

**Environmental Condition Report  
For  
Rockville Agreed Area Site**

Prepared by:

Naval Air Station Keflavik, Iceland  
Public Works Department

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## **Introduction**

The Rockville Agreed Area Site was comprised of the Air Force's Rockville Communication Site (H-1) and the Naval Computer and Telecommunications Station (NCTS) receiver site. A general site map of the Rockville Agreed Area Site is contained in Appendix I. In 1991, the radar operations were transferred from H-1 to the new H-1A site at Midnesheidi, which is approximately 3 km south of Rockville. The H-1 site continued to be used for training and other miscellaneous uses until 1997 when all military activity ceased. The current use of the facilities by a private Icelandic entity is through an Implementing Agreement contained in Appendix II. The NCTS receiver site is located to the north of the H-1 site. The NCTS receiver site was relocated to the main area of Naval Air Station Keflavik (NASKEF) with the completion of the project "Relocate Three Antennas, phase A, B, C at the Rockville Site" in July of 2000 and the remaining facilities are no longer required to support the mission. The Rockville Agreed Area Site is no longer required to support the mission of the Iceland Defense Force (IDF) and is scheduled for return to the Government of Iceland. In support of the land return, the following report was prepared to document the historical use of the area and to report the environmental conditions of the site. Appendix II also contains a map that delineates the area to be returned to the GOI.

The report includes a site description of each activity and supporting documentation that describes the environmental conditions of the Rockville Agreed Area Site.

## **Site Description**

### **Air Force's Rockville Communication Site (H-1)**

The H-1 site occupies about 487 acres comprised of approximately 30 buildings and was built in 1953 to serve as the home to the Air Surveillance Radar Site and Communication Center. An environmental closure plan for H-1 was submitted to NASKEF in January of 1999. The environmental closure plan includes an extensive site description, mission information, and an environmental program area status. The environmental closure plan for H-1 is contained in Appendix III. A safety inspection and asbestos survey for H-1 is contained in Appendix IV.

The environmental closure plan indicated an area of potential concern that is referred to as the former dump in the environmental closure plan. Two groundwater monitoring wells were drilled and sampling was conducted to determine if groundwater contamination from the landfill was occurring. The samples did not indicate groundwater contamination. A groundwater investigation report is contained in Appendix V.

The current facility list for H-1 as documented on the NASKEF's property record is included in Appendix VI. The facilities located at H-1 are planned to be included as part of the proposed land return.

## **NCTS Rockville Site**

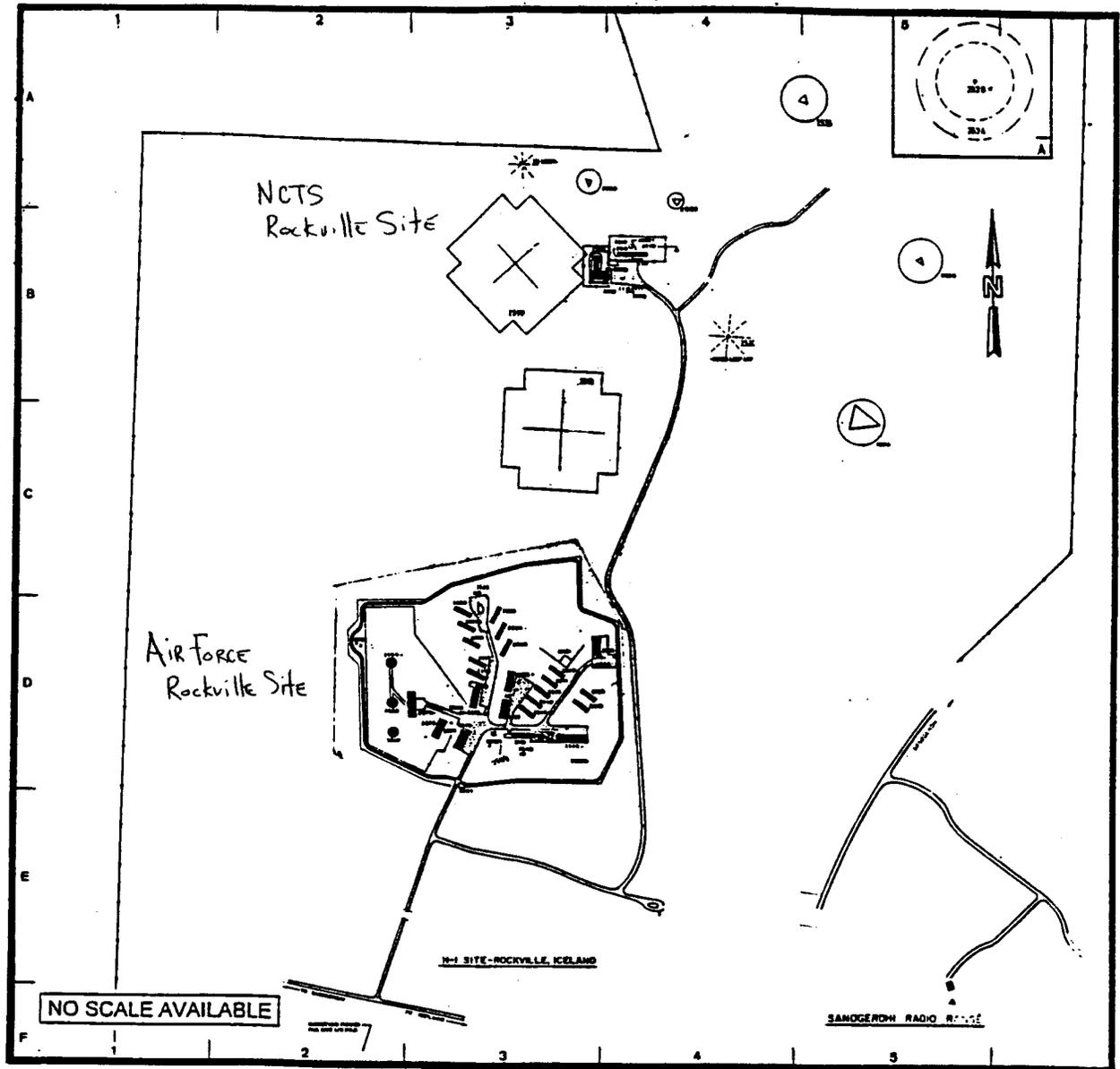
The NCTS Rockville site, which was operated by the Navy, is situated adjacent to the H-1 site served as a receiver site for the operations center located at the main base. The facility consisted of a small complex of structures (Buildings 2577, 2582, and 2586) surrounded by an antenna field. Building 2596 was constructed in 1970 for NSGA. The NCTS receiver site was relocated to the main area of Naval Air Station Keflavik (NASKEF) with the completion of the project "Relocate Three Antennas, phase A, B, C at the Rockville Site" in July of 2000.

The facilities that remain have been placed on NASKEF's FY01 Demolition Program under project number R163-00. An environmental inspection and summary report that documents the historical use the site and reports the environmental conditions of the site from an inspection conducted in October of 2000 is contained in Appendix VII. The report does not indicate environmental concerns

## **Conclusion**

The Rockville Agreed Area Site is no longer required to support the mission of the Iceland Defense Force (IDF) and is scheduled for return to the Government of Iceland. In support of the land return, the report documents the historical use of the site by the U.S. military and the environmental conditions of the site prior to its return.

**Appendix I**



Site plan of Rockville site, circa 1968 (Courtesy of Public Works Office, NAS Keflavik, NAVFAC Drawing No. 4005037)

**Appendix II**



# DEPARTMENT OF THE NAVY

U.S. NAVAL AIR STATION

PSC 1003, BOX 16

FPO AE 09728-0316

11010  
Ser 604/0037  
18-Jan-00

From: Commanding Officer, Naval Air Station Keflavik  
To: Commander, Iceland Defense Force

Subj.: PROPOSED LAND RETURN TO THE GOVERNMENT OF ICELAND (GOI)

Encl: (1) Map of proposed land to be transferred  
(2) Implementing Agreement, Rockville Agreed Area Site, 1tr 7000 Ser J02L  
dtd 22 Mar 99

1. This letter proposes to return to the Government of Iceland (GOI) the portion of the Agreed Area highlighted in enclosure (1), known as the Rockville Agreed Area Site.
2. Rockville contains approximately 30 facilities. Currently the majority of these facilities are under agreement as indicated by enclosure (2). Since operations relocated to the main base in September 1997, the Rockville Agreed Area is no longer required, except for one NCTS building. The NCTS building will not be required after completion of the project "Relocate Three Antennas, phase A, B, and C at the Rockville Site". This project should be finished by June 2000 as which time the proposed land return can commence.

3. The area of concern as highlighted on enclosure (1) is indicated with point number's, Latitude and Longitude degree's as follows:

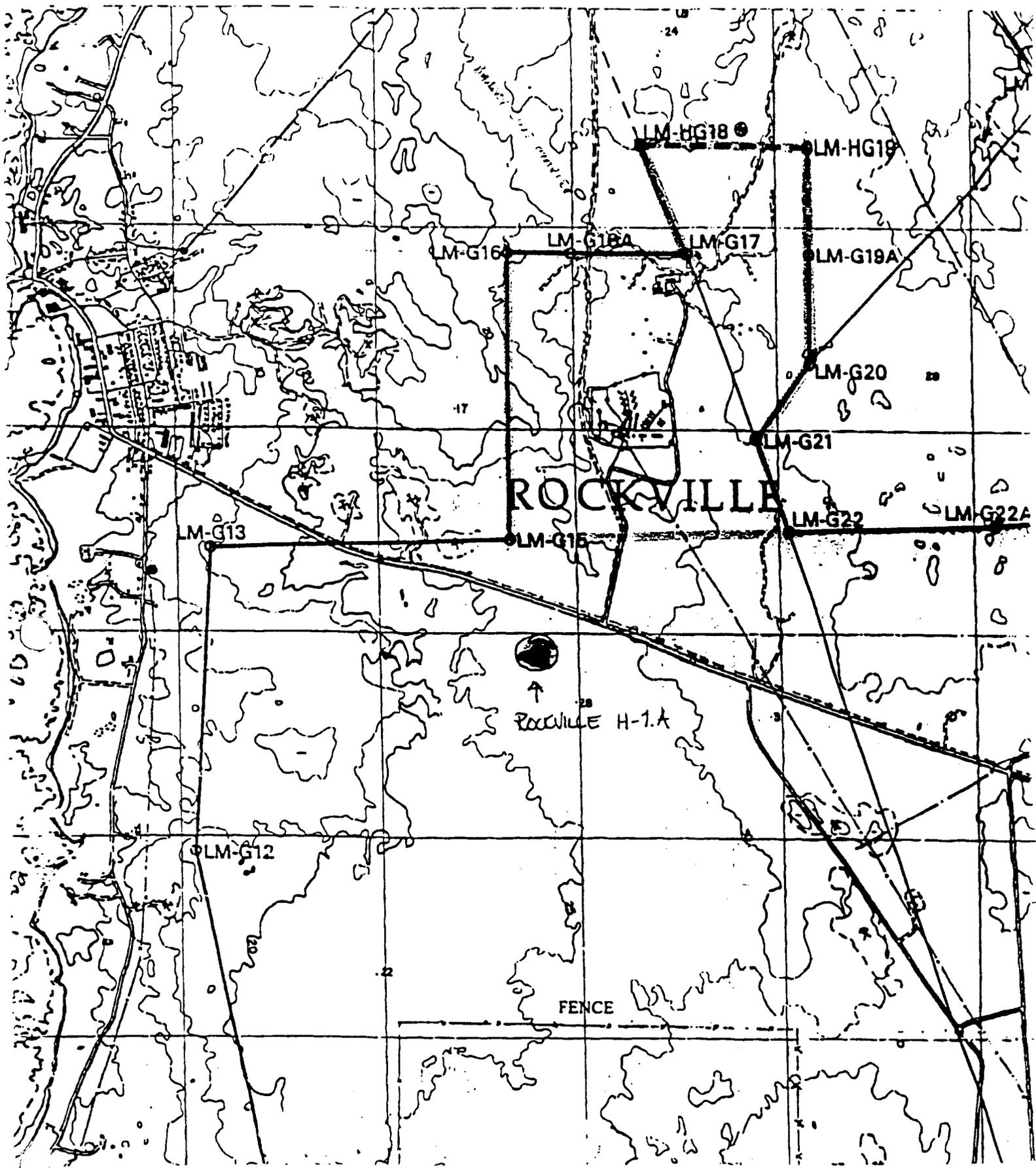
LM-G15, 64° 01'48.97" 22°39'50.91"  
LM-G16, 64° 02'34.41" 22°39'53.04"  
LM-G17, 64° 02'34.99" 22°38'47.84"  
LM-HG18, 64° 02'51.00" 22°39'05.21"  
LM-HG19, 64° 02'51.27" 22°38'03.71"  
LM-G20, 64° 02'17.87" 22°38'01.62"  
LM-G21, 64° 02'06.01" 22°38'21.67"  
LM-G22, 64° 01'51.51" 22°38'08.82"  
LM-G15, 64° 01'48.97" 22°39'50.91"

Total proposed land return is 566.5 acres.

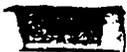
4. We look forward to discussing the return of this land and removal of this property from the Agreed Area. My point of contact on this issue is Mr. Keith Mustard, Planning Director. He can be reached at 425-2295, or facsimile 425-2295 and E-mail 604@naskef.navy.mil.

  
K. G. MONCAYO, P.E.  
By direction

Copy:  
604



BOUNDARY OF PROPOSED LAND RETURN AT ROCKVILLE SITE.



APPROXIMATE LOCATION OF ROCKVILLE / H-1A ROCKVILLE SITE.

IMPLEMENTING AGREEMENT BETWEEN  
THE UNITED STATES AND THE GOVERNMENT OF ICELAND  
FOR LAND, BUILDINGS, STRUCTURES, AND IMPROVEMENTS  
ROCKVILLE AGREED AREA SITE

REFERENCES

ARTICLE I

This implementing agreement (IA) is undertaken pursuant to the Iceland-United States Defense Agreement of 1951 (1951 Defense Agreement), Exchange of notes of 25 May 1954, the Iceland-United States Memorandum of Agreement of 22 June 1964, the Exchange of Notes of 22 October 1974, the Agreed Minute of 1983 and Exchange of notes of 26 August 1983, the Agreed Minute of 1996 and Exchange of Notes of 9 January 1996.

ARTICLE II

This is an agreement between the United States, represented by the Iceland Defense Force and the Government of Iceland, represented by the Ministry for Foreign Affairs regarding access to and use of certain real property known as the Rockville site of the Agreed Area. The accompanying charts and drawings that depict the location of this site form an integral part of this agreement.

ARTICLE III

The United States grants to the Government of Iceland permission to use the land, buildings, fixtures, structures, and improvements located at the Rockville site which are not currently being actively utilized by the Iceland Defense Force, as shown on the attached map, for the purpose of housing and operating a drug rehabilitation center. The United States retains the right to enter the Rockville site to inspect and verify the uses to which it is being put.

ARTICLE IV

In consideration for the foregoing grant of permission from the United States, the Government of Iceland agrees to maintain and provide security for the land, buildings, fixtures, structures, and improvements located at the Rockville site which are not currently being actively utilized by the Iceland Defense Force, as shown on the attached map.

Both parties agree that the Government of the United States will in no way be responsible for purchasing electrical and/or geothermal power for use at the Rockville

site and that any purchase of electrical and/or geothermal power for use at the Rockville site during the pendency of this agreement will be done at no cost to the United States.

## ARTICLE V

The Government of Iceland will be responsible for bearing all costs of operating and occupying the land, buildings, fixtures, structures, and improvements referred to above, including all utilities costs, materials costs, labor costs, and other costs which may arise in the course of this agreement.

The Government of Iceland agrees that improvements or alterations to the land, buildings, fixtures, structures or improvements referred to above may only be done with the express written permission of the United States. Written requests to make alterations or improvements should be submitted to Iceland Defense Force.

The parties understand that the purpose of this agreement is to permit a drug rehabilitation center to operate from the land, buildings, fixtures, structures, and improvements referred to above. As such, the parties agree that use of the Rockville site in connection with this agreement will be limited to residential uses, classroom instruction, sporting uses, and similar non-industrial or commercial uses. Any use other than that stated herein, is prohibited absent express written permission of the United States. Requests for uses of the site, other than that discussed herein, should be forwarded to the Iceland Defense Force.

The parties understand that the Government of Iceland will not operate the drug rehabilitation center discussed, herein, directly but will make the land, buildings, fixtures, structures, and improvements referred to above, available to a non-profit group for this purpose. The parties further agree that the Government of Iceland will furnish the name of the non-profit group as well the names of its principal operating officers to the Iceland Defense Force by separate correspondence. The parties agree that the United States reserves the right to decline to permit any party the opportunity to use the land, buildings, fixtures, structures, and improvements referred to above, but will give favorable consideration to any such request from the Government of Iceland.

