CS 200.01
mt. View & Bliss

TECHNICAL ASSISTANCE TEAM
ON-SCENE COORDINATOR
REPORT FOR:

Alaska Husky Battery
Anchorage, Alaska

TDD T10-8810-039

REPORT PREPARED BY: ECOLOGY AND ENVIRONMENT, INC.
PROJECT MANAGER: THOMAS ASHLEY
DATE: DECEMBER 1988

SUBMITTED TO CARL G. KITZ, DEPUTY PROJECT OFFICER
SUPERFUND RESPONSE AND INVESTIGATIONS SECTION
U.S. ENVIRONMENTAL PROTECTION AGENCY
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ACE 894056

ABSTRACT

Alaska Husky Battery, Incorporated (AHB) was a privately owned, lead/acid battery manufacturing facility located in the Mountain View area of northeast Anchorage, Alaska. As a result of prior battery salvaging activities, soils at the AHB site were contaminated with lead and sulfuric acid. Site assessments conducted by the Ecology and Environment, Incorporated, Region 10 Technical Assistance Team (TAT) in August 1987 and May 1988 also documented the presence of polychlorinated biphenyls (PCBs) in on- and off-site soils, respectively. An extent of contamination survey conducted by the TAT during the May 1988 site assessment resulted in the identification of approximately 1000 cubic yards of soil contaminated with lead and PCBs in concentrations exceeding proposed action levels.

Due to the potential for contamination of the shallow aquifer that flows beneath the site by AHB process wastes, and the potential adverse health effects associated with the contact, inhalation or ingestion of lead or PCB contaminated soil, the U.S. Environmental Protection Agency (EPA) declared the site a threat to public health and the environment. Due to lack of appropriate response by the Potentially Responsible Party, on June 16, 1988, the Region X EPA initiated a time-critical removal action.

On-site removal activities were performed from July 1 through September 9, 1988, and included: daily cost tracking utilizing the Removal Cost Management System (RCMS); the establishment and maintenance of site security; disposal of drummed drill cuttings and well development waters generated during the TAT May 1988 site assessment; and the excavation, containerization, transportation and disposal of approximately 1345 cubic yards of lead-, PCB- and trichlorobenzene-contaminated soils. Upon completion of cleanup verification sampling, the site was backfilled to original grade, and a permanent site security fence was erected. Soil disposal was completed on November 2, 1988. The approximate cost of the AHB removal action was $1,290,160.

TABLE OF CONTENTS

APPENDICES

APPENDIX A: NOTIFICATION OF PRP AND REQUEST FOR ACTION

APPENDIX B: COMMUNITY RELATIONS PLAN AND FACT SHEETS

APPENDIX C: EPA ACTION AND COST INCREASE MEMORANDA

APPENDIX D: PHOTOGRAPHIC DOCUMENTATION

APPENDIX E: QUALITY ASSURANCE REVIEW

LIST OF FIGURES

ON-SCENE COORDINATOR REPORT
ALASKA HUSKY BATTERY
ANCHORAGE, ALASKA

TDD T10-8810-039

Site Name/Address:

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Dates of Removal Action

June 30 through September 9, 1988

1.0 INTRODUCTION

Alaska Husky Battery, Inc. (AHB) was a privately owned lead/acid battery manufacturing facility located in the Mountain View area of northeast Anchorage, Alaska. The facility had been in operation since 1952 (Roland, 1987).

As a result of prior battery salvaging practices soils at the AHB site were contaminated with lead and sulfuric acid. Previous site inspections documented lead levels as high as 77,730 ppm in on-site surface soils, and as high as 1,050 ppm in surface soils in adjacent off-site areas (Roland, 1987; Tetra Tech, 1984). A site inspection conducted by the Ecology and Environment, Inc. (E&E) Technical Assistance Team (TAT) in August of 1987 also documented the presence of polychlorinated biphenyls (PCBs) in on-site surface soils (Roland, 1987).

In March of 1988, the U.S. Environmental Protection Agency (EPA) Region X Superfund Response and Investigation Section (SRIS) tasked the E&E TAT to conduct an extended site assessment of the AHB site and adjacent areas. The purpose of the assessment was the determination of the extent of PCB and lead contamination associated with the AHB site. As a result, an estimated 1,000 cubic yards of PCB and lead contaminated soils were identified for removal.

Due to the potential for contamination of the shallow aquifer that flows beneath the site by AHB process wastes, and potential adverse heath effects associated with PCB and lead contaminated airborne particulate (i.e., soil), the Region X EPA declared the site a threat to public health and the environment. On June 15, 1988, an Action Memorandum was approved by the Region X Director of the EPA Hazardous Waste Division, authorizing removal of the contaminated soils at the AHB site.

2.0 SITE DESCRIPTION

2.1 Owner/Operator

On May 31, 1988, the owners of Alaska Husky Battery, Inc., Mr. James E. Welker, Jr. and his wife, Mrs. Lola Welker of Big Lake, Alaska, filed for bankruptcy under Chapter 7, title 11 of the U.S. Bankruptcy Code. The primary creditor and mortgage holder, First Interstate State of Alaska, closed on December 11, 1987, due to insolvency. The court appointed interim trustee for the AHB site is James Dodson of 733 W. 4th, Suite 676, Anchorage, Alaska.

Previous owners included Mr. Charles E. Willie (1951-1961), Mr. James E. Welker, Jr. (1961-1974), Mr. Donald Seals (1974-1976) and Mr. Robert Posma (1976-1981). Mr. Welker reassumed ownership of AHB in 1981.

2.2 Location

The AHB site is located in the SE 1/4 SW 1/4, section 10, T. 13 N., R. 3 W. in Anchorage, Alaska (USGS, 1979). The street address is 4540 Mountain View Drive (Figure 1).

2.3 Description of Site and Surrounding Area

Alaska Husky Battery is located in a densely populated suburb of northeast Anchorage, Alaska known as Mountain View. Land use in the immediate area is residential and commercial.

The 0.45-acre site is situated at the southwest corner of the intersection of Mountain View Drive and North Bliss Street (Figure 2). The site contains a concrete block building which serves as a battery manufacturing and storage facility, retail sales outlet, and business office. The areas to the north and east of the building are occupied by an asphalt-paved parking area. A fenced, unpaved work yard is located to the south of the building.

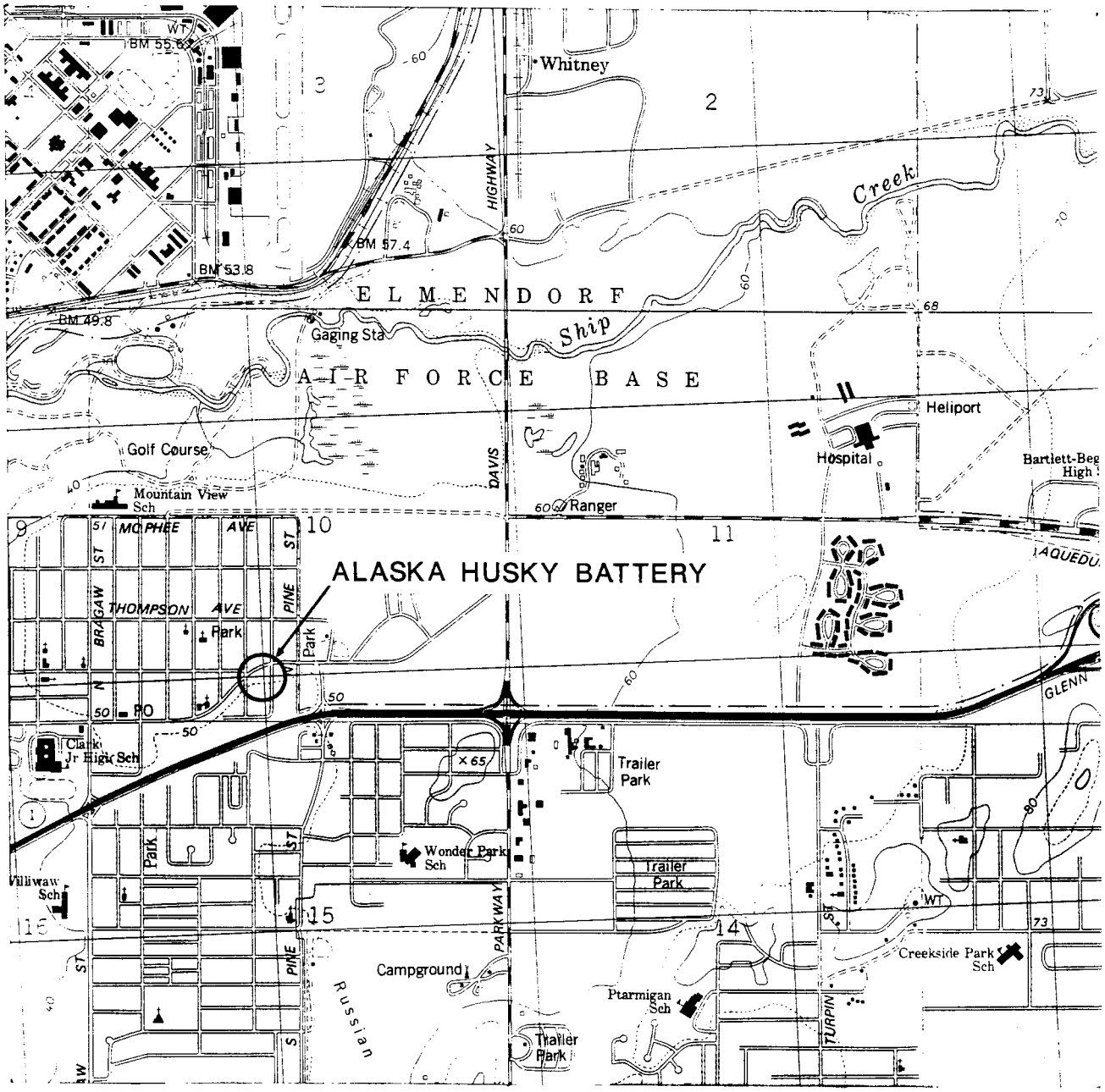
The site is bordered to the west by an upholstery shop and residence, to the south by an unpaved alley, and to the north and east by Mountain View Drive and North Bliss Street respectively. There are 2 schools and a park within 1/2 mile of the site. The nearest inhabited residence is located less than 10 feet from the southwest corner of the site.

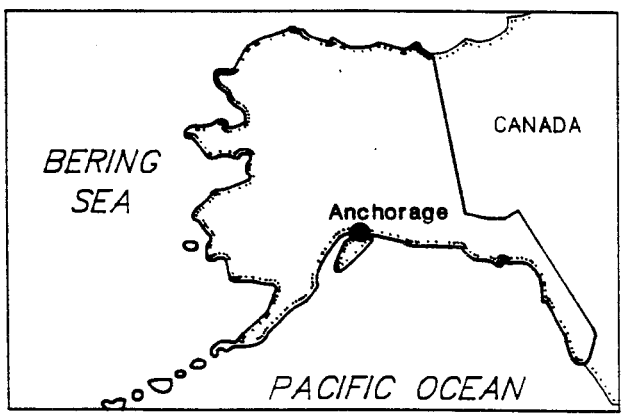
2.4 Overview of Site Operations

From 1952 to 1988, Alaska Husky Battery manufactured and sold lead/acid batteries for use in domestic vehicles, heavy equipment and aircraft.

The AHB battery manufacturing process required four primary raw materials: metallic lead, lead oxide, sulfuric acid and battery casings. Metallic lead was melted and cast into terminals, plates and other internal battery components. The lead plates were then coated with a lead oxide paste. The plates and other internal components were assembled and placed in rubber or plastic casings. The assembled batteries were then sold dry (if shipping was required) or filled with a dilute (10%) aqueous solution of sulfuric acid (electrolyte solution) to complete the process.

Prior to 1962, all domestic and process wastewaters were discharged to a buried wooden crib located south of the AHB building (Figure 2). The 8 ft x 16 ft x 4 ft (deep) crib was constructed of 12 inch diameter timbers and was buried to a depth of approximately 10 feet below ground surface (bgs). In 1962, city sewer services were provided to the Mountain View area. At that time, the line feeding the crib was extended to the sewer main located under the alley south of the site.





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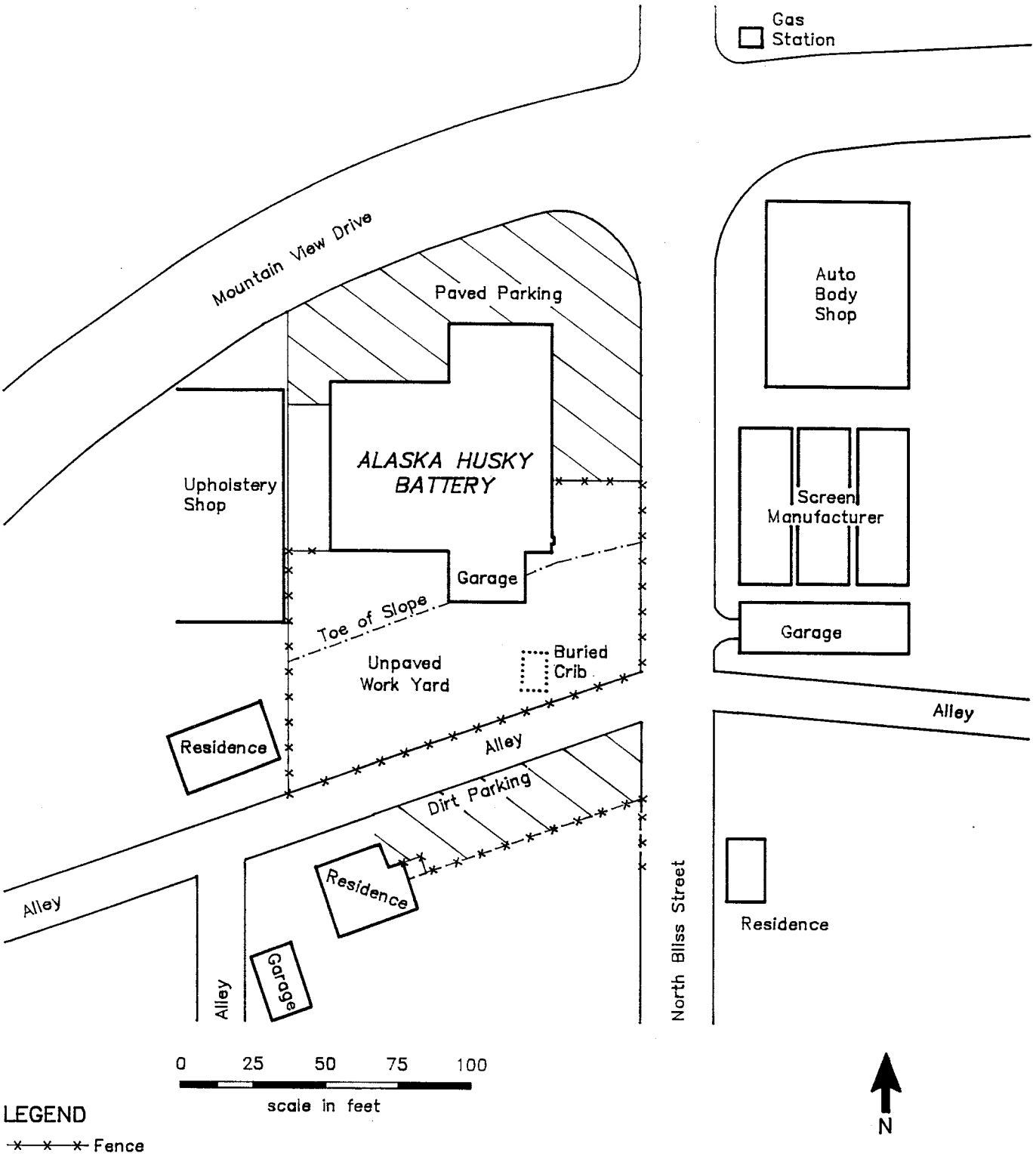
Job: T10-8810-039	Waste Site: AK0007
Drawn by: T. A.	Date: Sept. 22, 1988

FIGURE 1
SITE LOCATION
ALASKA HUSKY BATTERY
Anchorage, AK



ecology & environment, inc.	
Job: T10-8803-039	Waste Site: AK0007
Drawn by: D. P.	Date: Sept. 20, 1988

FIGURE 2
SITE MAP
ALASKA HUSKY BATTERY
Anchorage, AK

Prior to 1976, many of the raw materials used in the manufacturing process were obtained by salvaging used batteries. According to Mr. Welker, used batteries were drained of electrolyte solution and cut open using a small portable guillotine. Lead plates and other lead components were removed from the cases, melted, and cast into new components. The recovered electrolyte solution was filtered and reused in the production of new batteries. Lead sludge (lead oxide/lead sulfate) was removed from the cases and reportedly shipped to smelters in the Portland, Oregon area. The used cases were disposed of in a local landfill. These battery salvaging activities were performed out-of-doors in unpaved areas of the site.

In mid-1986, AHB moved its battery manufacturing process to a facility located in Big Lake, Alaska. Since that time, the Mountain View facility has been used as a retail outlet and storage facility only.

The source or origin of the PCB contamination was not rigorously documented. However, interviews with local citizens indicated that non-ferrous metals salvaging activities were performed at the AHB facility from 1974 to 1976.

3.0 ENVIRONMENTAL SETTING

3.1 Topography and Drainage

The AHB site is bisected by a 45^{o} slope which runs east-west across the property (see Figure 2). The high ground north of the slope is occupied by the AHB building and the paved parking area. The low ground to the south of the slope is occupied by a relatively flat, unpaved work yard which slopes gently to the southwest. The total change in elevation at the site is approximately 12-13 feet.

Runoff from the paved parking area flows north and east and is accommodated by concrete gutters adjacent to Mountain View Drive and North Bliss Street, respectively. Runoff from the unpaved work yard flows southwest toward the alley and proximate residences (see Figure 2).

3.2 Geology and Hydrogeology

The AHB site is located approximately 5 miles southwest of Chugach Mountain front and is situated on a low-lying plain, locally known as the Anchorage bowl. The entire Cook Inlet region of Alaska, including the Anchorage bowl, has experienced repeated Pleistocene glacial advances, which have resulted in a complex history of glacial advance, recession, outwash and quiet water deposition. The gently sloping lowland is mantled by a variety of glacial drift, alluvial fan and recent fluvial deposits typically underlain by a deposit of clay and silt recognized as the "Bootlegger Cove Clay." Beneath, or in place of, the Bootlegger are till, drift, and undifferentiated sand and gravel deposits extending to bedrock. The average thickness of these unconsolidated sediments has been estimated at several hundred feet in the Anchorage bowl (USGS, 1964; USGS, 1972).

In the vicinity of the site, the ground surface is composed of outwash sand and gravel laid down during the last glaciation (USGS, 1972). Local water supply well logs show that the underlying Bootlegger Cove Clay can be anticipated at 60 to 90 feet in depth and be of a thickness of 60 to 100 feet (USGS, 1964).

Two aquifers exist beneath the AHB site: a relatively shallow, unconfined aquifer and a deeper, confined artesian aquifer. Both aquifers are used as sources of drinking water (USGS, 1964).

The unconfined aquifer is predominately composed of surficial glacial outwash deposits extending to a depth of 60 to 90 feet. The base of the aquifer is marked by the top of the underlying Bootlegger Cove Clay, or glacial till if present (USGS, 1964).

Beneath the clay, or till, at an approximate depth of 120 to 190 feet, an extensive confined artesian aquifer system, which underlies much of the Anchorage area, is anticipated. The Bootlegger Cove Clay typically forms the upper confining layer of the aquifer. Municipality of Anchorage drinking water is extracted from sand and gravel zones within the aquifer. Piezometric levels in the Mountain View area reportedly approach 150 feet in elevation above mean sea level (for reference, the ground elevation on site varies between 160 to 172 feet). The base of the confined aquifer is poorly defined in the Anchorage area due to lack of wells drilled to appropriate depth, though a USGS well drilled less than 1 mile northwest of the site encountered consolidated Tertiary clastics at a depth of 447 feet below ground surface (USGS, 1964).

