

Proposed Plan – Northeast Cape Site 7 Cargo Beach Road Landfill

Formerly Used Defense Site (FUDS) Project #F10AK096905

MAY 2008



1.1 INTRODUCTION

The United States Army Corps of Engineers (USACE) and the Alaska Department of Environmental Conservation (ADEC) request your comments on this Proposed Plan for the **Site 7 Cargo Beach Road Landfill** at the Northeast Cape Formerly Used Defense Site, located on St. Lawrence Island, Alaska (see Figure 1).

Final decisions on the preferred alternative will be made after all comments submitted by the end of the public comment period have been reviewed and considered. Changes to the preferred plan alternative may be made if public comments or additional data indicate that such changes would result in more appropriate solutions.

After considering all public comments, USACE will prepare a Decision Document which describes the final selected remedy. The Decision Document will include responses to all public comments in a section called the Responsiveness Summary.

The Department of Defense (DoD) is authorized to carry out a program of environmental restoration at former military sites according to 10 United States Code (USC) 2701(a). The Defense Environmental Restoration Program (DERP) was set up to accomplish this task. The cleanup of Formerly Used Defense Sites (FUDS) is a part of this program. FUDS are those properties that the DoD once owned or used, but no longer controls. This Proposed Plan covers



Figure 1. Site Location Map.

closure of the containerized hazardous, toxic, or radioactive wastes (CON/HTRW) project. Additional actions at the overall Northeast Cape site are being addressed under a separate HTRW project.

The DoD can remediate releases of petroleum where the release poses an imminent and substantial endangerment to the public health or welfare or to the environment per 10 USC 2701(b)(2). Since the contaminants of concern identified at this site include both CERCLA-regulated hazardous substances and petroleum, the preparation of this Proposed Plan follows CERCLA guidance.

The purpose of this Proposed Plan is to:

- Describe the site history;
- Describe the environmental conditions;

- Describe the alternatives that were considered;
- Present the recommended alternative;
- Request public comment on the preferred alternative; and
- Provide information on how the public can be involved in the final decision.

1.2 SITE BACKGROUND

The Northeast Cape site is located on St. Lawrence Island in the western portion of the Bering Sea, approximately 135 air miles southwest of Nome, Alaska. This Proposed Plan covers containerized hazardous, toxic, or radioactive wastes (CON/HTRW) at the Site 7 Cargo Beach Road Landfill. The cleanup of other areas of concern at Northeast Cape is being addressed under a separate hazardous, toxic or radioactive waste (HTRW) project as described in the Proposed Plan for Northeast Cape dated July 2007.

The Village of Savoonga is the closest community; located 55 miles northwest of the site. The Northeast Cape site, at 63°19' North, 168°58' West, is 9 miles west of the northeastern cape of St. Lawrence Island. The Northeast Cape site originally encompassed 4,800 acres (7.5 square miles). The site is bounded by Kitnagak Bay to the northeast, Kangighsak Point to the northwest, and the Kinipaghulghat Mountains to the south (see Figure 2). The property is owned jointly by the two local native corporations, Sivuqaq, Inc. and Kukulget, Inc.

The U.S. Air Force constructed an Aircraft Control and Warning Station (AC&WS) at Northeast Cape during 1950 and 1951, and activated the facility in 1952. In 1954, a White Alice Communications System (WACS) station was added, composed of four large parabolic antennas and a building housing the electronic equipment. The original installation supported 212 people. The

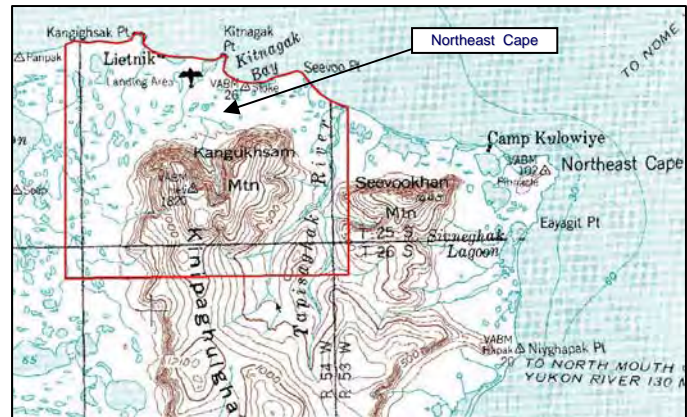


Figure 2. Project location map, eastern portion of St. Lawrence Island.

Northeast Cape site provided radar coverage and surveillance for the Alaskan Air Command, and later for the North American Air Defense Command, as part of an Alaskan early warning system constructed to reduce vulnerability to bomber attack across the polar regions.

The AC&WS and WACS operations were terminated in 1969 and 1972, respectively. The majority of the military personnel were demobilized from the Northeast Cape site by the end of 1969. The buildings, and the majority of furnishings and equipment, were abandoned in place due to the high cost of off-island transport. The main solid waste dump for the installation was located 0.8 mile south of Cargo Beach, midway between the Main Operations Complex and the beach at Kitnagak Bay. This dump site is known as the Site 7 Cargo Beach Road Landfill.

