



Alaska District
U.S. Army Corps of Engineers

Public Notice

Date 15 October 2014 Identification No. F10AK0052-11
Please refer to the identification number when replying.

U.S. Army Corps of Engineers (Corps) has prepared an environmental assessment (EA) and finding of no significant impact (FONSI) for the following project:

Removal Action
Nome Tank Site "E" (F10AK0052-11)
Nome, Alaska
Formerly Used Defense Site (FUDS) Program

The proposed action and potential environmental impacts are described in the enclosed EA. The EA is available for public review and comment for 15 days from the date of this notice.

The proposed project, alternatives, and potential environmental impacts are described in the enclosed EA. The EA is available for public review and comment until October 30, 2014. It may be viewed on the Alaska District's website at:

<http://www.poa.usace.army.mil/Library/ReportsandStudies.aspx>

Click on Environmental Cleanup and select "Nome Tank Site "E" EA and FONSI Oct 2014.pdf"

To get a printed copy, or provide comments please email: nicole.m.hayes@usace.army.mil or send a request to the address below:

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Comments on the EA and proposed project may be sent to the email or postal address above.

Nicole Hayes
Project Manager



**US Army Corps
of Engineers**

Alaska District

Environmental Assessment and Finding of No Significant Impact

Nome Tank Site “E”

Nome, Alaska

F10AK0052-11

Removal Action

Containerized/Hazardous, Toxic, and Radioactive Waste

Defense Environmental Restoration Program – Formerly Used Defense Site



October 2014

FINDING OF NO SIGNIFICANT IMPACT

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers, Alaska District (Corps) has assessed the environmental effects of the following action:

Removal Action for Tank and Petroleum-Contaminated Soil, Nome Tank Site “E”, Nome, Alaska

This removal action is a continuation of on-going clean-up work that began previously at several sites in and adjacent to the City of Nome, authorized and funded by the Defense Environmental Restoration Program (DERP). This action has been evaluated for its effects on several significant resources, including fish and wildlife, wetlands, threatened or endangered species, and cultural resources. No significant short-term or long-term adverse effects were identified.

Impacts of the proposed work will be minor and temporary, considering the overall project benefits of completing the cleanup. This is the 13th action to be completed under DERP in the Nome area. This project complies with the Endangered Species Act. An informal consultation with U.S. Fish and Wildlife Service (USFWS) was conducted in September 2014. The USFWS has determined that preferred alternative is not likely to adversely affect listed species under their jurisdiction. No species under the National Marine Fisheries Service’s (NMFS) jurisdiction occur within or adjacent to the project site. The project complies with Section 106 of the National Historic Preservation Act. SHPO determined that the proposed action would not have an effect on archaeological sites. The Corps obtained a finding of “No Effect” from the SHPO for the 13 DERP locations.

This Corps action complies with the National Historic Preservation Act, the Endangered Species Act, the Clean Air Act, and the National Environmental Policy Act. Based on the attached environmental documentation, I have determined that the proposed action will not result in significant adverse environmental impacts. The completed environmental assessment supports the conclusion that the action does not constitute a major Federal action significantly affecting the quality of the human and natural environment. An environmental impact statement is therefore not necessary for the removal action at Nome Tank Site “E”.

Christopher D. Lestochi
Colonel, Corps of Engineers
District Commander

Date

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ENVIRONMENTAL ASSESSMENT

1.0 PURPOSE AND NEED OF REMEDIAL ACTION

The Council on Environmental Quality (CEQ) regulations, 40 CFR § 1500.1(c) and 40 CFR § 1508.9(a)(1), interpreting the National Environmental Policy Act of 1969 (as amended) (NEPA) require Federal agencies to “provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact” on actions authorized, funded, or carried out by the Federal government to “help public officials make decisions that are based on understanding environmental consequences, and take actions that protect, restore, and enhance the environment.” This Environmental Assessment (EA) evaluates the environmental effects of demolition and removal of a used fuel tank, excavation and on-site treatment of petroleum contaminated soils, passive free-product recovery and groundwater monitoring, and revegetation activities.

1.1 Introduction

Under the Defense Environmental Restoration Program Formerly Used Defense Sites (DERP FUDS), six of 13 known remedial action sites were cleaned up and officially closed in 2002. Seven other sites achieved project closure status in 2007 and 2008. At Nome Tank Site “E”, a 24,000 barrel underground storage tank, once covered by up to 15 feet of sand and gravel, was exposed during site cleanup work. Therefore, while EAs for these projects were completed, they did not previously address the large-scale removal of the used bulk fuel tank and excavation of contaminated soil at Nome Tank Site “E”.

At Nome Tank Site “E”, the U.S. Army Corps of Engineers (Corps) proposes to: demolish and remove an approximately 1,000,000-gallon tank (100-foot diameter and 18-foot tall), excavate and treat petroleum contaminated soil (approximately 13,300 cubic yards) on-site, backfill the excavation, implement a passive free-product recovery system, install additional groundwater monitoring wells to monitor groundwater concentrations annually, and revegetate the site. The basis for this EA is the June 30, 2014, *CON/HTRW Removal Action Analysis/Authorization Document Nome Tank Site “E” POL Contamination*, hereby incorporated by reference. The proposed remediation activities would take place during late winter 2014 or early spring 2015 with project completion expected within one year and long-term management continuing for the next five years, or as determined to be necessary by the Corps.

