

ALASKA LNG PROJECT	DOCKET NO. CP17-____-000 RESOURCE REPORT NO. 2 APPENDIX B – GROUNDWATER MONITORING PLAN	DOC NO: USAI-PE-SRREG-00- 000002-000 DATE: APRIL 14, 2017 REVISION: 0
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APPENDIX B GROUNDWATER MONITORING PLAN

ALASKA LNG

GROUNDWATER MONITORING PLAN

USAI-P2-SPZZZ-00-000019-000

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1.0 INTRODUCTION

This *Groundwater Monitoring Plan* (Plan) is a template of a plan that will be completed prior to construction. This draft plan provides procedures to monitor the quality of groundwater resources during Project construction in the event that dewatering of an excavation (i.e., trench) becomes necessary within 1,500 feet of a known contaminated site.

1.1 REGULATORY REQUIREMENTS

Groundwater resources are protected by the following regulations:

- 18 Alaska Administrative Code (AAC) 72 Wastewater Disposal Regulations.
- 18 AAC 83 Alaska Pollutant Discharge Elimination System (APDES) Regulations.

Certain Alaska Department of Environmental Conservation (ADEC) permits for Project construction, operation and maintenance activities, such as a statewide pipelines or North Slope general permit (AKG320000 and AKG332000, respectively), require additional groundwater monitoring when dewatering or discharging near a contaminated site. More specifically, AKG320000 – Statewide Oil and Gas Pipelines permit provides discharge authorization for dewatering conducted within 1,500 feet of a permit-defined “DEC-identified contaminated site,” although special site-specific permit conditions apply and additional requirements may be added in the discharge authorization. The special conditions would provide assurance that dewatering activities do not pull contamination from known contaminated sites.

The Project entity has identified sites that may be a source of contamination during construction based on their inclusion in ADEC’s Contaminated Sites Program, Leaking Underground Storage Tanks Program, Spill Prevention and Emergency Response, and/or Solid Waste Program. Sites within 1,500 feet (approximately 0.25 mile) of the pipeline right-of-way (ROW) are listed in Attachment A. Proposed dewatering activities in these locations are covered under the statewide pipelines general permit. However, ADEC may include special conditions and best management practices (BMPs) for hydrocarbon removal with the permit approval to ensure that dewatering activities do not pull contamination from known contaminated sites without approved treatment procedures or systems implemented.

The U.S. Environmental Protection Agency (EPA) regulates discharges from some facilities within Alaska, including those located in Denali National Park and Preserve (DNPP), and retains oversight responsibility for DEC regulated discharges. The Mainline route would be located outside of the eastern boundary of the DNPP and would not be inside or cross the boundaries of park, so that a permit would not be required from the EPA.

1.2 RELATED PLANS

Other related Project plans include:

- Unanticipated Contamination Discovery Plan.
- Water Well Monitoring Plan.
- Applicant’s Erosion Control, Revegetation, and Maintenance Plan (Applicant’s Plan).
- Applicant’s Wetland and Waterbody Construction and Mitigation Procedures (Applicant’s Procedures).
- Spill Prevention, Control, and Countermeasure Plan.
- Stormwater Pollution Prevention Plan.

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2.0 STATE OF ALASKA PERMITTED MITIGATION MEASURES OR BEST MANAGEMENT PRACTICES (BMP) PLAN

The Project entity would develop a *BMP Plan* in accordance to stipulations attached to any site-specific permit, if required, when excavation activities are completed within 1,500 feet of a known contaminated site. The *BMP Plan* is a critical component of the permit to provide assurance that all wastewater would be properly managed, treated, and discharged in accordance with the permit. BMPs are schedules of activities, prohibition of practices, maintenance procedures, and other management practices. They include temporary or permanent structural and non-structural devices. BMPs, when used alone or in combination, minimize erosion and contain sediment within the Project site, and prevent discharge of pollutants (as defined in 40 CFR 122.2) to waterbodies and wetlands.

Examples of BMPs that could be implemented if required at locations within 1,500 feet of a contaminated site include:

- BMP1: Inlet and outlet protection.
- BMP2: Interception/diversion ditches.
- BMP3: Placement of secondary containment.
- BMP4: Installation of wastewater treatment facilities.

Additional BMPs would be developed based on site-specific requirements.

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3.0 CONTAMINATED GROUNDWATER DISCHARGE MONITORING AND REPORTING

Construction activities such as trenching and well pointing could encounter contaminated groundwater in the vicinity of a known or discovered contamination source. At locations within 1,500 feet of a known contaminated site, the Project entity would conduct preconstruction sampling and testing to determine the presence of potential contaminants.

3.1 EFFLUENT MONITORING

Groundwater discharge monitoring would include the following minimum information for each location:

- Monitoring Parameter(s).
- Monitoring Location.
- Monitoring Frequency.
- Sample Type/Method.
- Special Reporting Obligations.

3.2 REPORTING

Analytical results from samples collected during groundwater monitoring would be reported to ADEC, as specified in the permit.

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4.0 ACRONYMS AND TERMS

Term	Definition
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADOT&PF	Alaska Department of Transportation & Public Facilities
AGDC	Alaska Gasline Development Corporation
ARRC	Alaska Railroad Corporation
BMP	Best Management Practice
BPXA	BP Exploration Alaska Inc.
DNPP	Denali National Park and Preserve
EPA	United States Environmental Protection Agency
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
GTP	Gas Treatment Plant
LNG	Liquefied Natural Gas
PBTL	Prudhoe Bay Transmission Line
PBU	Prudhoe Bay Unit
Project	Alaska LNG Project
PTTL	Point Thomson Transmission Line
PTU	Point Thomson Unit
TAPS	Trans-Alaska Pipeline System
WWTF	Wastewater Treatment Facility

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**ATTACHMENT A – WASTE SITES, CONTAMINATION, AND LANDFILLS
WITHIN 0.25-MILE OF THE PROJECT AND NON-JURISDICTIONAL
FACILITIES**

