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# CHAPTER 1 PURPOSE AND NEED FOR THE PROPOSED ACTION

## 1.1 Background

The Red Dog Mine is an open pit zinc and lead mine, located in northwestern Alaska, approximately 46 miles inland from the coast of the Chukchi Sea, and 82 miles north of Kotzebue (see Figure 1.1). The mine is situated in the DeLong Mountains of the Western Brooks Range, near Middle Fork Red Dog Creek. The mine is on private land owned by the NANA Regional Corporation (NANA), while some of the support facilities for the mine are located on both state and NANA lands. Teck Cominco Alaska Incorporated (Teck) operates the mine under a 1982 Operating Agreement with NANA, and has been mining and processing ore from the Red Dog Mine Main Deposit since 1989.

The U.S. Environmental Protection Agency (EPA) and the U.S. Department of the Interior developed an environmental impact statement (EIS) for the Red Dog Mine in 1984. The Red Dog Mine Main Deposit is expected to be depleted between 2011 and 2012. Teck proposes to begin mining the Aqqaluk Deposit, which is adjacent to the Main Deposit, by 2010, to ensure continuing operations through 2031. This Supplemental EIS (SEIS) supplements the 1984 EIS in evaluating the environmental effects associated with development of the Aqqaluk Deposit while considering the effects of activities that have occurred since the 1984 EIS was finalized. The Red Dog Mine Extension Aqqaluk Project (Aqqaluk Project) encompasses the activities required to develop and mine the Aqqaluk Deposit (see Figure 1.2).

The Red Dog Mine currently consists of an open pit mine, a mill for processing ore, a tailings impoundment, waste rock storage areas, and support facilities. The processed ore is transported from the mine facilities via the 52-mile DeLong Mountain Regional Transportation System (DMTS) haul road to the DMTS port facility located on the Chukchi Sea. From the port facility, the ore concentrates are shipped to markets in North America, Europe, and Asia. The port facility and the DMTS are both owned by the Alaska Industrial Development and Export Authority (AIDEA). Congress granted to NANA, a 100-year easement through Cape Krusenstern National Monument to make land available for the DMTS to be sufficient to secure financing to construct, operate, maintain, and expand the transportation system by the State of Alaska and the AIDEA (Public law 99-96 of September 25, 1985 (Statute 460)).

Prior to mine development, in the early 1980s, Teck first submitted an application to EPA for a Clean Water Act (CWA) Section 402 National Pollutant Discharge Elimination System (NPDES) permit for the discharge of mining related wastewater to Middle Fork Red Dog Creek. The discharge was considered a new source in accordance with Title 40 of the Code of Federal Regulations (CFR), Part 122.2. EPA and the U.S. Department of Interior prepared an EIS on the potential environmental impacts of the proposed operation in compliance with the Council on Environmental Quality's National Environmental Policy Act (NEPA) regulations at 40 CFR Parts 1500–1508 and EPA's NEPA implementing regulations at 40 CFR Part 6. The final EIS was issued in 1984, and EPA issued the first NPDES permit in 1985.

The original NPDES permit expired in 1990, and was reissued with revisions on August 28, 1998. This permit was subsequently modified on July 17, 2003. The NPDES permit was again reissued on March 7, 2007. Prior to each permit reissuance and modification, EPA, in compliance with NEPA, prepared an environmental assessment (EA) that evaluated the potential impacts of the permit action, and each resulted in a Finding of No Significant Impact (FONSI). Portions of the 2003 NPDES permit modification were appealed, which resulted in a stay of those conditions (i.e., the appealed conditions are not in effect). The Environmental Appeals Board (EAB) issued a decision on the 2003 permit appeal. The EAB upheld some of the conditions, disagreed with one of the conditions, and remanded the permit modification back to EPA. EPA responded to the EAB remand decision and updated other permit

conditions in the March 2007 permit reissuance. The 2007 permit and EA were appealed by several parties, which resulted in a stay of the permit. On September 27, 2007, EPA withdrew the 2007 NPDES permit in order to revise the NEPA analysis associated with that permit.

