0062757

Waste Site Reclassification Form

Date Submitted: 08/11/04 **Originator:** R. A. Carlson **Phone:** 373-9759	**Operable Unit(s):** 100-KR-2 **Waste Site ID:** 128-K-1 **Type of Reclassification Action:** Rejected ☐ Closed Out ☐ Interim Closed Out ☒ No Action ☐	**Control Number:** 2004-042 **Lead Agency:** EPA RECEIVED SEP 17 2004 EDMC

This form documents agreement among the parties listed below authorizing classification of the subject unit as rejected, closed out, interim closed out, or no action and authorizing backfill of the site, if appropriate. Final removal from the National Priorities List of no action, interim closed out, or closed-out sites will occur at a future date.

Description of current waste site condition:

The 128-K-1 site is located within the 100-KR-2 Operable Unit in the 100-K Area of the Hanford Site. The site is a 0.91-m (3-ft)-deep depression in the landscape that measures 30 by 30 m (100 by 100 ft), and is located near the southeast corner of the 118-K-1 Burial Ground. The site was reported to have been used for the disposal and burning of nonradioactive combustible materials, including paints, office waste, and solvents. Sampling and evaluation of this site have been performed in accordance with remedial action objectives and goals established by the *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington* (Remaining Sites ROD), U.S. Environmental Protection Agency, Region 10, Seattle, Washington. The selected action involved (1) sampling the site, (2) remediating the site, (3) demonstrating through verification sampling that cleanup goals have been met, and (4) proposal for interim closed out.

Basis for reclassification:

The 128-K-1, 100-K Burning Pit meets the remedial action objectives specified in the Remaining Sites ROD. The results demonstrated that residual contaminant concentrations support future unrestricted land uses that can be represented (or bounded) by a rural-residential scenario. These results also showed that residual concentrations support unrestricted future use of shallow zone soil (i.e., surface to 4.6 m [15 ft]), and that contaminant levels remaining in the soil are protective of groundwater and the Columbia River. The basis for reclassification is described in detail in the *Remaining Sites Verification Package for 128-K-1, 100-K Burning Pit* (attached).

J. Zeisloft DOE-RL Project Lead	Signature	8/20/04 Date
NA Ecology Project Manager	Signature	Date
L. E. Gadbois EPA Project Manager	Laurence E Gadbois Signature	8-24-2004 Date

REMAINING SITES VERIFICATION PACKAGE FOR 128-K-1, 100-K BURNING PIT

Attachment to Waste Site Reclassification Form 2004-042

August 2004

REMAINING SITES VERIFICATION PACKAGE FOR 128-K-1, 100-K BURNING PIT

EXECUTIVE SUMMARY

The 128-K-1 site is located within the 100-KR-2 Operable Unit in the 100-K Area of the Hanford Site. The site is a 0.91-m (3-ft)-deep depression in the landscape that measures 30 by 30 m (100 by 100 ft), and is located near the southeast corner of the 118-K-1 Burial Ground. The original site dimensions (recorded in the Hanford Site Waste Information Data System) were expanded based on field observations of the site during planning for confirmatory sampling. The site was reported to have been used for the disposal and burning of nonradioactive combustible materials, including paint, office waste, and solvents.

A focused sampling approach, biased toward worst-case sample locations, was selected for this site. Results of the sampling event are used to make a decision for reclassification of the site in accordance with the waste site reclassification guideline TPA-MP-14 (DOE-RL 1998) process.

Confirmatory sampling was conducted at the 128-K-1 site in April and May 2003, and was performed in two phases. Phase I consisted of test trenches and a test pit to evaluate the potential presence of buried debris or contaminated soil. Phase II consisted of identification and removal of surface debris with waste characterization and soil sampling, as needed.

During the Phase II sampling, one location (P16) was found to have semivolatile organic contamination that required remediation. With agreement from the U.S. Environmental Protection Agency, the area with elevated levels of contamination was excavated during December 2003. The contaminated soil was disposed of at the Environmental Restoration Disposal Facility. After remediation, a verification sample of the underlying soil was collected to confirm that cleanup levels had been met. The results indicated that the waste removal action achieved compliance with the remedial action objectives for 128-K-1 site. The maximum detected residual contaminant levels from the soil samples were used to support site reclassification.

In accordance with this evaluation, the confirmatory sampling and verification sampling results support a reclassification of this site to interim closed out. The current site conditions achieve the remedial action objectives and the corresponding remedial action goals established in the *Remedial Design Report/Remedial Action Work Plan for the 100 Area* (DOE-RL 2004) and the *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units* (EPA 1999). A summary of the cleanup evaluation is presented in Table ES-1. The results show that the residual soil concentrations support future unrestricted land uses that can be represented (or bounded) by a rural-residential scenario. The results also demonstrate that residual contaminant levels in the soil are protective of groundwater and the Columbia River.

Table ES-1. Summary of Remedial Action Objectives for the 128-K-1 Site.

Regulatory Requirement	Remedial Action Goals	Results	Remedial Action Objectives Attained?
Direct Exposure – Radionuclides	Attain 15-mrem/yr dose rate above background over 1,000 years.	There are no radionuclide COPCs identified for this site.	N/A
Direct Exposure – Nonradionuclides	Attain individual COPC RAGs.	Maximum detected results for nonradionuclide COCs are below the RAGs.	Yes
Risk Requirements – Nonradionuclides	Hazard quotient of <1 for all individual noncarcinogens.	All individual hazard quotients are below 1.	Yes
	Cumulative hazard quotient of <1 for noncarcinogens.	Cumulative hazard quotient (1.1×10^{-3}) is less than 1.	
	Excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	Excess cancer risk for individual carcinogens are all less than 1×10^{-6}.	
	Cumulative excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	Total excess cancer risk (5.3×10^{-7}) is below 1×10^{-5}.	
Groundwater/River Protection – Radionuclides	Attain single-COPC groundwater and river protection RAGs.	There are no radionuclide COPCs identified for this site.	N/A
	Attain national primary drinking water standards:[a] 4 mrem/yr (beta/gamma) dose rate to target receptor/organs.		
	Meet drinking water standards for alpha emitters: the most stringent of 15 pCi/L MCL or 1/25th of the derived concentration guides from DOE Order 5400.5.[b]		
	Meet total uranium standard of 21.2 pCi/L.[c]		
Groundwater/River Protection – Nonradionuclides	Attain individual nonradionuclide groundwater and river cleanup requirements.	Maximum detected results for lead are above groundwater and river protection RAGs. However, RESRAD modeling results indicate that lead will not reach groundwater (and, therefore, the Columbia River) for over 1,000 years. Therefore, the residual lead concentrations achieve the RAOs for groundwater and river protection.	Yes

[a] "National Primary Drinking Water Regulations" (40 *Code of Federal Regulations* 141).
[b] *Radiation Protection of the Public and the Environment* (DOE Order 5400.5).
[c] Based on the isotopic distribution of uranium in the 100 Areas, the 30 µg/L MCL corresponds to 21.2 pCi/L. Concentration-to-activity calculations are documented in *Calculation of Total Uranium Activity Corresponding to a Maximum Contaminant Level for Total Uranium of 30 Micrograms per Liter in Groundwater* (BHI 2001).

COC = contaminant of concern
COPC = contaminant of potential concern
DOE = U.S. Department of Energy
MCL = maximum contaminant level
N/A = not applicable
RAG = remedial action goal
RAO = remedial action objective
RESRAD = RESidual RADioactivity (dose model)

REMAINING SITES VERIFICATION PACKAGE FOR 128-K-1, 100-K BURNING PIT

STATEMENT OF PROTECTIVENESS

The 128-K-1 Burning Pit site sample results demonstrate that the site achieves the remedial action objectives (RAOs) and remedial action goals (RAGs) established in the *Remedial Design Report/Remedial Action Work Plan for the 100 Area* (RDR/RAWP) (DOE-RL 2004) and the *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units* (commonly called the Remaining Sites ROD) (EPA 1999). These results show that site soil contaminant concentrations support future unrestricted land uses that can be represented (or bounded) by a rural-residential scenario. The results also demonstrate that contaminant levels remaining in the soil are protective of groundwater and the Columbia River.

GENERAL SITE INFORMATION AND BACKGROUND

The 128-K-1 site is located within the 100-KR-2 Operable Unit in the 100-K Area of the Hanford Site (Figure 1). The site is a 0.91-m (3-ft)-deep depression in the landscape that measures 30 by 30 m (100 by 100 ft), and is located southeast of the 118-K-1 Burial Ground and northeast of the 183-KE Settling Basins. This site was active between 1955 and 1972, during which time it was reported to have received nonradioactive combustible materials such as paint waste, office waste, and chemical solvents that were likely burned. Additional waste site information is provided in Appendix A.

CONFIRMATORY SAMPLING ACTIVITIES

Planning

A walkdown of the site was performed on March 19, 2003, to inspect the site and gather information to support development of the confirmatory sampling design. A variety of debris, including some potentially hazardous debris, was noted scattered across the surface of the site. There was also evidence of past ground surface disturbance from heavy earth moving equipment.

An April 2003 geophysical survey of the site indicated magnetic anomalies that were believed to be associated with surface features and surface debris (Bergstrom and Mitchell 2003), and that scattered subsurface anomalies were of unknown nature but could be related to lithology (e.g., basalt boulders) of the site. Figure 2 is an interpretive map of the geophysical survey investigation that indicates areas of anomalies. The site boundaries (as reported in the Hanford Site Waste Information Data System) were expanded to include the anomalies and surface debris that are indicated in Figure 2.

Based on a review of the geophysical surveys and the site walkdown information, planning for confirmatory sampling of the 128-K-1 site indicated that a phased investigative approach would be appropriate. The initial phase included intrusive investigation and sampling in the areas where geophysical anomalies were identified. This decision was made because if contaminated soil or hazardous debris was found in the subsurface soil that exceeded cleanup criteria and required removal,

Figure 1. 128-K-1 Site Location Map.