TABLE 1 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of the Project							
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
LIQUEFACTION FACILITY							
Tesoro Northstore #201- Nikiski	Leaking Underground Storage Tank (LUST)	Cleanup Complete - Institutional Controls	LNG Construction Area	Kenai Peninsula Borough	0 / W	806.6	Residual groundwater and soil contamination, which exceed Alaska Department of Environmental Conservation (ADEC) cleanup levels for gasoline range organics (GRO) and benzene, toluene, ethylbenzene and xylenes (BTEX), remain at the site.
Tesoro South Terminal	LUST	Cleanup Complete	LNG Construction Area	Kenai Peninsula Borough	84 / W	806.6	During the removal of two underground storage tanks (USTs) that were used to store slop, oil soil contamination was measured.
UNOCAL Ammonia Plant	Contaminated Site	Open	LNG Construction Area	Kenai Peninsula Borough	1,118 / W	806.5	In 1991, 400 gallons of a type of petroleum contaminant (unspecified) was released at the facility.
UNOCAL Chemical/Cabin Lake Drum Site	Contaminated Site	Cleanup Complete	LNG Construction Area	Kenai Peninsula Borough	220 / NE	806.2	In 1992, ADEC received reports of 49 drums containing solids and liquids dumped at two locations. The State of Alaska conducted an emergency cleanup and removed the drums.
UNOCAL Chemical - Sulfinol Spill	Contaminated Site	Open	LNG Construction Area	Kenai Peninsula Borough	1,118 / W	806.5	There is an unknown amount of sulfinol spilled at this location with limited remedial activities. ADEC spill notification history indicates multiple spills have occurred since 1983. Contamination is being addressed as part of site cleanup activities associated with the Unocal Ammonia Urea Plant.
UNOCAL Chemical Diesel Spill	Contaminated Site	Open	LNG Construction Area	Kenai Peninsula Borough	1,267 / W	806.5	An unknown amount of diesel contamination has resulted from aboveground storage tank releases. Contamination is being addressed as part of site cleanup activities associated with the Unocal Ammonia Urea Plant.

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Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
UNOCAL Chemical Plant - Drain	Contaminated Site	Open	LNG Construction Area	Kenai Peninsula Borough	1,118 / W	806.5	In 1991, 30 barrels of lube oil spilled in the diked area at the site. The extent of groundwater impact is unknown. Residual contamination is being addressed as part of site cleanup activities associated with multiple sites located at the Unocal Ammonia Urea Plant.
UNOCAL/Agrium Ammonia Urea Plant	Contaminated Site	Open	LNG Construction Area	Kenai Peninsula Borough	1,167 / W	806.6	Site cleanup activities include all Unocal-listed ammonia plant sites (approximately 100 acres). A large amount of ammonia and other contaminants have been released at the site since plant operations began in 1967. The extent of contamination is unknown; however, groundwater contamination is migrating off-site and impacting adjacent properties as well as Cook Inlet.
MAINLINE PIPELINE ASSOCIATED INFRASTRUCTURE							
ConocoPhillips Hemi Springs 3	Contaminated Site	Cleanup Complete - Institutional Controls	ATWS	North Slope Borough	1,211 / W	14.2	In 1997 fuel stains were noted on the gravel pad, which was formerly used as a drilling pad.
Alyeska Franklin Bluffs Camp	Contaminated Site	Cleanup Complete - Institutional Controls	Construction Camp	North Slope Borough	0 / W	43.7	Multiple contaminants were released at this site due to historical spills during pipeline construction camp operations. In 1975 approximately 30,000 gallons of diesel fuel were released to the pad, which migrated to nearby wetlands. Soils, groundwater, and surface water have been impacted.
Alyeska Franklin Bluffs Pipeline Camp	Solid Waste	Retired	Construction Camp	North Slope Borough	0 / W	43.7	Retired Class III Camp solid waste facility
ADNR Arctic Wilderness Lodge	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	North Slope Borough	1,271 / N	85.7	Fuel contamination is associated with fuel storage operations on a lease site located on the Happy Valley East pad.

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Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
Alyeska Happy Valley Camp East	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	North Slope Borough	175 / S	85.7	Multiple contaminants were released at this site due to historical spills during pipeline construction camp operations. Soil, groundwater, and surface water have been impacted.
Alyeska Happy Valley Camp West	Contaminated Site	Open	Pipe Storage Yard	North Slope Borough	0 / W	85.8	Multiple contaminants were released at this site due to historical spills during pipeline construction camp operations. Soils, groundwater, and surface water have been impacted. Contaminants appear to be migrating into Happy Valley Creek, which is an anadromous stream.
Alyeska Dan Creek Spill	Contaminated Site	Cleanup Complete	ATWS	North Slope Borough	778 / NE	90.3	A tanker truck overturned in 1990 and released approximately 3,700 gallons of diesel fuel.
Sag River Maintenance Camp (ADOT/PF)	Solid Waste	Retired	Access Roads (Temporary)	North Slope Borough	359 / E	113.8	Retired Class III Camp solid waste facility
Alyeska Pipeline Site 117-1B Camp	Solid Waste	Active	Access Roads (Temporary)	North Slope Borough	48 / SW	130.2	Active ADEC-permitted Class III Camp solid waste facility
Alyeska Galbraith Airport Generator	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	North Slope Borough	0 / W	141.6	A diesel spill estimated at approximately 800 gallons occurred in 1993. Diesel contamination appears to remain in the organic mat underlying the gravel pad.
Alyeska Galbraith Airport Diesel	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	North Slope Borough	113 / NE	141.7	A historical fuel spill of unknown quantity was documented at the site in 1999. The spill site is located on the west side of the electrical building at the Galbraith Airport.
BLM Alyeska Galbraith Camp	Contaminated Site	Cleanup Complete -	Material Site	North Slope Borough	1,024 / E	143.0	Diesel spill of 100,000 gallons in 1975. Interception trenches and sumps were used to

