildings on the drill ice pad is shown on Attachment A.

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

Fuel will be stored on the drilling pads and possibly at emergency shelters (if used). Fuel storage tanks will include secondary containment that will hold a minimum of 110 percent (110%) of the single largest tank or any group of tanks permanently manifold together. Fuel storage, handling, transfers, and spill reporting will be conducted in accordance with the regulatory requirements as described in the Great Bear Exploration Project C-Plan, North Slope Environmental Field Handbook, and Alaska Safety Handbook. All bulk fuel and fluid transfers in excess of 500 gallons will be monitored by an Alaska Clean Seas (ACS) Spill Technician. The size of the day tank on the rig may vary, but it will be less than a 10,000-gallon capacity. The maximum amount of fuel stored at a drill site will be 9,000 gallons. All fuel and hazardous materials stored at the drill site will be kept more than 100 feet from a waterbody. Drip pans will be placed under vehicles and equipment capable of leaking hazardous fluid. No vehicle refueling will take place in an active river floodplain. All independent fuel and hazardous substance containers will be marked with the contents and the lessee's or contractor's name using paint or a permanent label.

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

All waste disposal procedures will conform to local, state and Federal requirements. The general approach to waste management will be to temporarily store wastes and periodically haul waste materials to existing North Slope facilities for proper treatment and disposal. Solid, non-burnable waste will be deposited in dumpsters located at each site. These containers will be hauled to the NSB landfill at Prudhoe Bay. The food waste that could attract wildlife will be stored in enclosed containers pending periodic hauling or such wastes will be hauled each day to an approved disposal center (such as PBU). To reduce the amount of trash that must be hauled from the drilling location, all solid, burnable waste may be incinerated at the location in accordance with 18 AAC 50. The ash will be hauled to the NSB landfill. Camp wastewater will be hauled to an approved disposal facility on the North Slope. The satellite office camp should generate less than 500 gallons per day of domestic wastewater. Drill cuttings will be promptly trucked to an approved G&I facility when generated. Waste drilling fluids and produced reservoir fluids will be processed on-site for reuse where possible, or trucked to an approved facility in Prudhoe Bay for injection. Used oil will be recycled or packaged in drums and hauled to Prudhoe Bay for shipment to an approved recycle facility. A metal temporary drill cuttings storage container will be

located on the pad to facilitate backhaul operations and continuity of off-site annular injection, if permitted by AOGCC. Wastewater will be stored in tanks until taken to the Prudhoe Bay Unit (PBU) Grind & Inject (G&I) facility for disposal. The wastewater will be hauled off to G&I as frequently as possible so as not to create build-up at site location. The PBU G&I is a Class II facility. The majority of wastewater will be sent there for disposal. A small amount of wastewater will be Class I and will be sent to a facility at Prudhoe Bay Pad 3. Cuttings will be immediately hauled to G&I for disposal when generated. After the removal of drilling waste from the storage area, a visual site inspection will be performed to verify that all drilling waste has been removed. A final site inspection report including drilling waste volume and final disposition of waste will be submitted to ADEC within seven days of the site inspection as required under 18 AAC 60.430. All drilling waste will be disposed of prior to completion of winter operations.

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

Potable water will be obtained from service providers in Deadhorse. The remaining water will be obtained from permitted waterbodies near the ice road route or the drill site. Great Bear has current Temporary Water Use Authorizations for some of the intended water sources, and will acquire permits for additional sources, as necessary.

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

N/A

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

N/A

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

Approximately 8 miles of ice road connected to the Dalton Highway at Milepost 386.7 will be required to access the Talitha A site. The ice road will be approximately 35 feet wide and will have a minimum of 0.5 feet of ice cover over the tundra. standard methods will be used to minimize impacts to vegetation, such as filling in small streambeds with extra snow for additional insulation. The routes will be surveyed to ensure that the approved route is followed during construction activities. Some minor re-routes may be required depending on site specific conditions at the time of construction. Great Bear plans to have thermistor strings placed along ice road routes and at proposed ice pad locations and will be used to monitor ground temperatures. Ice roads will be built using a combination of existing snow along the route, water, and ice chips from approved water sources. Ice construction activities, including any pre-packing, will be performed in accordance with DNR approvals. Additional water and ice from permitted sources will be used to maintain ice roads in good condition throughout the winter drilling season.

9. Describe the proposed operations, including the location and design, of Airstrips:

N/A

10. Describe the proposed operations, including the location and design, of All Other Facilities and Equipment:

Twenty-four hour phone service and internet will be available at the site. Operational radio communications will be provided using fixed base stations and truck-mounted, mobile "bread-board" radios. Operational frequencies will be coordinated between the various Great Bear field supervisors, ice road and support contractors, and well service providers. Small communication towers will be placed at the site. All communication towers are temporary and will be removed at demobilization. In the event of a serious emergency, resources would be mobilized from Deadhorse. Medical evacuation, if necessary, would be provided to the clinic in Deadhorse for patient stabilization and/or transfer to Fairbanks or Anchorage hospital facilities.