3.3 Water Use

From 1951 to 1964, AHB obtained its water supply from an on-site well located in the basement of the AHB building. According to Mr. Welker, use of the 38-foot deep well was discontinued in 1964 when the municipal water system was extended to the Mountain View area. Since 1964, the facility has obtained its water supply from the Anchorage Water Utility.

Most residences in the area obtain their water supply from the Anchorage Water Utility. Of notable exception are an upholstery shop, located immediately west of AHB, and two residences located southwest of, and adjacent to, the AHB premises. These households obtain their water supply from domestic wells which draw upon the shallow unconfined aquifer that flows beneath the AHB site.

4.0 PREVIOUS INVESTIGATIONS

4.1 Tetra Tech, Inc. Site Inspection

In October 1984, Tetra Tech, Inc. of Bellevue, Washington was contracted by the Alaska Department of Environmental Conservation (ADEC) to perform a site inspection of the AHB facility to determine if past salvaging practices had resulted in heavy metals contamination of AHB soils. Results of four surface soil samples collected from the unpaved

work yard indicated elevated levels of lead (23,080 ppm to 77,730 ppm) when compared to the background level (633 ppm). Three of the four samples also exceeded the Extraction Procedure Toxicity (EP Tox) hazardous waste criterion for lead of 5.0 ppm (40 CFR 261.24). The report concluded that the site appeared to present a threat to the public health and/or environment and recommended that an extent of contamination survey be performed (Tetra Tech, 1984).

4.2 Tryck, Nyman and Hayes Site Inspection

In November of 1985, ADEC contracted Tryck, Nyman and Hayes of Anchorage to perform a site inspection of AHB. The inspection included the drilling and sampling of three soil borings. Analytical results indicated elevated lead levels in shallow (i.e., 0-5 feet bgs) subsurface, on-site soils. The inspection also documented elevated lead levels in soil samples collected from the alley immediately south of the site. The report concluded that lead contamination of shallow subsurface soils had occurred, and recommended that the contaminated soil be removed, and that monitoring of the shallow aquifer beneath the site be performed (Tryck, Nyman and Hayes, 1986).

4.3 Ecology and Environment, Inc. 1987 Site Assessment

In August of 1987, the Region X SRIS tasked the E&E TAT to perform a site assessment of AHB. The assessment included a high density surface soil sampling program utilizing a grid consisting of 25 ft x 30 ft rectangles within the fenced perimeter of the unpaved work yard, and the sampling of adjacent off-site locations. Analytical results indicated lead and PCB contamination of surface soils in all quadrants of the work yard. Samples collected from adjacent off-site locations indicated lead concentrations ranging from 96 ppm to 1,050 ppm in surface soils (Roland, 1987).

4.4 Alaska Department of Environmental Conservation Air Quality Study

On August 25, 1987, ADEC conducted an air sampling program at the AHB site to determine if airborne soil from the site posed a threat to the local population. Three 4-hour airborne particulate samples were collected from locations adjacent to, and south of, the AHB site and analyzed for total lead. ADEC concluded that the lead concentrations in the ambient air were below the EPA recommended level of 1.5 ug/m^3 (Roland, 1987; 40 CFR 50.12).

4.5 Ecology and Environment, Inc. 1988 Site Assessment

In May of 1988 the E&E TAT conducted a site assessment of AHB pursuant to Technical Direction Document (TDD) T10-8803-003. The assessment included: surface and subsurface soil sampling facilitating the determination of the extent of soil contamination associated with the AHB site; groundwater sampling to evaluate the possibility of groundwater contamination by AHB process wastes; and a detailed study of the local geology and hydrogeology.

Results of off-site surface soil sampling about the perimeter of the site indicated levels of lead (66 to 1,470 ppm) and PCBs (non-detectable to 46 ppm) that were approximately one to two orders of magnitude less than corresponding on-site levels (i.e., lead-253 to 67,800 ppm, PCBs-3 to 2,320 ppm). The highest off-site concentrations of lead and PCBs were generally displayed by surface soil samples collected from the alley south of the AHB site (Figures 3 and 4)(Ashley, 1988; Roland, 1987).

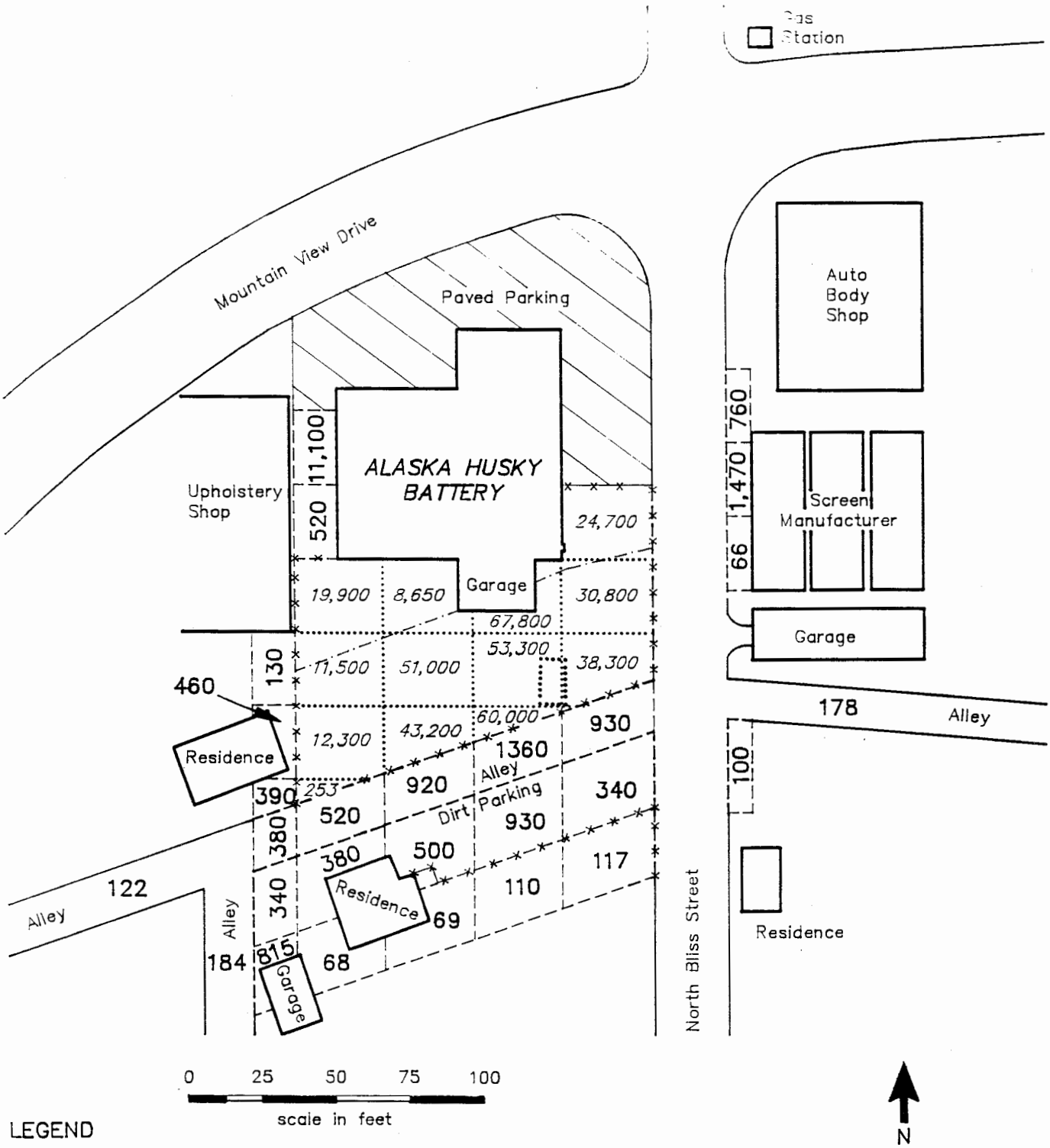
On-site subsurface soil sampling results indicated rapid attenuation of both lead and PCB levels with increasing depth. With three exceptions, lead and PCB contamination was confined to the upper two feet of soil. Subsurface soil samples collected from the area where the buried crib was located showed elevated lead levels (1,675 to 34,950 ppm) at all sampling depths when compared to background levels (5 to 58 ppm). Contamination of subsurface soils by PCBs was encountered at two locations at the west end of the unpaved work yard. At one location, PCB concentrations ranged from 5,060 ppm (at 1 foot bgs) to 64 ppm (at 3 feet bgs). At the other location, adjacent to the west fenceline, PCBs were detected (1.4 ppm) in the sample collected at 5 feet bgs. Results of subsurface samples collected from the paved parking area indicated PCB (1.1 to 23 ppm) and lead (20 to 6010 ppm) contamination of shallow (0-2 feet bgs) subsurface soils beneath the asphalt paving (Ashley, 1988).

Results of groundwater samples analyses did not indicate lead or PCB contamination of the shallow aquifer beneath the AHB site. However, results of semi-volatile organics analyses indicated the presence of low molecular weight aromatics typically indicative of the lighter petroleum fractions. Due to the upgradient proximity of two automobile service stations utilizing underground storage tanks, it is possible that these results represent gasoline contamination of the shallow aquifer in the proximity of the AHB site (Ashley, 1988).

The study of site geology and hydrogeology revealed no continuous permeability barriers to a depth of 40 feet bgs (Figure 5). Due to previous site development activities, the pre-development soil profile was not intact across much of the site. The local ground water gradient was found to be 0.005 ft/ft, sloping toward the west (Figure 6)(Ashley, 1988).

5.0 MAJOR CHRONOLOGICAL EVENTS

- May, 1988 - Site assessment including extent of contamination survey conducted by Region 10 TAT.
- June 16, 1988 - EPA Action Memorandum documented site as a threat to public health and the environment, and authorized an immediate removal action at the site. Initial removal ceiling - $578,000.
- June 30, 1988 - On-site removal activities initiated.



LEGEND

- Fence
- Toe of slope
- Sampling grid applied to site during May 1988 E&E site assessment
- Grid applied to work yard during 1987 E & E site assessment
- # Lead concentration (ppm)(Roland, 1987)
- # Lead concentration (ppm)(Ashley, 1988)

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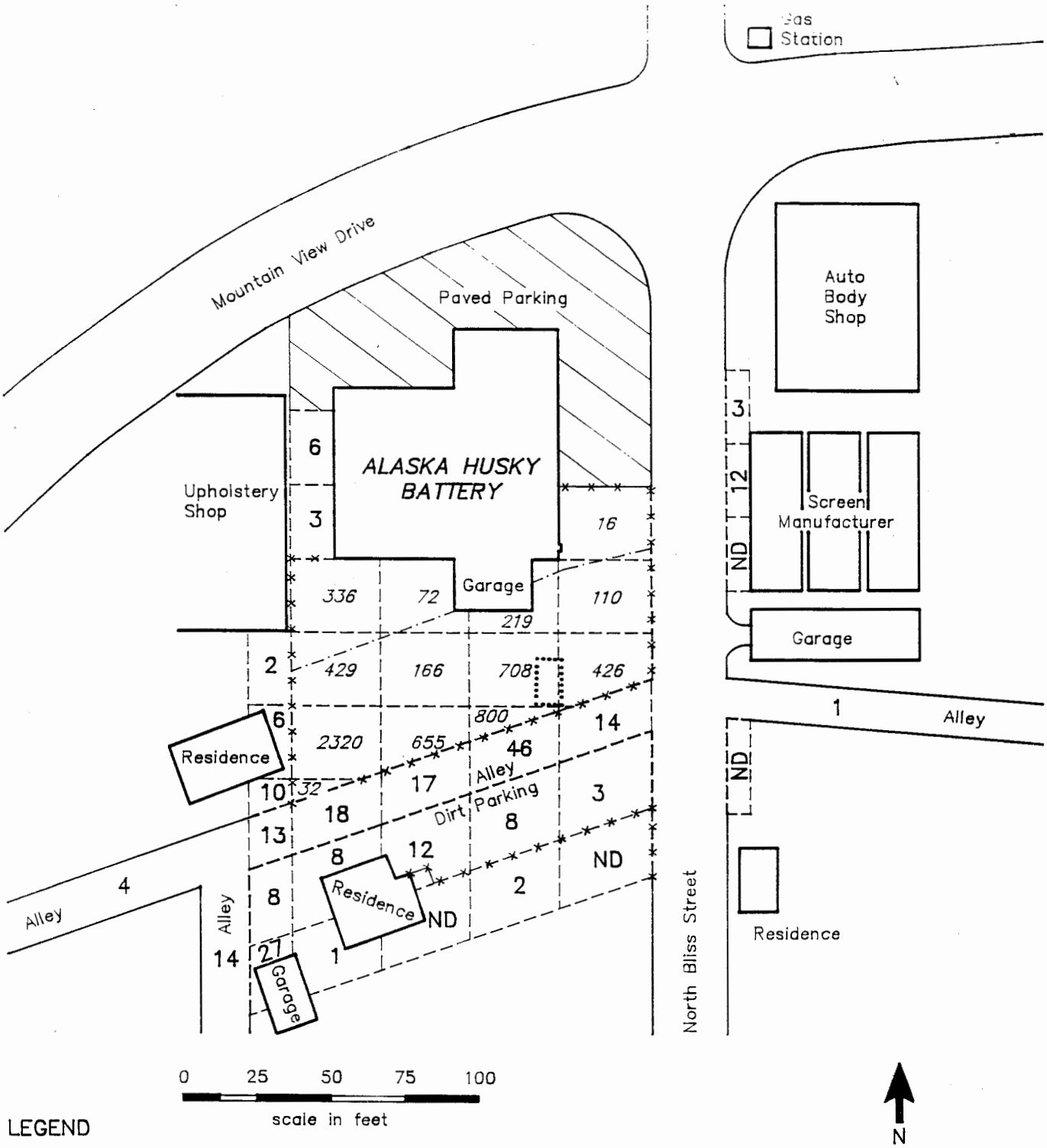
Drawn by: D. P.	Date: Oct. 21, 1988

FIGURE 3
LEAD RESULTS – SURFACE SOIL, MAY 1988
ALASKA HUSKY BATTERY
Anchorage, AK



LEGEND

- Fence
- Toe of slope
- Sampling grid applied to site during May 1988 E&E site assessment
- Grid applied to work yard during 1987 E & E site assessment
- ND PCB not detected at 1 ppm detection level
- # PCB consentration (ppm)(Roland, 1987)
- # PCB concentration (ppm)(Ashley, 1988)

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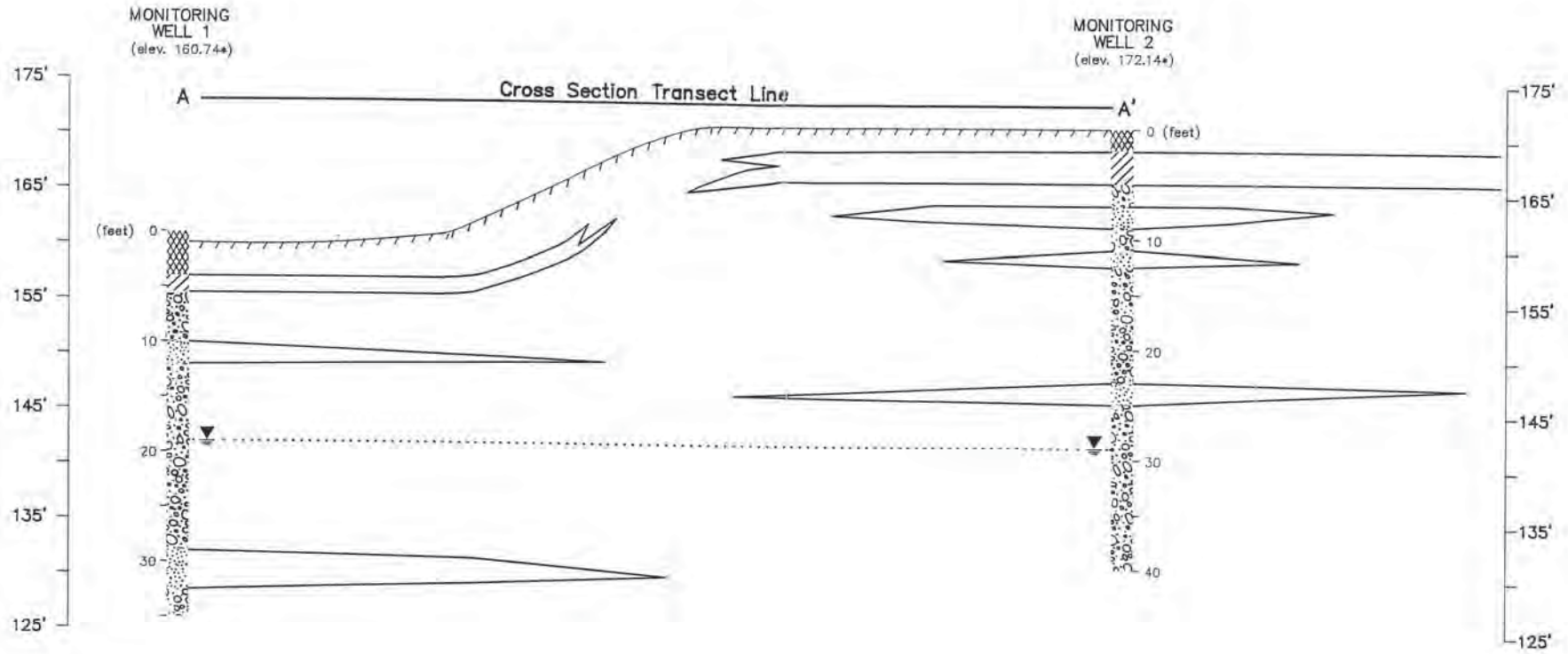
FIGURE 4
PCB RESULTS - SURFACE SOIL, MAY 1988
ALASKA HUSKY BATTERY
Anchorage, AK



LEGEND

- * Elevation measured at top of casing (NGVD)
- Water table, May 1988
- Ground water level
- FILL—silt, sand and gravel mixture
- CLAY—silty to sandy silty, minor organic
- SAND—medium to coarse, silty
- GRAVEL—sandy to cobbly

SCALES: 1 inch = 15 feet horizontal
1 inch = 10 feet vertical

Note: location of transectline A—A' is shown in Figure 5.

