

This section describes the process which guides the completion of the 5-Year review and report.

### **5.1 PARTICIPANTS IN THE FIVE-YEAR REVIEW**

The Navy is the lead agency for this 5-Year review. Personnel from Engineering Field Activity, Northwest (EFA, NW) represented the Navy in this five-year review. Project managers for EPA, Alaska DEC, US Fish and Wildlife, and The Aleut Corporation will review and comment on the draft and draft final versions of the five-year review report. Comments from reviewers will be incorporated in the final report.

### **5.2 COMMUNITY INVOLVEMENT**

The Navy has sought community input to this first 5-Year review of the interim and final RODs and related cleanup actions for Operable Unit A of the former Naval complex. Interviews were requested from three active Restoration Advisory Board (RAB) members and the mayor of Adak. Two RAB members participated in the interview. The community members who are active members of the RAB represent the Adak community. A notice of availability of the final five-year review report will be published in the Anchorage Daily News newspaper and in a flyer to be provided to residences on Adak shortly after the final review is issued. These notices will let the public know that the final report is available at the information repository at the University of Alaska, Reserve Room, 3211 Providence Drive in Anchorage and at Bob Reeve High School on Adak. The results of the five-year review will also be presented to the RAB after the final version of the document is published. The RAB meetings are open to the general public.

### **5.3 TASKS COMPLETED FOR THIS FIVE-YEAR REVIEW**

In the overall evaluation of remedy protectiveness, the three basic questions to be answered by this five-year review are (EPA, 1999):

- Are the remedies functioning as intended by the decision documents?
- Are the assumptions used at the time of remedy selection still valid?
- Has any other information come to light that could call into question the protectiveness of the remedies?

To address these questions, the following tasks were completed:

- Review of documents in the Administrative Record that describe construction, maintenance, and monitoring of the selected remedies;
- Review of monitoring data collected after implementation of the remedies (discussed under Section 4.0 above);
- Interview of individuals knowledgeable about implementation of the selected remedies, active RAB members, and members of the local community;

- Inspection of sites where cleanup actions, which includes not only active remediation, but sampling, site monitoring, and ICs, have not been completed. No further action sites (some limited soil removal sites and limited groundwater monitoring sites) were not inspected because these sites no longer pose risk to human health and the environment.
- Review of the applicable or relevant and appropriate requirements (ARARs) identified at the time of the ROD, to determine whether subsequent changes have occurred which might affect the remedies' protectiveness.
- Evaluation of the assumptions (e.g., land use at the sites, risk assessment assumptions regarding potential exposures to contaminants) used at the time of remedy selection to confirm they are still valid.

The assessment and findings from these tasks are discussed in Section 6.0.

A summary of the assessment and findings from the 5-year review are presented in this section. Results from interviews and site inspections are also provided in this section.

## **6.1 QUESTION A: ARE THE REMEDIES FUNCTIONING AS INTENDED BY THE DECISION DOCUMENTS?**

Assessment and findings of implemented remedies at sites administered under CERCLA are presented in subsection 6.1.1 through 6.1.4. Assessment and findings of implemented remedies for petroleum sites are in the subsections following: 6.1.5 through 6.1.8. This section states whether the remedies are or have functioned as intended by the ROD and compare the estimated costs to the actual costs of the remedy where available.

When actual remediation costs and estimates appearing in the RODs are discussed in this five-year review report, no attempt is made to compare them on an equivalent basis. Many of the costs presented in the ROD are based on 30-year present worth based on a 5 percent discount factor. Direct comparison of estimated costs to actual costs would require a detailed economic evaluation, which is outside the scope of this 5-year review.

Results of interviews and site inspections are summarized in subsections 6.1.9 and 6.1.10, respectively.

### **6.1.1 Landfill Covers**

The landfill covers constructed over SWMUs 4, 11, and 13 are functioning to protect ecological receptors from exposure to chemicals in the affected media as intended in the interim and final RODs. Residential use of the landfills has not occurred, and the covers have not been disturbed according to the site inspections conducted in November 2000 and May 2001 at SWMUs 4, 11, 13, 18/19, and 25. The institutional controls established for these sites to protect the soil cover and prevent residential use are working. Current conditions at these sites are provided in Appendix C. Final deed restrictions that include land use restrictions and prohibition of excavation will be contained in the interim conveyance documents for the land transfer. Conveyance language and other aspects of the institutional controls are discussed in the Adak Institutional Controls Management Plan (Navy 2001c).

SWMU 25, Roberts Landfill will be used for demolition debris in 2002 and closed thereafter.

The estimated total costs expended in the interim ROD for SWMUs 11 and 13 and the final ROD for SWMU 4 were \$2,275,000 and \$5,522,000, and \$665,000, respectively. The actual cost of the selected remedies for SWMUs 11, 13, and 4 thus far are approximately \$2,300,000, \$3,800,000, and \$455,000, which does not include future monitoring and reporting.

### **6.1.2 Institutional Controls Only**

#### **6.1.2.1 Former Landfill (SWMUs 2 and 29)**

The institutional controls at former landfills SWMUs 2 and 29 are apparently functioning as intended in the ROD to protect human and ecological receptors from exposure to landfill debris

and soil in the landfills. Residential use has not occurred at the landfills to date; the soil covers were inspected in May 2001 and were found to be intact.

The estimated cost in the final ROD for the selected remedies for SWMUs 2 and 29 is \$120,000 for each site. The final costs for institutional controls will not be available until the cost associated with conveyance documentation and post-transfer implementation of institutional controls are known.

#### ***6.1.2.2 Sweeper Cove and Kuluk Bay***

The institutional controls at Sweeper Cove and Kuluk Bay to protect subsistence fishers from ingestion of fish and shellfish in Sweeper Cove and Kuluk Bay will be fully implemented by the end of October 2001. The institutional controls consist of placement of updated signs and the continued fish and shellfish monitoring program. A fish and shellfish monitoring/sampling program was initiated in 1999, and sampling has also been completed in calendar years 2000 and 2001. The objective of the marine fish and shellfish monitoring program is to determine temporal trends in the PCB (Aroclor 1260) concentrations in fish and shellfish from Adak which may be consumed by humans, and to determine whether institutional controls (i.e., fish consumption advisories) on fish and shellfish from the marine waters surrounding Adak can be removed. Preliminary results from the evaluation of the 1999 sampling results indicate that Kuluk Bay shellfish (blue mussel tissue) contain PCB concentrations well below the Adak shellfish ROD-established cleanup level, which is consistent previous rounds. Exceedances of the shellfish ROD-established cleanup level were detected along the northern shoreline of Sweeper Cove and in the small boat harbor, which is consistent with the consumption advisory for Sweeper Cove that is currently in effect. Based on the 1999 results, Kuluk Bay fish (rock sole) have average total PCB concentrations above the ROD-established cleanup level for fish. Results from the 2000 and 2001 sampling event will be evaluated in the next 5-year review. Currently, there is no indication of subsistence fishing use of either Kuluk Bay or Sweeper Cove.

The estimated costs in the final ROD for the selected remedies for Sweeper Cove and Kuluk Bay are \$260,000 and \$250,000, respectively. Actual costs for implementation of the selected remedies will be available after placement of the updated signs in October 2001.

#### ***6.1.2.3 Other IC Sites***

The institutional controls at other sites (SWMUs 10, 14, 15, 16, 20, 21A, 23, 52 [includes 53 and 59], 55, and 67 and SA 76) are functioning as intended in the ROD to protect human or ecological receptors from exposure to soil or groundwater. Residential use has not occurred, based on the May 2001 inspection. Final deed restrictions that included land use restrictions will be contained in the interim conveyance documents for the land transfer. Example language and other aspects of the institutional controls are discussed in the Adak Institutional Controls Management Plan (Navy 2001c).

The estimated cost in the final ROD for the selected remedies for implementing institutional controls at these sites ranges from \$50,000 to \$170,000 for each site. The final costs for institutional controls will not be available until the costs associated with conveyance documentation and past-transfer implementation of institutional controls are known.

### 6.1.3 SWMU 17

Regarding cleanup actions under CERCLA, the removal, treatment and disposal of the sediments in the SWMU 17 ponds and refilling the entire waste oil pond with clean fill resulted in the protection of ecological receptors from exposure to chemicals in the sediment in the ponds. Institutional controls are functioning as intended in the ROD to prohibit residential use and restrict excavation at the site. Residential use has not occurred, and the soil will be inspected in 2001. Final deed restrictions that include land use restrictions will be contained in the interim conveyance documents for the land transfer. Example language and other aspects of the institutional controls are discussed in the Adak Institutional Controls Management Plan (Navy 2001c).

Regarding petroleum cleanup actions, free product recovery is continuing. The Navy upgraded the recovery system in 2000. After recovering the free product to extent practicable, the site will undergo a feasibility-study-type evaluation pursuant to the SAERA to evaluate other options to reach Alaska DEC cleanup goals.

The estimated costs in the final ROD for the selected remedies for SWMU 17 were \$1,900,000 for the CERCLA actions (petroleum product recovery costs were not estimated in the ROD). Actual costs for both the CERCLA and petroleum actions are being compiled and will be presented in the next 5-year review.

### 6.1.4 South Sweeper Creek

The removal, treatment, and disposal of sediment from South Sweeper Creek has functioned as intended by the ROD. Benthic infauna can no longer contact and ingest sediments in the creek with PCB concentrations in excess of 1 mg/kg.

The estimated cost in the final ROD for the selected remedies for South Sweeper Creek is \$2,700,000. The actual costs to complete the South Sweeper Creek remediation are being compiled and will be presented in the next 5-year review.

### 6.1.5 Limited Soil Removal Sites

The removal of soil with DRO concentrations exceeding 230 mg/kg, the 18 AAC 75 Method Two criteria, was achieved at three of the 12 sites selected for limited soil removal i.e., Girl Scout Camp, UST GS-1; Officer Hill and Amulet Housing, UST 31047-A; and Quarters A. The remedial action objective was not met as originally planned in the ROD at the following 8 sites:

- Contractors Camp Burn Rod
- Finger Bay Quonset Hut (UST FBQH-1)
- SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area
- Mount Moffet Power Plant 5, USTs 10574 through 10577
- Navy Exchange Building, UST 30027-A
- ASR-8 Facility, UST 42007-B
- Yakutat Hangar, USTs T-2039-B and T-2039-C

Alaska DEC has agreed to no further action at two of these sites: Navy Exchange Buildings, UST 30027-A; and Yakutat Hangar, USTs T-2039-B and T-2039-C. The Contractor's Camp Burn Pad site removal has been completed, and laboratory results from excavation bottom samples confirm the presence of acceptable levels of petroleum hydrocarbons. Therefore, a no further action designation is anticipated from Alaska DEC. Additional work is required at the remaining bulleted sites to meet Alaska DEC cleanup goals in the OU A ROD.

The cost estimated in the ROD for limited soil removal is \$12,000 to \$280,000 per site. The actual cost of the soil removals (and treatment in a thermal desorber) is being compiled and will be presented in the next 5-year review. When actual remediation costs and estimates appearing in the RODs are discussed in this five-year review, no attempt is made to compare them on an equivalent basis. Direct comparison of estimated costs to actual costs would require a detailed economic evaluation, which is outside the scope of this 5-year review.

### 6.1.6 Limited Groundwater Monitoring

Limited groundwater monitoring for one year at eight sites functioned as intended in the ROD. The results were used to determine whether there were impacts to the local groundwater. The 4 sites where chemical concentrations did not exceed Alaska 18 AAC 75.345 Table C values were:

- Boy Scout Camp, West Haven Lake (UST BS-1)
- NAVFAC Compound, USTs 20052 and 20053
- ROICC Warehouse (UST ROICC-2)
- ROICC Warehouse (UST ROICC-3)

Pursuant to the OU A ROD, Alaska DEC requires no further action at these sites.

The sites where chemical concentrations exceeded the criteria were:

- MAUW Compound, UST 24000-A
- New Roberts Housing, UST HST-7C
- ROICC Contractor's Area, UST ROICC-7
- SA 79, Main Road Pipeline, South End

Per Alaska DEC, groundwater monitoring will continue at these four sites.

