

STATE OF ALASKA

**DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM**

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Files: 1542.38.001
1542.38.003

February 9, 2012

Scott Berglund
Federal Aviation Administration
Environmental Section
AAL-471, FAA
222 W. 7th Ave, Box 14
Anchorage, AK 99513-7587

Re: **Federal Aviation Administration (FAA) Biorka Island Station VORTAC
Summary of Evaluations and Determinations**

Dear Mr. Berglund:

The Alaska Department of Environmental Conservation Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the FAA Biorka Island Station located in the Necker Islands in southeast Alaska in Sections 7 and 8, Township 58 South, Range 62 East of the Copper River Meridian. Based on the information provided to date, ADEC has determined the site status of each area of concern. The current status of the sites is listed below, and the body of the letter summarizes the history of the site and explains the site status determination for each area of concern. Please note that a separate Record of Decision documents the FAA Biorka Island Station Living Quarters and associated sites.

Comprehensive Site Status Summary for All Biorka Island Areas of Concern

The following identifies ADEC site status determinations for all Areas of Concern (AOCs) on Biorka Island. For clarity, this list includes AOCs which are not addressed in this letter. Specific details for each AOC and file references are available within the text, or in another document.

AOCs Addressed in this letter:

Further Action Required

- Storage Shed and Drum Storage Area

- Unpermitted Landfill under Helipad
 - Diesel AST near Building 402
- Cleanup Complete
- 3.5 Inch Fuel Pipeline
 - ¾ inch Supply and Return Pipeline
- Cleanup Complete – LUST
- Diesel Tank Farm USTs 47-A-2, 47-A-3, 47-A-4
 - Gasoline UST 47-A-1
 - Diesel UST 47-C-01
- Not an AOC
- Former Transformer Pad
 - Transformer #141870
 - Small Vehicle Leak (Stain #2)
- AOC with Undetermined Site Cleanup Responsibility
- LORAN Facility

AOC Addressed in the January 7, 2010 ADEC Decision Document FAA Biorka Island RCAG, Record of Decision:

- Cleanup Complete
- FAA Biorka Island RCAG

AOCs Addressed in the February 9, 2012 ADEC Decision Document FAA Biorka Island Station Living Quarters Summary of Evaluations and Determinations:

- Further action required
- Building 601 ASTs
 - Pipeline 47-P-10
 - Wood Crib/Culvert near Building 300
 - Contaminated Soil at Beach Tank Farm Fill Valve
- Cleanup Complete:
- 2.5 Inch Cross Island Aboveground Pipeline
 - Former Pipeline 47-P-09
 - Gasoline Spill at Building 300
 - Petroleum Contamination at Buildings 100-102
 - Lead Contamination at Buildings 100-102
 - Living Quarters Former Tank Farm
 - Dry Well at Building 302
 - Cell Phone Tower Facility
 - Former Diesel AST 47-D-2
- Cleanup Complete – LUST:
- Former UST 47-D-1 and Potentially Contaminated Soil Disposal Area
- Not an AOC:
- Former Soil Stockpile near Road
 - Former Transformer Pad near Dock
 - US Coast Guard Transformer near Building 300

Introduction

These site status decisions are based on the administrative record for the FAA Biorka Island VORTAC site, which is located in the offices of the Alaska Department of Environmental Conservation (ADEC) in Fairbanks, Alaska. This letter summarizes the decision process used to determine the environmental status of the areas of concern at the site and provides a summary of the regulatory issues considered in the determination.

Regulatory authority under which the site is being cleaned up:
18 AAC 75, Article 3 and 18 AAC 78 Article 6

Background

The FAA, formerly known as the Civil Aeronautics Administration, began activities on the Biorka Island property in 1940. The FAA has a permit from the U.S. Forest Service for an 11 acre parcel for the Very High Frequency Omnidirectional Range with Tactical Air Navigation (VORTAC) facility. The VORTAC was built between 1957 and 1959 on a small rise surrounded by wetlands. The site consists of a navigation antenna, Building 402 and attached garage, a storage shed, a helicopter landing pad, and a septic tank and leach field.

Currently, there are no year-round residents on Biorka Island. Several facility buildings and the facility grounds are used by Southeast Alaska Regional Health Consortium (SEARHC) Community Health Service of Sitka; however their activities generally do not involve use of the areas near the VORTAC. FAA personnel occasionally frequent the site to perform maintenance on generators and air navigational aids.

Characterization and Cleanup Activities

The following reports document characterization and cleanup actions at the Biorka Island Station:

- Ecology and Environment Inc. *Environmental Compliance Investigation Report for Biorka Island Navigation Aid Station, Biorka Island*. April 1992.
- Ecology and Environment Inc. *Site Cleanup and Investigation Report, Biorka Island FAA Station, Biorka, Alaska*. December 1994.
- GeoEngineers, Inc. *Final Remedial Action Report for UST and Pipeline Closure, FAA Communications Facilities, Biorka Island, Alaska*. April 1997.
- CH2-OH. *Biorka Island FAA Station Landfill Closure Documentation*. January 1998.
- CH2MHill Inc. *Site Closure Report, VORTAC Facility, Former VHF Area Facility, Radar Facility, Quarters/Dock Facility, Biorka Island, Alaska*. December 2006.
- Bristol Construction Services, LCC. *Groundwater Sampling and Environmental Investigation, Biorka Island, Alaska, Closeout Report Final*. August 2008.

Additional site specific activities are noted in the section ADEC Decision. The attached Compilation of Sample Results for VORTAC Determinations identifies analytical and observational data of special significance for each site. General figures from site investigation reports are also attached to identify the general physical locations of each site.