Site-wide removal of containerized hazardous and toxic wastes (drums, tanks, transformers, fuel pipelines, etc.), antenna poles/wires, limited contaminated soils, miscellaneous debris, and demolition of the buildings, utilidor, tram towers, and all other structures was completed under multiple USACE contracts between 1994 and 2005. Electrical transformers and their contents were removed by Northwest Enviro Service, Inc in 1994. A

portion of the wires and cables posing physical hazards on the tundra were removed by Montgomery Watson in 1997. Nugget Construction conducted drum and tank removals and building demolition activities during the 2000 and 2001 field seasons. Bristol Environmental and Engineering Services, Inc. completed additional removal actions during 2003 and 2005. The runway, gravel roads, and concrete foundations of some of the structures remain intact.

At the Cargo Beach Road Landfill, over 6,000 55-gallon drums were gathered from the surrounding area during the 2000 field season. During the 2003 field season 15 tons of scrap metal were removed from the area east of Cargo Beach Road. PCB-contaminated soils (14 tons) from 6 discrete areas along the southeastern exposed edge of the landfill were excavated and shipped offsite during the 2005 field season. Exposed drums and debris were removed from the landfill site in 2005 (see Photo 1), including several drums of waste oil discovered around the perimeter edges of the landfill. Liquid from two drums was drained and sent off-site for disposal. Field test kits indicated the drums contained used oil and were not contaminated with PCBs. Several other partially buried drums, apparently full with liquid wastes, remain in place. Bristol Environmental protected these drums from vandalism by placing large rocks around them.

1.3 SITE CHARACTERISTICS

Environmental investigations and cleanup activities at Northeast Cape began in the mid 1980's. The goals of the investigations were to locate and identify areas of contamination and to gather



Photo 1. View of eastern portion of the Cargo Beach Road Landfill, after 2005 debris removal activities.

enough information to develop a cleanup plan.

The Cargo Beach Road Landfill is an unpermitted landfill that was used as the installation's main solid waste disposal area from 1965 until closure in 1974. The dump contains a wide variety of unknown materials. The landfill appears to have been created by dumping debris off the sides of a topographic mound. The debris was apparently covered by grading soil out from the top of the mound.

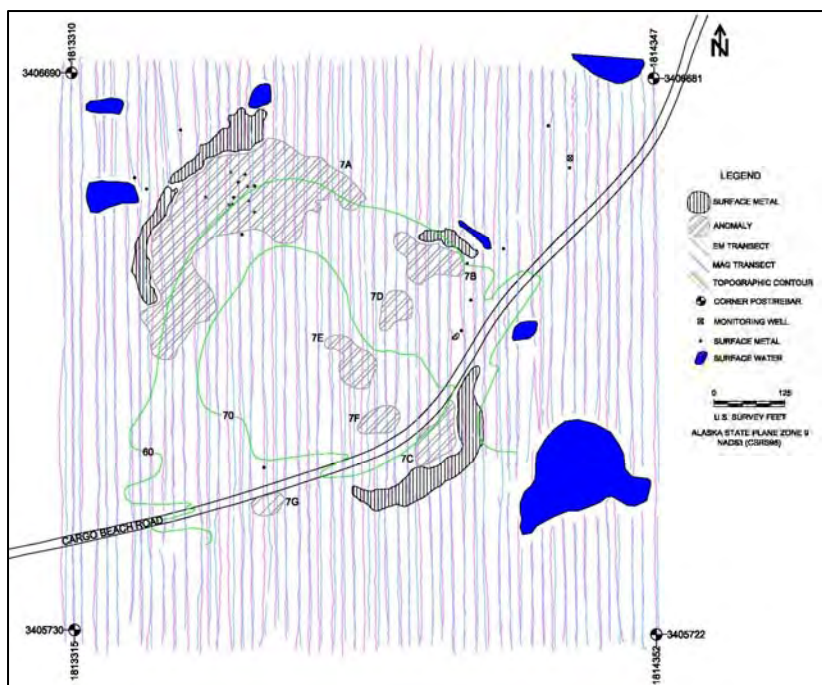


Figure 3. Landfill geophysical survey results (2007).

Remedial investigations (RI) were initiated at Northeast Cape during the summer of 1994. Additional sampling was performed during subsequent investigations: Phase II RI (1996 and 1998); Phase III RI (2001 and 2002); and Phase IV RI (2004). A geophysical survey of the Cargo Beach Road Landfill was conducted in 2007 to map the extent of buried metallic anomalies. The survey concluded the landfill is not a man-made hill comprised completely of buried debris as previously assumed. The geophysical data are consistent with sidecast debris around the edges of a natural topographic mound. The extent of landfill material is shown on Figure 3. Most debris is located at the northwest and southeast edges of the topographic mound. Buried debris does not extend beneath Cargo Beach Road.

Environmental sampling activities at Site 7 have included the collection of soil, sediment,

surface, and shallow groundwater samples (see Figure 4). The remedial investigation results demonstrate that no significant contamination has migrated away from the landfill into shallow subsurface waters. Within the soils of the landfill mound, metals, diesel range organics (DRO), and polychlorinated biphenyls (PCBs) were identified as contaminants of potential concern. The maximum concentration of DRO in soil was 32,000 mg/kg, which exceeds the proposed cleanup level of 9,200 mg/kg. DRO concentrations ranged from non-detect (ND) to 2,300 mg/kg at the other sampling locations. The sample with the elevated DRO concentration was collected in 1994, from a location approximately 75 feet east of the road, at the base of the exposed debris slope. A large amount of debris has been removed from this location and surface soils have been disturbed by heavy equipment.