### 6.1.7 Monitored Natural Attenuation

The first phase of the implementation of monitored natural attenuation has been undertaken with the collection of quarterly data as part of the development of baseline conditions at the MNA sites. However, because there has been only one year of quarterly sampling at these sites, trends in chemical concentration cannot be accurately established for the sites according to the first annual monitoring report (Navy 2001e). Therefore, it cannot be determined at this time if MNA will achieve Alaska DEC cleanup levels in the prescribed timeframe. The OU A ROD required one year of quarterly sampling to be followed by 4 years of annual or semi-annual sampling to establish baseline conditions; develop a sufficient data set to establish statistically valid trend

analysis and predictive rates of reduction; and evaluate the need for additional activities to meet cleanup goals in the prescribed timeframes.

The estimated cost in the ROD is less than \$50,000 per site for 75 years of monitoring, assuming each site would include monitoring of one to two wells on average. Costs to date for monitoring and reporting for these sites is \$750,000.

### **6.1.8 Free-Product Recovery**

The selected remedy of free-product recovery is functioning as intended for the 14 sites as listed in Table 1-1. Free product has been recovered to the maximum extent possible at the following nine sites and are in the process of being evaluated through the SAERA focused feasibility study process at seven of these nine sites (recommended remedial actions at these seven sites are currently under review by Alaska DEC), not including SWMU 62, New Housing Fuel Leak; and Yakutat Hangar:

- GCI Compound (UST GCI-1)
- SWMU 62 New Housing Fuel Leak
- SA 73, Heating Plant 6
- Yakutat Hangar
- SA 80, Steam Plant 4, USTs 27089 and 27090
- SA 78 Old Transportation Building
- SA 88 P-70 Energy Generator
- SWMUs 58 and 73 Heating Plant No. 6
- SA 82, P-80/P-81 Buildings, USTs 10579, 10587, and AST 10333

Free-product recovery will continue at the remaining free-product sites. No cost estimates were provided in the OU A ROD since the free product recovery systems had already been put in place and had been functioning for several years.

### **6.1.9 Results of Interviews**

Interviewees were contacted and responses were received in all cases but one. Individuals interviewed for this five-year review were Patty Kelly (Navy Project Manager for environmental work on Adak), Richard Stoll (BRAC Environmental Coordinator), Mark Murphy (Navy Project Manager for environmental work on Adak and RAB co-chair) Kevin Oates (EPA Project Manager for Adak and former Alaska DEC Project Manager for Adak), Elim Yoon (Alaska DEC Project Manager for Adak) Cathy Villa (RAB co-chair), Agafon Krukoff (Mayor of Adak [no response received]), and Patty Vessel (RAB member, resident of Adak). Appendix B provides summaries of the interviews.

**6.1.10 Site Inspections**

SWMUs 11, 13, 18/19, and 25 were inspected in November 2000, and May 2001. As required in the OU A ROD, other CERCLA sites were inspected in May 2001. These inspections found that the landfill caps were intact and undisturbed. The lack of apparent human activity at the sites indicate that the institutional controls appear to be effective in maintaining the integrity of the caps. Checklists that represent current site conditions at landfills inspected are presented in Appendix C.

**6.2 QUESTION B: ARE THE ASSUMPTIONS USED AT THE TIME OF REMEDY SELECTION STILL VALID?**

The assumptions used during remedy selection remain valid for current site conditions, following implementation of the remedial actions. A review of applicable, relevant and appropriate requirements (ARARs), “to be considered” (TBC) policies and guidance, and basic assumptions used in the risk assessment are provided below.

**6.2.1 Review of ARARs**

Since the signing of the OU A ROD, none of the ARARs applied to the SAERA sites or the CERCLA sites have changed; therefore, the selected remedies are still considered protective. State and federal ARARs have been used for various media as part of the completion of remedial actions including removal actions, and as part of the implementation of monitoring programs. Groundwater cleanup levels (and the use of groundwater cleanup levels for freshwater surface water cleanup levels, including total inorganics) and soil cleanup levels were taken from Alaska 18 AAC 75.345 (for groundwater and surface water) and 18 AAC 75.341, respectively. For freshwater surface water (including dissolved inorganics) and marine surface water (including dissolved inorganics), federal ambient water quality criteria (AWQC) are used. ROD-established cleanup levels for blue mussel (shellfish) tissue and rock sole (fish) tissue were developed from risk-based screening criteria.

EPA’s (1999) recent policy regarding institutional controls at federal facilities is a policy that will need to be complied with to ensure the protectiveness of the remedies. As stated above, the OU A ROD is the decision document in which the requirements for institutional controls at Former Adak Naval Complex are established. The base-wide ICMP being developed by Engineering Field Activity, Northwest, through review by Alaska DEC and EPA, will meet the requirements of this policy by establishing the required facility-wide ICs, as well as defining the monitoring and reporting requirements.

**6.2.2 Review of Risk Assessment Assumptions**

None of the assumptions used in the risk assessment relied upon for remedy selection have changed such that protectiveness of the remedy would be called into question. The baseline human health and ecological risk assessments for OU A was completed in accordance with EPA’s risk assessment guidance, which has not changed substantively between when the assessments were completed and now.

Land use and facility access have remained consistent for OU A, as considered under this 5-Year review, and no additional exposure pathways are identified, relative to conditions at the time of risk assessment completion. Risks were estimated for on-site worker, on-site resident, on-site recreational, exposure scenarios. Additionally, subsistence use risk assessment scenarios were evaluated for marine environments. The on-site worker remains a viable exposure scenario under the current site uses. Residential use at Former Adak Naval Complex occurs only within the designated housing area, which encompasses SWMU 62, New Housing Fuel Leak. No unacceptable human health risks were identified for OU A sites based on the current and expected future land use, or any complete exposure pathways, that have not been addressed through remedial actions.

### **6.3 QUESTION C: HAS ANY OTHER INFORMATION COME TO LIGHT THAT COULD CALL INTO QUESTION THE PROTECTIVENESS OF THE REMEDY?**

Yes. At Metals Landfill, the eastern toe of the landfill was damaged during an extreme winter storm in 2000, which resulted in erosion of metallic debris into Kuluk Bay. This problem was corrected by the retrieval of metal debris, and placement of the debris in a new cell on the southern portion of the landfill. Additionally, rip-rap from the salvaged foundation pads of the demolition of Old Roberts Housing was placed along the seaward edge of the landfill to better secure that edge of the landfill. These actions are beyond what was required in the 1995 interim ROD for Metals Landfill, but were considered necessary to insure protectiveness after the storm damage altered the condition of the previous remedy. Therefore, whereas the initial remedy suffered a partial failure due to an act of nature, the actions taken to repair the landfill actually has resulted in a higher degree of protectiveness.

The overall protectiveness of the ROD-selected remedies, for certain sites, has been questioned by the Aleut Corporation (TAC). These concerns are addressed in the document prepared by Erler & Kalinowski for TAC entitled *Record of Decision Assessment and Proposed Necessary Additional Remedies*, dated November 29, 2000.

The following presents a variety of issues that (as of the publication date of this document) either have been partially addressed, or b) will be addressed, due to changes in site conditions or failure of implementation of or performance of a remedy. Table 7-1 provides a list of the issues and the planned actions to address these issues.

Soil removal was planned but not attempted at the following two sites, due to the need for continued active site operation: ASR-8 Facility (UST 42007-B) and SA 77, Fuels Facility Refueling Dock, Small Drum Storage. The Navy is planning on completing the removal at both sites in 2002.

At Mount Moffett Power Plant 5 (USTs 10574 through 10577), a limited soil removal was started but terminated due to the presence of larger than anticipated quantities of affected soil. An agreement between the Navy and Alaska DEC regarding further action at this site has not yet been completed; groundwater monitoring is currently planned to continue in 2002 at this site.

One groundwater monitoring well was installed at each of two sites in 2001: Officer Hill and Amulet Housing (UST 31052-A), and Finger Bay Quonset Hut (UST FBQH-1). The Navy will begin a five-year monitoring program in 2002.

Concentrations of petroleum hydrocarbons were detected above ROD-established Alaska 18 AAC 75.345 Table C values in sentinel wells associated with the following sites: South Runway 18-36 Area; NMCB Building Area, 11416 Expanded Area, NORPAC Hill Seep Areas; SWMU 62, New Housing Fuel Leak; SWMU 58 and 73, Heating Plant 6; Tanker Shed UST 42494; SWMU 61, Tank Farm B; and SWMU 15, Future Jobs/Defense Reutilization Marketing Office. The sentinel well locations at these sites will be revised, or monitoring will continue at existing sentinel locations.

**Table 7-1**  
**Issues**

<b>Site Number</b>	<b>Issue</b>	<b>Action</b>
SWMU 11	One warning sign down, another sign is damaged.	Erect and repair signs in October 2001.
ASR-8 Facility (UST 42007-B)	Planned soil removal not completed due to need for site operations to continue.	Removal to be completed in 2002.
SA 77, Fuels Facility Refueling Dock, Small Drum Storage	Planned soil removal not completed due to need for site operations to continue.	Removal to be completed in 2002.
Mount Moffett Power Plant 5 (USTs 10574 through 10577)	A soil removal was only partially completed, due to the presence of larger than anticipated quantities of affected soil.	Removal to be completed in 2002.
Officer Hill and Amulet Housing (UST 31052-A)	Groundwater monitoring utilizing the new well is required.	Monitoring is planned for 2002.
Finger Bay Quonset Hat (UST FBQH-1)	One groundwater monitoring well is planned to be installed.	Monitoring is planned for 2002.
SA 73, Heating Plant No. 66	Concentrations of petroleum hydrocarbons were detected above Alaska 18 AAC 75 Table C groundwater cleanup levels in sentinel wells associated with this site	Revise sentinel well locations and/or continue monitoring at existing sentinel well locations
SWMU 15, Future Jobs/Defense Reutilization Marketing Office	Concentrations of petroleum hydrocarbons were detected above Alaska 18 AAC 75 Table C groundwater cleanup levels in sentinel wells associated with this site	Revise sentinel well locations and/or continue monitoring at existing sentinel well locations

**Table 7-1**  
**Issues (Continued)**

<b>Site Number</b>	<b>Issue</b>	<b>Action</b>
SA 88, P-70 Energy Generator	Final remedy selection has yet to be determined.	Revise sentinel well locations and/or continue monitoring at existing sentinel locations..
SWMU 58, Heating Plant No. 6	Concentrations of petroleum hydrocarbons were detected above Alaska 18 AAC 75 Table C groundwater cleanup levels in sentinel wells associated with this site	Revise sentinel well locations and/or continue monitoring at existing sentinel well locations
South of Runway 18-36 Area	Concentrations of petroleum hydrocarbons were detected above Alaska 18 AAC 75 Table C groundwater cleanup levels in sentinel wells associated with this site.	Revise sentinel well locations and/or continue monitoring at existing sentinel locations.
SWMU 62, New Housing Full Leak	Concentrations of petroleum hydrocarbons were detected above Alaska 18 AAC 75 Table C groundwater cleanup levels in sentinel wells associated with this site.	Revise sentinel well locations and/or continue monitoring at existing sentinel locations.
NMBC Building Area, T-1416 Expanded Area	Concentrations of petroleum hydrocarbons were detected above Alaska 18 AAC 75 Table C groundwater cleanup levels in sentinel wells associated with this site.	Revise sentinel well locations and/or continue monitoring at existing sentinel locations.
NORPAC Hill Seep Area	Concentrations of petroleum hydrocarbons were detected above Alaska 18 AAC 75 Table C groundwater cleanup levels in sentinel wells associated with this site.	Revise sentinel well locations and/or continue monitoring at existing sentinel locations.
Tanker Shed, UST 42494	Concentrations of petroleum hydrocarbons were detected above Alaska 18 AAC 75 Table C groundwater cleanup levels in sentinel wells associated with this site.	Revise sentinel well locations and/or continue monitoring at existing sentinel locations.
SWMU 61, tank Farm B	Concentrations of petroleum hydrocarbons were detected above Alaska 18 AAC 75 Table C groundwater cleanup levels in sentinel wells associated with this site	Revise sentinel well locations and/or continue monitoring at existing sentinel well locations

Table 8-1 provides a listing of the OU A sites with selected remedial actions in the OU A ROD, the status of those sites, and any ongoing or future activities that still need to be implemented.

