



approximately 9,300'. There are multiple targets in the Brookian interval that will be evaluated with the emphasis on the Basin Floor Fan. The well will be logged, cased, and will likely be fracture stimulated at the most prospective interval encountered. A decision on stimulation and testing 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. The well is expected to be plugged and abandoned following completion of the testing program.

**SECTION V: LAND STATUS**

**1. State Mineral Estate:**

Are supplemental pages for land status included in Appendix C?  Yes  No

Affected ADL: 394039 Date Effective: 8/1/2021 Date Assigned: Enter Date.

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC (100%)

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:  Yes  No

Special Use Lands: N/A

Jointly Managed Lands: N/A

Other Considerations: [Click here to enter text.](#)

| Project Components                        | Meridian, Township, Range, And Section(s) | GPS Coordinates                           |
|---|---|---|
| Theta West #1 (Alt A)                     | U07N011E31                                | 69°54'59.61"N, 149°28'45.14"W             |
| Theta West #1 (Alt B)                     | U07N011E32                                | 69°54'42.45"N, 149°26'51.73"W             |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

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:  Yes  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                           |
|---|---|---|
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

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:  Yes  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                           |
|---|---|---|
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

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:  Yes  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                           |
|---|---|---|
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

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:  Yes  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                           |
|---|---|---|
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

## 2. State of Alaska Surface Lands:

Are supplemental pages for land status included in Appendix C?  Yes  No

Oil And Gas Mineral Estate Owner: [State of Alaska](#)

Access Authorization(s): [Through DNR](#)

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 Talitha A to Theta West #1 Drillsite | Various, Linear (See Maps, Appendix A)    | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a>          | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a>          | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

Oil And Gas Mineral Estate Owner: [State](#)

Access Authorization(s): [Through DNR](#)

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                           |
|---|---|---|
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

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.](#)



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 to Talitha A then continue construction to Theta West #1 location | 12/15/2021          | 1/16/2022         |
| 2.                  | Move Rig to Talitha A and Rig Up   | 1/4/2022            | 1/15/2022         |
| 3.                  | Rig Moved to Theta West #1 Coil Unit Moved In at Talitha A   | 1/15/2022           | 1/16/2022         |
| 4.                  | Theta West #1 well spudded   | 1/18/2022           | 1/18/2022         |
| 5.                  | Theta West #1 well drilled, cased, tested, and suspended   | 1/18/2022           | 4/15/2022         |
| 6.                  | Rig down Theta West and move out   | 4/15/2022           | 4/30/2022         |
| 7.                  | Clean-Up both sites (Winter)   | 4/28/2022           | 4/30/2022         |
| 8.                  | Clean-Up both site (Summer Stick Picking) – 2 days in June or July   | 6/30/2022           | 7/3/2022          |
| 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 Theta West #1 well site will be an ice pad located at one of two alternate locations, coordinates provided above. The approximate orientation, layout, and design of the Theta West #1 well site is shown on Attachments A and C. The ice drill pad will be approximately 520' x 240' (124,800 sq ft, 2.86 acres) as the working surface, larger at the base, and is expected to be approximately 3 feet thick. During operations, snowfall on the ice pad will be plowed and pushed off the pad and stored on surrounding areas around the ice pad.

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

Support facilities will include a full crew camp, with a 50 to 100-bed capacity (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 layout of the buildings on the drill ice pad is shown on Attachment C.

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

Fuel will be stored on the drilling pad. 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 most of the intended water sources, and will acquire TWUAs for additional sources, as necessary. Title 16 Fish Habitat Permits are in hand for any fish-bearing water sources.

**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:**

Under a separate Plan of Ops, approximately 8 miles of ice road will connect the Talitha A pad to the Dalton Highway at Milepost 386.7. An additional 10.5 miles of ice road beginning at the Talitha A pad will be required to access the Theta West #1 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. Some minor re-routes from the attached maps may be required depending on site specific conditions at the time of construction. Great Bear plans to have thermistor strings placed along the ice road routes that will be used to monitor ground temperatures to assist in agency decision-making regarding tundra opening. 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 communications 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:**

| 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 | FH14-III-0298-A1, FH20-III-0140, FH20-III-0141, FH20-III-0142 | Some in Hand, Some may 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                                     | Renewal of Plan in review      | 1                                   |
| ADEC          | Minor General Permit MG1                                       | TBD                                     | To be filed                    | 1                                   |
| ADEC          | Temporary Storage Approval                                     | TBD                                     | To be filed                    | 1, 4                                |
| DNR-MLW       | Temporary Water Use Authorizations                             | A2019-13; A2020-105, A2020-112, and TBD | Some in Hand, Some to be filed | 5                                   |
| DOT-PF        | Driveway Permit  | Permit No 30643                         | To be filed                    | 8                                   |
| NSB           | Land Use Permit-Off Road                                       | TBD                                     | To be filed                    | 8                                   |
| Enter Agency. | Enter Permit Type.   | Enter Permit Number.                    | Enter Application Status.      | 1                                   |
| 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). |
| 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). |
| 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). |
| 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, the Theta West #1 well could 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 Lease area and adjacent areas including:

Fish and Wildlife Habitats: The Theta West #1 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 consolidate its operations on a single ice road, utilizing an 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 to cross their fuel gas line.

**SECTION XI: GLOSSARY OF TERMS**

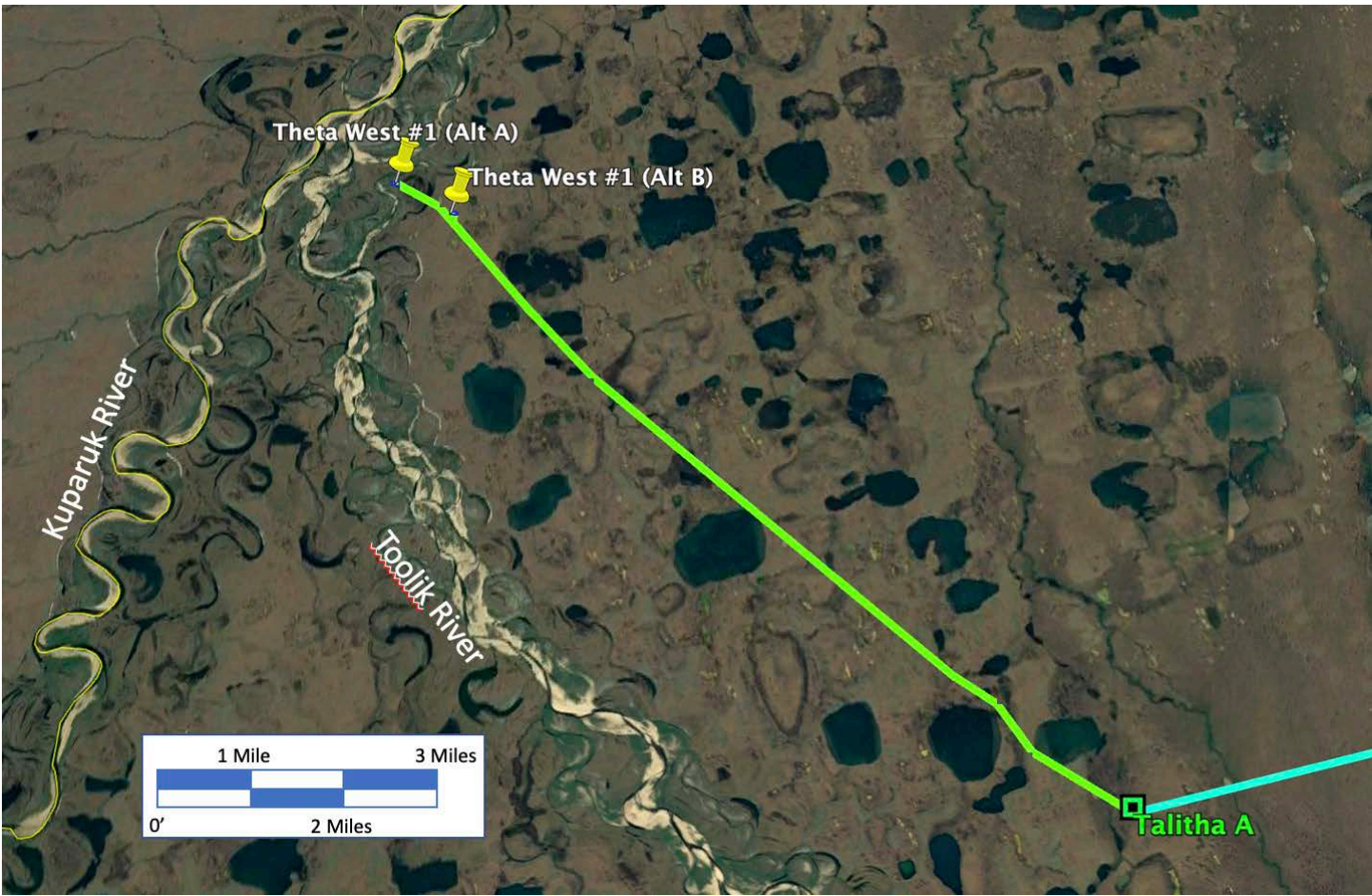
| Term # | Term        | Term Definition         |
|--------|-------------|-------------------------|
| 1.     | Great Bear  | Great Bear Pantheon LLC |
| 2.     | Enter Term. | Enter Term Definition.  |
| 3.     | Enter Term. | Enter Term Definition.  |
| 4.     | Enter Term. | Enter Term Definition.  |
| 5.     | Enter Term. | Enter Term Definition.  |
| 6.     | Enter Term. | Enter Term Definition.  |
| 7.     | Enter Term. | Enter Term Definition.  |
| 8.     | Enter Term. | Enter Term Definition.  |
| 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 | 9/30/2021 |
| Signature         | Name           | Title                    | Date      |







