APPENDIX A

SUPPORTING DATA FOR

ANALYSIS OF NPL SITES

Exhibit A-1: Number of NPL Source Control RODs by Type

Fiscal Year	Source Control				Other Remedies	Total RODs
	Some Treatment (% of Source Control RODS)	Containment or Disposal Only (% of Source Control RODS)	Other Source Control	Total Source Control		
1982	1 (25%)	3 (75%)	--	4	--	4
1983	0	7 (100%)	--	7	6	13
1984	5 (29%)	12 (71%)	0	17	21	38
1985	16 (28%)	34 (60%)	7	57	11	68
1986	27 (44%)	34 (56%)	0	61	24	85
1987	28 (50%)	28 (50%)	0	56	23	79
1988	72 (72%)	28 (28%)	0	100	52	152
1989	76 (74%)	29 (28%)	0	105	41	146
1990	88 (70%)	35 (28%)	2	125	45	170
1991	105 (74%)	34 (24%)	2	141	57	198
1992	86 (72%)	26 (22%)	7	119	54	173
1993	84 (71%)	31 (26%)	4	119	71	190
1994	58 (59%)	35 (36%)	5	98	67	165
1995	62 (53%)	48 (41%)	7	117	71	188
Totals	708 (63%)	384 (34%)	34	1,126	543	1,669

Notes:
- RODs denote Records of Decision.
- "Other Source Control" includes RODs calling for only institutional controls, monitoring, and relocation remedies.
- "Other Remedies" include RODs calling for "groundwater only" remedies and "no action."
- Numbers in italics are preliminary.

Exhibit A-2: Representative Hazardous Chemicals by Contaminant Group

The hazardous chemicals listed below are representative of those found at National Priorities List (NPL) sites. The list is developed from site assessment information for NPL sites without Records of Decision (RODs), based on the *Test Methods for Evaluating Solid Waste, Volume 1A: Laboratory Manual, Physical/Chemical Methods*, Third Edition, Proposal Update II, PB94-170321, November 1992. These chemicals represent many, but not all, of the contaminants found at NPL sites.

Volatile Organic Compounds (VOCs)	
1,1,1-Trichloroethane	Dibromochloromethane
1,1,2,2-Tetrachloroethane	Dibromochloropropane (DBCP)
1,1,2-Trichloroethane	Dibromomethane
1,1-Dichloroethane	Dichlorodifluoromethane
1,1-Dichloroethene	Dichloroethylene
1,1-Dichloropropylene	Dichloromethane
1,2,3-Trichloropropane	Dichlorpropene
1,2-Dichloroethane	Ethyl Ether
1,2-Dichloroethene	Ethyl Methacrylate
1,2-Dichloropropane	Ethylbenzene
1,2-Transdichloroethene	Iodomethane
1,3-Dichloropropane	Isopropanol
1,3-Trichloropropene	M-PSA
1,4-Dichloro-2-butene	M-Xylene
2-Butanone (MEK)	Methane
2-Chloroethyl Vinyl Ether	Methanethiol
2-Chloropropane	Methylene
2-Hexanone	Methylene Chloride
3-Hexanone	O-Xylene
4-Methyl-2-pentanone	P-PSA
Acetone	P-Xylene
Acrolein	Polyvinyl Chloride
Acrylonitrile	Styrene
Benzene	Tetrachloroethene
Bromodichloromethane	Tetrachloroethylene
Bromodichloroethane	Tetrahydrofuran
Bromoform	Toluene
Bromomethane	Total Xylenes
Carbon Disulfide	Trans-1, 2-dichloroethene
Carbon Tetrachloride	Trans-1,3-dichloropropene
Chlorobenzene	Trichloroethene
Chloroethane	Trichlorofluoromethane
Chloroform	Vinyl Acetate
Chloromethane	Vinyl Chloride
Cis-1,2-Dichloroethane	Vinylidene Chloride
Cis-1,2-Dichloroethylene	Volatile Organics
Cis-1,3-Dichloropropene	

Exhibit A-2: Representative Hazardous Chemicals by Contaminant Group (Continued)

Semivolatile Organic Compounds (SVOCs)	
(Lindane) Gamma-BHC	Acenaphthene
1,2,3-Trichlorobenzene	Acenaphthylene
1,2,4,5-Tetrachlorobenzene	Acetophenone
1,2,4-Trichlorobenzene	Aldrin
1,2-Dichlorobenzene	Alpha-BHC
1,2-Diphenylhydrazine	Amiben
1,3-Dichlorobenzene	Aniline
1,4-Dichlorobenzene	Anthracene
1-Chloroaniline	Benzidine
1-Naphthylamine	Benzo(a)anthracene
2,2-Dichlorobenzidine	Benzo(a)pyrene
2,3,4,5-Tetrachlorophenol	Benzo(b)fluorathene
2,4,5-Trichlorophenol	Benzo (ghi)perylene
2,4,6-Trichlorophenol	Benzo(k)flouranthene
2,4-Dichlorophenol	Benzo(j)flourathene
2,4-Dichlorotoluene	Benzo(k)pyrene
2,4-Dimethylphenol	Benzoic Acid
2,4-Dinitrophenol	Benzothiazole
2,4-Dinitrotoluene	Benzyl Alcohol
2,6-Dichlorophenol	Bis(2-chloroethoxy)methane
2,6-Dinitrotoluene	Bis(2-chloroethyl)ether
2-Chloronaphthalene	Bis(ethylhexyl)phthalate
2-Chlorophenol	Bis-2-chloroethoxyphthalate
2-Mercaptan-Benzothiazole	Butyl Benzyl Phthalate
2-Methyl-4,6-Dinitrophenol	Chlordane
2-Methylnaphthalene	Chrysene
2-Methylphenol	Cresote
2-Napthylamine	Delta-BHC
2-Nitroaniline	DHD
2-Nitrophenol	Di-n-octyl Phthalate
2-Picoline	Dibenzo(a,h)anthracene
3-Methylcholanthrene	Dibenzofuran
3-Methylphenol	Dibutyl Phthalate
3-Nitroaniline	Dimethyl Phthalate
4,4-DDD	Dinitrophenol
4,4-DDE	Dinoseb
4,4-DDT	Diphenylamine
4,6-Dinitro-o-cresol	DNB
4-Aminobiphenyl	Endosulfan I
4-Bromophenyl Phenyl Ether	Endosulfan II
4-Chloro-3-methylphenol	Endosulfan Sulfate
4-Chloroaniline	Endrin
4-Chlorophenyl Phenyl Ether	Endrin Aldehyde
4-Methylphenol	EPTC
4-Nitroaniline	Ethyl Methanesulfonate
4-Nitrophenol	Ethylamylketone (EAK)
7,12-Dimethylbenz(a)anthracene	Ethylene Dibromide
A,A-Dimethyl-b-phenylethlamine	Fluoranethene
Acenanthrene	Fluorene

