

APPENDIX A

SUPERFUND TREATMENT TECHNOLOGIES BY FISCAL YEAR



Superfund Remedial Actions:

Treatment Technologies by Fiscal Year

Technology Type	Fiscal Year																		
	1982-85	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	TOTALS
Ex Situ Source Control Technologies																			
Solidification/Stabilization	3	3	6	7	11	13	20	22	11	13	3	6	3	14	8	6	2	6	157
Incineration (off-site)	3	2	3	9	9	15	12	6	9	5	9	5	3	3	2	6	1	2	104
Thermal Desorption	2	1	4	4	3	7	8	2	4	4	6	1	5	5	1	4	2	6	69
Bioremediation	1	1		3	5	3	1	8	3	5	6	5	0	4	6	2	1	0	54
Incineration (on-site)	4	3	4	7	6	4	3	3	1	1	2	1	4	0	0	0	0	0	43
Physical Separation	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	12	3	2	20
Chemical Treatment	1	0	1	0	0	1	1	1	0	0	1	1	0	0	1	0	2	0	10
Soil Vapor Extraction	0	0	0	0	0	0	1	0	2	1	0	2	1	1	1	0	0	0	9
Neutralization	0	0	0	1	0	0	0	4	0	0	2	0	0	0	0	0	0	1	8
Soil Washing	0	0	0	0	1	4	0	1	0	0	0	1	0	1	0	0	0	0	8
Mechanical Soil Aeration	1	0	0	1	0	1	0	0	0	0	1	0	0	0	1	0	0	0	5
Solvent Extraction	0	0	0	0	1	0	1	0	1	1	1	0	0	0	0	0	0	0	5
Open Burn/Open Detonation	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	3
Phytoremediation	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Vitrification	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
TOTALS	15	10	19	32	36	49	47	47	32	31	32	22	17	29	22	30	11	18	499
In Situ Source Control Technologies																			
Soil Vapor Extraction	4	2	1	8	21	17	34	17	14	7	10	22	15	8	15	6	8	4	213
Bioremediation	0	0	1	2	0	3	1	3	4	5	4	7	0	6	3	5	2	2	48
Solidification/Stabilization	0	2	3	3	3	3	3	6	7	0	2	5	3	4	3	1	0	0	48
Flushing	1	1	0	0	3	1	1	1	1	3	0	0	0	0	1	1	1	1	16
Chemical Treatment	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3	1	2	4	12
Multi-Phase Extraction	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	2	8
In Situ Thermal Treatment	0	0	0	0	0	1	1	0	0	1	0	2	0	1	1	1	0	0	8
Neutralization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	4
Phytoremediation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	4
Vitrification	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
Electrical Separation	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTALS	6	5	5	13	27	25	42	27	26	16	16	36	18	22	29	20	16	15	364
In Situ Groundwater Technologies																			
Air Sparging	0	1	0	0	1	1	8	4	3	0	3	7	7	6	7	4	4	2	58
Bioremediation	1	0	0	0	3	3	1	1	4	2	2	1	1	2	2	4	12	5	44
Chemical Treatment	0	0	0	1	0	0	0	0	1	0	0	1	1	0	2	5	6	4	21
Permeable Reactive Barrier	0	0	0	0	0	1	0	3	0	1	0	1	1	3	0	3	3	1	17
Multi-Phase Extraction	0	0	0	0	0	0	0	0	1	2	1	1	4	1	0	1	0	3	14
Phytoremediation	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	1	0	6
In-Well Air Stripping	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	1	0	5
Flushing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
In Situ Thermal Treatment	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2
TOTALS	1	1	0	1	4	6	9	8	9	5	7	11	14	14	13	22	28	16	169
Ex Situ Groundwater Technologies																			
Pump and Treat	9	14	9	23	28	28	48	59	73	66	51	51	79	64	45	55	20	21	743

Some projects treat both in situ source control and in situ groundwater. These projects are counted in both sections of this appendix.

APPENDIX B

SUPERFUND TREATMENT TECHNOLOGY SUMMARY MATRIX



REGION 1

Groundwater Treatment Technology Summary Matrix

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS		
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat			
Atlas Tack Corp. – OU 1	MA	2000	Remedial					♦								D
Baird & Mcguire	MA	1990	Remedial											♦		PD
Brunswick Naval Air Station	ME	1998	Remedial											♦		O
Burgess Brothers Landfill – OU 01	VT	1998	Remedial	♦												O
CHARLES-GEORGE RECLAMATION TRUST LANDFILL	MA	1988	Remedial											♦		PD
Davis Liquid Waste	RI	1987	Remedial											♦		PD
DOVER MUNICIPAL LANDFILL	NH	1991	Remedial											♦		D
Eastern Surplus Company Superfund Site	ME	2000	Remedial											♦		O
Eastern Surplus Company Superfund Site	ME	2000	Remedial						♦							O
Eastland Woolen Mill	ME	2002	Remedial											♦		PD
Eastland Woolen Mill – OU1	ME	2002	Remedial		♦											D
Eastland Woolen Mill – OU1	ME	2002	Remedial						♦							D
Eastland Woolen Mill – OU1	ME	2002	Remedial									♦				D
GROVELAND WELLS	MA	2000	Remedial											♦		O
Hanscom Field/Hanscom Air Force Base – OU1 Airfield VOC plume	MA	2001	Remedial											♦		O
Hanscom Field/Hanscom Air Force Base – OU1 Site 1 Source Area	MA	2001	Remedial		♦											C
Hanscom Field/Hanscom Air Force Base – OU1, Site 1 Source Area	MA	2001	Remedial						♦							O
Hocomonco Pond	MA	1999	Remedial											♦		SD
Hocomonco Pond	MA	1985	Remedial		♦											C
KEARSARGE METALLURGICAL CORP	NH	1993	Remedial											♦		O
Keefe Environmental Services	NH	1993	Remedial											♦		O
KELLOGG-DEERING WELL FIELD	CT	1996	Remedial											♦		O
Laurel Park	CT	1988	Remedial											♦		O
Linemaster Switch Corporation	CT	1993	Remedial			♦										O
MCKIN CO	ME	1992	Remedial											♦		SD

Status: PD = Pre-design; D = Design; D/I = Designed but not Installed; BI = Being Installed; I = Installed; O = Operational; C = Complete; SD = Shut Down

