THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Natural Resources
DIVISION OF OIL AND GAS
550 W. 7th Avenue Suite 1100
Anchorage, Alaska 99501-3560
Main: 907.269.8800
Fax: 907.269.8939

December 14, 2018

Patrick Galvin
Chief Commercial Officer
Great Bear Petroleum Operating LLC.
3705 Arctic Blvd, Suite 2324
Anchorage, AK 99503

RE: **LONS 18-002**, **Great Bear Petroleum Operating LLC, Winx #1**, **GBP Western Lease Block Lease Plan of Operations Decision Exploration Phase.**

Dear Mr. Galvin:

I. INTRODUCTION

On September 26, 2018, Great Bear Petroleum Operating LLC (GBP) submitted a request to the Division of Oil and Gas (Division) for approval of a Lease Plan of Operations (Plan) to carry out the activities required to drill and test the Winx #1 exploration well. The Winx #1 exploration well site is approximately 13 miles southeast of Nuiqsut. Approval of this Plan, along with approvals from other state and federal agencies (Agencies), is necessary for GBP to carry out the Winx #1 exploration well. Any further exploration is subject to further review and approval by the Department of Natural Resources (DNR).

After state land is leased for oil and gas development, projects currently follow a phased progression. These phases include exploration, development, and transportation. The Division continually examines effects of oil and gas activities as projects transition throughout each phase. Before the next phase of a project may proceed, public notice and opportunity to comment as well as Division approval is required. The operations proposed by GBP would begin the Exploration phase for the GBP Western Lease Block Plan of Operations.

II. SCOPE OF DECISION

The DNR Commissioner has delegated authority for approval of Lease Plan of Operations activities to the Division under Department Order # 003 in accordance with Alaska Statute (AS) 38.05 and 11 Alaska Administrative Code (AAC) 83.158. As set forth below, the Division has evaluated the proposed Plan to determine if sufficient information as required by 11 AAC 83.158 is provided. In approving a Plan, the Division may require amendments that it determines are necessary to protect the State's interests (11 AAC 83.158(e)).

This decision authorizes GBP to drill and test an exploration well on a State of Alaska oil and gas lease on the North Slope of Alaska. The exploration activities will be ice-based and temporary in nature. Drilling rig, maintenance facilities, laydown and storage areas, oil service

modules, 60-bed camp, and other small temporary support structures will be located on an ice pad approximately one-half mile from the west bank of the Itkillik River.

The following Plan elements require authorization from other agencies:

Agency	Permit(s)
Alaska Oil and Gas Conservation Commission (AOGCC)	Permit to Drill; Sundry Approvals; Blowout Contingency Plan
Alaska Department of Natural Resources (DNR) - DMLW - Office of History and Archaeology (OHA)	Land Use Permit # 29344 – Ice Road and Pads; Temporary Water Use Authorization (TWUA); Section 106 Review and Consultation
Alaska Department of Environmental Conservation (ADEC) - Alaska Pollutant Discharge Elimination System - Air Quality - Spill Prevention and Response (SPAR) - Environmental Health (EH)	General Permit for North Slope Permit # G332026; MGP1 Air Quality Permit; Minor Amendment to Oil Discharge Prevention and Contingency Plan (C-Plan) Permit # 16-CP-5191 Rev1; AEA SW Management Plan; Temporary Storage of Drilling Waste Plan Stormwater Pollution Prevention Plan
Alaska Department of Fish & Game (ADF&G) - Habitat - Public Safety	Title 16 Fish Habitat Permits; Ice Roads and Pads Public Safety Permit
North Slope Borough (NSB) - Planning	NSB Development Permit
US Army Corps of Engineers	CWA Section 404 Consultation
US Environmental Protection Agency	Spill Prevention, Control, and Countermeasures Plan for Nordic #3
US Fish & Wildlife Service	Polar Bear Letter of Authorization for Incidental/Intentional Take - consultation

III. LAND STATUS

The project area comprises state lands.

A. Division's Leased Lands: This section refers to Division-managed oil and gas leases regardless of ownership of overlying surface lands.

Oil and Gas Lease: 391720
Oil and Gas Mineral Estate Lessee(s): Great Bear Petroleum Ventures II, LLC
Surface Ownership and Access Agreement: State of Alaska
Special Use Lands: ADL 50666
Jointly Managed Lands: None
Other Considerations: LCO 617 Pre-1983 Resource Management Land Classification

Project Components	Meridian, Township, Range, & Section(s)	Coordinates
Winx #1 Surface Hole Location and Drill Pad	U008N005E Sec 21	70.0345, -150.8966
Winx #1 Wellbore	U008N005E Sec 21	N/A (linear)
Winx #1 Tundra Winter Road	U008N005E Sec 21-24 U008N006E Sec 12-17, 19-20	N/A (linear)

B. State of Alaska Surface Lands: This section refers to State owned surface lands where no Division managed oil and gas leases exist.

Not applicable to this project.

C. Non-State Lands: This section refers to areas where the State does not own the surface land and no Division managed oil and gas leases exist.

Not applicable to this project.

IV. PROPOSED OPERATIONS

The Plan describes the proposed operations in full detail. Set forth below is a summary of the key details.

A. Sequence and Schedule of Events

Project Milestone #	Project Milestone	Proposed Start Date	Proposed End Date
1	Construct Ice Pads	1/1/2019	1/30/2019
2	Mobilize drill rig, camp and support operations	1/30/2019	2/15/2019
3	Drill and test Winx #1 well	2/14/2019	4/20/2019
4	Demobilize drill rig, test equipment, camp and support operations (demobilization may begin during testing phase)	3/1/2019	4/27/2019

GBP proposed the above schedule for winter 2018-2019. All dates are approximate and may be altered by weather or logistic requirements. The schedule provides the Division with an overall idea of the sequence and schedule of events.

B. Well Sites

An ice pad will be constructed to accommodate the well and associated facilities and equipment. The pad will be 750 feet by 250 feet with a total footprint of approximately 4.3 acres.
The Winx #1 well will be drilled to approximately 12,000 feet true vertical depth (TVD) to test stacked conventional objectives within the Nanushuk Formation. GBP will use the Nordic #3 or similar mobile land drilling rig. The well may be tested and hydraulically stimulated/flow tested, and may include laterals, sidetracks, or additional penetrations from the same exploration wellbore as allowed per Sundry Approvals by the AOGCC. The well will either be plugged and abandoned or suspended pursuant to AOGCC regulations prior to demobilization.

C. Buildings

Temporary facilities used to support the Winx #1 program will include a satellite office, storage and laydown areas, communication tower, storage Connexes, rig maintenance shop, oil service modules (such as a mud logger module), and a 60-bed camp. The camp will include additional offices, restrooms, as well as food service and recreational areas.

An ice staging pad constructed at the start of the Temporary Winter Road (TWR), adjacent to the Drillsite 2P access road, will contain a 30-bed camp, laydown areas, and equipment shops.
All buildings and temporary facilities transported to the project site during mobilization will be removed at the completion of drilling operations.

D. Fuel and Hazardous Substances

In accordance with federal, State, and local agencies, spills will be cleaned up immediately when found and reported as required. Ultra-low sulfur diesel (USLD) fuel will be trucked to the drill pad by commercial carrier for drilling, completion and well testing operations. GBP anticipates that approximately 16,800 gallons of fuel will be stored in skid-mounted, double-walled aboveground storage tanks (ASTs) staged within secondary containment areas (SCAs) providing 110% of an AST volume plus seasonal precipitation containment. No individual fuel storage tank within the SCA will exceed 9,990 gallons. An onsite tanker truck will fuel ancillary equipment such as heaters, light plants, and heavy equipment.

