



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Natural Resources

DIVISION OF OIL AND GAS

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December 20, 2016

James Mery
Sr. V.P., Lands and Natural Resources
Doyon, Limited
1 Doyon Place, Suite 300
Fairbanks, AK, 99701

**RE: MLUP/AK 16-005, Doyon North Nenana Basin 2D/3D Seismic Program 2017,
Geophysical Exploration Permit Approval.**

Dear Mr. Mery:

The Department of Natural Resources (DNR), Division of Oil and Gas (Division) approves the Doyon Nenana Basin 2D Seismic Program 2016 Miscellaneous Land Use Permit (MLUP) application, dated October 17, 2016, to conduct geophysical exploration on State of Alaska lands in the interior region of Alaska. The enclosed permit, MLUP/AK 16-005, authorizes Doyon to conduct a land seismic survey on State of Alaska land within the Upper Tanana River system north of the City of Nenana in the Nenana Basin subject to the conditions of the permit.

This permit is effective January 15, 2017 to May 10, 2017.

Issuance of a permit under 11 AAC 96 is not a disposal of an interest in land and does not grant a preference right to a lease or other disposal. The permit is revocable for cause for violation of a permit stipulation of this chapter, and is revocable at will if the DNR determines that the revocation is in the state's interest. The proposed activities are for a discrete and limited duration with limited, temporary impact to the land, and are not part of a larger project or investment by the permittee that might weigh against revoking the permit. Therefore the permit is both legally and functionally revocable. Each permit issued is subject to any stipulations the DNR determines necessary to assure compliance with this chapter, to minimize conflicts with other uses, to minimize environmental impacts, or otherwise to be in the interests of the state. Public notice of any miscellaneous land use application is discretionary under 11 AAC 96.030(c). The Director of the Division of Oil and Gas (Director) has the right at any time to amend or modify any provisions of this permit, or revoke this permit.

Project Description: Proposed Activity, Associated Structures, Type of Equipment

Doyon, Limited (Doyon) will conduct a 3D seismic program within a 64 square mile area in the Nenana Basin northwest of the City of Nenana, additionally, they also plan to acquire a 2D seismic line northeast/north of the Toghotthele #1 well location (see Appendix C:). The geophysical

exploration area includes Toghotthele Corporation/Doyon land, Minto Flats State Game Refuge (MFSGR), Tanana Valley State Forest, and State of Alaska lands.

Access to the project area will be via helicopter, fixed wing aircraft, and limited use of snowmachines. Doyon will mobilize its equipment and crews from the Nenana Airport and field staging areas on private land into the seismic areas where temporary landing areas will be created (Appendix C: Figure 2).

Heli-portable drill unit, for placing charges, will be transported by helicopter sling load only. A Hughes 500, Bell K 117 850 D2, 205 or equivalent helicopter will be used for transport of drill units and crew transport.

The layout of the 3D survey include shot lines spaced 1320 ft between lines and with shot holes on the lines spaced every 440 ft or shot lines spaced at 1100 ft between lines with shot holes spaced 550 ft on the shot lines. The shot hole spacing on the 2D survey lines is 330 ft with 55 ft spacing between receivers. The final survey design is subject to minor changes during the planning phase. No camps or facilities will be constructed for this project. Crews will stay in Fairbanks or existing private commercial facilities and be transported to the project staging areas by motor coach.

Scope of Decision:

This decision is reviewing the following activities for Division approval:

Geophysical exploration activities on State of Alaska lands as defined in the application and modified by this permit approval.

This decision is not reviewing the following activities for Division approval:

Geophysical exploration activities on native allotments or private lands.

Land Status:

The proposed Doyon Nenana Basin 2D/3D Seismic program is located on state land and native land within the Nenana Basin (Appendix C). Many native allotments are within the project area and are shown on Appendix C: Maps. All known cultural resources in proximity to the seismic survey area would be protected during field operations by establishing a 100 ft buffer zone around protected or potential cultural resource sites. Doyon plans to acquire approximately 12.25 line miles and 64 square miles of data within the following locations:

Land Ownership by Meridian, Township, Range and Section(s)

Meridian: Fairbanks:

Native Allotments (shown on Appendix C: Map)

