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Environmental Assessment

Ucore Bokan Mountain Mining Plan of Operations

Craig Ranger District
Craig, Alaska



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<p>What action is proposed?</p>	<p>The Proposed Action (the Plan of Operations) proposes a mining exploration activities and establishment of a temporary 12-person camp to support geotechnical and environmental investigations at Bokan Mountain at Kendrick Bay on Prince of Wales Island over a five-year period. Activities include: Drilling up to 35 small diameter (<6 inch) holes for geotechnical, environmental and exploration purposes; 27 will be accessed by a track mounted vehicle and eight will be accessed by helicopter. Temporary access trails to drill sites will be constructed by brushing and clearing. Other activities include installation of a small meteorological station, and construction of a temporary 12 person camp. Four bulk samples will be collected, three at the same locations as previous bulk samples were collected in 2011. The total estimated area of disturbance is approximately 5 acres. The extent of these activities, their locations, and mitigation measures will be decided by the Responsible Official for this project.</p>
<p>Why?</p>	<p>The Plan of Operations presented by the proponent (UCORE) is their annual plan of operation for geotechnical and environmental studies used to advance the site selection for the proposed facilities associated with the potential development of a mining project. The Forest Service has a regulatory obligation to approve the operating plan either as submitted or with attached mitigation as provided under 36 CFR 228.5.</p>
<p>What would it mean to not meet the need?</p>	<p>The No Action would not meet the purpose and need. If no action is taken the Forest Service would not meet their regulatory obligations for mining by being in noncompliance of 36 CFR 228 A. No other action alternatives were considered.</p>
<p>What factors will be used when making the decision between alternatives?</p>	<p>The authorized officer will consider the effects of the proposed project to the surrounding environment, including monitoring and mitigation.</p>
<p>Are there any ways to mitigate adverse effects?</p>	<p>Mitigation measures were developed for the proposed Plan of Operations action to minimize potential effects to resources. Mitigations and Best Management Practices (BMPs) will be required and will become part of the Plan of Operations.</p>
<p>What monitoring is required?</p>	<p>The Forest Service will inspect operations regularly to determine if the operator is in compliance with their approved mining Plan of Operations. The operator will perform monthly water quality monitoring and drill site monitoring at each shift change.</p>

Table of Contents

Introduction	1
Background	1
Project Area Location.....	2
Management Direction	2
Forest Plan Management Area Prescription	3
Legal and Regulatory Framework	4
Purpose and Need	4
Proposed Action	4
Decision Framework	4
Public Involvement.....	4
Issues	5
Alternatives	5
Environmental Consequences	7
Wildlife Resources	7
Aquatics Resources	11
Ecology Resources	14
Heritage Resources	17
Soil and Wetland Resources	18
Cumulative Effects	19
Compliance with Other Laws and Regulations	21
Agencies and Persons Consulted.....	22
Figures	23

Introduction

The Tongass National Forest has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and State laws and regulations. This EA analyzes the effects of the actions and discloses the direct, indirect, and cumulative environmental impacts that would result from the Proposed Action for the Ucore Bokan Mountain Plan of Operations. This EA discloses the environmental consequences of two alternatives; the Proposed Action and No Action. It also provides the supporting information for a determination to prepare a Finding of No Significant Impact (FONSI). This EA also incorporates direction established by the Final Environmental Impact Statement (Forest Plan FEIS) for the Revised Land and Resource Management Plan (Forest Plan) for the Tongass National Forest.

The Forest Service implementing regulations (36 CFR 220) for NEPA identify that an EA can consider only one action alternative. Alternatives, including the Proposed Action, may be modified during the analysis process, provided the modifications are documented.

Additional documentation, including more detailed analyses of project-area resources, can be found in the project planning record located at the Craig Ranger District, Tongass National Forest in Craig, Alaska.

The project has been listed on the Tongass National Forest Schedule of Proposed Actions since July 2012 ([TNF SOPA](#)). A scoping letter was sent to approximately 27 individuals, organizations, and federal and state agencies that had previously shown interest in USDA Forest Service (Forest Service) projects within the vicinity of Prince of Wales Island, Alaska. The scoping letter solicited comments and summarized the purpose and need for the project and actions proposed. A public announcement for the Bokan Exploration project was published in the *Island News* and in the *Ketchikan Daily News* (newspaper of record) on January 19, 2013.

Background

There has been increased attention in recent years on the designated “Rare Earth Element” spectrum of elements in the periodic table, and the metals associated with those elements as they occur within the earth’s crust. A lack of domestic rare earth supply, coupled with increased demand for “green” energy and technologies and concerns regarding China’s control of the rare earth market, has prompted a focus on the potential for domestic rare earth development.

A proposed Plan of Operations was submitted in August 2012 for the Bokan Mountain site exploration drilling by Ucore Rare Metals, Inc. The project area is located adjacent to Kendrick Bay on Prince of Wales Island and is accessible by boat, float plane, or helicopter (Figure 1). Past exploration and mining activities conducted at Bokan Mountain are associated with the historic Ross-Adams uranium mine. The Ross-Adams mine is on a separate deposit from the rare earth metals deposit and is separated geographically from the proposed project area.

The past mining activities have left some infrastructure and site facilities within the current project area. These features include about 2 ½ miles of gravel road between Kendrick Bay and the Ross Adams mine, an associated gravel pit located midpoint between the historic mine workings and the shoreline, a cabin, a floatplane dock, and a barge ramp load-out area extending into Kendrick Bay. The historic mine workings include an adit at the 300' elevation level, an adit at the 700' elevation level, and an open cut at the 900' elevation level. Since 2007, a fuel storage facility, three temporary Quonset-style structures (two core shacks and an emergency shelter), a helipad and an equipment yard have been approved for use to support Ucore's exploration program. Limited use of a portion of the existing Ross-Adams mine road is also currently approved. The current operator, UCore Rare Metals, Inc., holds a claim block consisting of 512 federal lode claims within the Craig Ranger District of Tongass National Forest. The claims are located within the following sections of the Copper River Meridian:

- Township 80 South, Range 88 East, Sections 5, 8, 9, 14 through 17, and 20 through 36;
- Township 80 South, Range 89 East, Sections 30 and 31; Township 81 South, Range 89 East, Sections 2, 3, and 6.

The project area is adjacent to an historic and abandoned uranium mine (Ross-Adams mine). There is a CERCLA clean-up order underway for certain areas that were affected by the historic uranium mining activities. These areas include the existing haul road, parts of the intertidal area surrounding an existing dock, an old ore staging area adjacent to the shoreline, and adits at the 300' and 700' level as well as at the open cut at the 900' level. Other previous disturbances in the area include a gravel pit that was used in the development of the uranium mine, a mine camp area, and the aforementioned haul road which extends from the ore laydown area to the 900' level open cut (Figure 2).

Project Area Location

The project site is located on the south-east side of Prince of Wales Island on the north and west shore of the West Arm of Kendrick Bay. Proposed activities include geotechnical drilling in an area on the northwest side of Kendrick Bay and in an area on the southwest side of Kendrick Bay, and a temporary camp located along the beach fringe on the western edge of Kendrick Bay (Figure 3).

Management Direction

This EA incorporates by reference and tiers to the following documents available by request from the Craig Ranger District or can be found on the Tongass National Forest webpage at

http://www.fs.fed.us/nepa/nepa_project_exp.php?project=38138:

- The Tongass Land and Resource Management Plan 2008 (Forest Plan)
- UCore 2012 Plan of Operations

Forest Plan Management Area Prescription

The 2008 Tongass National Forest Land and Resource Management Plan (Forest Plan) provides a framework that guides the use and development on the Tongass National Forest. The Forest Plan consists of Land Use Designations (LUD) which provides specific direction for managing different geographic areas of the Tongass National Forest.

The project area is located within a Timber Production LUD and has a Minerals LUD overlay (see Forest Plan pp. 3-116 through 3-121 and 3-122 through 3-127). Forest Plan direction for Timber Production and Mineral LUDs are as follows.

Timber Production LUD areas are managed to:

- Maintain and promote wood production from suitable forest lands, providing a continuous supply of wood to meet society's needs;
- Provide for sustained long-term timber yields; and,
- Seek to provide a supply of timber from the Tongass National Forest that meets the annual and planning-cycle market demand, consistent with the standards and guidelines for this LUD.