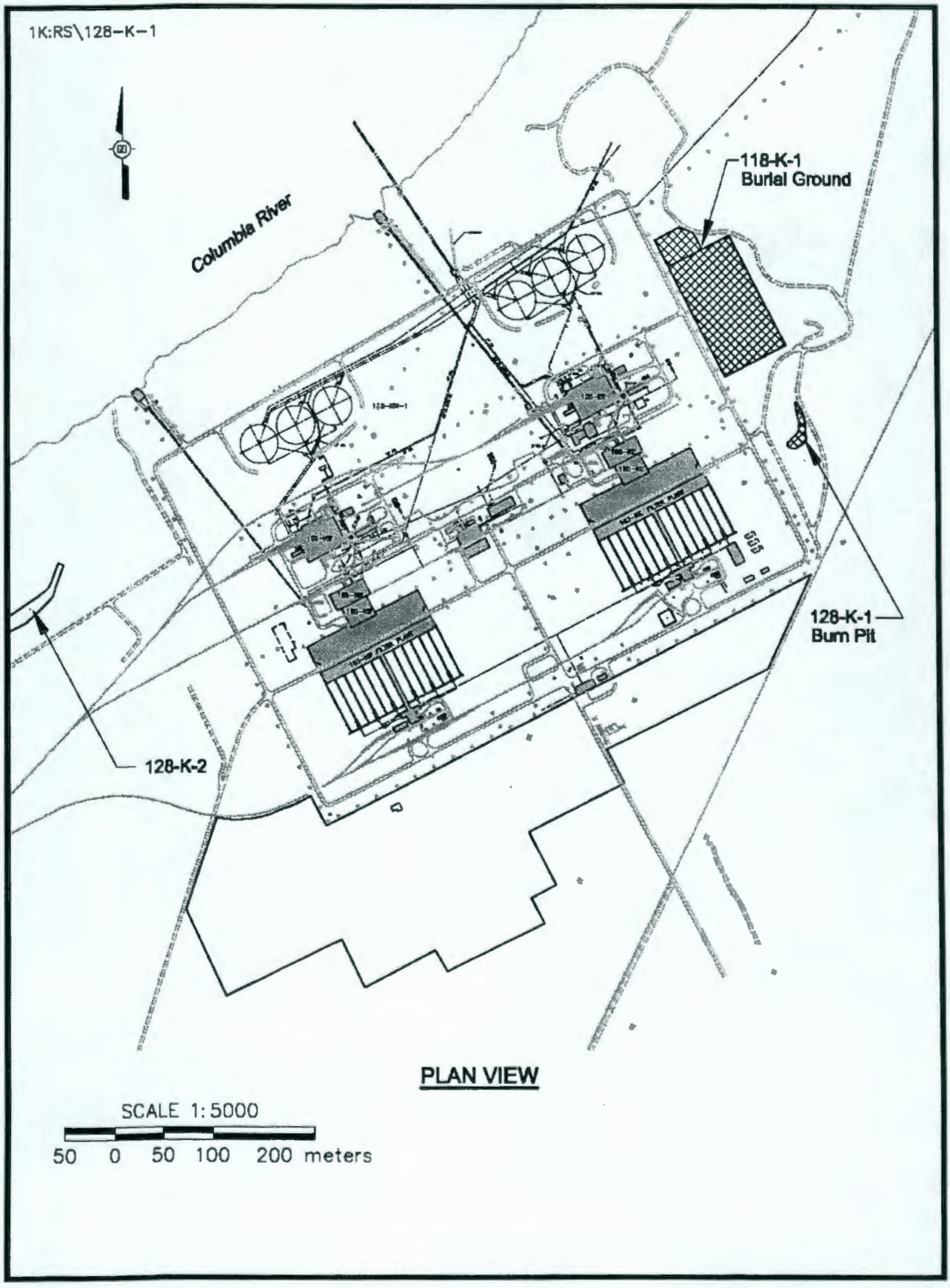
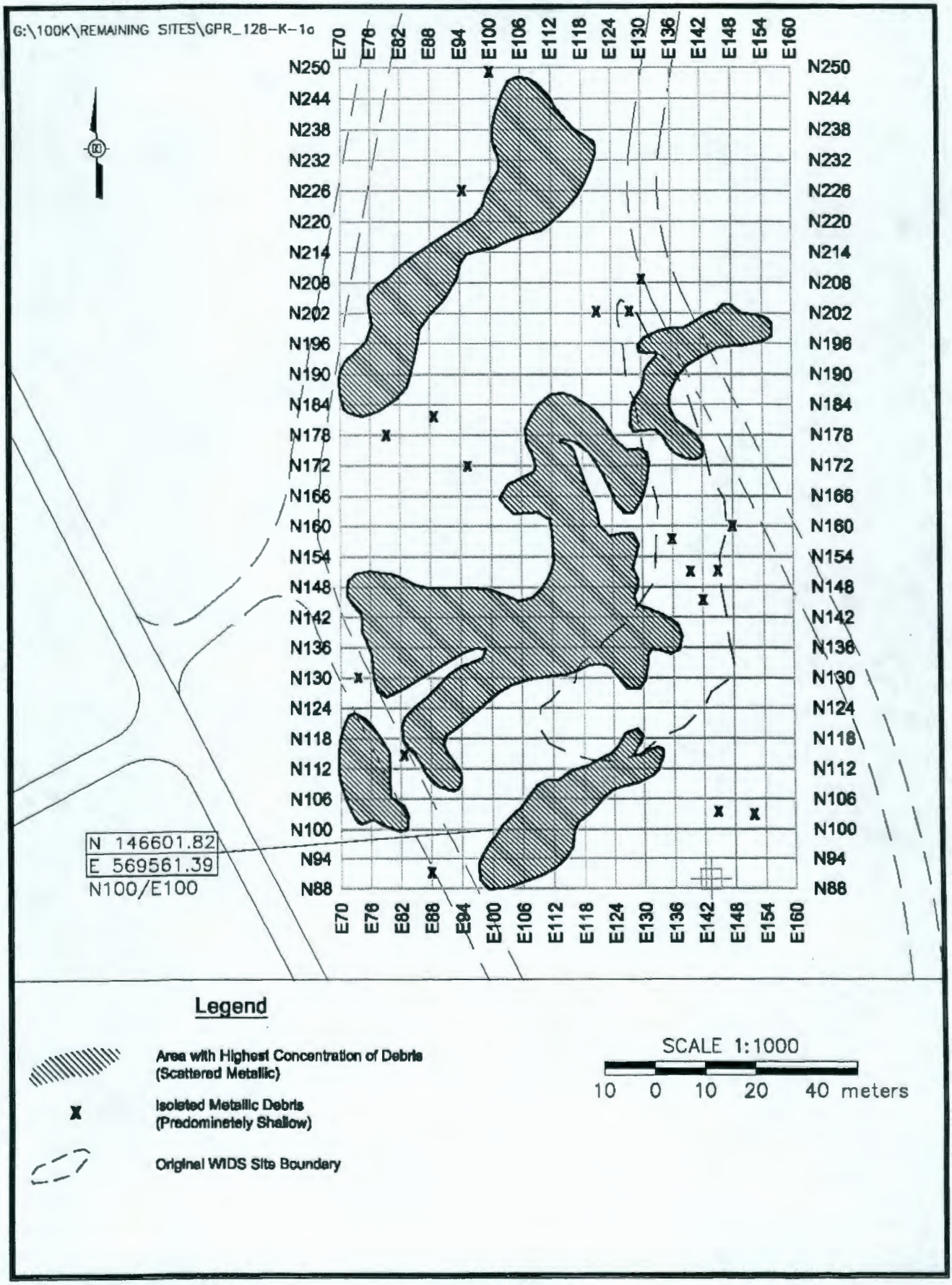


Figure 2. 128-K-1 Geophysical Survey Interpretive Summary.



then the surface debris could be identified, characterized, and removed during subsequent subsurface soil remediation. Sampling to verify the adequacy of waste removal would also be performed, as necessary.

The objectives for each phase of confirmatory sampling were as follows:

- Phase I sampling (confirmatory sampling) was performed to evaluate geophysical anomalies and determine if buried hazardous debris or contaminated soil was present. Nine trenches and one test pit were excavated and sampled to evaluate the subsurface soil at the site.

- Phase II sampling (confirmatory sampling) involved identification and evaluation of surface debris and potentially contaminated surface soil including sampling debris and soil, as necessary.

Contaminants of Potential Concern

Contaminants of potential concern (COPCs) for the 128-K-1 waste site were identified through process/historical knowledge. The COPCs included asbestos, pesticides, herbicides, polychlorinated biphenyls, total petroleum hydrocarbons, semivolatile organic compounds, inductively coupled plasma metals, and mercury. These COPCs are associated with materials that may have been disposed of and possibly burned at the site.

Historical information does not indicate radiological COPCs. The absence of radiological contamination at this site was confirmed using gamma energy analysis, gross alpha, and gross beta sample analysis for screening purposes.

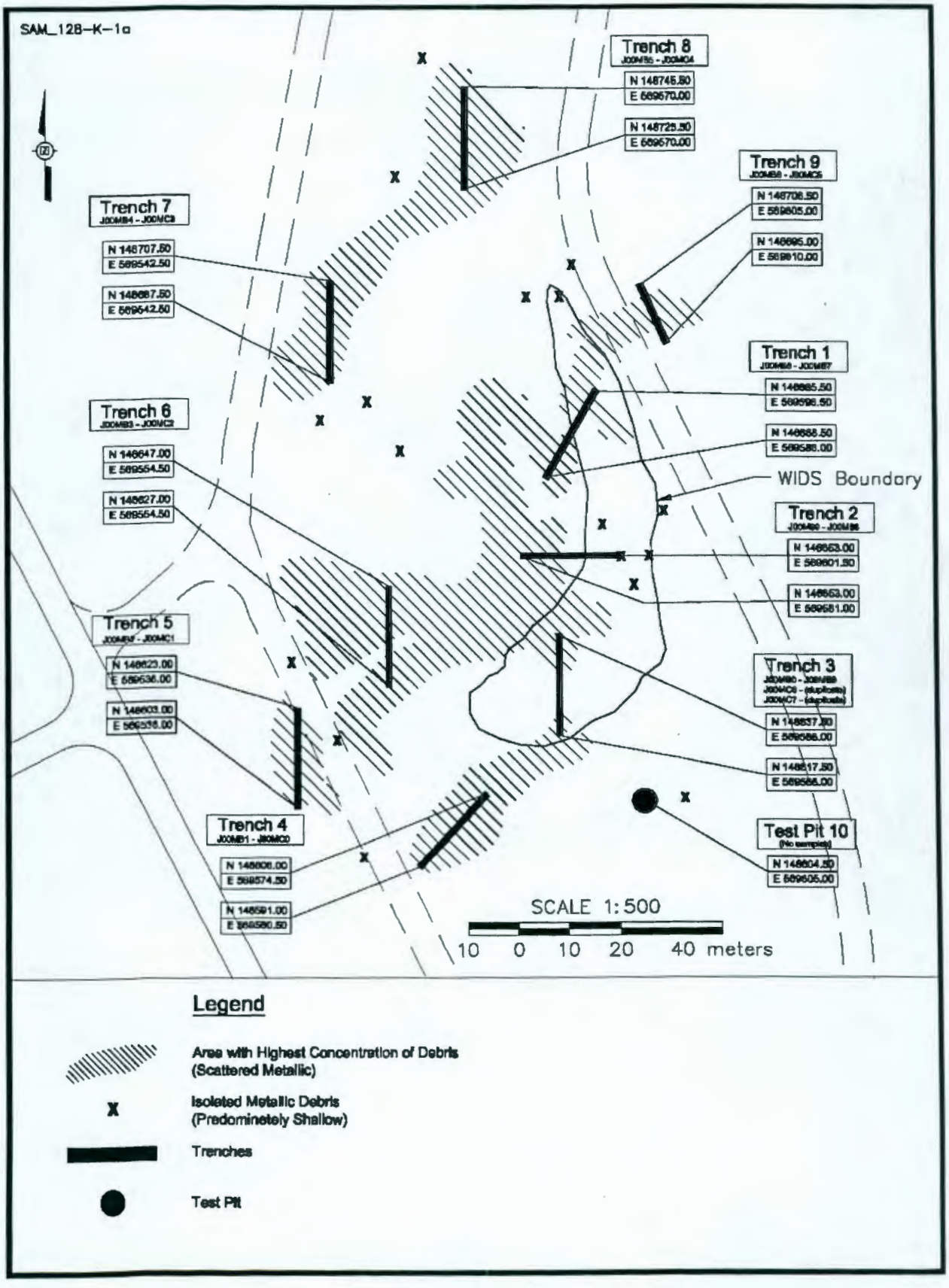
Phase I Sample Design

Phase I confirmatory sampling used a focused sampling approach biased toward sampling areas believed to be worst-case locations of potential waste disposal. The results of the geophysical surveys were used to identify anomalous areas that could potentially indicate the presence of subsurface debris or contamination associated with waste disposal or waste burning. Nine trenches and one test pit were excavated at the site with locations shown in Figure 3. The excavations proceeded through disturbed soil until native soil was encountered. Field observations were made concerning buried debris (including type and quantity) and ash (if found). For each excavation, native soil was sampled when field observations indicated the extent of the disturbed soil was reached. The sampling and analyses requirements for Phase I are described in Revision 0 of *Waste Site Evaluation for 128-K-2, 100-K Burning Pit* (BHI 2003d).

Phase I Sample Results

The test trenches and test pit were excavated from April 22, through April 25, 2003. No hazardous debris, discolored soil, or ash was observed during the excavation of the test trenches or test pit. During excavation, a hard native caliche layer was present from an approximate depth of 0.9 to 1.2 m (3 to 4 ft) in the eastern portion of the site to about 1.5 to 2.4 m (5 to 8 ft) deep in the western portion of the site. The trenches were up to 30 m (100 ft) in length, and the bottom elevation for each trench varied across the length of the trench based on the depth that native soil was encountered. One soil sample, consisting of 15 aliquots distributed across the bottom of the excavation and combined into one sample for laboratory analyses, was collected at the base of each of the nine trench excavations in the native soil.

Figure 3. Trench and Test Pit Locations at the 128-K-1 Site.



No soil samples were required at the test pit location. Table 1 provides a summary of the Phase I sampling.

The laboratory analytical results for the Phase I confirmatory samples are presented in Appendix B, Table B-1. Calculated cleanup levels are not presented in the *Cleanup Levels and Risk Calculations under the Model Toxics Control Act Cleanup Regulation* (CLARC Table) under *Washington Administrative Code* (WAC) 173-340-740(3) for aluminum, calcium, iron, magnesium, potassium, silicon, and sodium, and therefore, these analytes are not considered COPCs. The results for each of the COPCs at each of the nine trench locations were evaluated against the cleanup criteria identified in the RDR/RAWP (DOE-RL 2004) and summarized in Table 2 to determine if contamination in the subsurface soil required remediation. The only COPC exceedences for soil samples occurred in Trench #2 (where 10.8 mg/kg for lead exceeded the 10.2 mg/kg groundwater protection RAG) and Trench #7 (where 0.87 mg/kg for bis(2-ethylhexyl)phthalate exceeded the 0.6 mg/kg groundwater protection RAG and the 0.36 mg/kg river protection RAG). However, since the generic RESidual RADioactivity (RESRAD) dose model indicates that these contaminants will not impact groundwater or the river within 1,000 years (DOE-RL 2004), the data for these trenches and the remainder of the Phase I sampling data support the decision that no remediation of subsurface soil at the 128-K-1 site is necessary.

There were no radionuclide COPCs identified for this site. Samples analyzed for gamma energy analysis, gross alpha, and gross beta confirmed the absence of radionuclides. This data is provided in Table B-1.

Phase II Sample Design

The Phase I sampling results indicated that the subsurface soil associated with the geophysical anomalous areas meet the cleanup criteria summarized in Table 2. Therefore, the confirmatory field investigation continued with planning for Phase II sampling to evaluate the surface debris and a surface soil area that indicated burning of debris. In order to finalize the sampling design for Phase II, a second walkdown was performed with the lead regulatory agency (U.S. Environmental Protection Agency [EPA]), the U.S. Department of Energy, Richland Operations Office, and the project team on May 14, 2003 (BHI 2002). During the walkdown, eight locations were identified that required removal of surface debris and one location was identified as a burn site that required further evaluation. Figure 4 provides a map of these nine locations. In addition, some of the debris required sampling to support preparation of a waste profile for disposal of the debris at the Environmental Restoration Disposal Facility (ERDF). The *Data Quality Objectives Summary Report for Waste Disposition of Noncomplicated Wastes from the Confirmatory Sites* (BHI 2003a) describes the sampling and analytical requirements for waste characterization required to properly dispose of the removed debris and contaminated material at the ERDF.