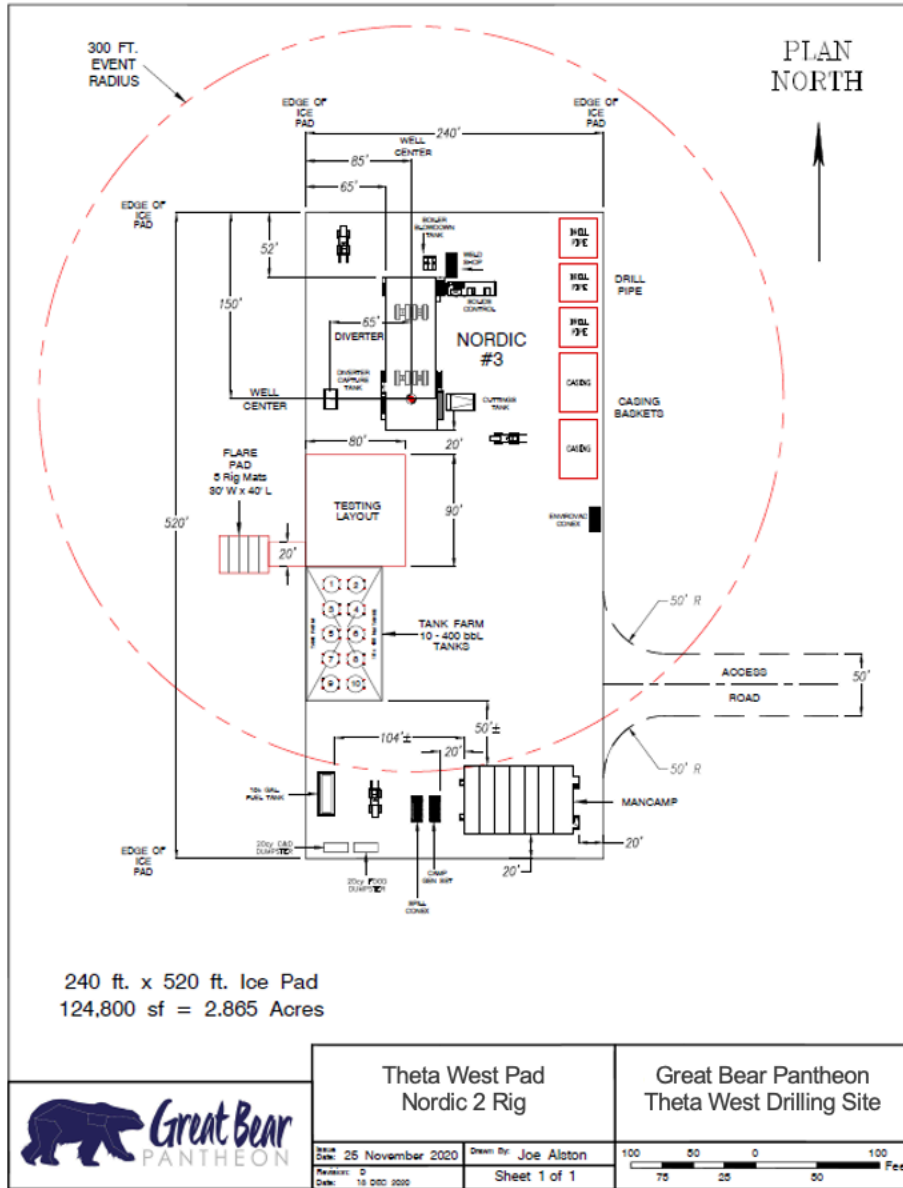


APPENDIX B: MITIGATION MEASURES

See Attached Mitigation Measure Analysis.

See Attached Bear Avoidance and Interaction Plan

Preliminary Theta West Pad Layout:





**LAND STATUS: SUPPLEMENTAL SECTION**

**1. State Mineral Estate:**

Affected ADL: 391973                      Date Effective: 12/1/2012                      Date Assigned: Enter Date.

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:     Yes                       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                           |
|---|---|---|
| Ice Road from Talitha A to Theta West #1  | Various                                   | Various                                   |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

Affected ADL: 394034                      Date Effective: 8/1/2021                      Date Assigned: Enter Date.

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:     Yes                       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                           |
|---|---|---|
| Ice Road from Talitha A to Theta West #1  | Various                                   | Various                                   |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

Affected ADL: 394032                      Date Effective: 8/1/2021                      Date Assigned: Enter Date.

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:     Yes                       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                           |
|---|---|---|
| Ice Road from Talitha A to Theta West #1  | Various                                   | Various                                   |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

Affected ADL: 394031                      Date Effective: 8/1/2021                      Date Assigned: Enter Date.

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:  Yes  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                           |
|---|---|---|
| Ice Road from Talitha A to Theta West #1  | Various                                   | Various                                   |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

Affected ADL: 393909 Date Effective: 9/1/2020 Date Assigned: Enter Date.

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:  Yes  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                           |
|---|---|---|
| Ice Road from Talitha A to Theta West #1  | Various                                   | Various                                   |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
|   |   |   |

Affected ADL: 394022 Date Effective: 8/1/2021 Date Assigned: Enter Date.

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:  Yes  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                           |
|---|---|---|
| Ice Road from Talitha A to Theta West #1  | Various                                   | Various                                   |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

Affected ADL: 394021 Date Effective: 8/1/2021 Date Assigned: Enter Date.

