LEASE PLAN OF OPERATIONS APPLICATION

State of Alaska

Department of Natural Resources, Division of Oil & Gas

550 W. 7th Ave, Suite 1100, Anchorage, AK 99501-3563

Phone: 907-269-8800 Fax: 907-269-8943

Permitting Email: dog.permitting@alaska.gov

SECTION I: APPLICANT INFORMATION

1. Applicant:

Name: Ahtna, Inc., dba, Tolsona Oil and Gas Exploration LLC

Mailing Address: 110 West 38th Avenue, Suite 100

City: Anchorage

State: AK Zip Code: 99503

Phone: 907.334.9664 Fax: 907.272.6356

Email: Enter Email.

2. Applicant Contact:

First Name: Daniel Last Name: Lee

Title: Oil and Gas Business Development

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

Mailing Address: Enter Mailing Address.

City: Enter City. State: Enter State. Zip Code: Enter Zip Code.

Phone: 907.433.0708 Fax: 907.272.6356

Email: dlee@ahtna.net

SECTION II: THIRD PARTY INFORMATION

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

Third Party Company Name: Restoration Science and Engineering, LLC

First Name: Arran Last Name: Forbes

Title: Environmental Scientist

Mailing Address: 911 West 8th Avenue, Suite 100

City: Anchorage

State: AK Zip Code: 99501

Phone: 907.278.1023 ext. 1109 Fax: 907.277.5718

Email: aforbes@restorsci.com

Describe the affiliation to the Applicant:

Contractor for project permitting

SECTION III: APPLICATION DATE AND NUMBER

(FOR OFFICE USE ONLY)

Application Date:

RECEIVED
REVISED
NOV 18 2015
DIVISION OF OIL AND GAS

Application Number: 15-008

SECTION IV: PROJECT INFORMATION

1. Project Name: Tolsana Exploration Project – Tolsona #1 Pad Construction and Exploration Drilling

2. Proposed Start Date: 12/1/2015

3. Project Description:

Describe what and where:

Ahtna proposes to construct a new gravel pad, Tolsona #1 pad, and a gravel access road within an existing road

system west of Glennallen, Alaska at milepost 175 of the Glenn Highway; and drill one natural gas exploration well. The access road is part of an existing road system for the Crosswind Lakes area and surrounding state recreational land. The road traverses wetlands, but does not cross active stream channels. This is an exploration project and not a full permit package for development. See Appendix C for a complete project description.

SECTION V: LAND STATUS

1. State Mineral Estate:

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

Affected ADL: 392209 Date Effective: 12/1/2013 Date Assigned: Enter Date.

Oil And Gas Lessee(s): Ahtna, Inc.

Surface Ownership: State of Alaska

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

Special Use Lands: No designated special use land in project area, per 11 AAC 96.014

Jointly Managed Lands: No

Other Considerations: Applied to DMLW for easements to construct gravel roads within an existing road system, and to construct permanent gravel pad for future parking and to access Crosswind Lakes area and state recreational land.

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Access road, segment 1 (ADL 232341), portion of '175 Trail' of the Crosswind Trail System (ADL 229183)	C004N004W, Section 23	At Glenn Highway: X: 1655890.42446 Y: 2961713.2667
Access road, segment 2, Tolsona Wellsite Road (ADL 232342)	C004N004W, Section 23	At cut-off to from '175 Trail': X: 1655532.14461 Y: 2965014.80092
Tolona #1 Pad (ADL 232343)	C004N004W, Section 23	Center of pad: X: 1658141.99536 Y: 2966861.81978

Affected ADL: Not applicable Date Effective: Enter Date. Date Assigned: Enter Date.

Oil And Gas Lessee(s): Click here to enter text.

Surface Ownership: Click here to enter text.

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

Special Use Lands: Click here to enter text.

Jointly Managed Lands: Click here to enter text.

Other Considerations: Click here to enter text.

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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Affected ADL: Not applicable Date Effective: Enter Date. Date Assigned: Enter Date.

Oil And Gas Lessee(s): Click here to enter text.

Surface Ownership: Click here to enter text.

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

Special Use Lands: Click here to enter text.

Jointly Managed Lands: Click here to enter text.

Other Considerations: Click here to enter text.

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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Affected ADL: Not applicable Date Effective: Enter Date. Date Assigned: Enter Date.

Oil And Gas Lessee(s): Click here to enter text.

Surface Ownership: Click here to enter text.

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

Special Use Lands: Click here to enter text.

Jointly Managed Lands: Click here to enter text.

Other Considerations: Click here to enter text.

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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Affected ADL: Not applicable Date Effective: Enter Date. Date Assigned: Enter Date.

Oil And Gas Lessee(s): Click here to enter text.

Surface Ownership: Click here to enter text.

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

Special Use Lands: Click here to enter text.

Jointly Managed Lands: Click here to enter text.

Other Considerations: Click here to enter text.

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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2. State of Alaska Surface Lands:

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

Oil And Gas Mineral Estate Owner: State of Alaska; see Section V.1. (not split estate)

Access Authorization(s): Click here to enter text.

Special Use Lands: Click here to enter text.

Jointly Managed Lands:

Other Considerations:

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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Oil And Gas Mineral Estate Owner: Not applicable

Access Authorization(s): Click here to enter text.

Special Use Lands: Click here to enter text.

Jointly Managed Lands: Click here to enter text.

Other Considerations: Click here to enter text.

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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Oil And Gas Mineral Estate Owner: Not applicable

Access Authorization(s): Click here to enter text.

Special Use Lands: Click here to enter text.

Jointly Managed Lands: Click here to enter text.

Other Considerations: Click here to enter text.

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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3. Private Lands:

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

Oil And Gas Mineral Estate Owner: Ahtna, Inc. (IC 246)

Surface Ownership And Access Agreement(s): Tazlina, Inc. (IC 245); Ahtna Inc has a surface use agreement for Ahtna 1-19 pad.

Special Use Lands: Not applicable, native owned land

Jointly Managed Lands: Yes. Tazlina Inc. owns surface estate; Ahtna Inc., owns subsurface estate.

Other Considerations: Ahtna, Inc. and Tazlina Inc. have a use agreement for the Ahtna 1-19 Pad

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
Ahtna 1-19 pad, off-site project staging area	C004N003W, Section 19	Center of Area: X: 1667852.34374 Y: 2964033.43171
		Click here to enter text.
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Oil And Gas Mineral Estate Owner: Not applicable

Surface Ownership And Access Agreement(s):

Special Use Lands:

Jointly Managed Lands: Click here to enter text.

Other Considerations: Click here to enter text.

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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Oil And Gas Mineral Estate Owner: Not applicable

Surface Ownership And Access Agreement(s): Click here to enter text.

Special Use Lands: Click here to enter text.

Jointly Managed Lands: Click here to enter text.

Other Considerations: Click here to enter text.

Project Components	Meridian, Township, Range, And Section(s)	GPS Coordinates
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SECTION VI: BOND INFORMATION

Bonded Company: To be provided before operations commence.

Type: Number: Amount:

Bonding Company:

Mailing Address:

City: State: Zip Code:

Phone: Fax: Enter Fax. Email:

SECTION VII: SEQUENCE AND SCHEDULE OF OPERATIONS

Project Milestone #	Project Milestone	Proposed Start Date	Proposed End Date
1.	Site Preparation (date not confirmed; depends on project permitting)	12/1/2015	12/31/2015
2.	Construct Gravel Access Road and Drill Pad	1/1/2016	2/15/2016
3.	Mobilize Equipment	2/16/2016	3/17/2016
4.	Spud and Drill Well	3/18/2016	4/17/2016
5.	Complete Well	4/18/2016	4/24/2016
6.	Test Well	4/25/2016	5/8/2016
7.	Suspend, Complete or Abandon well	5/9/2016	5/22/2016
8.	Demobilize Equipment	5/23/2016	6/12/2016
9.	Site Clean-up	6/13/2016	6/30/2016
10.	Remediation / Rehabilitation (date to be determined)	TBD	TBD

SECTION VIII: PROJECTED USE REQUIREMENTS

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

PAD: The proposed Tolsona #1 Pad (ADL 232343) is approximately 4.0 acres with a polygonal shape designed for maximum wetland avoidance and generally oriented east to west. The surface area of the proposed pad length ranges from 323 to 566 feet, and the width ranges from 107 to 209 feet, so as to minimize impacts to the surrounding emergent wetlands. Appendix A includes figures showing the proposed pad location, dimension, and layout for the Tolsona #1 Pad and the Ahtna 1-19 Pad. The relatively small footprint of the pad is reflective of offsite equipment staging for well development at the existing Ahtna 1-19 Pad. The Ahtna 1-19 Pad is located two miles to the east of the well site and is accessed via the Glenn Highway at Milepost 177. Additional equipment staging may occur at the Ahtna-owned Fisher Pit located at Milepost 182 of the Glenn Highway (see Appendix A for location). Proposed construction of the Tolsona #1 Pad includes leveling brush without disturbing the vegetative mat, except at the cellar location as described below, salvage of marketable timber, placement of geotextile fabric within the pad footprint, and placement of gravel fill imported from an Ahtna-owned material site (see Section VIII.7) over the fabric. Gravel fill will be compacted and a 2-foot containment berm will be constructed around the perimeter of the pad. Well installation will include construction of a well cellar and installation of a conductor, which will require removal of the vegetation and underlying soils in a 100 square foot area to approximately ten feet below ground surface. Extricated soils will be temporarily stored on the Tolsona #1 Pad or Ahtna 1-19 Pad and reused as backfill of the cellar at the conclusion of activities.
ACCESS: Ahtna proposes to use an existing public easement to access the Tolsona #1 Pad location via the 175 Trail of the Crosswind Trail System and a private easement for a portion of newly constructed road and the pad. The plan to improve the existing road system is discussed under the "Roads", Section VIII.8., and is evaluated under the mitigation measures in Appendix B. During drilling operations, Ahtna will provide manned security stations at the intersection of the 175 Trail and the cutoff road to the wellsite (Tolsona Wellsite Road), and at the intersection of the Glenn Highway and the Ahtna 1-19 Pad Road (see Appendix A for maps showing locations). Public access will be permitted along the 175 Trail, but will not be allowed to cross northeast toward the drill Tolsona #1 Pad during operations. The pad may be fenced during operations. The Ahtna 1-19 Pad will be secured with a manned security station as described above. Fencing will be installed on the Ahtna 1-19 Pad to cordon-off the area used for temporary drilling waste storage. Contingent upon ADNR authorizations being in place, at the conclusion of operations the 175 Trail Road, Tolsona Wellsite Road, and the Tolsona #1 Pad will be available for public use as a means of accessing the Crosswinds Lake area and surrounding state recreational land. Appendix A contains engineering design drawings for the proposed pad and road. The

Project Description in Appendix C contains a table with fill and impact estimations for the proposed Tolsona #1 Pad and easements. A copy of the Army Corps of Engineers Section 404 permit has been sent to the ADNR for reference. Appendix B discusses the mitigation measures in place as a result of road improvements and new access and pad construction.

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

No permanent buildings are proposed as part of the Tolsona exploration project. Ahtna will mobilize two temporary pre-fabricated office facilities at the Tolsona #1 pad location. One office will have a day-use kitchen and sleeping area. The facilities will each measure 12 feet by 48 feet. The majority of personnel will be housed in Glennallen; select personnel required for 24-hour surveillance of the operations will reside in self-contained camper trailers parked on the Ahtna 1-19 pad or possibly one at the Tolsona #1 pad. The Tolsona #1 pad will include portable toilets serviced by a local third party contractor. Household and biological waste will be disposed of at a qualified location offsite by a local third party waste management service as described in Section VIII.4. Two temporary security stations will be erected; one at the intersection of the 175 Trail and Tolsona Wellsite Road, and one at the intersection of the Glenn Highway and Ahtna 1-19 Pad Road. The security stations will be maintained 24 hours a day during operations to prevent unauthorized access into the well site and staging areas, and to provide for public safety along the access road. The security stations will be manned with a guard/medic who will be able to address medical incidents that may occur onsite, as well as to ensure only authorized personnel enter the project areas. The security stations will measure no more than 10 feet by 10 feet and will be disassembled and removed at the conclusion of project activities. Power will be delivered to the temporary facilities via onsite generators as discussed in Section VIII.6. No public utilities will be utilized for the operations of temporary facilities onsite. At this time, production facilities are not part of the proposed project.

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

FUEL: Fuel for the drill rig and project operations will be obtained from a local third party fuel service provider based out of Glennallen. Ahtna will receive daily shipments of fuel. Fuel transfer operations will be conducted under the contractor Spill Prevention Control and Countermeasure Plan (SPCC) by trained personnel. Fuel transfers will be conducted in a manner that protects the site from leaking or dripping fuel. Ahtna and its third party contractors will maintain an emergency spill kit including, but not limited to, absorbent pads, booms, and containment ponds. No fuel will be transferred within the annual flood plain or below the ordinary high water line of any river, lake, or stream.

STORAGE: Fuel will be stored on the drill rig. No additional fuel tanks will be stored on either the Tolsona #1 Pad or the Ahtna 1-19 Pad. The drill rig has an integral capacity for 5,020 gallons, and is double-walled with a secondary containment capable of holding 110% the internal volume. Fuel will not be stored within 100 feet of any lake, river, stream, or within the annual floodplain for the region. In the event of an accidental release during refueling the drill rig, or other equipment, immediate containment of the spill will be initiated to preventfurther migration of potential impacts, and notifications to appropriate personnel and agencies will be made in accordance with the SPCC to determine and execute corrective actions as required. Additional storage practices are addressed in the Mitigation Measures in Appendix B.

BEST MANAGEMENT PRACTICES: Vehicles leaking fuels, oils, hydraulic fluids, or cooling fluids will not be operated in the project area. Servicing or repair of vehicles or equipment will not occur within the annual flood plain, or below the ordinary high water line for any river, lake, or stream. Fuel tanks will be periodically inspected for evidence of leaks, overfilling, or compromise; in-situ tanks on the drill rig will be routinely inspected in accordance with industry and manufacturer standards. The perimeter of the Tolsona #1 Pad will be surrounded by a 2-foot high gravel containment/filtration berm to protect the surrounding area from potential spills or non-point source pollutant discharges. Additional best management practices are discussed in the

Mitigation Measures, Appendix B.
HAZARDOUS WASTE DISPOSAL: Generation of hazardous wastes including batteries, glycol, and motor oil will be minimized to the extent practicable through reduction and reuse. Hazardous wastes will be stored in closed containers with secondary containment capable of storing 110% of the internal volume, and be transported offsite by a third party contractor based out of Glennallen on an as needed basis. The temporary storage of hazardous wastes will be in accordance with the Alaska Department of Environmental Conservation (ADEC) Temporary Waste Storage Plan filed for this project. Temporary waste storage will be located within a secured fenced area on the Ahtna 1-19 Pad. Ahtna will notify the appropriate regulatory agencies prior to initiating waste storage and disposal.
LIQUID DRILLING WASTE: Approximately 5,000 barrels of liquid drilling waste is anticipated to be generated over the course of the exploration (1 barrel = 42 gallons). Liquid drilling waste will be stored in closed 400 barrel vertical tanks with lined containment in accordance with 18 AAC 60. Drilling fluids or cuttings will not be discharged into lakes, streams, rivers, or wetlands. Drilling fluids will be transported off the Tolsona #1 Pad and temporarily stored within a fenced area on the Ahtna 1-19 Pad pending disposal at an approved disposal site. Storage containers will be constructed in accordance with industry specifications and include secondary containment capable of holding 110% the internal volume. Ahtna will maintain an emergency spill kit as described above; in the event of a release of drilling fluids, Ahtna will conduct immediate efforts to contain and minimize the spill, and will notify all necessary agencies of the release for the initiation of corrective actions. Should the Tolsona #1 well be abandoned, Ahtna may pursue permitting as an underground injection control well for disposal of annular wastes through the Environmental Protection Agency (EPA), ADNR and Alaska Oil and Gas Conservation Commission (AOGCC). Temporary storage of liquid drilling waste may occur on the Tolsona #1 Pad during staging of materials for transport to the Ahtna 1-19 Pad.
SOLID DRILLING WASTE: Approximately 250 to 300 cubic yards of drilling waste are anticipated to be generated during drilling operations. Solid drilling waste will be containerized onsite in six 400 barrel upright tanks, and be temporarily stored within the fenced area of the Ahtna 1-19 Pad pending testing and treatment as may be required prior to disposal at the Glennallen Regional Landfill. Temporary storage of solid waste may occur on the Tolsona #1 Pad during staging for transport. A diagram showing the location of temporary fuel storage is included in Appendix A to this document. Drilling waste will include mud and cuttings, and will be exempt from the Resource Conservation and Recovery Act (RCRA). Tanks for solid waste disposal will be closed and include secondary containment. Liner material, where used, will have a minimum 30 mil flexible membrane or 60 mil high density polyethylene in accordance with 18 AAC 60. Ahtna will file a Temporary Waste Storage Plan with the ADEC on-site storage of wastes, and will notify the appropriate regulatory agencies prior to initiating waste storage and disposal. Accidental release of drilling waste outside of containment will be reported to the ADEC Solid Waste Program. At closure, notification will be provided to the ADEC. Additional discussion on solid waste is included in the Mitigation Measures, Appendix B.

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

HOUSEHOLD AND BIOLOGICAL: Household waste, such as that generated in the temporary office operations, will be transported offsite by a third party contractor based in Glennallen once a week, to the Glennallen Regional Landfill privately operated by Copper Basin Sanitation Services. Gray water and human waste will be collected in onsite portable toilets and disposed of by a local third party contractor once a week. Medical waste will be segregated and disposed of at a separate, approved facility. Household and biological waste will be disposed of in accordance with the ADEC Waste Disposal Permit issued for the project.
CONSTRUCTION WASTE: Construction waste will be transported offsite by a local third party contractor once a week to the Glennallen Regional Landfill. Approximately 20 tons of construction type solid wastes are anticipated to be generated during project activities. Solid drilling waste is discussed under Section VIII.3; additional discussion on solid waste is included in the Mitigation Measures, Appendix B.

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

DOMESTIC: Water for personnel use will be delivered to the Tolsona #1 Pad from offsite sources. Drinking water will be supplied as commercially bottled water. Water for use as gray water will be delivered by a local third party contractor as needed. See Section VIII.4 for a discussion of liquid waste disposal. The amount of water required for personnel use is approximately 150 gallons per day. Water for gray water use will be stored adjacent to the field office as shown in Appendix A. Gray water waste will be collected in adjacent tanks as shown.

CONSTRUCTION and DRILLING: No water use is anticipated for road or pad construction due to a winter construction schedule. Maintenance of the road during spring operations will require approximately 100,000 gallons of water for dust suppression. Drilling operations will require approximately 100,000 gallons of water. Water will be purchased from a local third party contractor extracting from a permitted water source. Water for drilling operations will be delivered to the site in 4,200 gallon water trucks directly into the drill rig. Water for dust control will be discharged directly onto the road surface, or into onsite barrel storage as needed. Ahtna will most likely employ the Saxon 147 drill rig, which has an integral water tank capacity of 16,500 gallons and will be maintained full. Additional water storage may occur on the Ahtna 1-19 Pad in 100 barrel containers as needed. Temporary water use from nearby sources is not proposed as part of either construction or operations activities.

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

No public utilities will be used for this project. Power will be generated by 5 KW diesel-powered generators: two at the Tolsona #1 Pad used for the mud logging unit and portable shop, one at the Ahtna 1-19 Pad for auxiliary camp use, and one at each security station for lighting and heat. Additional small generators may be used to power caution signs on the Glenn Highway (one from each direction). Ahtna will most likely use the Saxon 147 drill rig, which contains a built-in generator for internal power.

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

Ahtna will purchase gravel materials from Material Site 42-3-011-5, the Fisher Pit, located at Milepost 182 of the Glenn Highway. The Fisher Pit is jointly owned by Ahtna, Inc. and the Bureau of Land Management (BLM). Gravel will be extracted and purchased from the Ahtna portion of the material site. This site is listed as MS 42-3-011-5 and MS 42-3-046A-5 in the Alaska Department of Transportation and Public Facilities (ADOT&PF) material site database. No state material site is anticipated to be used for this project.

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

Ahtna proposes to use an existing road system, section line easement, and portion of newly constructed road for access to the Tolsona #1 pad location. Roads are not currently constructed within this system; however, the routes are clearly established by historic and current recreational vehicle use for access to Mud Lake and the Crosswind Lakes area to the north. Ahtna proposes to improve this existing road network by constructing a permanent gravel road for access to the Tolsona #1 Pad. This access road would allow for safer, more practicable recreational travel into the Crosswind Lakes area, including off-highway parking areas so that vehicles will no longer create traffic hazards on the Glenn Highway.

The proposed access road will require between 2 feet and 8 feet of fill to maintain a level surface across the undulating wetlands, with a 2:1 side slope. The gravel road footprint is approximately 40 feet wide, and the easement width is 60 feet. The proposed road will commence at Milepost 175 of the Glenn Highway running north approximately 3,248 lineal feet along the 175 Trail of the Crosswind Trail System (ADL 232341). The

access road will divert from the 175 Trail and traverse 3,265 lineal feet northeast along the Tolsona Wellsite Road (ADL 232342) to avoid emergent wetlands on the 175 Trail and a lake within the north section line easement to the proposed pad location. The total road length to the Tolsona Pad is approximately 6,513 lineal feet (1.23 miles).

Construction of two vehicle pull outs and turnaround areas is proposed, one at the intersection of the 175 Trail and Tolsona Wellsite Road, and one near the intersection of the Glenn Highway and the 175 Trail (see Appendix A for maps showing the respective locations). The surface area of each pullout will be approximately 20 feet by 155 feet situated on the side of the road. At the conclusion of activities at the pad, the pullouts will serve as public parking for access to the Crosswind Trail System. A parking area approximately 60 feet by 50 feet is also proposed at the end of the first segment of the access road to provide public parking for recreational users of the 175 Trail, and to facilitate public access during project operations (see Appendix A for locations).

To construct the road, Ahtna proposes brushing existing vegetation to grade and leaving cuttings in place to serve as a protective mat, and salvaging marketable timber to the extent required by the Division of Forestry. No removal of overburden is proposed for road construction. Ahtna will place a geotextile fabric liner over the vegetation to serve as a load distributing substrate and to prevent gravel from settling into the underlying wetlands. The permeable fabric will additionally allow for the infiltration of water into the vegetative mat. Over the fabric, Ahtna will add gravel imported from an Ahtna-owned material site located at Milepost 182 of the Glenn Highway as discussed in Section VIII.7. Culverts will be installed along the road to maintain hydrologic connectivity and existing drainage patterns through the wetlands. Culverts will be made of 24-inch diameter corrugated steel sufficient to span the 40 foot road.

Equipment using the proposed Tolsona Wellsite Access Road will include dump trucks, road graders, front-end loaders, bull dozers, crew cabs, water trucks, waste disposal trucks, and the drill rig. Equipment will be stored at the Ahtna 1-19 Pad, and potentially the Ahtna-owned Fisher Pit during construction. Upon well abandonment and contingent upon authorization from the ADNR, the private easements will be converted to public easements in ADNR's name. Contingent upon appropriate approvals and authorizations, roads will be unmaintained public easements left in a safe and accessible condition at the conclusion of project activities. The Project Description in Appendix C contains a table showing the relative impact areas of each road segment. Appendix A, Figures 5, 5A, and 5B are engineering design drawings for the proposed road and pad. A copy of the Army Corps of Engineers Section 404 permit has been sent to the ADNR for reference. Appendix B discusses the mitigation measures in place as a result of road improvements and new road construction.

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

Airstrips are not part of the proposed Tolsona exploration project.

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

Ahtna will likely use the Saxon 147 rig for drilling and well completion activities. Major components include the following: drill rig and pipe, boilers, mud tanks/mud pumps, rig generator, and light plants. Ahtna may use additional support equipment for infrastructure installation including but not limited to excavators, mini excavators, vacuum trucks, variable reach lift trucks, and a welding truck. Ahtna proposes use of the existing Ahtna 1-19 Pad, located at mile post 177 of the Glenn Highway for equipment staging. The Ahtna 1-19 Pad was constructed in 2005 during previous gas exploration activities on native land. Access to the Ahtna 1-19 Pad is via the Glenn Highway. Additional equipment staging may occur on the Ahtna-owned Fisher Pit during construction. Appendix A provides figures showing the location of the Ahtna 1-19 Pad and Fisher Pit relative to the Tolsona #1 Pad.

The 175 Trail will be open to the public upon completion of a permanent gravel road; public recreational all-terrain vehicles and pickup trucks will share the road with operations equipment, and road sharing will be mitigated by flaggers during mobilization and demobilization of the drill rig and other heavy equipment

movement. Potential use conflicts will be additionally mitigated by two vehicle pull out areas and a parking area as discussed in Section VIII.8. During operations, access will be restricted on the private easement to the wellsite along the Tolsona Wellsite Road with a manned security station. Infrastructure will be open to public access upon abandonment of the project and securitry stations and other deterrents such as safety flagging and signage will be removed.

