United States Air Force
611th Air Support Group/
Civil Engineering Squadron

Elmendorf AFB, Alaska

Final

Decision Document for
No Further Response Action Planned

Barter Island Radar Installation,
Alaska

03 MAY 1996

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Prepared by:

ICF Technology Incorporated

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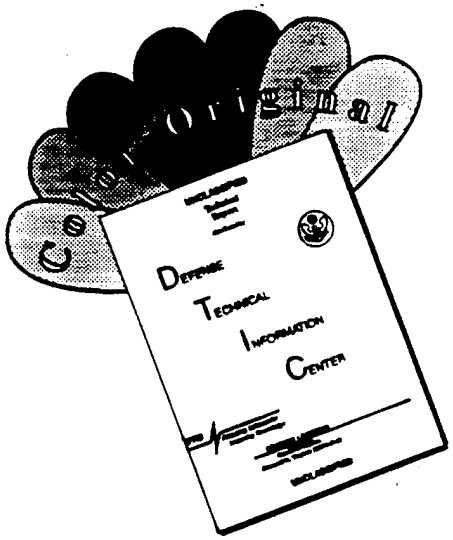
DISCLAIMER NOTICE



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PREFACE

This report presents information supporting decisions for no further action at nine sites located at the Barter Island radar installation in northern Alaska. The sites were characterized based on sampling and analyses conducted during Remedial Investigation activities performed during August and September 1993. This report meets the requirements of the United States Air Force (Air Force) Installation Restoration Program (IRP) and is designed to comply with all federal, state, and local laws governing the conduct of environmental investigations in Alaska. This report was prepared by ICF Technology Incorporated.

This report was prepared between December 1995 and May 1996. Mr. Samer Karmi of the Air Force Center for Environmental Excellence Environmental Restoration Division (AFCEE/ESR) was the Alaska Restoration Team Chief for this task. Dr. Jerome Madden and Mr. Richard Borsetti of the 611 CES/CEVR were the Remedial Project Managers for the project.

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NOTICE

This report has been prepared for the Air Force by ICF Technology Incorporated to support no further action decisions for specified sites under the Air Force Installation Restoration Program (IRP). The limited objectives of this report and the ongoing nature of the IRP, along with the evolving knowledge of site conditions and chemical effects on the environment and health, must be considered when evaluating this report, since subsequent facts may become known which may make this report premature or inaccurate. Acceptance does not mean that the Air Force adopts the conclusions, recommendations or other views expressed herein, which are those of the contractor only and do not necessarily reflect the official position of the Air Force.

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LIST OF ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
AFCEE/ESR	Air Force Center for Environmental Excellence Environmental Restoration Division
ARAR	Applicable or Relevant and Appropriate Requirements
Air Force	United States Air Force
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DEW	Distant Early Warning
DRPH	Diesel Range Petroleum Hydrocarbons
DTIC	Defense Technical Information Center
EPA	U.S. Environmental Protection Agency
GRPH	Gasoline Range Petroleum Hydrocarbons
IRP	Installation Restoration Program
PCB	Polychlorinated Biphenyl
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RRPH	Residual Range Petroleum Hydrocarbons
SVOC	Semi-Volatile Organic Compounds
TPH	Total Petroleum Hydrocarbon
VOC	Volatile Organic Compound

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1.0 INTRODUCTION

This Decision Document discusses the selection of no further action as the recommended action for nine sites located at the Barter Island radar installation. The United States Air Force (Air Force) completed a Remedial Investigation/Feasibility Study and a Risk Assessment for the 14 sites located at the Barter Island installation (U.S. Air Force 1996a,b). Based on the findings of these activities, nine sites are recommended for no further action. Each recommendation for no further action is based on one or more of the following criteria:

- The findings of the Remedial Investigation/Feasibility Study demonstrate that chemical constituents are not present or occur at low concentrations;
- There is no unacceptable risk to potential human or ecological receptors posed by chemical constituents detected at the site; and
- The Air Force was unable to identify a source of suspected contamination during the Remedial Investigation/Feasibility Study process.

The following nine sites at the Barter Island radar installation are recommended for no further action:

- Old Landfill (LF01);
- Current Landfill (LF04);
- Contaminated Ditch (SD08);
- Old Runway Dump (LF12);
- Weather Station Building (SS15);
- POL Tanks (ST17);
- Fuel Tanks (ST18);
- Old Dump Site (LF19); and
- Bladder Diesel Spill (SS20).

The recommendation of no further action is considered to be protective of human health and the environment, to be cost effective, and to meet applicable or relevant and appropriate requirements (ARARs). Sites at the Barter Island installation requiring remedial action or further investigation are addressed in the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a).

The Distant Early Warning (DEW) Line community relations program, which includes the community of Kaktovik, was developed to educate the residents on the nature of the Installation Restoration Program (IRP) activities and findings and to ensure the community has input to the decision-making process. The activities include researching, developing, and maintaining a mailing list; producing and distributing fact sheets; posting project information at the community general store; and establishing and maintaining administrative records/information repositories at the Elmendorf Air Force Base in Anchorage, at the Tuzvy Library in Barrow, and at the Kaveolook School in Kaktovik, Alaska. The Air Force will continue to seek input from the

community by organizing a Restoration Advisory Board (RAB) information meeting and being available for informal visits and small group meetings. The Air Force will broadcast radio announcements, hang posters in public areas, and publish notices announcing RAB informational meetings to inform the community.

In October 1994, a fact sheet was distributed to everyone on the mailing list summarizing public involvement opportunities during the overall remedial action decision making process. The fact sheet provided a brief history of the DEW Line installations, an overview of the IRP, an update on the environmental investigations at each site, and a description of the Community Relations Plan, including Air Force plans to keep the community informed about environmental activities at the various installations. The fact sheet also provided a general schedule of the process leading up to the public comment period. The Final Remedial Investigation/Feasibility Study, Final Risk Assessment, and Draft Final Decision Document for Barter Island were placed in the information repository for public review in February 1996. A fact sheet explaining the Remedial Investigation/Feasibility Study and Risk Assessment findings was prepared and distributed to individuals on the mailing list. A public comment period on the Draft Final Decision Document for the Barter Island installation was announced via public notice published in the North Slope Sentinel, and via posters mailed to the city office. The Air Force received no public response during the formal comment period.

To facilitate public participation, the Final Remedial Investigation/Feasibility Study, Final Risk Assessment, and Draft Final Decision Document for the Barter Island radar installation were placed in the Administrative Record/Information Repository at the Elmendorf AFB in Anchorage and at the Tuzvy Library in Barrow, Alaska. In addition, the public had the opportunity to review these documents at the Kaveolook School in Kaktovik, Alaska. The public comment period for the Draft Final Decision Document for the no further action sites was from February 9 to March 9, 1996. Individuals who visited the repositories over the course of the public comment period were asked to sign in so that the Air Force could determine if the repository was being used. The repository was not visited during the comment period as per the sign in sheet. Questions or comments in regard to information presented in these documents should be addressed to:

Mr. Roger Lucio
Community Relations Coordinator
611 CES/CEVR
6900 - 9th Street, Suite 360
Elmendorf AFB, Alaska 99506-2270
(907) 552-4532 or 1-800-222-4137

1.1 OVERVIEW OF THE BARTER ISLAND RADAR INSTALLATION RESTORATION PROGRAM

The Barter Island radar installation was the prototype DEW Line station and has been in active use since 1952. The installation is located on an island at 70°08'N, 143°35'W, approximately 75 miles west of the Canadian border on the Arctic Coastal Plain, adjacent to the native village of Kaktovik. The facility is established in 4,353 acres of low-lying tundra on the northern border of

the Alaska National Wildlife Refuge. The maximum elevation on Barter Island is 55 feet above mean sea level, and drainage is radially away from the high points. The Barter Island installation is situated adjacent to the northern coast, on a relatively flat area below a gradual slope. Upslope from the installation is a freshwater lake used as a drinking supply for the installation and community of Kaktovik. The community of Kaktovik has a population of approximately 225, and the radar installation is operated and maintained by approximately four contract personnel. The general location of the Barter Island radar installation is shown on Figure 1-1. An area location map is presented in Figure 1-2.

The Air Force initiated IRP activities at the Barter Island radar installation in 1980 in response to the Department of Defense's commitment to identify past waste disposal sites and eliminate hazards to public health. The initial Phase I activities conducted by the Air Force concluded that past waste management activities at the installation may have resulted in adverse environmental impacts at several sites (CH2M Hill 1981). In 1986, the Air Force initiated IRP Phase II activities designed to confirm and quantify the nature and extent of environmental impairment identified during Phase I. Phase II activities involved limited field investigations of specific sites that were identified in the Phase I Installation Assessment/Record Search activities (Dames and Moore 1987).

By 1988, the Air Force had replaced the phased approach with an approach similar to the Remedial Investigation/Feasibility Study activities of the U.S. Environmental Protection Agency (EPA). Remedial Investigation/Feasibility Study Stage 3 activities were completed at five sites in June 1988. Remedial Investigation/Feasibility Study activities included soil, surface water, and sediment sampling, a hydrologic assessment, a demographic survey, an endangerment assessment, a risk assessment, and a feasibility study of remedial alternatives. The Stage 3 Final Report recommended a no further action decision for all sites at the Barter Island installation (Woodward-Clyde 1990a).

Interim remedial actions were conducted by the Air Force in 1992 at the Old Landfill (LF01), Current Landfill (LF04), and Contaminated Ditch (SS08). Interim remedial actions included construction of a seawall at the Old Landfill and general cleanup of water and debris at all three of the sites.

The Air Force prepared an IRP Decision Document for Barter Island in October 1990 (Woodward-Clyde 1990b) that concluded no further action was needed at five sites. However, the Alaska Department of Environmental Conservation (ADEC) indicated that further investigation was needed and that corrective action appeared necessary at several sites. The Air Force initiated Remedial Investigation/Feasibility Study activities at the Barter Island radar installation in the summer of 1993. During the initial scoping activities, the Air Force and ADEC personnel concluded that 14 sites warranted investigation under the IRP.

The Air Force conducted Remedial Investigation/Feasibility Study field activities at the Barter Island radar installation during 1993. The objectives of these activities were to confirm the presence or absence of chemical contamination at specific areas of the installation; define the extent and magnitude of confirmed chemical releases; gather adequate data to determine the

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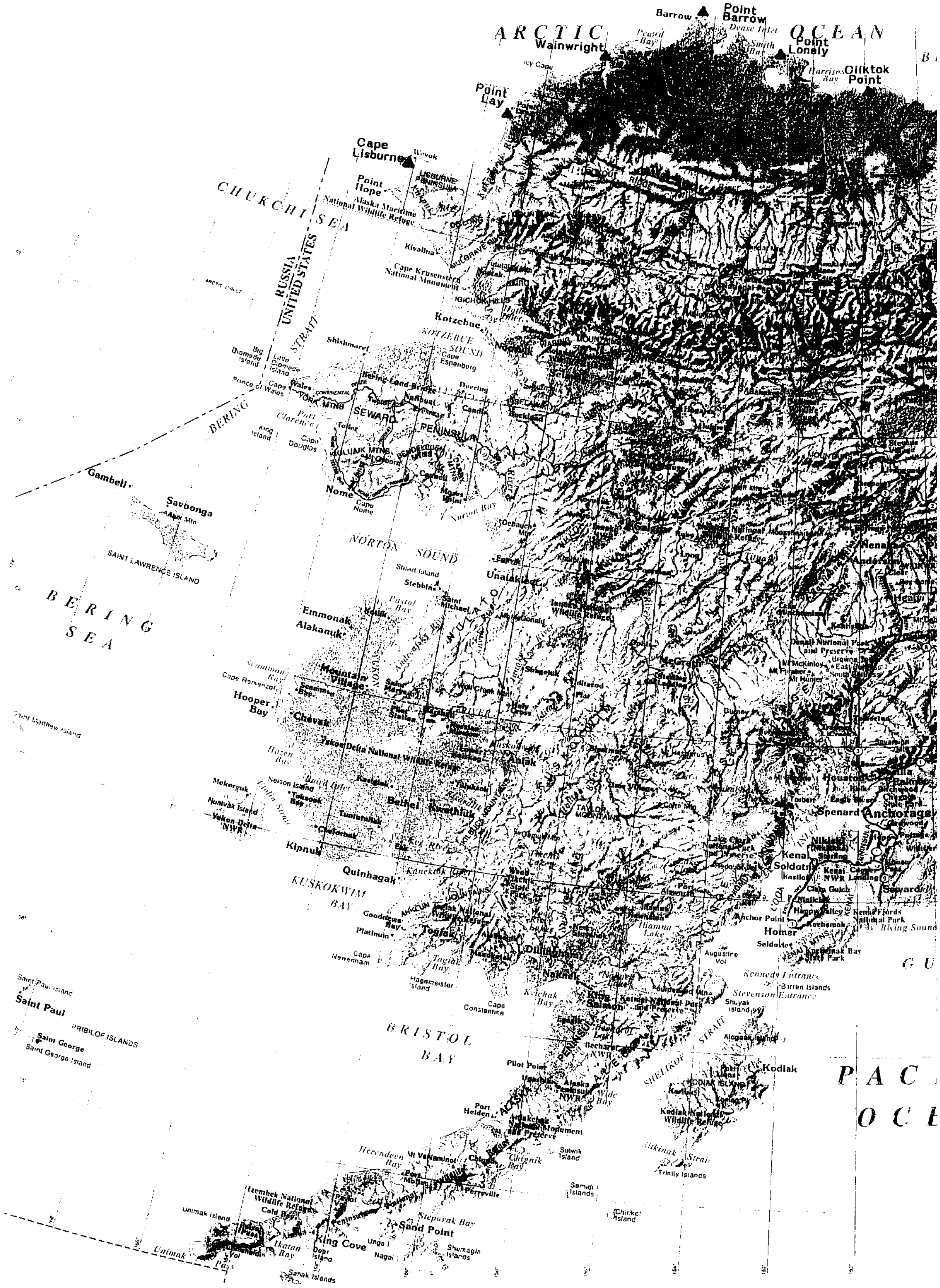
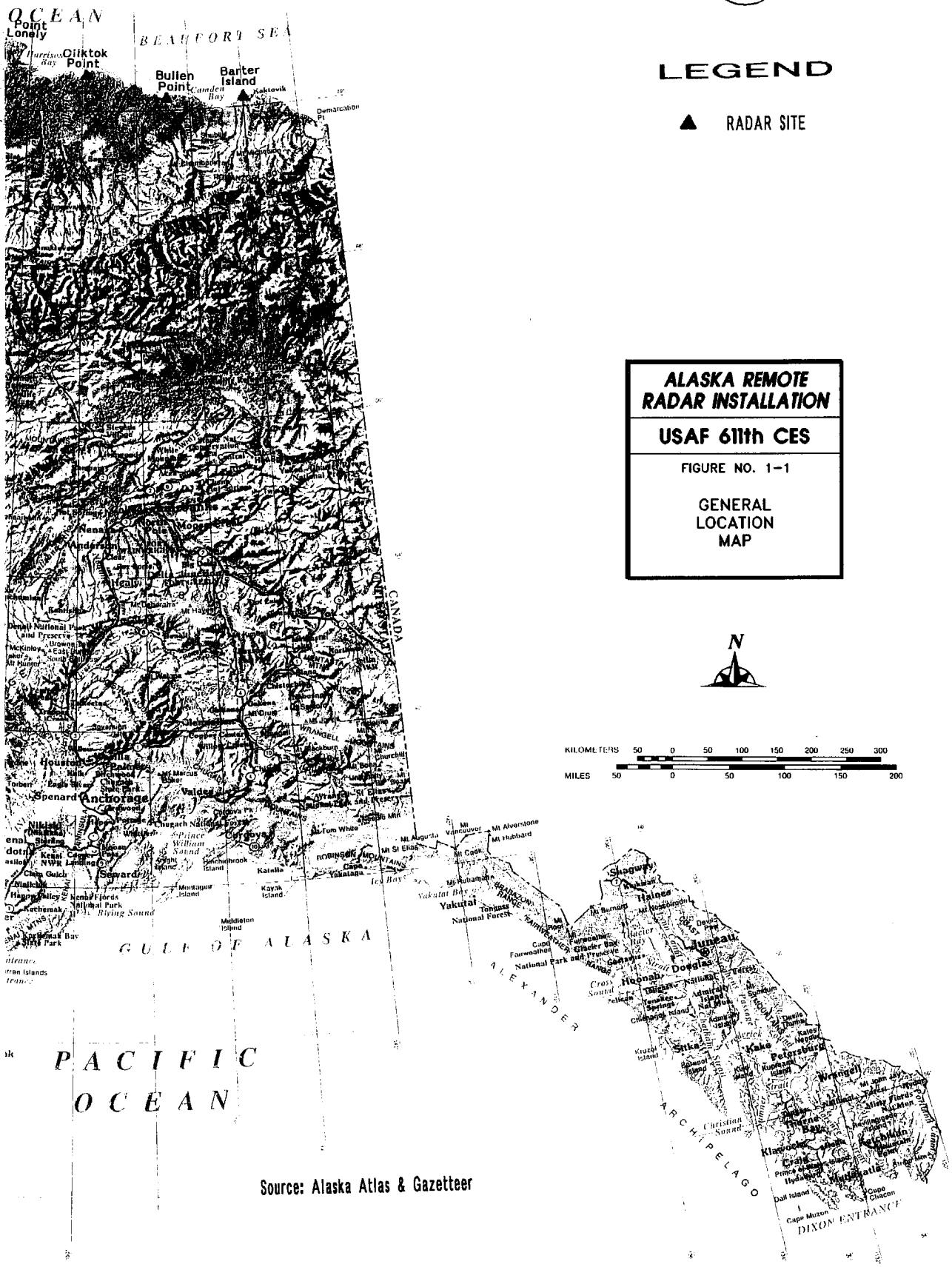
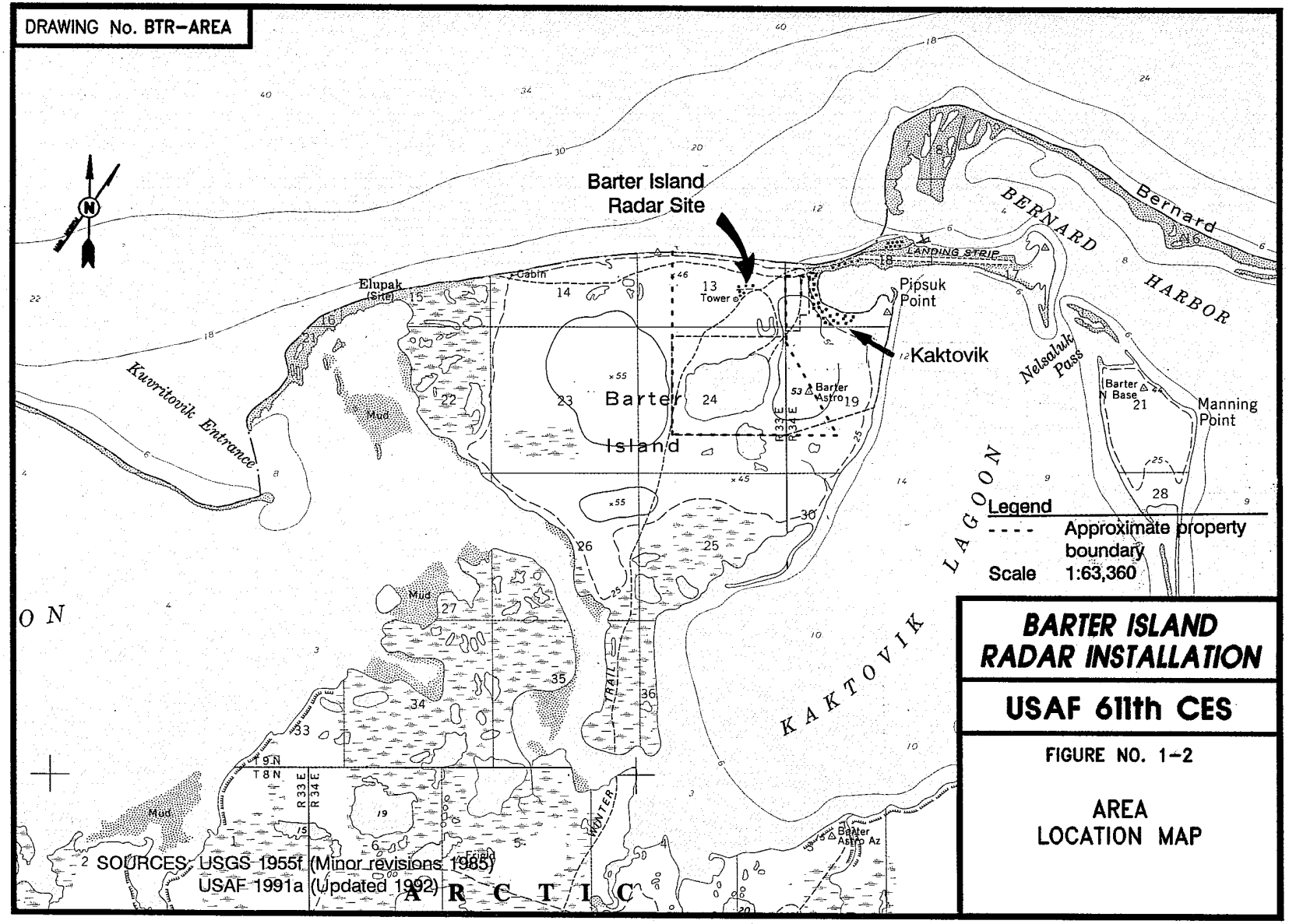

ARCTIC OCEAN
Barrow
Point Barrow
Wainwright
Point Lonely
Oliktok Point
Point Lay
Cape Lisburne
Point Hope
CHUKCHI SEA
RUSSIA
UNITED STATES
Kotzebue
KOTZEBUE SOUND
Shishmaref
Cape Espenberg
Wales
SEWARD PENINSULA
BERING STRAIT
Nome
Gambell
Savoonga
SAINT LAWRENCE ISLAND
BERING SEA
NORTON SOUND
Unalakleet
Stebbins
Emmonak
Alakanuk
Mountain Village
Hooper Bay
Chevak
Bethel
Kipnuk
Quinhagak
KUSKOKWIM BAY
Platinum
Dillingham
Naknek
King Salmon
BRISTOL BAY
Saint Paul
PRIBILOF ISLANDS
Saint George
Pilot Point
Port Heiden
Perryville
Sand Point
King Cove
Unimak Island
Kodiak
Anchorage
Spenard
Kenai
Soldotna
Homer
Seward

(2)



Source: Alaska Atlas & Gazetteer


DRAWING No. BTR-AREA
Barter Island
Radar Site
BERNARD
HARBOR
Bernard
LANDING STRIP
Elupak
(Site)
Cabin
Pipsuk
Point
Kaktovik
Nelsaluk
Pass
Barter
N Base
Manning
Point
Kuvvitovik Entrance
Barter
Island
Barter
Astro
Mud
LAGOON
KAKTOVIK
TRAIL
WINTER
Legend
Approximate property
boundary
Scale 1:63,360
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 1-2
AREA
LOCATION MAP
SOURCES: USGS 1955f (Minor revisions 1985)
USAF 1991a (Updated 1992)
A R C T I C

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magnitude of potential risks to human health and the environment; and gather adequate data to identify and select the appropriate remedial actions for sites where apparent risks exceed acceptable limits. The Final Barter Island Remedial Investigation/Feasibility Study was completed in January 1996 (U.S. Air Force 1996a).