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:  Yes  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                           |
|---|---|---|
| Ice Road from Talitha A to Theta West #1  | Various                                   | Various                                   |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

Affected ADL: 394019 Date Effective: 8/1/2021 Date Assigned: [Enter Date.](#)

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:  Yes  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                           |
|---|---|---|
| Ice Road from Talitha A to Theta West #1  | Various                                   | Various                                   |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

Affected ADL: 393903 Date Effective: 9/1/2020 Date Assigned: [Enter Date.](#)

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:  Yes  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                           |
|---|---|---|
| Ice Road from Talitha A to Theta West #1  | Various                                   | Various                                   |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |
| <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> | <a href="#">Click here to enter text.</a> |

Affected ADL: 394040 Date Effective: 8/1/2021 Date Assigned: [Enter Date.](#)

Oil And Gas Lessee(s): Great Bear Petroleum Ventures II, LLC

Surface Ownership: State of Alaska

Do you have, or anticipate having an Access Agreement:  Yes  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 |
|--------------------|---|-----------------|
|--------------------|---|-----------------|

|  |  |                           |
|--|--|---------------------------|
| Ice Road from Talitha A to Theta West #1                             | Various  | Various                   |
| 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. |
| <b>2. State of Alaska Surface Lands:</b>                             |  |                           |
| 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.                      |  |                           |
| <b>Project Components</b>  | <b>Meridian, Township, Range, And Section(s)</b> | <b>GPS Coordinates</b>    |
| Click here to enter text.  | Click here to enter text.                        | Click here to enter text. |
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| Click here to enter text.  | Click here to enter text.                        | Click here to enter text. |
| <b>3. Private Lands:</b>   |  |                           |
| 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.                      |  |                           |
| <b>Project Components</b>  | <b>Meridian, Township, Range, And Section(s)</b> | <b>GPS Coordinates</b>    |
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| Click here to enter text.  | Click here to enter text.                        | Click here to enter text. |



# **Bear Avoidance, Interaction, Mitigation, and Monitoring Plan North Slope, Alaska**

Great Bear Pantheon, LLC  
3705 Arctic Blvd, Suite 2324  
Anchorage, AK 99503

September 2021

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### List of Exhibits

- Exhibit A     Grizzly Bear Observation Form
- Exhibit B     Polar Bear Observation Form

## ABBREVIATIONS

|             |  |
|-------------|--|
| ADF&G       | Alaska Department of Fish and Game                           |
| AES         | ASRC Energy Services   |
| ADNR        | Alaska Department of Natural Resources                       |
| Great Bear  | Great Bear Pantheon LLC                                      |
| GBP Program | Great Bear Pantheon drilling Program                         |
| HSE         | Health, Safety, and Environment                              |
| km          | kilometer(s)   |
| LOA         | Letter of Authorization                                      |
| MMPA        | Marine Mammal Protection Act of 1972                         |
| NSB         | North Slope Borough  |
| Plan        | Bear Avoidance, Interaction, Mitigation, and Monitoring Plan |
| TAPS        | Trans Alaska Pipeline System                                 |
| USC         | U.S. Code  |
| USFWS       | U.S. Fish and Wildlife Service                               |

# 1 Introduction

Great Bear Pantheon LLC (Great Bear) presents this Bear Avoidance, Interaction, Mitigation, and Monitoring Plan (Plan). This Plan has been developed for the Great Bear Pantheon drilling Program (GBP Program) to accomplish the following purposes:

- Guide GBP Program personnel, including Great Bear employees and contractors to:
  - Prevent bears from associating humans and facilities with food;
  - Prevent or minimize the potential for human-bear interactions;
  - Understand controls to prevent interaction;
  - Protect workers and bears; and
  - Implement observation and reporting procedures.
- Fulfill requirements of Mitigation Measure 2(d)(i) for North Slope Areawide Oil and Gas Lease Sales; and
- Fulfill requirements for obtaining, if necessary, a Letter of Authorization (LOA) from the U.S. Fish and Wildlife Service (USFWS) for incidental and intentional (hazing) takes of polar bears in the northernmost portion of the GBP Program area.

## *1.1 Mitigation Measures and Regulatory Requirements*

The Alaska Department of Natural Resources (ADNR) applies mandatory mitigation measures to all leases acquired during the North Slope Areawide Oil and Gas Lease Sale. Great Bear will comply with all the following mitigation measures related to grizzly and polar bears:

- Lessees are required to prepare and implement a human-bear interaction plan designed to minimize conflicts between bears and humans. The plan should include measures to:
  - Minimize the attraction of bears to facility sites, including containing garbage and food waste;
  - Organize the layout of buildings and work areas to minimize interactions between humans and bears;
  - Warn personnel of bears near or on facilities and the proper actions to take;
  - Deter bears from the drill site (if lessees are authorized to do so);
  - Provide contingencies in the event bears do not leave the site;
  - Discuss proper storage and disposal of materials that may be toxic to bears; and
  - Provide a systematic record of bears on site and in the immediate area.
- Before commencement of any activities, lessees shall consult with the Alaska Department of Fish and Game (ADF&G) to identify the locations of any known brown bear den sites that are occupied in the season of proposed activities. Exploration and development activities started between September 20 and May 15 may not be conducted within one-half mile of known occupied brown bear dens, unless alternative mitigation measures are approved by the ADF&G. A lessee who encounters an occupied brown bear den not previously identified by the ADF&G must report it to the Division of Wildlife

Conservation, ADF&G, within 24 hours. Mobile activities shall avoid such discovered occupied dens by one-half mile unless alternative mitigation measures are approved by DO&G with concurrence from ADF&G. Nonmobile facilities will not be required to relocate.

In addition to the mitigation measures above, Great Bear will comply with the all applicable local, state, and federal codes, statutes, and regulations including the Marine Mammal Protection Act of 1972 (MMPA) (16 U.S. Code [USC] 1361-1407) and the Endangered Species Act of 1973 (16 USC 1531-1544). Great Bear is coordinating with the ADF&G and USFWS to identify the locations of known grizzly bear and polar bear dens near Great Bear's drill sites and develop additional mitigation measures, if necessary, to protect bears and humans.

If necessary, Great Bear will request a LOA from the USFWS for coverage under the current Beaufort Sea Incidental Take Regulations as per the MMPA for the incidental (50 CFR Part 18) and intentional (hazing) (Sections 109(h) and 112(c) of the MMPA) take of polar bears.

## **2 Bears and Exploration/Development Activities: Impacts of Human Activity**

Human activity may attract wildlife. The biggest attractant for wildlife is associated with food and waste-handling practices. Bears will generally avoid human activities if they are not attracted by food and wastes. Bears can learn to associate humans and facilities with a food source. This association can be passed down from generation to generation. Food, associated by-products, and dumpsters are major attractants for bears.

Proper food and waste management are critical to prevent bears from becoming conditioned to associate human activity as a food source. When female bears and their cubs emerge from dens (April/May), they start looking for food. Extra care is necessary to properly store and dispose of food waste to prevent bear attraction and their entry into work areas at these times.

## **3 General Policies and Mitigation**

GBP Program personnel will be trained and required to adhere to several general procedures to deter all wildlife species from entering, and remaining in, work areas for the safety of personnel and wildlife. Also, the Drill Site Manager or Shift Supervisor will maintain a file of wildlife observation forms that will be submitted to the appropriate agency (ADF&G or USFWS).

### ***3.1 Food Handling and Food Waste Management***

Nothing attracts wildlife like food; therefore, proper food handling and food waste management is imperative. The following measures will be implemented to minimize bear attraction:

- GBP Program personnel will NOT feed wildlife. Any personnel observed doing so will be subject to disciplinary action, up to and including dismissal from the project.
- GBP Program personnel will NOT eat outside of buildings or vehicles.
- GBP Program personnel will segregate food waste from non-food waste and discard the food waste only in designated receptacles.

- Food waste will not be placed in dumpsters or other receptacles that are not secure from wildlife access.
- Food in vehicles is discouraged, but if GBP Program personnel must take food into vehicles, the food will be stored in containers that minimize odors, such as plastic bags or plastic containers with lids.
- GBP Program personnel will remove all garbage, including used food containers, from vehicles at the end of each shift, or more frequently if appropriate disposal receptacles are available.
- Kitchen grease will not be discarded in receptacles marked for food waste.
- GBP Program personnel will contact the Drill Site Manager or Shift Supervisor if any improperly managed food waste is observed or for answers to questions on refuse management.

### ***3.2 Handling Non-Food Materials and Non-Food Waste***

Non-food materials (e.g., plastic, sanitary waste from rooms and restrooms, rubber, motor oil, and chemicals such as antifreeze) can be attractive to some wildlife species, and if these materials are not handled properly, they can increase the likelihood of wildlife encounters. Proper waste handling procedures will include the following:

- Potentially harmful materials will be stored in secure containers (e.g., 55-gallon steel drums) or inside a secure building.
- Storage containers will be inspected periodically to ensure that they are secure, in good condition, and no spills have occurred.
- All waste will be properly disposed of.
- GBP Program personnel will contact the Drill Site Manager or Shift Supervisor if any improperly managed non-food materials or waste is observed or for answers to questions on waste management.

