



EXPLANATION OF SIGNIFICANT DIFFERENCES

For

PORT HEIDEN RADIO RELAY STATION

PORT HEIDEN, ALASKA

Prepared By

United States Air Force
611th Civil Engineer Squadron
Pacific Air Forces
Elmendorf Air Force Base, Alaska

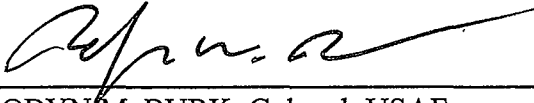
May 2010

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**LEAD AGENCY ACCEPTANCE
OF THE EXPLANATION OF SIGNIFICANT DIFFERENCES,
PORT HEIDEN RADIO RELAY STATION**

This signature sheet documents the United States Air Force acceptance of the Explanation of Significant Differences for Port Heiden Radio Relay Station.

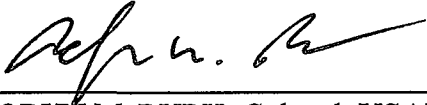


ROBYN M. BURK, Colonel, USAF
Commander, 611th Air Support Group

9 Jun 10
Date

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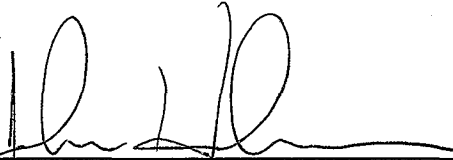
ROBYN M. BURK, Colonel, USAF
Commander, 611th Air Support Group

9 Jun 10

Date

**SUPPORT AGENCY ACCEPTANCE
OF THE EXPLANATION OF SIGNIFICANT DIFFERENCES,
PORT HEIDEN RADIO RELAY STATION**

This signature sheet documents the Alaska Department of Environmental Conservation acceptance of the Explanation of Significant Differences for Port Heiden Radio Relay Station. This decision may be reviewed and revised in the future if new information indicates the site may pose an unacceptable risk to human health, safety, or welfare, or to the environment.



6/24/2010

JOHN HALVERSON, Environmental Program Manager
Federal Facilities Section, Contaminated Sites Program
Alaska Department of Environmental Conservation

Date

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LIST OF ACRONYMS

ADEC	Alaska Department of Environmental Conservation
EAFB	Elmendorf Air Force Base
DEW	Distant Early Warning
ESD	Explanation of Significant Differences
NVPH	Native Village of Port Heiden
PCBs	Polychlorinated Biphenyls
ppm	parts per million
RI	Remedial Investigation
ROD	Record of Decision
RRS	Radio Relay Station
TCE	Trichloroethylene
USAF	United States Air Force
USEPA	US Environmental Protection Agency's

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1.0 INTRODUCTION

1.1 PURPOSE

This Explanation of Significant Differences (ESD) documents refinements to the original remedy at the Port Heiden Radio Relay Station (RRS) Site.

The Record of Decision (ROD), signed by the US Air Force (USAF) 19 March 2009 and by the Alaska Department of Environmental Conservation (ADEC) 27 March 2009, presents the selected remedial actions for the Port Heiden RRS Site. This ESD updates the ROD as there are two significant differences. One difference is the quantity of soil contaminated with polychlorinated biphenyls (PCBs). The other difference is in how the USAF intends to remediate the PCB-contaminated soil (greater than 1 parts per million (ppm)).

This ESD was prepared in accordance with the US Environmental Protection Agency's (USEPA) *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*, July 1999, Section 7.3.2, and will become a part of the Administrative Record for the Port Heiden RRS.

1.2 LEAD AND SUPPORT AGENCIES

The USAF is the lead agency for remedial actions at the Port Heiden RRS Site. ADEC is the support agency. Both agencies were signatories to the ROD and have agreed to the significant changes included in this ESD. While not a signatory to the ROD or this ESD, USEPA Region 10 has been consulted throughout this project and is in agreement with the ROD and this ESD.

