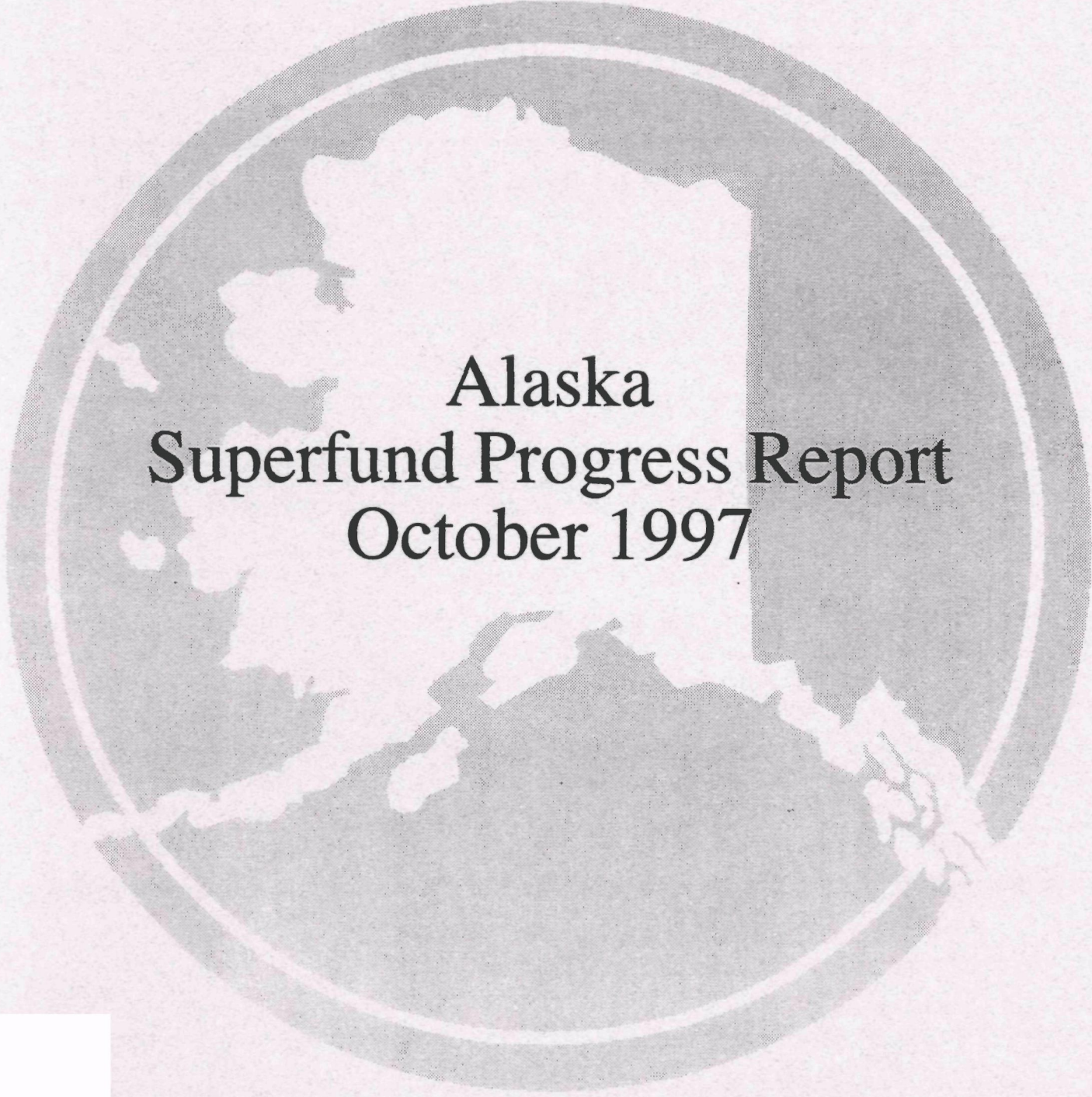




U.S. Environmental Protection Agency  
Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101-9797

Alaska  
Idaho  
Oregon  
Washington

A large, light gray circular graphic containing a white map of the state of Alaska. The map is centered within the circle, and the text of the title is overlaid on it.

# Alaska Superfund Progress Report October 1997

## ***Welcome to the Region 10 Superfund program.....***

The information contained in this book should give you a snapshot of our efforts at the U.S. Environmental Protection Agency (EPA) Region 10 (Alaska, Idaho, Oregon & Washington) to clean up sites contaminated with hazardous wastes which pose risk to people and the environment. You can look at the contents of this book as a status report of where we are in addressing the 78 sites on the National Priorities List (NPL) in the Region (14 have been deleted), as well as our efforts to address emergency or short term cleanup actions, and to assess new sites that we learn about. The book is formatted as follows:

***Section 1 - Superfund At Work:*** describes the overall progress picture for your state, and provides some highlights of significant progress and innovative approaches around the region. In it you will find:

- 1) a pie chart indicating the status of NPL sites in your state.
- 2) a bar chart indicating the range of cost of cleanup for sites in your state.
- 3) highlights of significant progress and new approaches around the region.

***Section 2 - Superfund in Your Community:*** should give you a picture of the sites within your state/Congressional District and the location and status of each. In this section you will find:

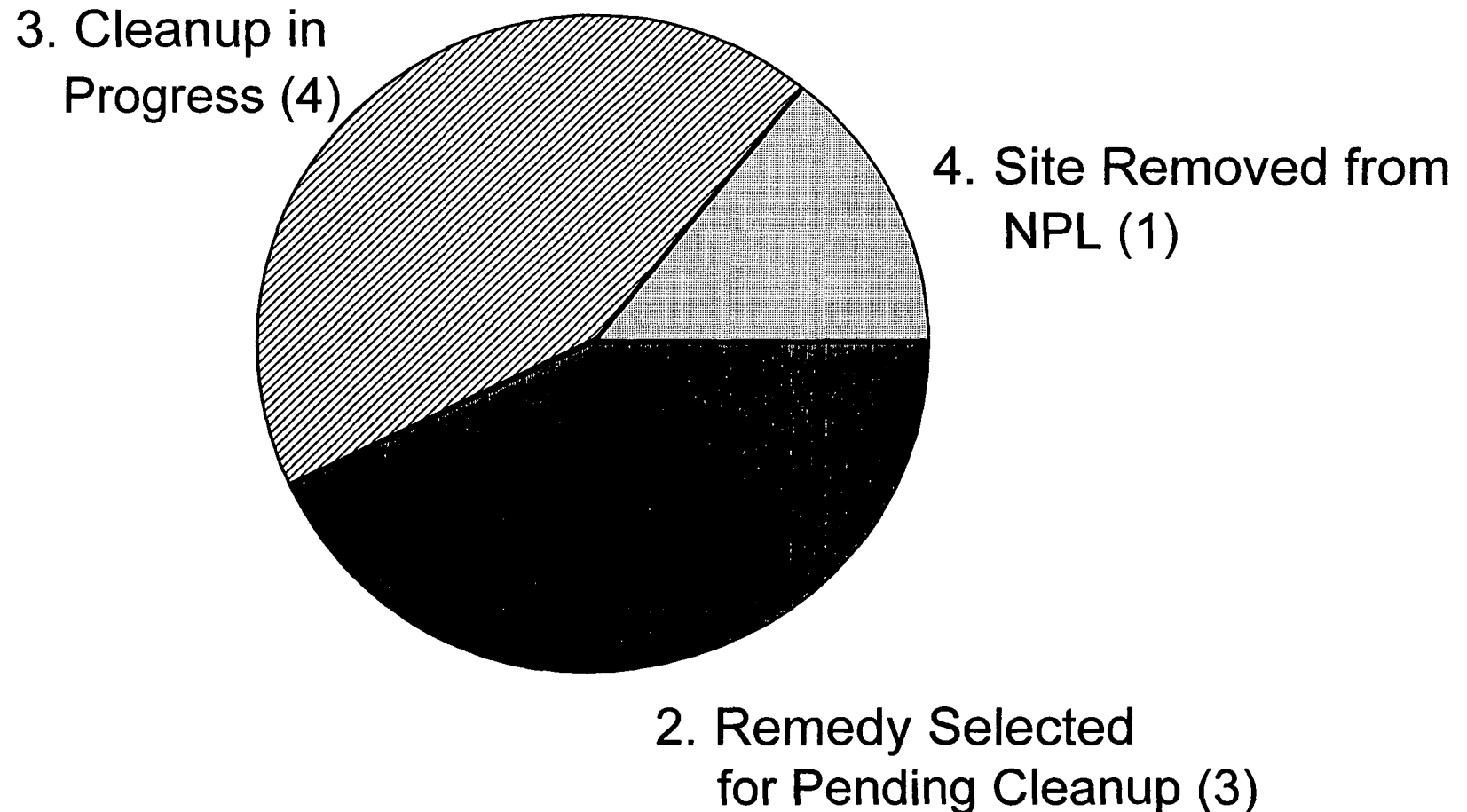
- 1) a list of early cleanup actions completed in your state.
- 2) summaries of some early cleanup actions in your state, in alphabetical order.
- 3) a list of all NPL sites in your state, including their status.
- 4) summaries of each NPL site in your state, in alphabetical order.
- 5) maps that illustrate the location of all Region 10 NPL sites.