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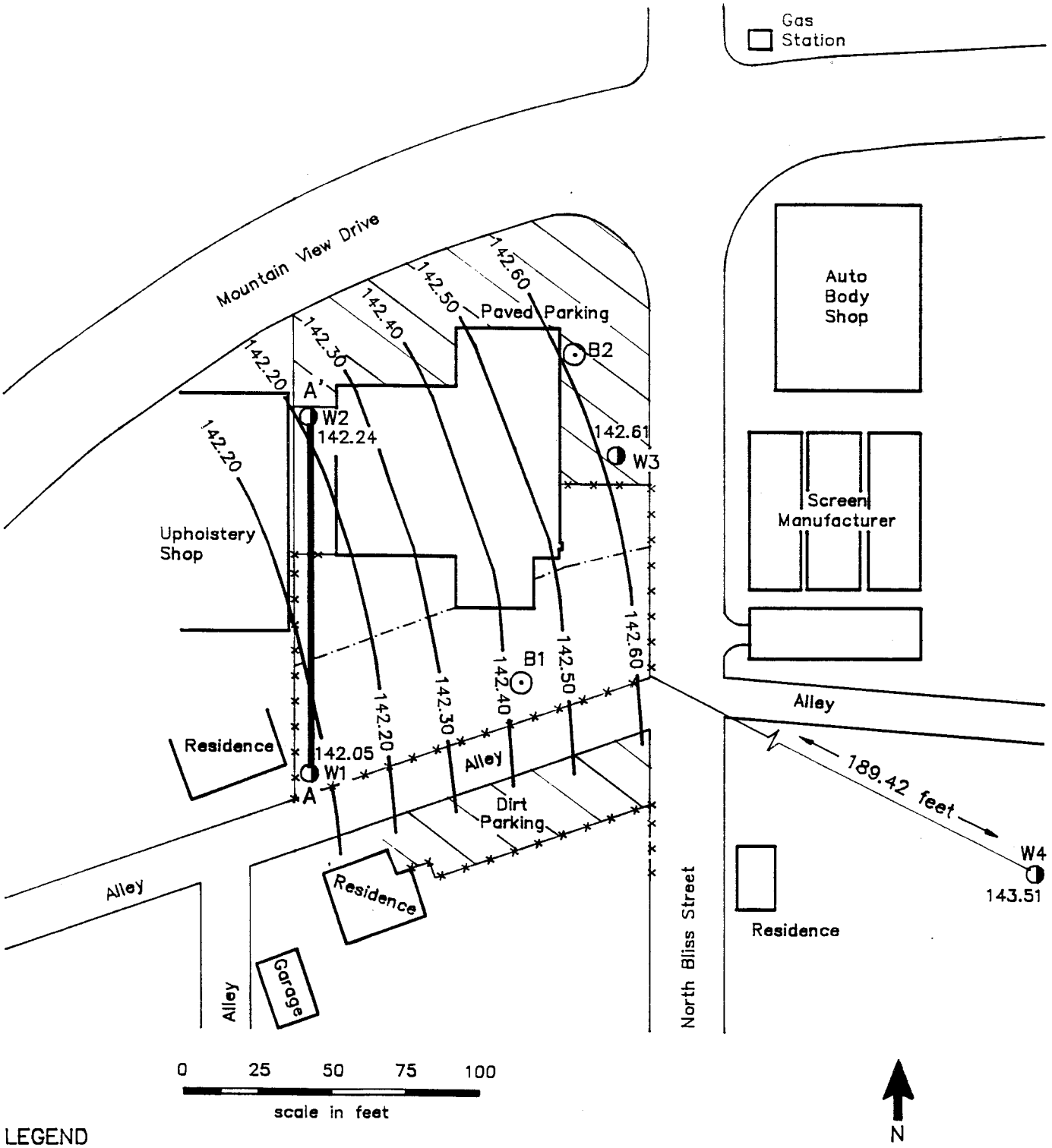
FIGURE 5
GEOLOGIC CROSS SECTION
ALASKA HUSKY BATTERY
Anchorage, AK



LEGEND

- Fence
- Toe of slope
- Transect A–A' line location
- –142.10– Water level contour and elevation (NGVD)
- W2 Monitoring well and designation
- B2 Boring and designation
- 142.05 Water level elevation reading measured 5/25/88 (Ashley, 1988)

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Drawn by: D. P.	Date: Oct. 21, 1988

FIGURE 6
CONTOUR GRADIENT MAP
ALASKA HUSKY BATTERY
Anchorage, AK

- o July to September, 1988 - Contaminated AHB soils excavated, containerized, and transported to Class III disposal facility in Oregon.

- o July 22, 1988 - First removal ceiling increase authorized, new ceiling - $849,000.

- o July 30 to August 3, 1988 - On-site work work temporarily suspended pending acquisition of additional funding.

- o August 2, 1988 - Second removal ceiling increase authorized, new ceiling - $1,106,000.

- o August 13 to August 28, 1988 - On-site work temporarily suspended pending receipt of additional funding and receipt of "backlogged" analytical results.

- o August 19, 1988 - Third removal ceiling increase authorized, new ceiling - $1,376,000.

- o September 9, 1988 - On-site removal activities completed.

- o September 14, 1988 - Site security fence erected.

- o November 2, 1988 - Disposal of soil completed. Approximate cost of AHB removal action - $1,290,160.

6.0 PREREMOVAL ACTIVITIES

6.1 Identification of, and Correspondence with, the Potentially Responsible Party

As a result of the title search conducted during the May, 1988 AHB site assessment, Mr. James Welker and his wife Lola were identified as the legal owners of the AHB property. As described in Section 2.1, the Welkers filed for bankruptcy on May 31, 1988. Two previous owners of the AHB facility, Mr. Donald Seals and Mr. Robert Posma, are deceased. The founder and original owner, Mr. Charles Willie, is considered a Potentially Responsible Party (PRP) although he has not been formally contacted by EPA to date.

Mr. Welker acknowledged that battery salvaging practices had occurred at the AHB site prior to 1976. There can be little doubt that these practices resulted in the lead contamination of the soils at the AHB site. The source or origin of the PCB contamination was not rigorously documented.

On June 16, 1988, a certified letter was sent to Mr. Welker notifying him of EPA intent to conduct a removal action at AHB pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended. The letter emphasized that EPA action would

only be required in the event that he, as the PRP, failed to take appropriate action (Appendix A). No formal response to the letter, by Mr. Welker or his attorney, Mr. Paul Nangel of 101 Christensen Drive, Anchorage, was received by EPA.

6.2 Community Relations

Pursuant to 40 CFR 300.67, a community relations plan was developed prior to the AHB removal action by the EPA Alaska Operations Office (AOO) with assistance from the EPA Region X SRIS. At the request of the Mountain View Community Council, a public meeting was conducted by Mr. Carl Lautenberger of the AOO, and Mr. James Hayden of the ADEC. The meeting was held on April 11, 1988, at the Mountain View Public Library.

In addition, three fact sheets were distributed in the Mountain View area, providing updated information to the community as the removal action progressed. The community relations plan and fact sheets are presented in Appendix B. As a result of the community relations activities, the two month removal action was completed without adverse community or media reaction.

7.0 REMOVAL ACTIVITIES

7.1 Overview and Funding

As a result of the May 1988 TAT site assessment, AHB was identified as an imminent threat to public health and the environment. Lack of appropriate response by the PRP prompted the Region X SRIS to initiate a time-critical removal action at the site. An Action Memorandum was approved on June 15, 1988 with an initial removal ceiling of $578,000. Three subsequent ceiling increases (Section 5.0) were required to complete the removal action; the final removal ceiling was $1,376,000. The action and cost increase memoranda are presented in Appendix C. Due to the relatively small volume of soil requiring remediation, the small size and residential location of the site, and the presence of both organic and inorganic contaminants, land disposal was selected as the preferred "treatment" alternative for the AHB soils. On-site removal activities were conducted from July 1 through September 9, 1988. Disposal of the 1345 cubic yards of contaminated soils removed from the AHB site was completed on November 2, 1988. The total cost of the AHB removal was approximately $1,290,160, as follows:

EPA	$ 18,900
TAT	$ 103,930
ERCS	$ 1,167,330
Total	$ 1,290,160

Photographic documentation of the AHB removal is provided in Appendix D.

7.2 Site Set-up and Security

Lead and PCB contamination exceeding the proposed action levels (1,000 ppm and 10 ppm, respectively) was detected in surface soil samples collected from the alley and dirt parking area to the south of the AHB site proper (photograph 1). Accordingly, the site boundary was extended to include these areas. The fence at the south AHB property line was removed (photograph 2), and the southern site boundary was established at the north fence of the residence located south of AHB (Figure 7). The existing fences at the east and west AHB property lines were left intact and designated as the respective site boundaries (photographs 3 and 4). The AHB building was considered the northern site boundary. The entire boundary was clearly marked with banner guard tape, and appropriate warning signs were posted around the site perimeter (photograph 3).

The command post was located in the paved parking area to the east of the AHB building (photograph 5), and a decontamination station was established at the eastern site boundary (photograph 3)(Figure 7).

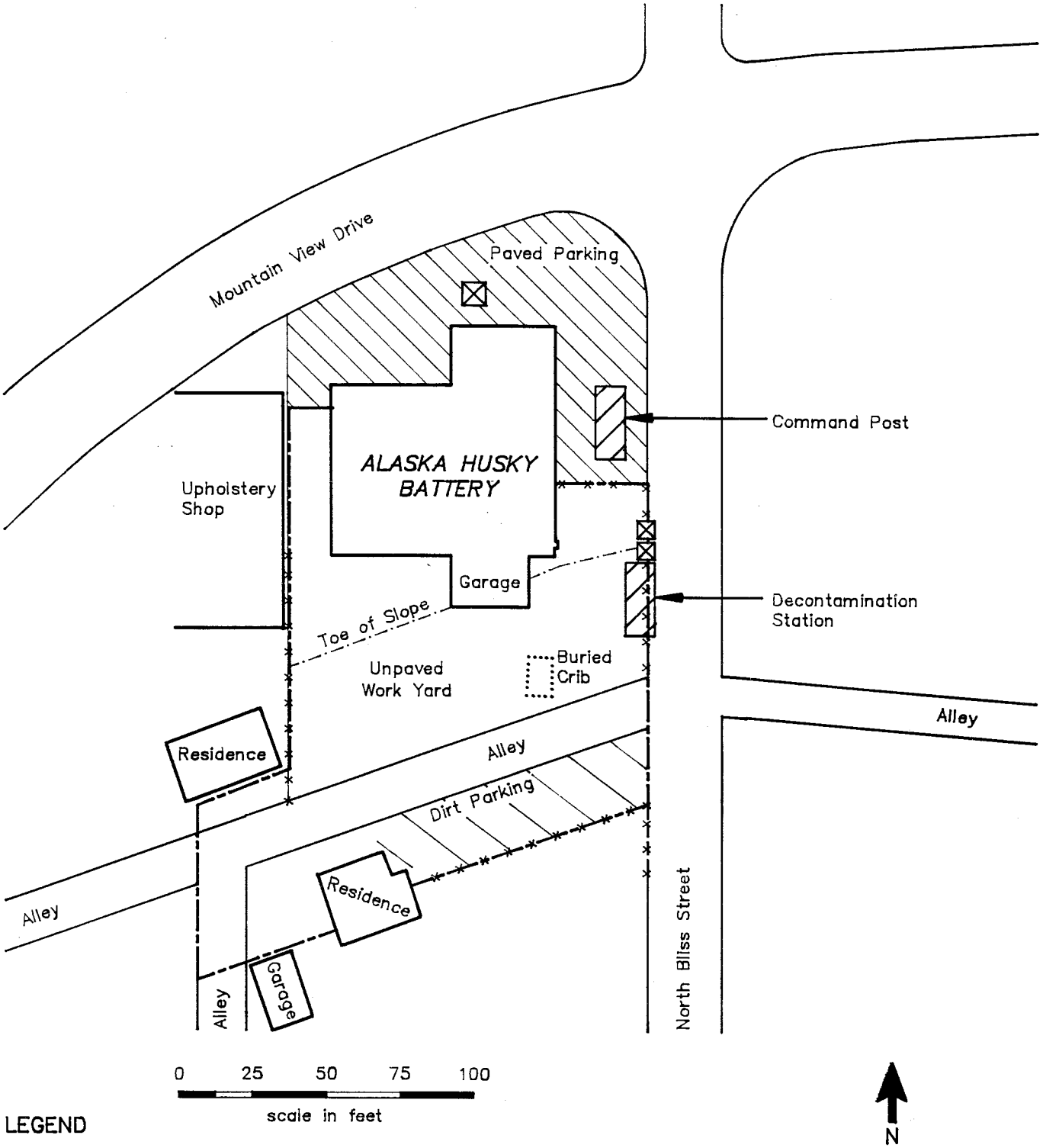
During non-working hours, site security was provided by Burns Security, Inc. of Anchorage, under subcontract to the ERCS contractor. This security measure was also maintained during the two periods when on-site work was temporarily suspended pending acquisition of additional funding (July 30 - August 3, and August 13-28, 1988).

7.3 Drum Disposal

Twenty-six drums of investigation derived wastes (i.e., drill cuttings, monitoring well development waters) were generated during the May, 1988 site assessment and stored on-site pending receipt of analytical results and initiation of the removal action (photograph 6). Drums containing "contaminated" (i.e., contaminant concentrations above detection level) wastes were segregated from drums containing "uncontaminated" (i.e., contaminants not detected) wastes. The eight drums of contaminated wastes, all soils in this case, were emptied into polypropylene "bulk" bags and disposed of with the excavated soils (see Section 7.4). Uncontaminated wastes were returned to the site.

7.4 Soil Excavation, Sampling and Containerization

Cleanup soil levels for lead and PCB, 1,000 ppm and 10 ppm respectively, were established by the EPA Region X SRIS. Lead, PCB, trichlorobenzene (TCB) and EP Tox lead analyses were performed by Northern Testing Laboratories of Anchorage, Alaska. To evaluate the quality of the analytical results on which important removal decisions would be based, a TAT chemist conducted a detailed quality assurance review of the results during the first three weeks of the removal action. During this time period, blind duplicate samples were submitted at a frequency approaching 15%. In addition, 4 sample splits were submitted to Analytical Resources, Inc. (ARI) of Seattle to evaluate the performance of Northern Testing Laboratory. The TAT is familiar with ARI based on past experience, and felt comfortable using them as a basis



ecology & environment, inc.	
Job: T10-8803-039	Waste Site: AK0007
Drawn by: D. P.	Date: Nov. 17, 1988

FIGURE 7
SITE SET-UP AND SECURITY
ALASKA HUSKY BATTERY
Anchorage, AK

of comparison. A quality assurance review of the analytical data is presented in Appendix E. In general the data were judged to be acceptable, except where flagged with qualifiers which modify the usefulness of the individual values.

Soil excavation and containerization was performed by the Zone 4 ERCS contractor, Riedel Environmental Services.

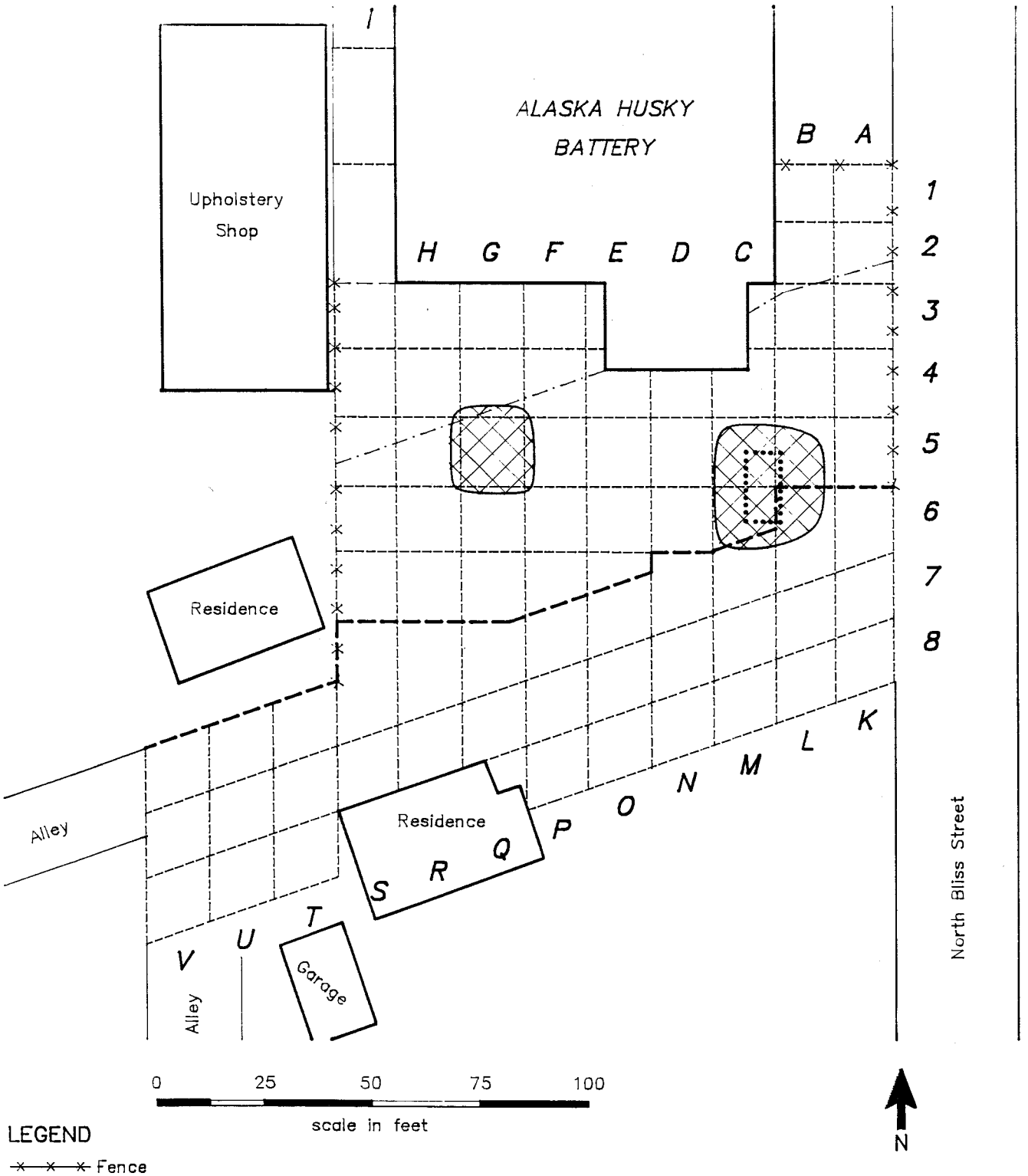
7.4.1 Subsurface Soils

Excavation of subsurface soils was required in two locations on the AHB premises (photographs 7 through 9)(Figure 8), and was performed using a trackhoe. Groundwater was not encountered in either location.

In the area of the buried crib (photographs 10 through 13), excavation of soils to a depth of 17 feet bgs was required to achieve acceptable residual lead levels. "Progress evaluation" samples were collected from the bottom and walls of the excavation and analyzed for lead and PCB. If analytical results indicated the presence of lead or PCB contamination in excess of the established clean up levels, an additional one foot of soil was removed from the bottom or wall(s) of the excavation, as applicable. When completed, the excavation measured approximately 16 ft x 28 ft x 17 ft deep (approx. volume - 280 cubic yards). A cleanup verification sample was collected from the bottom of the excavation prior to backfilling and analyzed for leachable lead in accordance with the EP Tox procedure (USEPA, 1986), in addition to total lead. EP Tox lead results of 0.44/0.66 mg/l (laboratory duplicates) were well below EP Tox hazardous waste criterion for lead of 5.0 mg/l (40 CFR 261.24). The sample displayed a total lead concentration of 328 ppm.

PCB and trichlorobenzene contamination of subsurface soils (photographs 14 through 16) was encountered in the west-central portion of the unpaved work yard (Figure 8). "Progress evaluation" samples were collected from the bottom and walls of the excavation and analyzed for lead, PCB and TCB. Excavation of contaminated soils was performed in one foot increments as described above. When completed, the excavation measured approximately 16 ft x 21 ft x 13 ft deep (approx. volume - 160 cubic yards). Two cleanup verification samples were collected from the bottom of the excavation prior to backfilling. One of the samples was analyzed for PCB and TCB, the other for PCB only. Analytical results indicated PCB concentrations of 4.6 and 3.8 ppm, respectively; TCB was not detected (at a 1 ppm detection level) in the applicable sample.

Prior to the initiation of soil excavation activities, all gas, sewer and water lines were located and marked by representatives of the applicable utilities. However, on July 8, at 1600, while excavating subsurface soils from the crib area, the trackhoe operator damaged the buried natural gas line supplying the AHB facility (photographs 17 and 18). The Anchorage Fire Department and ENSTAR Natural Gas Company responded immediately to a request for assistance by the OSC. The ruptured line was fixed (i.e., the line supplying the AHB facility was removed at the main, and the main was capped) at 1715 (photograph 19).



ecology & environment, inc.	
Job: T10-8810-039	Waste Site: AK0007
Drawn by: D. P.	Date: Nov. 17, 1988

FIGURE 8
EXCAVATION LOCATIONS
ALASKA HUSKY BATTERY
Anchorage, AK

There were no injuries, and no additional costs were incurred as the location of the gas line had been incorrectly marked by the ENSTAR representative.

As contaminated soils beneath the asphalt parking area were effectively "capped" by the asphalt slab, these soils did not constitute an imminent threat to public health or the environment. Accordingly, the remediation of these soils was not addressed in the course of the removal action.