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Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
		Institutional Controls					recover free product. Burning was also used to remove free product. Cleanup activities were performed with concurrence from BLM and ADEC.
Alyeska Pump Station #4 (DS 114-0) Galbraith Lake	Solid Waste	Retired	Material Site	North Slope Borough	0 / W	149.0	Retired Class III Camp solid waste facility
Alyeska Dietrich Camp	Contaminated Site	Open	Construction Camp	Yukon-Koyukuk Census Area	0 / W	205.9	During gravel source investigations at the site it was determined that the gravel and groundwater interface at the site is contaminated with diesel fuel. The investigation is ongoing.
Coldfoot Camp Crew Quarters Fuel Line	Contaminated Site	Open	Access Roads (Temporary)	Yukon-Koyukuk Census Area	162 / SW	241.1	Approximately 500–800 gallons of heating oil were released at the site resulting from a damaged AST piping connector, resulting in gravel, soil, and groundwater contamination.
Coldfoot Camp Generator Release	Contaminated Site	Open	Access Roads (Temporary)	Yukon-Koyukuk Census Area	108 / NW	241.1	Approximately 4,000 gallons of diesel fuel were released from a day tank in a generator building at the camp. Soil and groundwater contamination exceeding ADEC cleanup levels remain at the site.
Coldfoot Services	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Yukon-Koyukuk Census Area	0 / W	241.1	Historical soil, groundwater, and surface water contamination have been documented at the site since the 1990s, attributed to petroleum product spills and buried waste oil containers and batteries. Remedial activities included contaminated soil excavation and groundwater monitoring. Residual petroleum, oil, and lubricant (POL) soil and groundwater contamination may remain.
Jim River Landfill ADOT/PF	Solid Waste	Retired	Access Roads (Temporary)	Yukon-Koyukuk Census Area	310 / N	271.7	Retired Class III Camp solid waste facility

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Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
Alaska Department of Transportation and Public Facilities (ADOT&PF) Dalton Highway Mile 145	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	Yukon-Koyukuk Census Area	250 / N	271.9	Stockpile of diesel-contaminated soils occurred at the site. The original source of contaminated soils is not specified.
Alyeska Pump Station #5 (DS 92-3.1)	Solid Waste	Retired	Access Roads (Temporary)	Yukon-Koyukuk Census Area	582 / S	272.0	Retired Class III Camp solid waste facility
ADOT&PF - Jim River Maintenance and Operations Station	LUST	Cleanup Complete	Construction Camp	Yukon-Koyukuk Census Area	832 / NE	278.7	Diesel fuel released to the gravel pad and the ground-water table resulting from a faulty valve in the life support building.
ADOT&PF Jim River Maintenance Camp	Contaminated Site	Cleanup Complete	Construction Camp	Yukon-Koyukuk Census Area	758 / NE	278.7	Diesel fuel released to the gravel pad and the ground-water table resulting from a faulty valve in the life support building.
Prospect Airport Lease Lot 1	Contaminated Site	Open	Access Roads (Temporary)	Yukon-Koyukuk Census Area	79 / SE	278.8	Multiple petroleum releases to the soil have occurred, reportedly as a result of poor fuel storage practices including ASTs with breached containment liners. Surface water appears to be impacted near the lease lot.
Alyeska Pump Station (PS) 05 Fuel Island Spill 1	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	Yukon-Koyukuk Census Area	517 / N	279.2	Petroleum-contaminated soils were detected in the vehicle refueling area and beneath a 12,000-gallon AST.
Alyeska PS 05 Fuel Island Spill 2	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Yukon-Koyukuk Census Area	517 / N	279.2	Diesel fuel was released to the soil from a leaking valve on the north side of the island.

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Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
Alyeska PS 05 Tank Farm	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Yukon-Koyukuk Census Area	517 / N	279.2	Therminol heat transfer fluid impacted gravel was detected during the inspection and repair of tank farm liners. Groundwater contamination measured below ADEC cleanup levels.
Alyeska PS 05 Well House Spill	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	Yukon-Koyukuk Census Area	506 / N	279.2	Hydrocarbon odor noted near the drinking water well resulted in the excavation of approximately 60 cubic yards of gravel.
Alyeska PS 05 Turbine Fuel Spill	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Yukon-Koyukuk Census Area	507 / N	279.2	Turbine fuel for a generator resulted in an estimated release of 15 gallons of fuel. Excavation activities were restricted by the building foundation.
Alyeska PS 05 20RB0 Valve Release	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Yukon-Koyukuk Census Area	424 / N	279.2	In 2001, a release of approximately 2,000 gallons of crude oil occurred at the PS 05 Manifold Building. -Contaminated soils were excavated with residual soil contamination remaining below the building.
Alyeska Old Man Camp 87-1	Solid Waste	Retired	Access Roads (Temporary)	Yukon-Koyukuk Census Area	0 / W	305.9	Retired Class III Camp solid waste facility
Alyeska PS 06 Former Mainline Turbine Sump	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	Yukon-Koyukuk Census Area	387 / SW	358.3	During the excavation and removal of the Mainline Turbine at PS 06, excavated soils were sampled for petroleum contamination. There is no documentation that contamination was measured at the site.
Alyeska PS 06 Former Turbine Fuel Loading	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Yukon-Koyukuk Census Area	685 / SW	358.3	Soil contamination from unknown source was detected during excavation of soils beneath the turbine fuel loading area.
Alyeska PS 06 Leach Field /Fuel Island	Contaminated Site	Open	Access Roads (Temporary)	Yukon-Koyukuk Census Area	397 / S	358.3	Diesel and gasoline contaminated soils from an unknown source were detected in 1997 during the installation of a leach field.

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Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
Alyeska PS 06 Therminol Spill Site	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Yukon-Koyukuk Census Area	397 / S	358.3	Diesel-contaminated soils resulted from Therminol heat transfer fluid released from a heat trace on a residual line overhead pipe.
Yukon Ventures (Yukon River Crossing Landfill)	Solid Waste	Retired	Material Site	Yukon-Koyukuk Census Area	0 / W	365.1	Retired Class III Camp solid waste facility
Dalton Highway Mile Post 7 Tanker Rollover	Contaminated Site	Cleanup Complete - Institutional Controls	Material Site	Yukon-Koyukuk Census Area	0 / W	394.5	A tanker truck rollover resulted in the release of approximately 6,685 gallons of diesel fuel.
Tower Hill Mines - Livengood Camp	Contaminated Site	Open	Construction Camp	Yukon-Koyukuk Census Area	9 / S	401.1	Heating oil tank piping release resulted in soil contamination.
Murphy Dome AFS - Bldg.1001 UST SS08	LUST	Cleanup Complete	Access Roads (Permanent)	Fairbanks North Star Borough	1,149 / N	440.5	The former White Alice Station was demolished in 2001. Cleanup activities include UST closure and excavation of petroleum-contaminated soils.
Murphy Dome AFS - White Alice Station	Contaminated Site	Cleanup Complete	Access Roads (Permanent)	Fairbanks North Star Borough	1,059 / N	440.5	The former White Alice Station was demolished in 2001. Cleanup activities included former landfill, possible PCB soil contamination, and UST closure and excavation of diesel fuel-contaminated soil.
Murphy Dome AFS - Landfill No. 2	Contaminated Site	Cleanup Complete	Access Roads (Permanent)	Fairbanks North Star Borough	353 / E	444.6	The landfill operated from 1970 to 1978 for disposal of wastes produced at the Murphy Dome radar station. The waste stream included garbage, incinerator ash, wood, plastic, metal, shop waste, drums, and miscellaneous debris.
Tank Rollover Spill (AKA Mat-Su, Inc.)	Contaminated Site	Cleanup Complete	Double Joint Yard	Fairbanks North Star Borough	831 / NW	445.2	A tanker truck rollover resulting in a spill.)
ARRC Dunbar Siding	Contaminated Site	Cleanup Complete	Railroad Workpad	Yukon-Koyukuk Census Area	1,222 / NE	455.6	In 1990 a train derailment of 18–19 train cars spilled a mixture of 165,000 gallons of Jet A and