The parties agree that the Government of Iceland will be solely responsible for any and all environmental damage caused by the use of the land, buildings, fixtures, structures, and improvements referred to above, including the cost of containing any spills or releases of hazardous or noxious substances, cleaning up such spills or releases, and remediating any and all damage caused by such spills or releases.

The Parties agree that the United States retains the right to enter the Rockville site to review the uses to which the land, buildings, fixtures, structures, and improvements referred to above are being put during the pendency of this agreement.

## ARTICLE VI

The Government of Iceland, in further consideration of permission from the United States to use the land, buildings, fixtures, structures, and improvements referred to above, and having conducted a site survey of the premises prior to execution of this agreement, affirms that the general condition of the premises is satisfactory, and that it agrees to accept the premises "as is", and without expectation that the United States will make improvements or remediation of any sort in connection with this agreement.

## ARTICLE VII

The Government of Iceland shall save harmless, release, and discharge the United States and any agency, instrumentality, contractor, employee or agent thereof, from any and all claims of damages, demands, expenses, actions, and liability, whatsoever, arising from injury to person or property, which may be advanced in connection with the use of land, buildings, structures, or improvements referred to above.

The Government of Iceland shall assume responsibility for, and at the request of the United States, provide defense of any claims or legal proceedings brought against the Government of the United States, any agency, instrumentality, contractor, employee, or agent thereof, in connection with the use of the land, buildings, fixtures, structures, and improvements referred to above.

The Government of Iceland shall not bring any claims or legal proceedings against the United States or any agency, instrumentality, contractor, employee, or agent thereof for:

- (a) Damage to property, both real and personal, including but not limited to economic or environmental damage, related to the use of the land, buildings, fixtures, structures, or improvements referred to above; or
- (b) Death or injury to any persons arising out of the use of the land, buildings, fixtures, structures, or improvements referred to above; or
- (c) Damage to property, both real and personal, including but not limited to economic or environmental damage, or death or injury to any persons arising out of the subsequent use of the land, buildings, fixtures, structures, or improvements referred to above by the Government of Iceland pursuant to this agreement.

## ARTICLE VIII

It is the parties' intent that this agreement remain in effect for a period of two years. The parties expressly agree that this agreement can be terminated upon 30 days written notice from one party to the other, for any reason whatsoever. The parties agree that in the event this agreement is terminated, the land, buildings, fixtures, structures, and improvements referred to above shall be returned in substantially the same condition as when they were occupied by the Government of Iceland. The parties agree that any improvements or alterations made to the land, buildings, fixtures, structures, or improvements referred to above will become the property of the United States, at no cost to the United States, at termination of this agreement.

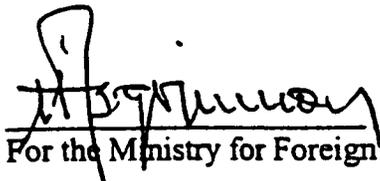
## ARTICLE IX

Should either party, take any action, including the execution of any contracts, in connection with execution of the Agreement, that party shall accept all risks in the event that the Agreement is terminated.

This Agreement is concluded in the English language. Questions of authenticity and interpretation shall be resolved by reference to the English language version only.

Nothing in this agreement should in any way be construed to alter the status of the Rockville site, its land, buildings, fixtures, structures, and improvements as a part of the Agreed Area under the 1951 Iceland-United States Defense Agreement. Moreover, nothing in this agreement should in any way be construed as alleviating or otherwise affecting liabilities which the United States may have pursuant to the 1951 Iceland-United States Defense Agreement stemming from its operations at the Rockville site.

IN WITNESS WHEREOF, the Government of Iceland and the United States have caused this Agreement to be executed by their duly appointed officers this \_\_\_\_ day of \_\_\_\_, 1999.

  
For the Ministry for Foreign Affairs

  
For the Iceland Defense Force

**Appendix III**

**ENVIRONMENTAL CLOSURE PLAN  
H-1 RADAR SITE (ROCKVILLE)  
KEFLAVIK NAVAL AIR STATION, KEFLAVIK, ICELAND**



**Prepared By  
HQ ACC/CEVQ  
129 Andrews Street, STE 102  
Langley AFB VA 23665-2769**

**For  
85 CES, Keflavik Iceland**

**January 1999**

## INTRODUCTION

This closure plan was developed from information gathered during an environmental compliance assessment conducted for the Rockville H-1 Radar Site. This is a Geographically Separated Unit (GSU) located near the Keflavik Naval Air Station, Iceland. The assessment was conducted as part of an Air Combat Command (ACC) effort of comprehensive inspections designed to assess the environmental compliance of designated ACC GSUs with respect to Final Governing Standards for foreign installations. This closure plan addresses all known outstanding environmental issues of concern relevant to the closure of the radar site.

The Rockville site occupies about 487 acres and is located approximately 6 km north of the town of Keflavik and approximately 50 km southwest of Reykjavik, the capital of Iceland. The site was built in 1953 and was home to an Air Surveillance Radar Station and Communication Center. In 1991, radar operations were transferred to the new H-1A site at Midenesheidi, located approximately 2 km south of the Rockville site. The Rockville site has been inactive since 1997 and has been stripped of all radar and communication equipment and supplies. Fixtures, appliances, and furniture have also been removed. Most buildings are in good shape externally and internally, though some areas have been damaged from vandalism. The stand-by power plant and drinking water well are inactive, but can be reactivated.

# 1. INSTALLATION DESCRIPTION

## 1.1 SITE DESCRIPTION

The H-1 Radar Site, also known as the Rockville Communication Site (Rockville), is the subject of this plan. The Rockville site occupies about 77 acres and is located approximately 6 km north of the town of Keflavik and approximately 50 km southwest of Reykjavik, the capital of Iceland. The site was built in 1953 and was home to an Air Surveillance Radar Station and Communication Center. In 1991, the Radar operations were transferred to the new H-1A site at Midnesheidi, which is approximately 3 km south of Rockville. The site continued to be used for training and other miscellaneous uses until 1997. Communication and data processing operations were phased out from Rockville and are now concentrated at the new NATO Control and Reporting Center (CRC) located on the main base at Keflavik.

The buildings associated with the former radar operations are enclosed within a barbed wire fence. Besides the two radomes (Buildings 2583 and 2584) which housed the radar equipment, the installation maintained an Air Surveillance Center (Building 2572) which served as the communication and data processing center. Ancillary antennae and communication equipment supported the functioning of the radar operations. Other major structures at the installation included several residential quarters, two dining areas, a recreation center, a post office, a chapel, a vehicle washing area, a vehicle refueling area, and a shopping center. Infrastructure included a stand-by power generation plant, a drinking water treatment and pumping system, a sewage lift station, and a general warehouse. Table 1-1 lists the building and structures located at Rockville.

The Rockville site is inactive and has been stripped of all radar and communication equipment and supplies. Fixtures, appliances, and furniture have also been removed. Most buildings are in good condition, though some areas have been damaged by vandals. In early spring 1998, the fence around the installation was made secure, and additional measures have been implemented to deter vandalism. The stand-by generator is mothballed and the drinking water well is inactive.

TABLE 1-1 ROCKVILLE BUILDINGS AND STRUCTURES

Building No.	Building/Structure Designation	Approximate Size (sq ft)	Other Descriptive Information	Year Built
2506	General Warehouse	1,650	Concrete slab, metal siding and roof. Broken furniture and junk lumber present. Three electrical compressors in MWR storage area attached to a cooling unit.	1978
	Fire Station	660	Part of the warehouse building. Area in good condition. Some litter.	
2507	Vehicle Wash Rack	800	Metal construction, building in good condition; part of the room is office space. Some trash; floor drain choked with dirt.	1984
2521	Gate/Sentry House	300	Small wooden locked shack.	1960
2522	Gymnasium	3,320	Concrete slab, metal siding and roof. Building in good condition. Broken mirrors and glass are signs of vandalism inside. A water tank is located on the upper level.	1953
	Auto Hobby Shop	800		
	Racquetball Court	800		
2532	Location Exchange	800	Concrete slab, metal siding and roof. Some litter scattered around the building. Two food refrigeration units in the rear, and two compressors attached to a cooling unit.	1953
	Amusement Center	752		
	Hobby Shop	752		
2533	BEQ E1-E4	2,304	Carpeted floors, fiberboard walls and ceiling. Concrete construction and metal siding. Building in good condition, some trash and litter present.	1953
	BEQ E5-E6	922		
2536	Theater	1,920	Concrete slab, metal siding and roof. Building in good condition externally. Vandalized on the inside, with trash and litter. Three compressors attached to three cooling units.	1953
	Cold Storage Warehouse	2,600		
	Public Works Shop	2,000		
2537	Public Works Flammable Storage	144	Metal storage cabinet. Empty. Some signs of rust.	1954
2540	BEQ E1-E4	2,304	Carpeted floors, fiberboard walls and ceiling. Concrete construction and metal siding. Building in good condition, some trash and litter present.	1953
2541	BEQ E1-E4	2,304	Same as above.	1953

Building No.	Building/Structure Designation	Approximate Size (sq ft)	Other Descriptive Information	Year Built
2542	BEQ E1-E4	2,304	Same as above.	1953
2543	BEQ E1-E4	2,304	Same as above.	1953
2544	BEQ E1-E4	2,304	Same as above.	1953
2548	Water Distribution Building	400	Concrete block construction. Pump house in good condition. Pumps have seized. No damage to the building or equipment.	1956
2550	General Warehouse-AFI	320	Concrete slab, metal siding and roof. Building in good condition on the outside, some signs of vandalism on the inside. Some oil stains on the floor.	1954
2551	All Hands Club	1,920	Concrete slab, metal siding and roof. Inside of building in good condition, but kitchen in bad condition, bad odor. A refrigeration unit outside hooked to one compressor, and a refrigeration unit inside.	1954
2552	Enlisted Dining Facility	4,188	Concrete slab, metal siding and roof. Dining area in good condition, but kitchen area very dirty. Paint peeling from the ceiling.	1953
2553	Administrative Building	1,382	Carpeted floors, fiberboard walls and ceiling. Concrete construction and metal siding. Building externally in good condition, some vandalism inside.	1953
	Recreation Building	922		
2554	BEQ E1-E4	2,304	Same as above.	1953
2555	BEQ E1-E4	2,304	Same as above.	1953
2556	BEQ E1-E4	2,304	Same as above.	1953
2557	BEQ E1-E4	2,304	Same as above.	1953
2558	BEQ E1-E4	1,344	Same as above.	1953
2558	BEQ E5-E6	690	Same as above.	1953
2559	BOQ W1-W2	1,152	Carpeted floors, fiberboard walls and ceiling. Concrete construction and metal siding. Building externally in good condition, some vandalism has taken place inside. Debris and litter in several rooms.	1954
	BOQ W3 & above	1,152		
2560	BEQ E1-E4	1,152	Same as above.	1953
	BOQ W3 & above	1,152		
2561	Chapel	620	Carpeted floors, fiberboard walls covered with latex paint and ceiling.	1989

Building No.	Building/Structure Designation	Approximate Size (sq ft)	Other Descriptive Information	Year Built
			Concrete construction and metal siding.	
2562	Small Arms Armory	146	Mostly offices, some signs of vandalism. Concrete floor with metal siding and roof.	1953
	Administrative Office	3,228		
	Police Station	363		
	Post Office	383		
2572	Air Surveillance Radar Building	5,320	Building in good condition outside and inside. Carpeted floor and paneled walls. Most rooms empty. Some littered with paper and wood. Some rooms locked, and there are rooms that have halon tanks.	1953
2575	Power House/ Stand-by Generator Building	4,120	Concrete slab floor, metal siding and roof. Building in very good condition. Generators and associated power production equipment "mothballed." Four empty ASTs inside and two empty ASTs outside.	1954
2578	ASR Building	5,200	Building in very good condition. Scattered thrash and office litter. Electrical cables sticking out of the roof in several places. Halon tanks located in three areas.	1953
2583/2584	Radomes 1 and 2	17,090	Concrete slab and fiberboard walls and ceiling, except for radome room. Some litter. Electrical cables sticking out of the roof in several places. A sealed rusty 55-gallon barrel located under the walkway between the two radomes	1970
2588	Gate/Sentry House	150	Concrete pad. Guardhouse has been removed.	1955
2598	Sewage Pump Station	88	Cinder block construction, small room with concrete slab and walls; rust marks on the floor, building in good condition.	1980

## 1.2 MISSION, OPERATIONS, AND MANAGEMENT STRUCTURE

NASKEF is a North Atlantic Treaty Organization (NATO) base and is home to USAF's 85<sup>th</sup> Group (85 GP) Air Combat Command. In Iceland, the 85 GP is represented by the Civil Engineering Squadron (85 CES), the Logistics Squadron (85 LS), the Mission Support Squadron (85 MSS), the Operations Squadron (85 OS), the Security Forces Squadron (85 SFS), the 932<sup>nd</sup> Air Control Squadron (932 ACS), and the 56<sup>th</sup> Rescue Squadron (56 RQS). The primary mission of the 85 GP is to provide NATO with combat ready professionals to deter aggression in the North Atlantic region by protecting Iceland's airspace and supporting contingency operations. The mission is achieved through world-class surveillance, air superiority, and rescue forces. The 85<sup>th</sup> also provides administrative support for all USAF personnel and dependents.

The 85 CES is responsible for providing overall direct mission support, integration, and services support for the 85 GP units and acts as liaison with the host Navy installation in the areas of construction, facilities maintenance, air base operability and disaster preparedness, food service, dormitory management, and environmental services. Operationally, the 85 CES interacts closely with the 932 ACS, which along with the four remote Radar Sites H-1A, H-2, H-3, and H-4, provides detection, warning, surveillance, and intercept control for Iceland. The remote Radar Sites are operated by the Ratsjarstofnun Radar Agency, which is an Icelandic contractor firm under contract to ACC.

Environmental program management for the Rockville site is implemented and managed by NASKEF as dictated by the FGS for Iceland and other site specific developed environmental program plans. The Public Works Department (PWD), Environmental Division, implements the environmental program for NASKEF whereas the 85<sup>th</sup> participates in the program making its requirements known and providing a point of contact for all 85 GP issues. The Interservice Support Agreement #N63032-97248-029 between NASKEF and 85 GP establishes the responsibilities and funding relationship for reimbursable and non-reimbursable services between the two organizations. In general, the Navy sets up the environmental requirements for all tenant activities at NASKEF, and in the case of Rockville, the AF is responsible for complying with the requirements.

## 1.3 REAL PROPERTY CONDITIONS

The Rockville site is located on 487 acres of land, of which the buildings associated with the Radar operations occupy about 77 acres. Under an international agreement, the Government of

Iceland had provided the Rockville site to NASKEF, which is the real property holder for all facilities at Rockville. As the property holder, the Navy owns the utility infrastructure system at Rockville, including the power generation and drinking water and sewer systems. Through an Interservice Support Agreement with NASKEF, the 932<sup>nd</sup> ACS operated the Rockville site as a radar operations site until 1991 when these functions were transferred to the new H-1A site at Midnesheidi. The site continued to be used for training and other miscellaneous uses until 1997.

## 2. ENVIRONMENTAL PROGRAM AREA STATUS

### 2.1 AIR EMISSIONS SOURCES

Operations at the Rockville site have been discontinued since 1997. Potential air emission sources at the site are six 100 kW emergency generators in Building 2575 that have been mothballed.

#### 2.1.1 Findings

There are no significant or relevant findings related to air emissions at the Rockville site.

#### 2.1.2 Proposed Action

No action is proposed.

### 2.2 UNDERGROUND STORAGE TANK MANAGEMENT

Historical records indicated that one UST was formerly located at Rockville adjacent to Building 2522 (Gymnasium). The former UST was used for storing gasoline, and NASKEF records indicate that the UST did not have a leak detection system. The Navy Public Works Department (PWD) removed the UST and associated pump, and the excavated area was filled in. No soil sampling was conducted at the time the UST was removed, and therefore, there are no records to indicate if any soil contamination had occurred from the UST.

A partially buried 20,000-gallon holding tank is located next to the water pump house. It was used for storing chlorinated drinking water for fire fighting operations and domestic consumption.

#### 2.2.1 Findings

There are no significant and relevant findings related to UST management at the Rockville Site.

#### 2.2.2 Proposed Actions

No action is proposed.

## 2.3 ABOVE GROUND STORAGE TANKS (ASTs)

Table 2-1 is an inventory of the ASTs at the Rockville site

TABLE 2-1 ROCKVILLE AST INVENTORY

Location	Size (gallons)	Year Built	Construction	Product	Secondary Containment
Building 2551	1,000	1990	Steel	JP-5	No
Building 2575-1	12,500	1954	Steel	JP-5	Yes
Building 2575-2	12,500	1954	Steel	JP-5	Yes
Building 2575-3	1,000	Unknown	Steel	JP-5	No
Building 2575-4	750	Unknown	Steel	Ethylene glycol	No
Building 2575-5	250	Unknown	Steel	Lube Oil	No
Building 2577	1,500	1980	Steel	JP-5	Yes
Building 2586	1,000	1993	Steel	JP-5	Yes

All the ASTs have been drained and are inactive. All exterior tanks are equipped with secondary containment, while Building 2572, which houses several relatively small ASTs, acts as secondary containment for these ASTs.

