



## **Superfund Record of Decision:**

USA Letterkenny - PDO, PA





EPA/ROD/R03-91/118  
USA Letterkenny-PDO, PA  
First Remedial Action

Abstract (Continued)

is necessary. Based on this rationale, there are no primary contaminants of concern affecting this site.

The selected remedial action for this site is no action. There are no costs associated with this no action remedy.

PERFORMANCE STANDARDS OR GOALS: Not applicable.

**RECORD OF DECISION**

**ACCELERATED REMEDIAL ACTION  
PROPERTY DISPOSAL OFFICE AREA  
OPERABLE UNIT ONE**

**LETTERKENNY ARMY DEPOT  
CHAMBERSBURG, PENNSYLVANIA**

**June 27, 1991**

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## **1. DECLARATION**

### **Site Name and Location**

U.S. Army Department of Army  
Property Disposal Office Area  
Letterkenny Army Depot  
Franklin County  
Chambersburg, Pennsylvania

### **Statement of Basis and Purpose**

This decision document presents the elected final remedial action for the Property Disposal Office (PDO) Area, Operable Unit One at Letterkenny Army Depot (LEAD). Operable Unit One is comprised of the PDO drum storage revetments and the oil burning pit. This action was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision document explains the factual and legal basis for selecting the final remedy for this site. This decision is based on the administrative record file for LEAD.

The U.S. Environmental Protection Agency (EPA), Region III and the Pennsylvania Department of Environmental Resources (PADER) concur with the selected remedy. The information supporting this remedial action decision is contained in the administrative record for LEAD.

### **Description of the Selected Remedy**

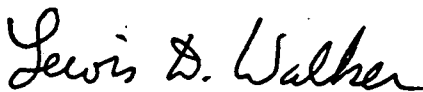
The PDO Operable Unit One is the first of two operable units for the PDO Area. This operable unit addresses the contaminated soils beneath the drum storage revetments and oil burning pit, which are suspected sources of groundwater contamination at the PDO Area. A complete assessment of the PDO Area sources and groundwater/surface water contamination will be documented in the final Remedial Investigation (RI), Endangerment Assessment, Feasibility Study (FS) and Record of Decision upon completion of the ongoing RI/FS program. Remedial action alternatives were not developed for the drum storage revetments nor the oil burning pit, based on the results of the Endangerment Assessment (EA) for the PDO Area (ESE, 1988). Results of the EA indicate that the contaminated soils at these locations do not pose a current or



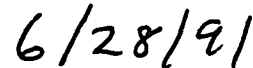
potential threat to human health or the environment, as most of the contamination has migrated to the bedrock and groundwater. As such, the selected remedy for this operable unit is "no action".

#### **Declaration of Statutory Determinations**

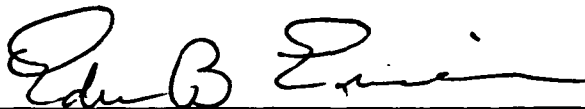
No remedial action for the soils at the drum storage revetments or the oil burning pit is necessary to ensure protection of human health and the environment. This is based on the results of the Endangerment Assessment, which indicate that concentrations of indicator contaminants in the PDO Area soils do not pose an unacceptable human health risk.



**Lewis D. Walker**  
Deputy Assistant Secretary of the Army  
for Environment, Safety, and Occupational  
Health



**Date**



**Edwin B. Erickson**  
Regional Administrator  
U.S. Environmental Protection Agency, Region III



**Date**

## **2. DECISION SUMMARY**

### **2.1. Site Name, Location and Description.**

This Record of Decision (ROD) is for final action at the Property Disposal Office (PDO) Area Operable Unit One within Letterkenny Army Depot (LEAD). LEAD, formerly known as Letterkenny Ordnance Depot, is located in south-central Pennsylvania in the central portion of Franklin County, in Letterkenny, Greene, and Hamilton Townships, about 5 miles north of Chambersburg (Figure 1). Chambersburg is the nearest population center, with about 15,000 persons. The installation occupies 7,899 hectares (19,520 acres) situated in the western side of the Cumberland Valley, which is characterized by gently rolling terrain underlain by folded and faulted geologic formations. Approximately 5,600 civilians and 140 military personnel are employed at LEAD, and roughly 1,862 buildings and 1,096 miles of road are on the installation.

