



**Decision Document
Spill/Leak #1 (ST004)**

Final

Cape Lisburne LRRS, Alaska

Prepared By

**United States Air Force
Pacific Air Forces Command
611 CES, Alaska**

May 2007

PART 1: THE DECLARATION

SITE NAME AND LOCATION: This Environmental Restoration Program (ERP) site is known as the Spill/Leak #1, ST004. It is located at Cape Lisburne Long Range Radar Station (LRRS), along the Chukchi Sea and 35 miles from Point Hope, Alaska. The Alaska Department of Environmental Conservation (ADEC) Record Key number for this site is 199331X119602, and it is located at 68°52'19.06" N latitude, 166°5'26.34" W longitude (these coordinates represent the location of sample ST004SB03, which is at the approximate center of the site).

STATEMENT OF BASIS AND PURPOSE: This Decision Document presents the Air Force's decision that there is no authority under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to respond to Spill/Leak #1 (ST004), at Cape Lisburne LRRS, Alaska. Releases at this site are solely petroleum products, and under CERCLA 101 (14) and (33), petroleum products, including any fractions or derivatives of crude oil, are excluded from the definitions of hazardous substances, pollutants, or contaminants. The decision is made in accordance with CERCLA, as amended by the Superfund Amendments and Reauthorization Act, and to the extent practicable, the National Contingency Plan. This decision is based on the Administrative Record file for this site. The State of Alaska, Department of Environmental Conservation, concurs that the Air Force lacks CERCLA authority to respond to releases at the site, but that it does have Defense Environmental Restoration Program (DERP) authority to conduct environmental response actions. The United States Environmental Protection Agency (USEPA) has deferred regulatory authority at Cape Lisburne LRRS to the ADEC.

DESCRIPTION OF THE SELECTED REMEDY UNDER CERCLA: No remedy has been proposed or selected under CERCLA, as releases at the site are excluded from the CERCLA definitions of hazardous substances, pollutants, or contaminants.

STATUTORY DETERMINATIONS: Because only fuel and related substances are associated with this site, the Air Force does not have authority under CERCLA sections 104, 106, or 120 to address problems posed by the site. The release of petroleum products at this site are being addressed by Title 18, Chapter 75, Article 3, of the Alaska Administrative Code (AAC) Discharge Reporting, Cleanup and Disposal of Oil and Other Hazardous Substances regulations for the State of Alaska.

DESCRIPTION OF THE SELECTED REMEDY UNDER STATE LAW: The risk attributed to the concentrations of petroleum and related substances detected at ST004 has been determined to be insignificant to human health and the environment in its present location. The detected substances were all below risk-based thresholds established by ADEC.

However, diesel range organics (DRO) remain at ST004 above the most stringent Method Two soil cleanup levels (18 AAC 75.341, Table B2, Over 40-inch Zone, Migration to Groundwater); therefore, the site will be classified as conditionally closed under 18 AAC 75. In accordance with 18 AAC 75.325(i), the landowner of a site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be

disposed in surface water or other environmentally sensitive areas. The following selected remedy for site ST004 under state law is:

- Site boundaries will be surveyed to provide a description of the location where soil has a concentration of DRO above 230 mg/Kg;
- The Base Master Plan for Cape Lisburne LRRS will include a statement that ADEC approval is required prior to off-site transportation or disposal of site ST004 soil containing DRO above 230 mg/Kg;
- If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site ST004 soil containing DRO above 230 mg/Kg will be included in the property transfer documents;

The site will be granted closure without conditions when documentation is submitted to ADEC to confirm that DRO concentrations in the soil have degraded below 230 mg/Kg.

AUTHORIZING SIGNATURE: This Decision Document documents the United States Air Force's Cape Lisburne LRRS site ST004.

This decision may be reviewed and modified in the future if new information becomes available which indicates the presence of contamination or exposure that may cause a risk to human health or the environment.

JOSEPH M. SKAJA
Colonel, USAF
Commander, 611 ASG

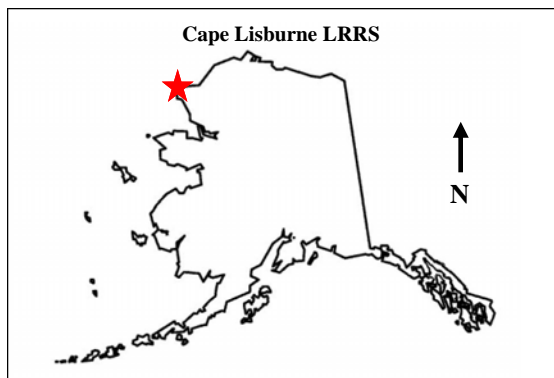
Date

JOHN HALVERSON
Environmental Program Manager
Alaska Department of Environmental Conservation