REGION 1

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
NATICK LABORATORY ARMY RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER	MA	2001	Remedial										♦		PD
NEW LONDON SUBMARINE BASE	CT	1998	Remedial										♦		PD
NORWOOD PCBS	MA	1999	Remedial										♦		SD
NYANZA CHEMICAL WASTE DUMP	MA	1991	Remedial										♦		PD
O'Connor – OU2	ME	2002	Remedial			♦									O
OLD SPRINGFIELD LANDFILL	VT	1994	Remedial										♦		O
Otis Air National Guard – Fuel Spill 12	MA	1995	Remedial	♦											C
Otis Air National Guard	MA	1995	Remedial										♦		O
Ottati & Goss/Kingston Steel Drum	NH	1987	Remedial										♦		D
PARKER SANITARY LANDFILL	VT	1995	Remedial										♦		PD
PEASE AFB	NH	2000	Remedial										♦		O
Pease AFB – Site 45	NH	1995	Remedial	♦											O
Pease AFB – Zone 2	NH	1995	Remedial	♦											O
Peterson/Puritan Inc.	RI	1993	Remedial										♦		O
Peterson/Puritan Inc. – OU 1, PAC Area	RI	1993	Remedial						♦						C
Picillo Farm Site	RI	1993	Remedial										♦		PD
PINETTE'S SALVAGE YARD	ME	1997	Remedial										♦		SD
Re-Solve Inc	MA	1998	Remedial										♦		O
Rose Disposal Pit	MA	1994	Remedial										♦		O
Savage Municipal Water Supply	NH	1997	Remedial										♦		O
Savage Municipal Water Supply – OU 1, Ok Tool Source Area	NH	1997	Remedial	♦											O
Silresim Chemical	MA	1991	Remedial										♦		O
SOLVENTS RECOVERY SERVICE OF NEW ENGLAND	CT	1983	Remedial										♦		O
Somersworth Sanitary Landfill	NH	1994	Remedial										♦		O
Somersworth Sanitary Landfill	NH	1994	Remedial				♦								O

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REGION 1

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
South Municipal Water Supply Well	NH	1995	Remedial										♦	O
STAMINA MILLS, INC	RI	2000	Remedial										♦	O
SULLIVAN'S LEDGE	MA	2000	Remedial										♦	O
Sylvester	NH	1992	Remedial										♦	SD
Tibbetts Road – OU 01	NH	1998	Remedial					♦						O
Tinkham Garage	NH	1989	Remedial										♦	PD
Union Chemical – OU 1	ME	2001	Remedial		♦									O
Union Chemical Co Inc –	ME	1997	Remedial										♦	O
Wells G&H	MA	1989	Remedial										♦	O
Wells G&H – OU 1 (Wildwood Conservation Trust)	MA	1998	Remedial	♦										O
West Site/Hows Corner Superfund Site	ME	2002	Remedial										♦	PD

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REGION 2

Groundwater Treatment Technology Summary Matrix

				Groundwater Technologies											
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE											STATUS
WINTHROP LANDFILL	ME	1998	Remedial											◆	O
A O Polymer Ground Water Treatment	NJ	1991	Remedial											◆	O
A.O. POLYMER	NJ	1998	Remedial											◆	O
AMERICAN THERMOSTAT CO.	NY	1998	Remedial											◆	O
APPLIED ENVIRONMENTAL SERVICES	NY	1996	Remedial											◆	O
BOG CREEK FARM	NJ	1994	Remedial											◆	O
Brewster Well Field	NY	1986	Remedial											◆	PD
BROOK INDUSTRIAL PARK	NJ	1994	Remedial											◆	D
BROOKHAVEN NATIONAL LABORATORY (USDOE)	NY	2001	Remedial											◆	PD
Brookhaven National Laboratory (USDOE) – OU 4	NY	1996	Remedial	◆											O
Byron Barrel & Drum	NY	1989	Remedial											◆	O
Caldwell Trucking	NJ	1986	Remedial											◆	D/I
CHEMICAL LEAMAN TANK LINES, INC.	NJ	1990	Remedial											◆	D
CHEMSOL, INC.	NJ	1991	Remedial											◆	O
CIBA-GEIGY CORP.	NJ	1989	Remedial											◆	PD
CINNAMISON TOWNSHIP (BLOCK 702) GROUND WATER CONTAMINATION	NJ	1990	Remedial											◆	PD
CIRCUITRON CORP	NY	2000	Remedial											◆	O
Claremont Polychemical	NY	1990	Remedial											◆	O
COLESVILLE MUNICIPAL LANDFILL	NY	1991	Remedial											◆	O
Combe Fill South Landfill	NJ	1986	Remedial											◆	PD
CONKLIN DUMPS	NY	1992	Remedial											◆	PD
CORTESE LANDFILL	NY	1994	Remedial											◆	PD
Cosden Chemical Coatings	NJ	1992	Remedial											◆	PD
Dayco Corp./L.E. Carpenter Co.	NJ	1994	Remedial											◆	PD
De Rewal Chemical	NJ	1989	Remedial											◆	PD

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Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
Diamond Alkali	NJ	1987	Remedial											♦	O
DImperio Property	NJ	1985	Remedial											♦	O
DOVER MUNICIPAL WELL 4	NJ	1992	Remedial											♦	PD
ELLIS PROPERTY	NJ	2000	Remedial											♦	O
Ellis Property – Groundwater	NJ	1992	Remedial											♦	D/I
ENDICOTT VILLAGE WELL FIELD	NY	1997	Remedial											♦	O
EVOR PHILLIPS LEASING	NJ	1992	Remedial											♦	O
Ewan Property	NJ	1989	Remedial											♦	PD
Ewan Property – OU 2	NJ	1988	Remedial						♦						PD
FAA Technical Center – Area B Navy Fire Testing Facility	NJ	1996	Remedial											♦	D
FAA Technical Center – OU 1, Area D – Jet Fuel Farm	NJ	1989	Remedial		♦										I
Facet Enterprises	NY	1992	Remedial											♦	PD
FIBERS PUBLIC SUPPLY WELLS	PR	1991	Remedial											♦	PD
Florence Landfill	NJ	1986	Remedial											♦	O
FMC CORP. (DUBLIN ROAD LANDFILL)	NY	1997	Remedial											♦	O
FOREST GLEN MOBILE HOME SUBDIVISION	NY	1999	Remedial											♦	PD
Fried Industries	NJ	1994	Remedial											♦	PD
FULTON TERMINALS	NY	1999	Remedial											♦	SD
GARDEN STATE CLEANERS CO	NJ	1999	Remedial											♦	O
GCL Tie and Treating	NY	1995	Remedial											♦	BI
GE Wiring Devices	PR	1988	Remedial											♦	PD
GEMS LANDFILL	NJ	1999	Remedial											♦	O
General Motors/Central Foundry Division	NY	1992	Remedial											♦	D
Genzale Plating Company	NY	1991	Remedial											♦	D
GOOSE FARM	NJ	1993	Remedial											♦	O
Griffiss Air Force Base, Landfill 1, OU 5	NY	2000	Remedial											♦	PD