1.2 Site Location and History

The Nome Tank Site “E” is located approximately four miles north of downtown Nome (Figure 1), and one tenth mile northeast of the Nome-Beltz High School off the Glacier Creek Road. The site is located at 64°32’N latitude and 165°23’W longitude and is completely accessible by road. The Nome Tank Site “E” area associated with this cleanup occupies approximately 0.7-acre (Google Earth 2014).

When the Nazis attacked Russia in 1940, they destroyed most of the Russian Air Force. Congress passed a bill in March 1941 to provide planes to the Soviet Union on a “lendlease” program. The starting point for the route was Great Falls, Montana. By September 1942, a ferrying base was established in Fairbanks and then a connecting string of smaller refueling fields in western Alaska to Nome, on to Yakutsk, Siberia and the Russian Front in Eastern Europe. American pilots flew planes up from the lower 48 to Fairbanks. Soviet pilots took over

at Fairbanks and flew the planes to Russia. During three years of operation, nearly 8,000 American warplanes were flown via the Alaska-Siberia aerial bridge (ALSIB) route to the Soviet Union. During the height of the war, over 40,000 troops were stationed in the Nome area to support movement of aircraft along the ALSIB and to provide protection in the event the Japanese moved north beyond the Aleutian Chain. The land is currently owned by the Bering Straits Native Corporation, which was purchased from Nova Gold/Alaska Gold. Nome Tank Site “E” was a bulk fuel storage site for the Army Air Corps during World War II (WWII) serving the now abandoned Satellite Air Field.

The lands surrounding the tank area have been disturbed as part of operations associated with mining claims leaving the tank area approximately 20 feet higher than the surrounding dredged areas. Soil at the site consists of tailings from historical gold mining operations. The site and surrounding lands are free of topsoil and have sparse vegetation in the construction areas.

1.3 Need for Action

Subsurface soils adjacent to the tank have been impacted by polycyclic aromatic hydrocarbons (PAHs) and/or diesel range organics (DROs) at depths ranging from 17 to 47.5 feet below ground surface (bgs). Free-product has been confirmed in the groundwater in the immediate vicinity of the tank and approximately 300 feet downgradient to the southwest. The maximum thickness of free product (4.93 feet) was measured in August 2010 and the depth to free product was roughly 21 feet bgs. An initial environmental investigation in June 2007 determined that the contaminated groundwater plume extended approximately 1,200 feet south-southwest from Nome Tank Site “E” and covered approximately 12 to 15 acres (Fairbanks Environmental Services 2011). At the tank location, soil contamination extends down to bedrock at 24 to 33 feet beneath the base of the tank. Removal of the tank and associated contaminated soil is needed to remove the most acute source of contamination and reduce the potential of future downgradient migration of contaminants in groundwater limiting exposure risk to potential receptors.

2.0 ALTERNATIVES

Criteria for selecting a preferred alternative include analyzing total cost of implementation, environmental effects of the action, and potential to achieve the project purpose. These are compared against the environmental effects and public safety risks of taking no action. Several remedial alternatives were analyzed to determine the most feasible and efficient method to address fuel contamination associated with Nome Tank Site “E”. The analyzed alternatives include No Action, Institutional Controls, Free-Product Recovery, Excavation, and In-Situ Treatment.

2.1 No-Action Alternative

The No Action Alternative provides a basis for comparison of future conditions with and without taking the proposed Federal action. Under the No Action alternative, Nome Tank Site “E” would be left in its current state, with no activities to remediate or mitigate exposure to site contaminants found in the soils and groundwater. The majority of the lighter end constituents of the diesel fuel are no longer present due to natural attenuation and the remaining heavier end constituents and confirmed free-product are not amenable to natural attenuation and would remain in the environment. The no action alternative would not address potential risks to human health or the environment. The long-term effectiveness of this alternative would depend on natural attenuation of site contaminants that could be expected to occur over many years as the

primary contaminant at the site is weathered diesel fuel. The Corps rejected the No Action Alternative because it would not meet the underlying need for risk reduction at this location. This alternative would not meet the project purpose and need, but was carried through the alternative comparison to provide a baseline for comparison of future conditions.

2.2 Institutional Controls

The Institutional Controls alternative would involve physical, legal, and/or administrative mechanisms to restrict use of and access to the site. Such controls could include a deed notice to provide information to current or future landowners about the presence of impacted soil and groundwater. Other measures could involve restrictions on future construction of buildings, access controls, a drinking water restriction, or methods of public education. These measures would remain necessary until applicable contaminant cleanup levels were achieved. An assessment of the status and effectiveness of the institutional controls would be made periodically (typically every five years). Natural attenuation of petroleum hydrocarbons would continue to occur in areas of lower concentrations (less than 20,000 mg/kg) if institutional controls were implemented. It would likely take many years to reach applicable soil and groundwater cleanup levels in these areas. Natural attenuation would not be suitable in areas where free-product is present (i.e., near the tank), or where hydrocarbon concentrations are greater than 20,000 mg/kg. The current landowner would be notified of the potential vapor intrusion risks associated with the contaminated soil and groundwater at the site. Design and construction of future buildings by the property owner would need to consider vapor intrusion mitigation measures.

The institutional controls alternative does not result in the recovery of free-product. In Chapter 18 of the Alaska Administrative Code under Section 75.325 (18 AAC 75.325), free-product must be recovered to the maximum extent practicable. To be in compliance with State of Alaska regulations, the institutional controls alternative would need to be paired with one or more alternatives that actively address free-product at the site. Implementing the institutional controls alternative as a stand-alone alternative was rejected as it would not meet the State of Alaska regulations, and would not meet the project purpose and need without implementing additional measures to address the removal of free product. This alternative was not considered the preferred alternative and is not analyzed further.