E. Solid Waste Sites

All waste management activities will be conducted in general accordance with the GBP Western Block Exploration Program Waste Management Plan (WMP) and in conformance with GBP HSE Management Policies. Management and treatment of waste described in the WMP will be approved by the ADEC prior to operations. Additionally, the latest versions of the Alaska Safety Handbook (ASH), the North Slope Environmental Field Handbook (NSEFH) and the Alaska Waste Disposal & Reuse (Redbook) Guide are adopted as guidance, reference and standard operating procedures and workplace “best” safety, environmental and waste management practices for GBP operations.

Four waste streams exempt from regulation as Resource Conservation and Recovery Act (RCRA) hazardous wastes (“RCRA-exempt wastes”) will be generated during operations. These include: 1) E&P fluids and solids from drilling and testing operations); 2) residue and rinsate found in “RCRA empty” containers; 3) household hazardous wastes; and, 4) domestic wastewater from camps and envirovacs. RCRA-exempt household hazardous wastes generated from camp operations will be combined with domestic wastewater and temporarily stored in the

camp sewage tank modules before being hauled to the NSB-SA-10 wastewater treatment plant for disposal. The camp is expected to generate less than 2,000 gallons per day of domestic wastewater and less than 1 gallon per day of household hazardous wastes.

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

RCRA-hazardous wastes expected to be generated during construction, drilling and production operations include very small quantities of Characteristic Hazardous and Universal Wastes. These will be managed on site in Satellite Accumulation Areas, manifested, and then transported to approved disposal or recycling facilities at the completion of the field operations.

F. Water Supplies

During operations, up to 5,000 gallons per day (gpd) of potable water will be required for domestic use at the construction and rig camps. Potable water will be transported to the camps by commercial water truck. Other fresh water uses during operations will total about 24 million gallons for which GBP has applied for TWUAs from DNR/DMLW for withdrawal of ice chips and water from up to five area lakes as water sources for operations. These sources include the Lakes M9006, GBP001, GBP002, GBP003 and GBP004. Lake M9006 also may be used by other operators as allowed under existing TWUAs. GBP will coordinate water/ice withdrawals with all other operators that may be withdrawing water/ice from these same sources to ensure that the maximum permittable water/ice withdrawal volume is not exceeded. Snow will be removed from portions of the lakes prior to water withdrawal to help provide access for water trucks and ice trimmers. Water pumped from lakes will be transported by low ground pressure vehicles or rolling stock once winter tundra travel is approved by DNR. Rolling stock will only use trails that have been improved with a firm ice surface or packed snow to support the weight and pressure of the vehicles.

G. Utilities

Rig operations will be self-contained and powered by generators. Smaller dual generator sets will provide power to camps, offices, and other facilities. Satellite phone service and internet will be available at each field camp.

H. Material Sites

All operation activities will take place on existing gravel roads, TWR, and ice pads. No material sites will be used.

I. Roads

Approximately 10.7 miles of ice road will be constructed using water from five authorized sources. The main ice road will be approximately 50 feet wide with a minimum thickness of 12 inches. Ice crossings of fish-bearing streams will be constructed in accordance with Fish Habitat Permits from ADF&G. Existing gravel roads will be used whenever possible. The TWR will be constructed by using conventional ice road building techniques. Authorized water sources used

to construct and maintain the TWR will be accessed by snow roads at least one foot thick and coated with ice. The proposed TWR alignment and ice pad locations shown in Figures in Appendix A reflect the results of planning by GBP that was verified by fieldwork in mid-August 2019 where a field team mapped routes and locations to avoid higher, drier tundra covered by shrubs, forbs and tussock vegetation. The field team also avoided placing alignment close to south-southwest facing bluffs and through willow stands, both of which are important habitat variables for bears and moose. The TWR will be built to accommodate drill rig moves, and the drill pad will be built large enough to safely carry out drilling, testing, and support operations. The TWR and ice pads will be constructed and maintained using the generally accepted practices for the North Slope, subject to DNR/DMLW opening criteria for winter tundra travel in the Western Coastal operating area. Pre-packing of the trail will be requested prior to the official tundra opening to drive frost down and preserve early snow. Snow fences also may be erected at the start of the TWR in order to collect snow for TWR construction. Additionally, TWR crossings at established subsistence and winter trails will be constructed to provide a smooth transition to ensure trail users have safe passage. Upon completion of use, TWR stream crossings will be slotted, breached, or weakened to facilitate breakup and minimize potential impacts to stream banks. Any snow or ice used as fill for ramps will be removed from banks in a manner that does not disturb the natural stream bank.

J. Airstrips

GBP may opt to build an ice airstrip to support drilling operations and to facilitate transportation of materials as well as reduce the amount of travel required for crew changes. Proposed locations include Lake M9006 or GBP001. If constructed, the ice airstrip will be approximately 200 feet wide by up to 5,000 feet long and will include appropriate lighting and control systems to accommodate up to 30-passenger aircraft.

K. All Other Facilities and Equipment

The types of vehicles and equipment generally used in construction and maintenance of the ice road, and drilling operations will be the same as those used for similar North Slope oil and gas operations and include the following: Tucker Snow-Cats with portable ice auger drills; Caterpillar motor graders; Caterpillar 966 loaders; Snow blowers and ice trimmers – loader mounted; Caterpillar D-6 dozers; Tractor/Maxi-Haul (30cy) dump trailers and Cat hard tail end dumps; Crew buses, vans and pickups; Tractor/325-bbl vacuum trucks and 15 cy super suckers; 130-bbl conventional water tanker trucks and 200-bbl water buffaloes; mechanic field service trucks, and 5000-gallon fuel tanker trucks. Equipment will be obtained from North Slope contractors.

In the event of a medical emergency resources identified in the GBP Medical Evacuation Plan will be mobilized to provide medical support and necessary transportation.

L. Rehabilitation Plan

The proposed operations are temporary and exploratory in nature and conducted from ice pads and ice roads that will melt during spring break up. Upon completion of drilling and evaluation operations, the well will either be plugged and abandoned (P&A) or suspended in accordance with AOGCC regulations. Equipment and structures will be removed from the project area at the end of the season. Ice pads and roads will be scraped to remove dark-colored drips missed by the Alaska Clean Seas (ACS) spill technician and the resulting snow will be thawed with resulting

oily water disposed of at a permitted disposal facility. Trash and debris will be removed and transported for disposal at a permitted disposal facility.

Although activities will be conducted from TWR and ice pads, impacts to vegetation and habitat may occur. GBP will conduct an inspection and "stick picking" operation via helicopter in Summer 2019 to ensure that NSB and State cleanup requirements have been met. Agency personnel will be invited to verify that rehabilitation operations are complete and that any issues identified are addressed.

M. Operating Procedures Designed to Minimize Adverse Effects

Fish and Wildlife Habitats: Pads and roads constructed of ice will only be used in winter months during the open winter tundra travel season. Streams will be crossed in shallow sections that normally freeze to the streambed or will be bridged using temporary bridges founded on ice ramps and abutments. All GBP activities will be conducted to minimize impacts on fish and wildlife. A wildlife avoidance and interaction plan for small fur-bearing mammals and birds, and a bear avoidance interaction plan (for both grizzly and polar bear) have been prepared and will be included in the site orientation for all Winx #1 personnel.

Historic and Archeological Sites: The TWR alignment and drilling pad location were selected to avoid known cultural resource sites. Data and field report indicate there are no archaeological, historic or cultural resources within 0.4 miles of the TWR alignment, staging ice pad, or drillsite ice pad locations.

Public Use: The proposed operations occur within the Nuiqsut Subsistence Use area. GBP will conduct operations to minimize any adverse effects on subsistence uses and avoid conflicts with private, commercial, and industrial users. If potential subsistence issues are identified, subsistence organizations will be contacted and updated during drilling and testing operations to minimize impacts. Although public access to the GBP TWR must be restricted due to safety concerns, GBP will provide shelter and assistance in emergency situations to subsistence users.

Other Users: GBP will contact any commercial operators or lessees within the project area to discuss the avoidance of conflicts between concurrent operations and to request letters of non-objection for Winx #1 activities.