Date

PART 2: THE DECISION SUMMARY

SITE NAME, LOCATION, AND DESCRIPTION: The area known as Spill/Leak #1 is designated as ST004. ST004 is part of Cape Lisburne LRRS, located south of the Chukchi Sea. This site is located on a man-made gravel pad, east of the main composite building. In 1980, a 3,000-gallon diesel fuel spill reportedly occurred at ST004; however, the details of the spill are not well documented. An active 20,500-gallon AST, enclosed on all sides by a lined gravel berm, is located at the reported spill site. It is believed that the 1980 spill occurred when a previous tank in the same location was overfilled. An active tank farm is situated 150 feet southeast of the site; fuel is piped directly from the tank farm to the existing AST at ST004. The tank at ST004 has supply and return piping for fuel service to the composite building. This site is unvegetated, and overlies native bedrock at approximately 10 feet below ground surface. There are no recorded clean-up activities at the site. A site map is included in Figure 2-1. The DERP lead agency addressing ST004 is the United States Air Force (USAF), and the support agency is the State of Alaska Department of Environmental Conservation.



SITE HISTORY AND ENFORCEMENT ACTIVITIES: Cape Lisburne LRRS was operated as an auxiliary Distant Early Warning Line Station beginning in 1953. Construction was completed in 1952, and the high frequency radio was activated in 1953. This system was replaced with a White Alice Communication (WAC) system in 1957. In 1977, operation of the installation was switched from military to contractor personnel. The most recent technology upgrade at this station took place in 1985, with the installation of a minimally attended radar system. The LRRS continues to operate and is managed by six contractor personnel who live at the station year-round. The Spill/Leak #1 (ST004) site is located in the Lower Camp, near sea level, which also houses living quarters, a vehicle maintenance building, fuel storage tanks, and other support facilities. An Upper Camp, situated on a mountain plateau, contains the minimally attended radar station's radar equipment.



A view of ST004 looking south/southeast

A 1988 Record of Decision on ST004 recommended a decision of no further action, as there was little evidence of impacts from a spill at the site, and the site posed negligible risks to human health and the environment (USAF 1988). Sampling was conducted in the course of a 2003 Remedial Investigation to confirm these assumptions (USAF 2004). Studies and reports providing details of these investigations can be found in the Administrative Record file or the Information Repository.

COMMUNITY PARTICIPATION: Community involvement activities for Cape Lisburne LRRS include Restoration Advisory Board meetings in Point Hope, Alaska, and in Barrow, Alaska. A mailing list of interested parties is maintained and updated regularly by the Air Force Community Relations Coordinator. The administrative record for the Cape Lisburne LRRS contains the information used to support this decision and is accessible to the public. A website with the administrative record current up through 2004 is also available to the public at: <http://www.adminrec.com/PACAF.asp?Location=Alaska>. Information repositories are located in the City Office and in the School Library in Point Hope, as well as at Elmendorf Air Force Base. The most recent Management Action Plan was published in 1997 (USAF 1997) and is part of the Administrative Record.

SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION: The site is not part of an operable unit. There are eight other sites at Cape Lisburne being addressed under the Air Force Environmental Restoration Program; however, there is no anticipated migration of contaminants or chemical interaction between this site and the other sites. There is no potential for a response action at this site to affect response actions at any other site.

SITE CHARACTERISTICS: Soil samples were collected from the Spill/Leak #1 site area during a remedial investigation in 2003. Samples were analyzed for fuels (gasoline, diesel, and residual range organics), benzene, toluene, ethylbenzene, xylenes, and polynuclear aromatic hydrocarbons. A summary of the sample results in which compounds were detected is provided in Table 2-1. Groundwater is not a current or future source of drinking water at Cape Lisburne LRRS because the site is underlain by at least 1,440 feet of continuous permafrost. The site conditions are dry, and subsurface water was not encountered in shallow (0-2 feet bgs) test pits and borings at the site. The nearest surface water body to the site is the Chukchi Sea, which is approximately 700 feet away. This site has low transport potential, and contamination is not likely to pose a threat to surrounding surface waters. No additional investigation or cleanup is necessary. The contaminants of concern at this site are limited to low level residual petroleum hydrocarbons, which should remain in place and degrade over time. No CERCLA hazardous substances were identified at the site, and there is no evidence that CERCLA hazardous substances were stored or released at this site. The ADEC has indicated that the remedial investigation report has met the requirements of State regulation in regards to the investigation of ST004 and that no further investigation or cleanup is required.