2.3 Free-Product Recovery

The free-product recovery alternative includes removing light non-aqueous phase liquids (LNAPLs) from the groundwater (chemical analysis determined free product is considered a flammable liquid). A recovery system may be designed to recover only product, mixed product and water, or separate streams of product and water (i.e., dual pump or dual well systems). The LNAPL may be removed from product recovery wells or open excavations.

The feasibility of active LNAPL recovery was tested between October 2012 and July 2013 through LNAPL and groundwater level measurements and the completion of a bail-down test. Based on the data collected during this period, an active LNAPL recovery effort does not appear to be a viable option at the site. Upon analyzing the recharge rate of the bail-down test, LNAPL appears to be fairly immobile, potentially inhibited by higher silt concentrations in the subsurface soil, and would likely result in minimal recovery (i.e., at best the very minimal radius of influence surrounding the immediate vicinities of only the designated recovery wells). Furthermore, the window of peak recovery is relatively short and confined to the late

winter/early spring timeframe when groundwater elevations are declining, LNAPL thickness is at the greatest, and operating costs are high. A passive recovery system could be implemented during the non-peak recovery timeframe for a much lower cost. However, low LNAPL recovery would result in minimal remediation of soil and groundwater contamination at the site.

Implementation of the LNAPL recovery alternative as a stand-alone alternative was rejected as it would not meet the project purpose and need without implementing additional measures to increase the effectiveness of LNAPL removal and recovery. This alternative was not considered the preferred alternative but is carried forward for further analysis.

2.4 Excavation and Passive Free Product Recovery (Preferred Alternative)

The excavation alternative consists of excavating and disposing of petroleum-contaminated soil. Due to the vertical and horizontal extent of contamination suspected at the site, excavation of all contaminated soil would be impractical and cost-prohibitive. A focused excavation at the source (tank footprint), down to the bedrock interface (refusal depths ranged from 24 to 47.5 feet bgs), would be effective in removing the most abundant volumes of grossly-contaminated soil, along with the silt layer believed to encompass the majority of LNAPL in the groundwater. The preferred excavation time would be conducted during the late winter/early spring when seasonal water levels are lowest. Low water levels would result in reduced effort to dewater the contaminated material generated, allowing for increased excavation efficiency and resulting in lower overall project costs.

Incidental LNAPL recovery could be implemented as required during the excavation which would further remove source and surrounding area LNAPL. Contaminated material excavation and incidental LNAPL recovery would greatly reduce the source that contributes to the mobile dissolved phase hydrocarbons present in the groundwater, ultimately reducing the potential of future downgradient migration of contaminants in groundwater and limiting exposure risk to potential receptors. The tank itself currently serves as a cap for the underlying contaminated soil and would require demolition and removal. Completing the tank removal just prior to the source area excavation effort would minimize the potential release of soil contaminants to the groundwater through infiltration of rain/snow melt.

The excavation alternative, in conjunction with passive free-product recovery and tank removal, would be an effective method to remediate the source area. However, contamination that has already migrated downgradient would not be addressed, and would instead rely on natural attenuation to achieve applicable cleanup levels. Groundwater monitoring of the existing wells, along with the installation of additional groundwater wells would likely be required for long-term monitoring of the remedy. Implementation of the excavation and LNAPL recovery alternative (along with tank removal) would meet the project purpose. This alternative is considered the preferred alternative.

2.5 In-Situ Treatment

The in-situ treatment alternative could involve one or more technologies to address contamination in-place, such as bioventing, air sparging, chemical oxidation, and/or soil vapor extraction. Similarly to the stand-alone LNAPL recovery alternative, the higher silt concentrations in subsurface soil at the site would adversely affect in-situ treatment systems, due to low permeability and transmissivity of subsurface soils, resulting in limited dispersion of oxygen and/or chemical oxidant. The presence of LNAPL would inhibit the effectiveness of an in-situ treatment system. In addition, substantial utility upgrades would be required at the site to

power an in-situ treatment system. Based on the presence and consistency of LNAPL, high silt content of the subsurface soil, and lack of sufficient utilities at the site, the in-situ treatment alternative was not carried forward for further analysis.

3.0 AFFECTED ENVIRONMENT

3.1 Physical Characteristics

3.1.1 Hydrogeology and Soils

The Nome area is located on the south coastal plain of the Seward Peninsula, adjacent to Norton Sound and the Bering Sea. The coastal plain extends approximately 3.5 miles inland to the base of a series of hills and ridges that rise to 1,800 feet above sea level. The site is situated at the southern base of Anvil Mountain, on mine tailings in an area of previous gold mining operations. The site's topography gradually slopes to the south and west. It is approximately four miles north of Norton Sound and southwest of an open freshwater pond (approximately 2 to 3 acres depending on land activities in the area – see Figures 2 and 3). This hilly region is barren and windswept with 15 to 25 mile per hour winds common. Rainfall in this region averages between 15 and 24 inches per year.

The Nome area was subjected to alpine glaciations during the Pleistocene Epoch. Paleozoic and tertiary metamorphic and igneous rocks in the Nome area are folded into broad anticlines and synclines. Several faults occur in the area, including a major northeast trending fault in the Anvil Creek Valley.