We hope you can use this information as a resource as questions arise about Region 10 Superfund activities.

For more information about any of the sites and activities discussed in this book, please feel free to call the Region 10 Community Relations & Outreach Manager at (206) 553-1272. If calling from within Region 10 states, you can call toll free at (800) 424-4372.

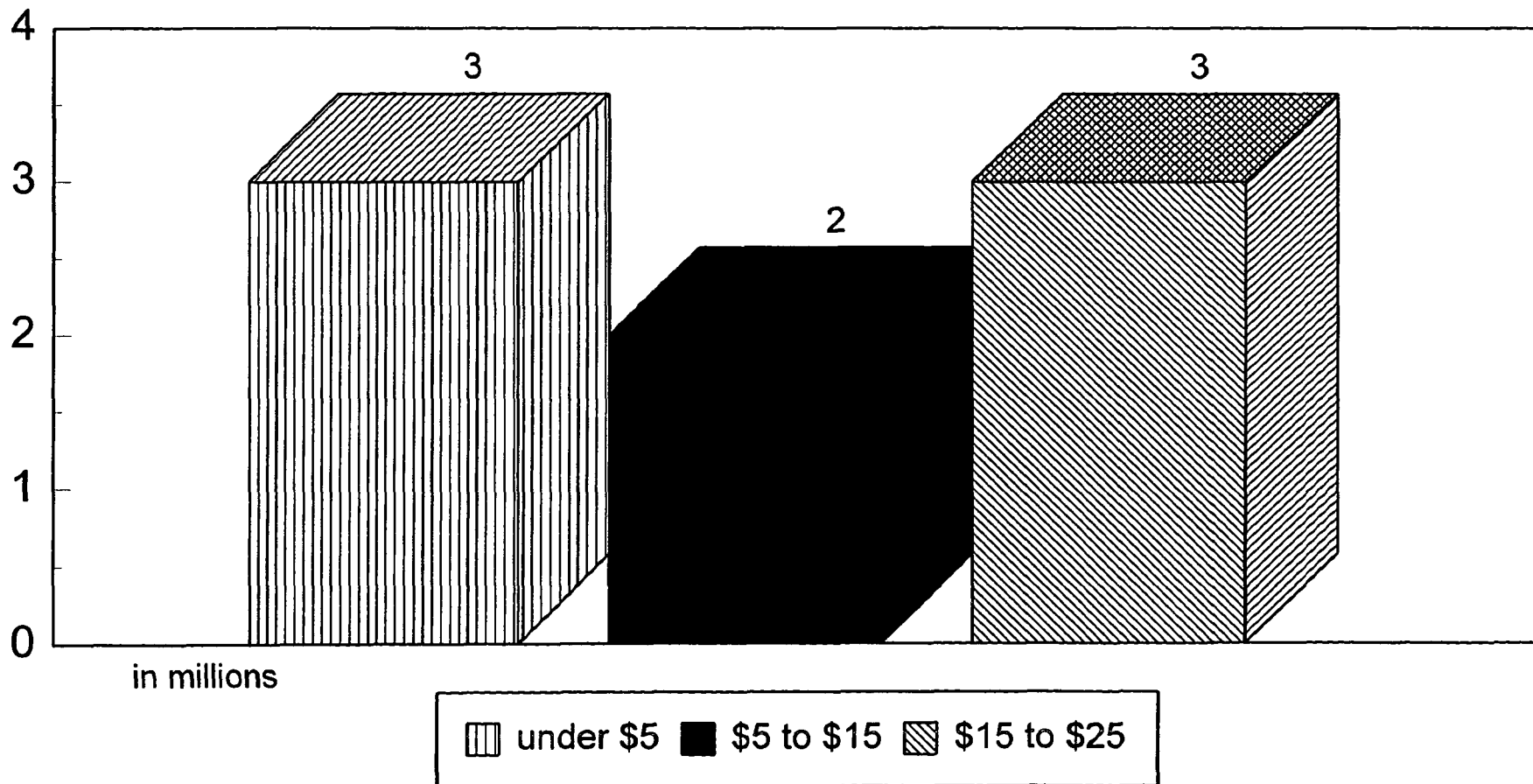
# ***SUPERFUND AT WORK***

# Progress Towards Cleanup at 8 Alaska NPL Sites



# Estimated Remediation Costs in Alaska

Number of Sites



\* Estimated costs for majority of sites (63%) are below \$15 million.

## **SUCSESSES IN REGION 10**

*EPA Region 10 continues to explore ways to improve our efforts to clean up hazardous waste sites in the most efficient way possible, and to return them to productive uses while protecting human health and the environment. The ability to be flexible in making cleanup decisions and improved cooperation with state and local communities have contributed to recent Superfund successes.*

*Following are five stories which highlight significant progress and new approaches around the region...*



## **Cooperative Agreements with the State of Oregon**

**Site Assessment Cooperative Agreement:** EPA and the Oregon Department of Environmental Quality (DEQ) have an excellent partnership on site assessment. Real environmental benefit has been gained without duplication or delay of work. EPA funding has been progressively increased as DEQ's role has become greater.

**Site Screening** DEQ screens sites brought to their attention by the public, other agencies, or owner/operators and consultants. Approximately 250 site screenings have been done in the last five years, in order to consider the worst sites first. Many screenings consist only of file searches and phone calls, while others involve collecting additional information and conducting site drive-bys. When further action is needed, DEQ and EPA work together to determine what should be done. DEQ has typically recommended about 15 - 20% of sites screened be added to EPA's inventory of sites needing further Superfund consideration (CERCLIS).

**Preliminary Assessments** For sites that would warrant assessment under Superfund, Oregon staff and EPA staff work together on a streamlined federal Preliminary Assessment. DEQ has completed approximately 50 PAs in the last five years.

**Site review/Technical Assistance** For complex sites, state and EPA staff together carry out a joint investigation. Oregon DEQ reviews site assessment work completed by EPA contractors for technical merit, and for possible state action.

**Brownfields Project** Developers are reluctant to buy vacant or under utilized properties that may be contaminated because of the risk of cleanup liability. EPA's Brownfields program is working to assess environmental problems, clean, and revitalize these properties. Oregon DEQ is compiling an inventory of potential Brownfield sites. Sites will be prioritized for assessment based on how they meet certain criteria such as ownership, location, potential for commercial or industrial development, and whether there is a potential developer interested in the property.

### **McCormick & Baxter Creosoting Company/State Lead Site**

This is the State of Oregon's highest priority Superfund site. Oregon DEQ has the technical lead for the cleanup, while EPA has a consultation role. Federal Superfund dollars pay for the cleanup via a Cooperative Agreement between the state and EPA Region 10.

Operations at the former wood treating facility resulted in contamination of soil, sediments, and ground water. Contaminants are migrating from ground water to the Willamette River, including pentachlorophenol (PCP), polycyclic aromatic hydrocarbons (PAHs), arsenic and dioxin.

The cleanup is currently in the remedial design phase. Plans for cleanup actions include treatment and/or removal of on-site contaminated soil, extraction and treatment of floating and sinking pure non-aqueous phase liquid (NAPL) product from the ground water, and capping the entire site to

*(continued)*

make it ready for future development. Demolition of on-site structures has been completed which allows for easier access to contaminated areas.

There is considerable local interest in the redevelopment of this site. It is a high priority Brownfields redevelopment for the City of Portland. EPA has funded a Technical Assistance Grant for a local neighborhood group (WAKE-UP) that is closely following the progress of the cleanup.

#### **East Multnomah County Groundwater Superfund Site**

The East Multnomah County Groundwater Superfund site covers three square miles in eastern Portland. Groundwater beneath the area, contaminated with Volatile Organic Compounds (VOCs) by several area businesses using solvents, has been used for drinking water. Early response actions taken by the responsible parties provided several groundwater extraction wells to control the contaminant plume, and a cutoff trench to prevent contaminated shallow groundwater from migrating into deeper aquifers.