1.3 SUMMARY BASIS FOR ESD

Since the ROD was signed in March 2009, data collected during the 2009 remedial action gave new information to the agencies and the Native Village of Port Heiden (NVPH). Specifically,

- Significant differences in the quantity of PCB-contaminated soil were discovered.
- With the discovery of greater quantities of PCB-contaminated soil, the final disposition of the soil will be limited to barging it off-site to a permitted facility for disposal. (Shipped to a disposal facility in the Lower 48.)

1.4 ADMINISTRATIVE RECORD

The Administrative Record is kept at Elmendorf Air Force Base (AFB). It is open for public review; point of contact is Tommie Baker, Community Relations Coordinator. The Administrative Record is also available online at www.adminrec.com.

Air Force Community Relations Coordinator
611 CES/CEAR
10471 20th Street, Suite 340
Elmendorf AFB, Alaska 99506-2200
907-552-4506 or 1-800-222-4137
Tommie.Baker@elmendorf.af.mil



2.0 OVERVIEW OF THE PORT HEIDEN RRS SITE

This applies to all PCB contamination associated with the Port Heiden RRS Site, Port Heiden, Alaska. The Port Heiden RRS Site includes the following Comprehensive Environmental Response, Compensation, and Liability Act Source Areas as depicted on Figure 1-1 (Indicated Numbers Correspond to those numbers used in the 2006 Port Heiden Remedial Investigation (RI) Report):

- Former Composite Building (OT001),
- Septic Tank and Septic System Outfall (SS004),
- Landfill and Debris Burial Areas Including LF07 (Radio Relay Station Landfill)
- Other Areas (Non-Numbered) Identified in the RI Report
 - Antenna Pads
 - Contaminated Soil Removal Areas
 - Drum Storage Area
 - Focus Area

Further descriptions of the source areas are available in Section 2.8 of the ROD.

The selected remedy in the ROD for the PCB-contaminated soil at the Port Heiden RRS Site addresses the associated risks by active measures to reduce contaminated below clean-up levels. The major components for the selected remedy are presented in the following sections.

2.1 SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY

2.1.1 Site History

The former Port Heiden RRS site is located on the north side of the Alaska Peninsula, approximately 400 air miles southwest of Anchorage. The former site was constructed during 1955-1960 as a Distant Early Warning (DEW) line radar station, and was active until 1981. The Former RRS is located about 6 miles north of the village of Port Heiden. Besides buildings, it contained a drum storage area, a landfill, underground storage tanks, lagoons (where contaminants were disposed), a septic system, and debris burial areas. From 1990 through 1992, the United States Army Corps of Engineers demolished all buildings and structures at the facility and buried them in a landfill just east of the former Port Heiden RRS gravel pad.

Figure 1-1 Former Port Heiden RRS Source Areas



The seven Port Heiden RRS source areas are shown on Figure 1-1 and described briefly below:

Former Composite Building Foundation: The former composite building is located near the center of the former Port Heiden RSS. The structure was constructed on reinforced concrete slabs and included offices, dormitories, storage space, a generator room, and a garage.

Antenna Pads: Four former RRS antennas and feed horns were constructed on four separate concrete pads situated around the former composite building. The antennas were previously removed, but the concrete pads are in place. Three of the four pads were covered with soil following removal of the antennas and feed horns. See Figure 6.2-6 of the Remedial Investigation (USAF, 2006) for location of the antenna pads.

It is suspected that liquids containing PCBs may have been used as coolants for the antennas, and solvents, such as trichloroethene (TCE), may have been used to periodically clean the antennas.

Focus Area: In order to ensure that all sources of contamination within the RRS Pad were located, reconnaissance was performed over the entire pad to locate any areas of stained soil or stressed vegetation during the 2004 remedial investigation field work. One area of stressed vegetation in the northwestern portion of the Port Heiden RSS located approximately 200 feet west of the Former Composite Building Foundation was identified and labeled as the Focus Area.

Contaminated Soil Removal Areas: There were eight contaminated soil removal areas identified. These areas are located across the Port Heiden RSS and correspond to locations where contaminants exceeded screening criteria in soil based on data obtained during previous studies.