The dominant soils in this area are poorly drained and well drained soils with discontinuous permafrost. The poorly drained soils occupy long uniform slopes, foot slopes, valley bottoms, and steep north-facing slopes. The well drained soils occur on high ridges and steep south-facing slopes. The soils in the Nome Tank Site “E” area are beach deposits, mainly sandy silt and gravel formed of colluvial material derived from glacial till and placer mine deposits.

Groundwater monitoring shows groundwater fluctuates at the well sites by as much as 25-feet and groundwater flows are to the southwest. Nome’s drinking water is supplied from Moonlight Springs located northwest of the site. Impacted groundwater from the site does not enter the drinking water aquifer as the flows are to the southwest.

3.2 Air Quality and Noise

In 1970, the Congress of the United States created the U.S. Environmental Protection Agency (EPA) and promulgated the Clean Air Act. Title I of the Clean Air Act (CAA) established National Ambient Air Quality Standards to protect public health. National Ambient Air Quality Standards (NAAQS) were developed for six criteria pollutants (standards): total suspended particulate matter, sulfur dioxide (0.14 ppm), nitrogen dioxide (53 ppb), carbon monoxide (10 ug/m³), ozone (0.075 ppm), and lead (0.15 ug/m³). Subsequent revisions to the suspended particulate matter standard resulted in two new standards; PM₁₀ (150 ug/m³) and PM_{2.5} (15.0 ug/m³).

The City of Nome is listed on the Alaska Department of Environmental Conservation (ADEC) web page as having people highly affected by dust (2010); categorized as PM₁₀ (particle size less than or equal to 10 micrometers)

(https://dec.alaska.gov/air/anpms/Dust/Dust_docs/Communities%20identifying%20problems%20

[0in%202010.pdf](#)). The primary source of dust is unpaved roads which are frequently found in rural communities. The standards for PM₁₀ are 150 ug/m³ determined as a 24-hour average (not to be exceeded more than once on average over three years). In Kotzebue (a native village north of Nome), PM₁₀ measurements exceeded the federal standards during the dry summer season in 2003 and 2004. The ADEC has no air monitoring stations in Nome. The closest Class I area (considered to be unaffected by anthropogenic sources) is the Bering Sea Wilderness Area located approximately 275 miles southwest of Nome.

Traffic on the Nome Teller Highway just south of the project site is common during the summer and fall months. There are commercial taxi operators that provide daily service from Teller to Nome. Noise in the project area would be generated by industrial activities such as graders, back hoes, large trucks, etc and from neighboring land uses. Noise from the nearby high school is unlikely to be heard at the project site.

3.3 Biological Resources

3.3.1 Wetlands

There is an abundance of wetlands in the Nome region, however, Nome Tank Site “E” is located at the base of Anvil Mountain in an area that has been heavily mined and soils consist of mine spoils. The EA prepared for the 1995 Work Plan found that there were no wetlands on the site and the ponds were dredge ponds left from the then ongoing mining operations (USACE 1995). A review of the US FWS wetland mapper web page on September, 23, 2014, found no wetlands in the project area (<http://www.fws.gov/wetlands/data/mapper.html>).

3.3.2 Wildlife and Vegetation

The vegetation on long side slopes of ridges, concave slopes of drainage ways, and north-facing slopes is mostly low shrubs, sedge tussocks, and mosses. Ridge tops, rounded hills, and steep south-facing slopes support low shrubs, dry grasses, and lichens. At lower elevations, some steep south-facing slopes are covered by white spruce, tall shrubs, and grasses. The vegetation in the project vicinity is typically tundra dominated by sedges, mosses, lichens, and low shrubs.

Wildlife known to occasionally inhabit the areas adjacent to the project area include: grizzly bear, wolf, caribou, domestic reindeer, musk ox, and moose. Caribou were abundant during the last century, but their numbers have greatly diminished. Wolves occur in low numbers due to the introduction of reindeer herds at the beginning of the century with their associated predator control measures and bounties. Furbearers include red fox (which feed on ground-nesting birds and small rodents), arctic fox, muskrat, arctic ground squirrels, and short tailed and least weasel. Other mammals include: shrews, voles, arctic and snowshoe hares, marmot, coyote, wolverine, lynx, and possibly porcupine.

Migratory birds known to be adjacent to the project site include: bar-tailed godwit, red-throated loon, and yellow-billed loon. Other birds commonly seen in the Seward Peninsula are black-bellied plovers, semipalmated plovers, Pacific golden-plovers, semipalmated sandpipers and western sandpipers, red-necked phalarope, pomarine, parasitic, and long-tailed jaegers, northern wheatear and lapland longspur.

3.3.3 Threatened and Endangered Species

Listed species in Alaska include: Steller’s eider (*Polysticta stelleri*), spectacled eider (*Somateria fischeri*), short-tailed albatross (*Phoebastria albatrus*), Northern sea otter (*Enhydra lutris*

kenyoni), polar bear (*Ursus maritimus*), Aleutian shield fern (*Polystichum aleuticum*), Eskimo curlew (*Numenius borealis*), Steller sea lion (*Eumetopias jubatus*) Eastern and Western DPS, bowhead whale (*Balaena mysticetus*), bearded seal (*Erignathus barbatus nauticus*), ringed seal, arctic subspecies (*Phoca hispida hispida*), sperm whale (*Physeter macrocephalus*), humpback whale (*Megaptera novaeangliae*), fin whale (*Balaenoptera physalus*), and wood bison (*Bison bison athabasca*). Only the polar bear and spectacled eider may transit the project area. None of the NMFS listed species would be in or adjacent to the project area.