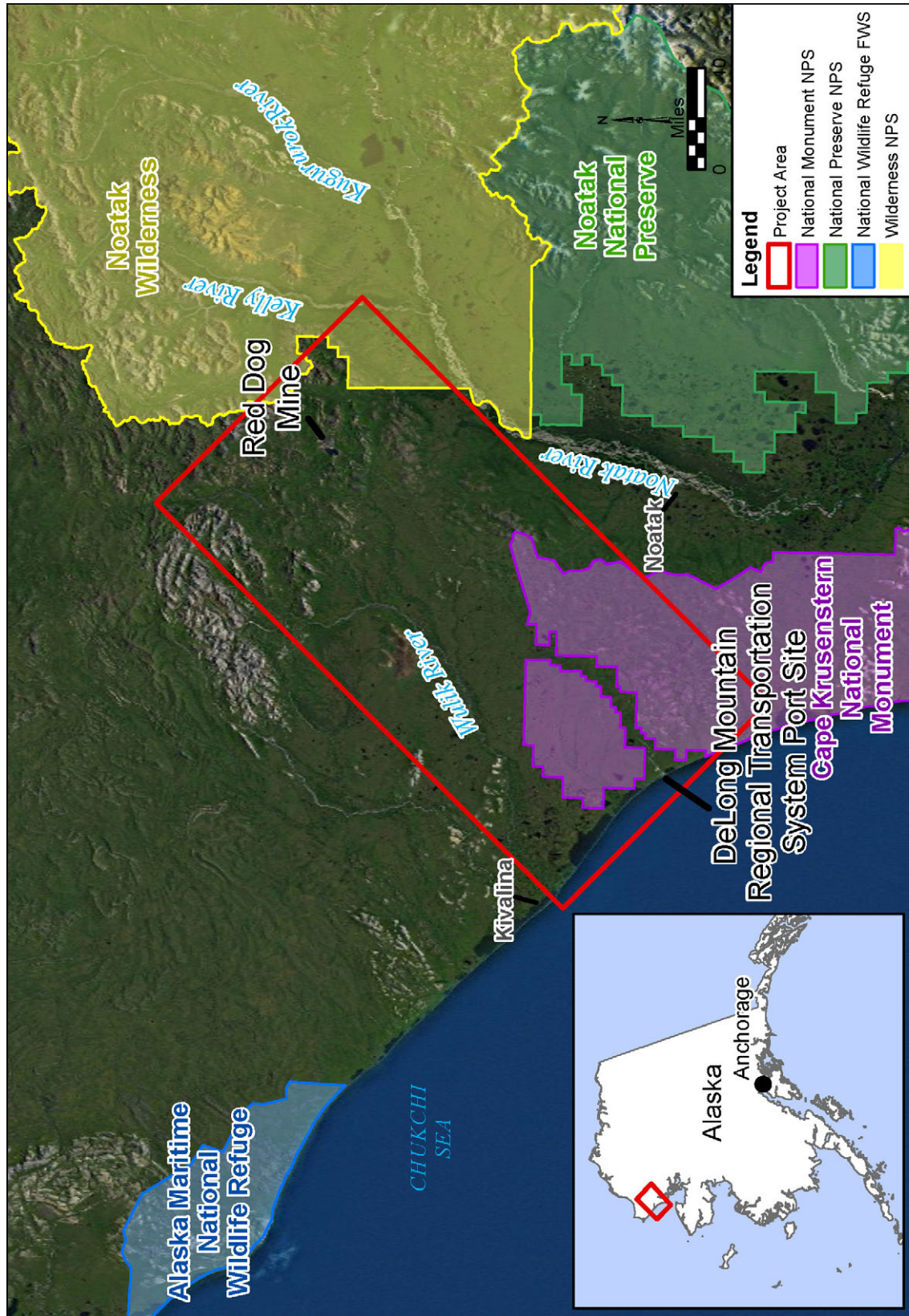
On April 16, 2007, Teck submitted an environmental information document (EID) to EPA, in support of a request to modify the NPDES permit for the Red Dog Mine to include the Aqqaluk Extension Project. Teck submitted a formal modification request on May 4, 2007. On March 15, 2008, Teck withdrew the permit modification submissions and requested that EPA consider the Aqqaluk Extension Project EID an addendum to Teck's earlier (February 23, 2003) permit renewal application. In a letter dated April 18, 2008, Teck requested EPA approval for a plan to use barium hydroxide either alone or in conjunction with their existing water treatment system to reduce total dissolved solids (TDS) in the discharge. Teck proposed to use the barium hydroxide treatment for selected seasons or portions of discharge seasons as necessary to achieve discharge needs. EPA subsequently approved Teck's proposal to implement the barium hydroxide treatment process.

The proposed Aqqaluk Project includes new impacts on wetland areas, and therefore would require modification of the facility's existing permit or issuance of new permits by the U.S. Army Corps of Engineers (Corps) under CWA Section 404. The existing Section 404 permit was originally issued in November 1985 and has been modified numerous times since. If the project would require work below the high tide line in the Chukchi Sea, the Corps would also need to issue a Rivers and Harbors Act Section 10 permit. The Corps is participating as a cooperating agency for this SEIS.

On May 17, 2007, EPA entered into a Memorandum of Understanding (MOU) with Teck that sets out the terms of cooperation between Teck and EPA in the development of this SEIS. The MOU sets forth the third-party arrangement whereby EPA directs the preparation of this Aqqaluk Project SEIS by a third-party contractor while the contractor fees are paid by Teck. EPA selected Tetra Tech as the third-party contractor.