Several hundred drums of PCB-contaminated soil were excavated from several areas within the Port Heiden RSS and shipped off site in the late 1980s and early 1990s. These areas include soil on the north and east side of the former composite building, an area to the west of former Antenna No. 3, and two large areas south of the former composite building between Antenna Nos. 1 and 2.

Drum Storage Area: The Drum Storage Area is located in the northwestern portion of the Port Heiden RSS. An aerial photo taken in 1965 (USAF, 2006) clearly shows the Drum Storage Area to the northwest of the former composite building. As suggested by the name, drums of various liquids were likely stored in this area. As-built drawings indicate that a 1,450 gallon truck-filled motor gasoline (MOGAS) tank and pump were located in the southeastern portion of the Drum Storage Area. During the 2004 remedial investigation field work, no Underground Storage Tank (UST) could be found.

Septic Tank and Septic System Outfall: The septic system was generally located in the southwestern portion of the Port Heiden RSS. Piping from the former composite building ran west to the septic tank, which was approximately 200 feet in length. Piping from the septic tank branched off to the northwest, continued under a manmade dirt ridge for approximately 250 feet, and turned west into an outfall area. The septic tank and approximately 100 feet of pipe remain to be excavated and disposed of during the 2010-2011 field seasons.

Radio Relay Station Landfill: The RRS Landfill is located to the north of the Former Port Heiden RSS. No previous investigations were conducted on the Radio Relay Station Landfill prior to the 2004 remedial investigation work.

The RRS landfill covers an area of approximately 350 feet long by 300 feet wide. Several feet of fill have been placed over the landfill contents as a cover.

2.1.2 Site Contamination

Activities such as contaminant storage, water purification, building and mechanical equipment maintenance, power generation, use of transformers, landfill disposal, sewage disposal, application of herbicides and pesticides, fire protection, and use of heat recovery and circulation systems may have caused contamination in this area. Contamination-causing compounds that may have been used at the Port Heiden RRS include fuels (and fuel chemicals), antifreeze, solvents (i.e., TCE), batteries, polychlorinated biphenyls (PCBs), paints and paint thinners, herbicides, pesticides, and asbestos. Under normal conditions, these substances are controlled and pose no threat to human life and the environment. However, when they enter the environment through an accidental release, they can contaminate the land, water, and/or air and need to be addressed.

Investigations have identified PCB contamination. Approximately 9,200 cubic yards of PCB-contaminated soil was removed in 2009 with final disposition of the contaminated soil being placement in the Native Village of Port Heiden permitted Class III landfill. Additional PCB-contaminated soil remains onsite pending a future removal action.

3.0 BASIS AND DESCRIPTION FOR THE SIGNIFICANT DIFFERENCES

The final disposition of the PCB-contaminated soil (estimated quantity was 7,000 cubic yards) was selected for disposal as noted below.

Soil which contains PCBs greater than 1 mg/kg but less than 10 mg/kg will be trucked to the offsite Class III Landfill for disposal. (The NVPH permitted Class III landfill.)

Soil containing concentrations of PCBs greater than 10 mg/kg will be barged off-site to a permitted facility for disposal. (Shipped to a disposal facility in the Lower 48.)

Soil washing was selected as an interim step to reduce the quantity of soil to be barged off-site by reducing the PCB concentration to less than 10 mg/kg so as to allow it to be disposed of in the NVPH permitted Class III landfill.

There are two significant differences.

3.1 DIFFERING QUANTITIES

Based upon previous investigations, the ROD stated there were approximately 7,000 cubic yards of PCB-contaminated soil. During the 2009 remedial action, approximately 9,200 cubic yards of PCB-contaminated soil was disposed of in the NVPH permitted Class II landfill.

Additional sampling during the 2009 remedial action identified approximately 4,000 additional cubic yards of PCB-contaminated soil remaining at the Port Heiden RRS.