The recommendations and follow-up actions for all of the chemical-release sites administered under CERCLA, and most of the petroleum-release sites administered under SAERA, were defined in the OU A ROD (Navy, EPA, and Alaska DEC 2000). The Navy is responsible for implementation of recommended actions and follow-up actions at both SAERA and CERCLA OU A sites. EPA and Alaska DEC will provide oversight regarding all SAERA and CERCLA site actions addressed in the OU A ROD. In December 2001, a revision to the SAERA agreement will be signed. This revision provides for the Navy's execution of all required remedial actions at SAERA sites as specified in the OU A ROD, and further mandates that Alaska DEC will provide sole oversight responsibility during the completion of these SAERA actions. The EPA will serve in an advisory capacity only concerning these SAERA actions.

With regard to OU B-1 and OU B-2 sites, both EPA and Alaska DEC will provide oversight as will be specified in the OU B-1 ROD (signed in December 2001) and the planned OU B-2 ROD.

Post-ROD recommendations have been made at fifteen petroleum-release sites based on information compiled since completion of the ROD; these recommendations will be addressed through the SAERA agreement with ADEC. The fifteen sites are: ASR-8 Facility (UST 42007-B); SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area; Finger Bay Quonset Hut, UST FBQH-1; Officer Hill and Amulet Housing (UST 31049-A); Officer Hill and Amulet Housing (UST 3052-A); Boy Scout Camp, West Haven Lake (UST BS-1); Navy Exchange Building (UST 30027-A); Yakutat Hangar (USTs T-2039-B and T-2039-C); Housing Area (Arctic Acres); Girl Scout Camp (UST GS-1); Officer Hill and Amulet Housing (UST 31047-A); NAVFAC Compound (USTs 20052 and 20053); Quarters A; ROICC Warehouse (UST ROICC-2); and ROICC Warehouse (UST ROICC-3)

**Table 8-1  
Site Recommendations**

<b>Map Key Number<sup>a</sup></b>	<b>Site Name</b>	<b>Regulatory Process</b>	<b>Remedial Actions in ROD</b>	<b>Recommendations</b>
71	Amulet Housing, Well AMW-706 Area	SAERA	1, 5	Results from the first year of quarterly groundwater monitoring (1999-2000) indicated that monitoring endpoints were achieved and trend analysis identified target compliance. The Navy believes that the earlier total lead exceedances reported at this site was the result of turbidity in the analytical samples and that additional monitoring for lead at these locations is unnecessary. The Navy proposes discontinuing sampling at this site and recommends a change in status from compliance monitoring to NFA; however, compliance monitoring is planned to continue at this time.
72	Amulet Housing, Well AMW-709 Area	SAERA	1, 5	Results from the first year of quarterly groundwater monitoring (1999-2000) indicated that monitoring endpoints were achieved and trend analysis identified target compliance. The Navy believes that the earlier total lead exceedances reported at this site were the result of turbidity in the analytical samples and that additional monitoring for lead at these locations is unnecessary. The Navy proposes discontinuing sampling at this site and recommends a change in status from compliance monitoring to NFA; however, compliance monitoring is planned to continue at this time.
73	Antenna Field (USTs ANT-1, ANT-2, ANT-3, and ANT-4)	SAERA	1, 5	Natural attenuation monitoring was conducted quarterly in 1999-2000 and will continue, and results will be evaluated annually in the Annual Groundwater Monitoring Report.
74	ASR-8 Facility (UST 42007-B)	SAERA	2	Current facility operations prevented limited soil removal; the recommendation for soil removal still applies.
76	Boy Scout Camp, West Haven Lake (UST BS-1)	SAERA	3	Since this site has soil remaining in place containing petroleum hydrocarbons at concentrations above Alaska DEC Method Two soil cleanup levels and a continuous groundwater pathway may exist, it was recommended for limited groundwater monitoring consisting of quarterly sampling for four consecutive

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
76	Boy Scout Camp, West Haven Lake (UST BS-1)	SAERA	3	quarters. Quarterly groundwater monitoring was conducted in 1999-2000. This site has successfully met the performance criteria and groundwater cleanup levels and is recommended for a change in status from limited monitoring to NFA; suspension of monitoring activities at this site is recommended until final site status is determined. ADEC has agreed to NFA at this site per comments received on August 30, 2001.
77	Contractor's Camp Burn Pad	SAERA	2	Soil adjacent to the nearby road was identified by field screening but not by laboratory analyses to contain petroleum hydrocarbons at concentrations above Alaska DEC Method Two cleanup levels at this site. The Navy's contractor returned to this site in 2000 and excavated the remaining petroleum-affected soils; laboratory samples collected from the excavation following removal indicated that concentrations of petroleum hydrocarbons were below cleanup levels. A recommendation of no further action has been presented to Alaska DEC.
78	Finger Bay Quonset Hut (UST FBQH-1)	SAERA	2, 3	Since soil remains in place containing petroleum hydrocarbons at concentrations above Alaska DEC Method Two soil cleanup levels and a continuous groundwater pathway may exist, this site is recommended for limited groundwater monitoring consisting of annual sampling for five consecutive years. Limited groundwater monitoring will be initiated in 2002, utilizing the new monitoring well installed at this site in 2001. Further petroleum-affected soil removal will not take place at this site, because additional removal of affected soil accompanied by the removal of protective tundra on the steep hillside at the site would increase the potential for source erosion such that additional excavation activities would pose a greater risk to the environment than leaving the affected material in place.

# SECTION EIGHT

## Recommendations and Follow-Up Actions

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
79	Former Power Plant Building T-1451	SAERA	7	Groundwater monitoring was conducted in August 1999 and May 2000. Compliance monitoring is recommended to continue; results will be evaluated annually in the Annual Groundwater Monitoring Report. Because benzene was detected at a concentration above the Alaska DEC groundwater cleanup level during the May 2000 sampling event at this site, it is recommended petroleum-related compounds (DRO, GRO, and BTEX) be added to the annual groundwater monitoring program. Expediting MNA enhancements is also recommended.

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
80	GCI Compound (UST GC-1)	SAERA	3	Quarterly groundwater monitoring was conducted in 1999-2000. Because free product has not been found in any monitoring well since November 1997, the Navy believes that free product at this site has been recovered to the maximum extent practicable, as required by 18 AAC 75.325(f)(1)(B). The proposed remedial approach at this site is biosparging, bioventing, and soil vapor extraction. The following institutional controls will be used to protect human health and the environment until the RAOs and ARARs have been met: land use restrictions, access restrictions, and site inspections. Monitoring of groundwater will continue throughout the remedial action. The free-product recovery conducted to date is considered an interim remedial measure. Final remedy selection is in progress at this site, as part of the focused feasibility study process.
81	Girl Scout Camp (UST GS-1)	SAERA	2	Soil remains in place containing petroleum hydrocarbons at concentrations above Alaska DEC Method Two soil cleanup levels; however, no continuous groundwater pathway exists at this site. ADEC has concurred with NFA status for this site, per comments received from this agency on March 31, 2000.
82	Housing Area (Arctic Acres)	SAERA	4	During the first year of natural attenuation monitoring (specifically, in May 2000), free product was measured in wells 03-890 03-421 at Arctic Acres. Free product was consistently observed in these wells during weekly gauging over the next six weeks. Free product recovery is active at this site; product recovery conducted to date is considered an interim remedial measure. The nature of further investigative work at this site has not yet been determined.
	Kuluk Bay	CERCLA	5	Monitoring by fish and shellfish tissue sampling was completed in 1999, 2000, and 2001; annual monitoring is planned to continue through 2003. Fish advisory warning signs were updated in October 2001, reflecting recent monitoring data as evaluated by the Biological Technical Assistance Group (BTAG).

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
	Kuluk Bay (Continued)	CERCLA	5	The objective of the marine fish and shellfish monitoring program is to determine temporal trends in the PCB concentrations (which are the human health risk driver as defined in the OU A ROD) in fish and shellfish from Adak which may be consumed by humans, and to determine whether institutional controls (i.e., fish consumption advisories) on fish and shellfish from the marine waters surrounding Adak can be removed. Rock sole sampling was completed in 1996, 1999, and 2000. Results for total PCB concentrations from 2000 were below the ROD-established cleanup level; and 1999 and 1996 results were above the cleanup level. Blue mussel results from 1996, 1997, and 1999 indicated no exceedances in 1997 and 1999, and two exceedances out of a total of six samples from the two sampling events in 1996.
85	MAUW Compound (UST 24000-A)	SAERA	3	Quarterly groundwater monitoring was conducted in 1999-2000. Based on the proposed actions stated in the ROD and cleanup criteria for OU A, it is recommended that groundwater monitoring be continued at this site with the same sampling program and schedule selected for the petroleum release sites at which MNA is being implemented.
89	Mount Moffett Power Plant 5 (USTs 10574 through 10577)	SAERA	2	Soil remains in place containing petroleum hydrocarbons at concentrations above Alaska DEC Method Two soil cleanup levels. Groundwater monitoring is planned to continue at this site.

**Table 8-1  
Site Recommendations (Continued)**

<b>Map Key Number<sup>a</sup></b>	<b>Site Name</b>	<b>Regulatory Process</b>	<b>Remedial Actions in ROD</b>	<b>Recommendations</b>
91	NAVFAC Compound (USTs 20052 and 20053)	SAERA	3	This site has successfully met the limited monitoring performance criteria and groundwater cleanup levels and a change in status from limited monitoring to NFA has been accepted by ADEC per comments dated August 30, 2001. Monitoring activities at this site will be suspended until final site status is determined.
92	Navy Exchange Building (UST 30027-A)	SAERA	2	Since soil remains in place containing petroleum hydrocarbons at concentrations above Alaska DEC Method Two soil cleanup levels and a continuous groundwater pathway may exist, limited groundwater monitoring consisting of quarterly sampling for four consecutive quarters occurred in 1999-2000. This site has successfully met the performance criteria and groundwater cleanup levels and NFA status has been accepted per ADEC comments dated August 30, 2001.
93	New Roberts Housing (UST HST-7C)	SAERA	3	Quarterly groundwater monitoring was conducted in 1999-2000, and chemicals of concern (COCs) were detected in groundwater samples at concentrations greater than their respective ADEC groundwater cleanup levels. Per ADEC comments dated August 30, 2001, groundwater monitoring will continue at this site.
94/95	NMCB Building Area, T-1416 Expanded Area	SAERA	4	Free product recovery is in progress at this site; product recovery conducted to date is considered an interim remedial measure. Final remedy selection is in progress at this site, as part of the focused feasibility study process.
96	NORPAC Hill Seep Area	SAERA	4	Free product is presently being recovered at this site. Data for the pre-design of the final remedy is being collected as part of the focused feasibility study process.
97	Officer Hill and Amulet Housing (UST 31047-A)	SAERA	2	In 1999, a limited soil removal was completed that was protective of human health and the environment; no further action is required per ADEC comments received March 31, 2000.
98	Officer Hill and Amulet Housing (UST 31049-A)	SAERA	2	Since excavation activities removed the soil that contained petroleum hydrocarbons at concentrations above Alaska DEC Method Two soil cleanup levels, no further action is required by ADEC per comments received August 30, 2001.

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
101	Officer Hill and Amulet Housing (UST 31052-A)	SAERA	2	Since this site has soil remaining in place containing petroleum hydrocarbons at concentrations above Alaska DEC Method Two soil cleanup levels and a continuous groundwater pathway may exist, it is recommended for limited groundwater monitoring consisting of annual sampling for five consecutive years. Limited groundwater monitoring will involve sampling the new monitoring well installed at this site in 2001.
105	Quarters A	SAERA	2	Since excavation activities in 1998 removed the soil that contained petroleum hydrocarbons at concentrations above Alaska DEC Method Two soil cleanup levels, this site requires no further action per ADEC comments received March 31, 2000.
106	ROICC Contractor's Area (UST ROICC-7)	SAERA	3	Quarterly groundwater monitoring was conducted in 1999-2000, and groundwater monitoring will continue at this site due to the detection of COCs at concentrations greater than their respective ADEC groundwater cleanup levels, per ADEC comments dated August 30, 2001.
107	ROICC Contractor's Area (UST ROICC-8)	SAERA	1, 5	Quarterly groundwater monitoring was conducted in 1999-2000. Although trend evaluations indicate that locations at this site have met criteria for determining the rate of concentration decrease with an 80 percent confidence, most of these trends are based on as few as four to six data points. The Navy recommends continuing monitoring to obtain at least three additional data points prior to calculating reasonable estimates of time frames for meeting cleanup goals. If concentration trends remain the same or decrease, it may be recommended that sampling be discontinued at this site because monitoring endpoints will have been achieved. Therefore, groundwater monitoring is planned to continue at this site.
108	ROICC Warehouse (UST ROICC-2)	SAERA	3	Quarterly groundwater monitoring was conducted in 1999-2000. This site has successfully met the performance criteria and groundwater cleanup levels, no further action is required at this site per ADEC comments dated August 30, 2001.