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

Agency	Permit Type	Permit Number	Application Status	Projected Use Requirement(s)
United States Army Corps of Engineers (USACE)	Clean Water Act Section 404 Permit	TBD	Submitted 10/30/15	Required for fill activities of Waters of the US. Multiple wetlands included in project area.
Alaska Department of Natural Resources (ADNR)	Easements (three)	ADL 232341; ADL 232342; ADL 232343	Submitted 10/22/2015	Required for construction of road and pad on state land.
ADNR	Section 106 Cultural Resources Permit	2015-67	Authorized 10/13/2015	Required for cultural resources delineation as part of Section 404 diligence.
Alaska Department of Environmental Conservation (ADEC)	Storm Water Pollution Prevention Plan (SWPPP)	TBD	Not submitted	Required for discharging storm water from project area; is covered under general permit but requires notice of intent.
ADEC	Solid Waste Disposal Permit (construction, domestic, and drilling liquids and solids)	TBD	Not submitted	Required for storage and disposal of solid and liquid waste generated through project operations.
ADEC	Air Quality	TBD	Not submitted	Required for minimizing air quality impacts including dust and emissions during construction and operations.
Alaska Department of Fish and Game (ADFG)	Public Safety	TBD	Not submitted	Required for maintaining the safety of workers from animal threats.
Alaska Department of Transportation & Public Facilities (ADOT&PF)	Driveway Permit	TBD	Not submitted	Required for the entrance of the 175 Trail from the Glenn Highway.
Alaska Oil and Gas Conservation Commission (AOGCC)	Permit to Drill	TBD	Not submitted	Required to begin drilling operations.
AOGCC	Annular Disposal	TBD	Not submitted	Required for the disposal of drilling wastes.
AOGCC	Sundry Approval	TBD	Not submitted	Required for the disposal of drilling wastes.
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).
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Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).
Enter Agency.	Enter Permit Type.	Enter Permit Number.	Enter Application Status.	Enter Projected Use Requirement(s).

SECTION IX: REHABILITATION PLAN

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

At the conclusion of project activities and upon well abandonment, equipment on the Tolsona #1 Pad and access roads will be demobilized from the project area. Temporary structures such as the security stations nd mobile offices will be deconstructed and taken offsite. Signage pertaining to the project will be removed; if fencing is used, it will be deconstructed and removed. Contingent upon approval of appropriate authorizations from the ADNR, the road, parking/turnaround areas, and pad will be left in a safe condition for future public use with the culverts intact for continued maintenance of hydrologic connectivity across the road. Ahtna will abandon the project area in a condition as directed by the ADNR.

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

Contingent upon approval of appropriate authorizations from ADNR, Ahtna is proposing a permanent road and pad that will not be removed, rehabilitated, or otherwise restored at the conclusion of the project. As discussed in Section IX.1, equipment, materials, and debris will be removed from the roads and pad, and the infrastructure will be left in a manner that is satisfactory to the ADNR. In the event of a material release to the surrounding environment, corrective actions will be followed including restoration and/or rehabilitation as required by the relevant agencies.

SECTION X: OPERATING PROCEDURES DESIGNED TO MINIMIZE ADVERSE EFFECTS

Describe operating procedures designed to prevent or minimize adverse effects on other natural resources and other uses of the Lease area and adjacent areas including:

Fish and Wildlife Habitats:	There are no anadromous streams in the project area. Impacts to wildlife will be minimized through the following practices: construction activities within the project area would be conducted prior to May 1st to avoid impacts to breeding migratory birds; the proposed project will follow the USFWS recommendations for avoiding disturbance of migratory birds; hunting will not be allowed for project personnel that gain access to the site as a result of their association with the Tolsona Exploration Project; noise impacts from equipment and the drill rig will be moderate and temporary, and Ahtna will use sound dampening devices including insulated enclosures for generators--Ahtna will not require the use of aircraft or other elevated sources of noise that might results in widespread noise impacts; air quality impacts are minimized by the use of well-maintained equipment with required pollution control devices, and Ahtna will comply with the requirements of the ADEC Air Quality Permit; Ahtna and its drilling contractor, HXR Drilling Services, will have Health and Safety Plans in place, including a Human-Bear Interaction Plan; and Ahtna will comply with seasonal restrictions imposed by ADFG.
Historic and Archeological Sites:	On October 15, 2015 a cultural resources inventory and evaluation was conducted by Mr. Charles Mobley, Registered Professional Archeologist. Mr. Mobley conducted his investigation within the project area, and found no significant cultural resources within the investigation area. Ahtna, Inc. represents local native shareholder interests and bring a high degree of cultural awareness, local knowledge, and sensitivity to the project. If cultural or historic artifacts are discovered during construction or operations, project activities in that area will halt, and appropriate notifications to the Alaska Office of History and Archeology (OHA). Ahtna personnel and contractors will undergo a training program prior to

	beginning work that includes the procedures in the event an artifact is discovered.
Public Use Areas:	Public use in the project area will be enhanced by the construction of a permanent road, which will minimize the extent to which recreational users access the Crosswind Trail System from unestablished, off-road points. Streamlined access into the public use area will both limit the impacts of travel and enhance public safety.
Other Uses:	Impacts to the wetland values of the project area are minimized through road and pad design, which avoid high-value wetlands (such as Mud Lake to the north of the 175 Trail) to the maximum extent practicable, and utilize existing infrastructure such as the existing road system, section easement lines, Glennallen facilities, and the Ahtna 1-19 Pad to limit the project footprint. Additional wetland minimization efforts are provided in the Section 404 Permit, which has been sent to the ADNR for reference.

SECTION XI: GLOSSARY OF TERMS

Term #	Term	Term Definition
1.	Geotextile fabric	A permeable fabric that has the ability to separate, filter, reinforce, and drain the road prism as it interfaces against the native surface.
2.	Palustrine wetland	A wetland classification describing a nontidal marsh, swamp, bog, or fen, that is dominated by trees, shrubs, and persistent emergent mosses and lichens.
3.	Enter Term.	Enter Term Definition.
4.	Enter Term.	Enter Term Definition.
5.	Enter Term.	Enter Term Definition.
6.	Enter Term.	Enter Term Definition.
7.	Enter Term.	Enter Term Definition.
8.	Enter Term.	Enter Term Definition.
9.	Enter Term.	Enter Term Definition.
10.	Enter Term.	Enter Term Definition.

SECTION XII: CONFIDENTIALITY

The undersigned hereby requests that each page/section of this application marked confidential be held confidential under AS 38.05.035(a)(8).

APPLICANT CONTACT:

Sign here.			Enter Date.
Signature	Name	Title	Date

APPENDIX A: MAPS

Table of Contents – Maps and Figures for Tolsona Exploration Project

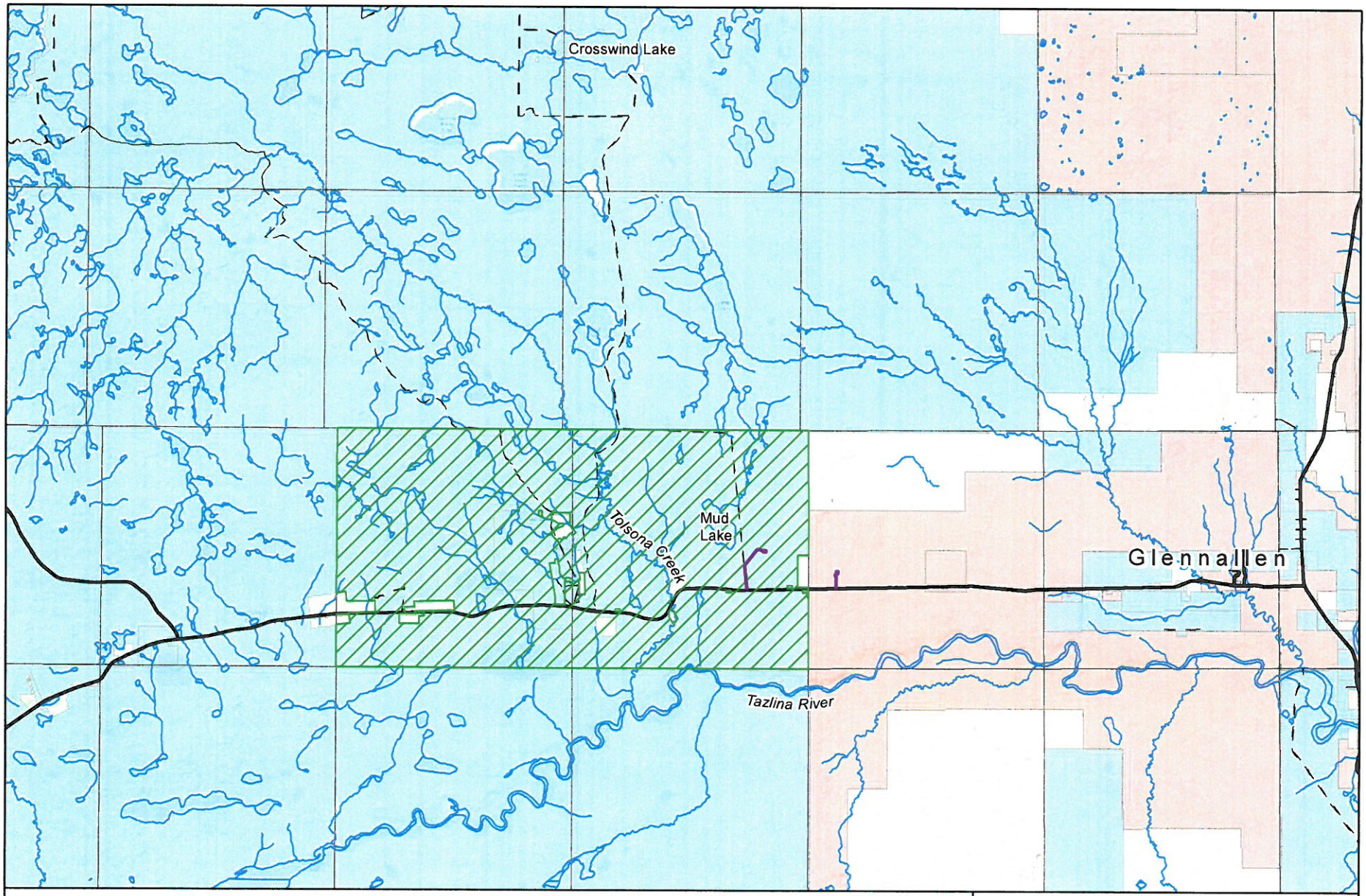


Figure 1: Tolsona Exploration License General Land Status

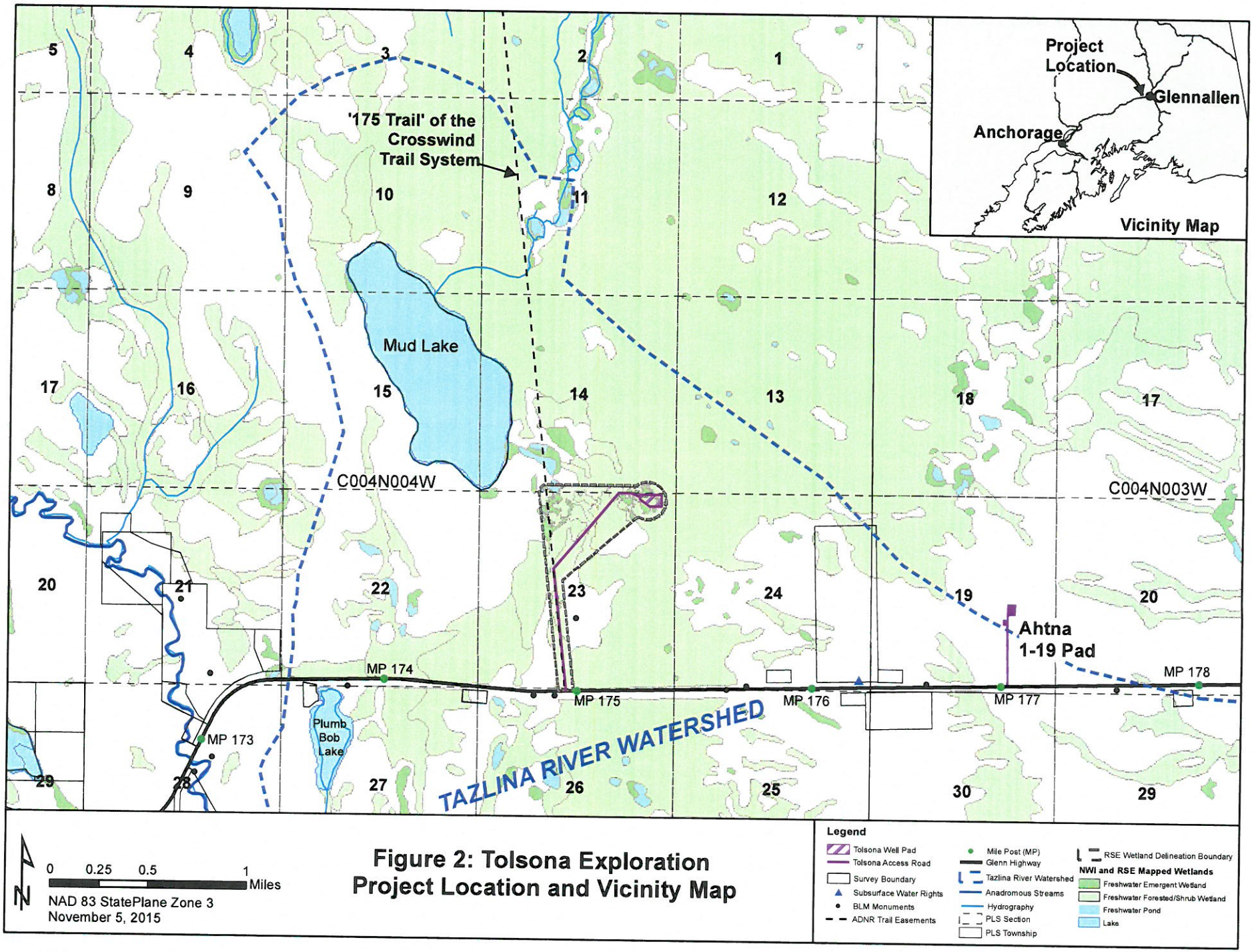


Figure 2: Tolsona Exploration Project Location and Vicinity Map

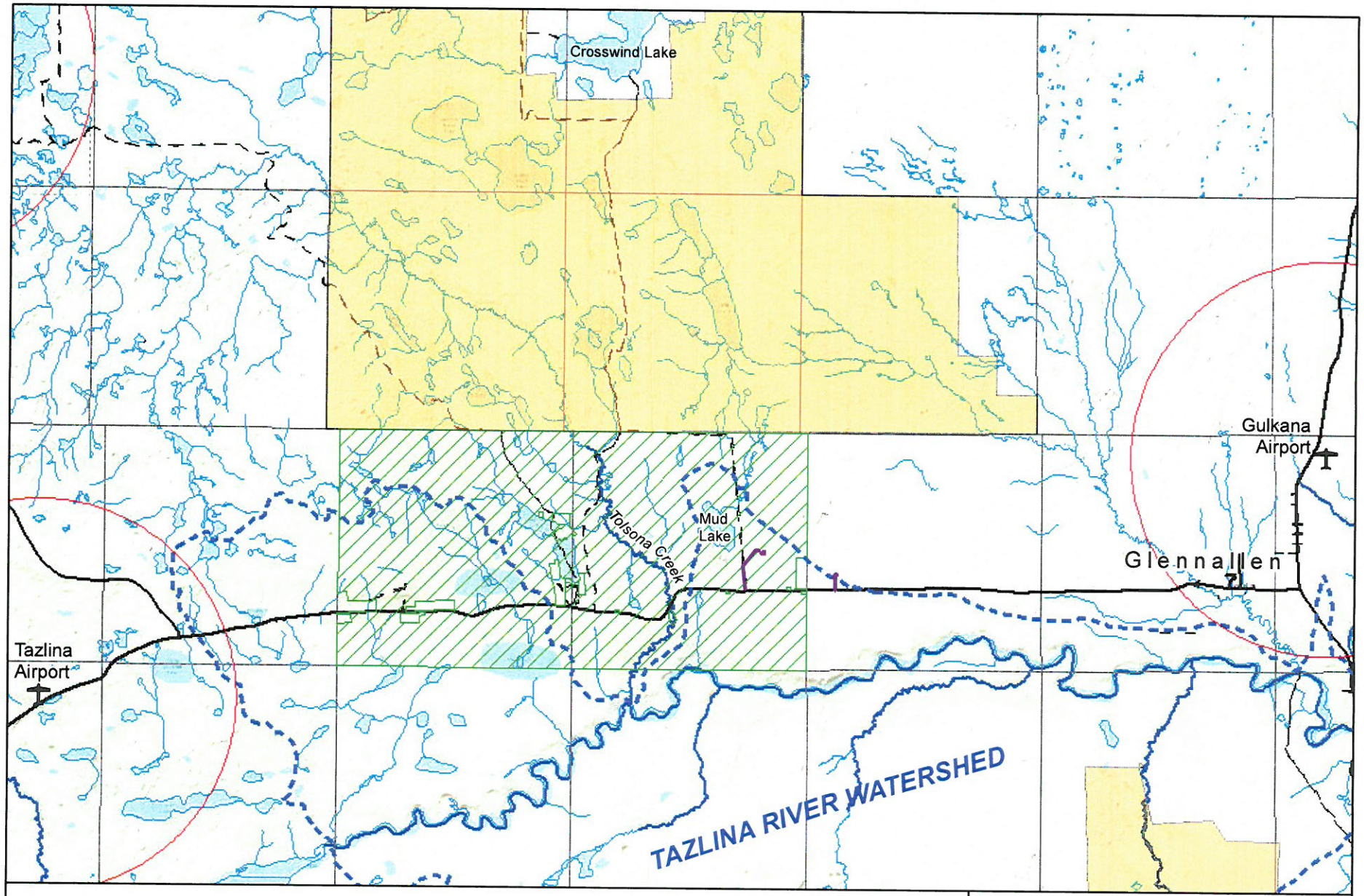
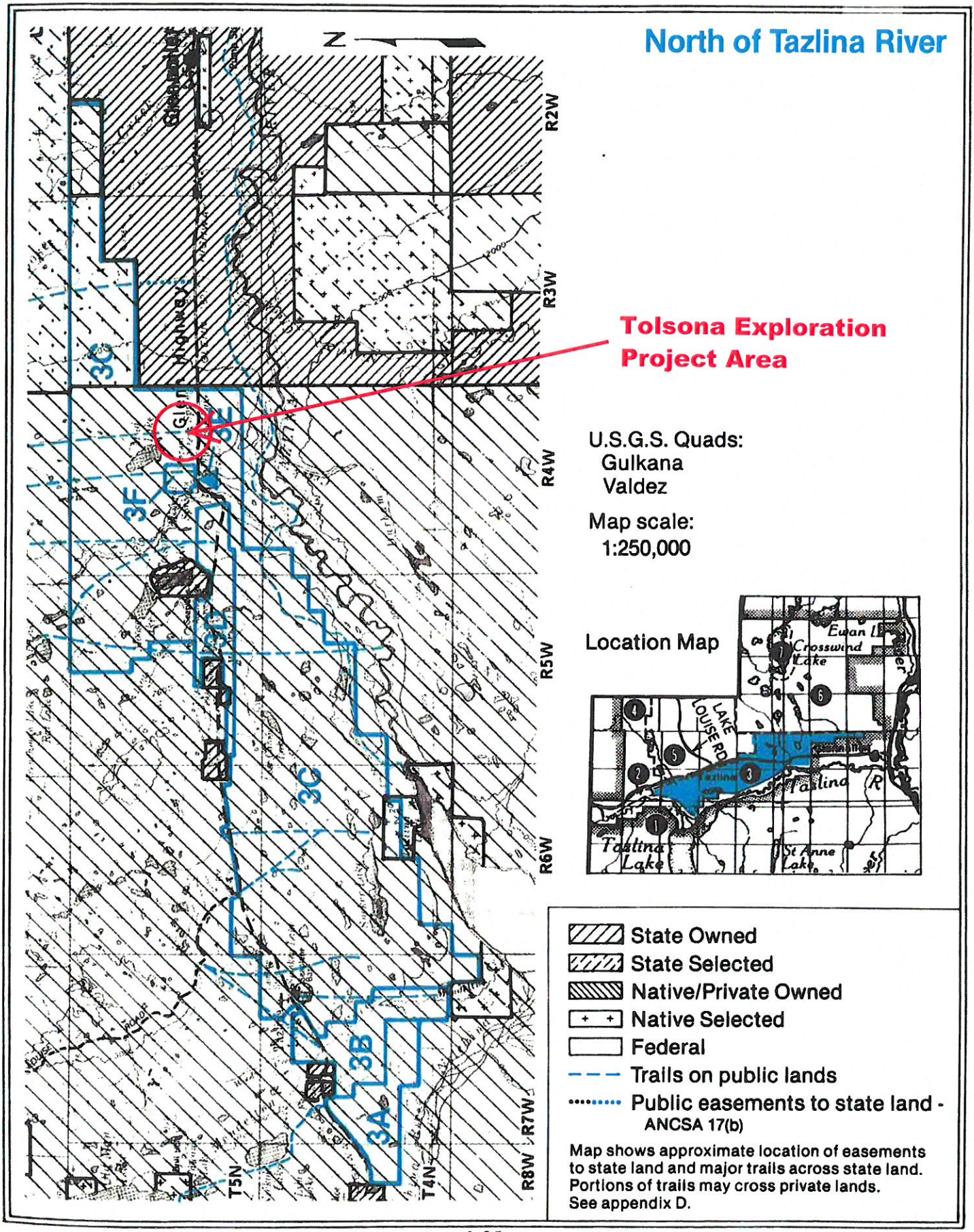


Figure 3: Sensitive Areas and Airports in the Tolsona Vicinity

Appendix A
Figure 4: Copper River Basin Management Plan

MANAGEMENT UNIT 3



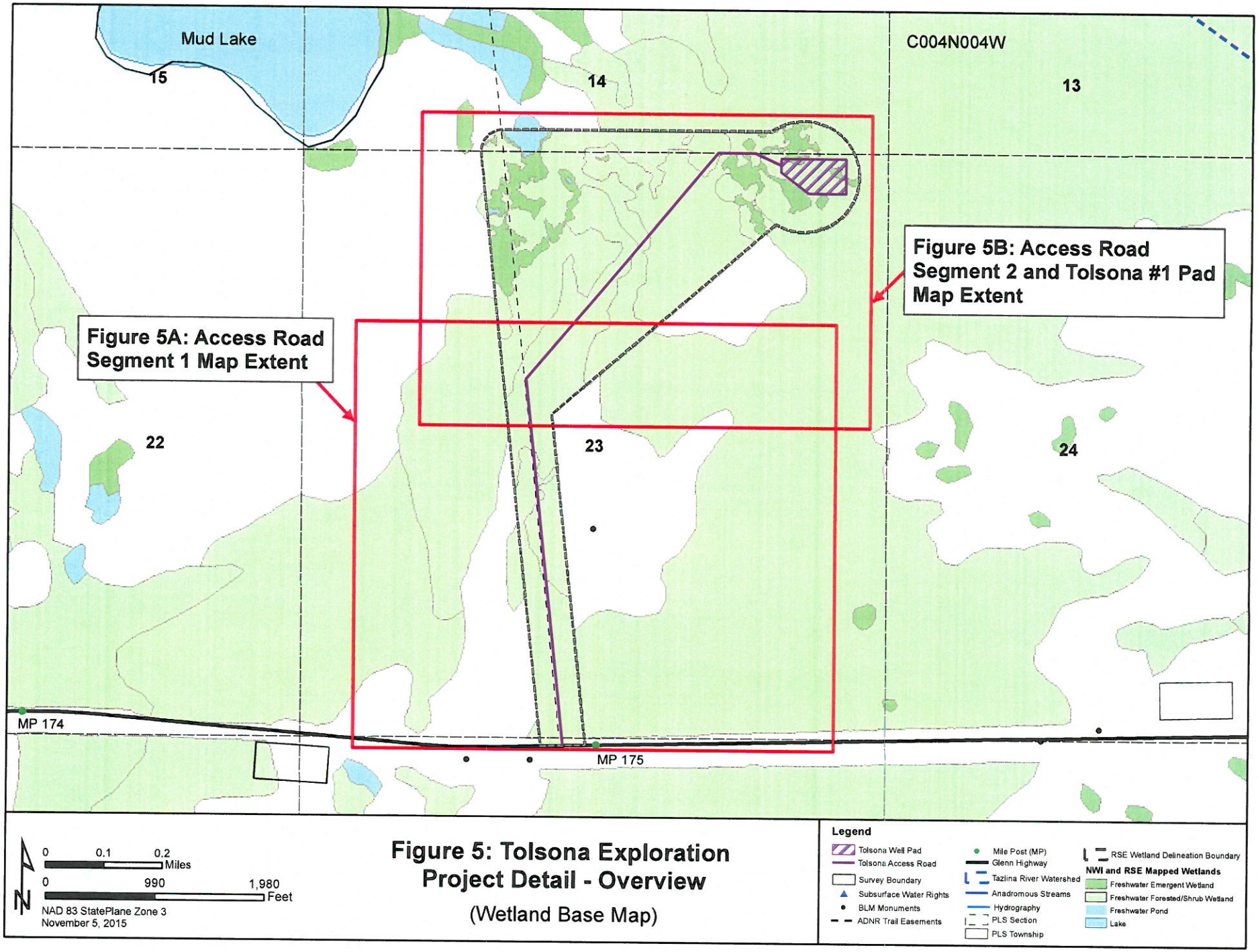


Figure 5: Tolsona Exploration Project Detail - Overview

(Wetland Base Map)