In addition to the Corps, other cooperating agencies participating in the SEIS process include National Park Service (NPS), the State of Alaska (Department of Natural Resources [ADNR] as lead for the State), the Northwest Arctic Borough (NWAB), and the tribal governments representing the Native communities of Buckland, Kiana, Kivalina, Kobuk, Kotzebue, Noatak, Noorvik, Selawik, and Shungnak. The tribal governments authorized the Maniilaq Association to represent their cooperating agency interests and responsibilities. An MOU outlining the roles and responsibilities of the lead and cooperating agencies was finalized in September 2007.

On October 23, 2008, Teck entered into a Consent Decree (CD) in Alaska District Court with individuals that had filed a CWA complaint against Teck for numerous violations of the Red Dog Mine NPDES permit. The CD settles the plaintiff's claims and requires, among other conditions, that Teck construct and operate a pipeline to carry Red Dog Mine effluent from the mine site through the DMTS right-of-way corridor to an outfall to be constructed in the Chukchi Sea at or near the DMTS port facility. The CD includes conditions whereby Teck may elect to not proceed with the pipeline. The schedule attached to the CD indicates that Teck will submit an NPDES application for the Chukchi Sea outfall after this SEIS is completed and the Red Dog Mine NPDES permit is reissued. Because Teck has not applied for the wastewater discharge pipeline and Chukchi Sea outfall, the wastewater discharge pipeline is not the proposed action in this SEIS. The wastewater pipeline is, however, evaluated as an alternative in this SEIS.