### 2.3.1 Findings

Interviews with NASKEF personnel indicated that all ASTs and associated secondary containment structures at Rockville have been drained. The area in the vicinity of the discharge from the secondary containment of the ASTs located adjacent to the Power House Building 2575 showed signs of stressed vegetation. A soil sample (SS98-H1-04) was collected from this area and analyzed for total petroleum hydrocarbons (TPH). Results indicate a level of 4,200 mg/kg of diesel range organics, which compares to a screening level of 100 mg/kg in most of the U.S. No staining or other signs of contamination were observed in the vicinity of the other ASTs at Rockville. The area of stressed vegetation was relatively small, the nearby ASTs have been drained and are inactive, and there are no receptors nearby. Therefore, natural attenuation should ameliorate any remaining product in the soil over time.

stained, particularly in the middle, and the vegetation directly beneath the platform was stressed, indicating leakage from one or more of the three transformers. A soil sample (SS98-H1-03) was collected from the area directly beneath the transformers and tested for PCBs.

Table 2-2 is an inventory of the transformers at Rockville at the time of the compliance assessment.

TABLE 2-2 ROCKVILLE TRANSFORMER INVENTORY<sup>1</sup>

Building	Serial No.	PCB Test Results (ppm)	Tagged Appropriately?	Remarks
2506	02506	<2	No	Three units observed; two were marked non-PCB; one unit was not marked.
2521	Unknown	Unknown	Unknown	This unit was not included in the list of transformers tested in 1994.
2522	6430375	2	Yes	---
2522	6430382	3	No	---
2522	6430396	<2	Yes	---
2533	3900749	6	Yes	---
2536	Unknown	Unknown	No	Three pole-mounted units; only one marked as non-PCB. This unit was not included in the list of transformers tested in 1994.
2543	64627YCSA	2	Yes	---
2551	8B2225	36	Yes	---
2551	6603405	12	Yes	---
2551	B709158	310	Tagged, but not appropriately	One of three units mounted on an elevated wooden platform. Middle part of platform was stained, and vegetation directly underneath the transformers showed signs of stress.
2555	88B2221	32	Yes	---
2558	6409213	10	Yes	---
2562	6404967	24	Yes	---
2575	19708	2	Yes	---
2575	19707	<2	Yes	---
2575	19706	<2	Yes	---

<sup>1</sup> Source: Data provided by NASKEF from the PCB Tracking System

### 2.5.1 Findings

Results of the soil sample (SS98-H1-03) that was collected from the area directly beneath the leaking transformers detected a level of 9.5 mg/kg of the PCB Aroclor 1260. This is below the FGS for Iceland clean-up level of 50 mg/kg (ppm). For soils contaminated with PCBs with concentrations of 50 ppm or greater, the FGS for Iceland require that contaminated soils be removed until soils test no higher than 25 ppm for restricted areas (10 ppm for unrestricted areas) and the area be backfilled with clean soil containing less than 1 ppm PCBs.

### 2.5.2 Proposed Action

No action is proposed. The PCB Transformer was removed by Navy Public Works in late 1998.

## 2.6 LEAD-BASED PAINT (LBP)

LBP samples were collected at nine locations at the Rockville site. Sampling locations were chosen based on building age, building condition (including areas of peeling and chipped paint), and accessibility. Homogeneous areas were sampled once unless there was reason to believe that different paint or undercoating was used. In general, the underlying areas were sampled as opposed to the more recent paint layers. All samples were analyzed for lead using Inductively Coupled Plasma Atomic Emission Spectrometry (ICP) analyses, Method SW-846-6010A. Table 2-3 summarizes the LBP sample designations, sampling locations, and sample results.

TABLE 2-3 LBP SAMPLE LOCATIONS AND ANALYTICAL RESULTS

Sample No.	Building No.	Sample Location	Sample Description	Analytical Result (mg/kg dry wt)
LP98-H1-01	2575	Inside the building, from the floor near generators	Gray/silver/maroon/red paint	4,040
LP98-H1-02		Inside the building, from the generator vent room wall	Sea green paint	1,400
LP98-H1-03		Outside the building, on the metal air ducts	Orange and purple paint	4,330
LP98-H1-04	2578	Outside the building, on the concrete metal shed.	Sky blue/white paint	110
LP98-H1-05	2551	From a windowsill.	Grn/blk/orng/peach paint	866

Sample No.	Building No.	Sample Location	Sample Description	Analytical Result (mg/kg dry wt)
LP98-H1-06	2506	Inside the building, from boarded up windows	Green/gray/sea green paint	39,700
LP98-H1-07		Outside the building, from the concrete	Brown paint	4,840
LP98-H1-08	2552	Inside the building, from the ceiling	Tan paint	4.1
LP98-H1-09		Inside the building, from the boiler room on metal pillar	Dark green/yellow/ tan paint	5,950

### 2.6.1 Findings

It was observed that the green paint, from the General Warehouse 2506, which had the highest lead content, may have been used widely at the site many years ago since it was noted to be in areas that have been repainted or otherwise rehabilitated over time. Since the FGS for Iceland have no criteria for LBP, the Department of Defense Instruction (DODI) 4715.8 is applicable. DODI 4715.8 stipulates that:

DoD components shall take prompt action to remedy known imminent and substantial endangerment to human health and safety that are due to environmental contamination that was caused by DoD operations...

### 2.6.2 Proposed Action

No action is proposed. At the time of the site visit, there was no evidence of imminent and substantial endangerment to human health and safety.

## 2.7 ASBESTOS-CONTAINING MATERIALS (ACM)

Historical records indicate that the NASKEF Safety Office conducted an asbestos survey at the Rockville site in 1989. Selected locations in several older buildings constructed in 1953 were sampled and tested for presence of friable asbestos. During the site inspection, it was noted that ducts and exhaust pipes in most locations were marked as "Asbestos Free." Some locations were marked as containing asbestos, and a few other locations were unmarked. Samples were collected at four locations and analyzed for asbestos. The samples were collected by Michael O'Neill of EA Engineering and Science, who has completed the EPA-Approved Course for

Building Inspectors, titled Asbestos Hazards, Abatement and Protection and is a certified asbestos inspector. Table 2-4 summarizes the asbestos sample designations, sampling locations, and sample results.

TABLE 2-4 ASBESTOS SAMPLE LOCATIONS AND ANALYTICAL RESULTS

Sample No.	Building No.	Sample Location	Sample Description	Analytical Result (percent)
AB98-H1-01	2578	Floor	Green 8" X 8" floor tile	15-20% (Chrysotile)
AB98-H1-02	2536	Pipe	Friable pipe insulating material	None
AB98-H1-03	2522	Water tank on the upper level	Insulating material around the tank	None
AB98-H1-04		Water tank on the upper level	Insulating material from near the spout of the tank	None

### 2.7.1 Findings

The floor tile containing asbestos was observed to be in two buildings, and other than frayed tiles at the end of the hallway connecting the radome buildings, the tiles were in good shape. During the compliance assessment, EA Engineering and Science reviewed the May 1989 asbestos survey for seven buildings: #2551, 2552, 2559, 2562, 2583, 2584, and 2586. The survey forms note that "planned abatement actions" are "administrative controls" rather than "removal, encapsulation or isolation" in most cases. A copy of a March 1996 memo from BioEnvironmental Engineering documents an asbestos survey in Building 2584. The memo states that "the pipe lagging in question is intact, undisturbed, and clearly marked with appropriate hazard warnings." EA Engineering and Science asbestos inspector confirmed these buildings were looked at closely according to FGS Chapter 15, Asbestos criteria. The compliance assessment found no building materials which posed a potential exposure threat to personnel and therefore, no samples were taken. The survey results of May 1989 and March 1996 may be used for reference as to the current condition of asbestos containing materials for the site.

### **2.7.2 Proposed Actions**

No action is proposed. At the time of the site visit, there was no evidence of imminent and substantial endangerment to human health and safety.

## **2.8 DRINKING WATER**

The Rockville site has one 6-inch drinking water well and an associated 20,000-gallon storage tank located near Building 2581, Water Distribution Building. The pump has been shut down for the past year, and no running water is available at the site which is now unoccupied. The well is located only a few hundred meters from the former dumpsite. Since the pump was not working, a water sample could not be collected for analyses at the time of the site visit.

### **2.8.1 Findings**

No running water was available at the site since the water pump had been shut down. Although the facility is no longer occupied, the drinking water well can be reactivated.

### **2.8.2 Proposed Action**

No action is proposed.

## **2.9 WASTEWATER DISCHARGE MANAGEMENT**

Domestic wastewater from all buildings at Rockville drained into an underground sewer system and was carried to the sewage lift station (Building 2598). Storm water from some areas also drained into the sewer system. Wastewater was pumped from the lift station through a several km-long outfall pipe that discharged into the Atlantic Ocean.

### **2.9.1 Findings**

There are no significant and relevant findings related to wastewater at Rockville.

## **2.9.2 Proposed Action**

No action is proposed.

## **2.10. FORMER DUMP**

The former dump is located west of Building 2536, occupies an area of approximately 10,000 sq ft or 0.2 acres, and is about 15-20 ft deep. The bedrock below the former dump is largely porous volcanic lava rock that is typical of the Rekjavik peninsula. A drinking water well is located approximately 500 feet east of the former dump. This well was the primary source of drinking water for personnel at the Rockville site. The site is no longer manned or active and the water well has been inactive since the summer of 1997.

In a 7 June 1995 Department of the Navy Memorandum (60E2) documented a site visit to the Rockville site by Navy PWD and a representative from the 85CES/CEV, after which it was concluded that "There is no visual evidence that contamination may be spreading from the former dump. The Rockville water well is approximately 300 meters to the west of the former dump and could possibly be impacted."

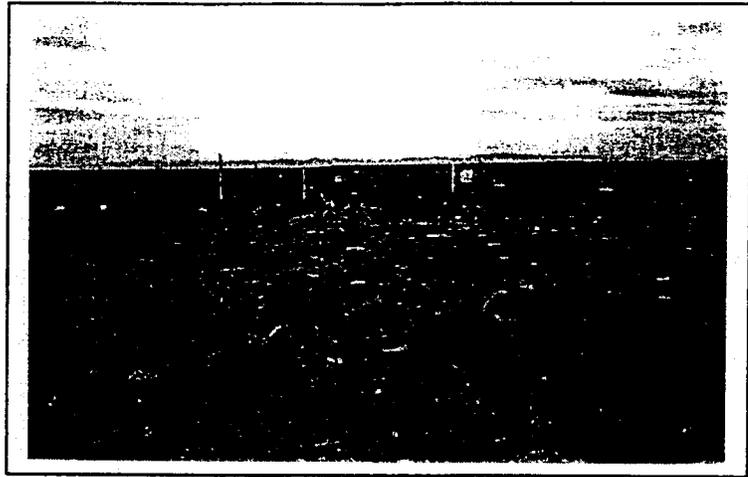
In a HQ ACC/CEVQM Staff Assistance Visit (SAV) to Keflavik and Lajes 6-13 May 1997 the ACC environmental engineer assessed the existing former dump cover adequate and the site posed no substantial endangerment or harm to human health or the environment requiring action. The Iceland Final Governing Standards, Chapter 7, paragraph 13, "Closure and post-closure operations" directs actions for municipal solid waste landfills and requires a final cover system to include a minimum of 18" (46 cm) of earthen material which is capable of sustaining native plant growth and which has a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present or no greater than .00005 cm/sec, whichever is less

### **2.10.1 Findings**

Interviews with site personnel indicated that the former dump was used from 1953 to 1991 for disposal of wastes from operations by the USAF 932<sup>nd</sup> ACS and maintenance activities by the Navy PWD. According to USAF personnel, materials disposed in the former dump included scrap lumber, packing materials, construction debris, paint and paint cans, automobile and

computer backup batteries, and used automobile parts. Solid wastes were typically dumped and burned, and the remnants were covered with a thin layer of gravel. Diesel fuel was reportedly used 2 to 3 times a year to accomplish the burning. One person interviewed who worked at the site from approximately 1977-1997 indicated that at least on one occasion he had stopped site personnel from disposing used oil in the former dump.

Soon after radar operations ceased at Rockville, the former dump was covered with fill material and capped with dirt. At the time of the site visit, the surface of the former dump was covered with rocks and vegetation, and except for singed overhead wires, there was no other superficial evidence of the disposal or burning that may have been conducted in the past (Photo). Also, there was no visual evidence that contamination has occurred or may be spreading from the former dump.



The drinking water well at Rockville is located about 300-400 meters east of the former dump (See site map attached). When the site was active, samples from the drinking water well were tested for coliforms and pH. There was no evidence to indicate that water samples were tested for any other analytes. During the site visit, the well could not be sampled due to malfunction of the water pump.

The 1994 FGS for Iceland address requirements related to municipal solid waste or sanitary landfills. The former dump at the Rockville site is characteristic of an open dump where open burning was conducted rather than a sanitary landfill. Since the FGS for Iceland have no criteria for former open dumps, the Department of Defense Instruction (DODI) 4715.8 is applicable. DODI 4715.8 stipulates that:

DoD components shall take prompt action to remedy known imminent and substantial endangerment to human health and safety that are due to environmental contamination that was caused by DoD operations...

## 2.10.2 Alternatives

The following alternatives are presented as potential options for proposed actions:

- No further action
- Sample water supply well for possible contamination
- Sample soil/groundwater in area between former dump and water supply well to determine if there is evidence of migration of contaminants

The following is a synopsis of each.

### **No Further Action**

Since neither the former dump nor the drinking water well has been tested for presence of pollutants, it is not known if the dumpsite represents a source of contaminants that could leach into the groundwater and impact the drinking water supply at Rockville. At the present time, the well has been inactivated and therefore, there is no imminent danger to human health and safety. However, since there is likelihood this property will be reactivated and used by private interest it is important to verify the safety of the water supply prior to its use. No Further Action is possibly non-responsive to future use of the property when transferred, but is consistent with DODI and FGS requirements as there is no "known imminent and substantial endangerment to human health and safety due to ...DOD operations" (DOD 4715.8, para. 5.2.1.)

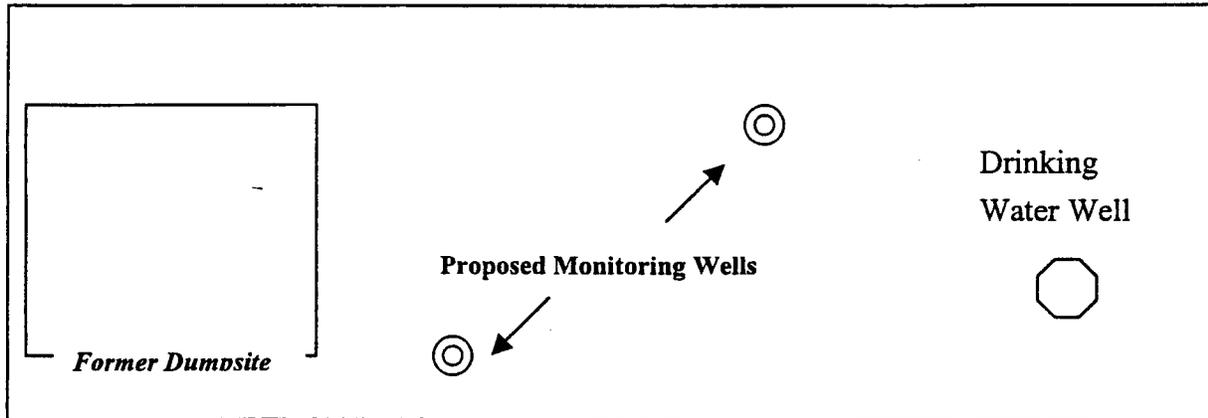
### **Sample Water Supply Well**

This alternative would entail collecting and analyzing water samples from the drinking water well for Target Analyte List (TAL) metals, and Target Compound List (TCL) volatiles, semi-volatiles, and pesticides/PCBs. Sampling the well would require that the pump at the well head be repaired or be dismantled for independent access to the well. Since the well has been inactive for a long time, it will need to be sufficiently purged and stabilized before drawing a sample. EPA's Low-Flow (Minimal Drawdown) Groundwater Sampling procedure should be employed and one water sample would be adequate for preliminary characterization.

Results of the water sample analyses would indicate if the groundwater contamination has already occurred, but would not provide information on the potential for future contamination.

## Sample Soil and Groundwater between Former Dump and Water Supply Well

To determine if contaminants have migrated from the former dump either into the adjacent soil layers or into the ground water and to determine the direction of the groundwater flow, the following protocol is recommended.