Township: 1S	Range: 8W	Section(s): 3, 4, 8, 14-16, 21-23, 28, 32, 33
	Range: 9W	Section(s): 27, 28, 34
Township: 2S	Range: 8W	Section(s): 3-5,8,10,11,14,15,17,26,27,32,34,35
Township: 3S	Range: 8W	Section(s): 3

State of Alaska

Township: 2S	Range: 8W Range: 9W	Section(s): 17-20, 29, 30 Section(s): 13-17,20-28
Township: 3S	Range: 8W	Section(s): 7,8,18
Township: 4S	Range: 9W	Section(s): 2

State (Tanana State Forest)

Township: 1S	Range: 8W	Section(s): 3-5,7-10,15-22,27-34
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State (Minto Flats State Game Refuge)

Township: 1S	Range: 7W Range: 8W Range: 9W	Section(s): 30-31 Section(s): 2,11,13,14,23-26,35,36 Section(s): 12-15,20-36
Township: 2S	Range: 7W Range: 8W Range: 9W	Section(s): 5-8,16-21,29-31 Section(s): 1,12,13,24,25,36 Section(s): 1-12

Toghotthele

Township: 2S	Range: 8W Range: 9W	Section(s): 2-11,14-16,21-23,26-28,31-35 Section(s): 33-36
Township: 3S	Range: 8W Range: 9W	Section(s): 2-6,9 Section(s): 1-3,10-14, 23, 26, 35

Identified Interests within the Project Area:

State of Alaska oil and gas leases held by Doyon, Limited.

Native Allotments: See above MTRS locations and Appendix C: Map

Mental Health Trust agreement/settlement ADL 229606.

RS 2477 Trails: Nenana-Tanana and the Old Mail Trail.

Land Agreements, Settlements, Reconveyances and Conveyances of land: Numerous parcels exist within the project area which are not state public domain land. These interests are identified in Alaska's Land Administration System and AlaskaMapper both available online at

<http://dnr.alaska.gov/mlw/index.htm>. This permit does not grant access to any non-public domain state lands or to non-state lands.

Agency Review:

The Division provided an Agency review and comment opportunity for the activities considered for authorization under this decision. The following government entities were notified on November 4, 2016 for comment on the application: Alaska Department of Fish and Game (ADFG), Alaska Department of Environmental Conservation, and DNR: Division of Mining Land and Water, Alaska Division of Forestry, Alaska Mental Health Trust, Office of Project Management and Permitting, and Division of Oil and Gas. The comment deadline was 4:30 pm Alaska time on November 21, 2016. Comments were received from ADFG and the Division of Forestry. The comments are summarized in Appendix B.

Public Review:

The public notice process is discretionary and was not initiated for this application.

Performance Guarantee:

The permittee has provided the Division with a performance guarantee under 11 AAC 96.060 in the amount of \$100,000.

Insurance:

The certificate of insurance has been furnished to the department and lists the State of Alaska, Department of Natural Resources as an additional named insured on the policy. The policy is issued by an insurer licensed to transact the business of insurance under AS 21.

Application Approved:

Should any unforeseen issues arise, the Division has the authority to amend or revoke this permit. As detailed in this permit, the Division shall be notified if, during the conduct of activities, a surface use conflict occurs. All activities conducted under this permit are subject to inspection by the Division, and if damage occurs, appropriate interest holders will be engaged and corrective action will be prescribed. The Division will impose additional provisions as necessary under 11 AAC 96.040 at any time during the activity approved under this permit to minimize impacts and conflicts.

The Division considered all facts material to this application including the permit provisions contained in this authorization per 11 AAC 96.040(b). The Division has determined that this permit as conditioned by the attached provisions for this non-permanent activity is in the state's interest. Stipulations in this permit authorization are necessary to protect the state's interest and the public interest.

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

December 20, 2016

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.