Two areas (P16 and G27) required soil sampling after removal of the debris. This sampling was performed by collecting 15 soil aliquots distributed over the surface of the removal area and combining them into one sample from each area for laboratory analyses. A description of the debris removal activities for each of the locations and the associated Phase II sampling and analyses requirements are described in Revision 1 of *Waste Site Evaluation for 128-K-1, 100-K Burning Pit* (BHI 2003e). Table 3 provides a summary of the debris and soil sampling and the associated laboratory analyses that were performed as part of the Phase II sampling effort described in BHI (2003e) and agreed to by the EPA.

Table 1. Phase I Sample Summary Table.[a]

Sample Designation	Sample Media	HEIS Sample Number	Sample Location and Depth	Date	Sample Analysis
T1	Soil	J00M98	Trench #1 1.2 to 2.1 m (4 to 7 ft)	4/22/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCB, pesticides, and SVOA
		J00MB7			Asbestos
T2	Soil	J00M99	Trench #2 1.5 to 2.1 m (5 to 7 ft)	4/22/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCB, pesticides, and SVOA
		J00MB8			Asbestos
T3	Soil	J00MB0	Trench #3 1.5 to 2.4 m (5 to 8 ft)	4/24/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCBs, pesticides, and SVOA
		J00MB9			Asbestos
T4	Soil	J00MB1	Trench #4 0.9 to 1.2 m (3 to 4 ft)	4/24/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCB, pesticides, and SVOA
		J00MC0			Asbestos
T5	Soil	J00MB2	Trench #5 1.5 m (5 ft)	4/24/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCB, pesticides, and SVOA
		J00MC1			Asbestos
T6	Soil	J00MB3	Trench #6 1.8 to 2.4 m (6 to 8 ft)	4/24/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCB, pesticides, and SVOA
		J00MC2			Asbestos
T7	Soil	J00MB4	Trench #7 1.5 to 2.1 m (5 to 7 ft)	4/25/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCB, pesticides, and SVOA
		J00MC3			Asbestos
T8	Soil	J00MB5	Trench #8 0.6 to 0.9 m (2 to 3 ft)	4/25/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCB, pesticides, and SVOA
		J00MC4			Asbestos
T9	Soil	J00MB6	Trench #9 0.9 m (3 ft)	4/25/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCB, pesticides, and SVOA
		J00MC5			Asbestos
Duplicate of J00MB0	Soil	J00MC6	Trench #3 1.5 to 2.4 m (5 to 8 ft)	4/24/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, hexavalent chromium, TPH, PCB, pesticides, and SVOA
Duplicate of J00MB9		J00MC7			Asbestos
Equipment blank for J00MB0	Silica sand	J00MC8	N/A	4/24/03	GEA, gross alpha[b], gross beta[c], ICP metals, mercury, and SVOA

[a] Logbook EL-1577 (BHI 2003b).
[b] If gross alpha was detected above background, then GEA data was evaluated to determine if further alpha-specific analysis was needed.
[c] If gross beta was detected above background, then strontium analysis was performed.
GEA = gamma energy analysis
HEIS = Hanford Environmental Information System
ICP = inductively coupled plasma
N/A = not applicable
PCB = polychlorinated biphenyl
SVOA = semivolatile organic analysis
TPH = total petroleum hydrocarbon

Table 2. Summary of Remedial Action Goals.

COPC/COC	Remedial Action Goals (mg/kg)		
	Direct Exposure	Groundwater Protection	River Protection
Arsenic	20[a]	20[a]	20[a]
Barium	5,600	132[b]	--
Cadmium[c]	13.9	0.81[b]	0.81[b]
Chromium, total	120,000	18.5[b]	18.5[b]
Chromium VI[d]	240[e] 2.1[f]	4.8	2
Lead	353[g]	10.2[b]	10.2[b]
Mercury	24	0.33[b]	0.33[b]
Selenium	400	5	1
TPH	--	200	200
Phenanthrene	24,000	240	1,920
Benzo(a)anthracene	1.37	0.33[h]	0.33[h]
Benzo(a)pyrene	0.33[h]	0.33[h]	0.33[h]
Carbazole	50	0.437	--
Chrysene	137	1.2	0.33[h]
Benzo(k)fluoranthene	13.7	0.33[h]	0.33[h]
Fluoranthene	3,200	64	18
Benzo(b)fluoranthene	1.37	0.33[h]	0.33[h]
Indeno(1,2,3-cd)pyrene	1.37	0.33[h]	0.33[h]
Benzo(ghi)perylene[i]	2,400	48	192
Pyrene	2,400	48	192
Bis(2-ethylhexyl)phthalate	71.4	0.6	0.36
Dibenz(a,h)anthracene	0.33[h]	0.33[h]	0.33[h]
Anthracene	24,000	240	1,920

[a]The cleanup value of 20 mg/kg has been agreed to by Tri-Party project managers.
[b]Where cleanup levels are less than background, cleanup levels default to background (WAC 173-340-700[4][d]).
[c]Hanford Site-specific background is not available; background value is from Ecology (1994).
[d]There is no Washington State or Hanford Site background value.
[e]Noncarcinogenic cleanup limit from WAC 173-340-740(3).
[f]Carcinogenic cleanup limit per WAC 173-340-750(3) Method B; based on BHI (2000a).
[g]WAC 173-340-740(3) value for lead is not available. The cleanup value was calculated using *Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children* (EPA 1994).
[h]Where cleanup levels are less than the required detection limits (RDLs), cleanup levels default to RDLs (WAC 173-340-707[2]).
[i]Toxicity data for this chemical are not available; cleanup levels are based on pyrene.
-- = not applicable
COC = contaminant of concern
WAC = *Washington Administrative Code*

Figure 4. Locations of Surface Debris at the 128-K-1 Site.

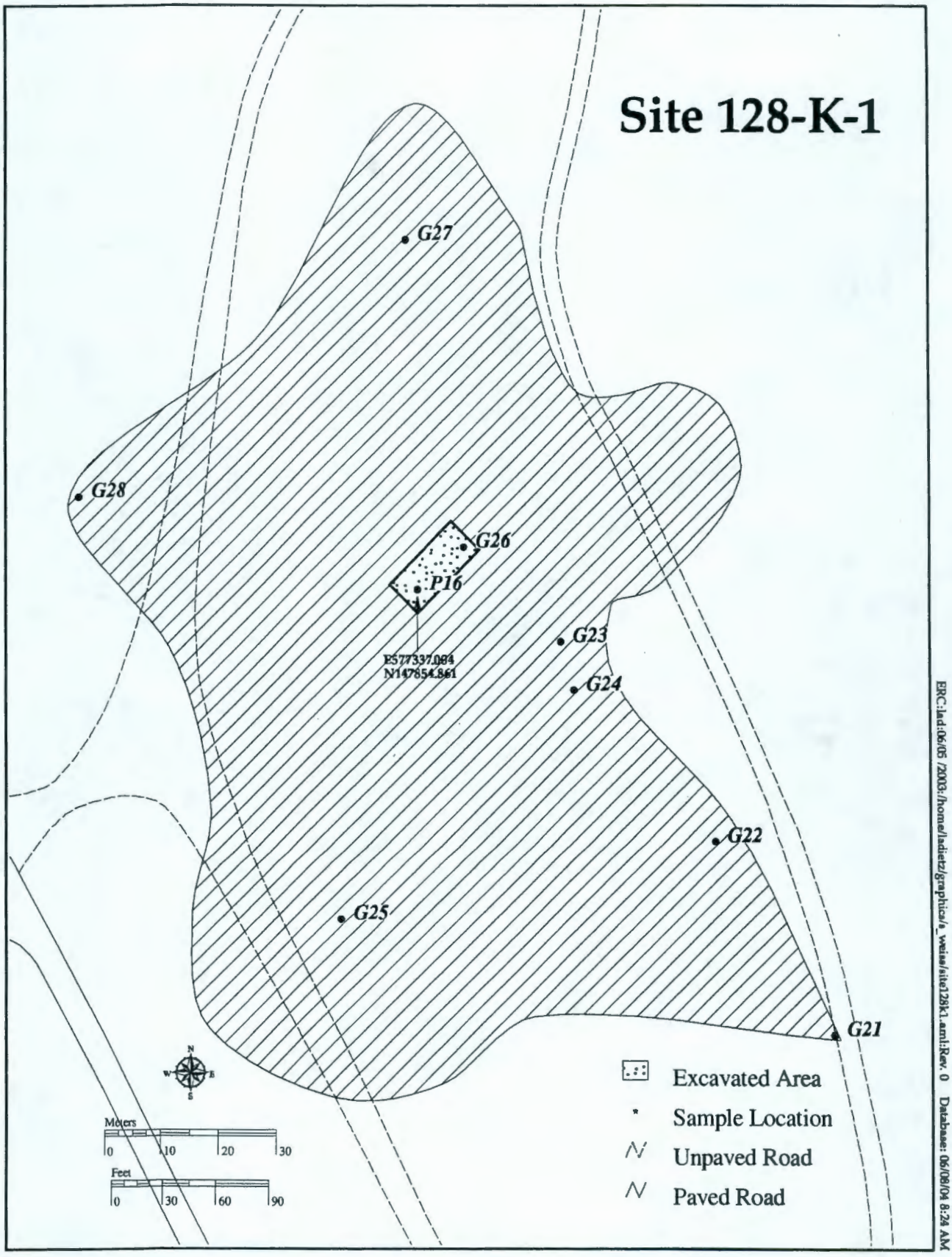


Table 3. Phase II Confirmatory Sample Summary Table.[a]

Sample Designation	Sample Media	HEIS Sample Number	Sample Location and Depth	Date	Sample Analysis
P16	Black plastic	J00P76	P16 Surface	5/22/03	ICP metals, mercury, PCB, pesticides, herbicides, SVOA, sulfide, and cyanide
P16	Soil	J00P77	P16 7.6 cm (3 in.)	5/23/03	ICP metals, mercury, PCB, pesticides, herbicides, TPH, SVOA, sulfide, and cyanide
Duplicate of J00P77	Soil	J00P78	P16 7.6 cm (3 in.)	5/23/03	ICP metals, mercury, PCB, pesticides, herbicides, TPH, SVOA, sulfide, and cyanide
Equipment blank of J00P77	Silica sand	J00P79	N/A	5/23/03	ICP metals, mercury, and SVOA
G25	Electrical cable	J00P80	Surface	5/22/03	ICP metals, mercury, PCB, and SVOA
G27	Rubber hose	J00P81	Surface	5/22/03	ICP metals, mercury, PCB, and SVOA
G27	Battery	J00P82	Surface	5/22/03	ICP metals, mercury, PCB, SVOA, and pH
G27	Battery	J00P86	Surface	5/22/03	ICP metals, mercury, PCB, SVOA, and pH
G27	Soil	J00P75	Surface	5/23/03	Asbestos

[a] Logbook EL-1577 (BHI 2003b).

Phase II Sample Results and Summary of Debris Removal

The Phase II sampling effort consisted of focused sampling to characterize debris (if necessary) for disposal at ERDF and limited focused surface soil sampling to determine if the soil was contaminated. This section provides a summary of the debris removal activities and the sampling that was performed. The following activities were performed at each of the nine locations:

- G21 – A small pile of transite (suspected to contain asbestos) was removed and disposed of at ERDF. Visual observations were used to verify adequacy of transite removal and no soil sampling was required.

- G22 – A small battery and some transite (suspected to contain asbestos) were removed. The battery was recycled and the transite was disposed of at ERDF. Visual observations were used to verify adequacy of transite removal and no soil sampling was required.

- G23 – Transite (suspected to contain asbestos) and small empty metal cans were removed and disposed of at ERDF. Visual observations were used to verify adequacy of transite removal and no soil sampling was required.

- G24 – Transite (suspected to contain asbestos) was removed and disposed of at ERDF. Visual observations were used to verify adequacy of transite removal and no soil sampling was required.

- G25 – Some metal debris and electrical cable were removed and disposed of at the ERDF. The electrical cable was sampled to support waste characterization and disposal. No soil sampling was required.

- G26 – Glass, rubber boots, and wood were removed at this location. No soil sampling was required.

- G27 – A large battery, small battery, asbestos pipe wrap, transite (suspected to contain asbestos), metal debris, and rubber material were removed at this location. The two batteries were sampled to support waste characterization and disposal. After the debris was removed, one soil sample for asbestos analysis was collected to verify the adequacy of asbestos removal.

- G28 – A light bulb, transite (suspected to contain asbestos), and metal debris were removed. Visual observations were used to verify the adequacy of debris removal and no soil sampling was required.

- P16 – This surface location was suspected to have been a burn site with cinders that were later determined to be decomposed black, brittle plastic and asphalt debris. One sample of black plastic and one sample of the underlying surface soil were collected. The results of these two samples indicated remediation was necessary at this location due to the presence of semivolatile organic constituents that exceeded the cleanup criteria.

The results of the Phase II sampling are reported in Revision 2 of *Waste Site Evaluation for 128-K-1, 100-K Burning Pit* (BHI 2003f), with a minor correction concerning the sample media description made in Revision 3 of the waste site evaluation (BHI 2003g). The results are also provided in Appendix B, Table B-2. The Phase II laboratory results indicated that remediation of the soil at location P16 was necessary due to the presence of semivolatile organic contaminants that exceeded the cleanup criteria. The soil sample collected at the G27 location for asbestos analysis did not indicate the presence of asbestos contamination that would present a risk to human health or the environment, and no remediation beyond removal of the surface debris was required. Table 3 provides a summary of the Phase II sampling.

