



January 15, 2016

Ms. Julie Lina  
Senior Regulatory Coordinator  
Caelus Energy Alaska Smith Bay, LLC  
3700 Centerpoint Drive, Suite 500  
Anchorage, AK 99503

**RE: LONS 15-007, CEASB, Tulimaniq CT-2, Lease Plan of Operations Decision  
Exploration Phase**

Dear Ms. Lina:

#### I. INTRODUCTION

On September 25, 2015 Caelus Energy Alaska Smith Bay, LLC (Applicant) submitted a request to the Division of Oil and Gas (Division) for approval of a Lease Plan of Operations (Plan) to carry out the Tulimaniq CT-2 exploration drilling program. The CT-2 exploration well is approximately 59 miles southeast of Barrow, Alaska. Approval of this Plan, along with approvals from other state and federal agencies (Agencies), is necessary for CEASB to carry out exploration drilling. 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 an opportunity to comment as well as Division approval is required. CEASB proposed operations would begin the Exploration phase for the subject project of this review.

#### 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)).

Caelus Energy Alaska Smith Bay, LLC (CEASB) proposes to drill the CT-2 oil and gas (O&G) exploration well during the winter of 2015-2016. The CT-1 exploration well was previously approved under LONS 13-006. The CT-2 exploratory well site is located in southern Smith Bay

near the Ikpikpuk River Delta on a State of Alaska oil and gas lease. Mobilization of equipment and materials occurred by barge during the open water season and will continue by snow road on both federal and state lands during winter. Barged items include all equipment and materials required to commence drilling. These spud-critical materials and equipment are staged at the existing gravel facilities at Point Lonely prior to mobilization by snow road from Point Lonely to CEASB's ice pad area near Lake M0654, south of Smith Bay. Winter mobilization of materials and equipment not initially transported by marine barge will be via an overland snow road beginning at an ice pad near Kuparuk River Unit (KRU) DS-2P.

The Plan requires the following authorizations from other Agencies:

Agency	Permit Type
AOGCC	Permit to Drill
AOGCC	Blowout Contingency Plan
AOGCC	Sundry Approval
AOGCC	Annular Disposal
AOGCC	Shallow Hazards Analysis
ADEC	Air Quality Minor General Permit 1
ADEC	Oil Discharge Prevention and Contingency Plan (ODPCP)
ADEC	Temporary Storage of Drilling Waste
ADEC	Alaska Pollutant Discharge Elimination System
ADFG	Public Safety Permit
ADFG	Title 16 Permit Fish Habitat Protection
DMLW	Land Use Permit (tundra travel, ice road construction)
DMLW	Temporary Water Use Permit
EPA	Spill Prevention, Control, and Countermeasure
NSB	Land Management Regulations Development & Administrative Permits
NSB	Certificate of Traditional Land Use Clearance
SHPO	Section 106
FAA	Temporary Airstrip
Alaska Clean Seas	Membership for spill response
BSEE	ODPCP Review
NOAA/NMFS	Informal Consultation
USFWS	Letter of Authorization for incidental/intentional take of polar bears
BLM/USFWS	Bear and Pacific Walrus Avoidance & Human Interaction Plan
BLM	Right of Way (ROW)/Environmental Assessment (EA)
BLM	Invasive Plant Species Management Strategy
BLM	Comprehensive Waste Management Plan
BLM	Hazardous Materials Emergency Contingency Plan
BLM	Wildlife Interaction Plan
BLM	Orientation
BLM	Aircraft Safety Plans

### III. LAND STATUS

The drilling site is located on 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: 392277

Oil and Gas Mineral Estate Lessee(s): CEASB (75%), NordAq Energy Inc. (10%), L71 Resource, LLC (10%), and Doyon, Limited (5%)

Surface Ownership and Access Agreement: State of Alaska

Special Use Lands: ADL 050666 – Division of Mining Land and Water

Jointly Managed Lands: N/A

Other Considerations: N/A

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
CT-2 Drill Site and Ice Road (ADL 392277)	Umiat, T17N, R10W, S04	70.859914, -154.517031 (NAD 27)
Lake M0654 Ice Pad (BLM)	Umiat, T16N, R9W, S09	70.755721, -154.211710 (NAD 27)
DS-2P Ice Pad (KRU)	Umiat, T8N, R7E, S08	70.056896, -150.451538 (NAD 27)

### 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

The table below displays CEASB's proposed schedule for the 2015-2016 drilling season. All dates are approximate and may be altered by weather or logistic requirements. The dates will also change because some of them precede this decision. The schedule nonetheless provides the Division with an overall idea of the sequence and schedule of events. The Division reviewed this schedule with the expectation that dates early in the sequence would move back, but that later dates for finishing drilling, demobilization, and clean up would remain the same.

Project Milestone #	Project Milestone	Proposed Start Date	Proposed End Date
1	Site Thermistor Installation	8/25/2015	8/28/2015
2	Begin Prepacking	10/1/2015	12/15/2015
3	Equipment and Staging Pad Preparation	12/1/2015	12/11/2015
4	Assume Tundra Travel Opens	12/15/2015	5/1/2016
5	CT-2 Drill site Construction	1/20/2016	2/18/2016

6	Begin CT-2 Drilling and Well Testing	3/7/2016	3/28/2016
7	Demobilization and Site Clean Up (Overland)	3/29/2016	5/11/2016
8	Summer Activities	8/1/2016	8/6/2016

#### B. Well Sites

The drill site is in approximately 4 ft. to 6 ft. of water near the mouth of the Ikpikpuk River. The drill site will be circular with a maximum 500 ft. diameter. The conceptual layout of the drill site is presented in Figure 3 of Appendix A. Bathymetry data for Smith Bay is presented in Figure 8 of Appendix A. This is a largely stratigraphic well that will include the collection of cores, vertical seismic profile (VSP) and well testing. The wellbore design will be typical of other North Slope exploration wells. The well drilling permit application is subject to AOGCC approval. VSP geophysical surveys will be performed on a contingency basis governed by well evaluation results. The VSP project would be conducted over an 18 to 24 hour period using vibroseis.

#### C. Buildings

A camp supporting approximately 40 personnel will be used at the DS-2P staging ice pad. This camp will use a store-and-haul wastewater system and will not have any discharges. An approximately 150-person shore camp near Lake M0654 will be used for ice pad, airstrip, and infield ice road construction, during drilling, and demobilization activities. The camp will be increased to accommodate approximately 213 workers during the drilling season. This camp will treat lake water for potable use and will have a wastewater treatment system with discharge of treated water to tundra surface away from the lake.

#### D. Fuel and Hazardous Substances

The four main fuel storage areas are Point Lonely, drill site, Lake M0654 area, and DS-2P ice pad. Up to 147,000 gallons of fuel, in differing tank volume sizes will be stored at Point Lonely to support operations. The drilling rig will have a main tank of 6,500 gallons of diesel and approximately 10,000 gallons of other fuels in various tank volume sizes. The drilling ice pad tank farm will include approximately 19,800 gallons of diesel. An additional volume, up to 118,500 gallons, will be staged with a minimum offset of 500 ft. from the Lake M0654 shoreline. There will be up to 23,340 gallons of fuel in differing tank volume sizes stored at the DS-2P ice pad to support snow road transportation and logistics. There will also be an emergency shelter and 2,400 gallon diesel fuel tank to fuel equipment along the DS-2P snow road. Secondary containment of bermed and impermeable membrane-lined fuel storage areas will be used for all fuel storage. The fuel storage containment is designed for Arctic conditions and will be capable of holding a minimum 110 percent of the largest fuel storage container. Containment discharge practices are outlined in the Tulimaniq Spill Prevention Control and Countermeasures (SPCC) plan. Fuel will be transferred daily from the Lake M0654 area tank farm using conventional fuel tanker trucks to the drill site. Fuel resupply to this tank farm will be via aircraft to the Lake M0654 airstrip and then transferred to the tank farm. Fuel stored will include unleaded gasoline and ultra-low sulfur diesel. There will also be various drilling fluids, mud products, lube oil, chemicals, and cement stored at the ice pads that will be managed in accordance with a

## Hazardous Materials Emergency & Contingency Plan, SPCC plans, and a Waste Management Plan.

### E. Solid Waste Sites

Water-based drilling fluids will be used through all phases of well construction. Resource Conservation and Recovery Act (RCRA)-exempt Underground Injection Control (UIC) Class II fluids will require temporary on-site storage and disposal. Drilling fluids will be injected or transported to a Prudhoe Bay disposal facility. The cuttings will be placed in a cuttings bin in a temporary storage cell with secondary containment consisting of ice berms and/or impermeable liner and transported to Prudhoe Bay for disposal at a permitted grind and inject facility.

Well testing is planned for the CT-2 well. The well testing inventory will include sufficient tankage to collect and store produced fluids over the testing period. All prescribed tankage will be positioned in secondary containment at the drill site. At the conclusion of the well test period the collected/stored produced fluid will be disposed of back into the produced zone. Approval of the injection process will be required from AOGCC.

Non-Drilling Waste- Waste management will be based on waste minimization and disposal and will comply with federal, state, and local regulations to prevent attracting wildlife. All solid waste will be temporarily stored at each site pending shipment from the area. Nonputrescible waste will be stored at the drill site and will be transported overland to an approved disposal facility. Food and other putrescible waste will be stored in enclosed wildlife-resistant containers and managed in accordance with the required visual screening and protocols. The shore camp wastewater will be processed through its own system and discharged in accordance with the North Slope General Permit No. AKG-57-2000. Wastewater generated by the camps would be approximately 50 gallons per day (gal/D) per person. Remnant sludge, seepage, grit, or grindings from the treatment system will be transported to an approved disposal facility.

### F. Water Supplies

Fresh water is needed for the ice pads, drill site and airstrip construction/maintenance, drilling operations, and camp use. Freshwater, seawater, and ice chips will be extracted from permitted water sources. Ice chips removed from grounded portions of any permitted lake or Smith Bay will be included in the reported total withdrawal volume. Snow will be removed from portions of lakes approved for water withdrawal ice chip harvest, or both. Snow removal will provide access for water trucks and ice chippers, installation of temporary pump houses, and truck turnaround areas. CEASB acknowledges that snow removal from non-grounded portions of fish-bearing lakes must be approved on an individual basis and will coordinate with ADFG as appropriate. The water will be pumped from lakes and transported by winter tundra approved vehicles. Light plants will be located on access roads and on frozen lakes at the pump houses for safety purposes. The light plants will be refueled in compliance with federal and state regulations. Light plant fuel supply storage will have 110 percent containment. Water will be processed for human use via a permitted drinking water treatment system. Approximately 50 gal/D of potable water is used per day per person. The camps will require a season total of approximately 1.4 million gallons of potable water. A season total of approximately 2 million gallons of water will be required to support drilling operations. Water source locations and access routes are presented in Figures 9 and 10 (Appendix A). Water withdrawal from an offshore channel adjacent to the Ikpikuk Delta alluvial plain is planned using water from Smith Bay and Ikpikuk River

discharge. Ice chip withdrawal is planned from shorefast ice within a 2 mile radius of the CT-2 well. Figure 10 (Appendix A) indicates the areas within Smith Bay for which CEASB is currently permitted to withdraw water.

#### G. Utilities

Any main camp(s) will have phone service and internet. A dish antenna will be used to support communications. CEASB will be providing two-way radio communications during operations using both repeater(s) and simplex based channels. Operationally, CEASB will be coordinating between the various field support contractors and well service providers to make sure a complete radio communication plan is followed. Small communications towers will be placed at the ice pads, near Lake M0654 and drill site along with facilities at Point Lonely. All communications towers are temporary and will be removed at demobilization.

#### H. Material Sites

Not applicable.

#### I. Roads

Winter mobilization of materials and equipment not initially transported by marine barge will be via an overland snow road beginning at the ice pad near DS-2P Pad. Alternate near shore sea-ice and overland routes have been identified for contingency planning purposes, all originating at Oliktok Point. CEASB will determine its winter mobilization route based on environmental and weather conditions; however the terminus of all the winter season mobilization route options will be near Lake M0654. Approximately 166 miles of snow trail and ice road is required to connect existing infrastructure to the drill site, camps and storage areas, and provide access to water sources. Snow roads will be approximately 30 ft. wide and have a minimum of 6 inches of snow/ice cover over the tundra. In August 2015, CEASB surveyed the proposed routes by helicopter and installed five new thermistors and conducted maintenance on five thermistors previously deployed by NordAq in critical overland travel areas. The thermistors are designed to transmit data, including real-time soil temperature at depth, via satellite to a website that would be available to Agencies, landowners, and contractors. Thermistors provide information for determining tundra travel opening dates. The snow road will cross the Colville River at Ocean Point and then a number of unnamed tributaries. Most stream crossings will be located in areas sufficiently shallow to allow them to freeze naturally to the bottom in winter. Pre-packing of the snow roads and ice pad locations would occur with tundra travel vehicles. Freshwater, seawater, and ice chips will be extracted from permitted water sources to build the snow roads. See Figures 1, 2, and 4-8 (Appendix A).

#### J. Airstrips

A 5,000 ft. by 200 ft. ice airstrip will be constructed on Lake M0654 and connected by an ice road to the adjacent Lake M0654 ice pad. The ice airstrip will be used to transport materials and personnel crew changes. The ice airstrip is designed to accommodate 20-passenger aircraft and also freight aircraft. The airstrip will have appropriate lighting and control systems.

#### K. All Other Facilities and Equipment

See Appendix C for equipment list.

#### L. Rehabilitation Plan

### Proposed Level of Infrastructure, Facilities and Equipment Removal:

All debris will be hauled to an approved disposal site upon completion of drilling and testing of CT-2. The ice pads will be scraped to remove any residual waste and will be hauled to an ice melter, or an approved disposal facility. Any releases of fuels or chemicals on ice pads and snow/ice routes will be cleaned up prior to breakup to prevent impacts to underlying tundra when the ice pads and snow route/ice roads melt. The well will be plugged and abandoned prior to the end of the winter drilling season in accordance with AOGCC regulations. The ice drill site will be slotted for faster and more uniform dissolution. During summer, CEASB will conduct a visual inspection of the snow/ice routes and former ice pads and pick up any remaining trash and other debris. River and stream crossings will be inspected to confirm that streambanks and streambeds were not negatively impacted by the trail crossings.

