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Executive Summary

Screening Sites Sampling Program

for

Defense Depot Memphis, Tennessee

May 1997

Prepared for

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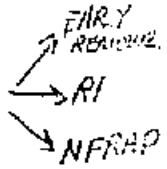
Executive Summary
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Background

The Base Realignment and Closure (BRAC) 95 Commission selected the Defense Depot Memphis, Tennessee (DDMT) for closure under the BRAC process. All 642 acres of this facility are considered BRAC property. As part of the preparation of the *Environmental Baseline Survey* (Woodward-Clyde, November 1996), the DDMT facility was split into 35 parcels based on the environmental condition of the property.

In October 1992, DDMT was placed on the National Priorities List (NPL) by the U.S. Environmental Protection Agency (EPA). Therefore, DDMT must fulfill requirements under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and National Contingency Plan. A remedial investigation/feasibility study (RI/FS) is being conducted to determine the nature and extent of contamination, to evaluate the risk to human health and the environment, and to screen potential cleanup actions. The purpose of the Screening Sites Sampling Program, which is part of the RI/FS, is to identify whether past activities at each of the sites have resulted in releases from the site that would require further investigation. The program's intent is not to fully delineate the nature and extent of soil or groundwater contamination attributable to past operations, but to conduct technically based screening activities sufficient to identify the likelihood of contamination. Once the sites have been screened, the data will be evaluated and used to make a decision about whether to upgrade the site to an RI site, to downgrade the site to a No Further Action site, or to recommend a site for an Early Removal evaluation.



The BRAC and CERCLA programs have been blended so that the information is presented with a parcel orientation. This report presents a summary, by parcel, of the Screening Sites Sampling Program conducted at DDMT. The attached Parcel Letter Reports are presented in a modular style so that the DDMT Parcels may be evaluated individually. Fourteen Letter Reports are parcel-specific, and three Letter Reports cover multiple parcels. The Parcel Letter Reports consist of text describing the site, sampling procedures, and data summary tables. The *Screening Sites Field Sampling Plan* (CH2M HILL, September, 1995) was used as the basis for the Screening Sites Sampling Program. Sampling was conducted for areas where data gaps exist and where sampling and analyses are required to identify whether past activities have resulted in releases from the site that would require further investigation.

Screening Sites data were collected for surface soil, subsurface soil, surface water, and sediments. With one exception, samples were collected and sent to CH2M HILL Analytical Services in Montgomery, Alabama, in accordance with the procedures outlined in the *Generic Quality Assurance Project Plan* (CH2M HILL, August 1995). Samples collected from the Offsite Drainage Pathways site, collected by another consulting firm, were sent to Southwest Laboratory of Oklahoma, Inc, of Broken Arrow, Oklahoma. Corps of Engineers'

(COE) split samples were collected from approximately 10 percent of the samples collected at DDMT for a quality control check by the COE laboratory in Georgia. Tennessee Department of Environment and Conservation (TDEC) split samples were taken at Sites 28 and 70/71. The results of the split samples will be reported in the final RI Report.

Results

A relational, statistical database was used as the basis for creating data summary tables and for comparisons of Screening Sites' data with screening level data. Screening level data are comparison criteria that were developed from applicable regulatory criteria, or from background values. The comparison criteria are used to "screen" sites to evaluate whether a potential release has occurred that exceeds an acceptable risk.

Surface Soils

Table ES-1 presents the compounds detected in surface soils for all of the parcels and compares the detected compounds to five types of screening levels. The five types of screening levels include background values, soil ingestion risk-based concentrations (RBCs) in both a residential and industrial setting, soil screening levels for transfer from soil to groundwater, and terrestrial/ecological values.

The maximum concentrations detected across the facility for surface soils were compared to background values, residential and industrial RBCs, groundwater protection values, and terrestrial/ecological values. The maximum concentrations of 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin, octachlorodibenzo-p-dioxin, and octachlorodibenzofuran exceeded background values, and no other screening values were available for dioxins. Arsenic, total chromium, and lead exceeded all five surface soil screening levels. Of the 22 metals detected in surface soil, 18 exceeded at least one screening level. Sixteen metals exceeded background values, 10 exceeded residential RBCs, and 9 exceeded terrestrial/ ecological values. Eight of the 10 maximum concentrations of polynuclear aromatic hydrocarbons (PAHs) exceeded the background values. The maximum concentration of Arochlor-1260 exceeded both the background value and the residential RBC. The maximum concentrations of all but one of the pesticides exceeded background values, while all but two exceeded residential RBC values. Dieldrin exceeded all of the screening levels that were available. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene exceeded all available screening level values. With the exception of methyl ethyl ketone (2-Butanone), which exceeded the background value, there were no volatile organic compounds (VOCs) that exceeded screening criteria.

Subsurface Soils

Table ES-2 presents the compounds detected in subsurface soils for all of the parcels and compares the detected compounds to two types of screening levels. Subsurface soil screening levels consist of background values and soil screening levels for transfer from soil to groundwater.

The maximum concentrations detected across the facility for subsurface soils were compared to background values and groundwater protection values. Only one screening level was available for dioxins, a background value for octochlorodibenzo-p-dioxin, and it

was exceeded. Eighteen of the 22 metals concentrations exceeded the background values, while 8 exceeded the groundwater protection value. Fluoranthene and pyrene are the only two PAHs that exceeded a screening level, which was the background value. Dichlorodiphenyldichloroethylene (4,4'-DDE), dichlorodiphenyltrichloroethane (4,4'-DDT), alpha-Chlordane, and gamma-Chlordane maximum concentrations did not exceed groundwater protection values, but did exceed available background values. Dieldrin did not exceed background values, but did exceed groundwater protection values. Pentachlorophenol exceeded the groundwater protection value, but no background value was available. Nine of the maximum concentrations of semivolatile organic compounds (SVOCs) exceeded the groundwater protection values. Benzene, 1,1,2,2-Tetrachloroethane, and trichloroethene exceeded the groundwater protection values, and total xylenes exceeded the background value.

Surface Water

The compounds detected in surface water (Table ES-3) for all of the parcels are compared to four types of screening levels. Surface water screening levels consist of background values, Tennessee state values, federal ambient water quality criteria for the protection of human health for the ingestion of organisms and water (AWQC-HH), and federal ambient water quality criteria, chronic for the protection of freshwater aquatic life (AWQC-AO) values.

Only one screening level, a background value for octachlorodibenzo-p-dioxin, was available for the dioxins, and it was exceeded by the maximum concentration detected. Only 5 metals–dissolved arsenic, dissolved iron, dissolved lead, dissolved selenium, and lead–exceeded the background values. Lead exceeded the background, Tennessee state, and AWQC-AO values. The maximum concentration of 4,4'-DDT exceeded the Tennessee state, AWQC-HH, and AWQC-AO values. The maximum values of both bis(2-Ethylhexyl)phthalate and pentachlorophenol exceeded the AWQC-HH values.

Sediments

Table ES-4 presents the compounds detected in sediments for all of the parcels and compares the detected compounds to three types of screening levels–background values, sediment preliminary remediation goal (PRG) values, and National Oceanic and Atmospheric Administration (NOAA) values.

The maximum concentrations detected anywhere at the facility were compared to the screening levels. For dioxins, only two background screening levels were available, and both were exceeded. Arsenic, lead, silver, and zinc exceeded all three screening levels. The maximum concentrations detected at 12 of the 22 metals exceeded background values. The pesticides that exceeded all available screening levels included dichlorodiphenyldichloroethane (4,4'-DDD), 4,4'-DDE, 4,4'-DDT, alpha-Chlordane, dieldrin, and endrin. Several SVOCs exceeded all three screening levels, which included acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, and phenanthrene. Only one screening level was available for VOCs, a background value for methyl ethyl ketone (2-Butanone), and it was exceeded.

Acronyms

AWQC-AO	Ambient water quality criteria–protection of freshwater aquatic life
AWQC-HH	Ambient water quality criteria–protection of human health
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COE	Corps of Engineers
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDMT	Defense Depot Memphis, Tennessee
DDT	Dichlorodiphenyltrichloroethane
EPA	U.S. Environmental Protection Agency
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
PAH	Polynuclear aromatic hydrocarbon
PRG	Preliminary remediation goal
RBC	Risk-based concentration
RI/FS	Remedial Investigation/Feasibility Study
SVOC	Semivolatile organic compound
TDEC	Tennessee Department of Environment and Conservation
VOC	Volatile organic compound

Tab. .S-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
3	51	4,4'-DDE	0.0389 J	.16	1.9	17	.5	NA
3	51	4,4'-DDE	0.1	.16	1.9	17	.5	NA
3	51	4,4'-DDT	0.0429	.074	1.9	17	1	NA
3	51	4,4'-DDT	0.0769 J	.074	1.9	17	1	NA
3	51	Acetone	0.004 J	NA	780	20000	6	NA
3	51	Aluminum	8940	24000	7800	100000	NA	NA
3	51	Arsenic	17.3	22	.43	3.8	15	10
3	51	Barium	106	250	550	14000	32	500
3	51	Benzo(a)anthracene	0.0539 J	.71	.88	7.8	.7	NA
3	51	Benzo(a)pyrene	0.057 J	.96	.088	.78	4	NA
3	51	Benzo(b)fluoranthene	0.0519 J	.9	.88	7.8	4	NA
3	51	Benzo(g,h,i)perylene	0.05 J	.82	230	6100	1400	NA
3	51	Benzo(k)fluoranthene	0.048 J	.78	8.8	78	4	NA
3	51	Beryllium	1.1	1.1	.15	1.3	180	10
3	51	bis(2-Ethylhexyl)phthalate	0.0779 J	NA	46	410	11	NA
3	51	Cadmium	0.469 J	1.4	3.9	100	6	3
3	51	Calcium	1920	5800	NA	NA	NA	NA
3	51	Chromium, total	29.3	27	39	1000	19	1
3	51	Chrysene	0.0739 J	.94	88	780	1	NA
3	51	Cobalt	8.19	18	470	12000	NA	20
3	51	Copper	37.2	33	310	8200	NA	100
3	51	Dieldrin	0.32	.53	.04	.36	.001	NA
3	51	Fluoranthene	0.14 J	1.6	310	8200	980	NA
3	51	Iron	16000 J	37000	2300	61000	NA	NA
3	51	Lead	138	43	200	1000	1.5	50
3	51	Magnesium	1710	4600	NA	NA	NA	NA
3	51	Manganese	604	1300	180	4700	NA	NA
3	51	Methylene chloride	0.003 J	NA	85	760	.01	NA
3	51	Nickel	34.8	33	160	4100	21	30
3	51	Pentachlorophenol	0.0539 J	NA	5.3	48	.2	NA
3	51	Phenanthrene	0.066 J	.61	2300	61000	4300	NA
3	51	Potassium	1090	2000	NA	NA	NA	NA

Tab. .S-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
3	51	Pyrene	0.119 J	1.5	230	6100	1400	NA
3	51	Selenium	2.1	.81	39	1000	3	1
3	51	Sodium	218 J	NA	NA	NA	NA	NA
3	51	Tetrachloroethene	0.003 J	NA	12	110	.04	NA
3	51	Vanadium	21.1	52	55	1400	NA	2
3	51	Zinc	142	130	2300	61000	42000	50
3	52	4,4'-DDE	0.0389	.16	1.9	17	.5	NA
3	52	4,4'-DDE	0.025 J	.16	1.9	17	.5	NA
3	52	4,4'-DDT	0.209	.074	1.9	17	1	NA
3	52	4,4'-DDT	6.7	.074	1.9	17	1	NA
3	52	Aluminum	10900	24000	7800	100000	NA	NA
3	52	Arsenic	45.1	22	.43	3.8	15	10
3	52	Barium	152	250	550	14000	32	500
3	52	Benzo(a)anthracene	0.239	.71	.88	7.8	.7	NA
3	52	Benzo(a)pyrene	0.26	.96	.088	.78	4	NA
3	52	Benzo(b)fluoranthene	0.239	.9	.88	7.8	4	NA
3	52	Benzo(g,h,i)perylene	0.209	.82	230	6100	1400	NA
3	52	Benzo(k)fluoranthene	0.2	.78	8.8	78	4	NA
3	52	Beryllium	0.39 J	1.1	.15	1.3	180	10
3	52	Calcium	3190	5800	NA	NA	NA	NA
3	52	Chromium, total	40.2	27	39	1000	19	1
3	52	Chrysene	0.26	.94	88	780	1	NA
3	52	Cobalt	12.5	18	470	12000	NA	20
3	52	Copper	30.5	33	310	8200	NA	100
3	52	Dieldrin	0.75 J	.53	.04	.36	.001	NA
3	52	Fluoranthene	0.419	1.6	310	8200	980	NA
3	52	Iron	15400 J	37000	2300	61000	NA	NA
3	52	Lead	150	43	200	1000	1.5	50
3	52	Magnesium	1650	4600	NA	NA	NA	NA
3	52	Manganese	1860	1300	180	4700	NA	NA
3	52	Nickel	31.8	33	160	4100	21	30
3	52	Phenanthrene	0.22	.61	2300	61000	4300	NA

Table ES-1
Compounds Detected In Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
3	52	Potassium	901	2000	NA	NA	NA	NA
3	52	Pyrene	0.33	1.5	230	6100	1400	NA
3	52	Selenium	0.579 J	.81	39	1000	3	1
3	52	Vanadium	24.8	52	55	1400	NA	2
3	52	Zinc	426	130	2300	61000	42000	50
3	69	Aluminum	11500	24000	7800	100000	NA	NA
3	69	Arsenic	13.5 J	22	.43	3.8	15	10
3	69	Barium	114	250	550	14000	32	500
3	69	Beryllium	0.45 J	1.1	.15	1.3	180	10
3	69	Calcium	1700	5800	NA	NA	NA	NA
3	69	Chromium, total	12.5 J	27	39	1000	19	1
3	69	Cobalt	7	18	470	12000	NA	20
3	69	Copper	16.8	33	310	8200	NA	100
3	69	Dieldrin	0.042	.53	.04	.36	.001	NA
3	69	Iron	19700	37000	2300	61000	NA	NA
3	69	Lead	11.4	43	200	1000	1.5	50
3	69	Magnesium	2140	4600	NA	NA	NA	NA
3	69	Manganese	371	1300	180	4700	NA	NA
3	69	Nickel	15.5	33	160	4100	21	30
3	69	Potassium	1190	2000	NA	NA	NA	NA
3	69	Vanadium	26.1 J	52	55	1400	NA	2
3	69	Zinc	57.7	130	2300	61000	42000	50
4	66	4,4'-DDD	0.119 J	.0067	2.7	24	.7	NA
4	66	4,4'-DDE	0.22 J	.16	1.9	17	.5	NA
4	66	4,4'-DDT	0.569 J	.074	1.9	17	1	NA
4	66	Aluminum	5120	24000	7800	100000	NA	NA
4	66	Antimony	2.89 J	7	3.1	82	NA	5
4	66	Arsenic	3.6 J	22	.43	3.8	15	10
4	66	Barium	98.7	250	550	14000	32	500
4	66	Benzo(a)anthracene	5.4 J	.71	.88	7.8	.7	NA
4	66	Benzo(a)pyrene	6.29 J	.96	.088	.78	4	NA
4	66	Benzo(b)fluoranthene	8.09 J	.9	.88	7.8	4	NA

Table 3-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
4	66	Benzo(g,h,i)perylene	**6.79 J**	**.82**	230	6100	1400	NA
4	66	Benzo(k)fluoranthene	**7.4 J**	**.78**	**8.8**	78	**4**	NA
4	66	Beryllium	**0.23 J**	1.1	**.15**	1.3	180	10
4	66	Calcium	**33800**	**5800**	NA	NA	NA	NA
4	66	Carbazole	**1.5 J**	**.067**	32	290	**.5**	NA
4	66	Chromium, total	**22.8**	27	39	1000	**19**	**1**
4	66	Chrysene	**9.19 J**	.94	88	780	**1**	NA
4	66	Cobalt	17.1	18	470	12000	NA	20
4	66	Copper	**39.1 J**	**33**	310	8200	NA	100
4	66	Fluoranthene	**14**	1.6	310	8200	980	NA
4	66	Indeno(1,2,3-cd)pyrene	**6.2 J**	**.7**	**.88**	7.8	35	NA
4	66	Iron	**24700**	37000	**2300**	61000	NA	NA
4	66	Lead	**67 J**	**43**	200	1000	**1.5**	**50**
4	66	Magnesium	3630	4600	NA	NA	NA	NA
4	66	Manganese	**242 J**	1300	**180**	4700	NA	NA
4	66	Methyl Ethyl Ketone (2-Butanone)	**0.016 J**	**.002**	4700	100000	NA	NA
4	66	Methyl Isobutyl Ketone (4-Methyl-2-Pentanor	0.006 J	NA	630	16000	NA	NA
4	66	Nickel	16.1	33	160	4100	21	30
4	66	Phenanthrene	**6 J**	.61	2300	61000	4300	NA
4	66	Potassium	401 J	2000	NA	NA	NA	NA
4	66	Pyrene	**12**	**1.5**	230	6100	1400	NA
4	66	Sodium	152 J	NA	NA	NA	NA	NA
4	66	Tetrachloroethene	0.004 J	NA	12	110	.04	NA
4	66	Vanadium	**27.1**	52	55	1400	NA	**2**
4	66	Zinc	**541 J**	**130**	2300	61000	42000	**50**
4	67	4,4'-DDE	0.01 J	.16	1.9	17	.5	NA
4	67	4,4'-DDT	0.064	.074	1.9	17	**1**	NA
4	67	Aluminum	**12200**	24000	**7800**	100000	NA	NA
4	67	Arsenic	**29.1**	**22**	**.43**	**3.8**	**15**	**10**
4	67	Barium	**163**	250	550	14000	**32**	**500**
4	67	Beryllium	**0.429 J**	1.1	**.15**	1.3	180	10
4	67	Cadmium	0.619	1.4	3.9	100	6	3