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Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
HAVILAND COMPLEX	NY	1997	Remedial										♦	PD
HELEN KRAMER LANDFILL	NJ	1993	Remedial										♦	O
HERTEL LANDFILL	NY	1991	Remedial										♦	PD
Higgins Disposal Site	NJ	1997	Remedial										♦	PD
HIGGINS FARM	NJ	1998	Remedial										♦	O
Hooker (102nd Street Landfill)	NY	1990	Remedial										♦	O
HOOKER (HYDE PARK)	NY	1986	Remedial										♦	I
Hooker (S Area)	NY	1990	Remedial										♦	PD
Hooker Chemical/Ruco Polymer – OU 3	NY	2000	Remedial		♦									D
IMPERIAL OIL CO., INC./CHAMPION CHEMICALS	NJ	1992	Remedial										♦	D
ISLIP MUNICIPAL SANITARY LANDFILL	NY	1992	Remedial										♦	PD
Janssen Inc.	PR	1997	Remedial										♦	PD
JIS LANDFILL	NJ	1995	Remedial										♦	D
Johnstown City Landfill	NY	1993	Remedial										♦	PD
Jones Chemicals, Inc.	NY	2000	Remedial										♦	PD
KATONAH MUNICIPAL WELL	NY	1992	Remedial										♦	O
Kentucky Avenue Wellfield	NY	1990	Remedial										♦	O
Kentucky Avenue Wellfield – OU 3	NY	1996	Remedial	♦										O
Kin-Buc Landfill	NJ	1988	Remedial										♦	O
KING OF PRUSSIA	NJ	1995	Remedial										♦	O
LANG PROPERTY	NJ	1995	Remedial										♦	O
Liberty Industrial Finishing	NY	2002	Remedial										♦	PD
LONE PINE LANDFILL	NJ	1994	Remedial										♦	O
MANNHEIM AVENUE DUMP	NJ	1994	Remedial										♦	SD
MATTIACE PETROCHEMICAL CO., INC	NY	2000	Remedial										♦	O
Metaltec/Aerosystems	NJ	1990	Remedial										♦	PD

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Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
Mohonk Road Industrial Plant	NY	2000	Remedial											♦	PD
Mohonk Road Industrial Plant	NY	2000	Remedial											♦	D
MONTGOMERY TOWNSHIP HOUSING DEVELOPMENT	NJ	1988	Remedial											♦	D
Myers Property	NJ	1990	Remedial											♦	PD
Nascolite Corp.	NJ	1988	Remedial											♦	PD
Naval Air Engineering Center	NJ	1997	Remedial											♦	PD
Naval Air Engineering Center – Areas A and B Groundwater	NJ	1997	Remedial			♦									O
Naval Air Engineering Station, Areas I and J Groundwater – OU 26	NJ	1999	Remedial		♦										O
Naval Air Engineering Station, Site 28 – Soil And Groundwater OU	NJ	1997	Remedial	♦											O
NAVAL WEAPONS STATION EARLE (SITE A)	NJ	1998	Remedial											♦	PD
Naval Weapons Station Earle (Site A) – OU 03	NJ	1998	Remedial	♦											O
NIAGARA MOHAWK POWER CORP. (SARATOGA SPRINGS PLANT)	NY	1995	Remedial											♦	O
NL Industries, Inc.	NJ	1994	Remedial											♦	D
OLD BETHPAGE LANDFILL	NY	1994	Remedial											♦	O
Olean Well Field	NY	1996	Remedial											♦	PD
ONONDAGA LAKE	NY	2000	Remedial											♦	PD
Pasley Solvents And Chemicals, Inc.	NY	1992	Remedial	♦											O
PICATINNY ARSENAL (USARMY)	NJ	1989	Remedial											♦	O
PLATTSBURGH AIR FORCE BASE	NY	1997	Remedial											♦	PD
Pollution Abatement Services	NY	1993	Remedial											♦	SD
PORT WASHINGTON LANDFILL	NY	1989	Remedial											♦	O
Price Landfill #1	NJ	1986	Remedial											♦	D
RADIATION TECHNOLOGY, INC.	NJ	1994	Remedial											♦	PD
RAMAPO LANDFILL	NY	1992	Remedial											♦	PD
REICH FARMS	NJ	1998	Remedial											♦	O
Richardson Hill Road Landfill/Pond	NY	1997	Remedial											♦	PD

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REGION 2

Groundwater Treatment Technology Summary Matrix (continued)

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
Robintech, Inc./National Pipe Company	NY	1992	Remedial										◆	O
Rockaway Borough Well Field	NJ	1991	Remedial										◆	D
Rockaway Borough Well Field	NJ	1991	Remedial										◆	D
ROCKAWAY TOWNSHIP WELLS	NJ	2002	Remedial										◆	PD
ROCKY HILL MUNICIPAL WELL	NJ	1988	Remedial										◆	D
ROWE INDUSTRIES GROUND WATER CONTAMINATION	NY	2002	Remedial										◆	O
Scientific Chemical Processing	NJ	1990	Remedial										◆	PD
Sealand Restoration, Inc.	NY	1995	Remedial										◆	PD
SHARKEY LANDFILL	NJ	1986	Remedial										◆	PD
SHIELDALLOY CORP.	NJ	1996	Remedial										◆	O
Shore Realty	NY	1991	Remedial										◆	O
Shore Realty (Formerly Applied Environmental Services) – Groundwater OU	NY	1991	Remedial		◆									O
Shore Realty (Formerly Applied Environmental Services) – OU 1	NY	1991	Remedial	◆										O
SIDNEY LANDFILL	NY	1995	Remedial										◆	D
Sinclair Refinery	NY	1991	Remedial										◆	O
Sinclair Refinery – OU 2	NY	1991	Remedial	◆										O
SMS Instruments	NY	1989	Remedial										◆	O
SMS INSTRUMENTS, INC	NY	1996	Remedial										◆	O
Solvent Savers	NY	1990	Remedial										◆	PD
SOUTH JERSEY CLOTHING CO	NJ	1999	Remedial										◆	O
Stanton Cleaners Area Groundwater Contamination Site	NY	1999	Remedial										◆	BI
Syncon Resins	NJ	1986	Remedial										◆	PD
TABERNACLE DRUM DUMP	NJ	1993	Remedial										◆	SD
Tri-Cities Barrel Site	NY	2000	Remedial										◆	PD
Tutu Well Field	VI	1996	Remedial										◆	PD
Universal Oil Products	NJ	1993	Remedial										◆	SD