11. If another permit(s) is required for the above described Projected Use Requirements, provide the following information:

Are supplemental pages for land status included in Appendix C?

☐ Yes

☒ No

Agency	Permit Type	Permit Number	Application Status	Projected Use Requirement(s)
AOGCC	Permit to Drill	TBD	To Be Filed	1
ADF&G	Title 16 Fish Habitat Permit	Various	Some in Hand, Some to be filed	5
ADF&G	Public Safety Permit	TBD	To Be Filed	1, 4, 8, 10

ADEC	Oil Discharge Prevention & Contingency Plan (C-Plan) Amendment	TBD	In Review	1
ADEC	Minor General Permit MG1	TBD	To Be Filed	1
ADEC	Temporary Storage of Drilling Waste Plan	TBD	To Be Filed	1, 4
ADEC	Temporary Storage of Non-Drilling Waste Plan	TBD	To Be Filed	1, 4
DNR-MLW	Temporary Water Use Authorizations	A2019-13; and TBD	Some in Hand, Some to be filed	5
DNR-MLW	Land Use Permit-Ice Roads	TBD	To Be Filed	8
DNR-MLW	Land Use Permit-Tundra Travel	TBD	To Be Filed	8
DOT-PF	Driveway Permit	TBD	To Be Filed	8
NSB	Development Permit	TBD	To Be Filed	1, 8
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).
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Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).

SECTION IX: REHABILITATION PLAN

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

Upon completion of drilling and evaluation operations, wells will either be plugged and abandoned or suspended in accordance with AOGCC regulations. All equipment will be removed and the site closed. As part of site closure activities, any remaining debris will be hauled to an approved disposal site. Any spills discovered as part of site closure activities, or ice pads and roads with contaminated ice or snow, will be chipped or scraped to remove the contaminated material. This material will be transported to an appropriate facility for disposal.

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

Once all the equipment is removed from the pad, cleanup, rehab, and remediation is estimated to take approximately 3 days. Additional cleanup operations ("stick picking") will be conducted the summer (June or July) after the winter drilling program to remove any remaining debris not identified and removed during demobilization activities and to identify any issues not identified during the winter drilling program. Stick picking is expected to take only a day or two. Agency personnel will be invited on site visits to verify that cleanup operations are complete and that any issues identified are addressed. In the event that tundra damage is discovered at any point during the winter drilling program or during summer cleanup operations, Great Bear will notify DNR and NSB in accordance with permit requirements (DNR will be notified within 72 hours of discovery; NSB will be notified within 24 hours of discovery). Reports of tundra damage will include the date, time, and location of damage, the size of the impacted area, and cause of damage (if known). Great Bear will coordinate with DNR to identify the level of tundra damage and develop a plan for restoration, rehabilitation, and monitoring. 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.

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 Unit area and adjacent areas including:

Fish and Wildlife Habitats: The Talitha A well will be drilled in winter with access provided by ice road in order to minimize any impacts to fish and wildlife habitats. Great Bear has proposed to locate its operations in a previously disturbed, active industrial corridor to minimize impacts to subsistence users and to important wildlife habitat.

Historic and Archeological Sites: The area impacted by this project, as well as the general Great Bear project area, has been pre-cleared for historic and archeological sites during permitting for seismic acquisition projects in 2012-2016.

Public Use Areas: Access to the ice roads and ice pads will be restricted to the general public.

Other Uses: Great Bear will obtain a Letter of Non-Objection from Alyeska Pipeline Service Company.

SECTION XI: GLOSSARY OF TERMS

Term #	Term	Term Definition
1	Great Bear	Great Bear Pantheon LLC
2	Enter Term.	Enter Term Definition.
3	Enter Term.	Enter Term Definition.
4	Enter Term.	Enter Term Definition.
5	Enter Term.	Enter Term Definition.
6	Enter Term.	Enter Term Definition.
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9	Enter Term.	Enter Term Definition.
10	Enter Term.	Enter Term Definition.