Sincerely,



Kim Kruse
Permitting Manager
Division of Oil and Gas

Appendices:

- A: Stipulations
- B: Comments
- C: Map(s)

ecc: AJ Wait DNR/MLW, aj.wait@alaska.gov
Bruce Buzby MHTO, bruce.buzby@alaska.gov
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James Hyun DNR/DOG, james.hyun@alaska.gov
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APPENDIX A: STIPULATIONS
MISCELLANEOUS LAND USE PERMIT FOR GEOPHYSICAL EXPLORATION

Geophysical and Seismic activities are subject to the following permit stipulations:

Standard Stipulations:

1. The permittee 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 permit by the permittee, its contractors, subcontractors and their employees.
2. A copy of the permit and stipulations must be posted in a prominent location where other permits and safety information are displayed for crew members. The permittee shall make available a copy of the application, all subsequent modifications, and a copy of this permit and all its attachments to any interested party upon request in a reasonable time.
3. The permittee shall notify and obtain a modification from the Division in advance of any activities which deviate from the approved permit. Any action taken by the permittee or his agent which increases the overall scope of the project or which negates, alters, or minimizes the implied intent of any stipulation contained in this permit will be considered a deviation from the approved permit.
4. The issuance of this permit does not alleviate the necessity of the permittee to obtain authorization required by other agencies for this activity.
5. The permittee shall inform and ensure compliance with all conditions of this permit by its employees, agents and contractors, including subcontractors at any level.
6. **Reservation of Rights:** The Division reserves the right to grant additional authorizations to third parties for compatible uses on or adjacent to the land under this permit. Authorized concurrent users of state land, their agents, employees, contractors, subcontractors, and licensees, shall not interfere with the operation or maintenance activities of each user.
7. **Valid Existing Rights:** This permit is subject to all valid existing rights and to the land. The State of Alaska makes no representations or warranties whatsoever, either expressed or implied, as to the existence, number, or nature of such valid existing rights.
8. The Commissioner of the DNR may require that an authorized state representative be present during any oil and gas activities described in or conducted under this permit.
9. The permittee shall consult the Alaska Heritage Resources Survey (907-269-8721) so that known historic, archeological and paleontological sites may be avoided. Should any sites be discovered during the course of field operations, activities that may damage the site will cease and the

Office of History and Archaeology in the Division of Parks and Outdoor Recreation (907-269-8721) shall be notified immediately.

10. The permittee shall make available, to the Division, all records relating to the permit activities and landowner approvals upon request.
11. The permittee shall observe and apply applicable setbacks as defined by 18 AAC 80.020, 18 AAC 72 and/or the International Association of Geophysical Contractors Setback Guidelines to activities approved under this authorization. Alternative setback distances may be employed to protect coastal uses and resources, water wells, structures, private property including livestock, and other resources if it is determined that a particular guideline is insufficient.
12. Trails, campsites and work areas must be kept clean. Trash, survey lath, markers, and other debris that accumulates in camps, along seismic lines, and travel routes that are not recovered during the initial cleanup, shall be picked up and properly disposed of within one calendar year.
13. The Director has the right at any time to modify or revoke this permit.
14. All wastewater must be disposed of in a manner acceptable to ADEC and must meet Alaska Water Quality Standards found at: <http://dec.alaska.gov/water/wqsar/wqs/>.
15. ADEC Drinking Water regulations 18 AAC 80 apply to public water systems.
16. Performance Guaranty. To ensure performance with all of the terms of the permit and to cover the potential cost of restoring the site, the permittee will maintain security acceptable to the state.
17. Insurance. The permittee shall maintain insurance to protect the State from risks associated with the planned activities during the term of the permit. The Permittee shall maintain a comprehensive general liability insurance policy with the state named as an additional insured party. The insurance requirement must be for no less than \$1,000,000.00 per occurrence and \$2,000,000.00 per annual aggregate. The insurance requirement may be adjusted periodically by the Division.

Land and Access Stipulations:

1. The permit authorizes the Permittee to conduct geophysical/seismic exploration activity upon lands owned by the State of Alaska. No person may engage in mineral exploratory activity on land, the surface of which has been granted or leased by the State of Alaska, or on land for which the state has received the reserved interest of the United States.
2. This permit does not authorize activity on Mental Health Trust Lands, School Trust Lands, Park Lands, or Lands of the University of Alaska.
3. Approval of this permit does not constitute the approval required for surface entry on non-state land without an agreement with the surface owner. This permit does not approve entry on private land.