3.4 Cultural Resources

Lands adjacent to the Nome Tank Site “E” have been dredged for gold mining. Shallow permafrost is not found in this project site due to gold dredging. An Alaska Heritage Resources Survey was conducted by the Alaska District Corps in 1988 and concluded that no additional cultural resources management work is needed (USACE 1988). The archaeological sites in the Nome vicinity are nearly all on the coast. This is either because there were very few inland from Norton Sound or they were destroyed by extensive mining activity throughout this century. In any case, the potential for these projects to affect archaeological sites is negligible (letter from SHPO October 19, 1995 in USACE 1995). The latest published version of the Alaska Heritage Resources Survey (AHRs) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. Properties in the vicinity are outside the project area. Consultation of the AHRs (September 2014) constitutes the extent of cultural resource investigation at this time.

Nome was the location of the Mark's Field and Nome Garrison during WWII. Remains from this significant military effort is evident all over Nome. The preliminary evaluation is that the remaining structures do not retain sufficient integrity to be eligible for the National Register of Historic Places (USACE 1995).

A wide variety of subsistence activities take place in the Bering Straits region. Surveys indicate that between 33 and 44 percent of the Bering Straits households (33 percent of from the Nome/Golovin area, 44 percent from the outlying villages) engage in subsistence activities once a week. Most subsistence activity is directed toward the hunting of walrus, moose, seal, duck and goose; fishing for salmon, tomcod, capelin, char and pike; picking berries; and gathering tundra plants (USACE 1993). The communities are especially active in gathering of berries, roots and greens. Blueberries, crowberries, cranberries are gathered by most of the villagers. Fireweed, sourdock, and willow leaves are some of the plants most frequently harvested. Due to the gold mining in the area, terrestrial habitats are severely degraded and lack plants in most of the area proposed for cleanup.

3.5 Land Use

Land use in the project vicinity included military usage during WWII through the Cold War. The area has been actively dredged for gold for tens of years. The site has been in industrial usage since WWII. The Nome Gold Alaska Corporation owns the mining claims downgradient from the tank area. While traditional hunting and fishing grounds may occur in the surrounding areas, habitat does not exist at the site to support hunting and fishing activities.

4.0 ENVIRONMENTAL EFFECTS OF THE PREFERRED ALTERNATIVE

This section provides information on issues relevant to the decision process for selecting the preferred alternative. This analysis investigates the potential for activities associated with the alternatives to affect (either adversely or beneficially) environmental characteristics of concern, and provides a comparative assessment of each alternative's effect to the environment. Factors for selecting the preferred plan include: finding the plan that is the most cost effective, least environmentally damaging, and achieves the project purpose. The area of analysis for determining environmental effects is the Nome Tank Site "E" immediate vicinity and up to approximately a half mile radius from the tank. The time scale for analysis of effects is one year for immediate effects and up to 50 years for chronic or cumulative effects.

The preferred alternative entails the following major components:

- Tank demolition and removal
- Excavation of petroleum-contaminated soils (~13,000cy)
- Passive LNAPL recovery from the open excavation
- On-site treatment of contaminated soil (land farming or thermal desorption)
- Excavation backfill
- Groundwater monitoring well installation
- Site revegetation
- Natural attenuation of contaminants downgradient from the source area

4.1 Hydrogeology and Soils

The proposed project is not expected to have an appreciable impact on the hydrogeology and soils in the area.

No Action Alternative - If the project were not completed, the benefits of the cleanup actions already completed, and the long-term environmental benefits of the overall project would not be fully realized. PAHs in the soil would continue the slow migration into groundwater and the plume could expand beyond the current footprint.

Free Product Recovery Alternative - The free-product recovery alternative includes removal of LNAPL from the subsurface through an active recovery system or from product recovery wells or open excavations. This alternative would have the greatest footprint by installing an active system to pump and treat groundwater and LNAPL or LNAPL alone. Pumping the groundwater would require additional infrastructure to allow for year round extraction and may affect groundwater flow.

Excavation and Passive Free Product Recovery (Preferred Alternative) - The excavation alternative consists of excavating and disposing of petroleum-contaminated soil with incidental LNAPL recovery during excavation. A focused excavation at the source, down to the bedrock interface, would be effective in removing the most abundant volumes of grossly-contaminated soil, along with the silt layer believed to encompass the majority of LNAPL in the groundwater. This alternative would have a smaller construction footprint affecting a smaller soil area. Since the project is proposed to occur during the winter time period, no stormwater runoff would be generated either from precipitation or melting snow. Impacts to hydrogeology and soil under the preferred alternative are generally positive by removing soils and LNAPL that allow continued

flux to groundwater. The preferred alternative is the least environmentally invasive action that would still meet the project purpose.

4.2 Air Quality

Air quality in rural communities is often reduced as a result of dust (dirt/gravel roads) and wood smoke.

No Action Alternative – Under the no action alternative no changes to air quality will occur.

Free Product Recovery Alternative – Under this alternative a larger footprint would occur increasing the time where heavy equipment would be working. Due to the silty nature of the soils in the project area, additional measures would need to be implemented to increase the effectiveness of the LNAPL recovery. This alternative would minimally affect air quality by using fossil fueled heavy equipment during construction and ongoing use of fossil fuels during active treatment. In addition, transportation to and from the site on a daily or weekly basis has the potential to minimally affect local air quality.