Tab. .3-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
4	67	Calcium	2100	5800	NA	NA	NA	NA
4	67	Chromium, total	**27.6**	**27**	39	1000	**19**	**1**
4	67	Cobalt	8.09	18	470	12000	NA	20
4	67	Copper	**50.7**	**33**	310	8200	NA	**100**
4	67	Dieldrin	**0.056**	.53	**.04**	.36	**.001**	NA
4	67	Iron	**20100**	37000	**2300**	61000	NA	NA
4	67	Lead	**51.8**	**43**	200	**1000**	**1.5**	**50**
4	67	Magnesium	2410	4600	NA	NA	NA	NA
4	67	Manganese	**601**	1300	**180**	4700	NA	NA
4	67	Methylene chloride	0.005 J	NA	85	760	.01	NA
4	67	Nickel	**37.7**	**33**	160	4100	**21**	**30**
4	67	Potassium	976	2000	NA	NA	NA	NA
4	67	Vanadium	**26.8 J**	52	55	1400	NA	**2**
4	67	Zinc	**193**	130	2300	61000	42000	**50**
7	65	4,4'-DDE	**2.79**	**.16**	**1.9**	17	**.5**	NA
7	65	4,4'-DDT	**5.09**	**.074**	1.9	17	1	NA
7	65	Acenaphthene	5.7	NA	470	12000	200	NA
7	65	Acenaphthylene	**9.5 J**	**.19**	NA	NA	NA	NA
7	65	Aluminum	3950	24000	7800	100000	NA	NA
7	65	Anthracene	**12**	**.096**	2300	61000	4300	NA
7	65	Arsenic	**4 J**	22	**.43**	**3.8**	15	10
7	65	Barium	**81.2**	250	550	14000	32	500
7	65	Benzo(a)anthracene	**55**	**.71**	**.88**	7.8	**.7**	NA
7	65	Benzo(a)pyrene	**67**	**.96**	**.088**	**.78**	**4**	NA
7	65	Benzo(b)fluoranthene	**65**	**.9**	**.88**	7.8	**4**	NA
7	65	Benzo(g,h,i)perylene	**48**	.82	230	6100	1400	NA
7	65	Benzo(k)fluoranthene	**71**	**.78**	**8.8**	78	**4**	NA
7	65	Beryllium	**0.27 J**	**1.1**	**.15**	1.3	180	10
7	65	bis(2-Ethylhexyl)phthalate	**0.1 J**	NA	46	410	11	NA
7	65	Cadmium	**4.09**	**1.4**	**3.9**	100	6	**3**
7	65	Calcium	**133000**	**5800**	NA	NA	NA	NA
7	65	Carbazole	**12**	**.067**	32	290	**.5**	NA

Table ES-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
7	65	Chromium, total	**29.8 J**	**27**	39	1000	**19**	**1**
7	65	Chrysene	**68**	**.94**	88	780	1	NA
7	65	Cobalt	4.5 J	18	470	12000	NA	20
7	65	Copper	20.5	33	310	8200	NA	100
7	65	Di-n-butylphthalate	0.056 J	NA	780	20000	120	NA
7	65	Dibenzofuran	1.89 J	NA	31	820	12	NA
7	65	Fluoranthene	**130**	1.6	310	8200	980	NA
7	65	Fluorene	5.2	NA	310	8200	160	NA
7	65	Indeno(1,2,3-cd)pyrene	**44**	**.7**	**.88**	**7.8**	**35**	NA
7	65	Iron	**8280**	37000	**2300**	61000	NA	NA
7	65	Lead	**97.7**	**43**	200	1000	**1.5**	**50**
7	65	Magnesium	**9590**	**4600**	NA	NA	NA	NA
7	65	Manganese	162	1300	180	4700	NA	NA
7	65	Naphthalene	0.66 J	NA	310	8200	30	NA
7	65	Nickel	11.3	33	160	4100	21	30
7	65	Phenanthrene	**61**	**.61**	2300	61000	4300	NA
7	65	Potassium	**808**	2000	NA	NA	NA	NA
7	65	Pyrene	**120**	**1.5**	230	6100	1400	NA
7	65	Sodium	294 J	NA	NA	NA	NA	NA
7	65	Vanadium	**10.6 J**	52	55	1400	NA	**2**
7	65	Zinc	**646**	**130**	2300	61000	42000	**50**
15	54	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	**0.0075**	**.00039**	NA	NA	NA	NA
15	54	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.00169 J	NA	NA	NA	NA	NA
15	54	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.000033 J	NA	NA	NA	NA	NA
15	54	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.000006 J	NA	NA	NA	NA	NA
15	54	1,2,3,4,7,8-Hexachlorodibenzofuran	0.0000139 J	NA	NA	NA	NA	NA
15	54	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.000087 J	NA	NA	NA	NA	NA
15	54	1,2,3,6,7,8-Hexachlorodibenzofuran	0.0000159 J	NA	NA	NA	NA	NA
15	54	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.0000179 J	NA	NA	NA	NA	NA
15	54	2,3,4,6,7,8-Hexachlorodibenzofuran	0.00000899 J	NA	NA	NA	NA	NA
15	54	4,4'-DDE	0.00289 J	.16	1.9	17	.5	NA
15	54	4,4'-DDT	0.0042	.074	1.9	17	1	NA

Table ES-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
15	54	Acetone	0.309	NA	780	20000	8	NA
15	54	Arsenic	**18.3**	22	**.43**	**3.8**	**15**	**10**
15	54	Benzo(a)anthracene	0.05 J	.71	.88	7.8	.7	NA
15	54	Benzo(a)pyrene	0.0519 J	.96	.088	.78	4	NA
15	54	Benzo(b)fluoranthene	0.0589 J	.9	.88	7.8	4	NA
15	54	Benzo(g,h,i)perylene	0.0449 J	.82	230	6100	1400	NA
15	54	Benzo(k)fluoranthene	0.0539 J	.78	8.8	78	4	NA
15	54	bis(2-Ethylhexyl)phthalate	0.05 J	NA	46	410	11	NA
15	54	Chromium, total	**32.5**	**27**	39	1000	**19**	**1**
15	54	Chrysene	0.064 J	.94	88	780	1	NA
15	54	Copper	**34.6**	**33**	310	8200	NA	100
15	54	Dieldrin	**0.00359 J**	.53	.04	.36	**.001**	NA
15	54	Fluoranthene	0.149 J	1.6	310	8200	980	NA
15	54	Lead	**62.5**	**43**	200	1000	**1.5**	**50**
15	54	Nickel	**29.3**	33	160	4100	**21**	30
15	54	Octachlorodibenzo-p-dioxin	**0.0537**	**.01**	NA	NA	NA	NA
15	54	Octachlorodibenzofuran	**0.0176**	**.00039**	NA	NA	NA	NA
15	54	Phenanthrene	0.068 J	.61	2300	61000	4300	NA
15	54	Pyrene	0.095 J	1.5	230	6100	1400	NA
15	54	Zinc	**118**	130	2300	61000	42000	**50**
15	72	4,4'-DDE	0.00359 J	.16	1.9	17	.5	NA
15	72	4,4'-DDT	0.0129	.074	1.9	17	1	NA
15	72	Aluminum	**17100**	24000	7800	100000	NA	NA
15	72	Arsenic	**29**	**22**	**.43**	**3.8**	**15**	**10**
15	72	Barium	**152**	250	550	14000	**32**	500
15	72	Benzo(a)anthracene	0.26	.71	.88	7.8	.7	NA
15	72	Benzo(a)pyrene	**0.289**	.96	.088	.78	4	NA
15	72	Benzo(b)fluoranthene	0.32	.9	.88	7.8	4	NA
15	72	Benzo(g,h,i)perylene	0.19	.82	230	6100	1400	NA
15	72	Benzo(k)fluoranthene	0.299	.78	8.8	78	4	NA
15	72	Beryllium	**0.56 J**	1.1	**.15**	**1.3**	**180**	10
15	72	Calcium	1020	5800	NA	NA	NA	NA

Table 5-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
15	72	Chromium, total	32.8	27	39	1000	19	1
15	72	Chrysene	0.28	.94	88	780	1	NA
15	72	Cobalt	12.1	18	470	12000	NA	20
15	72	Copper	70.7	33	310	8200	NA	100
15	72	Fluoranthene	0.419	1.6	310	8200	980	NA
15	72	Indeno(1,2,3-cd)pyrene	0.26	.7	.88	7.8	35	NA
15	72	Iron	25300 J	37000	2300	61000	NA	NA
15	72	Lead	100	43	200	1000	1.5	50
15	72	Magnesium	3180	4600	NA	NA	NA	NA
15	72	Manganese	950	1300	180	4700	NA	NA
15	72	Nickel	40.8	33	160	4100	21	30
15	72	Phenanthrene	0.23	.61	2300	61000	4300	NA
15	72	Potassium	1460	2000	NA	NA	NA	NA
15	72	Pyrene	0.369	1.5	230	6100	1400	NA
15	72	Selenium	1.5	.81	39	1000	3	1
15	72	Vanadium	33.7	52	55	1400	NA	2
15	72	Zinc	186	130	2300	61000	42000	50
15	79	4,4'-DDT	0.063	.074	1.9	17	1	NA
15	79	Acenaphthylene	0.2 J	.19	NA	NA	NA	NA
15	79	alpha-Chlordane	0.098	.029	.49	4.4	2	NA
15	79	Aluminum	12000	24000	7800	100000	NA	NA
15	79	Anthracene	0.119 J	.096	2300	61000	4300	NA
15	79	Antimony	2.29 J	7	3.1	82	NA	5
15	79	Arsenic	37.7	22	.43	3.8	15	10
15	79	Barium	78.5	250	550	14000	32	500
15	79	Benzo(a)anthracene	1	.71	.88	7.8	.7	NA
15	79	Benzo(a)pyrene	1	.96	.088	.78	4	NA
15	79	Benzo(b)fluoranthene	1.5	.9	.88	7.8	4	NA
15	79	Benzo(g,h,i)perylene	0.54	.82	230	6100	1400	NA
15	79	Benzo(k)fluoranthene	1.39	.78	8.8	78	4	NA
15	79	Beryllium	0.369 J	1.1	.15	1.3	180	10
15	79	bis(2-Ethylhexyl)phthalate	0.0449 J	NA	46	410	11	NA

Table 5-1

Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
15	79	Cadmium	**1.6**	1.4	3.9	100	6	3
15	79	Calcium	725	5800	NA	NA	NA	NA
15	79	Carbazole	**0.0739 J**	.067	32	290	.5	NA
15	79	Chromium, total	**78**	27	**39**	1000	**19**	**1**
15	79	Chrysene	**1.69**	.94	88	780	**1**	NA
15	79	Cobalt	**10.1**	18	470	12000	NA	20
15	79	Copper	**65.5**	**33**	310	8200	NA	100
15	79	Dibenz(a,h)anthracene	**0.23 J**	.26	.088	.78	**11**	NA
15	79	Dieldrin	**0.1**	.53	.04	.36	.001	NA
15	79	Fluoranthene	**1.8**	**1.6**	310	8200	980	NA
15	79	gamma-Chlordane	**0.119**	.026	.49	4.4	2	NA
15	79	Indeno(1,2,3-cd)pyrene	0.599	.7	.88	7.8	35	NA
15	79	Iron	**20700 J**	37000	**2300**	61000	NA	NA
15	79	Lead	**1060**	43	**200**	**1000**	**1.5**	**50**
15	79	Magnesium	2340	4600	NA	NA	NA	NA
15	79	Manganese	**609**	1300	**180**	4700	NA	NA
15	79	Nickel	**30.3**	33	160	4100	**21**	**30**
15	79	Pentachlorophenol	**0.299**	NA	5.3	48	.2	NA
15	79	Phenanthrene	0.239 J	.61	2300	61000	4300	NA
15	79	Potassium	852	2000	NA	NA	NA	NA
15	79	Pyrene	**1.89**	**1.5**	230	6100	1400	NA
15	79	Selenium	**2.29**	**.81**	39	1000	3	1
15	79	Silver	0.45 J	2	39	1000	NA	2
15	79	Sodium	104 J	NA	NA	NA	NA	NA
15	79	Tetrachloroethene	0.008 J	NA	12	110	.04	NA
15	79	Vanadium	**25.5**	52	55	1400	NA	**2**
15	79	Zinc	**331**	**130**	2300	61000	42000	**50**
22	75	Acenaphthene	0.23 J	NA	470	12000	200	NA
22	75	Acenaphthene	0.23 J	NA	470	12000	200	NA
22	75	Anthracene	**0.359 J**	.096	2300	61000	4300	NA
22	75	Benzo(a)anthracene	**1.3**	**.71**	**.88**	7.8	**.7**	NA
22	75	Benzo(a)pyrene	**1.39**	**.96**	**.088**	**.78**	4	NA

Table 5-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
22	75	Benzo(b)fluoranthene	1.6	.9	.88	7.8	4	NA
22	75	Benzo(g,h,i)perylene	1	.82	230	6100	1400	NA
22	75	Benzo(k)fluoranthene	1.19	.78	8.8	78	4	NA
22	75	bis(2-Ethylhexyl)phthalate	0.1 J	NA	46	410	11	NA
22	75	Carbazole	0.429 J	.067	32	290	.5	NA
22	75	Chrysene	1.89	.94	88	780	1	NA
22	75	Dibenzofuran	0.11 J	NA	31	820	12	NA
22	75	Dibenzofuran	0.11 J	NA	31	820	12	NA
22	75	Fluoranthene	4.2	1.6	310	8200	980	NA
22	75	Fluorene	0.19 J	NA	310	8200	160	NA
22	75	Indeno(1,2,3-cd)pyrene	0.979	.7	.88	7.8	35	NA
22	75	Methylene chloride	0.006 J	NA	85	760	.01	NA
22	75	Naphthalene	0.0719 J	NA	310	8200	30	NA
22	75	Phenanthrene	3	.61	2300	61000	4300	NA
22	75	Phenanthrene	3	.61	2300	61000	4300	NA
22	75	Pyrene	3.6	1.5	230	6100	1400	NA
22	77	4,4'-DDE	0.0609	.16	1.9	17	.5	NA
22	77	4,4'-DDT	0.0129	.074	1.9	17	1	NA
22	77	4,4'-DDT	0.26	.074	1.9	17	1	NA
22	77	Acenaphthene	4.09 J	NA	470	12000	200	NA
22	77	alpha-Chlordane	0.024 J	.029	.49	4.4	2	NA
22	77	Aluminum	10100	24000	7800	100000	NA	NA
22	77	Anthracene	6.7 J	.096	2300	61000	4300	NA
22	77	Antimony	7.4	7	3.1	82	NA	5
22	77	Arsenic	14.8	22	.43	3.8	15	10
22	77	Barium	114	250	550	14000	32	500
22	77	Benzo(a)anthracene	26	.71	.88	7.8	.7	NA
22	77	Benzo(a)pyrene	26	.96	.088	.78	4	NA
22	77	Benzo(b)fluoranthene	26	.9	.88	7.8	4	NA
22	77	Benzo(g,h,i)perylene	18	.82	230	6100	1400	NA
22	77	Benzo(k)fluoranthene	20	.78	8.8	78	4	NA
22	77	Beryllium	0.359 J	1.1	.15	1.3	180	10

Table 5-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
22	77	Cadmium	0.45 J	1.4	3.9	100	6	3
22	77	Calcium	2020	5800	NA	NA	NA	NA
22	77	Carbazole	4 J	.067	32	290	.5	NA
22	77	Chromium, total	25.3	27	39	1000	19	1
22	77	Chrysene	30	.94	88	780	1	NA
22	77	Cobalt	8.8	18	470	12000	NA	20
22	77	Copper	51.6	33	310	8200	NA	100
22	77	Dieldrin	0.032 J	.53	.04	.36	.001	NA
22	77	Fluoranthene	67	1.6	310	8200	980	NA
22	77	Fluorene	2.6 J	NA	310	8200	160	NA
22	77	gamma-Chlordane	0.04	.026	.49	4.4	2	NA
22	77	Indeno(1,2,3-cd)pyrene	17	.7	.88	7.8	35	NA
22	77	Iron	18300	37000	2300	61000	NA	NA
22	77	Lead	71.2	43	200	1000	1.5	50
22	77	Magnesium	2290	4600	NA	NA	NA	NA
22	77	Manganese	552	1300	180	4700	NA	NA
22	77	Mercury	0.14	.43	2.3	61	3	.3
22	77	Methylene chloride	0.003 J	NA	85	760	.01	NA
22	77	Methylene chloride	0.003 J	NA	85	760	.01	NA
22	77	Nickel	26.8	33	160	4100	21	30
22	77	Pentachlorophenol	0.32	NA	5.3	48	.2	NA
22	77	Phenanthrene	36	.61	2300	61000	4300	NA
22	77	Potassium	939	2000	NA	NA	NA	NA
22	77	Pyrene	56	1.5	230	6100	1400	NA
22	77	Sodium	192 J	NA	NA	NA	NA	NA
22	77	Vanadium	24.5 J	52	55	1400	NA	2
22	77	Zinc	104	130	2300	61000	42000	50
23	82	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000005 J	NA	NA	NA	NA	NA
23	82	Aluminum	9930	24000	7800	100000	NA	NA
23	82	Arsenic	24.3	22	.43	3.8	15	10
23	82	Barium	119	250	550	14000	32	500
23	82	Benzo(a)anthracene	0.0439 J	.71	.88	7.8	.7	NA