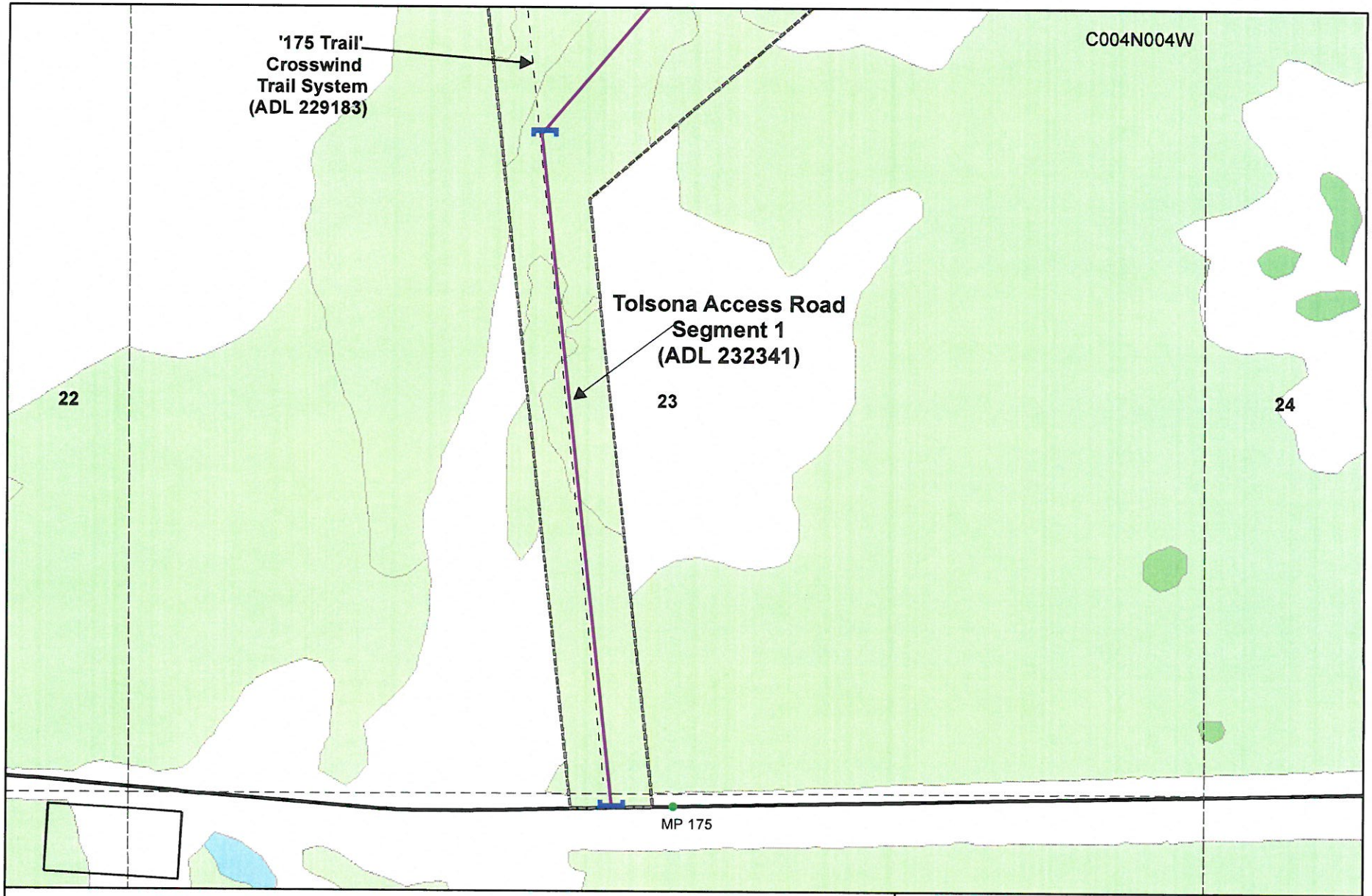
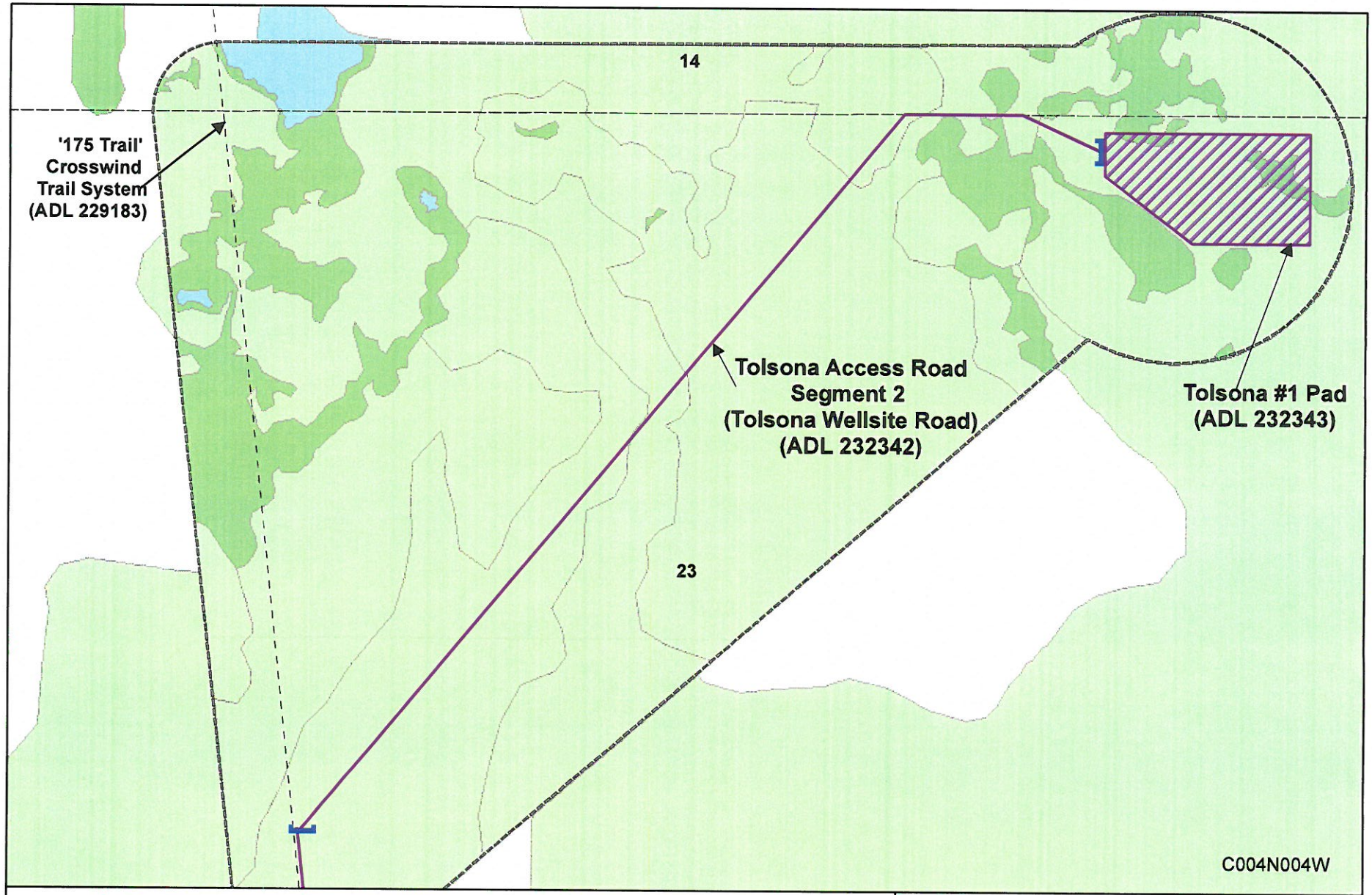


Figure 5A: Access Road Segment 1 (ADL 232341)

'175 Trail', Crosswind Trail System (ADL 229183)



0 200 400 Feet

N

NAD 83 StatePlane Zone 3
November 18, 2015

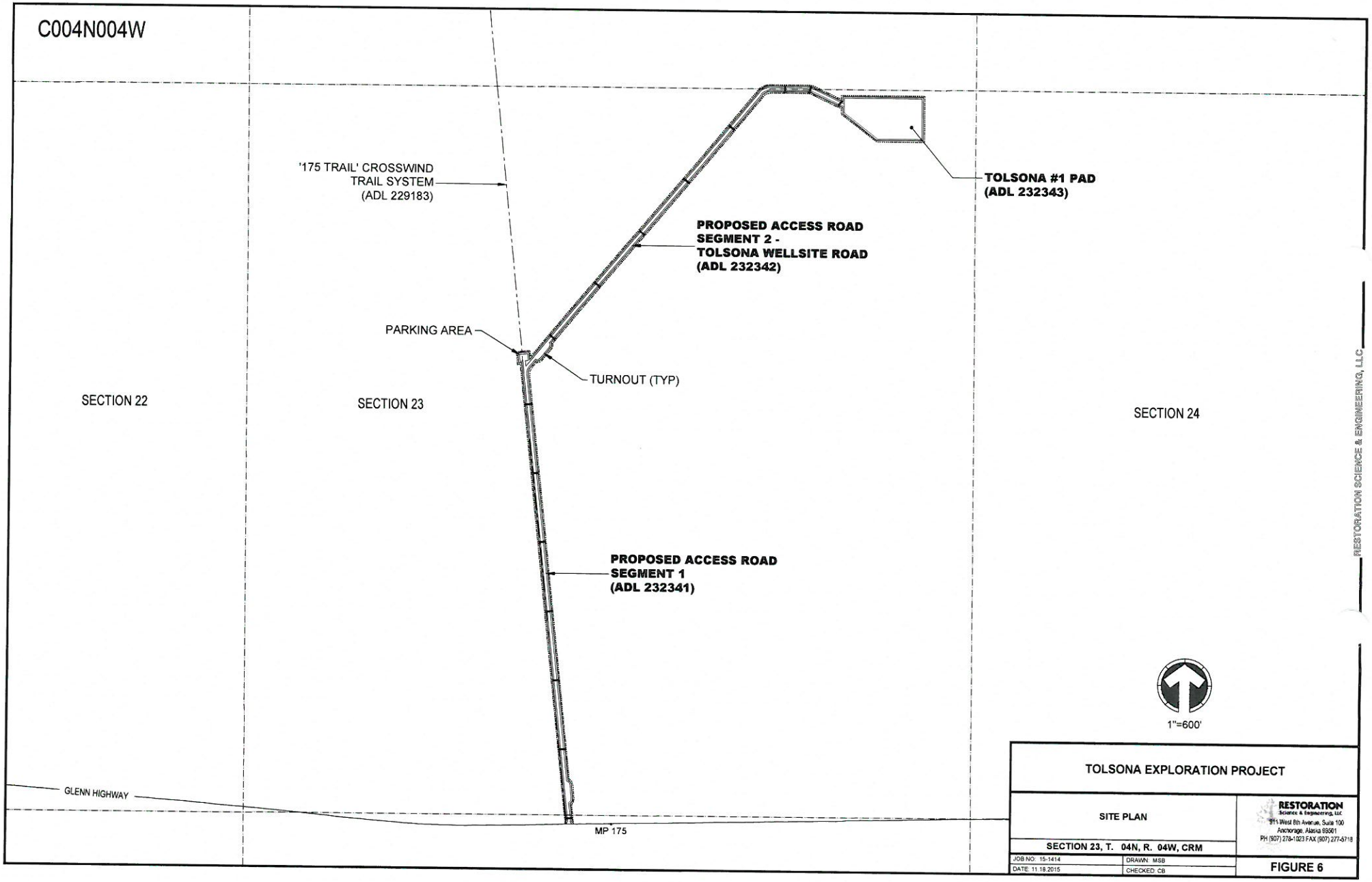
Figure 5B:
Access Road Segment 2 and Tolsona #1 Pad
Tolsona Wellsite Road (ADL 232342)
Tolsona #1 Pad (ADL 232343)

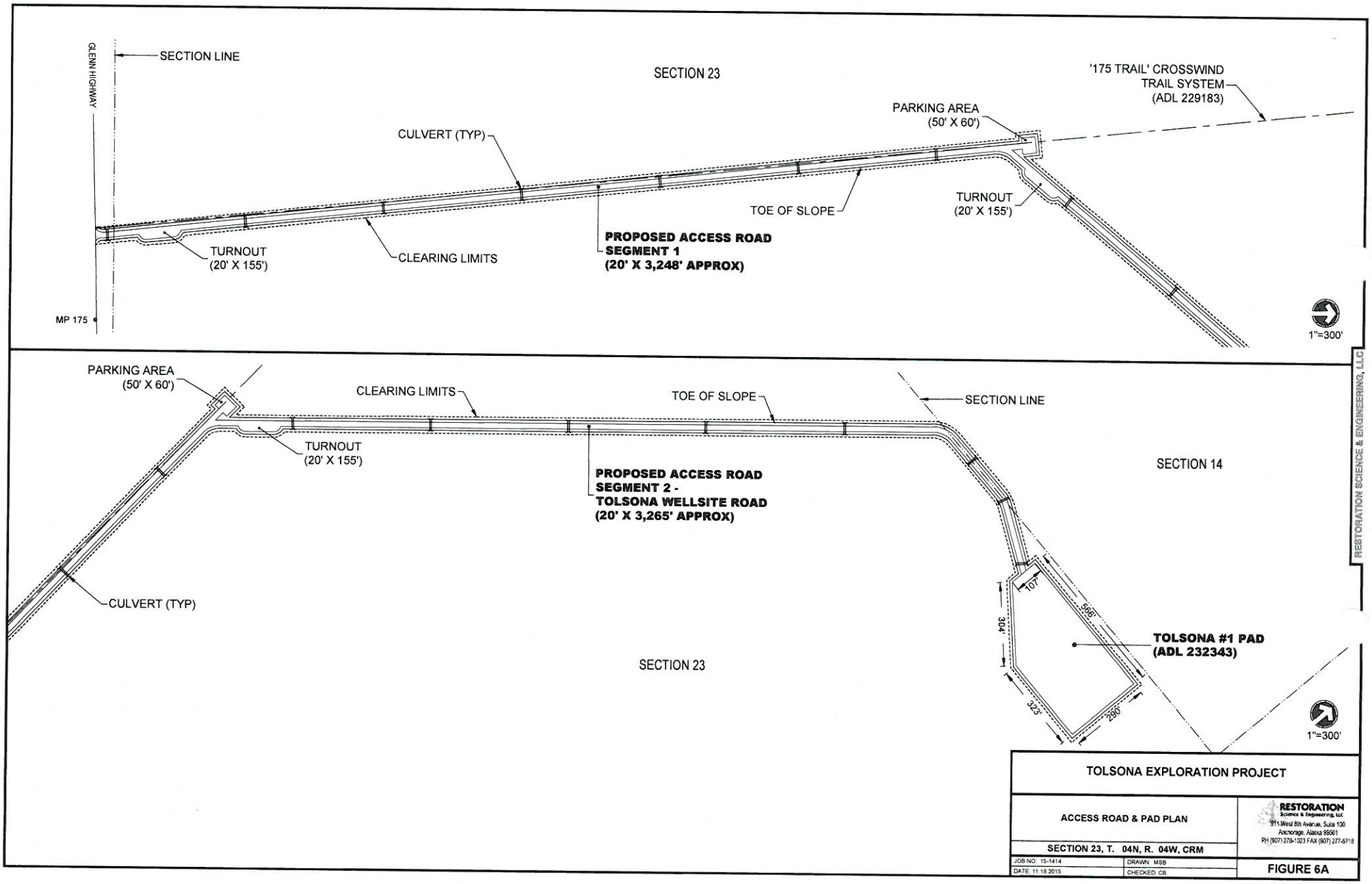
Legend

- Tolsona Well Pad
- Tolsona Access Route
- Survey Boundary
- Subsurface Water Rights
- BLM Monuments
- ADNR Trail Easements
- Mile Post (MP)
- Glenn Highway
- Tazlina River Watershed
- Anadromous Streams
- Hydrography
- PLS Section
- PLS Township
- RSE Wetland Delineation Boundary

NWI and RSE Mapped Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake


C004N004W
'175 TRAIL' CROSSWIND TRAIL SYSTEM (ADL 229183)
TOLSONA #1 PAD (ADL 232343)
PROPOSED ACCESS ROAD SEGMENT 2 - TOLSONA WELLSITE ROAD (ADL 232342)
PARKING AREA
TURNOUT (TYP)
SECTION 22
SECTION 23
SECTION 24
PROPOSED ACCESS ROAD SEGMENT 1 (ADL 232341)
GLENN HIGHWAY
MP 175
1"=600'
TOLSONA EXPLORATION PROJECT
SITE PLAN
SECTION 23, T. 04N, R. 04W, CRM
JOB NO: 15-1414
DRAWN: MSB
DATE: 11.18.2015
CHECKED: CB
RESTORATION Science & Engineering, LLC
911 West 8th Avenue, Suite 100
Anchorage, Alaska 99501
PH (907) 278-1023 FAX (907) 277-5718
FIGURE 6
RESTORATION SCIENCE & ENGINEERING, LLC



RESTORATION SCIENCE & ENGINEERING, LLC

TOLSONA EXPLORATION PROJECT

ACCESS ROAD & PAD PLAN

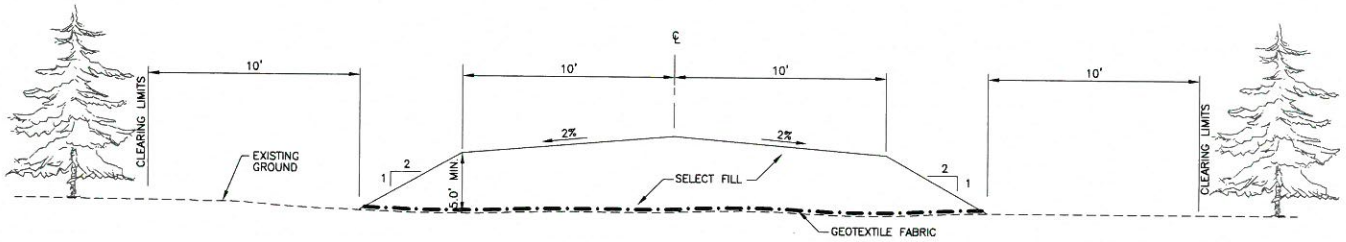
SECTION 23, T. 04N, R. 04W, CRM

JOB NO: 15-1414 | DRAWN: MSB

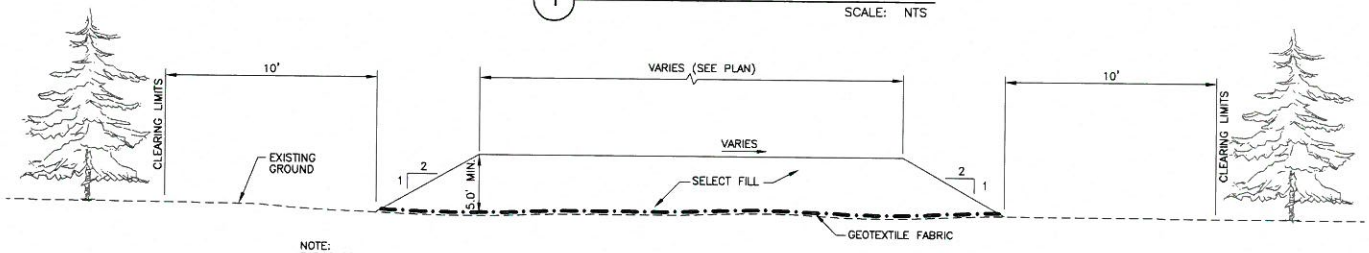
DATE: 11.18.2015 | CHECKED: CB

RESTORATION Science & Engineering, LLC
911 West 8th Avenue, Suite 100
Anchorage, Alaska 99501
PH (907) 278-1023 FAX (907) 277-5718

FIGURE 6A

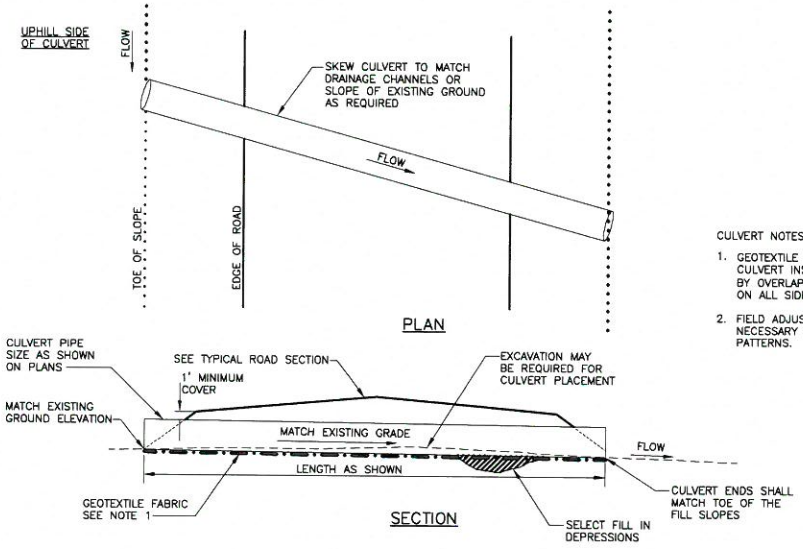


1 ACCESS ROAD TYPICAL SECTION
SCALE: NTS



NOTE:
PAD SLOPE TO DRAIN IN SAME DIRECTION AS AREA SURFACE FLOW.

2 PAD TYPICAL SECTION
SCALE: NTS



CULVERT NOTES:

1. GEOTEXTILE FABRIC DAMAGED DURING CULVERT INSTALLATION SHALL BE REPAIRED BY OVERLAPPING FABRIC A MINIMUM OF 3' ON ALL SIDES.
2. FIELD ADJUST LOCATION OF CULVERTS AS NECESSARY TO MATCH EXISTING FLOW PATTERNS.