Contaminants of Concern

The contaminants of concern at the VORTAC facility are:

- Diesel Range Organics (DRO)
- Gasoline Range Organics (GRO)
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
- Polychlorinated Biphenyls (PCBs)
- Lead

Cleanup Levels

The cleanup levels for the VORTAC facility are drawn from 18 AAC 75.341 Method 2 Migration to Groundwater Cleanup levels.

Contaminant	Method 2 Above 40 Inch Zone Cleanup Levels (mg/kg)				
	Migration to Groundwater	Ingestio n	Inhalatio n	Direct Contac t	Outdoor Inhalatio n
Diesel Range Organics (DRO)	230	8250	12500		
Gasoline Range Organics (GRO)	260	1400	1400		
Benzene	0.025			120	8.5
Toluene	6.5			6600	220
Ethylbenzene	6.9			8300	81
Xylenes	63			16600	63
Polychlorinated Biphenyls (PCBs)				1	
Lead				400	

Pathway Evaluation

The exposure pathways for human health that were evaluated include the following: migration to groundwater, incidental ingestion of soil; inhalation of vapors in indoor and outdoor air, and dermal contact with soil. The migration to groundwater pathway may be complete depending on site specific conditions. Drinking water is obtained from a rainwater cistern, or alternately, from a freshwater lake. Groundwater if it is present, is brackish, and is not used as a drinking water source. Contaminant concentrations exceeding cleanup levels remain *in situ* where indicated in the site specific discussions below. Exposure to these areas will be controlled with institutional controls.

The exposure pathway analysis above was supported by the most recent ADEC Exposure Tracking Model (ETM) ranking. The ETM results showed all pathways for closed sites to be De Minimis Exposure or Pathway Incomplete.

ADEC Further Action Required Determination

ADEC has determined that further action is required to address soil contamination issues at the following sites. These sites are currently designated as separate Source Areas within site 1542.38.001. These Source Areas will remain open and active within the ADEC Database until remediation work is complete.

Storage Shed and Drum Storage Area – This site is listed in the ADEC database as Source Area 78993. The Storage Shed is located approximately 25 feet east of the VORTAC building. Numerous 55 gallon drums were discovered next to the storage shed at the VOR, including two that were tipped onto their sides and contained used oil filters. An approximately 6 foot by 8 foot area of soil was stained to a depth of approximately 2 inches. Numerous samples were collected in 1994 to determine the extent and concentration of the contaminated soil at the stained soil area prior to the excavation. These samples detected DRO up to 5,700 mg/kg and 3.2 mg/kg polychlorinated biphenyls (PCBs). The PCB samples were flagged as estimates by the laboratory. The drums and approximately 3 cubic yards of contaminated soil were removed in 1994 and placed in a land farm at the LORAN site, with a confirmation sample below ADEC cleanup levels for DRO and BTEX. PCBs remain at the former limits of excavation. Soil adjacent to and beneath the storage shed remains at unknown contaminant concentrations. Remaining contaminated soil in the storage yard and near and beneath the storage shed and any remaining concentrations of PCBs must be fully characterized for all contaminants of concern. Contaminated soils must be remediated to below Method 2 Over 40 Inch Zone cleanup levels before a cleanup complete determination can be issued for this site.

Unpermitted Landfill under Helipad – This site is listed in the ADEC database as Source Area 79009. An area of stressed vegetation and debris was identified during investigations in 1990. The surface debris was removed and a geophysical survey of the helipad was conducted in 1994 using an EM-31, a magnetometer, and a metal detector. These surveys revealed two distinct anomalies which are believed to represent areas of buried debris beneath the helipad. The site was also inspected for potential seeps of groundwater, but none were present. The helipad area will require institutional controls (ICs) to inform future site users of the presence of buried waste, and prohibit digging into or developing over the potential contamination. To reach a Cleanup Complete with ICs designation FAA must: complete a survey and install monuments to relate GPS coordinates from the 1998 report, and produce a deed notice to inform future users of the landfill under the helipad and prohibit digging into or developing over

this site. Using Institutional Controls as a final cleanup plan will require land owner concurrence with the remedy.

Diesel AST near Building 402 - This site is listed in the ADEC database as Source Area 78370. A 1,000 gallon AST was installed near VORTAC Building 402 in 1996 to provide fuel for the engine-generator. In 2002 a leaking anti-siphon valve was noticed, and soil below the leak was excavated and transported to a long-term stockpile. The stockpile was later shipped off-site for thermal remediation. A confirmation sample was collected from the limits of the 0.5 foot deep by 4 foot diameter excavation. The sample was analyzed for DRO, GRO, BTEX and PAHs; all results were below the applicable cleanup levels. In 2006, the AST was inspected and fuel was noted on the ground below the piping again. The AST and 4 cubic yards of DRO contaminated soil were transported off the island. Confirmation samples at the limits of the excavation exceed the cleanup level and an estimated 5 cubic yards of contaminated soil remains at the site. FAA must complete the following to reach a Cleanup Complete determination: remove soil with contamination above Method 2 Over 40 Inch Zone cleanup levels and provide confirmation sampling results to demonstrate that contaminant concentrations are below cleanup levels.

ADEC Cleanup Complete Determination

ADEC has determined that a Cleanup Complete determination is appropriate for the following sites. These sites are currently designated as separate Source Areas in site file 1542.38.001. These Source Areas will be reranked within the ADEC Database to document their Cleanup Complete determination.