Table 5-1

Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
23	82	Benzo(a)pyrene	0.07 J	.96	.088	.78	4	NA
23	82	Benzo(b)fluoranthene	0.0589 J	.9	.88	7.8	4	NA
23	82	Benzo(g,h,i)perylene	0.0539 J	.82	230	6100	1400	NA
23	82	Benzo(k)fluoranthene	0.0599 J	.78	8.8	78	4	NA
23	82	Benzylbutylphthalate	0.083 J	NA	1600	41000	68	NA
23	82	Beryllium	**0.409 J**	1.1	**.15**	1.3	160	10
23	82	bis(2-Ethylhexyl)phthalate	0.92	NA	46	410	11	NA
23	82	Calcium	1850	5800	NA	NA	NA	NA
23	82	Chromium, total	**25.8**	27	39	1000	**19**	1
23	82	Chrysene	0.0619 J	.94	88	780	1	NA
23	82	Cobalt	7.59	18	470	12000	NA	20
23	82	Copper	**33.2**	**33**	310	8200	NA	100
23	82	Dieldrin	**0.179**	.53	**.04**	.36	**.001**	NA
23	82	Fluoranthene	0.066 J	1.6	310	8200	980	NA
23	82	Indeno(1,2,3-cd)pyrene	0.05 J	.7	.88	7.8	35	NA
23	82	Iron	**17100**	37000	**2300**	61000	NA	NA
23	82	Lead	**50.7**	**43**	200	1000	**1.5**	**50**
23	82	Magnesium	2070	4600	NA	NA	NA	NA
23	82	Manganese	575	1300	180	4700	NA	NA
23	82	Methylene chloride	0.003 J	NA	85	760	.01	NA
23	82	Nickel	**35.5**	**33**	160	4100	**21**	**30**
23	82	Octachlorodibenzo-p-dioxin	**0.0102**	**.01**	NA	NA	NA	NA
23	82	Octachlorodibenzofuran	0.00001 J	.00039	NA	NA	NA	NA
23	82	Potassium	899	2000	NA	NA	NA	NA
23	82	Pyrene	0.068 J	1.5	230	6100	1400	NA
23	82	Sodium	129 J	NA	NA	NA	NA	NA
23	82	Vanadium	**25.8 J**	52	55	1400	NA	**2**
23	82	Zinc	152	130	2300	61000	42000	**50**
24	81	4,4'-DDE	0.014 J	.16	1.9	17	.5	NA
24	81	4,4'-DDT	0.0109 J	.074	1.9	17	1	NA
24	81	Aluminum	**9490**	24000	**7800**	100000	NA	NA
24	81	Anthracene	0.0599 J	.096	2300	61000	4300	NA

Table 5-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
24	81	Arsenic	**10.3**	22	**.43**	3.8	15	**10**
24	81	Barium	**82**	250	550	14000	32	500
24	81	Benzo(a)anthracene	0.359	.71	.88	7.8	.7	NA
24	81	Benzo(a)pyrene	**0.4**	.96	**.088**	.78	4	NA
24	81	Benzo(b)fluoranthene	**0.38 J**	.9	.88	7.8	4	NA
24	81	Benzo(g,h,i)perylene	0.28	.82	230	6100	1400	NA
24	81	Benzo(k)fluoranthene	0.33	.78	8.8	78	4	NA
24	81	Benzo(k)fluoranthene	0.33 J	.78	8.8	78	4	NA
24	81	Beryllium	0.619	1.1	**.15**	1.3	180	10
24	81	bis(2-Ethylhexyl)phthalate	0.0519 J	NA	46	410	11	NA
24	81	Calcium	**32100**	**5800**	NA	NA	NA	NA
24	81	Carbazole	0.0609 J	.067	32	290	.5	NA
24	81	Chromium, total	**12.5**	27	39	1000	19	1
24	81	Chrysene	0.409	.94	88	780	1	NA
24	81	Cobalt	7.59	18	470	12000	NA	20
24	81	Copper	14.3 J	33	310	8200	NA	100
24	81	Fluoranthene	0.8	1.6	310	8200	980	NA
24	81	Indeno(1,2,3-cd)pyrene	0.32	.7	.88	7.8	35	NA
24	81	Iron	**17900 J**	37000	2300	61000	NA	NA
24	81	Lead	**15.1**	43	200	1000	**1.5**	**50**
24	81	Magnesium	**7060**	**4600**	NA	NA	NA	NA
24	81	Manganese	**467**	1300	**180**	4700	NA	NA
24	81	Nickel	13 J	33	160	4100	21	30
24	81	Pentachlorophenol	0.11 J	NA	5.3	48	.2	NA
24	81	Phenanthrene	0.359	.61	2300	61000	4300	NA
24	81	Phenanthrene	0.359 J	.61	2300	61000	4300	NA
24	81	Potassium	836	2000	NA	NA	NA	NA
24	81	Pyrene	0.579	1.5	230	6100	1400	NA
24	81	Sodium	**254 J**	NA	NA	NA	NA	NA
24	81	Vanadium	**44.8**	52	55	1400	NA	**2**
24	81	Zinc	**49.3 J**	130	2300	61000	42000	**50**
27	84	2-Methylnaphthalene	0.058 J	NA	**310**	8200	30	NA

Table 5-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
27	84	4,4'-DDT	0.016	.074	1.9	17	1	NA
27	84	4,4'-DDT	0.002 J	.074	1.9	17	1	NA
27	84	4,4'-DDT	0.016	.074	1.9	17	1	NA
27	84	Acenaphthene	0.819	NA	470	12000	200	NA
27	84	Acetone	0.006 J	NA	780	20000	8	NA
27	84	alpha-Chlordane	0.0719	.029	.49	4.4	2	NA
27	84	Aluminum	13600	24000	7800	100000	NA	NA
27	84	Anthracene	1.5	.096	2300	61000	4300	NA
27	84	Antimony	3.1 J	7	3.1	82	NA	5
27	84	Arsenic	15.8	22	.43	3.8	15	10
27	84	Barium	121	250	550	14000	32	500
27	84	Benzo(a)anthracene	2.89	.71	.88	7.8	.7	NA
27	84	Benzo(a)pyrene	2.6	.96	.088	.78	4	NA
27	84	Benzo(b)fluoranthene	2.2 J	.9	.88	7.8	4	NA
27	84	Benzo(g,h,i)perylene	2	.82	230	6100	1400	NA
27	84	Benzo(k)fluoranthene	2.7	.78	8.8	78	4	NA
27	84	Beryllium	0.45 J	1.1	.15	1.3	180	10
27	84	bis(2-Ethylhexyl)phthalate	0.69	NA	46	410	11	NA
27	84	Calcium	10300	5800	NA	NA	NA	NA
27	84	Carbazole	1.1	.067	32	290	.5	NA
27	84	Chromium, total	56.3	27	39	1000	19	1
27	84	Chrysene	3.39	.94	88	780	1	NA
27	84	Cobalt	8.69	18	470	12000	NA	20
27	84	Copper	36.6	33	310	8200	NA	100
27	84	Dibenzofuran	0.289 J	NA	31	820	12	NA
27	84	Fluoranthene	8.19	1.6	310	8200	980	NA
27	84	Fluorene	0.56	NA	310	8200	160	NA
27	84	gamma-Chlordane	0.084	.026	.49	4.4	2	NA
27	84	Indeno(1,2,3-cd)pyrene	2.2	.7	.88	7.8	35	NA
27	84	Iron	20800	37000	2300	61000	NA	NA
27	84	Lead	60.7	43	200	1000	1.5	50
27	84	Magnesium	2910	4600	NA	NA	NA	NA

Table 5-1

Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels

Screening Sites Sampling Program

Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
27	84	Manganese	634	1300	180	4700	NA	NA
27	84	Naphthalene	0.0889 J	NA	310	8200	30	NA
27	84	Nickel	37.2	33	160	4100	21	30
27	84	Phenanthrene	5.09	.61	2300	61000	4300	NA
27	84	Potassium	1050	2000	NA	NA	NA	NA
27	84	Pyrene	5.79	1.5	230	6100	1400	NA
27	84	Vanadium	27.5 J	52	55	1400	NA	2
27	84	Zinc	159	130	2300	61000	42000	50
28	89	4,4'-DDE	0.0909	.16	1.9	17	.5	NA
28	89	4,4'-DDT	0.0779	.074	1.9	17	1	NA
28	89	Aluminum	3240	24000	7800	100000	NA	NA
28	89	Arsenic	23.8	22	.43	3.8	15	10
28	89	Barium	30.5	250	550	14000	32	500
28	89	Beryllium	0.209 J	1.1	.15	1.3	180	10
28	89	Cadmium	2.2	1.4	3.9	100	6	3
28	89	Calcium	163000	5800	NA	NA	NA	NA
28	89	Chromium, total	539	27	39	1000	19	1
28	89	Cobalt	2.7 J	18	470	12000	NA	20
28	89	Copper	88.5	33	310	8200	NA	100
28	89	Iron	8140	37000	2300	61000	NA	NA
28	89	Lead	2470	43	200	1000	1.5	50
28	89	Magnesium	4760	4600	NA	NA	NA	NA
28	89	Manganese	154	1300	180	4700	NA	NA
28	89	Methylene chloride	0.003 J	NA	85	760	.01	NA
28	89	Methylene chloride	0.003 J	NA	85	760	.01	NA
28	89	Nickel	45.6	33	160	4100	21	30
28	89	Selenium	3.79 J	.81	39	1000	3	1
28	89	Vanadium	11.1 J	52	55	1400	NA	2
28	89	Zinc	1600	130	2300	61000	42000	50
29	56	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.00042 J	.00039	NA	NA	NA	NA
29	56	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000049 J	NA	NA	NA	NA	NA
29	56	Acetone	0.0129	NA	780	20000	8	NA

Tabl. -1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
29	56	Aluminum	23300	24000	7800	100000	NA	NA
29	56	Arsenic	20.1	22	.43	3.8	15	10
29	56	Barium	238	250	550	14000	32	500
29	56	Beryllium	0.359 J	1.1	.15	1.3	180	10
29	56	bis(2-Ethylhexyl)phthalate	0.13 J	NA	46	410	11	NA
29	56	Calcium	63500	5800	NA	NA	NA	NA
29	56	Chromium, total	71.5	27	39	1000	19	1
29	56	Cobalt	17.8	18	470	12000	NA	20
29	56	Copper	78.4	33	310	8200	NA	100
29	56	Dieldrin	0.0027 J	.53	.04	.36	.001	NA
29	56	Iron	66100	37000	2300	61000	NA	NA
29	56	Lead	308	43	200	1000	1.5	50
29	56	Magnesium	5360	4600	NA	NA	NA	NA
29	56	Manganese	1500	1300	180	4700	NA	NA
29	56	Nickel	43.7	33	160	4100	21	30
29	56	Octachlorodibenzo-p-dioxin	0.00533	.01	NA	NA	NA	NA
29	56	Octachlorodibenzofuran	0.000161 J	.00039	NA	NA	NA	NA
29	56	Potassium	2450	2000	NA	NA	NA	NA
29	56	Sodium	402	NA	NA	NA	NA	NA
29	56	Vanadium	50.8	52	55	1400	NA	2
29	56	Zinc	158	130	2300	61000	42000	50
30	83	4,4'-DDE	0.44	.16	1.9	17	.5	NA
30	83	4,4'-DDT	1.69	.074	1.9	17	1	NA
30	83	Aluminum	16700	24000	7800	100000	NA	NA
30	83	Antimony	4.29 J	7	3.1	82	NA	5
30	83	Arsenic	8.9	22	.43	3.8	15	10
30	83	Barium	366	250	550	14000	32	500
30	83	Beryllium	1.6	1.1	.15	1.3	180	10
30	83	bis(2-Ethylhexyl)phthalate	0.094 J	NA	46	410	11	NA
30	83	Cadmium	2	1.4	3.9	100	6	3
30	83	Calcium	19400	5800	NA	NA	NA	NA
30	83	Chromium, total	1310 J	27	39	1000	19	1

Table 3-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
30	83	Cobalt	16.1	18	470	12000	NA	20
30	83	Copper	**39.3**	**33**	310	8200	NA	100
30	83	Iron	**54500**	**37000**	**2300**	61000	NA	NA
30	83	Lead	**2800**	**43**	**200**	**1000**	**1.5**	**50**
30	83	Magnesium	1540	4600	NA	NA	NA	NA
30	83	Manganese	**282**	1300	**180**	4700	NA	NA
30	83	Methylene chloride	0.004 J	NA	85	760	.01	NA
30	83	Nickel	**30.1**	33	160	4100	**21**	**30**
30	83	Potassium	**2370**	**2000**	NA	NA	NA	NA
30	83	Sodium	1080 J	NA	NA	NA	NA	NA
30	83	Vanadium	**29.1** J	52	55	**1400**	NA	**2**
30	83	Zinc	**2630**	130	**2300**	61000	42000	**50**
32	28	4,4'-DDE	0.0109	.16	**1.9**	**17**	.5	NA
32	28	4,4'-DDT	0.028	.074	1.9	17	**1**	NA
32	28	Acetone	0.004 J	NA	780	20000	**8**	NA
32	28	alpha-Chlordane	**0.0719**	**.029**	.49	4.4	**2**	NA
32	28	Arsenic	**21.1**	22	**.43**	**3.8**	**15**	**10**
32	28	Benzo(a)anthracene	0.05 J	.71	.88	7.8	.7	NA
32	28	Benzo(a)pyrene	0.0589 J	.96	.088	.78	4	NA
32	28	Benzo(b)fluoranthene	0.0759 J	.9	.88	7.8	4	NA
32	28	Benzo(g,h,i)perylene	0.049 J	.82	230	6100	1400	NA
32	28	Benzo(k)fluoranthene	0.0729 J	.78	8.8	78	4	NA
32	28	bis(2-Ethylhexyl)phthalate	0.27 J	NA	46	410	11	NA
32	28	Cadmium	**1.8**	**1.4**	3.9	100	**6**	**3**
32	28	Chromium, total	**30.8**	**27**	39	1000	**19**	**1**
32	28	Chrysene	0.0729 J	.94	88	780	**1**	NA
32	28	Copper	**38.3**	**33**	310	8200	NA	100
32	28	Dieldrin	**0.02**	.53	.04	.36	**.001**	NA
32	28	Fluoranthene	0.098 J	1.6	310	8200	980	NA
32	28	gamma-Chlordane	**0.11**	**.026**	.49	4.4	**2**	NA
32	28	Indeno(1,2,3-cd)pyrene	0.0439 J	.7	.88	7.8	35	NA
32	28	Lead	**45.7**	**43**	200	1000	**1.5**	**50**

Table 5-1
Compounds Detected In Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
32	28	Nickel	**34.2**	**33**	160	4100	**21**	**30**
32	28	Phenanthrene	0.0379 J	.61	2300	61000	4300	NA
32	28	Pyrene	0.097 J	1.5	230	6100	1400	NA
32	28	Zinc	**1530**	**130**	2300	61000	42000	**50**
33	42	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	**0.00694**	**.00039**	NA	NA	NA	NA
33	42	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.00256	NA	NA	NA	NA	NA
33	42	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.0000429 J	NA	NA	NA	NA	NA
33	42	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.000035 J	NA	NA	NA	NA	NA
33	42	1,2,3,4,7,8-Hexachlorodibenzofuran	0.00004 J	NA	NA	NA	NA	NA
33	42	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.000115 J	NA	NA	NA	NA	NA
33	42	1,2,3,6,7,8-Hexachlorodibenzofuran	0.0000389 J	NA	NA	NA	NA	NA
33	42	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000069 J	NA	NA	NA	NA	NA
33	42	2,3,4,6,7,8-Hexachlorodibenzofuran	0.000038 J	NA	NA	NA	NA	NA
33	42	Aluminum	**20500**	24000	**7800**	100000	NA	NA
33	42	Antimony	**4.2 J**	7	**3.1**	82	NA	5
33	42	Arsenic	**15.5 J**	22	**.43**	**3.8**	**15**	**10**
33	42	Barium	**169**	250	550	14000	**32**	500
33	42	Beryllium	**0.54 J**	1.1	**.15**	1.3	180	10
33	42	Calcium	1690	5800	NA	NA	NA	NA
33	42	Chromium, total	**19.3 J**	27	39	1000	**19**	1
33	42	Cobalt	13.1	18	470	12000	NA	20
33	42	Copper	**22.1**	33	310	8200	NA	**100**
33	42	Dieldrin	**0.033**	.53	.04	.36	**.001**	NA
33	42	Iron	**28200**	37000	**2300**	61000	NA	NA
33	42	Lead	**18.1**	43	200	1000	**1.5**	50
33	42	Magnesium	3510	4600	NA	NA	NA	NA
33	42	Manganese	**831**	1300	**180**	4700	NA	NA
33	42	Nickel	**24.6**	33	160	4100	**21**	30
33	42	Octachlorodibenzo-p-dioxin	**0.0356**	**.01**	NA	NA	NA	NA
33	42	Octachlorodibenzofuran	**0.00573**	**.00039**	NA	NA	NA	NA
33	42	Potassium	1630	2000	NA	NA	NA	NA
33	42	Pyrene	0.05 J	1.5	230	6100	1400	NA