Once the data had been validated and compiled, the Air Force conducted human and ecological risk assessments to evaluate the human health and ecological risks that may be associated with chemicals released to the environment. The risk assessments characterized the probability that measured concentrations of hazardous chemical substances will cause adverse effects in humans or the environment in the absence of remediation. The risk assessment is used in conjunction with state and federal standards and/or guidance to determine if site remediation is warranted. The Final Barter Island Risk Assessment was completed in January 1996 (U.S. Air Force 1996b).

Based on the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and Final Barter Island Risk Assessment (U.S. Air Force 1996b), remedial actions are recommended at four of the sites, further characterization is recommended at one site, and no further action is recommended at the remaining nine sites.

1.2 DECISION DOCUMENT ORGANIZATION

Section 1.0 of this decision document presents general information regarding the Barter Island radar installation, past environmental investigations, and community involvement activities conducted by the Air Force. Sections 2.0 through 10.0 present the Decision Documents for the nine no further action sites. These sections are intended to be stand-alone documents summarizing information from the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment Report (U.S. Air Force 1996b). Table 1-1 presents the nine sites and the section of this document applicable to each site. The locations of the nine sites recommended for no further action site are presented in Figure 1-3.

TABLE 1-1. BARTER ISLAND NO FURTHER ACTION SITES

SITE NAME	SITE NUMBER	SECTION NUMBER
Old Landfill	LF01	2.0
Current Landfill	LF04	3.0
Contaminated Ditch	SD08	4.0
Old Runway Dump	LF12	5.0
Weather Station Building	SS15	6.0
POL Tanks	ST17	7.0
Fuel Tanks	ST18	8.0
Old Dump Site	LF19	9.0
Bladder Diesel Spill	SS20	10.0

The organization of Sections 2.0 through 10.0 was developed based on guidance received from the ADEC. Each section includes a Declaration of Decision that contains a Statement of Basis, a Description of the Selected Remedy, a Declaration, and signature pages for ADEC and Air Force representatives. The Declaration of Decision is followed by information to support the Decision Document including site identification and history, investigation findings, results of the risk assessment, the selected remedial action, and references used to support the Decision Document.

1.3 REFERENCES

CH2M Hill. 1981. Installation Restoration Program Search, Alaska Dewline Stations. Prepared for the United States Air Force.

Dames and Moore. 1987. Installation Restoration Program, Phase II, Stage 2 - Confirmation/ Quantification. Prepared for USAFOEHL/TS.

Delorme Mapping. 1992. Alaska Atlas and Gazetteer. First Edition. Second Printing.

U.S. Air Force. 1991. Real Estate Map, Barter Island LRR Site, Alaska (Updated 1992).

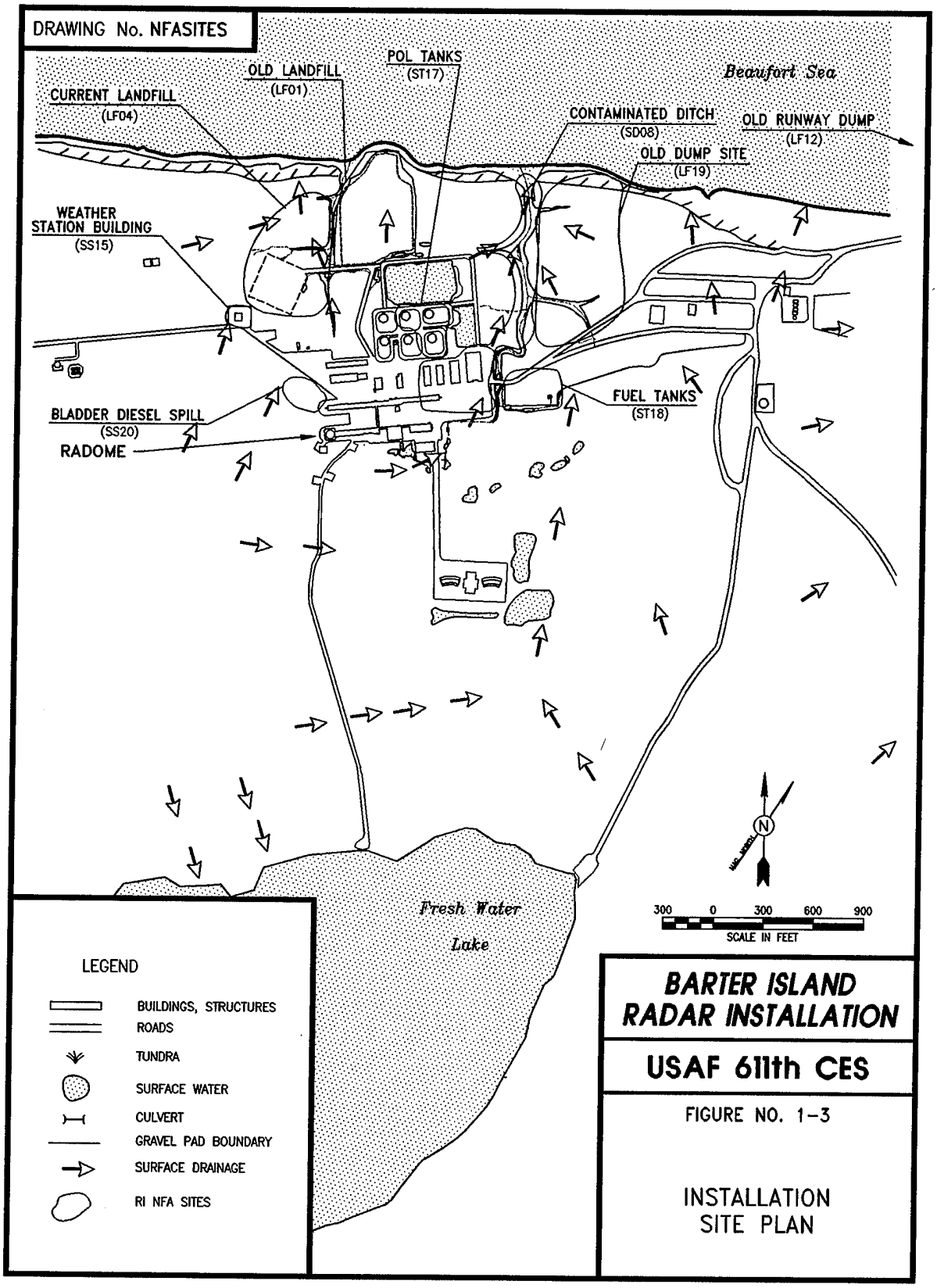
U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Risk Assessment for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S.G.S. 1995 (minor revision 1985). Barter Island (A-5) Quadrangle, Alaska, 1:63,360 Series (Topographic).

Woodward-Clyde. 1990a. Installation Restoration Program Remedial Investigation/Feasibility Study, Stage 3, Barter Island (BAR-M) AFS, Alaska; Bullen Point (POW-3) AFS, Alaska; Point Lonely (POW-1) AFS, Alaska. Final Report.

Woodward-Clyde. 1990b. Installation Restoration Program Remedial Investigation/Feasibility Study, Stage 3, Technical Document to Support No Further Action. Barter Island AFS (BAR-M), Alaska.


DRAWING No. NFASITES
OLD LANDFILL
(LF01)
POL TANKS
(ST17)
Beaufort Sea
CURRENT LANDFILL
(LF04)
CONTAMINATED DITCH
(SD08)
OLD RUNWAY DUMP
(LF12)
OLD DUMP SITE
(LF19)
WEATHER
STATION BUILDING
(SS15)
FUEL TANKS
(ST18)
BLADDER DIESEL SPILL
(SS20)
RADOME
Fresh Water
Lake
N
300 0 300 600 900
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
RI NFA SITES
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 1-3
INSTALLATION
SITE PLAN

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DECISION DOCUMENT FOR
NO FURTHER RESPONSE ACTION PLANNED
BARTER ISLAND RADAR INSTALLATION

SECTION 2.0

SITE NUMBER	SITE NAME
LF01	Old Landfill

2.0 DECLARATION OF DECISION
Old Landfill (LF01)

SITE NAME AND LOCATION

Site Number: LF01
Site Name: Old Landfill
Location: Barter Island Radar Installation, Alaska

STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil, surface water, and sediment sampling for inorganics and organics and the completion of a human health and ecological risk assessment, potential adverse effects to human and ecological receptors resulting from conditions at the Old Landfill, site LF01, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the Old Landfill (LF01), it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, is required.

DECLARATION

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

UNITED STATES AIR FORCE

Signature: _____ Date: _____

Name: Samuel C. Johnson, III, Colonel, USAF
Commander, 611th Air Support Group

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REVIEW AND CONCURRENCE: STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Signature: _____ Date: _____

Kurt Fredriksson
Director, Division of Spill Prevention and Response

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2.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the Old Landfill, site LF01.

2.1.1 Site History

Old Landfill (LF01) is located adjacent the Beaufort Sea at the northernmost boundary of Barter Island (Figure 2-1). The Old Landfill was operational between 1956 and 1978 and is approximately two to three acres in size. Historically, the Old Landfill received all wastes generated at the station and the nearby village of Kaktovik. Reportedly it received household waste, human and animal waste, drums, and other maintenance wastes. In 1992 the Air Force conducted interim remedial actions at the site that included compaction, grading, removal of drums, installation of a gravel cap, and a general cleanup of exposed waste. A seawall was constructed on the north end of the landfill in 1992 to prevent erosion of the landfill by coastal wave processes.

Twelve samples were collected during the 1993 RI from gravel pads, ponds, and streams at or adjacent to the Old Landfill site. Organic compounds were detected in soil, sediment, and surface water samples. Several metals were detected in soil/sediment and surface water samples above background levels.

Sampling and analyses have determined that the Old Landfill (LF01) site is not significantly contaminated. Only relatively low levels of organic compounds were detected at the site, and only one metal detected above background levels in surface water was identified as a chemical of concern at the site. Migration of contaminants from the site appears minimal based on the soil, sediment, and surface water samples collected in drainage pathways from the landfill.

2.1.2 Sample Analyses Summary

Historic sampling conducted at the Old Landfill (LF01) (Dames and Moore 1986, 1987; Woodward-Clyde 1990) detected concentrations of lead, polychlorinated biphenyls (PCB), petroleum residues (measured as total petroleum hydrocarbons [TPH]) in soil samples collected in the drainage pathway bordering the west side of the landfill. Volatile organic compounds (VOCs) and TPH were also identified in two surface water samples from the landfill perimeter. Historic sampling encompassed 13 samples collected from eight locations surrounding the landfill. A summary of sample analytical results for historic investigations is presented in Table 2-1.

During the 1993 RI the Air Force collected 12 soil, sediment, and surface water samples from the same general locations as the historic investigations (U.S. Air Force 1996a). Soil samples contained residual range petroleum hydrocarbons (RRPH) and VOCs. Two surface water samples contained VOCs. Manganese was detected at concentrations exceeding background levels and regulatory action levels in two surface water samples. Table 2-2 summarizes organic chemicals detected above background levels and inorganics detected that were determined to

TABLE 2-1. SUMMARY OF HISTORIC SAMPLING AT THE OLD LANDFILL (LF01)

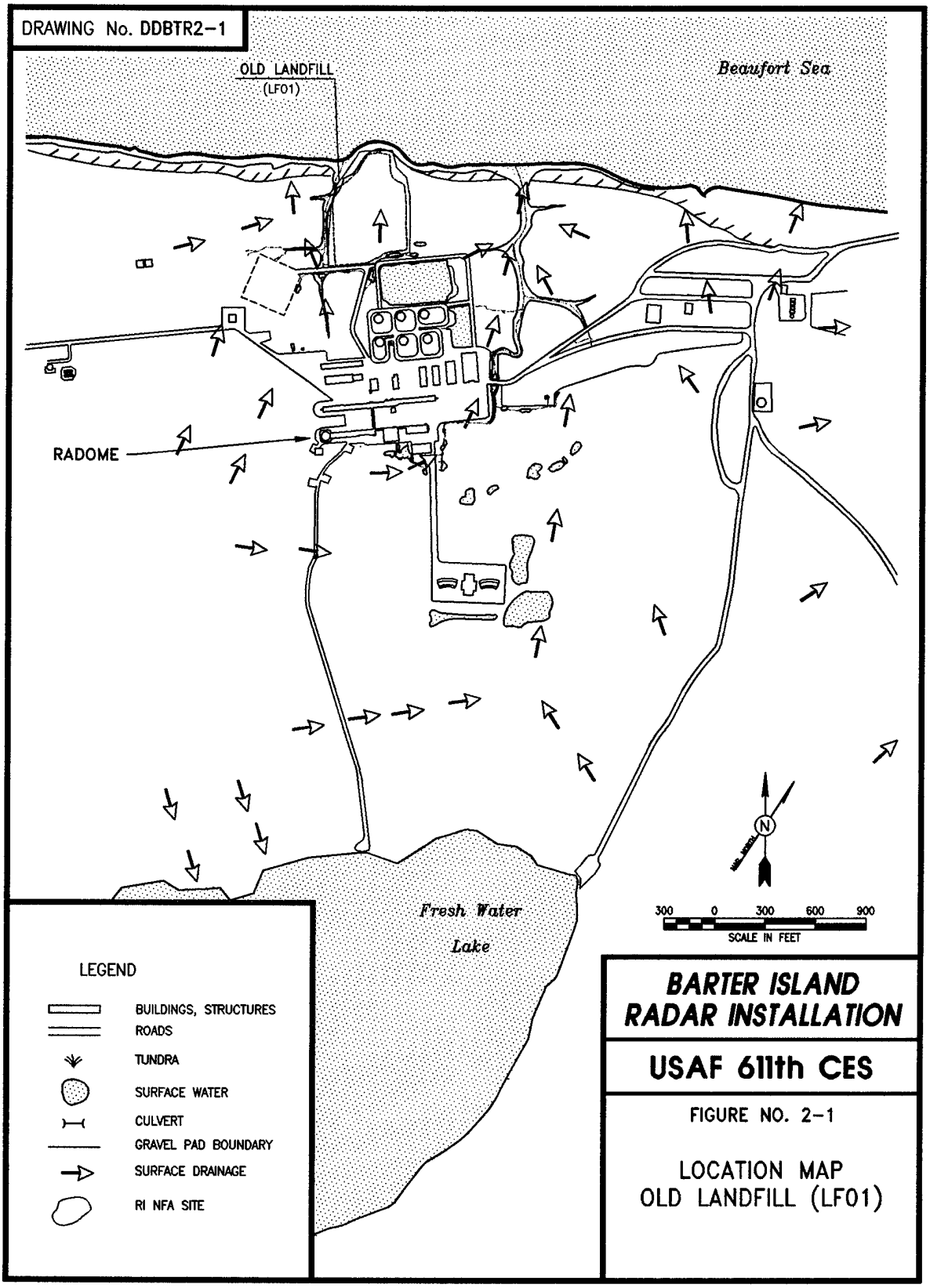
CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
Lead	Soil	76 mg/kg	1
Polychlorinated Biphenyl	Soil	72 mg/kg	2
TPH[a]	Soil	96 mg/kg	1
TPH	Surface Water	800 µg/L	2
Coliform	Surface Water	20 MPN/L	1
Bromomethane	Surface Water	15 µg/L	1
1,1 Dichloroethane	Surface Water	4.1 µg/L	2
Methylene Chloride	Surface Water	16 µg/L	2
trans-1,2-Dichloroethene	Surface Water	2.0 µg/L	2
Trichloroethene	Surface Water	290 µg/L	2
1,1,1 Trichloroethane	Surface Water	1.1 µg/L	1
Trichlorofluoromethane	Surface Water	4.6 µg/L	2

[a] TPH = Total Petroleum Hydrocarbons.

TABLE 2-2. SUMMARY OF 1993 REMEDIAL INVESTIGATION SAMPLING AT OLD LANDFILL (LF01)

CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
RRPH[a]	Soil/Sediment	530 mg/kg	1
1,4-Dichlorobenzene	Soil/Sediment	0.044 mg/kg	1
Naphthalene	Soil/Sediment	0.105 mg/kg	1
1,2,4-Trichlorobenzene	Soil/Sediment	0.046 mg/kg	1
1,2,4-Trimethylbenzene	Soil/Sediment	0.041 mg/kg	1
Xylenes (M & P)	Soil/Sediment	0.033 mg/kg	1
p-Isopropyltoluene	Surface Water	1.7 µg/L	1
Toluene	Surface Water	56 µg/L	1
Manganese	Surface Water	1,500 µg/L	2

[a] RRPH = Residual Range Petroleum Hydrocarbons.


DRAWING No. DDBTR2-1
OLD LANDFILL
(LF01)
Beaufort Sea
RADOME
Fresh Water
Lake
300 0 300 600 900
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
RI NFA SITE
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 2-1
LOCATION MAP
OLD LANDFILL (LF01)

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be of concern based on regulatory action levels. Sample locations and results are shown on Figure 2-2.

A comparison of historical and 1993 RI data indicates contaminant concentrations are lower now than during previous IRP investigations. Petroleum hydrocarbon identification methods used during the 1993 RI were in accordance with State of Alaska requirements, which report findings as residual, gasoline, or diesel range petroleum hydrocarbons. The sum of gasoline and diesel range petroleum hydrocarbons is comparable with petroleum hydrocarbon analyses conducted during historic investigations (gasoline and diesel range petroleum hydrocarbons were not detected at this site during 1993 RI sampling). The suspected source of contamination is garbage and debris buried in the landfill. The Air Force conducted a general cleanup of the landfill in 1992. This activity included compaction, grading, removal of drums, installation of a gravel landfill cap, and general cleanup of exposed waste. This activity may provide a partial explanation for the observed reduction in contaminant concentrations.

2.1.3 Risk Assessment Summary

The Final Barter Island Risk Assessment (U.S. Air Force 1996b) concluded that risks posed to human and ecological receptors by site contaminants are minimal given current or future site uses. A potential human health noncancer hazard was identified in surface water due to the levels of manganese, which exceed site background levels and risk-based screening levels (ADEC has not established an action level for manganese). The potential hazard was calculated conservatively based on a future scenario in which the site surface water would be used as a drinking water supply and is likely to be overestimated.

Based on the 1993 RI sampling and analyses, risk assessment, and current or future site uses, remedial actions are not warranted at the site. No chemicals detected at the site exceed Applicable or Relevant and Appropriate Requirements (ARARs), and no significant human health or ecological risks were identified at the site. Therefore, the Old Landfill (LF01) site is recommended for no further action.