3.5 Inch Fuel Pipeline - This site is listed in the ADEC database as Source Area 78372. This diesel fuel transfer pipeline is also referred to as the VORTAC Pipeline. The 2.5 Inch Fuel Pipeline was installed in 1984 and ran 1,900 feet from Sitka Sound to the former VORTAC Tank Farm. The pipeline was made of steel and had threaded joint couplings every 20 feet. The pipeline was used only once, and was abandoned due to difficulties caused by the steep terrain. Tanks were subsequently filled via helicopter. All joints were inspected during the pipeline removal in 1996. Six joints were determined to have leaked. Three cubic yards of soil were removed from one location near the VORTAC road. The other 5 releases were along a 200 foot stretch of heavily wooded hillside about 100 feet from the pipeline valve box. Analytical samples from the pipeline releases and a background sample all exceeded the Method One cleanup level for DRO, and two samples exceeded the health based cleanup levels for ingestion and inhalation. No benzene was detected in the samples. Laboratory reports indicate that biogenic interference contributed to the DRO concentrations. A letter in the file from ADEC Program Manager Mike Jaynes suggests that due to the steep and highly vegetated terrain, removal of the contaminated soil may do more

environmental harm than good. In 2008, ADEC Project Manger Sharon Richmond visited the site with representatives from FAA. Ms. Richmond hiked the entire length of the pipeline photographing the few areas of contamination that could still be located, and agreed that the releases were de minimis in size and unlikely to migrate due to the low permeability and highly organic nature of the muskeg soil. A Cleanup Complete designation is approved for the 3.5" pipeline.

¾" Supply and Return Pipeline - This site is listed in the ADEC database as Source Area 78371. The ¾" buried copper supply and return pipeline from the diesel tank farm to the engine generator has been removed. The pipeline was approximately 240 feet long. Contamination was first noted in a 2 foot by 2 foot area adjacent to the building foundation where the piping entered Building 402. This small area of contaminated soil was removed, and the trench was backfilled. The area was re-excavated in 2002 and confirmation sample results for DRO and GRO were below the Method One Category B Cleanup Levels approved for the site, BTEX and polycyclic aromatic hydrocarbon (PAH) results were below the most stringent Migration to Groundwater Cleanup level. A Cleanup Complete designation is approved for the ¾" Supply and Return Pipeline.

ADEC Cleanup Complete – LUST Determination

ADEC has determined that a Cleanup Complete Determination is appropriate for the following LUST sites. These sites are referred to as separate areas of concern (AOCs) in site file 1542.38.001. These Source Areas will be reranked within the ADEC Database to document their Cleanup Complete determination.

Diesel Tank Farm USTs 47-A-2, 47-A-3, 47-A-4 - This site is listed in the ADEC database as Source Area 79007. The Diesel Tank Farm USTs were located south of the VORTAC. In 1996, the three 8,000 gallon USTs (47-A-2, 47-A-3, and 47-A-4) were decommissioned. The above ground portion of the 3.5 inch pipeline was removed. Low concentrations of contaminated soil were detected beneath the diesel USTs. The contaminated soil was excavated, and shipped to TPS Technologies for thermal remediation. Soil confirmation samples beneath the diesel tanks indicate that DRO was below the most stringent Method 2 migration to groundwater cleanup levels. Benzene concentrations were non-detect, and although the detection limits slightly exceeded the ACL for this compound, the extremely low concentrations of DRO in soil at this site would indicate that benzene contamination is not likely to be a concern. A Cleanup Complete designation is approved for the VORTAC diesel tank farm.

Gasoline UST 47-A-1 - This site is listed in the ADEC database as Source Area 78367. The 1,000 gallon gasoline UST 47-A-1 was located at the Northwest of Building 402. It was removed in 1996 along with 83 cubic

yards of potentially contaminated soil. This soil was transported to TPS Technologies for thermal remediation. Confirmation samples collected at the limits of the tank excavation were analyzed for BTEX and GRO, and were found to be below the most stringent Method 2 migration to groundwater cleanup levels. A Cleanup Complete designation is approved for gasoline UST 47-A-1.

Diesel UST 47-C-01 – This site is listed in the ADEC database as Source Area 79108. This former 250 gallon diesel UST was located east of the SBRA facility and was removed in 1994. Analytical sampling indicated that contamination in the excavated soil was present at concentrations below cleanup levels. In 2006, additional samples were collected at this site. These samples indicate that concentrations of contaminants are below the most stringent Method 2 migration to groundwater cleanup levels. A Cleanup Complete designation is approved for diesel UST 47-C-01.

ADEC Not an Area of Concern Determination

ADEC has determined that the following sites are not areas of concern.

Former Transformer Pad – The Former Transformer Pad at the intersection of the VORTAC and LORAN access roads had been inspected in 1990, and there were no indications of leaks or releases of oil from the former transformer. At the request of ADEC, the FAA collected a soil sample adjacent to the pad in 2004. This sample contained a trace of PCBs (0.180mg/kg), below the cleanup level of 1 mg/kg. No cleanup action is required at the Former Transformer Pad.

Transformer #141870 – The transformer next to building 402 was inspected and a sample of the oil was collected during the 1992 environmental inspection. The sample reportedly contained 72 mg/L PCBs. The transformer was in use, and no leaks were observed. The ECIR recommended removal of the PCB oil and conversion to a non PCB transformer. The oil in the transformer was sampled again in 1994. This sample detected 27 mg/kg PCBs. The transformer should be cleaned prior to disposal, and the oil shipped to an approved hazardous waste landfill. At last report, the transformer was in use and was not leaking. As long as the transformer is properly managed; it is not considered an area of concern.

Small Vehicle Leak (Stain #2) – A surface stain was noted in 1994 between the hazardous materials storage shed and the Quonset hut. The exact source of the soil staining is unknown but is consistent with a vehicle leak. Approximately one cubic yard of contaminated soil was removed in 1994. The small soil stain from the vehicle leak was adequately addressed and is not considered to be an area of concern.