REMEDIAL ACTION SUMMARY

Debris identified during the May 14, 2003, walkdown was removed and disposed of at the ERDF during Phase II confirmatory sampling. As previously stated, the Phase I confirmatory sampling results indicated that no remediation of the subsurface soil was required. However, based on the results of the Phase II confirmatory soil sampling (Table B-2), selective remediation of the 128-K-1 site at the P16 location was necessary due to the presence of benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, bis(2-ethylhexyl)phthalate, carbazole, chrysene, dibenz[a,h]anthracene, and indeo(1,2,3-cd)pyrene, which exceeded the cleanup criteria.

The remediation at the P16 location was performed during December 2003 by removing contaminated soil from an approximate 7- by 15-m (23- by 49-ft) area to a depth of approximately 0.5 m (1.6 ft) based on field observations of discolored soil (see Figure 4). A total of 161 tons of contaminated soil from this location was disposed of at the ERDF.

VERIFICATION SAMPLING ACTIVITIES

The Phase I confirmatory sampling results (Table B-1) demonstrated that the subsurface soil at each of the trench locations meet the site cleanup criteria. After remedial action was performed at the P16 location, sampling was performed to verify the adequacy of the cleanup. Since P16 was the only location that required remediation, other than Phase II debris removal, it was the only location that required verification sampling.

Contaminants of Concern

The contaminants of concern (COCs) for the remediation of the P16 location were identified based on the results of the Phase II confirmatory sampling effort. The COCs included benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, bis(2-ethylhexyl)phthalate, carbazole, chrysene, dibenz[a,h]anthracene, and indeo(1,2,3-cd)pyrene.

Verification Sample Design

Following remediation, a focused sampling approach was used to verify that the P16 location meets the RAGs as specified in the RDR/RAWP (DOE-RL 2004) and summarized in Table 2. The verification sampling performed on December 8, 2003, consisted of collecting 15 aliquots distributed over the surface of the remediated soil area and combining them into one sample (J015N7) for laboratory analysis (BHI 2003c). The soil sample consisted of the native soil at the bottom of the excavated area that represented a soil horizon about 0.5 m (1.6 ft) below the ground surface. The sample was submitted to the laboratory for semivolatile organic analyses (SVOA). Sampling and analytical requirements for this verification sampling were specified in BHI (2003f).

Verification Sample Results

The sample was analyzed by offsite contract laboratories using EPA-approved analytical methods. The sample results are stored in the Environmental Restoration (ENRE) Project-Specific Database prior to archiving in the Hanford Environmental Information System (HEIS) and are summarized in Table B-3 (Appendix B).

In accordance with the focused sampling approach and WAC 173-340-740(7)(d)(iii), a direct comparison of the verification sample results with the RAGs is an acceptable method to evaluate compliance with cleanup objectives for the 128-K-1 site. Table 4 compares the maximum detected results for COPCs for the confirmatory sampling and the verification sampling for the 128-K-1 site, with cleanup levels identified in the RDR/RAWP (DOE-RL 2004).

For the P16 soil data evaluation, the maximum detected results for all COCs are less than the applicable RAGs.

Nonradionuclide risk requirements include an individual hazard quotient of less than 1.0, a cumulative hazard quotient of less than 1.0, an individual contaminant carcinogenic risk of less than 1×10^{-6}, and a cumulative carcinogenic risk of less than 1×10^{-5}. For the 128-K-1 site, these risk values were not calculated for constituents that were either not detected or were detected at concentrations below Hanford Site or Washington State background. All individual hazard quotients for noncarcinogenic

Table 4. Comparison of Maximum Values to Action Levels (128-K-1 Burn Pit). (2 Pages)

COPC/COC	Maximum Result (mg/kg)		Remedial Action Goals (mg/kg)			Does the Maximum Result Exceed RAGs?		Does RESRAD Indicate the Maximum Result is Protective?
	Confirmatory Soil	Verification Soil	Direct Exposure	Groundwater Protection	River Protection	Confirmatory Soil	Verification Soil	
Nonradionuclides (mg/kg)								
Arsenic	3.7 (<BG)	--	20[a]	20[a]	20[a]	No	--	--
Barium	71.5 (<BG)	--	5,600	132[b]	--	No	--	--
Cadmium[c]	0.35 (<BG)	--	13.9	0.81[b]	0.81[b]	No	--	--
Chromium, total	13.5 (<BG)	--	120,000	18.5[b]	18.5[b]	No	--	--
Chromium VI[d]	0.48	--	240[e] 2.1[f]	4.8	2	No	--	--
Lead	10.8	--	353[g]	10.2[b]	10.2[b]	Yes	--	Yes[h]
Mercury	0.03 (<BG)	--	24	0.33[b]	0.33[b]	No	--	--
Selenium	0.8	--	400	5	1	No	--	--
TPH	14.4	--	--	200	200	No	--	--
Phenanthrene	2.7	0.046	24,000	240	1,920	No	No	--
Benzo(a)anthracene	8.3[i]	0.1	1.37	0.33[j]	0.33[j]	Yes	No	--
Benzo(a)pyrene	2.9[i]	0.051	0.33[j]	0.33[j]	0.33[j]	Yes	No	--
Carbazole	0.82[i]	U	50	0.437	--	Yes	No	--
Chrysene	11[i]	0.15	137	1.2	0.33[j]	Yes	No	--
Benzo(k)fluoranthene	4.1[i]	0.078	13.7	0.33[j]	0.33[j]	Yes	No	--
Fluoranthene	11	0.22	3,200	64	18	No	No	--
Benzo(b)fluoranthene	6.1[i]	0.075	1.37	0.33[j]	0.33[j]	Yes	No	--
Indeno(1,2,3-cd)pyrene	1.9[i]	0.029	1.37	0.33[j]	0.33[j]	Yes	No	--
Benzo(ghi)perylene[k]	1.7	0.033	2,400	48	192	No	No	--
Pyrene	11[i]	0.153	2,400	48	192	No	No	--
Bis(2-ethylhexyl) phthalate	0.87/1.7[l]	0.069	71.4	0.6	0.36	Yes	No	--

Table 4. Comparison of Maximum Values to Action Levels (128-K-1 Burn Pit). (2 Pages)

COPC/COC	Maximum Result (mg/kg)		Remedial Action Goals (mg/kg)			Does the Maximum Result Exceed RAGs?		Does RESRAD Indicate the Maximum Result is Protective?
	Confirmatory Soil	Verification Soil	Direct Exposure	Groundwater Protection	River Protection	Confirmatory Soil	Verification Soil	
Dibenz(a,h)anthracene	1.2[i]	U	0.33[j]	0.33[j]	0.33[j]	Yes	No	--
Anthracene	0.67	U	24,000	240	1,920	No	No	--

[a]The cleanup value of 20 mg/kg has been agreed to by Tri-Party project managers.
[b]Where cleanup levels are less than background, cleanup levels default to background (WAC 173-340-700[4][d]).
[c]Hanford Site-specific background is not available; background value is from Ecology (1994).
[d]There is no Washington State or Hanford Site background value.
[e]Noncarcinogenic cleanup limit from WAC 173-340-740(3).
[f]Carcinogenic cleanup limit per WAC 173-340-750(3) Method B; based on BHI (2000a).
[g]WAC 173-340-740(3) value for lead is not available. The cleanup value was calculated using *Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children* (EPA 1994).
[h]The generic RESRAD model indicates that the contaminant will not impact groundwater or the river within 1,000 years (DOE-RL 2004).
[i]These concentrations are from location P16 prior to remediation. Concentrations of these contaminants from all other 128-K-1 areas are below the applicable cleanup criteria.
[j]Where cleanup levels are less than the required detection limits (RDLs), cleanup levels default to RDLs (WAC 173-340-707[2]).
[k]Toxicity data for this chemical are not available; cleanup levels are based on pyrene.
[l]The Phase I confirmatory sampling result at trench #7 was 0.87 mg/kg, exceeding the RAGs for protection of groundwater and the river, however, the generic RESRAD model indicates that the contaminant will not impact groundwater or the river within 1,000 years (DOE-RL 2004). The Phase II confirmatory sampling result at the P16 location was 1.7 mg/kg, exceeding the RAGs for protection of groundwater and the river, and soil remediation was performed with subsequent verification sampling.

-- = not applicable
BG = background
U = undetected

constituents were less than 1.0 (phenanthrene: 1.9×10^{-6}, benzo(ghi)perylene: 1.4×10^{-5}, bis(2-ethylhexyl) phthalate: 9.7×10^{-4}, fluoranthene: 6.9×10^{-5}, and pyrene: 6.4×10^{-5}). The cumulative hazard quotient for these noncarcinogenic constituents above background or detection levels is 1.1×10^{-3}, which is less than 1.0. The carcinogenic risk values for individual carcinogenic constituents above background or detection levels are all below 1×10^{-6} as follows:

- Benzo(a)anthracene: 7.3×10^{-8}
- Benzo(a)pyrene: 3.7×10^{-7}
- Chrysene: 1.1×10^{-9}
- Benzo(k)fluoranthene: 5.7×10^{-9}
- Benzo(b)fluoranthene: 5.5×10^{-8}
- Indeno(1,2,3-cd)pyrene: 2.1×10^{-8}
- Bis(2-ethylhexyl) phthalate: 9.7×10^{-10}.

The cumulative carcinogenic risk value for these constituents is 5.3×10^{-7}, which is below 1×10^{-5}.

A focused sampling approach was selected for this site; therefore, the WAC 173-340-740(7)(e), which is a requirement for statistically-based soil cleanup assessments, is not applicable.

DATA QUALITY ASSESSMENT FOR CONFIRMATORY AND VERIFICATION SAMPLING

A data quality assessment (DQA) was performed to compare the confirmatory and verification sampling approach and resulting analytical data with the sampling and data requirements specified by the project objectives and performance specifications. The review involves evaluation of the data to determine if they are of the right type, quality, and quantity to support project decisions (i.e., interim closeout decisions [EPA 2000]). The assessment review completes the data life cycle (i.e., planning, implementation, and assessment) that was initiated by the data quality objectives process. This DQA review was performed in accordance with BHI-EE-01, *Environmental Investigations Procedures*. Specific data quality objectives for the site are found in the *Sampling and Analysis Plan for the 100 Area Remaining Sites* (SAP) (DOE-RL 2000).

The review of the logbooks (BHI 2003b, 2003c) against the sample design showed that the samples were collected according to the sample design and submitted to the laboratory for the required analyses. The verification sample collected at the P16 location was submitted just for SVOA because the results of the confirmatory sampling only indicated SVOA contamination.

The data quality requirements in the SAP (DOE-RL 2000) are used for assessing data from statistical sampling and do not specifically apply to the data sets resulting from the focused sampling performed for 128-K-1 site. However, to ensure quality data sets, the SAP data assurance requirements as well as the *Data Validation Procedures for Chemical Analysis* (BHI 2000b) are followed, where appropriate.

Data validation was performed and is reported in BHI (2004). All analytical data for the 128-K-1 site were found acceptable for decision-making purposes. There were some minor discrepancies with matrix spikes, practical quantitation limits, and relative percent differences. All discrepancies were within tolerance levels; therefore, all data sets for the 128-K-1 site were determined to be acceptable.

The DQA review for the 128-K-1 site concludes that the data are of the right type, quality, and quantity to support the intended use. The DQA review found the results to be accurate within the standard errors associated with the methods, including sampling and sample handling. The nondetect results have detection limits below established project specifications.

SUMMARY FOR INTERIM CLOSURE

A phased sampling approach was implemented at the 128-K-1 waste site based on geophysical surveys and site walkdowns. Confirmatory sampling was conducted during April and May 2003. The analytical laboratory results for the soil achieved compliance with the RAOs. However, the analytical laboratory results for P16 sublocation failed SVOA RAGs and required contaminated soil removal. A remedial action was implemented during December 2003, removing the contaminated soil from the site. Verification sampling was conducted December 8, 2003. The SVOA analytical verification sample results met the RAGs.

In accordance with this evaluation, the sampling results support a reclassification of the 128-K-1 waste site to interim closed out. The maximum detected results from soil samples collected at locations suspected of having the greatest potential for contamination were shown to meet the RAOs for direct exposure, groundwater protection, and river protection.

REFERENCES

40 CFR 141, "National Primary Drinking Water Regulations," *Code of Federal Regulations,* as amended.

Bergstrom, K. A. and T. H. Mitchell, 2003, "Results of Geophysical Investigation at Remaining Sites," Memorandum to R. A. Carlson, CCN 108137, dated June 25, 2003, Bechtel Hanford, Inc., Richland, Washington.