2.2 PUBLIC INVOLVEMENT AND COMMENT

Community relations activities that have taken place for the Barter Island radar installation include the following: residents of Kaktovik were interviewed by Air Force community relations personnel on 29 June, 1993 and 7 July, 1993; a mailing list of residents of Kaktovik is being maintained by the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published in February 1996 regarding the decision for no further action at the Old Landfill (LF01); fact sheets were sent to all residents on the mailing list during early February 1996 describing the sites recommended for no further action at the Barter Island radar installation; a public review and comment period on the Draft Final Decision Document for no further action sites was held from 9 February to 9 March, 1996; and

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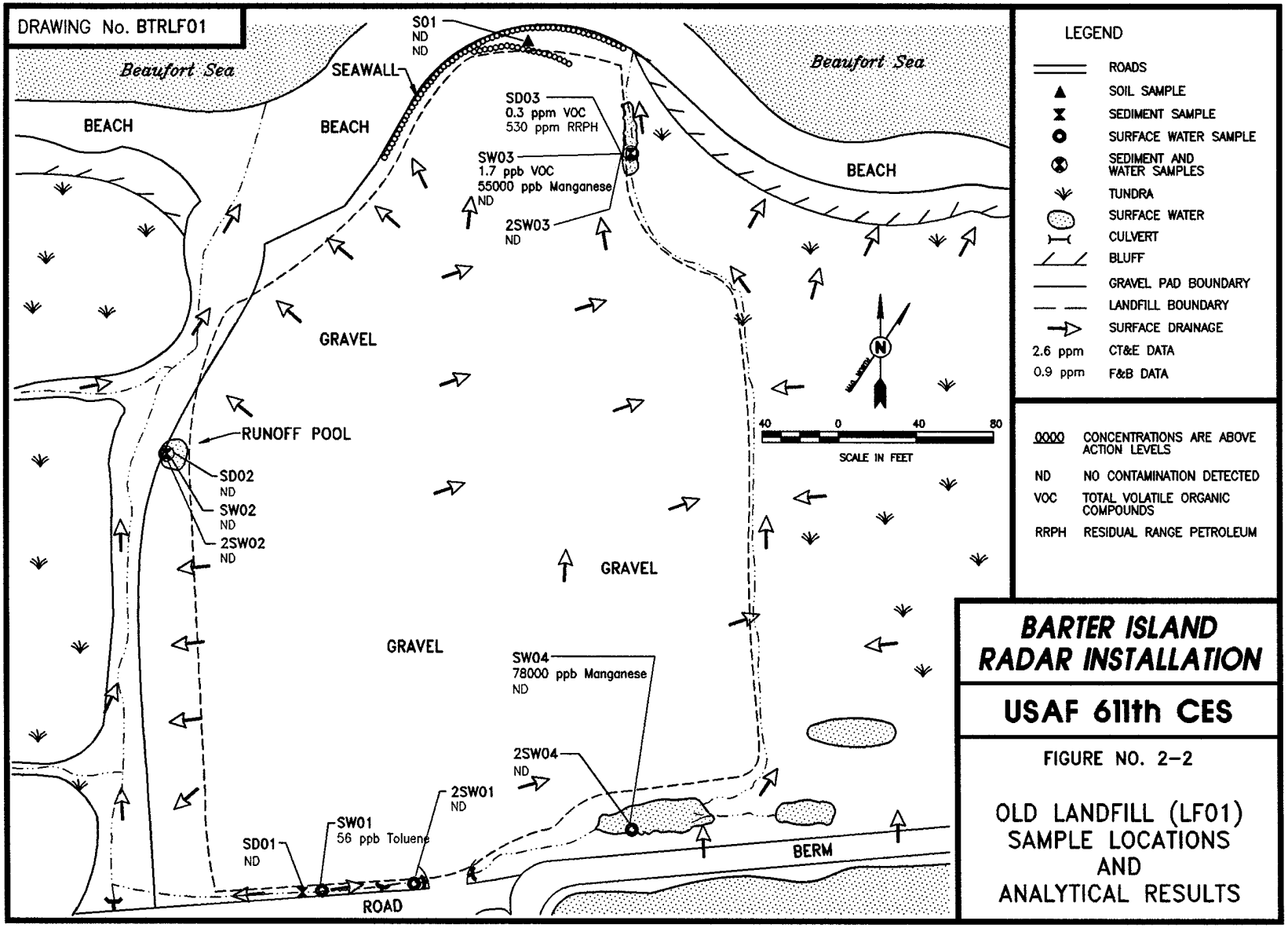
DRAWING No. BTRLF01
Beaufort Sea
Beaufort Sea
SEAWALL
BEACH
BEACH
BEACH
S01
ND
ND
SD03
0.3 ppm VOC
530 ppm RRPH
SW03
1.7 ppb VOC
55000 ppb Manganese
ND
2SW03
ND
GRAVEL
RUNOFF POOL
SD02
ND
SW02
ND
2SW02
ND
GRAVEL
GRAVEL
SW04
78000 ppb Manganese
ND
2SW04
ND
2SW01
ND
SW01
56 ppb Toluene
SD01
ND
BERM
ROAD
40 0 40 80
SCALE IN FEET
LEGEND
ROADS
SOIL SAMPLE
SEDIMENT SAMPLE
SURFACE WATER SAMPLE
SEDIMENT AND WATER SAMPLES
TUNDRA
SURFACE WATER
CULVERT
BLUFF
GRAVEL PAD BOUNDARY
LANDFILL BOUNDARY
SURFACE DRAINAGE
2.6 ppm CT&E DATA
0.9 ppm F&B DATA
0000 CONCENTRATIONS ARE ABOVE ACTION LEVELS
ND NO CONTAMINATION DETECTED
VOC TOTAL VOLATILE ORGANIC COMPOUNDS
RRPH RESIDUAL RANGE PETROLEUM
BARTER ISLAND RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 2-2
OLD LANDFILL (LF01) SAMPLE LOCATIONS AND ANALYTICAL RESULTS

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documents have been, and will continue to be, available for review at the Kaveolook School in Kaktovik, Alaska, Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since February 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal public comment period.

To facilitate public participation the Air Force plans to conduct a RAB informational meeting during 1996.

2.3 SELECTED ACTION AND DECISION

The selected action and decision for the Old Landfill (LF01) is no further action. This action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above and the supporting documentation contained in the Final Barter Island Remedial Investigation/ Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

2.4 REFERENCES

Dames and Moore. 1986. Installation Restoration Program, Phase II, Stage 1 - Confirmation/ Quantification. Prepared for USAFOEHL/TS.

Dames and Moore. 1987. Installation Restoration Program, Phase II, Stage 2 - Confirmation/ Quantification. Prepared for USAFOEHL/TS.

U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Risk Assessment for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

Woodward-Clyde. 1990. Installation Restoration Program Remedial Investigation/Feasibility Study, Stage 3, Barter Island (BAR-M) AFS, Alaska; Bullen Point (POW-3) AFS, Alaska; Point Lonely (POW-1) AFS, Alaska. Final Report.

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DECISION DOCUMENT FOR
NO FURTHER RESPONSE ACTION PLANNED
BARTER ISLAND RADAR INSTALLATION

SECTION 3.0

SITE NUMBER	SITE NAME
LF04	Current Landfill

SITE NAME AND LOCATION

Site Number: LF04
Site Name: Current Landfill
Location: Barter Island Radar Installation, Alaska

STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil, surface water, and sediment sampling for inorganics and organics and the completion of a human health and ecological risk assessment, potential adverse effects to human and ecological receptors resulting from conditions at the Current Landfill, site LF04, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the Current Landfill (LF04), it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, is required.

DECLARATION

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

UNITED STATES AIR FORCE

Signature: _____ Date: _____
Name: Samuel C. Johnson, III, Colonel, USAF
Title: Commander, 611th Air Support Group

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REVIEW AND CONCURRENCE: STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Signature: _____ Date: _____

Kurt Fredericksson
Director, Division of Spill Prevention
and Response

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3.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the Current Landfill, site LF04.

3.1.1 Relevant Site History

Current Landfill (LF04) is located northwest of the module trains and southwest of the Old Landfill (LF01) (Figure 3-1). The Current Landfill is approximately two acres in size and receives wastes generated by the station. It received waste from the nearby village of Kaktovik from 1978 to 1992 until the village constructed its own landfill; the use of the site by Kaktovik community residents was uncontrolled. It reportedly received household waste, human and animal waste, drums, and other maintenance wastes. Currently, the disposal of wastes at the site by station personnel is in accordance with appropriate regulations. In 1992 the Air Force conducted an interim remedial action that consisted of a general cleanup of debris at the site.

Eleven samples were collected from tundra and streams at the site. Organic compounds were detected in sediment and surface water samples. The only metal detected at a level of concern was manganese in surface water samples.

Sampling and analyses have determined that there is no significant contamination at the Current Landfill (LF04) site; only relatively low levels of contaminants were detected. The village of Kaktovik is no longer using the landfill for disposal or wastes, so disposal of potential contaminants at the north end of the landfill has been discontinued. Migration of contaminants from the site appears minimal based on the soil, sediment, and surface water samples collected in drainage pathways leading from the site.

3.1.2 Sample Analysis Summary

Historic sampling conducted at the Current Landfill (LF04) (Dames and Moore 1986, 1987; Woodward-Clyde 1990) identified contaminants in soil and surface water. Lead was detected at a concentration exceeding background levels in one soil sample. Total petroleum hydrocarbons (TPH) and eight volatile organic compounds (VOCs) were detected in three surface water samples collected from the drainage pathways bordering the eastern and northern perimeter of the landfill. Historic sampling included a total of five samples that were collected from four locations at the Current Landfill site. A summary of sample analytical results for historic investigations is presented in Table 3-1.

During the 1993 RI the Air Force collected 11 samples from tundra and streams at the Current Landfill (LF04) (U.S. Air Force 1996a). Samples consisted of two soil, four sediment, and five surface water samples. Soil/sediment samples contained low levels of diesel and gasoline range petroleum hydrocarbons (GRPH and DRPH) and two VOCs. Three VOCs were detected in the surface water samples. Manganese in surface water was the only inorganic analyte detected at concentrations exceeding background concentration and regulatory action levels. Table 3-2 summarizes the organic chemicals detected above background levels and inorganics detected

TABLE 3-1. SUMMARY OF HISTORIC SAMPLING AT THE CURRENT LANDFILL (LF04)

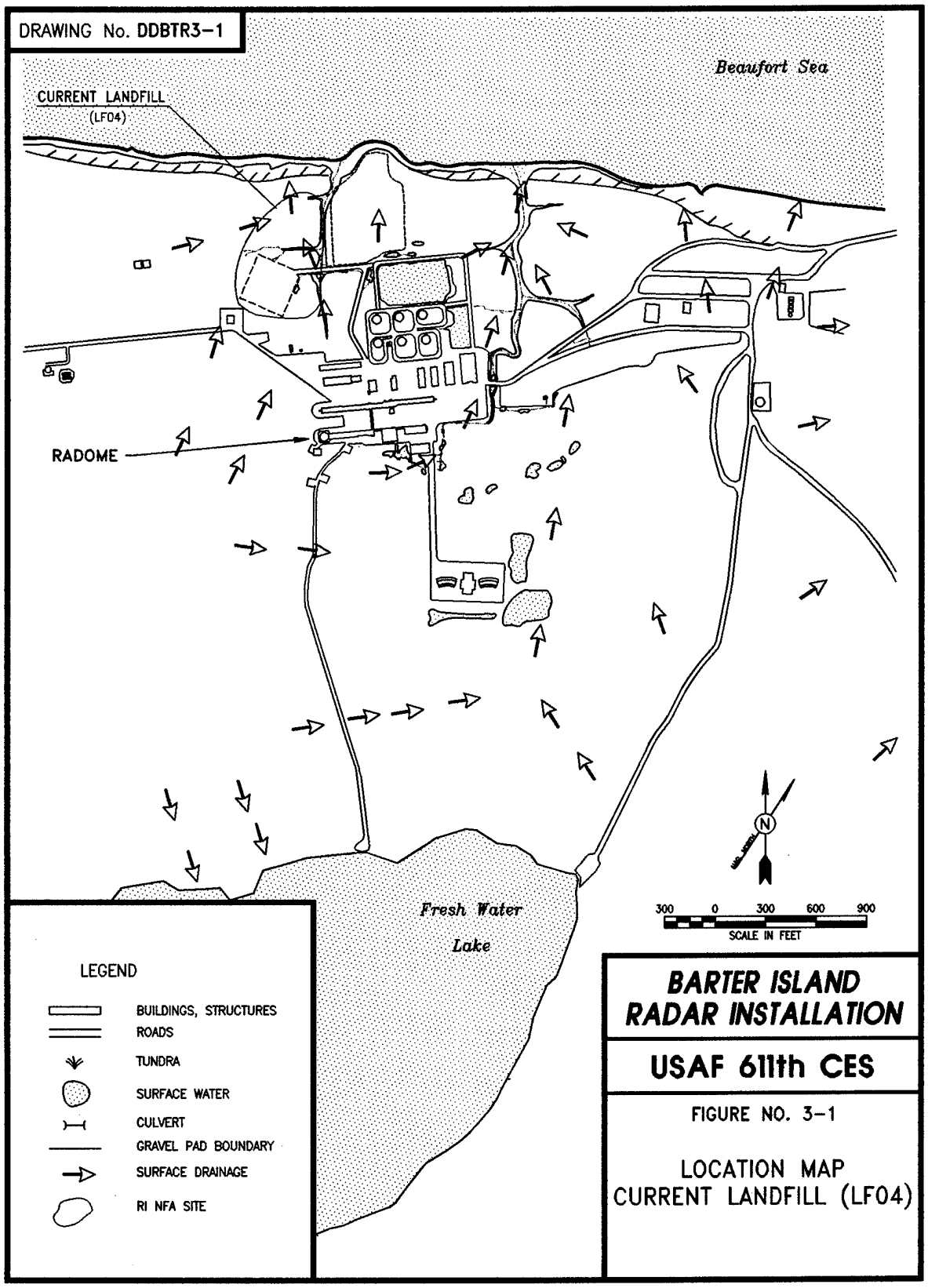
CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
Lead	Soil	52 mg/kg	1
TPH[a]	Surface water	3,000 µg/L	1
Benzene	Surface water	40 µg/L	2
1,1-Dichloroethane	Surface water	3.9 µg/L	2
Ethylbenzene	Surface water	7.2 µg/L	1
Methylene Chloride	Surface water	5.1 µg/L	1
Toluene	Surface water	34 µg/L	2
Trichloroethene	Surface water	18 µg/L	1
Trichlorofluoromethane	Surface water	3.1 µg/L	1
Xylenes (Total)	Surface water	20 µg/L	1

[a] Total Petroleum Hydrocarbons.

TABLE 3-2. SUMMARY OF 1993 REMEDIAL INVESTIGATION SAMPLING AT THE CURRENT LANDFILL (LF04)

CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
DRPH[a]	Soil	60 mg/kg	1
GRPH[b]	Soil	8 mg/kg	1
Toluene	Soil	0.026 mg/kg	1
Xylenes (Total)	Soil	0.200 mg/kg	1
Dichlorofluoromethane	Surface water	3.7 µg/L	1
p-Isopropyltoluene	Surface water	1.1 µg/L	1
Trichloroethene	Surface water	36 µg/L	1
Manganese	Surface water	1,800 µg/L	1

[a] DRPH = Diesel Range Petroleum Hydrocarbons.
[b] GRPH = Gasoline Range Petroleum Hydrocarbons.


DRAWING No. DDBTR3-1
Beaufort Sea
CURRENT LANDFILL
(LF04)
RADOME
Fresh Water
Lake
300 0 300 600 900
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
RI NFA SITE
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 3-1
LOCATION MAP
CURRENT LANDFILL (LF04)

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that were determined to be of concern based on regulatory action levels. Sample locations are shown on Figure 3-2.

A comparison of historical and the 1993 RI data indicates a general decrease in the concentration of petroleum compounds and VOC in soils and surface water at the site. The suspected source of contaminants is previous waste disposal activities in the landfill and/or areas to the north of the landfill. Hundreds of drums of waste ("honey buckets") from the village of Kaktovik were stored on the north end of the landfill gravel pad. Spills or leaks from these drums may have contributed to the contaminants detected in the drainage pathway just north of the active landfill area.

3.1.3 Risk Assessment Summary

The Final Barter Island Risk Assessment (U.S. Air Force 1996b) concluded that risks posed to human and ecological receptors by site contaminants are minimal given current or future site uses. A potential human health noncancer hazard was identified due to the presence of manganese in surface water. This potential hazard is based on a future scenario in which the site surface water would be used as a drinking water supply, and the noncancer hazard is likely to be overestimated.

Based on RI sampling and analyses risk assessments, and current site uses, remedial actions are not warranted at this site. No significant human health of ecological risks were identified at the site. Therefore, the Current Landfill (LF04) is recommended for no further action.

3.2 PUBLIC INVOLVEMENT

Community relations activities that have taken place for the Barter Island radar installation include the following: residents of Kaktovik were interviewed by Air Force community relations personnel on 29 June, 1993 and 7 July, 1993; a mailing list of residents of Kaktovik is being maintained by the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published during February 1996 regarding the decision for no further action at the Old Landfill (LF01); fact sheets were sent to all residents on the mailing list in early February 1996 describing the sites recommended for no further action at the Barter Island radar installation; a public review and comment period on the Draft Final Decision Document for no further action sites was held from 9 February to 9 March, 1996; and documents have been, and will continue to be, available for review at the Kaveolook School in Kaktovik, Alaska, Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since February 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal public comment period.

To facilitate public participation the Air Force plans to conduct a RAB informational meeting during 1996.

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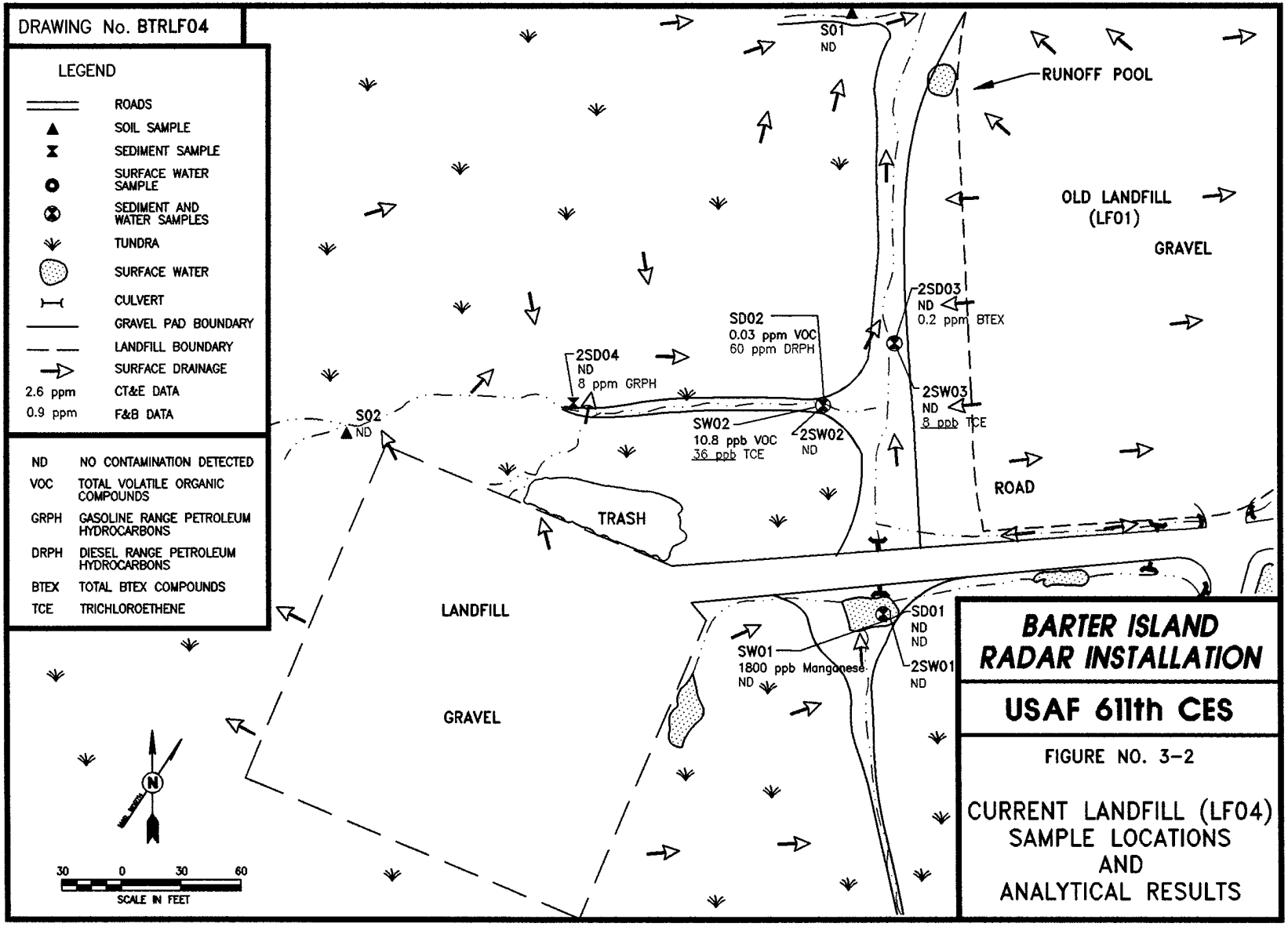
DRAWING No. BTRLF04
LEGEND
ROADS
SOIL SAMPLE
SEDIMENT SAMPLE
SURFACE WATER SAMPLE
SEDIMENT AND WATER SAMPLES
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
LANDFILL BOUNDARY
SURFACE DRAINAGE
2.6 ppm CT&E DATA
0.9 ppm F&B DATA
ND NO CONTAMINATION DETECTED
VOC TOTAL VOLATILE ORGANIC COMPOUNDS
GRPH GASOLINE RANGE PETROLEUM HYDROCARBONS
DRPH DIESEL RANGE PETROLEUM HYDROCARBONS
BTEX TOTAL BTEX COMPOUNDS
TCE TRICHLOROETHENE
S01 ND
RUNOFF POOL
OLD LANDFILL (LF01)
GRAVEL
2SD03 ND 0.2 ppm BTEX
SD02 0.03 ppm VOC 60 ppm DRPH
2SD04 ND 8 ppm GRPH
2SW03 ND 8 ppb TCE
S02 ND
SW02 10.8 ppb VOC 36 ppb TCE
2SW02 ND
ROAD
TRASH
LANDFILL
GRAVEL
SD01 ND ND
SW01 1800 ppb Manganese ND
2SW01 ND
N
30 0 30 60
SCALE IN FEET
BARTER ISLAND RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 3-2
CURRENT LANDFILL (LF04) SAMPLE LOCATIONS AND ANALYTICAL RESULTS

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3.3 SELECTED ACTION AND DECISION

The selected action and decision for the Current Landfill (LF04) is no further action. The action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above and the supporting documentation contained in the Final Barter Island Remedial Investigation/ Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

3.4 REFERENCES

Dames and Moore. 1986. Installation Restoration Program, Phase II, Stage 1 - Confirmation/ Quantification. Prepared for USAFOEHL/TS.

Dames and Moore. 1987. Installation Restoration Program, Phase II, Stage 2 - Confirmation/ Quantification. Prepared for USAFOEHL/TS.

U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Risk Assessment for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

Woodward-Clyde. 1990. Installation Restoration Program Remedial Investigation/Feasibility Study, Stage 3, Barter Island (BAR-M) AFS , Alaska; Bullen Point (POW-3) AFS, Alaska; Point Lonely (POW-1) AFS, Alaska. Final Report.