Training Programs: GBP has developed a training program designed to inform each individual of the environmental, social, and cultural concerns that relate to their job functions on the Winx #1 project.

Interacting with Local Communities and Community Groups: As part of the permitting process, GBP has published public notices detailing Winx #1 operations in Utqiagvik, Fairbanks, and Anchorage, and has been responding to
requests for additional information from individuals and non-government organizations interested in the project.

In approving a Plan, DNR may require amendments necessary to protect the State's interest (11 AAC 83.158). The Division has determined that to protect the State's interest, it is necessary to

incorporate the 2018 North Slope Mitigation Measures. GBP addressed these mitigation measures in the application process, but it is necessary to amend the Plan to make clear that the Plan incorporates the 2018 North Slope Mitigation Measures.

All plan applicants must complete a mitigation measure analysis form demonstrating that each mitigation measure is satisfied or inapplicable to the proposed Plan, or that the applicant is seeking an exception. The 2018 North Slope Mitigation Measures allow for the Division to grant an exception if the applicant shows that compliance with the measure is not practicable or that the applicant will undertake an equal or better alternative to satisfy the intent of the mitigation measure. GBP completed the mitigation measure analysis for the 2018 North Slope Areawide and seeks an exception to the mitigation measure discussed below.

2018 North Slope Mitigation Measure K.1.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.

GBP provided the below request and explanation for the exception:

All facilities are temporary and are not within 1,500 feet of current surface drinking water sources. The east edge of the drill site ice pad is within 500 feet of Lake GB002 (Figure 3A). According to the ADF&G and based on bathymetry, this lake may be a fish bearing water body containing “resistant” fish such as the Ninespine Stickleback. The project area, however, will only be used to drill a temporary well during the winter when ice thickness greater than 3 feet is present on all waterbodies. Other than cleanup activities during the following summer, no activities will occur at the location after completing the winter drilling operations. Gravel roads, utilities, and pipeline crossing are not part of this project.

The intent of this measure is to minimize impacts to fish-bearing waterbodies, protect them from contamination from a fuel or hazardous substance spill or leak, and to reduce habitat loss through erosion or other disturbances from facility construction and placement. The Division finds that GBP has shown rationale that the proposed activities in the Plan equally satisfy the intent of this mitigation measure. GBP’s proposal to establish temporary facilities within 500 feet of a fish bearing waterbody only once they are frozen with a minimum of 3 feet of ice does sufficiently satisfy this mitigation measure’s intent. The Division grants an exception to this mitigation measure to allow for the Applicants alternative as set forth in the Plan.This exception does not apply to activities that the Applicant may propose in future or amended plans of operations.

The Division has determined that to protect the State’s interest, it is necessary to incorporate the 2018 North Slope Mitigation Measures as amendments and stipulations to this Plan (11 AAC 83.158).

N. Phased Evaluation

This Plan beings GBP's exploration of lease ADL 391720. This Plan addresses exploration activities for Winx #1, but based on the results of this exploration, the Division anticipates that GBP may submit plans for additional exploration wells. Thus, in considering the exploration phase, the Division considered both specific activity proposed under this Plan as well as typical additional exploration activities that GBP might propose for further exploration of these leases.

The Division considered the potential impacts of exploration on public and State interests. In the oil and gas context, the public interest includes maximizing economic and physical recovery of oil and gas resources (AS 38.05.180(a)(1)). The State has an interest in protecting the public interest, and in encouraging assessment of oil and gas resources while minimizing the adverse impacts of exploration, development, production, and transportation activities (AS 38.05.180(a)(2)).

In considering potential impacts, the Division also considered the operating procedures GBP has designed to minimize adverse effects of the Plan activities. These operating procedures include complying with the mitigation measures attached to the lease. These measures come from the 2018 North Slope Areawide Best Interest Finding (BIF) to address potentially negative effects of oil and gas exploration on fish and wildlife species, habitats and their uses, subsistence uses and local communities. GBP has provided a mitigation measure analysis, which is required as part of their Plan submittal.

GBP will provide local employment opportunities and offer contracting opportunities to Alaska and North Slope Native-owned firms, partners, and corporate subsidiaries. GBP will work with North Slope labor and services contractors to maximize employment of qualified Alaskans.

GBP will provide training to all personnel. Training components include a review of permit stipulations and requirements, cultural awareness, spill prevention and reporting, wildlife interaction, site specific safety, waste management practices, etc. All personnel will participate in a specific training program module for bear safety and a briefing of the Bear Avoidance, Interaction, and Mitigation Plan. GBP employees and contractors are required to complete an 8-hour training program provided by the North Slope Training Cooperative (NSTC). The NSEFH, ASH, and a North Slope Visitor's Guide are used for the training. The training program includes classes on the ASH, personal protective equipment, camp and safety orientation, hazard communication, HAZWOPER Level l, and Environmental Awareness. GBP also requires that all company personnel and contractors attend rig and location safety meetings (pre-tour, SIMOPS, and weekly) as well as participate in the best safety practice programs ("RA/JSEA, PTW, STOP," etc) and take on-site training orientation. Topics discussed in safety meetings will include various emergency action drills (scheduled and unscheduled) familiarizing workers with the wildlife interaction plans, warnings and hazing methods, and reporting requirements; reviewing spill/incident reporting requirements and spill prevention measures, reviewing fluid transfer procedures, and general hazard identification regarding the various chemicals used in drilling operations and other activities; and reviewing cold weather operations and personal protection.

i. Facilities Impacts on the Project Area

All proposed facilities and operations are temporary in nature and will be conducted from ice pads and ice roads that will melt during spring breakup. GBP has designed, sited, and proposed to operate the exploration drilling facilities in accordance with the 2018 North Slope Mitigation Measures. All activities are designed to take place on temporary ice infrastructure and are intended to avoid or minimize impacts to wetlands. No new gravel placement is proposed for Winx #1. Existing gravel roads and a temporary ice road will be used to transport materials and equipment to the project area. Demobilization of the facilities is expected to occur in April 2019, prior to spring breakup, in accordance with the 2018 North Slope Mitigation Measure K.1.h. The well will be plugged and abandoned or suspended in accordance with AOGCC regulations.

Fuel and Hazardous Substances Potential Impacts on the Project Area

Winx #1 activities are planned to take place during Winter 2018-2019 and conclude before spring breakup. Any potential discharges or accidental spill of hazardous materials could only occur while the environment is frozen and would be contained before open water is present.

The storage of fuel and hazardous substances will comply with State and federal oil pollution prevention requirements, and contingency requirements. Fuel storage, handling, transfers, and spill reporting will be conducted in accordance with GBP's Oil Discharge Prevention and Contingency Plan (ODPCP) which was approved by the ADEC as Plan No. 16-CP-5191, NSEFH, and the ASH. All bulk hazardous fluid and fuel transfers will be conducted in accordance with the fluid transfer guidelines described in the 2018 North Slope Mitigation Measures, NSEFH and GBP's Fluid Transfer Checklist. During fuel and fluid transfer operations, equipment storage, or maintenance activities, the site will be protected from leaking or dripping fuel and hazardous substances. This will be accomplished by using drip pans or other surface liners designed to catch and hold fluids under equipment, or by creating a specialized SCAs with an impermeable liner or other suitable containment mechanism. Impacts from exploration activities, from either disposal or a spill, could adversely affect water quality; however, potential impacts would be local and temporary in nature.