Excavation and Passive Free Product Recovery (Preferred Alternative) – It is presumed the excavation project would be completed when the grounds are partially frozen, so it is not expected that appreciable amounts of dust particulates would degrade the overall air quality in the area. Air quality impacts as a result of this project are expected to be negligible from use of excavation equipment and transit to and from the site. The preferred alternative is the least likely action to impact air quality and would still meet the project purpose.

4.3 Biological Resources

The proposed activity would occur in a previously disturbed and mined area so it is not expected wildlife would frequent or utilize the specific project site. There are no wetlands within the project footprint and due to the lack of vegetation, terrestrial species are not expected to be utilizing the project area. The project area is within the known or historic range of the threatened polar bear (*Ursus maritimus*), and is not in a designated critical habitat. Due to the lack of denning habitat, polar bears rarely den near Nome. Because the density of polar bears in the project area is low; encounters with polar bears are infrequent in the area and behavioral effects to transient bears would be minor and temporary. The probability of disturbing denning polar bears is extremely unlikely as the site is a disturbed mined site and not suitable habitat. The USFWS has concluded that the proposed action is not likely to adversely affect listed spectacled eiders or polar bears. There are no species in or adjacent to the project area under the NMFS jurisdiction. Anvil Creek is classified as an anadromous fish stream (<http://extra.sf.adfg.state.ak.us/FishResourceMonitor/?mode=awc>), however, it is located 0.82-miles northwest of the site.

No Action Alternative – Under the no action alternative no changes to biological resources will occur.

Free Product Recovery Alternative – Actions associated with this alternative would occur over a larger footprint and longer time than the preferred alternative. Effects to biological resources would be negligible because of the extent of previous ground disturbance. Nome is not within the spectacled eiders range map based on the USFWS website and lacks preferred denning habitat for the polar bear. In addition, the site has been significantly disturbed by gold mining activities so little to no vegetation exists. The longer timeframe of activity with this alternative would increase potential opportunities for polar bear/human interactions.

Excavation and Passive Free Product Recovery (Preferred Alternative) – The USFWS has determined that the effects of the preferred alternative would be discountable and insignificant to listed species under their jurisdiction. No species under the NMFS jurisdiction occur within or adjacent to the project site. Effects to biological resources would be negligible because of the extent of previous ground disturbance. Nome is not within the spectacled eiders range map based on the USFWS website and there are few if any resources of interest to the polar bear. In addition, the site has been disturbed by gold mining activities so little to no vegetation exists. The preferred alternative is the least environmentally invasive action that would still meet the project purpose while attaining the greatest environmental benefit.

4.4 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 (NHPA), amended, (16 U.S.C. 470) requires that Federal agencies evaluate the effects of Federal undertakings on significant cultural resources (historic properties) and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertaking. Protection of Archaeological Resources (36 CFR 296) and Protection of Historic and Cultural Properties (36 CFR 800) provide guidelines for the protection of cultural resources.

Previous consultations with State Historic Preservation Officer (SHPO) have determined that no effects to archaeological resources would occur due to the highly disturbed soils from gold dredging in the project area. The 1995 EA stated “Extensive coordination with the SHPO has been accomplished by the Alaska District archeologist, and the SHPO issued a “no effect” determination on October 15, 1990 for all sites discussed herein” which included the Nome Tank Site “E” (USACE 1995). SHPO further determined that the potential for these projects to affect archaeological sites is negligible (letter from SHPO October 19, 1995 in USACE 1995). No known archeological sites are in the project site construction footprint.

No Action Alternative – Under the no action alternative no changes to cultural resources will occur.

Free Product Recovery Alternative – Actions associated with this alternative would occur over a larger footprint and longer time than the preferred alternative. SHPO determined that the proposed action would not have an effect on the archaeological sites.

Excavation and Passive Free Product Recovery (Preferred Alternative) - SHPO determined that the proposed action would not have an effect on archaeological sites. The Corps obtained a finding of “No Effect” from the SHPO.

4.5 Land Use

Bering Straits Native Corporation owns the land where the proposed project would occur. Land use would not be changed as a result of the proposed project. The clean-up activities could potentially temporarily restrict access to the immediate construction area at the site; however, there would be long-term benefits to the landowner as a result of the remediation efforts.

No Action Alternative – Under the no action alternative no changes to land uses will occur.

Free Product Recovery Alternative – Actions associated with this alternative would occur over a larger footprint and longer time than the preferred alternative. The longer access restriction could impact the landowner usage of the property, however, the cleanup of the project site would benefit the landowner in that the property could be reutilized after cleanup was completed.

Excavation and Passive Free Product Recovery (Preferred Alternative) – Actions associated with this alternative would result in the quickest cleanup of the project site. It would benefit the landowner in that the property could be reutilized after cleanup was completed.

5.0 UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse effects of the proposed project include:

- (1) Noise disturbance to wildlife in the vicinity may occur due to operating heavy machinery during excavation and removal actions at the project site. Most wildlife are anticipated to avoid the area while work is in progress. To reduce impacts, work will be conducted during normal day-time working hours (due to lack of daylight during winter, lights may be necessary) and during winter/early spring before most terrestrial/migratory species are likely to be in the project vicinity.
- (2) Disruption of local traffic in the project vicinity during construction. Proper signage and flagmen could be utilized to address safety concerns and move traffic through the area as quickly as possible as applicable.