Public Safety and Program Outreach Stipulations:

1. **Public safety:** Appropriate signage will be deployed on all access routes and roadways in the project area. The Department of Transportation or Right of Way Lessee may advise permittee on appropriate measures to maintain safe conditions where appropriate. The permittee must watch for, provide verbal warning to and document people or vehicles entering potentially dangerous areas of the project. Lighting and marking with lath or fluorescent tape of some project work areas is advised for activities that occur during periods of sustained darkness or where conditions are unsafe for humans or animals.
2. **Notices:** To avoid unintended conflicts with other users, the permittee shall post a Notice of this project at conspicuous locations including key travel intersection crossings, areas of public use and in a prominent location in any operators or contractors staging area or camp. The Notice shall include the Division's contact number (907-269-8800), project title and permit number, names and contact telephone numbers of the permittee and all operators. The permittee shall provide notices on behalf of the Division to all upland owners involving shoreland, tideland, or submerged land adjacent to the upland owner's property if no notice or agreement is made with the owner by the permittee as required under 11 AAC 96.030(c). All forms of public outreach must be documented and reported to the Division as they occur.
3. In areas of subsistence and personal use harvesting, the permittee will coordinate survey activity with local users to prevent unnecessary conflicts. The permittee shall make a good faith attempt to coordinate survey activities with the owners of trap lines if known. Existing snowmachine, dogsled, or other trails, should be marked with survey lath where they intersect receiver and source lines. The permittee is required to post notice of potentially dangerous or hazardous project activities at these locations.

Fuel and Hazardous Substances Stipulations:

1. **Fuel and hazardous substances.** Secondary containment shall be provided for fuel or hazardous substances, as defined under AS 46.03.826 (5) or under 42 U.S.C. 9601(14) F.
2. **Fuel or hazardous substance transfers.** Secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends during fuel or hazardous substance transfers. Appropriate spill response equipment to respond to a spill of up to five gallons must be on hand during any transfer or handling of fuel or hazardous substances. Transfer operations shall be attended by trained personnel at all times.
3. Fuel or hazardous substances container(s) with a total combined capacity larger than 55 gallons shall not be stored within 100 feet of a waterbody.
4. Sorbent material in sufficient quantity to handle operation spills must be on hand at all times for use in the event of an oil or fuel spill.
5. Any use of explosives or blasting materials must comply with ADFG Habitat Publication No. 13-03, Alaska Blasting Standard for the Proper Protection of Fish. Additionally the permittee

must contact the nearest ADFG Division of Habitat office regarding the need for a Fish Habitat permit.

6. Stationary fuel storage facilities must not be placed within the annual floodplain of a watercourse or closer than 100 feet to a waterbody. There shall be no fueling, servicing or repair of vehicles or equipment, and no vehicles shall be left unattended within the floodplain or below the ordinary high water line of any river, lake or stream or closer than 100 ft. to a waterbody or wetland. [potentially not possible on some slope projects in the winter]

Wildlife Stipulations:

1. All activities shall be conducted in a manner to minimize or avoid disturbance to wildlife and their habitat. Hazing of wildlife is prohibited unless a Health Safety and Environment concern is present.
2. Activities must avoid occupied grizzly bear dens and black bear dens, by one-half mile unless alternative mitigation measures to minimize disturbance are authorized by the Division after consultation with ADFG. Known den locations shall be obtained from the nearest ADFG Division of Wildlife Conservation office prior to starting operations. Occupied dens encountered in the field must be reported to the above, and subsequently avoided.
3. The permittee shall abide by the provisions of Alaska's wildlife feeding regulation, 5 AAC 92.230.
4. Activities within State-designated special areas (AS 16.20.010- .162, .500-.690) will be conducted in a manner consistent with the area's statutes regulations and management plan.

Project Specific Stipulations:

1. Detonation of explosives within or in close proximity to fish-bearing waters must not produce instantaneous pressure rises in the water column of more than 7.3 psi where fish are present. Peak particle velocities in spawning gravels are limited to no more than 2.0 in/s during the early stages of embryo incubation before epiboly is complete. Based on best available data, fishbearing water bodies in the program area include the Tanana River and its side channels, Totchaket Slough, and lakes with a depth of more than six feet as measured by Doyon during a 2013 lake sediments survey (ADFG).
2. An Elodea Invasive Aquatic Plant plan needs to be developed by the permittee and submitted to ADFG prior to the start of drilling activities, including practicable measures to avoid Elodea and to minimize potential effects should it be encountered (ADFG).
3. To minimize the potential for bark beetle outbreaks resulting from harvest or clearing operations, felling of white spruce or creation of white spruce slash should not be completed during the bark beetle flight period (approximately May 15-July 15), if possible. Any operations in or near white spruce should be conducted to minimize root compaction and/or mechanical damage to the lateral roots or tree trunks of residual trees (Division of Forestry).