DESCRIPTION OF THE SELECTED REMEDY UNDER STATE LAW: The risk attributed to the concentrations of petroleum and related substances detected at ST004 has been determined to be insignificant to human health and the environment in its present location. The detected substances were all below risk-based thresholds established by ADEC.

However, diesel range organics (DRO) remain at ST004 above the most stringent Method Two soil cleanup levels (18 AAC 75.341, Table B2, Over 40-inch Zone, Migration to Groundwater); therefore, the site will be classified as conditionally closed under 18 AAC 75. In accordance with 18 AAC 75.325(i), the landowner of a site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be

disposed in surface water or other environmentally sensitive areas. The following selected remedy for site ST004 under state law is:

- Site boundaries will be surveyed to provide a description of the location where soil has a concentration of DRO above 230 mg/Kg;
- The Base Master Plan for Cape Lisburne LRRS will include a statement that ADEC approval is required prior to off-site transportation or disposal of site ST004 soil containing DRO above 230 mg/Kg;
- If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site ST004 soil containing DRO above 230 mg/Kg will be included in the property transfer documents;

The site will be granted closure without conditions when documentation is submitted to ADEC to confirm that DRO concentrations in the soil have degraded below 230 mg/Kg.

STATUTORY AUTHORITY FINDING: Because only fuel and related substances are associated with this site, the Air Force does not have authority under CERCLA sections 104, 106, or 120 to address the site.

REFERENCES:

USAF. 1988. *Technical Support Document for Record of Decision, Cape Lisburne AFS, Alaska*. February.

USAF. 1997. *Final Management Action Plan, Cape Lisburne LRRS, Alaska*. Prepared by Hart Crowser. November.

USAF. 2004. *Remedial Investigation Report for Sites ST004 and ST005, Cape Lisburne Long Range Radar Station, Alaska*. Prepared by Hoefler Consulting Group. July.

Table 2-1 ST004 Summary of Soil Sample Results

Media	Analyte ¹	Screening Criteria		2003 RI/FS Maximum Concentration ⁴
		18 AAC 75 Method Two Soil Cleanup Levels for the Arctic Zone ²	Full Closure Criteria ³	
Soil (mg/Kg)	Fuels			
	GRO	1,400	260	140 J,M
	DRO	12,500	230	2,810
	RRO	13,700	9,700	493 M
	VOCs			
	Benzene	13	0.02	0.0175 F
	Ethylbenzene	89	5	0.723
	Toluene	180	4.8	0.224
	Xylene (total)	81	69	7.72
	PAHs			
	Acenaphthene	8,200	190	0.0405 F,M
	Acenaphthylene	8,200	190	0.00233 F
	Anthracene	41,000	3,900	0.0271
	Benzo(a)Anthracene	15	5.5	0.0304
	Benzo[a]pyrene	15	2.4	0.0265
	Benzo[b]Fluoranthene	15,000	17	0.0247
	Benzo[g,h,i]perylene	4,100	1,400	0.0139
	Benzo[k]fluoranthene	150	170	0.017
	Fluoranthene	5,500	1,900	0.06
	Chrysene	1,500	550	0.0349
	Phenanthrene	41,000	3,900	0.0558
	Dibenzo[a,h]anthracene	1.5	5	0.00427 F
	Fluorene	5,500	240	0.0347
	Pyrene	4,100	1,400	0.0544
	Indeno[1,2,3-c,d]pyrene	15	50	0.0124
	Naphthalene	180	19	0.328 M

Notes

1-Only detected compounds or compounds of interest are shown.

2-The Method Two soil cleanup level for the Arctic Zone corresponds to the lowest value for ingestion or inhalation as listed in 18 AAC 75.341 Method Two cleanup levels are protective of human health under a residential scenario. These criteria are sufficient for conditional closure of the site.

3-To achieve full closure instead of conditional closure, the most stringent Method Two soil cleanup levels must be achieved. These levels are listed in 18 AAC 75.341, Tables B1 and B2 for the Over 40 Inch Zone, Migration to Groundwater pathway.

4-Maximum concentrations reported estimated and quantifiable values only. Values below the PQL were not considered.

Abbreviations

F	Estimated quantity below the PQL	GRO	Gasoline Range Organics
PQL	Practical Quantitation Limit	DRO	Diesel Range Organics
NA	Not Applicable	RRO	Residual Range Organics
J	Estimated value	VOCs	Volatile Organic Compounds
M	Matrix effect	PAHs	Polynuclear Aromatic Hydrocarbons

Bold and shaded items indicate an exceedance of the full closure criteria.

Figure 2-1 ST004 Site Map and Summary of Sample Locations