3 TYPICAL CULVERT DETAIL
SCALE: NTS

Appendix A: Figure 6B

Date Stamped:

By	Revision	Date

Stantec

2515 'A' Street
Anchorage, Alaska 99503
(907) 278-4245

544 4th Avenue,
Suite 102
Fairbanks, Alaska 99701
(907) 452-2128

3017 Clinton Drive
Suite 201
Juneau, Alaska 99801
(907) 790-2901

351 W. Parks Highway
Suite 200
Wasilla, Alaska 99654
(907) 376-7915

www.STANTEC.com

Project:
TOLSONA GAS EXPLORATION

Client:

Address:

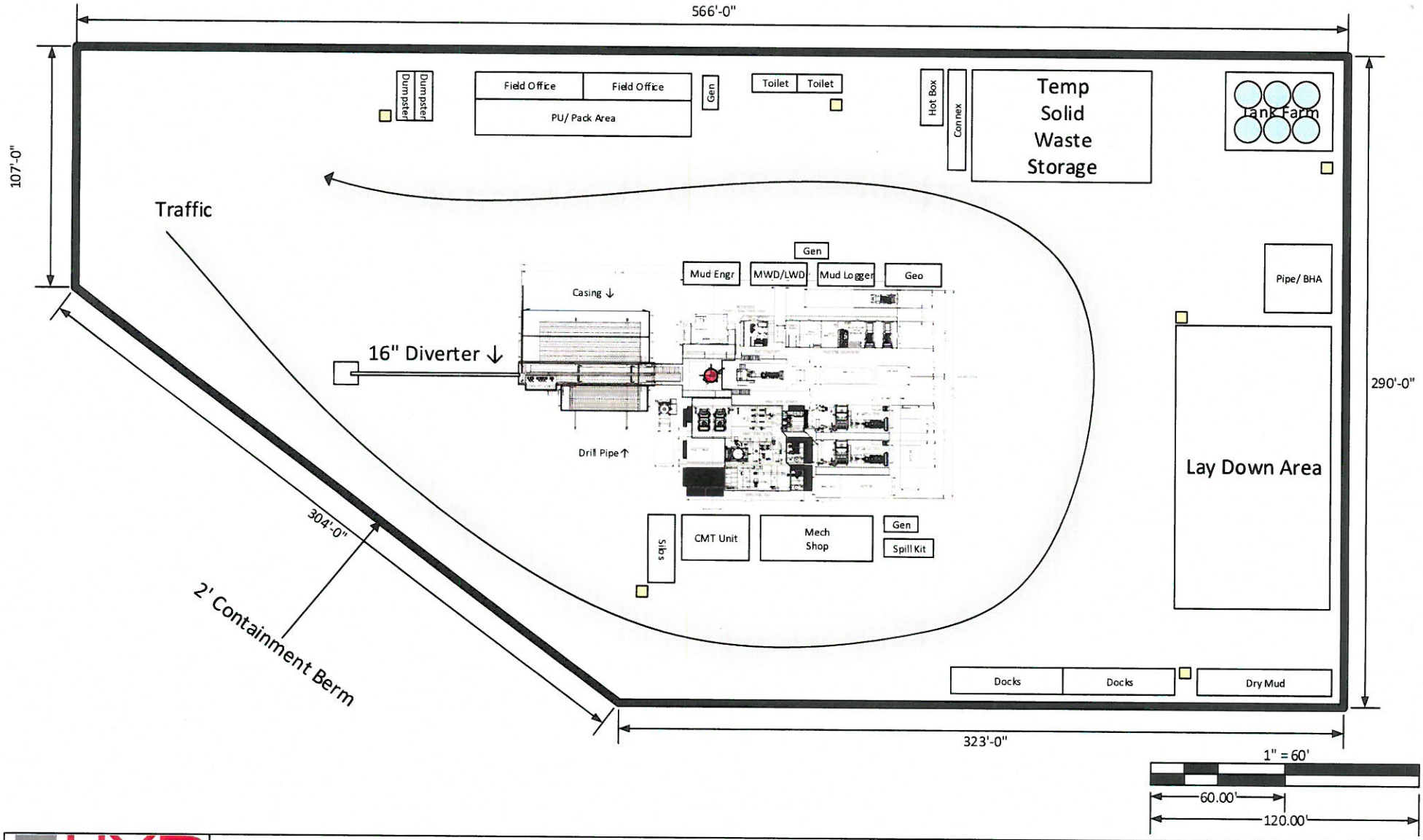
Project Mgr.	JGL
Drawn	MTH
Checked	
Date	OCT 2015

Sheet Contents:
TYPICAL SECTIONS AND DETAILS

Sheet No.:
3

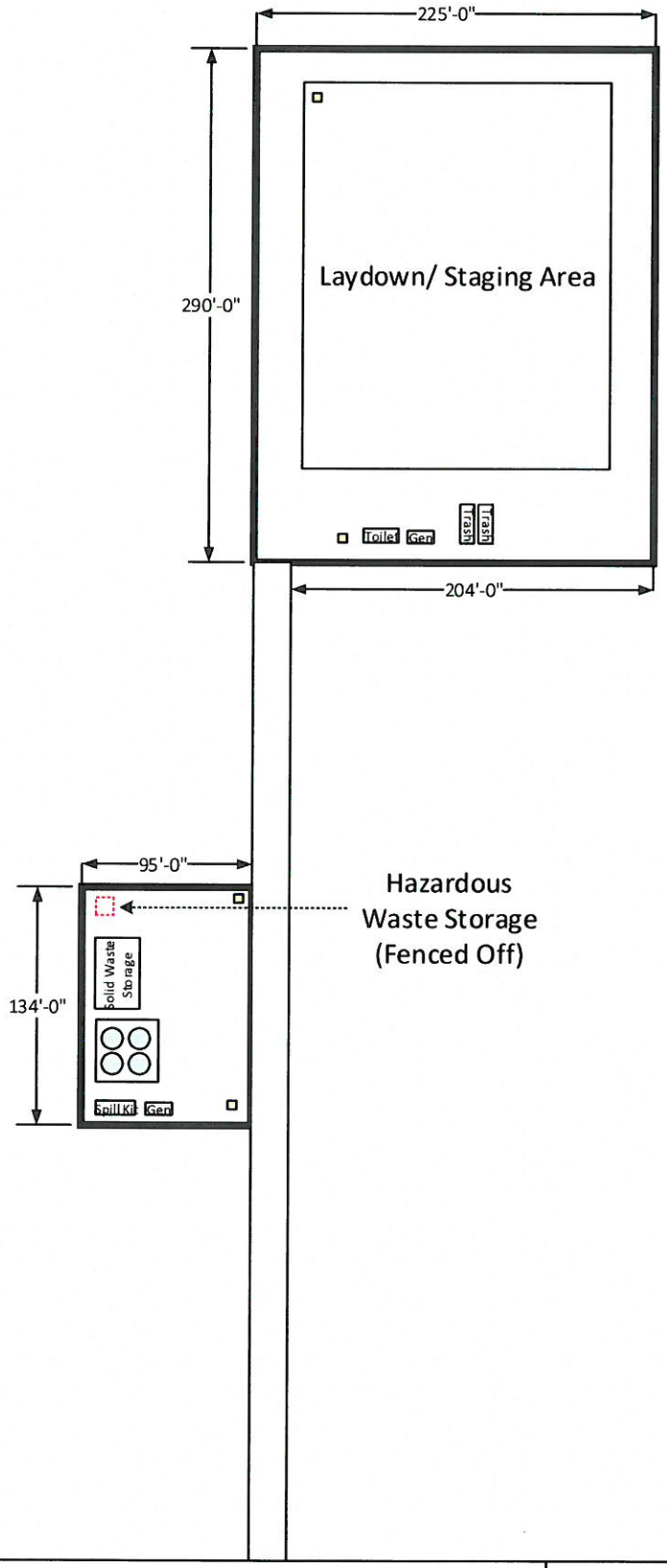
STANTEC W.O. 2047050000

Appendix A: Figure 7



HXR DRILLING SERVICES HXR Drilling Services 4101 Arctic Blvd. Suite 205 Anchorage, AK 99515	**Tolsona #1 Preliminary Pad Layout**	**Legend** Light Plant Non-Hazardous Drilling Fluids Truck Traffic 2' Containment Berm	**Revision 3** TOGE_Padlayout_Rev3 11/06/2015

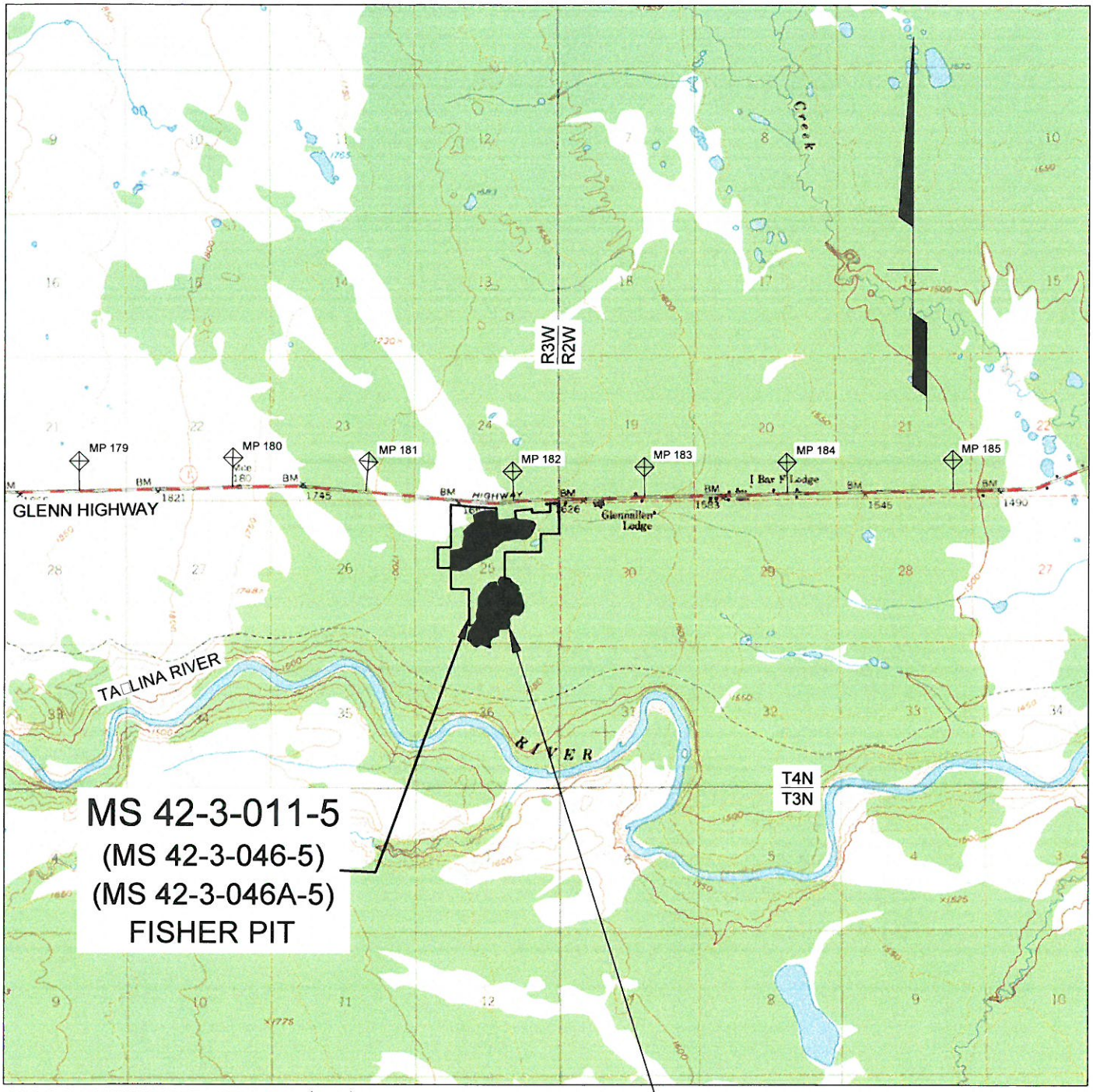
Appendix A: Figure 8



HXR DRILLING SERVICES HXR Drilling Services 4101 Arctic Blvd. Suite 205 Anchorage, AK 99515	**Ahtna 1-19 Pad Layout**	**Legend** Light Plant Non-Hazardous Drilling Fluids Hazardous Waste Storage 2' Containment Berm	**Original** TOGE_Ahtna 1-19 11/06/2015

Appendix A
Figure 9: Fisher Pit

LOCATION MAP



U.S.G.S. QUADRANGLE: GULKANA (A-4)

GPS COORDINATES FROM GOOGLE EARTH

UTM (WGS84-METERS)
ZONE 6: N6,885,561 E568,394
AK STATE PLANE (NAD83-US SURVEY FT)
ZONE 3: N2,958,188 E1,693,534

ACTIVE - OPEN

0 0.5 1 2 3

GRAPHIC SCALE IN MILES

BASE MAP CREATED WITH TERRAIN NAVIGATOR PRO

Prepared By:
R&M CONSULTANTS, INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

STATEWIDE MATERIAL SITE INVENTORY
MS 42-3-011-5

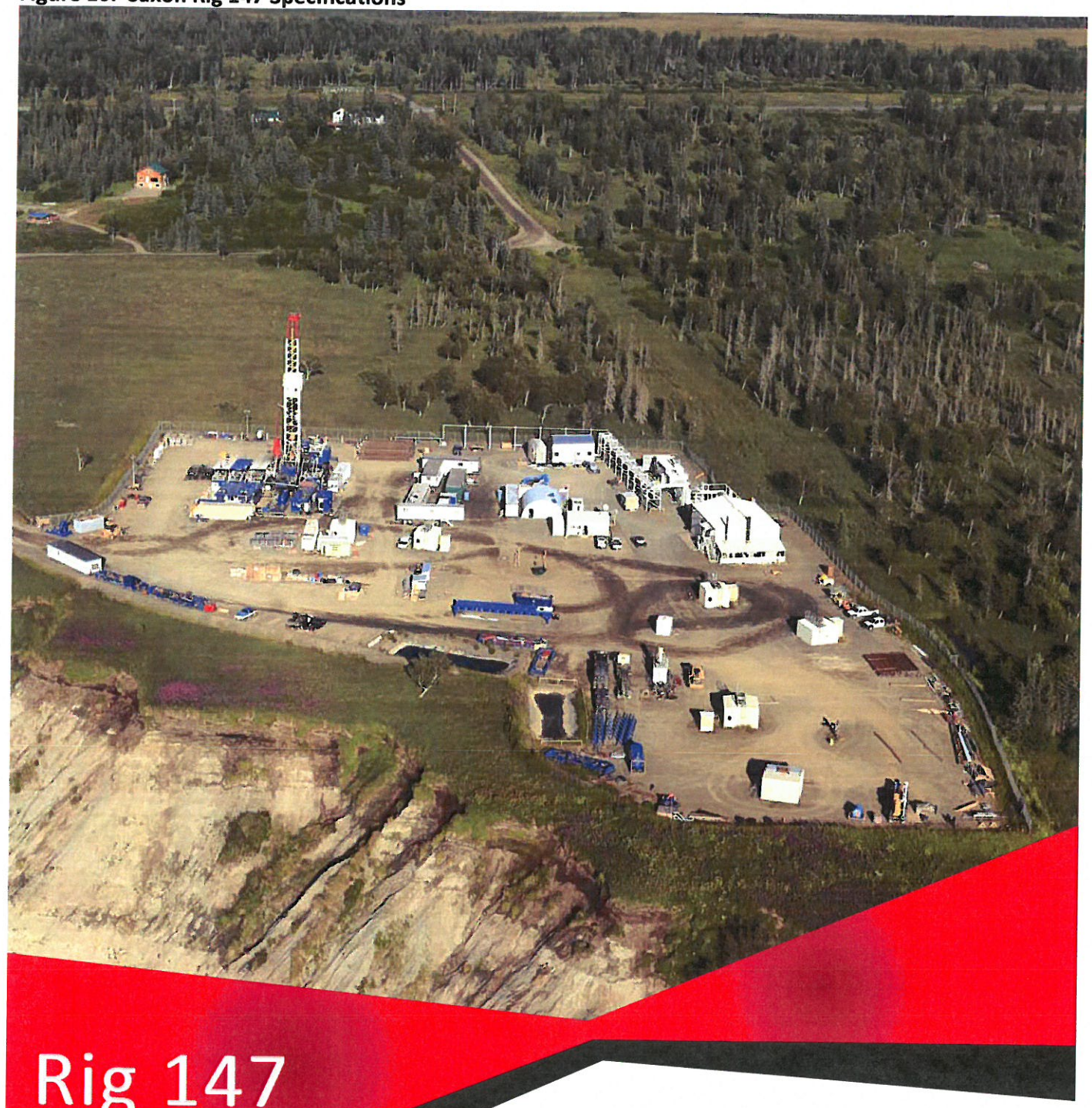
SCALE	DESIGNED	DRAWN	PAGE
AS SHOWN	P.K.H.	P.K.H.	2
	CHECKED C.H.R.	DATE OCT. 2012	

Z:\project\1443.03\42_North_Glenn_Highway\MS 42-3-011-5-A\acad\MS_Topo_Map_42-3-011-5.dwg

Plotted 11/6/2014 1:31 PM by Kyle Therrien

Appendix A

Figure 10: Saxon Rig 147 Specifications



Rig 147

Saxon

A Schlumberger Company

Saxon Drilling, L.P.

• 9303 New Trails Ste. 400 The Woodlands, TX 77381 • Tel: (832) 663 4627 •

• email: USsales@saxonservices.com • www.saxonservices.com •

Appendix A

Figure 10: Saxon Rig 147 Specifications

Rig 147

Mechanical Telescopic Double	
Rig HP Rating:	850 hp
Load Rating:	375,000 lbs / 166,808 daN
***Nom. Depth Rating:	11,800 ft / 3,600 m
Skidding Capable:	No
Load Count:	28 Summer / 34 Winter
Crane Required to Move:	Yes

Mast - Mechanical Telescopic Double	
Make:	Mastco
Height:	105 ft / 32 m
Static Hook Load:	375,000 lbs / 166,808 daN
Drilling Line Size:	1 1/8" / 28.5 mm

Substructure - Step Down / Elevated	
Make:	Mastco
Floor Height:	17 ft 7 in / 5.36 m
Clear Height:	15 ft 0 in/ 4.57 m
Rotary Load Capacity:	375,000 lbs / 166,808 daN
Setback Load Capacity:	300,000 lbs / 133,500 daN

Drawworks - Mechanical	
Make:	TSM
Model:	TSM 850 (42,000 lbs Single Line Pull)
Input Power:	630 hp @ 1800 RPM
Horsepower Rating:	850 hp

Travelling Assembly	
Travelling Block:	McKinney
Load Rating:	500,000 lbs / 222,400 daN
Swivel:	Integrated w/ Top Drive
Hook:	n/a

Top Drive	
Make:	Tesco
Model:	250-HMI-475
Load Rating:	500,000 lbs / 222,400 daN
Max. Drill Torque:	21,000 ft-lbs / 28,470 Nm
Break Out Torque:	23,500 ft-lbs / 31,950 Nm

Rotary/ Slip Table	
Table Opening Size:	17-1/2" / 445 mm

Mud Pumps	
Make:	(2) TSM
Model:	TSM-1000
Max. Input Horsepower:	1,000 hp
Input Power:	850 hp

Mud System	
Active (usable) Volume:	800 bbl / 127 m^3
Number of Tanks:	3 tanks (7 compartments)
Shale Shaker:	(2) Mi Swaco Mongoose
Desander:	n/a
Destiller:	n/a
Vacuum Degasser:	Mi Swaco Compact D-Gasser
Centrifuge:	n/a

Power Generation	
Make:	(3) Detroit Diesel
Model:	Series 60
Horsepower Rating:	635 hp @ 1800 RPM
Kilowatt Rating:	470 kW

Well Control	
Annular Preventer:	T3-Energy (Model 7082)
Pressure Rating:	5,000 psi / 34,500 kPa
Opening Size:	11" / 280 mm
Ram Preventer:	(1) Single/ (1) Double Ram (Model 6011i)
Pressure Rating:	5,000 psi / 34,500 kPa
Opening Size:	11" / 280 mm
Choke Manifold:	Cameron Single Gut (2 Chokes)
Pressure Rating:	5,000 psi / 34,500 kPa
Size:	3-1/8" (79 mm) x 2-1/16" (53 mm)
Accumulator:	Control Technologies
Number of Stations:	6
Total Volume:	120 gallon (12 x 11 gallon bottles)
Pressure Rating:	3,000 psi / 20,680 kPa
Mud Gas Separator:	Open Bottom
Vessel Diameter:	30" / 762 mm

Fuel Tank	
Capacity:	5,020 gal / 19,000 L TC44 Compliant

Water Tank	
Capacity:	16,500 gal / 63,500 L

Tubulars	
Drill Pipe:	To Suit Contract
HWDP:	To Suit Contract
Drill Collars:	To Suit Contract

Additional Equipment	
Skidding System:	n/a
Loader:	John Deere 544H
Catwalk:	Power Catwalk
Pipe Spinner:	Spin Master
Stabbing Arm:	n/a
Power Slips:	n/a
Main Camp:	n/a
Wellsite Trailer(s):	(1) AltaFab Rig Manager Trailer

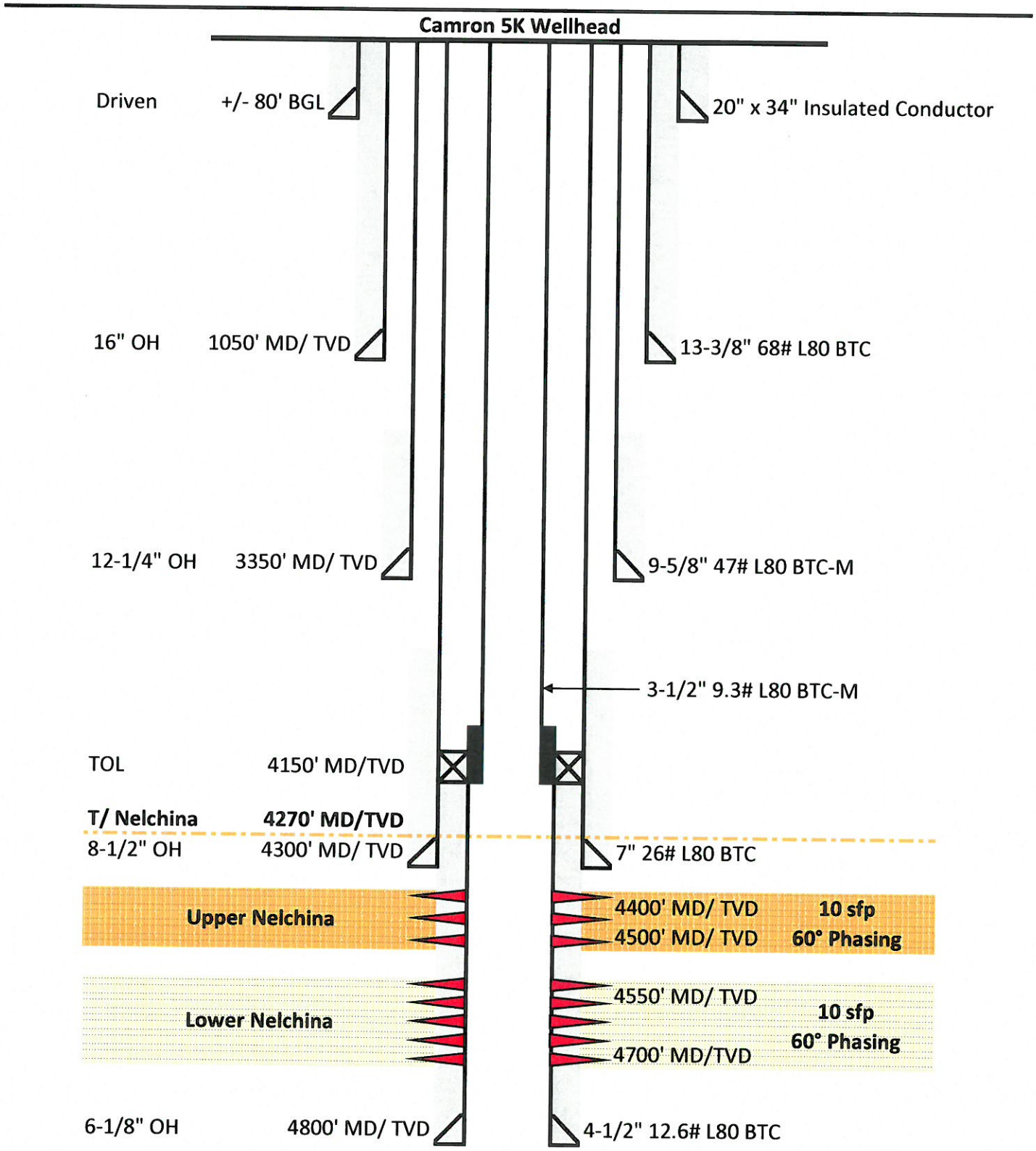
***Rating is dependent on the type of hole and size of drill pipe.

As of 5 January 2015

Appendix A
Figure 11

HXR DRILLING SERVICES

Tolsona #1
Preliminary Wellbore Schematic



APPENDIX B: MITIGATION MEASURES

See attached Tolsona Oil and Gas Exploration License Mitigation Measures.