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REGION 2

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
UPJOHN FACILITY	PR	1998	Remedial										♦	O
Vega Alta Public Supply Wells	PR	1987	Remedial										♦	PD
Vestal Water Supply	NY	1990	Remedial										♦	PD
VESTAL WATER SUPPLY WELL 4-2	NY	1998	Remedial										♦	SD
Vineland Chemical Co., Inc.	NJ	1997	Remedial										♦	PD
VOLNEY MUNICIPAL LANDFILL	NY	2002	Remedial										♦	PD
Waldick Aerospace Devices, Inc.	NJ	1991	Remedial										♦	PD
WARWICK LANDFILL	NY	1991	Remedial										♦	PD
WILLIAMS PROPERTY	NJ	1995	Remedial										♦	O
Woodland Route 532 Dump-Amendment	NJ	1999	Remedial	♦										BI
Woodland Routes 72 Dump (Amendment)	NJ	1999	Remedial	♦										BI
York Oil Co.	NY	1988	Remedial										♦	O

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REGION 3

Groundwater Treatment Technology Summary Matrix

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
A.I.W. FRANK/MID-COUNTY MUSTANG	PA	2001	Remedial											♦	O
Aberdeen Proving Ground	MD	1996	Remedial											♦	PD
Aberdeen Proving Ground (Edgewood Area) J-Field Soil OU	MD	2001	Remedial					♦							O
ABERDEEN PROVING GROUND (MICHAELSVILLE LANDFILL)	MD	2000	Remedial											♦	PD
AMP, INC. (GLEN ROCK FACILITY)	PA	1996	Remedial											♦	O
ARMY CREEK LANDFILL	DE	1994	Remedial											♦	O
Arrowhead Associates/Scovill Corp	VA	2001	Remedial				♦								O
Avco Lycoming	PA	2000	Remedial		♦										C
Avco Lycoming	PA	2000	Remedial											♦	O
BALLY GROUND WATER CONTAMINATION	PA	1989	Remedial											♦	O
Bendix Flight Systems Division	PA	1988	Remedial											♦	O
Berks Sand Pit	PA	1994	Remedial											♦	O
BLOSENSKI LANDFILL	PA	1998	Remedial											♦	O
BOARHEAD FARMS	PA	1999	Remedial											♦	PD
Browns Battery Breaking Site – OU 2	PA	1992	Remedial					♦							O
BUTZ LANDFILL	PA	1992	Remedial											♦	O
Centre County Kepone Superfund Site	PA	1995	Remedial											♦	O
CHEM-SOLV, INC	DE	1998	Remedial											♦	SD
CHISMAN CREEK	VA	1991	Remedial											♦	O
COMMODORE SEMICONDUCTOR GROUP	PA	2000	Remedial											♦	O
CROSSLEY FARM	PA	2001	Remedial											♦	PD
CROYDON TCE	PA	1997	Remedial											♦	O
CRYOCHEM, INC	PA	1998	Remedial											♦	O
Defense General Supply Center (DLA)	VA	1993	Remedial											♦	O
Delaware City PVC	DE	1986	Remedial											♦	O
Delaware Sand & Gravel Landfill	DE	1988	Remedial											♦	PD

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REGION 3

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
DELTA QUARRIES & DISPOSAL./STOTLER LANDFILL	PA	1997	Remedial										◆	O
Dover AFB	DE	1993	Remedial										◆	PD
Dover AFB – Target Area 2 Of Area 6	DE	1995	Remedial		◆									O
Dover Gas Light Co.	DE	1994	Remedial										◆	PD
DRAKE CHEMICAL	PA	2000	Remedial										◆	O
DUBLIN TCE SITE	PA	2002	Remedial										◆	PD
E.I. DuPont Newport Superfund Site – South Landfill	DE	2001	Remedial				◆							I
Eastern Diversified Metals	PA	1991	Remedial										◆	PD
ELIZABETHTOWN LANDFILL	PA	1998	Remedial										◆	PD
Fischer and Porter Co	PA	1984	Remedial										◆	O
Greenwood Chemical Co.	VA	1991	Remedial										◆	PD
H & H INC., BURN PIT	VA	2000	Remedial										◆	O
HALBY CHEMICAL CO.	DE	1998	Remedial										◆	PD
HAVERTOWN PCP	PA	1991	Remedial										◆	PD
HELEVA LANDFILL	PA	1999	Remedial										◆	O
HELLERTOWN MANUFACTURING CO	PA	1996	Remedial										◆	O
HENDERSON ROAD	PA	1993	Remedial										◆	O
HUNTERSTOWN ROAD	PA	1993	Remedial										◆	D
INDUSTRIAL LANE	PA	1991	Remedial										◆	O
KEYSTONE SANITATION LANDFILL	PA	1990	Remedial										◆	PD
KIMBERTON SITE	PA	1993	Remedial										◆	O
LINDANE DUMP	PA	1999	Remedial										◆	PD
LORD-SHOPE LANDFILL	PA	1996	Remedial										◆	O
M.W. Manufacturing	PA	1992	Remedial										◆	PD
MALVERN TCE	PA	1998	Remedial										◆	PD
MCADOO ASSOCIATES	PA	1995	Remedial										◆	SD