The Oregon Department of Environmental Quality has issued Records of Decision for two operable units, the Troutdale Sandstone Aquifer and the Cascade Corporation Site-Troutdale Gravel Aquifer. These decisions for further cleanup represent significant milestones toward restoring the availability of the city of Portland's back-up drinking water supply.

Residents in the Portland area are extremely interested in ensuring that groundwater resources will be protected. EPA has funded a Technical Assistance Grant for a local neighborhood group, Friends of Blue and Fairview Lakes. The group has a contract with Portland State University to review documents and provide input to DEQ, EPA, and the local community through the Friends of Blue and Fairview Lakes.



## **Local Involvement in Spokane Hastens Cleanup & Renews Property Values**

Community interest in the Spokane Junkyard/Associated Properties Superfund site has always been high. It was especially gratifying for EPA to participate in the community's recent celebration of the completion of the cleanup. Signs, posted to warn people of the dangers of contamination at the site, were removed by a neighborhood activist at the ceremony.

What was once a threat to the community, a field of highly contaminated soil littered with drums of hazardous waste and a variety of other unsightly and potentially dangerous materials, is now a field of native plants, safe and clean and ready to become a community asset.

The site consisted of a former junkyard, the former Spokane Metals facility, and two other parcels of land. Salvage operations at Spokane Metals, from the 1940s until the early 1980s, resulted in soil contaminated with polychlorinated biphenyls (PCBs) and lead. Poor junkyard storage practices of asbestos, paint waste, and various liquids and solid wastes also resulted in site contamination.

After an explosive fire on the junkyard property in 1987, EPA conducted an emergency cleanup during 1988 and 1989. The most highly contaminated materials were removed and the site was fenced to keep people out. The site was added to EPA's National Priorities List for further long-term cleanup in May 1994.

The site is surrounded by homes and apartments, businesses, and an elementary school. Local and state agencies, businesses, and community activists worked with EPA in many meetings about this site. Nearby residents worried about vandalism at the site and the risk of children being exposed to contamination. Neighbors supported plans for a low-income housing project on the site. Everyone was anxious for this property to become a safe, attractive, and productive part of the neighborhood.

Three companies -- Kaiser Aluminum, Washington Water Power, and Inland Power and Light -- agreed to conduct a site investigation and to prepare plans for cleaning up the site under an Administrative Order with EPA in June 1995. Exceptional cooperation between EPA and the three companies using the most efficient Superfund authorities accelerated the process.

In January 1996, after completion of site investigations, six cleanup alternatives were proposed. EPA selected a cleanup alternative after reviewing and considering comments received during a public comment period. The three companies completed the cleanup design in the summer of 1996, and the cleanup of the site was accomplished from September to November 1996.

The site now consists of a capped containment cell on the Spokane Metals property, and a seeded field covering the rest of the site. Residential cleanup levels were selected for the site cleanup because all properties except the Spokane Metals property will be zoned for residential use in the future.

## Cleanup & Economic Development Go Hand in Hand

**The Pacific Sound Resources Superfund Site in Seattle:** One way that Region 10 helps promote development and economic growth in areas designated as Superfund sites is through the Prospective Purchaser Agreement Policy. The Pacific Sound Resources (PSR) Superfund site is an example of how well that policy can work.

PSR (formerly the Wyckoff Company) operated a wood preserving plant on 25 acres next to Elliott Bay until 1994. Soil, groundwater, and near shore marine sediments were contaminated with creosote, pentachlorophenol, copper, arsenic, and zinc. Because the site posed a threat to public health from contact with contaminated soil and to aquatic life in Elliott Bay, EPA added the site to the National Priorities List in May 1994.

The Port of Seattle then purchased the PSR site under a prospective purchaser's agreement which protects the Port from future liability for additional cleanup costs associated with past contamination. The Port agreed to provide services and cleanup funds totaling \$16.2 million and to conduct cleanup work under an Administrative Order with EPA.

All together about 200 acres of abandoned, contaminated industrial/commercial land, which includes the PSR Superfund site, has been cleaned up by the Port and returned to productive use as a combined cargo terminal and intermodal yard for American President's Line. The Port, local, state, and federal agencies, community members, and the business community worked together to successfully restore this important resource.

**Asarco Smelter Complex Cleanup in Tacoma:** A "civic triumph" is how the News Tribune described the January 1997 signing of a "definitive agreement" governing redevelopment of the old Asarco Smelter site on Commencement Bay, straddling the border between the town of Ruston and the city of Tacoma in Washington. The definitive agreement was signed by officials from Asarco, Ruston, Tacoma, and the Metropolitan Park District. Most of the 100 acres, which includes the 67 acre Superfund site, is now a barren fenced-off eyesore. Over the next few years, the site will be cleaned up and transformed: offices, light industrial facilities, and a public park with remarkable views of Puget Sound and surrounding mountains will replace the old smelter.

The redevelopment agreement was negotiated in parallel with a consent decree between EPA and Asarco covering the environmental cleanup of wastes left from 80 years of smelting operations. The consent decree requires that the cleanup be completed by December 2003. The parks are expected to be available for public use by the summer of 2004.

These agreements come after years of meetings between EPA, Asarco, and the surrounding communities. EPA received more than 900 public comments on the cleanup and site reuse plans. Workshops were attended by 1,200 people to express their individual views and those of 35 groups including community action groups, neighborhood councils, city of Tacoma and town of Ruston councils, and other local government commissions. All were dedicated to finding the best solutions to problems so that environmental cleanup and economic development could advance simultaneously.

## Cleanups Expedited at Alaska Military Bases

By working in partnership with States, the Department of Defense and the Department of Energy, EPA Region 10's Federal Facilities Superfund program has been able to streamline requirements and reduce costs while implementing flexible and efficient cleanup solutions throughout the Northwest. Alaska is an excellent example of this partnership, where six of the eight NPL sites are military bases.

**Eielson Air Force Base**, located 24 miles southeast of Fairbanks, covers 19,780 acres. Major sources of hazardous wastes include both closed and active unlined landfills, trenches used for tank sludge burial, drum storage areas, fire suppression training, and fuel storage and delivery. Areas within the groundwater are contaminated with lead and volatile organic compounds such as benzene and trichloroethylene. Several areas of subsurface petroleum-contaminated soil and petroleum products are sources of contamination. Elevated levels of polychlorinated biphenyls (PCBs) were found in sediments and in fish caught in a slough that runs through the base.

The base included 64 potential source areas of contamination that required some level of investigation. The investigations were streamlined and tailored to use an appropriate level of evaluation for each area and to avoid unnecessary investigative costs. All investigations are complete, and remedies have been selected covering all problems at the base. Cleanups for all areas except one are currently in place, are fully functional, and include the use of innovative technologies such as bioventing. The last cleanup, the PCB soil and sediment cleanup in Garrison Slough will be finished this summer.

The Air Force, EPA, and the state of Alaska worked together to determine the best technical and regulatory approaches at Eielson, including innovative treatment technologies, source reduction with natural attenuation to address limited areas of groundwater contamination, hybrid landfill cap designs, and technical impracticability waivers for immobile lead groundwater contamination.

**Fort Richardson**, covering 61,900 acres in Anchorage, has been divided into four smaller units so that cleanup can progress more efficiently. Each of four work areas identified for cleanup contains a variety of contaminated sub-areas. While waiting for on-going investigations to be completed for all the complex work areas, it was important that early actions be taken at some areas.

The Eagle River Flats ordnance impact area, which encompasses 2,500 acres of wetlands associated with the Eagle River delta, is one of the four work areas. Many thousands of waterfowl who fed in the contaminated sediments of those wetlands have died. Under an agreement with EPA and the state of Alaska, the Army is dredging and drying wetland sediments contaminated with white phosphorous, which allows the white phosphorous to change into a harmless compound. The Army will continue dredging and drying the contaminated sediments until the threat to waterfowl is eliminated. The death rate for waterfowl that use the wetlands during spring and fall migrations has already dropped from thousands to hundreds of ducks for each migratory season.

## Progress Continues in Idaho at Bunker Hill

The Bunker Hill Superfund site spans 21-square miles in the heart of the Silver Valley in Northern Idaho. More than 6,000 people live within the site boundary in the communities of Smelterville, Kellogg, Wardner, Pinehurst, Page, Elizabeth Park, and Ross Ranch. Contamination, caused by mining activities since the late 1800s, includes lead, mercury, cadmium, sulfuric acid, arsenic and zinc. Mine tailings deposited into the Coeur d'Alene River have contaminated the valley, riverbeds and Lake Coeur d'Alene. Ground and surface water is contaminated with a variety of heavy metals due to discharges of mine drainage. Lead is the primary contaminant in the valley and poses a serious health threat particularly to children and pregnant women.