**FIGURE 1.1  
GENERAL PROJECT AREA**

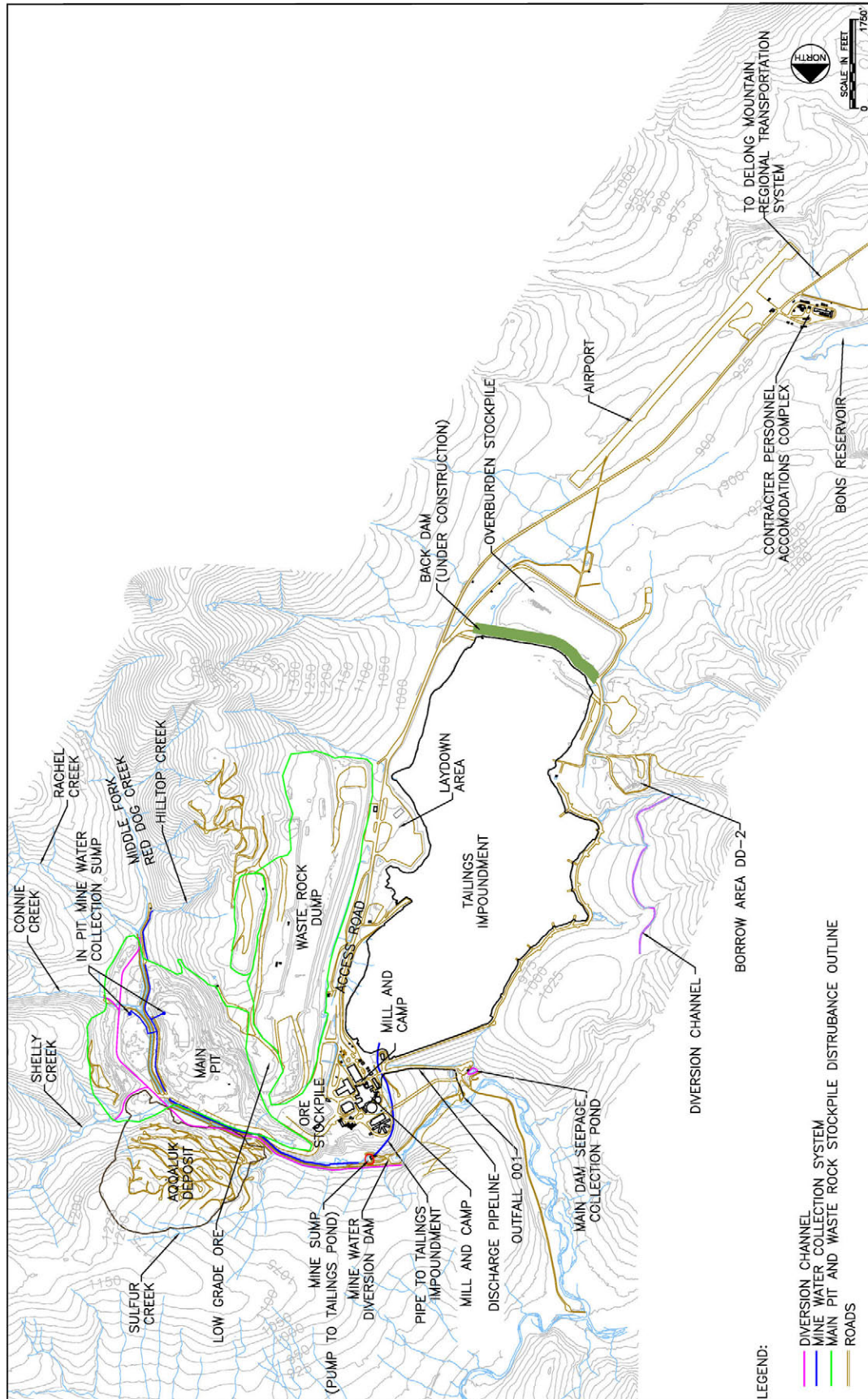


FIGURE 1.2 EXISTING FACILITIES AND AQQALUK DEPOSIT

## 1.2 Purpose and Need

The purpose and need for the federal actions covered by this SEIS is to act on permit applications and new information that Teck submitted under CWA Section 402 and expects to submit under CWA Section 404. These applications seek federal authorization for certain discharges and activities in connection with ongoing and future mining operations at the Red Dog Mine. In acting on these applications, EPA and the Corps need to take into account new information about the mining operations, including the proposed Aqqaluk Project, and their effects on the environment, which neither EPA nor the Corps had considered in prior actions.

As discussed in Section 1.1, the project is defined as a new source by the NPDES regulations, and NPDES permit reissuance is subject to compliance with NEPA. EPA has determined that its permit decision is a major federal action with the potential to significantly affect the quality of the environment. Therefore, EPA, as the lead federal agency, is preparing this SEIS to analyze the impacts of reissuing the NPDES permit for the Red Dog Mine, including development of the Aqqaluk Project, and reasonable alternatives. This SEIS supplements the 1984 EIS, and will evaluate new circumstances and information relevant to environmental concerns that have arisen since the 1984 EIS.

## 1.3 Decisions to Be Made

EPA will make a decision on Teck's application to reissue the NPDES permit for the Red Dog Mine. The currently effective permit was issued in 1998. In reissuing the permit, EPA intends to include updated permit conditions based on new information and analysis about the mine's wastewater discharges and environmental effects, and also will determine whether the Aqqaluk Project warrants any new or different permit conditions. The 1998 permit and EA did not take into consideration development and mining of the Aqqaluk Deposit. The EPA Region 10 Administrator, or as delegated to the Director of EPA's Office of Water and Watersheds, is the responsible official for deciding whether to select the no action alternative, the proposed action, or another alternative for implementation. The Administrator's decision will be documented in a Record of Decision (ROD), which will include the reasons for the decision based on the analysis presented in this SEIS.

The Corps needs to make decisions to issue or deny 404 permits for placement of fill material in jurisdictional wetlands associated with mining the Aqqaluk Deposit and increasing the height of the tailings impoundment to hold additional tailings and wastewater from processing the Aqqaluk ore. The Corps would need to make a decision to issue or deny a Rivers and Harbor Act Section 10 permit for any work or structures in or over navigable waters of the U.S. The Corps official with responsibility for making these decisions is the District Engineer. The District Engineer will decide whether to issue permits under Rivers and Harbors Act Section 10 and CWA Section 404. As a cooperating agency, the Corps participated in identification of alternatives and development of the SEIS. The Corps' decision whether to issue permits will be based upon the analysis in the SEIS.

The no action alternative in this SEIS represents no NPDES permit reissuance, which means continuation of the administratively extended 1998 NPDES permit, and no new 404 permits associated with development of the Aqqaluk Deposit. Since the development of the Aqqaluk Project would require new 404 permits, and possibly changes to the NPDES permit as well, the impacts analysis for the no action alternative assumes no development of the Aqqaluk Project. The proposed action represents development of the Aqqaluk Project as proposed by Teck and reissuance of the Red Dog Mine NPDES and issuance of 404 permits for Aqqaluk Project related construction. Other alternatives consist of project modifications to address significant issues identified during SEIS scoping that also include development of the Aqqaluk Deposit. EPA and the Corps will further identify any mitigation measures and monitoring requirements for this project that would be required through permit conditions.

## 1.4 Scoping and Public Involvement

The Notice of Intent (NOI) to prepare the SEIS for the Red Dog Mine Aqqaluk Project was published in the *Federal Register* on August 31, 2007. The publication of the NOI initiated the scoping process and a public review and comment period required under NEPA at 40 CFR Part 1501.7. The *Scoping Document for the Red Dog Mine Extension – Aqqaluk Project Supplemental Environmental Impact Statement* was distributed at the same time. The scoping document was distributed to a mailing list developed in conjunction with the cooperating agencies and to residences in Noatak and Kivalina with assistance from the Maniilaq Association. The formal scoping period ended on October 15, 2007.