Forestwide Standards and Guidelines for Minerals in a Timber Production LUD:

Minerals and Geology Administration: MG2

Forest Lands Open to Mineral Entry

- Forest lands within this LUD are open to mineral exploration and development.
- Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872 and ANILCA.
- Permit reasonable access to mining claims and authorization of orderly mineral resource development with the provisions of an approved Plan of Operations.

Mineral LUD Goals are to manage to:

- Encourage the prospecting, exploration, development, mining, and processing of locatable minerals in areas with the highest potential for minerals development; and,
- To ensure minerals are developed in an environmentally sensitive manner and other high-valued resources are considered when minerals developments occur.

Mineral LUD Objectives include:

- Apply this management prescription to the project areas of currently approved Minerals Plan of Operations. Use the prescription as criteria in the planning and design of proposed mineral developments and Plan of Operations.

Forestwide Standards and Guidelines for a Minerals LUD include:

Minerals and Geology Administration: MG2

Forest Lands Open to Mineral Entry

- B. Assure prospectors and claimants their right of ingress and egress granted under the General Mining Law of 1872, ANILCA, and National Forest Mining Regulations 36 CFR 228.

Legal and Regulatory Framework

Mining claimant rights are subject to applicable federal and state laws and regulations;

- 36 CFR 228 Subpart A, and
- The 1955 Multiple Use Mining Act (30 U.S.C. 612). This act restricts mining operators to using reasonable methods of surface disturbance that are appropriate to their stage of operation (see FSH 2809.15, Section 10.1).
- 36 CFR §228.8; [All] operations shall be conducted so as, where feasible, to minimize adverse environmental impacts on National Forest surface resources”.

FSM 2813.13(b) and FSM 2813.14 provide mining claim holders on National Forest System lands the right to:

- (1) occupancy and use necessary for prospecting, mining, and processing;
- (2) reasonable access for purposes of prospecting, locating, and mining; and,
- (3) the right to use timber from the claims for mining purposes and necessary clearing.

Purpose and Need

The purpose and need of this project is for the Forest Service to respond to Ucore’s request, through their Plan of Operation, to approve and/or modify and approve the operator’s proposed Plan of Operations for a five-year period.

Proposed Action

The proposed action, as identified in the Plan of Operations, includes the construction of temporary access trails and the use of a track-mounted drilling rig for geotechnical drilling, helicopter supported drilling for geotechnical, environmental studies and/or exploration drilling, the installation of a temporary 12-person camp, the installation of a small weather station, the collection of 4 bulk samples, and use of an existing gravel pit (see Plan of Operations, attached). A barge will be anchored in Kendrick Bay, as in the past years, as a staging area until the temporary camp has been constructed.

Decision Framework

The Craig District Ranger is the authorized officer for this decision. This decision will determine under what terms and conditions the proposed Plan of Operations will be approved.

Public Involvement

The public has been invited to participate in the following ways:

- This proposal was first listed on the Tongass National Forest Schedule of Proposed Actions in July 2012
- A Legal notice was published in the Ketchikan Daily News and the Island News for public comment on January 19, 2013;
- Consultation with local tribes was held on January 24, 2013

- This environmental analysis was provided to interested parties, other Federal and State agencies, and local Tribal governments.

Issues

The following issues were identified for this project as being relevant considerations for developing alternatives. Effects of mining operations on: wildlife resources, hydrology and fisheries, ecological resources, heritage resources and wetlands and soils resources.

Alternatives

This section describes and compares the alternatives considered in this EA. All applicable standards and guidelines, and Best Management Practices have been incorporated into the design of the Proposed Action alternatives.

Alternative 1 - No Action

The No Action Alternative would not approve or modify the proposed mining Plan of Operations. The No Action alternative is identified by CEQ to be considered in the comparison of alternatives. The No Action alternative represents the existing condition against which the action alternative is compared. The “Affected Environment” section for each resource provides a discussion of the existing condition of the project area and can serve to make a comparison between the Proposed Action and No Action Alternative.

As identified above, there is a CERCLA clean-up order underway for areas previously affected by the uranium mining activities.

There is an existing cabin, known as the Dotson’s cabin, close to the dock and ore staging area that the Forest Service has authorized under special use permits. The Dotson’s cabin is not related to UCore or to the company’s ongoing work.

Under previous Plans of Operation, the Forest Service has authorized UCore to have or maintain seven 500-gallon aboveground fuel tanks, two core logging and splitting (and one emergency) shelters which are Quonset-style tents, 6 bulk sample pits which are approximately 6’ X 6’ X 1’ in size, and limited use of the existing haul road to access bulk sample locations and the core logging and shelter area. All structures maintained by UCore are located in previously disturbed areas and tree removal or ground-disturbing activities were not required to clear the area for use (Figure 4).

Alternative 2 – Proposed Action

The Proposed Action includes the following elements:

- Use of a track-mounted drilling rig to access approximately 27 holes for geotechnical and environmental purposes;
- Construction of six multi-segmented temporary access trails totaling less than 2 km (1.25 mi) in length and averaging 10-12’ in width;
- Helicopter-supported drilling of approximately 8 holes for geotechnical, environmental, and/or exploration purposes;

- Collection of four bulk samples;
- Installation of a temporary 12 person camp facility; and,
- Use of an existing gravel pit.

The Plan of Operations discusses the methods by which, prior to disturbance at each drill site, readings with a scintillometer are to be taken to determine the existing measure of radiation at the surface. Once drilling at each site is complete, the Plan of Operations states that drill cuttings will be buried at that location at a depth such that surface readings with a scintillometer are equal to or lesser than the readings pre-disturbance. If such a depth cannot be attained, the cuttings are to be collected and shipped offsite for proper disposal. These actions serve to protect multiple resources discussed below, including aquatic, soils, wetland, ecological, and wildlife resources.

Equipment

The following equipment is proposed to be used:

- A track mounted drill rig equipped with an ODEX down-hole hammer and casing drive system (or similar);
- A Foundex helicopter-transportable top-drive rotary drill (or similar);
- A small tracked excavator (Cat 315 or similar); and,
- ATVs and/or Kubota utility vehicles.

Facilities and infrastructure

A temporary camp has been requested to allow for the safe year-round monthly collection of water samples to establish baseline water quality conditions. During the winter, access from the camp barge located on the eastern side of Kendrick Bay does not allow for safe or reliable access to the project area. The following structures are proposed for the campsite:

- Approximately 100 foot camp access gravel road and gravel camp pad;
- One 11x54 foot temporary cookhouse and staff quarters;
- One 10x48 foot temporary 8-person bunk house;
- One 10x20 foot temporary office;
- One 10x20 foot temporary bathrooms and shower house;
- Temporary domestic water treatment and portable camp wastewater facilities which will discharge in accordance with State permits;
- Two 50-75 kW power generators housed in a small shed adjacent to the fuel storage facility; and,
- Underground power line to the camp.

The following existing features are proposed to be used:

- Portable core logging buildings and crew shelter;
- 7 fuel storage tanks; and
- The gravel access road;
- 150 cubic yard expansion of existing gravel pit located on Figures 4, in order to provide a level pad for the temporary camp facilities.
- Crew barge located on eastern side of Kendrick Bay for full summer staff. The barge will continue to be removed in the winter.

Applicable Forest Plan Direction and Forest Service Policy

- The Proposed Action incorporates Forest Plan and Standards and Guidelines, national direction and Best Management Practices, and includes the following direction: Forest Plan Wildlife Standards & Guidelines (S&G) (pps. 4-89 through 4-100);
- Forest Plan S&G for Threatened, Endangered, or Sensitive Plant Species (pps. 4-41-42);
- Forest Plan S&G for Soil and Water (pps. 4-64 - 67);
- Forest Plan S&G for Heritage Resources and Sacred Sites (pps. 4-16 -21);
- Forest Plan S&G for Fish (pps. 4-9 -14);
- Forest Plan S&G for Riparian, Minerals and Geology Administration, Plan of Operations (pps. 4-50 -51);
- Forest Service Handbook (FSH) 2509.22 – Soil and Water Conservation Handbook;

Environmental Consequences

This section provides a summary of the environmental impacts for both alternatives. It discusses the effects relative to applicable physical, biological, and social environments within the project area. To address cumulative effects, the Forest Service examined the environmental impacts in conjunction with past, present, and any reasonably foreseeable future actions. The discussions of resources and potential effects incorporate existing information included in the Forest Plan, project specific resource reports and related information, and other sources as indicated. The planning record for this analysis contains these resource sources of information as well as results of any field investigations. The planning record is located at the Juneau Ranger District in Juneau, Alaska, and is available for review during regular business hours. Information from the planning record is also available upon request.