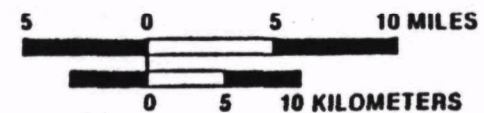
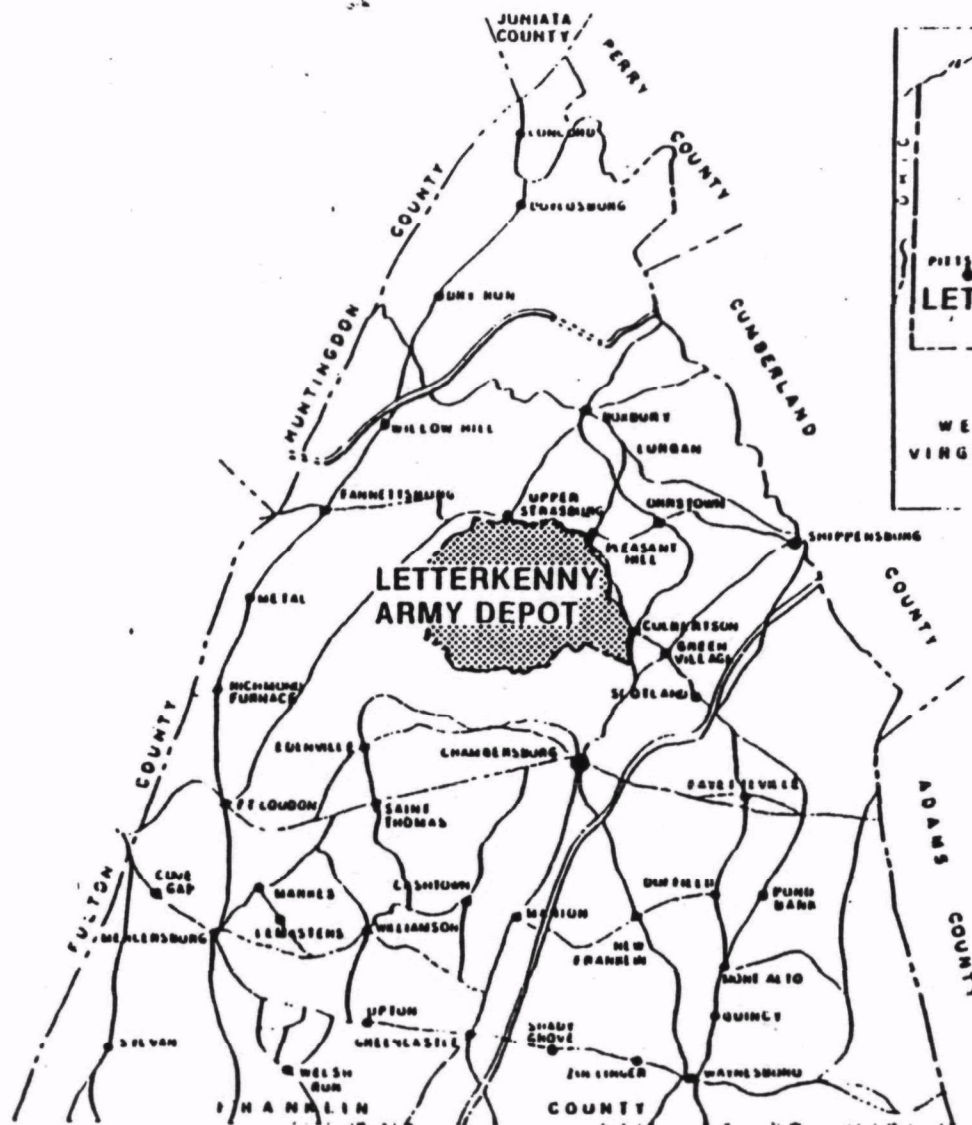
The Property Disposal Office (PDO) Area occupies roughly 250 acres in the southern section of the depot (Figure 2). The PDO Area is one of the two CERCLA National Priorities List (NPL) sites at LEAD. The other NPL site is the Southeastern (SE) Area. Each site contains a number of specific sources of contamination. The two sites are in different drainage basins, as shown in Figure 2. The dashed lines that separate the two sites in Figure 2 indicate approximate surface water and groundwater boundaries.

The PDO Area consists of shaly ground underlain by fractured limestone bedrock, sloping towards the end of its drainage basin on depot, Rocky Spring Lake. The area is a mixture of wooded and open land interspersed with past and present military uses, such as the ongoing scrap/material reuse operations of the PDO (now named the Defense Reutilization and Marketing Office). Adjacent land uses off-depot are primarily agricultural, mainly dairy farms and orchards, with scattered single family homes. Shallow groundwater at the head of the PDO Area flows within one bedrock aquifer toward Rocky Spring, discharging at the spring and possibly directly into Rocky Spring Lake.

### **2.2. Site History and Enforcement Activities**

#### **2.2.1. Site History**

LEAD is owned and operated by the Army. Although established in 1942 with the mission of ammunition storage, the principal missions at LEAD currently include overhauling, rebuilding, and testing of wheeled and tracked vehicles; the issuance and shipment



SOURCES: Battelle, 1983a.  
ESE, 1988a.