**Table 8-1  
Site Recommendations (Continued)**

<b>Map Key Number<sup>a</sup></b>	<b>Site Name</b>	<b>Regulatory Process</b>	<b>Remedial Actions in ROD</b>	<b>Recommendations</b>
109	ROICC Warehouse (UST ROICC-3)	SAERA	3	Quarterly groundwater monitoring was conducted in 1999-2000. This site has successfully met the performance criteria and groundwater cleanup levels, No further action is required at this site, per ADEC comments dated August 30, 2001.
110	Runway 5-23 Avgas Valve Pit	SAERA	1, 5	Quarterly groundwater monitoring was conducted in 1999-2000. Natural attenuation monitoring will continue and results will be evaluated annually in the Annual Groundwater Monitoring Report. Expediting MNA enhancements is recommended.
	SA 76, Old Line Shed Building	CERCLA	5	The site was inspected in May 2001, and site conditions do not appear to have been impacted by human activity since finalization of the April 2000 ROD. Ongoing implementation of institutional controls is recommended.
50	SA 77, Fuels Facility Refueling Dock, Small Drum Storage Area	SAERA/ RCRA	2	Current facility operations prevented limited soil removal; the recommendation for soil removal still applies. This site is also a RCRA closure site, where implementation of institutional controls is ongoing.
51	SA 78, Old Transportation Building (USTs 10583, 10584, and ASTs)	SAERA	4	Free-product recovery was conducted in 1999-2000, and product recovery has reached the practicable endpoint at this site. Product recovery conducted to date is considered an interim remedial measure. Final remedy selection is in progress at this site, as part of the focused feasibility study process. The likely remedial approach at this site is soil excavation and treatment in a high-temperature thermal desorber with monitored natural attenuation for groundwater. The following institutional controls will be used to protect human health and the environment until the RAOs and ARARs have been met: land use restrictions, access restrictions, and site inspections. Monitoring of groundwater, surface water, and sediment will continue until the RAOs and ARARs have been met.
52	SA 79, Main Road Pipeline, South End	SAERA	3, 8	Quarterly groundwater monitoring was conducted in 1999-2000 and groundwater monitoring will continue at this site due to the detection of COCs at concentrations greater than their respective ADEC groundwater cleanup levels, per ADEC comments dated August 30, 2001.

**Table 8-1  
Site Recommendations (Continued)**

Map Key			Actions	
53	SA 80, Steam Plant No. 4 (USTs 27089 and 27090)	SAERA	4	Free-product recovery was conducted in 1999-2000, and product recovery has reached the practicable endpoint at this site. Product recovery conducted to date is considered an interim remedial measure. Final remedy selection is in progress at this site, as part of the focused feasibility study process. The proposed remedial approach at this site is biosparging, bioventing, and soil vapor extraction. The following institutional controls will be used to protect human health and the environment until the RAOs and ARARs have been met: land use restrictions, access restrictions, and site inspections. Monitoring of groundwater will continue throughout the remedial action.
54	SA 82, P-80/P-81 Buildings (UST 10587 and AST 10333)	SAERA	4	Free-product recovery was conducted in 1999-2000, and product recovery has reached the practicable endpoint at this site. Product recovery conducted to date is considered an interim remedial measure. Final remedy selection is in progress at this site, as part of the focused feasibility study process. To verify that concentrations of COCs in groundwater are less than the human health RAOs established for this site, the Navy will collect groundwater samples from every existing monitoring well at this site and submit the samples to an analytical laboratory for chemical analysis. No further actions are proposed at this site.
57	SA 88, P-70 Energy Generator (UST 10578)	SAERA	4	Free-product recovery was conducted in 1999-2000, and product recovery has reached the practicable endpoint at this site. Product recovery conducted to date is considered an interim remedial measure. Final remedy selection is in progress at this site, as part of the focused feasibility study process. The proposed remedial approach is soil excavation and treatment in high-temperature thermal desorber with monitored natural attenuation for groundwater. The following institutional controls will be used to protect human health and the environment until the RAOs and ARARs have been met: land use restrictions, access restrictions, and site inspections. Monitoring of groundwater, surface water, and sediment will continue until the RAOs and ARARs have been met.

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
114	South of Runway 18-36 Area	SAERA	4	Free-product recovery and quarterly monitoring of groundwater, surface water, and sediment was conducted in 1999-2000. Termination of free-product recovery is proposed. Once product recovery is terminated, postrecovery monitoring should be initiated. A draft focused feasibility study was completed and submitted to Alaska DEC in 2001.
	Sweeper Cove	CERCLA	5	<p>Monitoring by fish and shellfish tissue sampling was completed in 1999, 2000, and 2001; annual monitoring is planned to continue through 2003. Fish advisory warning signs were updated in October 2001, reflecting the most recent monitoring data as evaluated by the Biological Technical Assistance Group (BTAG).</p> <p>The objective of the marine fish and shellfish monitoring program is to determine temporal trends in the PCB concentrations (which are the human health risk drivers as defined in the OU A ROD) in fish and shellfish from Adak which may be consumed by humans, and to determine whether institutional controls (i.e., fish consumption advisories) on fish and shellfish from the marine waters surrounding Adak can be removed. Rock sole tissue results from Sweeper Cove for total PCB concentrations from 1996, 1999, and 2000 have consistently exceeded the ROD-established cleanup level. Blue mussel results from Sweeper cove for total PCB concentrations from 1996 through 1999 (the most recent finalized results received) indicate that most of the detected concentrations are either below or hovering very close to the ROD-established cleanup level.</p>

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
				recommended to remain in effect. Kuluk Bay fish (rock sole) have average total PCB concentrations above the RBAL for fish; therefore, it is recommended that the fish consumption advisory for rock sole in Kuluk Bay be maintained.
	SWMU 2, Causeway Landfill	CERCLA	5	SWMU 2 was visually inspected in May 2001, and the cover at SWMU 2 appears to be undisturbed and intact. Based on these observations, no further action is recommended for this unit.
	SWMU 4, South Davis Road Landfill	CERCLA	5, 6	A 4-foot-thick cover was installed at SWMU 4 in 1998. The site was visually inspected in May 2001, and the cover at SWMU 4 appears to be undisturbed and intact. Soil excavation prohibition; land use and deed restrictions; and inspections (i.e., an engineering control) are planned to continue on an annual basis over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls and engineering controls.
	SWMU 10, Old Baler Building	CERCLA	5	SWMU 10 was visually inspected in May 2001, and the site appears to undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; and prohibition; are planned to continue on an annual basis over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls.
	SWMU 11, Palisades Landfill	CERCLA	5, 6	A landfill cover was installed in 1996. Annual visual inspection and surface water, marine sediment, freshwater sediment, and mussel tissue monitoring has been conducted from 1996 through 2001.

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
				<p>Additionally, a warning sign on the south side of Palisades Creek was knocked over. A second warning sign, also located along the south side of the creek, was observed to be damaged. The Navy will re-erect the felled sign and repair and replace the damaged sign in October 2001. Soil excavation prohibition; land use and deed restrictions; and inspections are planned to continue on an annual basis over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls and engineering controls.</p>
	SWMU 13, Metals Landfill	CERCLA	5, 6	<p>A landfill cover was installed in 1997. Annual visual inspection (i.e., an engineering control) and groundwater, mussel tissue, and landfill gas monitoring has been conducted from 1996 through 2000, and is planned for Fall 2001. During the visual inspection in May 2001, the cover was observed to be undisturbed and intact. Soil excavation prohibition; land use and deed restrictions; and inspections are planned to continue on an annual basis over a 5-year period which ends in 2001.</p>
	SWMU 14, Old Pesticide Storage and Disposal Area	CERCLA SAERA	1, 5, 7, 8	<p>Groundwater monitoring was conducted in August 1999 and May 2000. Compliance monitoring for lead is recommended to continue at this site because total and dissolved lead were detected at concentrations exceeding Alaska DEC groundwater cleanup levels; results will be evaluated annually in the Annual Groundwater Monitoring Report. The Navy proposes modifying the sampling procedure for dissolved lead at this site by using a 0.01-micron filter instead of the 0.45-micron filter previously specified to collect the groundwater sample.</p>

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
	SWMU 14, Old Pesticide Storage and Disposal Area (Continued)	CERCLA SAERA	1, 5, 7, 8	Comparison of total to dissolved lead results (using the 0.01-micron filter) should then be reevaluated after two more rounds of analytical results have been obtained for well MW14-5. SWMU 14 was visually inspected in May 2001, and the site appears undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; groundwater monitoring; and inspections are planned to continue on an annual basis over a 5-year period through 2001. At this 5-year juncture, following the groundwater monitoring event, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls.
	SWMU 15, Future Jobs/Defense Reutilization Marketing Office	CERCLA SAERA	1, 5, 8	Groundwater monitoring was conducted in 1999-2000. Natural attenuation monitoring will continue and results will be evaluated annually in the Annual Groundwater Monitoring Report. SWMU 15 was visually inspected in May 2001, and the site appears to be undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; and inspections are planned to continue on an annual basis over a 5-year period through 2001. At this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls.
	SWMU 16, Former Firefighting Training Area	CERCLA	5	SWMU 16 was visually inspected in May 2001, and the site appears undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; and inspections are planned to continue on an annual basis over a 5-year period through 2001. At this 5-year juncture, following the annual inspection, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls.
	SWMU 17, Power Plant 3	CERCLA SAERA	4, 5, 9	Free-product recovery is active. In 1999, contaminated soil from the waste oil pond and water retention pond was removed and treated by thermal desorption on-island; the first year of monitoring at sentinel monitoring locations was completed

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
	SWMU 17, Power Plant 3	CERCLA SAERA	4, 5, 9	during 1999-2000; and an existing product recovery trench system was re-designed and upgraded in 2000 in order to improve product recovery rates. In Fall 2001, soil borings and groundwater monitoring wells are currently being completed within the boundaries of SWMU 17 to provide additional information on the downgradient extent of hydrocarbon contamination in soil and groundwater attributable to Power Plant 3 (PP3). This information will be incorporated into a focused feasibility study, which will provide the final remedy selection. SWMU 17 has been inspected in 1999, 2000, and 2001, and other than remedial actions, the site is undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; groundwater monitoring; and inspections were planned and carried out on an annual basis over a 5-year period through 2001. At this 5-year juncture, following the groundwater monitoring event planned for Fall 2001, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls and engineering controls.
	SWMU 18, South Sector Drum Disposal Area (part of White Alice Landfill)	CERCLA <sup>b</sup>	6, 10	Annual surface water and groundwater monitoring has been conducted from 1996 through 2000, and is planned for Fall 2001. SWMU 18 (which is part of White Alice Landfill) has been visually inspected in 1999, 2000, and will be inspected in Fall 2001. In 1998, a 2-foot-thick soil cover was placed over the White Alice Landfill. Soil excavation prohibition; land use and deed restrictions; groundwater and surface water monitoring; and inspections were planned and carried out over a 5-year period through 2001. At this 5-year juncture, following the groundwater and surface water monitoring event planned for Fall 2001, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls and engineering controls.
	SWMU 19, Quarry Metal Disposal Area (White Alice Landfill)	CERCLA <sup>b</sup>	6, 10	Annual surface water and groundwater monitoring has been conducted from 1996 through 2000, and is planned for Fall 2001. SWMU 19 (which is part of White Alice Landfill) has been visually inspected in 1999, 2000, and will be inspected in Fall 2001. In 1998, a 2-foot-thick soil cover was placed over the White Alice Landfill. Soil excavation prohibitions land use and deed restrictions; groundwater