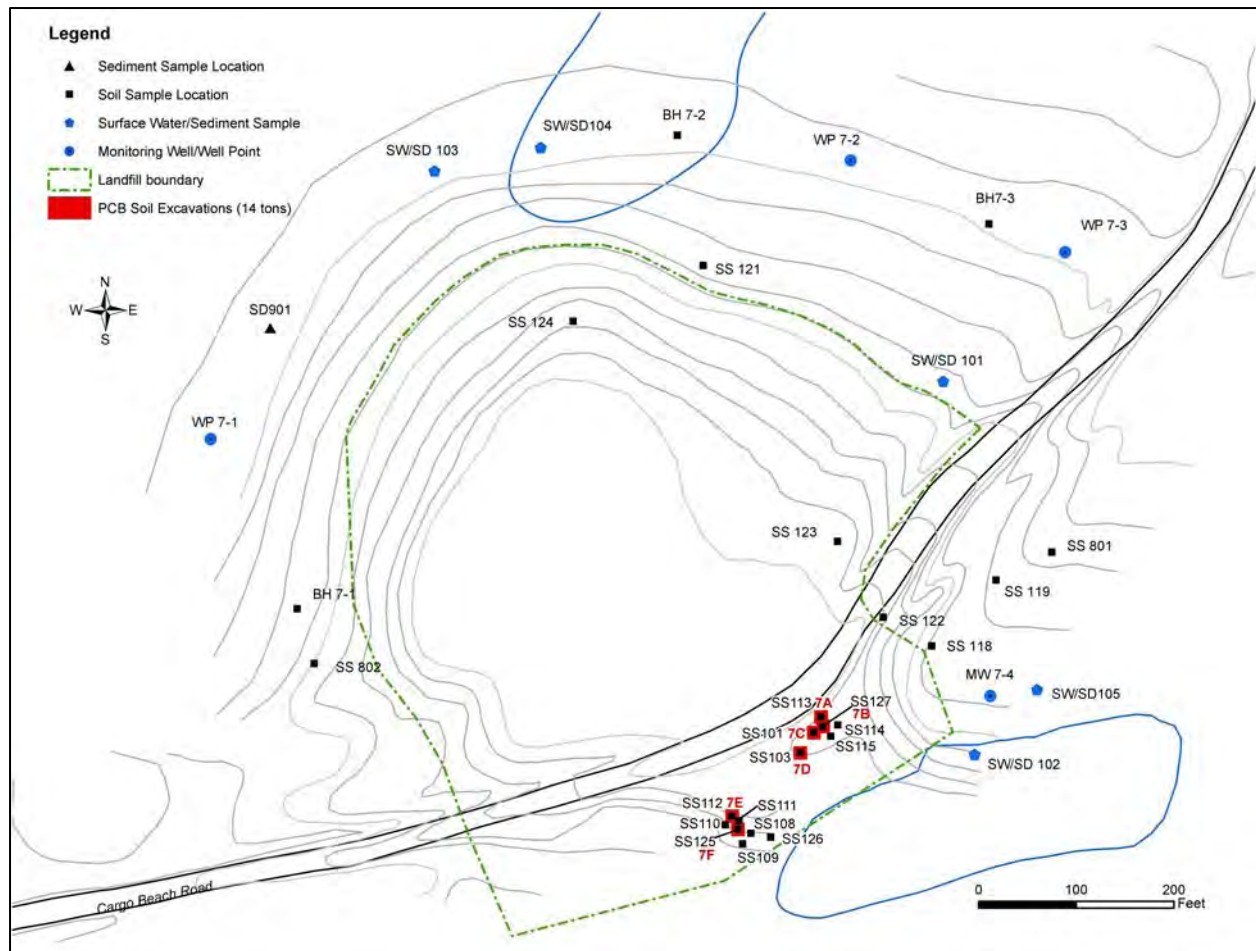


Figure 4. Cargo Beach Road Landfill historical sampling locations.

However, an area of severely-stained soil was observed in the general vicinity at the bottom of the eastern landfill edge during a 2006 site visit (see Photo 2).

Arsenic concentrations in soil ranged from 2 to 50 mg/kg. Four locations contained arsenic above the site-specific background level of 11 mg/kg. Only two locations exceeded twice the background arsenic level and these were both subsequently excavated and removed during the 2005 field season due to elevated levels of PCBs. Arsenic was eliminated as a contaminant of concern in soil.

PCBs were detected in soils on the eastern edge of the landfill at concentrations ranging from ND – 50.8 mg/kg. Six locations with PCBs > 1 mg/kg were excavated and disposed offsite (see Photos 3 & 4). The soil confirmation sampling results demonstrated that PCBs were successfully removed to below 1 mg/kg at 4 of the 6 locations. Subsurface soils (2.0 to 3.5 ft bgs) at two locations, 7A and 7E on the eastern slope of the Site 7 landfill may still contain PCBs above the cleanup level of 1 mg/kg based on immunoassay screening results. According to field observations, the soil contamination is commingled with buried landfill debris and further excavation was not practical. The two excavations were lined with plastic sheeting and backfilled with clean fill.