**Figure 1**  
**LOCATION MAP OF LEAD AND VICINITY**

**REMEDIAL INVESTIGATION/  
FEASIBILITY STUDY  
Letterkenny Army Depot**

**U.S. Army  
Toxic and Hazardous Materials Agency  
Aberdeen Proving Ground, Maryland**

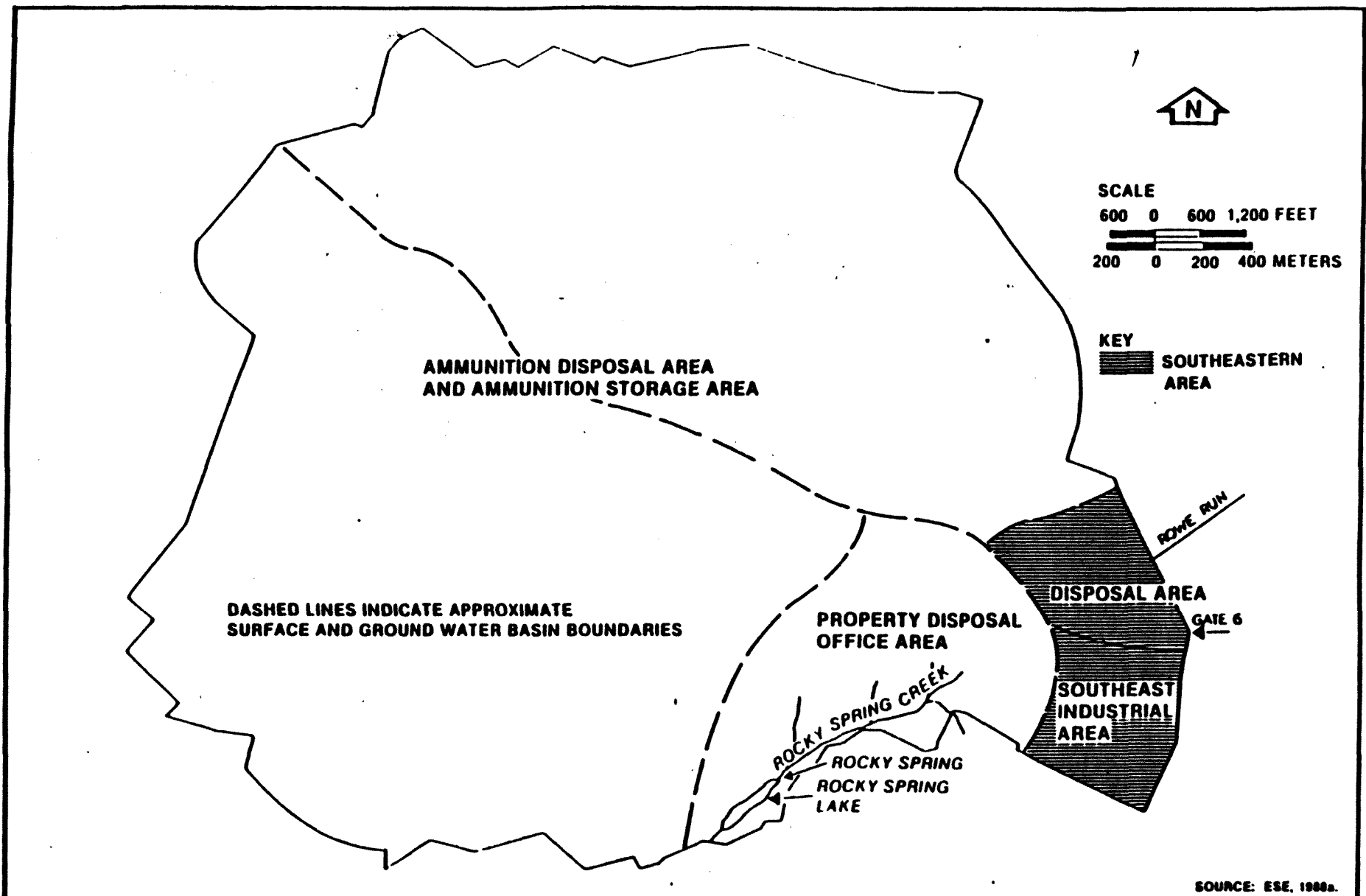


Figure 2

ST. CE WATER AND GROUNDWATER  
B. S AND SE STUDY AREA AT LEAD

REMEDIAL INVESTIGATION/  
FEASIBILITY STUDY  
Letterkenny Army Depot

U.S. Army  
Toxic and Hazardous Materials Agency  
Aberdeen Proving Ground, Maryland

of Class III chemicals and petroleum; and the storage, maintenance, demilitarization, and modification of ammunition. Operations associated with current or prior missions have included cleaning and stripping, plating, lubrication, demolition, chemical and petroleum transfer and storage, and washout/deactivation of ammunition. Many of these activities, except those associated with ammunition, were conducted using significant quantities of trichloroethylene, other chlorinated hydrocarbons, hydrocarbons, and other solvents.

Figure 3 is a map showing locations of all known and suspected sources of contamination within the PDO Area contributing to onpost contamination. Table 1 lists activities that occurred at each of the potential contamination locations shown in Figure 3.

#### **2.2.2. History of CERCLA Enforcement Activities**

The PDO Area was listed on the National Priorities List (NPL) on March 17, 1989 with a Hazard Ranking Score of 37.51. The PDO Area is also the subject of a Federal Facility Interagency Agreement (IAG) under CERCLA Section 120, signed on 3 February 1989 by the U.S. Department of the Army, U.S. Environmental Protection Agency (EPA), Region III, and Pennsylvania Department of Environmental Resources (PADER). The purposes of the Agreement are to ensure that contamination from past and present activities is completely investigated and cleaned up, to provide a framework and schedule for cleanup activities, and to promote cooperation and communication concerning the cleanup among the three parties.

#### **2.3. Highlights of Community Participation**

The Focused Feasibility Study (FFS) and Proposed Plans (PP) for the SE Area and the PDO Area at LEAD were released to the public on April 6, 1991. These two documents were made available to the public in both the administrative record and an information repository maintained at the EPA Docket Room in Region 3, Philadelphia, Pa., at Building 663 at LEAD, and at the Coyle Free Library in Chambersburg. The notice of availability for these two documents was published in the Chambersburg daily newspaper, the Public Opinion, on April 6, 13, 20, and 27, 1991. A public comment period was held from April 6, 1991 to May 20, 1991. In addition, a public meeting was held on April 14, 1991. At this meeting, the Army presented an overview of the proposed plan and the preferred alternative being proposed as required under CERCLA.