### ***3.3 Infrastructure Design and Maintenance***

Infrastructure can potentially provide nesting or denning cover for wildlife. Listed below are some examples of infrastructure design and maintenance activities that can help minimize the attraction of wildlife. Great Bear will implement these where practicable.

- The design of the infrastructure of any site should incorporate modifications to reduce the attractiveness of the site to wildlife (e.g., installation of skirting under elevated buildings where practicable, proper lighting, capping of all pipes, blocking culverts in the winter, and the placement of gates or other barriers on stairwells).
- Elevated structures, including roads and pads, can collect drifting snow that can serve as artificial denning habitat if not properly managed. The prevailing wind is from the northeast, and the direction of drifting should be taken into account when placing barriers or storing materials.

- If materials must be stored outdoors, they should be arranged in a way to minimize the space where bears could be concealed.
- Personnel areas, including all entrance areas, should be illuminated during working hours of darkness.

### **3.4 Injured Bears**

If a bear that is injured or stressed is observed, GBP Program personnel will maintain a safe distance from the bear and will not approach it to provide assistance in any form. Injured bears can be aggressive. GBP Program personnel must instead immediately notify the Drill Site Manager or Shift Supervisor to provide observation details, such as the species, the location of the bear, and the type of injury or problem.

The Drill Site Manager or Shift Supervisor will contact the appropriate agency immediately, either the ADF&G or the USFWS, and work with that agency to take the necessary action. The presence of a potentially dangerous predatory species may require actual agency supervision before any action can be taken. Figure 2 (at the end of this section) provides agency contact information.

If an animal is severely injured, it may be dispatched (i.e., killed), with permission from either the ADF&G or USFWS. A firearm will be kept on the GBP Program site in the control of the Drill Site Manager or the Shift Supervisor for this purpose, but only authorized GBP Program personnel will be allowed to use the firearm. Authorized GBP Program personnel include only those individuals who have completed an 8-hour firearm safety course and have been identified for dispatch tasks by the Drill Site Manager or Shift Supervisor.

### **3.5 Grizzly Bears**

Brown bears (*Ursus arctos*), commonly referred to as grizzly bears, occur throughout northern Alaska from the Brooks Range to the Arctic Ocean. They are present in small populations in and around the GBP Program area; therefore, there exists a possibility that GBP Program personnel may encounter a grizzly bear.

Typically, grizzly bears are active in the summer and occupy dens during the late fall (October or November), throughout winter, and into early spring (April) (Craighead and Craighead 1972). All occupy winter dens, with pregnant females entering earlier and emerging later with their cubs, as compared to males and non-pregnant females, whose hibernation duration is somewhat shorter (Craighead and Craighead 1972).

Construction of GBP pads, driveways, infrastructure sites, and facilities will take place between May and October and therefore are unlikely to result in den disturbance and/or destruction. All practicable measures will be taken in order to avoid den disturbance.

#### **3.5.1 Early Detection and Avoidance**

To minimize the potential for human-grizzly bear interactions, early detection and avoidance procedures will be followed. Great Bear has contacted the ADF&G to identify known den locations in and around the GBP Program area.

GBP Program-related attractants for grizzly bears will be food and waste; however, even when garbage and other nonnatural foods are not available, grizzly bears are curious about their

surroundings and will investigate camps, vehicles, and buildings. Darkness, vegetation cover, blind corners, noise, wind, precipitation, fog, and other conditions may make it difficult to see or hear a bear. GBP Program personnel should remain alert for the presence of grizzly bears in and near GBP Program facilities. The following are general precautions to be taken during GBP Program operations:

- Manage all potential bear attractants, particularly food, waste, and chemicals, in accordance with Great Bear waste management and chemical storage policies. Refer to sections 3.1 and 3.2 for associated guidance.
- Inspect the work site for bear or bear sign from the safety of a vehicle or building before entering the work site. Check stairs and access areas, as well as below structures, to avoid a surprise encounter. Be aware that bears can also be concealed behind dumpsters, conexes, and stacked materials.
- Be especially alert when beyond illuminated areas or when weather prevents good visibility. Make lots of noise before walking into an area with poor visibility.
- Use the buddy system when working outdoors and, if necessary, designate a “Bear Guard” to regularly inspect the work area and scan for bears.
- Work with other operations being conducted simultaneously on pad to assure each other’s actions are compatible with providing protection from and avoidance of bears.
- Check with the Drill Site Manager or Shift Supervisor before working outside in areas not secure from grizzly bears for the latest information on bear sightings in the area.
- Maintain visual or radio contact with the Drill Site Manager or the Shift Supervisor when working outdoors to receive any grizzly bear sighting alerts.
- Report all grizzly bear sightings to the Drill Site Manager or Shift Supervisor.

### 3.5.2 Interaction and Response

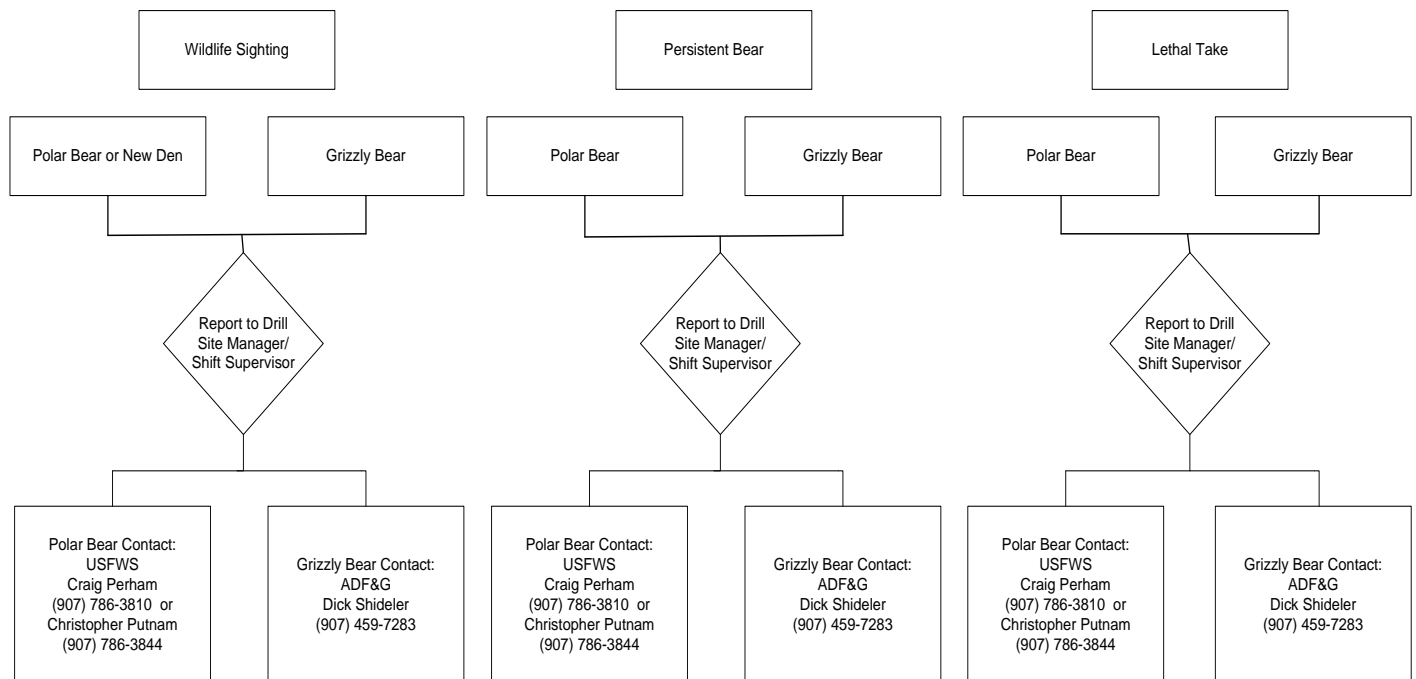
If a bear is observed in the GBP Program area, the following precautions should be taken:

- Depending on the distance between the bear and the activities, retreating to vehicles, emergency shelter, or temporary buildings for safety may be necessary.
- Personnel must never approach or crowd a bear. Each bear is unique in its comfort level with humans; the more distance between personnel and the bear, the better for conflict avoidance.
- If a bear is encountered at a close distance, remain calm. Attacks are rare. Most bears are interested only in protecting food, cubs, or their "personal space." Once the threat is removed, they will move on. Remember the following:
  - *Identify Yourself:* Let the bear know you are human. Talk to the bear in a normal voice. Wave your arms. Help the bear recognize you. If a bear cannot tell what you are, it may come closer or stand on its hind legs to get a better look or smell. A standing bear is usually curious, not threatening. You may try to back away slowly diagonally, but if the bear follows, stop and hold your ground.