3.2 DIFFERING DISPOSAL

With 2,245 cubic yards more than anticipated already in the landfill and another 4,000 cubic yards estimated, the NVPH is not willing to accept additional PCB-contaminated soil as it is using up their landfill capacity and adds to their long-term liability. The main issue driving the change in disposal location is the fact that disposing of PCB-contaminated soil (less than 10 ppm) in the community landfill is no longer an option. Furthermore, even if they were, the state is reluctant to permit additional capacity for landfilling PCB-contaminated soil. Therefore it is not feasible to construct/expand an on-site landfill.

Since the contractor cannot guarantee the soil can be washed to less than 1 ppm (PCB), then the soil must shipped off-site to a permitted disposal facility. This would apply to all soil – whether or not the contamination level is between 1 and 10 ppm; or 10 ppm and over. PCB-contaminated soil not less than 1 ppm PCB must be shipped off-site. Thus, the washing becomes an unnecessary step prior to disposal.

3.3 COST COMPARISON

Soil washing could technically continue. However, it is noted the soil washing was never intended to be the final treatment. It merely allowed some soil to be disposed of in the local landfill (no longer an option) as opposed to being shipped offsite. According to Table 2-3 of the ROD, the soil washing and disposal in the local landfill was only 18.2% less than the dig and haul scenario. This did not include any additional weight due to moisture content that washing the soil would cause. Including the extra weight of the moisture, the cost of barging all soil would increase. Eliminating the soil washing, will save approximately one million dollars. Funds saved from not washing the soil will cover half of the difference in the dig and haul scenario.

3.4 SUMMARY COMPARISON OF ORIGINAL AND PROPOSED REMEDY

The following provides a side-by-side comparison of the original remedy in the ROD and the changes found in this ESD.

Record of Decision Component	Explanation of Significant Differences Component
Quantity of PCB-contaminated soil to be removed from the site estimated at 7,000 cubic yards.	9,200 cubic yards of PCB-contaminated soil have already been removed and there is an estimated 4,000 cubic yards of PCB-contaminated soil remaining on site to be removed.
Soil which contains PCBs greater than 1 mg/kg but less than 10 mg/kg will be trucked to the	All soil which contains PCBs greater than 1 mg/kg will be barged off-site to a permitted



<p>offsite Class III Landfill for disposal. (The NVPH permitted Class III landfill.)</p> <p>Soil containing concentrations of PCBs greater than 10 mg/kg will be barged off-site to a permitted facility for disposal. (Shipped to a disposal facility in the Lower 48.)</p> <p>Soil washing was selected as an interim step to reduce the quantity of soil to be barged off-site by reducing the PCB concentration to less than 10 mg/kg so as to allow it to be disposed of in the NVPH permitted Class III landfill.</p> <p>The original cost estimate for addressing the PCBs covered excavating 7,700 cubic yards of less than 10 ppm PCB-contaminated soil directly to the landfill. It also includes excavating, soil washing, and disposing of 1,500 cubic yards of 10 ppm and higher concentrations of PCB-contaminated soil. The proposed cost was \$6,871,834 (\$1,091/cubic yard). (Actual cost for just the soil washing was approximately \$1,000/cubic yard.)</p> <p>The current estimate for addressing the remaining 4,000 cubic yards of PCB-contamination is \$5.35 million (\$1,338/cubic yard). This covers excavating, hauling to and disposing in a permitted disposal facility in the Lower 48.</p>	<p>facility for disposal. (Shipped to a disposal facility in the Lower 48.)</p> <p>Interim soil washing step eliminated.</p>
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With the changes (excavating and shipping the PCB-contaminated soil above 1 ppm to a permitted facility for disposal in the lower 48) the remedy remains protective of human health and the environment and continues to meet Applicable or Relevant and Appropriate Requirements.

4.0 REFERENCES

- USAF 2006. Final Remedial Investigation/Feasibility Study, Port Heiden Radio Relay Station, Port Heiden, Alaska. April 2006.
- USAF 2009. Record of Decision for the Port Heiden Radio Relay Station, Port Heiden, Alaska. February 2009.