Scoping is a process intended to assist EPA and the cooperating agencies in identifying areas and issues of concern associated with the proposed Aqqaluk Project, and is designed to ensure that all significant issues are fully addressed during the course of the SEIS process. The main objectives of the scoping process are to:

- Provide the public, regional stakeholders, and regulatory agencies with a basic understanding of the existing Red Dog Mine and proposed Aqqaluk Project;
- Provide a framework for the public to ask questions, raise concerns, and identify specific issues with the proposed options; and recommend options other than those currently proposed; and
- Explain where to find additional information about the project.

The scoping document provided a brief background on the Red Dog Mine; discussions on the proposed action, agency involvement, permits and authorizations, and the scoping process; an SEIS preparation schedule; and information sources. In addition to the NOI, EPA placed a public notice in the Arctic Sounder on September 6, 2007, and used email to advertise open house information sessions followed by public hearings. Open houses were held on October 2 through October 5, 2007, in Anchorage, Kotzebue, Noatak, and Kivalina. The purposes of the scoping meetings were to listen to and record the public's comments about the Aqqaluk Project and to respond to the public's requests for background information needed to fully understand the project description and proposed scope of the SEIS.

Throughout the scoping process, EPA collected comments from the public; local, state, and federal agencies; non-governmental organizations; professional and trade organizations; and native corporations and tribal organizations. Attendance at the public meetings varied, and most, but not all, adults signed in. The following presents the minimum number of attendees at each of the meetings:

Anchorage	21
Kotzebue	29
Noatak	116
Kivalina	57

The scoping process produced 23 individual comment submittals, which are traditional letters, emails, or written comment forms. Many comment submittals included more than one comment. Oral testimony through the public hearing process was provided by 18 speakers who identified themselves, and at least one speaker who did not identify him/herself. The speakers often provided more than one comment. The Tetra Tech Interdisciplinary Team reviewed the comment submittals and transcripts of testimony to identify and catalog individual comments. A total of 229 comments were identified. EPA released a scoping responsiveness summary that summarized the nature of the scoping comments received during the scoping process and in which part of the draft SEIS the comments will be addressed. The scoping responsiveness summary is available on the project website ([www.reddogseis.com](http://www.reddogseis.com)).

### 1.4.1 Government-to-Government Consultations

Pursuant to Executive Order 13084 (Consultation and Coordination with Indian Tribal Governments), EPA undertook a concerted effort by contacting the tribal governments (Indian Reorganization Act [IRA] Council) of each Native village in the NWAB to determine if the tribal governments were interested in engaging in government-to-government consultation. EPA considered that each of the 11 villages (IRA Council: Buckland, Deering, Kivalina, Kobuk, Kotzebue, Noatak, Noorvik, Selawik, Shugnak; Traditional Council: Ambler, Kiana) within the NWAB could potentially be affected by the proposed action. While the nine tribal villages listed in Section 1.1 expressed interest in participating as cooperating agencies, to date only the Kivalina IRA Council requested government-to-government consultation. EPA, NPS, and the Corps met with the Kivalina IRA Council on October 5 before the Kivalina public scoping meeting. Comments received during the meeting were used to develop the significant issues and alternatives for evaluation in the SEIS.

## 1.5 Significant Issues

The scoping process was used to determine the range of actions, alternatives, and impacts that are considered in this SEIS. Significant issues are identified based on the comments received during scoping. Significant issues are those issues of the greatest concern or complexity and often involve multiple resource areas. Significant issues may also drive some or all action alternatives considered in the analysis. After considering all of the scoping comments, public testimony, and government-to-government consultation, the following significant issues of public concern were identified by EPA for developing this SEIS.

*Issue 1:* Discharges from the mine during operations and after closure can affect water quality downstream in Red Dog Creek, Ikalukrok Creek, and the Wulik River. These effects could cause adverse impacts on aquatic life and the drinking water supply for the village of Kivalina.

*Issue 2:* The water management system must have adequate storage capacity during operations and closure under all climatic conditions, including potential long-term changes in permafrost. Water storage requirements could have impacts on geotechnical stability of the main tailings dam and ground and surface water resources.

*Issue 3:* Metals have been carried in dust from the Red Dog Mine, DMTS, and the port onto adjacent lands, including property within the Cape Krusenstern National Monument. These metals have the potential to affect vegetation, wildlife, water quality (i.e., aquatic habitat), fish, and people.

*Issue 4:* Mining operations may be affecting subsistence users in the NWAB, who have expressed concerns about the availability and quality of subsistence resources (such as caribou, fish, beluga, waterfowl, seal, walrus, bowhead whale, and berries).

## 1.6 Agency Responsibilities, Approvals, and Compliance

This section describes the primary roles of each agency involved in the Aqqaluk Project. The discussion includes a description of the major permits and authorizations required for the project. It also addresses how this document or the project itself complies with environmental laws as they pertain to each of the responsible agencies.