Wildlife Resources

Affected Environment

The analysis area includes the area of proposed activities and the watershed surrounding the west arm of Kendrick Bay which ranges in elevation from sea level to 740 meters above sea level. During a Forest Service wildlife biologist's site visit on June 8, 2011, the biologist observed the area on an over-flight, checked proposed drill pad sites, and walked through the area where proposed activities will impact the beach buffer searching for bald eagle nests. Bald eagles were noted in the area, but no bald eagle nests were found. Habitats include forested slopes, muskegs in both saddles and hilltops, and open, glacially scoured rock on Bokan Mountain. Vegetation consists primarily of Western hemlock and Western red cedar, Sitka spruce and red alder canopy along the shore and in steep valleys. Locally thick underbrush consists of devil's club and a variety of berries, shrubs, and grasses. The table below lists species of interest and concern and describes whether they are present in area of analysis.

TES Species

The marine waters adjacent to the project area are potential and existing habitat for Humpback Whale and Steller Sea Lion. However, there is a very low likelihood of temporal and spatial overlap between proposed activities and marine mammals.

Environmental Consequences

A summary of effects of the proposed activities to species that occur or are likely to occur on the Tongass National Forest or in adjacent waters is presented in the following below.

Species/Issue	Presence		Direct, indirect and Cumulative Effects	
	Species Present in Analysis Area ¹	Species Habitat Present in Analysis Area	Level of Influence ^{2,4} Determination	Reason for Determination/ Level of Influence
Threatened and Endangered³				
Humpback Whale	Yes	Yes	§402.03(b)(3)(i) not measurable Negligible/ No Effect	Effects would be limited to disturbance from flights and boat traffic associated with crew switches and resupply; low levels of wastewater effluent from barge and camp facilities. There is very low likelihood of temporal and spatial overlap between proposed activities and marine mammals.
Steller Sea Lion (western/eastern)	Yes	Yes	§402.03(b)(1) Negligible/ No Effect	Effects would be limited to disturbance from flights and boat traffic associated with crew switches and resupply; low levels of wastewater effluent from barge and camp facilities.. There is very low likelihood of temporal and spatial overlap between proposed activities and marine mammals.
Candidate³				
Kittlitz's Murrelet	No	No	See below.	See below.
Yellow-billed Loon	Yes	Yes	See below	See below.
Pacific Herring	Yes	Yes	See below.	See below.
Sensitive				
Aleutian Tern	No	Yes	Negligible/ No Impacts	Aleutian terns do not occur in the analysis area.
Black Oystercatcher	Yes	No	Negligible/ No Impacts	Though they may occur there, Black Oystercatchers are not known to use this area. The shoreline lacks appropriate structure for Black Oystercatcher nesting sites, so it is very unlikely that they occur in the analysis area. Rocky shoreline habitats will not be affected by proposed activities.
Dusky Canada Goose	Yes	Yes	Negligible/ No Impacts	This subspecies is not known to occur in the project area, though they may occur occasionally during migration. Would increase human disturbance and cause small habitat changes productive old-growth forest along coastal, estuary or riparian areas.
Kittlitz's Murrelet	No	No	Negligible/ No Impacts	This species does not occur in the analysis area.
Yellow-billed Loon	Yes	Yes	Negligible/ No Effect	This species occurs very rarely on marine waters during winter in Southeast Alaska but is not known to occur in this area. Should this species be present in the area, effects would be limited to disturbance and water quality changes as described above.
Queen Charlotte Goshawk	Yes	Yes	Negligible/ No Impacts	Would increase human disturbance and cause small habitat changes productive to old-growth forest along coastal, estuary or riparian areas.

Species/Issue	Presence		Direct, indirect and Cumulative Effects	
	Species Present in Analysis Area ¹	Species Habitat Present in Analysis Area	Level of Influence ^{2,4} Determination	Reason for Determination/ Level of Influence
Pacific Herring	No	Yes	Negligible/ No Effect	There are no known spawning areas for herring near the project area. Effects would be limited to low levels of wastewater effluent from barge and camp facilities, and small amounts of sedimentation
Management Indicator				
Alexander Archipelago Wolf	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas.
American Marten	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas.
Bald Eagle	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas. There are no known bald eagle nests in the analysis area.
Black Bear	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas.
Brown Bear	No	Yes	Negligible	Brown bears do not occur in the project area.
Brown Creeper	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas.
Hairy Woodpecker	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas.
Mountain Goat	No	Yes	Negligible	Mountain Goats do not occur in the project area.
Red-breasted Sapsucker	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas.
Red Squirrel	No	Yes	Negligible	Red Squirrels do not occur in this area.
River Otter	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas.
Sitka Black-tailed Deer	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas.
Vancouver Canada Goose	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes to productive old-growth forest along coastal, estuary or riparian areas.

Species/Issue	Presence		Direct, indirect and Cumulative Effects	
	Species Present in Analysis Area ¹	Species Habitat Present in Analysis Area	Level of Influence ^{2,4} Determination	Reason for Determination/ Level of Influence
Other				
Migratory Birds	Yes	Yes	Minor	Would increase human disturbance and cause small habitat changes productive old-growth forest along coastal, estuary or riparian areas. There will be no uncapped pipes associated with this project.
Subsistence	Yes	Yes	Negligible	Consistent with section 810 of ANILCA, potential effects of this project on subsistence opportunities and resources were evaluated. Because there would be no significant change in abundance and distribution of, access to and competition for subsistence resources, the proposed project will not result in a restriction of subsistence uses.

¹ "Yes" if the species is known or is likely to occur in the analysis area or in marine waters adjacent to the analysis area. "No" if the species has not been documented or is not likely to occur in the analysis area.

² Level of influence of the effects for management indicator species includes "negligible", "minor", "moderate", or "major". Levels of influence are defined in the "Fish and Wildlife Resource Report". Determinations are only required for listed and sensitive species. Determinations for threatened and endangered species include "no effect", "not likely to adversely affect", or "likely to adversely affect" (Bosch 2004). Determinations for candidate species include "no effects", "not likely to jeopardize proposed species, or adversely modify proposed critical habitat", or "likely to jeopardize proposed species, or adversely modify proposed critical habitat". Determinations for sensitive species include "no impacts", "beneficial impacts", "may impact individuals but not likely to cause a trend to federal listing or a loss of viability", or "likely to result in a trend to federal listing or a loss of viability" (Bosch 2004).

³ There will be negligible/no effect to other listed or candidate species because these species do not or rarely occur and/or key habitats are not present in or around the analysis area.

⁴ §402.03(b)(1): no effects to T&E species or to designated critical habitat; §402.03(b)(3)(i): Effects are not capable of being measured or detected in a manner that permits meaningful evaluation

Alternative 1 – No Action

There would be no changes in impacts to wildlife from the existing condition under this alternative.

Alternative 2 – Proposed Action

Alternative 2 will primarily result in disturbance to wildlife in the project area from the presence of humans, from aircraft and boats, and noise associated with drilling and camp activities. Disturbance may cause stress in animals, reduction in foraging, loss of productivity, or displacement from or changes to preferred habitats. Habitat changes include vegetation removal associated with clearing of drill rig trails, drill pads, bulk sampling areas, gravel pit, and areas around proposed structures such as the camp. Potential reductions in water quality may occur associated with drilling, trail construction and drill movement, and human encampments. Sedimentation may occur where equipment crosses fragile soils near waterways or in locations where equipment will cross streams. Sedimentation is not expected to reach marine waters where marine mammals occur because of the large estuary.

Wastewater treatment associated with the camp as well as the barge may affect water quality. Guidelines and best management practices to avoid or mitigate these potential effects will be incorporated into the Plan of Operations and will ensure that these effects are minimized.

Alternative 2 – Summary for Wildlife Resources

The Proposed Action will result in no significant direct or indirect, or cumulative impacts to wildlife resources or habitat because the following National and Regional Best Management Practices, Forest Plan Standards and Guidelines, and Alaska Region Soil and Water Conservation Handbook and mitigations will be followed.