Photo 2. View of petroleum-stained soil at base of eastern portion of Cargo Beach Road Landfill (2006).

The shallow groundwater surrounding the Site 7 Cargo Beach Road Landfill is not a current or reasonably expected potential drinking water source. Shallow groundwater samples were collected to evaluate the potential for contaminant migration away from the landfill.

Metals and fuels were identified as contaminants of potential concern in shallow groundwater during the remedial investigation. Elevated metals were detected primarily at one well point (WP 7-1) installed in 2001 on the southwest side of landfill. See Figure 4 for historical sampling locations. Nickel, chromium, lead, and RRO exceeded the default ADEC Table C cleanup levels. The water samples were turbid (not filtered),

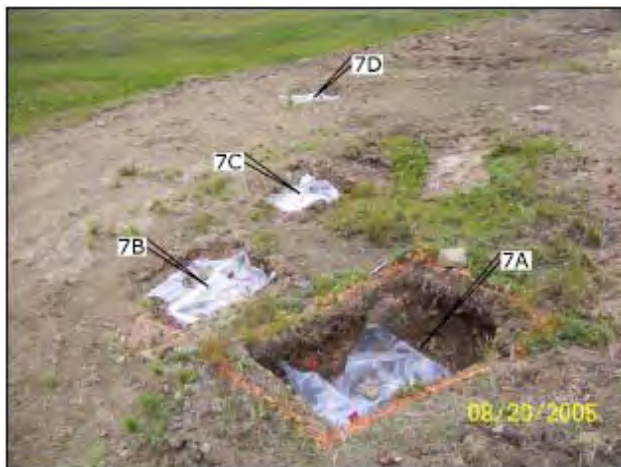


Photo 3. PCB-contaminated soil excavations, pits lined with plastic before backfilling (2005).



Photo 4. PCB-contaminated soil excavations and confirmation sampling locations (2005).

therefore it is likely the metals detected in the samples originated from suspended sediments in the water column and are not representative of dissolved phase shallow groundwater conditions at the site. Sampling of the shallow groundwater is problematic at Site 7 due to the tundra/wetland environment. Groundwater sample collection is very difficult because water is intermittent, slow to recharge, and highly turbid (i.e., low quality). The groundwater exposure pathway is incomplete at this site because the shallow groundwater does not produce a sufficient quantity of water to be considered a reasonably expected potential future drinking water source.

On the north side of the landfill, DRO was detected in surface water at one location only (SW101) during the 1994 investigation. The average DRO concentration from a triplicate sample was 8.9 mg/L. A downgradient shallow groundwater sample from WP 7-3 collected during the 2001 investigations contained 0.39 mg/L DRO.

The landfill was inspected during the 2001 field season. Areas of concern consisted of exposed debris, unvegetated areas, eroded areas, and other signs that the landfill cover was inadequate. The landfill perimeter was surveyed to meet ADEC closure requirements. The central portion of the landfill area is unvegetated and free of surface debris. Significant exposed debris along the landfill edge was removed during the 2003 and 2005 field seasons. The extent of buried metallic debris within the landfill was delineated using geophysics in 2007. Eroded and sunken areas exist along the northern slope of the landfill. Animal presence is evidenced by burrows, droppings, rodent skeletons, and sightings of active adult cross fox. Vegetative cover is estimated at 80 percent. The portion of the landfill east of Cargo Beach Road is not vegetated.

USACE completed a Feasibility Study in March 2007. The Feasibility Study summarized the historical sampling results for the Cargo Beach Road Landfill, summarized previous removal activities, and evaluated a range of alternatives according to the criteria prescribed by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The alternatives evaluated for the Cargo Beach Road Landfill include no action, institutional controls, natural attenuation, long term monitoring, capping, and excavation with off-site treatment and disposal.

ADEC Cleanup Levels

Cleanup levels were determined based on the State of Alaska's Administrative Code - 18 AAC 75 Oil and Other Hazardous Substances Pollution Control. Under Method 2, soil cleanup levels are found in Tables B1 and B2, and in Table C for groundwater. Site-specific cleanup levels can also be derived under Method 3 or 4 using equations provided in state guidance documents. ADEC cleanup levels are based on a cancer risk threshold of 1×10^{-5} , and non cancer hazard index of 1.

Site-specific cleanup levels are proposed for Northeast Cape, based on input parameters such as annual rainfall, total organic carbon contents of soils, and applicable exposure pathways. The shallow groundwater surrounding the Site 7 Cargo Beach Road Landfill is not a reasonably expected potential drinking water source, per a determination made using the criteria found in ADEC regulations.