- *Don't Run:* You can't outrun a bear. They have been clocked at speeds up to 35 mph, and like dogs, they will chase fleeing animals. Bears often make bluff charges, sometimes to within 10 feet of their adversary, without making contact. Continue waving your arms and talking to the bear. If the bear gets too close, raise your voice and be more aggressive. Make noise, but never imitate bear sounds or make a high-pitched squeal.
- *If Attacked:* If a bear actually makes contact, surrender! Fall to the ground and play dead. Lie flat on your stomach, or curl up in a ball with your hands behind your neck. Typically, a bear will break off its attack once it feels the threat has been eliminated. Remain motionless for as long as possible. If you move, and the bear sees or hears you, it may return and renew its attack. In rare instances, an attacking bear may perceive a person as food. If the bear continues biting long after you assume a defensive posture, it likely is a predatory attack. Fight back vigorously.

Grizzly bear hazing will be done or approved by the Drill Site Manager or Shift Supervisor after consultation with the ADF&G. Designated bear hazers will be properly trained and authorized to haze bears. Personnel other than the designated bear hazer will not attempt to haze a bear. Vehicles may be used to herd bears away from work locations. In addition, noisemakers such as horns and sirens may be used to cause the bear to avoid the work locations. Firearms will not be used to haze bears.

**Figure 1 Bear Notification Chart**



### 3.5.3 Monitoring and Reporting

GBP Program personnel will likely be the primary source of grizzly bear sighting information. If a bear or bear sign (e.g., tracks or scat) is observed in or near work areas, camp buildings, or storage locations, the observer must first ensure his/her own safety by returning to a secure location, if necessary, and then immediately report the sighting to the Drill Site Manager or Shift Supervisor. Personnel should never remain in an exposed position in order to view or photograph a bear.

When a bear sighting is reported to the Drill Site Manager or Shift Supervisor, he/she will initiate the alert system. Workers in the area will be contacted immediately and directed to move to a secure location. Secure areas may include buildings (but not light structures) or the cab of either a large work vehicle or heavy machinery. If only a pickup or other similarly sized vehicle is available, personnel should drive at least 50 yards from the bear and observe the bear with the vehicle engine running.

The alert will consist of voice communication that provides specific information on the location of the bear, instructions on where to move to for safety, and other evacuation instructions. Only when the Drill Site Manager or Shift Supervisor determines that the bear is no longer present in the work area will the alert be lifted.

The Drill Site Manager or Shift Supervisor will verify the grizzly bear sighting and complete an *Oilfield Grizzly Observation Form* (Exhibit A). A copy of the completed report will be retained on site, and a copy will be faxed to Dick Shideler with the ADF&G (refer to Figure 2 for contact information).

### 3.6 Polar Bears

Polar bears (*Ursus maritimus*) are considered arctic marine mammals and are protected from hunting or harassment under the MMPA. They are also designated a threatened species under the Endangered Species act of 1973. Polar bears are excellent swimmers and can run up to 25 miles per hour. Because of their size, speed, and curious nature, any encounter with a polar bear is potentially dangerous. During the summer months, the timeframe for the GBP Program, polar bears normally hunt seals for food far out on the pack ice. As winter approaches, newly formed ice bridges may bring them closer to land. Only pregnant females use dens during the winter months, and they emerge with their cubs in March. Given the location and timing of the GBP Program, interaction with Polar Bear is extremely unlikely.

In their natural setting, polar bears eat only meat, mostly seals. However, in areas with human activity, they may be attracted to plastic, rubber, motor oil, and chemicals such as antifreeze. Bears may visit work sites because of curiosity or food odor, but their visits will be transitory if they are not rewarded with food.

The likelihood of a polar bear encounter in the GBP Program area is very low. Polar bears are coastal animals, and the GBP Program's northernmost exploratory well location is more than 25 miles from the coast. Polar bears have been documented far inland, but this is a rare occurrence. The most likely case of a polar bear occurring near the GBP Program area would be a bear traveling up the Sagavanirktok River bed.

### **3.6.1 Early Detection and Avoidance**

Polar bear early detection and avoidance procedures are similar to those for grizzly bears. Polar bears, like grizzly bears, are attracted to food and waste. They are also curious creatures that may investigate camp sites, vehicles, and buildings simply because of their curiosity. The polar bear's white fur makes it exceptionally difficult to be seen when there is snow cover. Darkness, blind corners, noise, wind, precipitation, and fog will also add to the difficulty to see or hear a polar bear. GBP Program personnel must be alert to the possibility that a polar bear may enter the GBP Program area, and all personnel shall follow the general early detection and avoidance precautions presented for grizzly bears in Section 3.5.1.

### **3.6.2 Interaction and Response**

Refer to Section 3.5.2 for guidance on interaction and response in the event a polar bear is sighted. Polar bear hazing will be done or approved by Drill Site Manager or Shift Supervisor only after consultation with the USFWS. Designated bear hazers will be properly trained and authorized to haze bears. Personnel other than the designated bear hazer will not attempt to haze a bear. Vehicles may be used to herd bears away from work locations. In addition, noisemakers such as horns and sirens may be used to cause the bear to avoid the work locations. Firearms will not be used to haze bears.

### **3.6.3 Monitoring and Reporting**

Refer to Section 3.5.3 for the alert system that will be implemented if a bear (grizzly or polar) or bear sign is sighted.

## **4 TRAINING AND MEETINGS**

All Great Bear and contractor personnel working on the GBP Program will receive an environmental orientation before beginning work. This orientation will cover the information included in this Plan and will reinforce the importance of proper waste-handling and food management to minimize the potential for human-wildlife interactions. Additionally, information specific to human-wildlife interactions will be disseminated to GBP Program personnel in the form of environmental alerts and updates, safety bulletins, and safety meeting briefings for the duration of the GBP Program. The Drill Site Manager or Shift Supervisor will oversee the dissemination of this information. The Drill Site Manager or Shift Supervisor will also be responsible for maintaining completed copies of GBP Program-specific human-wildlife interaction forms on site and routing the forms as necessary to the ADF&G or the USFWS. Blank copies of all applicable forms are provided as appendices.

## **5 AT-RISK LOCATIONS AND SITUATIONS**

The following are lists of locations, situations, and activities where bear encounter risks may be higher and where attention to mitigating risks is essential.

Possible bear encounter locations include:

- drill pad and drill rig;
- access roads;
- camp facilities;
- food consumption areas; and
- “blind” areas that are obscured by facilities, equipment, or other obstacles.

At-risk bear encounter situations and activities include:

- survey work;
- site cleanup;
- solid waste handling and disposal;
- construction;
- drilling support;
- maintenance;
- inexperienced crews; and
- dark/unlighted and visually obscured areas.

## **6 SUBSISTENCE PLAN OF COOPERATION**

Native subsistence hunters sometimes kill polar bears near the Beaufort Sea coast and brown bears further inland. Caribou are also hunted by local community residents. The portion of the Dalton Highway Corridor Management Area where GBP Program activities are proposed already has hunting restrictions. The area is open for the taking of big game, small game, and fur animals by bow and arrow only.

Great Bear is committed to minimizing the potential for GBP Program activities to interfere with subsistence activity. It is not anticipated that subsistence hunters will be active near Great Bear’s proposed GBP Program activities. However, in the event that subsistence hunters are present, Great Bear’s Drill Site Manager will be responsible for mitigating potential subsistence hunting conflicts. Drill Site Manager duties will include the following:

- Accompany staff during fall activities in the Program area.
- Provide guidance on avoiding potential impacts to subsistence users, areas, and resources.
- Observe and document wildlife including caribou and bears.
- Act as a liaison between Great Bear staff and local residents; relay concerns and information from residents to Great Bear staff.