Drilling Muds and Produced Water

The exploratory drilling proposed under the Plan will generate drilling muds, cuttings, and produced water and associated waste byproducts. Discharge of these byproducts, as well as accidental spills of oil, fuel, lubricants, or chemicals can all have impacts on local environments. Most drilling wastes are disposed of under ADEC's Solid Waste Program. Reinjection is the preferred method for disposal of drilling muds and cuttings and requires permit approval. Most oil field wastes are considered non-hazardous and waste fluids are recycled, filtered, and treated before reinjection or disposal. Produced water contains naturally occurring substances such as clay, sand, oil, water, and gas, and is treated using heat, gravity settling, and gas flotation devices to remove hydrocarbons. After treatment, produced water is reinjected into either the oil-bearing formation, to maintain pressure and enhance recovery, or into an approved disposal well. Waste

drilling muds and cuttings will be transported to an approved disposal site or appropriate injection facility for processing and disposal. Up to 18,000 barrels (bbls) of drilling wastes (both solids and fluids) and another 5,000 bbls of test fluids may be generated during drilling, and temporarily stored onsite in skid-mounted tanks, vacuum trucks, super sucker trucks, and/or lined temporary drill waste storage cells, before being hauled offsite for disposal by injection in either offsite Class I or Class II disposal wells under contractual agreement.

A variety of commonly used water-based mud (WBM) drilling fluids and additives will be used to provide and maintain the correct drilling mud formulation for the conditions being drilled; these will be stored in skid-mounted ASTs within SCAs. Other drill fluid chemicals provided in 5-gallon pails, 55-gallon drums, or a variety of different sized (250-400 gal) isocontainers that are regulated by the USDOT and/or EPA will be stored within SCAs. Finally, crude oil testing tanks would be installed at the well site for flow testing of the well.

All storage tanks, containers, and SCAs will be inspected daily by an on-site ACS spill technician, and conditions will be documented. All unused products will be returned to the supplier. All used fluids will be disposed of in accordance with GBP's Waste Management Plan and other applicable guidance documents and contract/ballot agreements.

Non-oily exploration and production solid drill cuttings may also be hauled to the NSB SA 10 landfill for beneficial reuse as sanitary cover if landfill acceptance criteria are met. All RCRA-exempt wastes will be managed and tracked by using North Slope Manifest procedures. Residue and tank rinsate found in RCRA-empty tanks and vessels will be manifested, hauled, and disposed by injection in offsite Class I or II disposal injection wells as they are generated at tank wash bays after drilling and testing operations.

A final site inspection report including drilling waste volume and final disposition of waste will be submitted to ADEC as required under 18 AAC 60.430. All drilling waste will be disposed of prior to completion of winter operations.

Accidental Spills

Impacts resulting from an accidental spill or leak would depend on the type of product, location, volume, duration, and the effectiveness of the cleanup response. Heavy equipment, such as trucks, tracked vehicles, and tank trucks, commonly use diesel fuel, gasoline, motor oil, hydraulic fluid, antifreeze, and other lubricants. Spills or leaks could result from accidents, improper refueling, or from corrosion of lines.

Appropriate spill response equipment, as required in ODPCP 16-CP-5191, will be staged on location and managed/maintained by an on-site spill technician contracted through ACS. Trained spill technicians and fuel contractor personnel, operating under the GBP Fluid Transfer Procedures, will attend all fuel and fluid transfer operations at all times. A copy of ODPCP 16-CP 5191 will be kept on site at all times for guidance in controlling and cleaning up any accidental discharges of fuels, lubricants, or produced fluids. The plan will include immediate response actions, reporting requirements, communication

trees, receiving environments, spill cleanup mobilization response times, well control information and spill prevention guidance.

GBP's mitigation measure analysis states that fuel and hazardous substances will be stored at least 100 feet from any water body and no known surface drinking water sources are within 1500 feet of proposed project operations (K.4.a). Drip pans or liners will be placed under parked vehicles or equipment to capture fluids (K.4.b) and surface liners will be used under all potential spill points. GBP will verify that adequate containments are on hand during fuel transfers and ensure that personnel are property trained and understand proper procedures for handling flammable and combustible fluids (K.4.c). All containers with fuel or hazardous substances will be labeled with the contents and the lessee's or contractor's name (K.4.e).

Oil Spills

The effects of an oil spill during the winter are limited due to the short season and temporary nature of the exploration program. There are no production activities, permanent facilities, or pipelines proposed. GBP has proposed temporary activities during winter months, and the Division anticipates any future exploratory drilling would also take place during the winter when the environmental risk from spills is lower.

GBP will maintain an approved well control plan for its drilling program that includes primary and secondary blowout prevention systems, a well capping program, and a relief well plan designed for successful operations in winter arctic conditions. Additionally, the Nordic #3 drill rig, commercial fuel suppliers and well testing contractors will have current Spill Prevention Control and Countermeasure (SPCC) Plans specific to their operations on-site. Contractor crews will be trained in the appropriate response and prevention strategies outlined in these plans.

ii. Habitat, Fish, Wildlife and Subsistence

Habitat

Any exploration activity can impact habitat, fish, and wildlife. The 2018 North Slope Mitigation Measures are designed to minimize these impacts. Winx #1 activities will take place over a limited time, and involve ice roads and temporary facilities which have been purposefully sited to minimize potential effects on tussock and willow habitats. The Division anticipates impacts to habitat, fish, and wildlife will be limited and temporary due to the seasonality of Plan activities. The Division also anticipates that any future Plans for the exploration phase will involve similarly limited and temporary activities and potential impacts.

Fish

The Itkillik River is an anadromous stream, supporting the spawning and overwintering of several species of fish that seasonally migrate to nearshore coastal waters to feed. Migration patterns vary by species and life stage. Potential effects of exploration activities include degradation of stream banks and erosion, impacts to overwintering areas, impediments to migration, and fish kills due to spills. A potential habitat impact at the exploration phase is erosion. Erosion results in siltation and sedimentation, which in turn may result in a reduced or

altered stream flow that may affect overwintering habitat availability and the ability of fish to migrate upstream. Streambeds could be affected if banks are altered or damaged by equipment crossings. Protecting the integrity of stream bank vegetation and minimizing erosion are important elements in preserving fish habitat.

Withdrawal of water from lakes and ponds could affect fish overwintering habitat by entraining juvenile fish, lowering water levels, and increasing disturbance. Removal of water from lakes where fish overwinter may affect the viability of overwintering fish, and longer-term effects of lake drawdown may impede the ability of fish to return to the lake in subsequent years. Removal of snow from lakes may increase the freeze depth of the ice, kill overwintering and resident fish, and adversely affect the ability of fish to utilize the lake in future years.

North Slope Mitigation Measure K.2.b requires that structures for the removal of water from fish-bearing rivers, streams, and natural lakes have prior approval by ADF&G. Water intakes used to remove water from fish-bearing waterbodies must be surrounded by a screened enclosure to prevent fish entrapment, entrainment or injury. The maximum water velocity at the surface of the screen enclosure may be no greater than 0.5 foot per second, unless an alternative has been approved by ADF&G.

Wildlife

Caribou are present across the North Slope, with seasonal distributions possible within the project area. Exploration-related disturbance may have minor impacts on caribou, particularly large groups, with animals being briefly displaced from feeding and resting areas during drilling operations, and while transporting equipment along the TWR. Acute disturbance effects may result in a cumulative effect on habitat availability for those individuals with fidelity to the Kuparuk-Colville River calving area but is anticipated to have little or no effect on the Central Arctic Herd population. It is expected these disturbances would be short term.

Moose are present across the North Slope, with the largest concentration along the Colville River and its tributaries. Moose generally remain in the foothills and along river corridors. GBP identified willow habitats during the summer of 2018 and configured the TWR to avoid those areas. GBP's winter drilling program is expected to have little effect on the North Slope moose population.

Polar bears and Brown bears may be present within the project area. The temporary displacement of some polar bears from preferred habitats may result from routine exploration activities such as the proposed Plan activities. Females in dens are most at risk for disturbance from any vehicular traffic or noise. GBP identified possible denning habitat for both polar and brown bears during the summer of 2018 and configured the TWR to avoid those areas during construction and operation. GBP has created a series of 500-foot activity buffers ("environmentally sensitive zones") around the TWR and pads to which traffic and all operations will be restricted. Winx #1 exploration activities are unlikely to significantly increase temporary displacement and disturbance above the level caused by existing oil and gas activities.