4. Any white spruce slash greater than approximately four (4) inches in diameter resulting from project operations should be processed (e.g. processed for firewood or debarked and/or chipped) before the next beetle flight period (Division of Forestry).
5. If suitable equipment is available, debarking of spruce slash pieces >4" diameter is preferred (Division of Forestry).
6. Cut white spruce should be bucked onsite into manageable bolts (logs) and stacked into tight triangular decks of 10-15 bolts. Decks can be placed in the woods, but should be placed away from residual white spruce (Division of Forestry).

Reporting Stipulations:

1. **Geophysical Data Submission Requirement Form:** As a stipulation of the issuance of this MLUP for Geophysical Exploration, the permittee acknowledges the requirements of 11 AAC 96.210 (1) and agrees to 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>. Your signature acknowledges your obligation to fulfill the Data Submittal requirements. This report shall be submitted to dog.redata@alaska.gov before each survey commences.
2. **Activity Completion Report** Upon expiration of the MLUP or completion of all activities authorized under the MLUP, whichever occurs first, an Activity Completion Report must be submitted summarizing activities, equipment trails, camps and staging areas, damages to State lands and surface impacts, lost equipment, fires, and unintended explosions, spills, land-use conflicts and work completed. The report shall include a map depicting all mulched trails. Rehabilitation, if required, shall be completed to the satisfaction of the DNR. This report shall be submitted to dog.permitting@alaska.gov.

If the term of the MLUP exceeds one calendar year from the date of approval, an annual Activity Completion Report, in addition to the final Activity Completion Report, must be submitted discussing the above information and projected activities for the rest of the permit term. If no activities are completed under the MLUP, an Activity Completion Report must be submitted on or before the expiration of the MLUP stating that no activities occurred.

3. **Geophysical Activity Completion Report Form:** The permittee must complete and return a Geophysical Activity Completion Report form for each survey acquired. Please submit a separate form for each sub-program data submittal. A non-confidential public completion report will be placed into the MLUP permit file each time a sub-program 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. If no activities are completed under the MLUP, an Activity Completion

Report from must be submitted on or before the expiration of the MLUP; be sure to check box 27 to indicate the survey was cancelled.

4. **Geophysical Processing Completion Report Form:** The permittee must complete and return a Geophysical Activity Completion Report form for each survey acquired. Please submit a separate form for each sub-program data submittal. A confidential Processing Completion report will be submitted each time a sub-program 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
5. **In-Field Operations Notice:** During activities conducted under the MLUP, the permittee must submit weekly reports summarizing activities undertaken and their location within the permit area. These reports shall be submitted to dog.permitting@alaska.gov.
6. **Spill Notifications:** The permittee shall comply with the ADEC requirements for reporting the unauthorized discharge, leak, or spill of hydrocarbons or toxic or hazardous substances. The permittee shall notify the Department of Natural Resources of all spills that must be reported under 18 AAC 75.300 under timelines of 18 AAC 75.300. All unintentional fires and explosions must be reported to DNR immediately. The DNR 24-hour spill number is (907) 451-2678; the fax number is (907) 451-2751. DNR and ADEC shall be supplied with all follow-up incident reports.
7. **Blowouts,** as defined as the detonation of source points that caused surface damaged, are reportable if the surface damaged is larger than 36 inches. The report must include the location (Lat./Long. in WGS 84) and pictures of the blowout. All blowouts will need to be reclaimed or rehabilitated to the satisfaction of the Alaska DNR.
8. A summary record of all surface impacts, lost equipment, spills, fires, and unintended explosions, shall be included in the Permitting Section's completion report. Rehabilitation, if required, shall be completed to the satisfaction of the DNR.
9. All fires and explosions that require a response to protect life and property must be reported to DNR and ADEC immediately and shall be supplied with all follow-up incident reports.
10. The Division's Permitting Section shall be notified in Anchorage by telephone at 907-269-8800 and by email at dog.permitting@alaska.gov if, during the conduct of activities, state resources are damaged or a conflict occurs.
11. The permittee shall make available a copy of the seismic application, all subsequent modifications, and a copy of this permit and all its attachments to any interested party upon request in a reasonable time.

I acknowledge, and agree to these Permit terms, conditions and stipulations.