Table 3-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
33	42	Vanadium	**40.2 J**	52	55	1400	NA	**2**
33	42	Zinc	**81.2**	130	2300	61000	42000	**50**
33	43	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	**0.0198**	**.00039**	NA	NA	NA	NA
33	43	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.00197 J	NA	NA	NA	NA	NA
33	43	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.000128 J	NA	NA	NA	NA	NA
33	43	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.0000599 J	NA	NA	NA	NA	NA
33	43	1,2,3,4,7,8-Hexachlorodibenzofuran	0.000084 J	NA	NA	NA	NA	NA
33	43	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.000329 J	NA	NA	NA	NA	NA
33	43	1,2,3,6,7,8-Hexachlorodibenzofuran	0.000024 J	NA	NA	NA	NA	NA
33	43	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000127 J	NA	NA	NA	NA	NA
33	43	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.0000449 J	NA	NA	NA	NA	NA
33	43	2,3,4,6,7,8-Hexachlorodibenzofuran	0.0000129 J	NA	NA	NA	NA	NA
33	43	2-Methylnaphthalene	0.13 J	NA	310	8200	30	NA
33	43	4,4'-DDD	**0.033 J**	**.0067**	2.7	24	.7	NA
33	43	4,4'-DDE	**0.52**	**.16**	1.9	17	.5	NA
33	43	4,4'-DDT	**1.39**	**.074**	1.9	17	1	NA
33	43	Acenaphthylene	0.0739 J	.19	NA	NA	NA	NA
33	43	Aluminum	**8190**	24000	**7800**	100000	NA	NA
33	43	Anthracene	0.0529 J	.096	2300	61000	4300	NA
33	43	Arsenic	**28**	**22**	**.43**	**3.8**	**15**	**10**
33	43	Barium	**84.4**	250	550	14000	32	500
33	43	Benzo(a)anthracene	0.419	.71	.88	7.8	.7	NA
33	43	Benzo(a)pyrene	**0.5**	.96	**.088**	.78	4	NA
33	43	Benzo(b)fluoranthene	0.46	.9	.88	7.8	4	NA
33	43	Benzo(g,h,i)perylene	0.429	.82	230	6100	1400	NA
33	43	Benzo(k)fluoranthene	0.489	.78	8.8	78	4	NA
33	43	Beryllium	**0.689**	1.1	**.15**	1.3	180	10
33	43	Calcium	**6160**	**5800**	NA	NA	NA	NA
33	43	Chromium, total	**11.6**	27	39	1000	19	**1**
33	43	Chrysene	0.54	.94	88	780	1	NA
33	43	Cobalt	6.7	18	470	12000	NA	20
33	43	Copper	**38.5 J**	33	310	8200	NA	100

Tab. S-1

Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
33	43	Dibenzofuran	0.05 J	NA	31	820	12	NA
33	43	Fluoranthene	1	1.6	310	8200	980	NA
33	43	Indeno(1,2,3-cd)pyrene	0.369 J	.7	.88	7.8	35	NA
33	43	Iron	19400 J	37000	2300	61000	NA	NA
33	43	Lead	34.5	43	200	1000	1.5	50
33	43	Magnesium	1320	4600	NA	NA	NA	NA
33	43	Manganese	303	1300	180	4700	NA	NA
33	43	Naphthalene	0.0449 J	NA	310	8200	30	NA
33	43	Nickel	14 J	33	160	4100	21	30
33	43	Octachlorodibenzo-p-dioxin	0.0721	.01	NA	NA	NA	NA
33	43	Octachlorodibenzofuran	0.0267	.00039	NA	NA	NA	NA
33	43	Phenanthrene	0.369 J	.61	2300	61000	4300	NA
33	43	Potassium	771	2000	NA	NA	NA	NA
33	43	Pyrene	0.78	1.5	230	6100	1400	NA
33	43	Selenium	0.66	.81	39	1000	3	1
33	43	Sodium	277 J	NA	NA	NA	NA	NA
33	43	Vanadium	23.1	52	55	1400	NA	2
33	43	Zinc	67.7 J	130	2300	61000	42000	50
33	46	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.0234	.00039	NA	NA	NA	NA
33	46	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.012	NA	NA	NA	NA	NA
33	46	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.000585 J	NA	NA	NA	NA	NA
33	46	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.000248 J	NA	NA	NA	NA	NA
33	46	1,2,3,4,7,8-Hexachlorodibenzofuran	0.00127 J	NA	NA	NA	NA	NA
33	46	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.00131 J	NA	NA	NA	NA	NA
33	46	1,2,3,6,7,8-Hexachlorodibenzofuran	0.000343 J	NA	NA	NA	NA	NA
33	46	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000507 J	NA	NA	NA	NA	NA
33	46	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.000113 J	NA	NA	NA	NA	NA
33	46	1,2,3,7,8-Pentachlorodibenzofuran	0.0000299 J	NA	NA	NA	NA	NA
33	46	2,3,4,6,7,8-Hexachlorodibenzofuran	0.000178 J	NA	NA	NA	NA	NA
33	46	2,3,4,7,8-Pentachlorodibenzofuran	0.000024 J	NA	NA	NA	NA	NA
33	46	2-Methylnaphthalene	0.0389 J	NA	310	8200	30	NA
33	46	4,4'-DDE	1.6	.16	1.9	17	.5	NA

Table 5-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
33	46	4,4'-DDT	3.1	.074	1.9	17	1	NA
33	46	Acetone	0.005 J	NA	780	20000	8	NA
33	46	Acetone	0.005 J	NA	780	20000	8	NA
33	46	alpha-Chlordane	3.39	.029	.49	4.4	2	NA
33	46	Aluminum	4480	24000	7800	100000	NA	NA
33	46	Anthracene	0.0599 J	.096	2300	61000	4300	NA
33	46	Arsenic	25	22	.43	3.8	15	10
33	46	Barium	69	250	550	14000	32	500
33	46	Benzo(a)anthracene	0.33 J	.71	.88	7.8	.7	NA
33	46	Benzo(a)pyrene	0.359 J	.96	.088	.78	4	NA
33	46	Benzo(b)fluoranthene	0.39	.9	.88	7.8	4	NA
33	46	Benzo(g,h,i)perylene	0.239 J	.82	230	6100	1400	NA
33	46	Benzo(k)fluoranthene	0.429	.78	8.8	78	4	NA
33	46	Beryllium	0.34 J	1.1	.15	1.3	180	10
33	46	Calcium	24100	5800	NA	NA	NA	NA
33	46	Carbazole	0.0509 J	.067	32	290	.5	NA
33	46	Chromium, total	9.19	27	39	1000	19	1
33	46	Chrysene	0.46	.94	88	780	1	NA
33	46	Cobalt	5.5 J	18	470	12000	NA	20
33	46	Copper	17.8 J	33	310	8200	NA	100
33	46	Fluoranthene	0.569 J	1.6	310	8200	980	NA
33	46	gamma-Chlordane	3.29	.026	.49	4.4	2	NA
33	46	Indeno(1,2,3-cd)pyrene	0.239 J	.7	.88	7.8	35	NA
33	46	Iron	13900 J	37000	2300	61000	NA	NA
33	46	Lead	26	43	200	1000	1.5	50
33	46	Magnesium	1860	4600	NA	NA	NA	NA
33	46	Manganese	206	1300	180	4700	NA	NA
33	46	Methylene chloride	0.001 J	NA	85	760	.01	NA
33	46	Methylene chloride	0.001 J	NA	85	760	.01	NA
33	46	Nickel	12.5 J	33	160	4100	21	30
33	46	Octachlorodibenzo-p-dioxin	0.035	.01	NA	NA	NA	NA
33	46	Octachlorodibenzofuran	0.0322	.00039	NA	NA	NA	NA

Tabl. 5-1
Compounds Detected In Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
33	46	Phenanthrene	0.359 J	.61	2300	61000	4300	NA
33	46	Potassium	484 J	2000	NA	NA	NA	NA
33	46	Pyrene	0.93	1.5	230	6100	1400	NA
33	46	Selenium	0.44 J	.81	39	1000	3	1
33	46	Vanadium	18.3	52	55	1400	NA	2
33	46	Zinc	52.7 J	130	2300	61000	42000	50
33	80	2-Methylnaphthalene	0.0509 J	NA	310	8200	30	NA
33	80	Acetone	0.0109	NA	780	20000	8	NA
33	80	Aluminum	3470	24000	7800	100000	NA	NA
33	80	Aroclor-1260	0.739 J	.11	.083	.74	NA	NA
33	80	Arsenic	19.1	22	.43	3.8	15	10
33	80	Barium	37.6	250	550	14000	32	500
33	80	Benzo(a)anthracene	1.3	.71	.88	7.8	.7	NA
33	80	Benzo(a)pyrene	1.39	.96	.088	.78	4	NA
33	80	Benzo(b)fluoranthene	1.19	.9	.88	7.8	4	NA
33	80	Benzo(g,h,i)perylene	0.0589 J	.82	230	6100	1400	NA
33	80	Benzo(k)fluoranthene	1.3	.78	8.8	78	4	NA
33	80	Beryllium	0.14 J	1.1	.15	1.3	180	10
33	80	Cadmium	0.569	1.4	3.9	100	6	3
33	80	Chromium, total	39	27	39	1000	19	1
33	80	Chrysene	1.3	.94	88	780	1	NA
33	80	Cobalt	2.29 J	18	470	12000	NA	20
33	80	Copper	63.7	33	310	8200	NA	100
33	80	Fluoranthene	2.29	1.6	310	8200	980	NA
33	80	Indeno(1,2,3-cd)pyrene	0.0449 J	.7	.88	7.8	35	NA
33	80	Iron	7030 J	37000	2300	61000	NA	NA
33	80	Lead	237	43	200	1000	1.5	50
33	80	Magnesium	7020	4600	NA	NA	NA	NA
33	80	Manganese	154	1300	180	4700	NA	NA
33	80	Methylene chloride	0.003 J	NA	85	760	.01	NA
33	80	Methylene chloride	0.003 J	NA	85	760	.01	NA
33	80	Nickel	27.6	33	160	4100	21	30

Table 5-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
33	80	Phenanthrene	**1.39**	**.61**	2300	61000	4300	NA
33	80	Potassium	360 J	2000	NA	NA	NA	NA
33	80	Pyrene	**1.69**	**1.5**	230	6100	1400	NA
33	80	Selenium	**2**	**.81**	39	1000	3	1
33	80	Total Xylenes	0.002 J	.009	16000	100000	74	NA
33	80	Total Xylenes	0.002 J	.009	16000	100000	74	NA
33	80	Vanadium	**9.19**	52	55	1400	NA	**2**
33	80	Zinc	**308**	**130**	2300	61000	42000	**50**
35	31	2-Methylnaphthalene	0.084 J	NA	310	8200	30	NA
35	31	Aluminum	6600	24000	7800	100000	NA	NA
35	31	Arsenic	**16.1**	22	**.43**	**3.8**	**15**	**10**
35	31	Barium	**109**	250	550	14000	**32**	500
35	31	Benzo(a)anthracene	0.34	.71	.88	7.8	.7	NA
35	31	Benzo(a)pyrene	**0.33**	.96	**.088**	.78	4	NA
35	31	Benzo(b)fluoranthene	0.289	.9	.88	7.8	4	NA
35	31	Benzo(g,h,i)perylene	0.25	.82	230	6100	1400	NA
35	31	Benzo(k)fluoranthene	0.26	.78	8.8	78	4	NA
35	31	Beryllium	**0.719**	1.1	**.15**	1.3	180	10
35	31	Bromomethane	0.002 J	NA	11	290	**.1**	NA
35	31	Cadmium	**8.09**	**1.4**	**3.9**	100	**6**	**3**
35	31	Calcium	**7100**	**5800**	NA	NA	NA	NA
35	31	Chromium, total	**530**	**27**	**39**	1000	**19**	1
35	31	Chrysene	0.34	.94	88	780	1	NA
35	31	Cobalt	6.79	18	470	12000	NA	20
35	31	Copper	**33.5**	**33**	310	8200	NA	100
35	31	Fluoranthene	0.52	1.6	310	8200	980	NA
35	31	Indeno(1,2,3-cd)pyrene	**0.209**	.7	.88	7.8	35	NA
35	31	Iron	**14900**	37000	**2300**	61000	NA	NA
35	31	Lead	**664**	**43**	**200**	1000	**1.5**	**50**
35	31	Magnesium	**885**	4600	NA	NA	NA	NA
35	31	Manganese	**410**	1300	**180**	4700	NA	NA
35	31	Methylene chloride	0.007 J	NA	85	760	.01	NA

Table 3-1
Compounds Detected in Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
35	31	Naphthalene	0.1 J	NA	310	8200	30	NA
35	31	Nickel	**36.8**	**33**	160	4100	**21**	**30**
35	31	Phenanthrene	0.369	.61	2300	61000	4300	NA
35	31	Potassium	651	2000	NA	NA	NA	NA
35	31	Pyrene	0.429	1.5	230	6100	1400	NA
35	31	Silver	0.309 J	2	39	1000	NA	2
35	31	Sodium	336 J	NA	NA	NA	NA	NA
35	31	Vanadium	17.6 J	52	55	1400	NA	**2**
35	31	Zinc	**1560**	**130**	2300	61000	42000	**50**
35	33	4,4'-DDT	0.021 J	.074	1.9	17	**1**	NA
35	33	Acetone	0.005 J	NA	780	20000	**8**	NA
35	33	Aluminum	7410	24000	7800	100000	NA	NA
35	33	Antimony	2.7 J	7	**3.1**	82	NA	5
35	33	Arsenic	**19.6**	22	**.43**	**3.8**	**15**	**10**
35	33	Barium	**432**	**250**	550	14000	**32**	500
35	33	Benzo(a)anthracene	0.11 J	.71	.88	7.8	.7	NA
35	33	Benzo(a)pyrene	**0.13 J**	.96	**.088**	.78	4	NA
35	33	Benzo(b)fluoranthene	0.14 J	.9	.88	7.8	4	NA
35	33	Benzo(g,h,i)perylene	0.082 J	.82	230	6100	1400	NA
35	33	Benzo(k)fluoranthene	0.14 J	.78	8.8	78	4	NA
35	33	Beryllium	**0.45 J**	1.1	**.15**	1.3	**180**	**10**
35	33	bis(2-Ethylhexyl)phthalate	0.041 J	NA	46	410	**11**	NA
35	33	Cadmium	**2**	**1.4**	**3.9**	100	6	**3**
35	33	Calcium	**7360**	**5800**	NA	NA	NA	NA
35	33	Chromium, total	**158**	**27**	**39**	1000	**19**	**1**
35	33	Chrysene	0.16 J	.94	88	780	1	NA
35	33	Cobalt	4.2 J	18	470	12000	NA	20
35	33	Copper	**84.7**	**33**	310	8200	NA	**100**
35	33	Dieldrin	**0.1**	**.53**	**.04**	**.36**	**.001**	NA
35	33	Fluoranthene	0.209 J	1.6	310	8200	980	NA
35	33	Indeno(1,2,3-cd)pyrene	0.064 J	.7	.88	7.8	35	NA
35	33	Iron	**27900**	37000	2300	61000	NA	NA

Table ES-1
Compounds Detected In Surface Soil Compared to Surface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Risk-Based Concentrations Soil Ingestion[3] (mg/kg)		Groundwater Protection[4] (mg/kg)	Terrestrial/ Ecological[5] (mg/kg)
					Residential	Industrial		
35	33	Lead	751	43	200	1000	1.5	50
35	33	Magnesium	1380	4600	NA	NA	NA	NA
35	33	Manganese	291	1300	180	4700	NA	NA
35	33	Nickel	29.1	33	160	4100	21	30
35	33	Phenanthrene	0.149 J	.61	2300	61000	4300	NA
35	33	Potassium	582 J	2000	NA	NA	NA	NA
35	33	Pyrene	0.32 J	1.5	230	6100	1400	NA
35	33	Sodium	261 J	NA	NA	NA	NA	NA
35	33	Vanadium	15 J	52	55	1400	NA	2
35	33	Zinc	1090	130	2300	61000	42000	50
AGA	73	4,4'-DDE	0.43 J	.0015	1.9	17	.5	NA
AGA	73	4,4'-DDT	6.7	.074	1.9	17	1	NA
AGA	73	Dieldrin	0.75 J	.53	.04	.36	.001	NA

Notes:
1. The parameter listing includes only the parameters detected within each site and not all the parameters analyzed.
2. Background values are from Table 5-1 of the *Draft Background Sampling Program Technical Memorandum*, CH2M HILL, September 1996.
3. Risk-based Concentrations are from the *EPA Region III Risk-Based Concentrations Table*, R.L. Smith, April 30, 1996.
4. Groundwater Protection Values are from the *EPA Region III Risk-Based Concentrations Table*, R.L. Smith, April 30, 1996.
5. Terrestrial Ecological Values are from *Toxicological Benchmark for Screening Potential Contaminants of Concern for Effects on Terrestrial Plants*, Suter II, Will, and Evans, 1993.

Bold text indicates detections that exceed a screening level value and the associated screening level value that was exceeded.
NA - indicates screening level values are not available for comparison.
J - indicates estimated value above the detection limit but below the reporting limit.