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DECISION DOCUMENT FOR
NO FURTHER RESPONSE ACTION PLANNED
BARTER ISLAND RADAR INSTALLATION

SECTION 4.0

SITE NUMBER	SITE NAME
SD08	Contaminated Ditch

SITE NAME AND LOCATION

Site Number: SD08
Site Name: Contaminated Ditch
Location: Barter Island Radar Installation, Alaska

STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil, surface water, and sediment sampling for inorganics and organics and the completion of a human health and ecological risk assessment, potential adverse effects to human and ecological receptors resulting from conditions at the Contaminated Ditch, site SD08, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the Contaminated Ditch (SD08), it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, is required.

DECLARATION

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

UNITED STATES AIR FORCE

Signature: _____ Date: _____
Name: Samuel C. Johnson, III, Colonel, USAF
Title: Commander, 611th Air Support Group

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REVIEW AND CONCURRENCE: STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Signature: _____ Date: _____

Kurt Fredriksson
Director, Division of Spill Prevention
and Response

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4.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the Contaminated Ditch, site SD08.

4.1.1 Relevant Site History

Contaminated Ditch (SD08). This site is located approximately 100 yards northeast of the main facility structures. The Contaminated Ditch is a large, deep, natural eroded gully running to the north and discharging to the Beaufort Sea (Figure 4-1). The village of Kaktovik was located west of the ditch from 1952 to 1964. The ditch was suspected of containing petroleum hydrocarbons from a ruptured fuel line near the warehouse area north of the module trains. In 1992 the Air Force conducted interim remedial actions at the site that included a general cleanup of the ditch and removal of metal debris.

Twenty-one samples were collected gravel pads and streams at the site during the 1993 RI. Organic compounds were detected in 11 soil and sediment samples and in one surface water sample. Three inorganic analytes were detected above background levels in one surface water sample.

Sampling and analyses have determined that there is no significant contamination at the Contaminated Ditch (SD08) site. With a few exceptions, only relatively low levels of contaminants were detected at the site. Upgradient areas in the vicinity of the warehouses had petroleum hydrocarbons at levels exceeding cleanup guidelines for gravel pads. A definitive hot spot or source area, however, was not identified. There were no significant contaminants detected downgradient in the ditch, and most surface water samples were non-detect.

Migration of contaminants appears to have occurred on the gravel pad areas to the east of the suspected source area. Migration to the incised stream and downgradient portion of the Contaminated Ditch appears minimal, and the low levels detected in the ditch may be from other upgradient sites.

4.1.2 Sample Analyses Summary

Historic sampling conducted at the Contaminated Ditch (SD08) in 1987 and 1990 identified chemical concentrations in surface water (Dames and Moore 1987; Woodward-Clyde 1990). No soil sampling was conducted during these earlier investigations. Concentrations of petroleum hydrocarbons [measured as total petroleum hydrocarbons (TPH)] were detected in two samples, and low levels of solvents were detected in two of the six total samples collected. Historic samples were collected from water at the head of the ditch, at the confluence of the ditch and the Beaufort Sea, and at the point of intersection between the ditch and a small drainage emptying from the sewage lagoon discharge area. A summary of sample analytical results for historic investigations is presented in Table 4-1.

TABLE 4-1. SUMMARY OF HISTORIC SAMPLING AT THE CONTAMINATED DITCH (SD08)

CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
TPH[a]	Surface water	1,000 µg/L	2
Trans-1,2-Dichloroethene	Surface water	0.62 µg/L	1
Trichloroethene	Surface water	1.5 µg/L	1
Trichlorofluoromethane	Surface water	1.5 µg/L	2

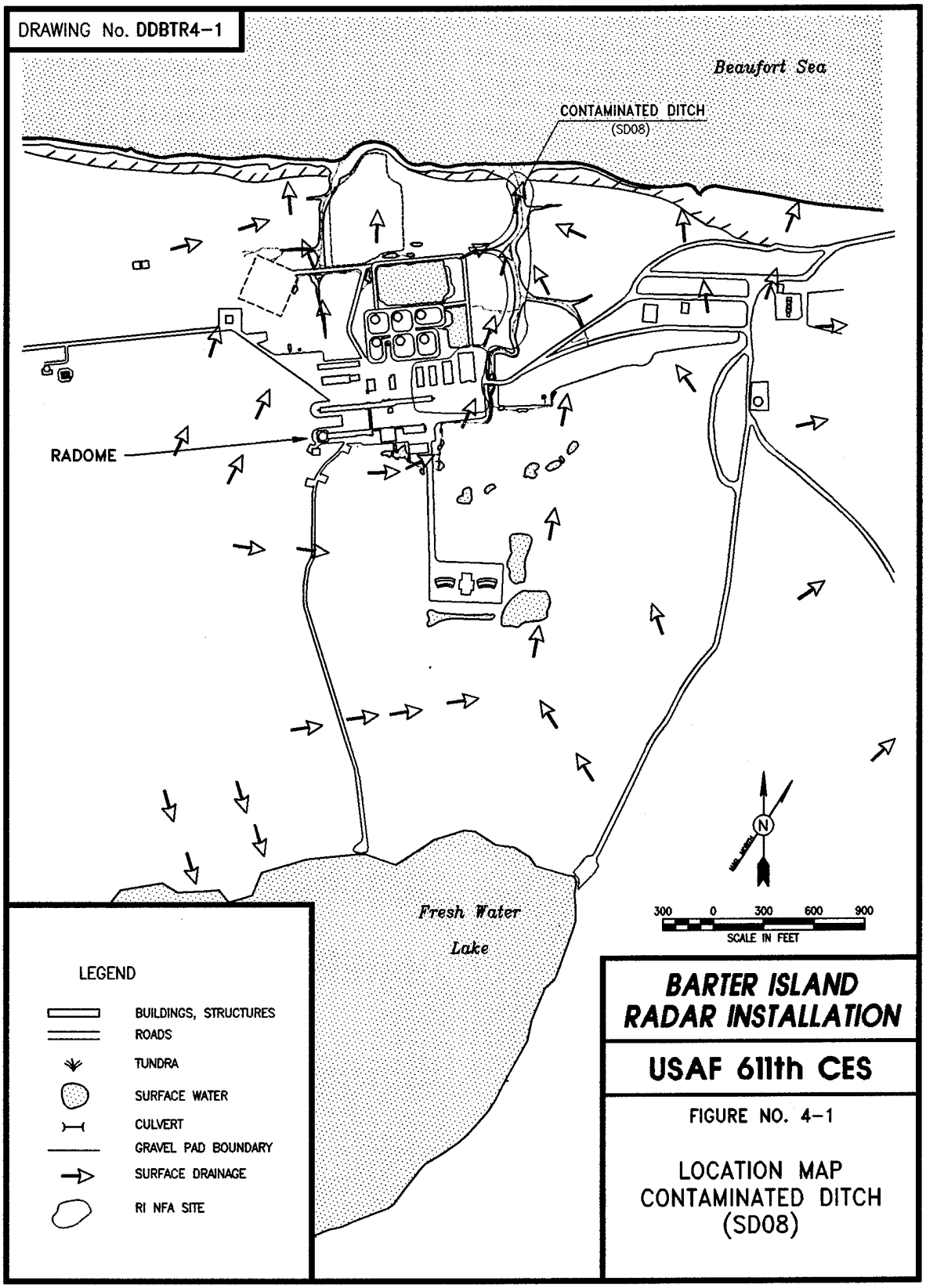
a TPH = Total Petroleum Hydrocarbons.

During the 1993 Remedial Investigation/Feasibility Study, the Air Force collected a total of 21 samples from gravel pads, tundra, and streams at the site (Figures 4-2 and 4-3). Samples consisted of 12 soil, 5 sediment, and 4 surface water samples. Organic compounds detected in soil and sediment samples included diesel and gasoline range petroleum hydrocarbons (measured as DRPH and GRPH) and volatile organic compounds (VOCs). One surface water sample contained a low level of cis-1,2-dichloroethene. Metals were detected in one surface water sample at levels exceeding background; however, concentrations were below regulatory action levels. Table 4-2 summarizes the organic chemicals detected above the background levels.

TABLE 4-2. SUMMARY OF 1993 REMEDIAL INVESTIGATION SAMPLING AT THE CONTAMINATED DITCH (SD08)

CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
DRPH[a]	Soil/Sediment	2,260 mg/kg	9
GRPH[b]	Soil/Sediment	171 mg/kg	7
Ethylbenzene	Soil	3.01 mg/kg	5
Xylenes (Total)	Soil	12.53 mg/kg	5
cis-1,2-Dichloroethene	Surface water	1.5 µg/L	1

a DRPH = Diesel Range Petroleum Hydrocarbons.
b GRPH = Gasoline Range Petroleum Hydrocarbons.


DRAWING No. DDBTR4-1
Beaufort Sea
CONTAMINATED DITCH
(SD08)
RADOME
Fresh Water
Lake
N
300 0 300 600 900
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
RI NFA SITE
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 4-1
LOCATION MAP
CONTAMINATED DITCH
(SD08)

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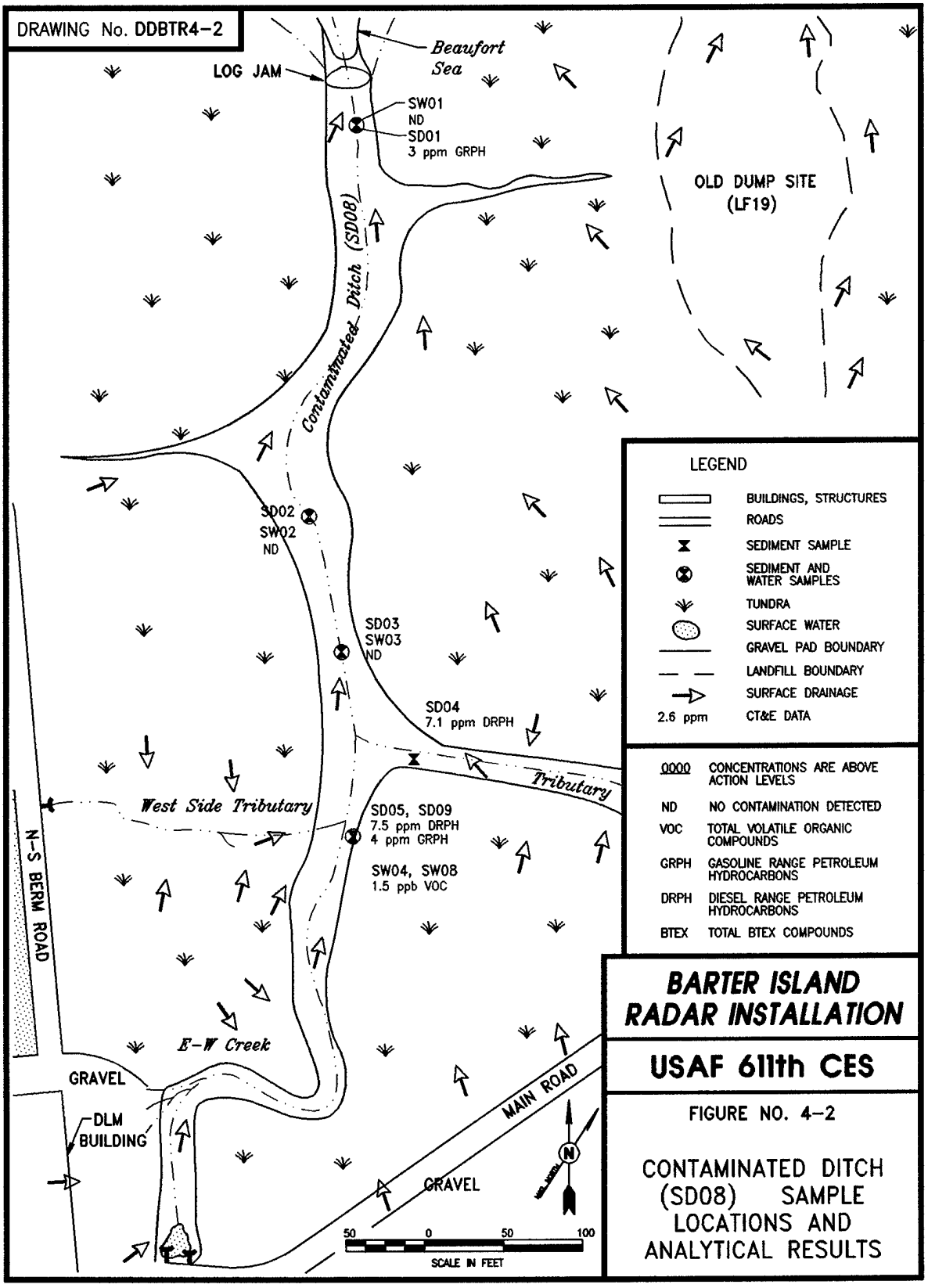
DRAWING No. DDBTR4-2
Beaufort Sea
LOG JAM
SW01
ND
SD01
3 ppm GRPH
OLD DUMP SITE
(LF19)
Contaminated Ditch (SD08)
SD02
SW02
ND
SD03
SW03
ND
SD04
7.1 ppm DRPH
Tributary
West Side Tributary
SD05, SD09
7.5 ppm DRPH
4 ppm GRPH
SW04, SW08
1.5 ppb VOC
N-S BERM ROAD
E-W Creek
GRAVEL
DLM
BUILDING
MAIN ROAD
GRAVEL
50 0 50 100
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
SEDIMENT SAMPLE
SEDIMENT AND WATER SAMPLES
TUNDRA
SURFACE WATER
GRAVEL PAD BOUNDARY
LANDFILL BOUNDARY
SURFACE DRAINAGE
2.6 ppm CT&E DATA
0000 CONCENTRATIONS ARE ABOVE ACTION LEVELS
ND NO CONTAMINATION DETECTED
VOC TOTAL VOLATILE ORGANIC COMPOUNDS
GRPH GASOLINE RANGE PETROLEUM HYDROCARBONS
DRPH DIESEL RANGE PETROLEUM HYDROCARBONS
BTEX TOTAL BTEX COMPOUNDS
BARTER ISLAND RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 4-2
CONTAMINATED DITCH (SD08) SAMPLE LOCATIONS AND ANALYTICAL RESULTS

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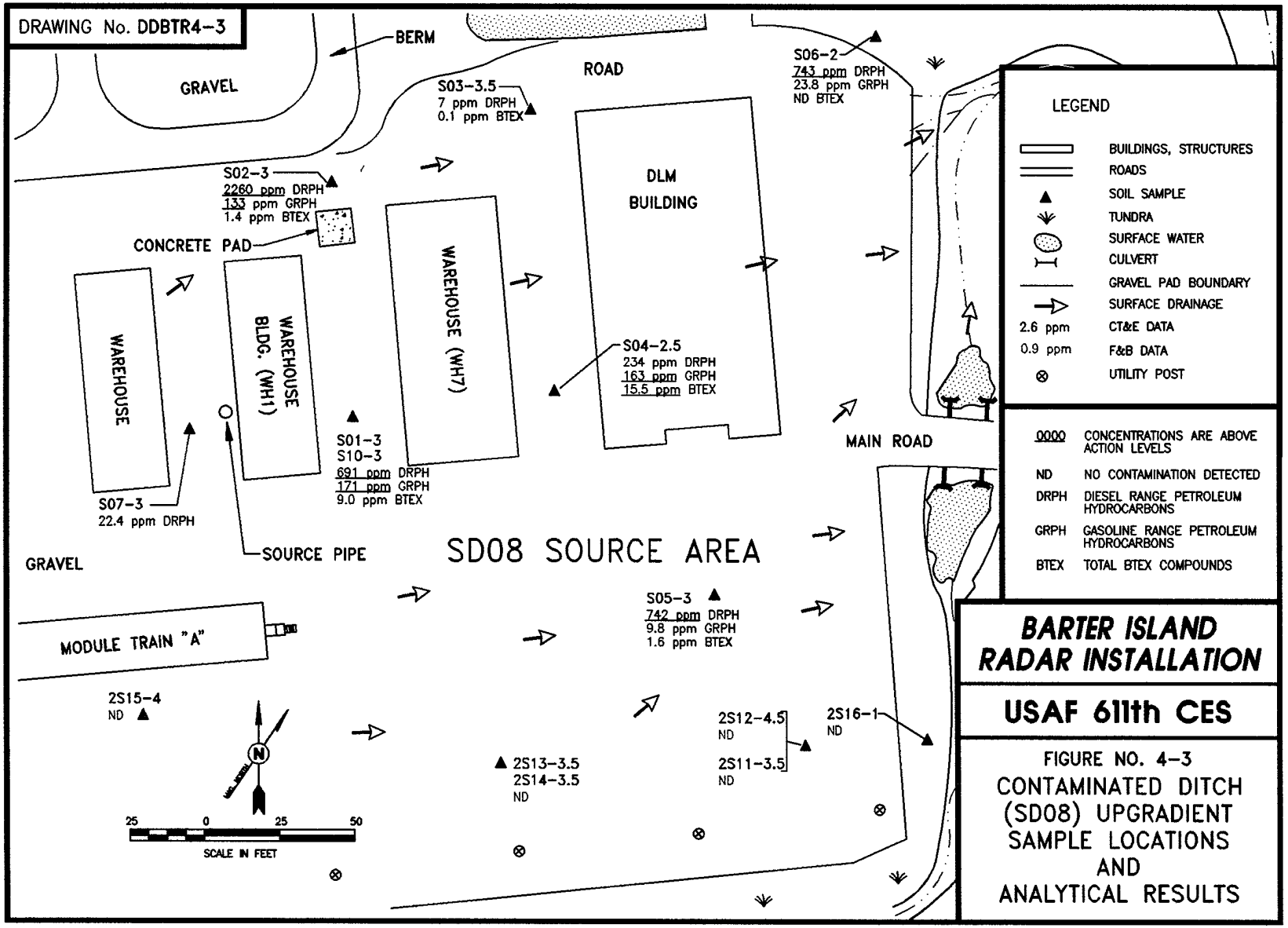
DRAWING No. DDBTR4-3
BERM
GRAVEL
ROAD
S03-3.5
7 ppm DRPH
0.1 ppm BTEX
S06-2
743 ppm DRPH
23.8 ppm GRPH
ND BTEX
S02-3
2260 ppm DRPH
133 ppm GRPH
1.4 ppm BTEX
CONCRETE PAD
DLM BUILDING
WAREHOUSE
WAREHOUSE BLDG. (WH1)
WAREHOUSE (WH7)
S04-2.5
234 ppm DRPH
163 ppm GRPH
15.5 ppm BTEX
MAIN ROAD
S01-3
S10-3
691 ppm DRPH
171 ppm GRPH
9.0 ppm BTEX
S07-3
22.4 ppm DRPH
SOURCE PIPE
SD08 SOURCE AREA
GRAVEL
S05-3
742 ppm DRPH
9.8 ppm GRPH
1.6 ppm BTEX
MODULE TRAIN "A"
2S15-4
ND
2S12-4.5
ND
2S16-1
ND
2S11-3.5
ND
2S13-3.5
2S14-3.5
ND
N
25 0 25 50
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
SOIL SAMPLE
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
2.6 ppm CT&E DATA
0.9 ppm F&B DATA
UTILITY POST
0000 CONCENTRATIONS ARE ABOVE ACTION LEVELS
ND NO CONTAMINATION DETECTED
DRPH DIESEL RANGE PETROLEUM HYDROCARBONS
GRPH GASOLINE RANGE PETROLEUM HYDROCARBONS
BTEX TOTAL BTEX COMPOUNDS
BARTER ISLAND RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 4-3
CONTAMINATED DITCH (SD08) UPGRADIENT SAMPLE LOCATIONS AND ANALYTICAL RESULTS

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A comparison of historical and the 1993 RI data indicates that concentrations of petroleum compounds and VOCs in surface water in the Contaminated Ditch have decreased. The source of the contaminants detected during sampling is not clearly defined. The ditch was adjacent to the village of Kaktovik from 1952 to 1964 and was historically used as a waste disposal area. Site personnel report, however, that the Air Force conducted a general cleanup of the site in 1992. The cleanup involved the removal of exposed drums and other metal debris. It is suspected that the ditch contains petroleum hydrocarbons as a result of a ruptured fuel line near the installation warehouse. Upgradient areas that also could contribute to the low levels of petroleum contamination detected in the Contaminated Ditch include the POL Catchment (LF03), Heated Storage (SS13), and Garage (SS14) (U.S. Air Force 1996a).

4.1.3 Risk Assessment Summary

The Final Barter Island Risk Assessment (U.S. Air Force 1996a) concluded that risks posed to human and ecological receptors by site contaminants are minimal given current or future site uses. A potential carcinogenic risk of 2×10^{-6} was identified in site soils based on the maximum concentrations of GRPH and beryllium detected at the site. This potential human health risk is based on a future residential scenario and soil ingestion rate. Even using the conservative future scenario, the potential human health risks at the site are not of a magnitude that normally requires remedial action [based on EPA guidance (U.S. EPA 1991)].

Based on the RI sampling and analysis, risk assessment, and current or future site uses, remedial actions are not warranted at the site. No significant human health or ecological risks were identified at the site. Therefore, the Contaminated Ditch (SD08) site is recommended for no further action.

4.2 PUBLIC INVOLVEMENT

Community relations activities that have taken place for the Barter Island radar installation include the following: residents of Kaktovik were interviewed by Air Force community relations personnel on 29 June, 1993 and 7 July, 1993; a mailing list of residents of Kaktovik is being maintained by the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published in February 1996 regarding the decision for no further action at the Old Landfill (LF01); fact sheets were sent to all residents on the mailing list during early February 1996 describing the sites recommended for no further action at the Barter Island radar installation; a public review and comment period on the Draft Final Decision Document for no further action sites was held from 9 February to 9 March, 1996; and documents have been, and will continue to be, available for review at the Kaveolook School in Kaktovik, Alaska, Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since February 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal public comment period.

To facilitate public participation the Air Force plans to conduct a RAB information meeting during 1996.

4.3 SELECTED ACTION AND DECISION

The selected action and decision for the Contaminated Ditch (SD08) is no further action. The action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above and the supporting documentation contained in the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

4.4 REFERENCES

Dames and Moore. 1987. Installation Restoration Program, Phase II, Stage 2 - Confirmation/ Quantification. Prepared for USAFOEHL/TS.