Responsibility for the following areas of concern remains unresolved

LORAN Facility – This site is listed in the ADEC Database as Site # 1542.38.003, USCG Biorka Island LORAN. The LORAN facility site includes a tank farm, a fill point area, and a utility pit adjacent to the tank farm. A site investigation conducted in 1990 observed oil stained soils, an oil sheen, and some free-phase product in a wetland to the north of the tank farm. In 1993, FAA personnel responded to a reported fuel release at the cross-island pipeline valve box near the tank farm. Fuel was inadvertently released from the valve box during this response. In 1994, the stained areas north of the tank farm were further investigated. ASTs and the fill point area were removed at this time, with sampling indicating that DRO, VPH, and TRPH were present above cleanup levels. Sediment samples were also collected from the affected areas, with BTEX, DRO, VPH, and TRPH exceeding ADEC cleanup levels. FAA performed soil scarification, fertilization, and reseeded of the estimated 1750 square feet of impacted soil at the recommendation of ADEC. A 2000 investigation was conducted around the fill point. DRO, RRO and GRO contaminated soil and sediments remain at the former tank farm and the former fill point in excess of ADEC cleanup levels.

ADEC records indicate that responsibility for cleanup of this site has not been resolved. Responsibility for cleanup of this site must be resolved. This site will remain open with the expectation of additional work to characterize contamination and remediate to concentrations below ADEC Method 2 Over 40 Inch Cleanup Levels.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 -18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

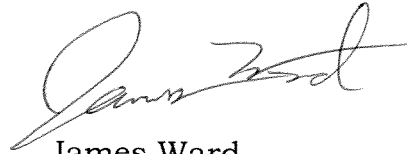
If you have questions about this closure decision, please contact the ADEC project manager, Fred Vreeman at (907) 451-2181.

Approved By



Fred Vreeman
Environmental Program Manager I

Recommended By



James Ward
College Intern III

Enclosure: Compilation of Sample Results for VORTAC Determinations
Excerpted figures 3-16 and 3-12 (Bristol Construction Services 2008)
Excerpted figures 3-1 and 3-3 (Ecology and Environment 1994)

cc: Mark Ridgway, US Coast Guard
Michael Wilcox, US Forest Service
Tim Chittenden, US Forest Service

SITE SUMMARY TABLE

for:

FAA Bioroka Island - VORTAC

ATTACHMENT 1

File: 1542.38.001

Hazard ID: 1761

Site	Sample #	Contaminants of Concern							Report
		DRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	ethyl benzene (mg/kg)	xylenes (mg/kg)	PCB (mg/kg)	
Method 2 Migration to GW Cleanup Method 2 Over 40" Zone		230	260	0.025	6.5	6.9	63	1	
Soil Stain and Drum Storage Area (Stain #1) (VOR AOC1) Source Area 78993	10315L	5,700	ND	ND	ND	ND	ND	3.2	Ecology and Environment Inc, Site Cleanup and Investigation Report, Bioroka Island FAA Station, December 1994
Decision	Area of concern will remain in open status with the expectation of additional work conducted in 2012. Further action needed:								
Comments	1) Confirmation sampling for PCBs, 2) further characterization to determine amount of contamination under the Storage Shed.								
Unpermitted Landfill under Helipad (Helicopter Landing Pad AOC) Source Area 79009									CH2-OH, Bioroka Island FAA Station Landfill Closure Documentation, January 1998
Decision	Helipad/landfill will remain in open status with the expectation of additional work conducted in 2012. Further action needed: 1) Detailed boundary survey of landfill waste and permanent survey markers, and 2) Permanent monument to indicate landfill location								
Comments	The helipad area will require institutional controls (ICs) to inform future site user of the presence of buried waste, and prohibit digging into or developing over the potential contamination. Once the survey is conducted, the site may be given a Cleanup Complete with IC designation. The IC consists of the recordation of a closed land fill status (filed in the Sitka Recording District, January 16, 1998), detailed survey map and permanent boundary/location markers.								
Diesel AST near Building 402 AST Antisyphon Vent (VOR AOC7) Source Area 78370	BKA065S402V03	1650	18.7 est	0.0652 est	--	--	--	--	Bristol Construction Services, LLC., Federal Aviation Administration Groundwater Sampling and Environmental Investigation, Bioroka Island, Alaska, Closeout Report Final, August 2008
Decision	The 1,000 gallon diesel AST will remain in open status with the expectation of additional work conducted in 2012.								
Comments	Further action needed: 1) Approximately 5 cubic yards of contaminated soil needs to be excavated and properly disposed, 2) Confirmation sampling conducted to verify removal of contaminated soil.								

SITE SUMMARY TABLE

for:

FAA Biorika Island - VORTAC

File: 1542.38.001

Hazard ID: 1761

Site	Sample #	Contaminants of Concern						Report
		DRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	ethyl benzene (mg/kg)	xylenes (mg/kg)	
3 1/2" Fuel Pipeline (VOR AOC3) Source Area 78372	BKA965S011V01PL	4,830	--	--	0.667	--	--	GeoEngineers, Inc., Final Remedial Action Report for UST and Pipeline Closure, FAA Communications Facilities, Biorika Island, Alaska, April 30, 1997
	BKA965L022V01PL	790	--	--	ND	--	--	
	BKA965L023V01PL	39500	--	--	0.364	--	--	
	BKA965L024V01PL	1720	--	--	ND	--	--	
	BKA965L025V01PL	41600	--	--	ND	--	--	
	BKA965L026V01PL	1540	--	--	0.266	--	--	
	BKA965L027V01PL	691	--	--	ND	--	--	
BKA965L029V01PL Background Sample		1250	--	--	ND	--	--	
<p>Decision A Cleanup Complete designation is approved for the 3.5 inch pipeline.</p> <p>Comments In 2008, ADEC Project Manager, Sharon Richmond, visited the site with representatives from FAA. Ms. Richmond hiked the entire length of the pipeline photographing the few areas of contamination that could still be located, and agreed that the releases were de minimis in size and unlikely to migrate due to the low permeability and highly organic nature of the muskeg soil.</p>								
3/4" Supply and Return Pipeline (VOR AOC4) Source Area 78371	BKA025S001V01	34.2	ND	ND	--	--	--	CH2MHill Constructors, Inc., Site Closure Report, VORTAC Facility, Former VHF Area Facility, Radar Facility, Quarters/Doc Facility, Biorika Island, Alaska, December, 2006.
	<p>Decision A Cleanup Complete designation is approved for the 3/4 inch Supply and Return Pipeline.</p> <p>Comments</p>							
Diesel Tank Farm USTs 47-A-2, 47-A-3, 47-A-4 (VORTAC AOC1) Source Area 79007	BKA965T051V01 Confirmation Sample	57.1	--	ND	--	--	--	GeoEngineers, Inc., Final Remedial Action Report for UST and Pipeline Closure, FAA Communications Facilities, Biorika Island, Alaska, April 30, 1997
	<p>Decision A Cleanup Complete designation is approved for the VORTAC diesel tank farm, USTs 47-A-2, 47-A-3, 47-A-4.</p> <p>Comments Six confirmation samples were taken at the excavation site. The sample listed above had the highest readings for DRO & BTEX.</p>							
Gasoline UST 47-A-1 (VOR AOC5) Source Area 78367	BKA965T027V01E Confirmation Sample	--	28.8	0.572	--	--	--	GeoEngineers, Inc., Final Remedial Action Report for UST and Pipeline Closure, FAA Communications Facilities, Biorika Island, Alaska, April 30, 1997
	<p>Decision A Cleanup Complete designation is approved for the VORTAC gasoline UST 47-A-1.</p> <p>Comments</p>							

SITE SUMMARY TABLE

for:

FAA Biorka Island - VORTAC

File: 1542.38.001

Hazard ID: 1761

Site	Sample #	Contaminants of Concern						Report
		DRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	ethyl benzene (mg/kg)	xylenes (mg/kg)	
Diesel UST 47-C-01 (SBRA Facility) Source Area 79108	BKA06SS401M01	38.1	ND	ND	--	--	--	Bristol Construction Services, LLC., Federal Aviation Administration Groundwater Sampling and Environmental Investigation, Biorka Island, Alaska, Closeout Report Final, August 2008
A Cleanup Complete designation is approved for the SBRA diesel UST 47-C-01								
Former Transformer Pad	BKA04SL0010-01	--	--	--	--	--	0.18	CH2MHill Constructors, Inc., Site Closure Report, VORTAC Facility, Former VHF Area Facility, Radar Facility, Quarters/Doc Facility, Biorka Island, Alaska, December, 2006.
This site was adequately addressed and is not considered to be an area of concern. There were no indications of leaks or releases of oil from the former transformer during a 1990 inspection. At the request of the FAA, a soil sample was taken.								
Transformer #141870	BKA94IC0090L	--	--	--	--	--	27	Ecology and Environment Inc, Site Cleanup and Investigation Report, Biorka Island FAA Station, December 1994
As long as the transformer is in use and properly managed, it is not considered an area of concern. No release has been reported. The transformer should be cleaned prior to disposal, and the oil shipped to an approved hazardous waste landfill.								
Small vehicle leak (Stain #2) (VOR AOC2) Source Area 78993	--	--	--	--	--	--	--	Ecology and Environment Inc, Site Cleanup and Investigation Report, Biorka Island FAA Station, December 1994
This site was adequately addressed and is not considered to be an area of concern. Approximately 1 cubic yard of stained soil was removed in 1994.								

SITE SUMMARY TABLE

for:

FAA Bioroka Island - VORTAC

File: 1542.38.001

Hazard ID: 1761

Site	Sample #	Contaminants of Concern							Report
		DRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	ethyl benzene (mg/kg)	xylenes (mg/kg)	PCB (mg/kg)	
LORAN Facility (LORAN AOC 1, 2, 4) Site 1542.38.003 USCG Bioroka Island LORAN	2010SL	18	4.4	ND	ND	36	46	ND	Ecology and Environment Inc, <i>Site Cleanup and Investigation Report, Bioroka Island FAA Station, December 1994</i>
	2018SD	1900	7.10	ND	ND	120	ND	ND	
Decision	Responsibility for cleanup of the LORAN facility site (including but not limited to the tanks and fill point area) must be resolved. This area of concern will remain open with the expectation of additional work to characterize and remediate contamination at this site.								
Comments	The LORAN facility site includes a tank farm, a fill point area, and a utility pit adjacent to the tank farm. FAA investigation in 1990 identified oil stained soils, an oil sheen, and free-phase product in a wetland to the north of the tank farm. In 1993, FAA responded to a fuel release near the tank farm. In 1994, the stained wetland north of the tank farm was sampled, scarified, fertilized, and reseeded. Investigation in 2000 indicate that concentrations of DRO, RRO, and GRO remain above ADEC Cleanup Levels.								