7.4.2 Surface Soils

Surface soil excavation was accomplished using a backhoe, bulldozer or front loader, as required (photographs 20 through 22). Generally, the excavated soil was stockpiled prior to containerization (photograph 23).

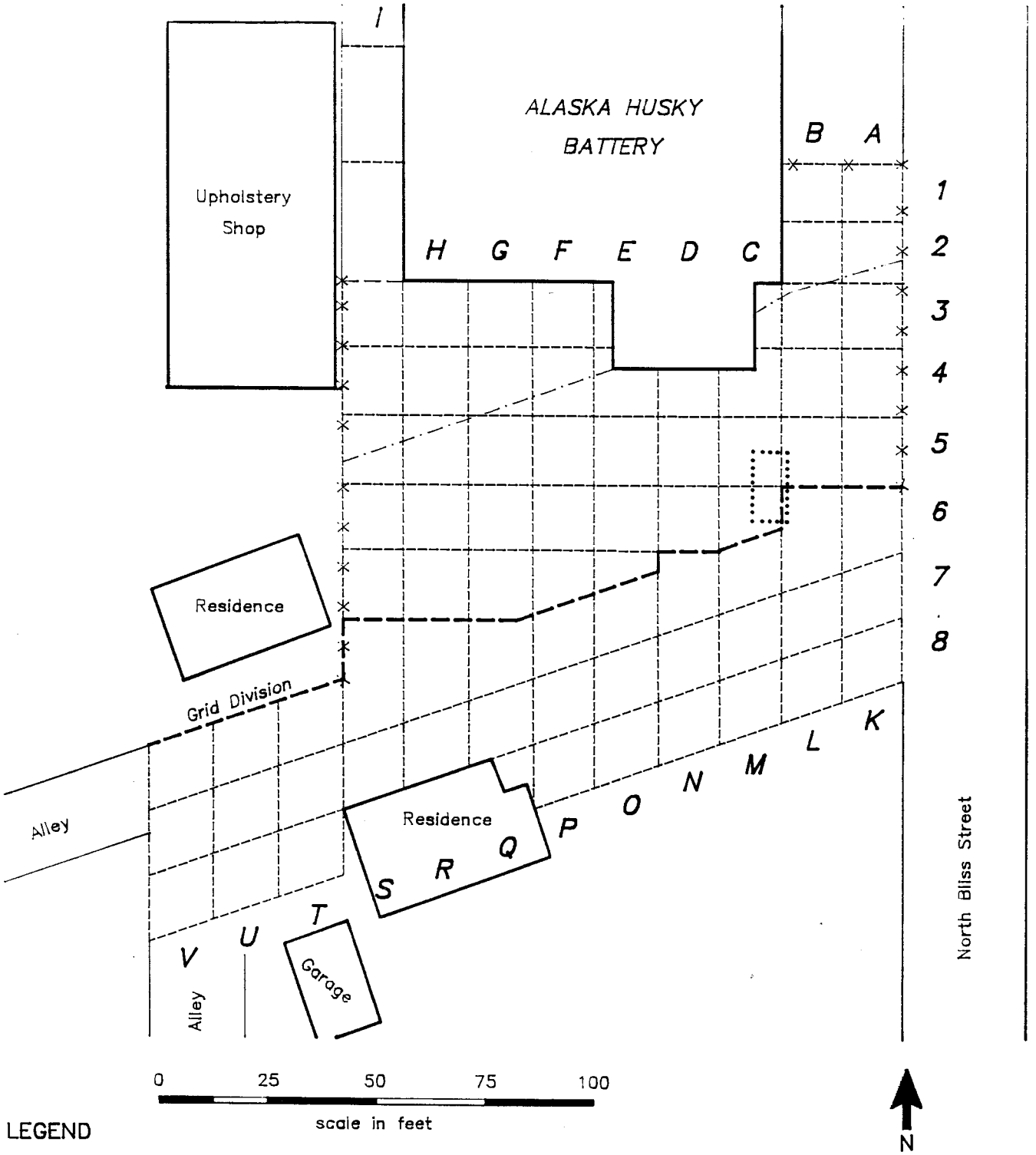
Cleanup verification sampling was conducted within the 12 ft x 15 ft grid system shown in Figure 9. Application of this grid system resulted in a 4-fold increase in sampling intensity over the sampling conducted during the May 1988 site assessment. Surface soil samples (i.e., 0-3 inches bgs) were collected from the approximate center of each grid in the absence of visual indications of contamination. If potential visual indications (i.e., staining, saturation) were present, a sample was collected from the area. When analytical results indicated the presence of lead or PCB contamination exceeding the established clean up levels, surface soils were excavated to a depth of 6 inches bgs, and the grid was resampled. Residual (i.e., post removal) surface soil lead and PCB levels are presented in Figures 10 and 11, respectively.

Although lead and PCB cleanup levels were achieved in all sections of the "off-site" (i.e., alley) grid, funding constraints precluded attaining these levels in some areas of the "on-site" (i.e., work yard) grid. Specifically, seven on-site sections exhibited lead concentrations exceeding 1,000 ppm and 13 on-site sections exhibited PCB concentrations exceeding 10 ppm. However, these residual levels did not reduce the effectiveness of the removal action in mitigating the imminent threat to public health and the environment, and are consistent with the site stabilization (as opposed to site remediation) objective of the removal action.

Upon completion of the on-site work, the work yard and alley were backfilled to original grade (photographs 24 through 27), and, on September 14, 1988, a security fence was erected at the south AHB property line.

7.4.3 Soil Containerization

Excavated soils were placed in polyethylene-lined polypropylene "bulk" bags (photograph 28). The bags were then placed on pallets, secured to the pallets with nylon or metal banding, and staged for subsequent loading and transportation (photographs 29 and 30). A total of 1345 cubic yards of soil were removed from the AHB site.



LEGEND

- Fence
- Toe of slope
- Crib
- Grid division between on-site grid (A-I) and off-site grid (K-V)

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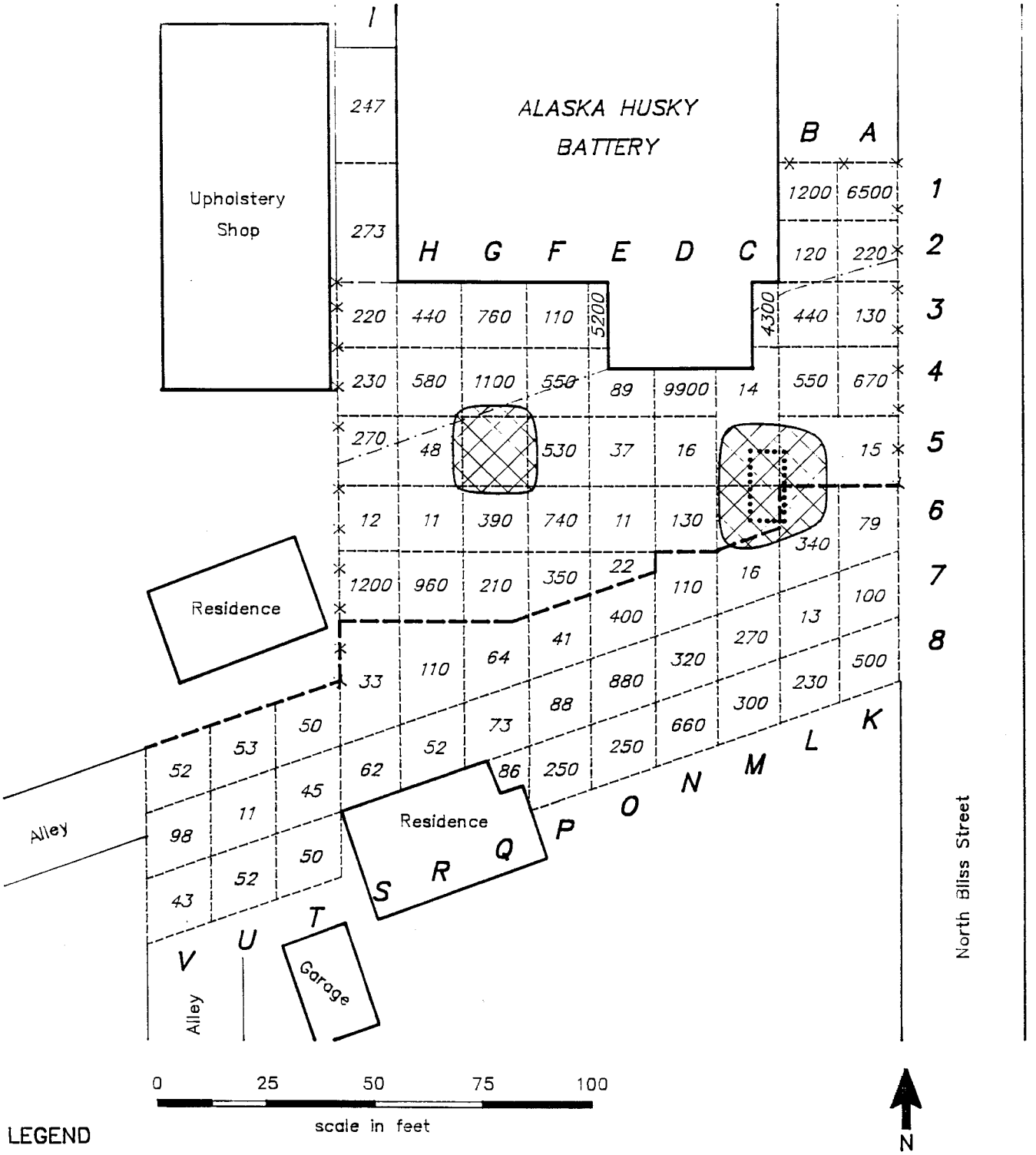
Job: T10-8810-039	Waste Site: AK0007
Drawn by: D. P.	Date: Nov. 17, 1988

FIGURE 9
VERIFICATION SAMPLING GRID
ALASKA HUSKY BATTERY
Anchorage, AK

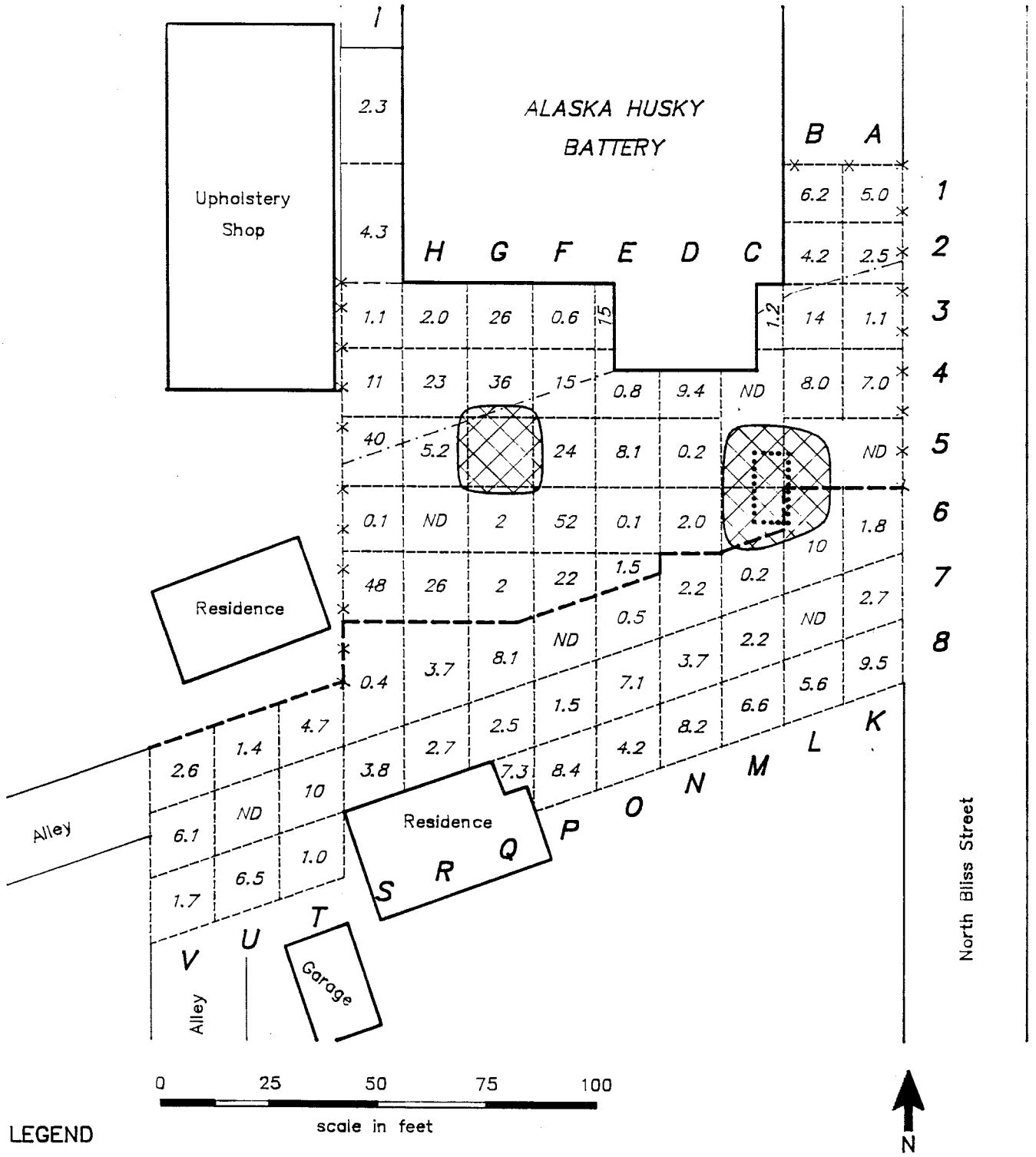


LEGEND

- Fence
- Grid division between on-site grid (A-I) and off-site grid (K-V)
- Toe of slope
- # Lead concentration (ppm)
- Crib
- Excavation area

ecology & environment, inc.	
Job: T10-8810-039	Waste Site: AK0007
Drawn by: D. P.	Date: Nov. 17, 1988

FIGURE 10
POST REMOVAL LEAD LEVELS
ALASKA HUSKY BATTERY
Anchorage, AK



LEGEND

- Fence
- Grid division between on-site grid (A-I) and off-site grid (K-V)
- Toe of slope
- # Lead concentration (ppm)
- Crib
- Excavation area

ecology & environment, inc.	
Job: T10-8810-039	Waste Site: AK0007
Drawn by: D. P.	Date: Nov. 17, 1988

FIGURE 11
POST REMOVAL PCB LEVELS
ALASKA HUSKY BATTERY
Anchorage, AK

7.5 Transportation and Disposal

Transportation of the containerized soils was provided by ERCS subcontractor B & R Environmental of Anchorage, Alaska (B & R). B & R was selected following a competitive bid process. The transportation subcontract was awarded to B & R Environmental based on a low bid of $294.44/ cubic yard (Personal communication, Oct. 24, 1988)

The containerized soil was loaded into 20 foot long ocean-going containers that had been lined with visqueen (photographs 31 through 33). The containers were transported by truck to the Port of Seward, Alaska where they were transferred to ocean-going barges supplied by Alaska Cargo Transport, Inc. The barges were unloaded at the Port of Seattle, Washington. The final "leg" of the route was completed by trucking the containers to the Chem Security Systems, Inc. (CSSI) disposal facility in Arlington, Oregon.

During the initial weeks of the removal action, logistics problems associated with loading and transporting the soils threatened to adversely impact the removal schedule. Due to the inability of B&R to load the contract-required five vans per day, a penalty clause in the contract was enforced by the ERCS contractor. A total penalty of $12,500 was assessed against B&R transportation charges over the course of the removal action.

CSSI was selected as the disposal facility following a competitive bid process, in conjunction with a comparative cost analysis based on the total cost of transportation and disposal. Minimization of the total cost of transportation and disposal was facilitated by the selection of CSSI as the disposal facility, although Envirosafe Services of Idaho, Inc. cited lower rates for disposal alone (Personal communication, Oct. 24, 1988).

Disposal of the containerized soil was completed on November 2, 1988. The total cost associated with disposal of the soil was approximately $200,000 ($120/ton).

7.6 Removal Cost Management Activities

AHB removal costs were tracked and documented by the TAT and OSC using the Removal Cost Management System (RCMS), and manual accounting procedures as required. ERCS cost information was provided to the TAT in the form of a "transfer disc" (floppy disc) and was subsequently downloaded to the internal memory of the TAT field computer for processing. EPA Standard Form 1900-55 (1900-55) and Daily Cost Summary (DCS) reports were generated upon receipt of cost information from the ERCS contractor. Due to errors in the RCMS version 3.01 software, frequent adjustments and comments were required to maintain accurate cost tracking information (i.e., agreement between ERCS Daily Work Reports (DWR), and EPA 1900-55s and DCSs). During the two week period in August when on-site work was temporarily suspended, ERCS headquarters personnel reprocessed all previously generated cost tracking data,

utilizing "updated" RCMS version 3.02 software, to reconcile the differences between the ERCS and EPA cost tracking documentation. The RCMS version 3.02 software was loaded into the TAT field computer on September 1, 1988, and was used until completion of the removal action.

On August 29, 1988, the ERCS response manager informed the OSC that the ERCS rate data that had been used in the generation of the the ERCS DWRs (and therefore, the EPA 1900-55s and DCSs) was incorrect. A one-time gross adjustment totaling $5969.58 had been made to (i.e., August 14, 1988) the affected cost categories by ERCS accounting personnel as the corrective measure.

In spite of the aforementioned problems, the OSC maintained cost tracking information of acceptable accuracy throughout the removal action.

7.7 Air Monitoring

On July 19, 20, 25-27 and 29, and August 4 and 8, 1988, the TAT collected ambient air particulate samples using sampling equipment provided by the ERCS contractor (Figure 7). Downwind sampling devices were located at the eastern site boundary, immediately north of the decontamination station (photograph 34) as the prevailing winds were southwesterlies. The background sampling device was located in the paved parking area to the north of the AHB building.

Preliminary analytical results indicated downwind ambient air lead concentrations ranging from 0.000026 ug/l (7/27/88) to 0.0015 ug/l (7/26/88). Background ambient air lead levels ranged from 0.000043 ug/l to 0.00017 ug/l. None of these levels exceeded the EPA ambient air quality standard for lead of 1.5 ug/m^3 (40 CFR 50.12).

With the exception of one sample, PCBs were not detected in ambient air particulate samples. The sample collected on 7/26/88 indicated a downwind ambient air PCB concentration of 0.00005 ug/l. PCBs were not detected in the background samples. National air quality standards for PCBs have not been established to date, however New York State has established a recommended ambient air level (AAL) of 1.67 ug/m^3 (NYSDEC, 1986). Using this as a basis of comparison, the PCB concentration displayed by the sample was two orders of magnitude lower than the New York State recommended AAL.

7.8 Safety

Removal work activities were conducted in accordance with the TAT and ERCS site safety plans. Each morning, a site safety meeting was conducted by the ERCS response manager with all removal personnel present. For soil excavation and containerization activities, Level C personal protection was specified including: air purifying respirators (APRs) with GMC-H cartridges, inner surgical and outer nitrile gloves, steel-toed neoprene boots, hardhats, and tyvek or Kleen-Gard coveralls.

As a dust control measure, water was applied to on-site surface soils on a daily basis. Site inspection and sampling activities were conducted, in the absence of soil excavation or containerization activities, in Level D personal protection. The mild temperatures and light rain that persisted throughout the removal action precluded heat-related problems.