U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Risk Assessment for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Environmental Protection Agency. 1991. Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions. Office of Solid Waste and Emergency Response. Washington, D.C. 22 April 1991.

Woodward-Clyde. 1990. Installation Restoration Program Remedial Investigation/Feasibility Study, Stage 3, Barter Island (BAR-M) AFS, Alaska; Bullen Point (POW-3) AFS, Alaska; Point Lonely (POW-1) AFS, Alaska. Final Report.

DECISION DOCUMENT FOR
NO FURTHER RESPONSE ACTION PLANNED
BARTER ISLAND RADAR INSTALLATION

SECTION 5.0

SITE NUMBER	SITE NAME
LF12	Runway Dump

5.0 DECLARATION OF DECISION
Old Runway Dump (LF12)

SITE NAME AND LOCATION

Site Number: LF12
Site Name: Old Runway Dump
Location: Barter Island Radar Installation, Alaska

STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil sampling for inorganic and organic compounds and the completion of a human health and ecological risk assessment, potential adverse effects to human and ecological receptors resulting from conditions at the Old Runway Dump, site LF12, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the Old Runway Dump (LF12), it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, Liability Act (CERCLA), as amended, is required.

DECLARATION

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

UNITED STATES AIR FORCE

Signature: _____ Date: _____

Name: Samuel C. Johnson, III, Colonel, USAF
Commander, 611th Air Support Group

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REVIEW AND CONCURRENCE: STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Signature: _____ Date: _____

Kurt Fredriksson
Director, Division of Spill Prevention and Response

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5.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the Old Runway Dump, site LF12.

5.1.1 Site History

Old Runway Dump (LF12) is located on the northeast corner of Barter Island, east of the runway (Figure 5-1). It is a two-acre area suspected of receiving wastes generated during the construction of the station and for a short period thereafter. The site received construction debris, old vehicles, drums, and all other waste generated during this period. The landfill has been closed since 1957 and reportedly was cleaned up between 1979 and 1980. The Old Runway Dump consists of beach gravels and sands, and the area is seasonally covered with sea water. The most northern portion of the site is used by the community of Kaktovik to dispose of whale carcasses.

Three soil samples were collected at the site during the 1993 RI. No chemical contamination was detected in any of the samples. Sample locations and analytical results are shown in Figure 5-2.

Sampling and analyses have determined that the Old Runway Dump (LF12) is not contaminated. No contaminants were detected in site samples. The site is subject to seasonal flooding by saltwater, so if contaminants were previously present they were probably diluted by seawater. Since no contaminants were detected at the site, there appears to be no potential for contaminant migration.

5.1.2 Sample Analyses Summary

The Air Force had not conducted sampling and analysis at the Old Runway Dump prior to the 1993 RI, and no contaminants were detected during the 1993 RI. Because no contaminants were present at this site, the Air Force did not conduct either human health or ecological risk assessments.

5.1.3 Risk Assessment Summary

Based on the RI sampling and analyses, a risk assessment was not conducted at this site. Since no chemicals were detected at the site, there appears to be no potential for human health or ecological risks posed by the site (U.S. Air Force 1996b). Therefore, the Old Runway Dump (LF12) site is recommended for no further action.

5.2 PUBLIC INVOLVEMENT AND COMMENT

Community relations activities that have taken place for the Barter Island radar installation include the following: residents of Kaktovik were interviewed by Air Force community relations personnel on 29 June, 1993 and 7 July, 1993; a mailing list of residents of Kaktovik is being maintained by

the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published in February 1996 regarding the decision for no further action at the Old Landfill (LF01); fact sheets were sent to all residents on the mailing list during early February 1996 describing the sites recommended for no further action at the Barter Island radar installation; a public review and comment period on the Draft Final Decision Document for no further action sites was held from 9 February to 9 March, 1996; and documents have been, and will continue to be, available for review at the Kaveolook School in Kaktovik, Alaska, Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since February 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal public comment period.

To facilitate public participation the Air Force plans to conduct a RAB informational meeting during 1996.

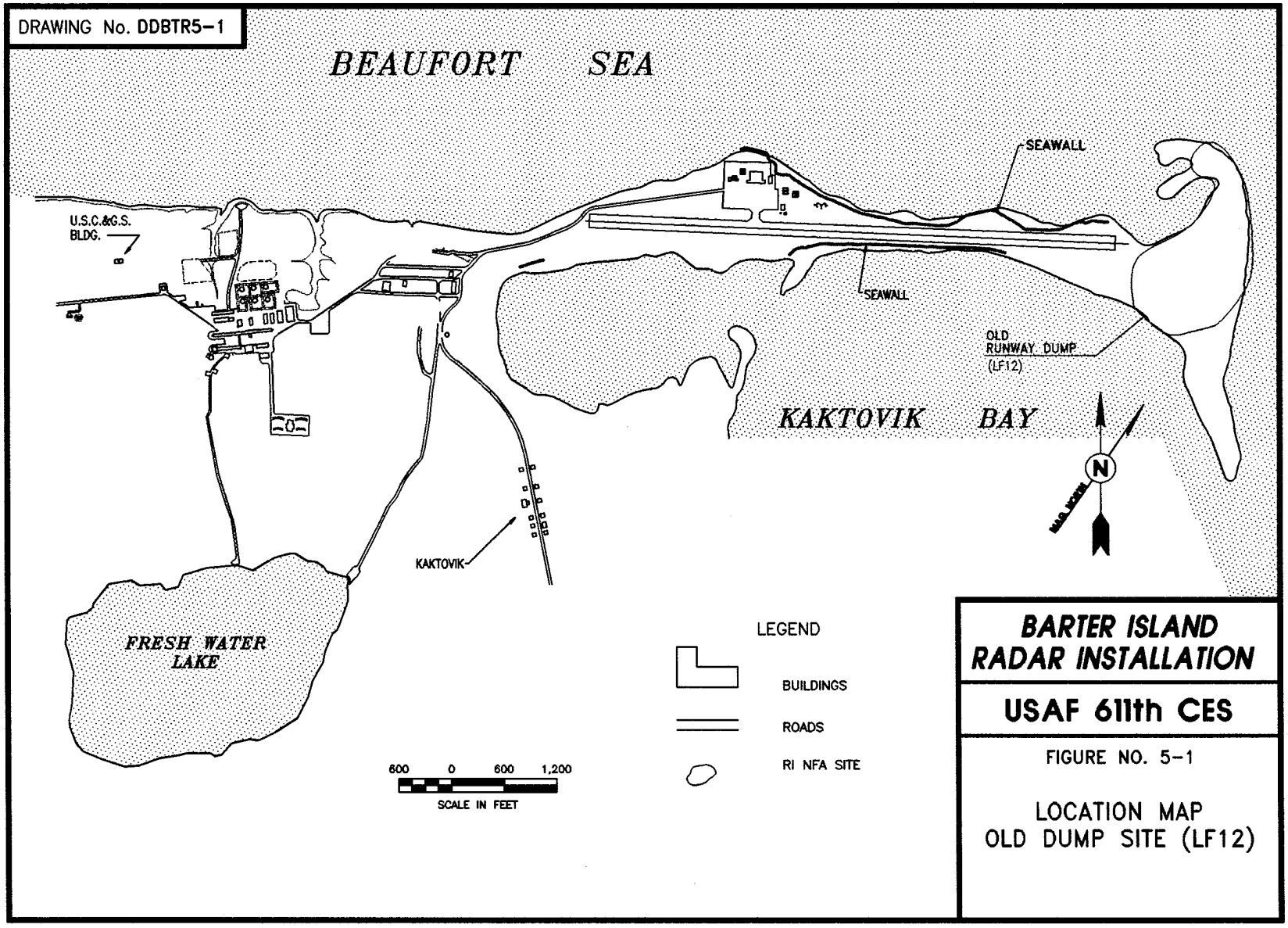
5.3 SELECTED ACTION AND DECISION

The selected action and decision for the Old Runway Dump (LF12) is no further action. This action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above, and the supporting documentation contained in the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

5.4 REFERENCES

U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Risk Assessment, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.


DRAWING No. DDBTR5-1
BEAUFORT SEA
SEAWALL
U.S.C.&G.S. BLDG.
SEAWALL
OLD RUNWAY DUMP (LF12)
KAKTOVIK BAY
N
KAKTOVIK
FRESH WATER LAKE
LEGEND
BUILDINGS
ROADS
RI NFA SITE
600 0 600 1,200
SCALE IN FEET
BARTER ISLAND RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 5-1
LOCATION MAP
OLD DUMP SITE (LF12)

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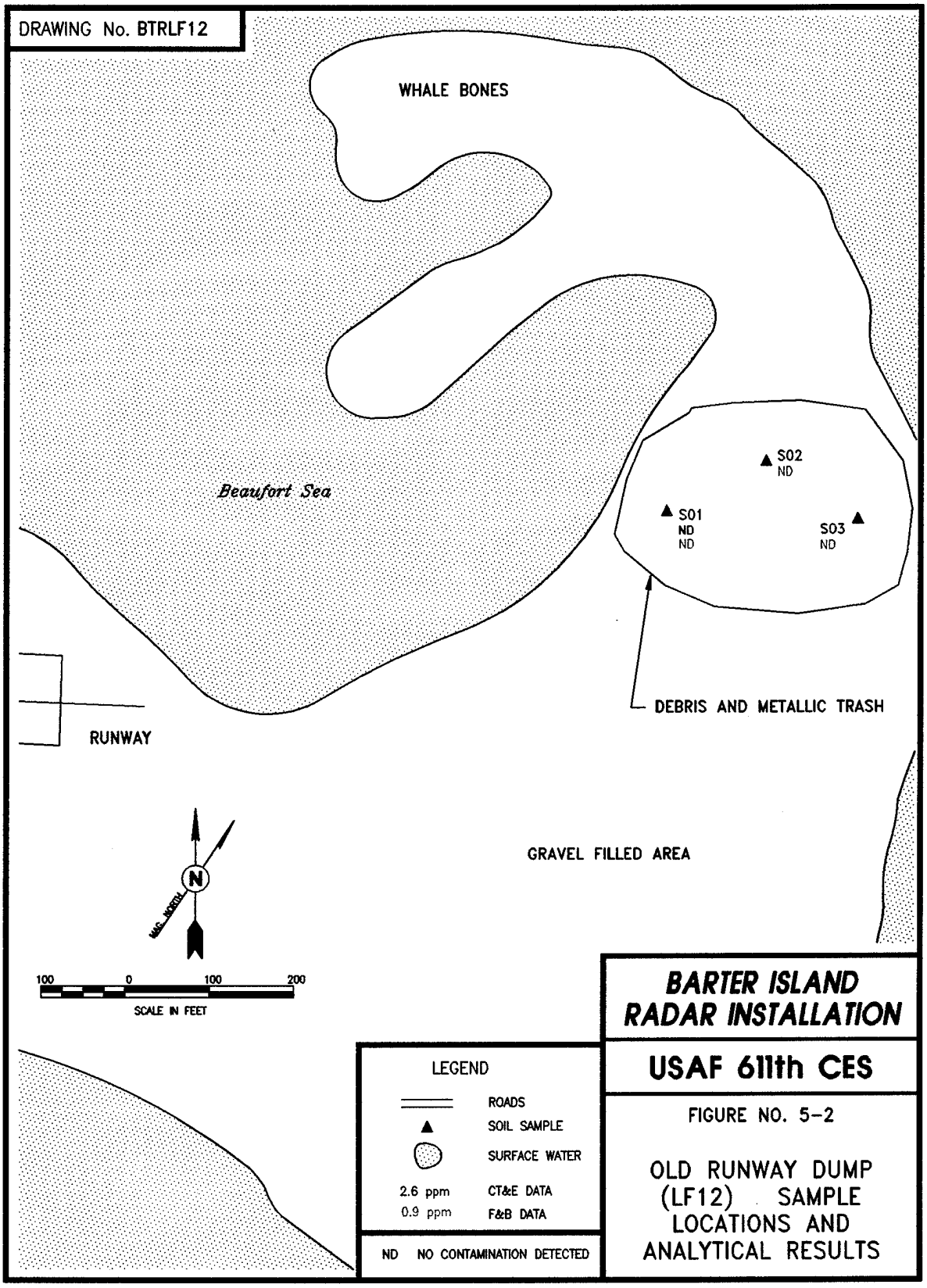
DRAWING No. BTRLF12
WHALE BONES
Beaufort Sea
S02
ND
S01
ND
ND
S03
ND
DEBRIS AND METALLIC TRASH
RUNWAY
GRAVEL FILLED AREA
N
MAG. NORTH
100 0 100 200
SCALE IN FEET
LEGEND
ROADS
SOIL SAMPLE
SURFACE WATER
2.6 ppm CT&E DATA
0.9 ppm F&B DATA
ND NO CONTAMINATION DETECTED
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 5-2
OLD RUNWAY DUMP
(LF12) SAMPLE
LOCATIONS AND
ANALYTICAL RESULTS

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DECISION DOCUMENT FOR
NO FURTHER RESPONSE ACTION PLANNED
BARTER ISLAND RADAR INSTALLATION

SECTION 6.0

SITE NUMBER	SITE NAME
SS15	Weather Station Building

SITE NAME AND LOCATION

Site Number: SS15
Site Name: Weather Station Building
Location: Barter Island Radar Installation, Alaska

STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil sampling for organic compounds and the completion of a human health and ecological risk assessment, potential adverse effects to human and ecological receptors resulting from conditions at the Weather Station Building, site SS15, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the Weather Station Building (SS15), it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, is required.

DECLARATION

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

UNITED STATES AIR FORCE

Signature: _____ Date: _____

Name: Samuel C. Johnson, III, Colonel, USAF
Commander, 611th Air Support Group

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REVIEW AND CONCURRENCE: STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Signature: _____ Date: _____

Kurt Fredriksson
Director, Division of Spill Prevention and Response

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6.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the Weather Station Building, site SS15.

6.1.1 Site History

Weather Station Building (SS15) is located northwest of the module trains and southwest of the Current Landfill (LF04) (Figure 6-1). The Weather Station Building is an approximately 30 feet by 30 feet building elevated approximately five feet above the center of a gravel pad. A 1,200 gallon aboveground fuel storage tank is located at the northeast corner of the building. The diesel tank has leaked over the years, and a stained area was observed just below the tank fittings during the 1993 RI.

Eight samples were collected at the Weather Station Building site during the 1993 RI. Organic compounds were detected in soil samples. Inorganics were not a concern at the site, and no samples from the site were analyzed for metals.

Sampling and analyses have determined that the Weather Station Building (SS15) site is contaminated with petroleum hydrocarbons and low levels of volatile organic compounds (VOCs). The contaminated areas at the site are the gravel pad below and down gradient of the onsite diesel storage tank. The source of contamination is a spill and/or leak in pipe fittings on the diesel tank. Migration of contaminants from the site appears to be minimal. Samples collected at the edge of the gravel pad suggest the tundra adjoining the gravel pad has not been impacted.

6.1.2 Sample Analyses Summary

Historic sampling conducted at Weather Station Building (SS15) (Dames and Moore 1987; Woodward-Clyde 1990; Shannon and Wilson 1992) detected concentrations of petroleum residues [measured as total petroleum hydrocarbons (TPH) and diesel range petroleum hydrocarbons (DRPH)] in soil and surface water samples collected from the site, and one VOC in a surface water sample. Historic sampling encompassed three samples collected from locations around the Weather Station Building diesel fuel tank. A summary of sample analytical results for historic investigations is presented in Table 6-1.

During the 1993 RI the Air Force collected eight soil samples from locations around the Weather Station Building diesel fuel tank. Soil samples contained DRPH, gasoline range petroleum hydrocarbons (GRPH), and five VOCs commonly associated with diesel fuel. Table 6-2 summarizes organic chemicals detected above background levels. Sample locations and analytical results are shown on Figure 6-2.

A comparison of historical and the 1993 RI data indicates the petroleum hydrocarbons are generally within the same range of concentration. The source of the petroleum hydrocarbon contamination at the Weather Station Building is suspected to be spills or leaks from the fuel fill

TABLE 6-1. SUMMARY OF HISTORIC SAMPLING AT THE WEATHER STATION BUILDING (SS15)

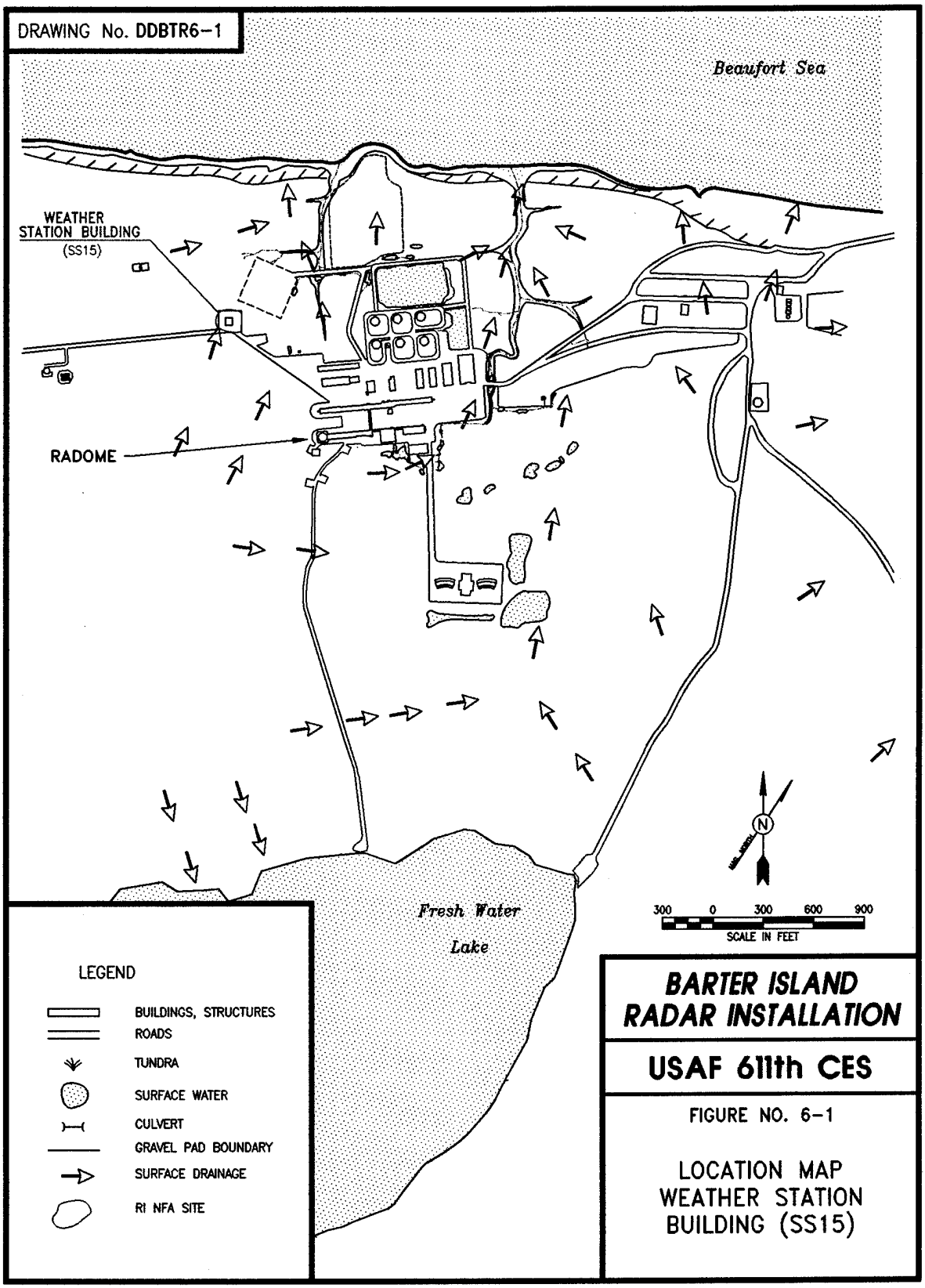
CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
DRPH[a]	Soil	3,400 mg/kg	1
TPH[b]	Surface Water	700 µg/L	1
Trichlorofluoromethane	Surface Water	1.1 µg/L	1

a DRPH = Diesel Range Petroleum Hydrocarbons.
b TPH = Total Petroleum Hydrocarbons.

TABLE 6-2. SUMMARY OF 1993 REMEDIAL INVESTIGATION SAMPLING AT THE WEATHER STATION BUILDING (SS15)

CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
DRPH[a]	Soil	8,420 mg/kg	5
GRPH[b]	Soil	1,020 mg/kg	6
Ethylbenzene	Soil	1.09 mg/kg	5
Naphthalene	Soil	0.083 mg/kg	1
Toluene	Soil	0.137 mg/kg	1
1,3,5-Trimethylbenzene	Soil	0.084 mg/kg	1
Xylenes (Total)	Soil	2.34 mg/kg	6

a DRPH = Diesel Range Petroleum Hydrocarbons.
b GRPH = Gasoline Range Petroleum Hydrocarbons.


