Headquarters U.S. Air Force

Arctic Surplus Salvage Yard

Response Complete Report

Erica Becvar

HQ Air Force Center for Environmental Excellence

Technical Directorate

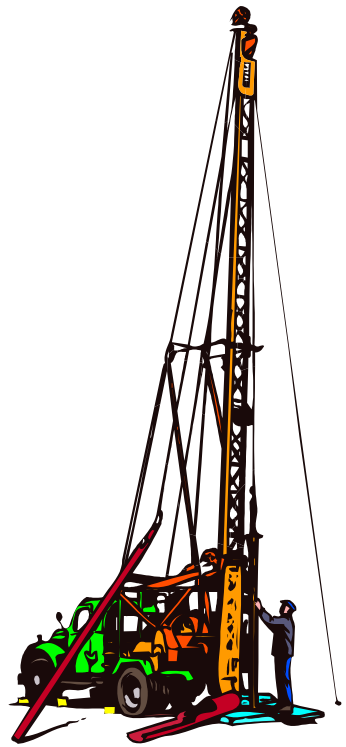
May 2005

U.S. AIR FORCE

U.S. AIR FORCE

Overview

- Site Background
- Proposed Remedial Action
- Team Description
- Remedial Action Status
- Summary



U.S. AIR FORCE

Site Background

- Estimated 8,500 yd^3 of PCB- and lead-contaminated soils caused by battery and transformer processing
- <10 yd^3 of pesticide- and dioxin-contaminated soils
- Over 45,000 yd^3 of scrap materials present
- Numerous waste drums, 5000 yd^3 of tires, transformers, 83 trailers, and >400 pressurized gas cylinders
- Old military landfill present
- Site listed on NPL in 1990

Originally Proposed Remedial Action

- ROD selected solvent extraction for PCB-contaminated soils and stabilization for lead-contaminated soils
- Estimated 3 - 4 years for completing RA at $34 - $38M + UXO Cost
- Performance-Based Environmental Restoration Management Assessment (PERMA) conducted June 2002
- Recommended stabilization and on-site placement of PCB- and lead-contaminated soils

- **Remedial Process Optimization (RPO) estimated RA to be completed in < 2 years for $3.6M + UXO cost**

U.S. AIR FORCE

PBM & RPO Team

- **HQ Defense Logistics Agency**
- **Defense Reutilization Marketing Service**
- **HQ Air Force Center for Environmental Excellence**
- **US Environmental Protection Agency**
- **Alaska Department of Environmental Conservation**
- **Contractors**
  - Mitretek
  - Earth Tech

U.S. AIR FORCE

Remedial Action Status

- Conducted treatability studies Sept - Nov 2002 to demonstrate viability of proposed stabilization process
- Obtained funding from US ARMY - $2.5M
  - Time and materials contract awarded Sept 2002
    - Clear terrain
    - Separate and decontaminate scrap
    - Identify and separate expended munitions and potential unexploded ordinance
  - Field activity initiated in Oct 2002

Remedial Action Status (Cont.)

- **Awarded Firm Fixed Price Task Order March 2003**
  - **Stabilization/solidification of contaminated soils**
  - **On-site placement of up to 8,500 yd^3 of soils in landfill**
  - **5 years of O&M**
  - **Costs negotiated at $3.45M**
- **Started field work May 2003**
- **Completed Explanation of Significant Differences (ESD) and held public meeting June 2003**
- **Completed stabilization of 10,000 yd^3 of soils**
- **Placed soils in new landfill cell Aug 2003**

Remedial Action Status (Cont.)

- Completed landfill and multilayered cap construction by October 2003
- Excavated 100 yd^3 of PCB “hot spots” and 10 yd^3 PCB/Dioxin soils for off-site disposal
- Off-site disposal completed in December 2003
- Remedial Action completed in 7 months
- No cost increases for additional soil stabilization or off-site disposal

Remedial Action Status (Cont.)