Two monitoring wells would be installed at a depth of approximately 20 feet (6.1 meters) as shown in the above figure. Exact locations would be field verified and determined. The drinking water well will serve as the third well for triangulation. Water elevation and recharge rates measurements would be made on the site, and this would then be used to determine the direction of the groundwater flow. Each of the two new wells would require sampling for soil at the capillary fringe, and one water sample would be collected from all three wells. Soil and water samples will be analyzed for Target Analyte List (TAL) metals, and Target Compound List (TCL) volatiles, semi-volatiles, and pesticides/PCBs.

Sampling the drinking water well would require that the pump at the well head be repaired or be dismantled for independent access to the well. Since the well has been inactive for a long time, it should be sufficiently purged and stabilized before drawing a sample. The new wells will have to be constructed, developed, and stabilized prior to sampling. The entire process would take up approximately 20 workdays. EPA recommended monitoring well installation and sampling guidelines could be used.

This option of water and soil analyses would be necessary to determine:

- 1) The direction of groundwater flow in the area of the dumpsite and the drinking water well

- 2) Assessment if there has been any migration of pollutants from the dumpsite to adjacent soil layers
- 3) If any pollutants leached from the dumpsite to the groundwater
- 4) If there is any imminent danger to human health and safety from the dumpsite

### **2.10.3 Proposed Action**

Although this former dump does not indicate an imminent and substantial endangerment to human health and safety CINCLANTFLT, the DoD Environmental Executive Agent for Iceland, has directed sampling to verify the site is not contributing potential contaminants to the groundwater. The proposed action is a hybrid of the second and third options presented above. Proposed action is as follows:

- 1) Sample the drinking water well and analyze for selected Target Analyte List (TAL) metals (Cadmium, Chromium, and Lead), Total Petroleum Hydrocarbons (TPH), selected semi-volatiles (TCE, TCA), selected pesticides (to be determined) and PCBs. Sampling the well will require the pump at the well head be repaired or be dismantled for independent access to the well. Since the well has been inactive for a long time, it will need to be sufficiently purged and stabilized before drawing a sample.

- 2) Collect two soil grab samples down-gradient and between the former dump site and drinking water well. Grab samples depth and location will be field determined according to the most probable pathway of any potential leachate pollutants from the former dump site. Soil samples will be analyzed for the same contaminants as the drinking water samples.

Sample results will be compared against the Iceland FGS drinking water standards, chapter 3, criteria. Should sample results be less than the maximum contaminants levels no further action is proposed.

## **2.11 CONSTRUCTION/DEMOLITION DEBRIS**

An area west of the former dump is currently being used as a solid waste dump.

### **2.11.1 Findings**

Materials discarded at this site include construction waste, packing material, lumber, and rolls of barbed wire.

### **2.11.2 Proposed Action**

The accumulated material should be cleaned up and further dumping should be discontinued. 85 CES will work with Navy Environmental to accomplish this action.

## **2.12 OIL WATER SEPARATOR**

Historical records indicated that the oil water/separator (OWS) located adjacent to Building 2507 (Vehicle Wash Platform) had clogged and overflowed several times in the past. There was no visual indication of any soil contamination near the OWS. Soil samples were collected from the bottom of the OWS and the sewer line access hole located about 50 yards away. The sample near the OWS (SS98-H1-01) had a gasoline range level of 11 mg/kg and a diesel organic range level of 8,700 mg/kg. The sample near the sewer line access hole (SS98-H1-02) had an undetectable gasoline range level and a diesel organic range level of 970 mg/kg. The screening levels adopted by most states are 10 mg/kg for gasoline and 100 mg/kg for diesel organics.

### **2.12.1 Findings**

Although the diesel organic range levels were above screening levels, the area was not visually stressed.

### **2.12.2 Proposed Actions**

No action is proposed.

## **2.13 HALON**

### **2.13.1 Finding**

The disconnected halon tanks in Building 2572 should be removed.

### **2.13.2 Proposed Action**

No action is proposed. Halon has been recovered and removed from the site.

## **2.14 FREON**

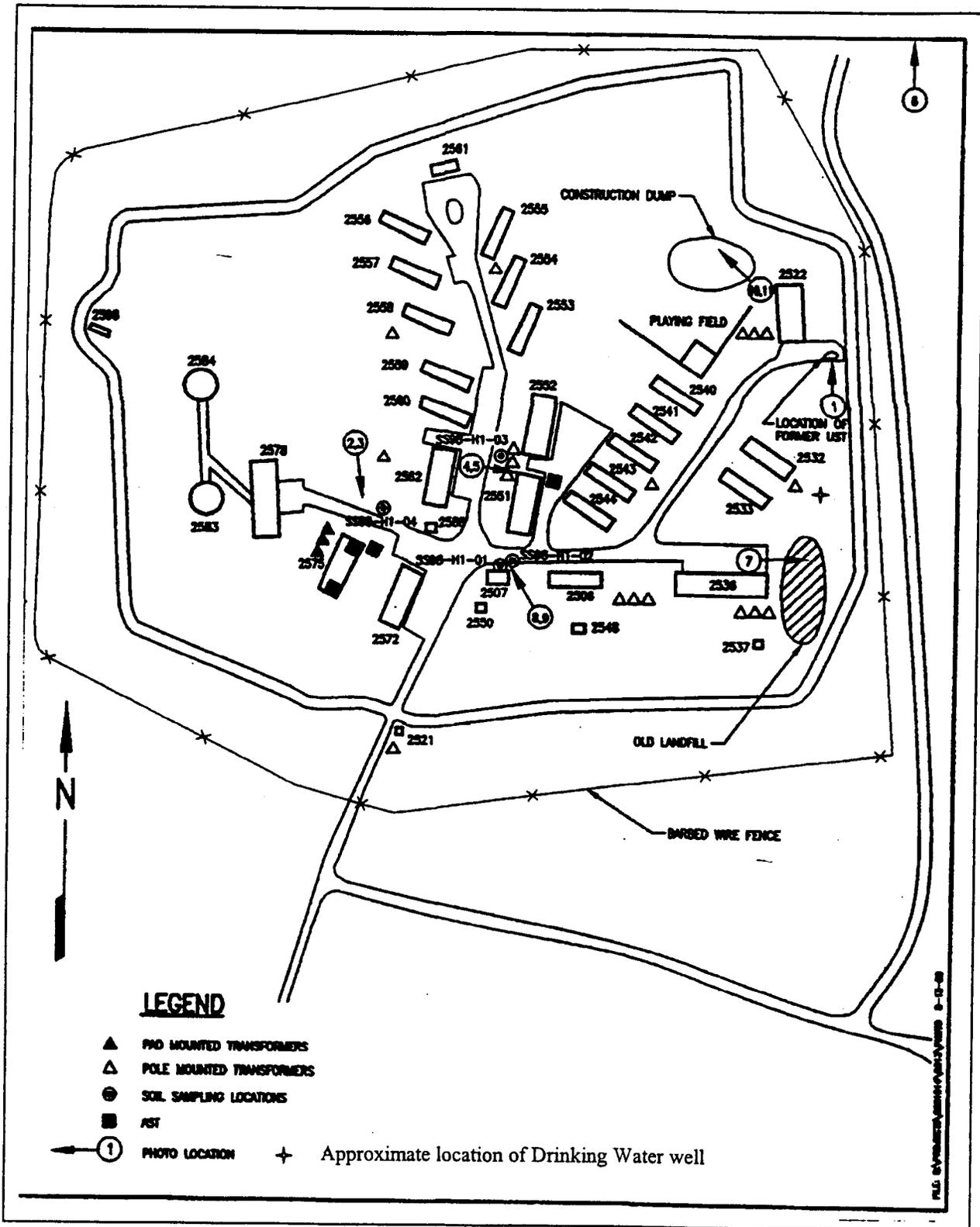
### **2.14.1 Finding**

Refrigeration units in or adjacent to Buildings 2506, 2532, and 2551 have been disconnected, and there is no indication that freon has been removed from these units.

### **2.14.2 Proposed Action**

85 CES is working with Navy Public Works to recover and recycle the freon from these units.

# Rockville Site Map



**Appendix IV**

6260  
17/ta  
20 January 1999

From: Safety Department, U.S. Naval Air Station, and Keflavik  
To: Public Works Environmental Officer, U.S. Naval Air Station, Keflavik

Subj: SPECIAL SAFETY INSPECTION TO H-1 SITE

Encl: (1) 1989 Asbestos survey H-1

1. On 11 January 1999, a special safety inspection was conducted at H-1 site to verify the condition of Asbestos Containing Material (ACM) previously identified. This was conducted by the request of Lt. Conley, Assistant P/W Officer, due to cleanup and repair work at the H-1 site. Th. Karlson and Th. St. Arnason Safety Specialists of the Safety Department conducted the inspection.

2. Following buildings were inspected:

Search Towers,	2583-2584
Club	2551
Dining facility	2552
BEQ	2559
BEQ	2558
Gym	2522
Admin	2562
Garage	2507
Theater/shop	2536
Warehouse	2537
Gate	2521

3. The overall condition of the buildings has deteriorated, since they were abandoned. However, the ACM seems to have been left undisturbed and no visible damages have occurred. Bulk samples were taken from a water tank located on the 2<sup>nd</sup> floor of the Gym, Bldg.#2522. Sample results revealed the water tank insulation to contain no asbestos fibers.

4. If further information is required please call the Safety Department at extension 4417 or 4293.

  
Magnus Gudmundsson

SURVEY DATE 30 May 1989 INSPECTOR Th. St. Arnason Jon Title Safety Specialists  
 Plourdur Karlsson

ASBESTOS AREA	FUNCTION	%	TYPE	UN- SF/LP/DIA	QUANTITY SUSPECTED/ KNOWN	SOURCE DESCRIPTION	PRIORITY	CONDITION	EXPOSURE POTENTIAL	PERSONNEL EXPOSED	PLANNED ACTION	MISSION CRITICALITY	COMMENTS
7	9-3	3	1	16OLF/3"	K	2	3	2	2	2	2	2	Hot water pipe-att
7	9-3	2	1	10OLF/4"	K	2	3	2	2	2	2	2	Hot water pipe-att
7	9-3	2	1	2OLF/4"	K	1	3	2	2	2	2	2	Elbows-attic
7	9-3	3	1	2OLF/3"	K	1	3	2	2	2	2	2	Elbows-attic
8	9-2	2	1	12LF/5"	K	3	1	2	2	2	6	2	Boiler room

RESTRICTED - PPE REQ.

NOTE: SEE EXPLANATION SECTION FOR INSTRUCTIONS ON COMPLETING THIS FORM.

KEY:

BUILDING AREA	FUNCTION	FORM	% ASBESTOS	QUANTITY	TYPE	SOURCE DESCRIPTION		RECOMMENDED ABATEMENT ACTION
						VARIABLE	COMMENTS	
1. Main Deck	1. Boiler Insulation	1. Blanket	1. > 40%	Square Feet = 57	1. Crysotile	1. High	1. Excellent	1. None Required
2. Second Deck	2. Duct Insulation	2. Molded	2. 15-30%	Linear Feet = LP	2. Amosite	2. Moderate	2. (No Damage)	2. Removal
3. Third Deck	3. Hot Water Tank Insulation	3. Performed	3. 1-15%	Diameter = DIA.	3. Tremolite	3. Low	3. Fair (Limit)	3. Encapsulation
4. Annexment	4. Structural Fireproofing	4. Airwall	4. < 1%	(inches)	4. Crocidolite	4. Non-Frangible	4. Damage	4. Isolation
5. Gallery	5. Acoustic Insulation	5. Sheet	Known = (X)	Known = (X)	5. Anthophyllite			
6. Penthouse	6. Surface Application	6. Sprayed-On	Suspected = (S)	Suspected = (S)	6. Actinolite			
7. Allie	7. Wall Insulation	7. Troweled-On						
8. Other	8. Steam Pipe Insulation	8. Loose Fill						
	9. High Temp. Hot Water Insulation	9. Other						
	10. Ceiling Tile							
	11. Other							

EXPOSURE POTENTIAL

- 1. Accessible—Occupied
- 2. Accessible—Unoccupied
- 3. Unaccessible—Source of Asbestos Likely to Contaminate Accessible Area
- 4. Unaccessible—Source of Asbestos Unlikely

PERSONNEL EXPOSED

- 1. > 100
- 2. 10-100
- 3. < 10
- Accessed by General Public

MISSION CRITICALITY

- 1. Critical Facility
- 2. Routine
- 3. Non Critical

RECOMMENDED ABATEMENT ACTION

- 1. None Required
- 2. Removal
- 3. Encapsulation
- 4. Isolation

ACTIVITY H-1 Rockville UIC 63032 BUILDING # 2552 YEAR BUILT 1954

SURVEY DATE 30 May 1989 INSPECTOR Th. St. Arnason JON TITLE Safety Specialists  
Thorður Karlsson

AREA	FUNCTION	TYPE	UNITS	QUANTITY	SUSPECTED/ KNOWN	SOURCE DESCRIPTION	PRIORITY/CONDITION	EXPOSURE POTENTIAL	PERSONNEL EXPOSED	AVIATEMENT ACTION	MISSION CRITICALITY	COMMENTS
7	9-2	2	1	160LF/3"	K	2	3	2	2	5	2	Hot water pipe-at
7	9-2	2	1-2	100LF/4"	K	2	3	2	2	5	2	Hot water pipe-at

RESTRICTED - PREFERRED

NOTE: SEE EXPLANATION SECTION FOR INSTRUCTIONS ON COMPLETING THIS FORM.

KEY:

BUILDING AREA	FUNCTION	FORM	% ASBESTOS	QUANTITY	TYPE	SOURCE DESCRIPTION MATERIAL
1. Main Deck	1. Boiler Insulation	1. Blanket	1. > 40%	Square Feet = 57	1. Crystallite	1. High
2. Second Deck	2. Duct Insulation	2. Molded	2. 15-40%	Linear Feet = LP	2. Amosite	2. Moderate (No Damage)
3. Third Deck	3. Hot Water Tank Insulation	3. Performed	3. 1-15%	Diameter = DIA.	3. Tremolite	3. Low
4. Basement	4. Structural Fireproofing	4. Altrasil	4. < 1%	(inches)	4. Crocidolite	4. Non-Fixable Damage
5. Gallery	5. Acoustic Insulation	5. Sheet	Known = (%)	Known = (%)	5. Anthophyllite	3. Poor (Genet Damage)
6. Penthouse	6. Surface Application	6. Sprayed-on	Suspected = (S)	Suspected = (S)	6. Actinolite	
7. Allie	7. Wall Insulation	7. Troweled-on				
8. Other	8. Steam Pipe Insulation	8. Loose Fill				
	9. High Temp. Hot Water Insulation	9. Other				
	10. Ceiling Tile					
	11. Other					

EXPOSURE POTENTIAL	PERSONNEL EXPOSED	MISSION CRITICALITY	RECOMMENDED ABATEMENT ACTION
1. Accessible—Occupied	1. > 100	1. Critical Facility	1. None Required
2. Accessible—Unoccupied	2. 10—100	2. Routine	2. Removal
3. Unaccessible—Source of Asbestos Likely to Contaminate Accessible Areas	3. < 10	3. Non Critical	3. Encapsulation
4. Unaccessible—Source of Asbestos Unlikely to Contaminate Accessible Areas	<input type="checkbox"/> Accessed by General Public		4. Isolation
			5. Administrative Control

SURVEY DATE 30 May 1989 INSPECTOR Thordur Karlsson JOB TITLE Safety Specialists  
Th. St. Arnason

BUILDING AREA	ASBESTOS FUNCTION	QUANTITY SUSPECTED/KNOWN	SOURCE DESCRIPTION	EXPOSURE POTENTIAL ACCESSIBILITY	PERSONNEL EXPOSED	ABATEMENT ACTION	MISSION CRITICALITY	COMMENTS
7	9-3 2	1-2 103LF/4" K	1 3	2			1	Hot water pipe-at
7	9-3 2	1-2 80LF/5" K	1 3				1	Hot water pipe-at

RESTRICTED - PPE REQUIRED

NOTE: SEE EXPLANATION SECTION FOR INSTRUCTIONS ON COMPLETING THIS FORM.