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Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
							diesel fuel, impacting wetlands, beaver ponds, and Goldstream Creek.
Nenana Landfill (City of Nenana)	Solid Waste	Retired	Railroad Spur	Yukon-Koyukuk Census Area	777 / SE	471.9	The site is a City of Nenana Class III Solid Waste Facility with an expired ADEC Solid Waste Permit.
Healy Small Tracts Subdivision	Contaminated Site	Open	Material Site	Denali Borough	1,016 / N	525.6	Soil and groundwater were impacted by diesel fuel contamination detected during the removal of a UST in 1990. An additional source of petroleum contamination includes the floor drain and septic system. The onsite drinking water well was sampled and low concentrations of total petroleum hydrocarbons were detected.
Usibelli Coal Mine (Lignite Creek) LCF-4, LCF-5, LCF-6, LCF-7	LUST	Cleanup Complete - Institutional Controls	Railroad Spur	Denali Borough	589 / E	528.9	Soil was impacted by diesel fuel contamination detected during the removal of four USTs in 1991. Residual fuel-contaminated soils remain under the foundation of the lube building. Groundwater monitoring results are non-detect for fuel contamination and monitoring will continue until 2016.
Tesoro - Lynx Creek -Parks Hwy	LUST	Cleanup Complete	Access Roads (Temporary)	Denali Borough	766 / S	536.3	UST replacement resulting in contaminated soil and remediation.
Cantwell Landfill	Solid Waste	Retired	Access Roads (Temporary)	Denali Borough	344 / W	566.5	Inert non-municipal monofill
FAA Summit Air Navigation Site - Sitewide	Contaminated Site	Open	Access Roads (Temporary)	Denali Borough	488 / N	568.5	Soil and groundwater diesel fuel contamination resulted from releases at the former tank farm, associated piping, and pipeline. The tank farm included six former ASTs with a 3-inch fuel line to the east side of George Parks Highway.

TABLE 1 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of the Project							
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
Tesoro - Tsesyu - Parks Hwy.	LUST	Cleanup Complete	Access Roads (Temporary)	Denali Borough	488 / N	568.5	Soil and groundwater were impacted by gasoline and diesel contamination detected during the removal of two USTs in 1990.
Valdez Creek Mine - Dam Blow-Out	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	Denali Borough	488 / N	568.5	In 1992, two separate dam water releases occurred at the site. Over 15 million gallons of processed water were released to the floodplain and a nearby anadromous stream.
Valdez Creek Mine - Waste Motor Oil	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	Denali Borough	488 / N	568.5	Soil and a drinking water well were impacted by used oil fuel contamination, resulting from the disposal of used oil in a gravel pit, an unpermitted landfill, and an unused drinking water well (1983–1988). Contaminated soils were excavated and disposed of. There is no indication that potential groundwater contamination was addressed. Drinking water wells at the site were abandoned.
Valdez Creek Mine -Collective Areas	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	Denali Borough	488 / N	568.5	Extensive surface contamination associated with heavy equipment repairs, oil draining, and parking (suspected waste oil, diesel, and some antifreeze).
Cantwell UAF Inert Landfill	Solid Waste	Retired	Railroad Workpad	Denali Borough	978 / N	568.5	Inert non-municipal monofill
ADOTPF - Cantwell Maintenance Station	LUST	Cleanup Complete	Access Roads (Temporary)	Denali Borough	426 / NW	568.5	Soil was impacted by diesel fuel contamination detected during the removal of five USTs in 1998. Residual fuel-contaminated soils remain near the foundation of the storage building.
ARRC Cantwell Section House	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	Denali Borough	250 / NW	568.6	Soil impacted by diesel fuel contamination was detected during soil excavation activities associated with a construction project in 2004. Groundwater monitoring samples were found to be non-detect for fuel contamination.
ARRC - Cantwell Section	LUST	Cleanup Complete	Railroad Workpad	Denali Borough	336 / NE	568.6	Soil was impacted by gasoline contamination detected during the removal of one UST in 1996.

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Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
FAA Summit Flight Service Station	Contaminated Site	Open	ATWS	Matanuska-Susitna Borough	1,170 / SE	575.4	Soil and groundwater diesel fuel contamination resulted from releases at the former tank farm, associated piping, and pipeline. The tank farm included six former ASTs with a 3-inch fuel line to the east side of George Parks Highway.
FAA Summit NDB/RCO	Contaminated Site	Open	ATWS	Matanuska-Susitna Borough	1,170 / SE	575.4	Soil and groundwater diesel fuel and possibly chlorinated herbicide contamination resulted from releases at the garage, shop, and engine generator buildings.
ARRC Summit Siding	Contaminated Site	Open	Access Roads (Temporary)	Matanuska-Susitna Borough	831 / NE	575.5	Soil was impacted by weathered gasoline and diesel fuel releases from a former pump house; contamination was detected in 2002.
ARRC Broad Pass Railroad Station	Contaminated Site	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Matanuska-Susitna Borough	0 / W	583.6	Soil was impacted by heating oil contamination detected during the removal of one heating oil tank in 2010.
ARRC - Broad Pass Railroad Station	LUST	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Matanuska-Susitna Borough	0 / W	583.6	Soil was impacted by diesel contamination detected during the removal of two USTs in 1993.
ADOTPF - Chulitna Wayside	LUST	Cleanup Complete	Material Site	Matanuska-Susitna Borough	717 / NE	591.9	In 1997 three USTs and a concrete dispenser island were removed and petroleum-contaminated soils were detected. A drinking water well within 100 feet was not impacted according to analytical reports. –Soil contamination remaining at the site was found to be below cleanup levels; however, a contaminated soil stockpile associated with the site is located across the highway from the facility (as of May 27, 2014).