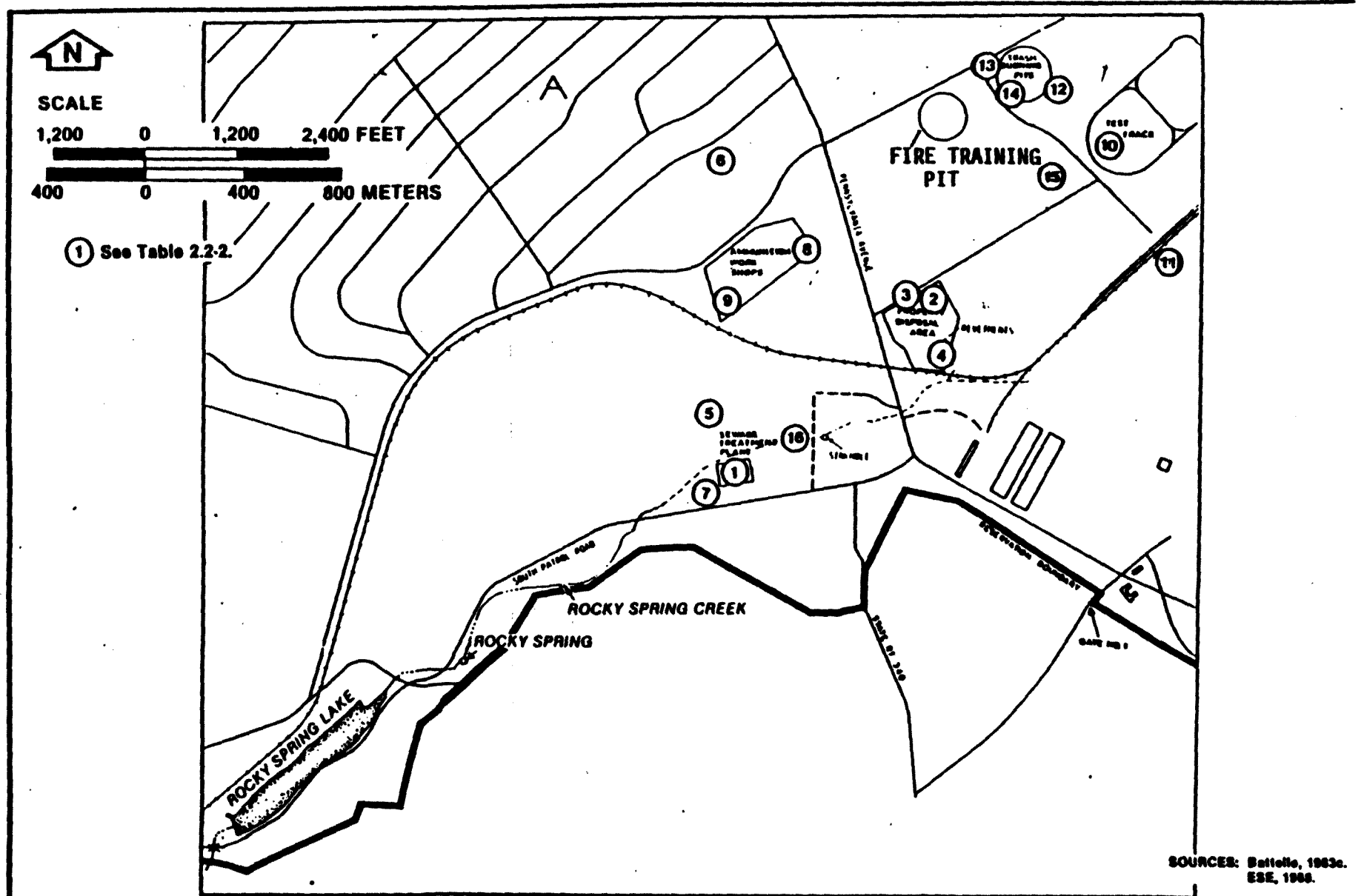


Figure 3

PDO AREA POTENTIAL CONTAMINANT  
SITING AREAS

REMEDIAL INVESTIGATION/  
FEASIBILITY STUDY  
Letterhead Army Depot

U.S. Army  
Toxic and Hazardous Materials Agency  
Aberdeen Proving Ground, Maryland

01/27/88

Table 1. Current and Past Activities Within the PDO Drainage Area\*

Location No.	Activity
1	Main sewage treatment plant (STP); operations began in 1971
2	Storage of dichlorodiphenyltrichloroethane (DDT) powder and DDT solutions
3	Previous storage of herbicides, pesticides, and insecticides
4	Two revetments used for drum storage; drums contain expended material including hydraulic oil, engine oil, transmission fluid, chromic acid, TRCLE (past only), carbon removers, caustic compounds, and polychlorinated biphenyls (PCBs) (past only)
5 and 6	Spreading areas for digested sludge from STP
7	Bldg. 2325, pest control building; herbicide and insecticide storage
8	Bldg. 2357, laundry for chemical-contaminated (including explosives) clothing
9	Ammunition washout plant (explosives)
10	Landfarming of industrial waste treatment plant (IWTP) sludge, starting in 1974 <sup>+</sup>
11	Sanitary landfill used from 1952 to 1956; near current Resource Conservation and Recovery Act (RCRA) landfill
12	Open landfill near trash-burning pits; closed in 1979; trash-burning pit residue, spent oil filters, tank periscopes, fluorescent light tubes, and metal and fiberglass assemblies buried
13	Oil-burning pit used for disposal of waste oil and organic laboratory wastes and training of fire fighters**

Table 1      Current and Past Activities Within the PDO Drainage Area\*  
(Continued, Page 2 of 2)

Location No.	Activity
14	Trash-burning pits for uncontaminated trash
15	Revettted storage area for new drums of hydraulic and engine oils**
16	Landfill/burning area reported to USATHAMA by LEAD personnel in April 1983

\*From USATHAMA (1980) except as noted.

+From Berger Associates, 1981.

\*\*From discussions with various LEAD personnel.

Source: ESE, 1988.



Community attendance was very low. The Responsiveness Summary of this ROD provides a discussion of public comments received during the public comment period. This decision document presents the selected final remedial action for the contamination sources within the PDO Area, chosen in accordance with CERCLA, as amended by SARA and, to the extent practicable, the National Contingency Plan. The decision for this site is based on the administrative record.