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REGION 3

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
METAL BANKS	PA	2001	Remedial										♦	PD
MID-ATLANTIC WOOD PRESERVERS, INC.	MD	1991	Remedial										♦	PD
MIDDLETOWN AIR FIELD	PA	1996	Remedial										♦	O
MILL CREEK DUMP	PA	1986	Remedial										♦	O
MODERN SANITATION LANDFILL	PA	2001	Remedial										♦	O
NAVAL AIR DEVELOPMENT CENTER (8 AREAS)	PA	2000	Remedial										♦	O
Naval Surface Warfare Center, Dahlgren, Site 12 – Chemical Burn Area	VA	1997	Remedial	♦										O
NCR Corp.	DE	1991	Remedial										♦	O
NCR Corp.	DE	1991	Remedial	♦										O
NORTH PENN – AREA 1	PA	1998	Remedial										♦	O
NORTH PENN – AREA 12	PA	2000	Remedial										♦	O
NORTH PENN – AREA 6	PA	2000	Remedial										♦	D
OCCIDENTAL CHEMICAL CORP./FIRESTONE TIRE & RUBBER CO.	PA	1993	Remedial										♦	O
OLD CITY OF YORK LANDFILL	PA	1996	Remedial										♦	O
Osborne Landfill	PA	1990	Remedial										♦	PD
PALMERTON ZINC PILE – OU2 & OU4	PA	1988	Remedial										♦	PD
Paoli Rail Yard	PA	1992	Remedial										♦	PD
Patuxent River Naval Air Station	MD	1996	Remedial										♦	PD
RAYMARK	PA	1995	Remedial										♦	O
RECTICON/ALLIED STEEL CORP	PA	2000	Remedial										♦	O
Rentokil Virginia Wood Preserving	VA	1996	Remedial										♦	SD
RESIN DISPOSAL	PA	1991	Remedial										♦	PD
Rhinehart Tire Fire Dump	VA	2000	Remedial										♦	SD
Rodale Manufacturing Co. Inc. Site OU 1	PA	1999	Remedial										♦	PD
Saegertown Industrial Area	PA	1993	Remedial		♦									PD
SALTVILLE WASTE DISPOSAL PONDS	VA	1995	Remedial										♦	PD

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REGION 3

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
SAND, GRAVEL AND STONE	MD	1985	Remedial											♦	O
SAUNDERS SUPPLY CO	VA	2000	Remedial											♦	O
SHRIVER'S CORNER	PA	1995	Remedial											♦	PD
Southern Maryland Wood Treating	MD	1995	Remedial											♦	SD
Standard Chlorine of Delaware, Inc.,	DE	1995	Remedial											♦	D
STANLEY KESSLER	PA	1999	Remedial											♦	O
STRASBURG LANDFILL	PA	1989	Remedial											♦	PD
The Crater Resources Superfund Site	PA	2000	Remedial											♦	PD
Tonolli Corp.	PA	1992	Remedial				♦								O
Tybouts Corner Landfill	DE	1986	Remedial											♦	O
TYSONS DUMP	PA	1998	Remedial											♦	O
U.S. TITANIUM	VA	1997	Remedial											♦	SD
Vienna Superfund Site	WV	2002	Remedial	♦											PD
Washington Gas Light	DC	1999	Remedial											♦	PD
West Virginia Ordnance (US Army)	WV	1988	Remedial											♦	O
WESTINGHOUSE ELEVATOR CO. PLANT	PA	1998	Remedial											♦	O
Whitmoyer Laboratories	PA	1991	Remedial											♦	O
William Dick Lagoons – OU 02	PA	1991	Remedial											♦	D
YORK COUNTY SOLID WASTE/REFUSE LANDFILL	PA	1995	Remedial											♦	O

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REGION 4

Groundwater Treatment Technology Summary Matrix

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
62nd Street Dump	FL	1990	Remedial											♦	SD
Abc One Hour Cleaners	NC	1993	Remedial											♦	O
Aberdeen Pesticide Dumps	NC	1997	Remedial											♦	O
Aberdeen Pesticide Dumps – OU 5	NC	1999	Remedial					♦							O
Aberdeen Pesticide Dumps – OU5 and Route 211 Area	NC	1999	Remedial											♦	PD
AIRCO	KY	1997	Remedial											♦	O
AIRCO PLATING CO	FL	1999	Remedial											♦	O
Alaric Inc. Superfund Site	FL	2002	Remedial											♦	PD
ALLEGANY BALLISTICS LABORATORY (USNAVY)	WV	1998	Remedial											♦	PD
American Creosote Works – OU2 (Phase 1)	FL	1994	Remedial			♦									O
American Creosote Works, Inc. – OU 2 (Phase 2)	FL	1994	Remedial		♦										PD
American Creosote Works, Inc. – Pensacola Pit	FL	1994	Remedial											♦	PD
ANNISTON ARMY DEPOT – SOUTHEAST INDUSTRIAL AREA	AL	1991	Remedial											♦	O
ANODYNE, INC.	FL	1993	Remedial											♦	PD
Arkwright Dump Site	SC	2002	Remedial		♦										PD
B.F. GOODRICH	KY	1997	Remedial											♦	O
Benfield Industries	NC	1992	Remedial											♦	O
Brunswick Wood Preserving Site – OU 1	GA	2002	Remedial						♦						PD
Bypass 601 Groundwater Contamination	NC	1993	Remedial											♦	SD
Cabot/Koppers	FL	1990	Remedial											♦	O
Calhoun Park Area – OU 2	SC	2002	Remedial							♦					D
Cape Fear Wood Preserving	NC	2001	Remedial		♦										O
Cape Fear Wood Preserving	NC	2001	Remedial		♦										O
Cape Fear Wood Preserving	NC	1989	Remedial											♦	O
CAROLAWN, INC	SC	1998	Remedial											♦	O
Carolina Transformer Co.	NC	1991	Remedial											♦	D/I

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REGION 4

Groundwater Treatment Technology Summary Matrix (continued)