One potential exposure incident occurred in the course of the removal action. On July 13, at 0830, while performing soil excavation and containerization activities at the Pit #5 location, ERCS personnel in the vicinity of the hopper used to facilitate soil containerization complained of vapor breakthrough. All personnel were immediately removed from the hot zone, and APRs were fitted with fresh GMC-H cartridges. The ERCS foreman and TAT project manager inspected all personnel for correct APR fit prior to site reentry. The TAT accompanied ERCS personnel on-site following the "break", and monitored organic vapor concentrations in the area of the hopper during the restart of soil excavation and containerization activities. Using an HNu Model PI-101 photoionization analyzer, the TAT detected organic vapors at levels fluctuating between 0 and 5 ppm in the breathing zone of the workers operating the hopper, with a relatively constant level of 2 to 3 ppm indicated during most of the 40-minute monitoring period. No breakthrough incidents were reported during the monitoring period or during subsequent work; however, at the recommendation of the TAT, the frequency of APR cartridge changeover was increased to two times per day, and the ERCS foreman or response manager checked the fit of APRs on ERCS personnel prior to site entry.

One safety incident occurred during the removal action. On August 11, at approximately 1500, the large forklift used by B & R personnel (to remove and replace the ocean-going containers on the 40 foot long flatbed trailers used to transport the containers to the Port of Seward) rolled down North Lane Street and struck a loaded container and an empty flatbed trailer that had been staged in a cleared area at the west edge of the street (photographs 35 and 36). There were no injuries. An inspection of the forklift air brake system by B & R personnel reportedly resulted in the discovery of a failed pressure relief valve in the parking brake circuit. According to B & R personnel, the faulty valve was repaired. No subsequent incidents involving the forklift were noted.

8.0 RECOMMENDATION

As a result of surface soil excavation activities, some cross contamination of shallow subsurface soils occurred in the course of the removal action. The problem was exacerbated by the high levels of surface contamination, and the use of tracked excavation equipment. Although the degree of cross contamination was not considered excessive, it is possible that more efficient methods of soil excavation would have resulted in some cost savings. It is therefore recommended that applicable contractors be encouraged to develop more efficient methods of excavation.

REFERENCES

1. Ashley, Thomas M. September, 1988. **Technical Assistance Team Site Assessment Report: Alaska Husky Battery, Anchorage, Alaska.** U.S. Environmental Protection Agency (EPA) Region X TDD file number: T10-8803-003.

2. 40 CFR 50.12.

3. 40 CFR 261.24.

4. New York State Department of Environmental Conservation (NYSDEC). July, 1986. **New York State Air Guide-1.** Guideline for the Control of Toxic Ambient Air Contaminants.

5. Personal communication. October 24, 1988. Telephone conversation between Greg Larsen, ERCS Response Manager, and Thomas Ashley, TAT Project Manager.

6. Roland, John L. March 11, 1987. **Technical Assistance Team Site Assessment Report: Alaska Husky Battery.** EPA Region X TDD file number: T10-8705-009.

7. Tetra Tech, Inc. December, 1984. **Hazardous Waste Site Inspection Report: Alaska Husky Battery.** EPA Region X CERCLIS file number: AKD009246497.

8. Tryck, Nyman and Hayes. May, 1986. **Suspected Uncontrolled Hazardous Waste Site Inspection Report: Alaska Husky Battery. AKD009246497.** Report prepared for the Alaska Department of Environmental Conservation.

9. U.S. Environmental Protection Agency. November 1986. **Test Methods for Evaluating Solid Waste, Third Edition.** Document number SW-846, Method 1310. Office of Solid Waste and Emergency Response.

10. U.S. Geological Survey (USGS). 1964. **Geology and Ground-Water Resources of the Anchorage Area, Alaska.** USGS Water-Supply Paper 1773.

11. USGS. 1972. **Generalized Geologic Map of Anchorage and Vicinity, Alaska.** 1:24000 scale folio of Anchorage and vicinity, Alaska Map I-787-A.

12. USGS. 1979. **Anchorage (A-8) Quadrangle, Alaska.** Topographic 1:25000 scale series.

Appendix A
Notification of PRP and Request for Action
Alaska Husky Battery

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

JUN 16 1988

REPLY TO
ATTN OF: HW-113

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

James Welker
Alaska Husky Battery
4540 Mountain View Drive
Anchorage, Alaska 99502

Re: Alaska Husky Battery Facility, Anchorage, Alaska

Dear Mr. Welker:

The U.S. Environmental Protection Agency (EPA) has documentation that shows the release of hazardous substances and hazardous waste at the Alaska Husky Battery property (hereinafter, the "site"). As a result, the site is the subject of investigation by EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA). At this time, EPA is considering spending public funds to take corrective actions for the control of hazardous substances at the site, unless it is determined that such action will be conducted properly by a responsible party.

Responsible parties under CERCLA include current and past owners or operators of the site, and persons who generated the substances (see Section 107 of CERCLA). Under CERCLA, responsible parties may be liable for all monies, including interest thereon, expended by the government to take necessary action at the site, including investigation, planning, and cleanup of the site.

Based on EPA's findings, you have been identified as a potentially responsible party. This does not constitute a final determination concerning liability of any party for the hazard or contamination at the site in question.

If you are willing to perform the necessary response measures at the site, you must notify EPA in writing no later than one week after receipt of this letter. Any response action on your part must be performed pursuant to an EPA-issued CERCLA Section 106 Order. Absent timely receipt of your written notification, EPA will proceed to undertake response action under applicable provisions of CERCLA, as amended.

Your written notification should be sent to:

James M. Everts, Chief
U.S. Evironmental Protection Agency
Emergency Response and Investigations Section
1200 Sixth Avenue, HW-113
Seattle, Washington 98101

Policy and technical questions should be addressed to Carl Lautenberger at (907) 271-5083 in Anchorage, Alaska, or Carl Kitz at (206) 442-1263 in Seattle, Washington. Legal questions should be addressed to Bob Goodstein at (206) 442-8311.

Please give this matter your immediate attention.

Sincerely,

Charles E. Findley, Director
Hazardous Waste Division

cc: James F. Hayden, ADEC
Carl Lautenberger, AOO
Attorney General, State of Alaska
Paul J. Nangle, Attorney, Alaska Husky Battery

Appendix B
Community Relations Plan and Fact Sheets
Alaska Husky Battery

EPA

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska Operations Office
701 C Street
Anchorage AK 99513

June, 1988

Community Relations Plan

Alaska Husky Battery
4540 Mountain View Drive, Anchorage, Alaska

Introduction

The Environmental Protection Agency (EPA) has decided to initiate cleanup activities at the Alaska Husky Battery site in Anchorage, Alaska under the Comprehensive Environmental Response, Compensation Liability Act (CERCLA, or "Superfund") as amended. This work will be conducted under the Superfund Removal authority, which allows EPA to initiate immediate action to protect public health and the environment from a release or potential release of contaminants.

The purpose of this Community Relations Plan is to outline the program EPA will follow in order to keep the community, other Federal, state and local officials, local media, and special interest groups informed about EPA activities at the site.

Site History

The Alaska Husky Battery site is located at 4540 Mountain View Drive, Anchorage, Alaska on the southwest corner of Mountain View Drive and Bliss Street (map attached). The facility consists of a one story (plus basement) cinder block building and a sales office situated on a double city lot. Adjacent property uses include; a gas station, an auto repair shop, an upholstery shop, and a residential neighborhood. Battery manufacturing and sales operations have occurred at the site since the 1950's. The company accepted used batteries which were broken apart to recycle the lead. Lead oxide, and sulfuric acid were discharged onto the surface soils and occasionally into the on-site septic system which consisted of a buried wooden crib. Around 1962 the Borough sewer service became available and discharges to the septic system ceased. Currently only retail sales of batteries occurs at the site.

During the early 1970's Mr. James Welker, the previous and current owner, sold the business and left the state for several years. During that period of time the company expanded into the general salvage business and may have stored or salvaged items containing polychlorinated biphenyls (PCB's). There are no clear records of operations available from this time frame.

Field Activities/Sampling Results

Due to the site's past history, Alaska Husky Battery was placed on EPA's inventory of potentially hazardous sites. In 1984 a preliminary assessment (PA) was conducted which prompted a site investigation (SI) in 1986. The PA documented lead in surface soil as high as 70,000 parts per million (ppm). The SI concentrated on subsurface contamination and documented lead values in the soil at lower 2,700 ppm.

During late summer of 1987 the EPA's Technical Assistance Team (TAT) resampled the surface soils at the state's request. Several samples were also taken off site, since little was known about the area. Analytical results indicated that on-site surface samples were contaminated with lead up to 68,000 ppm and PCB's up to 2,320 ppm. Additionally lead was detected immediately off site as high as 1,000 ppm. In response to these findings EPA sent the TAT back in May 1988 (after snow melted) to determine depth of contamination in order to formulate a clean up remedy. Numerous subsurface soil and ground water samples were taken during this phase. Results from these sampling efforts indicated that the majority of contamination existed in the upper

3) Fact Sheets

As new information becomes available fact sheets will be prepared and distributed to the mailing list. A fact sheet (attached) prepared by the Municipality of Anchorage, Department of Health and Human Services was distributed to residents living in the immediate proximity of the site during late April. A fact sheet has been prepared and will be released prior to the commencement of cleanup activities.

4) Press Releases

The media has shown interest in the site and all major local newspapers, and television and radio stations have been following the events and investigations. Fact sheets will be routinely mailed to the press and formal press releases will be issued as appropriate.

5) Public Meetings

EPA has met with residents in the area individually to discuss the site and EPA and ADEC made a presentation to the Mountain View Community Council. The municipal health department has also visited adjacent residents to provide them with information on reducing exposure to the contamination, as well as offering medical monitoring. There has been wide spread media coverage, and extensive cooperation with the Municipality and State agencies. Therefore, no public meetings are presently scheduled. However, if the community desires a meeting EPA will arrange to do so.

For additional information contact:

Carl Lautenberger, EPA On-Scene Coordinator, in **Anchorage** at **(907) 271-5083**

Carl Kitz, EPA Project Coordinator, in **Seattle** at **(206) 442-1196**

Attachments

1) Site location map
2) Mailing list
3) First fact sheet issued April 1988
4) EPA Fact Sheet #1

June 27, 1988

Alaska Husky Battery
Anchorage, Alaska

Introduction:

The Alaska Husky Battery site, located at 4540 Mountain View Drive in Anchorage, Alaska, has been found to be contaminated with lead and acid from past battery recycling practices. Polychlorinated biphenyls (PCBs) have also been detected on site, however, the exact origin of the PCBs is unknown.

Although, high levels of lead and polychlorinated biphenyls (PCBs) have been found on site, this does not pose a significant hazard to the community unless someone entered inside the fence and directly contacted the soil. However, to prevent future spreading of contaminants to offsite soil, groundwater and air; and to prevent chronic exposure to low levels of contamination off site, the Environmental Protection Agency plans to take corrective action. A cleanup involving excavation and removal of those soils to a permitted hazardous waste disposal facility will begin during the month of July.

Background:

Alaska Husky Battery was a battery manufacturing and sales operation between 1952 and the mid-seventies. The company took used batteries, salvaged the lead plates for recycling and discarded the cases. The past practices of breaking batteries has resulted in the contamination. The potential problems with such practices were not realized until recent years. Currently only retail sales of batteries occurs at the site.

Because of past operations and the potential for contamination, Alaska Husky Battery was placed on EPA's inventory of potentially hazardous sites. Site investigations were done at Alaska Husky Battery in 1984, 1986, and 1987. The investigations involved taking soil, groundwater and air samples and revealed lead and acid contamination of surface soils and the shallow groundwater table in the immediate area surrounding the building.

Sampling Results:

Sample results show the highest concentrations of contaminants exist on the Husky Battery property which is fenced to prohibit access. Some contamination has spread off the property and into the alley and yards immediately adjacent. However, the levels of the off-site contamination are much lower than those found on site and thus poses a much lower risk to potentially effect human health. Drinking water samples taken from nearby shallow wells by the Alaska Department of Environmental Conservation (ADEC) have shown no lead contamination to date. Most residents in the neighborhood receive city supplied water, which is piped in from wells which are distant from the site.

Air samples analyzed for lead have shown nothing unusual and are well within the safe limits established by the Clean Air Act. Blood tests of residents living closest to the stie revealed nothing unusual, all levels were within the normal range.

What has been done so far?

The EPA obtained additional soil and water samples this spring to develop a proper clean up remedy. Preliminary results indicate that the majority of contamination is located in the upper foot of surface soils.

During the interim the ADEC arranged to have the surface soils covered with a dust suppressant to prevent soils from being blown off site. An air monitor has been set up in a nearby yard and periodically samples the air for lead. The Anchorage Health Department has visited residents living immediately adjacent to the site and provided them with information and advice on reducing exposure to the contamination, as well as offering medical monitoring.

What's next?

Once all of the results from the recent sampling are complete, EPA will determine how much soil requires removal and begin the cleanup. After the soil has been removed additional samples of both soil and water will be taken. Cleanup activities are expected to take several weeks and will be accomplished this summer.

For additional information:

EPA is maintaining an information repository for the site at the EPA Alaska Operations Office located at 701 C Street in Anchorage. The community relations plan developed for the site is in the repository, as well as other pertinent information.

Additional fact sheets will be prepared as significant developments occur. The Municipality of Anchorage Department of Health and Human Services distributed a fact sheet discussing the site, the health effects of lead, and precautions to be taken. If you would like to receive these fact sheets and are not already on EPA's mailing list for this site, please contact the EPA Alaska Operations Office in Anchorage at (907) 271-5083.

If you have any questions or need further information about this site please feel free to call:

Carl Lautenberger, Alaska Operations Office, (907) 271-5083
Carl Kitz, EPA in Seattle, (206) 442-1196

Alaska Husky Battery
Anchorage, Alaska
Fact Sheet #2

Update on Cleanup Activities

The Environmental Protection Agency and their Superfund cleanup contractors began removal of contaminated soils at Alaska Husky Battery located at: 4540 Mountain View Drive, Anchorage, Alaska, on July 1, 1988. Originally, the cleanup of an estimated 900 cubic yards of soil was expected to last three weeks and cost approximately one-half million dollars. Once excavation and sampling of soil began, additional quantities of PCB contaminated soils were found. EPA has now spent close to one million dollars to remove and properly dispose of approximately 1,300 cubic yards of soil.

All contaminated soil areas offsite in the adjacent alley, have been excavated to levels below 10 parts per million (ppm) PC and 1,000 ppm lead. Most of this area is lower than those concentrations. The alley has been refilled with clean gravel and restored to original condition.

Although 1-3 feet of surface soils have been excavated from the back yard of Alaska Husky Battery, some residual contamination still exists. These areas are being re-sampled to determine the amount of additional soil that needs to be removed.

What's next?

Site cleanup will be suspended for approximately 1-2 weeks until analytical results are received. These results will then be used to determine how much additional soil requires removal and complete activities within the next month. While low level residual contamination will most likely remain, these soils will be covered by clean fill. The cleanup will eliminate threats of direct contact and airborne exposure while stabilizing any further spreading of contamination.

For Additional Information:

EPA is maintaining an information repository for this site at the EPA Alaska Operations Office/Anchorage located at 701 C Street, Room E-551 in the Federal Building. The community relations plan developed for the site is in the repository as well as other pertinent information. Additional fact sheets will be prepared as significant developments occur.

If you have any questions or need further information about this site, please feel free to call and leave a message for:

Carl Lautenberger, Alaska Operations Office/Anchorage, (907) 271-5083
or Carl Kitz, EPA, Region 10, Seattle, Washington, (206) 442-1196

Alaska Husky Battery
Anchorage, Alaska
Fact Sheet #3
September 30, 1988

Update on Cleanup Activities

The U.S. Environmental Protection Agency completed cleanup activities of the Alaska Husky Battery site as of September 14, 1988. After 10 weeks of work, over 1,500 cubic yards of lead and PCB contaminated soils were excavated, containerized, and shipped out of Alaska for disposal at a permitted hazardous waste disposal facility in Arlington, Oregon. Although low levels of residual contamination remain in certain areas onsite, the potential human health and environmental threats previously posed by the higher levels of contamination have been removed.

Results of the Cleanup

Contaminated soils surrounding the Husky Battery shop, including the backyard and adjacent alley way were excavated in depths ranging from 1 to 18 feet. PCB contamination was reduced to values less than 10 parts per million (ppm) in all previously contaminated areas in the alley way and with few exceptions on the majority of the Husky Battery property. Several isolated spots in the shop's backyard contain PCB values ranging from 13-48 ppm. These areas, along with the remainder of the site, have been covered with at least 1-2 feet of clean soil.

The excavations left the majority of remaining soils with lead values below 500 ppm. Several isolated areas adjacent to the battery shop building contain residual contamination above 1,000 ppm lead. However, when these soils were tested to determine the amount of lead that could leach out or migrate. Test results indicated that contamination had been reduced low enough to prevent any significant spreading. These areas have also been covered with clean soil.

EPA utilized Superfund Emergency Response and Removal authority to address the contamination previously found at Alaska Husky Battery. The intent of this program is to allow the EPA to quickly respond to a contaminated site that may present and imminent and substantial threat to the public health or welfare. With the completion of this removal activity, EPA believes that any such threat has been mitigated.

Site Restoration

The original grade of the alley way was restored by replacing approximately 600 cubic yards of soil. Other areas on the Husky Battery property were covered with 1 to 3 feet of clean fill. The two deep excavation in the yard which removed the old lead contaminated septic crib and a deep PCB contaminated area were also backfilled with clean soil. Four groundwater monitoring wells installed in May 1988 remain secured in place. EPA does not plan additional groundwater monitoring, since previous tests have not revealed any lead or PCB contamination of the shallow groundwater aquifer. A new fence is being installed around the Husky Battery property.

For Additional Information

A detailed report documenting EPAs cleanup activities at this site will be prepared within the next 90 days. Once completed, it will be added to an administrative record which is available for public viewing at EPA's Alaska Operations Office located in the Federal Building at 701 C Street (Room E-551) in Anchorage and EPA Region 10 Office in Seattle, Washington.

If you have any questions or need further information regarding this site, please feel free to call:

Carl Lautenberger, Alaska Operations Office at (907) 271-5083
Carl Kitz, Region 10 EPA, Seattle, Washington at (206) 442-1196

Appendix C
EPA Action and Cost Increase Memoranda
Alaska Husky Battery

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
SEATTLE, WASHINGTON 98101

JUN 16 1988

REPLY TO ATTN OF: HW-113

MEMORANDUM

SUBJECT: ACTION MEMORANDUM: Time-Critical Removal at Alaska Husky Battery, Anchorage, Alaska

FROM: James M. Everts, Chief
Superfund Response and Investigations Section

TO: Charles E. Findley, Director
Hazardous Waste Division

THROUGH: Philip G. Millam, Chief
Superfund Branch

The Alaska Husky Battery (AHB) site is located in a mixed light industrial/residential area, within the Municipality of Anchorage (maps attached). There is mixed single family and multi-family housing directly across the alley, while a business commerical district is concentrated along Mountain View Drive. A junior high school and a grade school are located within 1/4 mile of the site. The lots on the west and south boundaries of the AHB property contain occupied residences. These residences are within 100 feet of the property boundaries.

Operations at the facility began in 1952. Between 1952 and the mid-1960s, AHB used the location to salvage lead plates from lead-acid batteries. From 1974 to 1976, Mr. Donald Seals was owner of the company. During that period, the facility reportedly recycled scrap metal other than lead and handled electrical transformers. Salvaging practices ceased by 1976. Presently, the facility is involved only in the manufacture and sales of new batteries.

Prior to 1962, all process waste waters were reportedly discharged directly into the ground at the rear of the facility via a buried wooden crib. Since 1962, process waters have been routed into the Anchorage municipal sewer system. J. Welker, Jr., who assumed ownership in 1976, and is the current owner, estimated during a 1985 site inspection that approximately 400 gallons of AHB process water were regularly discharged into the sewer every two weeks. Monitoring of the waters downline of the AHB outfall by municipality personnel from 1981 to 1982 showed pH levels fluctuating from 2.5 to 15.

A site assessment, conducted by the Technical Assistance Team in August of 1987, found the following contaminants on AHB property:

1. Lead--Total lead in surface soils ranged from 253 to 67,800 ppm. Sixty-two percent of the samples contained in excess of 20,000 ppm. Over 80% of the samples were in excess of the RCRA EP Toxicity criteria.