#### **2.4. Scope and Role of Operable Unit**

Due to the complexity of the contamination problems in the PDO Area, the Army has divided the cleanup work into manageable components for remedial action called "operable units" (OUs). LEAD has a total of five OUs for its two NPL sites. The OUs for each of LEAD's NPL sites, the PDO Area and the SE Area, are numbered separately. These OUs are:

##### **SOUTHEASTERN AREA**

- \* Operable Unit 1 - K Area Contaminated Soils
- \* Operable Unit 2 - SE Area Contamination Sources
- \* Operable Unit 3 - SE Area Contaminated Groundwater

##### **PROPERTY DISPOSAL OFFICE AREA**

- \* Operable Unit 1 - Revetments, Oil Burn Pit Contaminated Soils
- \* Operable Unit 2 - PDO Area Contaminated Groundwater

The overall strategy for LEAD is to address the contaminated soil OUs first and the contaminated groundwater OUs in the future. The contaminated soil OUs are being considered first because the soils are often localized and accessible. Therefore, LEAD is taking immediate actions on the contaminated soils in the PDO and SE Areas as required to reduce their direct risk to human health and the environment relatively quickly. These actions will also help avert the contaminated soils from acting as a continuing source of groundwater contamination in these areas.

The operable unit addressed by this document, Operable Unit One, is an accelerated remedial action as required by the IAG, Section IX.D, and addresses the contaminated soils in the drum storage revetments and former oil burning pit site. These soils were studied to assess whether they pose a threat to human health and the environment from possible ingestion or skin contact. They were also evaluated to determine whether they are currently causing groundwater contamination. Past studies have shown that

the contaminated soils of the drum storage revetments and oil burning pit were the source of contamination for the underlying groundwater in the PDO Area at some time interval. The results of these studies form a basis for deciding whether and what action is necessary for these contaminated PDO Area soils. The nature and extent of groundwater contamination, both onpost and offpost, will be discussed in further detail in separate reports issued upon completion of the RI/FS. This CERCLA accelerated remedial action will be consistent with any planned future actions for this site to the extent possible.

## 2.5. Site Characteristics

The primary contaminant sources in the PDO Area have been determined to be the contaminated soils associated with the oil burning pit, along Georgia Avenue and the drum storage revetments. These areas were formerly used as hazardous waste disposal areas for spent solvents such as trichloroethylene and 1,1,1-trichloroethane. The nature and extent of these sources have been defined in previous reports. The Focused Feasibility Study, which evaluated potential final remedial measures, indicated that soil remediation was not required at these PDO Area sites. Groundwater contamination in the PDO Area begins at the farthest end of the upgradient area, near the trash-burning pit and the test track, and continues through the PDO drum storage revetments to the Rocky Spring system. The contaminated soils at these two sites were believed to be the principal sources of groundwater contamination in the PDO Area. However, studies performed at these two sites to date indicate that most of the contamination has migrated from the soils down to the bedrock and the groundwater. Offpost migration of the contaminated groundwater has not occurred in the PDO Area.

The contaminated media in the PDO Area is the soils. The oil burning pit was found to contain some low levels of volatile halogenated organics (VHOs) in the surface soils during the RI study of this area in 1987 (ESE, 1987a). However, the Weston in-situ volatilization (ISV) study (1989b) showed no significant levels of volatile organics in the soils at the oil burning pit. Thus, it appears that the levels of volatiles at the oil burning pit site decreased between 1987 and 1989. Table 2 summarizes the ISV study analytical data at the oil burning pit.

The area surrounding the drum storage revetments was found to contain some low concentrations of VHOs and certain priority pollutant metals during the RI study of the PDO Area (ESE, 1987a). Most VHO concentrations in the soils were below 1 parts per million (ppm); the highest was 6.76 ppm for trichloroethylene. VHOs identified in the PDO drum storage revetment area included 1,1-dichloroethylene (11DCE), 1,1-dichloroethane,

TABLE 2

Summary of Analytical Data - OIL BURN PIT AREA  
Letterkenny Army Depot ISV

VENT No.	SAMPLE No.	DEPTH (ft)	T12DCE (mg/kg)	111TCE (mg/kg)	TRCLE (mg/kg)	TOTAL (mg/kg)
BP5	SS01	5-7	0.0718	0.0435	0.0891	0.2044
	SS02	10-11	0.018	0.00495 *	0.0226	0.04555
BP7	SS01	5-7	0.0021 *	--	0.009	0.0111
	SS02	8-9	0.0020 *	--	0.0043 *	0.0063
BP9	SS01	2-4	--	--	--	--
	SS02	4-6	0.0032 *	--	0.006	0.0092
	SS03	6-6.5	0.0009 *	0.0042 *	0.002	0.0071

\* - Indicates data outside certification range.

-- - Not detected.

NOTE: Soil analysis conducted using USATHAMA certified Methods LJ02, LJ03.  
Certification Ranges are as follows:

LJ02: T12DCE - 7.47 to 112.0 ug/g

LJ02: 111TCE - 6.80 to 117.0 ug/g

LJ02: TRCLE - 7.92 to 128.0 ug/g

LJ03: T12DCE - 0.00247 to 0.0896 ug/g

LJ03: 111TCE - 0.00900 to 0.0938 ug/g

LJ03: TRCLE - 0.00519 to 0.1020 ug/g

cis/trans-1,2-dichloroethylene (T12DCE), 1,1,1-trichloroethane (111TCE), trichloroethylene (TRCLE), and tetrachloroethylene (TCLEE). Various metals have been detected in the soils in this area. However, groundwater contamination with metals is minimal, probably due to the retentive properties of the clayey soils with respect to the metals. Due to the limestone geology in the PDO Area, there appears to be natural stabilization occurring with respect to the metals. The Weston ISV study (October 1989b) indicated that the majority of the contamination can be found in the bedrock of the revetment area. Table 3 summarizes the soil sample data from the PDO revetments, generated as part of the ISV study.