- If any previously undiscovered endangered, threatened, candidate or sensitive species are encountered prior to or during implementation, a District Biologist will be consulted and appropriate mitigation measures will be enacted;
- Minimize the footprint of the camp area and retain as much of the surrounding forest as possible;
- Ensure that there are no uncapped pipes associated with exploration sites or the camp area which can result in wildlife entrapment; and
- Operators are required to abide by the Marine Mammal Protection Act and Marine Mammal Viewing guideline.

Aquatics Resources

Affected Environment

The analysis area for aquatic resources includes the proposed project area and the fish bearing and non-fish bearing streams which encompass Kendrick Bay. According to the Alaska Department of Fish and Game’s (ADF&G) Anadromous Waters Catalog and field visits from ADF&G and the Forest Service fish biologists, verified fish species present in the area include Coho, chum, and pink salmon, and Dolly Varden trout.

Environmental Consequences

A summary of effects of the proposed activities to species that occur or are more likely to occur on the Tongass National Forest or in adjacent waters is shown in the table below.

Species/Issue	Presence		Direct, Indirect and Cumulative Effects	
	Species Present in Analysis Area ¹	Species Habitat Present in Analysis Area	Level of Influence ^{2,4} Determination	Reason for Determination/ Level of Influence
Pink Salmon	Yes	Yes	Minor	May produce small increases in sedimentation, reductions in water quality, and changes to riparian vegetation. These are not expected to result in significant effects due to BMP, S&Gs and mitigations.
Coho Salmon	Yes	Yes	Minor	May produce small increases in sedimentation, reductions in water quality, and changes to riparian vegetation. These are not expected to result in significant effects due to BMP, S&Gs and mitigations.
Dolly Varden Char	Yes	Yes	Minor	May produce small increases in sedimentation, reductions in water quality, and changes to riparian vegetation. These are not expected to result in significant effects due to BMP, S&Gs and mitigations.

Species/Issue	Presence		Direct, Indirect and Cumulative Effects	
	Species Present in Analysis Area ¹	Species Habitat Present in Analysis Area	Level of Influence ^{2,4} Determination	Reason for Determination/ Level of Influence
Cutthroat Trout	Yes	Yes	Minor	May produce small increases in sedimentation, reductions in water quality, and changes to riparian vegetation. These are not expected to result in significant effects due to BMP, S&Gs and mitigations.
Essential Fish Habitat (EFH) Determination				
Fish Habitat	Yes	Yes	No adverse Effect	There is potential for small increases in sedimentation due to temporary access trails and stream crossings, water withdrawal from streams for drill sites, reductions in water quality, and minor changes to riparian vegetation. These are not expected to result in significant effects because all BMPs, S&Gs and mitigations will be followed. There is expected to be no adverse effect on freshwater or marine Essential Fish Habitat because the proposal will not impact anadromous fish habitat and no effects would be transported to the marine environment during activities associated with this project.

Alternative 1 – No Action

There would be no changes in impacts to aquatic resources from the existing condition under this alternative.

Alternative 2 – Proposed Action

As a result of a site visit on October 24, 2012 with Forest Service fisheries biologist and hydrologists, UCore modified the locations of some access trails to minimize potential effects of geotechnical drilling activities to aquatic resources (See Figure 5). Actions that could affect aquatic resources include the movement of the track-mounted drill rig between drill sites through muskeg and limited stream crossings, use of water from existing streams for drilling or camp purposes, camp wastewater or drilling water infiltrating or contacting groundwater or surface water, and barge wastewater contacting the ocean water in Kendrick Bay. Other activities that may impact aquatic resources includes the expansion of the existing gravel pit and the construction of the proposed temporary camp. The potential effects to aquatic resources from these activities include:

- Reduced water quality in the form of turbidity due to erosion and sedimentation as the tracked drill disturbs the soil near aquatic resources and wetlands;
- Direct and indirect fish habitat impairment during stream crossings due to sedimentation, stream channel alteration, and potential migration interruption;
- Alteration of riparian habitat due to clearing of vegetation for the creation of temporary trails;
- Potential for petroleum products to enter waterways during drilling activities while refueling or during the return of produced water;
- Temporary reduction in water supply to streams if water is diverted or withdrawn for drilling;

- Disturbance of natural drainage patterns and stream channel stability both at the gravel pit and at the camp pad location; and,
- Reduction in water quality due to sedimentation during construction, and waste management at the completed facility.

Alternative 2 – Summary for Aquatics Resources

Based on the application of the 2008 Forest Plan Standards and Guidelines, the Alaska Region Soil and Water Conservation Handbook, the Regional and National Best Management Practices, combined professional experience, and communications with Ucore representatives, the proposed actions outlined in the Plan of Operations will not have significant direct, indirect on the aquatic resources within the project area because the following Best Management Practices will be applied and State and Federal water quality standards will be met:

- Locate the temporary trails outside of Riparian Management Areas and wetlands to the extent feasible (BMPs AqEco-2, Min-2, Road-2, Road-5, Road-7, 12.5, 14.2).
- Incorporate erosion control practices to minimize rutting, exposed soils, and the potential for sedimentation in nearby streams (BMPs AqEco-2, Veg-2, Road-7, 14.5 and 14.8).
- Minimize the number of stream crossings, locate them appropriately, and time the work to minimize impacts to fish (Road-7, AqEco-2, 14.2).
- Rehabilitate and revegetate disturbed areas (BMPs AqEco-3, Veg-2, Veg-3, 12.17, 14.8).
- Follow the refueling and pollution prevention Best Management Practices (BMPs Min-2, Road-10, 12.8, 12.9).
- Avoid water withdrawals from fish streams where feasible and treat any produced water appropriately (BMPs Min-2, Min-7).
- Water withdrawals must be permitted by Alaska Department of Fish and Game
- Avoid the north/northeast part of the existing gravel pit, where a berm separates the pit from a Class III stream channel (BMP AqEco-2).
- Re-route the ditch drainage across the road upslope of the gravel pit using a drivable waterbar to minimize transport of sediments from the gravel pit along the ditch and into the Class III stream downslope (BMP 14.18).
- Avoid disturbance of the adjacent stream channel when constructing the temporary land camp (BMPs AqEco-2, Fac-2. 14.25).
- Preserve to the extent feasible, large conifers within the beach buffer and those near the ephemeral channel in the temporary camp area.
- Sanitation system management must meet State standards and Forest Service manual direction. Management requirements and controls to minimize the possibility of water contamination from wastewater collection, treatment, and disposal must be incorporated into a camp facility operation and maintenance plan (BMPs Fac-4 and 12.15, 12.16).

Ecology Resources

Affected Environment

Sensitive and Rare Plants

The analysis area for Ecology Resources is Prince of Wales Island and includes the area of proposed activities and the watershed surrounding the west arm of Kendrick Bay. A pre-field review of existing information concerning plants and lichens designated as sensitive in the Alaska Region was conducted for the project area. This review included the Regional Forester's Sensitive Species List, Alaska Natural Heritage Program (AKNHP) data base records, ARCTOS database, and Forest Service NRIS database, as well as former POW Ecologist, Marla Dillman. Review of proposal details, maps, air photos, and previous management activities was also completed.