6.0 CUMULATIVE IMPACTS

Federal law (40 CFR 651.16) requires that NEPA documents assess cumulative effects, which are the impact on the environment resulting from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of the agency (Federal or non-Federal) or person that undertakes such other actions. Cumulative impacts result from the “individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

The proposed remedial action is the 13th since clean-up work begun in the early 1990s. The proposed project would have the ultimate net effect of removing a large mass of chemical contamination from the soils thereby reducing the risk of exposure to humans and the environment. The immediate incremental impacts of air pollutants and noise from construction machinery would be of short duration and would not contribute to long-term cumulative effects. The project may indirectly contribute to long-term beneficial changes in land use and increased environmental quality by encouraging reuse of the restored land.

7.0 MITIGATION

Mitigation for effects of a proposed action is evaluated as part of documentation under NEPA, such as this EA. Mitigation can take any of the following forms:

- Avoiding the effect altogether by not taking a certain action or parts of an action.
- Minimizing effects by limiting the degree or magnitude of the action and its implementation.
- Rectifying the effect by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the effect over time by preservation and maintenance operations during the life of the action.
- Compensating for the effect by replacing or providing substitute resources or environments.

The preferred alternative includes typical Best Management Practices that would be employed to

avoid and minimize any adverse effects:

- All work would occur during winter/early spring to minimize effects to terrestrial/migrating species.
- Work would be conducted during the shortest time necessary to demolish and remove the tank and excavate and backfill.
- While no runoff is expected, if runoff is generated, it would be contained and treated onsite to remove suspended sediments through the use of silt fences or other appropriate measures.
- If any inadvertent discovery of cultural resources occurs during construction, all work will stop, and the site would be secured until the discovery can be evaluated by a qualified professional archaeologist.

8.0 ENVIRONMENTAL COMPLIANCE

This section describes how the preferred alternative complies with all pertinent environmental laws.

8.1 National Environmental Policy Act (42 USC 4321 et seq.)

This Environmental Assessment, dated October 2014, is intended to achieve NEPA compliance for the proposed project. As required by NEPA, this EA describes existing environmental conditions at the project site, the proposed action and alternatives, potential environmental impacts of the proposed project, and measures to minimize environmental impacts. The Corps will invite submission of factual comment on the environmental impact of the proposed project. Comments will be considered in determining whether it will be in the best public interest to proceed with the proposed project.

8.2 Endangered Species Act of 1973 as amended (16 USC 1531-1544)

In accordance with Section 7(a)(2) of the Endangered Species act of 1973, as amended, federally funded, constructed, permitted, or licensed projects must identify and evaluate any threatened and endangered species, and their critical habitat, that may be affected by an action proposed by that agency. The Corps analyzed potential effects of the action and concluded the action would have no effect to any threatened or endangered species or their critical habitat. An informal consultation with USFWS was conducted in September 2014 and they determined that effects of the preferred alternative would be discountable and insignificant to listed species under their jurisdiction (polar bear and spectacled eider). No species under the NMFS jurisdiction occur within or adjacent to the project site.

8.3 Clean Air Act as Amended (42 USC 7401, et seq.)

In accordance with Section 176(c) of the Clean Air Act General Conformity Rule Review, the proposed project has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined the activities proposed under this alternative will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR 93.153(c)(2)(iv). Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this proposed action.

8.4 National Historic Preservation Act (16 USC 470, et seq.)

The National Historic Preservation Act (16 USC 470) requires that the effects of proposed federal undertakings on sites, buildings structures, or objects included or eligible for the National Register of Historic Places must be identified and evaluated. The Nome Tank Site “E” cleanup action is Federal undertaking of the type which might affect historic properties. As such it is subject to the Section 106 process. The Corps, in order to comply with Section 106 of the NHPA previously submitted documentation to the Alaska SHPO on the DERP projects in the Nome area. The area of potential effects for the project was defined as the project area, access road, and staging areas. There are no recorded properties listed in the National Register of Historic Places within the project area of potential effects. The Alaska Heritage Resources Survey files were reviewed and no sites were documented in the project area.

8.5 Coastal Zone Management Act (16 USC 1451-1465)

By operation of Alaska State law, the federally approved Alaska Coastal Management Program expired on July 1, 2011, resulting in a withdrawal from participation in the Coastal Zone Management Act’s (CZMA) National Coastal Management Program. The CZMA Federal consistency provision, Section 307, no longer applies in Alaska (Federal Register Notice published July 7, 2011, Volume 76, No. 130, page 39857).

8.6 Executive Order 12898, Environmental Justice

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires Federal agencies to identify and address any disproportionately high and adverse human health effects of its programs and activities on minority and low-income populations.

The express purpose of the proposed project is to reduce risks to human health and welfare in the region by removing contaminants from the environment. The cleanup action will not exclude, deny benefits to, or discriminate against minority or low-income populations, nor does the project involve locating a facility that will discharge pollutants or contaminants since the cleanup action would remove existing contaminated soils and treat groundwater. Therefore the proposed action is in compliance with this order.

8.7 Executive Order 11990, Protection of Wetlands, May 24, 1977

There are no wetlands in the project construction footprint and therefore, the proposed action is in compliance with this order.