High levels of organics have been found in wells in the vicinity of the oil burning pit and the drum storage revetments, and in the groundwater discharging to the surface waters of the Rocky Spring system. Groundwater in the PDO Area is contaminated with the same organic compounds as the soils with concentrations up to 1,000 parts per billion (ppb).

Details on the toxicity, mobility, and carcinogenicity of those contaminants are found in the Endangerment Assessment (EA) for the PDO Area report (ESE, 1988). The EA also evaluated the following known or potential routes of migration to LEAD workers and off-post residents: Groundwater to surface water, soil to air, soil to surface water, surface water to air, and groundwater to air. The EA concluded that contamination from the PDO Area is found in the surface water of, but not in the groundwater below, Rocky Spring Lake. This fact, combined with the known groundwater flow pattern toward the Rocky Spring system and the correlation of surface water and groundwater contamination concentrations, strongly suggests that contaminated groundwater discharges to the Rocky Springs surface water system.

## 2.6. Summary of Site Risks

The PDO Area EA (ESE, 1988a) evaluated potential health risks for workers and offpost residents by activities that would bring them into contact with the contaminated soils from the oil burning pit and the PDO drum storage revetments. Skin absorption, incidental ingestion of soils, and inhalation of vapors from contaminated soils were considered to be possible concurrent exposures for onsite workers. Access onto the installation is restricted by fences which limits the potential for exposure to non-LEAD personnel.

The EA identified eight indicator chemicals as the contaminants of concern in the PDO Area, as follows: Chloroform (CHCL3), 1,1-dichloroethane (11DCLE), 1,1,1-trichloroethane (111TCE), 1,1,2-trichloroethane (112TCE), cis/trans-1,2-dichloroethylene (C/T12DCE), 1,1-dichloroethylene (11DCE),

TABLE 3

Summary of Analytical Data - PDO Area  
 Letterkenny Army Depot ISV

VENT No.	SAMPLE No.	DEPTH (ft)	T12DCE (mg/kg)	111TCE (mg/kg)	TRCLE (mg/kg)	TOTAL (mg/kg)
S1	SS01	5-7	2.0 *	-	0.0041 *	2.0041
S2	SS01	5-7	0.075 *	0.712	1.351 #	2.138
	SS02	10-12	-	-	-	-
S3	SS01	5-7	0.0497	0.073	0.075	0.1977
S4	SS01	5-7	0.0124	0.0078 *	0.189 *	0.2092
S5	SS01	5-7	34.9	49.1	107.3	191.3
	SS02	10-12	44.1	72.1	136	252.2
S6	SS02	10-12	0.0069	0.0103	0.0254	0.0426
	SS04	20-22	0.0058	0.0027	0.0258	0.0343
S7	SS01	5-7	0.00417 *	0.0132	0.0142	0.03157
S8	SS01	5-7	0.225 *	0.034	0.01	0.269
S9	SS01	5-7	4.14	24.5	43.4	72.04
	SS02	10-12	3.68	29.4	48.5	81.58
S10	SS01	5-7	0.048	0.017	0.0046	0.0696
S11	SS01	5-7	15.8	19.7	213.5	249
S12	SS01	5-7	0.0148	0.0058	0.394	0.4146
S13	SS01	5-7	49.9	15.2	39.5	104.6
	SS02	10-12	107.5	22.6	72.3	202.4
S14	SS01	5-7	0.044	0.072	0.045	0.161
S15	SS01	5-7	0.012	0.024	0.0476	0.0836
	SS02	15-17	0.018	0.041	0.162	0.221
S16	SS01	5-7	0.0069	0.0305	0.0406	0.0782
S17	SS02	10-12	0.05	0.017	0.042	0.109
S18	SS01	5-7	0.0087	0.013	0.034	0.0557
	SS03	15-17	0.011	0.016	0.041	0.068
S19	SS01	5-7	-	-	-	-
	SS02	10-12	7.02	6.59	3.82	17.43
S20	SS01	5-7	0.047	0.0143	0.0567	0.118
S21	SS01	5-7	1.0 *	2.07 *	7.36 *	10.43
	SS02	10-12	-	-	3.9	3.9
S22	SS01	5-7	0.033	0.028	0.157 *	0.218
	SS04	20-22	0.020	0.034	0.877 *	0.931
S23	SS01	5-7	0.018	0.640 *	0.096	0.754
S24	SS01	5-7	0.1	0.0076	0.033	0.1406
S25	SS02	10-12	0.020	0.019	0.139	0.178

\* - Indicates data outside certification range.

- - Not detected.

# - Hydrocarbon front.

NOTE: Soil analysis conducted using USATHAMA certified Methods LJ02, LJ03.  
 Certification Ranges are as follows:

LJ02: T12DCE - 7.47 to 112.0 ug/g

LJ02: 111TCE - 6.80 to 117.0 ug/g

LJ02: TRCLE - 7.92 to 128.0 ug/g

LJ03: T12DCE - 0.00247 to 0.0896 ug/g

LJ03: 111TCE - 0.00900 to 0.0938 ug/g

LJ03: TRCLE - 0.00519 to 0.1020 ug/g

trichloroethylene (TRCLE), and tetrachloroethylene (TCLEE). These compounds, all volatile chlorinated hydrocarbons, represent the most mobile, toxic, and widespread contaminants detected in the PDO Area.

Key exposure routes evaluated for the PDO Area were:

1. Exposure to contaminants by use of Rocky Spring surface waters;
2. Direct skin contact with contaminated soils;
3. Incidental ingestion of contaminated soils;
4. Inhalation of contaminant vapors in ambient air; and,
5. Exposure of aquatic life to contaminated surface water.