KEY:

- BUILDING AREA**
- 1. Main Deck
  - 2. Second Deck
  - 3. Third Deck
  - 4. Annexment
  - 5. Gallery
  - 6. Penthouse
  - 7. Attic
  - 8. Other
- FUNCTION**
- 1. Boiler Insulation
  - 2. Duct Insulation
  - 3. Hot Water Tank Insulation
  - 4. Structural Fireproofing
  - 5. Acoustic Insulation
  - 6. Surface Application
  - 7. Wall Insulation
  - 8. Steam Pipe Insulation
  - 9. High Temp. Hot Water Insulation
  - 10. Ceiling Tile
  - 11. Other
- FORM**
- 1. Blanket
  - 2. Molded
  - 3. Performed
  - 4. Airfall
  - 5. Sheet
  - 6. Sprayed-On
  - 7. Traveled-On
  - 8. Loose Fill
  - 9. Other
- % ASBESTOS**
- 1. > 40%
  - 2. 15-40%
  - 3. 1-15%
  - 4. < 1%
- QUANTITY**
- Square Feet = SF
  - Linear Feet = LF
  - Diameter = DIA.
  - (inches)
  - Known = (K)
  - Suspected = (S)
- TYPE**
- 1. Crystallite
  - 2. Amosite
  - 3. Tremolite
  - 4. Crocidolite
  - 5. Anthophyllite
  - 6. Actinolite
- SOURCE DESCRIPTION**
- VARIABLES**
- 1. High
  - 2. Moderate
  - 3. Low
  - 4. Non-Feasible
  - 5. Poor (Genel Damage)
- RECOMMENDED ABATEMENT ACTION**
- 1. None Required
  - 2. Removal
  - 3. Encapsulation
  - 4. Isolation
  - 5. Administrative Controls
- MISSION CRITICALITY**
- 1. Critical Facility
  - 2. Routine
  - 3. Non Critical
- PERSONNEL EXPOSED**
- 1. > 100
  - 2. 10-100
  - 3. < 10
  - Accessed by General Public
- EXTENSURE POTENTIAL**
- 1. Accessible—Occupied
  - 2. Accessible—Unoccupied
  - 3. Unaccessible—Source of Asbestos Likely to Contaminate Accessible Areas
  - 4. Unaccessible—Source of Asbestos Unlikely to Contaminate



SURVEY DATE 30 May 1989 INSPECTOR Th. St. Arnason JON TITL. Safety Specialists  
Thordur Karlsson

BUILDING AREA	ASBESTOS FUNCTION FORM	QUANTITY SUSPECTED/ KNOWN	SOURCE DESCRIPTION	POTENTIAL ACCESSIBILITY	PERSONNEL EXPOSED	ABATEMENT ACTION		MISSION CRITICALITY
						PLANNED	ACTUAL	
1	9-2	2	1-2 5OLF/8"	2	2	6	1	Hot water pipe-co btwn 2583 & 2584
1	9-2	2	1-2 1.2LF/5"	2	2	6	1	Hot water pipe-co btwn 2583 & 2584
1	9-2	2	1-2 1.2LF/4"	1	3	<b>RESTRICT.-PPE REQ</b>		
1	9-2	2	1-2 1.02LF/6"	1	2	6	1	Hot water pipe-co btwn 2583 & 2584
1	9-2	2	1-2 5OLF/6"	3	2	6	1	Hot water pipe-co btwn 2583 & 2584
1	9-2	2	1-2 1.05LF/3"	2	2	6	1	Search Radar
1	9-2	2	1-2 1.7OLF/4"	2	3	<b>RESTRICT.-PPE REQ</b>		

NOTE: SEE EXPLANATION SECTION FOR INSTRUCTIONS ON COMPLETING THIS FORM.

KEY:

BUILDING AREA	FUNCTION	FORM	% ASBESTOS	QUANTITY	MISSION CRITICALITY	RECOMMENDED ABATEMENT ACTION	SOURCE DESCRIPTION	
							MATERIAL	VARIABILITY
1. Main Deck	1. Boiler Insulation	1. Blanket	1. > 40%	Source Feet - SF	1. Critical Facility	1. None Required	1. High	1. Excellent
2. Second Deck	2. Duct Insulation	2. Molded	2. 15-40%	Linear Feet - LF	2. Routine	2. Removal	2. Moderate	(No Damage)
3. Third Deck	3. Hot Water Tank Insulation	3. Performed	3. 1-15%	Diameter - DIA.	3. Non Critical	3. Encapsulation	3. Low	2. Fair (Limi)
4. Basement	4. Structural Fireproofing	4. Alccrete	4. < 1%	(inches)	4. Isolation	4. Isolation	4. Non-Feasible	Damage)
5. Gallery	5. Acoustic Insulation	5. Sheet	Known - (%)	Known - (%)	5. Administrative Control	5. Administrative Control	5. Poor (Gene)	Damage)
6. Penthouse	6. Surface Application	6. Sprayed-On	Suspected - (%)	Suspected - (%)	6. Isolation	6. Isolation	6. Poor (Gene)	Damage)
7. Allie	7. Wall Insulation	7. Trowel-On						
8. Other	8. Steam Pipe Insulation	8. Loose Fill						
	9. High Temp. Hot Water Insulation	9. Other						
	10. Ceiling Tile							
	11. Other							

EXPOSURE POTENTIAL

1. Accessible—Occupied
2. Accessible—Unoccupied
3. Unaccessible—Source of Asbestos Likely to Contaminate Accessible Area
4. Unaccessible—Source of Asbestos Unlikely to Contaminate Accessible Area

PERSONNEL EXPOSED

1. > 100
  2. 10-100
  3. < 10
- Accessed by General Public

MISSION CRITICALITY

1. Critical Facility
2. Routine
3. Non Critical

RECOMMENDED ABATEMENT ACTION

1. None Required
2. Removal
3. Encapsulation
4. Isolation
5. Administrative Control

SURVEY DATE 30 May 1989 INSPECTOR Th. St. Arnason JON TITLE Safety Specialists  
 Thorudur Karlsson

AREA	ASBESTOS FUNCTION	QUANTITY SUSPECTED/ KNOWN	SOURCE DESCRIPTION	EXPOSURE POTENTIAL	PERSONNEL EXPOSED	ABATEMENT ACTION	MISSION CRITICALITY
1	9-3 2	1-2 1OLF/6"	3	1	2	6	1
1	9-3 2	1-2 6OLF/4"	3	1	2	6	1
2	9-3 2	1-2 8OLF/4"	2	3	RESTRICT 2-PPE 5 REQ		1
2	9-3 2	1-2 6OLF/3"	2	3	RESTRICT 2-PPE 5 REQ		1

NOTE: SEE EXPLANATION SECTION FOR INSTRUCTIONS ON COMPLETING THIS FORM.

KEY:

BUILDING AREA

FUNCTION

FORM

PERCENTAGE EXPOSED

MISSION CRITICALITY

RECOMMENDED ABATEMENT ACTION

SOURCE DESCRIPTION

PRIORITIZATION

MATERIAL CORRELATION

EXPOSURE POTENTIAL

PERSONNEL EXPOSED

MISSION CRITICALITY

RECOMMENDED ABATEMENT ACTION

1. Accessible—Occupied

2. Accessible—Unoccupied

3. Unaccessible—Source of Asbestos Likely to Contaminate Accessible Areas

4. Unaccessible—Source of Asbestos Unlikely to Contaminate Accessible Areas

1. > 100

2. 70—100

3. < 10

[ ] Accessed by General Public

1. None Required

2. Removal

3. Encapsulation

4. Isolation

5. Administrative Control

1. Blanket

2. Molded

3. Performed

4. Airfall

5. Sheet

6. Sprayed-On

7. Trowelled-On

8. Loose Fill

9. Other

10. Ceiling Tile

11. Other

1. > 40%

2. 15—40%

3. 1—15%

4. < 1%

1. High

2. Moderate

3. Low

4. Non-Predictable

5. Anthophyllite

6. Actinolite

1. Excellent (No Damage)

2. Fair (Limit Damage)

3. Poor (Gene Damage)

Square Feet = SF

Linear Feet = LF

Diameter = DIA.

(inches)

Known = (K)

Suspected = (S)

1. Critical Facility

2. Routine

3. Non Critical



ACTIVITY H-1 Rockville UTC 63032 BUILDING # 2559 YEAR BUILT 1954

SURVEY DATE 30 May 1989 INSPECTOR Thordur Karlsson JOB TITLE Safety Specialists  
Th. St. Arnason

BUILDING AREA	AGGRESSOR FUNCTION	TYPE	UNASS SF/LP/DIA	QUANTITY SUSPECTED/KNOWN	SOURCE DESCRIPTION	PRIORITY	CONDITION	ACCESSIBILITY	EXPOSURE POTENTIAL	PERSONNEL EXPOSED	ABATEMENT ACTION	MISSION CRITICALITY	COMMENTS
7	9-3	2	1	24OLF/4"	K	2	3	2	2	3	3	2	Hot water pipe-att
8	9-2	2	1	20LF/5"	K	2	3	2	2	3	5	2	Hot water pipe-uti
8	9-2	2	2	5LF/6"	K	1	3	1	3	3	5	2	Cold water pipe

RESTRICTED  
PPE REQUIRED

NOTE: SEE EXPLANATION SECTION FOR INSTRUCTIONS ON COMPLETING THIS FORM.

KEY:

BUILDING AREA	FUNCTION	FORM	% ASBESTOS	QUANTITY	TYPE	MATERIAL	RECOMMENDED ABATEMENT ACTION
1. Main Deck	1. Boiler Insulation	1. Blanket	1. > 40%	5	1. Crystallite	1. High	1. Excellent (No Damage)
2. Second Deck	2. Duct Insulation	2. Molded	2. 15-40%	2	2. Amosite	2. Moderate	2. Fair (Limited Damage)
3. Third Deck	3. Hot Water Tank Insulation	3. Performed	3. 1-15%	3	3. Tremolite	3. Low	3. Poor (General Damage)
4. Basement	4. Structural Fireproofing	4. Airfall	4. < 1%	4	4. Crocidolite	4. Non-Friable	
5. Gallery	5. Acoustic Insulation	5. Sheet		5	5. Anthophyllite		
6. Penthouse	6. Surface Application	6. Sprayed-On		6	6. Actinolite		
7. Allie	7. Wall Insulation	7. Troweled-On					
8. Other	8. Steam Pipe Insulation	8. Loose Fill					
	9. High Temp. Hot Water Insulation	9. Other					
	10. Ceiling Tile						
	11. Other						

EXPOSURE POTENTIAL

1. Accessible—Occupied  
 2. Accessible—Unoccupied  
 3. Unaccessible—Source of Asbestos Likely to Contaminate Accessible Areas  
 4. Unaccessible—Source of Asbestos Unlikely to Contaminate Accessible Areas

PERSONNEL EXPOSED

1. > 100  
 2. 10-100  
 3. < 10  
 Accessed by General Public

MISSION CRITICALITY

1. Critical Facility  
 2. Routine  
 3. Non Critical

RECOMMENDED ABATEMENT ACTION

1. None Required  
 2. Removal  
 3. Encapsulation  
 4. Isolation  
 5. Administrative Control

**Appendix V**

# **Air Force Rockville Site Groundwater Investigation**

Prepared by:

Naval Air Station Keflavik, Iceland  
Public Works Department  
Environmental Division

## **Introduction**

The Air Forces Iceland Rockville Communication Site (H-1) site occupies about 487 acres comprised of approximately 30 buildings and was built in 1953 to serve as the home to the Air Surveillance Radar Site and Communication Center. In 1991, the radar operations were transferred from H-1 to the new H-1A site at Midnesheidi, which is approximately 3 km south of Rockville. The H-1 site continued to be used for training and other miscellaneous uses until 1997 when all military activity ceased. The Air Force's 85th Group Civil Engineering Squadron submitted an Environmental Closure Plan for H-1 to the Naval Air Station Keflavik (NASKEF) in January of 1999. The current use of the facilities by a private Icelandic entity is through an Implementing Agreement. The environmental closure plan included an extensive site description, mission information, and an environmental program area status.

The environmental closure plan indicated an area of potential concern that is referred to as the former dump in the environmental closure plan. The following report describes the investigation that was performed to determine if the former dump had adversely impacted the groundwater of the area.

## **Description**

In general, the environmental closure plans indicated that the former dump was used from 1953 to 1991 to dispose of materials that at times included scrap lumber, packing materials, construction debris, paint and paint cans, computer back batteries, and used automobile parts. Additionally, it was noted that at times solid wastes were typically dumped and burned, and the remnants covered with a thin layer of gravel. After the radar operations ceased, the former dump was covered with fill material and capped with dirt.

Further investigation into the exact location of the former dump through interviews with Air Force personnel and site visits by the Environmental Division staff indicated that the former dump was actually located northeast of the location marked in the environmental closure plan as marked in the figure contained in Appendix 1. The Environmental Division noted that there was no evidence of surface contamination during several different site visits and the former dump site is now covered with rocks and vegetation which is consistent with the description provided in the environmental closure plan.

The regional groundwater flow at the site is north to northeast based on information provided by the NASKEF Groundwater Protection Plan finalized in April of 1999. In order to determine if the former dump had impacted the ground water quality two groundwater-monitoring wells were drilled at each end of the landfill as marked in the figure located in Appendix 1. The groundwater monitoring wells were installed in the late summer of 1999. The location of the groundwater monitoring well to the north of the former dump was chosen because of the regional groundwater flow direction and the

groundwater monitoring well to the southwest was chosen because of the location of the H-1 drinking water supply well.

## **Sampling**

There were two groundwater sampling events that took place to determine if there was any adverse impact to the groundwater. Each groundwater sampling included an analysis for volatile organic compounds (VOCs), pesticides, polychlorinated biphenyls (PCBs), and inorganics.

The first sampling event took place in February of 1999 and included the sampling of the H-1 drinking water supply well located west of the former dump and the Naval Computer and Telecommunications Station (NCTS) Rockville Site drinking water supply well located next to building 2586 approximately several hundred meters north of the former dump. The sampling results from the first sampling event are contained in Appendix II. Two samples were taken at the H-1 water supply well with a six-hour time span between samples. The well was continuously pumped for the six-hour period to stress the local groundwater before the second sample was drawn.

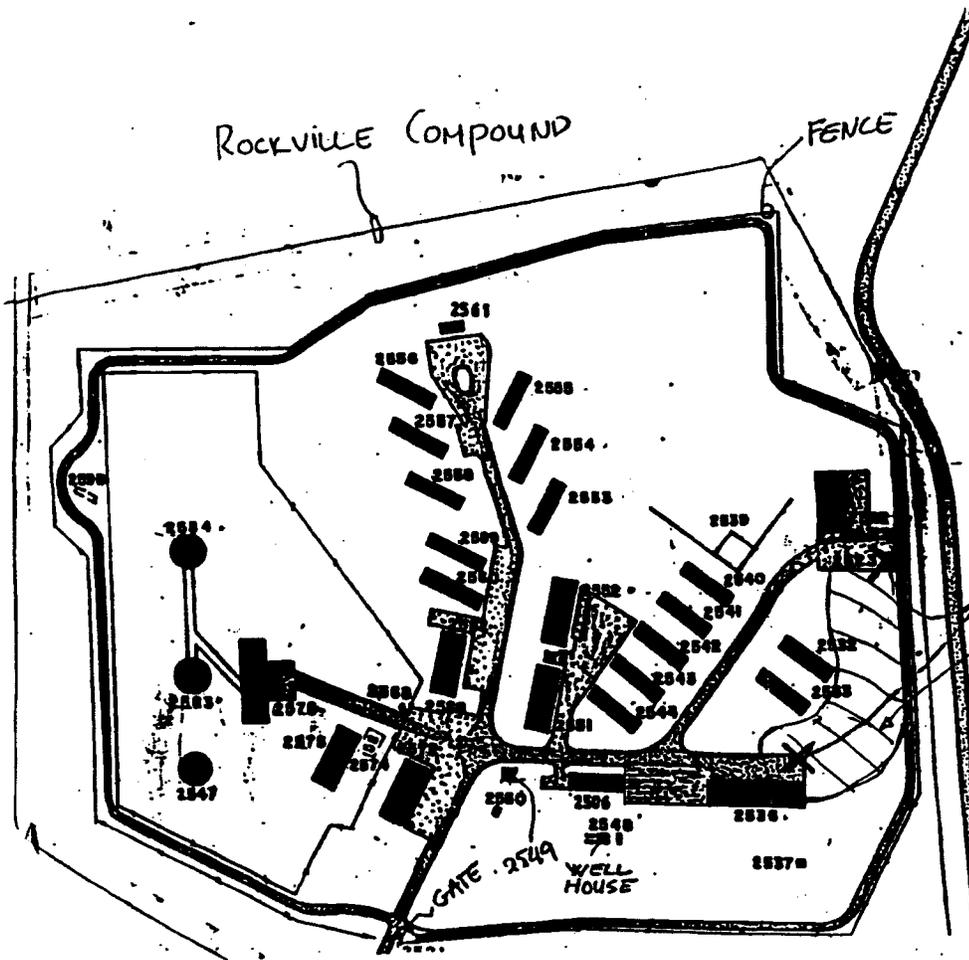
The second sampling event took place in November of 1999 and included the sampling of the two groundwater monitoring wells that were installed. The sampling results from the second sampling event are contained in Appendix III. The sample taken from the north groundwater monitoring well has sample id number 167-9308-1600 and the sample taken from the southwest groundwater monitoring well has sample id number 166-9308-1600.

The results of all parameters of the water samples tested were within the drinking water standards for the Final Governing Standards for Iceland, April 1994.