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
3	51	4,4'-DDE	**0.08**	**.0015**	.5
3	51	4,4'-DDT	**0.56**	**.0072**	1
3	51	Acenaphthene	0.0909 J	NA	200
3	51	Acetone	0.0739	NA	8
3	51	Anthracene	**0.14 J**	NA	4300
3	51	Arsenic	**24.6**	**17**	15
3	51	Benzo(a)anthracene	0.589	NA	.7
3	51	Benzo(a)pyrene	0.589	NA	4
3	51	Benzo(b)fluoranthene	0.66	NA	4
3	51	Benzo(g,h,i)perylene	0.5	NA	1400
3	51	Benzo(k)fluoranthene	0.54	NA	4
3	51	Beryllium	**1.39**	1.2	180
3	51	Beryllium	**1.39**	1.2	180
3	51	bis(2-Ethylhexyl)phthalate	1.6	NA	11
3	51	Bromomethane	0.002 J	NA	.1
3	51	Bromomethane	0.002 J	NA	.1
3	51	Cadmium	1.3	1.4	6
3	51	Carbazole	0.149 J	NA	.5
3	51	Chromium, total	**49.1**	**26**	**19**
3	51	Chrysene	0.709	NA	1
3	51	Copper	32.6	33	NA
3	51	Dieldrin	**0.063 J**	.37	**.001**
3	51	Fluoranthene	**1.6**	**.045**	980
3	51	Fluorene	0.0779	NA	160
3	51	Indeno(1,2,3-cd)pyrene	0.419	NA	35
3	51	Lead	**63.2**	**24**	**1.5**
3	51	Methyl Ethyl Ketone (2-Butanone)	0.003 J	NA	NA
3	51	Methylene chloride	0.002 J	NA	.01
3	51	Nickel	**57.6**	**37**	**21**
3	51	Phenanthrene	0.89	NA	4300
3	51	Pyrene	**1.19**	**.042**	1400
3	51	Selenium	**1.6**	**.64**	3
3	51	Zinc	**146**	**110**	42000
3	52	4,4'-DDE	**0.429 J**	**.0015**	.5
3	52	4,4'-DDE	**0.0043 J**	**.0015**	.5
3	52	4,4'-DDT	**0.239 J**	**.0072**	1
3	52	4,4'-DDT	**0.021**	**.0072**	1
3	52	Arsenic	**23.1**	**17**	15
3	52	Beryllium	**1.3**	**1.2**	180
3	52	Cadmium	**1.5**	**1.4**	6
3	52	Chromium, total	**53.2**	**26**	**19**
3	52	Copper	**36.1**	**33**	NA
3	52	Dieldrin	**0.289 J**	.37	**.001**
3	52	Lead	**31.6**	**24**	**1.5**
3	52	Nickel	**40.2**	**37**	**21**
3	52	Zinc	**133**	**110**	42000
3	69	Benzo(a)anthracene	0.14	NA	.7
3	69	Benzo(a)pyrene	0.119	NA	4

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
3	69	Benzo(b)fluoranthene	0.16	NA	4
3	69	Benzo(k)fluoranthene	0.1	NA	4
3	69	Chrysene	0.13	NA	1
3	69	Fluoranthene	0.19	.045	980
3	69	Phenanthrene	0.1	NA	4300
3	69	Pyrene	0.16	.042	1400
4	66	Acetone	0.006 J	NA	8
4	66	Aluminum	11000	22000	NA
4	66	Arsenic	1.19	17	15
4	66	Barium	154	300	32
4	66	Beryllium	0.26 J	1.2	180
4	66	bis(2-Ethythexyl)phthalate	5.29	NA	11
4	66	Calcium	1830	2400	NA
4	66	Chloroform	0.002 J	NA	.3
4	66	Chromium, total	14.3	26	19
4	66	Cobalt	5 J	20	NA
4	66	Copper	18.8 J	33	NA
4	66	Di-n-butylphthalate	0.0769 J	NA	120
4	66	Fluoranthene	0.0779 J	.045	980
4	66	Iron	9190 J	38000	NA
4	66	Lead	10.5	24	1.5
4	66	Magnesium	2050	4900	NA
4	66	Manganese	49.3	1500	NA
4	66	Methylene chloride	0.002 J	NA	.01
4	66	Nickel	20.1 J	37	21
4	66	Phenanthrene	0.0779 J	NA	4300
4	66	Potassium	835	1800	NA
4	66	Pyrene	0.066 J	.042	1400
4	66	Vanadium	16.5	51	NA
4	66	Zinc	62.6 J	110	42000
4	67	Acetone	0.005 J	NA	8
4	67	Aluminum	12600	22000	NA
4	67	Arsenic	17.3	17	15
4	67	Barium	115	300	32
4	67	Benzene	0.39	NA	.02
4	67	Beryllium	1.19	1.2	180
4	67	Calcium	1530	2400	NA
4	67	Chromium, total	27.6	26	19
4	67	Cobalt	6 J	20	NA
4	67	Copper	33.8	33	NA
4	67	Ethylbenzene	0.099	NA	5
4	67	Iron	13700 J	38000	NA
4	67	Lead	20.5	24	1.5
4	67	Magnesium	2040	4900	NA
4	67	Manganese	421	1500	NA
4	67	Methyl Ethyl Ketone (2-Butanone)	0.016 J	NA	NA
4	67	Methylene chloride	0.002 J	NA	.01
4	67	Nickel	41.7	37	21

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
4	67	Potassium	663	1800	NA
4	67	Total Xylenes	0.22	.002	74
4	67	Vanadium	26.3	51	NA
4	67	Zinc	113	110	42000
7	65	Acenaphthene	1.1 J	NA	200
7	65	Acenaphthene	1.1 J	NA	200
7	65	Anthracene	2.79 J	NA	4300
7	65	Benzo(a)anthracene	15	NA	.7
7	65	Benzo(a)pyrene	17	NA	4
7	65	Benzo(b)fluoranthene	21	NA	4
7	65	Benzo(g,h,i)perylene	16	NA	1400
7	65	Benzo(k)fluoranthene	15	NA	4
7	65	Benzo(k)fluoranthene	15	NA	4
7	65	bis(2-Ethylhexyl)phthalate	0.309 J	NA	11
7	65	Carbazole	2.7 J	NA	.5
7	65	Carbazole	2.7 J	NA	.5
7	65	Chrysene	22	NA	1
7	65	Di-n-butylphthalate	0.0519 J	NA	120
7	65	Dibenzofuran	0.45 J	NA	12
7	65	Fluoranthene	39	.045	980
7	65	Fluorene	1.1 J	NA	160
7	65	Fluorene	1.1 J	NA	160
7	65	Indeno(1,2,3-cd)pyrene	15	NA	35
7	65	Phenanthrene	20	NA	4300
7	65	Pyrene	26	.042	1400
7	65	Zinc	196	110	42000
15	35	4,4'-DDE	0.002 J	.0015	.5
15	35	4,4'-DDT	0.0189	.0072	1
15	35	4,4'-DDT	0.00409	.0072	1
15	35	Acetone	0.13	NA	8
15	35	Aluminum	7850	22000	NA
15	35	Antimony	2.39 J	NA	NA
15	35	Arsenic	26.1	17	15
15	35	Barium	208	300	32
15	35	Benzo(a)anthracene	0.16 J	NA	.7
15	35	Benzo(a)pyrene	0.149 J	NA	4
15	35	Benzo(b)fluoranthene	0.14 J	NA	4
15	35	Benzo(b)fluoranthene	0.14 J	NA	4
15	35	Benzo(g,h,i)perylene	0.1 J	NA	1400
15	35	Benzo(k)fluoranthene	0.14 J	NA	4
15	35	Benzo(k)fluoranthene	0.14 J	NA	4
15	35	Benzylbutylphthalate	0.096 J	NA	68
15	35	Beryllium	1	1.2	180
15	35	Beryllium	1	1.2	180
15	35	bis(2-Ethylhexyl)phthalate	1.8	NA	11
15	35	Cadmium	0.45 J	1.4	6
15	35	Calcium	715	2400	NA
15	35	Chromium, total	40.6	26	19

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
15	35	Chrysene	0.2 J	NA	1
15	35	Cobalt	6.79	20	NA
15	35	Copper	**37**	**33**	NA
15	35	Di-n-butylphthalate	0.239 J	NA	120
15	35	Fluoranthene	**0.46**	**.045**	980
15	35	Indeno(1,2,3-cd)pyrene	0.094 J	NA	35
15	35	Indeno(1,2,3-cd)pyrene	0.094 J	NA	35
15	35	Iron	9010	38000	NA
15	35	Lead	**33.7**	**24**	**1.5**
15	35	Magnesium	944	4900	NA
15	35	Manganese	918 J	1500	NA
15	35	Methyl Ethyl Ketone (2-Butanone)	0.024	NA	NA
15	35	Methylene chloride	0.002 J	NA	.01
15	35	Methylene chloride	0.002 J	NA	.01
15	35	Methylene chloride	0.002 J	NA	.01
15	35	Nickel	**39.7**	**37**	**21**
15	35	Phenanthrene	0.33 J	NA	4300
15	35	Pyrene	**0.309 J**	**.042**	1400
15	35	Vanadium	16.8	51	NA
15	35	Zinc	**144**	**110**	42000
15	36	1,1,2,2-Tetrachloroethane	**0.02**	NA	**.001**
15	36	1,1-Dichloroethene	0.00899 J	NA	.03
15	36	4,4'-DDE	0.00129 J	.0015	.5
15	36	4,4'-DDE	**0.0379 J**	**.0015**	.5
15	36	4,4'-DDT	0.00389 J	.0072	1
15	36	4,4'-DDT	**0.23**	**.0072**	1
15	36	Acetone	0.1	NA	8
15	36	alpha-Chlordane	**0.0109 J**	**.0026**	2
15	36	Aluminum	15400	22000	NA
15	36	Antimony	18.1	NA	NA
15	36	Arsenic	**29.8**	**17**	**15**
15	36	Barium	**121**	300	**32**
15	36	Benzene	0.001 J	NA	.02
15	36	Benzo(a)anthracene	0.042 J	NA	.7
15	36	Benzo(a)pyrene	0.048 J	NA	4
15	36	Benzo(b)fluoranthene	0.056 J	NA	4
15	36	Benzo(g,h,i)perylene	0.0439 J	NA	1400
15	36	Benzo(k)fluoranthene	0.0609 J	NA	4
15	36	Benzylbutylphthalate	0.1 J	NA	68
15	36	Beryllium	**1.39**	**1.2**	180
15	36	bis(2-Ethythexyl)phthalate	**16**	NA	**11**
15	36	Cadmium	**2.1**	**1.4**	6
15	36	Calcium	590 J	2400	NA
15	36	Chloroform	0.003 J	NA	.3
15	36	Chromium, total	**45.2**	**26**	**19**
15	36	Chrysene	0.063 J	NA	1
15	36	Cobalt	9.3	20	NA
15	36	Copper	**86**	**33**	NA

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
15	36	Di-n-butylphthalate	0.149 J	NA	120
15	36	Dieldrin	**0.0149 J**	**.37**	**.001**
15	36	Fluoranthene	**0.11 J**	**.045**	980
15	36	gamma-Chlordane	**0.02**	**.0022**	2
15	36	Indeno(1,2,3-cd)pyrene	0.0449 J	NA	35
15	36	Iron	26400	38000	NA
15	36	Lead	**131**	**24**	**1.5**
15	36	Magnesium	2570	4900	NA
15	36	Manganese	1050 J	1500	NA
15	36	Methyl Ethyl Ketone (2-Butanone)	0.017	NA	NA
15	36	Methylene chloride	0.01 J	NA	.01
15	36	Nickel	**47.2**	**37**	**21**
15	36	Pentachlorophenol	0.11 J	NA	.2
15	36	Phenanthrene	0.0529 J	NA	4300
15	36	Potassium	1010	1800	NA
15	36	Pyrene	**0.0859 J**	**.042**	1400
15	36	Selenium	**14.5**	**.64**	**3**
15	36	Silver	0.63 J	.98	NA
15	36	Sodium	110 J	NA	NA
15	36	Tetrachloroethene	0.006 J	NA	.04
15	36	Total 1,2-Dichloroethene	0.11	NA	NA
15	36	Trichloroethene	**0.32**	NA	**.02**
15	36	Vanadium	30.8	51	NA
15	36	Zinc	**266**	**110**	42000
15	54	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.00993	NA	NA
15	54	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.0102	NA	NA
15	54	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.0000129 J	NA	NA
15	54	1,2,3,4,7,8-Hexachlorodibenzofuran	0.00001 J	NA	NA
15	54	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.0000969 J	NA	NA
15	54	1,2,3,6,7,8-Hexachlorodibenzofuran	0.000006 J	NA	NA
15	54	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.0000149 J	NA	NA
15	54	2,3,4,6,7,8-Hexachlorodibenzofuran	0.0000179 J	NA	NA
15	54	4,4'-DDE	**0.017 J**	**.0015**	.5
15	54	4,4'-DDT	0.00559 J	.0072	1
15	54	Acetone	**0.035**	NA	8
15	54	Arsenic	**27.3**	**17**	**15**
15	54	Benzo(a)anthracene	0.2 J	NA	.7
15	54	Benzo(a)pyrene	0.239 J	NA	4
15	54	Benzo(b)fluoranthene	0.299 J	NA	4
15	54	Benzo(g,h,i)perylene	0.209 J	NA	1400
15	54	Benzo(k)fluoranthene	0.23 J	NA	4
15	54	bis(2-Ethylhexyl)phthalate	1.39	NA	11
15	54	Cadmium	**2.39**	**1.4**	6
15	54	Chromium, total	**27.1**	**26**	**19**
15	54	Chrysene	0.289 J	NA	1
15	54	Copper	**78.7**	**33**	NA
15	54	Dibenz(a,h)anthracene	0.079 J	NA	11
15	54	Dieldrin	**0.119**	.37	**.001**

Table ES-2
Compounds Detected In Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
15	54	Dieldrin	**0.119**	.37	**.001**
15	54	Fluoranthene	**0.56**	**.045**	980
15	54	Indeno(1,2,3-cd)pyrene	0.179 J	NA	35
15	54	Lead	**213**	**24**	**1.5**
15	54	Nickel	**35.2**	37	**21**
15	54	Octachlorodibenzo-p-dioxin	**0.0561**	**.009**	NA
15	54	Octachlorodibenzofuran	0.0397	NA	NA
15	54	Phenanthrene	0.289 J	NA	4300
15	54	Pyrene	**0.45**	**.042**	1400
15	54	Selenium	**1.3**	**.64**	3
15	54	Zinc	**203**	110	42000
15	55	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.00164 J	NA	NA
15	55	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000378 J	NA	NA
15	55	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.000023 J	NA	NA
15	55	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.00005 J	NA	NA
15	55	2,3,4,6,7,8-Hexachlorodibenzofuran	0.0000149 J	NA	NA
15	55	4,4'-DDE	**0.00309 J**	**.0015**	.5
15	55	4,4'-DDT	**0.0088**	**.0072**	1
15	55	alpha-Chlordane	0.00075 J	.0025	2
15	55	Aluminum	14700	22000	NA
15	55	Arsenic	11.5 J	17	15
15	55	Barium	**170**	300	**32**
15	55	Benzo(a)anthracene	0.04 J	NA	.7
15	55	Benzo(a)pyrene	0.058 J	NA	4
15	55	Benzo(b)fluoranthene	0.0929 J	NA	4
15	55	Benzo(g,h,i)perylene	0.048 J	NA	1400
15	55	Benzo(k)fluoranthene	0.084 J	NA	4
15	55	Beryllium	0.579 J	1.2	180
15	55	Beryllium	0.579 J	1.2	180
15	55	Cadmium	0.429 J	1.4	6
15	55	Cadmium	0.429 J	1.4	6
15	55	Calcium	**5050**	**2400**	NA
15	55	Chromium, total	14.9	26	19
15	55	Chrysene	0.064 J	NA	1
15	55	Cobalt	11.5	20	NA
15	55	Cobalt	11.5	20	NA
15	55	Copper	20.1 J	33	NA
15	55	Copper	20.1 J	33	NA
15	55	Dieldrin	**0.0016 J**	.37	**.001**
15	55	Fluoranthene	**0.0769 J**	**.045**	980
15	55	gamma-Chlordane	0.000969 J	.0022	2
15	55	Iron	22300	38000	NA
15	55	Lead	**13.1 J**	24	**1.5**
15	55	Magnesium	2880	4900	NA
15	55	Manganese	1040 J	1500	NA
15	55	Nickel	**22.1**	37	**21**
15	55	Octachlorodibenzo-p-dioxin	**0.0108**	.009	NA
15	55	Octachlorodibenzofuran	0.000552 J	NA	NA

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
15	55	Potassium	1230	1800	NA
15	55	Pyrene	**0.07 J**	**.042**	1400
15	55	Vanadium	30.3	51	NA
15	55	Zinc	71 J	110	42000
15	74	4,4'-DDE	**0.024**	**.0015**	.5
15	74	4,4'-DDT	**0.0109 J**	**.0072**	1
15	74	Acetone	0.012 J	NA	8
15	74	Aluminum	15400	22000	NA
15	74	Anthracene	0.0539 J	NA	4300
15	74	Antimony	3.89 J	NA	NA
15	74	Arsenic	**28.3**	**17**	**15**
15	74	Barium	134	300	**32**
15	74	Benzo(a)anthracene	0.179 J	NA	.7
15	74	Benzo(a)pyrene	0.16 J	NA	4
15	74	Benzo(b)fluoranthene	0.209 J	NA	4
15	74	Benzo(g,h,i)perylene	0.14 J	NA	1400
15	74	Benzo(k)fluoranthene	0.179 J	NA	4
15	74	Beryllium	1.1	1.2	180
15	74	bis(2-Ethylhexyl)phthalate	1.19	NA	11
15	74	Cadmium	0.589 J	1.4	6
15	74	Calcium	1010	2400	NA
15	74	Carbazole	0.0779 J	NA	.5
15	74	Chromium, total	**46.2**	**26**	**19**
15	74	Chrysene	0.27 J	NA	1
15	74	Cobalt	10.5	20	NA
15	74	Copper	**44.2**	**33**	NA
15	74	Di-n-butylphthalate	0.739	NA	120
15	74	Dieldrin	**0.0389**	.37	.001
15	74	Diethylphthalate	0.179 J	NA	110
15	74	Fluoranthene	**0.54**	.045	980
15	74	Indeno(1,2,3-cd)pyrene	0.14 J	NA	35
15	74	Iron	23800	38000	NA
15	74	Lead	**38.2**	**24**	**1.5**
15	74	Magnesium	3110	4900	NA
15	74	Manganese	725 J	1500	NA
15	74	Methyl Ethyl Ketone (2-Butanone)	0.006 J	NA	NA
15	74	Nickel	**43.2**	**37**	**21**
15	74	Phenanthrene	0.369 J	NA	4300
15	74	Potassium	1350	1800	NA
15	74	Pyrene	**0.369 J**	.042	1400
15	74	Vanadium	33	51	NA
15	74	Zinc	**174**	**110**	42000
15	79	4,4'-DDT	**0.0179**	**.0072**	**1**
15	79	alpha-Chlordane	**0.0219**	.0026	2
15	79	Arsenic	**34.2**	**17**	**15**
15	79	Beryllium	**1.8**	**1.2**	180
15	79	Cadmium	0.88	1.4	6
15	79	Chromium, total	**140**	**26**	**19**