December 7, 2016


Authorized Representative Signature


Date

James Mery, Sr. V.P. Lands & Natural Resources
Authorized Representative Printed Name

Appendix B:

Agency Review Comments

Alaska Department of Fish and Game, Preliminary comments were submitted on November 21, 2016 and subsequent comments (below) submitted on November 23, 2016.

“Detonation of explosives within or in close proximity to fish-bearing waters must not produce instantaneous pressure rises in the water column of more than 7.3 psi where fish are present. Peak particle velocities in spawning gravels are limited to no more than 2.0 in/s during the early stages of embryo incubation before epiboly is complete. Based on best available data, fishbearing water bodies in the program area include the Tanana River and its side channels, Totchaket Slough, and lakes with a depth of more than six feet as measured by Doyon during a 2013 lake sediments survey.

Totchaket Slough provides habitat for the range of resident fish species. It is also the only waterbody in interior Alaska outside the Chena Basin that has been found infested with an invasive aquatic plant known as common waterweed or Elodea (*Elodea canadensis*, see http://dnr.alaska.gov/ag/ag_Elodea.htm). Elodea is an underwater perennial plant that can form tangled masses in lakes, ponds, and sloughs. It primarily reproduces by stem fragmentation, and broken plant fragments can root to form new plants. Elodea is a hardy perennial that does not fully die back, can survive harsh winters under ice, and can also survive when frozen in ice and travel long distances downstream. Once established, Elodea degrades fish habitat and displaces native flora and fauna, and can make boat travel difficult. The State of Alaska has designated Elodea a quarantined aquatic invasive plant (<http://plants.alaska.gov/invasives/aquatics.html>).

Special care must to be taken during any activity that could encounter Elodea, such as drilling in shallow areas along and adjacent to Totchaket Slough, to be sure that no propagules are moved to another area within or beyond the slough. An Elodea plan needs to be developed prior to the start of drilling activities, including practicable measures to avoid Elodea and to minimize potential effects should it be encountered. ADF&G is prepared to cooperate in development of such a plan, or to provide information sources and contacts, if requested.”

Division Response:

Comments noted and forwarded to the applicant. See project specific stipulations 1-2 in Appendix A.

Alaska Division of Forestry, November 18, 2016

“The Fairbanks Area Office has three timber sales available Over the Counter in the proposed project area. NC-754 (Tanana West #2), NC-1318 (Tanana River West #4), and NC-1341 (Tanana River West #5) are all winter access multiple unit sales located in Sections 9, 10, 15, 16,

17, 21, 22, 27, and 28 of Township 1 South, Range 8 West, Fairbanks Meridian. Although these sale are not under contract at this time they may become active and further coordination with the Division of Forestry would occur.

Fire Safety and Prevention: The permittee shall take all reasonable precautions to prevent and suppress forest, brush and grass fires. Follow safe burning practices for: campfires, warming fires and smoking; care with machinery, helicopters; and have necessary fire suppression equipment on hand – to help stop the spread of fire, i.e. shovels, water carrying devices. Monitor existing wildland fire activity. Notify fire suppression agencies for Fairbanks Area Forestry Dispatch (907-451-2626). Have a method to communicate to personnel out in the field and for field personnel to communicate back to the office.”

Wood Salvage and Slash Management Practices to be included as special stipulations:

Large trees, greater than five (5) inches in diameter, shall be disposed of as follows:

- a. Spruce: Logs shall be cut into 24 inch maximum length sections. Sections shall be scattered not piled in open areas. This is to permit rapid drying to prevent bark beetle outbreak. Log sections shall not be covered by slash, brush, or other residue. Sections shall be placed to prevent them from being introduced into any surface waters.
- b. All other tree species: Logs shall be cut into 10-15 foot lengths and placed so they cannot roll or be introduced into any surface waters.
- c. When feasible, firewood should be made available for public use.
- d. Removal of brush, slash and trees less than five (5) inches in diameter, will be accomplished by any of the following two methods:
 - (1) Spreading and scattering in the adjacent brush area without damaging other trees, or
 - (2) Chipping and scattering in such a way as to preclude the slash/brush from being washed into any surface waters.

Additional comments from Forestry on 11/28/2016:

White spruce: To minimize the potential for bark beetle outbreaks resulting from harvest or clearing operations, felling of white spruce or creation of white spruce slash should not be completed during the bark beetle flight period (approximately May 15-July 15), if possible. Any operations in or near white spruce should be conducted to minimize root compaction and/or mechanical damage to the lateral roots or tree trunks of residual trees.