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

Any incidents of damage to tundra and follow-up corrective actions will be reported to the Division, DMLW, and the NSB in accordance with permit requirements. CEASB environmental representatives would inspect any tundra impact areas during the summer months to further assess the potential damage. If necessary, a damage mitigation plan would be developed at that time.

### M. Operating Procedures Designed to Minimize Adverse Effects

#### Fish and Wildlife Habitats:

Wildlife Interaction Plan- CEASB prepared a Wildlife Interaction Plan. The procedures contained in the plan will apply whether a polar or grizzly/brown bear is encountered. The camps and drill site designs and CEASB policies to prevent bear encounters include storing food inside buildings or containers to minimize odors. Feeding or attracting wildlife is prohibited by CEASB policy.

Hazardous materials will be kept in drums or other secure containers. Wildlife that may be in the project vicinity during winter exploration includes owls, ravens, arctic fox, musk ox, and a small number of over-wintering caribou. The project is located in waters less than 10 ft. deep and it is unlikely to encounter seals or seal lairs. It is likely that polar bears will be encountered in the drilling operations area. Grizzly/brown bears are unlikely to be active in the winter. CEASB and its contractors will be cautious and watch for evidence of bears. CEASB policy requires sightings to be reported immediately to the site superintendent. If a polar bear den site is identified U.S. Fish and Wildlife Service (USFWS) will be notified and activities will be altered to avoid disturbing the bear. Avoidance of active maternal denning locations is standard operating procedure during winter activities. Den selection by pregnant sows occurs during late November through mid-December. CEASB will coordinate with USFWS biologists to conduct forward looking infrared (FLIR) surveys in areas of proposed winter operations such as ice roads to identify potential den locations within a one-mile buffer. A FLIR camera capable of detecting heat dissipating from bears in dens will be used in aerial-based surveys this winter. Grizzly/brown bear sightings will be reported to the ADFG.

The ODPCP has been prepared for this project. The approved plan 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, receiving environments,

spill cleanup mobilization response times, and well control. Various contractors will maintain Spill Prevention Contingency & Countermeasures (SPCC) plans for drilling, fuel storage facilities, drilling operations and well testing tanks. The plan includes fuel storage facilities for camps. Other contractors needing to store fuel will have SPCC plans covering their specific fuel storage and transfer operations.

Other Plans: All employees working on the CT-2 exploration project will be required to receive training, which will include project area orientation, threatened and endangered species information, environmental, social, and cultural awareness, subsistence conflict avoidance, and pertinent mitigation that will be project specific. All personnel will be required to attend annual training. Training records will be maintained while the site is active. Project related North Slope employees and contractors are required to complete an 8-hour training provided by the North Slope Training Cooperative. A Field Environmental Handbook, Alaska Safety Handbook, and a North Slope Visitor's Guide are used in the training. The training includes classes on the Alaska Safety Handbook, personal protective equipment, camp and safety orientation, hazard communication, HAZWOPER Level 1, environmental awareness hydrogen sulfide awareness, hearing conservation, electrical safety, respiratory protection, energy isolation, confined space entry, asbestos awareness, fall protection/avoidance, toxic substance control, first aid/CPR, and use of an automated external defibrillator.

#### Historic and Archeological Sites:

Several archaeological studies were conducted to support winter activities. CEASB has reviewed the cultural resources field report and coordinated with the archaeologist, Dr. Rick Reanier, to verify that there are no sites in the vicinity of the proposed snow road routes, ice infrastructure, and water sources. Field verification occurred primarily by helicopter survey. To minimize potential impacts associated with helicopter activity, the cultural resources work was conducted immediately following completion of the thermistor installation activities.

#### Public Use Areas:

Public access to packed snow trails will be allowed with no control points planned. A safety exclusion zone will be identified using signs at and approaching the CT-2 drill site, warning the public of the work in progress.

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 Beaufort Sea Mitigation Measures. CEASB addressed these mitigation measures in the application process, but it is necessary to amend the Plan to make clear that the Plan incorporates the Beaufort Sea Mitigation Measures.

All plan applicants must complete a mitigation measure analysis demonstrating that each mitigation measure is satisfied or inapplicable to the proposed Plan, or that the applicant is seeking an exception. The Beaufort Sea 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. CEASB completed the mitigation measure analysis for the Beaufort Sea Areawide and seeks exceptions to the mitigation measures discussed below.

**Beaufort Sea Mitigation Measure: A.4.b:**

*Containers with a storage capacity larger than 55 gallons that contain fuel or hazardous substances shall not be stored within 100 ' of a water body, or within 1, 500 ' of a current surface drinking water source.*

CEASB provided the below request and explanation for the exception:

The ice drill sites for the drilling rig will be constructed on Smith Bay. Bermed and impermeable lined fuel storage areas will be used to temporarily store diesel fuel and drilling fluids. The diesel fuel storage containment is designed for arctic conditions.

The intent of this measure is to protect waterbodies and drinking water from contamination from a fuel or hazardous substance spill or leak. Due to the short length of the exploration drilling season, it is necessary for CEASB to place the ice island in this location in order to reach the intended drilling target. In addition, exploration programs are temporary in nature and conducted in the winter when most water bodies are frozen and/or protected by snow cover. Thus the risk to waterbodies and drinking water is reduced. The fuel storage containment that CEASB proposes is specifically designed for arctic conditions to minimize the risk of contamination to nearby water sources. These fuel storage containers provide added protection not otherwise required by the mitigation measure, which focuses on proximity to water sources rather than the form of storage to address risk of contamination. The Division finds that by proposing fuel storage designed for arctic conditions, CEASB has shown rationale that equally satisfies the intent of this mitigation measure. Therefore, the Division grants an exception to this mitigation measure to allow for CEASB's proposed alternative as set forth in the Plan. This exception does not apply to activities that CEASB may propose in future or amended Plans. Should CEASB see promising results from this exploration well and determine that development is feasible in this area, the location of any proposed permanent facilities would be re-evaluated at that time and sited accordingly to minimize future potential impacts of a long-term development site.

**Beaufort Sea Mitigation Measure: A.4.e:**

*Vehicle refueling shall 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.*

CEASB provided the below request and explanation for the exception:

Due to the location of the CT-2 operations, vehicle refueling is likely to occur within the annual floodplain. All refueling will be conducted in accordance with the SPCC Plan in order to mitigate the risk of spills and to provide adequate and rapid spill response if needed.

The intent of this measure is to protect the floodplain from fuel leaks or spills. Again, due to the short length of the exploration drilling season and location of the ice drilling island, it is expected that refueling will occur in the annual flood plain. Exploration programs are temporary in nature and conducted in the winter when most water bodies are frozen and/or protected by snow cover. The SPCC Plan provides protections against the risk of spills that otherwise would not apply under the mitigation measure. Though CEASB may refuel inside the floodplain, the SPCC Plan includes measures to avoid and minimize damage from spills from refueling.

The Division finds that CEASB has shown rationale that proposed activities in the Plan equally satisfy the intent of this mitigation measure. Therefore, the Division grants an exception to this mitigation measure to allow for the Applicant's alternative as set forth in the Plan. This exception does not apply to activities that the Applicant may propose in future or amended Plans.

#### N. Phased Evaluation

This Plan begins CEASB's exploration phase of the lease described herein. The Plan addresses exploration activities for drilling one well, but based on the results of this exploration, the Division anticipates that CEASB may submit additional Plans for additional exploration wells. Thus, in considering the exploration phase, the Division considered both the specific activities proposed under this Plan as well as typical additional exploration activities that CEASB might propose for further exploring the lease.

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 CEASB has designed to minimize adverse effects of the Plan activities. These operating procedures include complying with the mitigation measures attached to the leases. These measures come from the Beaufort Sea Areawide Best Interest Finding (BIF) to address potentially negative effects of oil and gas exploration on fish and wildlife species, habitats and their uses, on subsistence uses, and on local communities. CEASB has provided a mitigation measure analysis which is required as part of their Plan submittal.

#### i. Facilities impacts on the project area.

All proposed facilities are temporary in nature and include an ice island, ice runway, and the temporary placement of a staging camp, a shore camp, and the drilling camp. CEASB has designed, sited, and proposes to operate the exploration drilling facilities in accordance with the Beaufort Sea mitigation measures and fish habitat permits issued from ADFG. Beaufort Sea mitigation measure A.l.c requires that, to the extent practicable, the siting of facilities other than docks, roads, utility, and pipeline crossings be prohibited within 500 ft. of all fish-bearing streams and water bodies, and 1,500 ft. from all current surface drinking water sources. The Plan proposes that the shore camp staging pad be sited near Lake M0654 which is not fish-bearing. All activities are proposed to take place during the winter and are intended to avoid and minimize impacts to wetlands. Winter off-road travel will be conducted in accordance with DNR and BLM guidelines (when on federal land) to further avoid and minimize impacts to wetlands.

No placement of gravel is proposed for the CT-2 exploration program. Barging and frozen overland and oversea ice trails will be used to transport supplies and equipment to the project area. Existing permanent gravel roads and frozen trails will be used to the maximum extent possible but no new gravel roads or pads will be constructed. Frozen trail access west of the Colville River are on BLM lands and are authorized through

BLM. The frozen trails will be packed and maintained using the generally accepted practices for the North Slope, subject to BLM and DNR tundra opening criteria. Pre-packing of the trail will be requested prior to the official tundra opening to preserve early snow. Overland travel to the drill site will be via approved LPVs from staging areas.

Demobilization of the facilities is expected to occur in May 2016 in accordance with Beaufort Sea mitigation measure A.1.a. All temporary facilities and waste will be removed, all ice pads will be scraped to remove residual waste, and the well will be plugged and abandoned per AOGCC regulations. Packed snow roads and ice pads will be allowed to degrade naturally through thawing.

For a lease of this size, CEASB could end up drilling additional exploratory wells. The Division anticipates that plans for additional wells would involve facilities, access, and operations similar in nature and scope to this Plan. As is typical of exploration, facilities and access roads would all be temporary. CEASB would need to continue to comply with mitigation measures regarding the siting of facilities or provide the necessary request for a mitigation measure exception.

ii. Fuel and hazardous substances potential impacts on the project area

The exploratory drilling proposed under the Plan, as well as other exploratory drilling CEASB might propose during the exploration phase, will result in drilling muds, cuttings, and produced water and pose some risk of a spill. Discharges of drilling muds, cuttings, and produced waters; oil spills; and accidental spills of fuel, lubricants, or chemicals can all have impacts to water, wildlife, and habitats during this exploration program. Impacts from exploration activities from either disposal activities or a spill could adversely affect water quality, but impacts are expected to be local and temporary because of dilution, settling, and other natural altering and regenerative processes.

Drilling Muds and Produced Water

Byproducts of drilling activities include muds and cuttings, produced water, and associated wastes. Produced water contains naturally occurring substances such as clay, sand, oil, water, and gas. Most drilling wastes are disposed of under ADEC's solid waste disposal program. Reinjection is the preferred method for disposal of drilling fluid. Disposal of drilling muds and cuttings requires permit approval. Most oil field wastes are considered non-hazardous and waste fluids are recycled, filtered, and treated before reinjection or disposal. Cuttings and waste fluids must be made non-hazardous before injection. Produced water 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. Cuttings disposal is done through on-site injection, or cuttings are transported to an approved disposal site. Wastewater, including sanitary and domestic graywater, is also treated to meet effluent guidelines before discharge.

During exploration drilling, muds and cutting are stored on-site, in holding tanks, or in a temporary reserve pit and then hauled to an approved solid waste disposal site or re-injected into the subsurface at an approved injection well. All production muds and cuttings on the North Slope are re-injected into a Class II injection well. All produced

waters are re-injected either into the producing formation or into an injection well. The ADEC oversees proper and safe handling and disposal of drilling wastes and AOGCC oversees the underground operation of the Alaska oil industry on private and public lands and waters. The AOGCC administers the UIC Program for oil and gas wells, acts to prevent waste of oil and gas resources and ensure maximum recovery, and protects subsurface property rights. All disposal wells inject fluids deep beneath any drinking water aquifers. Beaufort Sea mitigation measure A.4.j states that the preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection.

The CEASB Plan states that water-based drilling fluids will be used through all phases of well construction. Approximately 5,500 gal/D of non-hazardous UIC Class II fluids will require temporary on-site storage and disposal. Drilling fluids will be injected via annular disposal or transported to a Prudhoe Bay disposal facility. The cuttings will be placed in cuttings bins in a temporary storage cell with secondary containment consisting of ice berms and/or impermeable liner, and transported to Prudhoe Bay for disposal at a permitted grind and inject facility. The Division anticipates that any additional Plans for exploratory wells will propose similar disposal.

#### Accidental Spills

Impacts resulting from accidental spills would depend on the type of product, the location, volume, season, and duration of the spill or leak, and the effectiveness of the cleanup response. Heavy equipment such as trucks, tracked vehicles, aircraft, and tank trucks commonly use diesel fuel, gasoline, jet fuel, motor oil, hydraulic fluid, antifreeze, and other lubricants. Spills or leaks could result from accidents, during refueling, or from corrosion of lines. Under standard DNR DMLW permit conditions for off-road activity, fuel and hazardous substances must have secondary containment. A secondary containment or surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, which CEASB will provide. Appropriate spill response equipment must be on hand during any transfer or handling of fuel or hazardous substances.

#### Oil Spills

The effects of an oil spill during the winter are limited. There are no production activities, permanent facilities, or pipelines proposed. CEASB has proposed temporary activities during winter months, and the Division anticipates future exploratory drilling would also take place during the winter when the risk from spills is lower.

Mitigation measures include siting facilities away from fish-bearing streams and lakes, development of oil spill contingency plans, and providing adequate spill response training. Each of these measures has been met by CEASB.

Beaufort Sea mitigation measures require that sites be protected from leaking or dripping fuel and hazardous substances; secondary containment be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends during fuel or hazardous substance transfers; vehicles cannot be refueled within the annual floodplain; containers must be marked with the contents and lessee/contractor name; waste from operations be reduced, reused, or recycled to the maximum extent practicable; muds and

cuttings should be disposed of by underground injection, where practicable; and that proper disposal of garbage and putrescible waste be utilized.