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Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
ADOTPF - East Fork Maintenance Station	LUST	Cleanup Complete - Institutional Controls	Access Roads (Temporary)	Matanuska-Susitna Borough	471 / W	593.0	Soil and groundwater were impacted by diesel contamination detected during the removal of four USTs in 1999.
ARRC - Hurricane former UST site	LUST	Open	Railroad Spur	Matanuska-Susitna Borough	727 / SW	606.9	Soil and groundwater were impacted by gasoline and diesel contamination detected during the removal of two USTs in 1990.
Lynden Transport Vehicle Accident - MP 169 Parks Highway	Contaminated Site	Cleanup Complete	ATWS	Matanuska-Susitna Borough	129 / NW	609.0	In 2014, 200 gallons of diesel fuel were released to the roadway (Alaska Railroad Corporation [ARRC] milepost 279.6) resulting in surface water contamination (wetlands and an unnamed creek). Confirmation sampling determined that diesel soil contamination remains at the site.
AT&T Alascom Byers Creek Repeater	Contaminated Site	Cleanup Complete	Material Site	Matanuska-Susitna Borough	775 / NE	636.2	In 2000, ADEC received a report of diesel-contaminated soils associated with aboveground storage tanks (ASTs). Excavated soils were transported and remediated.
ADOTPF Chulitna Maintenance	LUST	Cleanup Complete - Institutional Controls	ATWS	Matanuska-Susitna Borough	344 / E	658.3	In 1997 three USTs and a concrete dispenser island were removed and petroleum-contaminated soils were detected. A drinking water well within 100 feet was not impacted according to analytical reports. –Soil contamination remaining at the site was found to be below cleanup levels; however, a contaminated soil stockpile associated with the site is located across the highway from the facility (as of May 27, 2014).
Sunshine Landfill	Contaminated Site	Cleanup Complete	Access Roads (Temporary)	Matanuska-Susitna Borough	61 / NE	676.3	The landfill was retired in 2003, which included capping and the installation of six groundwater monitoring wells. Groundwater contamination exceeding cleanup levels was not detected.

TABLE 1 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of the Project							
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
Kwik Kard - Mile 47.9 Parks Highway	LUST	Cleanup Complete - Institutional Controls	Double Joint Yard	Matanuska-Susitna Borough	658 / S	709.8	
Arness Septage	Contaminated Site	Open	ATWS	Kenai Peninsula Borough	1,082 / S	798.8	Groundwater and soil contamination have been documented at the site since the early 1980s. The source of contamination appears to be a septage disposal facility and the disposal of drag-reducing agents at the site. The contaminants of concern are chlorinated solvents. There is documented offsite groundwater contamination.
AMOCO East Forelands Facility	Contaminated Site	Cleanup Complete	ATWS	Kenai Peninsula Borough	594 / NW	800.5	Historical releases of chemicals and overflow from oil-water separators resulted in petroleum and possibly other substances released to soils and an adjacent stream.
Alascom - Nikishka Repeater	LUST	Cleanup Complete	ATWS	Kenai Peninsula Borough	1,065 / SE	801.3	Petroleum hydrocarbons detected during the removal of a diesel UST were determined to be below cleanup levels.
Schlumberger Wireline Services	Contaminated Site	Cleanup Complete	ATWS	Kenai Peninsula Borough	310 / E	804.1	Petroleum and chlorinated solvents were detected in soil and groundwater at the site. The source of contamination is thought to be poor waste management practices at the facility and the site septic system. Subsequent groundwater monitoring results indicated that the contaminants were below cleanup levels.
TBE Machine	Contaminated Site	Open	ATWS	Kenai Peninsula Borough	333 / E	804.3	There are ongoing investigations and remedial actions associated with the former cesspool, floor drain, and septic system with release of chlorinated solvents and petroleum products to the soil and groundwater.

TABLE 1 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of the Project							
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
TBE Machine Company	LUST	Cleanup Complete	ATWS	Kenai Peninsula Borough	245 / E	804.3	There are ongoing investigations and remedial actions associated with the former cesspool, floor drain, and septic system with release of chlorinated solvents and petroleum products to the soil and groundwater.
Bernice Lake Power Plant	Contaminated Site	Cleanup Complete	ATWS	Kenai Peninsula Borough	539 / W	804.3	In 2011 transformer oil and polychlorinated biphenyls (PCBs) were detected in the soil near Transformer TRF-116. Remediation activities included disposal of the transformer and contaminated soils.
Chevron USA Refinery-Nikiski	Contaminated Site	Open	Construction Camp	Kenai Peninsula Borough	674 / S	804.3	Numerous historical petroleum releases have occurred at the site resulting in soil and groundwater contamination. The dissolved phase and free product have migrated to the bluff and Cook Inlet beach.
Beaver Creek Lact Unit	Contaminated Site	Open	ATWS	Kenai Peninsula Borough	432 / SW	804.4	Crude oil contamination was measured in soil and groundwater at the LACT building during the Bernice Creek spill assessment. Remedial activities include groundwater monitoring in association with the KPL Pipeline Site.
Dresser Atlas-Mile 22.5 North Kenai Road	LUST	Cleanup Complete - Institutional Controls	ATWS	Kenai Peninsula Borough	144 / N	804.5	Gasoline fuel releases from a UST system in the 1980s resulted in soil, groundwater, and drinking water system contamination. Remedial activities included installation of groundwater monitoring wells, soil vapor extraction, and the excavation of contaminated soils.
ADOT&PF Bernice Lake Maintenance Facility	Contaminated Site	Cleanup Complete	ATWS	Kenai Peninsula Borough	0 / W	804.5	Two USTs containing diesel were removed in 2007. A limited amount (60 cubic yards) of diesel soil was excavated and found to be below cleanup level concentrations.