Some of the 17 private companies identified as being potentially responsible for the contamination are working in partnership with EPA and the Idaho Department of Environmental Quality to support the cleanup. Much progress has been made previously at the site. Blood lead levels of children have dropped dramatically in the last decade, due both to cleanups of contaminated soils and a continuing effective local public health program. In 1996, more major cleanups took place:

- 600 tons of contaminated material were excavated & removed
- 100,000 seedlings & 100 acres of grass were planted on hillsides
- 500 million gallons of contaminated water were treated
- 395 children were tested for possible lead contamination
- contaminated soil was excavated and replaced with clean soil at 200 residential yards
- 75 structures were demolished, resulting in the disposal of 1000 cubic yards of asbestos and 20,000 truckloads of debris
- 8980 contaminated railroad ties and 86 tons of rail were removed from the Union Pacific Railroad right-of-way through the site

EPA and Idaho staff are working with local officials to maximize the reuse of this land, consistent with the cleanup. A few projects that have benefited the community are:

- A Special Area Management Plan to help Shoshone County plan for future development at an on-site wetland area.
- At the request of the county, a section of a temporary haul road is being paved to provide access to a proposed business park. Storm water ditches and pipelines are being added to support future development and to divert contaminated water from the Coeur d'Alene River.
- Capping and paving a 50-acre slag pile near I-90 will support future industrial development.
- EPA and the state are currently working with community leaders to support future land use in the design for the 200-acre cap of the Central Impoundment Area.

*(continued)*

At the request of community leaders, Shoshone County plans to use several structures, saved from scheduled demolition, for future development.

The People's Action Coalition was awarded a \$50,000 Superfund Technical Assistance Grant (TAG) to hire a technical advisor to monitor on-going site activities for the community and review site documents relating to health risks and contamination.

***SUPERFUND  
IN YOUR COMMUNITY***

# EARLY CLEANUP ACTIONS ALASKA

<u>SITE NAME</u>	<u>START</u>	<u>COMPLETION</u>
<b>Congressional District: 01</b>		
ALASKA BATTERY ENTERPRISES, FAIRBANKS	8/22/88	8/22/89
ALASKA HUSKY BATTERY INC., ANCHORAGE	6/30/88	9/9/88
ARCTIC SURPLUS, FAIRBANKS	6/21/90	6/17/91
	11/4/92	2/15/95
	6/17/91	3/31/92
	9/18/89	6/21/90
BENDLES ROAD OILING FACILITY, CHUGIAK	6/11/84	7/25/84
ENGINE & GEAR, ANCHORAGE	9/1/96	
OHLSON MTN, HOMER	7/22/85	8/23/85
SPRUCE ST PCB SITE, ANCHORAGE	9/20/96	
	9/23/91	9/20/96
STANDARD STEEL & METALS SALVAGE YARD (USDOT), ANCHORAGE	6/2/86	6/29/88
<b>Sites Addressed by Superfund for Congressional District01: 12</b>		

Sites in bold are not National Priorities List sites.



**McCall Drum Removal Summary**  
**Fairbanks North Star County, Fairbanks, Alaska**

**Congressional District 1**

The U.S. Environmental Protection Agency (EPA) initiated a removal action at the McCall Drum Site, located in Fairbanks, Alaska, on July 8, 1996. The removal action was implemented in response to a request for assistance from the Alaska Department of Environmental Conservation (ADEC). Previous investigations established that the abandoned, former industrial site contained unsecured drums of hazardous waste in a groundwater-filled gravel pit, and background information indicated that hazardous materials were potentially buried at other on-site locations. The McCall site was also suspected by ADEC as a potential source of trichloroethylene (TCE) contamination discovered in the local aquifer.

Known property history dates back to the 1950's, when the site was the location of a U.S. Army anti-aircraft artillery facility. Following this, the property was held by a series of private owners and was last purchased by John R. McCall and utilized between 1978 and 1983 as a storage yard for surplus pipeline construction supplies. The site was abandoned after the McCall business became bankrupt in 1983. The hazards associated with the site prior to the removal action (unsecured drums of hazardous waste in the gravel pit) are attributed to activities conducted during operation of the McCall business on the property. However, the property has been used by multiple parties, any of whom may have contributed to the on-site contamination.

The removal action consisted of excavating exploratory trenches within two suspected drum burial sites and recovering drums from a groundwater-filled gravel pit. The two burial sites yielded military-related sand-filled drums. No hazardous wastes or other contamination were found at these locations. Drums containing hazardous and non-hazardous waste were removed from the banks of the groundwater-filled gravel pit and further investigation of the pit yielded hundreds of submerged, full drums. A total of 984 containers (mostly drums) were recovered from this pit, along with a variety of non-hazardous debris and scrap material. The majority of the drums contained a non-hazardous glue material, while the remainder of the containers held either various hazardous wastes, other non-hazardous wastes, or were empty. Groundwater in the pit, contaminated with volatile organics, was pumped out to aid the drum recovery effort and was treated (and discharged) on site. Approximately 3.8 million gallons of pit water was processed through an on-site treatment system during the removal action. Hazardous materials in drums and smaller containers, largely consisting of household and shop-type chemicals, were discovered abandoned in the on-site buildings and were removed under the action. A total of 1,042 different waste items were inventoried, packaged, and transported off site for disposal.

A source of the TCE contamination in the groundwater was not found at the McCall site during the removal action, and the investigation and/or treatment of contaminated groundwater beyond the level required for drum removal was not included in the scope of the removal action. ADEC is continuing their investigation into the source of the groundwater contamination.

# NATIONAL PRIORITIES LIST

## ALASKA

### SITE NAME

### STATUS

**Congressional District: 01**

ADAK NAVAL AIR STATION

**ALASKA BATTERY ENTERPRISES**

ARCTIC SURPLUS

EIELSON AIR FORCE BASE

ELMENDORF AIR FORCE BASE

FORT RICHARDSON (USARMY)

FORT WAINWRIGHT

STANDARD STEEL & METALS SALVAGE YARD (USDOT)

Cleanup in Progress

**Removed from NPL**

Remedy Selected

Cleanup in Progress

Cleanup in Progress

Remedy Selected

Cleanup in Progress

Remedy Selected

**Alaskan Battery Enterprises**  
**Fairbanks North Star County, Fairbanks, Alaska**

**Congressional District: 01**  
**Listing: 03/31/89**

Site Background:

Alaska Battery Enterprises was a battery recycling facility of about 1 acre in size which operated from the early 1960s until about 1988. It is located approximately 1 ½ miles south of Fairbanks, Alaska, in a light industrial and residential area. The City of Fairbanks has a population of approximately 22,600. There are 12 schools within 3 miles of the site. Wetlands covering more than 5 acres are located within 1/2 mile to the northeast of the facility.

The primary contaminant of concern at the site was lead at high concentrations in the soil. This lead contamination was released through the practice of disposing battery acid directly into the soil, and through the practice of burying used battery casings in the ground.

Cleanup Progress: Construction Completed (No Further Action Required)

Early Actions: In the summers of 1988 and 1989, EPA conducted an emergency response action. Under this action, EPA excavated about 4,000 cubic yards of soil contaminated with lead exceeding 1,000 ppm and disposed of it in a hazardous waste disposal facility in Utah.

In the summer of 1992, an innovative soil washing technology was demonstrated at the site through the Superfund Innovative Technology Evaluation (SITE) Program. The soil washing demonstration treated the remaining 150 cubic yards of lead-contaminated soil. A "no further action" Record of Decision (ROD) was signed in March 1993. This ROD required two additional years of groundwater monitoring to confirm that groundwater was not contaminated. In 1995, this additional monitoring was completed and indicated that groundwater was not contaminated.

The site was deleted from the NPL on July 26, 1996.

**Arctic Surplus  
Fairbanks North Star County, Fairbanks, Alaska**

**Congressional District: 01  
Listing: 08/30/90**

**Site Background:**

The Arctic Surplus site occupies approximately 25 acres and is located on Badger Road 6 miles southeast of Fairbanks, Alaska. Salvage operations were conducted at the site, which accepted military equipment and materials, asbestos insulation, and various oils. In addition, battery cracking and transformer burning operations were conducted to recover metals. The Department of Defense (DOD) owned the site from 1944 to 1947. In 1988, the Alaska Department of Environmental Conservation conducted a site inspection and detected elevated levels of metals on site. Significant amounts of bulk asbestos and a number of drums of liquid waste were found on site. On-site groundwater is contaminated with trichloroethylene (TCE). On-site soil is contaminated with industrial solvents, polychlorinated biphenyls (PCBs), and lead. The Tanana and the Chena Rivers flow approximately 1 mile away from the site and could become polluted by the contaminants. A shallow aquifer, which underlies the Tanana-Chena flood plain, is the primary source of drinking water for residents living near the site. The 1,000 residents living within a 3-mile radius of the site are dependent on private domestic wells or bottled water.