The CEASB Plan states that secondary containment of bermed and impermeable membrane-lined fuel storage areas will be used for all fuel storage. The containment is designed for arctic conditions and is capable of holding a minimum 110% of the maximum capacity of fuel storage. Fuel transfers will be conducted by trained personnel in accordance with an approved SPCC plan. Duck ponds will be used where appropriate, and spill response equipment will be on hand at all points where fuel is to be transferred. Waste management is based on waste minimization and disposal and will comply with Federal, State, and local regulations to prevent attracting wildlife. All solid waste will be temporarily stored at each site pending shipment from the area. Non-putrescible waste will be deposited in "super sacks" at the drill site and will be transported overland to an approved disposal facility. Food and other putrescible waste will be stored in enclosed wildlife-proof containers and managed in accordance with the required visual screening and protocols. Camp wastewater will be processed through the camp wastewater treatment system and discharged in accordance with the North Slope General Permit No. AKG-57-2000. Remnant sludge, seepage, grit, or grindings from the treatment system will be transported to an approved disposal facility.

iii. Habitat, Fish, Wildlife and Subsistence

Any exploration activity can impact habitat, fish, and wildlife. The Beaufort Sea mitigation measures are designed to minimize these impacts. The Plan activities will take place over a limited time period and involve temporary roads and facilities, so the Division anticipates impacts to habitat, fish, and wildlife, to also be limited and temporary. The Division also anticipates that any future plans of operation for the exploration phase will involve similarly limited and temporary activities and impacts.

Teshkepuk Lake

Due to high concentrations of staging and molting brant and other waterbirds within the coastal habitats along the Teshkepuk Lake Special Area (TLSA) and other areas, Beaufort Sea mitigation measure A.2.f requires that operations that create high levels of disturbance, including but not limited to dredging, gravel washing, and boat and barge traffic along the coast, are prohibited from June 20 to September 15 within one-half mile of coastal salt marshes. CEASB's Plan completed barging outside the restricted timeframe.

Fish

Withdrawal of water from lakes and ponds could affect fish overwintering habitat by entraining juvenile fish, lowering water levels, and increasing disturbance. The construction of roads across rivers and streams may also affect the ability of fish to reach overwintering areas by blocking movement and causing direct loss of overwintering habitat. 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.

Beaufort Sea mitigation measure A.2.b requires that removal of water from fish-bearing rivers, streams, and natural lakes have prior written approval by DMLW and ADFG. Water intake pipes used to remove water from fish-bearing waterbodies must be surrounded by a screened enclosure to prevent fish entrainment and impingement, with screen mesh size no greater than 1 mm (0.04 inches), unless another size is approved by ADFG. The maximum water velocity at the surface of the screen enclosure may be no greater than 0.1 foot per second, unless an alternative has been approved by ADFG. In addition, Beaufort Sea mitigation measure A.2.c states that removal of snow from fish-bearing rivers, streams, and natural lakes require prior written approval from ADFG. Compaction of snow cover overlying fish-bearing water bodies is prohibited except for approved crossings. Ice or snow bridges may be required if ice thickness is not sufficient to facilitate a crossing. The permits were issued in January 2014, transferred to CEASB from NordAq in August 2015, and are valid through June 1, 2019. CEASB has received TWUAs from DNR DMLW. Before a permit to appropriate water is issued, DMLW considers local demand and may require applicants to conduct aquifer yield studies. Generally, water table declines associated with the upper unconfined aquifer can be best mitigated by industrial users tapping confined (lower) layers or searching for alternate water sources.

### Caribou

Exploration-related disturbance of caribou, particularly by helicopter traffic, is expected to have minor impacts on caribou, particularly large groups, with animals being briefly displaced from feeding and resting areas when aircraft pass nearby. Acute disturbance effects may in combination result in broader effects on habitat availability for individual caribou with fidelity to a calving area, but may have little or no effect on the Central Arctic herd population. It is expected these disturbances would be short term.

The Beaufort Sea Areawide BIF encourages lessees to maintain aircraft at an altitude greater than 1,500 ft. or a lateral distance of one mile, excluding takeoffs and landings, from caribou concentrations. Seasonal restrictions may be imposed on activities located in, or requiring travel through or overflight of, important caribou calving areas. CEASB's Wildlife Avoidance and Interaction Plan notes that a 5,000 ft. airstrip will be constructed approximately 1,200 ft. from the Tulimaniq ice island. Aircraft will avoid any hunting parties and will fly above 2,000 ft. except during landing approach and takeoff.

### Bears

In 2008, the USFWS listed the polar bear as a threatened species under the Endangered Species Act. Polar bears may be present in the upland and offshore areas year round. Potential impacts to polar bears from exploration activities such as those proposed in the Plan include disruption of denning, attraction to areas of activity, and adverse interaction with humans.

The temporary displacement of some polar bears from preferred habitats is anticipated as a result of routine exploration activities such as the proposed Plan activities and activities CEASB might propose throughout the exploration phase. Females in dens, both on sea ice and onshore are at risk for disturbance from any vehicular traffic or noise. Exploration

is likely to increase temporary displacement and disturbance. Other sources of disturbance include building ice roads, temporary ice islands as drilling platforms, helicopter flights to move crews and lightweight equipment, rollogons, snow machines, vibroseis equipment, and other motorized vehicles.

There are several regulations imposed by Agencies that are implemented to avoid, minimize, and mitigate these potential effects to bears. In addition to complying with the Endangered Species Act and the Marine Mammal Protection Act, CEASB must comply with mitigation measures to minimize effects of exploration activities on bears.

Beaufort Sea mitigation measure A.2.d.i.A-G requires lessees to prepare and implement a human-bear interaction plan. The human-bear interaction plan should include measures to: minimize attraction of bears to facility sites, including food and waste; organize layout of buildings and work areas to minimize interactions between humans and bears, such as including the use of electric fencing; warn personnel of bears near or on facilities and the proper actions to take; if authorized, to deter bears from the drill site; provide contingencies in the event bears do not leave the site; provide for proper storage and disposal of materials that may be toxic to bears; and document and communicate the sighting of bears onsite or in the immediate area to all shift employees. CEASB submitted a copy of their Wildlife Avoidance and Interaction Plan as an appendix to the Plan. Staff and contractors will implement and adhere to the training, guidelines, and procedures contained in the Wildlife Avoidance and Interaction Plan.

Beaufort Sea mitigation measure A.2.d.ii requires lessees to consult with ADFG to identify the locations of any known brown bear den sites that are occupied in the season of proposed activities. Exploration activities started between September 20 and May 15 may not be conducted within 1/2 mile of known occupied bear dens, unless alternate measures are approved by ADFG. Lessees who encounter occupied brown bear dens not previously identified must report it to ADFG within 24 hours. Mobile activities must avoid discovered occupied bear dens by 1/2 mile unless alternate measures are approved by the Division with concurrence from ADFG. CEASB will contact ADFG prior to commencing operations in order to identify locations of brown bear dens. CEASB will follow the guidelines and procedures outlined in their Wildlife Avoidance & Interaction Plan in order to avoid and mitigate interactions with brown bear dens.

Beaufort Sea mitigation measure A.2.d.iii requires lessees to consult with the USFWS to identify the locations of known polar bear den sites. Operations must avoid known polar bear dens by one mile. Lessees who encounter an occupied polar bear den not previously identified must report it to the USFWS within 24 hours and subsequently avoid the new den by one mile. If a polar bear dens within an existing development, off-site activities must be restricted to minimize disturbances. CEASB has contacted USFWS regarding the proposed project and has submitted a request for Letter of Authorization for Incidental Take and for Intentional Take by Harassment. CEASB will consult with USFWS prior to commencing operations in order to identify locations of polar bear dens. CEASB has notified USFWS of its intention to participate in the USFWS FLIR program to identify polar bear den locations. Further, CEASB will follow the guidelines and procedures

outlined in their Wildlife Avoidance & Interaction Plan in order to avoid and mitigate interactions with polar bears and their dens.

### Subsistence

Traditional subsistence uses in the area include: bowhead and beluga whaling; walrus, polar bear, and seal hunting; brown bear, caribou, muskox, and moose harvesting; hunting and trapping of furbearers; hunting migratory waterfowl and collecting their eggs; fishing for whitefish, char, salmon, smelt, grayling, trout, and burbot; collecting berries, edible plants, and wood; and producing crafts, clothing, and tools made from these wild resources. Equally important, subsistence also includes social activities of consuming, sharing, trading and giving, cooperating, teaching, and celebration among members of the community.

Potential exploration activities that could have effects on subsistence uses in the area include discharges from well drilling, and ongoing disturbances from activities such as vehicle, and aircraft traffic. Noise, traffic disturbance, and oil spills generally produce short-term impacts on subsistence species.

The Beaufort Sea Areawide BIF contains several mitigation measures intended to reduce conflicts with subsistence, commercial, and sport harvest activities. Prior to submitting a Plan to the Division, the lessee must consult with affected subsistence communities, the Alaska Eskimo Whaling Commission (AEWC), 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 assure 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.

CEASB participated in an agency pre-application meetings on June 11, 2015 with the NSB, July 16, 2015 with state and federal agencies and presented the 2015-2016 exploration drilling program to the BLM Subsistence Advisory Panel (SAP) in their meeting on September 3, 2015 in Barrow. CEASB sent project informational letters during August, September and, or November 2015 to the following organizations for community to discuss the project: Inupiat Community of the Arctic Slope; City of Atqasuk; Barrow Whaling Captains Association; City of Barrow; NSB Department of Wildlife Management; NSB Mayor's Office; AEWC; Arctic Slope Regional Corporation; City of Nuiqsut; Native Village of Nuiqsut; Kuukpik Corporation; and the Kuukpik Subsistence Oversight Panel. The community meetings were held in Barrow on November 17, 2015; Atqasuk on August 27, 2015; and Nuiqsut on August 12, 2015.

CEASB has developed a Plan of Cooperation and Good Neighbor Plan based on consultations with the NSB and the SAP. The Plan is intended to assist in efforts to mitigate potential conflicts between the CEASB 2015-2016 winter activities, subsistence hunting, and cultural activities. Should subsistence hunters or local residents communicate concerns or conflicts, CEASB will investigate and mitigate the perceived

impact through operational changes and emergency assistance. The NSB issued development permits for the CEASB exploration project on November 3, 2015.

CEASB will need to continue complying with the mitigation measures throughout the exploration phase. The Division anticipates that any future plans of operations for exploration will either continue use of this Plan of Cooperation and Good Neighbor Plan or include similar measures to address subsistence concerns.

#### Access

Beaufort Sea mitigation measure A.3.b requires that traditional and customary access to subsistence areas be maintained unless reasonable alternative access is provided.

CEASB's Plan states that unless a safety concern arises, traditional and customary access will not be impeded for subsistence users, and public access to packed snow trails will be allowed. A safety exclusion zone will be identified using signs at and approaching the CT-2 well site, warning the public of the work in progress.

#### Whales

A biological opinion prepared by the National Oceanic and Atmospheric Administration (NOAA), found that overall, bowhead whales exposed to noise producing activities such as vessel and aircraft traffic, drilling operations, and seismic surveys most likely would experience temporary, nonlethal effects. In addition to complying with the Marine Mammal Protection Act, lessees must comply with seasonal drilling restrictions in identified subsistence whaling zones and coordinate with local whaling groups, communities, and other interested parties. Exploration shall be conducted in a manner that prevents unreasonable conflicts between oil and gas activities and subsistence whale hunting. Lessees are required to have an approved oil discharge prevention and contingency plan through ADEC. Beaufort Sea mitigation measures A.3.c.i-iii for whale harvest protection are specifically related to the siting of permanent facilities. There are no permanent facilities proposed for the CT-2 exploration program.

#### iv. Historic or Archeological sites

While exploring, CEASB could encounter prehistoric, historic, or archaeological sites. AS 41.35 .200 addresses unlawful acts concerning cultural and historical resources. In addition, all field-based response workers are required to adhere to historic properties protection policies that 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.

Under North Slope Borough municipal code (NSBMC), proposed development shall not impact any historic, prehistoric, or archaeological resource before the assessment of that resource by a professional archaeologist (NSBMC 19.50.030(F)). NSBMC 19.70.050(F) says, "Development shall not significantly interfere with traditional activities at cultural or historic sites identified in the Coastal Management Program." These provisions give the NSB authority to protect cultural and historic resources and current subsistence uses of these sites.

In addition, Beaufort Sea 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. A cultural resources survey and inventory was conducted CEASB by Reanier and Associates in the project area in the summer of 2015. CEASB has supplied the report to BLM and DNR Division of Parks and Outdoor Recreation (DPOR).

## 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)

The State owns the surface and full payment of damages to the State are accomplished through a bond posted by the applicant discussed in subsection C below. Thus CEASB has provided for full payment of damages prior to starting operations (11 AAC 83.346(c)).

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

## VII. CONSULTATION WITH OTHER GOVERNMENT ENTITIES

In reviewing the proposed Plan, the Division considered the fact that CEASB 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 October 29, 2015 for comment on the Plan: U.S. Army Corps of Engineers; NOAA; BLM; NSB; ADFG; ADEC; and DNR: State Pipeline Coordinator's Office (SPCO), DMLW, Office of History and Archaeology (OHA), Office of Project Management and Permitting (OPMP), and the Division of Oil and Gas. The comment deadline was 4:30 pm Alaska time on November 12, 2015. Comments were timely received and the Division, Applicant, and commenting Agency(ies) reconciled the comments without modifying the Plan; Agency comment(s) and the Applicant's response(s) are summarized in Appendix B. The Plan was then publicly noticed.

## VIII. PUBLIC NOTICE

Public notice of the Plan and opportunity to comment, per AS 38.05.035, was published in the Alaska Dispatch News and Arctic Sounder on November 18, 2015 with a deadline for comments of December 18, 2015 at 4:30 pm Alaska time. Additionally, a copy of the notice was posted on DNR's website and faxes of the public notice were sent to the Barrow, Nuiqsut, and Deadhorse post office(s). Timely comments were received from Trustees for Alaska by the Division. Public comments and the Division's responses are summarized in Appendix B.