Tolsana Exploration License **A. Exploration Phase Mitigation Measures**	**Company Response**
1. Facilities and Operations	
a. Exploration activities must be supported by air service, an existing road system, ice roads, or by off-road vehicles that do not cause significant damage to the ground surface or vegetation. Construction of temporary drill pads, airstrips, and roads may be allowed.	A.1.a. Mitigation measure is partially satisfied: Ahtna requests a waiver to this mitigation measure to allow it to construct a permanent gravel road and pad within designated DNR easements, if approved, and to level brush within the easements. (Easement applications have been filed with DMLW). Ahtna proposes to use an existing road system for exploration activities to the extent practicable. Ahtna plans to minimize surface damage by leveling brush without disturbing the vegetative mat, laying down geotextile fabric prior to placing gravel fill, and installing culverts to maintain hydrologic connectivity and existing drainage through the wetlands. Because a winter operation is not feasible, Ahtna proposes to improve an existing road system with a permanent gravel road to support this operation - the '175 Trail of the Crosswind Trail System (ADL 229183/ ADL 232341); and a protracted section line easement. Ahtna has applied for two additional private easements with DMLW to support this operation: 1) to construct an access road to the pad that diverts from the existing '175 Trail' easement and partially uses the north section line easement of Section 23 (ADL 232342); and 2) to construct a gravel drilling pad abutting the north section line easement that can become a public use area for accessing the surrounding state land when the project is completed and abandoned (ADL 232343). Construction of a permanent road will ultimately benefit the state and the public by reducing the footprint of recreational travel adjacent to the road, and providing a safe and accessible muster point for vehicles. Addition of the new roads will better protect state lands in the project area by streamlining access. Additionally, Ahtna Regional Native Corporation is committed to preserving subsistence access to its shareholders in the region; a permanent road will facilitate safe and lawful access to subsistence resources within the management unit.
b. A plan of operations must be submitted and approved before conducting exploration and must describe Ahtna's plans to eliminate	A.1.b. Mitigation measure satisfied: Ahtna has held a number of public meetings with Ahtna shareholders and other interested parties in the Glennallen area. Private

or minimize impacts on residential, commercial, and recreational areas, Native allotments and subsistence use areas. At the time of application, Ahtna must submit a copy of the proposed plan of operations to all surface owners whose property will be entered.	land affected by this project is managed by the applicant, Ahtna, Inc. A copy of the plan of operations will be provided to Tazlina, Inc.
c. Permanent facilities will not be constructed during the exploration phase.	A.1.c. Ahtna requests a waiver to this mitigation measure to allow it to construct a permanent gravel road and pad within designated DNR easements. See response to A.1.a. No additional permanent facilities are proposed.
2. Fish and Wildlife Habitat	
a. Before beginning any activities, Ahtna will consult with ADF&G to identify the locations of known bear den sites that are occupied in the season of the proposed activities. Exploration activities started between October 15 and April 30 may not be conducted within one-half mile of known occupied brown bear dens, unless alternative mitigation measures, as described in a bear-human interaction plan, are approved by the director, in consultation with ADF&G. Discovery of an occupied bear den not previously identified by ADF&G must be reported to ADF&G, within 24 hours. Mobile activities will avoid such discovered occupied dens by one-half mile unless alternative mitigation measures, as described in a bear-human interaction plan, are approved by the director in consultation with ADF&G. Non-mobile facilities will not be required to be relocated.	A.2.a. Mitigation measure satisfied: Ahtna consulted with the ADF&G on known bear dens. No known bear dens are in the immediate area. Ahtna and its drilling contractor, HXR Drilling Services, will have Health and Safety Plans in place, including a Human-Bear Interaction Plan. Ahtna will contact ADF&G within 24 hours if an occupied bear den is discovered during operations.
b. The director, in consultation with ADF&G, may impose seasonal restrictions on activities located in, or requiring travel through or overflight of important moose and caribou calving and wintering areas.	A.2.b. Mitigation measure satisfied: Ahtna will comply with seasonal restrictions, if any, imposed by ADF&G.
c. The director, in consultation with ADF&G, may impose seasonal restrictions on activities located in important waterfowl habitat during the plan of operations approval stage.	A.2.c. Mitigation measure satisfied: The project area is located three miles south of trumpeter swan nesting areas identified in the Copper River Basin Area Plan. Ahtna will comply with seasonal restrictions, if any, imposed by ADF&G.
d. Surface entry is prohibited within one-quarter mile of trumpeter swan nesting sites between April 1 and August 31. USFWS	A.2.d. Mitigation measure not applicable: The project area is located three miles south of trumpeter swan nesting areas identified in the Copper River Basin Area

will identify trumpeter swan nesting sites at Ahtna's request.	Plan.
e. Aircraft flying over the trumpeter swan fall staging areas at Old Man Lake must maintain a minimum altitude of 1,500 feet above ground level or a horizontal distance of one mile from April 1 to October 31. Human safety will take precedence over this provision.	A.2.e. Mitigation measure not applicable: The project area is not located near Old Man Lake; and the project will not use aircraft.
f. Pesticide use is prohibited in the exploration license area.	A.2.f. Mitigation measure satisfied: Ahtna does not intend to use pesticides on this project.
3. Subsistence and Sport Harvest Activities	
a. License and lease-related use will be restricted if the director determines it is necessary to prevent unreasonable conflicts with subsistence activities. In enforcing this term DO&G, during review of plans of operation, will work with other agencies and the public to identify and avoid potential conflicts. In order to avoid conflicts with subsistence and sport harvest activities, restrictions may include alternative site selection, directional drilling, seasonal drilling restrictions, and other technologies deemed appropriate by the director.	A.3.a. Mitigation measure satisfied: The project is not anticipated to impact subsistence and other fish and wildlife uses. Ahtna is committed to preserving traditional and customary access to subsistence resources. The project access road along the 175 Trail is being designed to allow for continued access to the Crosswind Lake area by the public. Safety measures will be implemented to avoid potential conflicts, including off-road parking and two security stations staffed during project operations.
b. Traditional and customary access to subsistence areas will be maintained unless reasonable alternative access is provided to subsistence users. "Reasonable access" is access using means generally available to subsistence users.	A.3.b. Mitigation measure satisfied: Ahtna will not inhibit traditional or customary access to subsistence areas. Access to the Tolsona #1 pad and the Ahtna 1-19 pad will be restricted during project operations. See response to A.3.a.
c. Exploratory drilling operations may be restricted during the fall caribou migration (August 1 through October 31) when caribou are present to allow for subsistence hunting.	A.3.c. Mitigation measure satisfied: Drilling operations are planned for spring and early summer. Ahtna will comply with seasonal restrictions.
d. Exploration activities may be restricted during fall caribou migration (August 1 through October 31).	A.3.d. Mitigation measure satisfied: Ahtna will comply with seasonal restrictions.
4. Fuel and Hazardous Substances	
a. Ahtna will provide secondary containment for the storage of fuel or hazardous substances. Secondary containment means an impermeable diked area or portable impermeable containment structure capable	A.4.a. Mitigation measure satisfied: Fuel and other hazardous substances will have impermeable secondary containment. Ahtna will comply with industry standard practices for spill containment, prevention, and response.

of containing 110% of the volume of the largest independent container. Double walled tanks do not qualify as secondary containment unless an exception is granted for a particular tank.	
b. Containers with a storage capacity larger than 55 gallons that contain fuel or hazardous substances will not be stored within 100 feet of a water body or within 1,500 feet of a current surface drinking water source. Secondary containment shall be provided for the storage of fuel or hazardous substances 55 gallons or more, up to the minimum DEC volume requirements, and comply with 18 AAC 75.065 through 18 AAC 75.075.	A.4.b. Mitigation measure satisfied: Fuel, hazardous substances or waste will not be stored within 100 feet of a water body, or 1,500 feet of a current surface drinking water source. There are no known surface drinking water sources within the project area.
c. During equipment storage or maintenance, the site will be protected from leaking or dripping fuel and hazardous substances by the placement of drip pans or other surface liners designed to catch and hold fluids under the equipment, or by creating an area for storage or maintenance using an impermeable liner or other suitable containment mechanism.	A.4.c. Mitigation measure satisfied: Limited equipment maintenance may occur on the pad and will be conducted above bermed, impermeable secondary containment.
d. During fuel or hazardous substance transfer, secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends. Appropriate spill response equipment, sufficient to respond to a spill of up to 5 gallons, must be on hand during any transfer or handling of fuel or hazardous substances. Trained personnel will attend transfer operations at all times.	A.4.d. Mitigation measure satisfied: Duck ponds or bermed liners will be placed beneath connections during fuel and other fluid transfers, and fluid transfer operations will be continuously monitored. During drilling operations, a comprehensive spill response kit will be staged at the pad. During fuel and other hazardous fluid transfers, spill response equipment to clean up minimum of a 5-gallon spill will be kept with the vehicle used for the substance transfer. Fuel transfers will be conducted in accordance with the contractor Spill Prevention, Control and Countermeasure Plan, which includes procedures for informing applicable agencies in the event of a release.
e. Vehicle refueling will not occur within the annual floodplain, except as addressed and approved in the plan of operations.	A.4.e. Mitigation measure satisfied: No vehicle refueling will be conducted within an annual floodplain.
f. All independent fuel and hazardous substance containers will be marked with the contents and Ahtna's or its contractor's name using paint or a permanent label.	A.4.f. Mitigation measure is satisfied: Hazardous substance containers will be clearly marked as required. Fuel tanks or other containers will not be stored except for in the drill rig; fuel transfers will be directly into the receiving equipment or vehicle. Integral fuel storage on the drill rig is clearly and permanently marked.

5. Waste Disposal	
a. Waste from operations must be reduced, reused, or recycled to the maximum extent practicable. Garbage and domestic combustibles remaining after reuse or recycling must be incinerated whenever possible or disposed at an approved site in accordance with DEC regulations. Proper disposal of garbage and putrescible waste is essential to minimizing attraction of wildlife. Ahtna must use the most appropriate and efficient method to achieve this goal.	A.5.a. Mitigation measure satisfied: Ahtna will contract with a local third party disposal contractor to deliver solid waste relating to construction, drilling, and domestic sources, to the Glennallen Landfill. Ahtna will comply with applicable regulation as outlined in the Solid Waste Disposal permit as required by the ADEC. Solid waste will be temporarily stored in accordance with the ADEC Temporary Waste Storage permit.
b. On-site temporary storage of waste will not be permitted for longer than six months; the operator will exclude people, domestic animals and wildlife from solid waste disposal areas using fencing or other barriers approved by DO&G. Open pit solid waste storage is not allowed in residential areas. In these areas, solid waste must be stored in a closed container.	A.5.b. Mitigation measure satisfied: Ahtna will not store waste onsite for longer than six months, and will secure waste in closed containment inside a fenced area on the pad pending disposal. Ahtna will comply with the terms of the ADEC Temporary Waste Storage permit
c. Wherever practicable, the preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection, as regulated by AOGCC. Other methods of disposal will be allowed only upon approval by the director, in consultation with DEC and ADF&G.	A.5.c. Mitigation measure satisfied: Drill cuttings will be disposed of in accordance with the terms outlined in A.5.a, including applicable mixing or treatment required for approved disposal at the landfill. Liquid wastes will be containerized and stored pending project completion. In the event the well is abandoned without production, liquid wastes will be injected into the well under a USEPA Underground Injection Control Permit. Should well production occur, liquid wastes will be transported to a licensed disposal facility offsite pending ADEC approval.
d. New solid waste disposal sites will not be approved or located on state property during exploration license activities. Exceptions may be provided for drilling waste if the facility complies with DEC regulations.	A.5.d. Mitigation measure not applicable: A solid waste disposal site will not be constructed for this project.
6. Access	
a. Public access to, or use of, the license area may not be restricted except within the immediate vicinity of drill sites, buildings, and other related facilities. Areas of restricted access must be identified in the plan of operations. Facilities and operations will not be located so as to block access to or	A.6.a. Mitigation measure satisfied: Access to the Tolsona #1 pad and use of the Tolsona Wellsite Road will be restricted during project operations for public safety. The 175 Trail will be open to public access throughout project operations, except for short closures when heavy equipment is being moved. No access to public water is blocked.

along navigable or public waters as defined in AS 38.05.965.	
7. Prehistoric, Historic, and Archeological Sites	
a. Before the construction or placement of any gravel or other structure, road, or facility resulting from exploration, development, or production activities, Ahtna must conduct an inventory of prehistoric, historic, and archeological sites within the area affected by an activity. The inventory must include consideration of literature provided by 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.7.a Mitigation measure satisfied: Charles M. Mobley & Associates conducted a cultural resource inventory and evaluation for the project area (included in Attachment C). No significant cultural or historic properties were observed within the area of potential effect for the proposed project area. The report will be submitted to the State Historic Preservation Office (SHPO). If during construction, a site, structure, or object of cultural, historic or archeological significance is revealed, Ahtna will make reasonable efforts to preserve and protect the discovered site or object and consult with the Office of History and Archeology to determine the course of action to take for preservation efforts.
b. The inventory of prehistoric, historic, and archeological sites must be submitted to the director, and to DPOR Office of History and Archaeology who will coordinate with the local government for review and comment. If a prehistoric, historic, or archeological site or area could be adversely affected by an activity, the director, after consultation with DPOR Office of History and Archaeology, will direct Ahtna as to the course of action to take to avoid or minimize adverse effects.	A.7.b. Mitigation measure satisfied: See response to A.7.a.
c. If a site, structure, or object of prehistoric, historic, or archaeological significance is discovered during operations, Ahtna must report the discovery to the director as soon as possible. Ahtna must make reasonable efforts to preserve and protect the discovered site, structure, or object from damage until the director, after consultation with the DPOR Office of History and Archaeology, has directed the Ahtna as to the course of action to take for its preservation.	A.7.c. Mitigation measures satisfied: Project personnel training includes instruction to stop work if any archeological/historic site or artifacts are discovered. Discovery of cultural, historic or archeological sites or artifacts will be reported as soon as practicable, as required, to the appropriate agencies.
8. Local Hire, Communication, and Training	
a. Ahtna is encouraged to employ local and	A.8.a. Mitigation measure satisfied: Alaska residents and

Alaska residents and contractors for work performed in the license area to the extent they are available and qualified. Ahtna will submit, as part of the plan of operations, a proposal detailing the means by which the Ahtna will comply with this measure. The proposal must include a description of the operator's plans for partnering with local communities to recruit, train, and hire local and Alaska residents and contractors. In formulating this proposal, Ahtna is encouraged to coordinate with employment services offered by the State of Alaska and local communities and to recruit employees from local communities.	local contractors will be hired to the extent they are available and possess the necessary skills and training. Ahtna will contract with local business for fuel and water delivery; solid waste transport and disposal; sanitary services; and, housing for project personnel in Glennallen.
b. A plan of operations application must describe Ahtna's past and prospective efforts to communicate with local communities and interested local community groups.	A.8.b. Mitigation measure satisfied: Ahtna held public meetings with Ahtna shareholders in Glennallen, village corporations in the Copper Basin area, and the Tolsona Chamber of Commerce.
c. A plan of operations application must include a training program for all project personnel, including contractors and subcontractors. The program must be designed to inform each person working on the project of environmental, social, and cultural concerns that relate to that person's job. The program must use methods to ensure that personnel understand and use techniques necessary to preserve geological, archeological, and biological resources. In addition, the program must be designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating.	A.8.c. Mitigation measure satisfied: Project personnel will undergo general Environment, Health, and Safety (EH&S) training prior to beginning work that includes environmental and cultural awareness topics specific to increasing understanding of local community values and customs.
B. Development and Transportation Phase Mitigation Measures	
Intentionally omitted for exploration project.	
C. Definitions	
Facilities are any structure, equipment, or improvement to the surface, whether temporary or permanent, including, but not limited to, roads, pads, pits, pipelines, power lines, generators, utilities, airstrips, wells, compressors, drill rigs, camps and buildings.	
Geophysical hazard means the following natural processes or adverse conditions that present a threat to life or property in the area of operations: flooding, earthquakes, active faults, landslides, ice formations,	

snow avalanches, and erosion.
Hazardous substance is (A) an element or compound that, when it enters into or on the surface or subsurface land or water of the state, presents an imminent and substantial danger to the public health or welfare, or to fish, animals, vegetation, or any part of the natural habitat in which fish, animals, or wildlife may be found; or (B) a substance defined as a hazardous substance under 42 USC 9601 - 9675 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980); "hazardous substance" does not include uncontaminated crude oil or uncontaminated refined oil (AS 46.09.900).
Identified wetlands are those areas that have been identified as wetlands by the USACOE under Section 404 of the Clean Water Act.
Minimize is to reduce adverse impacts to the smallest amount, extent, duration, size, or degree reasonable in light of the environmental, social, or economic costs of further reduction.
Permanent facility is a facility that will remain at a single location for a period in excess of six months, excluding exploration wells.
Plan of operations is a license or lease plan of operations under 11 AAC 83.158, and a unit plan of operations under 11 AAC 83.346.
Practicable means feasible in light of overall project purposes after considering cost, existing technology, and logistics of compliance with the mitigation measure.
Reasonable access is access using means generally available to subsistence users.

APPENDIX C: OTHER

Attachment 1: Tolsona Exploration Project Description

Attachment 2: Archeological Investigation for Ahtna Inc.'s Tolsona Drill Pad and Mile 175 Access Road

Attachment 3: Ahtna Environmental Health and Safety Training Plan

Attachment 4: Ahtna Cultural Awareness Training Program

TOLSONA EXPLORATION PROJECT DESCRIPTION

Ahtna is filing this Plan of Operations (POO) under the Tolsona Oil and Gas Exploration License, ADL 392209, to drill an exploration well in the Tolsona area, approximately 11.5 miles west of Glennallen. The proposed Tolsona #1 natural gas exploration well is located within Section 23, Township 4N, Range 4W, of the Copper River Meridian, at Milepost 175 of the Glenn Highway. The project area is located in the upper reaches of the Tazlina River Watershed, where the landscape consists of undeveloped mixture of black spruce forested palustrine wetlands and small lakes typically encircled by muskeg bog communities. Ahtna has selected the pad location based upon a multitude of factors including an existing road system, wetland avoidance, and the bottom-hole target for the well. The proposed well location is on state-owned land. A vicinity and site location map are included in Appendix A.

Ahtna proposes construction of the road and pad during the winter of 2016 in preparation for spring drilling operations. Ahtna evaluated a winter operation and concluded that a winter operation off an ice pad and ice road was not feasible due to a forecasted warm, short winter season, and insufficient nearby water supplies for construction of an ice road and ice pad. The proposed project is split into four phases: staking project boundary limits and clearing activities (December 2015 start); constructing an access road and pad (January/February 2016 start); mobilizing drilling rig and equipment to site (March 2016); and exploration drilling activities (March/April 2016 start). Project milestones with proposed start and end dates are included in Section VII of the Plan of Operations. Development activities are not proposed at this time. If successful, additional exploration or development may occur, and the license may be converted to an oil and gas lease.

Time critical permits affecting the project schedule include the ADNR Plan of Operations, the Army Corps of Engineers Clean Water Act Section 404 permit, and the ADNR easements. Additional permits required for the proposed project are listed in Section VIII.11 of the Plan of Operations.

Ahtna proposes to use existing public easements for access to the well site location via the '175 Trail' of the Crosswind Trail System (ADL 229183/ADL 232341), and one private easement for the newly constructed Tolsona Wellsite road (ADL 232342). Gravel roads are not currently constructed within the Crosswind Trail System; however, routes are clearly established by historic and current recreational vehicle use for access to Mud Lake and the Crosswind Lakes

area to the north. Ahtna proposes to construct a permanent gravel road for access to the well site within the existing road network. This will allow for safer, more practicable recreational travel into the Crosswind Lakes area, including off-highway parking so that vehicles will no longer create hazards on the Glenn Highway.

In addition, Ahtna proposes to construct a permanent pad for the well site, the Tolsona #1 Pad, under a private easement (ADL 232343) that can be used in the future as a parking and staging area for public recreation on adjacent state land. The following table shows the three easement associated with this project, and the relative surface impacts of each.

SEGMENT	ADL	EASEMENT WIDTH (feet)	LENGTH (feet)	FILL (cubic yards)	IMPACT (acres)
175 Trail and parking	232341	20	3,318	19,300	3.3
Tolsona Wellsite Road	232342	20	3,265	19,300	3.1
Tolsona #1 Pad	232343	147 to 330	343 to 606	27,770	3.6
TOTAL				**66,370**	**10.0**

Distances and other measurements provided herein are estimations based on current best available information. Actual measurements and fill volumes will be based on as-built survey data after construction. An additional table provided on the last page of this document provides distinctions between estimations required for easement, wetland, and operational permits.

The 175 Trail is a public easement, recorded in the Chitina Recording District, document number 2013-000480-0. The Tolsona Wellsite Road and Tolsona #1 pad have been applied for, with the ADNR Division of Mining, Land and Water (DMLW), as private easements that will be converted to public easements when the site is no longer needed for oil and gas exploration or development under the exploration license or subsequent lease. The relatively small footprint of the Tolsona #1 pad is reflective of offsite equipment staging at the existing Ahtna 1-19 pad, located on native land two miles east of the well site, at Milepost 177 of the Glenn Highway. If required, Ahtna may additionally use the Ahtna-owned Fisher Pit located at Milepost 182 of the Glenn Highway, for equipment staging during construction. During project operations, access to the Tolsona Wellsite Road and the Ahtna 1-19 access road will be secured using manned security stations staffed with a guard/medic who can also attend to medical emergencies on the site. Additional safety measures will include the use of illuminated signage on the Glenn Highway to caution the public that heavy equipment is entering and exiting the 175 Trail. Flaggers will be used during mobilization and demobilization of the drill rig and other heavy equipment.

Ahtna will purchase gravel materials from Material Site 42-3-011-5, the Fisher Pit, located at Milepost 182 of the Glenn Highway. The Fisher Pit is jointly owned by Ahtna, Inc. and the Bureau of Land Management (BLM). Gravel will be extracted and purchased from the Ahtna portion of the material site. No state material site is anticipated to be used for this project. The Ahtna-owned portion of the Fisher Pit may also be used for additional equipment staging.

The Copper River Basin Area Plan (CRBAP), adopted in December 1986, establishes how the state land and resources will be managed within the Copper River Basin. The Tolsona Exploration project is within the CRBAP Management Unit 3C, which includes public land and scattered parcels of private land along the Glenn Highway. Management objectives for this unit place an emphasis on wildlife, forestry, and public recreation. The proposed Tolsona project furthers each of these objectives by: minimizing wildlife impacts, salvaging marketable timber as directed by the ADNR Division of Forestry, and improving recreational access to a popular off-road lakes and trail network.

The proposed project area is within Alaska Division of Fish and Game (ADFG), Game Management Unit 13A. No conflicts for bears/bear dens, moose, caribou, swan, or other critical animal or habitat were identified in the project area during consultations with the ADFG. There are no anadromous streams identified in the area of project area.

On October 15, 2015 a cultural resources inventory and evaluation was conducted by Mr. Charles Mobley, Registered Professional Archeologist. Mr. Mobley conducted his investigation within the project area, and found no significant cultural resources within the investigation area.

Although the proposed project area is within state land, Ahtna, Inc. represents local native shareholder interests and brings a high degree of cultural awareness, local knowledge, and sensitivity to the project. The project is anticipated to create a number of local jobs pertaining to equipment operation; contracting for fuel and water delivery, waste removal, and housing; and specially trained laborers for construction and drilling tasks.

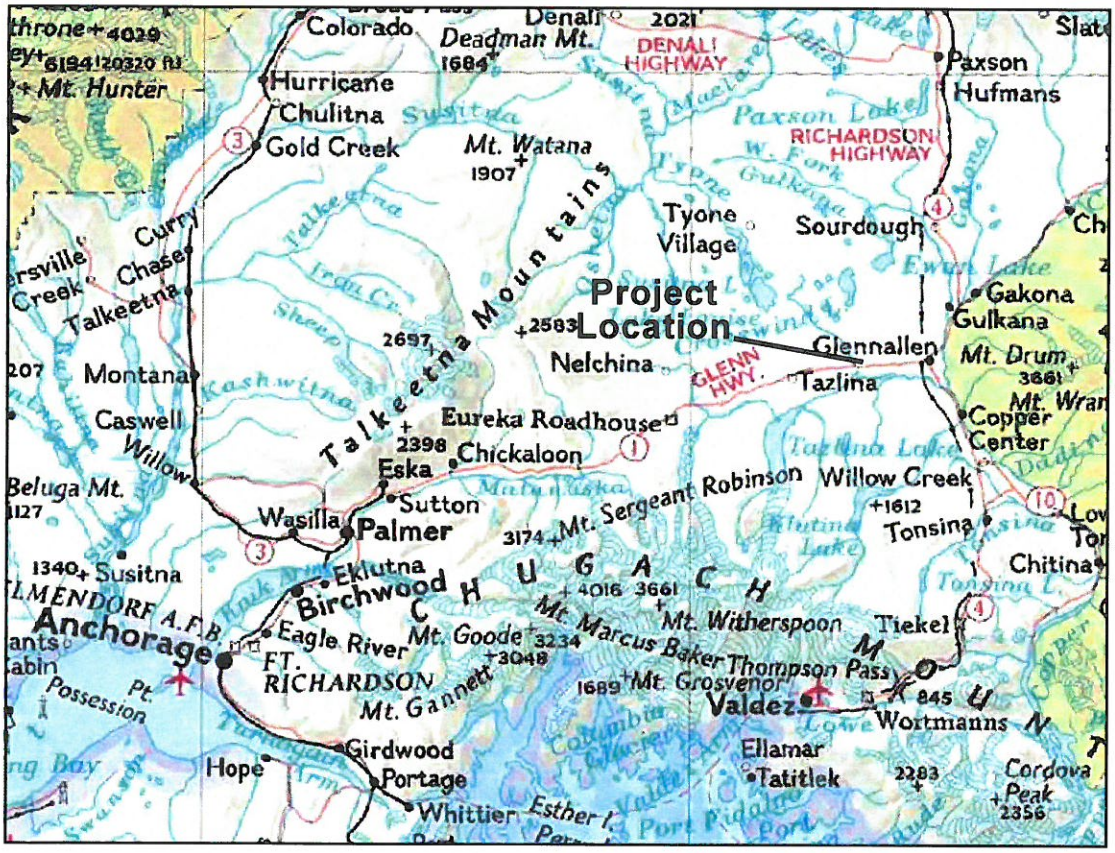
In 2014, Ahtna acquired over 40 miles of new seismic data, and processed over 80 miles of prior seismic data. The most recent seismic data identified a large gas zone associated with the presence of thick Nelchina sandstone intervals similar to that encountered in Cook Inlet. The depth of the gas-bearing formation is approximately 4,000 feet to 5,000 feet. Gas was discovered in two explorations wells drilled nearby in 2003 and 2004, but technical challenges prevented well development. Ahtna and its contractor, HXR Drilling Services, have developed the current drilling program based upon the outcomes of prior attempts. A successful outcome will assist in reducing fuel costs and energy vulnerabilities currently experienced in the local surrounding communities.

Independent of production potential, the Glennallen and Tolsona communities will benefit from the economic influx during project activities. The communities, as well as the general public and the state, will benefit from the permanent road and parking area that provide better and safer access to recreational opportunities and natural resources on state land within the Crosswind Lakes area.

Multiple permit applications pertaining to easements, wetlands, and operations request varying metrics for estimation length, volume, and other specifications. The following reference table shows the relationship between the estimations provided in each permit application.