The following tables summarize the species known and suspected to occur within the project area on the Craig Ranger District:

Alaska Region Sensitive Species List

Common Name	Scientific Name	Occurrence		Habitat
		Project Area	CRD	
Calder's loveage	<i>Ligusticum calderi</i>	Suspected	Known	Rocky cliffs, open boggy or rocky slopes, and edges of coniferous forests
Moosewort fern	<i>Botrychium tunux</i>	Suspected	Suspected	Human disturbance, upper beach meadows, well drained open areas, alpine and subalpine
Spatulate moonwort fern	<i>Botrychium spathulatum</i>	Suspected	Suspected	Human disturbance, upper beach meadows, well drained open areas, alpine and subalpine
Lichen, no common name	<i>Lobaria amplissima</i>	Suspected	Known	Beach forest edge
Large Yellow Lady's Slipper	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	Suspected	Suspected	Wet Meadows, Peatlands, Calcareous
Henderson's checkermallow	<i>Sidalcea hendersonii</i>	Suspected	Suspected	Upper beach meadow, forest edge
Dune tansy	<i>Tanacetum bipinnatum</i> subsp. <i>huronense</i>	Suspected	Suspected	Upper beach meadow
Alaska rein orchid	<i>Piperia unalascensis</i>	Suspected	Suspected	Open forest, streamside
Lesser round-leaved orchid	<i>Platanthera orbiculata</i>	Suspected	Known	Open forest, forest edge

Rare Plants Suspected in the Project Area

Common Name	Scientific Name	Habitat	Known Population Location
Western meadow rue	<i>Thalictrum occidentale</i>	Streams and lakeshores	<ul style="list-style-type: none"> • Along the Thorne River • Along the Klawock • Along Luck Lake shoreline • Along Rio Roberts • Along several streams on Kosciusko Island
Northern moonwort	<i>Botrychium pinnatum</i>	Forest	<ul style="list-style-type: none"> • Known along old Rio Roberts trail, and old portion of road east of Rio Roberts River
Lanceleaf grapefern	<i>Botrychium lanceolatum</i>	Forest, wetland fen	<ul style="list-style-type: none"> • Known north of Luck Lake • Known south of Sarkar Lake
Angle leaved bittercress	<i>Cardamine angulata</i>	Streambanks, disturbed sites, beach edge	<ul style="list-style-type: none"> • Known on Goat Island • Known along Fubar and Harris Rivers • Known along the banks of Twelvemile Creek and within the forested riparian area
Pacific Yew	<i>Taxus brevifolia</i>	South Prince of Wales, scrub timbered	<ul style="list-style-type: none"> • Known near Bokan Mountain • Known near Moira Sound
Alaska oniongrass	<i>Melica subulata</i>	Forest edge, near beach or muskeg	<ul style="list-style-type: none"> • Known on Suemez Island • Known near high vulnerability karstlands on northern Prince of Wales
Cutleaf foamflower	<i>Tiarella trifoliata</i> spp. <i>lacinata</i>	Forest	<ul style="list-style-type: none"> • Ginsu
Northern golden carpet	<i>Chyrsosplenium tetandrum</i>	Down logs, and along streambanks	<ul style="list-style-type: none"> • Known along Charlie Creek on Kosciusko Island • Known northeast of Bald Mountain on Heceta • Known along Yatuk Creek
Twinberry honeysuckle	<i>Lonicera involucrata</i>	Beach and forest edge	<ul style="list-style-type: none"> • Warren Cove and False Cove on Warren Island • Several scattered individuals known on south POW, and Long Island

Rare Plants Known in the Project Area

- Pacific Yew

Invasive Plants

Previous plant surveys have been conducted in the general area and along the existing road system. On June 15, 2010 surveys were completed in the area along Kendrick Bay and Dotson Ridge. No invasive plants were found off of the road prism at any of the sites. Subsequent site surveys done on June 9, 2011 did not find any additional invasive plants that had not been previously documented.

No invasive plant surveys have been completed in association with the proposed trail and drill sites, however, given the lack of past disturbance, it is unlikely that invasive plants have established in this area.

Invasive plants found in the Project Area

Scientific name	Common name
<i>Cerastium fontanum</i>	Mouse-ear chickweed
<i>Leucanthemum vulgare</i>	Oxeye daisy
<i>Medicago lupulina</i>	Black medic
<i>Phalaris arundinaceae</i>	Reed canary grass
<i>Plantago major</i>	Common plantain
<i>Taraxacum officinale</i>	Common dandelion
<i>Trifolium repens</i>	White clover

Environmental Consequences

Alternative 1 – No Action

There would be no changes in impacts to sensitive plants or their suspected habitats from the existing condition under this alternative. The current potential for spreading of invasive plants would not change under this alternative.

Alternative 2 – Proposed Action

Sensitive Plants

The likelihood of adverse effects to sensitive plants is low to moderate given the small footprint of the drill sites within the potential habitat for the proposed project.

Invasive Plants

The primary environmental consequences of the proposed action include creating habitat suitable for invasive plant introductions by increasing the potential vectors for invasive plant introductions.

Alternative 2-Summary for Ecological Resources

Sensitive and Rare Plants

Under the proposed action alternative, no direct, indirect, or cumulative effects are anticipated to any known sensitive plants. Pacific Yew is the only known rare plant near the project area. No botanical surveys have been completed; there is a possibility that undetected sensitive plants could be affected by the proposed activities. However, given the relatively small footprint of the project area in relation to the analysis area (Prince of Wales), the application of the following mitigation measures will ensure that it is not likely that these activities would affect the overall success of the species on Prince of Wales Island. This project may adversely impact individuals but is not likely to result in a loss of viability in the Analysis Area, nor

cause a trend toward federal listing for any of the sensitive species suspected to occur in the project area.

- Photos of Pacific Yew will be provided to operators to aid them in identification and avoid direct impacts
- If any previously undiscovered sensitive plants are encountered at any time during operations, the population will be protected and any disturbance in the area will be avoided until the Forest Service is contacted for further instruction

Invasive Plants

As a whole, there is a low risk that the proposed activities will result in the spread of invasive plants on Prince of Wales Island given the isolated location of the Kendrick Bay road system. The proposed activities would likely result in a low to moderate increased risk of invasive plant introduction in the project area. The following mitigations will further decrease the risk of any introduction and spreading, by preventing the introduction of any new invasive species to the project area and Island.

- Equipment cleaning is required for any heavy equipment (drill, etc.) prior to arriving to Kendrick Bay. The equipment/vehicle will be free of soil and/or mud contaminated with plant parts (including roots, seeds, flowers, stems) on the tractor, wheels, tracks, shovel, and undercarriage of the vehicle or equipment.
- In the event that sediment control is necessary, use of silt fence or coconut fiber matting is required instead of straw bales, as straw bales have been known to introduce invasive species.
- The Forest Service shall be contacted before any reseeded.

Heritage Resources

Affected Environment

The Ross-Adams Mine Complex, identified as a National Register of Historic Places eligible property, is partially located within the project area. The project area was examined on October 4, 2012 and October 24, 2012 by a Forest Service archaeologist according to the provisions in the *Third Amended Programmatic Agreement among the USDA Forest Service, Alaska Region, the Advisory Council on Historic Preservation, and the Alaska State Historic Preservation Officer Regarding Heritage Resource Management on National Forests in Alaska*.

Fieldwork conducted for project activities revealed the project area which is partially located within the boundaries of the historic site have been extensively disturbed by more recent mining activities in the early 1970s. These disturbances have been determined as non-contributing to the historic mine. Field surveys and soil probing found no examples of historic mining, other historic or prehistoric use of the area. The temporary camp will be located in the footprint of a temporary camp from previous non-historic mining activities, and has already been determined to be a non-contributing feature to the historic mine. The existing gravel pit

is not a feature which contributes to the eligibility of the site to the National Register. The use of the gravel pit will not impact the historic components of the site.

The remainder of the project area is outside the boundaries of the historic site. No significant cultural resources were found in the project area for the proposed action. One known heritage site in the tidelands will be avoided.

Environmental Consequences

Alternative 1-No Action

There will be no effect on historic resources under this alternative.

Alternative 2-Proposed Action

The proposed action is expected to have no effect historic properties; a survey has been completed in the project area and known recorded historic features will be avoided.

Alternative 2-Summary for Heritage Resources

The Proposed Action will not result in direct, indirect, or cumulative impacts to historic properties because known historic properties will be avoided. The following mitigation measures will be followed:

- If during implementation any archaeological remains, such as stone artifacts, a layer of soil with charcoal or fire cracked rock, or historic artifacts such as bottle glass and metal cans are discovered, all work in that location is to be halted and the Forest Service shall be contacted
- Operators will avoid known heritage resources, identifiable by GPS coordinates provided by the Forest Service.

Soil and Wetland Resources

Affected Environment

The project area includes the watershed surrounding the west arm of Kendrick Bay and is located primarily in low elevation forested and muskeg areas of Bokan Mountain, a granitic outcrop within the South Prince of Wales Granitic ecological subsection. Greater than 60% of the proposed trail routes are in wetlands comprised of forested wetland, muskeg, or scrub-shrub wetland types.