Table ES-2
Compounds Detected In Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
15	79	Copper	**56.7**	**33**	NA
15	79	gamma-Chlordane	**0.024**	**.0022**	2
15	79	Lead	**208**	**24**	**1.5**
15	79	Nickel	**64.7**	**37**	**21**
15	79	Selenium	**2**	**.64**	3
15	79	Thallium	**4.7**	NA	**.4**
15	79	Zinc	**223**	**110**	42000
21	76	4,4'-DDE	**0.0149**	**.0015**	.5
21	76	4,4'-DDT	**0.0189**	**.0072**	1
21	76	Acetone	0.006 J	NA	8
21	76	Acetone	0.006 J	NA	8
21	76	Acetone	0.006 J	NA	8
21	76	Aluminum	4840	22000	NA
21	76	Arsenic	**14.5**	17	15
21	76	Barium	8.5 J	300	32
21	76	Beryllium	1.19	1.2	180
21	76	Cadmium	**2.79**	**1.4**	6
21	76	Calcium	520 J	2400	NA
21	76	Chromium, total	**41.6**	**26**	**19**
21	76	Cobalt	1.1 J	20	NA
21	76	Copper	30	33	NA
21	76	Dieldrin	**0.289**	.37	.001
21	76	Iron	11600 J	38000	NA
21	76	Lead	**53.7**	**24**	**1.5**
21	76	Magnesium	279 J	4900	NA
21	76	Manganese	17.3	1500	NA
21	76	Methylene chloride	0.002 J	NA	.01
21	76	Nickel	**33.7**	37	**21**
21	76	Vanadium	23.6	51	NA
21	76	Zinc	91	110	42000
21	78	Acetone	0.079	NA	8
21	78	Aluminum	9360	22000	NA
21	78	Anthracene	0.13 J	NA	4300
21	78	Arsenic	**22.6**	**17**	**15**
21	78	Barium	**77.5**	300	**32**
21	78	Benzo(a)anthracene	0.429	NA	.7
21	78	Benzo(a)pyrene	0.309 J	NA	4
21	78	Benzo(b)fluoranthene	0.409	NA	4
21	78	Benzo(g,h,i)perylene	0.26 J	NA	1400
21	78	Benzo(k)fluoranthene	0.38 J	NA	4
21	78	Beryllium	**1.39**	1.2	180
21	78	bis(2-Ethylhexyl)phthalate	0.0619 J	NA	11
21	78	bis(2-Ethylhexyl)phthalate	0.0619 J	NA	11
21	78	Cadmium	**77.4**	**1.4**	**6**
21	78	Calcium	2310	2400	NA
21	78	Chlorobenzene	0.002 J	NA	.6
21	78	Chromium, total	**41.7**	**26**	**19**
21	78	Chrysene	0.67	NA	1

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
21	78	Cobalt	7.4	20	NA
21	78	Copper	**38.2**	**33**	NA
21	78	Di-n-butylphthalate	0.209 J	NA	120
21	78	Fluoranthene	**0.849**	**.045**	980
21	78	Fluoride, Free	**1.68**	NA	NA
21	78	Indeno(1,2,3-cd)pyrene	0.239 J	NA	35
21	78	Iron	15800 J	38000	NA
21	78	Lead	**28.1**	24	**1.5**
21	78	Magnesium	2510	4900	NA
21	78	Manganese	557	1500	NA
21	78	Methyl Ethyl Ketone (2-Butanone)	0.01 J	NA	NA
21	78	Methylene chloride	0.004 J	NA	.01
21	78	Nickel	**45.2**	**37**	**21**
21	78	Phenanthrene	0.299 J	NA	4300
21	78	Potassium	803	1800	NA
21	78	Pyrene	**0.739**	**.042**	1400
21	78	Selenium	**1.5**	**.64**	3
21	78	Sodium	157 J	NA	NA
21	78	Tetrachloroethene	0.003 J	NA	.04
21	78	Total 1,2-Dichloroethene	0.002 J	NA	NA
21	78	Trichloroethene	**11**	NA	**.02**
21	78	Vanadium	24.3	51	NA
21	78	Zinc	**132**	**110**	42000
22	75	4,4'-DDE	**0.0149**	**.0015**	.5
22	75	4,4'-DDT	**0.0359**	**.0072**	1
22	75	Aluminum	11700	22000	NA
22	75	Arsenic	**10.5**	17	15
22	75	Barium	**122**	300	**32**
22	75	Benzo(a)anthracene	0.0539 J	NA	.7
22	75	Benzo(a)pyrene	0.057 J	NA	4
22	75	Benzo(b)fluoranthene	0.05 J	NA	4
22	75	Benzo(k)fluoranthene	0.047 J	NA	4
22	75	Beryllium	0.39 J	1.2	180
22	75	Calcium	**3110**	**2400**	NA
22	75	Chromium, total	16.6	26	19
22	75	Chrysene	0.08 J	NA	1
22	75	Cobalt	12.4	20	NA
22	75	Copper	16.3 J	33	NA
22	75	Dieldrin	**0.006 J**	.37	**.001**
22	75	Fluoranthene	**0.16 J**	**.045**	980
22	75	Iron	16000 J	38000	NA
22	75	Lead	**9.69**	24	**1.5**
22	75	Magnesium	2360	4900	NA
22	75	Manganese	386	1500	NA
22	75	Nickel	19.8 J	37	21
22	75	Phenanthrene	0.119 J	NA	4300
22	75	Potassium	743	1800	NA
22	75	Pyrene	**0.119 J**	.042	1400

Table ES-2

Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
22	75	Vanadium	27.8	51	NA
22	75	Zinc	49.7 J	110	42000
22	77	4,4'-DDE	0.0769	.0015	.5
22	77	4,4'-DDT	0.209	.0072	1
22	77	Acetone	0.006 J	NA	8
22	77	Arsenic	22.8	17	15
22	77	Benzo(a)anthracene	1.6 J	NA	.7
22	77	Benzo(a)pyrene	1.8 J	NA	4
22	77	Benzo(b)fluoranthene	2.1 J	NA	4
22	77	Benzo(g,h,i)perylene	1.3 J	NA	1400
22	77	Benzo(k)fluoranthene	1.69 J	NA	4
22	77	Benzylbutylphthalate	0.0769 J	NA	68
22	77	bis(2-Ethylhexyl)phthalate	250	NA	11
22	77	Chromium, total	37	26	19
22	77	Chrysene	1.8 J	NA	1
22	77	Copper	43.2	33	NA
22	77	Dieldrin	0.26	.37	.001
22	77	Fluoranthene	3.1 J	.045	980
22	77	Indeno(1,2,3-cd)pyrene	1.39 J	NA	35
22	77	Lead	38.1	24	1.5
22	77	Methyl Ethyl Ketone (2-Butanone)	0.004 J	NA	NA
22	77	Methylene chloride	0.003 J	NA	.01
22	77	Nickel	51.1	37	21
22	77	Phenanthrene	1.39 J	NA	4300
22	77	Pyrene	2.29 J	.042	1400
22	77	Zinc	136	110	42000
23	82	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.00029 J	NA	NA
23	82	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.000003 J	NA	NA
23	82	1,2,3,4,7,8-Hexachlorodibenzofuran	0.00000399 J	NA	NA
23	82	1,2,3,4,7,8-Hexachlorodibenzofuran	0.00000399 J	NA	NA
23	82	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.00000799 J	NA	NA
23	82	1,2,3,6,7,8-Hexachlorodibenzofuran	0.00000199 J	NA	NA
23	82	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000005 J	NA	NA
23	82	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000005 J	NA	NA
23	82	1,2,3,7,8,9-Hexachlorodibenzofuran	0.00000199 J	NA	NA
23	82	2,3,4,6,7,8-Hexachlorodibenzofuran	0.000003 J	NA	NA
23	82	4,4'-DDT	0.0079	.0072	1
23	82	Acetone	0.004 J	NA	8
23	82	Acetone	0.004 J	NA	8
23	82	Arsenic	26.5	17	15
23	82	Beryllium	1.3	1.2	180
23	82	bis(2-Ethylhexyl)phthalate	7.79	NA	11
23	82	Bromomethane	0.003 J	NA	.1
23	82	Cadmium	0.46 J	1.4	6
23	82	Chromium, total	102	26	19
23	82	Copper	42.1	33	NA
23	82	Di-n-butylphthalate	0.179 J	NA	120
23	82	Dieldrin	0.00379 J	.37	.001

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
23	82	Lead	**35.8**	**24**	**1.5**
23	82	Methylene chloride	0.003 J	NA	.01
23	82	Nickel	**41.7**	**37**	**21**
23	82	Octachlorodibenzo-p-dioxin	0.00786	.009	NA
23	82	Octachlorodibenzofuran	0.000696 J	NA	NA
23	82	Selenium	**1.6**	**.64**	3
23	82	Zinc	**234**	**110**	42000
24	81	Benzo(a)anthracene	0.079 J	NA	.7
24	81	Benzo(a)pyrene	0.11 J	NA	4
24	81	Benzo(b)fluoranthene	0.13 J	NA	4
24	81	Benzo(k)fluoranthene	0.1 J	NA	4
24	81	bis(2-Ethylhexyl)phthalate	0.085 J	NA	11
24	81	Chrysene	0.13 J	NA	1
24	81	Fluoranthene	**0.16 J**	**.045**	980
24	81	Indeno(1,2,3-cd)pyrene	0.0889 J	NA	35
24	81	Phenanthrene	0.13	NA	4300
24	81	Pyrene	**0.2 J**	**.042**	1400
27	84	4,4'-DDE	**0.149 J**	**.0015**	.5
27	84	4,4'-DDT	**0.4**	**.0072**	1
27	84	Acenaphthene	0.0709 J	NA	200
27	84	Acetone	0.14	NA	8
27	84	alpha-Chlordane	**0.609**	**.0026**	2
27	84	Anthracene	0.17 J	NA	4300
27	84	Arsenic	**22.3**	**17**	**15**
27	84	Benzo(a)anthracene	0.469	NA	.7
27	84	Benzo(a)pyrene	0.44	NA	4
27	84	Benzo(b)fluoranthene	0.429	NA	4
27	84	Benzo(g,h,i)perylene	0.309 J	NA	1400
27	84	Benzo(k)fluoranthene	0.39 J	NA	4
27	84	Benzylbutylphthalate	0.51	NA	68
27	84	Beryllium	1.19	1.2	180
27	84	bis(2-Ethylhexyl)phthalate	5.59	NA	11
27	84	Bromomethane	0.002 J	NA	.1
27	84	Carbazole	0.16 J	NA	.5
27	84	Chromium, total	**145**	**26**	**19**
27	84	Chrysene	0.619	NA	1
27	84	Copper	**47.1**	**33**	NA
27	84	Di-n-butylphthalate	1.19	NA	120
27	84	Fluoranthene	**1.1**	**.045**	980
27	84	Fluorene	0.079 J	NA	160
27	84	gamma-Chlordane	**0.579**	**.0022**	2
27	84	Indeno(1,2,3-cd)pyrene	0.309 J	NA	35
27	84	Lead	**282**	**24**	**1.5**
27	84	Methyl Ethyl Ketone (2-Butanone)	0.0189	NA	NA
27	84	Methylene chloride	0.004 J	NA	.01
27	84	Methylene chloride	0.004 J	NA	.01
27	84	Nickel	**45.6**	**37**	**21**
27	84	Phenanthrene	0.979	NA	4300

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
27	84	Pyrene	1	.042	1400
27	84	Selenium	2.29	.64	3
27	84	Silver	0.38 J	.98	NA
27	84	Trichloroethene	0.01 J	NA	.02
27	84	Zinc	140	110	42000
28	89	Acetone	0.01 J	NA	8
28	89	Arsenic	20	17	15
28	89	Beryllium	1.6	1.2	180
28	89	Chromium, total	81.5	26	19
28	89	Copper	49.2	33	NA
28	89	Lead	25.1	24	1.5
28	89	Nickel	48.2	37	21
28	89	Selenium	1.5	.64	3
28	89	Zinc	145	110	42000
29	56	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.0000179 J	NA	NA
29	56	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000003 J	NA	NA
29	56	1,2,3,7,8,9-Hexachlorodibenzofuran	0.000012 J	NA	NA
29	56	2,3,4,6,7,8-Hexachlorodibenzofuran	0.000413 J	NA	NA
29	56	Aldrin	0.00309	NA	.005
29	56	Aluminum	27600	22000	NA
29	56	Arsenic	25.8	17	15
29	56	Barium	422	300	32
29	56	Beryllium	1.1	1.2	180
29	56	bis(2-Ethylhexyl)phthalate	0.058 J	NA	11
29	56	Calcium	5670	2400	NA
29	56	Chromium, total	35	26	19
29	56	Cobalt	28	20	NA
29	56	Copper	41.8	33	NA
29	56	Iron	40800	38000	NA
29	56	Lead	24.6	24	1.5
29	56	Magnesium	6410	4900	NA
29	56	Manganese	2960	1500	NA
29	56	Nickel	38.8	37	21
29	56	Octachlorodibenzo-p-dioxin	0.00455 J	.009	NA
29	56	Octachlorodibenzofuran	0.000003 J	NA	NA
29	56	Potassium	1700	1800	NA
29	56	Sodium	451	NA	NA
29	56	Vanadium	65	51	NA
29	56	Zinc	134	110	42000
30	83	Acetone	0.0299	NA	8
30	83	Arsenic	25.6	17	15
30	83	Beryllium	1	1.2	180
30	83	bis(2-Ethylhexyl)phthalate	0.16 J	NA	11
30	83	Cadmium	4	1.4	6
30	83	Chromium, total	1750	26	19
30	83	Copper	51	33	NA
30	83	Di-n-butylphthalate	0.048 J	NA	120
30	83	Lead	2430	24	1.5

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
30	83	Methylene chloride	0.003 J	NA	.01
30	83	Nickel	**41**	**37**	**21**
30	83	Toluene	0.002 J	NA	5
30	83	Total Xylenes	0.002 J	.002	74
30	83	Zinc	**3030**	**110**	42000
32	28	4,4'-DDT	0.006 J	.0072	1
32	28	Acenaphthene	0.041 J	NA	200
32	28	Acetone	0.16	NA	8
32	28	alpha-Chlordane	0.00169 J	.0026	2
32	28	Anthracene	0.2 J	NA	4300
32	28	Arsenic	**24.8**	**17**	15
32	28	Benzo(a)anthracene	0.2 J	NA	.7
32	28	Benzo(a)pyrene	0.19 J	NA	4
32	28	Benzo(b)fluoranthene	0.209 J	NA	4
32	28	Benzo(g,h,i)perylene	0.14 J	NA	1400
32	28	Benzo(k)fluoranthene	0.179 J	NA	4
32	28	Beryllium	0.38 J	1.2	180
32	28	bis(2-Ethylhexyl)phthalate	0.099 J	NA	11
32	28	Cadmium	0.45 J	1.4	6
32	28	Carbazole	0.0759 J	NA	.5
32	28	Chromium, total	**32.2**	**26**	**19**
32	28	Chrysene	0.239 J	NA	1
32	28	Copper	**39.7**	**33**	NA
32	28	Di-n-butylphthalate	0.041 J	NA	120
32	28	Dibenz(a,h)anthracene	0.0609 J	NA	11
32	28	Dieldrin	**0.0067 J**	.37	**.001**
32	28	Fluoranthene	**0.56**	**.045**	980
32	28	Fluorene	0.04 J	NA	160
32	28	gamma-Chlordane	**0.0047**	**.0022**	2
32	28	Indeno(1,2,3-cd)pyrene	0.13 J	NA	35
32	28	Lead	**43.5**	**24**	**1.5**
32	28	Methyl Ethyl Ketone (2-Butanone)	0.021	NA	NA
32	28	Methylene chloride	0.003 J	NA	.01
32	28	Methylene chloride	0.003 J	NA	.01
32	28	Nickel	**37.6**	**37**	**21**
32	28	Phenanthrene	0.4	NA	4300
32	28	Pyrene	**0.32 J**	**.042**	1400
32	28	Selenium	0.569 J	.64	3
32	28	Zinc	**154**	**110**	42000
33	42	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.487 J	NA	NA
33	42	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.104 J	NA	NA
33	42	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.00663	NA	NA
33	42	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.000227 J	NA	NA
33	42	1,2,3,4,7,8-Hexachlorodibenzofuran	0.00169 J	NA	NA
33	42	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.00661	NA	NA
33	42	1,2,3,6,7,8-Hexachlorodibenzofuran	0.000503 J	NA	NA
33	42	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000496 J	NA	NA
33	42	1,2,3,7,8,9-Hexachlorodibenzofuran	0.000133 J	NA	NA