In addition to complying with the Endangered Species Act, Marine Mammal Protection Act, and NSB land management regulations, GBP will comply with the 2018 North Slope Mitigation Measure K.2.d to minimize effects of exploration activities on bears.

Subsistence

Traditional subsistence uses in the area include: brown bear, caribou, musk ox, and moose harvesting; hunting and trapping of furbearers; hunting migratory waterfowl and collecting eggs; fishing for whitefish, char, salmon, smelt, grayling, and trout; and harvesting edible plants and berries.

Possible exploration activities that could have effects on subsistence uses in the area include disturbances from operation activities such as vehicle traffic, operational noise, and potential spills.

The North Slope Areawide BIF contains several mitigation measures intended to reduce conflicts with subsistence and commercial activities. Prior to submitting a Plan to the Division, the lessee must consult with affected subsistence communities and the NSB to discuss reasonably foreseeable effects on subsistence during the proposed operations, and methods of proposed operations and safeguards or mitigation measures that can be implemented to prevent unreasonable conflicts. The lessee must make reasonable efforts to ensure that the proposed exploration activities are compatible with subsistence hunting and fishing and will not result in unreasonable interference with subsistence harvests. The Division may implement restrictions, as appropriate, to reduce potential conflicts.

iii. Prehistoric, Historic, and Archeological Sites

The 2018 North Slope Mitigation Measures require the lessee to conduct an inventory of prehistoric, historic, and archaeological sites within the area affected by an activity. The inventory must include consideration of literature provided by the NSB, nearby communities, Native organizations, and local residents; documentation of oral history regarding prehistoric and historic uses of such sites; evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places; and site surveys. The inventory must also include a detailed analysis of the effects that might result from the activity.

As part of Section 106 review and consultation with DNR OHA, GBP reviewed three recent field survey reports to identify reported prehistoric, historic, and archeological sites ("resources") on and around the proposed ice pads and TWR alignment. Traditional Land Use Inventory data was obtained from the NSB Inupiat Heritage and Language Center (NSB IHLC) and reviewed, along with data from Alaska Heritage Resource Survey and National Register of Historic Places.

GBP could encounter prehistoric, historic, or archaeological sites and resources during exploration activities. Resources (or suspected resources) that are discovered during Winx #1 activities are not to be disturbed under any circumstance. All field-based response workers are required to adhere to historic resource protection policies which reinforce that it is unlawful to collect or disturb, remove, or destroy any historic property or suspected historic property, and to immediately report any historic property that they see or encounter. Appropriate training will be provided to all field personnel as part of required Winx #1 orientation. If archaeological sites are discovered during Winx #1 activities, the following steps will be taken:1) Winx #1 personnel discovering historical or archaeological (or suspected) resources during operations will not

disturb materials in place at the site of discovery and mark the area with flagging tape; 2) Winx #1 personnel will stop all activities and inform their job supervisor to contact GBP's onsite representative; 3) GBP will then report these properties to SHPO and NSB ILHC for identification and assessment, and 4) GBP will use identification and assessment consultations to guide further planned activities in the site area.

Alaska Statute AS 41.35.200 addresses unlawful acts concerning cultural and historical resources. North Slope Borough Municipal Code (NSBMC) 19.50.030(F) and 19.70.050(F) address exploration impacts and response to historic, prehistoric, or archaeological resources and traditional activities. These provisions give the NSB authority to protect cultural and historic resources and current subsistence uses of these sites.

A cultural resources survey and inventory was conducted in the project area to identify any prehistoric, historic, or archaeological sites, and no sites were identified within 0.4 miles of the TWR alignment, staging ice pad, or drillsite ice pad locations. Given the seasonal nature of Winx #1 activities, sufficient tundra frost and snow cover, in addition to activity buffers, will help provide adequate protection for cultural, historic, and archaeological resources.

V. CONSIDERATION OF LEASE PLAN OF OPERATIONS REQUIREMENTS UNDER 11 AAC 83.158(c-d) and 11 AAC 83.160

A. Full Payment of Damages to the Surface Owner 11 AAC 83.158(c)

This project does not occur on non-State surface lands; therefore, this regulation does not apply.

B. Plan Sufficiency 11 AAC 83.158(d)

A proposed plan must include statements, maps, or drawings setting forth

(1) the sequence and schedule of operations;
(2) the projected use requirements directly associated with the proposed operations;
(3) plans for rehabilitation;
(4) a description of operating procedures to prevent or minimize adverse effects on natural resources and concurrent uses of the area (11 AAC 83.158(d)).

The information in section IV. Proposed Operations, above, and additional information contained in GBP's proposed Plan satisfy the requirements for a plan under 11 AAC 83.158(d) and thus provide the Division with sufficient information available at this time to determine the surface use requirements and impacts directly associated with the proposed operations.

C. Oil and Gas Lease Bond 11 AAC 83.160

The State owns all the surface land where the proposed Plan activities will be located. The State owns all the mineral estate the Plan proposes to explore. For the State, a lessee provides for payment of damages by posting a bond, and remains liable for full damages under the lease. GBP has a Statewide Oil and Gas Bond in the amount of $500,000 and continuing liability under the lease.

VII. CONSULTATION WITH OTHER GOVERNMENT ENTITIES

In reviewing the proposed Plan, the Division considered the fact that GBP may require approvals from Agencies for other elements of its project. Although mentioned in the Plan and above,

these aspects of the project are not operations being approved by this decision and the Division offers no opinion on whether an agency should or should not approve these activities.

In addition to considering the approvals required by Agencies as they relate to this decision, the Division provided an Agency review and comment opportunity for the activities proposed for authorization under this decision. The following government entities were notified on 9/27/2018 for comment on the Plan: USACE, NSB, ADEC, ADF&G, DNR. The comment deadline was 4:30 pm Alaska time on 10/12/2018 No Agency comments were received. The Plan was then publicly noticed.

VIII. PUBLIC NOTICE

Public notice of the Plan and opportunity to comment, per AS 38.05.035(e)(1)(c)(ii), was published in the Alaska Dispatch News on 10/17/2018 and Arctic Sounder on 10/25/2018 with a deadline for comments of 11/16/2018 at 4:30 pm Alaska time. Additionally, a copy of the notice was posted on DNR's web site and faxed to the Deadhorse, Nuiqsut, and Utqiagvik post offices for display. No comments were received.

IX. CONDITIONS OF APPROVAL

Having considered the proposed project, the Division approves the Plan as amended and modified by this decision and subject to the below conditions of approval and project specific stipulations:

To protect the State's interest, the Division finds that it is necessary to amend the Plan to incorporate the following Conditions of Approval:

a) The applicant shall defend, indemnify and hold the State of Alaska harmless from and against any and all claims, damages, suits, losses, liabilities and expenses for injury to or death of persons and damage to or loss of property arising out of or in connection with the entry on and use of State lands authorized under this approval by the applicant, its contractors, subcontractors and their employees.
b) The applicant shall inform and ensure compliance with any and all conditions of this approval by its employees, agents and contractors, including subcontractors at any level.
c) Unless pre-authorized by a general permit, amendments and modifications to this approval require advance notice and must be approved in writing by the DNR.
d) The Commissioner of the DNR may require that an authorized representative be on-site during any operations conducted under this approval. This stipulation is required to ensure that the Divisions of Oil and Gas and Mining, Land and Water meet their statutory responsibilities for monitoring activities taking place on State-owned lands.
e) A status report for the activities conducted under this approval must be filed with this office on May 1 and November 1 each year, from the date this approval is issued and until a final completion report is filed with the Division. If a lessee requests an assignment, a status report must also be submitted during the assignment process. Failure to file in a timely manner may result in revocation of this approval.
    1. Each status report shall include a statement describing and map(s) depicting all operations actually conducted on the leased area as of the date the report is prepared, which includes the location, design and completion status of well sites,

material sites, water supplies, solid waste sites, buildings, roads, utilities, airstrips, and all other facilities and equipment installed.