## I. 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.

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

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
  - a. 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.
- b. 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.
6. Notification. The applicant shall notify the DNR of all spills that must be reported under 18 AAC 75.300 under timelines of 18 AAC 75.300. All fires and explosions must be reported to DNR immediately. The DNR 24 hour spill report number is (907) 451-2678; the fax number is (907) 451-2751. The ADEC oil spill report number is (800) 478-9300. DNR and ADEC shall be supplied with all follow-up incident reports.
7. A certified As-Built survey of the improvement shall be provided within one year of placement of the improvement. This As-Built must be submitted in both electronic and physical format.

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 Requirement Form: The Applicant will notify the Director of the Division 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 <http://dog.dnr.alaska.gov/Permitting/permittingForms.htm>. This report shall be submitted to [dog.redata@alaska.gov](mailto:dog.redata@alaska.gov) before each VSP commences.
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 permitting website <http://dog.dnr.alaska.gov/Permitting/PermittingForms.htm>. This report shall be submitted to [dog.redata@alaska.gov](mailto:dog.redata@alaska.gov). If no activities are completed under the Plan, an Activity Completion Report form must be submitted on or before January 15, 2017; be sure to check box 27 to indicate the survey was cancelled.
3. Geophysical Processing Completion Report Form: The Applicant must complete and return a Geophysical Activity Completion Report form for each VSP acquired. 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 permitting website <http://dog.dnr.alaska.gov/Permitting/PermittingForms.htm>. This report shall be submitted to [dog.redata@alaska.gov](mailto:dog.redata@alaska.gov).

## 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 Beaufort Sea 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 and regulations with which CEASB 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,



\_\_\_\_\_  
Kim Kruse  
Permitting Manager  
Division of Oil and Gas



\_\_\_\_\_  
Date

## **Appeal**

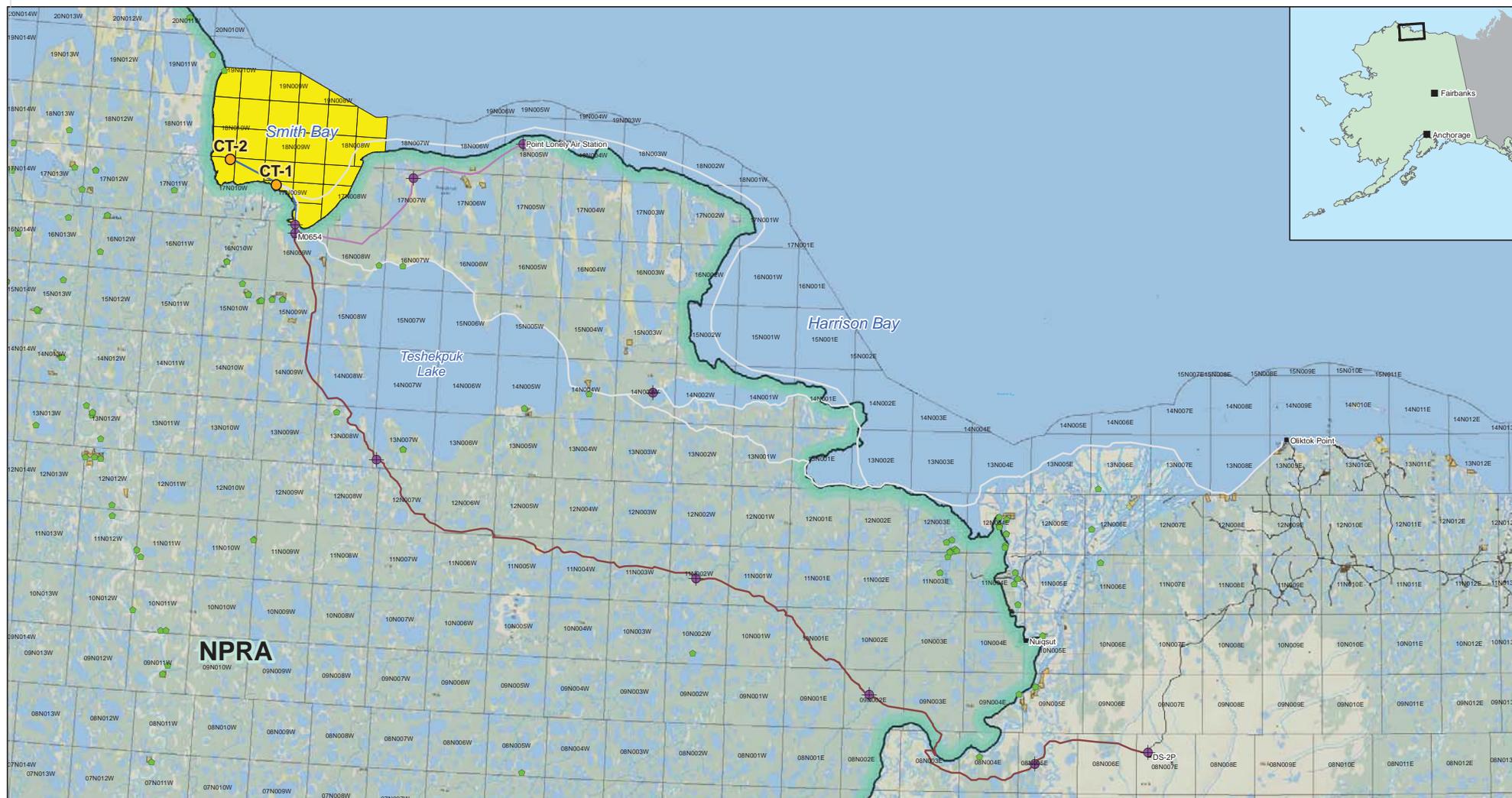
An eligible person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of issuance of this decision, as defined in 11 AAC 02.040(c) and (d), and may be mailed or delivered to the Commissioner, Department of Natural 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](mailto: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:

- Appendix A: Maps and Figure(s)
- Appendix B: Agency and Public Comments
- Appendix C: Other

ecc: DOG: Kim Kruse, Nathaniel Emery, Conor Williamson, Brian Taylor, Temple Davidson, Jodi Delgado-Plikat, Heather Heusser, Jeanne Frazier,  
DMLW: Alexander Wait, Jeanne Proulx, Melissa Head, Matthew Willison, Kimberley Maher, Henry Brooks  
ADFG: Jack Winters  
ADEC: Sharon Morgan, Fathima Siddeek, Gerry Brown  
OPMP: Sara Longan  
Borough: Thomas Brower III, John Adams, Gordon Brower, Bart Ahsogeak, Rhoda Ahmaogak  
Other: USACOE, NOAA, BLM, Trustees for Alaska

# Appendix A: Maps and Figures



**Figure 1**

**Overview Map  
2015 - 2016 Tulimanik Exploration Program**



**Legend**

- Proposed Well Locations
- ◆ Thermistor Position
- Camps and Cabins
- 2P to Lake M0654 Overland Snow Route
- Point Lonely Overland Snow Route
- Smith Bay Ice Road
- Alternative Routes
- Existing Gravel Roads
- Caelus Oil and Gas Leases
- NPRA Boundary
- Native Allotments
- Existing Facilities



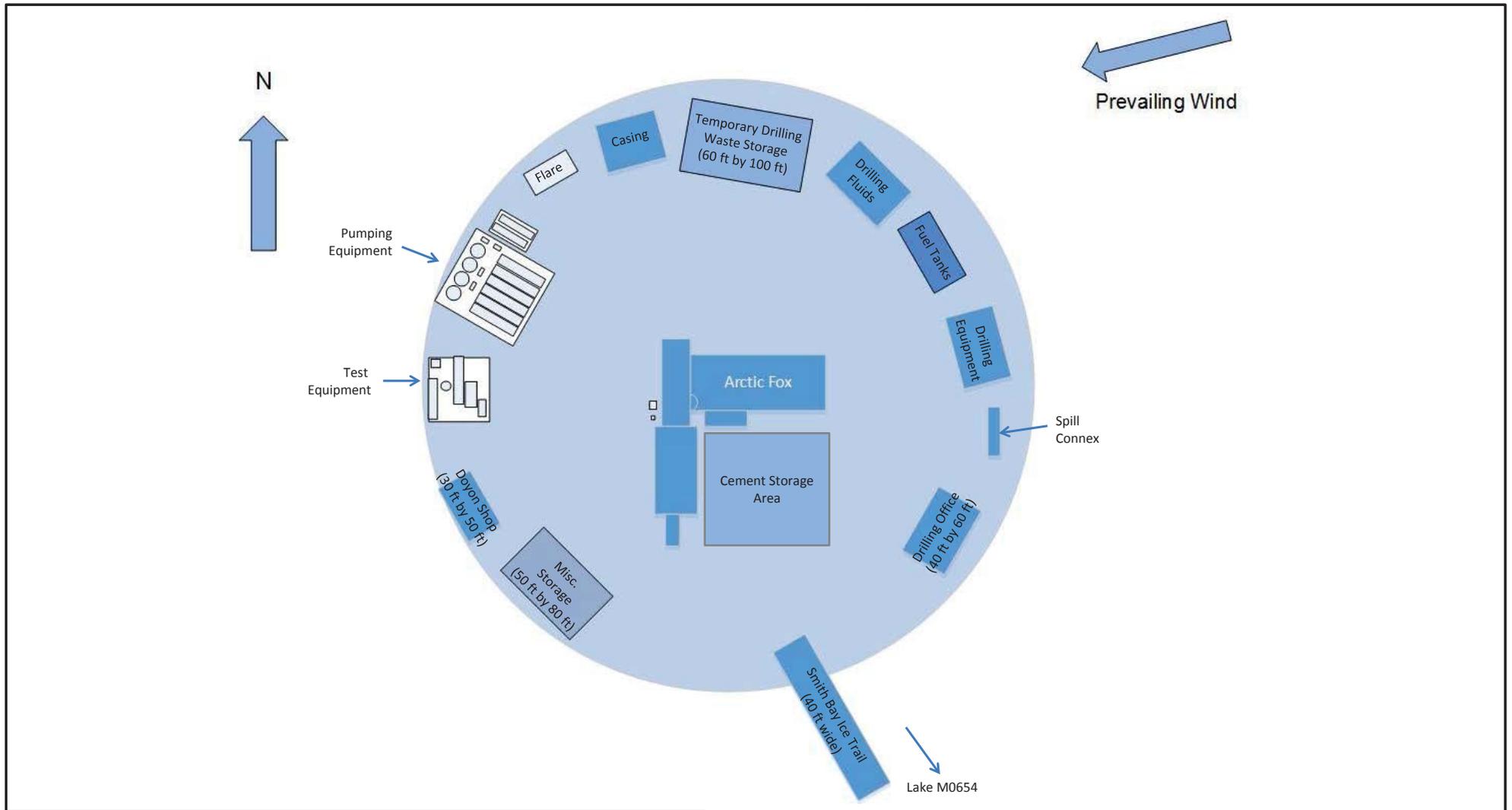
**Figure 2:**

**DS-2P Ice Pad  
2015 - 2016 Tulimaniq Exploration Program**



**Legend**

- 2P to Lake M0654 Overland Snow Route
- Existing Gravel Road
- Proposed Ice Pad
- Existing Gravel Pad

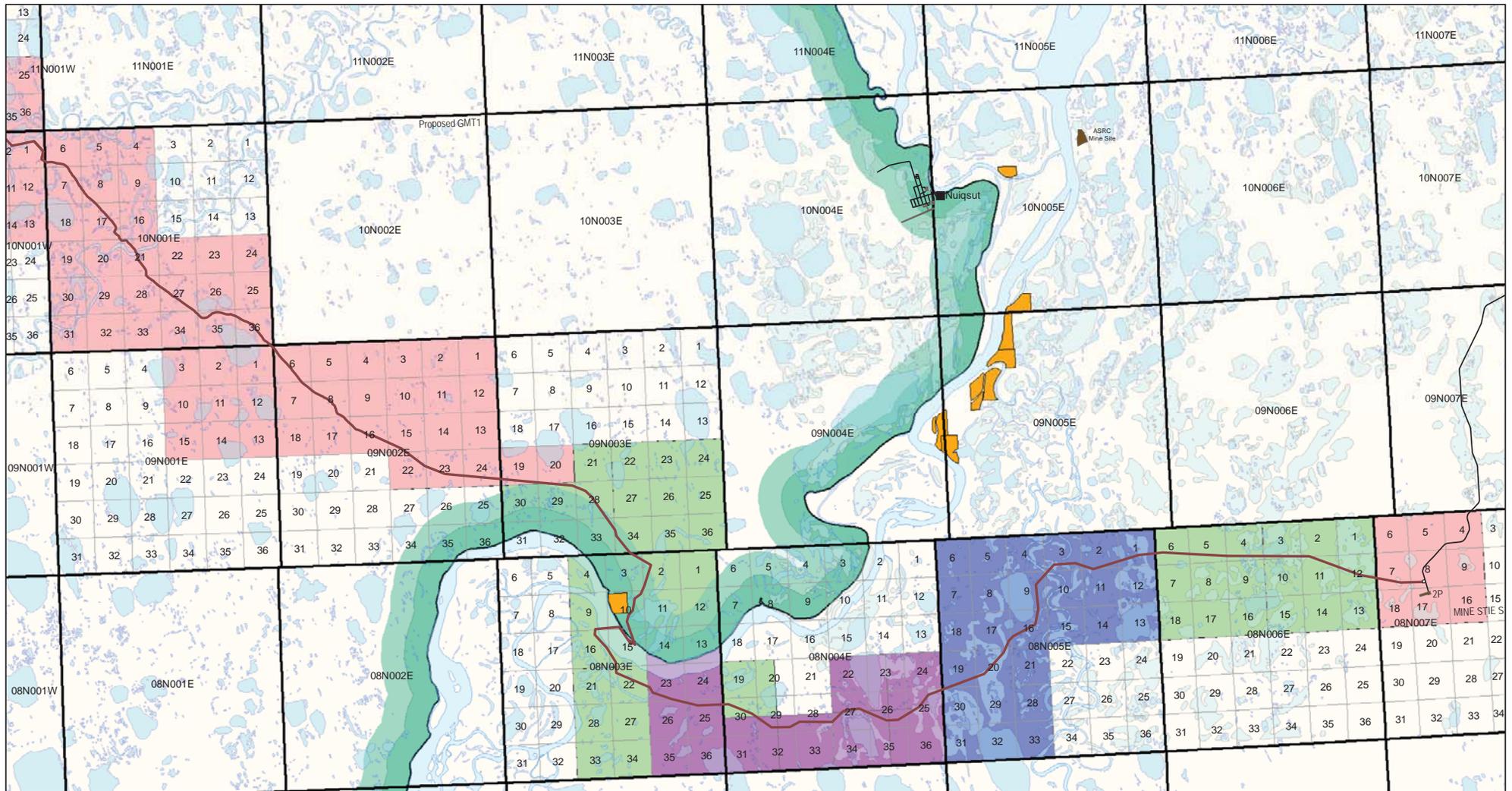


**Figure 3:**  
**Drilling Ice Pad Conceptual Layout**  
**2015 - 2016 Tulimaniq Exploration Program**



**Design Information:**

Ice Pad	Diameter	Depth from Mudline	Build Depth
CT-1 Drillsite	500 ft	15.8 ft	14.3 ft
CT-2 Drillsite	500 ft	22.9 ft	18.9 ft