## **Conclusion**

The groundwater investigation of the former dump at H-1 has indicated that there has been no adverse impact to the groundwater quality from the former dump at this site.

**Appendix I**



APPROXIMATE LOCATION OF MONITORING WELLS

LOCATION OF WORK

FIGURE I

MONITORING WELL LOCATION PLAN  
 H-1  
 ROCKVILLE

**Appendix II**

Reykjavík, February 24, 1999

Guðmundur Hreinn Sveinsson  
Iðntæknistofnun  
Keldnaholt  
112 Reykjavík



UNIVERSITY OF ICELAND

INSTITUTE OF PHARMACY,  
PHARMACOLOGY AND TOXICOLOGY  
Department of Pharmacology  
and Toxicology

## The analysis of Volatile organics (VOCs), PCBs and pesticides in three samples of water (project 6EE9056).

Nine bottles of water containing samples from three different locations were received on February 9, 1999, in 3 filled screw top glass vials (40 ml, for VOCs), and 6 bottles (1 l each, for PCB and pesticides). Three additional bottles containing approx. 30 ml of each sample, acidified (2.2% HNO<sub>3</sub>), was received on Feb. 22.

The samples were to be analyzed for volatile organic compounds, PCBs and some pesticides (chemicals are listed in the result tables). The samples were analyzed on February 10th (VOCs by FID), February 23. (VOCs by ECD) and February 12th for PCBs and pesticides except pentachlorophenol was reanalysed on February 19th.

**VOCs:** The samples used for GC-FID (see table 1) were marked:

GW-13-99, VOC, 9/2/99, 9:30, Pharmacy, Rockville (1).  
GW-14-99, VOC, 9/2/99, 15:00, Pharmacy, Rockville (2).  
GW-15-99, VOC, 9/2/99, 10:55, Pharmacy, NCTS 1.

and the additional samples used for GC-ECD (see table 1) were marked:

GW-1-99, Rockville (2).  
GW-2-99, Rockville (1).  
GW-4-99, NCTS 1.

They were analyzed by static head space gas chromatography. Prior to the analysis, 10 ml of the samples were put into airtight, rubber sealed vials, containing 1 ml concentrated potassium chloride. Three subsamples were taken from each sample. Deionized water from the laboratory was used as a blank. Solution M-502REG (from Accustandard Inc.) containing 27 volatile components at 0.2 mg/ml each was diluted and used as a standard. The samples and standards were heated for 20 min. at 100°C. Hot air was drawn from each vial and injected (1 ml) into the gas chromatograph (HP5890, FID or ECD, column: DB-624, 60 m, 0.25 mm i.d., 1,4 µm film). The resulting traces were then compared.

Only a trace of the trihalomethanes could be detected in the samples. The levels found and limit of detection for the method is shown in table 1.

**PCBs and pesticides:** The samples were marked:

GW-6-99, pesticides, 9/2/99, 9:30, Pharmacy, Rockville (1).  
GW-7-99, pesticides, 9/2/99, 15:00, Pharmacy, Rockville (2).  
GW-8-99, pesticides, 9/2/99, 10:55, Pharmacy, NCTS 1.  
GW-9-99, PCBs, 9/2/99, 9:30, Pharmacy, Rockville (1).  
GW-10-99, PCBs, 9/2/99, 15:00, Pharmacy, Rockville (2).  
GW-11-99, PCBs, 9/2/99, 10:55, Pharmacy, NCTS 1.

Only the first three samples were analysed, since the pesticides in question and PCBs were extracted and analysed by the same method. PCBs and chlorinated pesticides were extracted twice from 1 l of water with recovery standards added (PCB112 and 198, and  $\epsilon$ -HCH) using hexane:ether (85:15). The organic phases were combined and reduced to near dryness at 60°C under a stream of N<sub>2</sub>. The samples were dissolved in 1 ml of isooctane containing the injection standard (tetrachloronaphtalene) and a part of the sample was cleaned with concentrated sulfuric acid. Another part was cleaned with KOH in ethanol. Deionized water was used as a blank and treated in the same manner as the samples. The samples were then analysed by gas chromatography (HP5890, ECD, column: DB-1701, 60 m, 0.25 mm i.d., 0.25 µm film). Standards of the individual pesticides and PCBs were purchased as solutions or neat compounds from Accustd, USA or Promochem, Germany. PCBs as Aroclor mixtures in transformer oil were purchased from Supelco, Switzerland. The standard were diluted in isooctane containing the injection standard and run with the samples. The effect of the cleaning processes on the standards was tested and taken into account.

Due to problems with the analysis of pentachlorophenol with the above method the remaining three samples were acidified with HCl and extracted with acetone:hexane (1:1). The organic phase was evaporated and dissolved in injection std and analysed without further cleanup. A standard of pentachlorophenol (from Accustandard, USA) was added to a sample of deionized water and extracted with the samples. This standard was used to determine the detection limit for pentachlorophenol.

No trace of the pesticides or PCBs tested for was found in any of the samples. The limit of detection for the method is shown in table 2. The detection limit is given as 3 x the baseline noise or 3 x the standard deviation of the blank values.

  
Kristín Ólafsdóttir, Ph.D.

Methods of determinations:

pH were determined with potentiometer.

As, Hg and Se were determined at Fishories laboratories.

All other metals were determined with ICP-AES.

F<sup>-</sup> were determined with fluoride selective electrode.

NO<sub>3</sub><sup>-</sup> were determined with ion chromatography.

NO<sub>2</sub><sup>-</sup> were determined with colorometry.

The results of the analysis of organic compounds in the ground water samples are on pages 3 - 6

U.S. Air Station  
 Environmental Division  
 Geir Gunnarsson  
 BLDG 501  
 235 Keflavik Airport

Assignment no.: 6EE9056

Date.: 23.02.1999

Description: Ground water

Supervisor: Guðmundur Hreinn Sveinsson

Copy to:

Samples: Ground water samples in glass jars

Procedure no.:

Customer representative: Erlingur E. Jónasson

No. of pages: 6

Received: 09.02.1999

Invoice no.:

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Following are the results of analysis of the inorganics in the water samples with job number 8P9104. All results are in ppm, except pH which is unitless:

Sample ID	GW-1-99	GW-2-99	GW-4-99
Sampling time	1500	0930	1055
pH	7,54	7,58	7,62
Arsenic (As)	< 0,02	< 0,02	< 0,02
Barium (Ba)	< 0,006	< 0,006	< 0,006
Cadmium (Cd)	< 0,006	< 0,006	< 0,006
Chromium (Cr)	0,0002	0,0011	0,0008
Fluoride (F <sup>-</sup> )	0,028	0,036	0,039
Mercury (Hg)	< 0,0002	< 0,0002	< 0,0002
Nitrate (NO <sub>3</sub> <sup>-</sup> )	5,6	6,5	1,6
Nitrite (NO <sub>2</sub> <sup>-</sup> )	< 0,03	< 0,03	< 0,03
Selenium (Se)	< 0,007	< 0,007	< 0,007
Sodium (Na)	41,76	20,3	29,0
Lead (Pb)	< 0,00003	0,003	0,0006
Copper (Cu)	< 0,03	< 0,09	< 0,03
Silver (Ag)	< 0,009	< 0,009	< 0,009
Zink (Zn)	0,031	0,009	0,213

Table 2. PCBs and pesticides. Detection limits (ng/l (ppt)) for water samples (project 6EE9056) analysed by GC-ECD.

chemical	det. limits
<b>chlordanes:</b>	
cis-chlordane	0.1
trans-chlordane	0.1
trans-nonachlor	0.1
<b>endrin</b>	0.2
<b>heptachlor</b>	0.4
<b>heptachlorepoide</b>	0.2
<b>lindane</b>	0.25
<b>methoxychlor</b>	0.6
<b>pentachlorophenol</b>	2
<b>toxaphenes:</b>	
toxaphene Parlar 26	0.1
toxaphene Parlar 50	0.1
toxaphene Parlar 62	0.2
<b>Total PCBs (as Aroclor)</b>	3
PCB#28	2
PCB#52	0.4
PCB#101	0.2
PCB#118	0.2
PCB#138	0.1
PCB#153	0.2
PCB#180	0.2

Table 1. VOCs. Detection limits and levels (mg/l (ppm)) in water samples (project 6EE9056) analysed by GC-FID or GC-ECD\*

chemical	det. limits	GW-1	GW-2	GW-4
benzene	0.01			
carbontetrachloride*	0.00001			
o-dichlorobenzene*	0.001			
cis-1,2-dichloroethylene*	0.005			
trans-1,2-dichloroethylene*	0.005			
1,1-dichloroethylene*	0.0005			
1,1,1-trichloroethane*	0.00003			
1,2 dichlorethane*	0.002			
1,2-dichloropropane*	0.001			
ethylbenzene	0.01			
monochlorobenzene	0.01			
p-dichlorobenzene*	0.0005			
styrene	0.01			
tetrachloroethylene*	0.00002			
trichloroethylene*	0.00004			
toluene	0.01			
vinyl chloride*	0.002			
m-xylene + p-xylene	0.01			
o-xylene	0.01			
<b>trihalomethanes:</b>				
chloroform*	0.00005			
bromoform*	0.0005			
bromodichloromethane*	0.00002	0.0002		
dibromochloromethane*	0.00004		0.0001	0.0001
empty spaces indicate levels below the detection limit				

# Appendix III

Reykjavík, November 24, 1999

Erlingur E. Jónasson  
Environmental division  
US Naval base  
Box 23  
235 Keflavíkurlflugvöllur.



UNIVERSITY OF ICELAND

INSTITUTE OF PHARMACY,  
PHARMACOLOGY AND TOXICOLOGY  
Department of Pharmacology  
and Toxicology

## **The analysis of Volatile organics (VOCs), PCBs and pesticides in two samples of water.**

Six filled bottles of water containing samples from two different locations were received on November 4, 1999.

The samples were to be analyzed for volatile organic compounds, PCBs and some pesticides (chemicals are listed in the accompanying tables). The samples were extracted on November 5. for VOCs and analysed on Nov. 5. (Headspace VOCs by ECD), Nov. 8. (VOCs by ECD) and Nov. 9. (VOCs by FID). The samples were extracted on Nov. 9. for PCBs and pesticides and analysed between Nov. 10 -18th.

**VOCs:** The samples were marked:

166-9308-1600  
167-9308-1600

They were analyzed by static head space gas chromatography (only for vinyl chloride) and a direct analysis of a pentane extract of 1 l of water. Prior to the head space analysis, 10 ml of the samples were put into airtight, rubber sealed vials, containing 1 ml concentrated potassium chloride. Three subsamples were taken from each sample. Deionized water from the laboratory was used as a blank. Solution M-502REG (from Accustandard Inc.) containing 27 volatile components at 0.2 mg/ml each was diluted and used as a standard as well as vinyl chloride from Accustandard. The samples and standards were heated for 20 min. at 100°C. Hot air (1 ml) was drawn from each vial (or 1  $\mu$ l of the pentane extract) and injected (1 ml) into the gas chromatograph (HP5890, FID or ECD, column: DB-624, 60 m, 0.25 mm i.d., 1.4  $\mu$ m film). The resulting traces were then compared.

The limit of detection for the method for the chemicals of interest is listed in the accompanying table. No traces of any of the listed chemicals could be detected in the samples.

**PCBs and pesticides:** The samples were marked:

166-9308-1600  
167-9308-1600

PCBs and chlorinated pesticides (except pentachlorophenol) were extracted twice from 1 l of water with recovery standards added (PCB112 and 198, and  $\epsilon$ -HCH) using hexane:acetone (1:1). The organic phases were combined and reduced to near dryness at 60°C under a stream of N<sub>2</sub>. The samples were dissolved in 0.1 ml of isooctane containing the injection standard (tetrachloronaphthalene). Deionized water was used as a blank and treated in the same manner as the samples. The samples were then analysed by gas chromatography (HP5890, ECD, columns: DB-1701, 60 m, 0.25 mm i.d., 0.25  $\mu$ m film and DB5, 60 m, 0.25 mm i.d., 0.25  $\mu$ m film). Standards of the individual pesticides and PCBs were purchased as solutions or neat compounds from Accustd, USA or Promochem, Germany. The standard were diluted in isooctane containing the injection standard and run with the samples.

For the analysis of pentachlorophenol the remaining two bottles marked:

166-9308-1600

167-9308-1600

were acidified with HCl and extracted with acetone:hexane (1:1). The organic phase was evaporated and dissolved in injection std and analysed without further cleanup. A standard of pentachlorophenol (from Accustandard, USA) was added to a sample of deionized water and extracted with the samples. This standard was used to determine the detection limit for pentachlorophenol.

No trace of the pesticides or PCBs tested for was found in any of the samples. The limit of detection for the method is shown in table 2. The detection limit is given as 3 x the baseline noise or 3 x the standard deviation of the blank values.

*Kristín Ólafsdóttir*  
Kristín Ólafsdóttir, Ph.D.

U.S. Air Station  
 Environmental Division  
 Geir Gunnarsson  
 BLDG 501  
 235 Keflavik Airport

**Assignment no.:** 6EE9308

**Date.:** 08.12.1999

**Description:** Water

**Supervisor:** Guðmundur Hreinn Sveinsson

**Copy to:**
**Samples:** Water samples in plastic jars

**Procedure no.:**
**Customer representative:** Geir Gunnarsson

**No. of pages:** 2

**Received:** 04.11.1999

**Invoice no.:**

The use of this report for advertisement or publishing in any other form is subject to the Institute's written consent and is totally at the client's responsibility. Samples are kept for 3 months from the date of this report unless otherwise negotiated. Results apply only to tested samples.

Following are the results of analysis of the inorganics in the water samples.  
 All results are in ppm, except pH which is unitless:

Sample ID	166-9308-1600 D	167-9308-1600 D
pH	7,73	7,91
Arsenic (As)	< 0,01	< 0,01
Barium (Ba)	< 0,001	< 0,001
Cadmium (Cd)	< 0,00004	< 0,00004
Chromium (Cr)	< 0,01	< 0,01
Fluoride (F)	0,042	0,012
Mercury (Hg)	< 0,0002	< 0,0002
Nitrate (NO <sub>3</sub> <sup>-</sup> )	0,77	0,35
Nitrite (NO <sub>2</sub> <sup>-</sup> )	< 0,03	< 0,03
Selenium (Se)	< 0,11	< 0,11
Sodium (Na)	20,5	20,5
Lead (Pb)	< 0,001	< 0,001
Copper (Cu)	< 0,009	< 0,009
Silver (Ag)	< 0,02	< 0,02
Zink (Zn)	< 0,0006	< 0,0006

continue

**Appendix VI**

# Facility List

FAC # FACILITY NAME AREA USER/IC TENNANT: CCN ADQ SUB INADQ CPV YEAR BUILT

Activity	NAS KEFLAVIK IC									
	0	N63032	NAS KEFLAVIK IC	13510	0	0	0	77135	1964	
	0	N63032	NAS KEFLAVIK IC	13520	0	0	0	58388	1968	
	0	N63032	NAS KEFLAVIK IC	81160	0	0	0	2957968	1954	
ELECTRICAL DISTR	0	N63032	NAS KEFLAVIK IC	81220	0	0	0	2957968	1954	
ELECTRICAL DISTR	0	N63032	NAS KEFLAVIK IC	81230	0	0	0	2957968	1954	
OUTFALL SEWER LINE	0	N63032	NAS KEFLAVIK IC	83120	0	0	0	718432	1980	
SEPTIC TANK NO 2579	0	N63032	NAS KEFLAVIK IC	83130	0	0	0	66206	1967	
SANITARY SEWER	0	N63032	NAS KEFLAVIK IC	83210	0	0	0	268302	1954	
WATER DIST LINE PO	0	N63032	NAS KEFLAVIK IC	84210	0	0	0	347226	1954	
	0	N63032	NAS KEFLAVIK IC	92320	48680	0	0	0		
Summary for NAS KEFLAVIK IC AREA_UM = 48680										
2533	NCS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	312876	1953
2540	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	312876	1953
2541	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	315546	1953
2542	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	315546	1953
2543	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	315580	1953
2544	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	315690	1953
2548	WATER PUMP HOUSE	400	N63032	NAS KEFLAVIK IC	84209	400	0	0	79955	1956
2554	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	315772	1953
2555	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	316470	1953
2556	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	315806	1953
2557	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	313999	1953
2558	932 ACWS UEPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	315977	1953
2559	932 ACWS UOPH	2304	N63032	NAS KEFLAVIK IC	72411	0	0	1152	318083	1954
2559	932 ACWS UOPH	2304	N63032	NAS KEFLAVIK IC	72412	0	0	1152	318083	1954
2560	932 ACWS UOPH	2304	N63032	NAS KEFLAVIK IC	72111	0	0	2304	316148	1953

Wednesday, October 11, 2000

2577	STAND-BY GENERATO	936	N63032	NAS KEFLAVIK IC	81159	494	0	0	246989	1968
2581	WELL HOUSE	64	N63032	NAS KEFLAVIK IC	84209	64	0	0	9689	1954
2589	SEWAGE PUMP STATI	88	N63032	NAS KEFLAVIK IC	83229	88	0	0	76125	1980
	Summary for NAS KEFLAVIK IC 'AREA_UM' = SF					1046	0	0	29952	
	ROADS GRAVEL	25583	N63032	NAS KEFLAVIK IC	85110	25583	0	0	592423	1954
	PARKING AREA	1525	N63032	NAS KEFLAVIK IC	85210	0	0	0	61679	1968
	CONCRETE COVERED	229	N63032	NAS KEFLAVIK IC	85235	0	0	0	590990	1953
	Summary for NAS KEFLAVIK IC 'AREA_UM' = SY					25583	0	0	1754	

**Appendix VII**

# Environmental Inspection & Summary Report for the NCTS Rockville Site

Prepared by:

Naval Air Station Keflavik, Iceland  
Public Works Department  
Environmental Division

## **Introduction**

The Naval Computer and Telecommunication Station (NCTS) Rockville Site is no longer required to support the mission of the Iceland Defense Force (IDF) and is scheduled for return to the Government of Iceland as part of the Rockville Agreed Area Site land return. The following environmental inspection and summary report was prepared to document the historical use of the site and to report the environmental conditions of the site from an inspection conducted by the NASKEF Public Works Environmental Division on October, 10, 2000. The inspection results are summarized by environmental media area. A site map of the area and facility list is contained in Appendix I.