BHI-EE-01, *Environmental Investigations Procedures*, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2000a, *Calculation of Hexavalent Chromium Carcinogenic Risk*, Calculation No. 0100X-CA-V0031, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2000b, *Data Validation Procedure for Chemical Analysis*, BHI-01435, Rev. 0, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2001, *Calculation of Total Uranium Activity Corresponding to a Maximum Contaminant Level for Total Uranium of 30 Micrograms per Liter in Groundwater*, Calculation No. 0100X-CA-V0038, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2002, "100-K Remedial Sampling," Logbook EL-1572, p. 49, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2003a, *Data Quality Objectives Summary Report for Waste Disposition of Noncomplicated Wastes from the Confirmatory Sites*, BHI-01689, Rev. 3, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2003b, "Remaining Sites Field Sampling," Logbook EL-1577, pp. 52-64, 94, 95, 98, 99, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2003c, "Remaining Sites Field Sampling," Logbook EL-1578-1, p. 60, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2003d, *Waste Site Evaluation for 128-K-1, 100-K Burning Pit*, Calculation No. 0100K-CA-V0015, Rev. 0, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2003e, *Waste Site Evaluation for 128-K-1, 100-K Burning Pit*, Calculation No. 0100K-CA-V0015, Rev. 1, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2003f, *Waste Site Evaluation for 128-K-1, 100-K Burning Pit*, Calculation No. 0100K-CA-V0015, Rev. 2, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2003g, *Waste Site Evaluation for 128-K-1, 100-K Burning Pit*, Calculation No. 0100K-CA-V0015, Rev. 3, Bechtel Hanford, Inc., Richland, Washington.

BHI, 2004, *Final Validation Package, SAF-B03-015, 128-K-1,* Bechtel Hanford, Inc., Richland, Washington.

DOE Order 5400.5, *Radiation Protection of the Public and the Environment*, as amended, U.S. Department of Energy, Washington, D.C.

DOE-RL, 1998, *Tri-Party Agreement Handbook Management Procedures,* RL-TPA-90-0001, Guideline Number TPA-MP-14, "Maintenance of the Waste Information Data System (WIDS)," U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE-RL, 2000, *Sampling and Analysis Plan for the 100 Area Remaining Sites*, DOE/RL-99-58, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE-RL, 2004, *Remedial Design Report/Remedial Action Work Plan for the 100 Area*, DOE/RL-96-17, Rev. 5, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Ecology, 1994, *National Background Soil Metals Concentrations in Washington State,* Publication No. 94-115, Washington State Department of Ecology, Olympia, Washington.

EPA, 1994, *Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children*, EPA/540/R-93/081, Publication No. 9285.7-15-1, U.S. Environmental Protection Agency, Washington, D.C.

EPA, 1999, *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington.

EPA, 2000, *Explanation of Significant Difference for the 100 Area Remaining Sites ROD*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington.

WAC 173-340, "Model Toxics Control Act--Cleanup," *Washington Administrative Code*, 1996.

APPENDIX A

WASTE INFORMATION DATA SYSTEM GENERAL SUMMARY REPORT (3 Pages)

Waste Information Data System
General Summary Report

05/19/2004

Site Code: 128-K-1 **Site Classification: Accepted** **Page 1**

Site Names: 128-K-1, 100-K Burning Pit
Site Type: Burn Pit
Status: Inactive
Operable Unit: 100-KR-2
Hanford Area: 100K

Start Date: 1955
End Date: 1971
Coordinates:
(E) 569604.375
(N) 146591.641
Washington State Plane

Site Description: The site is a slight depression, about 0.91 meters (three feet) below the surrounding grade, with pieces of debris (mostly concrete and metal) showing at the surface.

The site has been backfilled to the surrounding grade with clean fill material. A field visit on March 19, 2003 verified that the location has been covered over with soil by heavy equipment. As of March 19, 2003, the site is slowly revegetating with cheatgrass and rabbitbrush, but much of the ground is covered by small cobbles and is poor for vegetation growth.

Location Description: The site is located outside of the perimeter fence, southeast of the 100-K Burial Ground (118-K-1) and northeast of the 183-KE Settling Basins.

Process Description: This site was used for the disposal of nonradioactive combustible materials such as paint waste, office waste, and chemical solvents.

Site Comment: A July 12, 1965 aerial photo of the 100-K area shows a disturbed area, about 30.48 meters by 30.48 meters (100 feet by 100 feet), very close to the location provided by Stenner and as mapped by GIS. (See the attached aerial photo.) While there is no evidence of burning in the aerial photo, it is possible that the blackened material was covered over periodically to prevent the wind from blowing the material around. In addition, enough of the area surrounding 100-K is visible in the entire, uncropped aerial photo to verify that there is no other obvious burning area in this vicinity, in case this site had been mismapped.

Cleanup Activities: Ground Penetrating Radar scans were done in March 2003. Nine trenches and a test pit were dug to assess the subsurface of the area. An ash layer was discovered during the exploratory trenching activity. Debris, ash and soil samples were collected in April 2003 to characterize the site. Results of one soil sample obtained from below the surface of the burn site was above action levels for semi volatile organic compounds.

References:
1. R. D. Stenner, K. H. Cramer, D. A. Lamar, 10/88 Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford, PNL-6456 Vol 1,2,3.
2. Carpenter, RW and SL Cote, 1994 100-K Area Technical Baseline Report, WHC-SD-EN-TI-239, Rev 0.
3. A. D. Krug, WIDS Site Modification: Consolidate OUs 100-KR-2 and 100-KR-3 (#94-421).
4. Stephen G. Weiss, 3/30/03 E-mail describing the site on March 19, 2003 and requesting site fields be filled out.
5. SG Weiss, 6/26/03 Waste Site Evaluation for 128-K-1, 100-K Burning Pit, 0100K-CA-V0015, Rev 3.

Waste Information:

Type: Misc. Trash and Debris
Category: Hazardous/Dangerous
Physical State: Solid
Description: The site was used for the disposal of nonradioactive, combustible materials, such as paint waste, office waste, and chemical solvents.
References: 1. R. D. Stenner, K. H. Cramer, D. A. Lamar, 10/88 Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford, PNL-6456 Vol 1,2,3.

Site Code: 128-K-1 **Site Classification: Accepted** **Page 2**

Dimensions:

Length:	30.48	Meters	100.00	Feet
Width:	30.48	Meters	100.00	Feet
Depth/Height:	3.05	Meters	10.00	Feet

References: 1. R. D. Stenner, K. H. Cramer, D. A. Lamar, 10/88 Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford, PNL-6456 Vol 1,2,3.

Field Work:

Type: Site Walkdown
BeginDate: 03/19/2003 **FieldCrew:** Stephen Weiss
End Date: 03/19/2003
Purpose: Verification
Comment: During the site walkdown photos were taken to verify the location of the waste site, and show that material has been covered over with soil by heavy equipment.
References: 1. Stephen G. Weiss, 3/30/03 E-mail describing the site on March 19, 2003 and requesting site fields be filled out.

Type: Geophysical Survey
BeginDate: 03/01/2003 **FieldCrew:** Bergstrom, Mitchell
End Date: 03/01/2003
Purpose: Investigation
Comment: Scattered pockets of magnetic anomalies were detected. Many of the anomalies correlate with surface debris. Some of the magnetic anomalies could be associated with basalt boulders.
References: 1. Tom Mitchell, Kevin Berstrom, 3/29/03 Geophysical Site Investigation Forms for March 2003.

Type: Analytical Sampling
BeginDate: 04/22/2003 **FieldCrew:** ERC Team
End Date: 05/23/2003 **Data Repository:** HEIS
Purpose: Confirmatory Sampling
Comment: Soil, ash and debris samples were collected. Sample numbers J00M98, J00M99, J00MB0 through J00MB9, J00MC0 through J00MC8, J00P75 through J00P86 were collected and analyzed for semi-volatile organics, pesticides, PCB's, ICP metals, hexavalent chrome, TPH, GEA, gross alpha, gross beta and asbestos.
References: 1. SG Weiss, 6/26/03 Waste Site Evaluation for 128-K-1, 100-K Burning Pit, 0100K-CA-V0015, Rev 3.

Regulatory Information:

Programmatic Responsibility

DOE Program: EM-40 **Confirmed By Program:** Yes
DOE Division: ERD - Environmental Restoration Division
Responsible Contractor/Subcontractor: BHI. Bechtel Hanford, Inc.

Site Evaluation

Solid Waste Management Unit: Yes
TPA Waste Management Unit Type: Waste Disposal Unit
This site was consolidated with:

Reason:

Site Code: 128-K-1 **Site Classification: Accepted** **Page 3**

Permitting

RCRA Part B Permit:	No	**TSD Number:**	
RCRA Part A Permit:	No	**Closure Plan:**	No
RCRA PermitStatus:			
Septic Permit:	No	**216/218 Permit:**	No
Inert LandFill:	No	**NPDES:**	No
		State Waste Discharge Permit:	No
Air Operating Permit:	No		

Tri-Party Agreement

Lead Regulatory Agency:	EPA
Unit Category:	CERCLA Past Practice (CPP)
TPA Appendix:	C

Remediation and Closure

Decision Document:	Interim Action Record of Decision, 100 Area Remaining Sites (1999)
Decision Document Status:	Final
Remediation Design Group:	Group 5
Closure Document:	
Closure Type:	
Post Closure Requirements:	

ResidualWaste:

Images:

Pathname: \\apwids01\widsimg\100K\0210\0210_01.JPG DateTaken: 03/19/2003
Description: The photo shows that the waste site has been covered over with soil. Much of the site is covered by small cobbles and is poor for vegetation growth, however some cheatgrass and rabbitbrush are slowly revegetating.

Pathname: \\apwids01\widsimg\100K\0210\0210_02.jpg DateTaken: 03/19/2003
Description: Aerial photo from July 12, 1965 of the 100-K area showing a disturbed area. This area matches the location of the burning pit provided by Stenner and mapped by GIS.

APPENDIX B

128-K-1 SAMPLE RESULTS
(17 Pages)

Table B-1. 128-K-1 Phase I Confirmatory Sampling Results.

Sample Area	HEIS Number	Sample Date	Americium-241 GEA			Arsenic			Barium			Cadmium			Cesium-137			Chromium		
			pCi/g	Q	MDA	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	pCi/g	Q	MDA	mg/kg	Q	PQL
Trench 1	J00M98	22-Apr-03	0.15	U	0.15	2.9		0.35	69.5		0.01	0.04	U	0.04	0.044	U	0.044	9.5		0.06
Trench 2	J00M99	22-Apr-03	0.1	U	0.1	3.4		0.37	67.6		0.01	0.04	U	0.04	0.026	U	0.026	9.7		0.06
Trench 3	J00MB0	24-Apr-03	0.21	U	0.21	2.8		0.35	60.6		0.01	0.11		0.04	0.087	U	0.087	7.6		0.06
Trench 4	J00MB1	24-Apr-03	0.045	U	0.045	3		0.34	65.2		0.01	0.15		0.04	0.035	U	0.035	9.5		0.06
Trench 5	J00MB2	24-Apr-03	0.29	U	0.29	1.8		0.32	54.4		0.009	0.11		0.04	0.034	U	0.034	5.9		0.06
Trench 6	J00MB3	24-Apr-03	0.086	U	0.086	2.8		0.37	53.9		0.01	0.09		0.04	0.024	U	0.024	6.4		0.06
Trench 7	J00MB4	25-Apr-03	0.077	U	0.077	2.7		0.36	65.8		0.01	0.08		0.04	0.089	U	0.089	10.1		0.06
Trench 8	J00MB5	25-Apr-03	0.12	U	0.12	3.7		0.37	57.8		0.01	0.04	U	0.04	0.052	U	0.052	8.7		0.06
Trench 9	J00MB6	25-Apr-03	0.2	U	0.2	3		0.35	71.5		0.01	0.04	U	0.04	0.093	U	0.093	10.5		0.06
Duplicate of Trench 3	J00MC6	24-Apr-03	0.37	U	0.37	2.8		0.32	66.6		0.009	0.04	U	0.04	0.07	U	0.07	9.1		0.06
Equipment Blank	J00MC8	24-Apr-03	0.024	U	0.024	0.35	U	0.35	1.2		0.01	0.04	U	0.04	0.018	U	0.018	0.06	U	0.06

Sample Area	HEIS Number	Sample Date	Cobalt-60			Europium-152			Europium-154			Europium-155			Gross alpha			Gross beta		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Trench 1	J00M98	22-Apr-03	0.051	U	0.051	0.11	U	0.11	0.15	U	0.15	0.11	U	0.11	3.73	U	4.7	18.6		6.5
Trench 2	J00M99	22-Apr-03	0.032	U	0.032	0.062	U	0.062	0.096	U	0.096	0.073	U	0.073	4.21		3.8	12.9		6.6
Trench 3	J00MB0	24-Apr-03	0.093	U	0.093	0.23	U	0.23	0.38	U	0.38	0.23	U	0.23	3.94		3.8	15		5.5
Trench 4	J00MB1	24-Apr-03	0.034	U	0.034	0.081	U	0.081	0.11	U	0.11	0.07	U	0.07	5.58		4.3	22.2		6.5
Trench 5	J00MB2	24-Apr-03	0.039	U	0.039	0.077	U	0.077	0.1	U	0.1	0.11	U	0.11	4.04		3.4	16.4		5.5
Trench 6	J00MB3	24-Apr-03	0.024	U	0.024	0.056	U	0.056	0.076	U	0.076	0.062	U	0.062	4.82		3.1	13.9		5.9
Trench 7	J00MB4	25-Apr-03	0.091	U	0.091	0.18	U	0.18	0.27	U	0.27	0.15	U	0.15	2.97	U	3.1	12.3		5.2
Trench 8	J00MB5	25-Apr-03	0.061	U	0.061	0.12	U	0.12	0.17	U	0.17	0.11	U	0.11	2.77	U	2.9	11.2		5.6
Trench 9	J00MB6	25-Apr-03	0.08	U	0.08	0.22	U	0.22	0.28	U	0.28	0.21	U	0.21	3.53	U	4.2	14.3		6.6
Duplicate of Trench 3	J00MC6	24-Apr-03	0.084	U	0.084	0.17	U	0.17	0.22	U	0.22	0.18	U	0.18	3.51		3.3	17.2		5.5
Equipment Blank	J00MC8	24-Apr-03	0.019	U	0.019	0.042	U	0.042	0.056	U	0.056	0.037	U	0.037						