TABLE 1 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of the Project							
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
Kenai Pipeline Oily Water Sewer Sys	Contaminated Site	Open	ATWS	Kenai Peninsula Borough	1,318 / SW	804.6	Crude oil contamination was encountered during the removal of an oily water sewer system in 1995. Groundwater monitoring and air sparging are occurring at the site in conjunction with the Tesoro KPL Facility.
Tesoro KPL Bernice Creek Plume	Contaminated Site	Open	ATWS	Kenai Peninsula Borough	1,268 / SW	804.6	The source of gasoline contamination is thought to be from a historical gasoline pipeline leak, impacting soil and groundwater over a large area. Remedial activities include the installation of an air sparging system and groundwater monitoring.
MAINLINE PIPELINE							
Alyeska PS 01 Tank 111	Contaminated Site	Cleanup Complete - Institutional Controls	Mailine Construction	North Slope Borough	1,233 / SE	5.0	In 1990 crude oil was discovered in a service vault located on the west side of Tank 111. The release occurred due to tank base plate corrosion.
Alyeska Pump Station #1 (DS 138-3)	Solid Waste	Retired	Mailine Construction	North Slope Borough	728 / E	5.3	In 2013 multiple drums were found in the area and a black tar-like product was noted in the soil at the pad edge. Diesel, gasoline, and xylene contamination was confirmed in subsurface soils.
Alyeska PS 01 Back 40 Staging Area	Contaminated Site	Cleanup Complete - Institutional Controls	Mailine Construction	North Slope Borough	625 / E	5.3	In 1997, trenching activities near the pipeline uncovered fuel impacted soils. Approximately 1,200 cubic yards of contaminated soil were excavated.
Alyeska Milepost 108.1	Contaminated Site	Cleanup Complete	Mailine Construction	North Slope Borough	971 / SE	113.5	In 1997, trenching activities near the pipeline uncovered fuel impacted soils. Approximately 1,200 cubic yards of contaminated soil were excavated.
Alyeska Remote Gate Valve 35A	Contaminated Site	Cleanup Complete	Mailine Construction	Yukon-Koyukuk Census Area	700 / SW	197.2	Crude oil was measured in the sump at pipeline remote gate valve 35A. Analytical results indicate hydrocarbon contamination up-gradient and down-gradient from the sump, and contamination has been detected in the groundwater.

TABLE 1 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of the Project							
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
ADOT&PF Dalton Highway Mile 152.7	Contaminated Site	Cleanup Complete	Mailine Construction	Yukon-Koyukuk Census Area	0 / W	264.2	Retired Class III Camp solid waste facility
Alaska West Transport	Contaminated Site	Cleanup Complete	Mailine Construction	Yukon-Koyukuk Census Area	279 / NE	312.7	A tanker truck rollover resulted in the release of approximately 7,000 gallons of methanol.
Alyeska Five Mile Airstrip	Contaminated Site	Cleanup Complete	Mailine Construction	Yukon-Koyukuk Census Area	481 / NE	351.6	Petroleum-contaminated soils were measured at the site during a Phase I investigation. The source of the contamination is unknown.
Alyeska PS 06 Jet Shed	Contaminated Site	Cleanup Complete - Institutional Controls	Mailine Construction	Yukon-Koyukuk Census Area	129 / SW	358.3	A release of JP-4 fuel occurred south of the JP-4 dispensing building, resulting in petroleum-contaminated soils.
Alyeska PS 06 JP4 Fueling Facility	Contaminated Site	Cleanup Complete	Mailine Construction	Yukon-Koyukuk Census Area	129 / SW	358.3	Petroleum-contaminated soils were detected during construction of a replacement JP-4 fueling facility.
Alyeska Pump Station #6 (DS 77-3)	Solid Waste	Retired	Mailine Construction	Yukon-Koyukuk Census Area	536 / SW	358.8	Retired municipal Class III solid waste facility
AT&T Alascom Birch Creek Repeater	Contaminated Site	Cleanup Complete	Mailine Construction	Denali Borough	1,119 / W	501.9	Diesel soil contamination resulted from generator operation and maintenance.
Cantwell ADOT&PF Inert Waste Landfill	Solid Waste	Retired	Mailine Construction	Denali Borough	42 / E	566.3	Inert non-municipal monofill
Denali Air - McKinley Airstrip	LUST	Cleanup Complete	Mailine Construction	Matanuska-Susitna Borough	137 / SE	627.7	During the removal of two 500-gallon aviation fuel USTs and a 1,000-gallon diesel UST in 1994, diesel-contaminated soil was encountered (80 cubic yards). The soils were transported to Kenai.

TABLE 1 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of the Project							
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
Nikiski Airstrip	Contaminated Site	Cleanup Complete - Institutional Controls	Mailine Construction	Kenai Peninsula Borough	119 / N	798.8	In 1990 a site assessment documented petroleum hydrocarbon soil and groundwater contamination at the site. The source of contamination appears to be the disposal of oily wastes, drums of unknown content, and debris and solid waste in two pits near the airstrip.
Marathon East Forelands Flare Pit	Contaminated Site	Cleanup Complete	Mailine Construction	Kenai Peninsula Borough	620 / N	799.6	Historical petroleum soil contamination was detected during response activities associated with a menthol release in the old flare pit.
Middle Shoals Ground Onshore Fac.	Contaminated Site	Open	Mailine Construction	Kenai Peninsula Borough	919 / W	800.1	Historical releases of crude oil have occurred at the site and soil contamination remains beneath facility buildings.
Shell Middle Western Ground Shoal	Contaminated Site	Cleanup Complete	Mailine Construction	Kenai Peninsula Borough	934 / W	800.1	An open relief valve resulted in the overflow of a sump tank releasing an unknown amount of crude oil to the soils.
Tesoro Middle KPL Ground Shoal Fac	Contaminated Site	Open	Mailine Construction	Kenai Peninsula Borough	824 / W	800.1	Historical releases of crude oil have occurred at the site from the pump building, pumps, and transfer lines used to transport crude oil from the former Shell Western East Forelands facility.
Shell Onshore Facility - Landfarm	Contaminated Site	Cleanup Complete	Mailine Construction	Kenai Peninsula Borough	485 / W	800.1	Abandoned drums were found at the site in the 1990s. Soil and groundwater sampling determined that contaminants of concern were measured below cleanup levels.
PTTL ASSOCIATED INFRASTRUCTURE							
Exxon Pt. Thompson Exploration Unit 1	Contaminated Site	Cleanup Complete	Construction Camp	North Slope Borough	1,068 / N	0.0	Diesel fuel was detected on tundra pond adjacent to drill site. Containment boom was installed but some product reached the Beaufort Sea. Approximately 1,000 gallons of diesel fuel was recovered from the gravel pad using intercept trenches.