The following mitigation measures will be implemented in order to protect subsistence harvest by local community residents:

- Comply with North Slope Areawide Lease Sale Mitigation Measures and Lessee Advisories.
- Conduct exploration, development, and production activities in a manner that prevents unreasonable conflicts between lease-related activities and subsistence activities.

Great Bear demonstrates its commitment to establishing stakeholder trust and respect by conducting community meetings and community leadership meetings in potentially affected subsistence communities. During these meetings, comments and concerns about Great Bear activities in the Transportation Corridor were shared by community members and leadership. Great Bear has conducted several meetings in the past and has plans to continue engagement with the North Slope Borough.

To supplement community input collected during leadership and community meetings, and to fulfill community cooperation requirements under the Beaufort Sea Incidental Take Regulations, AES, on behalf of Great Bear, contacted community leadership representatives to identify any potential impacts from Great Bear activities on polar bear subsistence hunting. The feedback received by community representatives from Utquagvik, Nuiqsut, and Anaktuvuk Pass, such as the Alaska Nanuuq Commission, the Native village of Barrow Wildlife Director, and the Mayor of Anaktuvuk Pass indicated that subsistence hunting for polar bears does not occur near Great Bear's potential drill sites.

Great Bear will continue to gather feedback from community representatives from potentially-affected subsistence communities. If a concern regarding the subsistence hunting of polar bears arises, Great Bear will engage in open communication to identify and evaluate potential measures to mitigate and minimize identified conflicts between the GBP Program and polar bear subsistence activities.

## **7 REFERENCES**

Craighead, F.C., Jr., and J.J. Craighead. 1972. "Grizzly bear prehibernation and denning activities as determined by radio tracking." *Wildl. Monogr.* 32. 35 pp.

**Exhibit A**  
**Grizzly Bear Reporting Form**

# Oilfield Grizzly Bear Reporting Form

|   |
|---|
| Bear ID# (ADF&G use) _____ 10/2020 rev.   |
| <b>OBSERVER</b> _____ <b>COMPANY/AGENCY</b> _____<br><b>OBSERVATION DATE</b> _____ <b>TIME:</b> Start _____ Stop _____<br><b>OBSERVATION FROM:</b> <input type="checkbox"/> Vehicle <input type="checkbox"/> Ground <input type="checkbox"/> Building <input type="checkbox"/> Other _____<br>OBSERVER DISTANCE FROM BEAR _____ meters  |
| <b>GENERAL LOCATION:</b> <input type="checkbox"/> Deadhorse <input type="checkbox"/> EOA <input type="checkbox"/> WOA <input type="checkbox"/> Kuparuk <input type="checkbox"/> Endicott<br><input type="checkbox"/> Milne <input type="checkbox"/> Badami <input type="checkbox"/> Alpine <input type="checkbox"/> Pt. Thomson <input type="checkbox"/> TAPS (MP #) _____<br>Other (latitude/longitude if known) _____   |
| <b>SPECIFIC LOCATION</b> [Example: 500 meters N of DS 14]: _____ meters<br>_____ [direction] of _____ [facility name]   |
| <b>DUMPSTER PRESENT?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown  |
| <b>WEATHER:</b> _____ °F Wind direction _____ at _____ mph<br><input type="checkbox"/> Clear/partly cloudy <input type="checkbox"/> rain <input type="checkbox"/> fog <input type="checkbox"/> snow   |
| <b>BEAR IDENTIFICATION:</b> EAR FLAG COLOR [Note: right & left of bear, not observer]<br>_____ Color right _____ Color left NATURAL MARKINGS [scars, torn ears, ETC.] _____   |
| <b>OTHER BEARS PRESENT?</b> <input type="checkbox"/> None No. of new cubs _____ No. of yearlings _____<br>No. of 2 year olds _____ Number of other adults _____ No. unknown _____   |
| <b>BEAR ACTIVITY WHEN FIRST SEEN:</b> <input type="checkbox"/> Resting <input type="checkbox"/> Feeding (natural food)<br><input type="checkbox"/> Feeding (garbage) <input type="checkbox"/> Traveling <input type="checkbox"/> Traveling/feeding<br><input type="checkbox"/> Other [describe]: _____  |
| <b>BEAR REACTION TO OBSERVER:</b> <input type="checkbox"/> Ignore <input type="checkbox"/> Approach <input type="checkbox"/> Avoid<br>Were other people in area (not with observer)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown<br><b>BEAR REACTION TO OTHER PEOPLE:</b> <input type="checkbox"/> Ignore <input type="checkbox"/> Approach <input type="checkbox"/> Avoid<br><b>REACTION COMMENTS</b> _____<br>_____ |
| <b>DETERRENCE ACTION TAKEN?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No<br>If yes, did you use: <input type="checkbox"/> Horn <input type="checkbox"/> Siren <input type="checkbox"/> Rubber slug <input type="checkbox"/> Bean bag<br><input type="checkbox"/> Cracker shell <input type="checkbox"/> Other [describe] _____  |
| <b>BEAR'S REACTION TO DETERRENT:</b> <input type="checkbox"/> Ignore <input type="checkbox"/> Approach <input type="checkbox"/> Withdraw  |
| <b>ADDITIONAL REMARKS</b> _____<br>_____  |
| Dick Shideler, Alaska Dept. Fish & Game; FAX 907-459-7332, or email <a href="mailto:dick.shideler@alaska.gov">dick.shideler@alaska.gov</a>  |



**Exhibit B**  
**Polar Bear Reporting Form**

United States Department of the Interior

Fish and Wildlife Service
1011 E. Tudor Road
Anchorage, Alaska 99503-6199

Polar Bear Sighting Report

Company: \_\_\_\_\_ Location: \_\_\_\_\_
Date: \_\_\_\_\_
Time: \_\_\_\_\_ am / pm / 24 \_\_\_\_\_
LOA #: \_\_\_\_\_
Observer Name: \_\_\_\_\_
Phone/Email: \_\_\_\_\_

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_ Datum: \_\_\_\_\_

Weather Conditions: Fog \_\_\_\_\_ Snow \_\_\_\_\_ Rain \_\_\_\_\_ Clear \_\_\_\_\_ Temperature \_\_\_\_\_ °F / °C

Wind Speed \_\_\_\_\_ mph / kts Wind Direction (from) \_\_\_\_\_ N NE E SE S SW W NW

Visibility: Poor \_\_\_\_\_ Fair \_\_\_\_\_ Good \_\_\_\_\_ Excellent \_\_\_\_\_

Number of Bears: (total number of bears & how many of each type) Total # Bears \_\_\_\_\_
adult sub-adult 2 year-old yearling cub of year
Male \_\_\_\_\_
Female \_\_\_\_\_
Unknown \_\_\_\_\_

Closest Distance of Bear(s): from personnel \_\_\_\_\_ facility \_\_\_\_\_ m / yd / ft

Bear Behavior (Initial Contact): curious ignore aggressive walk run swim hunt feed rest
other \_\_\_\_\_

Bear Behavior (After Contact): curious ignore aggressive walk run swim hunt feed rest
other \_\_\_\_\_

Description of Encounter: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

Duration of Encounter: \_\_\_\_\_ Possible Attractants Present: Y / N

Describe Attractants: \_\_\_\_\_

Deterrents Used & Distance: Y / N m / yd / ft

Vehicle \_\_\_\_\_ Rubber Bullet \_\_\_\_\_
Horn/Siren/Noise \_\_\_\_\_ Bean Bag \_\_\_\_\_
Spotlight/Headlight \_\_\_\_\_ Other (describe) \_\_\_\_\_
Crackershell \_\_\_\_\_

Agency/Contacts:

USFWS Craig Perham (786-3810) (Fax 786-3816) \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_
ADF&G Dick Shideler (459-7283) (Fax 459-7332) \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_
Other \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_

| NORTH SLOPE  | Company Response   |
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| 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. | N/A  |
| b. A plan of operations shall be submitted and approved before conducting exploration, development, or production activities in accordance with 11 AAC 83.   | Mitigation Measure is met. A lease plan of operations is being submitted to ADNR for the Theta West #1 well by Great Bear Pantheon LLC ("Great Bear").   |
| 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.   | Mitigation Measure is met. There are no Native allotments or residential areas in the proposed project area. There are no recreational use in the proposed project area. Based on input from the NSB and villages, Great Bear does not believe that the proposed project area is characterized as an area of high use for subsistence activities. Access to the ice roads and ice pads will be restricted to the general public. |
| 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.  | Mitigation Measure is met. Great Bear is proposing two alternative sites for the Theta West #1 well. Each proposed drill site is more than ½ mile from the coast and more than 500 feet from any fish-bearing stream.  |

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| <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-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.</p>   | <p>Mitigation Measure is met. Great Bear is proposing two alternative sites for the Theta West #1 well, Alt A and Alt B. Great Bear believes that the Alt A drill site is more than ½ mile from the Kuparuk River, the Toolik River and the Sag River. There are a number of unnamed streams that are more than 500 feet by less than ½ mile from Alt A drill site. In the chance that the unnamed streams are deemed to be part of the Toolik River, then Great Bear will only consider Alt B for use as the Theta West #1 drill site. The Alt B drill site is more than ½ mile from any of the unnamed streams as well as the Kuparuk River, Toolik River, and Sag River, and also more than 500 feet from any fish-bearing stream.</p> |
| <p>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&amp;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.</p> | <p>N/A. No facilities are proposed in these areas.</p>  |
| <p>g. Impacts to important wetlands shall be minimized to the satisfaction of the Director, in consultation with ADF&amp;G and Alaska Department of Environmental Conservation (ADEC). The Director will consider whether facilities are sited in the least sensitive areas.</p>   | <p>Mitigation Measure is met. All proposed activities will take place in winter on ice roads and ice pads. No impacts to wetlands should occur.</p>   |
| <p>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&amp;G.</p>  | <p>Mitigation Measure is met. The activities will be conducted on ice pads accessed by ice roads in compliance with this measure.</p>   |
| <p>i. Road and pipeline crossings shall be aligned perpendicular or near perpendicular to watercourses.</p>  | <p>N/A. The proposed ice roads do not cross any watercourses. There are no pipelines associated with the Theta West #1 well project.</p>  |

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| <p>j. Pipelines</p> <p>i. Shall use existing transportation corridors and be buried where soil and geophysical conditions permit.</p> <p>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.</p> <p>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.</p> <p>iv. Pipelines and gravel pads shall facilitate the containment and cleanup of spilled fluids.</p> | <p>N/A. There are no pipelines associated with the Theta West #1 well project.</p>                                       |
| <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>N/A. There are no causeways or docks associated with the Theta West #1 well project.</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>N/A. There are no artificial islands or bottom founded structures associated with the Theta West #1 well project.</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&amp;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>N/A. There are no such structures associated with the Theta West #1 well project.</p>                                 |

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| <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>Mitigation Measure is met. See Section IX of the Plan of Operations Application.</p>                |
| <p>o. Material sites required for exploration and development activities shall be:</p> <ul style="list-style-type: none"> <li>i. restricted to the minimum necessary to develop the field efficiently and with minimal environmental damage,</li> <li>ii. where practicable, designed and constructed to function as water reservoirs for future use, and</li> <li>iii. located outside active floodplains of a watercourse unless the Director DMLW, after consultation with ADF&amp;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.</li> </ul> | <p>N/A. No material sites are proposed.</p>  |
| <p>p. The Director may include plan stipulations if necessary to reduce or eliminate adverse impacts to fish and wildlife or to protect the environment.</p>   | <p>N/A</p>   |
| <p><b>2. Fish and Wildlife Habitat</b></p>   |  |
| <p>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.</p>  | <p>N/A.</p>  |
| <p>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&amp;G.</p>  | <p>Mitigation Measure is met. Any water intake structures will meet the requirements of ADF&amp;G.</p> |

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| <p>c. Removal of snow from fish-bearing rivers, streams, and natural lakes shall be subject to prior written approval by ADF&amp;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.</p>  | <p>Mitigation Measure is met. Snow removal or compaction on fish bearing streams will be done in compliance with a Title 16 Fish Habitat permit from ADF&amp;G.</p>  |
| <p>d. Bears:</p> <ul style="list-style-type: none"> <li>i. Brown bears       <ul style="list-style-type: none"> <li>A. A lessee must consult with ADF&amp;G before commencing any activities to identify the locations of known brown bear den sites that are occupied in the season of proposed activities.</li> <li>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&amp;G.</li> <li>C. A lessee who encounters an occupied brown bear den not previously identified by ADF&amp;G shall report it to the Division of Wildlife Conservation, ADF&amp;G, within 24 hours. The lessee will avoid conducting mobile activities one-half mile from discovered occupied dens unless alternative mitigation measures are approved by the Director, with concurrence from ADF&amp;G. Non-mobile facilities will not be required to relocate.</li> </ul> </li> <li>ii. Polar bears       <ul style="list-style-type: none"> <li>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.</li> <li>B. Operations shall avoid known polar bear dens by at least one mile.</li> </ul> </li> </ul> | <p>A.2.d. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.i. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.i.A. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.i.B. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.i.C. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.ii N/A. The project is more than 35 miles from the coast and outside the area of known polar bear activity.</p> |

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| <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.iii. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.iii.A. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.iii.B. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.iii.C. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.iii.D. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.iii.E. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.iii.F. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.2.d.iii.G. Mitigation Measure is met. See Attachment - Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> |
| <p>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.</p>  | <p>Mitigation Measure is met. There are no permanent facilities associated with the Theta West #1 well project.</p>   |

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| <p>f. The Director, in consultation with ADF&amp;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.</p>  | <p>N/A</p>  |
| <p><b>3. Subsistence, Commercial and Sport Harvest Activities</b></p>  |   |
| <p>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.</p>  | <p>Mitigation Measure is met. Great Bear is very sensitive to the interests of the local residents, particularly as it relates to subsistence activities. Throughout its years of activities in the project area, Great Bear has met with local leadership and communities and the NSB to collect input into how Great Bear's activities can be conducted in a manner that minimizes impacts to subsistence activities. Multiple meetings have been held in Utqiagvik, in 2011, 2014, and virtually in 2020. A community meeting was held in Anaktuvuk Pass in 2014. There are no known subsistence activities that will be impacted by the Theta West #1 well project.</p> |
| <p>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.</p> | <p>Mitigation Measure is met. Great Bear is very sensitive to the interests of the local residents, particularly as it relates to subsistence activities. Throughout its years of activities in the project area, Great Bear has met with local leadership and communities and the NSB to collect input into how Great Bear's activities can be conducted in a manner that minimizes impacts to subsistence activities. Multiple meetings have been held in Utqiagvik, in 2011, 2014, and virtually in 2020. A community meeting was held in Anaktuvuk Pass in 2014. There are no known subsistence activities that will be impacted by the Theta West #1 well project.</p> |
| <p><b>4. Fuel, Hazardous Substances and Waste</b></p>  |   |
| <p>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 according to governing regulatory requirements in 18 AAC 75 and 40 CFR 112. Containers with an</p>  | <p>Mitigation Measure is met. See Section 3 of the Plan of Operations Application.</p>  |