Sample Area	HEIS Number	Sample Date	Hexavalent Chromium			Lead			Mercury			Potassium-40			Radium-226			Radium-228		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Trench 1	J00M98	22-Apr-03	0.48		0.44	6.2		0.26	0.02		0.01	11		0.5	0.492		0.083	0.641		0.21
Trench 2	J00M99	22-Apr-03	0.42	U	0.42	10.8		0.28	0.02		0.02	12.9		0.23	0.525		0.052	0.753		0.13
Trench 3	J00MB0	24-Apr-03	0.43	U	0.43	4.2		0.26	0.02		0.02	6.56		0.65	0.372		0.17	0.5	U	0.5
Trench 4	J00MB1	24-Apr-03	0.43	U	0.43	5.2		0.25	0.02		0.02	13.4		0.26	0.495		0.063	0.666		0.15
Trench 5	J00MB2	24-Apr-03	0.43	U	0.43	3.5		0.24	0.02		0.02	9.12		0.39	0.386		0.065	0.689		0.16
Trench 6	J00MB3	24-Apr-03	0.42	U	0.42	3.8		0.27	0.02		0.01	10.7		0.26	0.375		0.046	0.694		0.097
Trench 7	J00MB4	25-Apr-03	0.44	U	0.44	4.7		0.26	0.02		0.02	7.39		0.59	0.304		0.15	0.405		0.33
Trench 8	J00MB5	25-Apr-03	0.44	U	0.44	5.8		0.27	0.02		0.02	8.89		0.38	0.288		0.1	0.533		0.29
Trench 9	J00MB6	25-Apr-03	0.44	U	0.44	5.7		0.26	0.02		0.02	8.83		0.66	0.438		0.12	0.435		0.43
Duplicate of Trench 3	J00MC6	24-Apr-03	0.43	U	0.43	5		0.24	0.02		0.01	7.16		0.81	0.366		0.14	0.718		0.3
Equipment Blank	J00MC8	24-Apr-03				0.4		0.26	0.01		0.01	4.31		0.17	0.15		0.032	0.173		0.086

Table B-1. 128-K-1 Phase I Confirmatory Sampling Results (continued).

Sample Area	HEIS Number	Sample Date	Selenium			Silver			Thorium-228 GEA			Thorium-232 GEA			Total Petroleum Hydrocarbons			Uranium-235 GEA		
			mg/kg	Q	PQL	mg/kg	Q	PQL	pCi/g	Q	MDA	pCi/g	Q	MDA	mg/kg	Q	PQL	pCi/g	Q	MDA
Trench 1	J00M98	22-Apr-03	0.36	U	0.36	0.08	U	0.08	0.628		0.048	0.641		0.21	4.2		3.6	0.17	U	0.17
Trench 2	J00M99	22-Apr-03	0.38	U	0.38	0.08	U	0.08	0.644		0.031	0.753		0.13	14.4		3.5	0.1	U	0.1
Trench 3	J00MB0	24-Apr-03	0.54		0.37	0.08	U	0.08	0.396		0.15	0.5	U	0.5	5		3.6	0.35	U	0.35
Trench 4	J00MB1	24-Apr-03	0.67		0.35	0.08	U	0.08	0.858		0.061	0.666		0.15	7.2		3.6	0.11	U	0.11
Trench 5	J00MB2	24-Apr-03	0.76		0.33	0.07	U	0.07	0.538		0.042	0.689		0.16	4.8		3.5	0.15	U	0.15
Trench 6	J00MB3	24-Apr-03	0.8		0.38	0.08	U	0.08	0.576		0.026	0.694		0.097	3.5	U	3.5	0.084	U	0.084
Trench 7	J00MB4	25-Apr-03	0.74		0.37	0.08	U	0.08	0.388		0.089	0.405		0.33	4.2		3.6	0.25	U	0.25
Trench 8	J00MB5	25-Apr-03	0.38	U	0.38	0.08	U	0.08	0.5		0.055	0.533		0.29	3.6	U	3.6	0.16	U	0.16
Trench 9	J00MB6	25-Apr-03	0.36	U	0.36	0.08	U	0.08	0.437		0.14	0.435		0.43	3.6	U	3.6	0.31	U	0.31
Duplicate of Trench 3	J00MC6	24-Apr-03	0.33	U	0.33	0.07	U	0.07	0.475		0.076	0.718		0.3	5.7		3.6	0.27	U	0.27
Equipment Blank	J00MC8	24-Apr-03	0.36	U	0.36	0.08	U	0.08	0.208		0.034	0.173		0.086				0.063	U	0.063

Sample Area	HEIS Number	Sample Date	Uranium-238 GEA		
			pCi/g	Q	MDA
Trench 1	J00M98	22-Apr-03	4.9	U	4.9
Trench 2	J00M99	22-Apr-03	3.4	U	3.4
Trench 3	J00MB0	24-Apr-03	13	U	13
Trench 4	J00MB1	24-Apr-03	3.6	U	3.6
Trench 5	J00MB2	24-Apr-03	3.7	U	3.7
Trench 6	J00MB3	24-Apr-03	2.8	U	2.8
Trench 7	J00MB4	25-Apr-03	9.4	U	9.4
Trench 8	J00MB5	25-Apr-03	6.6	U	6.6
Trench 9	J00MB6	25-Apr-03	11	U	11
Duplicate of Trench 3	J00MC6	24-Apr-03	8.4	U	8.4
Equipment Blank	J00MC8	24-Apr-03	2.2	U	2.2

128-K-1 Asbestos Results

Sample Area	HEIS Number	Sample Date	Asbestos Result
Trench 1	J00MB7	22-Apr-03	None Detected
Trench 2	J00MB8	22-Apr-03	None Detected
Trench 3	J00MB9	24-Apr-03	None Detected
Trench 4	J00MC0	24-Apr-03	None Detected
Trench 5	J00MC1	24-Apr-03	Trace presence of chrysotile asbestos
Trench 6	J00MC2	24-Apr-03	None Detected
Trench 7	J00MC3	25-Apr-03	None Detected
Trench 8	J00MC4	25-Apr-03	None Detected
Trench 9	J00MC5	25-Apr-03	None Detected
Duplicate of Trench 3	J00MC7	24-Apr-03	Trace presence of amosite asbestos

Note: Potassium-40, Radium-226, Radium-228, Thorium-228, and Thorium-232 are not evaluated based on environmental fate decay rates and analogous site information (*Data Quality Objectives Summary Report for 100/300 Area Remaining Sites Analytical Sampling Effort*, BHI-01249, Rev. 3, Bechtel Hanford Inc., Richland, Washington).

Acronyms

B = blank contamination
bgs = below ground surface
E = exceeded calibration range
GEA = gamma energy analysis
HEIS = Hanford Environmental Information System
J = estimate
MDA = minimum detectable activity
PQL = practical quantitation limit
Q = qualifier
SVOA = semivolatile organic analyses
U = undetected

Table B-1. 128-K-1 Phase I Confirmatory Sampling Results (continued).

Constituent	J00M98 Trench 1 Sample Date 4/22/03			J00M99 Trench 2 Sample Date 4/22/03			J00MB0 Trench 3 Sample Date 4/24/03			J00MB1 Trench 4 Sample Date 4/24/03			J00MB2 Trench 5 Sample Date 4/24/03			J00MB3 Trench 6 Sample Date 4/24/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Aroclor-1016	36	U	36	35	U	35	36	U	36	36	U	36	35	U	35	35	U	35
Aroclor-1221	73	U	73	71	U	71	72	U	72	72	U	72	71	U	71	71	U	71
Aroclor-1232	36	U	36	35	U	35	36	U	36	36	U	36	35	U	35	35	U	35
Aroclor-1242	36	U	36	35	U	35	36	U	36	36	U	36	35	U	35	35	U	35
Aroclor-1248	36	U	36	35	U	35	36	U	36	36	U	36	35	U	35	35	U	35
Aroclor-1254	36	U	36	35	U	35	36	U	36	36	U	36	35	U	35	35	U	35
Aroclor-1260	36	U	36	35	U	35	36	U	36	36	U	36	35	U	35	35	U	35

Constituent	J00MB4 Trench 7 Sample Date 4/25/03			J00MB5 Trench 8 Sample Date 4/25/03			J00MB6 Trench 9 Sample Date 4/25/03			J00MC6 Duplicate Trench 3 Sample Date 4/24/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Aroclor-1016	36	U	36	36	U	36	36	U	36	36	U	36
Aroclor-1221	73	U	73	73	U	73	72	U	72	72	U	72
Aroclor-1232	36	U	36	36	U	36	36	U	36	36	U	36
Aroclor-1242	36	U	36	36	U	36	36	U	36	36	U	36
Aroclor-1248	36	U	36	36	U	36	36	U	36	36	U	36
Aroclor-1254	36	U	36	36	U	36	36	U	36	36	U	36
Aroclor-1260	36	U	36	36	U	36	36	U	36	36	U	36

Table B-1. 128-K-1 Phase I Confirmatory Sampling Results (continued).

Constituent	J00M98 Trench 1 Sample Date 4/22/03			J00M99 Trench 2 Sample Date 4/22/03			J00MB0 Trench 3 Sample Date 4/24/03			J00MB1 Trench 4 Sample Date 4/24/03			J00MB2 Trench 5 Sample Date 4/24/03			J00MB3 Trench 6 Sample Date 4/24/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
3-Nitroaniline	910	U	910	880	U	880	900	U	900	900	U	900	880	U	880	880	U	880
Nitrobenzene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2,4,5-Trichlorophenol	910	U	910	880	U	880	900	U	900	900	U	900	880	U	880	880	U	880
2-Chlorophenol	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
1,2-Dichlorobenzene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2-Methylphenol (cresol, o-)	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
3,3'-Dichlorobenzidine	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2-Chloronaphthalene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2-Methylnaphthalene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Naphthalene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2-Nitrophenol	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2-Nitroaniline	910	U	910	880	U	880	900	U	900	900	U	900	880	U	880	880	U	880
2,4,6-Trichlorophenol	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Pentachlorophenol	910	U	910	880	U	880	900	U	900	900	U	900	880	U	880	880	U	880
Hexachlorobutadiene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Carbazole	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Fluorene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
N-Nitrosodiphenylamine	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Butylbenzylphthalate	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Phenanthrene	360	U	360	350	U	350	66	J	360	360	U	360	350	U	350	350	U	350
Di-n-butylphthalate	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Diethylphthalate	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Acenaphthene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Isophorone	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Hexachlorocyclo-pentadiene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
4-Chlorophenylphenyl ether	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Hexachloroethane	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
N-Nitroso-di-n-dipropylamine	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2,6-Dinitrotoluene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
4-Chloro-3-methylphenol	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Benzo(a)anthracene	360	U	360	350	U	350	61	J	360	360	U	360	350	U	350	350	U	350
1,3-Dichlorobenzene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
4,6-Dinitro-2-methylphenol	910	U	910	880	U	880	900	U	900	900	U	900	880	U	880	880	U	880
Dibenz[a,h]anthracene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2,4-Dinitrophenol	910	U	910	880	U	880	900	U	900	900	U	900	880	U	880	880	U	880

Table B-1. 128-K-1 Phase I Confirmatory Sampling Results (continued).

Constituent	J00M98 Trench 1 Sample Date 4/22/03			J00M99 Trench 2 Sample Date 4/22/03			J00MB0 Trench 3 Sample Date 4/24/03			J00MB1 Trench 4 Sample Date 4/24/03			J00MB2 Trench 5 Sample Date 4/24/03			J00MB3 Trench 6 Sample Date 4/24/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Benzo(a)pyrene	360	U	360	350	U	350	44	J	360	360	U	360	350	U	350	350	U	350
Chrysene	360	U	360	350	U	350	64	J	360	360	U	360	350	U	350	350	U	350
Acenaphthylene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Benzo(k)fluoranthene	360	U	360	350	U	350	43	J	360	360	U	360	350	U	350	350	U	350
Fluoranthene	360	U	360	350	U	350	140	J	360	360	U	360	350	U	350	350	U	350
Benzo(b)fluoranthene	360	U	360	350	U	350	37	J	360	360	U	360	350	U	350	350	U	350
Indeno(1,2,3-cd)pyrene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Benzo(ghi)perylene	360	U	360	350	U	350	33	J	360	360	U	360	350	U	350	350	U	350
Dibenzofuran	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Dimethyl phthalate	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Pyrene	360	U	360	350	U	350	120	J	360	360	U	360	350	U	350	350	U	350
2,4-Dinitrotoluene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2,4-Dichlorophenol	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
1,2,4-Trichlorobenzene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Anthracene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Hexachlorobenzene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Di-n-octylphthalate	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Bis(2-ethylhexyl) phthalate	18	J	360	350	U	350	360	U	360	34	J	360	30	J	350	350	U	350
Bis(2-Chloroethoxy) methane	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Bis(2-chloroethyl) ether	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Phenol	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
Bis(2-chloro-1-methylethyl) ether	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
4-Chloroaniline	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
1,4-Dichlorobenzene	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
4-Methylphenol (cresol, p-)	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
2,4-Dimethylphenol	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
4-Bromophenylphenyl ether	360	U	360	350	U	350	360	U	360	360	U	360	350	U	350	350	U	350
4-Nitrophenol	910	U	910	880	U	880	900	U	900	900	U	900	880	U	880	880	U	880
4-Nitroaniline	910	U	910	880	U	880	900	U	900	900	U	900	880	U	880	880	U	880

Table B-1. 128-K-1 Phase I Confirmatory Sampling Results (continued).