The proposed drilling sites occur in both wetland soils and non-wetland soils. The wetland soils are poorly or very poorly drained, range up to 35% slope, and have an organic mat ranging from 10 cm to greater than 100 cm over mineral soil and/or bedrock. These soils have high moisture content year-round and have very low bearing strength within the organic mat and to a lesser extent within the mineral soil. The non-wetland areas are predominantly less than 20% slope, deep coarse textured alluvial soils, or greater than 35% slope, shallow to bedrock. The natural drainage of these sites is, in part, dependent upon preferential flow paths within the soil. Consequently, the natural drainage of these soils is susceptible to damage from compaction or rutting.

The temporary land camp is located on coarse textured beach and alluvial soils. The soils are well drained except for a few poorly drained channels. Flooding may occur on these poorly drained channels and as such, floodplain protections are applicable.

Environmental Consequences

Alternative 1-No Action

There would be no changes in impacts to soils and wetland resources outside the normal natural process under this alternative.

Alternative 2-Proposed Action

Potential effects of using a track-mounted drill rig on soil and wetland resources for the proposed drill holes can vary considerably dependent on weather conditions, equipment used, operation plan and practice, site monitoring, and remedial action taken. Ruts may be shallow or could exceed two feet in depth. Subsurface water flow concentration or diversion down trails or ruts may be minimal or substantial. The potential for irreversible commitment of resources exist for productivity if rutting and erosion is substantial. Impacts likely would not be irreversible if ruts are less than 1 foot deep and water is not allowed to be diverted down the trail routes.

The estimated total area of the land camp is less than 0.2 acres, not all of which is identified as possible wetlands. The construction of the temporary land camp may require filling a small amount of wetlands, as quantified by the wetlands determination, as needed by the U.S. Army Corps of Engineers. Filling of wetlands for the temporary land camp would result in irretrievable loss of wetlands.

Alternative 2-Summary for Soil and Wetland Resources

The Proposed Action will not have significant negative effects on the soil, wetland, and floodplain resources within the project area because the following Best Management Practices will be applied and State and Federal water quality standards will be met.

- Where necessary, use temporary natural or manufactured matting material as a running surface for drill rig or tracked equipment.
- Minimize the number of equipment passes.
- Operate during periods of snow pack and/or frozen ground when feasible.
- Construct water bars to transport surface water off of trails.
- Use alternative methods of accessing drill sites (i.e. helicopter) when necessary to prevent rutting or damage to soil or wetland resources.
- Any drill cuttings or produced water with scintillometer readings above background will be buried at the drill site, returned to the subsurface via the drill hole, or transported to the laydown yard for disposal off site.

Cumulative Effects

Past actions in the area include the development in the 1950s of the Ross-Adams uranium mine, including infrastructure such as approximately 3 miles of haul road, an ore staging area,

a float plane dock, and a barge ramp/bulkhead loading area. Additional work and exploration occurred in the 1970s, including a temporary mine camp. A special uses cabin, originally used in support of mineral prospecting, and currently permitted under a special use permit, is in the project area as well.

Due to its remote location, the Kendrick Bay area is not highly utilized by private recreationists, hunters, or fisherman, or by commercial outfitter/guides. A terminal commercial chum salmon fishery is located outside the immediate project area, at the mouth of the South Arm of Kendrick Bay.

Mining is a highly speculative industry, with mine development dependent on several economic and geologic factors. The results cannot be predicted with any certainty at this time. There is a proposed bill in the U.S. Senate which would allow for the development of a road to access the Niblack and Bokan project areas from the existing road network on Prince of Wales Island. This bill has not been passed into law nor have any proposals or designs been introduced to the Forest Service for review. Thus, at this time, the prospect of a road is not considered reasonably foreseeable and is not considered under this analysis.

Reasonably foreseeable actions include the ongoing exploration and baseline data gathering in support of development of a rare earth mine, including geotechnical and exploration drilling, water sampling, collection of weather data, additional surface mapping, and other minor activities associated with advanced exploration and feasibility analysis associated with mine development. Cumulatively these actions will not cause significant effects to the project area, as mitigations and monitoring will be put in place to avoid or minimize potential impacts to aquatic, botanical and biological and ecological resources. Implementation of both National and Forest Service Region 10 Best Management Practices (BMPs) will reduce potential effects through protection and monitoring of the effectiveness of the BMPs. Other laws will help to protect other resources such as cultural resources from cumulative impacts to that resource.

The project area is close to an area identified as CERCLA site. Action will be taken to remediate impacts from the Ross-Adams mining activities, however, specific clean-up activities and timeframes are not presently known. The current exploration and data gathering activities are outside the CERCLA sites, with the exception of the limited use of the road. Mitigation measures are put in place to assure that current activities will not affect the anticipated CERCLA process. These mitigations include a requirement that UCore establish in a technically defensible fashion that radiation levels are not above natural background both before and after excavation or construction for the following areas:

- the planned area of expansion at the existing gravel pit,
- planned camp location,
- camp wastewater infiltration area,
- any other areas they plan to excavate or move soil/rock.

The Forest Service will continue to work with the CERCLA process and UCore's proposed activities to ensure that UCore's activities do not inhibit or impact remediation activities.

Compliance with Other Laws and Regulations

National Forest Management Act – The proposed action is consistent with the 2008 Forest Plan, and all proposed activities are allowable under the Timber Production and Minerals LUDs.

Endangered Species Act – Biological evaluations were completed for threatened and endangered species. No threatened or endangered species would be affected by the action alternatives.

Bald Eagle Protection Act – Management activities within bald eagle habitat will be in accordance to a Memorandum of Understanding between the Forest Service and the U.S. Fish and Wildlife Service. No bald eagle nests are known in the project area.

ANILCA Section 810, Subsistence Evaluation and Finding – There is no documented or reported subsistence use that would be restricted by any of the action alternatives; none of the alternatives would result in a significant possibility of a restriction of subsistence use of wildlife, fish, or other foods.

National Historic Preservation Act of 1966 – Section 106 of the National Historic Preservation Act requires that all federal undertakings follow the regulations found at 36 CFR 800 to identify and protect cultural resources that are within the project areas and which may be effected by projects. The Programmatic Agreement between the Tongass National Forest, the Advisory Council on Historic Preservation, and the Alaska State Historic Preservation Officer (SHPO) regarding management of the project area will be followed.

Executive Order 12898 – Environmental Justice – Implementation of this project is not anticipated to cause disproportionate adverse human health or environmental effect to minority or low-income populations because the proposed activities are not expected to cause any affects to human health or result in meaningful adverse environmental consequences.

Clean Air Act – Emissions anticipated from the implementation of the Proposed Action would be of short duration and would not be expected to exceed State of Alaska ambient air quality standards (18 AAC 50).

Clean Water Act - Proposed mining activities, which result in any discharges into waters of the United States, are subject to compliance with Clean Water Act Sections 401, 402, and/or 404 as applicable.

Executive Order 13112 – Invasive Species – Invasive species populations have the potential to spread in the project area; mitigations will be required to reduce this potential.

Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands – The project area is not located within a floodplain as defined by Executive Order 11988 and there will be no significant effect to wetlands as defined in Executive Order 11990.

Inventoried Roadless Areas – This project is located within an inventoried roadless area. Secretary's Memorandum 1042-154 reserves to the Secretary of Agriculture decision making authority over the construction and reconstruction of roads and the cutting, sale, or removal of timber in inventoried roadless areas. This proposal will be reviewed by the Regional Forester for consistency with Secretary's Memorandum 1042-154.

Executive Order 12962 – Recreational Fisheries - Federal agencies are required, to the extent permitted by law and where practicable, and in cooperation with States and Tribes, to improve the quantity, function, sustainable productivity, and distribution of U. S. aquatic resources for increased recreational fishing opportunities. As required by this Order, the effects of this action on aquatic systems and recreational fisheries have been evaluated and the effects relative to the purpose of this order have been documented. No impact to recreational fisheries is expected from the proposed project.

Magnuson-Stevens Fishery Conservation and Management Act, Public Law 94-265 -This project is not expected to result in any adverse effects to essential fisheries habitat as defined in the Magnuson-Stevens Act because it has been determined that this activity, individually, will not cause any action that may adversely affect essential fish habitat as defined by the Act.