2. PCB--PCB values ranged from 15.5 to 2,320 ppm in surface soils. Over 75% of PCB samples were in excess of 100 ppm.

Lead was measured in off-site soils during the assessment, as well, and was found to be in excess of 1,000 ppm in an alleyway separating the AHB property from the residence to the south.

Based upon the results of the August 1987 investigation, an extended site assessment was initiated in May 1988 and is still in progress. With the exception of the wastewater crib which has not yet been sampled, the contamination appears to be confined to the upper one foot of soil. Preliminary results have indicated off-site PCB levels of 68 ppm in surface soils. The off-site sampling is being expanded to include a greater area.

The Alaska Department of Environmental Conservation and the Municipality of Anchorage (MOA) have performed or agreed to perform drinking water well monitoring, conduct medical monitoring, post warning signs, and provide information to the public.

The site is currently not on the National Priorities List (NPL).

The threats presented by the site include:

1. Direct contact/ingestion--The AHB site is currently fenced by a four foot fence; however, access to AHB employees is unrestricted, as is public access to the contaminated off-site soils.

2. Inhalation--After the snow melt season, the soils will be subject to wind dispersal, particularly those soils in the alleyway, where vehicular traffic is common. The MOA is considering blocking the alley and providing dust control as necessary.

3. Groundwater contamination--Due to the high EP Toxicity values, the form of lead found on AHB property is expected to be mobile. Previous samples from an on-site drinking water well detected lead and high sulfates; however, the lead values are suspect, as the sample was drawn from a tap. As part of the expanded site assessment, monitoring wells are being installed. At least 4 wells in the immediate area of AHB are completed in the shallow aquifer and are used as drinking water sources.

The purpose of this memorandum is to receive approval to initiate a time-critical removal action to remove and landfill the contaminated soils. Based upon the currently available data, it appears that 750 tons of soil will require removal and replacement with clean fill. The materials will require disposal outside of Alaska and will be moved by barge to Seattle or Tacoma for further shipment.

Due to the special limitations of the site, only small excavation equipment may be used. It is estimated that on-site activities will take approximately three weeks.

The projected project ceiling is as follows (costs rounded to the nearest $100):

Extramural Costs		
ERCS		$455,400
TAT		18,500
15% Contingency		71,100
	Total Extramural Costs	$545,000
Intramural Costs		
EPA Direct		$12,800
EPA Indirect		20,200
	Total Intramural Costs	$33,000
	Total Project Costs	$578,000

As the conditions at the Alaska Husky Battery site meet the NCP Section 300.65 criteria for removal, I recommend your concurrence on this request.

Concurrence:

Charles E. Findley, Director Date
Hazardous Waste Division

Non-Concurrence:

Charles E. Findley, Director Date
Hazardous Waste Division

Attachments

ATTACHMENT A

This attachment documents notice given to Jim Welker, Owner, Alaska Husky Battery, Anchorage, Alaska. The following are activities concerning EPA's communication between Mr. Welker, and his ability to fund a removal action:

1. April 1988 - Carl Lautenberger, Alaska Operations Office, EPA, discussed the waste contamination on the Alaska Husky Battery facility, and the need for sampling and corrective actions. Mr. Welker informed Carl Lautenberger that he was not financially capable of doing any sampling or cleanup work. The Alaska Department of Environmental Conservation (ADEC) also has approached Mr. Welker for the need for sampling, dust control, and other corrective actions.

2. A notice letter is now in preparation, and will be hand delivered to Mr. Welker. This letter will officially notify Mr. Welker of the federal governments' intentions to conduct removal actions, unless Alaska Husky Battery is prepared to do the required work. It is expected that this letter will be delivered no later than June 13, 1988. At the same time a letter of access will be presented to allow EPA and its contractors access for removal work, should Mr. Welker decline to do the cleanup.

3. On June 3, 1988, a copy of a Bankruptcy petition for the Alaska Husky Battery, Anchorage, Alaska, was received by the Alaska Operations Office. This notice was from the U.S. Bankruptcy Court, District of Alaska, and is for the Petition for Relief under Chapter 7 of Title II, U.S. Code.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
SEATTLE, WASHINGTON 98101

JUL 22 1988

REPLY TO ATTN OF: HW-113

MEMORANDUM

SUBJECT: Cost Increase for the Immediate Removal at Alaska Husky Battery, Anchorage, Alaska

FROM: James M. Everts, Chief DFlood for
Superfund Response and Investigations Section

TO: Charles E. Findley, Director
Hazardous Waste Division

THROUGH: Philip G. Millam, Chief
Superfund Branch

In order to successfully complete the Removal Action currently underway at Alaska Husky Battery, Anchorage, Alaska, a cost increase is required. The primary causes for the cost increase are due to the following reasons:

1. The cost of transportation of the waste from Anchorage, Alaska, to the disposal site in Arlington, Oregon, is considerably higher than originally estimated. The best contractual arrangement through the ERCS contract was for $294.00 per ton.

2. The quantity of PCB and lead contaminated soil in the two on-site pits was greater than estimated. As of this date approximately 100 cubic yards of PCB contaminated soil and 230 cubic yards of lead contaminated soil have been removed from these pits. The latest estimate of contaminated soil requiring disposal has been increased to approximately 1,100 cubic yards from the original estimate of 900 cubic yards.

3. The cost for the TAT work needs to be raised to include additional hours to complete on-site work.

The cost to complete this project is now estimated to be $685,000.00 for the cleanup contractor (ERCS). This consists of the following costs:

Extramural Costs:

	Current	Additional	Total
ERCS	$455,000.00	$230,000.00	$685,000.00
TAT	18,500.00	41,500.00	60,000.00
15% contingency	71,000.00	----------	71,000.00
		Total Extramural Costs:	$816,000.00

Intramural Costs:

EPA Direct	12,80. 00	_____	12,800.00
EPA Indirect	20,800.00	_____	20,800.00
		Total Intramural Costs:	33,000.00
		Total Project Costs:	$849,000.00

The new cost ceiling to complete the Alaska Husky Battery cleanup is now estimated to be $849,000.00. This consists of $685,000.00 ERCS cost, and $164,000.00 other costs. Your concurrence for the added cost increase to complete this project is requested.

Concurrence:

Charles Findley 7/22/85

Charles E. Findley, Director Date
Hazardous Waste Division

Non-Concurrence:

_____

Charles E. Findley, Director Date
Hazardous Waste Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
SEATTLE, WASHINGTON 98101

RECEIVED
AUG 8 1988
EPA-AOO - ANCHORAGE

REPLY TO ATTN OF: HW-113

MEMORANDUM

SUBJECT: Second Cost Increase for the Immediate Removal at Alaska Husky Battery, Anchorage, Alaska

FROM: James M. Everts, Chief
Superfund Response and Investigations Section

TO: Charles E. Findley, Director
Hazardous Waste Division

THROUGH: Philip G. Millam, Chief
Superfund Branch

In order to successfully complete the Removal Action currently under way at Alaska Husky Battery, Anchorage, Alaska, an additional cost increase is required. The primary reasons for this cost increase are:

1. Sampling conducted as of July 27, 1988, has shown lead and PCB contamination still present in high concentrations after recent excavation work. Values of 45 to 250 ppm PCB, and 2,362 to 55,491 ppm lead are still present. Additional sampling work has been undertaken to determine more accurately the remaining soil contamination. This work has shown that 1,300+ cubic yards of soil will require off-site disposal; which is an increase of 200+ cubic yards over the last cost increase.

2. It is now estimated that five additional days are required to complete the cleanup work.

The cost to complete this project is now estimated to be $935,000 for the cleanup contractor (ERCS). This consists of the following costs:

Extramural Costs:

	Current	Additional	Total
ERCS	$685,000	$250,000	$935,000
TAT	41,500	----------	60,000
Contingency	71,000	----------	71,000
		Total Extramural Costs:	$1,066,000

Intramural Costs:

EPA Direct	$12,800	$2,200	$15,000
EPA Indirect	20,800	4,200	25,000
		Total Intramural Costs:	$40,000
		Total Project Costs:	$1,106,000

The new cost ceiling to complete the Alaska Husky Battery cleanup is now estimated to be $1,106,000. This consists of $935,000 ERCS cost, and $171,000 for other costs. This is a $250,000 ceiling increase over the previous Action Memorandum. Your concurrence for the added cost increase to complete this project is requested.

Concurrence:

Charles Findley 8/2/88

Charles E. Findley, Director Date
Hazardous Waste Division

Non-Concurrence:

Charles E. Findley, Director Date
Hazardous Waste Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

REPLY TO ATTN OF: A00/A

August 19, 1988

MEMORANDUM

SUBJECT: Third Cost Increase for the Immediate Removal at Alaska Husky Battery, Anchorage, Alaska

FROM: James Everts, Chief
Superfund Response & Investigations Section

TO: Charles E. Findley, Director
Hazardous Waste Division

THRU: Phillip G. Millam, Chief
Superfund Branch

The off-site (alley) removal work is now complete. The alley has been cleaned to below the action levels for PCB's and Lead, and backfilled with clean road gravel. The excavation work on the Alaska Husky Battery (AHB) yard, however, has not been completed.

Removal actions on-site continue to find "hot spots" requiring further removal of contaminated soils to meet the action levels. The action levels being less than 1000 ppm lead, and less than 25 ppm PCB, for on-site cleanup. The off-site (alley) actions levels were less than 1000 ppm lead and less than 10 ppm PCB.

In order to successfully complete the Removal Action currently underway at Alaska Husky Battery, Anchorage, Alaska a cost increase is required. To better define to remaining work required to successfully cleanup the AHB site, a thorough extent of contamination sampling program was undertaken. Site work has been curtailed during the period that the extent of contamination, while samples were being analyzed. This was done in order to avoid going over the authorized ceiling. These samples have now been analyzed, with the following results and conclusions being reached:

1. Sampling conducted for extent of contamination has shown Lead and PCB contamination still present in high concentrations after recent excavation work. Values of 890 ppm PCB and 15,000 ppm Lead are still present. Sampling work has shown that 1600+ cubic yards of soil will require off site disposal, which is an increase of 300+ cubic yards over the last cost increase.

2. It is now estimated that 10 additional days are required to complete the cleanup work.

The cost to complete this project is now estimated to be $1,185,000 for the cleanup Contractor (ERCS). This consists of the following costs:

Extramural Costs:	Current	Additional	Total
ERCS	$935,000	$250,000	$1,185,000
TAT	60,000	10,000	70,000
contingency	71,000	---	71,000
		Total Extramural Costs:	$1,326,000
Intramural Costs:			
EPA Direct	15,000	5,000	20,000
EPA Indirect	25,000	5,000	30,000
		Total Intramural Costs:	$50,000
		Total Project Costs	$1,376,000

The new cost ceiling to complete the Alaska Husky Battery cleanup is now estimated to be $1,376,000. This consists of $1,185,000 ERCS cost, and $191,000 for other costs. This is a $270,000 ceiling increase over the previous Action Memorandum. Your concurrence for the added cost increase to complete this project is requested.

Concurrence

Charles E.Findley, Director,
Hazardous Waste Division

Non-Concurrence

Charles E.Findley, Director,
Hazardous Waste Division

Appendix D
Photographic Documentation
Alaska Husky Battery

PHOTOGRAPH IDENTIFICATION SHEET

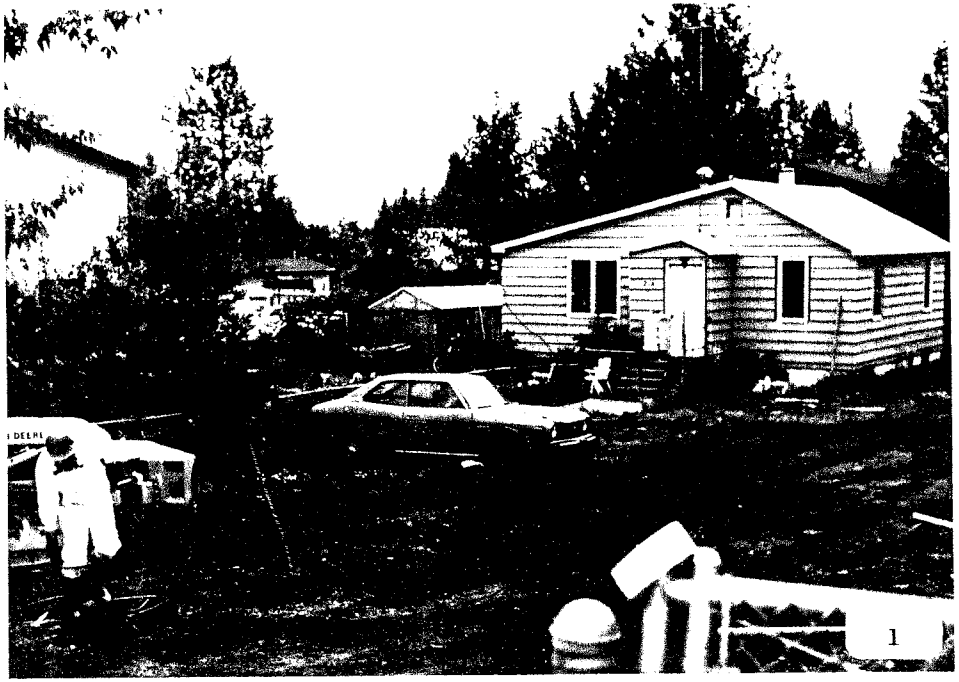
Camera Serial No.: 645404
Lense Type: 50mm Standard

TDD No.: T10-8810-039
Site Name: Alaska Husky Battery

Photo No.	Date	Description
1	6/30/88	Taken from North Bliss St. facing southwest. Shows alley and dirt parking area south of AHB facility.
2	7/1/88	Taken from North Bliss St. facing west. Shows removal of AHB south fence.
3	7/25/88	Taken from North Bliss St. facing southwest. Shows eastern site boundary, decontamination station. Note use of banner guard tape and warning signs.
4	7/1/88	Taken from North Bliss St. facing northwest. Shows existing (green) AHB fence used as western site boundary.
5	7/11/88	Taken from North Bliss St. facing west. Shows command post located east of AHB building.
6	7/1/88	Taken from North Bliss St. facing northwest. Shows (behind debris at center) drummed investigation-derived wastes generated during May 1988 site assessment.
7	7/8/88	Taken from North Bliss St. facing northwest. Shows location of crib excavation at east end of AHB work yard. Note timbers.
8	7/8/88	Taken from back (south) door of AHB building facing southwest. Shows location of PCB/TCB excavation in west-central portion of work yard.
9	7/11/88	Taken from North Bliss St. facing southwest. Shows relative locations of subsurface soil excavations. Note use of banner guard tape around excavation perimeters as safety measure.
10	7/13/88	Taken from AHB work yard facing southwest. Shows excavation of crib. Note capped gas main at upper left, and sewer line at center.

11	7/14/88	Shows debris removed from crib excavation. Note "corroded" sewer line segments.
12	7/15/88	Shows discolored soil removed from bottom of crib.
13	7/14/88	Taken from work yard facing north. Shows buried crib structure. Note discolored soil below sewer line feed and in bottom of crib.
14	7/13/88	Taken from slope south of AHB building facing southeast. Shows severe discoloration (at left) and saturation (at right) of subsurface soils in southeast corner of PCB/TCB excavation.
15	7/13/88	Taken from center of work yard facing northwest. Shows discoloration of subsurface soils in northwest corner of excavation.
16	7/13/88	Shows corroded metal sewer line segment removed from PCB/TCB excavation.
17	7/8/88	Taken from North Bliss St. facing west. Shows natural gas leaking from ruptured line. Gentleman at center is ENSTAR representative.
18	7/8/88	Taken from North Bliss St. facing west. Shows damaged natural gas line.
19	7/8/88	Shows capped natural gas main.
20	7/28/88	Taken from alley south of AHB property facing north. Shows excavation of surface soil from grid A5 using backhoe.
21	7/29/88	Taken from North Bliss St. facing west. Shows excavation of surface soils from "on-site" grid sections using bulldozer.
22	8/8/88	Taken from alley south of AHB property facing north. Shows excavation of surface soils using front loader and bulldozer. This method was used to preclude contaminating adjacent clean grid sections when excavating soil from isolated "hot" grid sections.
23	8/8/88	Taken from North Bliss St. facing west. Shows soil stockpile and method used to containerize soils.
24	9/7/88	Taken from North Bliss St. facing northwest. Shows backfilling of AHB work yard.

25	8/12/88	Taken from North Bliss St. facing southwest. Shows backfilling of alley and dirt parking area south of AHB facility.
26	9/8/88	Taken from North Bliss St. facing west. Shows completed backfilling of site.
27	9/2/88	Taken from alley south of AHB facility. Shows repair of sewer cleanout performed by ERCS foreman, Theodore Layton.
28	8/5/88	Taken from North Bliss St. facing west. Shows containerization of excavated soils using hopper.
29	7/12/88	Taken from North Bliss St. facing southwest. Shows ERCS personnel securing bulk bags to pallets with metal banding.
30	7/9/88	Taken from North Bliss St. facing southwest. Shows dust control activity in foreground, staged soil containers in background.
31	8/5/88	Taken from alley south of AHB facing west. Shows 20 foot long, visqueen-lined containers used to transport containerized soil. Large forklift was used to place containers on 40 foot flatbed trailers.
32	8/5/88	Taken at west end of alley south of AHB. Shows method used to transport containers to the Port of Seward, Alaska.
33	8/11/88	Taken from North Bliss St. facing west. Shows container loading area at far end of alley. Note staged containers in background.
34	8/9/88	Taken from North Bliss St. facing west. Shows ERCS-supplied pumps used for airborne particulate sampling.
35	7/13/88	Taken from North Lane St. facing south. Shows large forklift. Staging area for trailers and containers is at right.
36	8/11/88	Taken from North Lane St. facing west. Shows damaged container and trailer (at left).