Constituent	J00MB4 Trench 7 Sample Date 4/25/03			J00MB5 Trench 8 Sample Date 4/25/03			J00MB6 Trench 9 Sample Date 4/25/03			J00MC6 Duplicate Trench 3 Sample Date 4/24/03			J00MC8 Equipment Blank Sample Date 4/24/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
3-Nitroaniline	910	U	910	910	U	910	900	U	900	900	U	900	840	U	840
Nitrobenzene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2,4,5-Trichlorophenol	910	U	910	910	U	910	900	U	900	900	U	900	840	U	840
2-Chlorophenol	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
1,2-Dichlorobenzene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2-Methylphenol (cresol, o-)	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
3,3'-Dichlorobenzidine	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2-Chloronaphthalene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2-Methylnaphthalene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Naphthalene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2-Nitrophenol	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2-Nitroaniline	910	U	910	910	U	910	900	U	900	900	U	900	840	U	840
2,4,6-Trichlorophenol	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Pentachlorophenol	910	U	910	910	U	910	900	U	900	900	U	900	840	U	840
Hexachlorobutadiene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Carbazole	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Fluorene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
N-Nitrosodiphenylamine	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Butylbenzylphthalate	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Phenanthrene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Di-n-butylphthalate	360	U	360	360	U	360	360	U	360	360	U	360	130	J	330
Diethylphthalate	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Acenaphthene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Isophorone	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Hexachlorocyclo-pentadiene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
4-Chlorophenylphenyl ether	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Hexachloroethane	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
N-Nitroso-di-n-dipropylamine	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2,6-Dinitrotoluene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
4-Chloro-3-methylphenol	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Benzo(a)anthracene	360	U	360	360	U	360	360	U	360	23	J	360	330	U	330
1,3-Dichlorobenzene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
4,6-Dinitro-2-methylphenol	910	U	910	910	U	910	900	U	900	900	U	900	840	U	840
Dibenz[a,h]anthracene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2,4-Dinitrophenol	910	U	910	910	U	910	900	U	900	900	U	900	840	U	840

Table B-1. 128-K-1 Phase I Confirmatory Sampling Results (continued).

Constituent	J00MB4 Trench 7 Sample Date 4/25/03			J00MB5 Trench 8 Sample Date 4/25/03			J00MB6 Trench 9 Sample Date 4/25/03			J00MC6 Duplicate Trench 3 Sample Date 4/24/03			J00MC8 Equipment Blank Sample Date 4/24/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Benzo(a)pyrene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Chrysene	360	U	360	360	U	360	360	U	360	28	J	360	330	U	330
Acenaphthylene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Benzo(k)fluoranthene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Fluoranthene	360	U	360	360	U	360	360	U	360	46	J	360	330	U	330
Benzo(b)fluoranthene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Indeno(1,2,3-cd)pyrene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Benzo(ghi)perylene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Dibenzofuran	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Dimethyl phthalate	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Pyrene	360	U	360	360	U	360	360	U	360	46	J	360	330	U	330
2,4-Dinitrotoluene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2,4-Dichlorophenol	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
1,2,4-Trichlorobenzene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Anthracene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Hexachlorobenzene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Di-n-octylphthalate	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Bis(2-ethylhexyl) phthalate	870		360	27	J	360	88	J	360	200	J	360	330	U	330
Bis(2-Chloroethoxy)methane	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Bis(2-chloroethyl) ether	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Phenol	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
Bis(2-chloro-1-methylethyl) ether	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
4-Chloroaniline	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
1,4-Dichlorobenzene	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
4-Methylphenol (cresol, p-)	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
2,4-Dimethylphenol	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
4-Bromophenylphenyl ether	360	U	360	360	U	360	360	U	360	360	U	360	330	U	330
4-Nitrophenol	910	U	910	910	U	910	900	U	900	900	U	900	840	U	840
4-Nitroaniline	910	U	910	910	U	910	900	U	900	900	U	900	840	U	840

Table B-1. 128-K-1 Phase I Confirmatory Sampling Results (continued).

Constituent	J00M98 Trench 1 Sample Date 4/22/03			J00M99 Trench 2 Sample Date 4/22/03			J00MB0 Trench 3 Sample Date 4/24/03			J00MB1 Trench 4 Sample Date 4/24/03			J00MB2 Trench 5 Sample Date 4/24/03			J00MB3 Trench 6 Sample Date 4/24/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Endosulfan I	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Toxaphene	180	U	180	180	U	180	180	U	180	180	U	180	180	U	180	180	U	180
Heptachlor	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Endrin aldehyde	3.6	U	3.6	3.5	U	3.5	3.6	U	3.6	3.6	U	3.6	3.5	U	3.5	3.5	U	3.5
Dichlorodiphenyl-dichloroethylene	3.6	U	3.6	3.5	U	3.5	3.6	U	3.6	3.6	U	3.6	3.5	U	3.5	3.5	U	3.5
Dichlorodiphenyl-dichloroethane	3.6	U	3.6	3.5	U	3.5	3.6	U	3.6	3.6	U	3.6	3.5	U	3.5	3.5	U	3.5
Methoxychlor	18	U	18	18	U	18	18	U	18	18	U	18	18	U	18	18	U	18
Endrin	3.6	U	3.6	3.5	U	3.5	3.6	U	3.6	3.6	U	3.6	3.5	U	3.5	3.5	U	3.5
Dieldrin	3.6	U	3.6	3.5	U	3.5	3.6	U	3.6	3.6	U	3.6	3.5	U	3.5	3.5	U	3.5
Gamma-BHC (Lindane)	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Endrin ketone	3.6	U	3.6	3.5	U	3.5	3.6	U	3.6	3.6	U	3.6	3.5	U	3.5	3.5	U	3.5
gamma-Chlordane	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
alpha-Chlordane	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Dichlorodiphenyl-trichloroethane	3.6	U	3.6	3.5	U	3.5	3.6	U	3.6	3.6	U	3.6	3.5	U	3.5	3.5	U	3.5
Endosulfan II	3.6	U	3.6	3.5	U	3.5	3.6	U	3.6	3.6	U	3.6	3.5	U	3.5	3.5	U	3.5
Delta-BHC	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
beta-1,2,3,4,5,6-Hexachlorocyclohexane	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Alpha-BHC	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Aldrin	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Endosulfan sulfate	3.6	U	3.6	3.5	U	3.5	3.6	U	3.6	3.6	U	3.6	3.5	U	3.5	3.5	U	3.5
Heptachlor epoxide	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8

Table B-1. 128-K-1 Phase I Confirmatory Sampling Results (continued).

Constituent	J00MB4 Trench 7 Sample Date 4/25/03			J00MB5 Trench 8 Sample Date 4/25/03			J00MB6 Trench 9 Sample Date 4/25/03			J00MC6 Duplicate Trench 3 Sample Date 4/24/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Endosulfan I	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Toxaphene	180	U	180	180	U	180	180	U	180	180	U	180
Heptachlor	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Endrin aldehyde	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6
Dichlorodiphenyl-dichloroethylene	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6
Dichlorodiphenyl-dichloroethane	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6
Methoxychlor	18	U	18	18	U	18	18	U	18	18	U	18
Endrin	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6
Dieldrin	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6
Gamma-BHC (Lindane)	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Endrin ketone	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6
gamma-Chlordane	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
alpha-Chlordane	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Dichlorodiphenyl-trichloroethane	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6
Endosulfan II	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6
Delta-BHC	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
beta-1,2,3,4,5,6-Hexachlorocyclohexane	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Alpha-BHC	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Aldrin	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8
Endosulfan sulfate	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6	3.6	U	3.6
Heptachlor epoxide	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8	1.8	U	1.8

Table B-2. 128-K-1 Phase II Confirmatory Sampling Results.

Sample Area	HEIS Number	Sample Date	Arsenic			Barium			Cadmium			Chromium			Lead			Mercury		
			mg/kg	Q	MDA	mg/kg	Q	MDA	mg/kg	Q	MDA	mg/kg	Q	MDA	mg/kg	Q	MDA	mg/kg	Q	MDA
P16 Subsurface	J00P77	23-May-03	3.6		0.31	68		0.02	0.32		0.04	13.4		0.09	9.3		0.21	0.03		0.01
Duplicate of J00P77	J00P78	23-May-03	3.5		0.33	63.8		0.02	0.35		0.04	13.5		0.1	8.7		0.23	0.03		0.02
Equipment Blank	J00P79	23-May-03	0.32	U	0.32	1.1		0.02	0.04	U	0.04	0.22		0.1	6.3		0.22	0.02	U	0.02
G25	J00P80	22-May-03	0.96		0.32	0.82		0.02	0.04	U	0.04	0.24		0.1	586		0.23	0.05		0.02
G27	J00P81	22-May-03	1.7		0.3	167		0.02	2.5		0.04	6.5		0.09	25.1		0.21	0.2		0.01
G27	J00P82	22-May-03	226		7.3	327		0.44	53.9		0.88	9.7		2.2	166		5.1	144		2.5
G27	J00P86	22-May-03	254		7.1	261		0.43	164		0.86	14.6		2.2	457		4.9	79.6		1.6
P16 Black Plastic	J00P76	22-May-03	4		0.26	15.4		0.02	0.2		0.03	4		0.08	30.4		0.18	0.02	U	0.02

Sample Area	HEIS Number	Sample Date	Selenium			Silver			Cyanide			Sulfide			Total Petroleum Hydrocarbons		
			mg/kg	Q	MDA	mg/kg	Q	MDA	mg/kg	Q	MDA	mg/kg	Q	MDA	mg/kg	Q	MDA
P16 Subsurface	J00P77	23-May-03	0.39	U	0.39	0.11	U	0.11	0.44	U	0.44	40.5	U	40.5	3.5		3.4
Duplicate of J00P77	J00P78	23-May-03	0.42	U	0.42	0.12	U	0.12	0.42	U	0.42	33.1	U	33.1	3.5		3.4
Equipment Blank	J00P79	23-May-03	0.4	U	0.4	0.12	U	0.12									
G25	J00P80	22-May-03	0.56		0.41	5.2		0.12									
G27	J00P81	22-May-03	0.93		0.39	0.11	U	0.11									
G27	J00P82	22-May-03	12.4		9.3	7.4		2.6									
G27	J00P86	22-May-03	13.4		9	5.7		2.6									
P16 Black Plastic	J00P76	22-May-03	0.68		0.33	0.09	U	0.09	0.47	U	0.47	39.2	U	39.2			

Sample Area	HEIS Number	Sample Date	Asbestos Result
G27	J00P75	23-May-03	Trace presence of chrysotile asbestos. Obvious presence of amosite asbestos.

Table B-2. 128-K-1 Phase II Confirmatory Sampling Results (continued).

Constituent	J00P76 P16 Black Plastic Sample Date 5/22/03			J00P77 P16 Subsurface Sample Date 5/23/03			J00P78 Duplicate of J00P77 Sample Date 5/23/03			J00P80 G25 Sample Date 5/22/03			J00P81 G27 Sample Date 5/22/03			J00P82 G27 Sample Date 5/22/03			J00P86 G27 Sample Date 5/22/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Aroclor-1016	150	U	150	15	U	15	300	U	300	25	U	25	19	U	19	45	U	45	750	U	750
Aroclor-1221	150	U	150	15	U	15	300	U	300	25	U	25	19	U	19	45	U	45	750	U	750
Aroclor-1232	150	U	150	15	U	15	300	U	300	25	U	25	19	U	19	45	U	45	750	U	750
Aroclor-1242	150	U	150	15	U	15	300	U	300	25	U	25	19	U	19	45	U	45	750	U	750
Aroclor-1248	150	U	150	15	U	15	300	U	300	25	U	25	19	U	19	45	U	45	750	U	750
Aroclor-1254	150	U	150	15	U	15	300	U	300	25	U	25	19	U	19	45	U	45	750	U	750
Aroclor-1260	150	U	150	15	U	15	300	U	300	25	U	25	170		19	45	U	45	750	U	750

Table B-2. 128-K-1 Phase II Confirmatory Sampling Results (continued).