**Cleanup Progress:** Threat Mitigated

The site is being addressed in two stages: early actions which addressed the source of groundwater contamination and a long-term action phase focusing on cleanup of the entire site.

**Early Actions:** The EPA conducted early actions in three phases during 1989, 1990, and 1991. In 1989, the EPA removed 22,200 pounds of asbestos, fenced the site, and stabilized 75 gallons of the pesticide chlordane. In 1990, the Defense Logistics Agency (DLA), under an EPA consent order, disposed of the contents of 1,700 drums of liquid wastes; removed and contained highly contaminated soils; and removed and disposed of additional asbestos found at the site. In 1991, the EPA located and stabilized areas contaminated with high levels of lead and PCBs; investigated potential waste burial areas; and conducted sampling. DLA will monitor off-site wells every six months. In 1992, the Alaska Department of Transportation and Public Facilities (ADOT) under an EPA Administrative Order cleaned up PCBs and lead-contaminated soils from a ditch adjacent to the site.

**Long-term Actions:** In 1992, Defense Logistics Center, responding for the PRPs, began an investigation to determine the nature and extent of contamination at the site. Based on the results of the investigation, in the fall of 1995, the EPA selected a remedy for the site. The remedy includes on-site treatment of PCB-contaminated soils; solidification of lead-contaminated soils; and consolidation and capping the treated residual soils over an old closed landfill. Design of the remedy is expected to start in 1997. Negotiations are underway for final site cleanup and design activities.

**Eielson Air Force Base  
Fairbanks North Star County,  
Fairbanks North Star Borough, Alaska**

**Congressional District: 01  
Listing: 11/21/89**

Site Background:

The Eielson Air Force Base site covers 19,780 acres in Fairbanks North Star Borough, located 24 miles southeast of Fairbanks, Alaska. Since its establishment in 1944, its primary mission has been to provide tactical support to the Alaskan Air Command. The site contains both closed and active unlined landfills, shallow trenches where weathered tank sludge was buried, a drum storage area, and other disposal or spill areas. Groundwater is contaminated with lead and volatile organic compounds (VOCs) such as benzene, xylene, trichloroethylene and toluene. Several areas of subsurface petroleum-contaminated soil and floating petroleum products are the sources of groundwater contamination. Polychlorinated biphenyl (PCB)-contaminated fish were found in a slough that runs through the base. Approximately 6,000 people obtain drinking water from wells located within 3 miles of the site. The site is in the flood plain of the Tanana River, and surface water located 3 miles down-gradient of the site is used for fishing.

Cleanup Progress: Construction Underway

The site is being addressed in five long-term actions focusing on cleanup of two fuel contaminated areas, trichloroethylene spills, drum burial area, landfills, and a comprehensive evaluation of the entire site.

**Fuel Contaminated Areas:** In 1991, the Air Force began investigating the nature and extent of fuel contamination at the site. In late 1994, the EPA and the Air Force selected bioventing and soil vapor extraction (SVE) as the remedy to treat the fuel-contaminated source areas. Construction activities were completed by the Air Force in early 1997.

**TCE Spill Areas:** In 1992, the Air Force began an investigation of the TCE spill areas at the site to determine the type and extent of contamination. In 1995, SVE was the remedy selected to clean up the areas. A pilot scale SVE implemented in 1996 indicated that only a minimal amount of contamination remained. Therefore, a full scale SVE was not installed, and instead, institutional controls and monitoring were implemented in 1997.

**Drum Burial Areas:** In 1992, the Air Force began an investigation into the nature and extent of contamination at the drum burial areas. In 1995, the EPA selected a remedy that includes capping one drum burial area and bioventing/SVE for a historic on-site gas station. The Air Force completed the construction of the remedy in 1997.

**Landfill Areas:** In 1992, the Air Force began an investigation into the nature and extent of contamination at the landfill areas on the site. In 1995, the EPA selected a remedy that includes capping the site's largest historic landfill. The Air Force completed construction in 1997.

Entire Site: In 1991, the Air Force began an investigation to evaluate any comprehensive risks due to the nature and extent of contamination at the entire site. This investigation evaluates any cumulative human health and environmental risks remaining at the site after remedies for individual areas have been selected. In September 1996, EPA selected a remedy which included the removal of PCB-contaminated sediments and soils above 10 parts per million (ppm). Material < 50 ppm will be disposed of in an existing on-site CERCLA landfill. Materials >50 ppm will be treated or disposed of in accordance with the Toxic Substance Control Act. The Air Force plans to complete construction in late 1997.

**Elmendorf Air Force Base**  
**Anchorage County, North of Anchorage, Alaska**

**Congressional District: 01**  
**Listing: 08/30/90**

Site Background:

The Elmendorf Air Force Base (EAFB) site covers approximately 13,130 acres near Anchorage, Alaska. More than half of the area at the site is undeveloped, including 1,416 acres of wetlands, lakes and ponds. The remaining area has been developed for airfield operations, base-support operations, housing, and recreational facilities. The Air Force has identified 33 parcels of land which may be contaminated. EAFB employs 7,400, and approximately 8,600 people currently live on the base. Approximately 121,000 individuals reside within 3 miles of the site. Base water supplies are unaffected and not threatened by contamination. Emergency backup water supply wells for EAFB are located within 3 miles of the identified contamination. Several sensitive environments exist within, and adjacent to, the areas of contamination at the site. These include wetlands, moose habitats, beaver ponds, and Ship Creek, which has several active fisheries, including salmon.

Cleanup Progress: Construction Underway

The contaminated areas on the site were divided into six study areas, these are: Landfills, Underground Storage Tank Area, Shop Waste Disposal and Transformer Storage Areas, Floor Drain Spill Areas, Fuel Spill Areas, Former Landfills. Remedies have been selected for all areas. In five of the six, design and most remedial construction activities have been completed as of Spring 1997. Construction should be completed in all six areas by the end of 1998, however the remedies will have to remain in place, with monitoring, for decades to achieve final cleanup goals.

Early Actions: In 1990, the Air Force excavated, demolished and removed a 338,000 gallon underground storage tank along with contaminated soils. The soils are being treated through bioremediation. In early 1991, four one-million gallon underground storage tanks were taken out of service and drained. An interim remedy was selected in 1992 to address these tanks. The remedy included removing and treating the floating product from the surface of the groundwater; and reducing further movement of contaminated groundwater through containment of seeps. In 1993, construction of a collection and treatment system was completed by the Air Force, and continues to date as part of the final selected remedy for the tank area. During the summer of 1993, EAFB constructed an underground bioventing system to treat soils contaminated with petroleum, oils, and lubricants. Bioventing pilot tests were conducted in the fire training/fuel spill areas in 1993 and 1994, and bioventing is continuing as part of the final selected remedies in these areas. In 1994, the state removed asphalt from approximately 3,800 of the 4,500 drums on the site. The asphalt was reclaimed and recycled.

Long-term Actions:

Landfills: In 1994, the Air Force completed an investigation and selected a remedy to address



landfills on the site. The landfills had previously received a variety of hazardous wastes, including lead acid batteries and waste solvents. The selected remedy, groundwater monitoring and placing institutional controls on the site, was largely completed in 1996. The work is expected to be completed in early 1997.

**Underground Storage Tank Area:** In late 1994, the Air Force selected a cleanup approach for this area which includes continuing the removal of contaminants from the groundwater surface as described in the interim actions; excavating contaminated soils and proper abandonment of the tanks; and long-term groundwater monitoring. The tank and soil removal was completed in 1996, with final grading and seeding to be completed in 1997. The groundwater treatment system started in 1993 is still operating and recovering small quantities of product. It will continue to be operated as long as necessary to recover contamination.

**Shop Waste Disposal and Transformer Storage Areas:** In 1996, efforts by the Air Force to bioremediate the polychlorinated biphenyl (PCB) contaminated soils in this unit proved unsuccessful. A final cleanup decision was selected in the winter of 1996, which calls for excavation and disposal of contaminated soils at an approved off-site landfill. Construction work should be completed in 1998. No additional actions or institutional controls will be required for this area.