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TABLE 1 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of the Project							
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
Exxon Point Thompson State C1 Pad	Contaminated Site	Open	Construction Camp	North Slope Borough	927 / NE	0.2	During a well replugging and abandoning effort at the Point Thompson State C1 Pad, Exxon encountered an area around the historical well cellar that appeared to be contaminated.
BPX Hot Water Plant	Contaminated Site	Open	Construction Camp	North Slope Borough	700 / SW	54.1	Hydrocarbon contamination was encountered in soil during trenching for utility installation on the west side of the hot water plant pad in 2012.
BPX Drill Site Maintenance Warm Storage Facility	Contaminated Site	Cleanup Complete - Institutional Controls	Access Road	North Slope Borough	1,079 / NE	54.2	Vehicles dripping on gravel floor of shop. Gravel and groundwater contaminated by petroleum hydrocarbons in excess of cleanup criteria.
BPX Drill Site Maintenance Pad - Shop Site (ARCO)	Contaminated Site	Open	Access Road	North Slope Borough	945 / NE	54.2	Petroleum hydrocarbons and chlorinated solvents found beneath concrete floor of building.
BPX South Hangar Pad	Contaminated Site	Cleanup Complete - Institutional Controls	ATWS	North Slope Borough	870 / N	54.3	After drilling boreholes for vertical support members to 28 feet, the boreholes became filled with jet fuel, which was encountered at about approximately 18 feet below ground surface.
GAS TREATMENT PLANT ASSOCIATED INFRASTRUCTURE							
BPX Abel State 1	Contaminated Site	Cleanup Complete	Access Road	North Slope Borough	440 / SE	0.0	Historical petroleum contamination has occurred at the site's gravel pad and possibly the reserve and flare pit areas.
BPX North Prudhoe Bay State #1	Contaminated Site	Cleanup Complete	Access Road	North Slope Borough	1,121 / E	0.0	Hydrocarbon contamination was confirmed in the area adjacent to the wellhead and the western edge of the gravel pit near the reserve pit. Hydrocarbon contamination was also detected in the adjacent lake bed sediment.

TABLE 1 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of the Project							
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Nearest Milepost	Description of Contamination
BPX Term Well A	Contaminated Site	Cleanup Complete - Institutional Controls	Access Road	North Slope Borough	70 / W	0.0	Historical petroleum contamination has occurred at the site, which consists of a gravel pad, reserve, and flare pit. Diesel-contaminated drilling muds were released to the tundra in 1980.
BPX Central Gas Facility Therminol Spill	Contaminated Site	Open	Access Road	North Slope Borough	425 / NE	0.1	In the late 1990s, Therminol heat transfer fluids were released at the site in unknown quantities resulting in groundwater, surface waste, and gravel pad contamination.

Source: <http://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/Search>

Notes:
No contaminated sites were identified within 0.25 miles of the Pipeline Aboveground facilities, PTTL, PBTL and GTP.

ADEC = Alaska Department of Environmental Conservation, ADNR = Alaska Department of Natural Resources, ADOT&PF = Alaska Department of Transportation and Public Facilities, AFS = Air Force Station, ARRC = Alaska Railroad Corporation, AST = aboveground storage tank, BLM = Bureau of Land Management, BTEX = benzene, toluene, ethylbenzene, and xylenes, DB = Denali Borough, EPA = U.S. Environmental Protection Agency, FAA = Federal Aviation Administration, GRO=Gasoline Range Organics, GTP = Gas Treatment Plant, LACT= Lease Automatic Custody Transfer, LUST = Leaking Underground Storage Tanks, MSB = Matanuska-Susitna Borough, NDB/RCO = Non-directional Beacon and Radio Communications Outlet, PCB = polychlorinated biphenyl, POL=Petroleum, Oil and Lubricants, RCRA = Resource Conservation and Recovery Act, UST = Underground Storage Tanks

TABLE 2 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of Non-Jurisdictional Facilities						
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Description of Contamination
KENAI SPUR HIGHWAY						
Arctic Pipe Inspection, Inc.	Contaminated Site	Cleanup Complete	Right-of-Way (ROW)	Kenai Peninsula Borough	223 / SE	Petroleum hydrocarbons found in soil excavated from abandoned burn pit.
ASRC Arctic Pipe Inspection	Contaminated Site	Open	ROW	Kenai Peninsula Borough	166 / W	Review and approve work plan to address petroleum contaminated soil removal

TABLE 2 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of Non-Jurisdictional Facilities						
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Description of Contamination
						discovered on site during a Phase II environmental site assessment.
Baker Hughes Kenai Bulk Pressure Plant	Contaminated Site	Open	ROW	Kenai Peninsula Borough	274 / W	A Class V Injection Well Abandonment
Sleepers Trailer Court	Contaminated Site	Open	ROW	Kenai Peninsula Borough	366 / NW	Former salvage yard with a thousand plus junk vehicles. Used oil stains observed on soils possibly including transformer oil.
Spruce Haven Estates Subd. Lot 7	Contaminated Site	Cleanup Complete	ROW	Kenai Peninsula Borough	231 / E	Large stain on the driveway left from a truck parked over winter that leaked diesel from the fuel tank
Tesoro South Terminal	Leaking Underground Storage Tank (LUST)	Cleanup Complete	ROW	Kenai Peninsula Borough	825 / S	During the removal of two underground storage tanks (USTs) that were used to store slop, oil soil contamination was measured.
UNOCAL Ammonia Plant	Contaminated Site	Open	ROW	Kenai Peninsula Borough	686 / SW	In 1991, 400 gallons of a type of petroleum contaminant (unspecified) was released at the facility
UNOCAL Chemical/Cabin Lake Drum Site	Contaminated Site	Cleanup Complete	ROW	Kenai Peninsula Borough	269 / SE	In 1992, ADEC received reports of 49 drums containing solids and liquids dumped at two locations. The State of Alaska conducted an emergency cleanup and removed the drums.
UNOCAL Chemical - Sulfinol Spill	Contaminated Site	Open	ROW	Kenai Peninsula Borough	686 / SW	There is an unknown amount of sulfinol spilled at this location with limited remedial activities. ADEC spill notification history indicates multiple spills have occurred since 1983. Contamination is being addressed as part of site cleanup activities associated with the Unocal Ammonia Urea Plant.
UNOCAL Chemical Diesel Spill	Contaminated Site	Open	ROW	Kenai Peninsula Borough	719 / SW	An unknown amount of diesel contamination has resulted from aboveground storage tank releases. Contamination is being addressed as part of site cleanup activities associated with the Unocal Ammonia Urea Plant.