Total carcinogenic (cancer-causing) risk for workers in the oil burning pit was estimated to be  $2.4 \times 10^{-7}$ , below the EPA target risk level of  $10^{-6}$ . (Note that  $10^{-7}$  is less than  $10^{-6}$ ). Total carcinogenic risk for workers in the drum storage revetment area was  $2.6 \times 10^{-6}$ , near the EPA target risk level. Offpost residents downwind of the oil burning pit and the drum storage revetments would be exposed to carcinogenic risks on the order of  $5.8 \times 10^{-10}$  and  $4.4 \times 10^{-9}$  respectively, which are very low levels. EPA's acceptable range for risk levels is  $10^{-4}$  to  $10^{-6}$  with the target risk level designated as  $10^{-6}$ . A cancer risk of  $10^{-6}$  means that one additional person out of a million is at risk of developing cancer if the site is not cleaned up.

The noncarcinogenic health hazard index (HI) represents the sum of the calculated exposure levels to the acceptable exposure concentrations for all chemicals under consideration. When the HI exceeds unity ( $>1$ ), there may be concern for a potential health risk. The noncarcinogenic HI for the drum storage revetments indicates that, even under the highest concentrations detected in the soils, a significant health hazard to workers and residents does not exist. Likewise, the noncarcinogenic HIs for the oil-burning pit are all well below unity, indicating low potential for adverse health effects to workers and downwind residents. Even the noncarcinogenic HI values representing the sum total of all contaminants for all exposure routes are several orders of magnitude below unity, the highest value being  $4.5 \times 10^{-3}$  ( $=.0045$ ). Table 4 summarizes the EA assessments of the health risks for PDO Area contaminants.

Based on the EA for the PDO Area, the levels of soil contaminants at the drum storage revetments and oil burning pit do not pose a significant hazard to LEAD personnel engaged in activities around the areas of contamination, nor to offpost

TABLE 4

SUMMARY OF CARCINOGENIC RISK AND NONCARCINOGENIC<sup>a</sup>  
HAZARD LEVELS FOR PDO AREA CONTAMINANTS

Exposure Pathway/Receptor	Carcinogenic Risk (CRL) <sup>b</sup>	Noncarcinogenic Hazard (HI) <sup>c</sup>
Fish consumption (trout)	<del>2.4 x 10<sup>-8</sup></del>	3.7 x 10 <sup>-3</sup>
Swimming (all routes)	2.0 x 10 <sup>-7</sup>	9.4 x 10 <sup>-4</sup>
Domestic water supply	<del>3.6 x 10<sup>-8</sup></del>	2.5 x 10 <sup>-1</sup>
Workers in drum storage revetments (all routes)	<del>2.6 x 10<sup>-8</sup></del>	4.5 x 10 <sup>-3</sup>
Workers in oil-burning pit (all routes)	2.4 x 10 <sup>-7</sup>	1.2 x 10 <sup>-3</sup>
Workers 100m downwind of drum storage revetments (inhalation)	2.2 x 10 <sup>-8</sup>	8.2 x 10 <sup>-5</sup>
Residents 400m downwind of drum storage revetments (inhalation)	4.4 x 10 <sup>-9</sup>	1.6 x 10 <sup>-5</sup>
Workers 100m downwind of oil-burning pit (inhalation)	2.9 x 10 <sup>-9</sup>	1.7 x 10 <sup>-5</sup>
Residents 400m downwind of oil-burning pit (inhalation)	5.8 x 10 <sup>-10</sup>	3.3 x 10 <sup>-6</sup>
Workers 100m downwind of Rocky Spring Lake (inhalation)	6.7 x 10 <sup>-7</sup>	1.5 x 10 <sup>-5</sup>
Residents 400m downwind of Rocky Spring Lake (inhalation)	4.6 x 10 <sup>-7</sup>	1.1 x 10 <sup>-5</sup>

<sup>a</sup>Source: ESE, 1988<sup>b</sup>CRL = Cancer Risk Level. Risk levels equal to or less than 10<sup>-6</sup> are preferred by EPA.<sup>c</sup>HI = Hazard Index. Represents the sum of the ratios of calculated exposure levels to acceptable exposure concentrations for all chemicals under consideration. When the HI exceeds unity, there may be concern for a potential health risk.

residents. Because of the low carcinogenic and noncarcinogenic risks and the fact that a majority of the soil contamination has already moved down into the clays and silts found within the underlying fractured bedrock and the groundwater (ESE, 1987a and 1988a) (Weston 1989b), remediation of the surface soils is not recommended. No remediation of soils is necessary to ensure protection of human health and the environment.

## **2.7. Description of the "No Action" Alternative**

The finding that "no action" is necessary to ensure adequate protection of human health and the environment is supported by the EA and the various studies already mentioned which showed little or no concentration of contaminants in the soils of the drum storage revetments and oil burning pit. The studies indicate that most of the contamination from the soils has already migrated into the underlying bedrock and groundwater. Therefore, surface soil remediation would not lessen any ongoing groundwater contamination and is not necessary to lessen exposure risks to any populations, since the exposure risks are already within acceptable limits.

Selection of this action does not expressly or otherwise waive the Pennsylvania ARAR for groundwater. Evaluation of the risks to groundwater posed by contaminants associated with the bedrock will be addressed in operable unit two.

No more work in connection with the soils will be performed at the oil burning pit and drum storage revetments.

## **2.8. Explanation of Significant Changes**

"No action" was the selected remedy in both the Focused Feasibility Study (FFS) and Proposed Plan (PP) for accelerated remedial action at the drum storage revetments and oil burning pit in the PDO Area. There has been no significant change in the selected remedy from the time the FFS and PP were released for public comment to the final selection of the remedy.