9.0 CONCLUSION

The environmental cleanup efforts at Nome Tank Site “E”, as discussed in this document, would have negligible, short-term impacts, which will be controlled by implementation of best management practices. However, finalizing the long-term the cleanup with the proposed action would improve the overall quality of the human environment by removing and treating contaminated soils and LNAPL, increasing the potential for natural attenuation of existing contaminated groundwater. This assessment supports the conclusion that the proposed project does not constitute a major Federal action significantly affecting the quality of the human environment; therefore, the preparation of an environmental impact statement is not required and a finding of no significant impact has been prepared.

10.0 REFERENCES

Fairbanks Environmental Services. 2011. 2010 Chemical Data Report Nome Area Defense Region (Tank Site 'E') Formerly Used Defense Site Nome, Alaska Property #: F10AK005210

USFWS. 2014. US FWS letter on Section 7 Consultation for the Nome Tank Site "E" Site remediation.

US Army Corps of Engineers. 1985. Field Investigation Report Defense Environmental Restoration Account Northwest Alaska Sites.

US Army Corps of Engineers. 1988. Completion of AHRs Review.

US Army Corps of Engineers. 1989. DERP Inventory Project Report (INPR), Nome Defense Region, Seward Peninsula, Alaska PN: F10AK000052.

US Army Corps of Engineers. 1993. Seward Peninsula Sites, Alaska Environmental Assessment and Finding of No significant Impact.

US Army Corps of Engineers. 1995. Environmental Assessment Environmental Restoration and Debris Removal Various Sites, Seward Peninsula, Alaska.

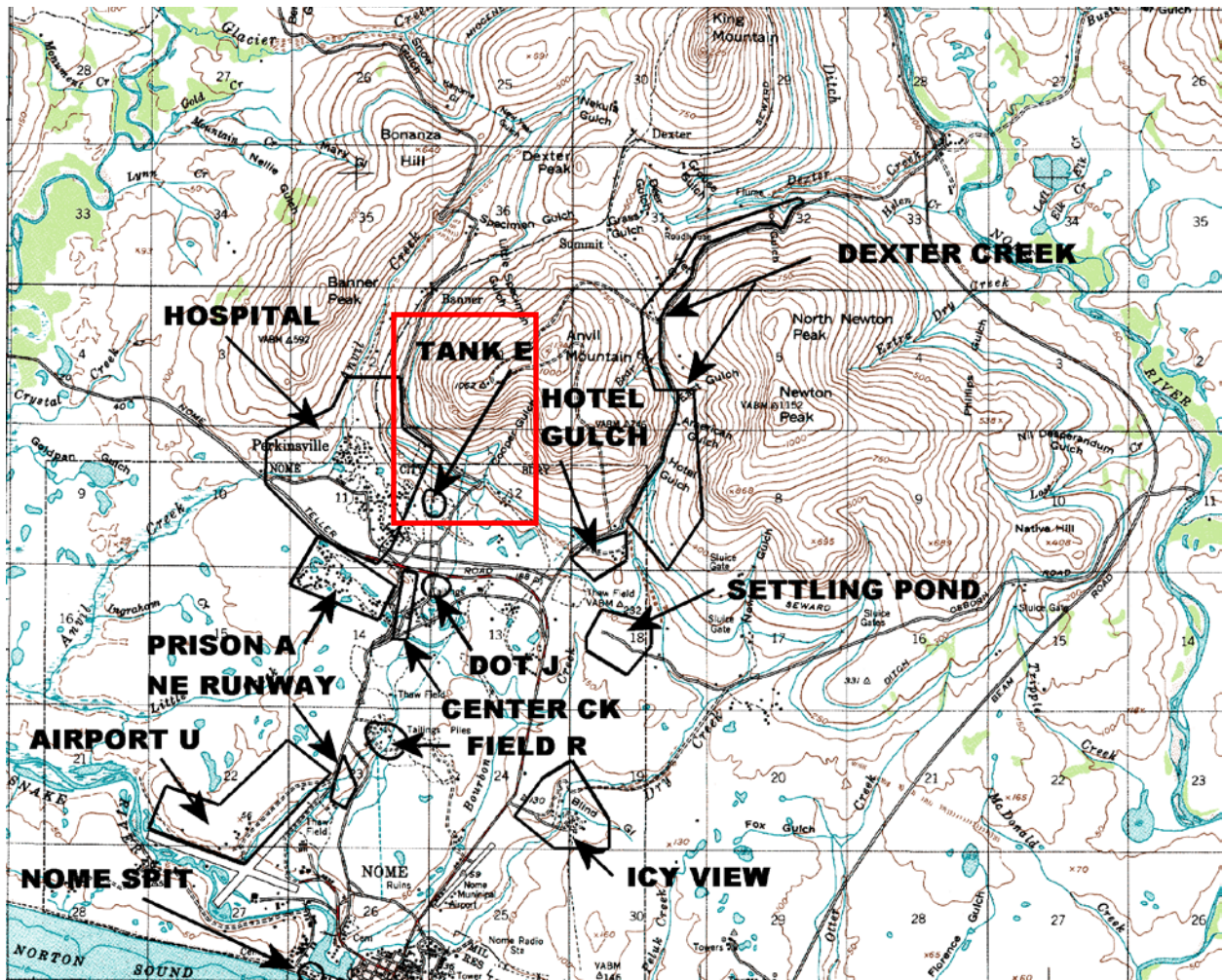


Figure 1 USGS Topo Map Showing the 13 Nome Area Defense Sites



Figure 2 Nome Tank Site “E” and High School 2010 aerial photo