Table ES-2
Compounds Detected In Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
33	42	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.00000699 J	NA	NA
33	42	1,2,3,7,8-Pentachlorodibenzofuran	0.00000899 J	NA	NA
33	42	2,3,4,6,7,8-Hexachlorodibenzofuran	0.000343 J	NA	NA
33	42	2,3,4,7,8-Pentachlorodibenzofuran	0.000006 J	NA	NA
33	42	Octachlorodibenzo-p-dioxin	**3.24** J	.009	NA
33	42	Octachlorodibenzofuran	**2.31** J	NA	NA
33	42	Pentachlorophenol	**470** J	NA	.2
33	43	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.0000519 J	NA	NA
33	43	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.0000269 J	NA	NA
33	43	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.000012 J	NA	NA
33	43	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.000006 J	NA	NA
33	43	1,2,3,4,7,8-Hexachlorodibenzofuran	0.000012 J	NA	NA
33	43	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.0000109 J	NA	NA
33	43	1,2,3,6,7,8-Hexachlorodibenzofuran	0.000012 J	NA	NA
33	43	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000024 J	NA	NA
33	43	1,2,3,7,8,9-Hexachlorodibenzofuran	0.0000129 J	NA	NA
33	43	2,3,4,6,7,8-Hexachlorodibenzofuran	0.0000149 J	NA	NA
33	43	2,3,4,7,8-Pentachlorodibenzofuran	0.000038 J	NA	NA
33	43	Octachlorodibenzo-p-dioxin	0.00126 J	.009	NA
33	43	Octachlorodibenzofuran	0.0000589 J	NA	NA
33	46	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.000123 J	NA	NA
33	46	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.0000829 J	NA	NA
33	46	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.0000429 J	NA	NA
33	46	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.0000389 J	NA	NA
33	46	1,2,3,4,7,8-Hexachlorodibenzofuran	0.00004 J	NA	NA
33	46	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.000048 J	NA	NA
33	46	1,2,3,6,7,8-Hexachlorodibenzofuran	0.000033 J	NA	NA
33	46	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000055 J	NA	NA
33	46	1,2,3,7,8,9-Hexachlorodibenzofuran	0.000042 J	NA	NA
33	46	1,2,3,7,8-Pentachlorodibenzofuran	0.000019 J	NA	NA
33	46	2,3,4,6,7,8-Hexachlorodibenzofuran	0.0000509 J	NA	NA
33	46	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.0000169 J	NA	NA
33	46	2,3,7,8-Tetrachlorodibenzofuran	0.00000799 J	NA	NA
33	46	Acetone	0.005 J	NA	8
33	46	Acetone	0.005 J	NA	8
33	46	Methylene chloride	0.002 J	NA	.01
33	46	Octachlorodibenzo-p-dioxin	0.00615	.009	NA
33	46	Octachlorodibenzofuran	0.000172 J	NA	NA
33	80	Acetone	0.025	NA	8
33	80	Antimony	2.39 J	NA	NA
33	80	Arsenic	**25.8**	**17**	**15**
33	80	Beryllium	1.19	1.2	180
33	80	Cadmium	**2**	**1.4**	**6**
33	80	Chromium, total	**57.2**	**26**	**19**
33	80	Copper	**95.5**	**33**	NA
33	80	Ethylbenzene	0.008 J	NA	5
33	80	Lead	**115**	**24**	**1.5**
33	80	Methyl Ethyl Ketone (2-Butanone)	0.01 J	NA	NA

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
33	80	Nickel	**49.2**	**37**	**21**
33	80	Selenium	**1.69**	**.64**	3
33	80	Total 1,2-Dichloroethene	0.006 J	NA	NA
33	80	Total Xylenes	0.002 J	.002	74
33	80	Trichloroethene	0.002 J	NA	.02
33	80	Zinc	**230**	**110**	42000
35	31	Acetone	0.0109	NA	8
35	31	Antimony	7.79	NA	NA
35	31	Arsenic	**20.6**	**17**	**15**
35	31	Beryllium	**1.6**	**1.2**	180
35	31	Chromium, total	**53.2**	**26**	**19**
35	31	Copper	**34.8**	**33**	NA
35	31	Lead	**57.2**	**24**	**1.5**
35	31	Methylene chloride	0.002 J	NA	.01
35	31	Nickel	**34**	37	**21**
35	31	Zinc	**118**	**110**	42000
35	33	Acetone	0.01 J	NA	8
35	33	Antimony	7.79	NA	NA
35	33	Arsenic	**22.3**	**17**	**15**
35	33	Beryllium	**1.69**	**1.2**	180
35	33	Bromomethane	0.003 J	NA	.1
35	33	Cadmium	**1.5**	**1.4**	6
35	33	Chloromethane	0.002 J	NA	.0066
35	33	Chromium, total	**58.6**	**26**	**19**
35	33	Copper	**39**	**33**	NA
35	33	Lead	**119**	**24**	**1.5**
35	33	Methylene chloride	0.003 J	NA	.01
35	33	Methylene chloride	0.003 J	NA	.01
35	33	Nickel	**35.2**	**37**	**21**
35	33	Selenium	**1.3**	**.64**	3
35	33	Toluene	0.001 J	NA	5
35	33	Zinc	**124**	**110**	42000
ARR	70	4,4'-DDE	**0.032**	**.0015**	.5
ARR	70	4,4'-DDT	**0.081**	**.0072**	1
ARR	70	Acetone	0.119	NA	8
ARR	70	Aluminum	20400	22000	NA
ARR	70	Antimony	0.709 J	NA	NA
ARR	70	Arsenic	14.5	17	15
ARR	70	Barium	**204**	300	32
ARR	70	Beryllium	0.27 J	1.2	180
ARR	70	bis(2-Ethylhexyl)phthalate	2.39	NA	11
ARR	70	bis(2-Ethylhexyl)phthalate	2.39	NA	11
ARR	70	Cadmium	0.34 J	1.4	6
ARR	70	Calcium	**2750**	**2400**	NA
ARR	70	Chromium, total	**22.5**	**26**	**19**
ARR	70	Chrysene	0.047 J	NA	1
ARR	70	Cobalt	10	20	NA
ARR	70	Copper	24.3	33	NA

Table ES-2
Compounds Detected in Subsurface Soil Compared to Subsurface Soil Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	GroundWater Protection[3] (mg/kg)
ARR	70	Di-n-butylphthalate	0.27 J	NA	120
ARR	70	Fluoranthene	**0.0719 J**	**.045**	980
ARR	70	Iron	28000	38000	NA
ARR	70	Lead	**15.1**	24	**1.5**
ARR	70	Magnesium	3410	4900	NA
ARR	70	Manganese	1350	1500	NA
ARR	70	Methyl Ethyl Ketone (2-Butanone)	0.014	NA	NA
ARR	70	Methylene chloride	0.002 J	NA	.01
ARR	70	Methylene chloride	0.002 J	NA	.01
ARR	70	Methylene chloride	0.002 J	NA	.01
ARR	70	Nickel	**22.5**	37	**21**
ARR	70	Potassium	**3280**	**1800**	NA
ARR	70	Pyrene	**0.058 J**	**.042**	1400
ARR	70	Selenium	**0.429 J**	.64	3
ARR	70	Selenium	**0.429 J**	.64	3
ARR	70	Silver	0.25 J	.98	NA
ARR	70	Sodium	101 J	NA	NA
ARR	70	Thallium	**0.959 J**	NA	.4
ARR	70	Trichloroethene	**0.004 J**	NA	.02
ARR	70	Vanadium	40.3	51	NA
ARR	70	Zinc	77.4	110	42000

Notes:
1. The parameter listing includes only the parameters detected within each site and not all the parameters analyzed.
2. Background values are from Table 5-1 of the *Draft Background Sampling Program Technical Memorandum*, CH2M HILL, September 1996.
3. Groundwater Protection Values are from the *EPA Region III Risk-Based Concentrations Table*, R.L. Smith, April 30, 1996.

Bold text indicates detections that exceed a screening level value and the associated screening level value that was exceeded.
NA - indicates screening level values are not available for comparison.
J - indicates estimated value above the detection limit but below the reporting limit.

Table ES-3
Compounds Detected In Surface Water Compared to Surface Water Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	TN State Values[3] (mg/kg)	AWQC-HH Values[4] (mg/kg)	AWQC-AO Values[5] (mg/kg)
3	51	Arsenic	**0.006 J**	.018	.05	**.000018**	.19
3	51	Arsenic, Dissolved	0.00359 J	.012	NA	NA	NA
3	51	Dieldrin	0.00022	NA	NA	NA	NA
3	51	Lead	**0.0594**	**.019**	.05	NA	**.0032**
3	51	Lead, Dissolved	**0.0313**	**.023**	NA	NA	NA
3	51	Nickel	0.007 J	.023	.0134	.61	.16
3	51	Zinc	0.0907 J	.29	5	NA	.11
3	51	Zinc, Dissolved	0.0762	.41	NA	NA	NA
3	52	Arsenic	**0.00409 J**	.018	.05	**.000018**	.19
3	52	Arsenic, Dissolved	0.0043 J	.012	NA	NA	NA
3	52	Copper	0.00459 J	.075	1	NA	.012
3	52	Dieldrin	0.000066 J	NA	NA	NA	NA
3	52	Lead	0.003 J	.019	.05	NA	.0032
3	52	Zinc	0.0304 J	.29	5	NA	.11
3	52	Zinc, Dissolved	0.0271	.41	NA	NA	NA
15	54	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000000104 J	NA	NA	NA	NA
15	54	1,2,3,7,8,9-Hexachlorodibenzofuran	0.00000006 J	NA	NA	NA	NA
15	54	2,3,4,6,7,8-Hexachlorodibenzofuran	0.00000193 J	NA	NA	NA	NA
15	54	4,4'-DDT	**0.0000859 J**	NA	.000000024	.00000059	.000001
15	54	Arsenic	**0.0125**	.018	.05	**.000018**	.19
15	54	Arsenic, Dissolved	0.012	.012	NA	NA	NA
15	54	Chromium, total	0.00309 J	.036	.05	NA	.011
15	54	Dieldrin	0.000239	NA	NA	NA	NA
15	54	Lead	**0.0114**	.019	.05	NA	**.0032**
15	54	Nickel	0.0094 J	.023	.0134	.61	.16
15	54	Octachlorodibenzo-p-dioxin	**0.00000386 J**	**.0000012**	NA	NA	NA
15	54	Octachlorodibenzofuran	0.000000221 J	NA	NA	NA	NA
15	54	Pentachlorophenol	**0.007**	NA	1.01	**.00028**	**.013**
15	54	Zinc	0.0475 J	.29	5	NA	.11
15	55	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000000707 J	NA	NA	NA	NA
15	55	1,2,3,7,8,9-Hexachlorodibenzofuran	0.000000075 J	NA	NA	NA	NA
15	55	2,3,4,6,7,8-Hexachlorodibenzofuran	0.00000153 J	NA	NA	NA	NA

Table ES-3

Compounds Detected in Surface Water Compared to Surface Water Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	TN State Values[3] (mg/kg)	AWQC-HH Values[4] (mg/kg)	AWQC-AO Values[5] (mg/kg)
15	55	4,4'-DDT	**0.00022**	NA	.000000024	.00000059	.000001
15	55	Aluminum	**1.69**	5.1	NA	NA	.087
15	55	Aluminum, Dissolved	0.32	.471	NA	NA	NA
15	55	Barium	0.0338 J	.130	1	NA	NA
15	55	Barium, Dissolved	0.0235 J	.876	NA	NA	NA
15	55	Calcium	30.3	32	NA	NA	NA
15	55	Calcium, Dissolved	24.3	30	NA	NA	NA
15	55	Chromium, Dissolved	0.0022 J	.033	NA	NA	NA
15	55	Chromium, total	0.00819 J	.036	.05	NA	.011
15	55	Copper	**0.0592**	.075	1	NA	.012
15	55	Copper, Dissolved	0.0297	NA	NA	NA	NA
15	55	Iron	**2.52**	6.1	NA	NA	1
15	55	Iron, Dissolved	**0.445 J**	.12	NA	NA	NA
15	55	Lead	**0.0387**	.019	.05	NA	.0032
15	55	Lead, Dissolved	0.00709	.023	NA	NA	NA
15	55	Magnesium	2.41 J	7.7	NA	NA	NA
15	55	Magnesium, Dissolved	1.84 J	6.9	NA	NA	NA
15	55	Manganese	0.0492	.66	NA	NA	NA
15	55	Manganese, Dissolved	0.0101 J	.35	NA	NA	NA
15	55	Nickel	0.006 J	.023	.0134	.61	.16
15	55	Octachlorodibenzo-p-dioxin	**0.0000271 J**	.0000012	NA	NA	NA
15	55	Octachlorodibenzofuran	0.0000013 J	NA	NA	NA	NA
15	55	Pentachlorophenol	**0.0129**	NA	1.01	.00028	.013
15	55	Potassium	3.02 J	7.3	NA	NA	NA
15	55	Potassium, Dissolved	2.79 J	6.7	NA	NA	NA
15	55	Sodium	2.06 J	21	NA	NA	NA
15	55	Sodium, Dissolved	2.1 J	22	NA	NA	NA
15	55	Vanadium	0.004 J	.039	NA	NA	NA
15	55	Vanadium, Dissolved	0.00179 J	NA	NA	NA	NA
15	55	Zinc	0.0536 J	.29	5	NA	.11
15	55	Zinc, Dissolved	0.0188 J	.41	NA	NA	NA
29	56	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000000116 J	NA	NA	NA	NA

Table ES-3
Compounds Detected In Surface Water Compared to Surface Water Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	TN State Values[3] (mg/kg)	AWQC-HH Values[4] (mg/kg)	AWQC-AO Values[5] (mg/kg)
29	56	1,2,3,7,8,9-Hexachlorodibenzofuran	0.00000026 J	NA	NA	NA	NA
29	56	2,3,4,6,7,8-Hexachlorodibenzofuran	0.00000506 J	NA	NA	NA	NA
29	56	Aluminum	**0.601**	5.1	NA	NA	**.087**
29	56	Arsenic	**0.00679 J**	.018	.05	**.000018**	.19
29	56	Arsenic, Dissolved	**0.0892**	**.012**	NA	NA	NA
29	56	Barium	0.0308 J	.130	1	NA	NA
29	56	Barium, Dissolved	0.0287 J	.876	NA	NA	NA
29	56	bis(2-Ethylhexyl)phthalate	**0.0189**	NA	15	**.0018**	NA
29	56	Calcium	17.5	32	NA	NA	NA
29	56	Calcium, Dissolved	18.5	30	NA	NA	NA
29	56	Chromium, Dissolved	0.004 J	.033	NA	NA	NA
29	56	Chromium, total	0.0042 J	.036	.05	NA	.011
29	56	Dieldrin	0.00016	NA	NA	NA	NA
29	56	Iron	0.531	6.1	NA	NA	1
29	56	Iron, Dissolved	**0.223 J**	**.12**	NA	NA	NA
29	56	Lead	**0.00449**	.019	.05	NA	**.0032**
29	56	Lead, Dissolved	0.00279 J	.023	NA	NA	NA
29	56	Magnesium	2.14 J	7.7	NA	NA	NA
29	56	Magnesium, Dissolved	2.2 J	6.9	NA	NA	NA
29	56	Manganese	0.015	.66	NA	NA	NA
29	56	Manganese, Dissolved	0.007 J	.35	NA	NA	NA
29	56	Manganese, Dissolved	0.007 J	.35	NA	NA	NA
29	56	Nickel	0.012 J	.023	.0134	.61	.16
29	56	Octachlorodibenzo-p-dioxin	**0.00000703 J**	**.0000012**	NA	NA	NA
29	56	Octachlorodibenzofuran	0.000000224 J	NA	NA	NA	NA
29	56	Potassium	2.58 J	7.3	NA	NA	NA
29	56	Potassium, Dissolved	2.5 J	6.7	NA	NA	NA
29	56	Selenium, Dissolved	**0.01**	**.003**	NA	NA	NA
29	56	Silver, Dissolved	0.00229 J	NA	NA	NA	NA
29	56	Sodium	0.858 J	21	NA	NA	NA
29	56	Sodium, Dissolved	0.777 J	22	NA	NA	NA
29	56	Vanadium	0.0032 J	.039	NA	NA	NA

Tab. 5-3

Compounds Detected in Surface Water Compared to Surface Water Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	TN State Values[3] (mg/kg)	AWQC-HH Values[4] (mg/kg)	AWQC-AO Values[5] (mg/kg)
29	56	Vanadium, Dissolved	0.0093 J	NA	NA	NA	NA
29	56	Zinc	0.0701 J	.29	5	NA	.11
29	56	Zinc, Dissolved	0.064	.41	NA	NA	NA

Notes:

1. The parameter listing includes only the parameters detected within each site and not all the parameters analyzed.
2. Background Values are from Table 5-1 of the *Draft Background Sampling Program Technical Memorandum*, CH2M HILL, September 1996.
3. Tennessee State Values are from Table 3-8 of the *Generic Remedial Investigation/Feasibility Study Work Plan*, CH2M HILL, August 1995.
4. Federal Ambient Water Quality Criteria for the Protection of Human Health for the Ingestion of Organisms and Water (AWQC-HH) Values are from Table 3-8 of the *Generic Remedial Investigation/Feasibility Study Work Plan*, CH2M HILL, August 1995.
5. Federal Ambient Water Quality Criteria, Chronic for the Protection of Freshwater Aquatic Life Values are from Table 3-8 of the *Generic Remedial Investigation/Feasibility Study Work Plan*, CH2M HILL, August 1995.

Bold text indicates detections that exceed a screening level value and the associated screening level value that was exceeded.
NA - indicates screening level values are not available for comparison.
J - indicates estimated value above the detection limit but below the reporting limit.