**Figure 4:**  
**DS-2P Overland Snow Route, 1 of 4**  
**2015 - 2016 Tulimanig Exploration Program**



**Legend**

- Tulimanig Exploration Wells
- 2P to Lake M0654 Overland Snow Route
- Existing Gravel Roads
- CEASB
- CPAI
- GREAT BEAR
- REPSOL
- ROYALE
- Proposed Ice Pad
- Existing Gravel Pads
- NPRA Boundary
- Native Allotments



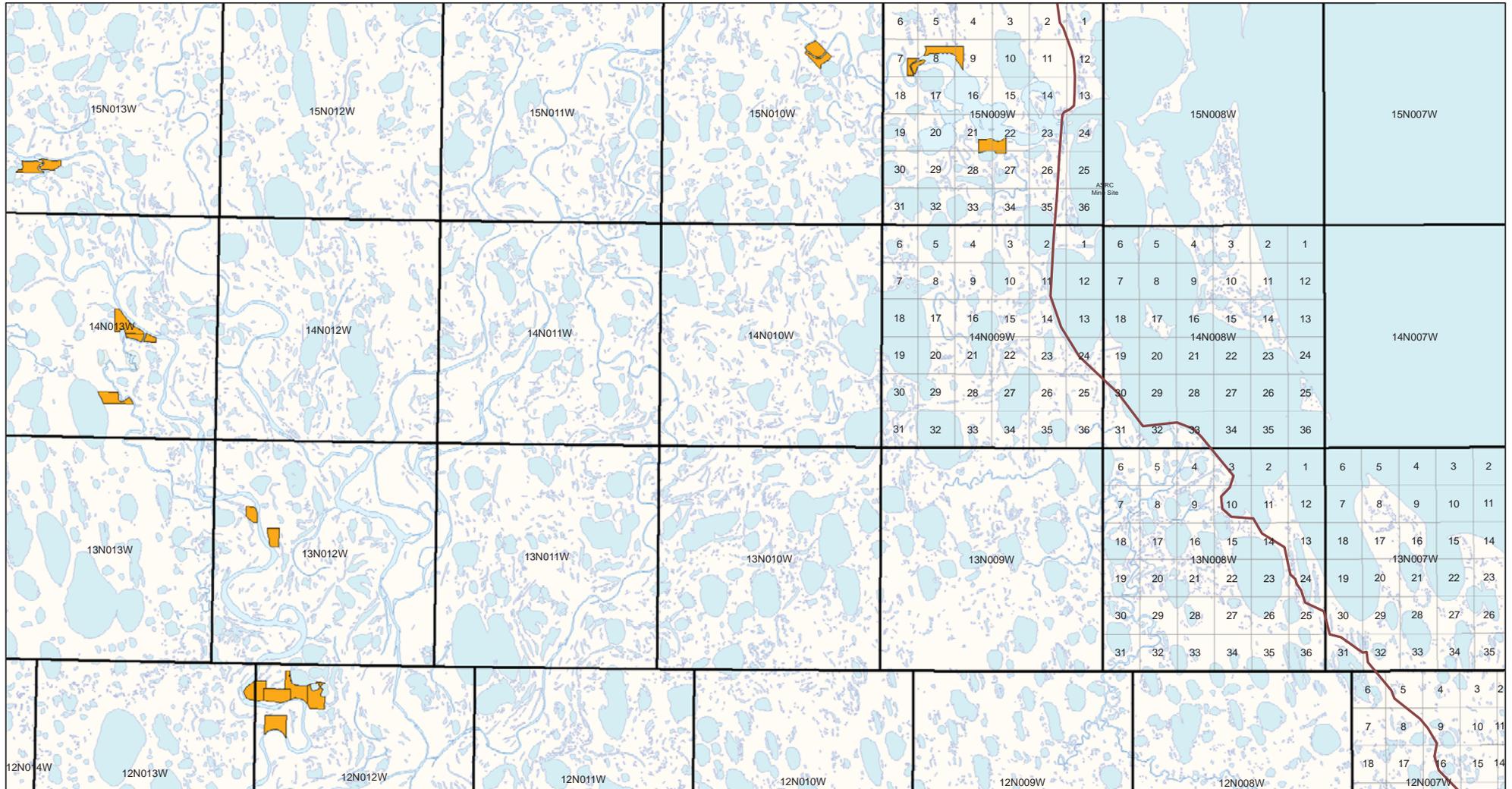
Figure 5:

**DS-2P Overland Snow Route, 2 of 4  
2015 - 2016 Tulimaniq Exploration Program**



**Legend**

- Tulimaniq Exploration Wells
- 2P to Lake M0654 Overland Snow Route
- Existing Gravel Roads
- CEASB
- CPAI
- GREAT BEAR
- REPSOL
- ROYALE
- Proposed Ice Pad
- Existing Gravel Pads
- NPRA Boundary
- Native Allotments

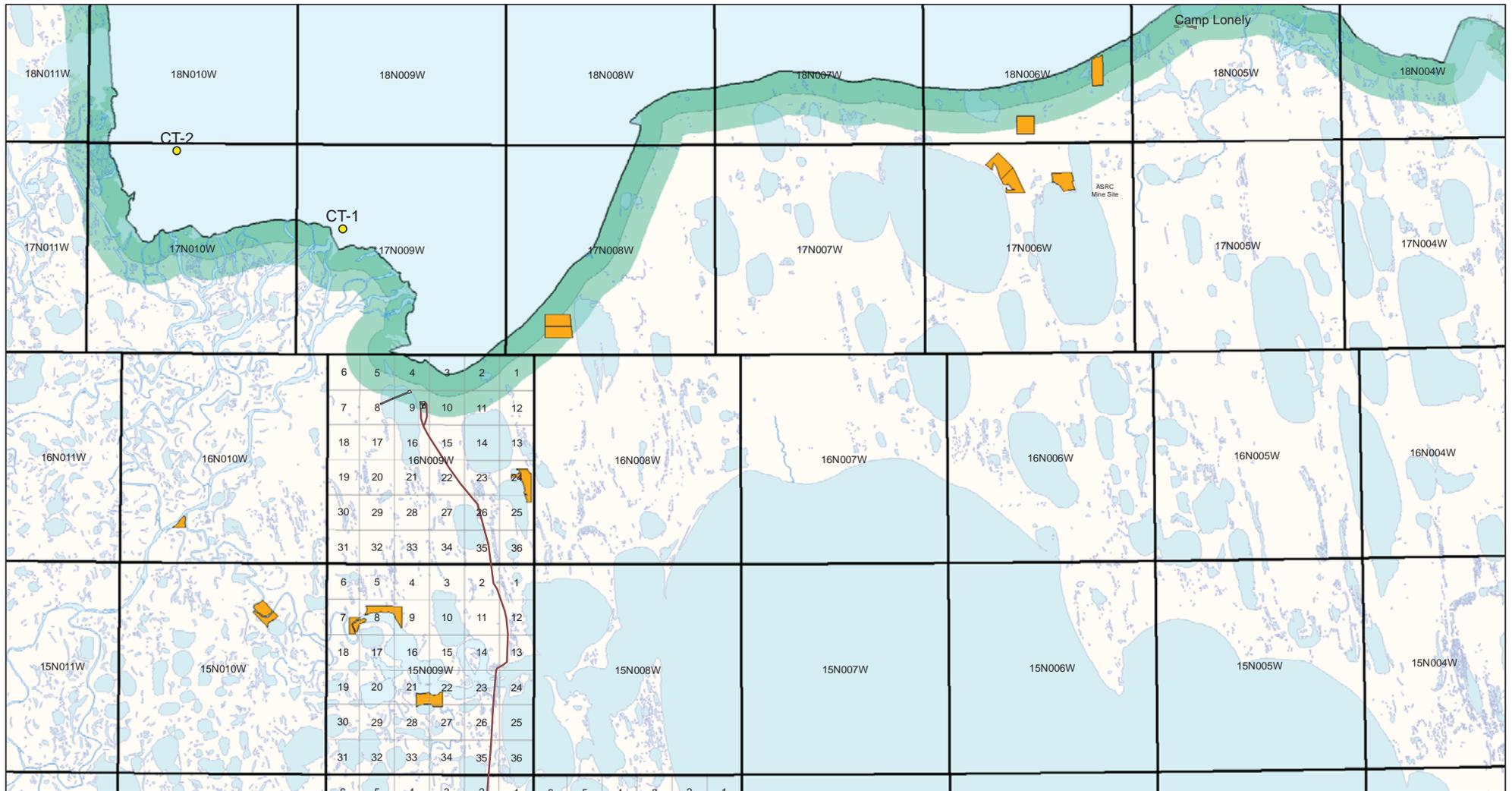


**Figure 6:**  
**DS-2P Overland Snow Route, 3 of 4**  
**2015 - 2016 Tulimaniq Exploration Program**



**Legend**

- Tulimaniq Exploration Wells
- 2P to Lake M0654 Overland Snow Route
- Existing Gravel Roads
- CEASB
- CPAI
- GREAT BEAR
- REPSOL
- ROYALE
- Proposed Ice Pad
- Existing Gravel Pads
- NPRA Boundary
- Native Allotments



**Figure 7:**

**DS-2P Overland Snow Route, 4 of 4  
2015 - 2016 Tulimaniq Exploration Program**



0 5 10 Miles



**Legend**

- Tulimaniq Exploration Wells
- 2P to Lake M0654 Overland Snow Route
- Existing Gravel Roads
- CEASB
- CPAI
- GREAT BEAR
- REPSOL
- ROYALE
- Existing Gravel Pads
- NPRA Boundary
- Native Allotments

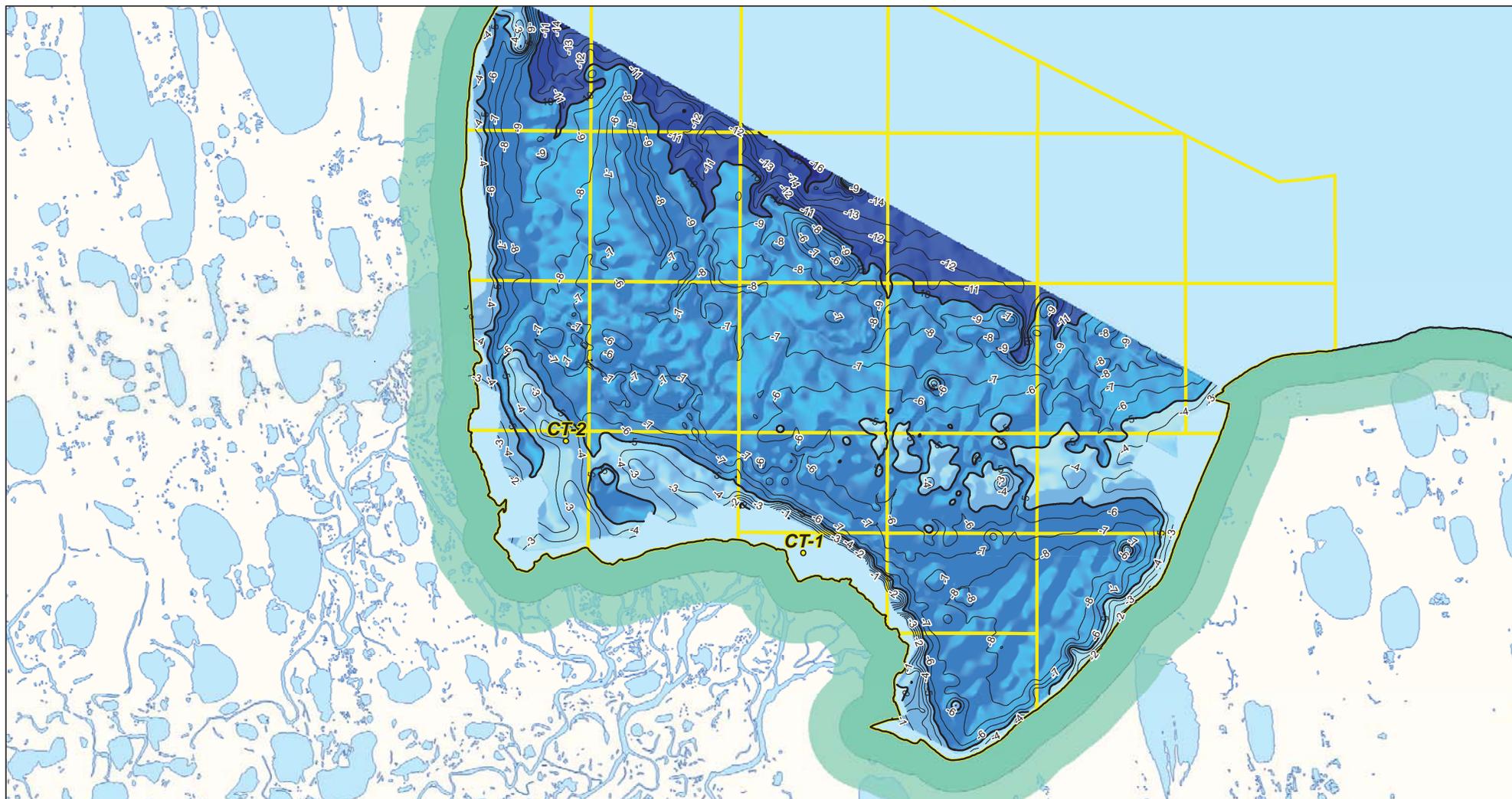


Figure 8:

**Smith Bay Bathymetry  
2015 - 2016 Tulimaniq Exploration Program**



0 1 2 4 6 8 Miles



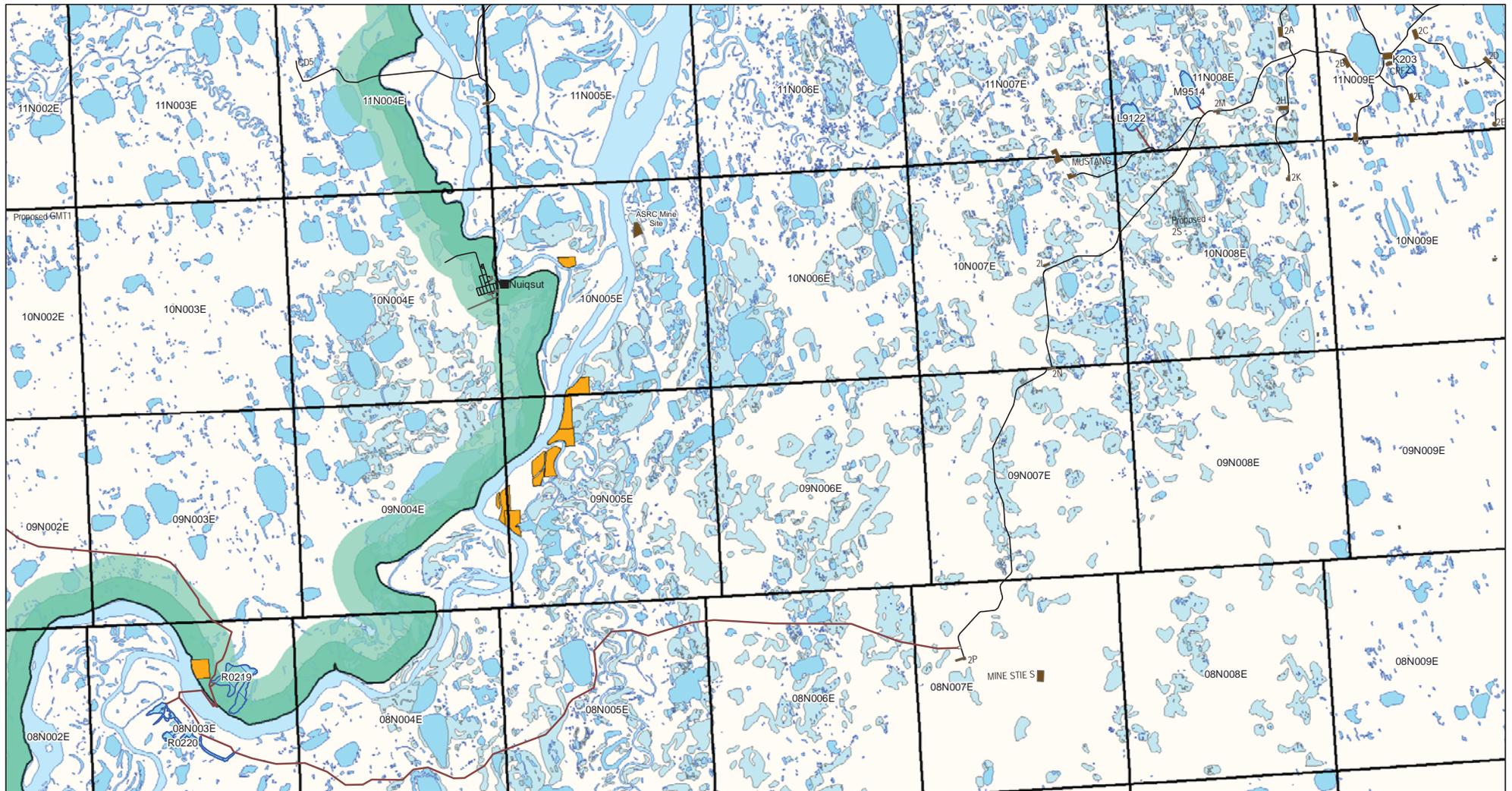
**Legend**

- Proposed Well Locations
- Caelus Leases
- Depth Contour (CI = 1ft)
- NPRA Boundary

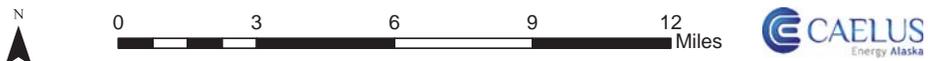
**Water Depth (feet)**

- 0 - 5
- 5 - 0
- 10 - -5
- 15 - -10
- 16. - -15

Reference:  
Bathymetry after Golder Associates Inc. October 2014

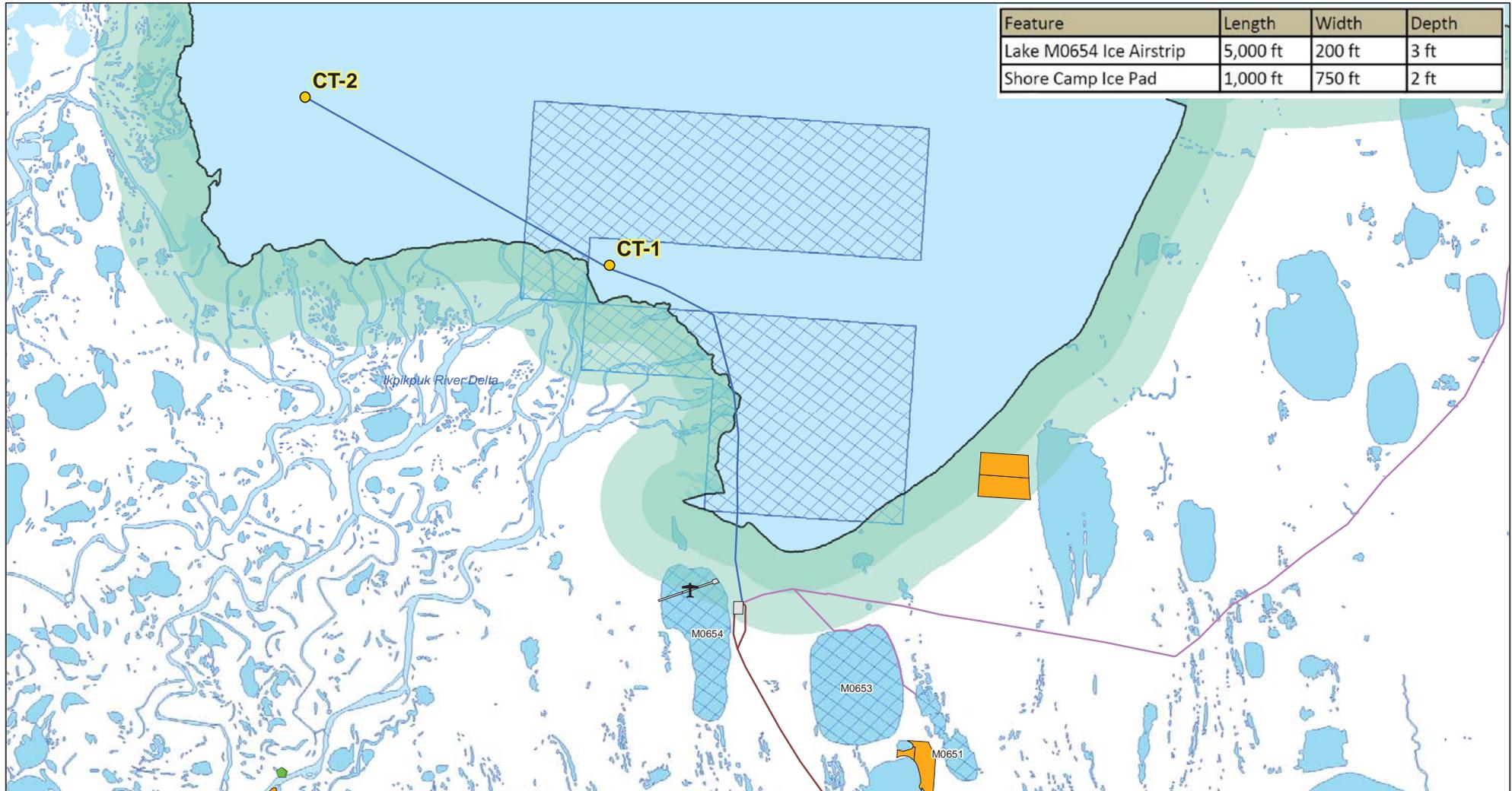


**Figure 9:**  
**Permitted Water Sources and Access Routes - East**  
**2015 - 2016 Tulimaniq Exploration Program**



**Legend**

- Existing Gravel Roads
- 2P to Lake M0654 Overland Snow Route
- ▨ Proposed Ice Pad
- Existing Gravel Pads
- ▨ Permitted Water Sources
- Native Allotments
- NPRA Boundary



**Figure 10:**  
**Permitted Water Sources & Access Routes - West**  
**2015 - 2016 Tulimaniq Exploration Program**

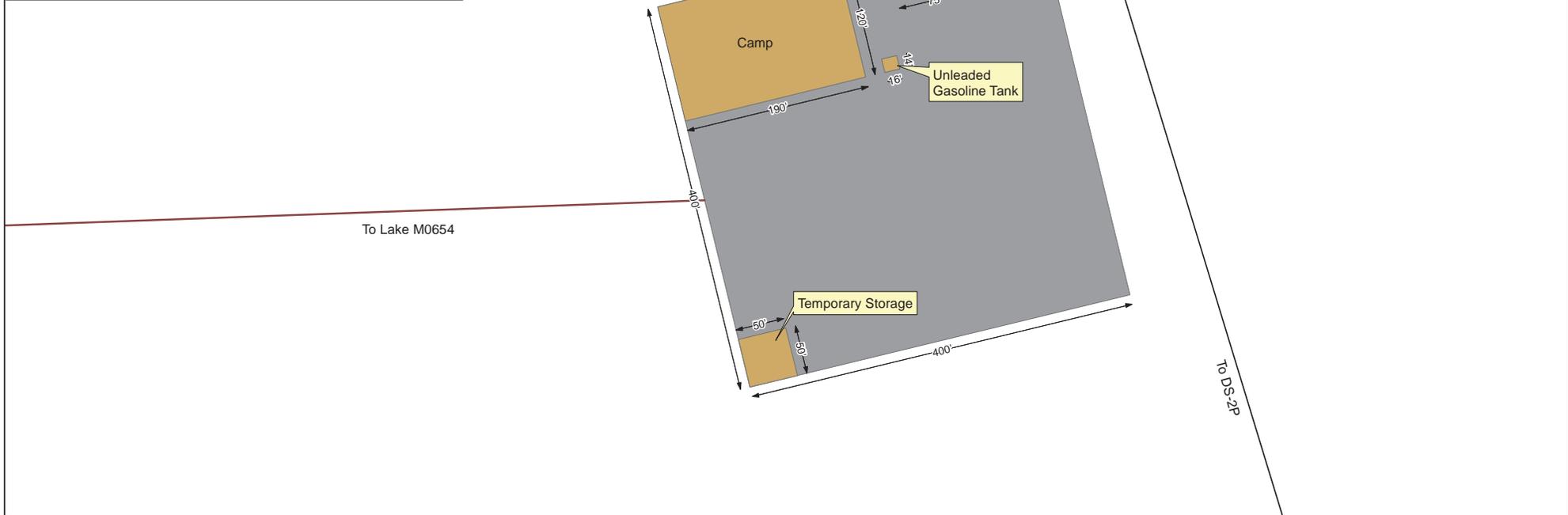


0 1 2 3  
 Miles



**Legend**

- Tulimaniq Exploration Wells
- ◆ Camps and Cabins
- ✈ Ice Airstrip
- DS-2P to Lake M0654 Overland Snow Route
- Point Lonely Overland Snow Route
- Smith Bay Ice Road
- Ice Pads and Ice Airstrip
- ▨ Permitted Water Sources
- NPRA Boundary
- Native Allotments



**Figure 11:** DS-2P Ice Pad Layout  
2015 - 2016 Tulimaniq Exploration Program



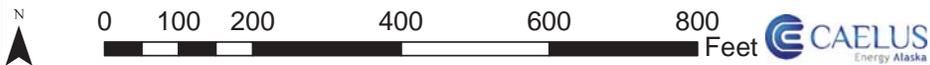
**Legend**

- 2P to Lake M0654 Overland Snow Route
- Point Lonely Overland Snow Route
- Existing Gravel Road
- Proposed Ice Pad
- Project Features



Figure 12:

**Lake M0654 Ice Pad Layout  
2015 - 2016 Tulimanig Exploration Program**



**Legend**

- 2P to Lake M0654 Overland Snow Route
- Point Lonely Overland Snow Route
- Smith Bay Ice Road
- Airstrip Snow Road
- Alternative Routes
- Pad Facilities
- Ice Pads
- Permitted Water Sources



DS-2P

## **APPENDIX B      Agency Comments**

### **Alaska Department of Fish and Game, October 29, 2015**

“The ADF&G has reviewed the 2015-2016 Plan of Operations submitted by CEASB for its Smith Bay winter oil and gas exploration activities. The ADF&G has no objection to the proposal by Caleus Energy Alaska Smith Bay to drill an exploration well at the CT-2 location in Smith Bay.

#### **Division Response:**

Comments noted.