2. Upon completion of operations, the applicant will submit a completion report which will include all information required of a status report described in (a) above as well as a statement indicating the date of operations completion, any noncompliance with the terms of this plan approval of which a reasonable lessee would have knowledge of, clean-up activities conducted, the method of debris disposal, and a narrative description of known incidents of surface damage.

f) Notification. The applicant shall notify the DEC of all spills that must be reported under 18 AAC 75.300 in accordance with statutory timeframes. All fires and explosions must be reported immediately. The DEC 24-hour spill report number is (907) 451-2121; the fax number is (907) 451-2362. DNR and DEC shall be supplied with all follow-up incident reports.

g) A certified As-Built survey of the activity shall be provided within one year of placement of the improvement. This As-Built must contain a hard copy, as well as a digital GIS file containing a Shapefile or Esri Feature Class.

To protect the State's interest, the Division finds that it is necessary to amend the Plan to incorporate the following Project Specific Stipulations:

1. Geophysical Data Submission Requirements: The Applicant will notify the Division Director of the availability of processed seismic exploration data within 30 days of completion of initial processing and submit seismic exploration data. The Geophysical Data Submission Requirements can be found on the DNR Division's website under Permit Applications.

2. Geophysical Activity Completion Report Form: The Applicant must complete and return a Geophysical Activity Completion Report form for each VSP acquired. A non-confidential public completion report will be placed into the Plan file each time a VSP is completed. Geophysical Activity Completion reports must be submitted to the Division's Resource Evaluation Section within 30 days of completion of all activities. For in-depth instructions on how to complete the form, please refer to the Division's website. If no activities are completed under the Plan, then a Geophysical Activity Completion Report form must be submitted on or before June 14, 2019; be sure to check box 27 to indicate no survey was completed.

3. Geophysical Processing Completion Report Form: A confidential Processing Completion report will be submitted each time a VSP is completed. The Processing Completion reports must be submitted to the Division's Resource Evaluation Section within 30 days of completion of initial processing. For in-depth instructions on how to complete the form please refer to the Division's website.

X. FINDINGS AND DECISION

Having considered the proposed project and based on the foregoing discussion and consideration of issues and conditions of approval, the Division makes the following findings:

1. The Plan provides sufficient information, based on reasonably available data, for the Division to determine the surface use requirements and impacts directly associated with the proposed operations.
2. The Plan includes statements, maps, or drawings setting forth the sequence and schedule of operations, projected use requirements, description of operating procedures, and a plan of rehabilitation designed to prevent or minimize adverse effects.
3. To protect the State's interest and mitigate potential adverse social and environmental effects associated with the Plan, the Division finds it necessary to amend the Plan to incorporate the mitigation measures set forth in the North Slope Areawide Oil and Gas Lease Sale Final Finding.
4. All oil and gas activities conducted under oil and gas leases are subject to numerous local, state and federal laws are regulations with which GPB is expected to comply.
5. The people of Alaska have an interest in developing the state's oil and gas resources and maximizing the economic and physical recovery of those resources. AS 38.05.180(a).
6. Alaska's economy depends heavily on revenues related to oil and gas production and government spending resulting from those revenues. The related revenue sources include bonus payments, rentals, royalties, production taxes, income taxes, and oil and gas property taxes.
7. The potential benefits of approving this Plan outweigh the possible adverse effects, which have been minimized through imposition of mitigation measures, conditions of approval, and project specific stipulations, and thus approval of this Plan as modified is in the State's best interest.

Based upon the Plan, supporting information provided by the applicant and the Division's review, determination of applicable statutes and regulations, consultation with other agencies, relevant entities and individuals, public comment, and the above findings related to that Plan, the Division hereby approves the Plan as modified.

Sincerely,

Graham Smith
Permitting Section Manager
Division of Oil and Gas

12/13/2018
Date

Appeal

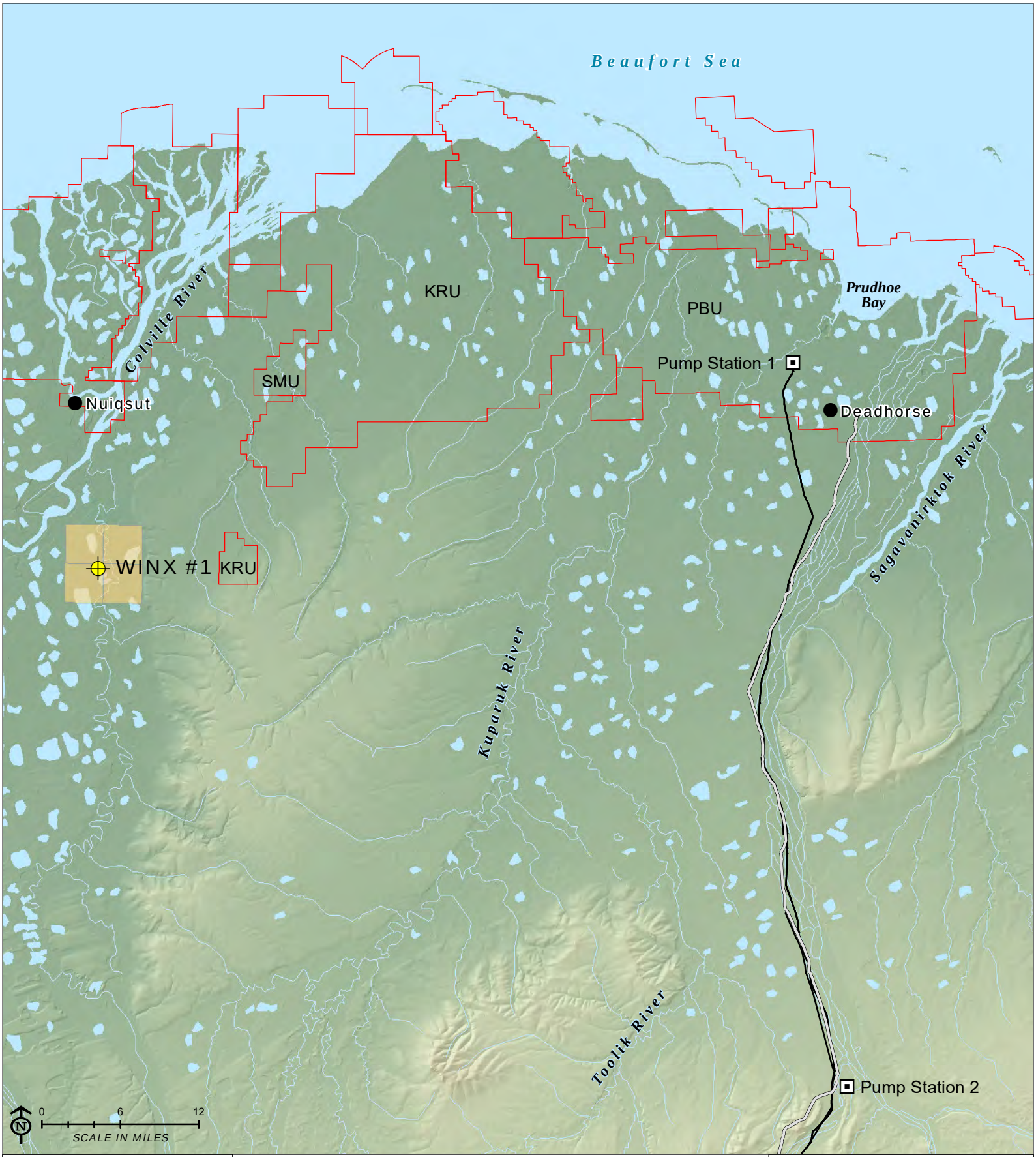
An eligible person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of issuance of this decision, as defined in 11 AAC 02.040(c) and (d), and may be mailed or delivered to the Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918; or sent by electronic mail to dnr.appeals@alaska.gov. This decision takes effect immediately. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