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
CARRIER AIR CONDITIONING CO	TN	1996	Remedial										♦	O
Cecil Field Naval Air Station – OU 08	FL	1998	Remedial	♦										O
Cecil Field Naval Air Station – OU 7, Site 16	FL	1999	Remedial	♦										O
CEDARTOWN MUNICIPAL LANDFILL	GA	1994	Remedial									♦		PD
CELANESE CORP. (SHELBY FIBER OPERATIONS)	NC	1993	Remedial									♦		O
CHARLES MACON LAGOON & DRUM STORAGE	NC	1997	Remedial									♦		O
CHEMTRONICS, INC	NC	1993	Remedial									♦		O
Cherry Point Marine Corps Air Station	NC	1997	Remedial									♦		O
Chevron Chemical Company	FL	1996	Remedial	♦										PD
Chevron Chemical Company	FL	1996	Remedial			♦								PD
CIBA-GEIGY CORP. (MCINTOSH PLANT)	AL	2000	Remedial									♦		O
CITY INDUSTRIES, INC	FL	1994	Remedial									♦		O
DISTLER BRICKYARD	KY	1995	Remedial									♦		O
DISTLER FARM	KY	1992	Remedial									♦		O
ELMORE WASTE DISPOSAL	SC	1998	Remedial									♦		O
FCX – Statesville – OU1	NC	1993	Remedial									♦		O
FCX – Statesville – OU 3	NC	1996	Remedial	♦										O
FCX – Washington	NC	1993	Remedial									♦		PD
Fike/Artel Superfund Site	WV	2001	Remedial									♦		PD
FIRESTONE TIRE & RUBBER CO. (ALBANY PLANT)	GA	1998	Remedial									♦		O
Florida Petroleum Reprocessors	FL	2001	Remedial									♦		PD
FLORIDA STEEL CORP	FL	1997	Remedial									♦		O
FORT HARTFORD COAL CO. STONE QUARRY	KY	1999	Remedial									♦		O
GEIGY CHEMICAL CORP. (ABERDEEN PLANT)	NC	1998	Remedial									♦		O
GENERAL ELECTRIC CO./SHEPHERD FARM	NC	2000	Remedial									♦		O
General Electric Company, Shepard Farm Site	NC	1995	Remedial		♦									PD

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REGION 4

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
GOLD COAST OIL CORP	FL	1992	Remedial											♦	SD
HARRIS CORP. (PALM BAY PLANT)	FL	1998	Remedial											♦	O
HARRIS CORP. (PALM BAY PLANT)	FL	1998	Remedial											♦	O
Helena Chemical Company	SC	1993	Remedial											♦	O
Helena Chemical Company (Tampa Plant)	FL	1996	Remedial											♦	PD
HIPPS ROAD LANDFILL	FL	1994	Remedial											♦	O
HOLLINGSWORTH SOLDERLESS TERMINAL	FL	1993	Remedial											♦	SD
Interstate Lead Co	AL	1995	Remedial											♦	PD
Jacksonville Naval Air Station	FL	1994	Remedial											♦	PD
Jacksonville Naval Air Station – OU3	FL	2000	Remedial	♦											O
Jacksonville Naval Air Station – OU3	FL	2000	Remedial		♦										PD
Jacksonville Naval Air Station – OU3	FL	2000	Remedial						♦						PD
JADCO-HUGHES FACILITY	NC	1997	Remedial											♦	O
JFD ELECTRONICS/CHANNEL MASTER	NC	1992	Remedial											♦	O
KALAMA SPECIALTY CHEMICALS	SC	1999	Remedial											♦	O
KOPPERS CO. INC. (MORRISVILLE PLANT)	NC	1997	Remedial											♦	O
Koppers Co., Inc. (Charleston Plant)	SC	1995	Remedial											♦	O
LANGLEY AIR FORCE BASE/NASA LANGLEY CNTR OU3	VA	1998	Remedial											♦	PD
Leonard Chemical Company	SC	2001	Remedial	♦											PD
Leonard Chemical Company	SC	2001	Remedial	♦											PD
Leonard Chemical Company	SC	2001	Remedial		♦										PD
LEXINGTON COUNTY LANDFILL AREA	SC	1994	Remedial											♦	O
MADISON COUNTY SANITARY LANDFILL	FL	1997	Remedial											♦	O
MALLORY CAPACITOR CO	TN	1996	Remedial											♦	O
Marine Corps Logistics Base – OU 6	GA	2001	Remedial		♦										D
MARTIN-MARIETTA, SODYECO, INC	NC	1999	Remedial											♦	O

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REGION 4

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				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat				
Marzone Inc/Chevron Chemical Company Site – OU 1	GA	2000	Remedial				♦										O
Mathis Brothers Landfill	GA	1993	Remedial												♦		PD
MEDLEY FARM DRUM DUMP	SC	1995	Remedial												♦		O
MEMPHIS DEFENSE DEPOT (DLA) – OU-1	TN	1996	Remedial												♦		O
Memphis Depot – Main Installation Functional Unit 7	TN	2001	Remedial		♦												PD
MIAMI DRUM SERVICES	FL	1993	Remedial												♦		O
Milan Army Ammunition Plant	TN	2000	Remedial												♦		O
MONSANTO CORP. (AUGUSTA PLANT)	GA	1993	Remedial												♦		O
MUNISPORT LANDFILL	FL	1990	Remedial												♦		PD
MURRAY-OHIO DUMP	TN	1994	Remedial												♦		PD
NATIONAL ELECTRIC COIL/COOPER INDUSTRIES	KY	1998	Remedial												♦		O
NATIONAL SOUTHWIRE ALUMINUM CO.	KY	1993	Remedial												♦		O
NATIONAL STARCH & CHEMICAL CORP. – OU1	AL	1994	Remedial												♦		O
NATIONAL STARCH & CHEMICAL CORP. – OU3	AL	1994	Remedial												♦		O
New Hanover County Airport Burn Pit Superfund Site	NC	2000	Remedial	♦													BI
Newport Dump	KY	1987	Remedial												♦		PD
NORTH BELMONT PCE	NC	1997	Remedial												♦		PD
North Carolina State University	NC	1996	Remedial												♦		PD
NORTHWEST 58TH STREET LANDFILL	FL	1987	Remedial												♦		PD
Oak Ridge Reservation	TN	2002	Remedial												♦		PD
Oak Ridge Reservation OU-30	TN	2002	Remedial		♦												PD
OLIN CORP. (MCINTOSH PLANT)	AL	1995	Remedial												♦		O
Paducah Gaseous Diffusion Plant (USDOE) – NE Plume OU	KY	1995	Remedial												♦		O
Paducah Gaseous Diffusion Plant (USDOE) – NW Plume OU	KY	1993	Remedial												♦		O
PALMETTO WOOD PRESERVING	SC	1997	Remedial												♦		O
PARA-CHEM SOUTHERN, INC	SC	2000	Remedial												♦		O