### **3. RESPONSIVENESS SUMMARY**

This Responsiveness Summary documents concerns and comments regarding proposed remedial actions for PDO Area Operable Unit One as expressed to the United States Department of Army by members of the community surrounding the site. The remarks were presented during the public comment period, and they addressed the Army's FFS and Proposed Plan to remediate contaminated soils at the PDO Area of the Letterkenny Army Depot.

#### **a. Summary Community Involvement**

Community relations activities at LEAD to date have included review and coordination meetings with federal and state regulatory agency personnel; site visits and/or meetings with elected federal, state and local officials; news releases to the local media; and direct contact with nearby property owners through the offsite well sampling program and subsequent bottled-water provisions and connection to the Guilford Water Authority (GWA).

Meetings with regulatory agency personnel have been conducted regularly and are held with representatives from LEAD, USATHAMA, the Pennsylvania Department of Environmental Resources (PADER), EPA Region III, Department of the Army, U.S. Army Materiel Command (AMC), and Depot Systems Command (DESCOM). Topics of discussion at these meetings generally included review of project status, review of new technical information, resolution of problem areas, and direction and schedule for further studies. In addition to the formal meetings, LEAD, USATHAMA, PADER, and EPA personnel maintain frequent telephone contact on an as-needed basis.

Site visits to LEAD have been made by representatives of USATHAMA, PADER, EPA Region III, and USATHAMA contractors. Numerous site visits by PADER representatives have allowed consistent communications and cooperation between LEAD and PADER. Formal and informal project briefings and/or site visits have also been held with local and township officials and state representatives and senators.

At various times since June 1982, formal news releases have been issued by LEAD concerning the groundwater contamination problem. The timing of these releases has generally coincided with the availability of significant results from the onpost and offpost contamination surveys and with the occurrence of status review meetings between LEAD, USATHAMA, EPA and PADER. The news releases have provided the local media and general public with information on the status and results of the contamination surveys, ongoing actions to protect public health, and plans and schedules for additional activities.

Numerous articles have been published in local and regional newspapers concerning the contamination problem at LEAD since the problem was first identified in mid-1982. Topics covered in the articles has ranged from informational reports on the results of the technical environmental surveys to interviews with affected residents and their concerns on the problem.

Public involvement activities regarding the LEAD contamination problem also have involved direct contact and communication with local property owners, businesses, churches and residents. LEAD held four local news conferences in 1982 to directly brief local citizens, media and officials regarding the contamination problem. A news conference was also held at LEAD in August 1985 in conjunction with the pilot thermal stripping project. The technology presented during that news conference is the forerunner to the technology being proposed for remediation of the K Area soils. Contact with the local citizens also has been made in conjunction with the offsite well sampling program, which was initiated in certain adjacent areas in mid-1982. Local residents who have been affected by contamination of their potable wells have had contact and communication with LEAD through the Army's program to provide bottled water and, ultimately, connection to GWA. These contacts have included letters to and meetings with residents with affected potable wells.

Since the groundwater contamination problem at LEAD was identified in mid-1982, overall public interest and concern with the problem has been relatively high. Identified community interest and concern with the problem has involved primarily citizens residing in the potentially affected areas adjacent to LEAD and the local Chambersburg area. Interest in the contamination problem at LEAD outside the local area primarily involves EPA Region III and PADER as part of their regulatory programs, and state and federal elected officials representing the local citizens.

Currently, the primary community concerns identified at LEAD pertain to the contamination of groundwater and the safety of drinking water. Local concerns with the contamination problem have been significant since contamination levels in some offpost drinking water wells were found at higher levels than the recommended human health criteria. The local residents affected by the groundwater contamination are satisfied since they are now connected to GWA. However, many residents interviewed indicated displeasure with the length of time it took the Army to provide them with clean water.

More than 9 years have passed since the problem was initially identified, and, as may be expected, a number of community concerns have been expressed in association with the

groundwater contamination problem. These concerns include the following:

- o Desire to know if well water will be safe to use again in the future;
- o Potential long-term health effects that may have occurred prior to knowing about the problem;
- o Concern about fairness in water bill settlements;
- o Concern regarding amount of money spent on research and studies instead of corrective actions;
- o Concern that contamination will continue to spread;
- o Schedule or expediency of efforts to remedy problem;
- o Effectiveness of remedial actions; and
- o Devaluation of property.

The Army, through public meeting, news conferences and news releases, has provided the local community with all available information to address the concerns raised over the contamination problem. The Technical Review Committee (TRC) established in conjunction with the LEAD installation restoration program includes representatives of the city of Chambersburg, Greene Township, Franklin County, and Southampton County. The TRC was established to provide a forum to address public concerns and questions and to keep the public informed of installation restoration activities at LEAD.

#### **c. Summary of Public Comments and Responses**

No written comments were received during the public comment period for the Proposed Plan. The comment period was held from April 6, 1991 through May 20, 1991. Also, there was only limited participation at the public meeting held on May 14, 1991 to discuss the Proposed Plan. No specific comments or concerns were raised at the public meeting dealing specifically with the Proposed Plan for the PDO Area Source Areas. One general comment was raised concerning the overall environmental problem at LEAD as summarized below:

(1) One citizen was concerned about the overall higher rate of cancer for residents within the area surrounding Chambersburg and inquired if the contamination problems at LEAD could be the cause.

**Response:** While this was outside the scope of the Proposed Plan in question, the Army provided a brief explanation of the risk factors associated with the contamination at the K Areas and the PDO Area source areas and available pathways from the site to offpost residents. The low contamination levels, coupled with the limited pathways to the offpost residents makes it unlikely that any such increase in cancer could be linked to

the environmental problems at LEAD.

**d. Remaining Concerns**

All concerns raised during the public meeting were addressed to the satisfaction of all in attendance.