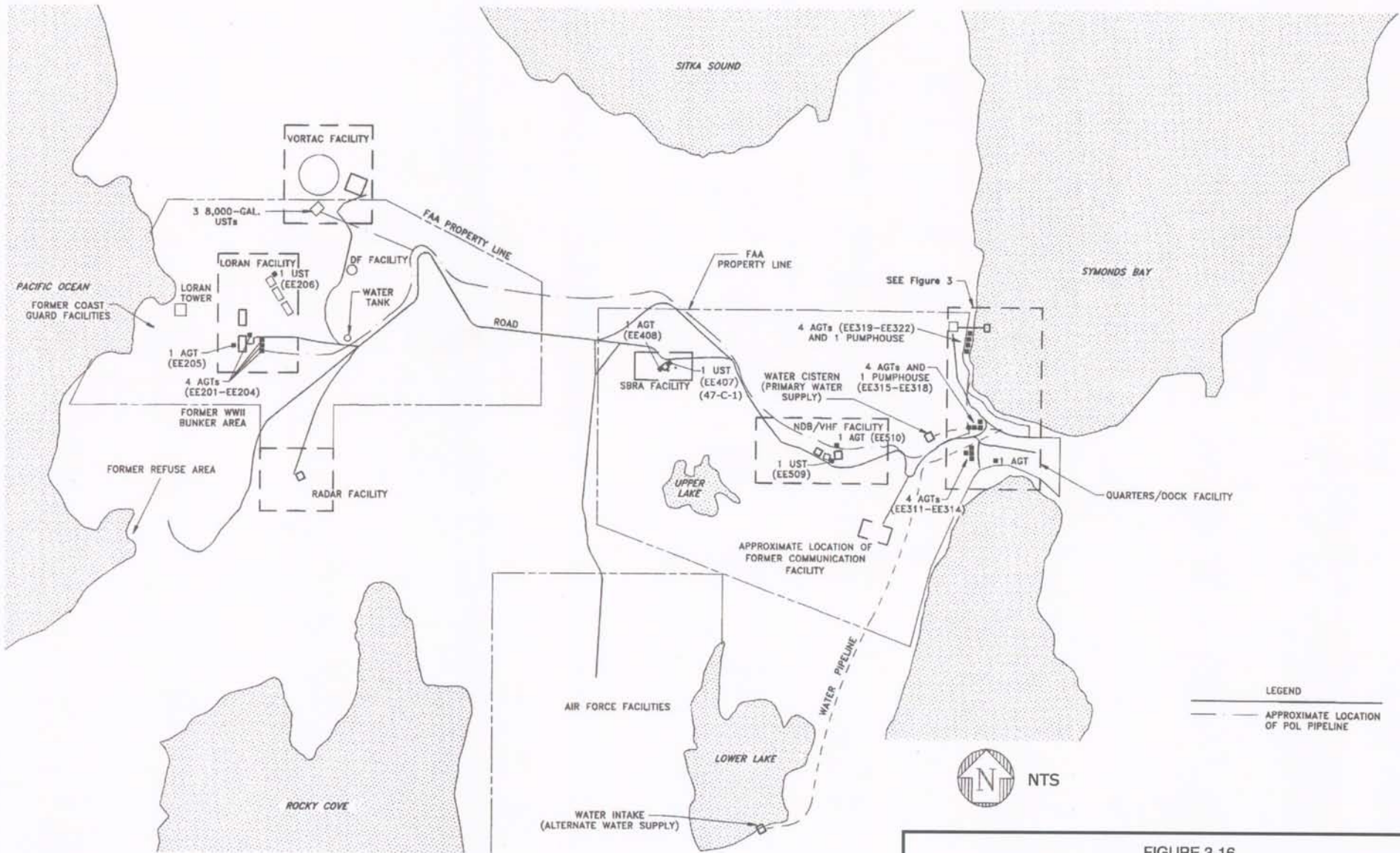


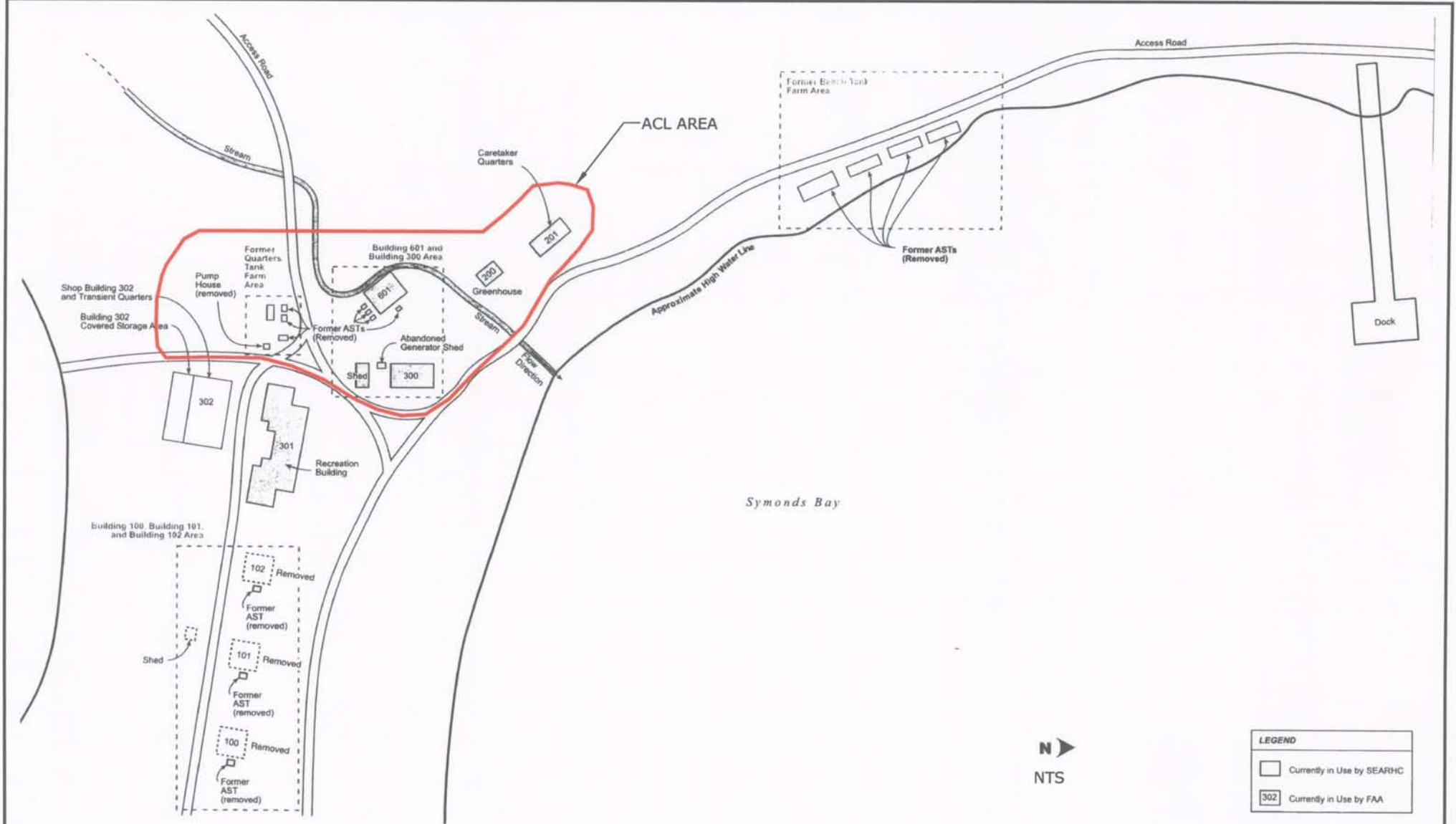
FIGURE 3-16
 BIORKA ISLAND FAA STATION
 BIORKA ISLAND, ALASKA
 SBRA FACILITY LOCATION MAP