Exhibit A-2: Representative Hazardous Chemicals by Contaminant Group (Continued)

Semivolatile Organic Compounds (SVOCs) (Continued)	
Heptachlor	Parathion
Heptachlorepoxide	PCB
Herbicides	Pentachlorobenzene
Hexachlorobenzene	Pentachloronitrobenzene
Hexachlorobutadiene	Pentachlorophenol
Hexachlorocyclohexan	Pesticides
Hexachlorocyclopentadiene	Phenacetin
Hexachloroethane	Phenanthrene
Hexadecanoic Acid	Phenol
Indeno(1,2,3-cd)pyrene	Phenothiazine
Isophorone	Polynuclear Aromatic Hydrocarbons
Kepone	Pronamid
Malathion	Pyrene
Methoxychlor	P-Dimethylaminoazobenzene
Methyl Ethyl Benzene	Resorcinol
Methylmethanesulfonate	Shell Sol 140
N-Methylpyrrolidene	TDX
N-Nitroso-di-n-butylamine	Tertbutylmethylether
N-Nitrosodimethylamine	Tetrahydrofuran
N-Nitrosopiperidine	TNB 1,3,5-Trinitrobenzene
Naphthalene	Toxaphene
Nitrobenzene	Vernolate
Oxazolidone	

Metals	
Aluminum	Molybdenum
Antimony	Nickel
Arsenic	Plutonium
Barium	Potassium
Beryllium	Radium
Boron	Selenium
Cadmium	Silicon
Calcium	Silver
Cesium	Sodium
Chrome	Strontium
Chromite	Technetium
Chromium	Thallium
Cobalt	Thorium
Copper	Tin
Iron	Titanium
Lead	Tritium
Magnesium	Uranium
Manganese	Vanadium
Mercury	Zinc
Metals	Zirconium

Exhibit A-3: Distribution of Quantities of Contaminated Soil, Sediment, and Sludge at NPL Sites With RODs

Quantity Estimate (Cubic Yards)	Number of NPL Sites with Data By Matrix					
	Soil		Sediment		Sludge	
	Federal Facilities	Non-Fed. Facilities	Federal Facilities	Non-Fed. Facilities	Federal Facilities	Non-Fed. Facilities
<1,000	3	47	0	16	0	6
1,000 - 5,000	6	65	1	16	0	7
5,001 - 10,000	6	46	1	10	0	4
10,001 - 30,000	7	83	1	8	0	8
30,001 - 50,000	5	42	1	8	1	10
50,001 - 100,000	1	32	0	5	0	7
>100,000	6	55	1	6	2	6
Total Number of Sites	34	370	5	69	3	48

Note: Data are derived from 510 Records of Decision (RODs) for 430 sites with data.

Source: U.S. EPA, Office of Emergency and Remedial Response, ROD Information Directory, December 1995.

Exhibit A-4: Estimated Quantity of Contaminated Soil, Sediment, and Sludge for Major Contaminant Groups at Non-Federal NPL Sites with Planned Remedial Actions

(1)	(2)	(3)	(4)	(5)
Contaminant Subgroup	**Number of NPL Sites With Available Data[a]**	**Average Based on Available Data (Cubic Yards)[a]**	**Numbers of NPL Sites With Planned Remedial Action[b]**	**Projected Total Quantity (Cubic Yards)[c]**
Single:				
Metals	68	93,000	49	4,557,000
VOCs	35	19,000	60	1,140,000
SVOCs	77	23,000	26	598,000
Others	14	71,000	53	3,763,000
Double:				
VOCs & Metals	49	56,000	54	3,024,000
SVOCs & Metals	16	40,000	29	1,160,000
VOCs & SVOCs	32	69,000	52	3,588,000
VOCs, SVOCs, & Metals	129	68,000	224	15,232,000
TOTALS	420		547	33,062,000

Notes:

[a] Source of quantity data is U.S. EPA, RODs, fiscal years 1982-1994. Statistical outliers are not included. Site-specific data are not available for quantities of material to be remediated at all sites with planned remedial actions; these values are derived from estimates contained in the RODs for 420 sites containing similar contaminants.

[b] Based on the distribution of contaminant groups among the 944 sites with ROD data shown in Exhibit 3-4. Each site is placed in one subgroup only.

[c] The total for each subgroup is calculated by multiplying columns (3) and (4). Projected quantities are rounded.