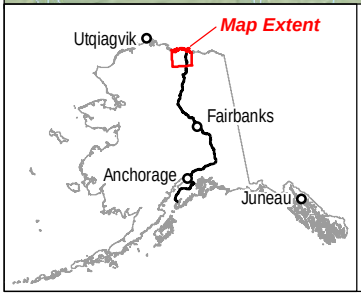
Attachments:

Figures: 1-3, 3A, 3B, 7

ecc: DOG: Graham Smith, Nathaniel Emery, Paul Blanche, James Hyun, SPCO Records, Katie Farley, Christopher Grundman, Jodi Delgado-Plikat, Donna Speer
DMLW: Jeanne Proulx, Melissa Head, Kimberley Maher, Becky Baird, Clif Enochs, Henry Brooks
ADF&G: Jack Winters
ADEC: Laurie Silfven, DEC Oil&Gas
NSB: Matt Dunn, Jason Bergerson, Josie Kaleak
Other: USACE

December 14, 2018





LEGEND

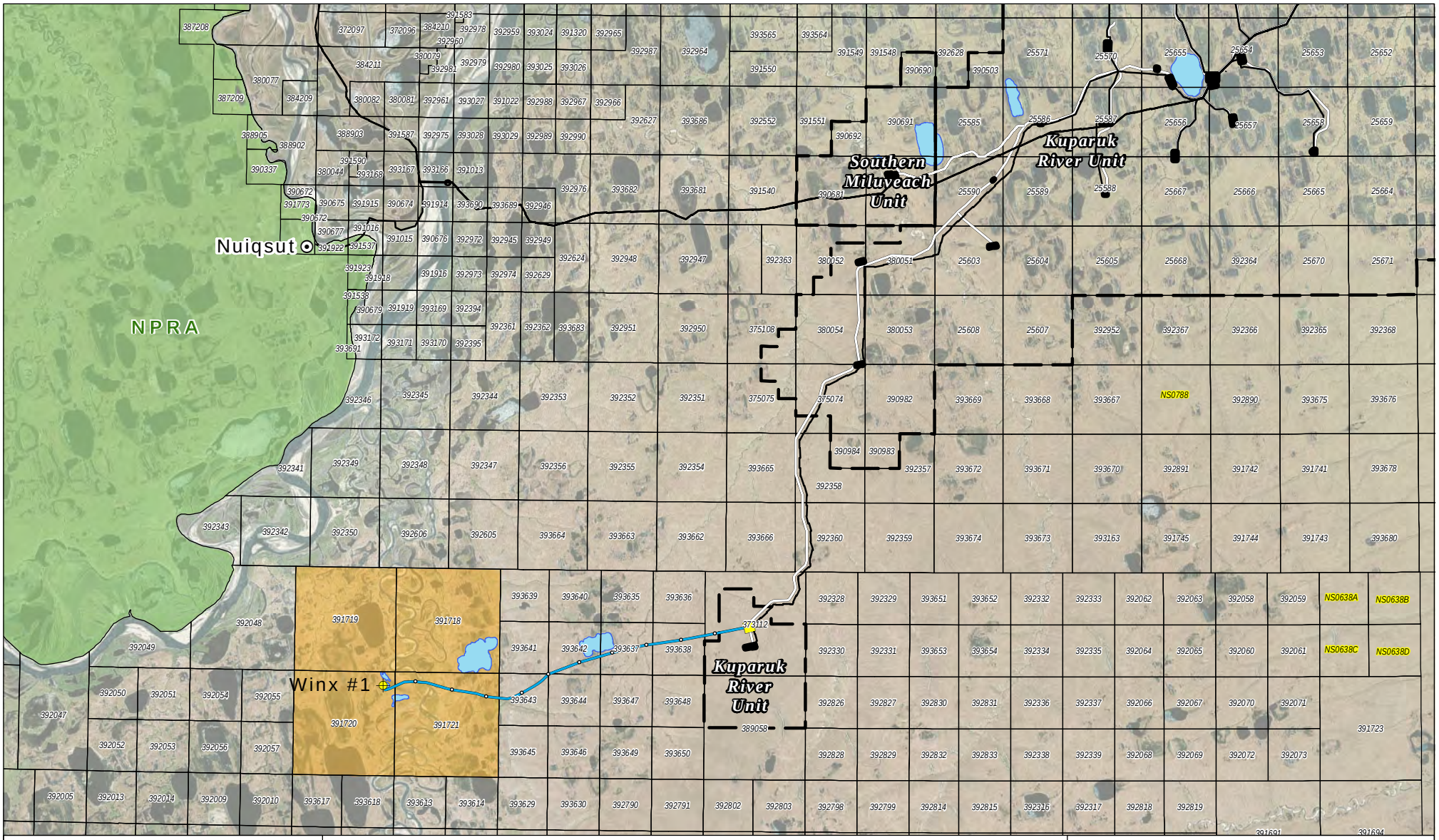
- WINX #1
- Villages and Service Areas
- TAPS Pump Stations
- Dalton Highway
- Trans-Alaska Pipeline System
- Oil & Gas Unit Boundary
- GBP Project Leases