### **1.6.1 Federal Agencies**

#### ***U.S. Environmental Protection Agency***

- Lead NEPA Agency
- NEPA Compliance for New Source NPDES permits
- CWA Compliance
- Notification of Hazardous Waste Activity
- Coordination with U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA)
- Coordination with NMFS under the Magnuson-Stevens Fishery Conservation and Management Act

EPA has primary responsibility for implementation of Sections 302, 306, 311, and 402 of the CWA. EPA shares responsibility for Section 404 with the Corps. Sections 301 and 306 of the CWA require EPA to establish numeric limits or criteria for discharges of water pollutants. Section 301 specifically requires EPA to establish technology-based effluent guidelines for new sources. These guidelines must be met at the “end of pipe” where the discharge occurs. The new source performance standards applicable to this facility are described in 40 CFR Part 440.104. In addition, Section 301 requires that all NPDES permits include effluent limitations protective of water quality.

Section 311 of the CWA establishes requirements relating to discharge or spills of oil or hazardous substances. EPA requires each facility that handles substantial quantities of oil or hazardous materials to prepare a Spill Prevention, Containment, and Countermeasure Plan (SPCC) and a Facility Response Plan (FRP).

Section 402 of the CWA established the NPDES program. This program authorizes EPA to permit point source discharges of pollutants included in wastewater and storm water. Discharges must meet all effluent limitations, including ensuring compliance with water quality standards. In accordance with Section 511(c)(1) of the CWA, permit actions for new sources are defined as major federal actions subject to NEPA (40 CFR Part 6). EPA re-issued the NPDES permit for the Red Dog Mine on August 28, 1998. The permit was modified on July 17, 2003. The permit modification was appealed and the EAB remanded the permit modification back to EPA. The appealed conditions are stayed (not in effect). EPA reissued the permit on March 7, 2007, and has since withdrawn the 2007 permit. Therefore, Teck is currently operating under the administratively extended 1998 NPDES permit.

On February 23, 2003, Teck submitted an application for EPA to reissue the 1998 NPDES permit, and in April 2007 Teck sent an EID to EPA for the Aqqaluk Extension Project. Based on this information and the analysis in this SEIS, EPA developed a draft NPDES permit for the Red Dog Mine proposed action (continuing operations with development of Aqqaluk Project). EPA also has authority under Section 404 for reviewing project compliance with Section 404(b)(1) guidelines, Section 404(b) elevation authority, and Section 404(c). Under Section 404(c), EPA may prohibit or withdraw the specification (permitting) of a site upon determination that the use of the site would have an unacceptable adverse effect on municipal water supplies, shellfish beds, fishery areas, or recreational areas.

Finally, EPA has approval authority for state implementation plans for air quality, and reviews Air Quality Control Permit to Operate applications, including prevention of significant deterioration requirements.



### **U.S. Army Corps of Engineers**

- Participation as a Cooperating Agency in preparation of the SEIS
- NEPA Compliance for Section 404 permit
- Section 404 permit – CWA (Dredge and Fill)
- Rivers and Harbor Act Section 10 permit, if necessary
- Coordination with USFWS and NMFS under the ESA
- Coordination with NMFS under the Magnuson-Stevens Fishery Conservation and Management Act
- Alaska National Interest Lands Conservation Act (ANILCA)

Because of its NEPA responsibilities, the Corps is a cooperating agency on this SEIS. Section 404 of the CWA authorizes the Corps to issue permits for discharge of dredged or fill material into waters of the United States. The act prohibits such a discharge except pursuant to a Section 404 permit. To the degree that they affect waters of the United States, various activities undertaken in connection with mining operations could require a Section 404 permit (see Appendix A for details on the permitting and review process). Such activities associated with the Aqqaluk Project include placement of fill in jurisdictional wetlands or other waters of the U.S. associated with stripping of overburden and subsequent mining, placement of fill to increase the height of the tailings dam, and fill placed for stream diversions and various construction activities that would be required to support ongoing operations.

The Corps is responsible for determining whether an action complies with the CWA Section 404 (b)(1) guidelines that require the Corps to evaluate alternatives and permit the least environmentally damaging practicable alternative. A Section 404 permit cannot be issued without such compliance.

Some of the SEIS alternatives entail construction of pipelines that would require Section 404 permits. In addition, these alternatives may require Section 10 permits under the Rivers and Harbors Act. Activities requiring Rivers and Harbors Act Section 10 permits include construction of any structure in or over any navigable water of the United States, the excavation from or deposition of material in such waters, or those activities otherwise affecting the course, location, condition, or capacity of such waters.

The Magnuson-Stevens Fishery Conservation and Management Act requires the Corps to consult with NMFS regarding the protection of essential fish habitat (EFH) prior to issuance of a Section 10 or Section 404 permit. All federal agencies, including the Corps, must comply with Executive Orders 11990 and 11988 (discussed below), which address minimizing impacts to the Nation's wetlands and floodplains respectively. The Corps must also comply with transportation and utility line requirements under ANILCA Title XI (discussed in more detail below).