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
				and surface water monitoring; and inspections were planned and carried out over a 5-year period through 2001. At this 5-year juncture, following the groundwater and surface water monitoring event planned for Fall 2001, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls and engineering controls.
	SWMU 20, White Alice/Trout Creek Disposal Area	CERCLA	5	SWMU 20 was visually inspected in May 2001, and the site appears undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out on an annual basis over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls.
	SWMU 21A, White Alice Upper Quarry	CERCLA	5	SWMU 21A was visually inspected in May 2001, and the site appears undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls.
	SWMU 23, Heart Lake Drum Disposal Area	CERCLA	5	A drum removal action was completed at SWMU 23 in 1998. SWMU 23 was visually inspected in September 2001, and the site appears to be undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls.
	SWMU 25, Roberts Landfill	CERCLA <sup>b</sup>	6, 10	Annual surface water and groundwater monitoring has been conducted from 1996 through 2001. SWMU 25 has been visually inspected in 1999, 2000, and will be inspected in Fall 2001. In 1998, a 3-foot-thick cover was placed over the Roberts Landfill. Soil excavation prohibition; land use and deed

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
				restrictions; groundwater and surface water monitoring; and inspections were planned and carried out over a 5-year period which ends in 2001. At this 5-year juncture, following the groundwater and surface water monitoring event planned for Fall 2001, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls and engineering controls.
	SWMU 29, Finger Bay Landfill	CERCLA	5	SWMU 29 was visually inspected in May 2001, and the site appears undisturbed and intact. Soil excavation prohibition; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made on the continuation or cessation of visual inspection or other institutional controls and engineering controls.
	SWMUs 52, 53, and 59, Former Loran Station	CERCLA	5	SWMUs 52, 53, and 59, Former Loran Station, was visually inspected in May 2001; three buildings were originally in a roughly north-south line at this site. The Signal Building (i.e., the most northerly building) was demolished in 2001. The Paint Storage Shed is located in between the Signal Building and the Mechanical Building (the most southerly building). The remainder of the site appears undisturbed and intact, with the exception of a debris area on the northern escarpment of the site; this debris has been present at this location since before 1990. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls.
	SWMU 55, Public Works Transportation Department Waste Storage Area	CERCLA	5	Based on 1998 groundwater monitoring results, no further petroleum-related work is required at this site. However, due to the presence of chlorinated solvents in groundwater at concentrations in excess of ADEC cleanup levels, a monitoring

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
				well was installed in 1999 and groundwater monitoring is ongoing (beyond 2001) at this site. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection.
49/66	SWMU 58 and SA 73 Heating Plant No. 6	SAERA	4	Free-product recovery was conducted in 1999-2000, and product recovery has reached the practicable endpoint at this site. Product recovery to date is considered an interim remedial measure. Final remedy selection is in progress at this site, as part of the focused feasibility study process. The proposed remedial approach at this site is soil excavation and treatment in a high-temperature thermal desorber with monitored natural attenuation for groundwater. The following institutional controls will be used to protect human health and the environment until the RAOs and ARARs have been met: land use restrictions, access restrictions, and site inspections. Monitoring of groundwater will continue until the RAOs and ARARs have been met. The site was visually inspected in May 2001, and the site appears undisturbed and intact.
67	SWMU 60, Tank Farm A	SAERA	1, 5	Quarterly groundwater monitoring was conducted in 1999-2000. Visual inspection was conducted in September 2001. Natural attenuation monitoring will continue and results will be evaluated annually in the Annual Groundwater Monitoring Report. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls and engineering controls.

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
68	SWMU 61, Tank Farm B	SAERA	1, 5, 8	Quarterly groundwater monitoring was conducted in 1999-2000. Visual inspection was conducted in September 2001, and a 55-gallon drum containing an unidentified petroleum product (possibly lubricating oil) was observed to be either upside down or in a state with the bottom rusted out. Product was in contact with the ground surface. The drum was located adjacent to Building T-8750. The Navy will evaluate this drum further in October 2001. Natural attenuation monitoring will continue and results will be evaluated annually in the Annual Groundwater Monitoring Report. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001; at this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls.
69	SWMU 62, New Housing Fuel Leak	SAERA	4	Free-product recovery was conducted in 1999-2000, and free-product recovery has reached the practicable endpoint at this site. Free-product recovery has been terminated. Postrecovery monitoring is ongoing. A focused feasibility study is planned to determine the final remedy. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001. At this 5-year juncture, the data will be evaluated and a decision will be made on the continuation or cessation of visual inspection or other institutional controls and engineering controls. The site was inspected in September 2001, and the site appears undisturbed and intact.
	SWMU 67, White Alice PCB Spill Site	CERCLA	5	A multilayered cap was placed on this site as a removal action in 1997. The site was inspected in September 2001, and site conditions appear to be undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001. At this 5-year juncture, the data will be evaluated and a decision will be made on the continuation or cessation of visual inspection or other institutional controls and engineering controls.

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
115	Tanker Shed (UST 42494)	SAERA	4	Free product is presently being recovered at this site, and product recovery conducted to date is considered an interim remedial measure. Final remedy selection is planned as part of the focused feasibility study process. The site was visually inspected in May 2001, and the site appears undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; and inspections were planned and carried out over a 5-year period through 2001. At this 5-year juncture, the data will be evaluated and a decision will be made on the continuation or cessation of visual inspection or other institutional controls and engineering controls and engineering controls.
125	Yakutat Hangar (UST T-2039-A)	SAERA	4	Free-product recovery has reached the practicable endpoint and recovery termination is proposed at this site. Installation of five new monitoring wells where free product has been found in test pits and soil probes is recommended. Groundwater in the 5 new wells and 11 existing wells is recommended to be sampled annually for 5 years. The Navy also recommends that the on-site interceptor trench be maintained until monitoring results confirm the achievement of the RAOs. Postrecovery monitoring should be initiated once free-product recovery is terminated. Product recovery conducted to date is considered an interim remedial measure. Final remedy selection is in progress at this site, as part of the focused feasibility study process. The site was visually inspected in May 2001, and the site appears undisturbed and intact. Soil excavation restrictions; land use and deed restrictions; and inspections are planned to continue on an annual basis over a 5-year period through 2001. At this 5-year juncture, the data will be evaluated and a decision will be made regarding the continuation or cessation of visual inspection or other institutional controls and engineering controls.
126	Yakutat Hangar (UST T-2039-B and T-2039-C)	SAERA	2	Quarterly groundwater monitoring was conducted in 1999-2000. ADEC has agreed to no-further-action per ADEC comments dated August 30, 2001.

**Table 8-1  
Site Recommendations (Continued)**

Map Key Number <sup>a</sup>	Site Name	Regulatory Process	Remedial Actions in ROD	Recommendations
-	OU B-1 Ordnance Sites	CERCLA	OU B1 ROD not final	<p>OU B-1 addresses all of the OE/UXO sites within the former Adak Naval Complex with the exception of areas in the vicinity of Andrew Lake (Table 1-3) (Figure 2-4). OU B-1 includes 131 sites containing OE/UXO items. OE/UXO educational awareness programs and incorporation of deed notices in property transfer documents will be implemented throughout the former Adak Naval Complex that will encompass these 131 sites. No Further Action (NOFA) is selected for 104 of the 131 sites.</p> <p>OE/UXO clearance to 4 feet below ground surface (bgs) will be conducted at three of the 27 sites. The remaining 24 sites will undergo final characterization and clearance to 4 feet bgs, as needed to support future land use. Disposal sites will be cleared to a depth of 4 feet below the lowest depth that OE/UXO is found or to bedrock, whichever is encountered first. Nine targets in seven of the 24 sites will have soil sampled for explosive-related chemicals and soil removed, treated, and disposed of, either on site or offsite, as necessary.</p>
	OU B-2 Ordnance Sites	CERCLA	OU B2 ROD is planned	<p>OU B-2 is comprised of 62 ordnance sites (Table 1-4) (Figure 2-4). OU B-2 sites include those sites that could not be investigated and closed by the end of the 2001 field season. OU B2 sites comprise the area designated as “Parcel 4” in Figure 3-1. Additional field investigations are scheduled for the 2002 season and a final RI/FS, Proposed Plan, and ROD are expected in 2003. That ROD is expected to be the final ROD for Adak.</p>

**Table 8-1**  
**Site Recommendations (Continued)**

<sup>a</sup>Map key numbers correspond to the site location numbers shown in Figure 2-2 for the petroleum sites. CERCLA site locations are shown on in Figure 2-3.

<sup>b</sup>Also investigated under Alaska Department of Environmental Conservation Solid Waste Regulation

**Notes:**

1 – Natural Attenuation  
2 – Limited Soil Removal  
3 – Limited Monitoring  
4 – Free-product Recovery  
5 – ICs  
6 – Landfill Cover, ICs

7 – Compliance Monitoring  
8 – Sentinel Monitoring  
9 – Removal, Treatment, and Disposal of Sediment and Water  
10 - Monitoring per ADEC Solid Waste Regulations  
11 – Sediment Removal

Blank map keys represent CERCLA sites shown in Figure 2-3

The protectiveness of the chemical-release sites administered under CERCLA are summarized below.

SWMUs 2, 4, and 29. Based on observations made in May 2001, the remedy at SWMU 4 is protective of human and ecological receptors from exposure to landfill debris and subsurface soil (Appendix C). Maintaining the integrity of the soil cover helps ensure the site remains protective.

SWMU 11, 13, 18/19, and 25. Based on observations made in May 2001 the remedy for SWMUs 11, 13, 18/19, and 25 is protective of human and ecological receptors from exposure to landfill debris and subsurface soil (Appendix C). Maintaining the integrity of the soil cover will help ensure the site remains protective, and respective site observations indicate that the covers are intact and undisturbed. Surface water quality and sediment monitoring at SWMU 11; groundwater monitoring at SWMU 13; and blue mussel shellfish and rock sole fish monitoring at SWMUs 11 and 13 indicates negligible impacts to the marine environment and that concentrations are, in general, not increasing. Upon review of all media, Aroclor 1254 (in rock sole tissue) was the only chemical of concern noted in Kuluk Bay (the water body downgradient from SWMUs 11 and 13) to consistently exceed ROD-established cleanup levels. The presence of blue mussel tissue PCB concentrations in 1999 at levels below the ROD-established cleanup level is consistent with previous rounds. This consistency in results from tissue samples further suggests that the remedy continues to be protective because chemical concentrations are remaining static and not increasing. Additional monitoring will be conducted to confirm trends.

Surface water and groundwater monitoring at SWMUs 18/19 and 25 indicates rare exceedances of applicable cleanup levels, and, in general, no appreciable increases in concentrations of detected chemicals. Additional monitoring will be conducted to confirm trends.

Sweeper Cove and Kuluk Bay. The remedy for Sweeper Cove and Kuluk Bay protects humans (specifically subsistence fishers) from ingestion of fish and shellfish containing PCBs. This is accomplished by implementation of a fish advisory, which consists of the installation and maintenance of warning signs along shorelines and adjacent to shellfish beds. Additionally, the education of visitors and residents of Adak regarding the fishing advisory will be included in the required orientation briefing, and will aid in the protection of human health. Site monitoring by sampling and analysis of mussels and fish tissue was completed in 2000 and 2001 and the results are currently being finalized. Results from the 1999 shellfish tissue monitoring events and the 2000 rock sole monitoring event in Kuluk Bay are summarized in Section 4.2; results from the 1999 shellfish tissue monitoring event and the 2000 rock sole monitoring event in Sweeper Cove is also summarized in Section 4.2.

SWMUs 10, 14, 15, 16, 52, 53, and 59, 55, 67, and SA 76. The restriction of land use to the current industrial use is protective of humans from potential exposure to surface soils; from exposure to groundwater at SWMUs 14, 15, 16, 55, and SA 76; and from debris at SWMUs 52, 53, and 59. Restricting site use to commercial and industrial purposes reduces human exposure at all sites within this group to estimated risk levels that are below the Alaska DEC cumulative risk of 1E-05.