DRAWING No. DDBTR6-1
Beaufort Sea
WEATHER STATION BUILDING (SS15)
RADOME
Fresh Water Lake
300 0 300 600 900
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
RI NFA SITE
BARTER ISLAND RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 6-1
LOCATION MAP WEATHER STATION BUILDING (SS15)

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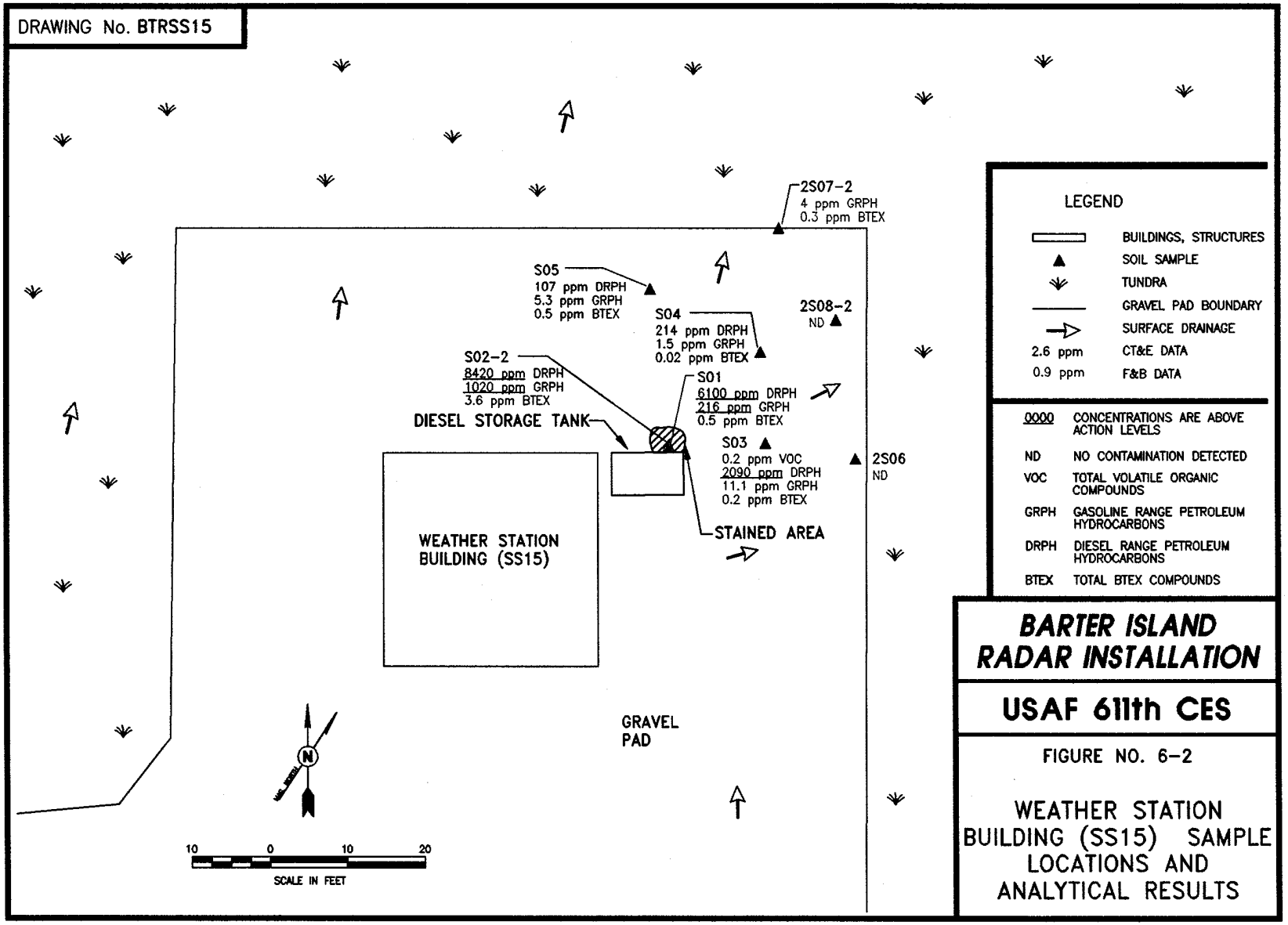
DRAWING No. BTRSS15
2S07-2
4 ppm GRPH
0.3 ppm BTEX
S05
107 ppm DRPH
5.3 ppm GRPH
0.5 ppm BTEX
S04
214 ppm DRPH
1.5 ppm GRPH
0.02 ppm BTEX
2S08-2
ND
S02-2
8420 ppm DRPH
1020 ppm GRPH
3.6 ppm BTEX
S01
6100 ppm DRPH
216 ppm GRPH
0.5 ppm BTEX
DIESEL STORAGE TANK
S03
0.2 ppm VOC
2090 ppm DRPH
11.1 ppm GRPH
0.2 ppm BTEX
2S06
ND
STAINED AREA
WEATHER STATION BUILDING (SS15)
GRAVEL PAD
N
10 0 10 20
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
SOIL SAMPLE
TUNDRA
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
2.6 ppm CT&E DATA
0.9 ppm F&B DATA
0000 CONCENTRATIONS ARE ABOVE ACTION LEVELS
ND NO CONTAMINATION DETECTED
VOC TOTAL VOLATILE ORGANIC COMPOUNDS
GRPH GASOLINE RANGE PETROLEUM HYDROCARBONS
DRPH DIESEL RANGE PETROLEUM HYDROCARBONS
BTEX TOTAL BTEX COMPOUNDS
BARTER ISLAND RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 6-2
WEATHER STATION BUILDING (SS15) SAMPLE LOCATIONS AND ANALYTICAL RESULTS

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port of the 1,200-gallon diesel tank located at the northeast corner of the building. In both current and historic sampling conducted at this site, the highest level of contamination is below the fuel fill port and decreases with distance.

6.1.3 Risk Assessment Summary

The Final Barter Island Risk Assessment (U.S. Air Force 1996b) concluded that risks posed to human and ecological receptors by site contaminants are minimal given current or future site uses. The potential human health risks at the site are not of a magnitude that normally requires remedial action.

Based on the RI sampling and analyses, risk assessment, and current or future site uses, remedial actions are not warranted at the site. No significant human health or ecological risks were identified at the site. Therefore, the Weather Station Building (SS15) site is recommended for no further action.

6.2 PUBLIC INVOLVEMENT AND COMMENT

Community relations activities that have taken place for the Barter Island radar installation include the following: residents of Kaktovik were interviewed by Air Force community relations personnel on 29 June, 1993 and 7 July, 1993; a mailing list of residents of Kaktovik is being maintained by the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published in February 1996 regarding the decision for no further action at the Old Landfill (LF01); fact sheets were sent to all residents on the mailing list during early February 1996 describing the sites recommended for no further action at the Barter Island radar installation; a public review and comment period on the Draft Final Decision Document for no further action sites was held from 9 February to 9 March, 1996; and documents have been, and will continue to be, available for review at the Kaveolook School in Kaktovik, Alaska, Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since February 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal public comment period.

To facilitate public participation the Air Force plans to conduct a RAB informational meeting during 1996.

6.3 SELECTED ACTION AND DECISION

The selected action and decision for the Weather Station Building (SS15) is no further action. This action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above and the supporting documentation contained in the Final Barter Island Remedial

Investigation/Feasibility Study (U.S. Air Force 1996b) and the Final Barter Island Risk Assessment (U.S. Air Force 1996a).

6.4 REFERENCES

Dames and Moore. 1987. Installation Restoration Program, Phase II, Stage 2 - Confirmation/ Quantification. Prepared for USAFOEHL/TS.

Shannon and Wilson, Inc. 1992. Environmental Site Assessment, Weather Station Building, BAR-Main, Barter Island, Alaska. Prepared for the University of Alaska, Fairbanks.

U.S. Air Force. 1996a. Final Risk Assessment for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Remedial Investigation/Feasibility Study Report for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

Woodward-Clyde. 1990. Installation Restoration Program Remedial Investigation/Feasibility Study, Stage 3, Barter Island (BAR-M) AFS, Alaska; Bullen Point (POW-3) AFS, Alaska; Point Lonely (POW-1) AFS, Alaska. Final Report.

DECISION DOCUMENT FOR
NO FURTHER RESPONSE ACTION PLANNED
BARTER ISLAND RADAR INSTALLATION

SECTION 7.0

SITE NUMBER	SITE NAME
ST17	POL Tanks

7.0 DECLARATION OF DECISION
POL Tanks (ST17)

SITE NAME AND LOCATION

Site Number: ST17
Site Name: POL Tanks
Location: Barter Island Radar Installation, Alaska

STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil sampling for organic compounds and the completion of a human health and ecological risk assessment, potential adverse effects to human and ecological receptors resulting from conditions at the POL Tanks, site ST17, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the POL Tanks (ST17), it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, is required.

DECLARATION

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

UNITED STATES AIR FORCE

Signature: _____ Date: _____

Name: Samuel C. Johnson, III, Colonel, USAF
Commander, 611th Air Support Group

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REVIEW AND CONCURRENCE: STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Signature: _____ Date: _____

Kurt Fredriksson
Director, Division of Spill Prevention and Response

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7.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the POL Tanks, site ST17.

7.1.1 Site History

The POL Tanks (ST17) site, a bulk fuel storage area for arctic grade diesel fuels, is located north of the module trains and south of the sewage lagoon (Figure 7-1). The site consists of six large, approximately 200,000 gallon, above-ground tanks and associated piping and pumphouse, each contained inside a currently lined berm. The POL Tanks site is being investigated as a possible source area of the POL Catchment (LF03) site.

Four soil samples were collected during the 1993 RI from drainage pathways and possible contaminant migration routes from the POL Tanks (ST17) site. Organic compounds were detected in two of the four soil samples. Inorganics were not a concern at the site, and no samples were analyzed for metals.

Sampling and analyses have determined that the POL Tanks (ST17) site is not significantly contaminated. Petroleum hydrocarbons and volatile organic compounds (VOCs) were detected in two soil samples collected from north of the POL Tanks below the high water mark of the active sewage lagoon. The chemicals may be associated with the past disposal practices at the active sewage lagoon. For many years the sewage lagoon received wastes from the radar installation and the village of Kaktovik. No contaminants were detected in other samples collected from the site, and there were no visual signs of spills or leaks in the tank farm area.

7.1.2 Sample Analyses Summary

The Air Force had not conducted sampling and analysis at the POL Tanks (ST17) site prior to the 1993 RI. During the 1993 RI the Air Force collected four soil samples from locations around the POL Tanks bermed area. Soil samples, located north of the lined POL Tanks area below the high water mark of the active sewage lagoon, contained diesel range petroleum hydrocarbons (DRPH), gasoline range petroleum hydrocarbons (GRPH), and VOCs. Table 7-1 summarizes the organic chemicals detected above background levels. Sample locations and analytical results are shown on Figure 7-2.

7.1.3 Risk Assessment Summary

The Final Barter Island Risk Assessment (U.S. Air Force 1996b) concluded that under current or future site uses, contaminants detected in soil at the POL Tanks (ST17) site pose only a minimal, if any, threat to human health. Ecological risks are assumed insignificant because the contaminated portion of the site is not considered a suitable habitat for representative species.

Based on RI sampling and analyses, the risk assessment, and current or future uses of the site, remedial actions at the POL Tanks (ST17) site are not warranted.

TABLE 7-1. SUMMARY OF 1993 REMEDIAL INVESTIGATION SAMPLING AT THE POL TANKS (ST17)

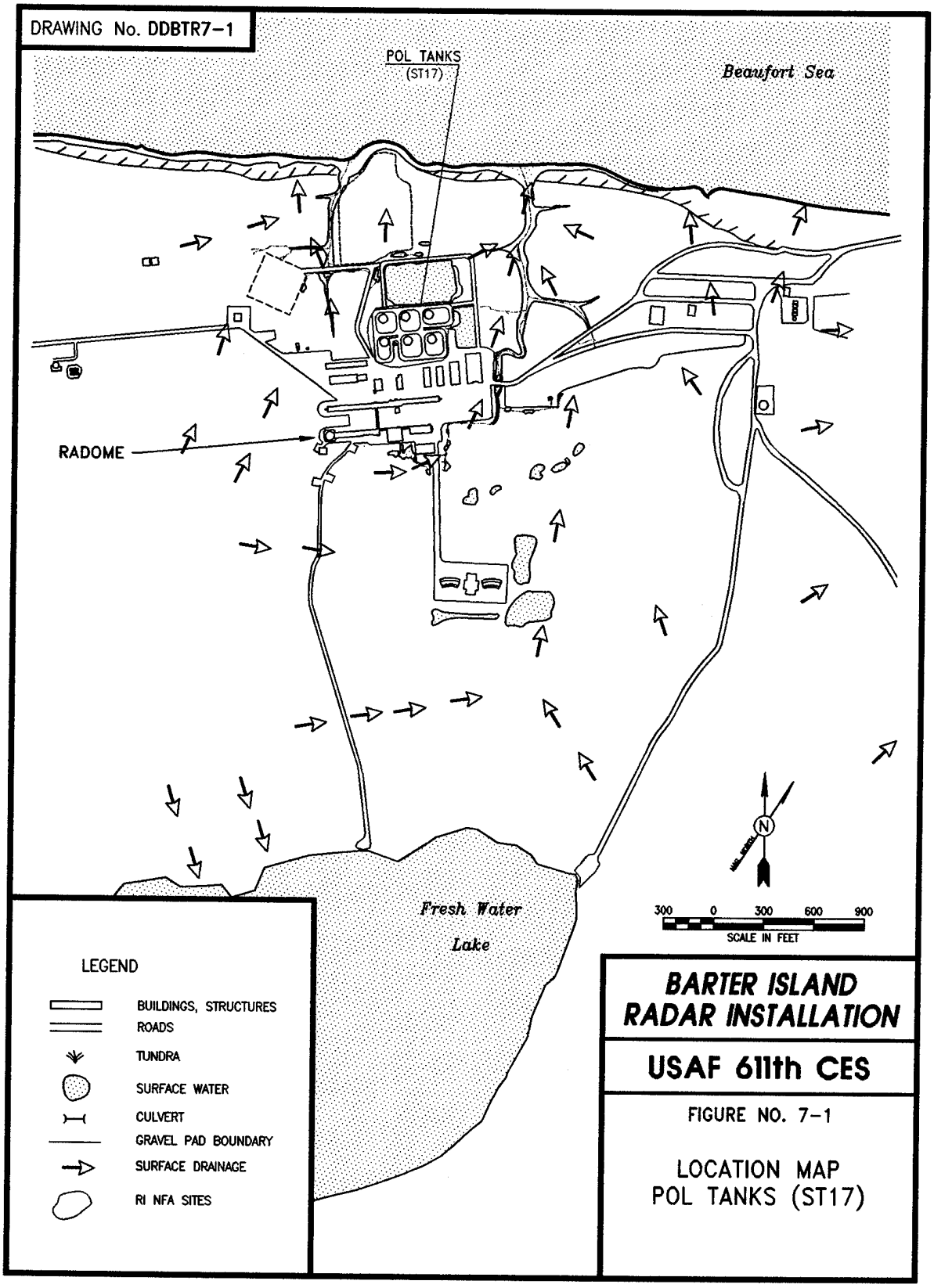
CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
DRPH[a]	Soil	1,670 mg/kg	2
GRPH[b]	Soil	295 mg/kg	2
Ethylbenzene	Soil	0.4 mg/kg	1
Toluene	Soil	1.0 mg/kg	1
1,2,4-Trimethylbenzene	Soil	0.511 mg/kg	1
Xylenes (Total)	Soil	0.6 mg/kg	1

a DRPH = Diesel Range Petroleum Hydrocarbons.
b GRPH = Gasoline Range Petroleum Hydrocarbons.

7.2 PUBLIC INVOLVEMENT AND COMMENT

Community relations activities that have taken place for the Barter Island radar installation include the following: residents of Kaktovik were interviewed by Air Force community relations personnel on 29 June, 1993 and 7 July, 1993; a mailing list of residents of Kaktovik is being maintained by the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published in February 1996 regarding the decision for no further action at the Old Landfill (LF01); fact sheets were sent to all residents on the mailing list during early February 1996 describing the sites recommended for no further action at the Barter Island radar installation; a public review and comment period on the Draft Final Decision Document for no further action sites was held from 9 February to 9 March, 1996; and documents have been, and will continue to be, available for review at the Kaveolook School in Kaktovik, Alaska, Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since February 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal public comment period.

To facilitate public participation the Air Force plans to conduct a RAB informational meeting during 1996.


DRAWING No. DDBTR7-1
POL TANKS
(ST17)
Beaufort Sea
RADOME
Fresh Water
Lake
300 0 300 600 900
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
RI NFA SITES
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 7-1
LOCATION MAP
POL TANKS (ST17)

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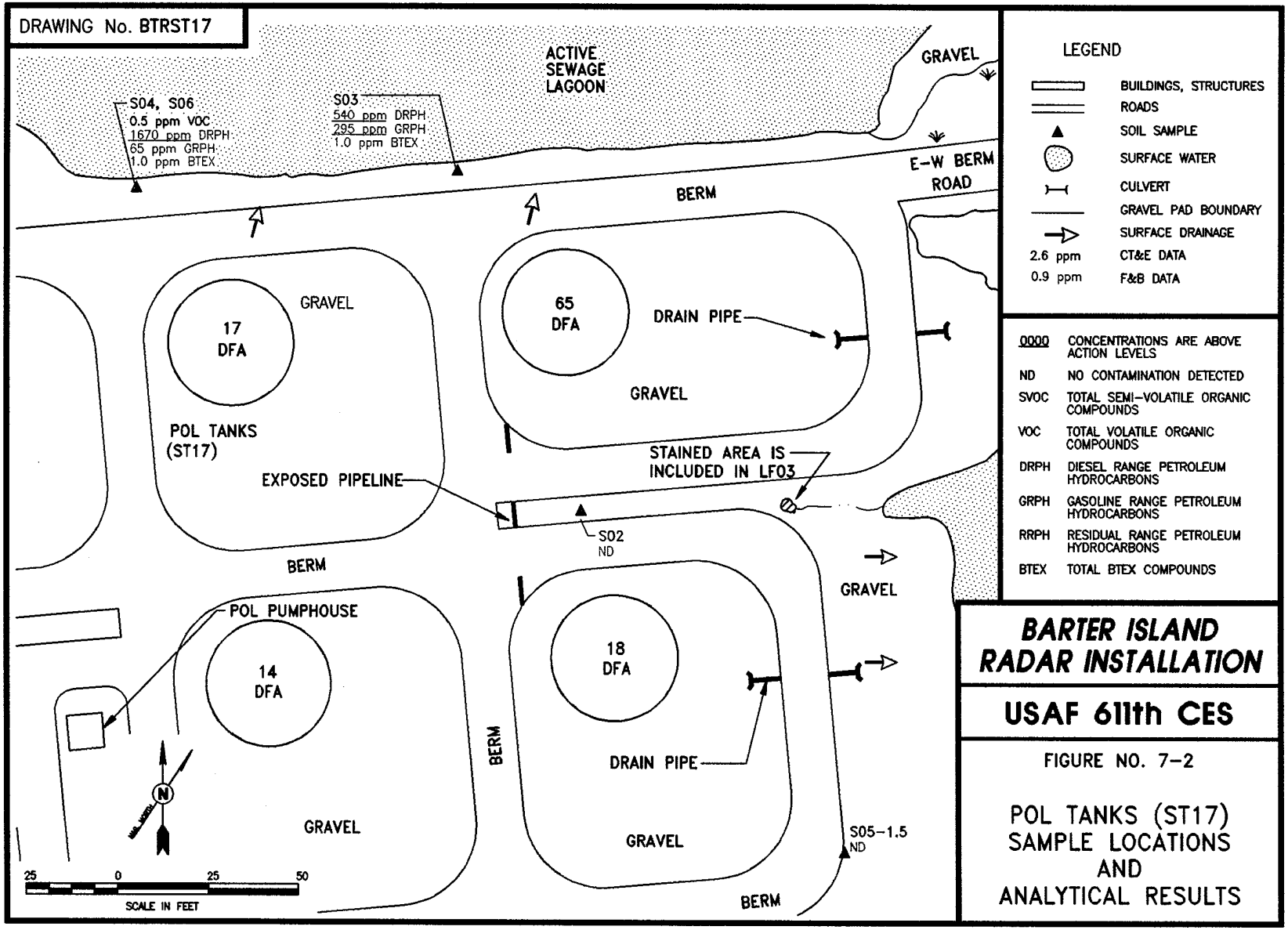
DRAWING No. BTRST17
ACTIVE SEWAGE LAGOON
GRAVEL
S04, S06
0.5 ppm VOC
1670 ppm DRPH
65 ppm GRPH
1.0 ppm BTEX
S03
540 ppm DRPH
295 ppm GRPH
1.0 ppm BTEX
E-W BERM ROAD
BERM
17 DFA
GRAVEL
65 DFA
DRAIN PIPE
GRAVEL
POL TANKS (ST17)
EXPOSED PIPELINE
STAINED AREA IS INCLUDED IN LF03
S02
ND
BERM
GRAVEL
POL PUMPHOUSE
14 DFA
18 DFA
BERM
DRAIN PIPE
GRAVEL
GRAVEL
S05-1.5
ND
BERM
25 0 25 50
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
SOIL SAMPLE
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
2.6 ppm CT&E DATA
0.9 ppm F&B DATA
0000 CONCENTRATIONS ARE ABOVE ACTION LEVELS
ND NO CONTAMINATION DETECTED
SVOC TOTAL SEMI-VOLATILE ORGANIC COMPOUNDS
VOC TOTAL VOLATILE ORGANIC COMPOUNDS
DRPH DIESEL RANGE PETROLEUM HYDROCARBONS
GRPH GASOLINE RANGE PETROLEUM HYDROCARBONS
RRPH RESIDUAL RANGE PETROLEUM HYDROCARBONS
BTEX TOTAL BTEX COMPOUNDS
BARTER ISLAND RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 7-2
POL TANKS (ST17) SAMPLE LOCATIONS AND ANALYTICAL RESULTS

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7.3 SELECTED ACTION AND DECISION

The selected action and decision for the POL Tanks (ST17) is no further action. This action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above and the supporting documentation contained in the Final Barter Island Remedial Investigation/ Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

7.4 REFERENCES

U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Risk Assessment for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

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DECISION DOCUMENT FOR
NO FURTHER RESPONSE ACTION PLANNED
BARTER ISLAND RADAR INSTALLATION

SECTION 8.0

SITE NUMBER	SITE NAME
ST18	Fuel Tanks

SITE NAME AND LOCATION

Site Number: ST18
Site Name: Fuel Tanks
Location: Barter Island Radar Installation, Alaska

STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil, surface water, and sediment sampling for organic compounds and the completion of a human health and ecological risk assessment, and potential adverse effects to human and ecological receptors resulting from conditions at the Fuel Tanks, site ST18, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the Fuel Tanks (ST18) site, it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, is required.