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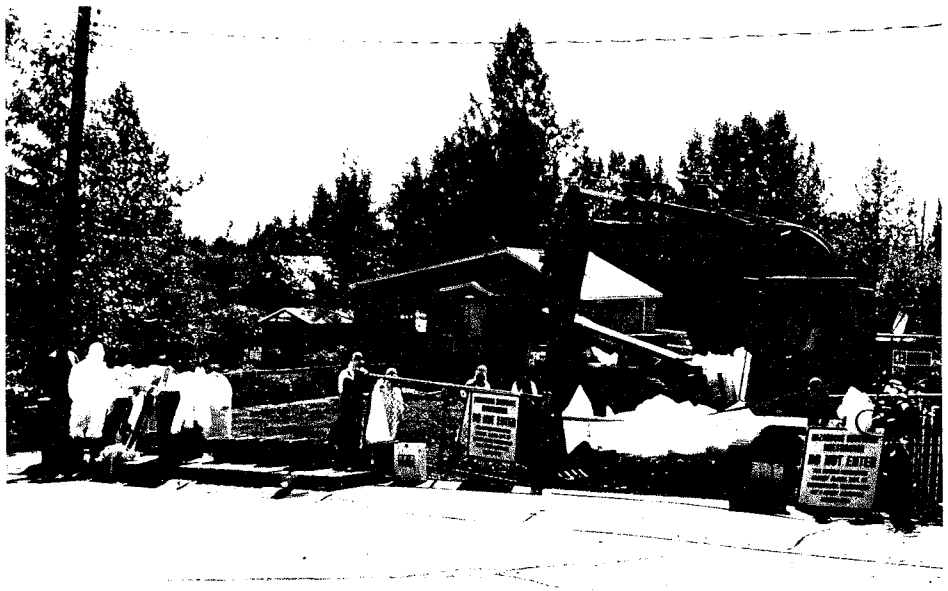

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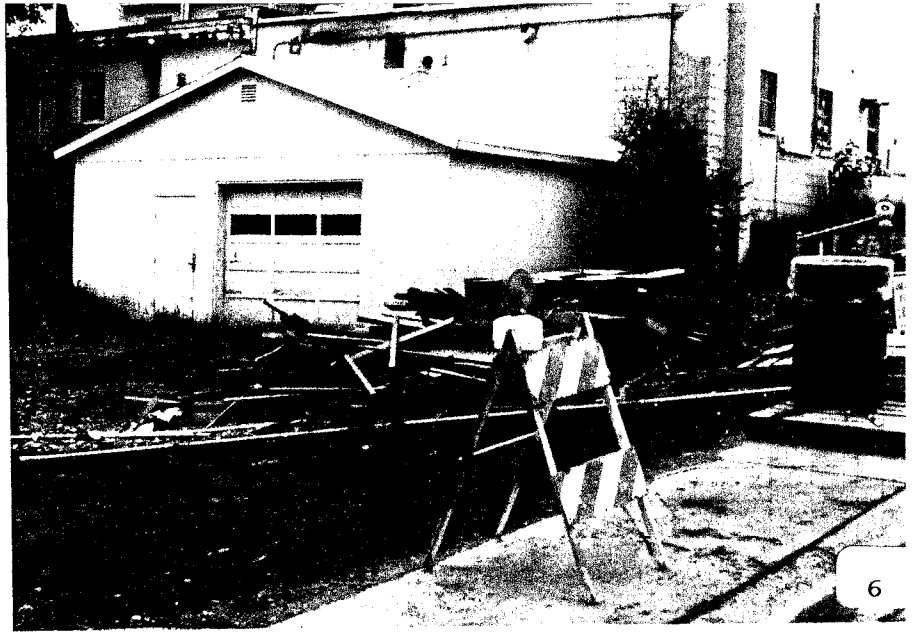

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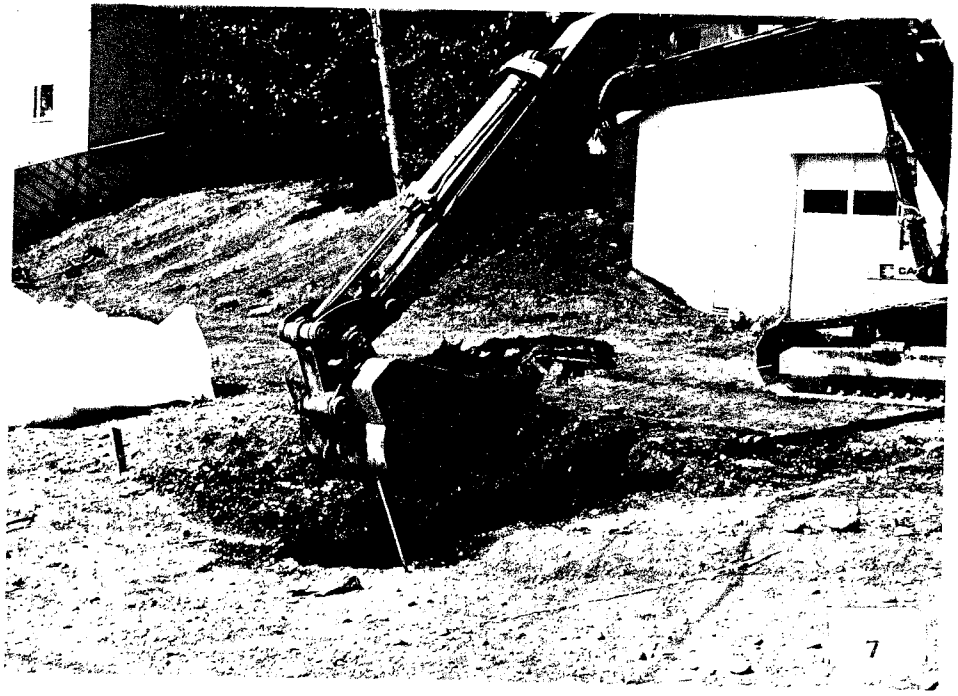

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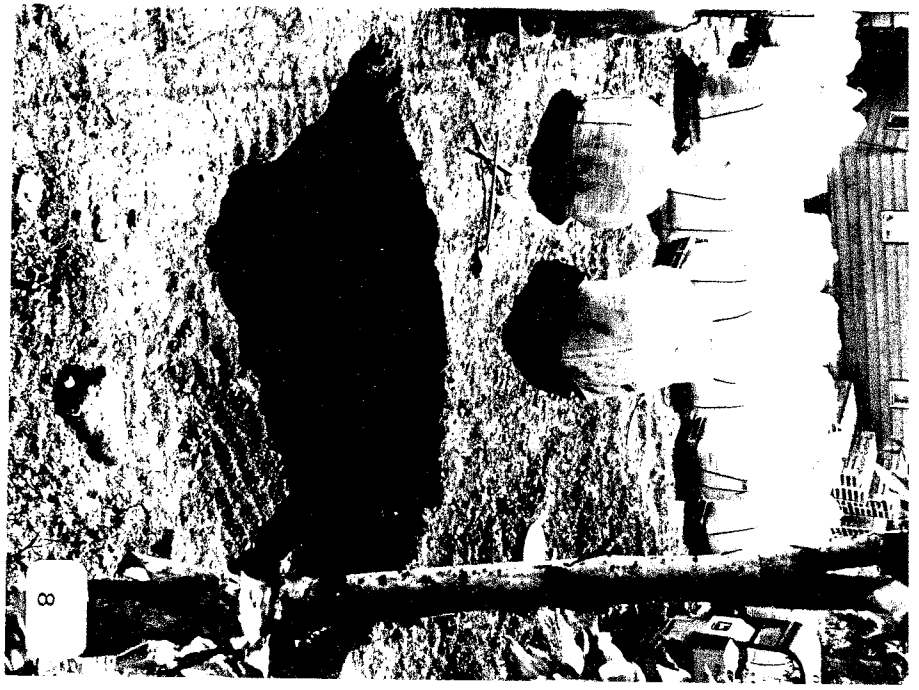

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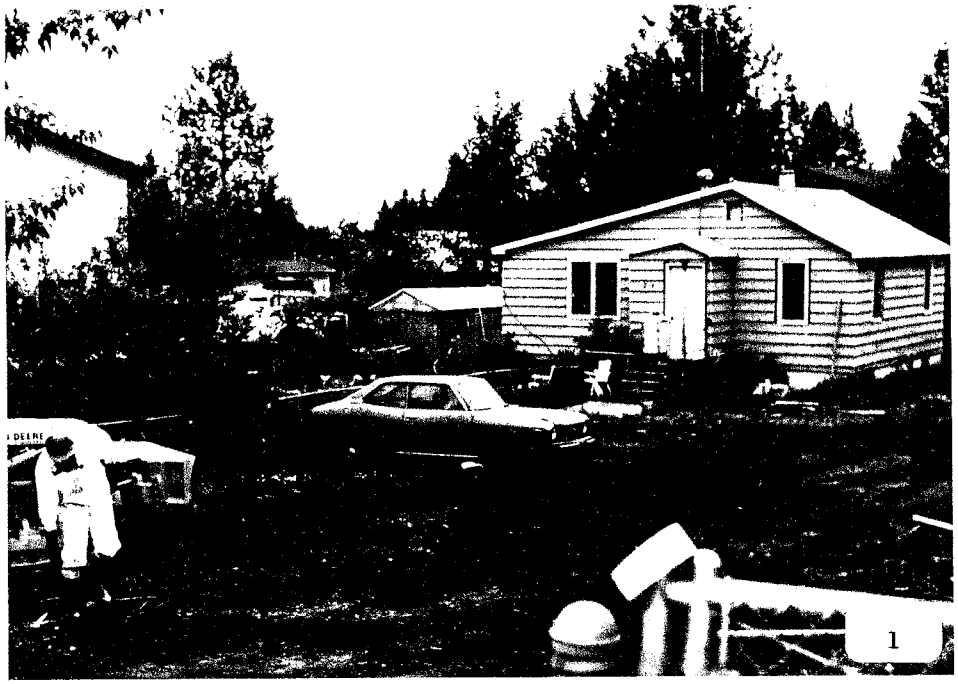

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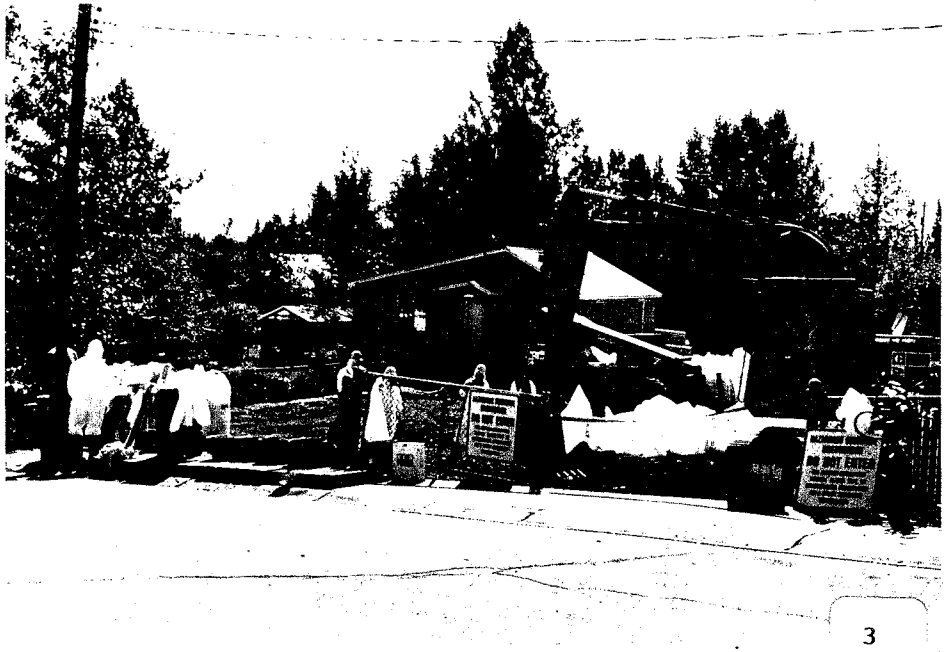

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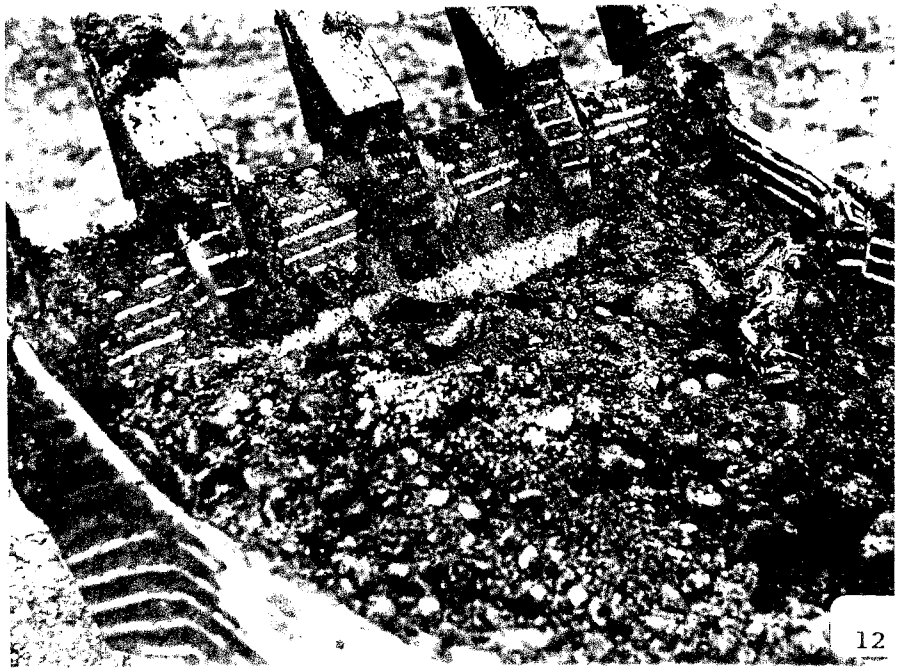
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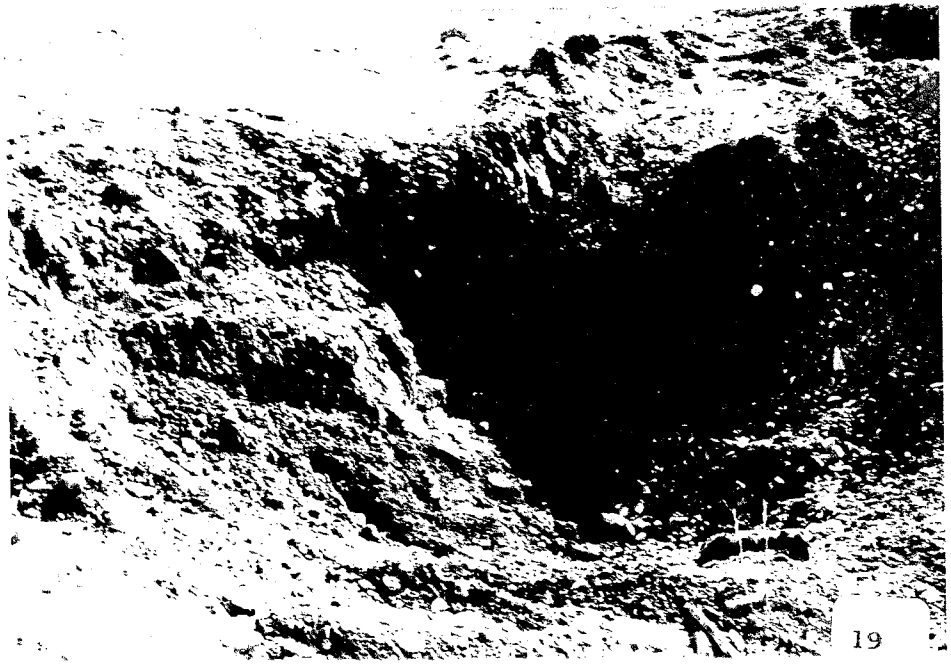

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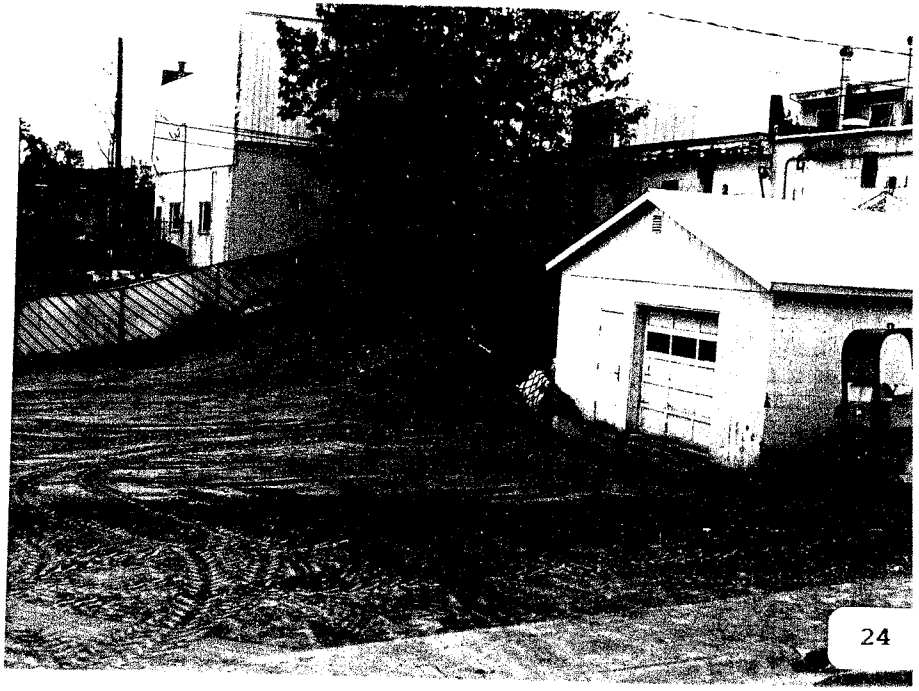

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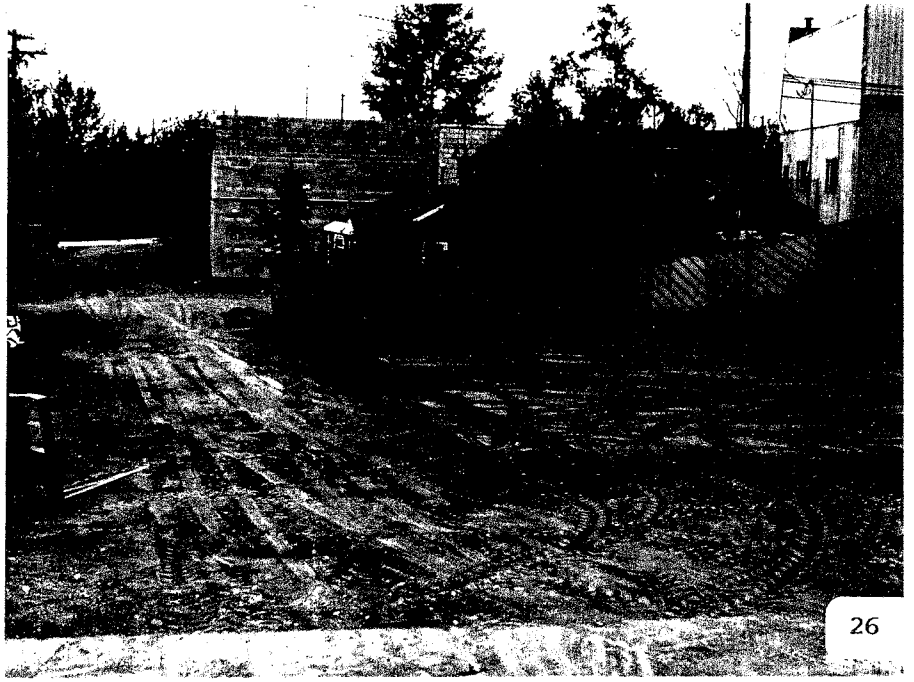

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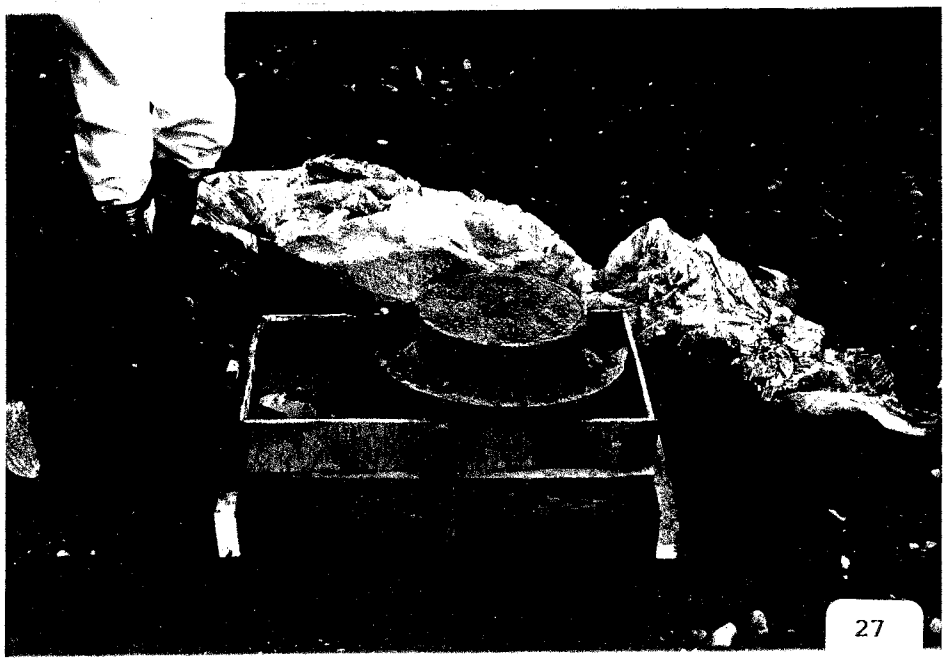