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TABLE 2 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of Non-Jurisdictional Facilities						
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Description of Contamination
UNOCAL Chemical Plant - drain	Contaminated Site	Open	ROW	Kenai Peninsula Borough	686 / SW	In 1991, 30 barrels of lube oil spilled in the diked area at the site. The extent of groundwater impact is unknown. Residual contamination is being addressed as part of site cleanup activities associated with multiple sites located at the Unocal Ammonia Urea Plant.
UNOCAL/Agrium Ammonia Urea Plant	Contaminated Site	Open	ROW	Kenai Peninsula Borough	794 / SW	Site cleanup activities include all Unocal-listed ammonia plant sites (approximately 100 acres). A large amount of ammonia and other contaminants have been released at the site since plant operations began in 1967. The extent of contamination is unknown; however, groundwater contamination is migrating off-site and impacting adjacent properties as well as Cook Inlet.
PBU MGS PROJECT						
BP W Pad Drilling Waste GP	Solid Waste	Active	Pipeline Right-of-Way (PLROW)	North Slope Borough	943 / S	Petroleum contamination was discovered on 5/29/08 at the British Petroleum Exploration Base Operations Center bulk fuel facility. The source was believed to be a diesel pump used to transfer fuel from storage tanks to day tanks associated with the fuel island.
BPX BOC Bulk Fuel Facility Utilidor	Contaminated Site	Open	PLROW	North Slope Borough	520 / SW	Chronic spills due to vehicle refueling resulted in diesel and gasoline contamination of groundwater and soil.
BPX BOC Refueling Area, West Op	Contaminated Site	Cleanup Complete	PLROW	North Slope Borough	541 / SW	500 gallons of Stoddard solvent spill to gravel pad. Site sampling indicates concentrations exceed cleanup standards
BPX C Pad Stoddard Solvent Site (former ARCO)	Contaminated Site	Cleanup Complete - Institutional Controls	PLROW	North Slope Borough	1,127 / N	Therminol spill. Free product on top of the active-layer groundwater in the berm.

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TABLE 2 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of Non-Jurisdictional Facilities						
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Description of Contamination
BPX Central Gas Facility Thermanol Spill	Contaminated Site	Open	PLROW	North Slope Borough	548 / W	Petroleum contamination discovered in 1991 during site construction work. Preliminary assessment delineated a minimum footprint of gravel contamination of 450' x 100'.
BPX Drill Site 2 (former ARCO)	Contaminated Site	Cleanup Complete	PLROW	North Slope Borough	752 / SW	Estimate of 10,000 cubic yards of contaminated gravel.
BPX Drill Site 9 Well 11	Contaminated Site	Cleanup Complete - Institutional Controls	PLROW	North Slope Borough	719 / NE	Arctic Pack Fluid (diesel mixed with bentonite) leaked from the well. Some soil was removed and clean gravel placed back in the well cellar.
BPX Flow Station 1 VSM	Contaminated Site	Cleanup Complete	PLROW	North Slope Borough	682 / NE	Petroleum contamination discovered near Flow Station 1 during installation of vertical support members
BPX GC1 Skid 40 Snow Shelter	Contaminated Site	Open	PLROW	North Slope Borough	482 / N	A petroleum sheen was observed on a tundra pond, snow shelter was subsequently removed to facilitate remediation. Initial cleanup efforts were restricted by infrastructure and petroleum-contaminated soil remains above DEC Method 1 cleanup levels.
BPX Hot Water Plant	Contaminated Site	Open	PLROW	North Slope Borough	629 / SW	Hydrocarbon contamination was encountered in soil during trenching for utility installation on the west side of the hot water plant pad in 2012.
BPX Kuparuk State #1	Contaminated Site	Cleanup Complete	PLROW	North Slope Borough	1,185 / SE	During the installation of an exploratory well, an unknown amount of diesel fuel was released
BPX Pad 10 Temporary Containment (former ARCO)	Contaminated Site	Cleanup Complete - Institutional Controls	PLROW	North Slope Borough	1,114 / N	Diesel fuel supply line cut during snow, approximated 650 to 800 gallons of diesel fuel discharged to pad.

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TABLE 2 Hazardous Waste Sites, Contamination, and Landfills within 0.25-Mile of Non-Jurisdictional Facilities						
Name	Type of Facility	Listing	Project Facility	Segment/Borough or Census Area	Distance and Direction from Project Area (feet)	Description of Contamination
BPX RCRA Administrative Order on Consent for North Slope Sites	Contaminated Site	Informational	PLROW	North Slope Borough	1,166 / N	This record is being used to track information related to the Resource Conservation and Recovery Act (RCRA) Administrative Order on Consent for Prudhoe Bay Unit (PBU) entered into with British Petroleum Exploration Alaska, Inc. (BPX) and the Environmental Protection Agency (EPA) that is not associated with and does not represent specific contaminated sites but groups of SWMUs
BPX Tuboscope, Inc. Lease Tract	Contaminated Site	Open	PLROW	North Slope Borough	324 / SW	TCA contamination in the surface water surrounding the pad, as well as lead contamination in soil.
BPX Well Pad W Spill	Contaminated Site	Cleanup Complete	PLROW	North Slope Borough	203 / N	75-gallon diesel spill a portion of the impacted gravel was transferred to a nearby production well cellar.
Eileen West End 21-11-12	Contaminated Site	Cleanup Complete - Institutional Controls	PLROW	North Slope Borough	221 / NW	Contamination on gravel pad from drilling activities.
PTU EXPANSION PROJECT						
Exxon Point Thompson State C1 Pad	Contaminated Site	Open	Access Road	North Slope Borough	412 / N	The source was believed to be a diesel pump used to transfer fuel from storage tanks to day tanks associated with the fuel island.
Exxon Pt. Thompson Exploration Unit 1	Contaminated Site	Cleanup Complete	Pad	North Slope Borough	818 / NE	Diesel fuel was detected on tundra pond adjacent to drill site. Containment boom was installed but some product reached the Beaufort Sea. Approximately 1,000 gallons of diesel fuel was recovered from the gravel pad using intercept trenches.
Source: http://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/Search						

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ATTACHMENT B – BEST MANAGEMENT PRACTICES

WILL BE PROVIDED PRIOR TO CONSTRUCTION