Table 1. Summary of Historical Sampling Results

Contaminant of Concern	Exceeds Cleanup Level	Sample Location(s) Exceeding	Minimum Detected Result	Maximum Result	Proposed Cleanup Level
<i>Soil</i>	# per total ^a		mg/kg	mg/kg	mg/kg
Arsenic	4/21	SD101, SS125, 126, 127	2	50	11
Chromium	3/16	SS125, 126, 127	6.1	75	50
Lead	2/17	SS126, 127	10	460	400
PCBs (pre-excavation)	6/33	SS101, 103, 112, 113, 125, 127	ND	50.8	1
PCBs (post-excavation)	2/6 ^b	7A, 7E	0.0536	0.173	1
PCBs (sediment-soil)	1/7	SD103	ND	1.78	1
DRO	1/19	SS119	ND	32,000	9,200
RRO	0/3		620	3,600	9,200

<i>Surface Water</i>			mg/L	mg/L	mg/L
Arsenic	0/7		ND	0.018	0.05
Chromium	0/7		ND	0.03	0.1
Lead	3/7	SW101/201/301	0.002	0.130	0.015
PCBs	0/6		ND	ND	0.0005
DRO	4/8	SW101/201/301/301	ND	16	1.5
RRO	0/2		ND	ND	1.1

^a total samples collected includes QA/QC samples

^b Ensys soil screening results only > 0.5 mg/kg

ND - not detected

1.4 SCOPE AND ROLE OF THE RESPONSE ACTION

The overall Northeast Cape site remediation is being addressed through proposed remedial actions under a separate hazardous, toxic, or radioactive waste (HTRW) project as described in the Proposed Plan for Northeast Cape dated July 2007. A final decision on the proposed remedy for the other areas of concern is under consideration. The project goal is implementation of the preferred alternative for the Cargo Beach Road Landfill simultaneously with other planned response actions at the Northeast Cape site, to gain efficiency of scale and reduce and/or eliminate site mobilization costs as compared to costs if the remedy were implemented at a later time. The preferred remedy for the remainder of the Northeast Cape includes excavation and treatment of contaminated soils at various sites, monitoring activities, removal of contaminated sediments, and implementation of land use controls. The overall project strategy is to accomplish final cleanup efforts over a period of 2 to 4 field seasons, subject to the availability of funding.

1.5 SUMMARY OF SITE RISKS

Contaminants of potential concern were identified during the Remedial Investigation by comparing concentrations to federal and state risk-based screening levels and cleanup criteria. Screening levels were based on the most stringent ADEC soil and groundwater cleanup levels promulgated in 18 Alaska Administrative Code (AAC) 75.340 and 345.

A Human Health and Ecological Risk Assessment (2004) evaluated the potential risk from exposures to contaminated soils and shallow groundwater under a future residential scenario. The risk assessment included incidental ingestion, dermal contact, and dust inhalation as components of the human exposure for soil. The shallow groundwater in

the vicinity of this site is not a reasonably expected potential future drinking water source based on the criteria in 18 AAC 75.350 and thus this pathway is considered incomplete.

At the Cargo Beach Road Landfill, the Risk Assessment identified potential future human health risks based on exposure to site soil containing arsenic, PCBs, or petroleum hydrocarbons. Arsenic was the primary risk driver for soils and the estimated cancer risk of 3×10^{-5} slightly exceeded the ADEC risk criteria of 1×10^{-5} (the USEPA's risk range is 10^{-4} to 10^{-6}). Arsenic was eliminated as a contaminant of concern in soil. PCBs were retained as a contaminant of concern based on subsequent investigation results which identified higher levels of contamination. Petroleum hydrocarbons were retained as contaminants of concern based on the discovery of several drums containing waste oils.

The ecological risk assessment evaluated potentially affected biological resources and focused on three selected indicator receptors, the tundra vole, cross fox, and glaucous-winged gull. Potential adverse ecological effects to small mammals only (e.g., tundra vole) were identified based on exposure to the maximum concentration of diesel range organics. However, the highest concentration of DRO was detected at a single location, not site-wide; the sampling location was adjacent to a large debris removal action and this area has been extensively modified by vehicle traffic, heavy equipment, and the removal of drums and other miscellaneous debris. Therefore, the potential for adverse ecological effects is considered minimal.

The primary concern at the Cargo Beach Road Landfill is the remaining drums of liquid waste which pose an actual or threatened release. These drums were unknown at the

time when the Risk Assessment was completed. Based on surface exposures, many full drums are likely buried here which may eventually spill.

1.6 REMOVAL ACTION OBJECTIVES

The Removal Action Objectives for the Cargo Beach Road Landfill are to protect human health and the environment; and comply with applicable Federal, State and local laws and regulations. The removal action will prevent current and future exposure to hazardous substances or pollutants or contaminants and reduce the likelihood of spillage, leakage, or exposure to humans, animals, and the environment.

The primary Removal Action Objective for the landfill is to remove the remaining drums of liquid waste which will prevent future migration of contamination to surface water or shallow groundwater, and prevent future impacts to the environment from leaching of materials in the landfill. The proposed actions will minimize impacts to sensitive areas (e.g., wetlands). A secondary goal is to remove existing gross soil contamination, to the extent it is evident.

The identified contaminants of concern at the Cargo Beach Road Landfill are PCBs and DRO.

The ADEC concurs (letter dated May 24, 2007) that the shallow unconsolidated soil in the tundra area has low transmissivity, low storage, is seasonally frozen and associated with discontinuous permafrost, and the shallow water is unlikely to be transported to a potential drinking water source.

The State of Alaska regulates the closure of inert waste monofills at 18 AAC 60.460.

Typical closure criteria include:

- final cover of at least 24 inches soil material;

- graded to promote drainage without erosion; and
- revegetation of the site.