Agencies and Persons Consulted

The Forest Service consulted an interdisciplinary team of resource specialists in the development of this environmental analysis. In addition to Forest Service resource specialists, scoping letters and the Plan of Operations were sent to:

City of Craig
Craig Tribal Association
Central Council of Tlingit and Haida
Indian Tribes of Alaska
Hydaburg Cooperative Association
Haida Corp.
Wrangell Cooperative Association
Alaska Department of Natural Resources,
Division of Mining, Land, and Water
Alaska Department of Fish and Game,
Office of Habitat Management
Alaska Department of Environmental
Conservation

Klawock Cooperative Association
Shaan-Seet, Inc.
Organized Village of Kasaan
Kavilco, Inc (Field Office)
Sealaska Corporation
Klawock Heenya Corporation
Cape Fox Corporation
Ketchikan Indian Community
US Fish and Wildlife Service
National Marine Fisheries Service
Southeast Alaska Conservation Council
Mary Anderson

Figures

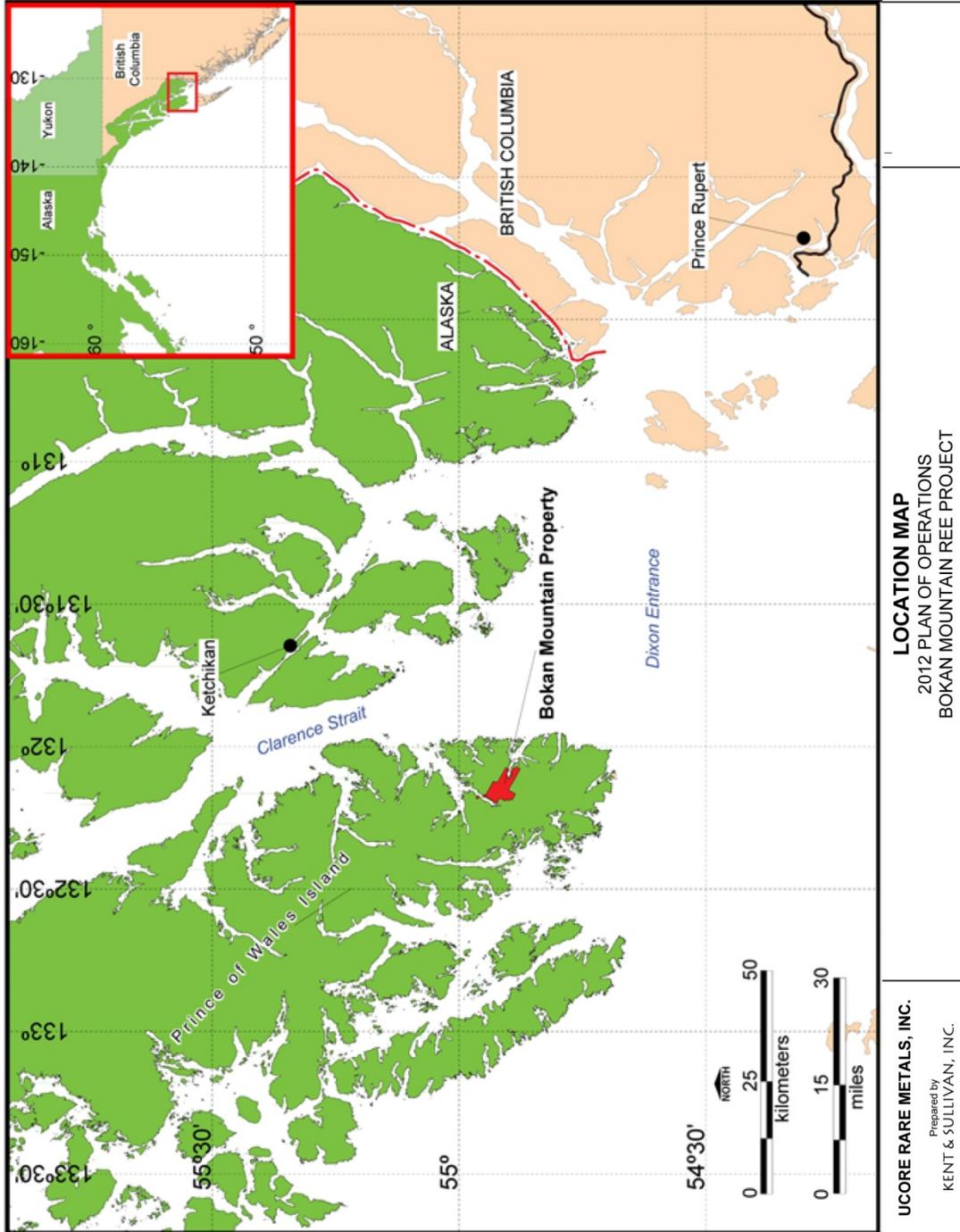


Figure 1. Location of UCore claims and general area of activity on Prince of Wales Island, AK (from UCore Plan of Operations 2012).

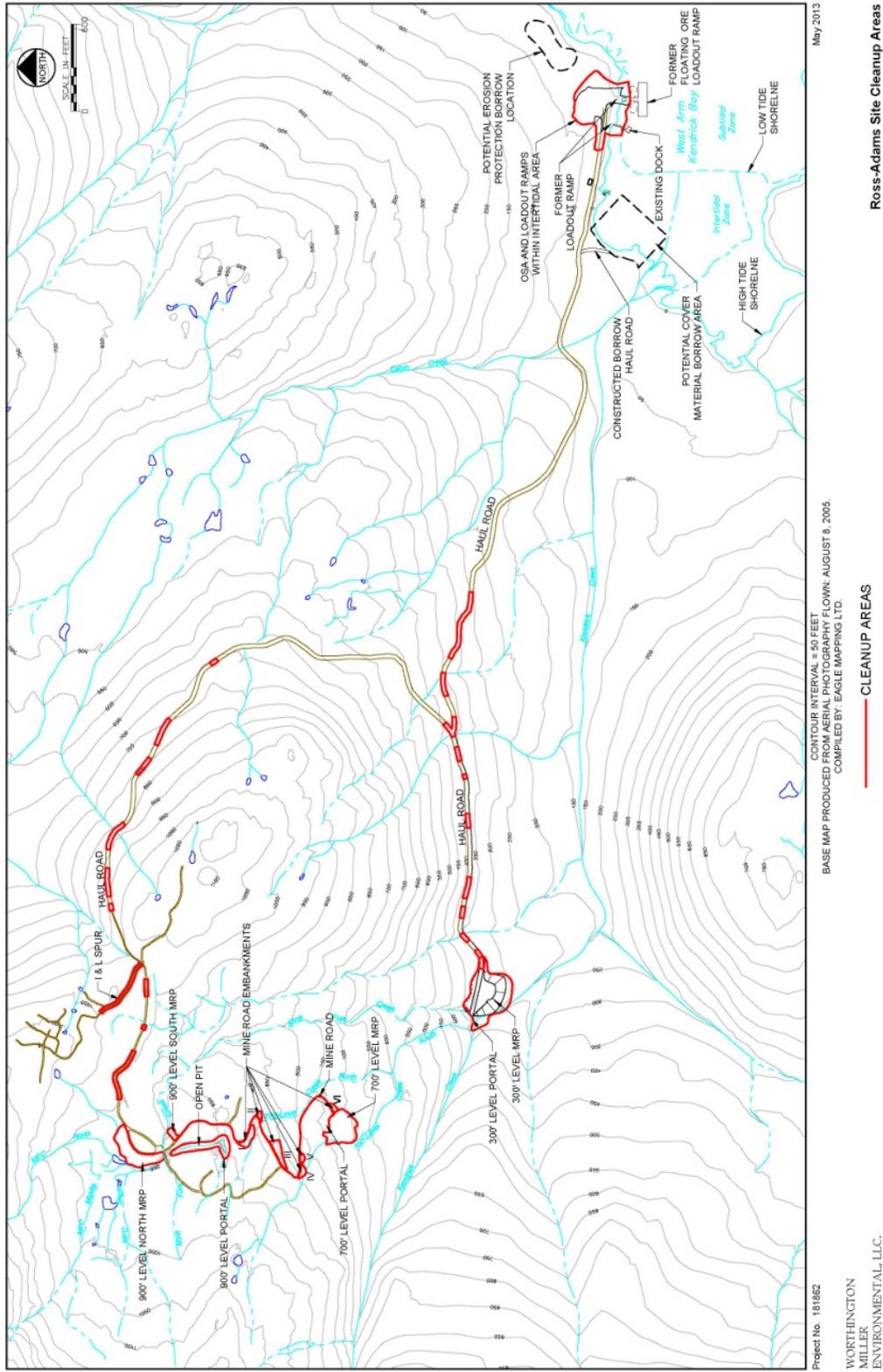


Figure 2. Areas identified for clean-up action under CERCLA.