### **Alaska Department of Environmental Conservation, November 5, 2015**

The Alaska Department of Environmental Conservation Wastewater Discharge Authorization Program (WDAP) has reviewed the Plan of Operations (POO) and believes the applicant should reconsider current authorizations under AKG331000 – Facilities Related to Oil and Gas Extraction (North Slope GP). Current authorizations issued for CEASB include Mobile Spill Response (Discharge 007) and Stormwater (Discharge 006). The 2015-2016 POO indicates that there may additional sources of wastewater discharge that were not previously considered in their current authorizations (AKG331147). This comment primarily concerns discharges from Secondary Containment (Discharge 008), as an applicant is expected to obtain authorization and monitor discharges of accumulated rain or snowmelt water from secondary containment areas. CEASB may also wish to consider Gravel Pit Dewatering (Discharge 003) if there are any plans to use water from gravel pits to construct ice roads, ice pads, runways, or to suppress dust.

Please contact Shane Serrano regarding coverage availability under the North Slope GP and instructions for modifying current permit authorizations. Shane can be reached at (907)269-7504 or Shane.Serrano@alaska.gov.

Consistent with WDAP comments regarding the CT-1 POO, the proposed 213-person (max) camp area, does appear to have domestic wastewater discharge coverage under general permit authorization (AKG572068) issued to NordAq Energy Inc’s-Tulimaniq Exploration Project. CEASB may wish to inquire about transferring permit coverage. Additionally, the current domestic wastewater permit includes a limit of 6000 gallons per day from the wastewater treatment facility. CEASB may wish to inquire about current discharge limits if the camp size will be changing from original Notice of Intent.

For questions regarding Domestic Wastewater GP Authorizations (AKG572068) or coverage availability for Wastewater Discharges from Drinking Water Treatment Facilities (AKG380000), the Technical Contact is Marie Klingman. Marie can be reached at 907-451-2101 or Marie.Klingman@alaska.gov. If you or the applicant would like to discuss these comments, please contact me (907) 269-4720 or Jamie.Grant@alaska.gov.

**Division Response:**

Comments noted and forwarded to applicant on November 5, 2015.

**Applicant Response, November 6, 2015:**

Caelus Energy Alaska Smith Bay, LLC (CEASB) appreciate the comments we have received on the Tulimaniq Exploration Project for both CT-1 and CT-2. We are providing the following responses to the comments.

Please forward the responses to the appropriate agency personnel.

- 1) AKG331000 – Facilities Related to Oil and Gas Extraction (North Slope GP) – CEASB does not plan on discharging contaminated secondary containment water during the operations for CT-1 and CT-2 and will not be completing an NOI for Discharge 008. There are also no plans to submit an NOI for Discharge 003 to use water from gravel pits to construct ice roads, ice pads, runways, or to suppress dust.
- 2) We are providing a table that summarizes the camps for the project to address issues regarding the wastewater permits. The table includes the permits associated with each camp and capacity of the water and wastewater systems.

**Alaska DNR/DOG, State Pipeline Coordinator’s Section, November 10, 2015**

“The State Pipeline Coordinator’s Section (SPCS) has reviewed the Lease Plan of Operations Application and North Slope and Beaufort Sea Mitigation Measures Analysis for a proposed 2015-2016 winter exploration program submitted by Caelus Energy Alaska Smith Bay, LLC (CEASB). Thank you for clarifying that the DS-2P Ice Pad will be in Township 8 North, Range 7 East, Section 8, Umiat Meridian. There are no AS 38.35 pipeline rights-of-way, applications, or AS 38.35 proposed pipelines in the vicinity. Please do not hesitate to contact me if you have any questions.”

**Division Response:**

Comments noted.

## **APPENDIX B      Public Comments**

The Division received timely comments during the public notice period from the Alaska Wilderness League, Center for Biological Diversity, Conservation Lands Foundation, Friends of the Earth, Northern Alaska Environmental Center, Sierra Club, Ocean Foundation, and the Wilderness Society (Trustees). One letter was submitted from all of these organizations to collectively capture the comments. The Division has considered all of these comments and provides the following responses.

### **REDOIL Applicability/Process**

**Comment 1:** “DNR is obligated to analyze the impacts, including the cumulative impacts, of the exploration project and provide public notice and comment under “*Sullivan*.”

**Comment 2:** “*Sullivan*” is directly applicable to Caelus’ proposed exploration project. The impacts analysis and public process required under *Sullivan* apply to the exploration, development, production, and transportation phases for oil and gas projects in the Beaufort Sea. Caelus recently acquired a 75% working ownership interest in Nordaq’s state leases, Smith Bay, which NordAq in turn acquired in state lease sales in 2011 and 2012. As the Court stated, “potential impacts must be considered by DNR in the future, at each subsequent phase, as more information becomes known, and *particularly as DNR decides whether to issue permits for future activities.*” DNR is currently in the process of deciding whether to approve a plan of operations for Caelus’ exploration project in Smith Bay. Drilling an exploratory well and the associated activities are undeniably part of the exploration phase. Caelus’ exploration project is, therefore, exactly the type of activity that the Alaska Supreme Court contemplated in its *Sullivan* decision would be subject to a cumulative impacts assessment and public notice and comment. Having already determined that *Sullivan* applies to NordAq’s Plan of Operations for the project, it cannot be disputed that *Sullivan* also applies to Caelus’ Plan of Operations.”

**Comment 3:** “DNR is constitutionally required to consider the direct, indirect, and cumulative impacts of Caelus’ exploration well and allow for public comment.

“DNR’s published Caelus’ Plan of Operations application without any consideration or analysis by DNR of the potential impacts of the proposed exploratory project. Allowing the project to move forward without that analysis and process is inconsistent with the Alaska Constitution and the Alaska Supreme Court’s *Sullivan* decision. Now that Caelus has submitted a plan of operations, DNR has adequate information available about the project to be able to evaluate the potential immediate and cumulative impacts, including the cumulative impacts of drilling two wells in Smith Bay. That means that DNR must conduct an analysis of the proposed project and the potential impacts, including the cumulative impacts, to ensure that the project is in the public interest.

In addition to assessing the direct, indirect, and cumulative impacts of Caelus' exploration well, DNR must provide the public with a meaningful opportunity to comment on its analysis.<sup>28</sup> DNR's process fails to satisfy these constitutional requirements.<sup>29</sup> Accordingly, DNR cannot approve the application until it complies with *Sullivan*.

In response to similar comments on NordAq's Plan of Operations, DNR issued an approval that contained some analysis of the impacts of that project. This approach is inconsistent with *Sullivan* because it does not allow for meaningful public participation or consideration of the impacts prior to approving the project. DNR also stated that various statutes and regulations prohibit it from issuing an analysis of the impacts during the public comment period for the plan of operations. As explained in the NordAq Appeal, this is incorrect. If DNR takes a similar approach to approve of Caelus' Plan of Operations, it too will be insufficient. If DNR's position continues to be that the agency does not have the statutory or regulatory authority under current law to comply with *Sullivan*, the agency cannot continue to flout its constitutional duties by approving plans of operations and permits. It instead must undertake a rulemaking or seek legislative changes; until it does so, DNR cannot approve projects."

**Comment 4: "DNR Must Consider Impacts on Habitat, Wildlife, and Subsistence.**

"...DNR deferred consideration of future impacts until it had more specific information on particular projects. Now that DNR has been presented with a plan of operations application for Caelus' Tulimaniq (CT-2) project, the agency is constitutionally obligated to provide further analysis of environmental impacts from the proposed project, taking into account the specific habitats, wildlife, and resources that could be impacted."

**Division Response to Comments 1-4:** The Division agrees that the Plan is subject to *Sullivan v. Resisting Environmental Destruction on Indigenous Lands (REDOIL)*, 311 P.3d 625 (Alaska 2013). The Division has complied with the *REDOIL* decision, as detailed in the narrative below.

The Division disagrees with the commenters' interpretation of the case. In *REDOIL*, the Supreme Court held that DNR has a constitutional obligation to consider the cumulative impacts of a project at each phase. *Id.* at 636. To the extent DNR was not doing so, the Court considered DNR's application of its statutes and regulations unconstitutional. The Court did not, however, deem any statute or regulation unconstitutional on its face, including the statutes and regulations that dictate the procedures for DNR to review a project. To the contrary, the Court emphasized that it was up to the executive branch to determine procedures:

We reiterate that it is not the court's place to provide instruction on *how* the State should analyze cumulative impacts after the lease sale phase, for that is the legislature's prerogative, so long as the process complies with the Alaska

Constitution and the State's duty to take a continuing hard look—including analysis of cumulative impacts—throughout the course of a project.

*Id.* at 637. By statute, DNR must provide public notice and comment and issue a decision before the beginning of a new phase. AS 38.05.035(e)(1)(C). This statute neither requires nor allows DNR to follow a bifurcated process of first issuing a preliminary decision, providing the preliminary decision to the public for comment, and then issuing a final decision. Nor does the Plan regulation, 11 AAC 83.158, require or allow a bifurcated process with a preliminary and final finding. The Supreme Court in *REDOIL* did not find these statutes and regulations unconstitutional, so DNR can comply with *REDOIL* by following its existing statutory and regulatory process. DNR has not, as Trustees assert, taken the position that it is unable to comply with *REDOIL* under current statutes and regulations. The fact that the Court did not find any statute or regulation unconstitutional on its face in *REDOIL* demonstrates that DNR can, in fact, comply under existing law. DNR has done so.

A 30-day public notice of the application was provided from November 18, 2015 to December 18, 2015. The public thus had notice and opportunity to comment on the Plan, as required by AS 38.05.035(e)(1)(C)(ii). The Plan decision is also appealable to the Commissioner. Thus the public has opportunity to respond to the Plan and its analysis of impacts by appealing to the Commissioner.

In considering the exploration phase, the Division considered both the specific activities proposed under this Plan as well as typical additional exploration activities that Caelus might propose for further exploring the lease.

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, this decision also considered the operating procedures Caelus has designed to minimize adverse effects of the Plan activities. These operating procedures include procedures to comply with the mitigation measures attached to the lease. These measures come from the Beaufort Areawide BIF and includes mitigation measure to address potentially negative effects of oil and gas exploration on fish and wildlife species, habitats and their uses, on subsistence uses, and on local communities. Caelus has provided a mitigation measure analysis, which is required, as part of their Plan submittal.

**Comment 5:** “The project area is an ecologically vibrant area. The area encompasses a unique wildlife-rich wetlands complex located in and around Teshekpuk Lake and the Ikpikpuk River corridor as well as the associated coastal and marine areas.”

“Congress expressly recognized the ecological importance of the Teshekpuk Lake area in the 1976 Naval Petroleum Reserve Production Act (“NPRPA”) as deserving of “maximum protection” for its internationally significant wildlife values. The land surrounding the lake provides important wildlife habitat for hundreds of thousands of migratory waterfowl (including essential molting habitat for internationally significant populations of Black Brant and Greater White-fronted Geese); has high numbers of nesting and staging shorebirds; supports denning habitat for polar bear (a threatened species); and is used year round by the Teshekpuk Lake caribou herd. The diversity and abundance of wildlife populations in this area and throughout western Arctic Alaska has long been recognized.”

**Division Response:** Due to high concentrations of staging and molting brant and other waterbirds within the coastal habitats along the Teshekpuk Lake Special Area (TLSA) and other areas, Beaufort Sea mitigation measure A.2.f requires that operations creating high levels of disturbance, including but not limited to dredging, gravel washing, and boat and barge traffic along the coast, be prohibited from June 20 to September 15 within one-half mile of coastal salt marshes. Caelus barging activities are outside the restricted timeframe.

**Comment 6:** “The area provides high-value habitat areas for the Teshekpuk Lake Caribou Herd throughout the caribou’s life stages. The current count for the herd is 32,000, less than half of the highest count of 68,000 in 2008. The Teshekpuk Lake Caribou Herd is unique in that it is the only herd in which over 50% of the population typically overwinters on the coastal plain, including the area surrounding Smith Bay. This makes it an essential source of protein in winter for the villages of Atqasuk, Barrow, and Nuiqsut. Caribou is the most important resource, by weight, harvested by Atqasuk residents and provides a year-round source of fresh meat for Nuiqsut.”

**Division Response:** Although the land under Teshekpuk Lake is owned and managed by the State, any uplands and proposed surface facilities west of the Colville River are part of the NPR-A and managed by the BLM. As noted before, the Beaufort Sea mitigation measures include protections for the TLSA. Caelus’ Plan complies with these mitigation measures. Other surface impacts outside of this restriction are reviewed and authorized through the BLM.

**Comment 7:** “There are also an abundance of archeological sites in the project area, including many sites along and near the transportation routes. In the 1998 environmental impact statement/integrated activity plan for the Northeastern portion of the NPR-A, the Bureau of Land Management (“BLM”) provided a map of sites around Teshekpuk Lake. The explanation for the

map indicates that the clustering of sites results from which types were examined, rather than the distributional density of those who used the sites. The absence of recorded sites across most of the planning area is simply the result of the limited work that has been conducted there.

“The area also has high wilderness values in the area. As the BLM recently described, the Ikpikpuk River corridor, including the shoreline around Smith Bay, “has outstanding opportunities for solitude or a primitive and unconfined type of recreation.”

**Division Response:** State land, including land leased for oil and gas, is subject to concurrent uses. While the Division recognizes the value of solitary recreation, there is also value for all Alaskans in developing the state’s oil and gas resources, and it is DNR’s duty to consider all interests and concurrent uses of land.

There are state and local laws and mitigation measures to protect any archaeological sites Caelus may encounter. These requirements are described in greater detail in the Plan decision.

### **Water Quality/Spills/Spill Response**

**Comment 8:** “Caelus proposes to drill two oil and gas exploration wells in the winter 2015-2016 season. The risk of a spill from these activities is both relevant and significant. Offshore discharges from oil and gas operations may be both routine or the result of spills. Routine discharges in this coastal area should be non-problematic as EPA’s effluent limitations guidelines do not allow discharges of free oil and no discharge of drilling fluids and cuttings. State water quality permits need to ensure this is the case with no exceptions warranted in this highly sensitive offshore area. Should the state choose to consider any exceptions, that possibility should be subject to full public comment and government-to-government consultations with those tribes that fish or hunt in the Beaufort Sea.”

**Comment 9:** “As for the risk of a spill during exploration or production activities, major oil spills can and do occur from blowouts during exploration, pressurized pipeline releases during production, and from other types of onshore and offshore (e.g., supply barges) infrastructure. Produced water spills from wells and pipelines also can cause adverse environmental damage. Because these proposed wells will be nearshore, major spills can cause significant damage to coastal resources.”