The ADEC also requires closure demonstration and post-closure care of monofills under 18 AAC 60.490. Typical requirements include:

- deed notation that the land has been used as a monofill;
- type of waste that was placed in the monofill;
- the geographical boundaries of the waste management areas; and
- details of any final cover, cap, or other structures or devices installed as part of closure.

1.7 EVALUATION OF ALTERNATIVES

The Corps of Engineers considered the following alternatives for the Cargo Beach Road Landfill.

Alternative 1 No Further Action – No further action (NFA) is the appropriate response action when no additional actions are necessary to protect human health and the environment, based on established cleanup levels and regulatory standards. NFA is required to be used as a baseline to compare all other responses.

Estimated Cost: \$0

Alternative 2 Land Use Controls – Land use controls make use of restrictions to minimize exposure to contaminants and physical hazards at a site. The restrictions can be physical, such as erecting a fence, or take the form of land management practices, such as requiring special building permits or not allowing new wells in a particular area. Other necessary controls include legal documentation through a deed notice to provide information to the current or future

landowners about the presence of buried debris at the site and the need for proper management of the soil if excavated, and informing residents that the shallow groundwater is not a reasonably expected potential future drinking water source.

Estimated Cost: \$480,000

Alternative 3 Natural Attenuation – Under this alternative, the contaminants in soil would be allowed to naturally attenuate. An initial sampling event would be conducted to establish baseline conditions.

Estimated Cost: \$236,000

Alternative 4 Long Term Monitoring – Long term monitoring (LTM) ensures contaminants are not leaching from the landfill into the surrounding environment. Under this alternative, the soils and shallow groundwater or surface water would be monitored once every 5 years for a period of 25 years to allow future evaluation of site conditions and ensure contaminants are not migrating from the landfill. An additional eight shallow groundwater monitoring points would be established.

Estimated Cost: \$704,000

Alternative 5 Capping – Capping provides stability by reducing water infiltration and reducing the likelihood of human and animal contact with the landfill contents. Prior to construction of the cap, an intrusive investigation of the metallic geophysical anomalies would be conducted to identify and remove drums with regulated contents. Capping would then consist of covering the areas of exposed and buried debris with a dermal cover of 18-24 inches of soil, grading to promote drainage, and revegetating the site to prevent erosion. After placement of the cover materials and site re-vegetation, the landfill cover integrity would be inspected one time after 5 years to verify site conditions.

Estimated Cost: \$4.6 Million¹

Alternative 6 Excavation and Off-site Disposal – Under this alternative the landfill contents, including identified drums of liquids, buried debris, contaminated soils and other potentially hazardous materials would be excavated and shipped offsite to an appropriate disposal facility.

Estimated Cost: \$12-21 million²

The FS provided a detailed analysis of the alternatives considered. Each alternative was assessed against the nine evaluation criteria established under CERCLA as described in the following paragraphs.

Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Alternative 1 NFA is the least protective of human health and the environment because the exposed drums with contents are left in place. Alternative 2 Land Use Controls reduces risks based on preventing human exposure but does not control potential future

¹ The Feasibility Study (USACE, 2007) assumed a more elaborate, low permeability landfill cap, with importation of all fill materials from offsite, with an estimated cost of \$9.5 million. The revised approach uses onsite materials and significantly reduces the estimated costs. A dermal cover is appropriate because regulated wastes will be removed during intrusive investigation of the metallic anomalies.

² The estimated costs have been revised since the FS to reflect a much smaller volume of debris based on the results of a geophysical survey (R&M, 2007). The new estimated volume of debris ranges from 33,000 to 65,000 cubic yards (cy) using an input of 110,000 sq ft surface area of metallic anomalies/surface metal and a maximum depth of up to 16 feet based on topographic contours. In comparison, the original debris volume estimate was 266,000 cy assuming a depth of 15 feet over the entire 11 acres of the landfill site.

migration or breakdown of contaminants. Alternative 3 Natural Attenuation may reduce contaminant levels over time, but does not address the threatened release of unknown liquids within the drums. Alternative 4 Long Term Monitoring provides minimal protection through periodic sampling to determine if contaminants have migrated. Alternatives 5 Capping and 6 Excavation provide adequate protection by eliminating exposures through either complete removal or suitable cover.

Compliance with ARARs addresses whether or not a remedy would meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes and requirements or provide grounds for invoking a waiver.

Alternatives 5 Capping and 6 Excavation comply with identified ARARs including state requirements for solid waste disposal sites and cleanup of contaminated sites. Alternative 1 NFA, 2 Land Use Controls, 3 Natural Attenuation, and 4 Long Term Monitoring do not meet state requirements for cleanup of contaminated sites.

Long-term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.

Alternative 6 Excavation provides the highest degree of long-term effectiveness because all potential sources of contamination are removed. Alternative 5 Capping provides a medium-high degree of effectiveness by investigating for and removing drums with liquid wastes and providing an adequate dermal cover over the remaining inert debris.

Alternative 4 Long Term Monitoring provides a medium degree of long-term effectiveness because the potential risks from a threatened release of the drum contents and future contaminant migration would be identified. Alternative 3 Natural Attenuation does not control potential future breakdown of containers within the landfill. Alternative 2 Land Use Controls provides a mechanism to prevent human exposure to the landfill contents.

Reduction of toxicity, mobility, or volume through treatment is the effectiveness of the treatment technologies to significantly reduce concentrations of hazardous substances.