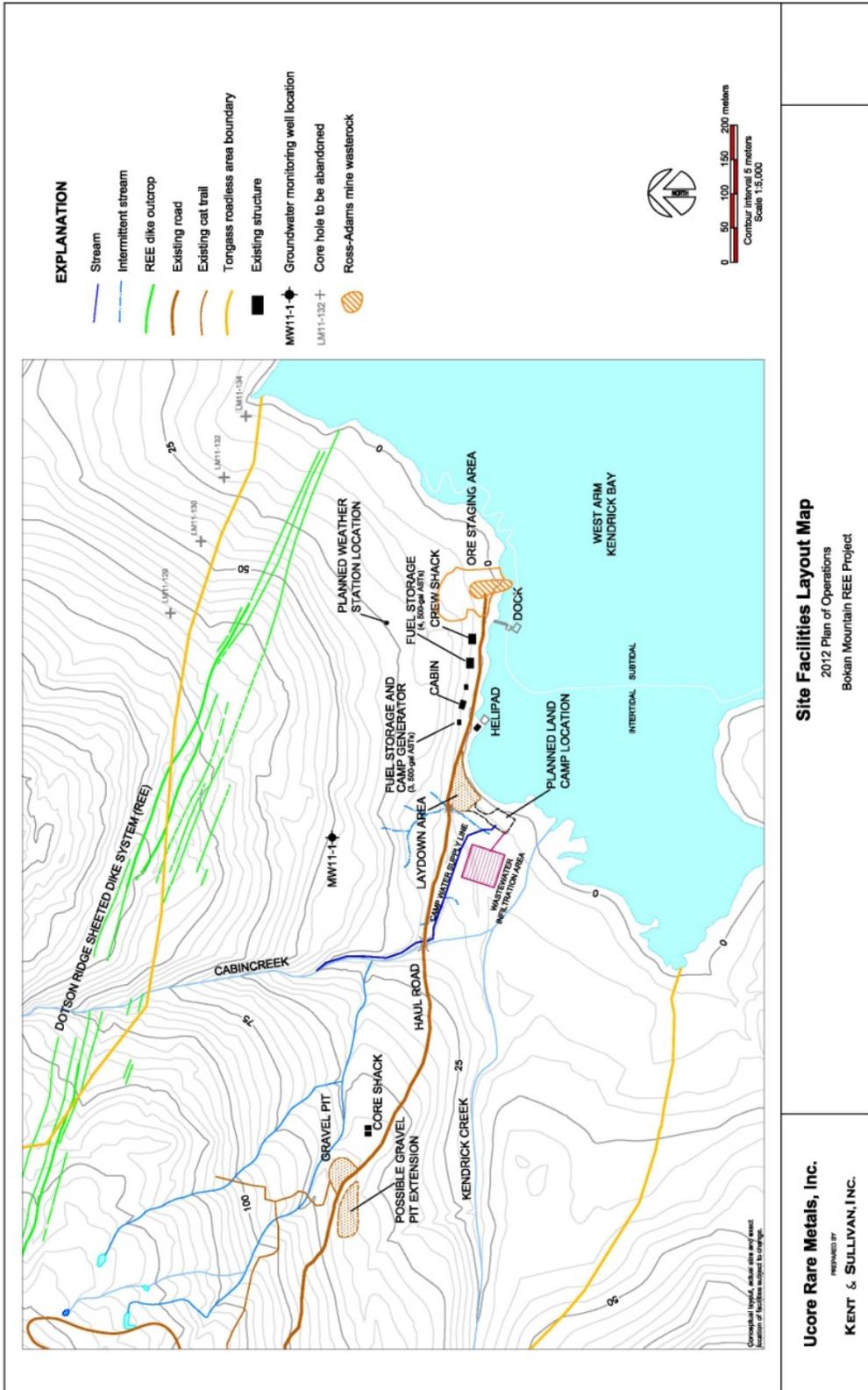


Figure 4. Location of UCore’s proposed temporary camp and gravel pit (UCore Plan of Operations 2012).

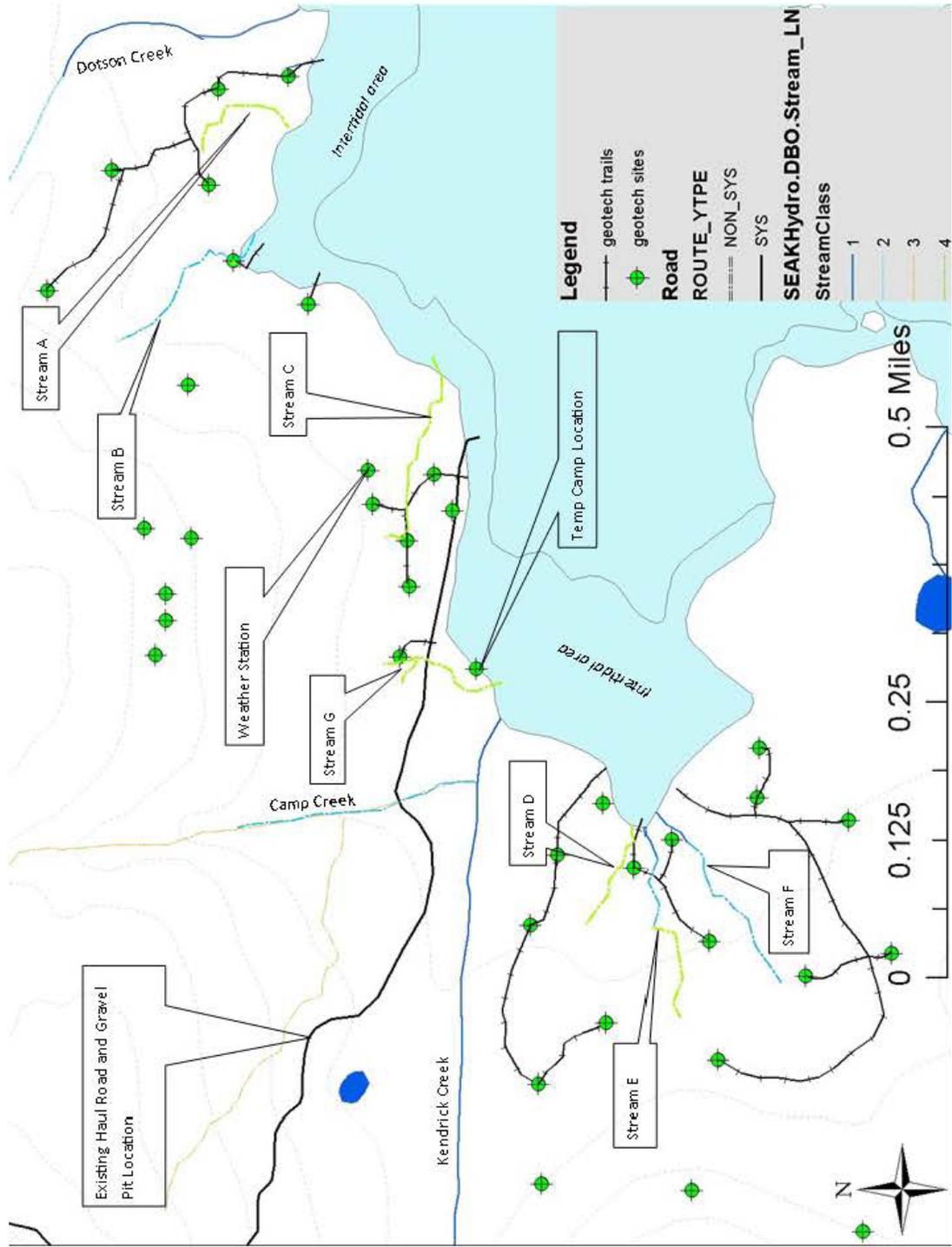


Figure 5. Known stream locations and classifications, and field-modified geotechnical drillhole trail access routes