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REGION 4

Groundwater Treatment Technology Summary Matrix (continued)

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				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat				
Peak Oil/Bay Drum – OU 2, Site Wide Groundwater	FL	1993	Remedial		♦												PD
PENSACOLA NAVAL AIR STATION	FL	2000	Remedial												♦		PD
Perdido Ground Water Contamination	AL	1988	Remedial												♦		O
PIPER AIRCRAFT/VERO BEACH WATER & SEWER	FL	1998	Remedial												♦		O
Reasor Chemical Company Site	NC	2002	Remedial												♦		PD
Redwing Carriers, Inc. (Saraland) Site	AL	1993	Remedial												♦		D/I
Robins AFB	GA	1995	Remedial												♦		O
Rochester Property	SC	1993	Remedial	♦													O
ROCK HILL CHEMICAL CO	SC	1997	Remedial												♦		O
SANGAMO WESTON/TWELVE-MILE/HARTWELL PCB	SC	1999	Remedial												♦		O
Sapp Battery Salvage	FL	1986	Remedial												♦		PD
Savannah River Site	SC	1996	Remedial												♦		PD
Savannah River Site – OU 28	SC	2000	Remedial										♦				PD
Savannah River Site C Area Rubble Pit	SC	1999	Remedial	♦													PD
SCHUYLKILL METALS CORP	FL	1998	Remedial												♦		SD
SCRDI BLUFF ROAD	SC	1998	Remedial												♦		O
SCRDI DIXIANA	SC	1992	Remedial												♦		O
SHERWOOD MEDICAL INDUSTRIES	FL	1997	Remedial												♦		O
Shuron Inc – OU 01	SC	1998	Remedial	♦													D
SHURON INC.	SC	1998	Remedial												♦		PD
SOLITRON MICROWAVE	FL	2001	Remedial												♦		PD
SOUTHERN SOLVENTS, INC.	FL	1999	Remedial												♦		D
SOUTHERN SOLVENTS, INC.	FL	1999	Remedial							♦							D/I
Stauffer Chemical – OU1	AL	1989	Remedial												♦		O
STAUFFER CHEMICAL CO. (TAMPA PLANT)	FL	2000	Remedial												♦		PD
SYDNEY MINE SLUDGE PONDS	FL	1999	Remedial												♦		O

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REGION 4

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
T.H. AGRICULTURE & NUTRITION CO. (ALBANY PLANT)	GA	1993	Remedial										♦	O
T.H. AGRICULTURE & NUTRITION CO. (MONTGOMERY PLANT)	AL	1998	Remedial										♦	O
Townsend Saw Chain Company	SC	1997	Remedial										♦	O
Townsend Saw Chain Company	SC	1997	Remedial						♦					O
Trans Circuits Inc.	FL	2001	Remedial										♦	PD
Trans Circuits Site	FL	2001	Remedial						♦					PD
TRI-CITY DISPOSAL CO	KY	1996	Remedial										♦	SD
USMC Camp Lejeune Military Base	NC	1995	Remedial										♦	PD
USMC Camp Lejeune Military Base – OU 10, Site 35	NC	1995	Remedial									♦		O
VELSICOL CHEMICAL CORP (HARDEMAN COUNTY)	TN	1998	Remedial										♦	O
Wamchem Inc	SC	1997	Remedial										♦	O
Whitehouse Oil Pits	FL	1992	Remedial										♦	PD
Whitehouse Oil Pits OU 1	FL	1998	Remedial					♦						D
Woolfolk Chemical Works, Inc.	GA	1994	Remedial										♦	PD

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REGION 5

Groundwater Treatment Technology Summary Matrix

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
ACME SOLVENT RECLAIMING INC	IL	1998	Remedial										♦	O
ALGOMA MUNICIPAL LANDFILL	WI	1990	Remedial			♦								PD
Allied Chemical & Ironton Coke	OH	1991	Remedial										♦	O
American Chemical Services, Inc.	IN	1992	Remedial										♦	O
ARROWHEAD REF CO	MN	1997	Remedial										♦	O
AVENUE "E" GROUNDWATER CONTAMINATION	MI	2000	Remedial										♦	SD
BELVIDERE MUNICIPAL LANDFILL	IL	1998	Remedial										♦	SD
BENDIX CORP./ALLIED AUTOMOTIVE	MI	1997	Remedial										♦	PD
BETTER BRITE PLATING CHROME & ZINC	WI	2000	Remedial										♦	O
BIG D CAMPGROUND	OH	1995	Remedial										♦	O
Bofors Nobel	MI	1999	Remedial										♦	O
BUCKEYE RECLAMATION	OH	1991	Remedial										♦	PD
BURROWS SANITATION	MI	1993	Remedial										♦	SD
CENTRAL ILLINOIS PUBLIC SERVICE CO	IL	1995	Remedial										♦	O
CHARLEVOIX MUNICIPAL WELL	MI	1984	Remedial										♦	SD
CHEM-CENTRAL	MI	1995	Remedial										♦	O
CHEM-DYNE CORP	OH	1992	Remedial										♦	O
Chemical Operable Unit – OU2	MI	2002	Remedial		♦									PD
Chemical Operable Unit – OU2	MI	2002	Remedial		♦									PD
CITY DISPOSAL CORP LANDFILL	WI	2000	Remedial										♦	O
Clare Water Supply	MI	1997	Remedial			♦								O
Clare Water Supply	MI	1997	Remedial										♦	PD
Conrail Rail Yard	IN	1994	Remedial										♦	D
CONTINENTAL STEEL CORP.	IN	1998	Remedial										♦	PD
CROSS BROTHERS PAIL RECYCLING (PEMBROKE)	IL	1985	Remedial										♦	SD
DELAVAN MUNICIPAL WELL #4	WI	2000	Remedial										♦	O