## **Site Description**

The NCTS Rockville site, which was operated by the Navy, is situated adjacent to the previously operated Air Forces Iceland Rockville Communication Site (H-1). The NCTS Rockville Site served as a receiver site for the NCTS operations center located at the main base. The receiver site consisted of a small complex of structures (Buildings 2577, 2582, and 2586) surrounded by an antenna field. Building 2586 was constructed in 1970 for the Naval Security Group Activity (NSGA) Keflavik. The NSGA was an integral part of the world-wide network developed by the U.S to provide rapid radio relay and secure communications for the defense of the U.S., and its allies. The NSGA Keflavik was also tasked with conducting research into natural phenomena. Operations were discontinued in 1994 and the building was turned over to NCTS to support their operations. The NCTS receiver site was relocated to the main area of Naval Air Station Keflavik (NASKEF) with the completion of the project "Relocate Three Antennas, phase A, B, C at the Rockville Site" in July of 2000.

The facilities that remain have been placed on NASKEF's FY01 Demolition Program under project number R163-00. The Demolition Program documentation is included in Appendix II.

## **Environmental Inspection**

The environmental inspection included a document review of past practices as outlined in management plans and a site inspection. The site inspection consisted of a walk through of the facilities and site area. The inspection report is organized by environmental media area. For each applicable media area there is a short description of the past practices and a description of a proposed action to address any outstanding environmental issues.

### **Air Emissions**

A review of the Air Emissions Inventory Report for NASKEF that included the NCTS Rockville Site listed six air emission sources. The air emission sources included three emergency generators, a paper shredder/mulcher with cyclone attached, and two aboveground storage tanks (ASTs). The three emergency generators have been removed from the site and the AST associated with building number 2586. The paper shredder/mulcher is no longer operated and scheduled to be included as part of the demolition project if it cannot be salvaged. The AST associated with building number 2577 is scheduled to be included as part of the demolition project if it cannot be salvaged.

### **Drinking Water**

Drinking water was supplied to the NCTS Rockville site by groundwater wells located within the compound. A small pump house building located next to building 2582 was used to supply water to the building 2582 and building 2577. A separate groundwater well was used to supply water to building 2586.

The water from groundwater well that served building 2586 was tested to determine the presence of volatile organic compounds (VOCs), pesticides, polychlorinated biphenyls (PCBs), and inorganics in February of 1999 as part of the Air Force Rockville Groundwater Investigation Report. The results of all parameters of the water samples tested were within the drinking water standards for the Final Governing Standards for Iceland (FGS), April 1994. For more details please refer to the Air Force Rockville Groundwater Investigation Report prepared by the NASKEF Public Work's Environmental Division.

### **Wastewater**

Wastewater from sinks and toilets generated by building 2586 was drained to a septic tank and then discharged to a drain field located west of the building. Wastewater from sinks and toilets generated from building 2582 was drained to a septic tank and then discharged to a drain field north of the building. Building 2577 did not have sinks and toilets.

### **Hazardous Materials**

Hazardous materials (HM) stored at the NCTS Rockville Site included paint, lubricants, electrical coat, silicon compound, lead-acid batteries, cleaning solvent, alcohols, and adhesives. The majority of hazardous materials were stored in flammable or corrosive lockers located in buildings 2577 and 2586. The HM previously stored at the site has been removed by NCTS site personnel and the Environmental Division staff after the site investigation for future use or disposal as hazardous waste. The Environmental Division has retrograded the lead acid batteries used for the uninterrupted power supply (UPS) system.

### **Hazardous Waste**

Hazardous Waste (HW) generated at the site was turned into the NCTS hazardous waste accumulation point located at the NCTS building 839 and then turned into the

Environmental Division's hazardous waste storage area. The site no longer generates hazardous waste.

### **Solid Waste**

Solid waste generated by the NCTS Rockville Site was stored in dumpsters and collected by the Public Work's Transportation Division for disposal at the Sudurnes Incinerator facility. The site no longer generates solid waste. As part of the site investigation, it was noticed that a large amount of debris remained at the site and around the antenna field. It is recommended that a general site clean-up of visible surface debris be included as part of the demolition project if not cost prohibitive.

### **Petroleum, Oils, and Lubricants**

The site used to contain two ASTs that stored JP-5 for the emergency generators at the site. Building 2586 had a 1,000 gallon tank that has subsequently been removed and building 2577 has a 1,500 gallon that still remains at the site. Both tanks had secondary containment. The AST associated with building number 2577 is scheduled to be included as part of the demolition project if it cannot be salvaged. A visual inspection of the area did not indicate stressed vegetation or surface oil contamination.

### **Polychlorinated Biphenyls (PCBs)**

The site previously contained two transformers located next to building 2577 with serial numbers 776003913 and 6690155. The Environmental Division staff tested both transformers and testing indicated that the insulating oil was PCB free as defined by the FGS. Testing results are included in Appendix III. Transformer serial number 6990155 has been removed and transformer serial number 776003913 is scheduled to be removed for disposal as part of the demolition project if it cannot be salvaged. It is recommended that as part of the demolition contract, all oil filled electrical equipment not certified as PCB free will either be tested or disposed of as PCB.

### **Asbestos**

A review of the NASKEF's Safety Department asbestos survey indicates the presence of asbestos containing material at the site. It is recommended that proper asbestos abatement be performed before or be included as part of the demolition project.

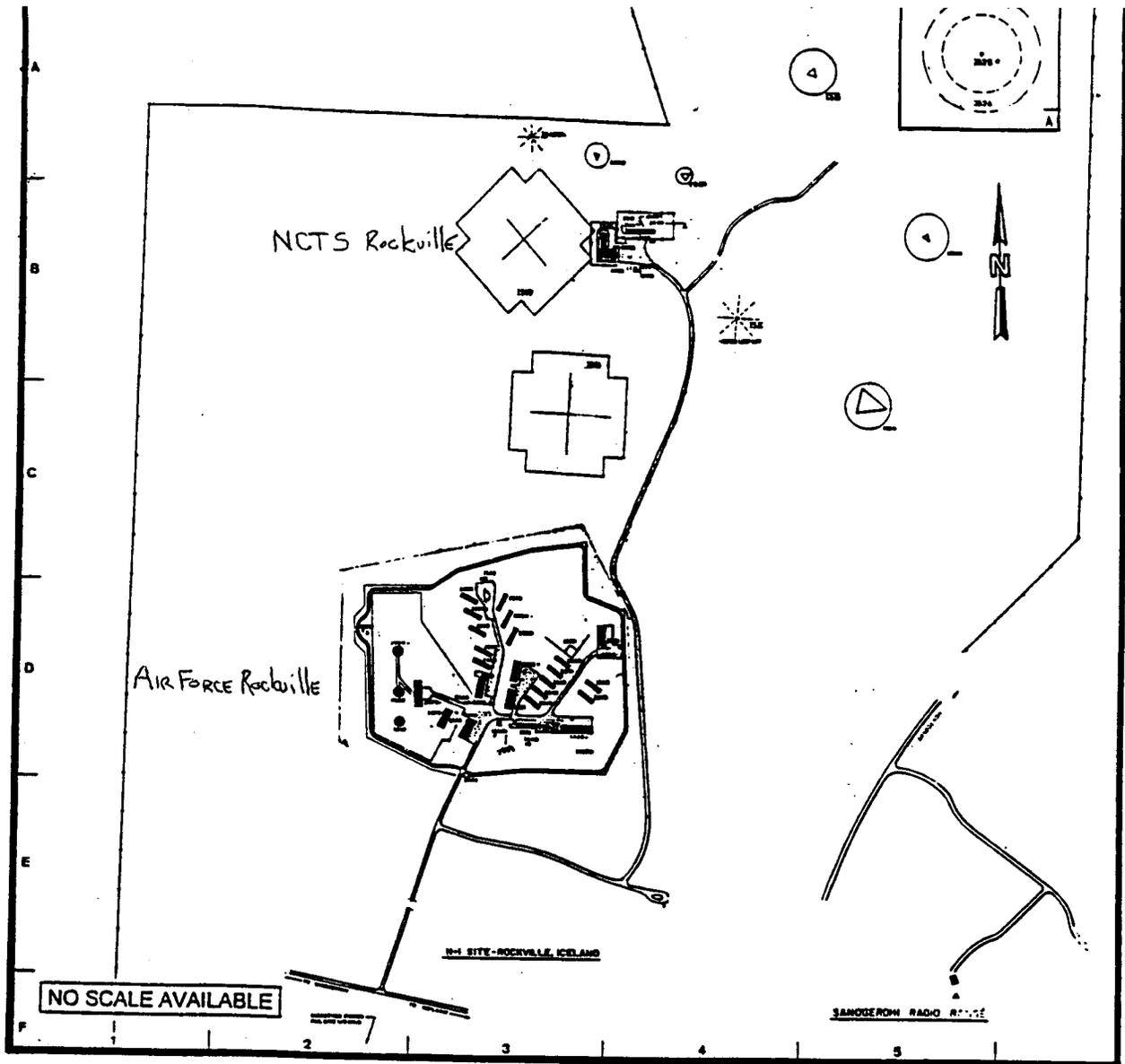
### **Conclusion**

The following report documents the historical use of the site and reports the environmental conditions of the site from an inspection conducted by the NASKEF Public Works Environmental Division on October 10, 2000. It is the opinion of the Environmental Division staff from the review of historical documents and the site investigation that there are no known specific environmental concerns.

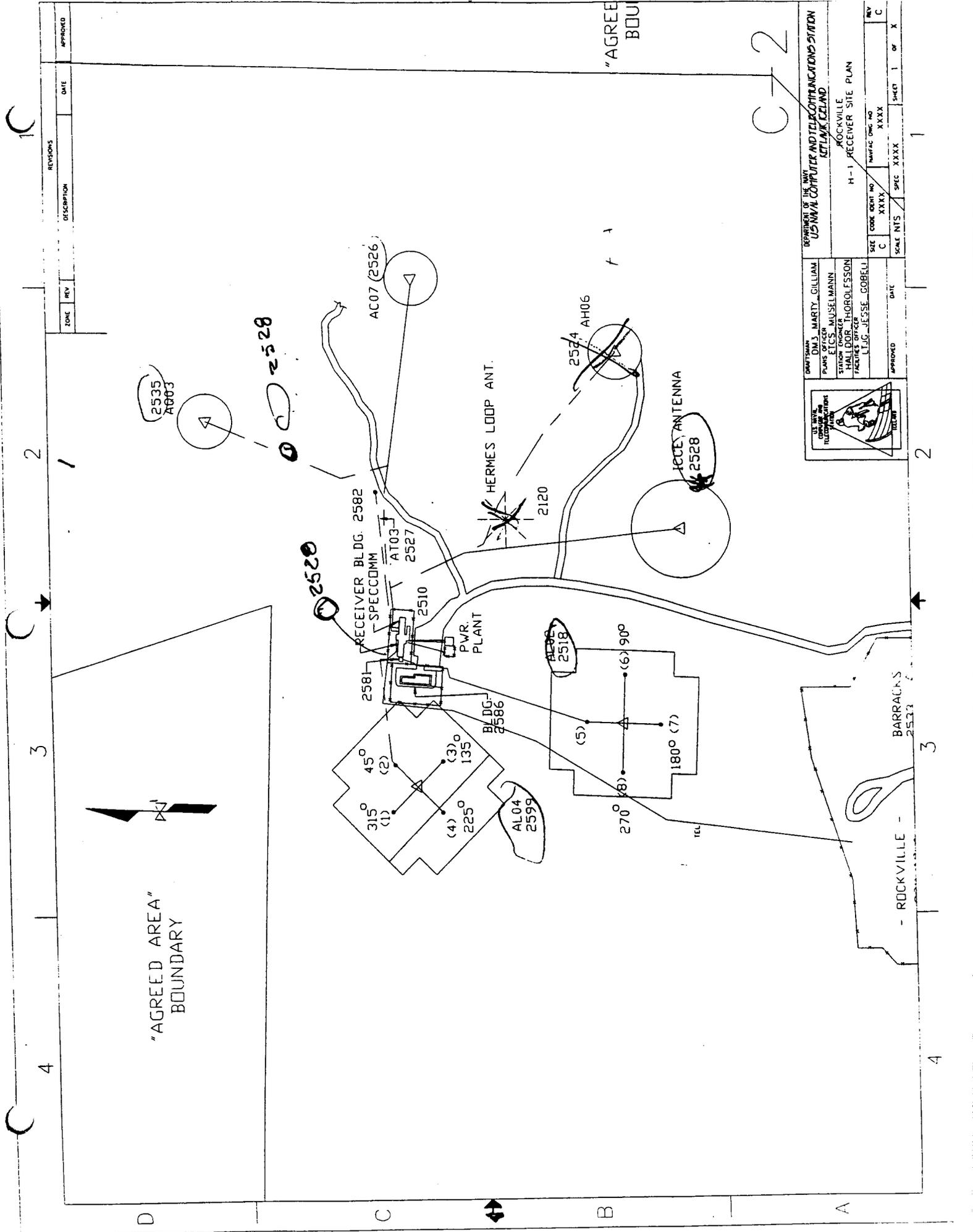
**Appendix I**

# Facility List

FAC #	FACILITY NAME	AREA	USER/IC	TENNANT:	CCN	ADQ	SUB	INADQ	CPV YEAR BUILT
<b>NAS KEFLAVIK IC</b>									
Activity									
2512	WATER WELL/IN BLDG	0	N63143	NCTS, KEFLAVIK, I	84150	0	0	0	36888 1970
Summary for NAS KEFLAVIK IC 'AREA_UM' =									
2512	READY SERVICE LOC	49	N63143	NCTS, KEFLAVIK, I	42135	49	0	0	96876 1983
2525	C D A A BUILDING	315	N63143	NCTS, KEFLAVIK, I	13155	0	0	315	148393 1982
2577	STAND-BY GENERATO	936	N63143	NCTS, KEFLAVIK, I	14310	442	0	0	246989 1968
2582	TROPO BLDG & INCIN	4262	N63143	NCTS, KEFLAVIK, I	13135	0	0	4262	746574 1954
2586	OPERATIONS BUILDIN	18482	N63143	NCTS, KEFLAVIK, I	13156	0	0	17090	1272737 1970
2586	OPERATIONS BUILDIN	18482	N63143	NCTS, KEFLAVIK, I	14377	0	0	1392	1272737 1970
2587	READY SERVICE LOC	147	N63143	NCTS, KEFLAVIK, I	42135	0	0	147	110807 1979
2588	GUARD HOUSE	150	N63143	NCTS, KEFLAVIK, I	73025	0	0	150	94794 1955
Summary for NAS KEFLAVIK IC 'AREA_UM' = SF									
2518	QUADRON LP ARRAY	0	N63143	NCTS, KEFLAVIK, I	13210	491	0	23356	301535 1967
2520	RHOMBIC ANTENNA	0	N63143	NCTS, KEFLAVIK, I	13210	0	0	0	231950 1967
2524	DISCONE ANTENNA	0	N63143	NCTS, KEFLAVIK, I	13210	0	0	0	90340 1967
2526	CONICAL MONOPOLE	0	N63143	NCTS, KEFLAVIK, I	13210	0	0	0	185560 1967
2530	CONICAL MONOPOLE	0	N63143	NCTS, KEFLAVIK, I	13210	0	0	0	112925 1967
2599	QUADRANT LP ANTEN	0	N63143	NCTS, KEFLAVIK, I	13210	0	0	0	369302 1968
Summary for NAS KEFLAVIK IC 'AREA_UM' = SY									