DECLARATION

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

UNITED STATES AIR FORCE

Signature: _____ Date: _____

Name: Samuel C. Johnson, III, Colonel, USAF
Commander, 611th Air Support Group

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REVIEW AND CONCURRENCE: STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Signature: _____ Date: _____

Kurt Fredriksson
Director, Division of Spill Prevention and Response

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8.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the Fuel Tanks, site ST18.

8.1.1 Site History

The Fuel Tanks (ST18) site is an active tank farm located inside a lined berm approximately 300 feet east of module train B (Figure 8-1). The Fuel Tanks consist of six 10,000 gallon above-ground tanks that contain vehicle fuel. Four tanks contain motor vehicle gasoline and two tanks contain diesel. The tanks are used to fuel vehicles and heavy equipment used at the station. Site personnel indicated the possibility of a previous fuel spill in this area.

Thirteen samples were collected during the 1993 RI. These consisted of 11 soil samples, 1 sediment sample, and 1 surface water sample. Organic compounds were only detected in soil samples. Inorganics were not a concern at the site, and no samples from the site were analyzed for metals.

Sampling and analyses have determined that there is no significant contamination at the Fuel Tanks (ST18) site. Relatively low levels of contaminants commonly associated with gasoline and diesel fuel were detected in only two of thirteen site samples. No contaminants were detected in surface water samples, indicating there is no migration of contaminants from the site. The sources of the low levels of petroleum hydrocarbons are likely to be small incidental spills of fuel during vehicle refueling operations.

8.1.2 Sample Analyses Summary

The Air Force had not conducted sampling and analysis at the Fuel Tanks (ST18) prior to the 1993 RI. Analysis of 13 samples collected during the RI detected the presence of petroleum hydrocarbons and volatile organic compounds (VOCs) commonly associated with gasoline and diesel fuel in only two soil samples (U.S. Air Force 1996a). No contaminants were detected in surface water. Table 8-1 summarizes organic chemicals detected above background levels. Sample locations and analytical results are shown on Figure 8-2.

The contamination at the site appears to be from diesel fuel. Diesel range petroleum hydrocarbons (DRPH) were the primary constituent detected. The extent of the DRPH at the Fuel Tanks (ST18) site is considered to be limited to a small area to the north of the bermed tank farm. Diesel fuel was not detected in surrounding samples. The contamination may have been caused by leaks or spills while filling equipment, or from leaking vehicles parked on the pad.

8.1.3 Risk Assessment Summary

The Final Barter Island Risk Assessment (U.S. Air Force 1996b) concluded that risks posed to human and ecological receptors by site contaminants are minimal given current or future site uses.

TABLE 8-1. SUMMARY OF 1993 REMEDIAL INVESTIGATION SAMPLING AT FUEL TANKS (ST18)

CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
DRPH[a]	Soil	490 mg/kg	1
GRPH[b]	Soil	6 mg/kg	1
RRPH[c]	Soil	190 mg/kg	1
Benzene	Soil	0.1 mg/kg	1
Ethylbenzene	Soil	0.2 mg/kg	2
Toluene	Soil	0.1 mg/kg	1
1,2,4-Trimethylbenzene	Soil	0.128 mg/kg	1
1,3,5-Trimethylbenzene	Soil	0.048 mg/kg	1
Xylenes (Total)	Soil	0.4 mg/kg	2

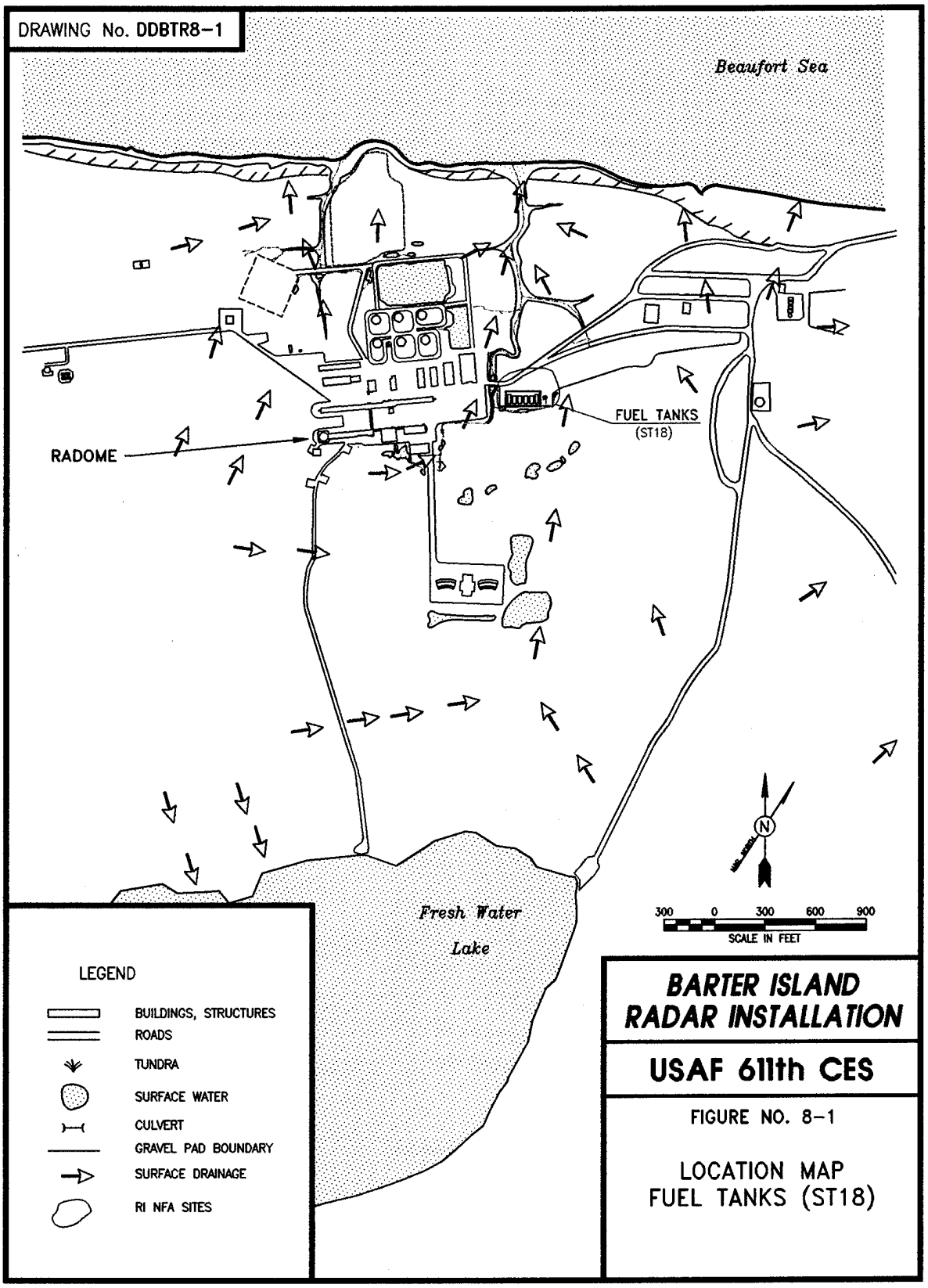
a DRPH = Diesel Range Petroleum Hydrocarbons.
b GRPH = Gasoline Range Petroleum Hydrocarbons.
c RRPH = Residual Range Petroleum Hydrocarbons.

None of the contaminants were detected at the site at concentrations high enough to be considered of concern.

Based on the RI sampling and analyses, risk assessment, and current or future site uses, remedial actions are not warranted at the site. No chemicals detected at the site exceed Applicable or Relevant and Appropriate Requirements (ARARs), and no significant human health or ecological risks were identified at the site. Therefore, the Fuel Tanks (ST18) site is recommended for no further action.

8.2 PUBLIC INVOLVEMENT AND COMMENT

Community relations activities that have taken place for the Barter Island radar installation include the following: residents of Kaktovik were interviewed by Air Force community relations personnel on 29 June, 1993 and 7 July, 1993; a mailing list of residents of Kaktovik is being maintained by the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published in February 1996 regarding the decision


DRAWING No. DDBTR8-1
Beaufort Sea
FUEL TANKS
(ST18)
RADOME
Fresh Water
Lake
N
300 0 300 600 900
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
RI NFA SITES
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 8-1
LOCATION MAP
FUEL TANKS (ST18)

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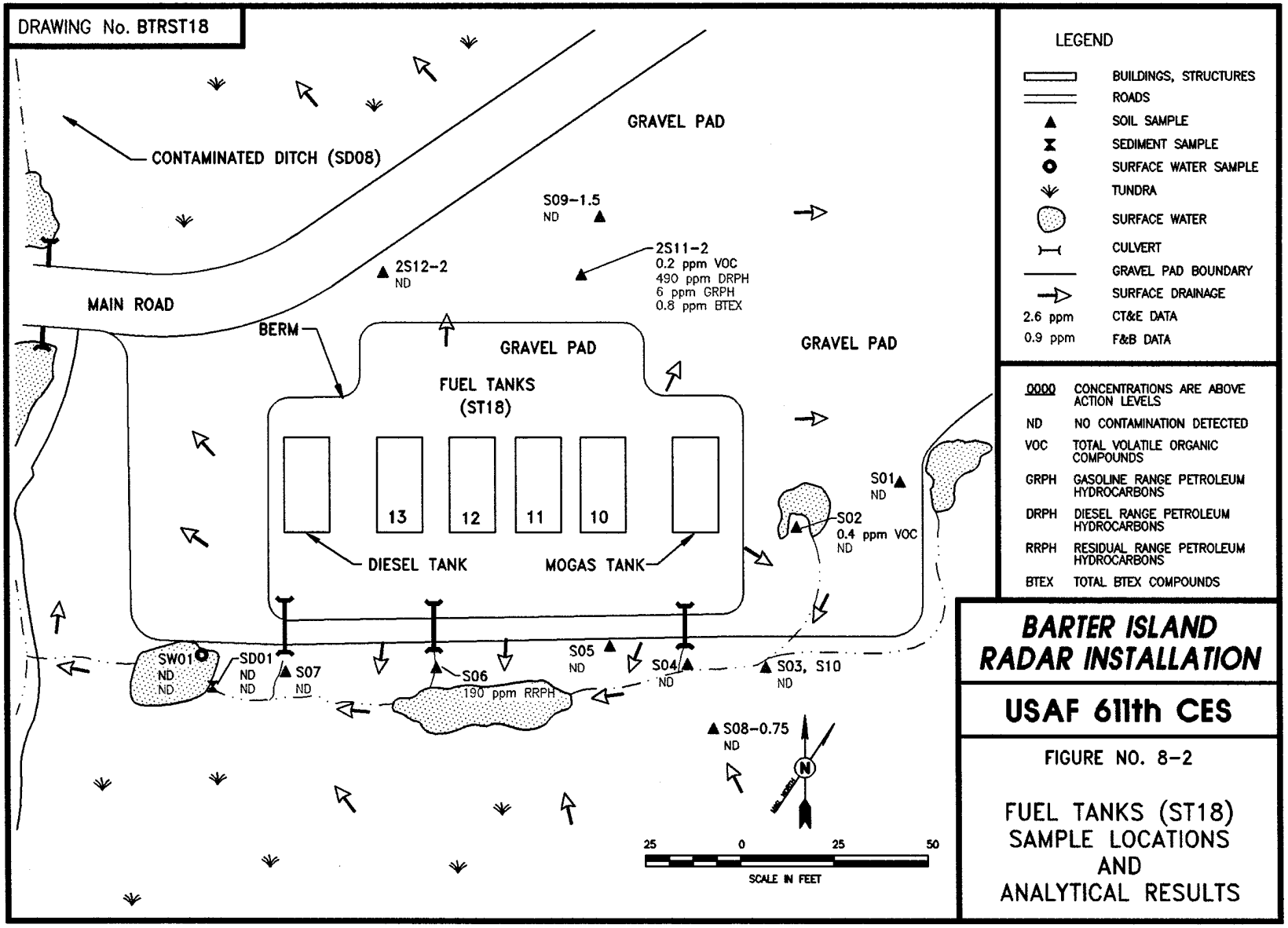

BARTER ISLAND RADAR INSTALLATION

USAF 611th CES

FIGURE NO. 8-2

FUEL TANKS (ST18)
SAMPLE LOCATIONS
AND
ANALYTICAL RESULTS

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for no further action at the Old Landfill (LF01); fact sheets were sent to all residents on the mailing list during early February 1996 describing the sites recommended for no further action at the Barter Island radar installation; a public review and comment period on the Draft Final Decision Document for no further action sites was held from 9 February to 9 March, 1996; and documents have been, and will continue to be, available for review at the Kaveolook School in Kaktovik, Alaska, Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since February 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal comment period.

To facilitate public participation the Air Force plans to conduct a RAB informational meeting during 1996.

8.3 SELECTED ACTION AND DECISION

The selected action and decision for the Fuel Tanks (ST18) is no further action. This action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above and the supporting documentation contained in the Final Barter Island Remedial Investigation/ Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

8.4 REFERENCES

U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Risk Assessment for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

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DECISION DOCUMENT FOR
NO FURTHER RESPONSE ACTION PLANNED
BARTER ISLAND RADAR INSTALLATION

SECTION 9.0

SITE NUMBER	SITE NAME
LF19	Old Dump Site

SITE NAME AND LOCATION

Site Number: LF19
Site Name: Old Dump Site
Location: Barter Island Radar Installation, Alaska

STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil, surface water, and sediment sampling for inorganics and organics and the completion of a human health and ecological risk assessment, potential adverse effects to human and ecological receptors resulting from conditions at the Old Dump Site, site LF19, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the Old Dump Site (LF19), it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, is required.

DECLARATION

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

UNITED STATES AIR FORCE

Signature: _____ Date: _____

Name: Samuel C. Johnson, III, Colonel, USAF
Commander, 611th Air Support Group

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REVIEW AND CONCURRENCE: STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Signature: _____ Date: _____

Kurt Fredriksson
Director, Division of Spill Prevention and Response

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9.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the Old Dump Site, site LF19.

9.1.1 Site History

The Old Dump Site (LF19) consists of several acres of mostly tundra located northeast of the module trains and east of the Contaminated Ditch (Figure 9-1). The village of Kaktovik was located at this site from 1952 to 1964. There are no obvious areas of contamination at the site, and it is uncertain whether this area was ever used as a dump site. Previous Air Force contractors reported the site was used as a storage area for materials scheduled for retrograde by sealift.

Eleven samples were collected during the 1993 RI from tundra areas, drainage pathways, and a gravel filled area at the Old Dump Site. Organic compounds were detected in soil and sediment samples only. Five inorganic compounds were detected above background levels in the surface water samples; however, the metals were not detected at levels that exceeded regulatory action levels. Sampling and analyses have determined that the Old Dump Site (LF19) is not significantly contaminated. Only relatively low levels of petroleum compounds were detected in soil and sediment.

Analytical data indicated surface water at the Old Dump Site (LF19) is not an active migration pathway. Based on the relatively low levels of contaminants detected, the potential for surface and subsurface migration appears to be minimal.

9.1.2 Sample Analyses Summary

The Air Force had not conducted sampling and analysis at the Old Dump Site (LF19) prior to the 1993 RI.

During the 1993 RI the Air Force collected 11 samples at the Old Dump Site (U.S. Air Force 1996a). Samples included eight soil samples, two sediment samples, and one surface water sample. Soil and sediment samples contained diesel range petroleum hydrocarbons (DRPH), gasoline range petroleum hydrocarbons (GRPH), and residual range petroleum hydrocarbons (RRPH). No organic contaminants were detected in surface water samples from the Old Dump Site. Sample locations and analytical results are shown on Figure 9-2. Table 9-1 summarizes organic chemicals detected above background levels.

The source of the limited contamination at the Old Dump Site (LF19) is unknown but is possibly related to past disposal practices at the site. The contaminants detected are isolated to a small area in the southern section of the site. The village of Kaktovik was located on this site from approximately 1952 to 1964. Contaminants were not detected in soil, sediment, or surface water samples collected in downgradient areas. Sampling and analyses indicate the south tributary

TABLE 9-1. SUMMARY OF 1993 REMEDIAL INVESTIGATION SAMPLING AT OLD DUMP SITE (LF19)

CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
DRPH[a]	Sediment	580 mg/kg	1
GRPH[b]	Soil/Sediment	22 mg/kg	2
RRPH[c]	Soil/Sediment	5,800 mg/kg	2

a DRPH = Diesel Range Petroleum Hydrocarbons.
b GRPH = Gasoline Range Petroleum Hydrocarbons.
c RRPH = Residual Range Petroleum Hydrocarbons.

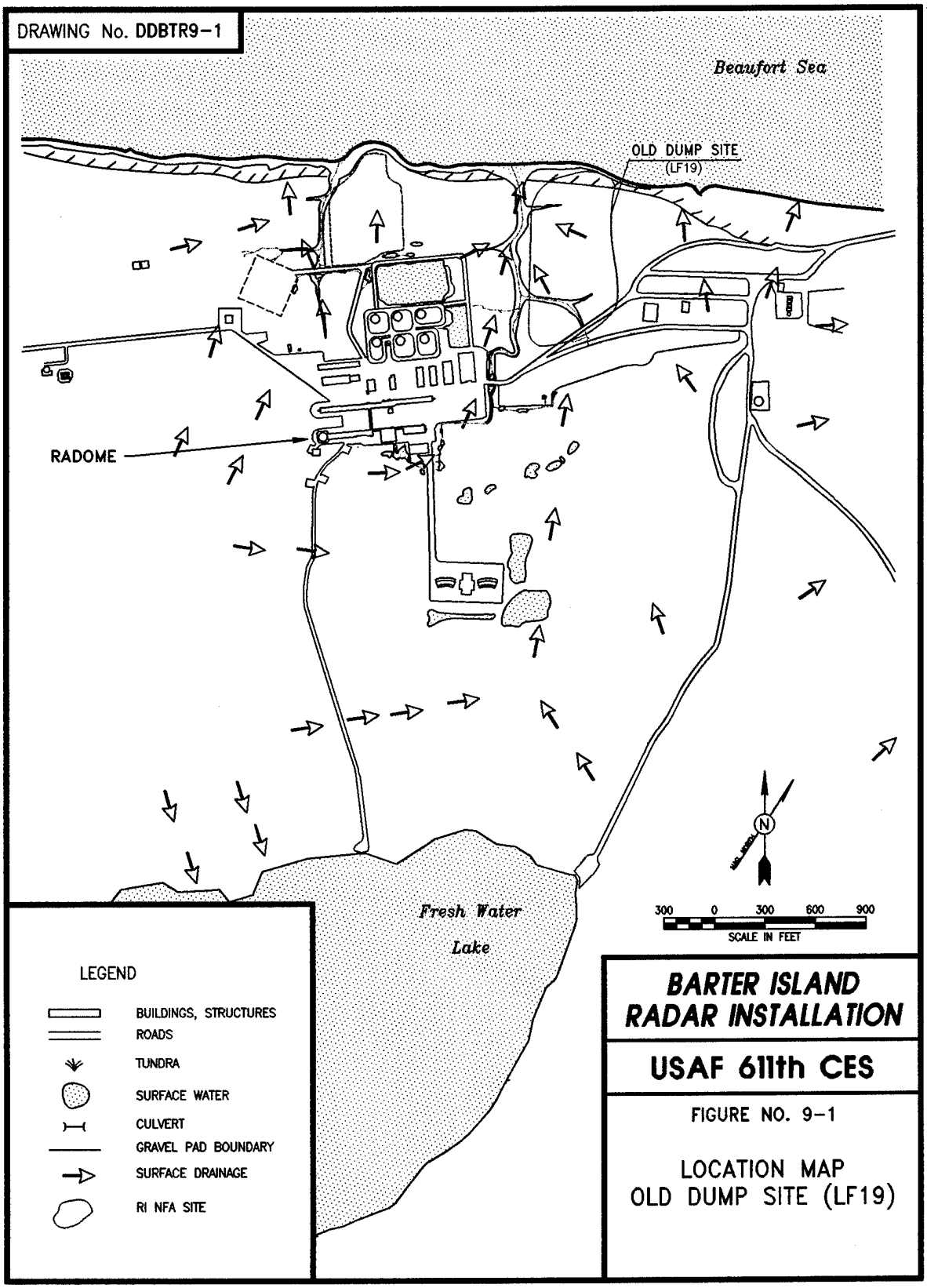
stream is not an active surface migration pathway. Based on the relatively low levels of contamination detected at the Old Dump Site, the potential for surface and subsurface migration is minimal.

9.1.3 Risk Assessment Summary

The Final Barter Island Risk Assessment (U.S. Air Force 1996b) concluded that risks posed to human and ecological receptors by site contaminants are minimal given current or future site uses. Based on the RI sampling and analyses, risk assessment, and current or future site uses, remedial actions are not warranted at the site. Therefore, the Old Dump Site (LF19) site is recommended for no further action.