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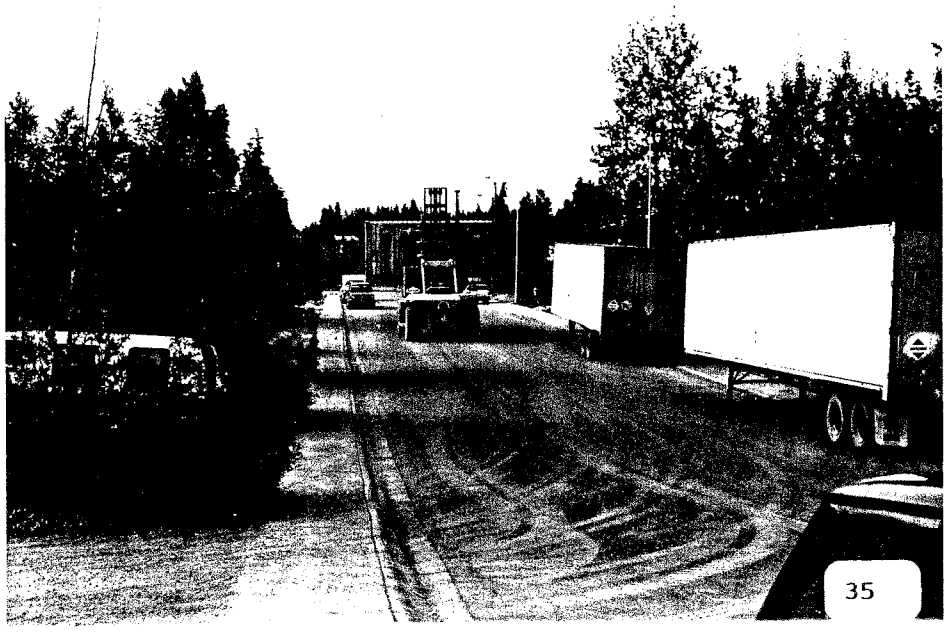

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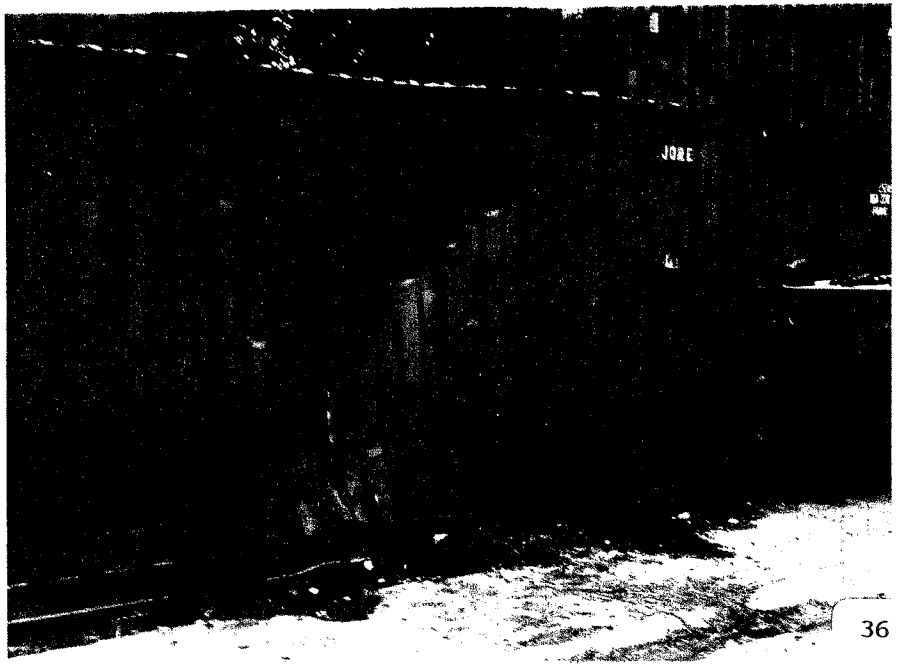

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Appendix E
Quality Assurance Review
Alaska Husky Battery

ecology and environment, inc.
101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537
International Specialists in the Environment

MEMORANDUM

DATE: October 10, 1988

TO: Tom Ashley, TATM-Project Manager, E&E, Seattle, WA

FROM: Doug Gresham, TATM-Chemist, E&E, Seattle, WA DG

THRU: Michael Bray, TATM-Chemist, E&E, Seattle, WA MB

SUBJ: **PCB Data Quality Assurance Review, Alaska Husky Battery**

REF: TDD: T10-8810-039
PAN: TAK-0007-RFB

The level II quality assurance review of 329 soil samples collected at Alaska Husky Battery, Anchorage, Alaska has been completed. PCB analyses were performed by Northern Testing Laboratories, Inc., Anchorage, Alaska.

The samples were numbered: T8070301 through T8070304, T8070306 through T8070318, T8070320, T8070321, T8070323 through T8070328, T8070331 through T8070338, T8070342 through T8070349, T8070357 through T8070362, T8070372 through T8070388, T8070403, T8070404, T8070408 through T8070499, T8070601 through T8070607, T8080900 through T8080906, T8080908 through T8080959, T8080964, T8080966, T8080968, T8080969, T8080971, T8080973 through T8080975, T8080977, T8080979 through T8081005, T8081010 through T8081013, T8081015 through T8081027, T8081032 through T8081043, T8081045, T8081047, T8081049, T8081050, T8081052 through T8081064 and T8090001 through T8090021.

Data Qualifications:

I Sample Holding Time: Acceptable.

All samples were extracted within ten days from the date of collection and analyzed within 40 days of extraction.

II Pesticide Instrument Performance: Data not available.

III Calibration: Acceptable

A. Initial Calibration: Data not available.

B. Continuing Calibration: The lab analyzed performance evaluation (PE) standards of aroclors 1242 and 1260 with every batch of samples. A spot check of 10% of the data verified that the percent recoveries were all within the accepted control limits. The percent difference (%D) between the recoveries of these continuing calibration standards were all less than the 15 % control limit. The lab did not analyze standards for the other aroclors, since none were found in the samples, no action is required.

IV Method Blank: Acceptable .

There were no contaminants found in the blanks above the instrument detection limit of 0.1 mg/kg.

V Surrogate Recoveries: Data not available.

The lab did not use Dibutylchlorendate as the surrogate, although some of the samples were spiked with Alpha-BHC. Alpha-BHC did not appear in every sample, blank, or PE standards. All the percent recoveries were within the range set by the EPA.

VI Matrix Spike/Matrix Spike Duplicate: Acceptable.

A spot check of 10% of the data verified that the percent recoveries for aroclors 1242 and 1260 were all within the control limits. The relative percent difference between the percent recoveries for the matrix spike and matrix spike duplicates were all acceptable.

VII Field Duplicates: Acceptable.

Blind duplicates were submitted to the lab. The sample results and relative percent difference between the results are listed below.

BLIND DUPLICATE ANALYSES

Sample Number	Aroclor 1260 (mg/kg)	Relative Percent Difference
T8070302	2.1	5%
T8070303	2.0 *	
T8070326	0.6	44%
T8070335	1.0	
T8070327	0.7	53%
T8070336	1.2 *	
T8070337	50.5	8%
T8070338	46.5	

BLIND DUPLICATE ANALYSES

Sample Number	Aroclor 1260 (mg/kg)	Relative Percent Difference
T8070343	205. *	2%
T8070344	210.	
T8070357	71. *	43%
T8070358	110.	
T8070359	0.5	170%
T8070360	6.1	
T8080968	310.	27%
T8080969	235. *	
T8080979	ND	NC
T8080980	0.3	
T8080988	ND	NC
T8080989	ND	
T8080998	ND	NC
T8080999	ND	
T8081018	200.	16%
T8081019	170.	
T8081038	50.	28%
T8081039	66.	
T8081060	230.	16%
T8081061	270.	
T8090007	ND	NC
T8090008	ND	
T8090019	15.	110%
T8090020	52.	

* Denotes the average of lab duplicate results.
ND Not detected.
NC Not calculated when one or both of the results are ND.

Due to the non-homogeneous nature of soil samples there are no specific criteria to evaluate the comparability of field duplicate results. It is the professional judgement of this reviewer that the data are acceptable.

The lab performed duplicate analyses on the samples. The results and relative percent difference between the values are presented below.

INTRALABORATORY DUPLICATE ANALYSES

Sample Number	Aroclor 1260 (mg/kg)	Relative Percent Difference
T8070301	8.6 / 9.8	13%
T8070303	2.2 / 1.8	20%
T8070309	9.8 / 9.9	1%
T8070311	16. / 15.	6%
T8070323	6.2 / 7.4	18%
T8070332	1.8 / 1.8	0%
T8070336	1.1 / 1.3	17%
T8070343	200. / 210.	5%
T8070357	63. / 79.	22%
T8070380	12. / 11.	9%
T8070381	0.2 / 0.3	40%
T8070387	2.1 / 2.3	9%
T8070403	3.1 / 2.6	18%
T8070408	ND / ND	NC
T8070409	14. / 11.	24%
T8070411	4.8 / 5.3	10%
T8070413	90. / 120.	29%
T8070416	0.6 / 0.6	0%
T8070433	10. / 12.	18%
T8070439	0.2 / 0.1	67%
T8070458	1.7 / 1.7	0%
T8070461	63. / 57.	10%
T8070475	6.6 / 5.0	28%
T8070479	2.2 / 2.3	4%
T8070480	5.9 / 7.3	21%
T8070481	5.0 / 4.2	17%
T8070482	5.7 / 6.2	8%
T8070601	30.3 / 30.5	1%
T8080901	2.9 / 3.1	7%
T8080904	13. / 15.	14%
T8080909	16. / 20.	22%
T8080910	17. / 14.	19%
T8080919	6. / 5.5	9%
T8080926	41. / 38.	8%
T8080931	0.6 / 0.8	26%
T8080936	8.4 / 6.9	20%
T8080954	15. / 19.	23%
T8080959	6.8 / 8.1	17%
T8080966	0.2 / 0.3	40%
T8080969	230. / 240.	4%
T8080973	0.9 / 1.0	11%
T8080982	ND / ND	NC
T8080986	56. / 52.	7%
T8081000	4.9 / 5.3	8%
T8081002	ND / ND	NC
T8081005	800. / 780.	3%
T8081020	0.2 / 0.2	0%

INTRALABORATORY DUPLICATE ANALYSES

Sample Number	Aroclor 1260 (mg/kg)	Relative Percent Difference
T8081021	0.1 / 0.1	0%
T8090001	1.1 / 0.9	20%
T8090016	130. / 150.	14%

ND = Not detected.
NC = Not calculated when either value is ND.

There are no specific criteria to evaluate lab duplicate results. It is the professional judgement of this reviewer that the data are acceptable.

Interlaboratory duplicate analyses were performed by Analytical Resources, Inc., (ARI) Seattle, Washington to verify the results found by Northern Testing Laboratories, Inc. (NTL). The sample results and relative percent difference are presented below.

INTERLABORATORY DUPLICATE ANALYSES

Sample Number (lab)	Aroclor 1260 (mg/kg)	Relative Percent Difference
T8070318 (NTL)	7.7	20
T8070319 (ARI)	6.3	
T8070321 (NTL)	11.5	69
T8070322 (ARI)	5.6	
T8070324 (NTL)	1500	36
T8070329 (ARI)	1039	
T8070325 (NTL)	8.0	
T8070330 (ARI)	3.8	71

These results support the usuability of the data.

VIII Compound Identification: Data not available.

There was no data available on retention time windows or which peaks were used to quantitate the results. The lab did not perform dual column analyses or GC/MS confirmation of the positive sample results. Interlaboratory results support the positive identification of the analytes.

IX Compound Quantitation and Reported Detection Limits:

Data not available.

VII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses" section on "Pesticides Procedure" (February, 1988).

Based upon the information provided, the data are acceptable for use.

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101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537

International Specialists in the Environment

MEMORANDUM

DATE: October 11, 1988

TO: Tom Ashley, TATM-Project Manager, E&E, Seattle, WA

FROM: Doug Gresham, TATM-Chemist, E&E, Seattle, WA DG

THRU: Michael Bray, TATM-Chemist, E&E, Seattle, WA MB

SUBJ: **Total Lead and EP Toxicity Lead Inorganic Data Quality Assurance Review, Alaska Husky Battery**

REF: TDD: T10-8810-039
PAN: TAK-0007-RFB

The level II quality assurance review of 331 soil samples collected at the Alaska Husky Battery site, Anchorage, Alaska has been completed. Total lead and EP Toxicity lead analyses were performed by Northern Testing Laboratories, Inc., Anchorage, Alaska.

The soil samples were numbered: T8070306 through T8070318, T8070320, T8070321, T8070323 through T8070328, T8070331 through T8070342, T8070350 through T8070356, T8070362 through T8070371, T8070376, T8070379 through T8070383, T8070385, T8070387 through T8070390, T8070400 through T8070499, T8070601 through T8070607, T8080900 through T8080959, T8080964, T8080966, T8080968, T8080969, T8080971, T8080973 through T8080975, T8080977, T8080979 through T8081005, T8081010 through T8081013, T8081015 through T8081027, T8081032 through T8081043, T8081045, T8081047, T8081049 through T8081064 and T8090001 through T8090021.

Data Qualifications:

I Sample Holding Time: Acceptable.

All samples were analyzed within the six month holding time.

II Calibration: Acceptable

A. Initial Calibration and Calibration Verification: Data not available.

B. Continuing Calibration: The lab analyzed performance evaluation (PE) standards with every batch of samples. The concentration of all standards was within the accepted range of values set by the EPA.

III Blanks: Data not available.

IV Interference Check Sample Analysis: Data not available.

V Laboratory Control Sample Analysis: Data not available.

VI Specific Sample Results

A. Duplicate Sample Analysis: The lab performed duplicate analyses on 27 samples for a frequency of 12% which is acceptable. The total lead sample results and relative percent difference (RPD) between the values are listed below.

DUPLICATE SAMPLE ANALYSIS

Sample Number	Lead Concentration (mg/kg)	RPD	
T8070356	7400 / 5700	26%	
T8070363	11 / 10.5	5%	
T8070380	1260 / 1500	17%	
T8070389	99 / 90	10%	
T8070433	1200 / 520	79%	*
T8070436	26000 / 25000	4%	
T8070467	510 / 510	0%	
T8070478	420 / 390	7%	
T8070490	6800 / 6600	3%	
T8070499	35000 / 34000	3%	
T8080901	2800 / 2600	7%	
T8080914	79 / 56	34%	
T8080930	1200 / 800	40%	*
T8080948	13 / 13	0%	
T8080956	160 / 240	40%	*
T8080958	11 / 10	10%	
T8080991	8 / 8	0%	
T8081000	170 / 170	0%	
T8081012	40 / 39	2%	
T8081021	12 / 12	0%	
T8081045	2400 / 680	112%	*
T8081064	2700 / 1200	77%	*
T8090012	16 / 16	0%	
T8090013	270 / 240	12%	

The sample results for EP Toxicity lead and the relative percent difference between the values are presented below.

DUPLICATE SAMPLE ANALYSIS

Sample Number	Lead Concentration (mg/l)	RPD	
T8070365	0.44 / 0.66	40%	*
T8070461	3.5 / 3.5	0%	
T8080907	0.8 / 0.9	12%	

For sample results that are greater than 5X the contract required detection limit, the control limit for relative percent difference is 35%. All samples that exceeded this limit are flagged with * in the right hand column of the tables above. Due to the non-homogeneous nature of soil samples there are no specific criteria for evaluating the comparability of duplicate results. It is the professional judgement of this reviewer that the data are acceptable.

Blind duplicates were submitted to the lab. The sample results and relative percent difference (RPD) between the results are listed below.

BLIND DUPLICATE ANALYSES

Sample Number	Lead Concentration (mg/kg)	RPD
T8070326	8.	12%
T8070335	9.	
T8070327	10.	26%
T8070336	13.	
T8070337	5,060.	70%
T8070338	2,440.	
T8080968	11,000.	30%
T8080969	8,100.	
T8080979	10.	22%
T8080980	8.	
T8080988	12.	0%
T8080989	12.	
T8081018	3,000.	14%
T8081019	2,600.	
T8081038	1,000.	34%
T8081039	710.	
T8081060	600.	25%
T8081061	770.	

Sample Number	Lead Concentration (mg/kg)	RPD
T8090007	12.	15%
T8090008	14.	
T8090019	740.	49%
T8090020	450.	

Due to the non-homogenous nature of soil samples there are no specific criteria to evaluate the comparability of field duplicate results. It is the professional judgement of this reviewer that the data are acceptable.

Interlaboratory duplicate analyses were performed by Analytical Resources, Inc. (ARI) of Seattle, Washington. The sample results and the relative percent difference between the values obtained from Northern Testing Laboratories (NTL) are presented below.

INTERLABORATORY DUPLICATE ANALYSES

Sample Number (lab)	Lead Concentration (mg/kg)	Relative Percent Difference
T8070318 (NTL)	460	2%
T8070319 (ARI)	469	
T8070321 (NTL)	480	4%
T8070322 (ARI)	462	
T8070324 (NTL)	240	94%
T8070329 (ARI)	87	
T8070325 (NTL)	23	117%
T8070330 (ARI)	6	

These results support the usuability of the data.

B. Spike Sample Analysis: The lab analyzed performance evaluation standards for the matrix spike analysis. All the percent recoveries were within the accepted range of 70-120% set by the EPA. The lab performed matrix spike and matrix spike duplicate analyses on four samples out of the 331 samples submitted, for a frequency of 2%. It is the professional judgement of this reviewer that the data are acceptable.

VII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" (February, 1988).

In the reviewers opinion all sample results will be flagged (J) as estimates, due to the following problems with the analyses. The duplicate sample analyses had six out of 27 samples analyzed with the relative percent difference above the 35% control limit. Blind duplicate analyses produced two out of the eleven sample pairs analyzed, with a RPD above the 35% control limit. The interlaboratory duplicate analyses yielded two out of the four sample pairs analyzed with the RPD above the 35% control limit. The low frequency of spiked sample analyses raises questions as to the efficiency of the extraction procedure. All these factors contribute to the data qualification of this package.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or quality control criteria were not met.

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International Specialists in the Environment

MEMORANDUM

DATE: October 11, 1988

TO: Tom Ashley, TATM-Project Manager, E&E, Seattle, WA

FROM: Doug Gresham, TATM-Chemist, E&E, Seattle, WA DG

THRU: Michael Bray, TATM-Chemist, E&E, Seattle, WA MB

SUBJ: **Trichlorobenzene Organic Data Quality Assurance Review, Alaska Husky Battery**

REF: TDD: T10-8810-039
PAN: TAK-0007-RFB

The level II quality assurance review of ten soil samples collected at Alaska Husky Battery, Anchorage, Alaska has been completed. Trichlorobenzene organic analyses were performed by Northern Testing Laboratories, Inc., Anchorage, Alaska.

The soil samples were numbered:T8070343, T8070344, T8070349, T8070357, T8070359, T8070375, T8070377, T8070382, T8070384, and T8070386.

Data Qualifications:

I Holding Time: Acceptable.

All samples were extracted within seven days from the date of collection.

II GC/MS Tuning: Not applicable.

The lab analyzed the samples using gas chromatography (ECD).

III Calibration: Acceptable.

A. Initial Calibration: Data not available.

B. Continuing Calibration: The lab analyzed performance evaluation (PE) standards with each batch of samples. The concentration of each standard recovered was within the accepted range set by the EPA.

IV Method Blank: Acceptable.

No contaminants were found in the blanks above the instrument detection limit of 1 ppm.

V Surrogate Recovery: Data not available.

IV Matrix Spike/Matrix Spike Duplicates: Data not available.

VII Field Duplicates: Acceptable.

Blind duplicate samples numbered T8070343 and T8070344 were collected in the field. The results and relative percent difference (RPD) between the values are presented below.

BLIND DUPLICATE ANALYSES

Sample Number	1,2,3-Trichloro-benzene (mg/kg)	1,2,4-Trichloro-benzene (mg/kg)
T8070343	27	45
T8070344	25	47
RPD	8%	4%

VII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses" (February, 1988).

Based upon the information provided, the data are acceptable for use.