### **National Park Service**

- Participation as a Cooperating Agency in preparation of the SEIS
- ANILCA Title XI and Section 810 requirements, if necessary

NPS is participating as a cooperating agency because of area expertise and management responsibility for the Cape Krusenstern National Monument through which the DMTS passes. NPS has authority to monitor effects to the monument along the DMTS pursuant to P.L. 99-96, Section 34(h)(2), which states, "... the Secretary of the Interior through NPS ... shall monitor the construction, operation, maintenance, expansion and reclamation of the transportation system as provided in the (Road) Agreement." NPS involvement relates to effects on natural resources (including vegetation and fauna), cultural resources, and subsistence use within Cape Krusenstern National Monument.

If an alternative involving a pipeline across Cape Krusenstern National Monument were to be selected, NPS would need to receive a formal application for the pipeline under ANILCA Title XI. Title XI, and its implementing regulations at 43 CFR Part 36, establish specific NEPA requirements. NPS has indicated that should a pipeline alternative be selected, these NEPA requirements would need to be met under a separate NEPA action with NPS as lead (or co-lead) agency. The Title XI application would also require an ANILCA Section 810 evaluation of effects of the pipeline on subsistence resources including a hearing held in the vicinity of the area involved.

### **National Marine Fisheries Service**

- Threatened and Endangered Species Consultation under ESA
- Marine Mammal Protection Act
- EFH Consultation

EPA must consult with NMFS regarding reissuance of the Red Dog Mine NPDES permit in accordance with the ESA, the Marine Mammal Protection Act, and the Marine Protection, Research and Sanctuaries Act. At this time, the polar bear (*Ursus maritimus*), is the only known threatened and endangered fish or marine mammal known to occur at the Red Dog Mine Project site. While the polar bear is considered a marine mammal, it is managed by USFWS. In addition to the polar bear, other marine mammals occur in the vicinity of the port; however, most activity by these species occurs outside the summer shipping season while the port is closed. The Magnuson-Stevens Fishery Conservation and Management Act establishes consultation responsibilities for NMFS for projects that could impact EFH. If any impacts are projected to any threatened or endangered marine species, marine mammals, or EFH, specific design measures must be developed to protect the affected in species.

### **U.S. Fish and Wildlife Service**

- Threatened and Endangered Species Consultation under ESA

USFWS administers the ESA as reauthorized in 1982. EPA must consult with USFWS regarding any threatened or endangered species that might be impacted by reissuance of the Red Dog Mine NPDES permit. If any impacts are projected, specific design measures must be developed to protect the affected species. The polar bear has been listed as threatened and has been observed near the port when sea ice was present. No other threatened or endangered species under USFWS jurisdiction occur either at the port or in the vicinity of the Red Dog Mine itself.

## **1.6.2 State and Local Government**

### **Alaska Department of Natural Resources**

- Participation as a Cooperating Agency in preparation of the SEIS
- Water Rights Authorizations
- Tideland Leases for Marine Facilities
- Coastal Zone Consistency Review Certificates of Approval to Construct and Operate a Dam
- Reclamation and Closure Plan Approval
- Reclamation, Closure, and Post-closure Financial Assurance Approval

ADNR is the lead state agency involved in permitting mining projects in State of Alaska. In addition to ADNR, state agencies involved in the Aqqaluk Project include the departments of Environmental

Conservation (ADEC), Fish and Game (ADF&G), and Law. The state established a large mine project team from these agencies to coordinate permitting activities for the Aqqaluk Project.

ADNR is responsible for issuing water rights authorizations for the use of surface and subsurface waters of the state. These permits require compliance with instream flow requirements. ADNR is also responsible for issuing tideland leases for permanent improvements to tidelands such as marine terminals, fuel transfer facilities, and concentrate transfer facilities.

In accordance with ADNR and ADEC statutory and regulatory requirements, Teck must provide financial assurance that reclamation work and post-closure care and maintenance, including water treatment, can be adequately funded. The closure and post-closure activities, including reclamation and long-term water treatment, and the financial assurance for these activities are addressed in Teck's *Proposed Reclamation and Closure Plan for the Red Dog Mine Including Development of the Aqqaluk Deposit*, which is currently under review by the State of Alaska. Once approved, the plan, including the level of financial assurance, will be reviewed and subject to modification every five years, or at any time that the State determines that the financial assurance is inadequate.

The type of financial assurance will be the subject of an agreement between Teck, the State of Alaska, and NANA (as the landowner), but will likely be a combination of letters of credit and a trust fund to finance long-term closure costs such as water treatment. The agreement will be subject to state law, which specifies the types of financial assurance that are legally allowed. Currently, the State of Alaska holds an interim financial assurance from Teck in the amount of \$154.9 million in letters of credit. This amount will be adjusted once the closure and reclamation plan is complete.