SWMUs 20, 21A, 23, and 67. The restriction of land use to the current industrial use for SWMUs 20, 21A, 23, and 67 is protective of potential human and ecological exposure to surface and subsurface soils at SWMU 20; subsurface soils at SWMUs 21A and 67; and surface soil and sediment at SWMU 23. Maintaining the integrity of the soil cover at SWMUs 20 and 21A and

the cap at SWMU 67 will help ensure the respective sites remain protective. Restricting site use to recreational purposes reduces human exposure at all SWMUs within this group to estimate risk levels that are below the Alaska DEC cumulative risk of 1E-05.

SWMU 17. The remedy for SWMU 17 is protective of ecological exposure of benthic infauna to sediments, and exposure of birds to surface water. Maintaining the integrity of the clean fill emplaced in both the waste oil pond and the retention pond after contaminated sediment removal will help ensure the site remains protective. The initial removal of contaminated surface water from the retention pond (along with removal of contaminated sediments) prior to the placement of clean fill also established an increased level of protectiveness.

South Sweeper Creek. The remedy at South Sweeper Creek is protective of ecological exposure of benthic infauna to sediments.

With regard to the petroleum-release sites administered under SAERA, four remedial alternatives were selected: limited soil removal, limited groundwater monitoring, monitored natural attenuation, and free-product recovery. A summary of the actions included with each of the remedial alternatives was presented in Section 4 and will not be repeated here. Note that the free product recovery systems are unlikely to meet final cleanup levels (MCLs) for groundwater and will likely require follow on actions pursuant to the SAERA. In addition, the MNA sites are still in the early phases of data evaluation. Some limited soil removal sites have yet to be completed and some limited monitoring sites have indicated that additional work is required. Other soil removal sites and limited monitoring sites have met final Alaska DEC cleanup levels and do not require further action.

OU B Sites. Of the 131 OU B-1 sites, 104 have been designated for no further action (NOFA), based on the completion of the PA, SI, RI and ESHA evaluations. An ordnance awareness educational program will be included as part of the disposition of NOFA sites. The process of intrusive investigation and clearance of OE/UXO during field activities associated with at least one of these evaluation steps resulted in the effective clearance of OE/UXO at the sites, thereby supporting the NOFA decision which is considered protective of human health and the environment.

Eighteen of the 27 remaining sites (i.e., those not designated NOFA) have had clearance and characterization completed as of the end of the 2001 field season. Clearance and characterization at the other nine sites not addressed in 2001 will be evaluated in 2002; the final disposition and protectiveness of the 27 sites will be presented in the next 5-year review.

Not all of the 62 OUB-2 sites have been fully investigated. The RI is scheduled for completion in 2002, with a final RI/FS, Proposed Plan, and ROD in 2003. The protectiveness of the remedial action(s) selected in that ROD will be evaluated in the next Adak 5-year review.

*Summary.* Most of the remedies at OU A and OU B-1 are protective of human health and the environment, based on site inspections of sites where either institutional controls, monitoring programs, or construction (such as landfill covers or soil removals) have been implemented. For those sites where the remedy is under construction or not yet decided upon (e.g., free-product recovery sites; OU B-2 sites where further characterization is planned), the exposure pathways that could result in unacceptable risks are being controlled. The remedies at OU B-2 have not yet been decided upon and a protectiveness determination cannot be made at this time until further information is obtained.

The next 5-year review for the former Adak Naval Complex will be completed in 2006.

The report is intended to fulfill Section 121c of CERCLA, the National Contingency Plan (NCP), and Section 19 of the 1990 Federal Facilities Agreement (FFA) between the U.S. Navy, the U.S. Environmental Protection Agency, and the Alaska Department of Environmental Conservation. This document has been prepared consistent with EPA's Comprehensive 5-Year Review Guidance (OSWER Directive 9355.7-03B-P [EPA 1999]).

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Appendix A  
Dig Permit Procedure And Form

**PROCEDURES FOR INSTITUTIONAL CONTROL EXCAVATION PERMITS**

Encl: (1) Navy Institutional Control IC Excavation Permit

1. **Purpose.** To establish procedures for the Adak Reuse Corporation or its authorized representative (herein referred to as requester) to obtain an IC excavation permit from the Navy.
2. **Background.** In order to protect human health and the environment on Adak Island, excavation restrictions were placed on the property under the Comprehensive Environmental Response, Compensation and Liability Act and the Resource Conservation and Recovery Act. In order to enforce the excavation restrictions in the Downtown Area, IC excavation permits are required so the Navy can track the excavations while the island is under their control. Excavation is prohibited in the areas identified as Roberts Landfill, Palisades Landfill, White Alice Landfill, Davis Landfill, Causeway Landfill, Finger Bay Landfill and Metals Landfill. The IC excavation permit will be modified once the OU B investigation is concluded.
3. **Procedures.** The requester will submit to the Adak Caretaker Site Office, at least three working days in advance of excavation date, enclosure 1 with an attached plat plan indicating the exact location of excavation. Provide requester's name, organization, phone number, date of request, and location of excavation. Complete the blocks detailing the purpose of the excavation, start time, completion time, planned method of digging, and the planned depth of the excavation. *NOTE: For large areas or multiple excavation sites, the submitted drawing must be phased or prioritized.* In the event of an emergency excavation for utility repairs, the requester shall notify the Navy after the emergency has been completed. Provide the requester's name, location and depth of the excavation, and the duration of the excavation.

The Navy will evaluate the permit request to determine whether the proposed excavation activities are consistent with possible institutional controls in the area. To allow sufficient time for review, requests for excavation must be submitted to the Adak Caretaker Site Office 3 working days prior to planned commencement date.

After the Adak Caretaker Site Office reviews the request, the original request will be returned to the requester, approved or disapproved, as appropriate. The Adak Caretaker Site Office will retain a copy. An approved IC excavation permit must be in the possession of personnel on site during excavation or work will be stopped. The IC excavation permit will expire after 90 days. If an IC excavation permit extension is necessary, the requester shall contact the Adak Caretaker Site Office one week before the current IC excavation permit expires to request an extension. The contact number for the Adak Caretaker Site Office is (907) 592-4351. In the event there is a recording, the requester shall leave the permit number, the requester's name, and the extension timeframe requested.

The requester is responsible for ensuring that all excavation workers have completed ordnance awareness training prior to beginning excavation. Work shall immediately stop if suspected ordnance items are encountered during excavation. The workers must immediately evacuate the area and call the Adak Caretaker Site Office at (907) 592-4351. An initial exclusion zone of a 300-foot radius around the site will be maintained and all non-essential personnel will be denied

## **Appendix A**

### **Dig Permit Procedure And Form**

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access until the Adak Caretaker Site Office directs otherwise. The Adak Caretaker Site Office will take digital photographs and electronically mail them as soon as possible to ordnance experts for instructions regarding adjustments to the exclusion zone. If necessary, ordnance experts will respond to render an item safe as soon as logistical arrangements can be made. In no case will excavation be allowed to resume at the site until the Navy has completed necessary response actions to render an area safe.

4. Point of Contact: Questions may directed to the Adak Caretaker Site Office at (907) 592-4351.

## Appendix A Dig Permit Procedure And Form

### INSTITUTIONAL CONTROL EXCAVATION PERMIT

NUMBER \_\_\_\_\_

A R C	NAME , ORGANIZATION, DATE	PHONE #	LOCATION OF EXCAVATION:
	<b>PURPOSE OF EXCAVATION:</b> ** Describe the purpose of the excavation. ** <u>Please attach a Plot Plan</u>		
R E Q U E S T E R	EXCAVATION TO BEGIN: (DATE AND TIME)	ESTIMATED COMPLETION DATE:	METHOD OF EXCAVATION AND DEPTH
	Requester must notify the Adak Caretaker Site Office 3 working days prior to excavation: ENGINEERING FIELD ACTIVITY NORTHWEST ADAK CARETAKER SITE OFFICE Sandy Cove Housing 101C Telephone: (907) 592-4351 Fax: (907) 592-4350		
Excavation will not proceed until the following personnel review and comment on the environmental excavation permit application. <b><u>I HAVE READ AND UNDERSTAND THE NAVY'S REQUIREMENTS FOR INSTITUTIONAL CONTROL EXCAVATIONS AND AGREE TO ABIDE BY THEM.</u></b>			
SIGNATURE (REQUESTER): _____ DATE: _____  Have you received ordnance awareness training, also known as the "blue card" brief? <input type="checkbox"/> Yes <input type="checkbox"/> No			
COMMENTS			
The requester is responsible for ensuring that all excavation workers have completed ordnance awareness training prior to beginning excavation. Work shall immediately stop if suspected ordnance items are encountered during excavation. The workers must immediately evacuate the area and call the Adak Caretaker Site Office at (907) 592-4351. An initial exclusion zone of a 300-foot radius around the site will be maintained and all non-essential personnel will be denied access until the Adak Caretaker Site Office personnel direct otherwise. In no case will excavation be allowed to resume at the site until the Navy has completed necessary response actions to render an area safe.			
<b>Excavation Permit is valid for 120 days from signed approval date.</b> <b>Permit expires on this date: _____ . Please call (907) 592-4351 for waiver.</b>			
<input type="checkbox"/> APPROVED		<input type="checkbox"/> DISAPPROVED	
		_____ Approver Signature	_____ Date
<b>EXTENSION GRANTED</b>		<input type="checkbox"/> 30 days <input type="checkbox"/> 60 days <input type="checkbox"/> 90 days <input type="checkbox"/> Other _____	
		_____ Approver Signature	_____ Date

Appendix B  
Interview Transcriptions

(Type 3 – RAB and Adak Community Members)  
**INTERVIEW RECORD FOR FIVE-YEAR REVIEW**  
Operable Unit A, Adak, Alaska

**Individual Contacted:** Ms. Patty Vessel  
**Title:** RAB Member, and resident of Adak  
**Organization:** RAB  
**Telephone Number:** (907) 592-2648  
**E-mail:** adakpat@corecom.net

**Contact Made By:** Malcolm Gander, URS Corporation  
**Response Type:** E-mail  
**Date:** May 23, 2001

**Summary of Communication**

1. Do you feel informed about the environmental cleanup activities on Adak Island?

**Response: Somewhat**

2. What is your impression of environmental cleanup activities on Adak Island?

**Response: Very complicated; too much bureaucracy.**

3. What effects, if any, have site cleanup activities had on the local community?

**Response: Appreciative, but tired of the delays**

4. Are you aware of concerns from others in the local community regarding implementation or overall environmental protectiveness of the cleanup activities?

**Response: Yes**

5. Do you have any comments, suggestions, or recommendations regarding overall protection of human health and the environment at Adak, Alaska in relation to sites in Operable Unit A?

**Response: All work should be done with the intent to clean up and not cover up. The product will always show its ugly face.**

(Type 1 – Navy Personnel)  
**INTERVIEW RECORD FOR FIVE-YEAR REVIEW**  
Operable Unit A, Adak, Alaska

**Individual Contacted:** Cathy Villa  
**Title:** RAB Co Chair  
**Telephone Number:** (907) 245-4128  
**E-mail:** Villaadak@aol.com  
**Contact Made By:** Malcolm Gander, URS Corporation

**Summary of Communication**

1. Since the signing of the interim ROD (1995) for the Metals and Palisades Landfills and the signing of the final ROD (2000) for all sites in Operable Unit A, are you aware of any land uses, access, or other site conditions that you believe may impact the protectiveness of any of the ROD-selected remedies?

**Response: No. The warning signs prohibit land use other than walking in those areas. I don't believe hiking is even allowed in Metals.**

2. Are you aware of concerns from the local community regarding implementation or overall protectiveness of the ROD-selected remedies?

**Response: Community concerns expressed are institutional controls and effectiveness of those controls.**

3. Is there a regular onsite inspection, operation, maintenance, and monitoring (OMM) program as required by the interim or final RODs?

**Response: Yes, I believe there is.**

4. Are you aware of any unexpected operations, maintenance, and monitoring (OMM) difficulties?

**Response: Yes. Unless you can control the climate and mechanical failures, you always have these.**

5. Have there been any substantial changes to operations, maintenance, and monitoring (OMM) requirements or activities? If so, do you believe these changes may impact the protectiveness of the ROD-selected remedies?

**Response: Yes, new technologies will hopefully continue to be developed to improve remedies, operations, etc.**

6. What measures have been taken to implement institutional controls required by the RODs?

**Response: Signs, fencing, word of mouth. Adequate information should always be available.**

7. Do you have any other comments, suggestions, or recommendations regarding overall protection of human health and the environment at Adak, Alaska in relation to sites in the interim or final RODs for Operable Unit A?