ADL NUMBER	EASEMENT COMPONENTS	EASEMENT WIDTH (surface) (feet)	EASEMENT LENGTH (surface) (feet)	EASEMENT FILL WIDTH (footprint) (feet)	EASEMENT WIDTH (clearing) (feet)	EASEMENT LENGTH (feet)	TOTAL EASEMENT LENGTH (lineal feet)	QUANTITY of FILL MATERIAL (cubic yards)	SURFACE AREA (acres)	AREA OF IMPACT (footprint) (acre)	TOTAL EASEMENT AREA (acres)
232341 (Segment 1)	**175 Trail**	20	3,248	40	60	3,248	3,318	19,300	1.6	3.3	4.8
	Pullout - 175 Trail	20	155	30	40	205					
	Parking Area on 175 Trail	60	50	80	100	70					
232342 (Segment 2)	**Tolsona Wellsite Road**	20	3,265	40	60	3,265	3,265	19,300	1.6	3.1	4.6
	Pullout - Tolsona Wellsite Road	20	155	30	40	205					
ADL 232343 (Segment 3)	**Tolsona #1 Pad**	107 to 290	323 to 566	127 to 310	147 to 330	343 to 606	343 to 606	27,770	3.3	3.6	4.0
TOTALS:								**66,370**	**6.5**	**10.0**	**13.4**

Archaeological Investigation for Ahtna Inc.'s Tolsona Drill Pad and Mile 175 Access Road, Glenn Highway, Alaska



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200 W. 34th Avenue #534, Anchorage, Alaska 99503

Archaeological Survey Cultural Resource Inventory Historic Building Evaluation Archival and Oral History Research

Cover: The Tolsona project is located on the Glenn Highway about twelve miles west of Glennallen, Alaska.

Archaeological Investigation for Ahtna Inc.'s Tolsona Drill Pad and Mile 175 Access Road, Glenn Highway, Alaska

by

Charles M. Mobley

2015

Report prepared by Charles M. Mobley & Associates, Anchorage, for Restoration Science & Engineering, LLC, Anchorage, and Ahtna Inc., Glennallen, for submission to the Alaska Office of History and Archaeology, Anchorage

Abstract

Ahtna Inc. is proposing to build a drill pad and a 1.3-mile access road to it on the north side of the Glenn Highway near Tolsona, Alaska. The proposed pad, access road, and three small utility pads on the access road are in Section 23 of Township 04N/Range 04W (Copper River Meridian) on State land managed by the Department of Natural Resources. The proposed access road begins at Mile 175 of the Glenn Highway and follows an existing winter trail -- the Mile 175 or Mud Lake Trail, for 3218' before veering northeast through undisturbed black spruce and muskeg to the proposed pad. The staging area for the project is to be an existing drill pad (the Ahtna 1-19 or Rutter & Wilbanks well) and its existing access road from the Glenn Highway at Mile 177, all on Native land. The proposed road and pad are being proposed under ADL 382209.

The project requires a Corps of Engineers wetlands permit, and is thus subject to the Section 106 process under the National Historic Preservation Act. Restoration Science and Engineering, LLC (RSE), engaged Charles M. Mobley & Associates on behalf of Ahtna Inc. to conduct a cultural resource investigation of the project footprint. An archaeological survey was undertaken under Field Archaeology Permit 2015-67, issued by the Alaska Office of History and Archaeology, in order to determine whether significant cultural resources are likely be disturbed as a result of the project.

Charles M. Mobley, with a field assistant, conducted a pedestrian reconnaissance of the project footprint on October 15, 2015. The proposed access road was walked, as was the proposed drill pad, and four exploratory test pits were excavated within the pad. The existing Ahtna 1-19 pad and road were also inspected. No surface or subsurface cultural resources were observed. Known AHRS sites are all more than two miles distant. Construction of the proposed road and pad are judged to have a low probability of disturbing as-yet-undiscovered cultural resources eligible to the National Register of Historic Places. The results indicate that no known historic properties will be affected by the undertaking.

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Introduction

Ahtna Inc. is applying under ADL #392209 to build a 25'-wide access road to a proposed exploratory oil/gas drill pad a few miles east of Tolsona and one mile north of the Glenn Highway (Figure 1). The proposed access road and pad, in Section 23 of T04N/R04W, is on State land managed by the Department of Natural Resources. The first 3218' of the planned access road will trend north-northwest from the highway following an existing trail (known as the Mud Lake or Mile 175 Trail) along a brushed seismic line (Figure 2). The alignment then turns northeast and travels straight for 3311' to the Section 14/23 line, where it follows the section line east for about 400' before angling southeast into the proposed drill pad boundary. The staging area for the project is to be an existing drill pad (Ahtna 1-19) in Section 19 on nearby Native corporation land.

Restoration Science and Engineering, LLC (RSE), engaged Charles M. Mobley & Associates on behalf of Ahtna Inc. to conduct a cultural resource investigation of the project footprint. Because a Corps of Engineers wetlands permit is necessary, the effort is subject to the Section 106 process under the National Historic Preservation Act. This report briefly summarizes the natural and cultural environment of the project area, describes the archaeological survey and results, and concludes with an evaluation of whether historic properties are likely to be affected by the project.

Natural Environment

The project lies within the Copper River Lowland physiographic province, characterized by relatively flat or slightly rolling land surfaces and permafrost within five feet of the ground

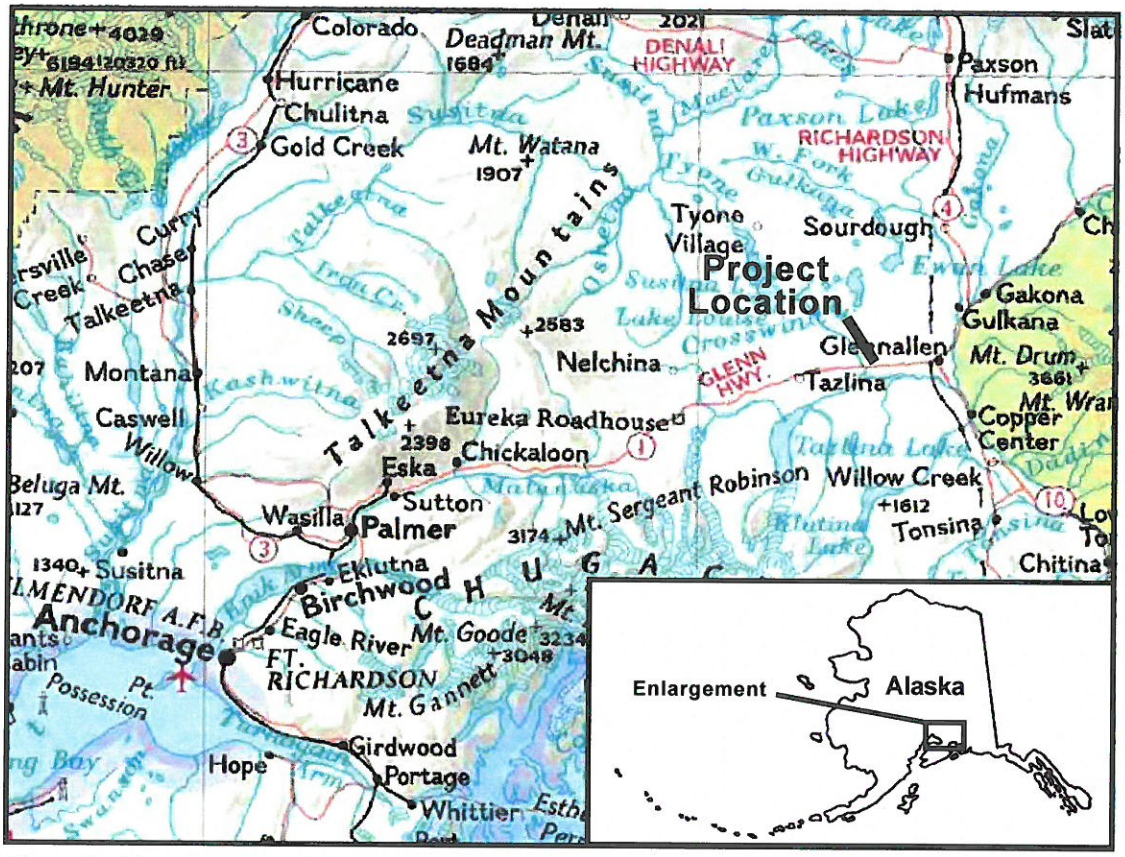

Figure 1. Ahtna's proposed Tolsona drilling pad and access road are located on the Glenn Highway about 12 miles west of Glennallen.

surface (Wahrhaftig 1965:38-39). The proposed road and pad are within the basin formed by glacial Lake Ahtna (Bureau of Land Management 2004), which constitutes much of the Copper River Lowland. The climate is characterized by "a semi-arid atmosphere, long, cold winters, and mild summers" (State of Alaska 2015). Vegetation is typical of Alaska's interior forest, or tiaga (Figures 3-4), with open, low-growing black spruce and treeless bogs or muskeg (Viereck and Little 1974:48). The nearby Tazlina River contains fish including Coho, Chinook, Sockeye, and Steelhead salmon, of which Chinook and Sockeye are found up Tolsona Creek (Johnson and Blanche 2011). Dolly varden and Arctic grayling are also found in Tolsona Creek. Waterfowl are seasonally available on the many lakes in the region, and land animals include those typical of interior Alaska (Chapin 1918:19); notable in the area is the Nelchina caribou herd (Hemming 1971:19). Up to the 1930s a herd of between 2,000 and 3,000 caribou migrated through the vicinity of Tolsona Lake in March (Simeone 2006:7).

Cultural Environment

The Tolsona region's Native heritage consists of prehistoric occupation beginning thousands of years ago culminating in the Ahtna Athabaskan occupation found today (Reckord 1983); the Tolsona area is in the middle of the Central Ahtna Region Dialect (Simeone 2006:2). Tolsona Creek and Moose Creek are "the principal direct tributaries of Tazlina River" (Brooks et al. 1914:121), and thus are likely routes for traditional Native trails.

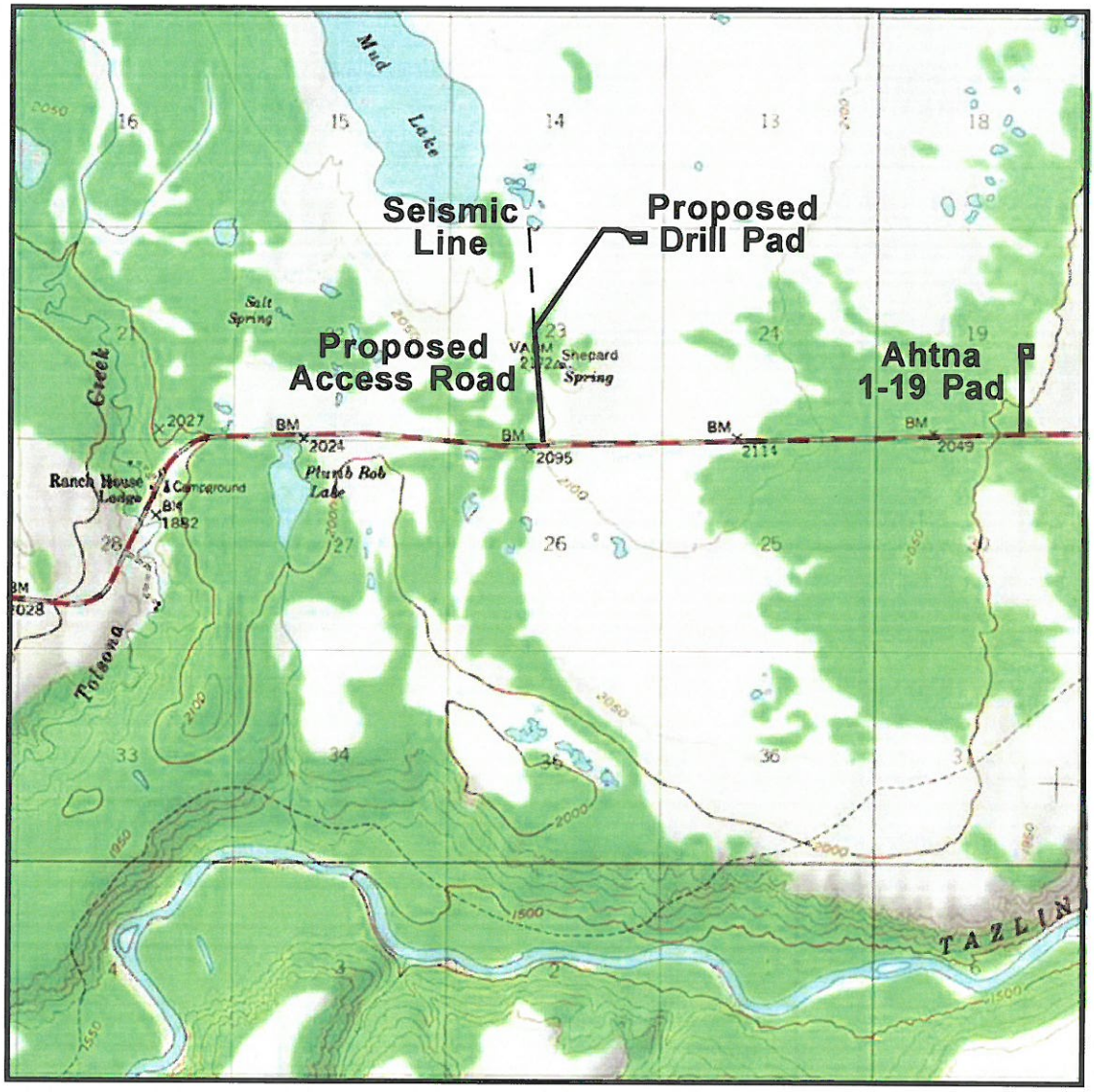

Figure 2. The projct is in a poorly drained flatland three miles north of the Tazlina River and two miles east of Tolsona Creek, in Township 04W, Range 04E, Copper River Meridian. North is at the top of the map; squares are one-mile sections.

The historic record essentially starts with the late 1890s gold rushes – like the 1898/99 stampede over the Valdez Glacier from Prince William Sound and into the Klutina watershed (Rohn 1900:401). By 1914 Richard Roman is reported to have established a homestead with a large garden at Tolsona (Georgeson 1918:93). The highway was pioneered during World War II and upgraded in 1950-51. A sawmill site of unknown age is reported at Tolsona by Drebert (2014).

The statewide inventory or AHRS system of cultural resource sites maintained by the Alaska Office of History and Archaeology (AOHA) shows three numbered properties in the vicinity of the Tolsona study area. Site GUL-093 is a scatter of prehistoric stone flakes exposed in 1976 on the hilltop holding the Alascom communications tower ten miles to the west of the project area. Site GUL-124 is that Tolsona RCA Alascom communications facility — part of Alaska's White Alice early warning

Figure 3. The beginning of the Mile 175 Trail is flat and forested in black spruce, with small interspersed muskegs. View is northwest. A small utility pad will be built here adjacent to the highway.

detection system now judged eligible to the National Register of Historic Places as part of the nation's Cold War heritage. Site GUL-346 is the highway bridge over Tolsona Creek, which was constructed in 1950 and widened in 1969.

Scope of Work and Methods

The research method took into account the project footprint, natural environment, historic use, and known cultural resources of the area. The project footprint consists of a drill pad about four acres in size and a 25'-wide access road of approximately 1.3 miles, with a staging area on an existing drill pad on nearby Native land. Locally the natural environment consists of relatively flat, poorly-drained terrain covered in low bushes and muskeg, with slightly elevated stringers of spruce and birch.

Cultural information was obtained from the statewide Alaska Heritage Resource Survey (AHRS) site inventory and some background documents. Tolsona is in the middle of the central Ahtna linguistic district and Native use of the area for caribou hunting and traveling is documented, but no traditional settlement is known in the project vicinity. Non-Native history includes Richard Roman's homestead established at Tolsona by 1914, a sawmill established some (unknown) time later, and the Glenn Highway route pioneered during World War II. No AHRS sites are known near the project footprint. The closest is the Tolsona Creek bridge (GUL-346), over two miles west.

Taking these factors into account, the archaeological survey involved pedestrian survey and excavation of exploratory test pits at the discretion of the archaeologist (most of the Area of Potential Effect was judged to be of moderate to low probability for cultural resource discoveries). The survey was documented in hard-copy notebooks and photographically.

Charles M. Mobley conducted the fieldwork on October 15, 2015, assisted by

Figure 4. A discarded metal fuel drum lies along the west margin of the Mile 175 Trail, looking north.

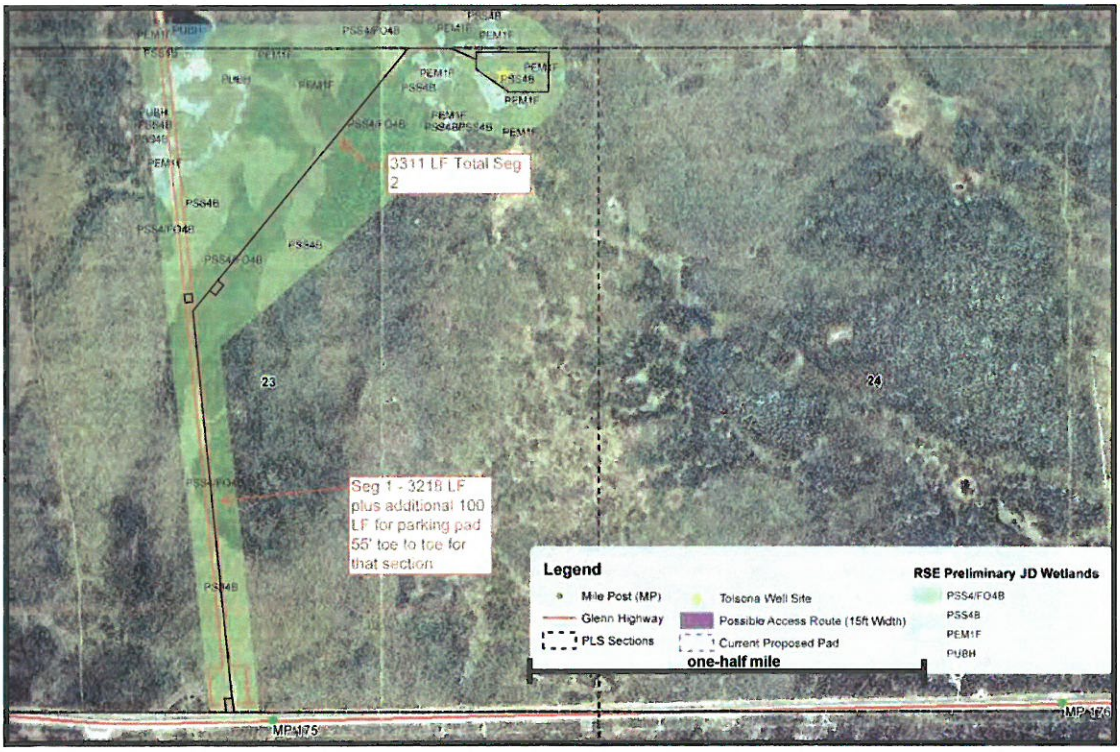

Figure 5. RSE prepared a plan of the proposed drill pad and access road overlaying an aerial photograph. The Glenn Highway is at bottom of image. Note one small rectangular utility pad at the highway intersection and two at the first road turn. North is at top of map.

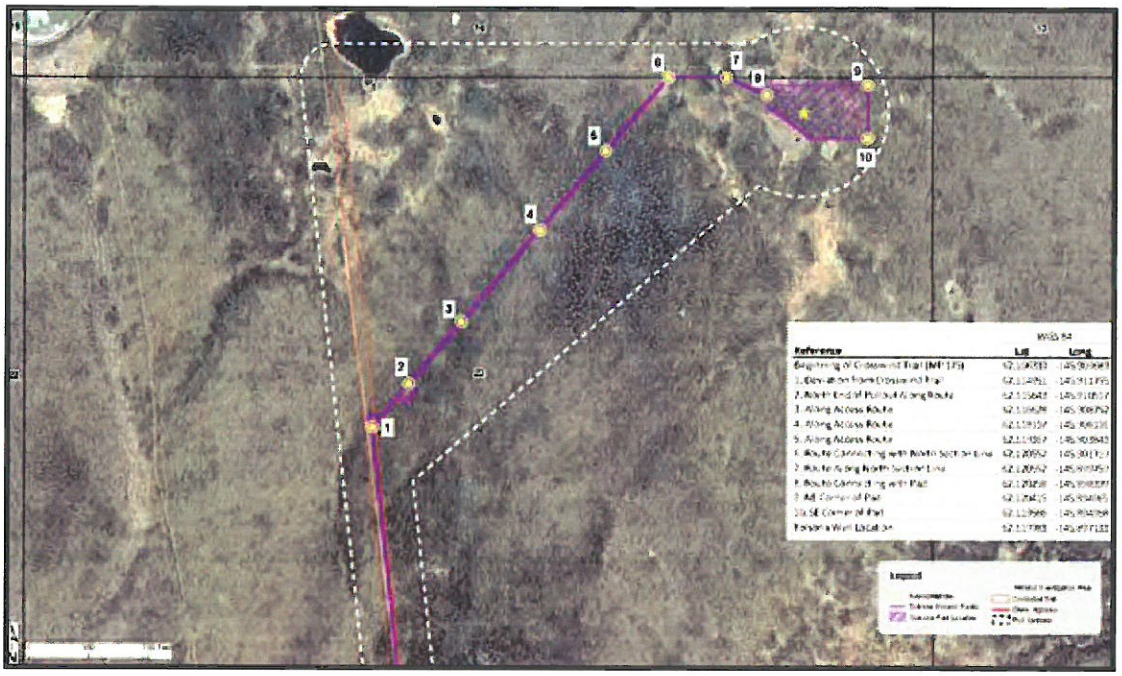

Figure 6. RSE prepared a plan enlargement with coordinates for the archaeological field survey.

Paul Thurman. The work on State lands was conducted under Field Archaeology Permit 2015-67.

Results

The field effort for the Tolsona drill pad and the access road to it can be divided into two elements: the proposed access road, and the proposed pad -- both on State land (Figures 2, 5-6). The field effort also included a reconnaissance of the Ahtna 1-19 drill pad to be used as a staging area, and the existing road to it (Figure 2).

Proposed Access Road

The planned access road to the proposed Tolsona drill pad begins on the north side of the Glenn Highway at Mile 175 (Figures 2-3). A small utility pad about 100' square will be built adjacent to the highway, and the access road will lead north-northwest out of that pad following the Mile 175 or Mud Lake Trail, which in turn follows a seismic line cut many years ago (Figures 3-4). The area near the road where the small utility pad is planned (Figure 3) was inspected, and no cultural resources were seen.

The trail along the seismic line is evidently used between fall and spring for hunting and trapping. The alignment was walked for a distance of 3218' to the point where the proposed road angles northeast away from seismic line, overshooting slightly in order to inspect one of the proposed small utility pads. Along the west edge of the seismic line about 2000' from the highway a rudimentary hunting stand was found (Figure 7). No spent cartridges or other artifacts of note were seen there.

Several small game sets were observed along the seismic line; none held traps or snares. Three small open-ended plywood boxes were found affixed to trees about four feet above the ground (Figure 8). Each was of a size to accept a #1 longspring or #110 Coneibear trap. Two of the plywood box sets were paired with a second set across the trail, each consisting of a leaning pole with a lure hanging from the elevated end by a string (Figure 9). The lure was either a feather or a scrap of meat and fur.

Figure 7. A hunting stand has been more or less maintained along the west edge of the Mile 175 Trail, about 2000' from the highway.

Figure 8. Several small plywood boxes were found along the Mile 175 Trail, nailed to trees at chest level, which in winter are used as cubbys for trap sets.

Figure 9. Paul Thurman inspects one of the trap sets that used a lure suspended from a leaning pole, along the Mile 175 Trail.

The only other cultural item of interest along the Mile 175 trail was a 55-gallon drum (Figure 4).

While the seismic line portion of the proposed road contained a few wet spots, it was mostly dry, and that portion of the proposed road angling northeast from the seismic line was even drier until just before it intersected the Section 14/23 line (Figure 6). The vegetation consisted mostly of black spruce forest, but not so dense as to be of "thicket" quality, and despite the lack of flagging the alignment was successfully followed using a compass and GPS. A small utility pad near the beginning of the angled section (Figure 6) was included in the linear survey. An isolated plywood box trap set was noted along that portion of the route, but no cultural resources.

Test Pit	Latitude	Longitude
1	N62.12024	W-145.89824
2	N62.12005	W-145.89503
3	N62.12030	W-145.89598
4	N62.12001	W-145.89728

Table 1. Coordinates for test pits excavated within the proposed Tolsona drilling pad.

The 400' of proposed road following the east/west section line between Sections 14 and 23 (Figure 6) was walked, and no cultural resources were observed. Part of that section contained wetlands.

Proposed Drill Pad

From the section line the proposed road jogs southeast and enters the proposed pad. The black spruce was spaced to facilitate pedestrian survey, with patches of sedges and grasses. The perimeter of the pad was first walked, with the archaeologist and the field assistant spaced 20'-30' apart, staying inside the pad boundary and going counter-clockwise. Then two roughly parallel trancsects through the pad going east/west were accomplished. No cultural resources

Figure 10. Test Pit 1 was dug inside the west end of the proposed drill pad.

were observed. Though the terrain and vegetation within the pad is flat and homogenous, without features to recommend one area over another, four exploratory shovel-tests were excavated in search of buried cultural deposits. Each was 40-50 cm in diameter and extended down into undisturbed mineral soils.