Constituent	J00P76 P16 Black Plastic Sample Date 5/22/03			J00P77 P16 Subsurface Sample Date 5/23/03			J00P78 Duplicate of J00P77 Sample Date 5/23/03			J00P79 Equipment Blank Sample Date 5/23/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
3-Nitroaniline	500000	U	500000	4200	U	4200	4200	U	4200	840	U	840
Nitrobenzene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2,4,5-Trichlorophenol	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2-Chlorophenol	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
1,2-Dichlorobenzene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2-Methylphenol (cresol, o-)	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
3,3'-Dichlorobenzidine	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2-Chloronaphthalene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2-Methylnaphthalene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Naphthalene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2-Nitrophenol	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2-Nitroaniline	500000	U	500000	4200	U	4200	4200	U	4200	840	U	840
2,4,6-Trichlorophenol	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Pentachlorophenol	500000	U	500000	4200	U	4200	4200	U	4200	840	U	840
Hexachlorobutadiene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Carbazole	100000	J	200000	820	J	1700	260	J	1700	330	U	330
Fluorene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
N-Nitrosodiphenylamine	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Butylbenzylphthalate	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Phenanthrene	530000		200000	2700		1700	700	J	1700	330	U	330
Di-n-butylphthalate	200000	U	200000	1700	U	1700	1700	U	1700	54	J	330
Diethylphthalate	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Acenaphthene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Isophorone	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Hexachlorocyclo-pentadiene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
4-Chlorophenyl-phenylether	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Hexachloroethane	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
N-Nitroso-di-n-propylamine	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2,6-Dinitrotoluene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
4-Chloro-3-methylphenol	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Benzo(a)anthracene	350000		200000	8300		1700	3200		1700	330	U	330
1,3-Dichlorobenzene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
4,6-Dinitro-2-methylphenol	500000	U	500000	4200	U	4200	4200	U	4200	840	U	840
Dibenz[a,h]anthracene	35000	J	200000	1200	J	1700	530	J	1700	330	U	330
2,4-Dinitrophenol	500000	U	500000	4200	U	4200	4200	U	4200	840	U	840

Table B-2. 128-K-1 Phase II Confirmatory Sampling Results (continued).

Constituent	J00P76 P16 Black Plastic Sample Date 5/22/03			J00P77 P16 Subsurface Sample Date 5/23/03			J00P78 Duplicate of J00P77 Sample Date 5/23/03			J00P79 Equipment Blank Sample Date 5/23/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Benzo(a)pyrene	130000	J	200000	2900		1700	1200	J	1700	330	U	330
Chrysene	440000		200000	11000		1700	4500		1700	330	U	330
Acenaphthylene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Benzo(k)fluoranthene	210000		200000	4100		1700	2400		1700	330	U	330
Fluoranthene	880000		200000	11000		1700	5100		1700	330	U	330
Benzo(b)fluoranthene	170000	J	200000	6100		1700	2300		1700	330	U	330
Indeno(1,2,3-cd)pyrene	55000	J	200000	1900		1700	840	J	1700	330	U	330
Benzo(ghi)perylene	49000	J	200000	1700		1700	800	J	1700	330	U	330
Dibenzofuran	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Dimethylphthalate	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Pyrene	690000		200000	11000		1700	5000		1700	330	U	330
2,4-Dinitrotoluene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2,4-Dichlorophenol	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
1,2,4-Trichlorobenzene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Anthracene	81000	J	200000	670	J	1700	240	J		330	U	330
Hexachlorobenzene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Di-n-octylphthalate	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Bis(2-ethylhexyl) phthalate	200000	U	200000	1700	U	1700	1700	U	1700	19	JB	330
Bis(2-Chloroethoxy) methane	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Bis(2-chloroethyl) ether	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
Phenol	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2,2'-oxybis (1-Chloropropane)	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
4-Chloroaniline	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
1,4-Dichlorobenzene	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
4-Methylphenol (cresol, p-)	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
2,4-Dimethylphenol	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
4-Bromophenyl-phenylether	200000	U	200000	1700	U	1700	1700	U	1700	330	U	330
4-Nitrophenol	500000	U	500000	4200	U	4200	4200	U	4200	840	U	840
4-Nitroaniline	500000	U	500000	4200	U	4200	4200	U	4200	840	U	840

Table B-2. 128-K-1 Phase II Confirmatory Sampling Results (continued).

Constituent	J00P80 G25 Sample Date 5/22/03			J00P81 G27 Sample Date 5/22/03			J00P82 G27 Sample Date 5/22/03			J00P86 G27 Sample Date 5/22/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
3-Nitroaniline	130000	U	130000	120000	U	120000	100000	U	100000	400000	U	400000
Nitrobenzene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2,4,5-Trichlorophenol	130000	U	130000	120000	U	120000	100000	U	100000	400000	U	400000
2-Chlorophenol	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
1,2-Dichlorobenzene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2-Methylphenol (cresol, o-)	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
3,3'-Dichlorobenzidine	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2-Chloronaphthalene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2-Methylnaphthalene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Naphthalene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2-Nitrophenol	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2-Nitroaniline	130000	U	130000	120000	U	120000	100000	U	100000	400000	U	400000
2,4,6-Trichlorophenol	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Pentachlorophenol	130000	U	130000	120000	U	120000	100000	U	100000	400000	U	400000
Hexachlorobutadiene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Carbazole	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Fluorene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
N-Nitrosodiphenylamine	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Butylbenzylphthalate	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Phenanthrene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Di-n-butylphthalate	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Diethylphthalate	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Acenaphthene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Isophorone	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Hexachlorocyclo-pentadiene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
4-Chlorophenyl-phenylether	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Hexachloroethane	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
N-Nitroso-di-n-propylamine	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2,6-Dinitrotoluene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
4-Chloro-3-methylphenol	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Benzo(a)anthracene	54000	U	54000	3400	J	49000	40000	U	40000	160000	U	160000
1,3-Dichlorobenzene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
4,6-Dinitro-2-methylphenol	130000	U	130000	120000	U	120000	100000	U	100000	400000	U	400000
Dibenz[a,h]anthracene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2,4-Dinitrophenol	130000	U	130000	120000	U	120000	100000	U	100000	400000	U	400000

Table B-2. 128-K-1 Phase II Confirmatory Sampling Results (continued).

Constituent	J00P80 G25 Sample Date 5/22/03			J00P81 G27 Sample Date 5/22/03			J00P82 G27 Sample Date 5/22/03			J00P86 G27 Sample Date 5/22/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Benzo(a)pyrene	54000	U	54000	4300	J	49000	40000	U	40000	160000	U	160000
Chrysene	54000	U	54000	74000	J	49000	40000	U	40000	160000	U	160000
Acenaphthylene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Benzo(k)fluoranthene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Fluoranthene	54000	U	54000	2800	J	49000	40000	U	40000	160000	U	160000
Benzo(b)fluoranthene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Indeno(1,2,3-cd)pyrene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Benzo(ghi)perylene	54000	U	54000	3200	J	49000	40000	U	40000	160000	U	160000
Dibenzofuran	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Dimethylphthalate	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Pyrene	54000	U	54000	7100	J	49000	40000	U	40000	160000	U	160000
2,4-Dinitrotoluene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2,4-Dichlorophenol	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
1,2,4-Trichlorobenzene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Anthracene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Hexachlorobenzene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Di-n-octylphthalate	49000	J	54000	49000	U	49000	40000	U	40000	160000	U	160000
Bis(2-ethylhexyl) phthalate	44000000	E	54000	6900	JB	49000	40000	U	40000	160000	U	160000
Bis(2-Chloroethoxy) methane	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Bis(2-chloroethyl) ether	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
Phenol	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2,2'-oxybis (1-Chloropropane)	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
4-Chloroaniline	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
1,4-Dichlorobenzene	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
4-Methylphenol (cresol, p-)	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
2,4-Dimethylphenol	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
4-Bromophenyl-phenylether	54000	U	54000	49000	U	49000	40000	U	40000	160000	U	160000
4-Nitrophenol	130000	U	130000	120000	U	120000	100000	U	100000	400000	U	400000
4-Nitroaniline	130000	U	130000	120000	U	120000	100000	U	100000	400000	U	400000

Table B-2. 128-K-1 Phase II Confirmatory Sampling Results (continued).

Constituent	J00P76 P16 Black Plastic Sample Date 5/22/03			J00P77 P16 Subsurface Sample Date 5/23/03			J00P78 Duplicate of J00P77 Sample Date 5/23/03		
	µg/kg	Q	PQL	µg/kg	Q	PQL	µg/kg	Q	PQL
Pesticides									
Endosulfan I	830	U	830	34	U	34	34	U	34
Toxaphene	83000	U	83000	3400	U	3400	3400	U	3400
Heptachlor	830	U	830	34	U	34	34	U	34
Endrin aldehyde	1700	U	1700	68	U	68	68	U	68
Dichlorodiphenyl-dichloroethylene	1700	U	1700	68	U	68	68	U	68
Dichlorodiphenyl-dichloroethane	1700	U	1700	68	U	68	68	U	68
Methoxychlor	8300	U	8300	340	U	340	340	U	340
Endrin	1700	U	1700	68	U	68	68	U	68
Dieldrin	1700	U	1700	68	U	68	68	U	68
Gamma-BHC (Lindane)	830	U	830	34	U	34	34	U	34
Endrin ketone	1700	U	1700	68	U	68	68	U	68
gamma-Chlordane	830	U	830	34	U	34	34	U	34
alpha-Chlordane	830	U	830	34	U	34	34	U	34
Dichlorodiphenyl-trichloroethane	1700	U	1700	68	U	68	68	U	68
Endosulfan II	1700	U	1700	68	U	68	68	U	68
Delta-BHC	830	U	830	34	U	34	34	U	34
beta-1,2,3,4,5,6-Hexachlorocyclohexane	830	U	830	34	U	34	34	U	34
Alpha-BHC	830	U	830	34	U	34	34	U	34
Aldrin	830	U	830	34	U	34	34	U	34
Endosulfan sulfate	1700	U	1700	68	U	68	68	U	68
Heptachlor epoxide	830	U	830	34	U	34	34	U	34
Herbicides									
Dalapon	25000	U	25000	3400	U	3400	3400	U	3400
Dicamba	10000	U	10000	1400	U	1400	1400	U	1400
Dichloroprop	25000	U	25000	3400	U	3400	3400	U	3400
2,4-D	5000	U	5000	680	U	680	680	U	680
2,4,5-TP (Silvex)	2500	U	2500	340	U	340	340	U	340
2,4,5-T	2500	U	2500	340	U	340	340	U	340
2,4-DB	25000	U	25000	3400	U	3400	3400	U	3400
Dinoseb	2500	U	2500	340	U	340	340	U	340

Table B-3. 128-K-1 Verification Sampling Results (Phase III).

Constituent	J015N7 P16 Surface Sample Date 12/8/03		
	µg/kg	Q	PQL
3-Nitroaniline	900	U	900
Nitrobenzene	360	U	360
2,4,5-Trichlorophenol	900	U	900
2-Chlorophenol	360	U	360
1,2-Dichlorobenzene	360	U	360
2-Methylphenol (cresol, o-)	360	U	360
3,3'-Dichlorobenzidine	360	U	360
2-Chloronaphthalene	360	U	360
2-Methylnaphthalene	360	U	360
Naphthalene	360	U	360
2-Nitrophenol	360	U	360
2-Nitroaniline	900	U	900
2,4,6-Trichlorophenol	360	U	360
Pentachlorophenol	900	U	900
Hexachlorobutadiene	360	U	360
Carbazole	360	U	360
Fluorene	360	U	360
N-Nitrosodiphenylamine	360	U	360
Butylbenzylphthalate	360	U	360
Phenanthrene	46	J	360
Di-n-butylphthalate	360	U	360
Diethylphthalate	360	U	360
Acenaphthene	360	U	360
Isophorone	360	U	360
Hexachlorocyclopentadiene	360	U	360
4-Chlorophenyl-phenylether	360	U	360
Hexachloroethane	360	U	360
N-Nitroso-di-n-propylamine	360	U	360
2,6-Dinitrotoluene	360	U	360
4-Chloro-3-methylphenol	360	U	360
Benzo(a)anthracene	100	J	360
1,3-Dichlorobenzene	360	U	360

Constituent	J015N7 P16 Surface Sample Date 12/8/03		
	µg/kg	Q	PQL
4,6-Dinitro-2-methylphenol	900	U	900
Dibenz[a,h]anthracene	360	U	360
2,4-Dinitrophenol	900	U	900
Benzo(a)pyrene	51	J	360
Chrysene	150	J	360
Acenaphthylene	360	U	360
Benzo(k)fluoranthene	78	J	360
Fluoranthene	220	J	360
Benzo(b)fluoranthene	75	J	360
Indeno(1,2,3-cd)pyrene	29	J	360
Benzo(ghi)perylene	33	J	360
Dibenzofuran	360	U	360
Dimethylphthalate	360	U	360
Pyrene	153	J	360
2,4-Dinitrotoluene	360	U	360
2,4-Dichlorophenol	360	U	360
1,2,4-Trichlorobenzene	360	U	360
Anthracene	360	U	360
Hexachlorobenzene	360	U	360
Di-n-octylphthalate	360	U	360
Bis(2-ethylhexyl) phthalate	69	JB	360
Bis(2-Chloroethoxy)methane	360	U	360
Bis(2-chloroethyl) ether	360	U	360
Phenol	360	U	360
2,2'-oxybis (1-Chloropropane)	360	U	360
4-Chloroaniline	360	U	360
1,4-Dichlorobenzene	360	U	360
4-Methylphenol (cresol, p-)	360	U	360
2,4-Dimethylphenol	360	U	360
4-Bromophenyl-phenylether	360	U	360
4-Nitrophenol	900	U	900
4-Nitroaniline	900	U	900