**Response: Listen closely to the community concerns and answer factually all issues or questions posed.**

(Type 1 – Navy Personnel)  
**INTERVIEW RECORD FOR FIVE-YEAR REVIEW**  
Operable Unit A, Adak, Alaska

**Individual Contacted:** Mr. Richard Stoll  
**Title:** BRAC Environmental Coordinator  
**Organization:** Engineering Field Activity, Northwest  
**Telephone Number:** (360) 396-0065  
**E-mail:** stollrk@efanw.navfac.navy.mil  
**Address:** 19917 7th Avenue Northeast  
Poulsbo, WA 98370-7570

**Contact Made By:** Malcolm Gander, URS Corporation  
**Response Type:** E-mail  
**Date:** May 22, 2001

**Summary of Communication**

1. Since the signing of the interim ROD (1995) for the Metals and Palisades Landfills and the signing of the final ROD (2000) for all sites in Operable Unit A, are you aware of any land uses, access, or other site conditions that you believe may impact the protectiveness of any of the ROD-selected remedies?

**Response: No.**

2. Are you aware of concerns from the local community regarding implementation or overall protectiveness of the ROD-selected remedies?

**Response: Yes**

3. Is there a regular onsite inspection, operation, maintenance, and monitoring (OMM) program as required by the interim or final RODs?

**Response: Yes**

4. Are you aware of any unexpected operations, maintenance, and monitoring (OMM) difficulties?

**Response: No**

5. Have there been any substantial changes to operations, maintenance, and monitoring (OMM) requirements or activities? If so, do you believe these changes may impact the protectiveness of the ROD-selected remedies?

**Response: No**

6. What measures have been taken to implement institutional controls required by the RODs?

**Response: Development and implementation of an ICMP and a CMP.**

7. Do you have any other comments, suggestions, or recommendations regarding overall protection of human health and the environment at Adak, Alaska in relation to sites in the interim or final RODs for Operable Unit A?

**Response: Re-define CSMs to more realistic scenarios.**

(Type 1 – Navy Personnel)  
**INTERVIEW RECORD FOR FIVE-YEAR REVIEW**  
Operable Unit A, Adak, Alaska

**Individual Contacted:** Mr. Mark S. Murphy, P.E.  
**Title:** Remedial Project Manager  
**Organization:** Engineering Field Activity, Northwest  
**Telephone Number:** (360) 396- 0007  
**E-mail:** murphym@navfac.navy.mil  
**Address:** 19917 7<sup>th</sup> Avenue Northeast  
Poulsbo, WA 98370-7570

**Contact Made By:** Malcolm Gander, URS Corporation  
**Response Type:** E-mail  
**Date:** May 22, 2001

**Summary of Communication**

1. Since the signing of the interim ROD (1995) for the Metals and Palisades Landfills and the signing of the final ROD (2000) for all sites in Operable Unit A, are you aware of any land uses, access, or other site conditions that you believe may impact the protectiveness of any of the ROD-selected remedies?

**Response: No. Land uses have not changed at either site.**

2. Are you aware of concerns from the local community regarding implementation or overall protectiveness of the ROD-selected remedies?

**Response: The remedies have been discussed at various stakeholder input forums. None of these discussions have identified a specific example of deficiencies in the remedies.**

3. Is there a regular onsite inspection, operation, maintenance, and monitoring (OMM) program as required by the interim or final RODs?

**Response: Yes**

4. Are you aware of any unexpected operations, maintenance, and monitoring (OMM) difficulties?

**Response: At SWMU #13, erosion of the toe of the landfill was identified during inspections and corrected by subsequent maintenance.**

5. Have there been any substantial changes to OMM requirements or activities? If so, do you believe these changes may impact the protectiveness of the ROD-selected remedies?

**Response: No changes have been made to the OMM requirements.**

6. What measures have been taken to implement institutional controls required by the RODs?

**Response: Signs have been posted, a dig permit program exists, inspections have been conducted by Navy and agency personnel.**

7. Do you have any other comments, suggestions, or recommendations regarding overall protection of human health and the environment at Adak, Alaska in relation to sites in the interim or final RODs for Operable Unit A?

**Response: No**

(Type 2-Regulatory Agencies)  
**INTERVIEW RECORD FOR FIVE-YEAR REVIEW**  
Operable Unit A, Adak, Alaska

**Individual Contacted:** Ms. Elim Yoon  
**Title:** Project Manager  
**Organization:** Alaska Department of Environmental Conservation  
**Telephone Number:** (907) 269-7528  
**E-mail:** elim\_yoon@envircon.state.ak.us  
**Address:** Alaska Department of Environmental Conservation  
555 Cordova Street  
Anchorage, Alaska 99501

**Contact Made By:** Malcolm Gander, URS Corporation  
**Response Type:** E-mail  
**Date:** May 22, 2001

### Summary of Communication

1. Are you aware of any changes in ARARs that you believe may impact the protectiveness of the ROD-selected remedies for sites in Operable Unit A?

**Response:** No, not to my knowledge.

2. Are you aware of any changes in site conditions since the signing of the interim ROD (1995) and final ROD (2000), which you believe may impact the protectiveness of any of the ROD-selected remedies?

**Response:** Monitored natural attenuation was selected for Housing Area (Arctic Acres) in the 2000 ROD. Since that time, free product has been observed in volumes that require free product recovery at the site. The Navy has stated free product recovery will be implemented to the maximum extend practicable followed by an evaluation of other remedial alternatives in a focused feasibility study.

3. Are you aware of concerns from the local community regarding implementation or overall protectiveness of the ROD-selected remedies?

**Response:** The Aleut Corporation (TAC) has raised concerns regarding institutional controls selected in the 2000 ROD for Sweeper Cove and Kuluk Bay. Institutional controls for these sites include fishing advisories limiting consumption of fish and shellfish. Signs would be placed along the shorelines of Sweeper Cove and Kuluk Bay warning of the potential risk. TAC has stated the signs may negatively affect the development of a commercial fishing industry in Adak.

TAC has also raised several concerns regarding the overall protectiveness of the ROD-selected remedies. These concerns are addressed in the document prepared by Erler & Kalinowski for TAC titled Record of Decision Assessment and Proposed Necessary Additional Remedies, dated 29 November 2000.

4. Do you have any suggestions for implementation of the selected remedies (including institutional controls)?

**Response: The Navy is currently incorporating review comments and preparing the Draft Final Institutional Controls Management Plan (ICMP). As expressed in the review comments for the ICMP, one suggestion is that the Navy should clearly identify party(s) responsible for the implementation and enforcement of institutional controls upon completion of land transfer.**

5. Do you have any other comments, suggestions, or recommendations regarding overall protection of human health and the environment at Adak, Alaska in relation to sites in Operable Unit A?

**Response: The Navy is doing an exemplary job in implementing remediation efforts in Adak.**

(Type 2-Regulatory Agencies)  
**INTERVIEW RECORD FOR FIVE-YEAR REVIEW**  
**Operable Unit A, Adak, Alaska**

**Individual Contacted:** Mr. Kevin Oates  
**Title:** Adak Federal Facility Project Manager  
**Organization:** Environmental Protection Agency (EPA)  
**Telephone Number:** (907) 271-6323  
**E-mail:** oates.kevin@epa.gov  
**Address:** Environmental Protection Agency  
222 West 7<sup>th</sup> Avenue, #19 (Room 537)  
Anchorage, Alaska 99513-7588

**Contact Made By:** Malcolm Gander, URS Corporation  
**Response Type:** E-mail  
**Date:** May 22, 2001

**Summary of Communication**

1. Are you aware of any changes in ARARs that you believe may impact the protectiveness of the ROD-selected remedies for sites in Operable Unit A?

**Response: No, I am not aware of any changes to the ARARs that were identified for Adak OU-A remedial actions selected in the OU-A ROD.**

2. Are you aware of any changes in site conditions since the signing of the interim ROD (1995) and final ROD (2000), which you believe may impact the protectiveness of any of the ROD-selected remedies?

**Response: Yes. The eastern toe of Metals Landfill was damaged in a severe winter storm resulting in erosion of metallic debris into Kuluk Bay. To address this problem, metal debris was retrieved and placed in a new cell on the southern portion of the landfill. In addition, rip-rap from the salvaged foundation pads of the demolition of Old Roberts Housing was placed along the seaward edge of the landfill to better secure that edge of the landfill. These actions are beyond what was required in the 1995 interim ROD, but were deemed necessary to insure protectiveness after the storm damage altered the condition of the previous remedy. Therefore, while the initial remedy suffered a partial failure due to an act of nature, the actions taken to repair the landfill should result in a higher degree of protectiveness.**

3. Are you aware of concerns from the local community regarding implementation or overall protectiveness of the ROD-selected remedies?

**Response: Yes, the community has expressed concerns regarding the length of time to achieve final cleanup levels in groundwater. A timeframe of a maximum of 75 years was identified in the ROD to meet drinking water standards for certain groundwaters affected by petroleum releases. The community has expressed concerns that this could adversely impact property values or land use.**

**I have heard concerns regarding closure and capping of landfills and long-term monitoring. These comments have been related to the uncertainty of the contents. Some have questioned whether chemical munitions could be buried in the landfills, as well as drums of hazardous wastes. Some have expressed a desire to have the landfills removed from Adak entirely.**

4. Do you have any suggestions for implementation of the selected remedies (including institutional controls)?

**Response: The vast majority of the selected remedies have already been implemented. The Institutional Controls Management Plan is nearing finalization. That document will include details on the “how to” aspects of the implementation and compliance monitoring aspects of institutional controls. One of the possible actions in the future related to this would be a dialogue between the Navy and the recently incorporated City of Adak to work on implementation issues related to institutional controls. This could include incorporating any land use restrictions into municipal records, files, and ordinances for as long as the controls are needed. The Navy has also expressed a desire to enter into an agreement with a third party to act as its agent on-island to monitor compliance with these types of controls.**

5. Do you have any other comments, suggestions, or recommendations regarding overall protection of human health and the environment at Adak, Alaska in relation to sites in Operable Unit A?

**Response: The Navy has been aggressively pursuing follow-on actions for petroleum sites that have not met final cleanup goals. I would encourage the Navy to continue to do so for several reasons. The community has expressed a lot of interest in seeing final cleanups sooner rather than later. The long term costs associate with extended monitoring timeframes, O&M, and transaction costs for continued interface with regulatory agencies, stakeholders, and other interested parties over time could exceed short term cleanup costs. It is understood that the realities of the budget process and the physical limitations of how much work can be executed in any given year are limitations to completing everything that remains in a short period of time.**

**Many of the site cleanups that were performed at Adak under Operable Unit A met or exceeded ADEC requirements for potential human health risks. The ADEC requirements include a cumulative risk of  $1 \times 10^{-5}$  for carcinogenic compounds, and a Hazard Index of 1.0 for non-carcinogens. By comparison, CERCLA presents a target risk range of  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ , and a Hazard Index of 1.0. These values are used to determine; a) the need for cleanup actions, and; b) to help establish alternative cleanup levels where there are no promulgated cleanup levels. Under CERCLA, the Navy would be required to meet the  $1 \times 10^{-4}$  level. However, to address ADEC concerns, the Navy agreed to meet the State  $1 \times 10^{-5}$  level. This resulted in cleanups that are ten times more stringent than required by federal law.**

(Type 3 – RAB and Adak Community Members)  
**INTERVIEW RECORD FOR FIVE-YEAR REVIEW**  
Operable Unit A, Adak, Alaska

**Individual Contacted:** Mr. Agafon Krukoff

**Results:** Mr. Krukoff, Mayor of Adak, was contacted via e-mail on May 23, 2001, and via telephone voice mail several times in June, July, August, September, and October of 2001. No reply was received.