Alternatives 5 Capping and 6 Excavation reduce the potential for contaminant mobilization by either removing the source, or reducing infiltration and the potential for contaminant migration to the surrounding environment. Alternative 3 Natural Attenuation reduces the potential for petroleum hydrocarbons to impact the environment by natural breakdown over time. Alternatives 1, 2, and 4 do not significantly reduce contaminants associated with the site.

Short-term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

Alternative 2 Land Use Controls provides short-term effectiveness through education and outreach to the community to prevent potential exposure to hazards. Alternative 1 NFA is not effective in the short term. Alternative 3 Natural Attenuation has limited protection in the short term because of the slow breakdown of hydrocarbons in the environment. Alternative 4 Long Term Monitoring does not address short term risks

associated with release of the drum contents. Alternatives 5 Capping and 6 Excavation pose minor short term risks due to active construction activities involving site disturbance and the potential for puncturing drums. Any immediate impacts would be addressed by standard safety practices.

Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

Alternatives 2 Land Use Controls, 3 Natural Attenuation, and 4 Long Term Monitoring are straightforward to implement. Alternative 5 Capping is slightly more difficult to implement given the need to import more equipment, top cover soils, and effort at a remote location. Alternative 6 Excavation is the most challenging to implement based on uncertainty in the actual quantity of materials to be removed, the remote location, and the availability of an adequate number of shipping containers for the wastes.

Cost includes estimated capital and O&M costs, and net present-worth costs. Alternative 1 NFA has no associated costs. Alternatives 2 Land Use Controls, 3 Natural Attenuation, and 4 Long Term Monitoring have the lowest costs. Alternative 5 Capping has medium-high costs and Alternative 6 Excavation has the highest costs.

State acceptance indicates if, based on its review of the Proposed Plan, the state concurs with the preferred remedy at the present time.

Community acceptance will be assessed in the Decision Document and refers to the public's general response to the alternatives described in the Proposed Plan.

1.8 PREFERRED ALTERNATIVE

The preferred alternative for the Site 7 Cargo Beach Road Landfill is Alternative 5 Capping. This alternative involves intrusive investigation of metallic anomalies, with excavation and removal of drums with contents and covering the buried debris. One small anomaly at Site 10 which was indicative of buried drums will also be intrusively investigated and removed. The proposed remedy is protective of public health, welfare, and the environment.

The proposed remedy entails the following major components:

- excavate test pits or trenches in areas of known metallic anomalies and previously marked drums;
- remove drums with contents and transport them off-site for proper disposal;
- remove incidental contaminated soils associated with identified drums to the extent severely-stained soils are evident;
- capping of debris with approximately 2 feet of soil cover;
- revegetation of the site;
- survey of the landfill boundary with map and text description; and
- deed notation.

After completion of the fieldwork, the landowners will be provided with a surveyed map, and a text description of the capped landfill site boundary and environmental site conditions. The ADEC will also be provided with notification of the landfill boundary and restriction on future excavations. The landowners have general land use policies which cover the entire Island and will be responsible for implementing the institutional controls and ensuring that no excavations occur within the final capped area.

Overall Protective of Human Health and the Environment

The preferred alternative is protective of human health and the environment. The current and future exposure pathways are incidental ingestion of contaminated soil by local residents. The preferred alternative, drum removal and capping, provides protection by eliminating exposure through removal of drums and placement of a dermal cover.

Compliance with Applicable or Relevant and Appropriate Requirements

The applicable or relevant and appropriate requirements (ARARs) for the selected remedy are based on the requirements of 18 Alaska Administrative Code 75. The proposed remedy controls the actual or threatened release of unknown hazardous substances from the containers to the surrounding environment.

Effectiveness

The selected remedy of Capping is effective by investigating for and removing drums with contents and placing sufficient dermal cover over the remaining debris.

Implementability

Capping requires significant logistics to mobilize equipment, top cover soils, and personnel to a remote location. Landfill capping is a straightforward remedy that has been implemented throughout Alaska.

State Acceptance

The State of Alaska, through the Department of Environmental Conservation, concurs with the proposed alternative of investigative removal and capping of the Site 7 Cargo Beach Road Landfill. The decision may be reviewed and modified in the future if new information becomes available that indicates the presence of contamination or exposures

that may cause unacceptable risk to human health or the environment.

Community Acceptance

To be determined.

Estimated Cost

The estimated cost for investigative removal of drums and capping of the Cargo Beach Road Landfill is \$4.6 million. The selected remedy is expensive, however it is within reasonable funding expectations and strikes a practical balance between other criteria and alternatives.

The estimated cost includes intrusive investigation of metallic anomalies identified across 20% of the site (4.5 acres), assumes removal of 50 drums with contents, 50 cy of contaminated soil, and placement of 18-24 inches of dermal cover using primarily onsite materials (e.g., gravel/soil fill) as the final cap across the 23 acres comprising the landfill.

1.9 COMMUNITY PARTICIPATION

Public participation has been an important component of the cleanup process at the Northeast Cape site. A Community Relations Plan was developed for the project in March 1996 and updated in April 2002. The Community Relations Plan describes the measures used to meet the community relations goal of keeping Savoonga and Gambell residents and other interested people informed about project activities. Public meetings provide a means for local residents to share their knowledge about the Northeast Cape area and its history with the project team. Ongoing community relations activities have allowed the residents and other interested persons to provide feedback and comments on project activities, and encouraged everyone to become involved in the project.