Test Pit 1 was dug inside the west end of the proposed drill pad (Figure 10; Table 1). Beneath a dense 20 cm-thick sod mat was a wet gray clay mixed with organic lenses. One cobble was found at a depth of 50 cm, where the excavation was terminated. No artifacts or cultural deposits were noted. Water began to pool in the bottom of the hole as it was recorded.

Test Pit 2 was dug inside the southeast corner of the proposed drill pad. Beneath a dense 20 cm-thick sod mat was a homogenous gray clay containing no clasts. The pit was terminated at a depth of 45 cm. No artifacts or cultural deposits were noted.

Test Pit 3 was dug inside the northeast corner of the proposed drill pad (Figure 11).

Figure 11. Test Pit 3 was dug inside the northeast corner of the proposed drill pad.

Figure 12. The road to the Ahtna 1-19 or Rutter and Wilbanks well pad, immediately off the Glenn Highway to the north, is signed and gated. View is north.

Beneath a dense 20 cm-thick sod mat was a homogenous gray clay containing cobbles. No artifacts or cultural deposits were noted, and the pit was terminated at a depth of 40 cm.

Test Pit 4 was dug a few feet from the proposed drill site, which was found flagged and labeled "Well Site DP11." Beneath a dense 20 cm-thick sod mat was a homogenous gray clay containing no cobbles. No artifacts or cultural deposits were found, and the pit was terminated at a depth of 50 cm.

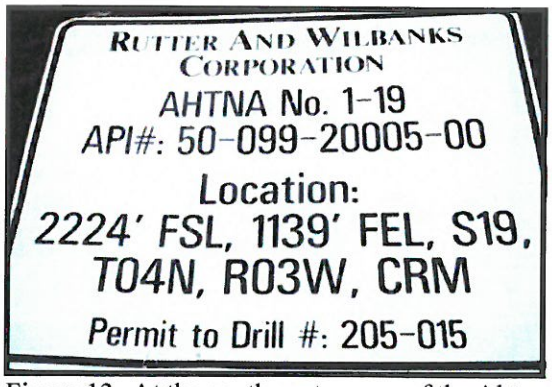

Figure 13. At the southwest corner of the Ahtna 1-19 pad is the Rutter and Wilbanks sign containing the legal information for the well.

Existing Ahtna 1-19 Pad and Road

The final component inspected was the existing Ahtna 1-19 drill pad and the road to it, on Native land two miles east of the proposed Tolsona drill pad (Figure 2). The existing road travels due north from the Glenn Highway at Mile 177, beginning with a locked gate (Figure 12). The road consists of a 35'-wide gravel pad laid over the natural ground surface, with intact forest beginning at its margins. The road leads to a rectangular drill pad less than 2500' from the highway. No cultural resources were observed on or adjacent to the road to the Ahtna 1-19 drill pad during the pedestrian survey.

The Ahtna 1-19 drill pad, also known as the Rutter and Wilbanks well (Figure 13), is a rectangular gravel pad of several acres (Figure 14). The perimeter was walked counter-

Figure 14. Here looking east, the Ahtna 1-19 well pad is a bare gravel surface.

clockwise, staying on the pad. Piles of organic overburden removed from the pad's surface were pushed off the pad zone on the east side; otherwise the natural forest leads right up to the edge of the pad. No above-surface elements of the well were apparent (Figure 14).

Immediately west of the pad's northwest corner are recently cut spruce stumps, none more than 16" in diameter, and some with small boulders centered on their horizontal surface. The trunks are gone, indicating wood-cutting, and a home-made wood sled (Figure 15) confirms that function. The sled is welded from rectangular tube steel and a galvanized steel unit originally manufactured for backfilling around basement windows. A yellow synthetic-filament rope was affixed to the sled for pulling it.

At the southwest corner of the pad is a small rectangular pad extension containing dunnage. Over a dozen 12'x12' timbers in good condition are stacked in two places (Figure 16).

Also at the south edge of the dunnage is the information sign for the original drill pad (Figure 13). It says that the Ahtna 1-19 well was drilled by Rutter and Wilbanks Corporation under Permit #205-015, API #50 099-20005-00, and provides the legal description.

Summary and Determination of Effect

The cultural resource investigation for Ahtna's proposed Tolsona well and access road made use of archaeological survey and limited

Figure 15. Fresh stumps at the northwest corner of the Ahtna 1-19 pad were accompanied by this metal sled for hauling wood.

Figure 16. The west edge of the Ahtna 1-19 pad contains over a dozen 12"x12" timbers.

background research into existing site records, history, and prehistory; no oral history or archival research was conducted. Pedestrian survey of the Tolsona well's proposed access road revealed no cultural resources on any of its segments: the Mile 175 Trail portion, the northeast-angled portion, or the short portion on the Section 14/23 line. That includes the small utility pad at the Glenn Highway and the two where the road leaves the existing Mile 175 Trail. The hunting stand, 55-gallon drum, and trap sets are relatively recent and not eligible to the National Register of Historic Places. Pedestrian survey within the pad revealed no cultural resources on the surface, and excavation of four test pits revealed no buried cultural deposits or artifacts. The relatively homogenous terrain and lack of other environmental factors that might focus human activity in prehistory or history argues for a moderate to low probability for yielding significant cultural resources.

Pedestrian survey of the existing Ahtna 1-19 drill pad and the gravel road to it revealed cultural resources neither on nor immediately adjacent to their surfaces.

The Tolsona RCA Alascom communications tower facility (GUL-124), a National Register of Historic Places property, is ten miles from the project site and thus no visual or audio impacts to its cultural values are anticipated.

In summary, no cultural resources were found in either the proposed Tolsona drill pad or the access road to it, and none were noted on the existing Ahtna 1-19 pad or the existing road to it. The project as currently designed will have no effect on known historic properties. If cultural resources are found during construction, work should be halted in that vicinity until the landowner and the Alaska State Historic Preservation Officer are contacted for guidance.

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A) PURPOSE

1) To provide a summary of the Health, Safety and Environmental policies and procedures established by AC&PPC to ensure achievement of our project safety goals as identified in Part I, Section 2, AC&PPC Health, Safety and Environment Policy.

2) This overview is a summary of AC&PPC's HSE process as detailed in this Manual and the basis for a Project Site Safety & Health Plan developed for each project. (Refer to Section H.) The Project Site Safety & Health Plan is developed as part of an overall project HSE plan.

B) Management Commitment

1) The Company has a strong commitment to an effective safety and accident prevention program, together with the moral and legal responsibilities of providing safe working conditions at all sites.

2) The program described in this section is backed by corporate management, administered by the company's field supervisory staff, facilitated by the field HSE Representative and monitored by the Business Unit Manager of HSE.

C) Program Administration

1) It is the Company's policy to vest responsibility for the implementation of the safety program with the senior site representative. For each project, this responsibility rests with the Project Manager. Day-to-day operations of the project site HSE program, however, are the responsibility of first line supervision. The site HSE Supervisor reports to the Project Manager for operational direction and supervision and to the Business Unit Manager of HSE for functional and technical guidance.

2) The HSE Manager conducts periodic onsite reviews of all project operations to assure compliance with client and Company safety regulations. The Manager updates and sets forth interpretations of new or existing HSE standards and will maintain a uniform safety and loss prevention program throughout the Company. The Manager also provides assistance to the field staff in all areas related to safety, loss prevention, health and fire protection.

3) The statistics from the monthly project safety reports are compiled for all ongoing projects through the use of an electronic data base.

4) The Project Manager, the Project Superintendents and the HSE Supervisor are continually on the alert to the overall safety and loss prevention activities of the project by monitoring and analyzing all reports of injuries, repairs or damages to equipment and any other unusual safety situations.

5) Continuous Improvement Process

This safety process is dynamic, growing and changing as the industry grows and changes. As new standards and improved methods are developed, they are incorporated to address the specific

needs of each project and the Company as a whole; the Company's goal of being incident/injury free.

6) Safety Standards

All personnel will comply with applicable standards including, but not limited to, the following:

a) Ahtna Global Standards

b) Owner - plant safety requirements

c) AC&PPC Safety Reference Manual

d) Federal - OSHA 1910,1926

e) DOT (and others, as applicable)

f) State - Safety/Labor laws

g) Industry Standards - ANSI/ASME/API, etc.

h) These standards and criteria form the general boundaries within which site specified organization, planning, training, implementation and control procedures are developed.

7) Loss Prevention Planning

a) Ahtna Construction and management from the foremen up to the project managers are held responsible for implementing and maintaining safe working methods and conditions and for the proper management of the work.

b) Project team management continuously reviews site conditions, planned work and other site activities in an ongoing attempt to reduce safety hazards, unsafe acts and at-risk behavior by all personnel. Hazardous operations, tie-ins, steel erection, heavy crane lifts, trenching operations, etc. must be planned and executed in accordance with the rules established by the owner and AC&PPC.

D) Operations Hazard Analysis

Initial Analysis - As soon as sufficient definition of project requirements have been established to make an analysis, usually in the preliminary design stage of engineering, an initial analysis is started.

1) Guidelines

a) A hazard analysis will be used as a guideline and represents a listing of general categories of typical tasks, conditions, equipment used, materials specified, etc., for which there are special requirements, known hazards or special equipment required to perform the work safely.

b) The analysis conducted will identify those hazards that will exist on-site and will indicate preparations to be made in order to avoid accidents, injury, work stoppages, delays and other forms of loss. Any items identified in this analysis that may affect the operation of the plant shall be communicated to the owner in writing as required by the process safety requirements.

2) Responsibilities

The analysis is conducted by the project team management, led by the assigned project representative and assisted by the AC&PPC HSE supervisor. Upon completion, the analysis is reviewed by the project manager and AC&PPC HSE supervisor, who provide the additional definition necessary to complete the analysis.

3) Technique

Utilizing the guidelines above, the analysis team reviews the planned design, existing plant conditions, environmental conditions, erection sequence and the like for potential hazards. Where changes in design, erection sequence, etc., could cost effectively reduce the hazard, these will be incorporated. Where changes are not cost effective, appropriate loss prevention procedures are developed, entered into the analysis form and incorporated into the site HSE plan.

4) Follow-Up

a) Follow-up analyses are needed as the design, planning and execution strategy progresses, particularly if significant changes have taken place in the meantime.

b) As a minimum, a review will be initiated by the AC&PPC HSE manager or the site HSE supervisor immediately prior to initial project site activities. Those new items identified that have a potential to cause a catastrophic gas release, fire or other major incident within an operating facility shall be communicated in writing to the owner.

5) Site Safety & Health Plan (Section H)

The site health, safety and environmental plan is developed using the maintenance/construction/operations hazard analysis and applicable safety standards. It is approved by the project manager, and the AC&PPC HSE supervisor. The plan is then approved by the owner.

6) Task Hazards and Daily Planning

As hazardous tasks such as toxic substance use, exposure to hazards not previously identified, etc., are identified during a supervisor's weekly planning, safe procedures are developed to address

these hazards. These procedures are included in the weekly tool box safety meetings and AHA prior to starting a task.

E) Personnel/Subcontractor Requirements

1) Personnel Screening

a) Physical capacities, job skills and hazard awareness of employees and subcontractors must be consistent with the assigned tasks, enabling them to work without endangering their own well-being or that of others.

b) In recognition of AC&PPC'S policy of accident prevention, the hiring of employees who can safely perform all assigned work is mandatory. Where appropriate, this is accomplished through a pre-employment physical and careful, thorough, systematic consideration of the applicant's capabilities/abilities. All applicants are expected to perform the essential functions of the job, and AC&PPC will comply with the ADA standard and if feasible, will institute reasonable accommodations.

c) All personnel assigned to or working on the project site are required to be drug and alcohol free as indicated in the Drugs of Abuse and Alcohol policy and screening guidelines (refer to Part I, Section 5, of this manual). Craft personnel assigned to the project site are required to meet physical fitness requirements as preserved in the pre-employment physical exam. Included in this exam are the following:

(a) Drug screen

(b) Medical history

(c) Physical examination

d) Applicants are evaluated as to their craft skills and experience prior to screening and hired/placed according to their skill levels and skill tests (where required). Those applicants meeting these requirements must also complete the project safety orientation as part of new employee processing.

2) Subcontractors Selection

a) AC&PPC must make certain that subcontractors recognize and accept their responsibility to perform safely by requiring the subcontractor to participate actively in a formal safety program.

b) The project manager, in conjunction with the AC&PPC manager of subcontracts and HSE supervisor, are responsible for determining the appropriate degree of AC&PPC involvement and control necessary to promote safe subcontractor performance. The determination is based on the size and hazards of the subcontracted work and the potential impact of unsafe practices on employee safety and health, project costs and schedule.

3) Bid Preparation and Analysis

a) As part of the bidding process, the responsible subcontracts administrator explains to potential subcontractors the HSE standards that are expected of them and, if awarded a subcontract, the subcontractors are required to present a project HSE program for AC&PPC review which incorporates appropriate requirements, including those of the owner.

b) HSE standards of performance for subcontractors are established by the AC&PPC HSE Supervisor in conjunction with the AC&PPC project manager and manager of subcontracts and reviewed and revised as required.

4) Evaluation Criteria

The following represents some of the evaluation criteria:

a) Past HSE performance

b) Safety attitude

c) Present programs and practices

d) Ability to achieve expected safety performance

e) Degree of AC&PPC involvement necessary to meet safety standards

5) Obligations

If awarded a subcontract, the subcontractor is required to do the following:

a) Present a HSE program for AC&PPC review that incorporates a site HSE manual including those of the owner.

b) Designate a responsible, knowledgeable supervisor or safety officer to coordinate safety on site.

c) Attend and participate in joint Company/subcontractor safety meetings.

d) Participate in safety audits.

e) Establish, along with AC&PPC, lines of communication at all levels so that safe work practices are understood and implemented by both parties.

F) Orientation, Education and Training

This section outlines most of the basic types of information and training required for all employees, supervisors and subcontractors prior to the start of site work and provided throughout the duration of the project. Comprehension of the material presented will be assured through testing where required or deemed necessary for safety.

1) New Employee Orientation

The project orientation program for employees and supervisors includes all new workers regardless of the number of years worked in the industry. It covers every person new to AC&PPC, new to a particular project site or only new to a crew. The orientation is given before employees or subcontractors begin work. The orientation is tailored to the project based upon the types of potential hazards, state and local laws and the client's requirements. The effectiveness of the orientation is enhanced greatly by the active participation of senior project supervision.

The orientation is presented as part of the overall project orientation given by the project staff. The information and training given includes, but is not limited to, the following:

a) AC&PPC HSE policy

b) Safety handbook (where provided)

c) Reporting of hazards

d) Types of personal protective equipment required and their usefulness

e) Project site rules of personal safety and conduct

f) Owner's facility HSE rules and regulations, including smoking regulations

g) Fire prevention

h) Confined-space entry procedures

i) First aid and worker's compensation procedures

j) Medical emergency information

k) Employee right-to-know law - hazardous substances

l) Employee access to medical and exposure records

m) Tool Box Safety Meetings

n) Emergency warning and evacuation signals

o) Employee disciplinary practices

p) Drugs of abuse and alcohol policy

q) Safety recognition program

6) Supervisor's Orientation

All supervisors assigned to the project or promoted from the field work force are indoctrinated to their responsibilities.

All supervisors are required to become knowledgeable and enforce all owner/AC&PPC rules applicable to their work. They shall set an example for their subordinates and co-workers by their compliance with work rules and their aggressive leadership in safety. All supervisors shall know all requirements for work permits, assure no work proceeds without them or determine that a permit is not required for the work planned.

Information covered shall include the following:

a) Foreman's safety responsibilities

b) AHA

c) Safety motivation

d) Safe practices for specific crafts

e) Accident investigation

f) Conducting effective safety meetings

g) Employee right-to-know law - hazardous substances

h) Client and governmental requirements

i) Effects of accidents

j) Drugs of abuse and alcohol awareness training

6) Subcontractor's Orientation

Subcontractor's supervisors must attend the employee orientation program. Subcontractors shall indoctrinate their own employees.

7) Supervisory Safety Training

Safety training is considered an integral part of the AC&PPC HSE program and is implemented on each project.

All supervisors on the project attend and complete the Activity Hazard Analysis (AHA) program and any other required technical safety instruction courses.

8) Tool Box Safety Meeting

a) Tool Box Meetings are conducted on a weekly basis with all craft personnel. These meetings are conducted by foremen or general foremen utilizing material prepared in coordination with the site HSE supervisor. Craft foremen and superintendents attend these meetings and actively participate and support safety.

b) The Tool Box Meetings are utilized as primary channels of two-way communication between AC&PPC and employees regarding project safety. On a weekly basis, the site HSE Supervisor/ Representative issues subjects for discussion.

c) A record of each Tool Box Safety Meeting is kept and retained in the project site safety files to show the subjects discussed along with an attendance sheet with signatures.

9) Hazard Communications

a) The site HSE supervisor has the overall responsibility for administering the project hazard communication program. A list of all hazardous chemicals that are used on the project site(s) will be complied by the site HSE supervisor. A listing of all the MSDS received from vendors during the engineering requisitioning phase of the project should have been previously assembled by the project engineer. The list is updated as necessary. MSDS received by the site material warehouse/receiving department attached to goods received will be turned over to the site HSE Supervisor/Representative. The official list, together with MSDS received with goods, is kept in the HSE department.

b) If work is being conducted in or near facilities that are in operation or contain operating chemicals, the owner/operator must provide a listing and copy of MSDS for all hazardous chemicals in the facilities.

c) Container labels, MSDS and training on handling materials are provided as required by law.

d) These provisions may include the following:

(i) Container labels list the contents of the container and appropriate hazard warnings. Secondary containers are labeled with either an extra copy of the manufacturer's label, or with a sign or generic label that lists the container's contents and appropriate hazard

warnings. This responsibility is assigned to the warehouse/receiving department and monitored by the site HSE Supervisor/Representative.

(ii) Copies of material safety data sheets for all hazardous chemicals to which project personnel may be exposed are kept by the site HSE Supervisor/Representative and are readily accessible to employees in the work area during each work shift.

10) Employee Training

a) The general new employee orientation training session provides an overview of the hazard communication requirements including employee rights, a review of the chemicals present onsite, the location and availability of the AC&PPC written hazard communication program, a list of hazardous chemicals and MSDS.

b) Supervisors and subcontractors are responsible for ensuring that employees are informed of the hazards of working with hazardous materials handled routinely.

11) Informing Other Employees

It is the responsibility of the site subcontract administrator to collect from each subcontractor their list of hazardous substances and an MSDS for each. He also provides each subcontractor a copy of the project hazard communication program to ensure that all project site personnel have access to information on the hazardous chemicals on site.

12) Existing Plant Hazards

When work is to be performed in existing plants or where AC&PPC or owner employees are potentially exposed to hazardous materials used by AC&PPC, owner, or contractors, AC&PPC must:

a) Request MSDS from the owner at the initial planning stage.

b) Provide access to copies of all MSDSs acquired to subcontractors who may be exposed to the hazards and to the owner for hazardous materials AC&PPC and its subcontractors bring to or have delivered to the site.

13) Communication, Recognition and Motivation

Productivity and safety enhancement program promotes worker safety awareness and recognition for safety as well as develops quality, productive workers. Through various safety incentives, recognition of employee/crew of the month, etc., safe workers and supervisors are recognized for their efforts and project safety performance is enhanced.

G) Safety Implementation

The site HSE plan is implemented throughout all of the organizing, planning and training phases. The implementation includes every facet of HSE awareness and planning from basic safety, health, and environmental requirements to emergency procedures.

1) Based on the task hazard analysis, basic safety and health requirements are developed and issued to ensure the safety of all operations planned. These HSE rules are to be followed in conjunction with any additional specific requirements issued by AC&PPC or the owner.

   a) Basic Rules of Personal Safety and Conduct for Job Personnel

   b) Project site Work Rules

   c) Personal Protective Equipment

   d) Electrical

   e) Hand and Portable Power Tools

   f) Material Handling and Storage

   g) Excavation and Trenching Requirements

   h) Cranes

   i) Slings and Rigging Equipment

   j) Motor Vehicles and Heavy Equipment

   k) Ladders

   l) Scaffolding

   m) Barricades and Barricade Tape

   n) Steel and Pipe Erection

   o) Welding and Burning Operations

   p) Abrasive Blasting

   q) Marine Safety

   r) Demolition

2) Vehicles and Equipment

Vehicle and equipment failure or misuse is a major source of accidents, injury and property damage. Thus, strict guidelines on vehicle and equipment use, inspection, maintenance, operator certification and equipment operations will be instituted. These guidelines may include the following:

a) Prior to project start, the equipment planning phase includes analysis of equipment needs, subcontractor recommendations and qualifications, and operator assessment.

b) Periodic equipment inspections and maintenance are scheduled. Records of all inspections and maintenance are completed and maintained for review and approval.

c) The qualifications of all operators of heavy equipment are tested, reviewed and documented. This review includes the successful completion of a written test and a practical operating examination administered by competent and authorized personnel, and a training session on operator responsibilities, familiarity with and comprehension of all safety and legal requirements, and manufacturer's operating and maintenance manuals.

3) Hazard Operations and Work Permits

a) To monitor and control potentially hazardous work on the project site, work permits are required to perform work of any nature within the limits of any processing unit or in new construction where special hazards may occur. Permits are issued by the owner or AC&PPC only after verified compliance with applicable safety procedures.

b) Specifications for compliance include but are not limited to the following:

(i) Locating all buried utilities or pipelines before excavation.

(ii) Purging, steaming or draining vessels or pipelines to free them of gas and positively checking prior to entry.

(iii) Providing adequate ventilation of confined areas.

(iv) Covering all sewers and cleaning the area of combustible or flammable materials.

(v) Providing fire protection and observing no smoking rules.

(vi) Providing fire watch/standby provided where required.

(vii)Providing personal protective equipment.

c) The procedures for permit issuance are specific, areas of accountability are spelled out by the owner or AC&PPC in the site HSE plan, and there shall be no deviations.

4) Environmental Hazards

a) Supervisors shall utilize appropriate engineering administrative and personal protective equipment control measures to reduce or eliminate all identified sources of significant environmental hazards. (Refer to Tables Appendix A in CFR 1926.55 of the OSHA standards for a listing of hazardous air contaminants and exposure limits to be met). Workers shall be trained in these procedures as required.

b) The controls measures may be as follows:

(i) Substitute a less hazardous material for one which is harmful to health.

(ii) Provide training for employees to supplement existing controls.

(iii) Isolate or enclose any process or work operation which may be hazardous.

(iv) Use wet methods to reduce the generating of dust; use of local exhaust or dilution ventilation systems to reduce contaminants getting into the air.

(v) Use special control methods such as shielding, i.e., rotating job assignments so that no employee is overexposed to any hazard.

(vi) Employ personal protective equipment along with protective clothing and respiratory protection when required.

5) Fire Prevention/Protection

As with other AC&PPC policies, prevention of fires is the goal. Emphasis is placed on preplanning, hot work permit controls, flammable gas, liquid and material control; the control of smoking; training and use of warning signs, proper electrical wiring and proper waste storage and removal. Specific procedures are outlined in the Site Safety & Health Plan (refer to Section H).

6) Housekeeping, Sanitation and Waste Disposal

a) Good housekeeping is an important part of the HSE program. It is the responsibility of all employees and subcontractors, including supervisors, to practice good housekeeping. Housekeeping before, during and after an activity is mandatory to maintain a planned, clean, orderly project site. Worksites, shop areas and all laden areas are kept clear of scrap and unnecessary materials at the end of each workday. Materials necessary for work are properly stacked and kept out of roadways to allow proper access for fire fighting equipment. Laydown areas are planned and laid out in sections with access roadways adequate for fire fighting and materials handling equipment.

b) Adequate toilet facilities, cleaning and disposal services and sources of potable water shall be supplied as required. Subcontractors will provide similar facilities as required by contract.

c) There shall be compliance with all environmental pollution controls and spills shall be controlled/disposed according to owner and EPA requirements.

d) Environmental pollution control compliance may include the following:

(i) Do not allow any oils, fuels, paints, solvents, chemicals or contaminated waste waters to migrate into the plant ditch system or discharge any of this material on the ground. Dikes shall be provided around all fuel storage areas. The use of any toxic or hazardous materials or chemicals must be approved by the site HSE supervisor.

(ii) Spills of petroleum products, chemicals or other materials must be immediately cleaned up and reported to the site HSE supervisor. Cleaning/hydroblasting of process equipment must be performed in run-off containment areas approved for this type of work.

7) Special Hazard Programs

These programs include the removal of asbestos, extremely hazardous or regulated activities, etc. Specific programs shall be developed based on hazards identified in the project/task hazard analysis.

8) Emergency Procedures

Emergency procedures shall be developed for all potential incidents including fire, explosion, toxic gas leaks and weather disturbances. Contingencies exist for any combination of the above. These procedures shall contain details on communications, fire fighting, medical, security, evacuation, resumption of operations and others as deemed required.

Emergency procedures shall be included as part of the training of each employee on the project site. They will be periodically reinforced through meetings, subsequent training and drills.