9.2 PUBLIC INVOLVEMENT AND COMMENT

Community relations activities that have taken place for the Barter Island radar installation include the following: residents of Kaktovik were interviewed by Air Force community relations personnel on 29 June, 1993 and 7 July, 1993; a mailing list of residents of Kaktovik is being maintained by the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published in February 1996 regarding the decision for no further action at the Old Landfill (LF01); fact sheets were sent to all residents on the mailing list during early February 1996 describing the sites recommended for no further action at the Barter Island radar installation; a public review and comment period on the Draft Final Decision Document for no further action sites was held from 9 February to 9 March, 1996; and documents have been, and will continue to be, available for review at the Kaveolook School in


DRAWING No. DDBTR9-1
Beaufort Sea
OLD DUMP SITE
(LF19)
RADOME
Fresh Water
Lake
N
300 0 300 600 900
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
RI NFA SITE
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 9-1
LOCATION MAP
OLD DUMP SITE (LF19)

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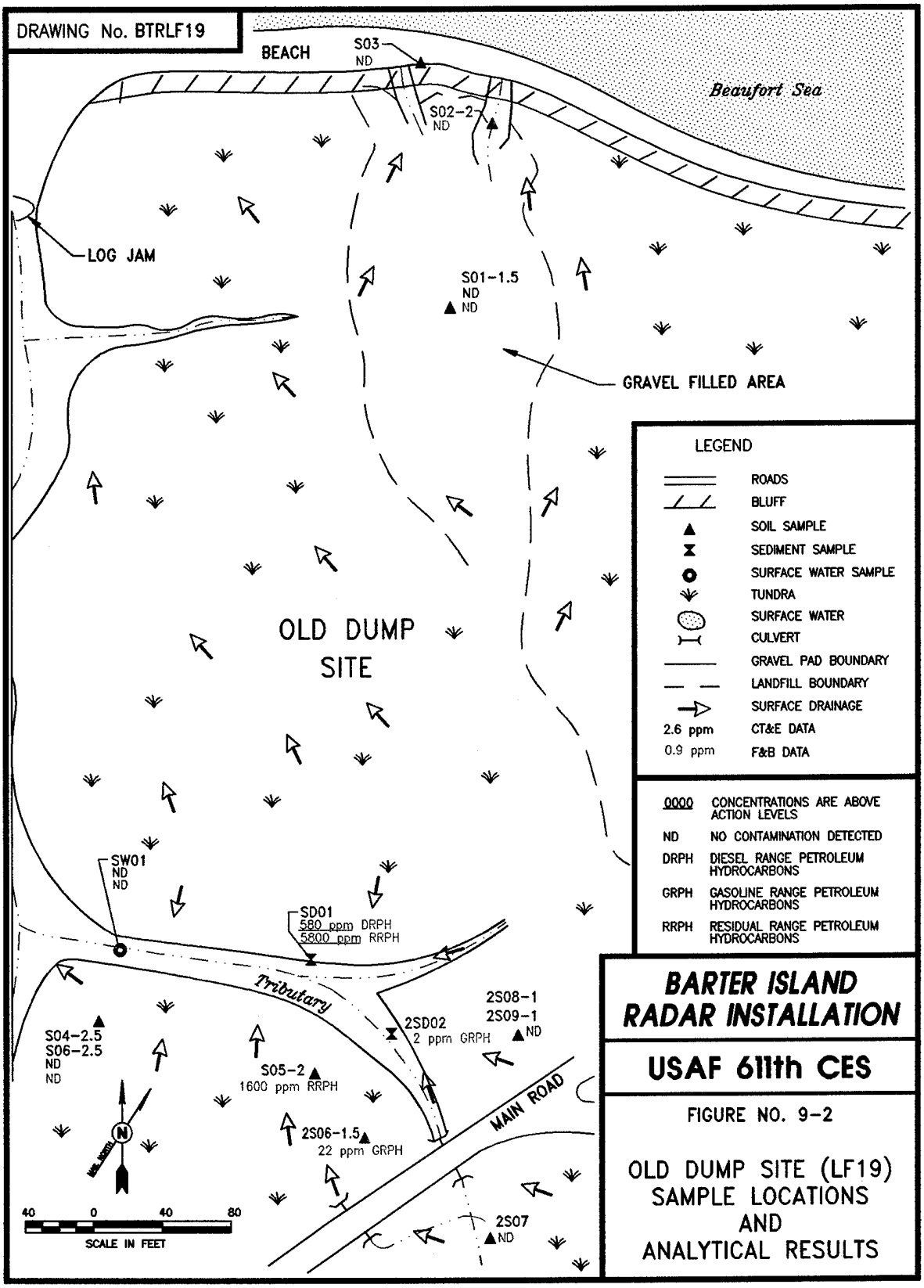
DRAWING No. BTRLF19
BEACH
S03
ND
Beaufort Sea
S02-2
ND
LOG JAM
S01-1.5
ND
ND
GRAVEL FILLED AREA
OLD DUMP
SITE
SW01
ND
ND
SD01
580 ppm DRPH
5800 ppm RRPH
Tributary
2SD02
2 ppm GRPH
2S08-1
2S09-1
ND
S04-2.5
S06-2.5
ND
ND
S05-2
1600 ppm RRPH
2S06-1.5
22 ppm GRPH
MAIN ROAD
2S07
ND
N
40 0 40 80
SCALE IN FEET
LEGEND
ROADS
BLUFF
SOIL SAMPLE
SEDIMENT SAMPLE
SURFACE WATER SAMPLE
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
LANDFILL BOUNDARY
SURFACE DRAINAGE
2.6 ppm CT&E DATA
0.9 ppm F&B DATA
0000 CONCENTRATIONS ARE ABOVE ACTION LEVELS
ND NO CONTAMINATION DETECTED
DRPH DIESEL RANGE PETROLEUM HYDROCARBONS
GRPH GASOLINE RANGE PETROLEUM HYDROCARBONS
RRPH RESIDUAL RANGE PETROLEUM HYDROCARBONS
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 9-2
OLD DUMP SITE (LF19)
SAMPLE LOCATIONS
AND
ANALYTICAL RESULTS

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Kaktovik, Alaska, Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since February 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal comment period.

To facilitate public participation the Air Force plans to conduct a RAB informational meeting during 1996.

9.3 SELECTED ACTION AND DECISION

The selected action and decision for the Old Dump Site (LF19) is no further action. This action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above and the supporting documentation contained in the Final Barter Island Remedial Investigation/ Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

9.4 REFERENCES

U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Risk Assessment for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

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DECISION DOCUMENT FOR
NO FURTHER RESPONSE ACTION PLANNED
BARTER ISLAND RADAR INSTALLATION

SECTION 10.0

SITE NUMBER	SITE NAME
SS20	Bladder Diesel Spill

10.0 DECLARATION OF DECISION
Bladder Diesel Spill (SS20)

SITE NAME AND LOCATION

Site Number: SS20
Site Name: Bladder Diesel Spill
Location: Barter Island Radar Installation, Alaska

STATEMENT OF BASIS

This decision is based on the results of Installation Restoration Program (IRP) investigations including records searches, field investigations, and data analyses, and the human health and ecological risk assessments prepared with information gained from the 1993 Remedial Investigation (RI). Based on the results of soil, surface water, and sediment sampling for inorganics and organics and the completion of a human health and ecological risk assessment, potential adverse effects to human and ecological receptors resulting from conditions at the Bladder Diesel Spill, site SS20, are not expected. The information on which the decision is based is available to the public in administrative records/information repositories. The information available includes the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

DESCRIPTION OF THE SELECTED REMEDY

Based on the current conditions at the Bladder Diesel Spill (SS20) site, it has been determined that no significant risk or threat to public health or the environment exists. Therefore, no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, is required.

DECLARATION

This Decision Document presents the selected remedy for the site developed in accordance with CERCLA (as amended by the Superfund Amendments and Reauthorization Act of 1986), the National Contingency Plan, the regulations of the State of Alaska Department of Environmental Conservation (ADEC), and the United States Air Force (Air Force) IRP. It has been determined that no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. The statutory preference for further treatment is not satisfied because further treatment was not found to be necessary. Contaminant levels at the site have been determined to present no significant threat to human health or the environment; therefore, no treatment is necessary.

This decision does not preclude future remedial or site investigations if information indicates that there is previously undiscovered contamination or exposures that may cause risk to human health or the environment. The ADEC reserves all of its rights to request additional activities in the future, if necessary.

UNITED STATES AIR FORCE

Signature: _____ Date: _____

Name: Samuel C. Johnson, III, Colonel, USAF
Commander, 611th Air Support Group

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REVIEW AND CONCURRENCE: STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Signature: _____ Date: _____

Kurt Fredriksson
Director, Division of Spill Prevention and Response

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10.1 DECISION DOCUMENT SUPPORT

The following sections summarize the site history, sample analyses, human health and ecological risk assessments, public involvement, and selected action and decision for the Bladder Diesel Spill, site SS20.

10.1.1 Site History

The Bladder Diesel Spill (SS20) site is a water-saturated tundra area with a thin gravel cover located west of module train B (Figure 10-1). The Bladder Diesel Spill site was historically a storage area for arctic grade diesel fuels. Site personnel indicated the possibility of a previous fuel spill in this area. Although the bladder diesel tank has been removed, the area adjacent to the tank was suspected of containing petroleum hydrocarbons.

Seven samples were collected during the 1993 RI from tundra and ponds at the Bladder Diesel Spill site. Organic compounds were detected in soil and surface water samples. Inorganic compounds above background levels were limited to magnesium (a human nutrient) detected in one soil sample.

Sampling and analyses have determined that there is no significant contamination at the Bladder Diesel Spill (SS20) site. Only very low levels of contaminants were detected in two of the seven samples collected. The site was investigated because it was reported to be the location of a former bladder storage tank and diesel spill. The reported spills at the site are considered to have been either minor in nature or have bioremediated to the near non-detect levels. There does not appear to be a potential migration pathway from the site. In addition, because there is no significant contamination, migration is not a concern.

10.1.2 Sample Analyses Summary

The Air Force had not conducted sampling and analysis at the Bladder Diesel Spill (SS20) prior to the 1993 RI.

During the 1993 RI the Air Force collected three soil, two sediment, and two surface water samples at the Bladder Diesel Spill site (U.S. Air Force 1996a). One soil sample contained volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). One surface water sample contained a VOC. Table 10-1 summarizes organic chemicals detected above background levels. Sample locations and analytical results are shown on Figure 10-2.

There does not appear to be any significant contamination at the site. Very low levels or organic compounds were detected in only two samples at the site, and no metals were detected at concentrations considered to be of concern.

TABLE 10-1. SUMMARY OF 1993 REMEDIAL INVESTIGATION SAMPLING AT BLADDER DIESEL SPILL (SS20)

CHEMICAL	SAMPLE MEDIA	MAXIMUM CONCENTRATION	NUMBER OF DETECTIONS
Fluoranthene	Soil/Sediment	1.70 mg/kg	1
Naphthalene	Soil/Sediment	0.280 mg/kg	1
Phenanthrene	Soil/Sediment	1.96 mg/kg	1
Pyrene	Soil/Sediment	1.26 mg/kg	1
Toluene	Soil/Sediment	0.097 mg/kg	1
Naphthalene	Surface Water	2.7 µg/L	1

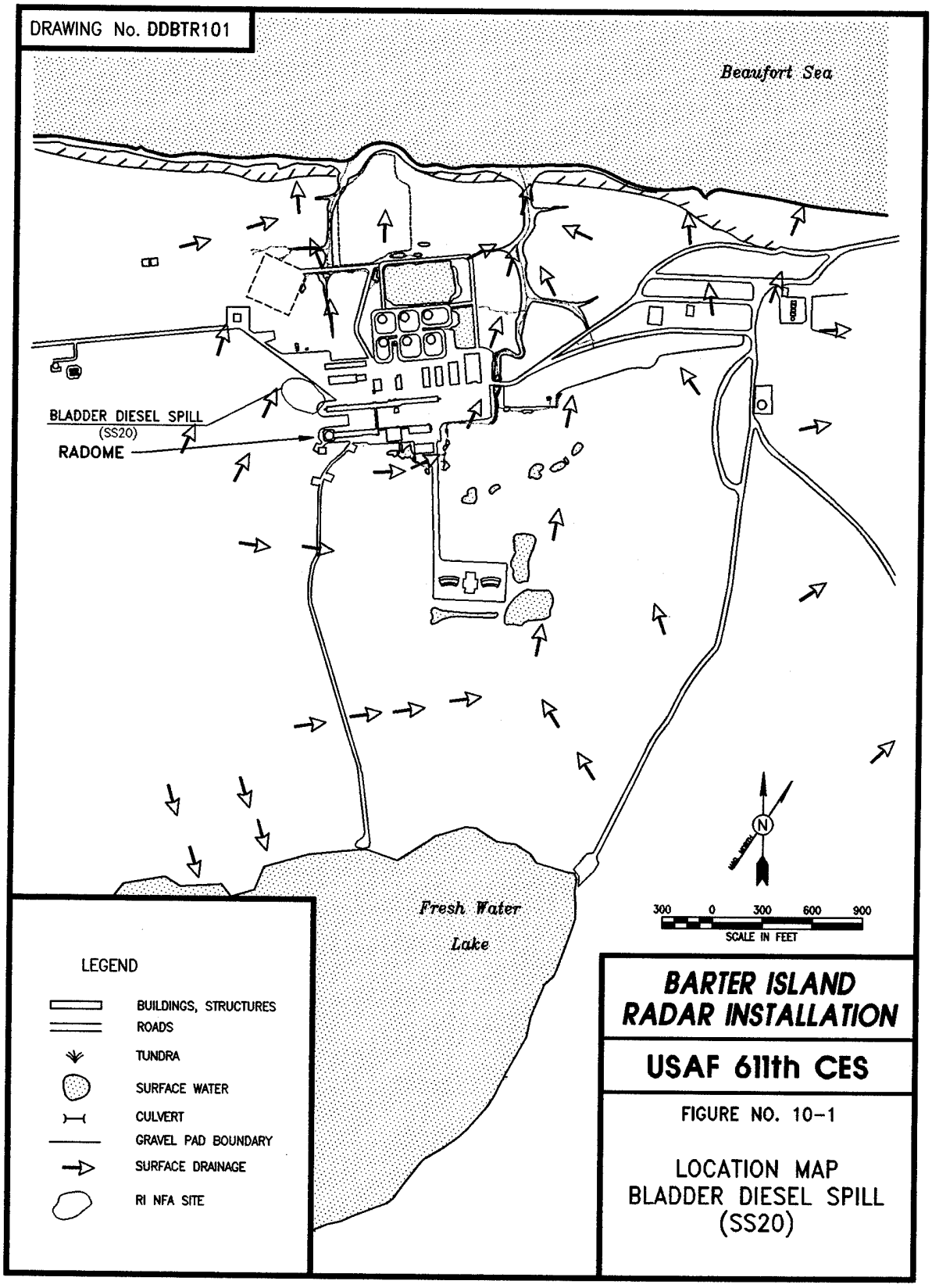
10.1.3 Risk Assessment Summary

The Final Barter Island Risk Assessment (U.S. Air Force 1996b) concluded there are no contaminants of concern present at the Bladder Diesel Spill site; therefore, there is no apparent risk to human and ecological receptors.

Based on the RI sampling and analyses, risk assessment, and current or future site uses, remedial actions are not warranted at the site. No chemicals detected at the site exceed Applicable or Relevant and Appropriate Requirements (ARARs), and no significant human health or ecological risks were identified at the site. Therefore, the Bladder Diesel Spill (SS20) site is recommended for no further action.

10.2 PUBLIC INVOLVEMENT AND COMMENT

Community relations activities that have taken place for the Barter Island radar installation include the following: residents of Kaktovik were interviewed by Air Force community relations personnel on 29 June, 1993 and 7 July, 1993; a mailing list of residents of Kaktovik is being maintained by the 611th CES/CEVR; a fact sheet describing the status of the Installation Restoration Program at the radar installation was distributed to the mailing list on October 1994; a fact sheet was distributed to the mailing list during August 1995 explaining the Restoration Advisory Board (RAB) and how community residents could become RAB members; two RAB meetings were held in Barrow, Alaska in 1995; public notices were published in February 1996 regarding the decision for no further action at the Old Landfill (LF01); fact sheets were sent to all residents on the mailing list during early February 1996 describing the sites recommended for no further action at the Barter Island radar installation; a public review and comment period on the Draft Final Decision Document for no further action sites was held from 9 February to 9 March, 1996; and documents have been, and will continue to be, available for review at the Kaveolook School in


DRAWING No. DDBTR101
Beaufort Sea
BLADDER DIESEL SPILL
(SS20)
RADOME
Fresh Water
Lake
300 0 300 600 900
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
ROADS
TUNDRA
SURFACE WATER
CULVERT
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
RI NFA SITE
BARTER ISLAND
RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 10-1
LOCATION MAP
BLADDER DIESEL SPILL
(SS20)

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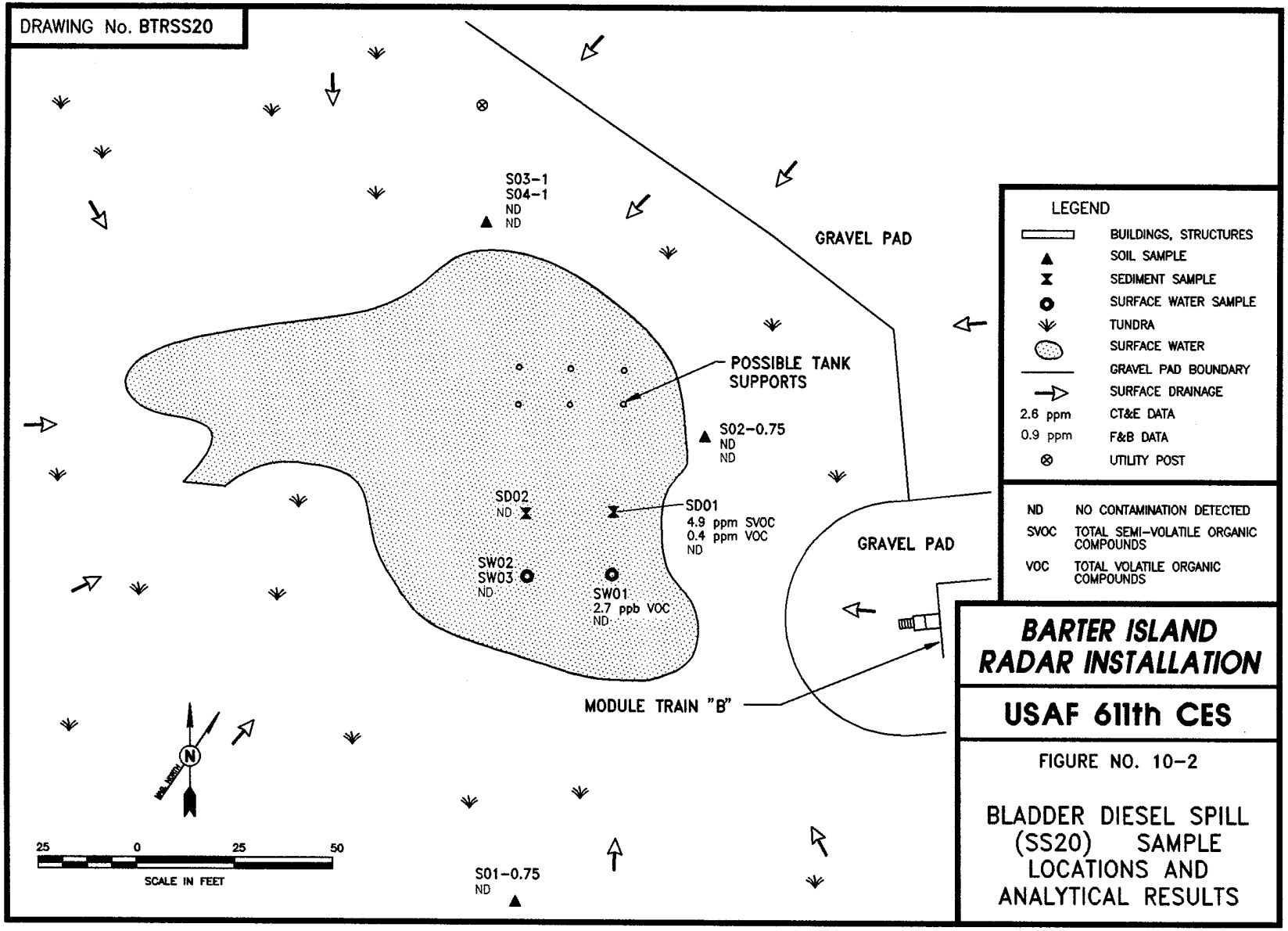
DRAWING No. BTRSS20
S03-1
S04-1
ND
ND
GRAVEL PAD
POSSIBLE TANK SUPPORTS
S02-0.75
ND
ND
SD02
ND
SD01
4.9 ppm SVOC
0.4 ppm VOC
ND
SW02
SW03
ND
SW01
2.7 ppb VOC
ND
GRAVEL PAD
MODULE TRAIN "B"
S01-0.75
ND
25 0 25 50
SCALE IN FEET
LEGEND
BUILDINGS, STRUCTURES
SOIL SAMPLE
SEDIMENT SAMPLE
SURFACE WATER SAMPLE
TUNDRA
SURFACE WATER
GRAVEL PAD BOUNDARY
SURFACE DRAINAGE
2.6 ppm CT&E DATA
0.9 ppm F&B DATA
UTILITY POST
ND NO CONTAMINATION DETECTED
SVOC TOTAL SEMI-VOLATILE ORGANIC COMPOUNDS
VOC TOTAL VOLATILE ORGANIC COMPOUNDS
BARTER ISLAND RADAR INSTALLATION
USAF 611th CES
FIGURE NO. 10-2
BLADDER DIESEL SPILL (SS20) SAMPLE LOCATIONS AND ANALYTICAL RESULTS

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Kaktovik, Alaska, Tuzvy Library in Barrow, Alaska, and Elmendorf Air Force Base in Anchorage, Alaska since February 1996. The Air Force has received no public comments in response to the fact sheets, public notices distributed to date, or during the formal public comment period.

To facilitate public participation the Air Force plans to conduct a RAB informational meeting during 1996.

10.3 SELECTED ACTION AND DECISION

The selected action and decision for the Bladder Diesel Spill (SS20) site is no further action. This action is consistent with the requirements of ADEC, the Air Force, and federal regulations regarding the remediation of hazardous waste sites. This decision is based on the conclusions provided above and the supporting documentation contained in the Final Barter Island Remedial Investigation/Feasibility Study (U.S. Air Force 1996a) and the Final Barter Island Risk Assessment (U.S. Air Force 1996b).

10.4 REFERENCES

U.S. Air Force. 1996a. Final Remedial Investigation and Feasibility Study, Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

U.S. Air Force. 1996b. Final Risk Assessment for the Barter Island Radar Installation, Alaska. Prepared for the USAF Center for Environmental Excellence, Environmental Restoration Division. Prepared by ICF Technology, Inc. May.

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