Site plan of Rockville site, circa 1968 (Courtesy of Public Works Office, NAS Keflavik, NAVFAC Drawing No. 4005037)



ZONE	REV	DATE	APPROVED

REVISIONS	DESCRIPTION	DATE	APPROVED

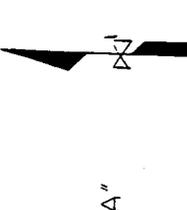
DEPARTMENT OF THE NAVY  
US NAVAL COMPUTER AND TELECOMMUNICATIONS STATION  
RETNAK ISLAND  
ROCKVILLE

H-1 RECEIVER SITE PLAN

SIZE CODE IDENT NO XXXX  
SCALE NTS SPEC XXXX  
SHEET 1 OF X

DRAFTSMAN: D.M.S. MARTY, GILLIAM  
PLANS OFFICER: E.L.S. MUSELMANN  
SENIOR ENGINEER: HALLOR, THOROLFSSON  
FACILITIES OFFICER: LTJG. JESSE GOBELI

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_



AGREED AREA BOUNDARY

AGREED BOUNDARY

C-2

**Appendix II**

1. COMPONENT: NAVY	FY2001	DEMOLITION PROGRAM	2. DATE 14-Jul-00
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3. INSTALLATION AND LOCATION: N83032 NAS Keflavik, Iceland	4. PROJECT TITLE DEMOLISH 22 BUILDINGS
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5. PROGRAM ELEMENT OMN	6. CAT. CODE VARIOUS	7. PROJECT NUMBER R163-00	8. PROJECT COST: <b>1,717</b>
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**9. COST ESTIMATE**

ITEM	ESCALATED TO: 2001	U/M	QUANTITY	UNIT COST	COST (\$000)
<b>FACILITY DEMOLITION</b>					
BUILDING 1002	FORMER COAST GUARD HOUSE	SF	3,068	16	50
BUILDING 1340	CROSS CONNECTION METER H	SF	620	38	24
BUILDING 1347	AVGAS PUMP HOUSE/1500GM	SF	940	27	26
BUILDING 1348	JET FUEL PUMP HOUSE/1000GM	SF	660	28	19
BUILDING 1789	FUEL PUMP HOUSE	SF	660	32	21
BUILDING 2304	MWR STORAGE	SF	3,150	14	45
BUILDING 2356	MWR STORAGE	SF	1,820	17	32
BUILDING 2618	QUADRON LP ARRAY	EA	1	12,298	12
BUILDING 2525	C D A A BUILDING	SF	315	40	13
BUILDING 2526	CONICAL MONOPOLE	EA	1	12,757	13
BUILDING 2527	ANTENNA-COMMUNICATIONS	EA	1	12,757	13
BUILDING 2528	ANTENNA-COMMUNICATIONS	EA	1	13,217	13
BUILDING 2535	ANTENNA-COMMUNICATIONS	EA	1	13,217	13
BUILDING 2536	ANTENNA-COMMUNICATIONS	EA	1	819	1
BUILDING 2677	STAND-BY GENERATOR BLDG	SF	938	22	21
BUILDING 2562	TROPO BLDG & INCINERATOR	SF	4,262	15	68
BUILDING 2586	OPERATIONS BUILDING	SF	18,482	35	643
BUILDING 2599	QUADRANT LP ANTENNA	EA	1	12,757	13
BUILDING 861	PHOTO LAB AND THRIFT SHOP	SF	5,152	34	173
BUILDING 862	DENTAL CLINIC	SF	5,086	48	235
BUILDING 883	WATER STRG TANK/FIRE	GA	500,000	0	16
BUILDING Power Line	OVERHEAD LINE TO DYE-5	LF	20,000	9	175

SUBTOTAL	SF	585,258	.....	1,635
CONTINGENCY (5%)		45,221	.....	82
TOTAL REQUEST			.....	1,717

10. Description of Proposed Construction  
 This project will demolish the 22 facilities within the Mid-Atlantic Region. These facilities are excess to the requirements of the using activity and are beyond economical repair. Demolition of these facilities will result in operations and maintenance savings of those facilities which are occupied and caretaker savings in those facilities which are vacant.

11. Requirement: Total SF: 585,258      Substandard SF: 0      Inadequate SF: 36,867

PROJECT: This project will demolish the 22 facilities indicated and the demolition sites will be restored to a level grassy condition. These buildings encompass approximately 585,258 SF. Site Utilities and paving will be restored to the extent necessary to maintain service and safety. Environmental restoration is required in some areas.

1. COMPONENT: NAVY		FY2001	DEMOLITION PROGRAM	2. DATE 14-Jul-00	
3. INSTALLATION AND LOCATION: N83032 NAS Keflavik, Iceland			4. PROJECT TITLE DEMOLISH 22 BUILDINGS		
5. PROGRAM ELEMENT OMN		6. CAT. CODE VARIOUS	7. PROJECT NUMBER R163-00	8. PROJECT COST:  1,717	

REQUIREMENT: This project will demolish 22 old and inadequate facilities that are no longer required by the using activity. The facilities can not be economically converted for other uses.

CURRENT SITUATION: Demolition of these facilities is consistent with the goals of the Navy's demolition program: to demolish excess facilities which due to their deteriorated condition are beyond economical repair and are not feasible renovation candidates. The demolition will enhance the base appearance and improve the functional land uses.

IMPACT IF NOT PROVIDED: If these facilities are not demolished they will continue to be a drain on scarce Real Property Maintenance dollars as well presenting nuisance hazards.

UIC	Prop Rec#	Fac#	Description	YR Built	Cat. Cod	Occupied?	CPV	PRV
N 63032	201320	1002	FORMER COAST GUARD HOUSIN	1966	73077	<input checked="" type="checkbox"/>	319,906	640,598
N 63032	200438	1340	CROSS CONNECTION METER HO	1957	12520	<input type="checkbox"/>	51,374	419,616
N 63032	200439	1347	AVGAS PUMP HOUSE/1500GM	1957	12520	<input type="checkbox"/>	232,362	636,192
N 63032	200440	1348	JET FUEL PUMP HOUSE/1000GM	1957	12520	<input type="checkbox"/>	156,886	446,888
N 63032	200894	1789	FUEL PUMP HOUSE	1960	12520	<input type="checkbox"/>	357,955	446,888
N 63032	200548	2304	MWR STORAGE	1959	74060	<input checked="" type="checkbox"/>	591,277	1,712,340
N 63032	200773	2358	MWR STORAGE	1952	74060	<input checked="" type="checkbox"/>	209,100	1,043,712
N 63032	203082	2518	QUADRON LP ARRAY	1967	13210	<input type="checkbox"/>	301,535	873,022
N 63032	203088	2525	C D A A BUILDING	1982	13155	<input type="checkbox"/>	148,393	153,090
N 63032	203077	2528	CONICAL MONOPOLE	1987	13210	<input type="checkbox"/>	185,680	873,022
N 63032	203104	2527	ANTENNA-COMMUNICATIONS	1963	13210	<input type="checkbox"/>	283,136	873,022
N 63032	203103	2528	ANTENNA-COMMUNICATIONS	1991	13210	<input type="checkbox"/>	89,255	873,022
N 63032	203104	2535	ANTENNA-COMMUNICATIONS	1963	13210	<input type="checkbox"/>	283,136	873,022
N 63032	203104	2538	ANTENNA-COMMUNICATIONS	1963	13210	<input type="checkbox"/>	283,136	873,022
N 63032	203070	2577	STAND-BY GENERATOR BLDG	1988	81159	<input type="checkbox"/>	246,989	572,083
N 63032	203030	2582	TROPO BLDG & INCINERATOR	1954	13135	<input type="checkbox"/>	746,574	2,378,196
N 63032	203086	2586	OPERATIONS BUILDING	1970	13156	<input type="checkbox"/>	1,272,737	15,794,698
N 63032	203068	2599	QUADRANT LP ANTENNA	1968	13210	<input type="checkbox"/>	389,302	873,022
N 63032	200392	861	PHOTO LAB AND THRIFT SHOP	1954	14160	<input checked="" type="checkbox"/>	2,123,820	2,804,148
N 63032	200393	862	DENTAL CLINIC	1955	54010	<input checked="" type="checkbox"/>	878,086	3,222,490
N 63032	200627	883	WATER STRG TANK/FIRE	1957	84330	<input checked="" type="checkbox"/>	530,280	1,800,000
N 63032		Power Line	OVERHEAD LINE TO DYE-5			<input type="checkbox"/>	3,480,000	

1. COMPONENT: NAVY		FY2001	DEMOLITION PROGRAM	2. DATE 14 Jul 00	
3. INSTALLATION AND LOCATION: N63032 NAS Keflavik, Iceland			4. PROJECT TITLE DEMOLISH 22 BUILDINGS		
5. PROGRAM ELEMENT OMN		6. CAT. CODE VARIOUS	7. PROJECT NUMBER R163-00	8. PROJECT COST:  1,717	

**ECONOMIC ANALYSIS/ECONOMIC ALTERNATIVES CONSIDERED:**

a. A formal Economic Analysis has not been prepared for this project. Demolition is economically justified when continued caretaker, security, and minimum maintenance requirements are applied. Demolition of abandoned/vacant facilities for which there is no foreseeable use is the best business approach to management of military assets and facility complexes. Base appearance, morale, health, and safety concerns cannot be economically justified. The annual cost savings below are based on 2.5% of CPV for occupied facilities and 1.5% of CPV for unoccupied facilities. The cost avoidance figure represents the cost to correct only those deficiencies in occupied facilities which have been deemed critical based on either mission or safety criteria. Cost avoidance for vacant or abandoned facilities is limited to the cost to secure the facilities in order to prevent safety and nuisance hazards. The payback was calculated by dividing the estimated demolition cost by the sum of the cost savings and cost avoidances.

Fac. #	Annual Cost Savings	One Time Cost Avoidance	Cost Savings + Avoidance	Estimated Demolition Cost	Payback
1002	3,000	186,869	189,869	50,000	0
1340	771	0	771	23,718	31
1347	3,485	0	3,485	25,804	7
1348	2,353	0	2,353	18,688	8
1789	5,369	0	5,369	21,000	4
2304	14,782	0	14,782	45,247	3
2358	5,228	0	5,228	32,022	6
2518	4,523	0	4,523	12,298	3
2525	2,226	0	2,226	12,757	6
2526	2,783	0	2,783	12,757	5
2527	4,247	0	4,247	12,757	3
2528	1,039	0	1,039	13,217	13
2535	4,247	0	4,247	13,217	3
2538	4,247	0	4,247	819	0
2577	3,705	0	3,705	20,592	6
2582	11,199	0	11,199	65,603	6
2586	19,091	98,882	117,973	642,832	5
2599	5,540	0	5,540	12,757	2
861	53,096	57,000	110,096	172,659	2
862	21,902	0	21,902	235,286	11
883	13,257	2,000	15,257	16,280	1
Power Li	52,200	0	52,200	175,000	3

1. COMPONENT: NAVY	FY2001	DEMOLITION PROGRAM	2. DATE 14-Jul-00
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3. INSTALLATION AND LOCATION: N63032 NAS Keflavik, Iceland	4. PROJECT TITLE DEMOLISH 22 BUILDINGS
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5. PROGRAM ELEMENT OMN	6. CAT. CODE VARIOUS	7. PROJECT NUMBER R163-00	8. PROJECT COST: 1,717
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238,289	344,751	583,040	1,635,310	12
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b. Status Quo: This is not a viable alternative. These facilities are excess to the facility requirements and are not suitable for conversion to other uses. These facilities must be secured and receive a minimum threshold of maintenance until ultimate disposal.

c. Demolition: This proposal is the best alternative. Older facilities which have outlived their useful lives and intended purpose should be disposed of in a timely manner. Economies of scale are achieved because several facilities are demolished under one program, project or contract.

HAZMAT MATERIALS: These facilities contain small amounts of lead and asbestos and the costs have been factored into the estimates based on historical data. All surveys to be completed by 12/00.

HISTORICAL ASSESSMENT: No Category 1 or Category 2 facilities are included in this project. No State Historical Preservation Office delays are anticipated.

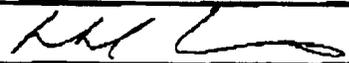
STATUS OF PERMITS: NEPA, RONA and McKinney requirements will be completed by 3/01.

STATUS OF DESIGN: 0% All designs to begin not later than 9/00 and be completed by 3/01.

EARLIEST AWARD DATE: 3/01

ATTACHMENTS:

- Vicinity Maps
- Photographs

	LCDR. CEC, USN	7/14/00
Signature of Responsible Official	Title	Date

**Appendix III**



UNIVERSITY OF ICELAND

INSTITUTE OF PHARMACY,  
PHARMACOLOGY AND TOXICOLOGY  
Department of Pharmacology  
and Toxicology

Reykjavík, June 30. 1999.

Geir Gunnarsson  
Code 60E-2  
Box 23  
235 Keflavíkurlflugvöllur.

### The analysis of PCBs in 20 oil samples and one vipe sample.

The results of the analysis of PCBs in 20 samples of oil and one vipe sample, that were received on June 25. 1999 from the Environmental division at the U.S. Naval station, Keflavík airport, is reported. The samples came in screw capped glass vials, marked as shown below and on the attached copy of the chain of custody form.

The analysis was performed by gas chromatography (HP 5890 Series II, column DB1701, 60 m, 0.25 mm i.d., 0.25 µm film) with an ECD-detector, which is selective for halogens. Prior to the analysis 10 µl of each oil sample were dissolved in 1 g of isooctane containing internal standard (tetrachloronaphtalene) and 1 µl of that solution was injected into the gas chromatograph. Samples with more than 50 ppm PCBs were reanalysed by preparing a new independent sample, for confirmation. The weight of the vipe sample (7 mg) collected on the paper strip was determined by weighing and subtracting the preweighed vial and paperstrip. For identification standards of 2, 10, 50 and 100 mg/kg (ppm) of Aroclor 1242, Aroclor 1254 or Aroclor 1260 in transformer oil (supplied by Supelco, Switzerland) were used by treating them in the same manner. The method detection limit was at 2 ppm for the oil samples and approximately 5 ppm for the vipe sample. The measurement uncertainties are about ± 10%.

The analysis revealed traces of Aroclor 1260 in some of the samples and only one sample (135-9175-30TY) with PCB levels > 50 ppm. The results were as follows:

113-9158-3014	transformer oil:	< 2 ppm	
120-9174-3000	insulating oil:	< 2 ppm	
121-9174-3000	insulating oil:	< 2 ppm	
122-9174-3000	insulating oil:	5 ppm	Aroclor 1260
123-9174-3000	insulating oil:	8 ppm	"
124-9174-3000	insulating oil:	< 2 ppm	
125-9174-3000	insulating oil:	< 2 ppm	
126-9174-3000	insulating oil:	< 2 ppm	
127-9174-3000	insulating oil:	< 2 ppm	
128-9174-3000	insulating oil:	4 ppm	Aroclor 1260
129-9174-3000	insulating oil:	2 ppm	"

DATE: 7 June 99

Time: 15:03

Sampling Site: Bldg. # 2577 - NCTS Rockville

Sample ID: 113-9158-3014 Ser #: 776003913

Media: Transformer Oil / Insulating Oil

State: Liquid

Size: 20 ml

Temp.: 7°C

Remarks: Sample taken from one out of two transformers inside fence by the building, the one further away from building.

Weather: slightly raining and windy.

Lincrew shut power off while sampling took place!

Test to be Done: PCB

Sampled by: F.K.

Continued on Page

Read and Understood By

Signed

Date

Signed

Date



Reykjavík Oct. 04. 1995.

Geir Gunnarsson  
Code 60E-2  
Box 23  
235 Keflavíkurflugvöllur.

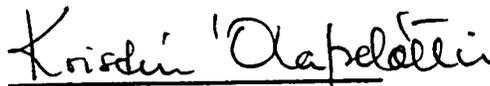
The analysis of PCBs in transformer oil (request A034).

The results from the analysis of PCB's in 38 samples of transformer oil, that were received on Sept. 21, 1995 from the Environmental division at Keflavík airport are reported. The samples came in screw capped glass vials, marked transformer oil, numbered, date, time and sampled by, as indicated on the chain of custody form (photocopy included).

The analysis was performed by gas chromatography (HP 5890 Series II, column DB5, 25 m, 0.32 mm i.d., 0.5  $\mu$ m film) with an ECD-detector, which is selective for halogens. For quantification, standards of 10, 50, 100, 500 mg/kg (ppm) of Aroclor 1242, Aroclor 1254 or Aroclor 1260 in transformer oil (supplied by Supelco, Switzerland) were used. The method detection limit was at 5 ppm. The measurement uncertainties were about  $\pm 5\%$ .

The results of the analysis are listed in the attached table, along with the type of Aroclor found in each sample.

All samples appear to have PCB-levels below 50 ppm.

  
Kristín Ólafsdóttir, Ph.D.