9) First Aid and Medical Facilities and Records

A medical facility shall be established at the project site, staffed by a certified emergency medical technician/paramedic or nurse with certain specified duties. These duties shall include, but not be limited, to:

a) Administering first aid as required

b) Working with physicians and emergency medical services

c) Maintaining office and medical supplies

d) Maintaining medical reports and confidentiality

e) Preparing all applicable medical, insurance, legal and OSHA forms, etc.

f) Working with injury management

10) Accident Reports and Investigations

a) Accident investigations, analyses and reports, along with record keeping tasks, are an important element of AC&PPC's loss prevention program. The following is a summary of analyses, reports and records completed by AC&PPC that are necessary or required by law:

(i) Inspection reports

(ii) Accident reports

(iii) Accident and near-miss investigations

(iv) Medical treatment reports and medical records

(v) Personal and environmental health monitoring

(vi) Government reports - OSHA 300, 301, etc.

(vii) Insurance records

(viii) Damage records

(ix) Monthly summaries and analyses of accident rates and unsafe acts/conditions

(x) Safety training (tool box meeting minutes, hazardous task training)

Unless each of the above is accurate, coherent, verifiable and reliably issued, they can become worthless. The goal is to initiate and keep only useful records, those which meet one of the functional objectives listed above. The indicated procedures must be followed to ensure these goals are attained.

11) Site Safety Controls

Control over the HSE activities on a project is achieved through a series of inspections, project site tours, observations, audits, investigations and safety incentives. These control mechanisms are performed on both a scheduled, periodic and an "as needed" basis.

12) Loss Prevention Inspections

a) The main emphasis of the HSE program is the elimination of worker injury to create an "incident free" worksite. AC&PPC procedures provide guidance on how these goals can be achieved. So that management can assess each project, unit or subcontractor's progress and correct or improve progress toward these goals, loss prevention inspections are performed.

b) During periodic visits to a project, the AC&PPC HSE manager conducts formal loss prevention audits and inspections. The results of these inspections shall be recorded. Copies of the inspection report and summary sheet are forwarded to AC&PPC management for review and information, and to the project manager, HSE supervisor, and the area superintendent(s) for corrective actions as may be required.

13) Project Inspection

a) The site HSE supervisor conducts monthly loss prevention inspections of the entire project. The results are recorded and kept on file.

b) Copies of the inspection report are forwarded to the project manager for review and to the respective area superintendents for immediate corrective actions as may be required.

14) Management Walkarounds

As a part of his/her responsibilities, the project manager or project superintendent makes regular walkarounds of the site at least every other week to observe for unsafe acts and conditions with the site HSE supervisor. These observations and corrective actions are recorded and issued to the responsible supervisors for action.

15) Audits

a) Audits are undertaken on a periodic basis to:

(i) ensure compliance with AC&PPC safety and record keeping requirements,

(ii) review and update training activities and materials,

(iii) to discern any potential trends in safety violations or injuries that may apply to the overall project, and

(iv) Conduct behavior sampling and perception surveys.

b) These audits are evaluated, analyzed and disseminated to the proper personnel for action. Audits also are conducted to ensure compliance with OSHA, state and local safety regulations.

16) Incident Investigations

a) All incidents resulting in injury or loss or near-misses are investigated and documented by the supervisor in charge and reviewed by the project manager and the site HSE supervisor. The investigations are to uncover root causes of safety problems and to change or modify the existing unsafe circumstance or act. As with the foregoing control measures, records are kept of all investigations.

b) All lost time injuries and significant losses or incidents are reported to the project manager, who notifies AC&PPC officers and HSE manager the same day of occurrence. The owner representative is also notified and receives copies of all incident investigations conducted.

17) Safety Incentives

AC&PPC projects may institute safety incentives as pro-active measures to help achieve the goals of the HSE program. These incentives reward safe working habits, precise and timely safety record keeping and enhance project awareness of the relationship between safety and efficiency.

18) Accountability, Enforcement and Disciplinary Policy

a) Accountability of management, subcontractors and employees for safety is one of the key ingredients in assuring the success of AC&PPC HSE process. This is accomplished by the following methods:

(i) Loss Prevention Inspection Reports are intended to be snapshots of site compliance with loss prevention and control requirements. These are pro-active measures of project HSE performance before accidents occur.

(ii) As a part of overall monthly reporting procedures, the field issues an updated report of project site OSHA/accident statistics for the length of the project. This shows the monthly man-hours worked and OSHA incident rates. The AC&PPC safety manager utilizes these figures in producing an overall company loss prevention status report for AC&PPC management that is an assessment of project management HSE efforts.

(iii) Direct accident costs are summarized to provide financial measure of HSE performance.

19) Performance Evaluations

a) Line Managers

All line managers' performance reviews include safety as a key element in their evaluation for promotions and raises.

b) Individual Employee

Individual employee HSE performance is a condition of employment and affects not only their potential for continued employment but also affects their achievement of project HSE awards and incentives. Their record of accidents, safety warnings and reprimands is counted heavily in this review.

H) PROJECT SITE SAFETY AND HEALTH PLAN

Project Name: _____

Project Financial Number: _____

I. Promotion of Safe Work Practices

A. Safety Policy

1. It is the intent of the Company to provide and maintain safe and healthy working conditions and to follow operating practices that safeguard all employees and result in efficient operations.

2. A copy of the Company safety policy is posted on/at _____.

3. The Company safety policy is reviewed with all employees on an annual basis.

B. Management Accountability

1. Ahtna Construction & Primary Products Corp. (AC&PPC) management is responsible for the safety and health of all employees while they are performing their duties. Management's objective is an efficient, productive effort that incorporates all elements of accident prevention through the participation of senior management, management teams, project managers, superintendents, foremen, employees, subcontractors and suppliers. Any variances to this Project Safety Plan require the approval of senior management.

2. The management team responsible for project support are:

   a. Operations Manager:_____

   b. Safety Manager: _____

   c. Administration Manager: _____

   d. Project Manager/Superintendent: _____

   e. Safety Supervisor: _____

3. The person(s) responsible for the implementation and continuous effectiveness of the accident prevention program for this project are:

   a. Name/title: _____
   b. Name/title: _____

C. "Incident/Injury Free" Goal

1. The Company performance measures for the year (_____) are:
   a. Recordable incident rate: _____
   b. LTA incident rate: _____
   c. LWD incident rate: _____
   d. Work hours per E-1: _____
2. The project objectives/goals for the year (_____) are:
   a. Recordable incident rate: _____
   b. LTA incident rate: _____
   c. LWD incident rate: _____
   d. Work hours per E-1: _____

D. Employee Hiring and Placement

1. Applicants' work and safety history are reviewed through an application/ interview/screening process.
2. Pre-employment drug screening is performed on all applicants as a condition of employment.
3. A physical capability analysis is performed on applicants to determine size, strength, endurance, acclimation, visual acuity or other physical qualifications needed to perform a task properly and safely.
4. Verification is obtained by interviews with person(s) conducting the physical assessment and those involved in job placement.

E. Drug and Alcohol Testing Program

1. AC&PPC has adopted a comprehensive Drug and Alcohol Testing program. This program incorporates the aspects of education and substance abuse awareness. The integration of these systems has the goal of eliminating the effects of substance abuse in the workplace

and providing high quality professional assistance for those employees who may have a substance abuse problem.

2. These performance measures and goals can be used to comply with client requests. The goal of AC&PPC is to be "Incident/Injury Free".

3. For the purpose of assuring compliance, employees and applicants are subject to substance screening under the following circumstances:

   a. Pre-employment: Prior to being placed on the payroll, an applicant will undergo substance screening as part of the pre-employment physical assessment process.

   b. Post Accident/Incident: Any employee who receives a project-related injury/illness that is more serious than an onsite first aid visit and receives professional care at a clinic will be screened for substances, including alcohol. Employees involved in on-the-job injury accidents resulting from their actions or lack of actions will be tested for drugs and alcohol. Employees involved in injury accidents resulting from their actions or lack of action will be tested for drugs and alcohol. Employees involved in single-vehicle accidents will be tested for drugs and alcohol.

   c. Random: The employees of AC&PPC are subject to random and group testing with the intent of enforcing the company's Drug and Alcohol Testing Policy.

F. New Employee Orientation/Indoctrination

1. The following subjects, as a minimum, are covered with all new employees prior to assignment to assist in compliance to federal and/or state regulations and company directives:

   Hazard Communication/MSDS/Specific Chemical Hazards
   Lock-Out/Tag-Out
   Confined Space Awareness
   Ladder Safety
   Fires & Fire Extinguishers
   Disciplinary Action Program
   Off-the-Job Injury Procedure
   Safety Policy (corporate, site specific and client)
   AHA
   Permits (Hot Work, Safe Work, Excavation, etc.)
   Hearing Conservation and Protection
   Respiratory Protection Awareness
   Emergency Evacuation Procedures and Alarms
   Personal Protective Equipment
   Basic Electrical Safety
   Fall Prevention/Protection

Scaffold Safety Awareness
Drug & Alcohol Program/Employee Assistance Program
Open Door Policy
Employee Access to Medical Records

2. Plant safety rules will be covered with all employees using the following format(s):

   a. _____

   b. _____

3. Project specific follow-up training and indoctrination will be conducted by the individual's supervisor.

G. Safety Meetings

1. Crew Safety Meetings

   a. The frequency that safety meetings will be held is _____
   _____

   b. Individuals in the following positions are responsible for conducting safety meetings for their personnel:
   _____
   _____
   _____

   c. Topics include company supplements, previous period's accidents/incidents/investigation results, and training to satisfy periodic update requirements.

   d. Safety Committee actions are reviewed, as appropriate, including feedback and/or suggestions from employees.

   e. Employee attendance is mandatory, and discussion is encouraged.

2. Supervisors' Safety Meetings (if applicable) are held with all field supervisors on _____.

3. Monthly (or quarterly), on each _____, a general safety meeting is be held with project-site personnel as a group.

a. Topics include general areas of concern, safety program direction/status, and updates of annual training requirements, as appropriate.

4. Documentation, including employee signatures and safety topics, are maintained on file.

H. Employee Training

1. The AC&PPC training network is used to identify and track training requirements and deficiencies of all employees to ensure that adequate training is received by all employees as necessary.

2. Required training may include, but is not limited to, the following:

a. State/Federal

(1) Forklift operation/inspection

(2) Aerial lift operation/inspection

(3) Powder actuated tools

(4) Hazard communication

(5) Hearing conservation

(6) Fall Prevention/Protection

(7) Respiratory protection

(8) Bloodborne pathogens (for medical personnel)

(9) Personal protective equipment

(10) Basic electrical safety

(11) Fires & fire extinguishers

(12) Confined space awareness, entrant, attendant and entry supervisor

(13) Lock-Out/Tag-Out

(14) Emergency alarms and evacuation procedure

(15) Various safe work practices in association with Process Safety Management

(16) Access to Employee Medical Records

(17) Excavation (Competent Person)

(18) _____

(19) _____

(20) _____

b. AC&PPC Required

(1) AHA (Activity Hazard Analysis)

(2) Drug and Alcohol Program

(3) _____

(4) _____

(5) _____

3. Training materials and methods used:

   a. Verbal presentation

   b. Written materials, including textbooks, reference manuals, etc.

   c. Audio-visual aids, including films, videos, audio tapes, slides, overhead transparencies, computer simulation, etc.

   d. _____

4. All training is documented by employee signature on a roll sheet that includes the date, the topic of the training and the instructor's name.

5. Training is entered in the AC&PPC Training System to maintain accurate and up-to-date training records on all employees.

I. Safety Bulletin Boards

1. Bulletin boards for safety, health, and environmental/loss control purposes are conspicuously located on the project.

a. Number of safety bulletin boards: _____

b. Locations of the bulletin boards are: _____

2. Bulletin Board Items

a. All bulletin board materials are kept updated. These materials include:

(1) OSHA Rights poster

(2) Minimum wage/EEO poster

(3) Drug & alcohol program exhibit B
(4) Drug & alcohol program exhibit C

(5) OSHA 1910.20 - Access to Medical Records poster

(6) Hearing Conservation standard (29 CFR 1910.95 if applicable)

(7) Hearing Protection Standard (29 CFR 1926.101 if applicable)

(8) Safety Policy

(9) State Workers' Compensation/insurance carrier identification poster

(10) Plant emergency alarm/signal/phone number

(11) _____

(12) _____

J. Safety Enforcement Guidelines

1. Employee conduct or behavior that does not conform to safety rules and regulations is a very serious matter. All infractions will result in action being taken. Due to the diversity of regulations and situations, each case will be handled individually, with due consideration for:

a. Potential for imminent danger to personnel and/or equipment.
b. Injuries or equipment damage incurred.

c. The contribution of improper behavior (such as horseplay) to the incident.

d. Supervisors' prior knowledge of nonconformance.

2. Safety enforcement action for violations that are deemed minor must be progressive, with the intent to alter behavior with proper instruction and counseling. Therefore, the progressive actions below are for minor violations only:

   a. Verbal warning with counseling for first offense.

   b. Written reprimand for second offense. The reprimand will become part of the employee's personnel record. It includes all details of the incident and specifies the consequences of the third offense. The employees' and his/her supervisor's signatures are required.

   c. The AC&PPC counseling guidelines and documentation are used, as prescribed by the Human Resources Department.

3. For safety incidents or behaviors that are deemed to be serious, or when progressive action has not produced the desired result, consequences are time off without pay or termination of employment.

K. Safety Award Program

1. Project Recognition Awards

   a. The project will be presented with safety plaques for achieving the following safety milestones:

      (1) Working one million man-hours (or multiples) without a lost time injury.

      (2) Working one year (or multiples) without a lost time injury.

      (3) Working one year (or multiples) without a recordable injury.

      (4) Working Incident/Injury-Free.

2. Employee Recognition Award

   a. The project shall implement a program that is designed to recognize employees for their individual safe performance.

   b. The program will be revised periodically to ensure employee interest and participation.

II. Hazard Control

A. Hazard Analysis

1. Activity Hazard Analysis (AHA)

a. At the time of task assignment, the task is analyzed for hazards by the supervisor or a trained competent designee and the personnel performing the task. Work activities will not commence until all parties are satisfied that hazards have been identified, and that appropriate measures have been taken to protect the task performer(s) from the hazards.

b. All involved personnel, from management to the task performer, will be trained in the AHA process, as well as in hazard recognition skills as appropriate to the individual's assignment.

c. The appropriate use of AHA is verified by the project's self audit program.

B. Hazard Communication

1. The Hazard Communication Standard was enacted to ensure that the hazards associated with chemicals produced, imported or used are evaluated, and that the hazard information is communicated to affected employers and employees. Required components of a Hazard Communication Program are:

   a. Method of hazard determination.

   b. Material safety data sheets (MSDS).

   c. Labels and other forms of warning.

   d. Employee information and training.

   e. Written Hazard Communication Program.

   f. Current inventory chemical list of hazardous materials for which a material safety data sheet should be available.

2. Copies of Material Safety Data Sheets (MSDS) are available for employee review at the following location(s):

   _____

   _____

   _____

3. The individual(s) responsible for conducting employee training is/are:

   _____

   _____

4. The individual(s) responsible for ensuring that containers are properly labeled is/are: _____

C. Work Permits

1. A work permit system is identified and in place for the following:
   a. Hot work
   b. Confined space entry
   c. Excavation
   d. Line breaking
   e. Lock-Out/Tag-Out
   f. Area entry
   g. Personnel basket
   h. Other _____
2. A definition of the types of permits and corresponding procedures are developed and may be reviewed at: _____
3. The work permit systems assess specific potential hazards on a task-by-task basis. The information acquired from this assessment is used to determine appropriate safe work practices and personal protective equipment for the task.

D. Personal Protective Equipment

1. Hazard assessments to determine appropriate personal protection equipment are conducted by the front line supervisors prior to each work assignment during the AHA process.
   a. Project management and supervision are responsible for ensuring that employees properly use the specified PPE.
   b. Selection decisions and requirements are communicated to all employees through several means, including formal training classes, new hire orientation, work permits,

AHA and weekly safety meetings. Documentation of this communication is maintained on file and includes dates, names, and types of PPE discussed.

E. Hearing Conservation

1. High noise areas are marked according to a noise survey as follows:

   Conducted by: _____
   Date: _____

2. Hearing protection provided for this project consists of: _____
   _____

3. Hearing protectors are available at: _____

4. Audiometric testing is conducted annually, and the results of the tests are communicated to all affected employees, with employee signatures as documentation. (Applicable to projects who follow the 1910.95 hearing conversation standard.)

F. Respiratory Protection

1. Respiratory protective equipment is available at: _____
   _____

2. The minimum requirements for respiratory protection are specified under the section titled *Respiratory Protection Program*.

3. All affected employees receive a physical assessment to determine their ability to wear prescribed respiratory equipment prior to using it.

4. Employees are trained in the use, limitations, storage and inspection of respiratory equipment prior to initial use and annually thereafter. This training includes fit-testing the equipment to the user as outlined in the *Respiratory Protection Program*.

5. All equipment is cleaned and maintained, with written documentation, by:
   _____

G. Fall Protection

1. Fall protection is required any time a fall hazard exists.

2. Safety harnesses/lanyards are inspected by:_____

on a _____ basis.

H. Environmental/Occupational Health Programs

1. Formal monitoring programs exist to ensure that all identified health hazards are properly controlled.

   a. Monitoring is being conducted by: _____
   _____

   b. Review of monitoring and evaluation of the data is conducted by: _____
   _____

2. Documentation of monitoring is maintained at:
   _____

I. Medical Surveillance/Exposure Monitoring

1. Medical surveillance/physicals/exposure monitoring are conducted on a periodic basis for the following:

   a. OSHA regulated chemicals
   _____
   _____
   _____

   b. Other medical surveillance_____
   _____
   _____

   c. Biological monitoring
   _____

   d. Exposure monitoring (personnel and area)
   _____
   _____

J. Inspections

1. Inspections of shops, fabrication areas, storage areas, etc. are the responsibility of the direct supervisor to ensure safe conditions and activities in his/her area of responsibility.

2. Inspections of all areas will be conducted as follows:

   a. Mechanic Shop(s)

      (1) Frequency _____

      (2) Responsible person _____

   b. Maintenance Shop(s)

      (1) Frequency _____

      (2) Responsible person _____

   c. Welding Shop(s)

      (1) Frequency _____

      (2) Responsible person _____

   d. Electrical and Instrumentation Shop(s)

      (1) Frequency _____

      (2) Responsible person _____

   e. Tool Room(s)

      (1) Frequency _____

      (2) Responsible person _____

   f. Office/Administrative Areas

      (1) Frequency _____

      (2) Responsible person(s) _____

   g. Area _____

      (1) Frequency _____

      (2) Responsible person _____

   h. Area _____

(1) Frequency _____

(2) Responsible person _____

3. Inspections conducted as specified above are documented and include the corrective action and date for each discrepancy noted.

   a. Documentation is maintained on file for not less than three years or job completion at the following location: _____

4. Periodic Health, Safety and Environmental audits are conducted by the Shared Services Global Audit Group.

5. Documented equipment inspections are conducted as follows (documentation shall consist of standard AC&PPC or Client forms).

   a. Daily pre-use visual inspections followed by documented monthly inspections are conducted on (check applicable):

      _____ Hydraulic cranes
      _____ Conventional cranes
      _____ Aerial lifts
      _____ Overhead cranes
      _____ Drum hoists
      _____ Powered industrial trucks
      _____ Safety belts, harnesses and lanyards
      _____ Fire extinguishers
      _____ Emergency respiratory protective equipment
      _____ Come-alongs and chainfalls
      _____ Wire rope, slings, chokers, and lifting chains
      _____ Other _____
      _____

   b. Daily pre-use visual inspections and minimum quarterly inspections are conducted on all electrical tools and equipment that are not hard-wired.

      (1) Electrical tools are inspected on a _____basis.

      (2) Color coding is identified as follows (color, month or quarter):
      _____
      _____

K. Fire Protection

1. Fire extinguishers and related fire protection equipment is maintained and inspected by _____

2. Employees shall receive initial training in the use of fire extinguishers prior to assignment during New Hire Safety Orientation, with annual refresher training (when and where applicable to location).

3. The primary function of AC&PPC personnel in the event of a fire is to:
_____
_____

L. Emergency Evacuation Plan

1. The evacuation plan for this project is posted on the safety bulletin board(s) and _____
_____

2. Evacuation orders are given by _____

3. All personnel receive training on emergency evacuation, response and alarms/signals prior to initial assignment during New Hire Orientation, and at least annually thereafter.

III. First Aid/Medical Services

A. First Aid Attendants

1. The qualified first aid attendant(s) on this project are (minimum recognized first aid certificate):
_____

B. Supplies/Medications

1. First aid supplies and non-prescription drugs are in accordance with directives in the *Medical Management Procedures* manual.

2. Prescription medications are administered with a written standing order from (consulting physician): _____
_____

C. Project's Consulting Physicians

1. Primary

Name: _____

Address: _____

Phone: _____

Office Hours: _____

2. Secondary

Name: _____

Address: _____

Phone: _____

Office Hours: _____

D. Hospital/Medical Clinics

1. Days

Name: _____

Address: _____

Phone: _____

Office hours: _____

2. Nights

Name: _____

Address: _____

Phone: _____

Office hours: _____

E. Transportation

1. Basic primary: _____

2. Basic secondary: _____

3. Emergency primary: _____

4. Emergency secondary: _____

F. Emergency Phone Numbers

1. Emergency phone numbers are updated when necessary and are posted at all telephones and at _____

IV. Accident Investigation

A. Written procedures and dedicated forms are on file and used as needed for the following (check applicable):

_____ Lost Time Accident Procedure
_____ Near-Miss Accident Procedure
_____ Third Party Liability Investigation
_____ Accident/Incident Report Procedure
_____ Motor Vehicle Accident Procedure
_____ Off-the-Job Injury/Illness Procedure
_____ Other _____
_____
_____

V. Recordkeeping

A. Federal/State Required Documentation

1. OSHA 300

   a. The OSHA 300 Log is maintained in accordance with the *Recordkeeping Guidelines* manual.

   b. OSHA 300 Logs (current year and past 5 years) and corresponding 301's are maintained at _____

   c. At the end of the year, OSHA 300 Logs are totaled and posted from February 1 until April 30 in the following location: _____
   _____

2. All required training records (with signature, dates, topics and verification of understanding documentation) are filed at _____

3. First Aid Log

   a. Maintained by: _____

   b. Filed at: _____

B. Client-required Documentation

1. The following documentation is required by the client to be furnished on the specified basis:

   _____

   _____

   _____

C. Company-required Documentation

Monthly report package, consisting of the Drug & Alcohol Report, Monthly Summary, OSHA 200 Log, and First Aid Register, is maintained/distributed by:

_____

_____

1.8 Training

1.8.1 Initial Safety and Health Training

Newly hired or transferred personnel will receive initial safety and health training appropriate to their work assignments. Training topics will include, but is not limited to, the following subjects:

- Names of Ahtna personnel who are responsible for safety and health issues;
- Employee safety responsibilities;
- Hazard communication and location of Safety Data Sheets for any chemical products used in their work areas;
- Chemical and physical hazard identification in their specific work areas;
- Safe work practices for their assigned tasks;
- Fire prevention and protection measures and locations of portable fire extinguishers, sprinkler systems, and smoke and/or fire alarms;
- Emergency procedures and location of first aid supplies and other emergency equipment;
- Location of emergency exits; and
- Contents of Ahtna's Injury and Illness Prevention Program.

1.8.2 Supervisor Training

Supervisors will be trained in how to identify and control the safety and health hazards affecting the employees and work activities that they direct and control. They will also be trained in how to present effective on-the-job training, and in proper accident reporting and investigation procedures.

1.8.3 Additional Refresher Training

Safety and health training will be repeated at least bi-annually and whenever one of the following conditions exists:

- Employees receive new job assignments for which they have not previously received training;
- New substances, processes, procedures or equipment are introduced that represent new hazards;
- New or previously unrecognized hazards are identified;

- Employees are promoted to supervisory responsibilities in a work area that is unfamiliar to them; or
- A supervisor determines that individual employees do not adequately understand the required safe work practices or standard operating procedures to perform their work assignments.

1.8.4 Training Providers

The IIPP Administrator and/or other designated employees will perform the following training instruction activities:

- Conduct training sessions for supervisors informing them of any new substances, processes, procedures or equipment that have been introduced into the work place.
- Distribute written safety and health communications to supervisors whenever necessary to inform them of particular hazards or concerns.
- Update the Company's safety rules, procedures and policies on a regular basis, and distribute the updates to all supervisors.

Supervisors will work with the Risk Manager and Safety Health & Environmental Manager to ensure that each employee receives appropriate, timely, training and instruction for their assigned work tasks. Training will be provided by a combination of the employee's supervisor, the IIPP Administrator and outside training providers pre-approved by Ahtna.

1.9 Recordkeeping

1.9.1 Scheduled Periodic Inspections

The Risk Manager will maintain records of formal periodic inspections for at least three years. These records will include at least the work location, date of inspection, inspector's name, and a description of any hazards or unsafe conditions identified and corrective actions implemented.

1.9.2 Safety and Health Training

Training will be documented using written sign-up sheets or a computer based Learning Management System.

These must show at least the date of training, the employee's name, training topic and the instructor's name. Copies of any written training materials will be retained to document specific training content. This documentation will be retained for at least three years or the duration of employment with Ahtna.