SOURCE: ECOLOGY AND ENVIRONMENT, INC.
 FIGURE 2, TANK LOCATION AND IDENTIFICATION MAP
 JUNE, 1994



Phone (907) 563-0013 Fax (907) 563-6713
 Project No. 57002

DATUM:	DATE	04/21/06	SHEET
NA	DWN.	MTG	16
PROJECTION:	SCALE	SHOWN	of
NA	APPRVD.	SJ	17



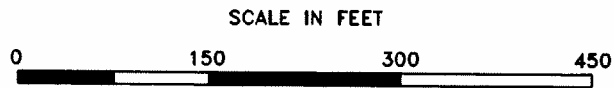
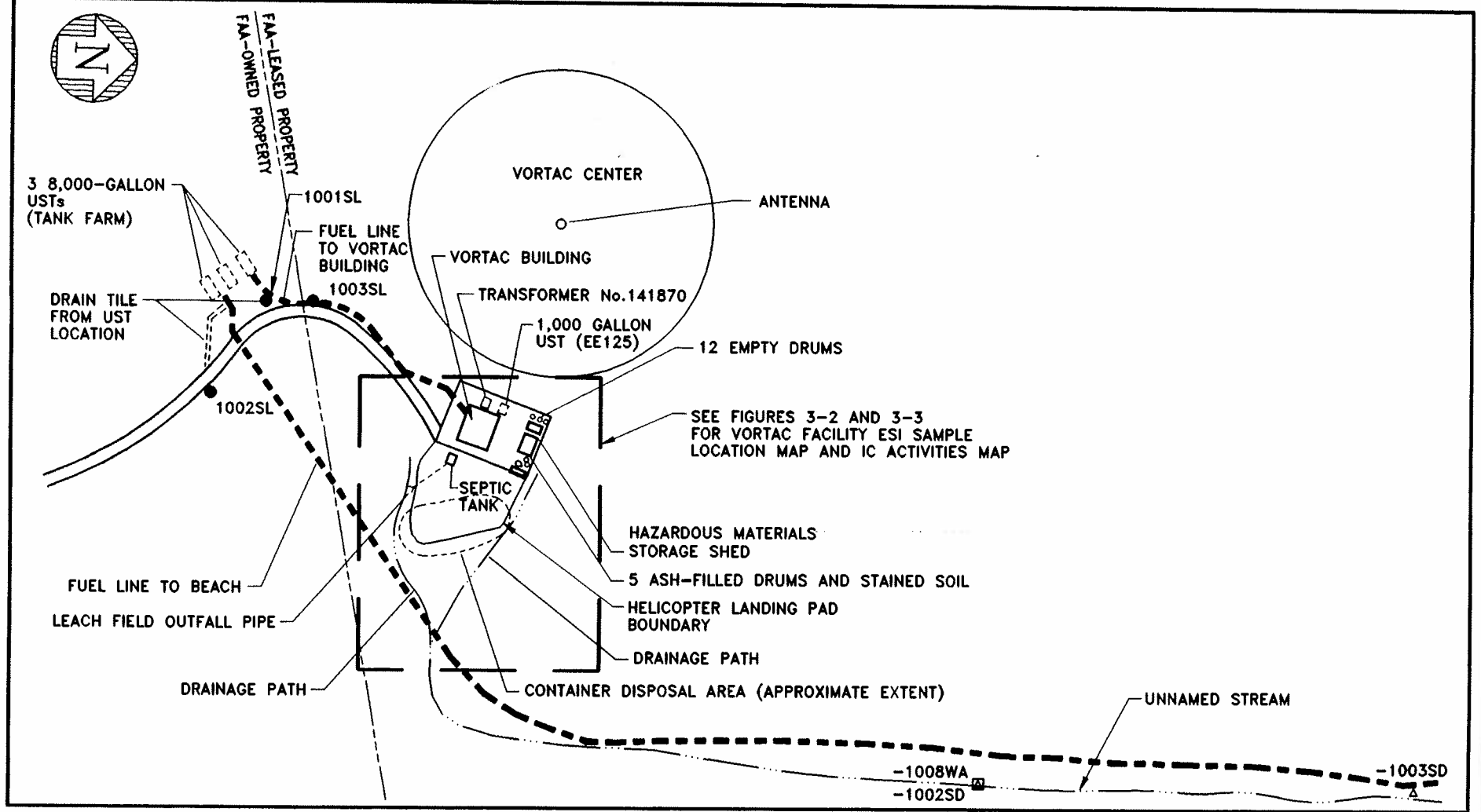
LEGEND	
	Currently in Use by SEARHC
	Currently in Use by FAA