- Regulatory agencies appreciated prompt execution of site cleanup
- Institutional Controls agreements with site owners signed October 2003
- Administrative Order of Consent (AOC) signed with US EPA December 2003
- Analytical data reviewed by USEPA Staged Electronic Data Deliverable implementation

- Currently under NPL delisting process
- Anticipate US EPA approval on delisting by Sept 2005

Other Waste Materials

- Inspected scrap materials for expended munitions
- Scanned scrap for radiation
- Transferred over 65,000 yd^3 scrap to local recycler
- Disposed waste drums, gas cylinders, trailers, and transformers in accordance with state and federal regulations
- Gas cylinders containing CFCs (Freon) transferred to Defense Supply Center Richmond for recycling

U.S. AIR FORCE

Expended Munitions (EM)

- EM materials discovered site Sept 2002. EM DEMIL started Nov 2002
- Over 98,000 units EM materials removed
- Over 50 types EM materials identified
- DEMIL EM materials disposed to local landfill to avoid future liability
- 19 live primers identified and disposed by Eielson AFB Explosive Ordinance Disposal (EOD) personnel. Over 330 energetic items (frag. bombs, etc.) identified and disposed
- EM DEMIL completed by Feb 2004. Geophysical verification survey completed Mar 2004

Radiation Wastes

- Radiation waste discovered during EM DEMIL operations
- Over 10 types of radiation items identified including instrument check sources and vehicle dials
- Site cleared of radiation wastes
- Geosurvey for EM materials up to 4 feet below ground surface completed Mar 2004

ASSY Remediation Progress

June 02

Oct 02

Feb 03

Feb 03

June 03

Remediation-Complete Celebration

PCB/Lead RA Complete

Landfill paved to serve as parking lot

6 October 2003

Regulators
Contractors
Emergency Service Personnel
Local Residents
Site Owners
Eielson AFB, AFCEE, DLA, & DRMS

Institutional Controls Complete

16 December 2003

Restoration Program Optimization

U.S. AIR FORCE

- **RPO team recommended alternative soil cleanup strategy using stabilization for PCB and lead contaminated soils**
  - **Cost savings exceeded $30 million……..Cheaper**
  - **Schedule accelerated by > 2.5 years……..Faster**
- **Alternative cleanup strategy demonstrated to regulators and public for concurrence**
  - **More protective than original ROD……..Better**
    - **Exceeded lead fixation requirement**
    - **Exceeded PCB cleanup requirements**
    - **Removed low radioactive waste and UXO**

Examples of Community Cooperation

- **Fire Department – Training Exercises**
  - **Pressurized tanks ($150K saved)**
- **Eielson AFB EOD – Disposed of all live munitions and incendiaries (334) at no cost to project ($50K - $500K Saved)**
- **City Landfill refused to waive tipping fees**
  - **Local recycler agreed to accept all scrap at no cost to project ($1 M saved)**

Arctic Surplus Salvage Yard Summary

- **PERMA implementation results:**
  - **Protective remedy with minimal adverse impact to human health and environment**
  - **Cost savings ~ 90% of original estimate**
  - **Remediated UXO and low-RAD waste for $5.8M**
  - **Accelerated schedule by > 2.5 years**
  - **Optimized LTM strategy**
  - **Beneficial use of 100% of site**
  - **NPL delisting (to be completed by Sept 2005)**

June 2004

U.S. AIR FORCE

Summary

- **ADEC Referred to Arctic Surplus as a MODEL to follow for environmental cleanup**
  - **Team work and trust**
  - **Regulatory involvement from planning stages**
  - **First application of Performance-Based Environmental Restoration Management Assessment (PERMA) [developed by AFCEE]**
  - **Open and frequent communication**
  - **Real-time document reviews by all stakeholders**
  - **Model presently being followed at Galena AFB and King Salmon AFB, AK**

June 2002

June 2004

Before

After