E

Compounds Detected in Sediment Compared to Sediment Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Sediment PRG Values[3] (mg/kg)	NOAA Values[4] (mg/kg)
3	51	4,4'-DDD	**0.0044**	.0061	NA	**0.002**
3	51	Arsenic	**13.8**	**12**	**8**	**3.3**
3	51	Beryllium	0.429 J	1.3	NA	NA
3	51	Chromium, total	17.6	38	33	80
3	51	Copper	16.5 J	270	28	70
3	51	Lead	10.8	72	21	35
3	51	Methyl Ethyl Ketone (2-Butanone)	0.006 J	.01	NA	NA
3	51	Nickel	14.5 J	30	NA	30
3	51	Zinc	46.2 J	800	68	120
3	52	4,4'-DDD	**0.0769**	**.0061**	NA	**0.002**
3	52	4,4'-DDE	**0.016 J**	**.0072**	**0.0017**	**0.002**
3	52	4,4'-DDT	**0.025**	NA	NA	**0.001**
3	52	Aldrin	0.01 J	NA	NA	NA
3	52	Arsenic	**10**	12	**8**	**3.3**
3	52	Beryllium	0.569 J	1.3	NA	NA
3	52	Cadmium	0.52 J	29	1	5
3	52	Chromium, total	14.6	38	33	80
3	52	Copper	12.8 J	270	28	70
3	52	Dieldrin	**0.024**	**.011**	NA	NA
3	52	Lead	15.5	72	21	35
3	52	Nickel	11.9 J	30	NA	30
3	52	Selenium	0.979	1.7	NA	NA
3	52	Silver	0.28 J	1.8	0.5	1
3	52	Zinc	40.1 J	800	68	120
15	54	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	**0.0238**	**.00058**	NA	NA
15	54	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.00698	NA	NA	NA
15	54	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.00011 J	NA	NA	NA
15	54	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.0000129 J	NA	NA	NA
15	54	1,2,3,4,7,8-Hexachlorodibenzofuran	0.0000739 J	NA	NA	NA
15	54	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.00026 J	NA	NA	NA
15	54	1,2,3,6,7,8-Hexachlorodibenzofuran	0.0000789 J	NA	NA	NA
15	54	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000149 J	NA	NA	NA

L

Compounds Detected in Sediment Compared to Sediment Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Sediment PRG Values[3] (mg/kg)	NOAA Values[4] (mg/kg)
15	54	2,3,4,6,7,8-Hexachlorodibenzofuran	0.0000219 J	NA	NA	NA
15	54	4,4'-DDD	**0.989 J**	**.0061**	NA	**0.002**
15	54	4,4'-DDE	**0.25 J**	**.0072**	**0.0017**	**0.002**
15	54	4,4'-DDT	**0.27 J**	NA	NA	**0.001**
15	54	Acenaphthene	**0.0609 J**	.77	0.022	0.15
15	54	alpha-Chlordane	**0.53 J**	.0052	NA	NA
15	54	Anthracene	**0.13 J**	1.6	**0.085**	**0.085**
15	54	Arsenic	**7.59 J**	12	8	**3.3**
15	54	Benzo(a)anthracene	**0.33 J**	2.9	**0.16**	**0.23**
15	54	Benzo(a)pyrene	**0.349 J**	2.5	**0.23**	0.4
15	54	Benzo(b)fluoranthene	0.46	2.2	NA	NA
15	54	Benzo(g,h,i)perylene	0.25 J	1.8	NA	NA
15	54	Benzo(k)fluoranthene	0.38	2.3	NA	NA
15	54	Beryllium	0.0899 J	1.3	NA	NA
15	54	Beryllium	0.0899 J	1.3	NA	NA
15	54	Cadmium	1.3	29	1	5
15	54	Carbazole	0.1 J	1.1	NA	NA
15	54	Chromium, total	**68.5 J**	38	33	80
15	54	Chrysene	**0.469**	3.2	**0.22**	**0.4**
15	54	Copper	**49.8 J**	270	**28**	70
15	54	Dibenz(a,h)anthracene	**0.0899 J**	.7	**0.031**	**0.06**
15	54	Dieldrin	**0.289 J**	.011	NA	NA
15	54	Fluoranthene	**0.64**	7.1	**0.38**	**0.6**
15	54	Fluorene	**0.066 J**	NA	**0.018**	**0.035**
15	54	gamma-Chlordane	0.65 J	2	NA	NA
15	54	Indeno(1,2,3-cd)pyrene	0.239 J	1.7	NA	NA
15	54	Lead	**63.8 J**	72	**21**	35
15	54	Mercury	0.1	4	0.1	0.15
15	54	Nickel	4.79	30	NA	**30**
15	54	Octachlorodibenzo-p-dioxin	**0.114 J**	**.0086**	NA	NA
15	54	Octachlorodibenzofuran	0.0148 J	NA	NA	NA
15	54	Pentachlorophenol	0.26	NA	NA	NA

L

Compounds Detected in Sediment Compared to Sediment Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Sediment PRG Values[3] (mg/kg)	NOAA Values[4] (mg/kg)
15	54	Phenanthrene	**0.5**	6.9	**0.14**	**0.225**
15	54	Pyrene	**0.719**	2.9	**0.29**	NA
15	54	Zinc	**68.4 J**	800	**68**	120
15	55	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	**0.00252**	.00058	NA	NA
15	55	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000468 J	NA	NA	NA
15	55	4,4'-DDD	**0.0299**	**.0061**	NA	**0.002**
15	55	4,4'-DDE	**0.032**	**.0072**	**0.0017**	**0.002**
15	55	4,4'-DDT	**0.068**	NA	NA	**0.001**
15	55	4-methylphenol (p-cresol)	0.17 J	NA	NA	NA
15	55	alpha-Chlordane	0.0032 J	.0052	NA	NA
15	55	Aluminum	1200	10000	NA	NA
15	55	Arsenic	0.26 J	12	8	3.3
15	55	Barium	8.8 J	120	NA	NA
15	55	Benzo(a)anthracene	0.11 J	2.9	0.16	0.23
15	55	Benzo(a)pyrene	0.13 J	2.5	0.23	0.4
15	55	Benzo(b)fluoranthene	0.22 J	2.2	NA	NA
15	55	Benzo(g,h,i)perylene	0.11 J	1.8	NA	NA
15	55	Benzo(k)fluoranthene	0.2 J	2.3	NA	NA
15	55	Cadmium	**2.7**	29	**1**	5
15	55	Calcium	**231000**	**15000**	NA	NA
15	55	Chromium, total	13.5	38	33	80
15	55	Chrysene	0.19 J	3.2	0.22	0.4
15	55	Cobalt	1.5 J	14	NA	NA
15	55	Copper	27.3 J	270	28	70
15	55	Fluoranthene	0.209 J	7.1	0.38	0.6
15	55	gamma-Chlordane	0.00379 J	2	NA	NA
15	55	Indeno(1,2,3-cd)pyrene	0.11 J	1.7	NA	NA
15	55	Iron	2960	23000	NA	NA
15	55	Lead	11.5 J	72	21	35
15	55	Magnesium	**5170**	**2400**	NA	NA
15	55	Manganese	53.2 J	870	NA	NA
15	55	Octachlorodibenzo-p-dioxin	**0.0176**	**.0086**	NA	NA

Compounds Detected in Sediment Compared to Sediment Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Sediment PRG Values[3] (mg/kg)	NOAA Values[4] (mg/kg)
15	55	Octachlorodibenzofuran	0.00106 J	NA	NA	NA
15	55	Phenanthrene	0.063 J	6.9	0.14	0.225
15	55	Potassium	222 J	1600	NA	NA
15	55	Pyrene	0.179 J	2.9	0.29	NA
15	55	Sodium	158 J	240	NA	NA
15	55	Vanadium	4.5 J	30	NA	NA
15	55	Zinc	47.6 J	800	68	120
29	56	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	**0.00786**	**.00058**	NA	NA
29	56	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.00139 J	NA	NA	NA
29	56	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.000021 J	NA	NA	NA
29	56	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.0000139 J	NA	NA	NA
29	56	1,2,3,4,7,8-Hexachlorodibenzofuran	0.0000179 J	NA	NA	NA
29	56	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.000025 J	NA	NA	NA
29	56	1,2,3,6,7,8-Hexachlorodibenzofuran	0.000012 J	NA	NA	NA
29	56	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000025 J	NA	NA	NA
29	56	4,4'-DDD	**0.0609 J**	**.0061**	NA	**0.002**
29	56	4,4'-DDE	**0.047 J**	**.0072**	**0.0017**	**0.002**
29	56	4,4'-DDT	**0.16 J**	NA	NA	**0.001**
29	56	Acenaphthylene	0.0379 J	NA	NA	NA
29	56	alpha-Chlordane	**0.032 J**	.0052	NA	NA
29	56	Aluminum	2700	10000	NA	NA
29	56	Anthracene	**1.1 J**	1.6	**0.085**	**0.085**
29	56	Arsenic	**4.5**	12	8	**3.3**
29	56	Barium	71.2	120	NA	NA
29	56	Benzo(a)anthracene	**1.3 J**	2.9	**0.16**	**0.23**
29	56	Benzo(a)pyrene	**1.69 J**	2.5	**0.23**	**0.4**
29	56	Benzo(b)fluoranthene	1.6 J	2.2	NA	NA
29	56	Benzo(g,h,i)perylene	0.32 J	1.8	NA	NA
29	56	Benzo(k)fluoranthene	1.6 J	2.3	NA	NA
29	56	Beryllium	0.07 J	1.3	NA	NA
29	56	Calcium	**242000**	**15000**	NA	NA
29	56	Carbazole	0.33 J	1.1	NA	NA

Compounds Detected in Sediment Compared to Sediment Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Sediment PRG Values[3] (mg/kg)	NOAA Values[4] (mg/kg)
29	56	Chromium, total	28.1 J	38	33	80
29	56	Chrysene	**1.8 J**	3.2	**0.22**	**0.4**
29	56	Cobalt	3.6 J	14	NA	NA
29	56	Copper	22.8 J	270	28	70
29	56	Dieldrin	**0.0769 J**	**.011**	NA	NA
29	56	Fluoranthene	**2.79 J**	**7.1**	**0.38**	**0.6**
29	56	gamma-Chlordane	0.048 J	2	NA	NA
29	56	Indeno(1,2,3-cd)pyrene	0.39 J	1.7	NA	NA
29	56	Iron	9770	23000	NA	NA
29	56	Lead	**66.9 J**	72	**21**	**35**
29	56	Magnesium	**7780**	**2400**	NA	NA
29	56	Manganese	177 J	870	NA	NA
29	56	Mercury	**0.119**	4	**0.1**	0.15
29	56	Methyl Ethyl Ketone (2-Butanone)	**0.014 J**	**.01**	NA	NA
29	56	Nickel	19.1	30	NA	30
29	56	Octachlorodibenzo-p-dioxin	**0.0567**	**.0086**	NA	NA
29	56	Octachlorodibenzofuran	0.00298 J	NA	NA	NA
29	56	Pentachlorophenol	0.08 J	NA	NA	NA
29	56	Phenanthrene	**1.69 J**	6.9	**0.14**	**0.225**
29	56	Potassium	419 J	1600	NA	NA
29	56	Pyrene	**2.29 J**	2.9	**0.29**	NA
29	56	Sodium	149 J	240	NA	NA
29	56	Vanadium	17.5	30	NA	NA
29	56	Zinc	**117 J**	800	**68**	120
ODP	ODP	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	**0.00644**	**.00058**	NA	NA
ODP	ODP	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.00189 J	NA	NA	NA
ODP	ODP	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.00000279 J	NA	NA	NA
ODP	ODP	1,2,3,4,7,8-Hexachlorodibenzofuran	0.0000583 J	NA	NA	NA
ODP	ODP	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.0000928 J	NA	NA	NA
ODP	ODP	1,2,3,6,7,8-Hexachlorodibenzofuran	0.0000286	NA	NA	NA
ODP	ODP	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000145 J	NA	NA	NA
ODP	ODP	2,3,7,8-Tetrachlorodibenzofuran	0.0000292 J	NA	NA	NA

Compounds Detected in Sediment Compared to Sediment Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Sediment PRG Values[3] (mg/kg)	NOAA Values[4] (mg/kg)
ODP	ODP	2-Methylnaphthalene	10 J	NA	NA	NA
ODP	ODP	4,4'-DDD	0.23	NA	NA	NA
ODP	ODP	4,4'-DDE	0.13	NA	NA	NA
ODP	ODP	4,4'-DDT	0.2 J	NA	NA	NA
ODP	ODP	Acenaphthene	3.79 J	.77	0.022	0.15
ODP	ODP	Acenaphthylene	1.69 J	NA	NA	NA
ODP	ODP	Acetone	0.029 J	NA	NA	NA
ODP	ODP	Aldrin	0.0299	NA	NA	NA
ODP	ODP	alpha-Chlordane	0.0359 J	.0052	NA	NA
ODP	ODP	Aluminum	18400	10000	NA	NA
ODP	ODP	Anthracene	6.9 J	1.6	0.085	0.085
ODP	ODP	Antimony	1.39 J	NA	NA	2
ODP	ODP	Arsenic	10.5	12	8	3.3
ODP	ODP	Barium	145	120	NA	NA
ODP	ODP	Benzo(a)anthracene	20 J	2.9	0.16	0.23
ODP	ODP	Benzo(a)pyrene	19 J	2.5	0.23	0.4
ODP	ODP	Benzo(b)fluoranthene	26 J	2.2	NA	NA
ODP	ODP	Benzo(g,h,i)perylene	9.5 J	1.8	NA	NA
ODP	ODP	Benzo(k)fluoranthene	25 J	2.3	NA	NA
ODP	ODP	Beryllium	1.19 J	1.3	NA	NA
ODP	ODP	beta-BHC	0.00509 J	NA	NA	NA
ODP	ODP	bis(2-Ethylhexyl)phthalate	2.89 J	NA	NA	NA
ODP	ODP	Butylbenzylphthalate	1.19 J	NA	NA	NA
ODP	ODP	Cadmium	3	29	1	5
ODP	ODP	Calcium	157000	15000	NA	NA
ODP	ODP	Carbazole	2.39 J	1.1	NA	NA
ODP	ODP	Carbon tetrachloride	0.11	NA	NA	NA
ODP	ODP	Chromium, total	36.2	38	33	80
ODP	ODP	Chrysene	30 J	3.2	0.22	0.4
ODP	ODP	Cobalt	219	14	NA	NA
ODP	ODP	Copper	83.7	270	28	70
ODP	ODP	Cyanide	0.699	NA	NA	NA

Compounds Detected in Sediment Compared to Sediment Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Sediment PRG Values[3] (mg/kg)	NOAA Values[4] (mg/kg)
ODP	ODP	delta-BHC	0.01 J	NA	NA	NA
ODP	ODP	Di-n-butylphthalate	0.064 J	NA	NA	NA
ODP	ODP	Di-n-octylphthalate	0.0899 J	NA	NA	NA
ODP	ODP	Dibenz(a,h)anthracene	**3.39 J**	**.7**	**0.031**	**0.06**
ODP	ODP	Dibenzofuran	1.6 J	NA	NA	NA
ODP	ODP	Dieldrin	**0.309 J**	**.011**	NA	NA
ODP	ODP	Diethylphthalate	7.7 J	NA	NA	NA
ODP	ODP	Dimethylphthalate	0.28 J	NA	NA	NA
ODP	ODP	Endosulfan I	0.032 J	NA	NA	NA
ODP	ODP	Endrin	**0.048 J**	NA	NA	**0.00002**
ODP	ODP	Endrin aldehyde	0.048	NA	NA	NA
ODP	ODP	Fluoranthene	**32 J**	**7.1**	**0.38**	**0.6**
ODP	ODP	Fluorene	**7.2 J**	NA	**0.018**	**0.035**
ODP	ODP	gamma-Chlordane	0.0439 J	2	NA	NA
ODP	ODP	Heptachlor	0.0129 J	NA	NA	NA
ODP	ODP	Heptachlor epoxide	0.00759 J	NA	NA	NA
ODP	ODP	Heptachlorodibenzo-p-dioxin, total	0.0126	NA	NA	NA
ODP	ODP	Heptachlorodibenzofuran, total	0.0043 J	NA	NA	NA
ODP	ODP	Hexachlorodibenzo-p-dioxin, total	0.00103	NA	NA	NA
ODP	ODP	Hexachlorodibenzofuran, total	0.000598	NA	NA	NA
ODP	ODP	Indeno(1,2,3-cd)pyrene	**9.69 J**	**1.7**	NA	NA
ODP	ODP	Iron	17000	23000	NA	NA
ODP	ODP	Lead	**484**	**72**	**21**	**35**
ODP	ODP	Magnesium	**19100**	**2400**	NA	NA
ODP	ODP	Manganese	**908 J**	**870**	NA	NA
ODP	ODP	Mercury	**0.25**	4	**0.1**	**0.15**
ODP	ODP	Methoxychlor	0.029 J	NA	NA	NA
ODP	ODP	Methylene chloride	0.0449	NA	NA	NA
ODP	ODP	Naphthalene	0.0719 J	NA	0.13	0.34
ODP	ODP	Nickel	26.1	30	NA	30
ODP	ODP	Octachlorodibenzo-p-dioxin	**0.0616**	**.0086**	NA	NA
ODP	ODP	Octachlorodibenzofuran	0.00379 J	NA	NA	NA

Compounds Detected in Sediment Compared to Sediment Screening Levels for All Parcels
Screening Sites Sampling Program
Defense Depot Memphis, Tennessee

Parcel	Site	Parameter[1]	Maximum Detected Values (mg/kg)	Background Values[2] (mg/kg)	Sediment PRG Values[3] (mg/kg)	NOAA Values[4] (mg/kg)
ODP	ODP	Pentachlorodibenzo-p-dioxin, total	0.0000128	NA	NA	NA
ODP	ODP	Pentachlorodibenzofuran, total	0.000125	NA	NA	NA
ODP	ODP	Phenanthrene	**33 J**	**6.9**	**0.14**	**0.225**
ODP	ODP	Potassium	1150 J	1600	NA	NA
ODP	ODP	Pyrene	**55 J**	**2.9**	**0.29**	NA
ODP	ODP	Selenium	**1.1 J**	1.7	NA	NA
ODP	ODP	Silver	**9.09**	**1.8**	**0.5**	**1**
ODP	ODP	Sodium	**282 J**	**240**	NA	NA
ODP	ODP	Tetrachlorodibenzo-p-dioxin, total	0.00000979	NA	NA	NA
ODP	ODP	Tetrachlorodibenzofuran, total	0.0000755	NA	NA	NA
ODP	ODP	Toluene	0.005 J	NA	NA	NA
ODP	ODP	Vanadium	27.8	30	NA	NA
ODP	ODP	Xylene (total)	0.0359 J	NA	NA	NA
ODP	ODP	Zinc	**1170**	**800**	**68**	**120**

1. The parameter listing includes only the parameters detected within each site and not all the parameters analyzed.
2. Background Values are from Table 5-1 of the *Draft Background Sampling Program Technical Memorandum*, CH2M HILL, September 1996.
3. Sediment Preliminary Remediation Goal (PRG) Values are from Table 3-10 of the Generic Remedial *Investigation/Feasibility Study Work Plan*, CH2M HILL, August 1995.
4. National Oceanic and Atmospheric Administration (NOAA) Values are from Table 3-10 of the Generic *Remedial Investigation/Feasibility Study Work Plan*, CH2M HILL, August 1995.

Bold text indicates detections that exceed a screening level value and the associated screening level value that was exceeded.
NA - indicates screening level values are not available for comparison.
J - indicates estimated value above the detection limit but below the reporting limit.

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