**Floor Drain Spill Areas:** Floor drains are located at 10 maintenance areas. These include hanger and aircraft facilities, an asphalt drum area, and a fire training area. Solvents, pesticides and other wastes were disposed of in these floor drains. The asphalt drum storage area was a former asphalt batch plant where several thousand drums full of asphalt had been abandoned. The remedy selected in 1996 calls for soil bioventing for contaminated soils and natural attenuation for fuel-contaminated groundwater. The soil bioventing systems have been installed and are being evaluated during early 1997, after which adjustments will be made for long-term operations.

**Fuel Spill Areas:** A final cleanup remedy was selected in late 1994 that includes building an engineered wetland as a natural treatment system; dredging contamination and re-vegetating the site; constructing a cap over PCB-contaminated sediments; excavating and treating soils; and placing institutional controls at the site. Design of the wetland and most of the construction was completed in 1996 by the Air Force. The system is being tested and should be fully operational in early 1997.

**Former Landfills:** The remedy for this area was selected at the end of 1996 and includes removal of surface debris; adding soil cover and/or institutional controls where necessary to prevent human exposure; and a combination of soil excavation and high vacuum extraction to deal with contamination at one surface disposal area. The Air Force began design and cleanup activities in 1996 and plans substantial completion by the end of 1997.

**Fort Richardson  
Anchorage County, Anchorage, Alaska**

**Congressional District: 01  
Listing: 05/31/94**

Site Background:

Fort Richardson, constructed in 1940, occupies a 56,000 acre area located in the municipality of Anchorage, Alaska. The installation is bounded by the City of Anchorage, Elmendorf Air Force Base (also on the NPL) to the north and south, and by the Knik Arm of Cook Inlet to the western border. The Fort's eastern boundary consist of Chugach State Park and undeveloped lands. During World War II, the fort's mission was to defend Alaska against foreign invaders. Its current mission is to command and control Army forces in Alaska and to provide the services, facilities, and infrastructure to support and train rapid deployment forces from Alaska to the Pacific theater. Three sources of contamination were identified by the Army: the Eagle River Flats (ERF) ordnance impact area, the Poleline Road Disposal Area (PRDA), and the Roosevelt Road Transmitter Site (RRTS). The ERF ordnance area encompasses 2,500 acres of wetlands associated with the Eagle River delta. The wetlands are an important habitat for waterfowl during spring and fall migrations. ERF has served as the primary ordnance impact area for Fort Richardson since World War II. PRDA consists of a disposal area used to bury hazardous substances in the 1950s. RRTS consists of a bomb-proof underground bunker and the remnants of support facilities.

Sediment and surface water samples collected from ERF have revealed elevated levels of white phosphorous. Volatile organic compounds (VOCs), heavy metals, and polychlorinated biphenyls (PCBs) have contaminated the soil at the RRTS. VOCs are present in the soil and shallow groundwater at PRDA.

Cleanup Progress: Threat Mitigated

There are 4 Work Areas at the site. Each Work Area contains and addresses a varying number of contaminated sub-areas. The remedial investigations for the site are expected to be completed in early 1998; a number of early actions have been completed at the Work Areas.

Early Actions:

Work Area B: This area consists of two sub-areas that were used during the 1950s and 1960s for the disposal of chemical agent test kits. The Army performed an early action in this Work Area during the summers of 1993 and 1994. The action was done to remove potential chemical agent material (mustard and lewisite) and to remove the source of VOC contamination in the groundwater. Several chemical agent storage containers and associated material were also removed. In addition, 3500 cubic yards of soil were removed and stored pending remediation.

Work Area C: This area is the Eagle River Flats impact area. The contaminant of concern is white phosphorous (WP) in the sediments. Ingestion of WP by ducks is extremely toxic and

generally results in convulsions and death. Early actions and treatability studies have included dredging of channels to remove WP-contaminated sediment, draining of ponds, and placement of bentonite barriers to prevent ingestion of contaminants. These actions have resulted in a decrease of duck mortality from several thousands of ducks for each migratory season to a couple of hundreds of ducks.

#### Long-term Actions:

Work Area A: This area consists of three sub-areas; Roosevelt Road transformer station; the petroleum, oil and lubrication (POL) lab; and Ruff Road fire training site. The contaminants of concern are petroleum products. The remediation of this Work Area was moved into a 2 party agreement between the Army and the state. The remedy that will address groundwater and soil contamination will be selected in 1997.

Work Area B: After the early action the remaining contaminants are halogenated solvents such as 1,1,2,2-tetrachloroethene (1,1,2,2) and trichloroethylene (TCE) found in the soil and groundwater. A final remedy for this Work Area will be selected in 1997.

Work Area C: A Remedial Investigation Feasibility Study (RI/FS) is being completed and a Record of Decision (ROD) is scheduled for 1998.

Work Area D: This addresses the entire site. The on-going investigation covers areas that were identified during a review of historical information including: the post laundry, an abandoned motor pool and storage areas. A risk assessment will determine if there is any cumulative risk from residual contamination. Current results indicate that there are potentially two contaminated groundwater plumes that need further investigation. A ROD is scheduled for 1999.

**Fort Wainwright  
Fairbanks North Star County,  
Fairbanks North Star Borough, Alaska**

**Congressional District: 01  
Listing: 08/30/90**

Site Background:

Fort Wainwright encompasses over 900,000 acres near the eastern boundary of the City of Fairbanks, Alaska. The Fort was established in 1938 for the primary purpose of training soldiers and testing equipment in arctic conditions. Industrial operations support mission activities and include maintenance of aircraft and vehicles, landfill activities, and power generation. Fort Wainwright is made up of several areas, including a main post area of 4,473 acres, partly within the city limits, 8825 acres of ranges, and over 898,000 acres of military maneuver areas. Approximately 15,000 people live and work at Fort Wainwright and obtain drinking water from wells that are in close proximity to contaminated source areas. The Chena River, which is used for subsistence, recreation, and sport fishing, runs through the main post area of Fort Wainwright.

In some areas, groundwater is contaminated with petroleum products, solvents, and pesticides. Some soils contain some heavy metals, solvents, petroleum products, pesticides, and polychlorinated biphenyls (PCBs).

Cleanup Progress: Cleanup Ongoing/Construction Underway

The site is being addressed through five project areas, each consisting of multiple source areas. Project Area #1 addresses Building 2077, Chemical Agent Site, Building 1599, Site N-4 and the 801 Drum Burial Site; Project Area #2 addresses the North Post, Defense Reutilization and Marketing Office (DRMO), and Building 1168; Project Area #3 addresses the Fairbanks Fuel Terminal and Railcar Off-Loading Facility, the Fairbanks-Eielson Pipeline Mileposts 2.7, 3.0 and 15.75; Project Area #4 addresses the Landfill, Coal Storage Yard, and Fire Training Pits; Project Area #5 addresses the Open Burning/Open Detonation area, North Air Field Groundwater Plume and Postwide Risk Assessment.

Project Area #1 - Building 2077/Chemical Agent Site/Building 1599/Site N-4/801 Drum Burial Site: Investigations are complete for these source areas. In the summer of 1995, an interim cleanup action was completed by the Army at the Chemical Agent Site that included soil excavation. After the completion of this action, it was determined that no further cleanup activities were required at this source area. In June, 1997, a Record of Decision was signed for cleanup action at the remaining source areas. Two source areas, Buildings 1599 and 2077, are being addressed under the Army and State of Alaska cooperative agreement to cleanup the petroleum contamination. Site N-4 is recommended for no further action because investigation results indicate that this suspected source area does not pose a risk to human health and the environment. Cleanup action for the 801 Drum Burial Site is scheduled to begin in the summer of 1997.

Project Area #2 - North Post/Defense Reutilization and Marketing Office (DRMO)/Building 1168: Investigations are complete for these source areas. The final Record of Decision was signed for these areas in March 1997. An early action for soil removal was completed at the North Post site in 1996. No further cleanup activities were required for this area. A pilot scale soil vapor extraction/air sparging treatment system has been operating at Building 1168 for two years; it will be expanded in fall, 1997 to treat the entire contaminated area. A pilot scale soil vapor extraction/air sparging treatability study will be initiated at the DRMO in this same time period.

Project Area #3 - Fairbanks Fuel Terminal and Railcar Off-Loading Facility/Fairbanks-Eielson Pipeline Mileposts 2.7, 3.0 and 15.75: Investigation of these areas has been completed. The selected remedy includes soil vapor extraction and air sparging. Cleanup activities are ongoing.

Project Area #4 - Landfill/Coal Storage Yard/Fire Training Pits: Investigation of these areas has been completed. The Record of Decision was signed in September 1996. An early action that removed contaminated soil from the Fire Training Pits was completed in 1996 by the U.S. Army. No further cleanup activities were required for this area. The inactive portion of the landfill will be capped in mid-1997 and a soil vapor extraction/air sparging system will be installed at the Coal Storage Yard to treat contaminated soil and groundwater during the same time period.