Great Bear PETROLEUM

GREAT BEAR PETROLEUM
EXPLORATION PROGRAM – WINX #1

Project Vicinity Map

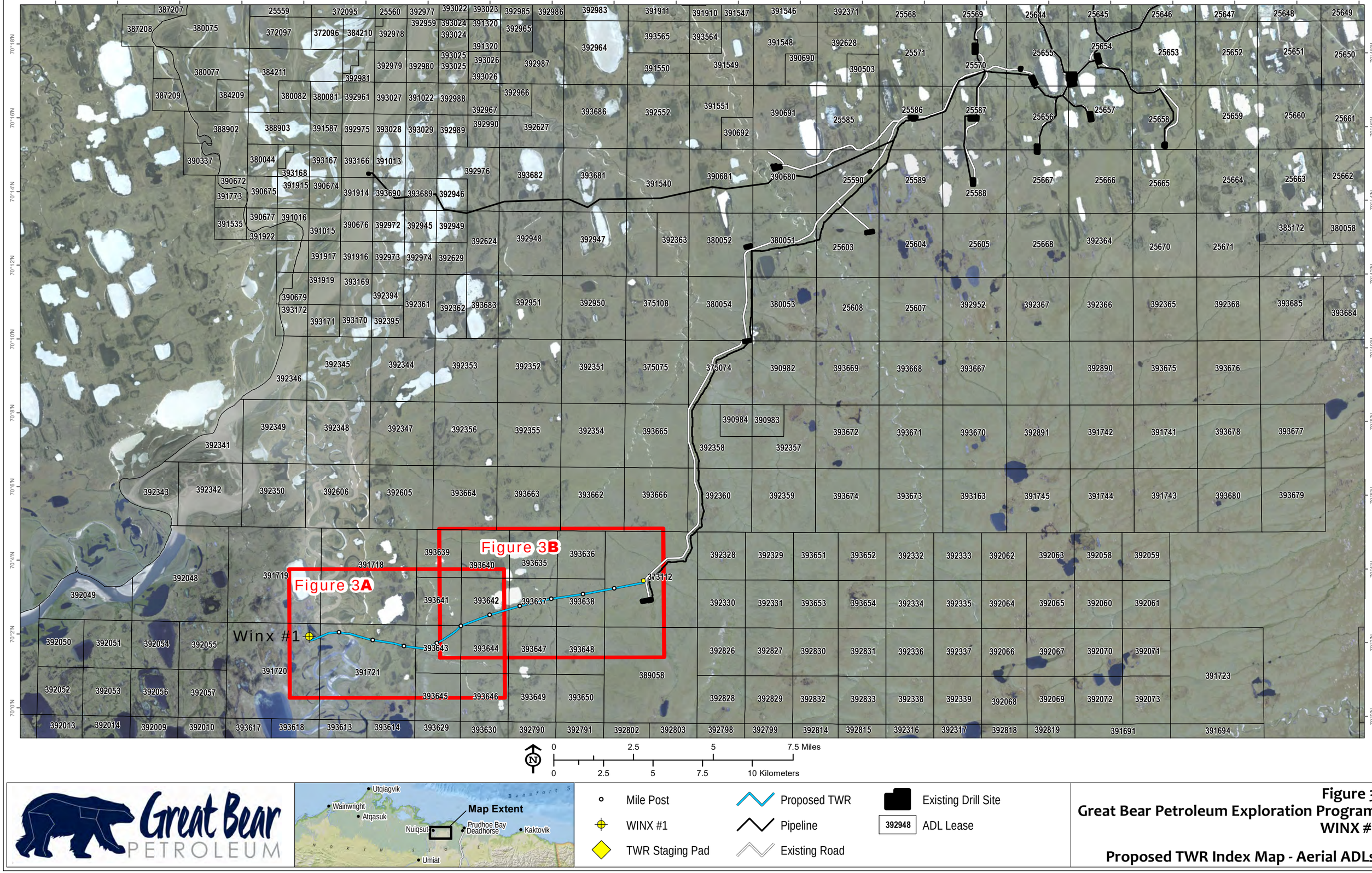
Figure 1



GREAT BEAR PETROLEUM EXPLORATION PROGRAM - WINX #1

Project Overview Map

Figure 2



Great Bear PETROLEUM

Figure 3
Great Bear Petroleum Exploration Program
WINX #1

Proposed TWR Index Map - Aerial ADLs

150°55'W 150°50'W 150°45'W 150°40'W

70°4'N 70°2'N

391719 391718 393639 393640 393641 393642 393643 393644 391720 391721 393645 393646

GBP001 GBP002 GBP003 GBP004 L9006

Winx #1

WINX Thermistor Stn. 3

WINX Thermistor Stn. 2

Itkillik River Crossing

MP5 MP6 MP7 MP8 MP9 MP10

Itkillik River

0 0.5 1 1.5 Miles

0 0.5 1 1.5 2 Kilometers

Great Bear PETROLEUM

389058 ADL Lease

Proposed Water Source

Water Source Snow Access Road

Proposed Stream Crossing

Thermistors

WINX #1

Proposed TWR

Figure 3A
Great Bear Petroleum Exploration Program
WINX #1
Proposed TWR with Water Sources and Stream Crossings - Aerial ADLs

150°40'W 150°35'W 150°30'W 150°25'W

70°4'N

70°2'N

393664 393663 393662 393666 392360

393639 393640 393635 393636

373112

MP1

MP2

Stream Crossing

MP3

393642 L9006

393641

WINX Thermistor Stn. 1

393638

Drillsite 2P

MP4

393637

MP5

MP6

393643 393644 393647 393648 389058

0 0.5 1 1.5 Miles

0 0.5 1 1.5 2 Kilometers

Great Bear PETROLEUM

389058 ADL Lease

Proposed Water Source

Water Source Snow Access Road

Proposed Stream Crossing

Thermistors

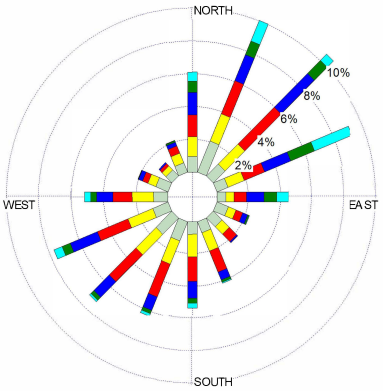
TWR Staging Pad

Existing Road

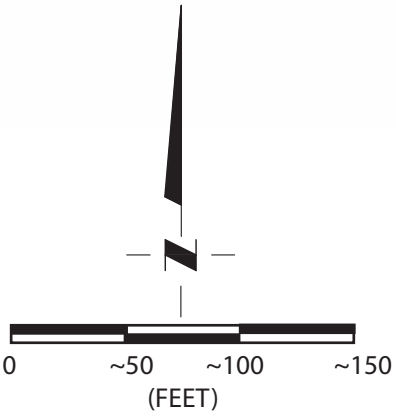
Proposed TWR

Pipeline

Figure 3B
Great Bear Petroleum Exploration Program
WINX #1
Proposed TWR with Water Sources and Stream Crossings - Aerial ADLs



Wind Speed and Direction
(Betty Pingo Met Station)



Legend

- Processing & Storage Area
- Equipment Maintenance Area
- Waste Treatment & Storage
- Staging, Parking and Lay Down Areas w/ Potential for Spills
- Lined SCA

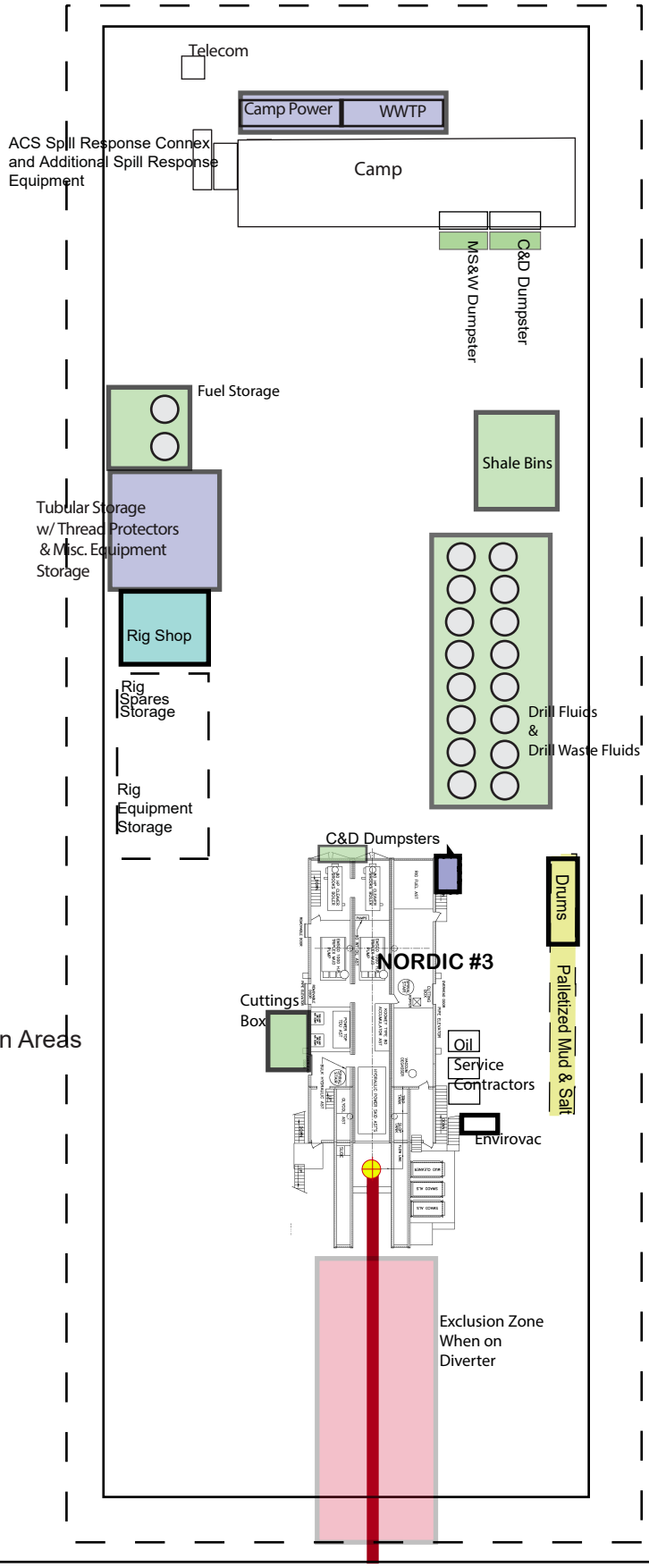


Figure 7
Great Bear Petroleum Exploration Program
WINX #1
Proposed Pad Layout