FIGURE 3-12
BIORKA ISLAND FAA STATION
BIORKA ISLAND, ALASKA
ACL SIGN AREA AT FORMER QUARTERS TANK FARM
AND BUILDING 300/601 AREAS

SOURCE: CH2MHILL CONSTRUCTORS, INC.
 FIGURE 2-2, QUARTERS/DOCK FACILITY MAP
 DECEMBER, 2004

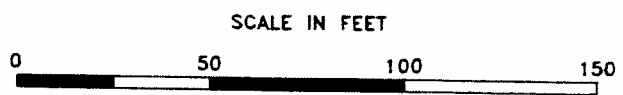
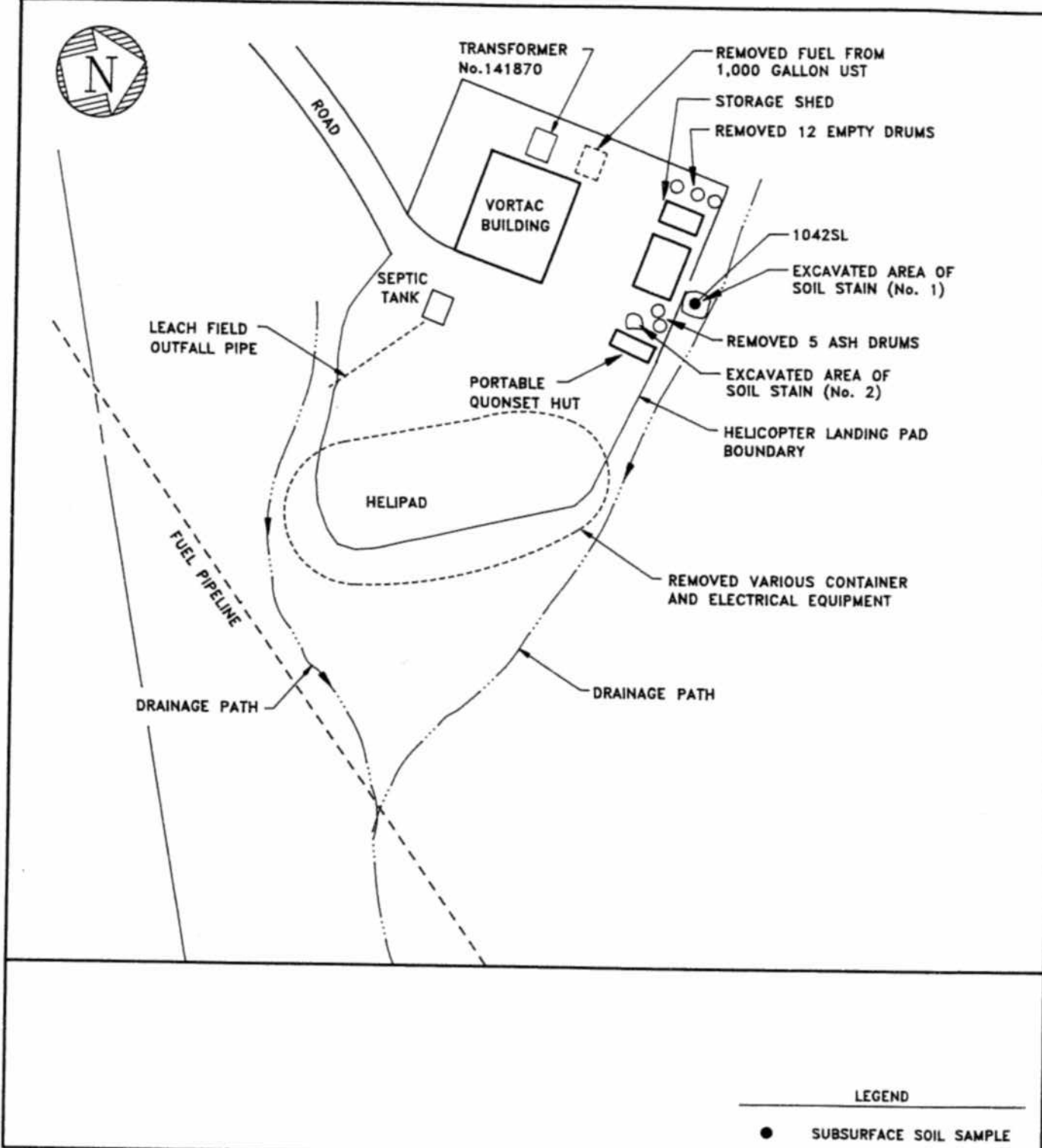


DATUM:	DATE	04/21/06	SHEET
NA	DWN.	MTG	12
PROJECTION:	SCALE	SHOWN	of
NA	APPRVD.	SJ	17



LEGEND	
●	SUBSURFACE SOIL SAMPLE
○	SURFACE SOIL
▣	COLLOCATED SURFACE WATER AND SEDIMENT SAMPLE
△	SURFACE SEDIMENT SAMPLE

Ecology and Environment, Inc.	
Figure: 3-1	Proj. No: VR7000
Date: 8/10/94	Drawn by: MEH
Title: BIORKA ISLAND FAA STATION VORTAC FACILITY SAMPLE LOCATION MAP	



Ecology and Environment, Inc.	
Figure: 3-3	Proj. No: VR7000
Date: 8/10/94	Drawn by: MEH
Title: VORTAC FACILITY IC ACTIVITIES	