Project Area #5 - Open Burning/Open Detonation area/ North Airfield Groundwater Plume/Postwide Risk Assessment: Investigation of these areas has been completed with the exception of additional ecological sampling in the Chena River during 1977. A pilot-scale treatability study is on-going in the North Airfield area. An early removal action was completed by the Army for buried drums in the North Airfield in 1996. A final Record of Decision for this project area is scheduled for 1998.

**Naval Air Station Adak  
Aleutian Islands, Adak Island, Alaska**

**Congressional District: 01  
Listing: 05/31/94**

Site Background:

The Naval Air Station (NAS) Adak, approximately 80,000 acres in size, is located on Adak Island, near the western end of the Aleutian Islands, Alaska. Adak Island became a military base in 1942; in 1950, all defense facilities on the island were taken over by the Navy. Over a 40-year period, hazardous substances were disposed of in areas on the island, including landfills, storage areas, drum disposal areas, spill sites, and pits for waste oil and fire-fighting training. Petroleum, chlorinated solvents, batteries, and transformer oils containing polychlorinated biphenyls (PCBs) are some of the hazardous materials present at the site. The island has high winds and frequent storms. The southern half of the island is a federally designated wilderness area, and the entire island is part of the Alaska Maritime National Wildlife Refuge. A wide variety of marine mammals and birds inhabit the near-shore areas. The local population uses the surface waters for recreational purposes and as a drinking water supply, and has easy access to some parts of the site. The U. S Navy no longer has an operational role at NAF Adak and the island is being maintained by a contractor. The Navy has ceased military operations at ADAK, and the island is being maintained and operated by caretakers. Approximately 300 people reside on the island in this capacity. Adak is scheduled for base closure in early 1998.

Many types of releases have occurred at NAS Adak. Primary releases include: PCBs (over 2000 gallons), unexploded ordnance (70,000 items located, not including ranges, minefields, and offshore disposal), petroleum (1,000,000 gallons), solvents and pesticides.

Cleanup Progress: Construction Underway

The Navy has completed more than 20 early actions, and removed hundreds of underground storage tanks and abandoned drums. In the fall of 1992, several PCB-contaminated sites were excavated and the excavated material stockpiled at a central location on the base. Three early actions have been conducted for PCBs since 1996. Numerous petroleum spills are being cleaned up under a separate state and Navy agreement.

The Navy completed an interim investigation into the nature and extent of contamination at the site in early 1995. The investigation led to the selection of an interim cleanup remedy implemented in 1996 which closed and capped two landfills. Monitoring and institutional controls were also implemented.

The Remedial Investigation Feasibility Study for the entire site is undergoing review by the stakeholders. A Record of Decision is expected to be completed in 1997 and a final cleanup action selected.

**Standard Steel and Metals Salvage Yard  
Anchorage County, Anchorage, Alaska**

**Congressional District: 01  
Listing: 08/30/90**

Site Background:

The Standard Steel & Metals Salvage Yard site covers approximately 6 acres in a heavily industrialized area of Anchorage, Alaska. The site is listed as a Federal Facility. The Federal Railroad Administration (FRA), part of the U.S. Department of Transportation, acquired the land in the 1920s. FRA owned and leased the property till 1985, when it was transferred to the Alaska Railroad Corporation. Since 1972, the land has been leased to several different recyclers whose activities included reclamation of polychlorinated biphenyls (PCBs)-contaminated electrical transformers, salvaging of assorted batteries, and processing of various types of equipment and drums from nearby military bases. In 1982, the land was leased to Standard Steel & Metals. The site contained transformers, bulk tanks, an incinerator, a metal crusher, drums and other containers, and additional items associated with salvage operations. On-site soils contain PCBs, solvents, lead, dioxins, and furan. Groundwater beneath the site is not significantly contaminated. The Site is adjacent to Ship Creek, a salmon migratory stream used for sport fishing.

Cleanup Progress: Threat mitigated, remedy selected.

**Early Actions:** Between 1986 and 1988, the EPA removed surface wastes, including an estimated 8,500 batteries, 175 transformers, 1,100 drums, three bulk storage tanks, assorted containers, and metal debris, and transported the materials to federally regulated disposal facilities. In 1988, the EPA sealed the surface soil in the most highly contaminated areas, removed the remaining containers of hazardous materials, and strengthened the security fence. In 1992, EPA and Chugach Electric Association entered into an administrative order to conduct a Remedial Investigation/Feasibility Study. Since that time scrap material has been removed and the site further secured to prevent additional releases.

**Long-term Actions:** In 1996, EPA selected the site remedy of solidification of all soils and disposal in an on-site Toxic Substances Control Act (TSCA) landfill. Negotiations with private parties for performance of the design and remedy began in 1997. It is anticipated that the private parties will sign a Consent Decree in 1997 for cleanup of the site.

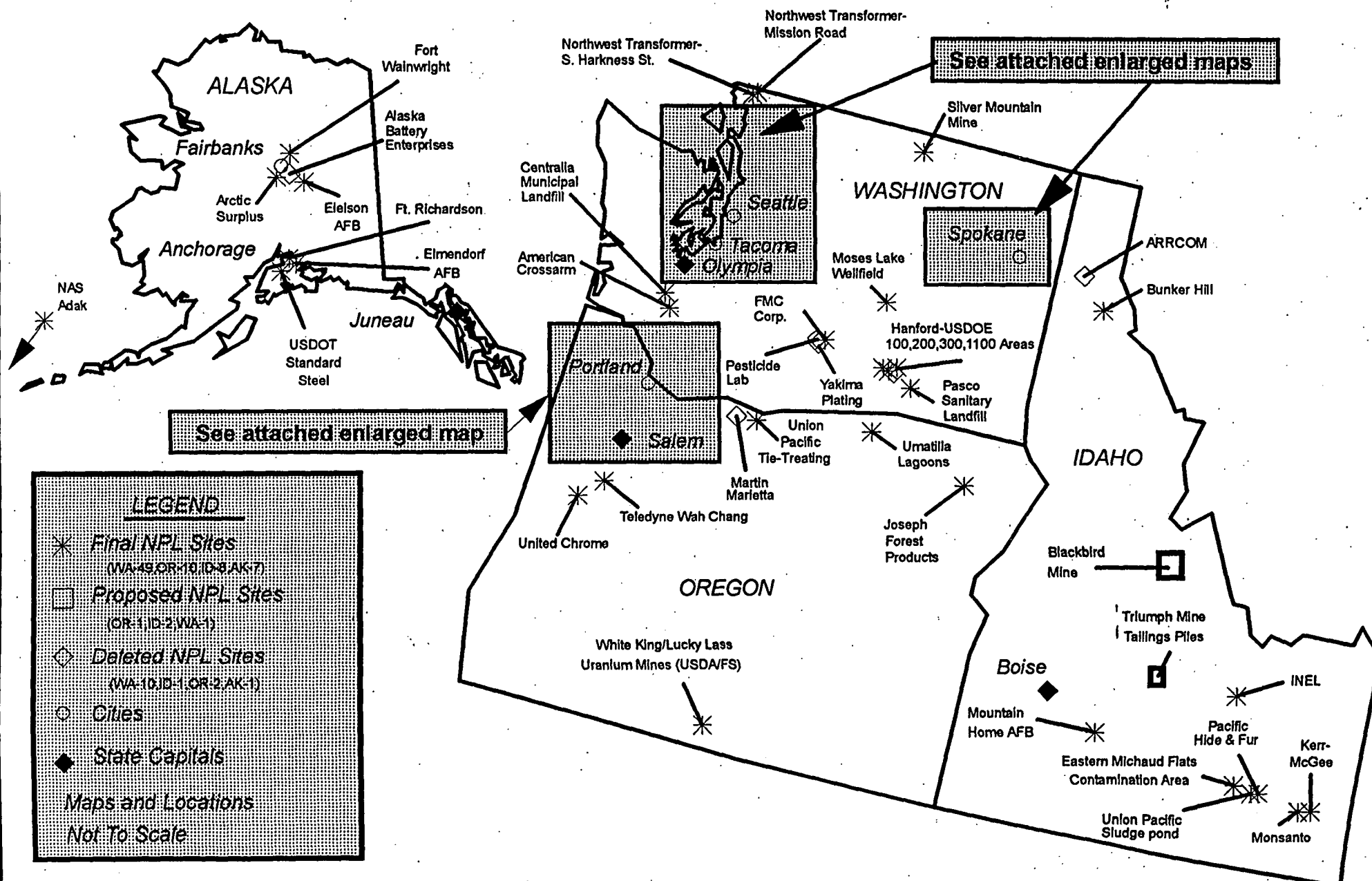




# Superfund Sites in the Pacific Northwest

## EPA REGION 10

As of 4/1/97





As of 4/1/97

### LEGEND

\* Final NPL Sites  
(WA-49,OR-10,ID-8,AK-7)