#### **Alaska Department of Environmental Conservation**

- Section 401 Certification of the Corps Section 404 permit
- Section 401 Certification of the EPA NPDES permit
- Integrated Waste Management permit regulating solid waste disposal, groundwater quality, financial responsibility, mine reclamation and closure, and monitoring
- Approval of Oil Discharge Prevention and Contingency Plan
- Air Quality Control permit
- Engineering review/approval of the sanitary wastewater treatment and disposal systems
- Engineering review and operating approval of the drinking water system
- Food Safety permit
- Public Facility permit for lodging facilities

ADEC is responsible for water and air quality permits. Under Section 401 of the CWA, ADEC responsibilities include certification of EPA's NPDES permit and the Corps' Section 404 permit. ADEC must certify that the requirements of these permits comply with state water quality standards. These standards protect designated water uses through numerical and narrative water quality criteria.

ADEC is responsible for issuing the facility's air quality permits for construction activities and operations at the port and the mine. ADEC will evaluate the changes to emissions sources associated with development of the Aqqaluk Project and, based on the review, require new permits or modification of existing permits as applicable.

ADEC is responsible for issuing an integrated waste management permit that includes requirements for solid waste disposal, groundwater protection, mine reclamation and closure, financial assurance, and monitoring. The facility is in the process of applying for a waste management permit, and the Aqqaluk Project is being considered in that permit action. Present plans indicate that the application for a waste management permit will be completed during the first half of 2009.

***Alaska Department of Fish and Game***

- Title 16 Authorizations for Fish Passage and Fish Habitat

The ADF&G does not anticipate that any Title 16 permits will be needed for the Aqqaluk Project. There are no known fish resources in Middle Fork Red Dog Creek or its tributaries in the immediate vicinity of the Aqqaluk ore body. The Office of Habitat Management and Permitting's authority to issue permits covers a variety of activities (instream work, water removal, etc.) in anadromous water bodies and in resident fish streams. ADNR will further coordinate the Coastal Zone Consistency Review, and will need to issue Certificates of Approval for construction and operation of any dams.

***Northwest Arctic Borough***

- Participation as Cooperating Agency in preparation of the SEIS
- Title 9 zoning permits
- Master Plan or Revised Master Plan compliance

NWAB is participating as a cooperating agency. The borough exercises land use planning and related zoning powers under the terms of state law and the borough home rule charter. The borough permitting process is codified in Title 9 of the NWAB code, which intends to promote and protect the public health, safety, morals, and general welfare, as well as the historic, economic, social, and cultural interests of the borough's residents, particularly as these are related to the subsistence way of life of the great majority of the borough residents.

The Red Dog Mine, Aqqaluk Project, and DMTS and port are within the municipal boundaries of the NWAB and subject to borough permitting under Title 9 as an amendment to Teck's master plan for mine development and operations. The borough planning commission will approve the amendment to the master plan permit for the project.

***Tribal Governments of Buckland, Kiana, Kivalina, Kobuk, Kotzebue, Noatak, Noorvik, Selawik, Shungnak, and the Maniilaq Association***

Nine tribal governments are participating in the SEIS process as cooperating agencies: the Native Village of Buckland, the Native Village of Kiana, the Native Village of Kivalina, the Native Village of Kobuk, the Native Village of Kotzebue, the Native Village of Noatak, the Noorvik Native Community, the Native Village of Selawik, and the Native Village of Shungnak. The tribal governments have authorized the Maniilaq Association to represent their cooperating agency interests and responsibilities. The Maniilaq Association provides health, social, and tribal services to the region. Each individual entity provides expertise to the SEIS process, and the information in the SEIS may benefit their decisions regarding the Aqqaluk Project.

**1.6.3 Compliance with Consultation Requirements and Executive Orders**

The Magnuson-Stevens Fishery Conservation and Management Act requires EPA to consult with NMFS regarding the protection of EFH prior to reissuance of the NPDES permit. All federal agencies, including the Corps, must comply with Executive Orders 11990 and 11988, which address minimizing impacts to

the Nation's wetlands and/or floodplains respectively. Executive Order 12962 requires federal agencies to evaluate the potential effects of proposed federal actions on recreational fisheries. Recreational fishing (along with subsistence fishing) occurs downstream from the mine in Ikalukrok Creek and the Wulik River. This draft SEIS complies with Executive Order 12962 by considering the potential impacts of each alternative on water quality and habitat downstream of the mine.

Executive Order 12898 requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of proposed activities on minority and low-income populations. The Native villages of Kivalina and Noatak consist of minority and low-income populations in terms of populations within the United States. This draft SEIS complies with Executive Order 12898 since impacts to people in the villages have been considered for each alternative across a range of resource areas including subsistence, socioeconomics, public health, and environmental justice.