Appendix C  
Checklists For Sites Inspected

**Yes No**  
 Previous Deficiency    
 Date(s) of Deficiency \_\_\_\_\_

**Landfill Cap  
Visual Inspection Checklist**

**Site Name or Location ID:** Causeway Landfill, SWMU 2 **Map Reference No.:** --

**Inspectors:** B. Titus, E. Lillywhite **Date/Time:** 06 May 01/1300

**Company:** URS

**Weather/Temperature:** Cloudy, light rain, Temp. - 40s

- |       |   | <b>Yes</b>                          | <b>No</b>                           |
|-------|---|-------------------------------------|-------------------------------------|
| 1.    | Is water draining off the cap?.....   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2.    | Is any ponding noted? .....   | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 3.    | Is there a sheen on the surface of the cap?.....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4.    | Is erosion occurring? If yes, describe location, condition, severity, and provide square footage. Sketch location on back of form. Document photographs below. ....             | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 5.    | Are there any odors? If yes, describe the odor and intensity .....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 6.    | Is there vegetation established on the vegetated cap? (Note if revegetation has failed and bare soil is visible.) .....   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| <hr/> |   |                                     |                                     |
| 7.    | Is there discoloring of the cap material? If yes, describe appearance, location and square footage. Sketch location on back of form. Document photographs below. ....           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 8.    | Is there manmade debris coming up through the cap? If yes, note type of debris, location, and square footage. Sketch location on back of form. Document photographs below. .... | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 9.    | Are there seeps flowing from the landfill? If yes, describe the seep (including length and width) and flow rate. Sketch location on back of form.....                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 10.   | Is this a new seep or a seep that has been previously documented?.....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |



**Yes No**  
 Previous Deficiency    
 Date(s) of Deficiency \_\_\_\_\_

**Landfill Cap  
Visual Inspection Checklist**

**Site Name or Location ID:** Palisades Landfill, SWMU 11    **Map Ref. No.:** Sheet 40 Grids 11-18/H-Q

**Inspectors:** B. Titus, E. Lillywhite    **Date/Time:** 14 Nov 00/1000

**Company:** URS

**Weather/Temperature:** Cloudy, cool, light wind, Temp. – 40s

- |    |   | <b>Yes</b>                          | <b>No</b>                           |
|----|---|-------------------------------------|-------------------------------------|
| 1. | Is water draining off the cap?.....   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. | Is any ponding noted? .....   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3. | Is there a sheen on the surface of the cap?.....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4. | Is erosion occurring? If yes, describe location, condition, severity, and provide square footage. Sketch location on back of form. Document photographs below. .... | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

At one location, the landfill cover appeared compromised. A slump feature, or some type of disruption, was observed in May 2001 on the landfill bank on the south side, west of the landfill.

- |    |  |                          |                                     |
|----|--|--------------------------|-------------------------------------|
| 5. | Are there any odors? If yes, describe the odor and intensity ..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|-------------------------------------|

- |    |   |                                     |                          |
|----|---|-------------------------------------|--------------------------|
| 6. | Is there vegetation established on the vegetated cap? (Note if revegetation has failed and bare soil is visible.) ..... | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|---|-------------------------------------|--------------------------|

In the areas sprayed, most of the cap was not seeded.

- |    |   |                          |                                     |
|----|---|--------------------------|-------------------------------------|
| 7. | Is there discoloring of the cap material? If yes, describe appearance, location and square footage. Sketch location on back of form. Document photographs below. .... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|-------------------------------------|

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|----|---|--------------------------|-------------------------------------|
| 8. | Is there manmade debris coming up through the cap? If yes, note type of debris, location, and square footage. Sketch location on back of form. Document photographs below. .... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|-------------------------------------|

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|----|---|--------------------------|-------------------------------------|
| 9. | Are there seeps flowing from the landfill? If yes, describe the seep (including length and width) and flow rate. Sketch location on back of form..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|-------------------------------------|

- |     |  |                          |                                     |
|-----|--|--------------------------|-------------------------------------|
| 10. | Is this a new seep or a seep that has been previously documented?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-----|--|--------------------------|-------------------------------------|

**Yes No**  
 Previous Deficiency    
 Date(s) of Deficiency \_\_\_\_\_

**Landfill Cap  
Visual Inspection Checklist**

**Site Name or Location ID:** White Alice Landfill, SWMUs 18/19 **Map Ref. No.:** Sheet 48 Grids 4-9/C-K

**Inspectors:** B. Titus, E. Lillywhite **Date/Time:** 05 May 01/1100

**Company:** URS

**Weather/Temperature:** Light rain, windy, Temp. – 40s

- |    |   | <b>Yes</b>                          | <b>No</b>                           |
|----|---|-------------------------------------|-------------------------------------|
| 1. | Is water draining off the cap?.....   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. | Is any ponding noted? .....   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3. | Is there a sheen on the surface of the cap?.....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4. | Is erosion occurring? If yes, describe location, condition, severity, and provide square footage. Sketch location on back of form. Document photographs below. .... | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

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- |    |  |                          |                                     |
|----|--|--------------------------|-------------------------------------|
| 5. | Are there any odors? If yes, describe the odor and intensity ..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|-------------------------------------|

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- |    |   |                                     |                          |
|----|---|-------------------------------------|--------------------------|
| 6. | Is there vegetation established on the vegetated cap? (Note if revegetation has failed and bare soil is visible.) ..... | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|---|-------------------------------------|--------------------------|

In the areas sprayed, most of the cap was not seeded.

- |    |   |                          |                                     |
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| 7. | Is there discoloring of the cap material? If yes, describe appearance, location and square footage. Sketch location on back of form. Document photographs below. .... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|-------------------------------------|

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- |    |   |                          |                                     |
|----|---|--------------------------|-------------------------------------|
| 8. | Is there manmade debris coming up through the cap? If yes, note type of debris, location, and square footage. Sketch location on back of form. Document photographs below. .... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|-------------------------------------|

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- |    |   |                          |                                     |
|----|---|--------------------------|-------------------------------------|
| 9. | Are there seeps flowing from the landfill? If yes, describe the seep (including length and width) and flow rate. Sketch location on back of form..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|-------------------------------------|

- 
- |     |  |                          |                                     |
|-----|--|--------------------------|-------------------------------------|
| 10. | Is this a new seep or a seep that has been previously documented?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-----|--|--------------------------|-------------------------------------|

Previous Deficiency  **Yes**  **No**  
Date(s) of Deficiency \_\_\_\_\_

**Landfill Cap  
Visual Inspection Checklist**

**Site Name or Location ID:** South Davis Road Landfill, SWMU 4 **Map Ref. No.:** --

**Inspectors:** B. Titus, E. Lillywhite **Date/Time:** 06 May 01/1400

**Company:** URS

**Weather/Temperature:** Cloudy, light rain, Temp. - 40s.

- |    |   | <b>Yes</b>                          | <b>No</b>                           |
|----|---|-------------------------------------|-------------------------------------|
| 1. | Is water draining off the cap?.....   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. | Is any ponding noted? .....   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3. | Is there a sheen on the surface of the cap?.....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4. | Is erosion occurring? If yes, describe location, condition, severity, and provide square footage. Sketch location on back of form. Document photographs below. .... | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

- 
5. Are there any odors? If yes, describe the odor and intensity .....
- 

6. Is there vegetation established on the vegetated cap? (Note if revegetation has failed and bare soil is visible.) .....

In the areas sprayed, most of the cap was not seeded.

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7. Is there discoloring of the cap material? If yes, describe appearance, location and square footage. Sketch location on back of form. Document photographs below. ....
- 

8. Is there manmade debris coming up through the cap? If yes, note type of debris, location, and square footage. Sketch location on back of form. Document photographs below. ....
- 

9. Are there seeps flowing from the landfill? If yes, describe the seep (including length and width) and flow rate. Sketch location on back of form.....
- 

10. Is this a new seep or a seep that has been previously documented?.....
-

Previous Deficiency  Yes  No  
Date(s) of Deficiency \_\_\_\_\_

**Landfill Cap  
Visual Inspection Checklist**

**Site Name or Location ID:** Metals Landfill, SWMU 13 **Map Reference No.:** 55/Grids 19-25 x C-P

**Inspectors:** B. Titus, E. Lillywhite **Date/Time:** 07 May 01/1000

**Company:** URS

**Weather/Temperature:** Cloudy, cool, light wind, Temp. – 40s

- |    |   | <b>Yes</b>                          | <b>No</b>                           |
|----|---|-------------------------------------|-------------------------------------|
| 1. | Is water draining off the cap?.....   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. | Is any ponding noted? .....   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3. | Is there a sheen on the surface of the cap?.....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4. | Is erosion occurring? If yes, describe location, condition, severity, and provide square footage. Sketch location on back of form. Document photographs below. .... | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

- 
5. Are there any odors? If yes, describe the odor and intensity .....

- 
6. Is there vegetation established on the vegetated cap? (Note if revegetation has failed and bare soil is visible.) .....

In the areas sprayed, most of the cap was not seeded.

7. Is there discoloring of the cap material? If yes, describe appearance, location and square footage. Sketch location on back of form. Document photographs below. ....

- 
8. Is there manmade debris coming up through the cap? If yes, note type of debris, location, and square footage. Sketch location on back of form. Document photographs below. ....

- 
9. Are there seeps flowing from the landfill? If yes, describe the seep (including length and width) and flow rate. Sketch location on back of form.....

- 
10. Is this a new seep or a seep that has been previously documented?.....

Previous Deficiency  **Yes**  **No**  
Date(s) of Deficiency \_\_\_\_\_

**Landfill Cap  
Visual Inspection Checklist**

**Site Name or Location ID:** Finger Bay Landfill, SWMU 29 **Map Reference No.:** \_\_\_\_\_

**Inspectors:** B. Titus, E. Lillywhite **Date/Time:** 05 May 01/1600

**Company:** URS

**Weather/Temperature:** Light rain, windy, Temp. - 40s

- |       |   | <b>Yes</b>                          | <b>No</b>                           |
|-------|---|-------------------------------------|-------------------------------------|
| 1.    | Is water draining off the cap?.....   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2.    | Is any ponding noted? .....   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3.    | Is there a sheen on the surface of the cap?.....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4.    | Is erosion occurring? If yes, describe location, condition, severity, and provide square footage. Sketch location on back of form. Document photographs below. ....             | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 5.    | Are there any odors? If yes, describe the odor and intensity .....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 6.    | Is there vegetation established on the vegetated cap? (Note if revegetation has failed and bare soil is visible.) .....   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| <hr/> |   |                                     |                                     |
| 7.    | Is there discoloring of the cap material? If yes, describe appearance, location and square footage. Sketch location on back of form. Document photographs below. ....           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 8.    | Is there manmade debris coming up through the cap? If yes, note type of debris, location, and square footage. Sketch location on back of form. Document photographs below. .... | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 9.    | Are there seeps flowing from the landfill? If yes, describe the seep (including length and width) and flow rate. Sketch location on back of form.....                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |
| 10.   | Is this a new seep or a seep that has been previously documented?.....  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <hr/> |   |                                     |                                     |

Previous Deficiency  Yes  No  
Date(s) of Deficiency \_\_\_\_\_

**Landfill Cap  
Visual Inspection Checklist**

**Site Name or Location ID:** Roberts Landfill, SWMU 25 **Map Reference No.:** 56/Grids 18-28 x C-V

**Inspectors:** L. Namba, C. Larson **Date/Time:** 05 May 01/1000

**Company:** URS

**Weather/Temperature:** Light rain, windy, Temp. 40s

- |    |  | <b>Yes</b>                          | <b>No</b>                           |
|----|--|-------------------------------------|-------------------------------------|
| 1. | Is water draining off the cap?.....  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. | Is any ponding noted?.....   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | (Could not see entire landfill)  |                                     |                                     |
| 3. | Is there a sheen on the surface of the cap?.....   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4. | Is erosion occurring? If yes, describe location, condition, severity, and provide square footage. Sketch location on back of form. Document photographs below..... | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

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5. Are there any odors? If yes, describe the odor and intensity.....

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6. Is there vegetation established on the vegetated cap? (Note if revegetation has failed and bare soil is visible.).....

In the areas sprayed, most of the cap was not seeded.

7. Is there discoloring of the cap material? If yes, describe appearance, location and square footage. Sketch location on back of form. Document photographs below.....

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8. Is there manmade debris coming up through the cap? If yes, note type of debris, location, and square footage. Sketch location on back of form. Document photographs below.....

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9. Are there seeps flowing from the landfill? If yes, describe the seep (including length and width) and flow rate. Sketch location on back of form.....

Cap drainage engineered on south and east sides

10. Is this a new seep or a seep that has been previously documented?.....