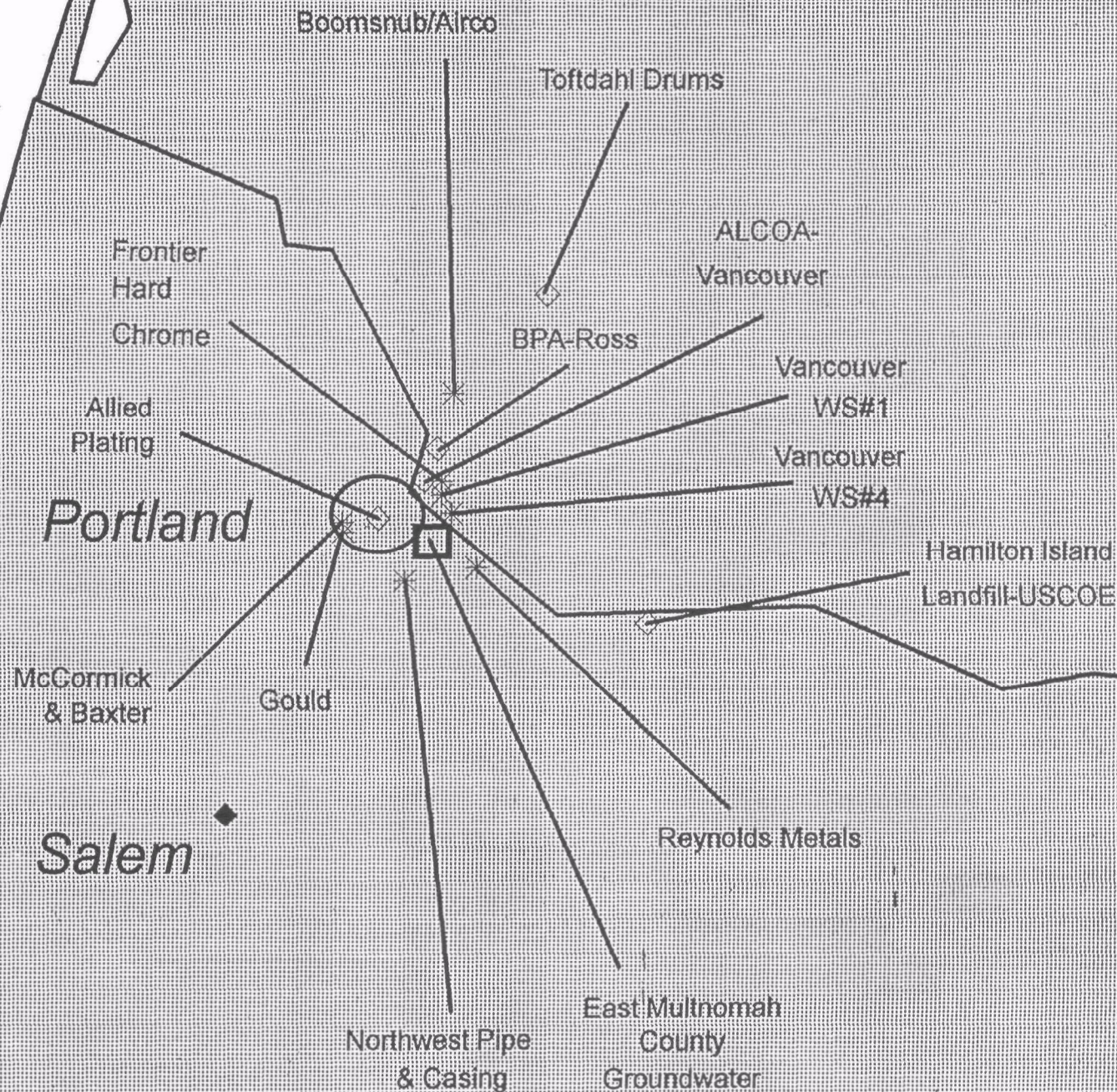
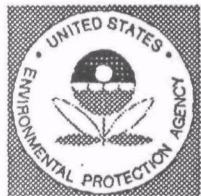
□ Proposed NPL Sites  
(OR-1,ID-2,WA-1)

◇ Deleted NPL Sites  
(WA-10,ID-1,OR-2,AK-1)

○ Cities

◆ State Capitals

Maps and Locations  
Not To Scale

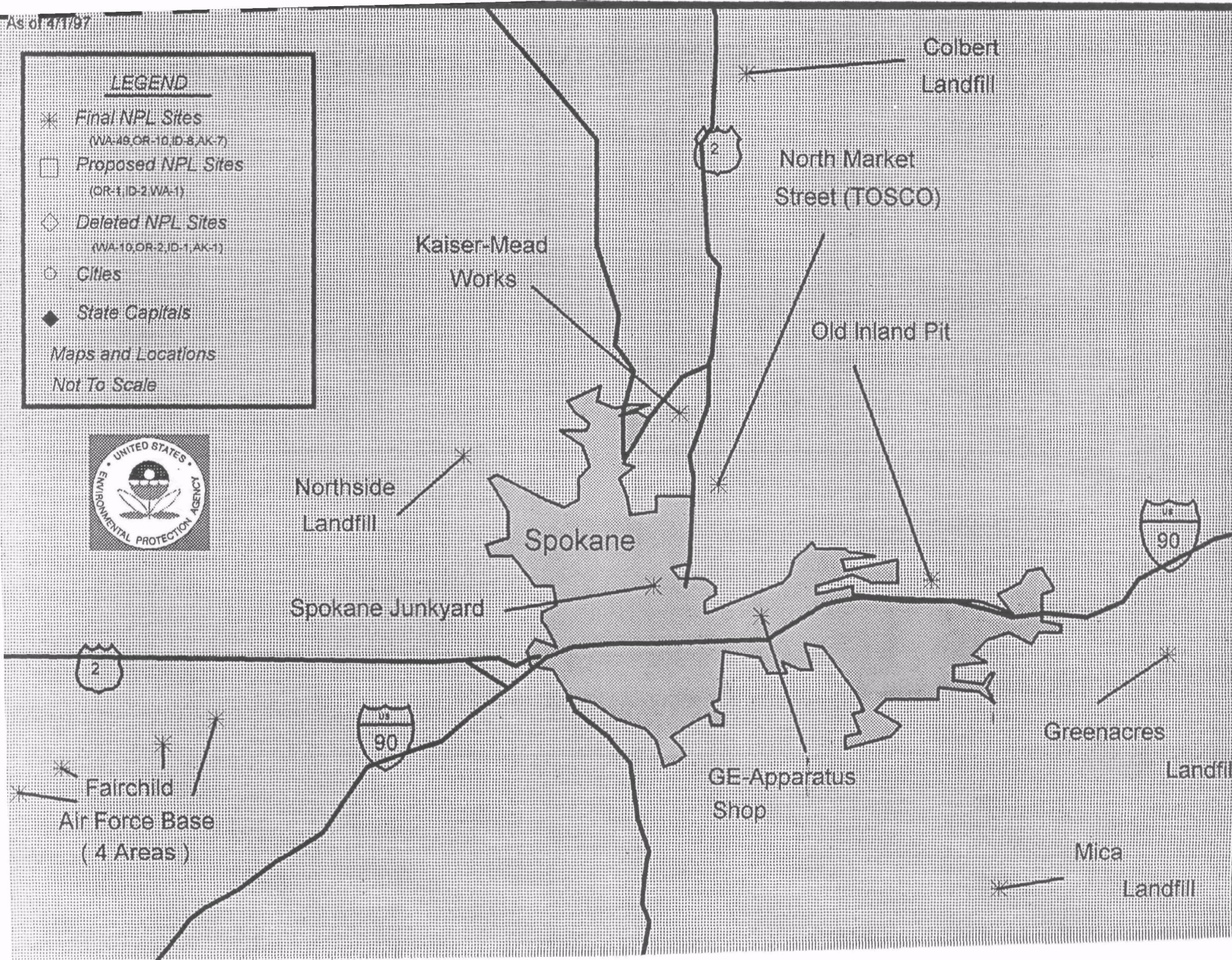




# **LEGEND**

- \* Final NPL Sites  
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As of 4/1/97