A Restoration Advisory Board (RAB) comprised of community members and other interested parties was established in January 2000. RAB meetings are held approximately three times per year to keep the public informed of ongoing project activities. Detailed meeting minutes are recorded and distributed after each meeting. The RAB is served by a technical advisor, under the Technical Assistance for Public Participation (TAPP) program, to provide technical guidance and comments on workplans, reports, proposed remedies, and potential environmental and human health impacts. The opportunity for public review and comment of project documents has been made available throughout all phases of the project. Detailed responses to comments are provided in the correspondence file at the Information Repositories or an appendix of the final document. All comments received are documented in the administrative record file.

Project documentation, reports, and other materials are available at four Information

Repositories; the Sivuqaq Lodge in Gambell, the Savoonga City Hall in Savoonga, the University of Alaska Fairbanks Northwest Campus Library in Nome, and the Alaska Resource Library and Information Services in Anchorage.

The public is encouraged to provide comments on the alternatives presented in this Proposed Plan for the Cargo Beach Road Landfill. A final decision on the preferred alternative will not be made until public comments are considered.

Local Information Repositories

Sivuqaq Corporation Building (Lodge)

P.O. Box 101
Gambell, Alaska 99742
Phone: (907) 985-5826

Savoonga City Hall

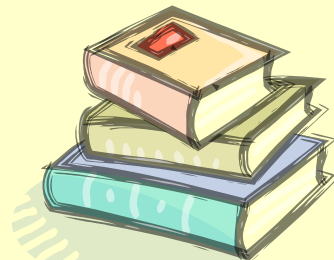
Savoonga, Alaska 99769
Phone: (907) 984-6414

UAF Northwest Campus Library

Nome, Alaska 99762
Phone: (907) 443-2201

Alaska Resource Library and Information Services (ARLIS)

UAA Consortium Library
Anchorage, Alaska 99508
Phone: (907) 272-7547




You may provide comments to USACE by:

- Submitting **written** comments;
- Attending a Public Meeting and making **oral** comments; or
- **Discussing** your concerns with the Project Manager, Carey Cossaboom.

USACE will prepare a written response to all significant comments. A summary of these responses will accompany the Decision Document. The Decision Document will be made available in the Administrative Record and Information Repositories.

Public Meeting

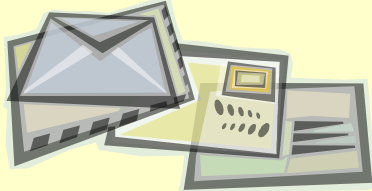
Date: TBD, 2008
Time: 2 pm
Place: Savoonga, Alaska



Public Comment Period

Ends June 30, 2008

Written or oral public comments are encouraged on the Proposed Plan. A pre-addressed comment form is also available.



Contact Information

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1.10 REFERENCES

- ADEC, 2006. Oil and Other Hazardous Substances Pollution Control 18 AAC 75, as amended through December 30, 2006.
- Bristol Environmental and Engineering Services Corporation (BEESC), 2004. Removal Action Report, Revision 2, White Alice Site Removal Action, Northeast Cape, St. Lawrence Island, Alaska. December.
- BEESC, 2006. Removal Action Report, Final, Northeast Cape Tram and Debris Removal Report, St. Lawrence Island, Alaska. September.
- Montgomery Watson (MW), 1995. Remedial Investigation, Northeast Cape, St. Lawrence Island, Alaska, Final Report. January.
- MW, 1999. Phase II Remedial Investigation Report, Northeast Cape, St. Lawrence Island, Alaska. August.
- MW, 2000. Phase II Remedial Investigation Report Addendum, 1999 Fieldwork, Northeast Cape, Alaska. June.
- Montgomery Watson Harza (MWH), 2002. Technical Memorandum. Background Determination for Risk Assessment, Northeast Cape, St. Lawrence Island, Alaska. March.
- MWH, 2003. Summary Report - Phase III Remedial Investigation, Northeast Cape, St. Lawrence Island, Alaska, Final. March.
- MWH, 2004. Human Health and Ecological Risk Assessment, Northeast Cape Installation, St. Lawrence Island, Alaska, Final. March.
- Northwest Environmental Services (NEC), 1995. Technical Memo: Removal Action at Northeast Cape, St. Lawrence Island, Alaska.
- R&M Consultants, Inc. 2007. Final Submittal, Geophysical Survey, Northeast Cape, St. Lawrence Island, Alaska. November.
- S&W, 2005. Final Report - Phase IV Remedial Investigation, Northeast Cape, St. Lawrence Island, Alaska. June.
- USACE, 2004a. Building Demolition/Debris Removal and Containerized Hazardous and Toxic Waste Removal Action Report, 2000 and 2001 Field Seasons, Northeast Cape, St. Lawrence Island, Alaska. August.
- USACE, 2007a. Feasibility Study, Northeast Cape FUDS, St. Lawrence Island, Alaska. March.
- USACE, 2007b. Proposed Plan, Northeast Cape Air Force Station, FUDS, St. Lawrence Island, Alaska. July.