**Comment 10:** “Despite the potential risks, DNR has not provided an analysis of the possible impacts of a spill. In other words, DNR has failed to “continue to analyze and consider all factors material and relevant to what is in the public interest[.]” Without providing further analysis explaining what impacts are likely to result now that the precise parameters of the project are known, DNR cannot allow the Tulimaniq (CT-2) project to proceed.”

**Division Response to Comments 8-10:** This decision authorizes the exploration phase only. Potential risks from production activities are not applicable to this project, as there will be no production activity, permanent facilities, or pipelines. Due to the temporary nature of the drilling program, a major spill is unlikely. However, water quality, spills, and spill response are under the authority of ADEC and managed through the SPCC Plan. Although the Division considers these risks as a whole, the authority to permit the activity lies with ADEC. In addition, blowout preventers (BOPs) are required equipment on rigs, and the rig and BOP are inspected by the AOGCC prior to drilling. The Division’s analysis of spill issues and Caelus’ measures to avoid or minimize the risk of spills is set forth in greater detail in the Plan decision.

As discussed above, *REDOIL* did not declare any statute or regulation unconstitutional, and the relevant statutes and regulations do not require or allow the Division to bifurcate its process into a preliminary and final decision. The public was provided notice and an opportunity to comment on the proposed Plan. The public has the opportunity for further input by appealing the Division’s Plan decision to the Commissioner.

**Comment 11:** “The Beaufort BIF also discusses reasonably foreseeable impacts to fish populations from later phases, including exploratory drilling... Further, it explains that “[w]ithdrawal of water from lakes and ponds could affect fish overwintering habitat by entraining juvenile fish, lowering water levels, and increasing disturbance.” Despite acknowledging these potential impacts in the BIF, DNR provides no analysis of the impacts of the expected water withdrawal for the project — predicted at 3.4 million gallons — nor has DNR taken the requisite “hard look” at possible impacts to fish habitat from ice road and pad construction. Though DNR was not required to speculate about potential effects at the BIF stage, “this does not mean that these effects, once known, are not to be considered.” Now that DNR is aware of the location and characteristics of the proposed project — including road routes and the quantity and location of water withdrawal — it is constitutionally required to conduct further analysis of the direct, indirect, and cumulative impacts of the project.”

“In addition, the building and use of ice roads, ice airstrips, and ice pads can have adverse impacts. The extraction of water for building ice-based facilities potentially uses millions of gallons per lake, which could decrease dissolved oxygen concentrations and increase lake temperatures. This would impact sensitive fish species by increasing daily metabolic costs, reducing growth, and increasing the chance of weight loss or starvation. It is essential to conduct winter fish presence surveys in lakes prior to permitting and water extraction for building ice roads.

“Since fish potentially migrate to overwintering locations in the fall right before freeze up, summer fish surveys used to assess overall impacts may not be representative of species present and of overwintering habitat used, and could underestimate development impacts on fish. If

winter surveys are not possible we recommend — in order to protect sensitive overwintering fish species — that all habitat deeper than approximately 1.6 m be considered overwintering habitat with sensitive fish until winter fish surveys are conducted. Additionally, we recommend that conservative water withdrawal restrictions of 10% under ice volume be followed until adequate winter fish surveys are complete. It is important to document the extent and timing of fish presence surveys performed for the public to comment on.”

**Division Response:** The Division considered water usage and impacts on fish and wildlife, as set forth in greater detail in the Plan decision. The Division also considered the oversight that other government entities provide concerning these issues. Fish presence surveys, overwintering, cross country travel across anadromous streams, and water withdrawal from fish bearing lakes is managed by the ADFG. In addition, Temporary Use Authorization (TWUAs) for water withdrawal are issued through the DNR DMLW. Ice road and ice pad placement and construction is authorized through the DNR DMLW Northern Region Office (NRO). Caelus has active fish habitat permits for their cross country travel and water withdrawals from fish bearing lakes from the ADFG. The permits were issued in January 2014, transferred to Caelus from NordAq in August 2015, and are valid through June 1, 2019. Caelus has received TWUAs through the DNR DMLW. The ability to restrict water withdrawals is within the TWUA authorization. DNR DMLW NRO issued land use permit LAS 29943 for the thermistor installation, ice road, and off lease ice pad construction on August 25, 2015.

**Comment 12:** “Caelus proposes to transport materials and equipment, using both marine barges, snow and ice roads (over 166 miles), and sea-ice routes. The project also would require onshore infrastructure and support facilities, which could have adverse impacts. This infrastructure will have impacts on nearby lands and wildlife and, presumably, subsistence activities that DNR must analyze.”

**Division Response:** The Division considered potential impacts to wildlife, habitat, and subsistence from both the proposed activities under this Plan and additional activities Caelus might propose throughout the exploration phase. Discussion of these issues is set forth in greater detail in the Plan decision.

**Comment 13:** “DNR must also reconsider impacts to terrestrial habitat and animals from project activities. For example, in the BIF, DNR noted that overland transportation and camp trails can have impacts on the tundra vegetation that are slow to recover. DNR also explained that “[p]otential impacts [to caribou] can occur at all phases.” Similarly, activities can have significant impacts on polar bears, which “may be present in the upland and offshore areas year round.” The potential impacts to polar bears include disruption of denning, attraction to areas of activity, and adverse interaction with humans.” The impacts to denning, given that the project is a winter project, could be significant. Despite acknowledging these impacts to terrestrial

vegetation and animals, however, DNR failed to provide any analysis related to the current proposal.”

**Division Response:** Because this exploration project is temporary and will occur in the winter, the potential impact to tundra is minimal. The impact of any cross country travel off of established gravel roads is considered by the DNR DMLW NRO when issuing land use permits for ice roads/cross country travel. The Division considered Caelus’ overall plans when considering the potential impacts of the exploration phase, but notes that the Plan itself authorizes activities only within Caelus’ lease area. For activities outside the lease, DNR DMLW issued land use permit LAS 29943 on August 25, 2015 for Caelus’ winter off-road tundra travel, ice road/pad construction, and thermistor installation on all State owned surface lands using State approved vehicles.

There are several regulations imposed by state, federal, and local agencies that are implemented to avoid, minimize, and mitigate potential effects to bears. In addition to complying with the Endangered Species Act and the Marine Mammal Protection Act, Caelus must comply with mitigation measures to minimize effects of exploration activities on bears.

For example, Beaufort Sea mitigation measure A.2.d.i.A-G requires lessees to prepare and implement a human-bear interaction plan. Caelus submitted a copy of their Wildlife Avoidance and Interaction Plan as an appendix to the Plan. Beaufort Sea mitigation measure A.2.d.iii requires lessees to consult with the USFWS to identify the locations of known polar bear den sites. Operations must avoid known polar bear dens by one mile. Lessees who encounter an occupied polar bear den not previously identified must report it to the USFWS within 24 hours and subsequently avoid the new den by one mile. If a polar bear dens within an existing development, off-site activities must be restricted to minimize disturbances. Caelus has contacted USFWS regarding the proposed project and has submitted a request for Letter of Authorization for Incidental Take and for Intentional Take by Harassment. Caelus will consult with USFWS prior to commencing operations in order to identify locations of polar bear dens. Caelus has notified USFWS of its intention to participate in the USFWS FLIR program to identify polar bear den locations. Further, Caelus will follow the guidelines and procedures outlined in their Wildlife Avoidance & Interaction Plan in order to avoid and mitigate interactions with polar bears and their dens.

The Division considered potential impacts to wildlife and the laws and mitigation measures in place to avoid or minimize these impacts. These issues are discussed in greater detail in the Plan decision.

**Comment 14:** “DNR also must reconsider impacts to marine mammals, including bowhead whales, and other subsistence resources including caribou. The project area is a high subsistence

use area — both the area in and around Smith Bay by Barrow and Atkasuk and the proposed drill-rig transportation routes by Nuiqsut. Potential impacts to subsistence include those from noise, which include behavioral changes such as avoidance and diversion from typical migratory paths and feeding habits. Importantly, whales are disturbed by sound from drill rigs — resulting in “a significant temporary loss of habitat” during and after drilling activities. This could, in turn, have impacts on subsistence use. Vehicle, aircraft, and drilling noise may divert marine mammals further from shore, thus diminishing hunting areas for Alaska Natives. Despite acknowledging these potential direct, indirect, and cumulative impacts in the BIF, DNR has conducted no analysis of the impacts to whales or other subsistence resources from Caelus’ operations in Smith Bay area, nor has it examined the concomitant effects from human and vehicle presence in the area on terrestrial mammals, including caribou. DNR has not provided any analysis, let alone a constitutionally adequate analysis, of the impact on subsistence resources.”

**Division Response:** The Division considered potential impacts to wildlife, including whales and caribou, as well as law and mitigation measures to avoid or minimize those impacts, as discussed in greater detail in the Plan decision. In addition to complying with the Marine Mammal Protection Act, lessees must comply with seasonal drilling restrictions in identified subsistence whaling zones and coordinate with local whaling groups, communities, and other interested parties. Exploration must be conducted in a manner that prevents unreasonable conflicts between oil and gas activities and subsistence whale hunting. Lessees are required to have an approved oil discharge prevention and contingency plan through ADEC. Beaufort Sea mitigation measures A.3.c.i-iii for whale harvest protection are specifically related to the siting of permanent facilities. There are no permanent facilities proposed for the Tulimaniq CT-2 exploration program.

**Comment 15:** “Lastly, DNR must consider the effects of full removal of infrastructure following completion of operations, and whether there will be sufficient funds to do so in a manner that would restore the region to its pre-infrastructure conditions.”

**Division Response:** Because this is an exploration program, all facilities and infrastructure are temporary in nature. Demobilization of the facilities is expected to occur in May 2016, in accordance with Beaufort Sea mitigation measure A.1.1. All temporary facilities and waste will be removed, all ice pads will be scraped to remove residual waste, and the well will be plugged and abandoned, per AOGCC regulations. Packed snow roads and ice pads will be allowed to degrade naturally through thawing. In addition, 11 AAC 83.158(c) requires that a lessee provides for payment of damages to the State by posting a bond, and remains liable for full damages under the lease. Caelus has a Statewide Oil and Gas Bond in the amount of \$500,000 and continuing liability under the lease.

# Appendix C - Equipment list

## Tulimaniq Exploration Project Equipment List

All-Terrain Vehicles
Steiger or T-Bear ATV Haul Unit
Pisten Bully 400 ATV Unit
All Terrain Water Buffalo Truck (120 bbl)
Foremost Delta 3 Fuel Tank (2500 gal)
CAT D6 Dozer (R or N) GPS for Grade Control
Tucker Snow-Cats
Snow Machines - Ski Doo 600 Super Wide Track
Snow Bird - Drill / Flood Pump
Steiger or T-Bear ATV Haul Unit

Camp Units
Pre-Pack Survival Camp
8 Person Camp Wet Sleeper
10 Person Camp - Copper River
20-Person Camp - Wolverine Camp
36-Person Camp - Galena Camp
52-Person Camp - Yukon Camp
64-Person Camp - Kuskokwim Camp
Kitchen / Dining Room Modules
Mobile Shops
Office Units/Modules

Camp/Rig Support Equipment
Wastewater Processing Module (1,000-2,500 gal)
Potable Water Processing Module (5,200 gal)
Settling Tanks - Wastewater Treatment Plant
Potable Water Holding Tanks
Wastewater Holding Tanks
Generators (40-300 kW)
Bull Rail Heavy Duty

Cranes and Loaders
75-80 Ton Cranes
Volvo 220 / CAT 980 Loader with Bucket and Forks
Volvo 120 Loader with Bucket and Forks

## Tulimaniq Exploration Project Equipment List

### CAT 988 Vertical Forklift

### Miscellaneous Equipment

16-M Motor Grader

14-H Motor Grader

CAT Skid Steer

Light Towers 8KW

ESI Heaters

Fuel Sloop (2,500 gal)

Pisten Bully Fuel Tank (2,500 gal)

Double-Walled Fuel Tank (1,000- 23,000 gal)

Double-Walled Fuel Tank (Skid Mounted – 10,000 gal)

Pump Shacks

Skid Mounted Vac Truck (60 bbl)

Loader Mounted Snow Blower

Loader Mounted Trimmer

Loader Mounted Scarifying Attachment

2007 Case Magnum Snow Blower / Chipper Combo (275HP)

Trail Groomers

Excavators

Hydraulic Breaker Attachment - 20 Ton Excavator

Ice Shacks

Smoke Shacks

Shale / Cuttings Bins

Manlift

Trash Pump

Rig Mats (8 ft by 40 ft)

EnviroVac

### Trailers – All-Terrain and Highway

60 Ton Sub Base Heavy Haul ATV Trailer

60 Ton Double Drop Low Boy ATV Trailer

60 Ton Scissor Neck All Terrain Lowboy

25 Ton Marcep All-Terrain Trailers

40 Ton T-Bear Scissor Neck All-Terrain Trailer

Heavy Haul ATV Low Boy Trailer

<b>Tulimaniq Exploration Project Equipment List</b>
Pisten Bully Sleigh Trailer
Tuck Sno-Cat Trailer
Oilfield Floats
Heavy Duty Oilfield Float
Highway Scissorneck Lowboy
40' Goosneck Trailer (Expeditor)

<b>Trucks – Light, Medium and Heavy Duty</b>
Crew Cab Flat Bed Diesel 4x4 (Expeditor)
F-350 Crew Cab Pick-ups
9 Passenger Van
Mechanic's Truck w/ Heater
Mechanic's Truck - Fuel / Lube / Heater
36 Passenger Crew Bus
Arctic Super Sucker (18 cu yd)
Bed / Pole Truck (50-65 Ton)
T800 Fuel Truck (70-100 BBL)
Conventional Water Truck (100 BBL)
CAT 730 Articulated Ejector / Dump Truck
Tractor w/ Side Dump
Vac Tanker w/ Tractor (Black Water – 325 bbl)
Water Tanker w/ Tractor (325 bbl)
Kenworth Winch Tractor w/ Scissor Neck Lowboy
Highway Trucks w/ Oilfield Floats