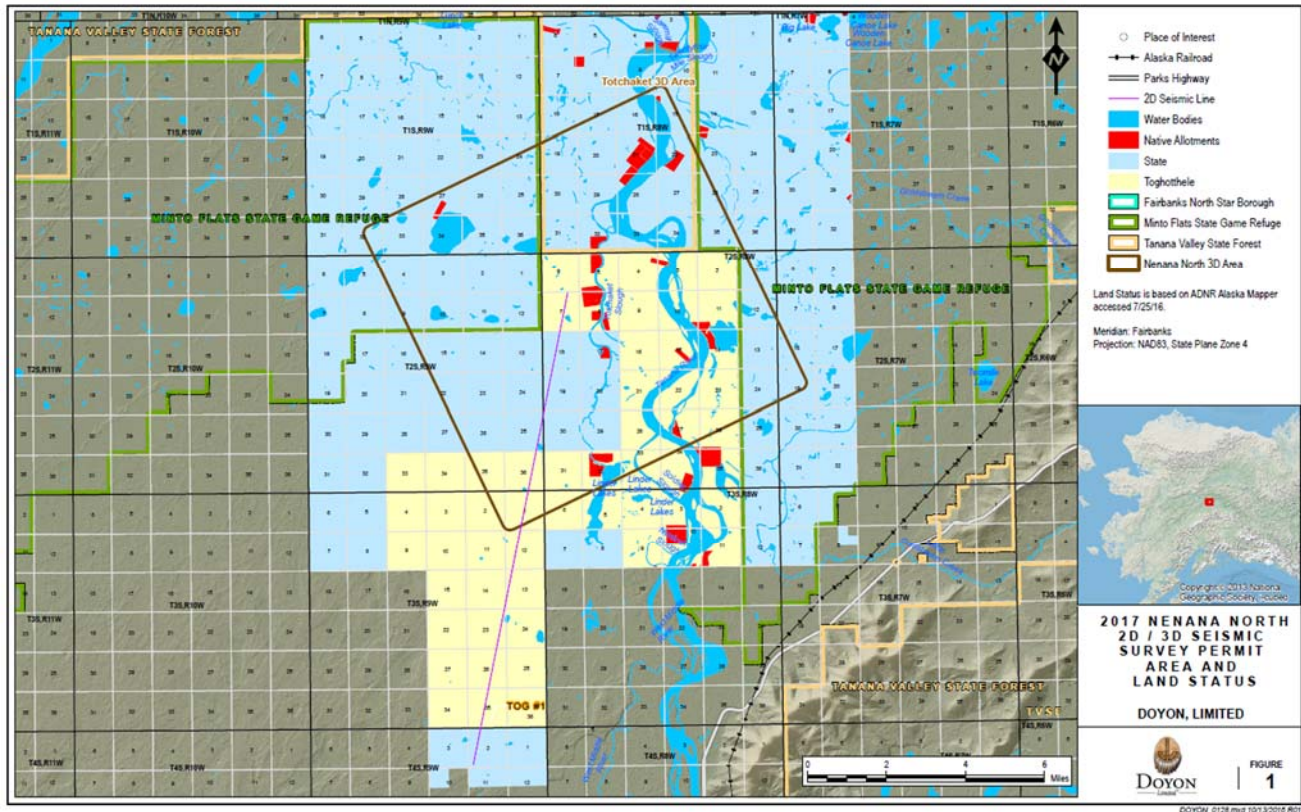
Any white spruce slash greater than four (4) inches in diameter resulting from project operations should be processed (e.g. processed for firewood or debarked and/or chipped) before the next beetle flight period. The following guidelines are provided to mitigate bark beetle population buildups resulting from project operations:

- a. If suitable equipment is available, debarking of spruce slash pieces >4” diameter is preferred.
- b. Cut white spruce should be bucked onsite into manageable bolts (logs) and stacked into tight triangular decks of 10-15 bolts. Decks can be placed in the woods, but should be placed away from residual white spruce.

Division Response:

Comments noted and forwarded to the applicant. See project specific stipulations 3-6 in Appendix A.

Appendix C: Maps



Appendix C: Maps