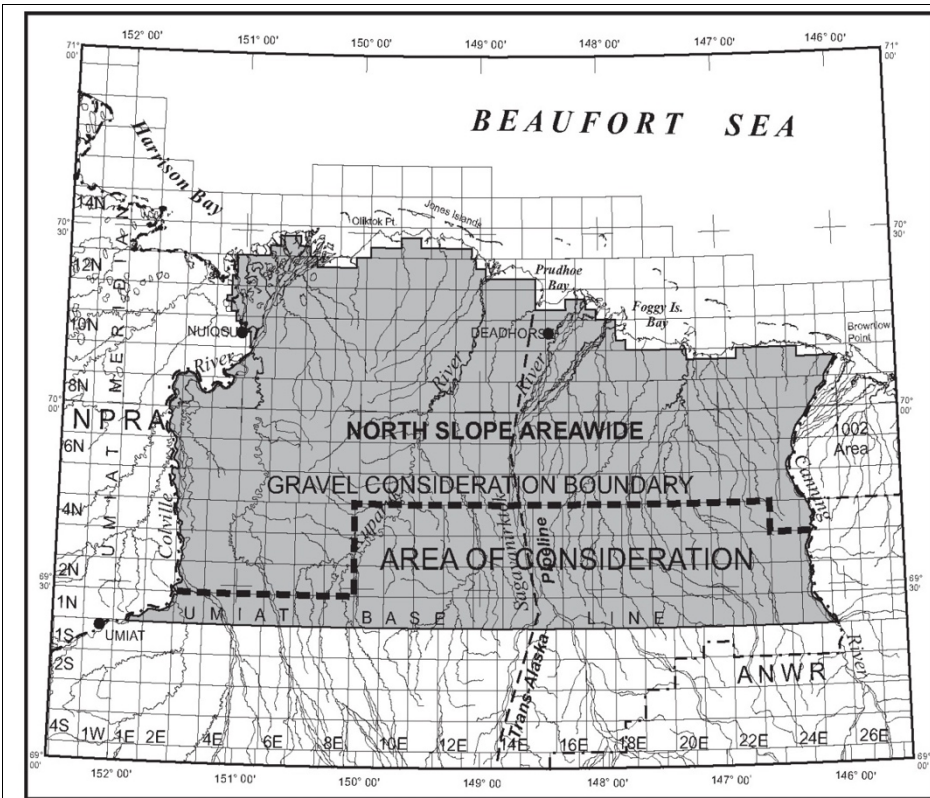
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| <p>aggregate storage capacity of greater than 55 gallons that contain fuel or hazardous substances will not be stored within 100 feet of a waterbody, or within 1,500 feet of a current surface drinking water source.</p>   |  |
| <p>b. During equipment 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>Mitigation Measure is met. See Section 3 of the Plan of Operations Application.</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>Mitigation Measure is met. See Section 3 of the Plan of Operations Application.</p> |
| <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>Mitigation Measure is met. See Section 3 of the Plan of Operations Application.</p> |
| <p>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.</p>   | <p>Mitigation Measure is met. See Section 3 of the Plan of Operations Application.</p> |
| <p>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.</p>  | <p>N/A. No permanent facilities are proposed.</p>                                      |
| <p>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.</p>   | <p>Mitigation Measure is met. See Section 4 of the Plan of Operations Application.</p> |
| <p>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, on-site</p>   | <p>Mitigation Measure is met. See Section 4 of the Plan of Operations Application.</p> |

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| <p>incineration in compliance with State of Alaska 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 on-site 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.</p>  |  |
| <p>i. New solid waste disposal sites, other than for drilling waste, will not be approved or located on state property for exploration.</p>  | <p>Mitigation Measure is met. See Section 4 of the Plan of Operations Application.</p>   |
| <p>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.</p> | <p>Mitigation Measure is met. See Section 4 of the Plan of Operations Application.</p>   |
| <p><b>5. Access</b></p>  |  |
| <p>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</p>  | <p>Mitigation Measure is met. The Theta West #1 well project will use ice pad accessed by ice roads. The ice roads will be permitted through an authorization issued by either the DOG or DMLW.</p>          |
| <p>b. Summertime off-road travel across tundra and wetlands may be authorized subject to time periods and vehicle types approved by DMLW.</p>  | <p>Mitigation Measure is met. The only summertime activity will be stick-picking and clean-up activities. Those activities will access the site under an authorization issued by either the DOG or DMLW.</p> |
| <p>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.</p>   | <p>N/A. No emergency exceptions are requested.</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:

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, and then east along the top of T 3N to the ANWR boundary.

N/A. No gravel use is requested.



**Figure 0.1.— Gravel Consideration Boundary**

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.

Mitigation Measure is met. The Theta West #1 well project will only result in restrictions to public access on the ice roads and ice pads constructed as part of the operation. No other restrictions to public

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|  | access to the lease area will result from the Theta West #1 well project. |
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| <p><b>6. Prehistoric, Historic, and Archeological Sites</b></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>Mitigation Measure is met. Cultural, historical, and archaeological resources field studies for site clearance were conducted in the summer of 2011 within the area associated with Great Bear's E&amp;E Program to assess any known sites, and to locate unknown sites. Additional studies were conducted in each of the the summers of 2012 - 2015 in association with Great Bear's seismic program which encompassed all of the Great Bear acreage position. These studies included the areas that will be part of the Theta West #1 well project. The studies included a records review and field surveys of the project areas. The records review included the Alaska Heritage Resources Survey (AHRs) database, maintained by the Office of History and Archeology within ADNRR; and the Traditional Land Use Inventory (TLUI) database, maintained by the NSB. No sites were identified in the studies that indicate that the Theta West #1 well project will impact cultural, historical, or archaeological resources. Each of the studies were submitted to the OHA and the NSB.</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>Mitigation Measure is met. See response to subsection (a), above.</p>   |

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| <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>Mitigation Measure is met. If such a discovery is made, this section will be followed.</p>  |
| <p><b>7. Hiring Practices</b></p>   |  |
| <p>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.</p> | <p>Mitigation Measure is met. Great Bear is committed to Alaska and local hire. Great Bear has located its office in Anchorage since 2011 and has no other focus than Alaska. To the best of its ability, Great Bear has strategically contracted with service providers already located in Alaska with employees resident in Alaska. It has strived to utilize Alaska contractors in its project development work, and it will continue to make all efforts to maximize Alaska hire in all aspects of its operations. As exploration moves to a development project, Great Bear will work with the North Slope Borough to attempt to recruit local residents for the project and impress upon its contractors to hire locals and Alaska residents to the best of their ability.</p> |
| <p>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.</p>   | <p>Great Bear is committed to Alaska and local hire. However, for one-off exploration projects, such as Theta West #1, Great Bear does not have the commercial ability to dictate staffing practices of our contractors. As Great Bear transitions into larger development and production project, Great Bear intends to insert into the RFQs for project bids a requirement to meet this standard in order to receive favorable consideration for a contract. Also, as Great Bear expands our internal workforce, we will adopt an apprentice program.</p>  |
| <p>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.</p>   | <p>Mitigation Measure is met. Great Bear has met with officials and representatives of the North Slope Borough since 2010, and has visited multiple North Slope villages over the past ten years. Great</p>  |

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|  | <p>Bear held community meetings in the villages of Utquiagvik and Anaktuvuk Pass to present the 2014-2015 Winter Exploration Program which included the same operational plan and a well in the same general location as the Theta West #1 well. Great Bear briefed the NSB Planning Commission prior to operations on the Talitha A well in December 2020 and will attempt to do the same with the Theta West #1 well.</p>  |
| <p>d. A plan of operations application must include a training program</p> <ul style="list-style-type: none"> <li>i. for all personnel including contractors and subcontractors;</li> <li>ii. designed to inform each person working on the project of environmental, social, and cultural concerns that relate to that person's job;</li> <li>iii. using methods to ensure personnel understand and use techniques necessary to preserve geological, archeological, and biological resources; and</li> <li>iv. designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating.</li> </ul> | <p>A.7.d. Mitigation Measure is met. Great Bear and all contractor and subcontractor personnel will receive an HSE orientation. Additionally, the training program will be designed to inform each individual of the environmental, social and cultural concerns that relate to their job functions. Training components will include permit stipulations and requirements, cultural awareness, spill prevention and reporting, wildlife interaction, site specific safety, etc. All personnel will participate in a specific training program for bear safety and a briefing of the Bear Avoidance, Interaction, Mitigation, and Monitoring Plan.</p> <p>A.7.d.i. Mitigation Measure is met.</p> <p>A.7.d.ii. Mitigation Measure is met.</p> <p>A.7.d.iii. Mitigation Measure is met.</p> <p>A.7.d.iv. Mitigation Measure is met.</p> |
| <p><b>8. Definitions</b></p>   |  |

a. In this document:

- 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.
- ii. **Hazardous substance** – As defined under 42 USC 9601 – 9675 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980).
- 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.
- 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.
- 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.
- vi. **Practicable** – Feasible in light of overall project purposes after considering cost, existing technology, and logistics of compliance with the mitigation measure.
- 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.
- vii. **Temporary** – No more than 12 months.