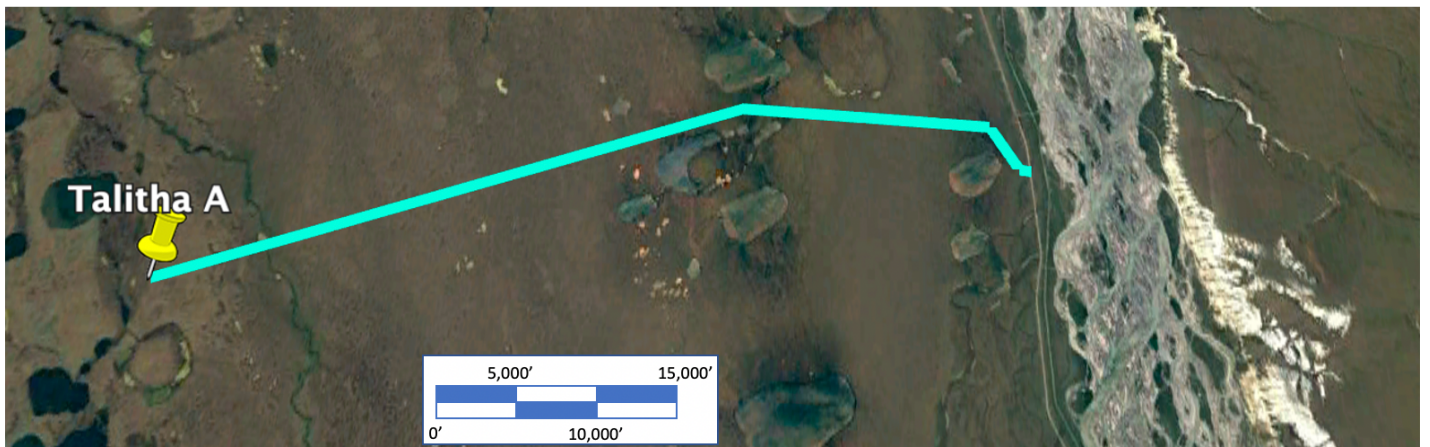
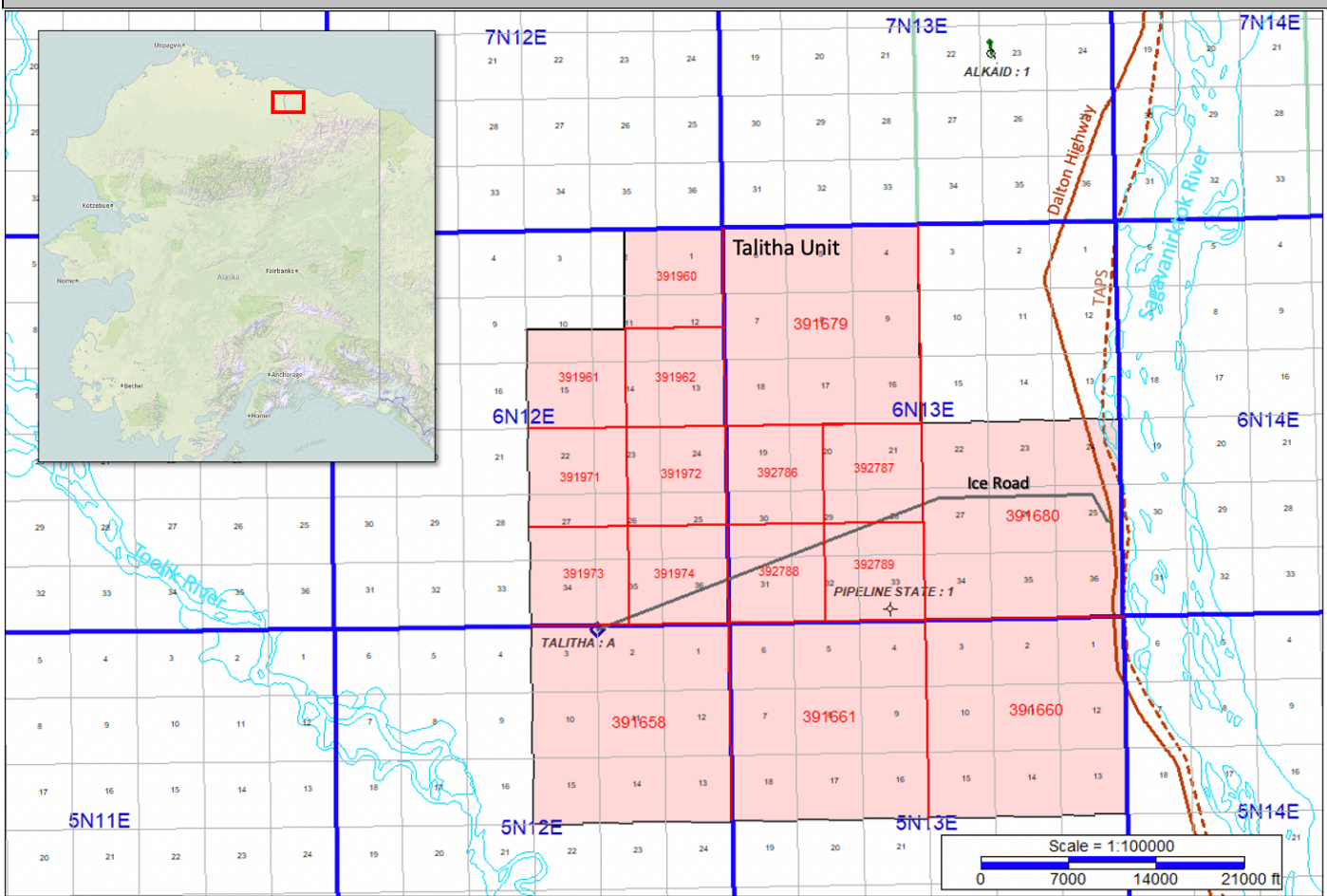
SECTION XII: CONFIDENTIALITY

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:

SS//Patrick Galvin	Patrick Galvin	Chief Commercial Officer	11/2/2020
Signature	Name	Title	Date

APPENDIX A: MAPS



APPENDIX B: MITIGATION MEASURES

See Attached.

APPENDIX C: OTHER

See Attached Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.