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REGION 5

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
DOUGLAS ROAD UNIROYAL INC LANDFILL	IN	2000	Remedial											♦	I
DUELL & GARDNER LANDFILL	MI	1993	Remedial											♦	SD
DUPAGE COUNTY LANDFILL/BLACKWELL FOREST PRESERVE	IL	1998	Remedial											♦	PD
EAST BETHEL TOWNSHIP	MN	2000	Remedial											♦	SD
EAU CLAIRE MUNICIPAL WELL FIELD	WI	1997	Remedial											♦	O
Electrovoice	MI	1992	Remedial											♦	PD
Electrovoice – OU 1	MI	1992	Remedial	♦											C
Enviro. Conservation and Chemical	IN	1987	Remedial											♦	SD
Feed Materials Production Center (USDOE) – Pump & Treat	OH	1996	Remedial											♦	PD
FIELDS BROOK	OH	1997	Remedial											♦	PD
FISHER CALO	IN	1998	Remedial											♦	O
Fisher-Calo	IN	1990	Remedial		♦										C
FMC (Fresno Plant)	MN	1991	Remedial											♦	O
FMC CORP	MN	1992	Remedial											♦	O
FORT WAYNE REDUCTION DUMP	IN	1995	Remedial											♦	O
G & H LDFL	MI	1999	Remedial											♦	O
Galesburg/Koppers – Deep aquifer	IL	2001	Remedial		♦										O
Galesburg/Koppers Shallow Aquifer	IL	1989	Remedial											♦	O
Galesburg/Koppers – Shallow Aquifer OU	IL	2001	Remedial		♦										O
HAGEN FARM	WI	1996	Remedial											♦	O
HEDBLUM INDUSTRIES	MI	1993	Remedial											♦	O
HUNTS DISPOSAL	WI	1997	Remedial											♦	O
IONIA CITY LANDFILL	MI	2000	Remedial											♦	O
K & L Landfill	MI	1990	Remedial											♦	PD
KENTWOOD LANDFILL	MI	1995	Remedial											♦	O
KOHLER CO. LANDFILL	WI	1996	Remedial											♦	O

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REGION 5

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS			
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat				
Koppers Coke – Groundwater OU	MN	1994	Remedial		♦												O
Kummer Sanitary Landfill	MN	1990	Remedial											♦			SD
Kummer Sanitary Landfill – OU 3 (Amendment)	MN	1996	Remedial		♦												C
KYSOR INDUSTRIAL CORP	MI	1996	Remedial											♦			O
Lakeland Disposal Service, Inc.	IN	1993	Remedial											♦			SD
LASALLE ELECTRICAL UTILITIES	IL	1994	Remedial											♦			O
Lauer 1 Sanitary Landfill, (Boundary Road)	WI	1996	Remedial											♦			SD
LEHILLIER MANKATO SITE	MN	1992	Remedial											♦			SD
LEMBERGER LANDFILL INC	WI	1996	Remedial											♦			O
LEMBERGER TRANSPORT & RECYCLING INC	WI	1997	Remedial											♦			O
Lenz Oil Services, Inc. OU1	IL	1999	Remedial											♦			PD
LIQUID DISPOSAL INC	MI	1997	Remedial											♦			O
LONG PRAIRIE GROUNDWATER CON	MN	1997	Remedial											♦			O
Macgillis and Gibbs/Bell Lumber and Pole	MN	1994	Remedial											♦			O
Main Street Well Field	IN	1991	Remedial											♦			PD
MASTER DSPL SERVICE LANDFILL	WI	1997	Remedial											♦			O
MCGRAW-EDISON COMPANY	MI	1998	Remedial											♦			O
MIAMI COUNTY INCINERATOR	OH	1997	Remedial											♦			O
MICHIGAN DISPOSAL SERVICE (CORK STREET LANDFILL)	MI	1991	Remedial											♦			PD
Midco I	IN	1989	Remedial											♦			O
Midco II	IN	1992	Remedial											♦			O
Moss-American Groundwater	WI	1997	Remedial		♦												O
MOTOR WHEEL	MI	1998	Remedial											♦			O
MOUND PLANT (USDOE)	OH	1995	Remedial											♦			O
MUSKEGO SANITARY LANDFILL	WI	1997	Remedial											♦			O
MUSKEGON CHEM CO	MI	1997	Remedial											♦			O

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REGION 5

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
NATIONAL PRESTO INDUSTRIES	WI	1999	Remedial											♦	O
NATIONAL PRESTO INDUSTRIES	WI	1999	Remedial											♦	O
NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT	MN	1990	Remedial											♦	PD
New Brighton/Arden Hills	MN	1993	Remedial											♦	O
New Brighton/Arden Hills	MN	1998	Remedial											♦	PD
NEW LYME LANDFILL	OH	1993	Remedial											♦	SD
Ninth Avenue Dump – OU2	IN	1995	Remedial											♦	O
NORTH BRONSON INDUSTRIAL AREA	MI	1998	Remedial											♦	PD
NORTHERNAIRE PLATING	MI	1996	Remedial											♦	O
Northside Sanitary Landfill	IN	1991	Remedial											♦	PD
NUTTING TRUCK & CASTER CO	MN	1992	Remedial											♦	O
NW MAUTHE COMPANY, INC.	WI	1997	Remedial											♦	O
OAKDALE DUMP SITES	MN	1995	Remedial											♦	O
OCONOMOWOC ELECTROPLATING CO INC	WI	1996	Remedial											♦	O
OLD MILL	OH	1991	Remedial											♦	O
ONALASKA MUNI LANDFILL	WI	1994	Remedial											♦	SD
ORMET CORP	OH	1998	Remedial											♦	O
Ott/Story/Cordova Chemical Co.	MI	1989	Remedial											♦	O
Outboard Marine Company/Waukegan Coke Plant	IL	1999	Remedial											♦	PD
Peerless Plating	MI	1992	Remedial											♦	O
PENTA WOOD PRODUCTS INCORPORATED	WI	2000	Remedial											♦	O
PERHAM ARSENIC	MN	1998	Remedial											♦	O
Powell Road Landfill	OH	1993	Remedial											♦	PD
Pristine, Inc.	OH	1988	Remedial											♦	O
Rasmussens Dump	MI	2001	Remedial							♦					C
RASMUSSEN'S DUMP	MI	1995	Remedial											♦	O

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REGION 5

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
REILLY TAR & CHEM (INDIANAPOLIS PLANT)	IN	2000	Remedial											♦	O
REILLY TAR & CHEM ST LOUIS PARK	MN	1997	Remedial											♦	O
REILLY TAR & CHEMICAL CORP (DOVER PLANT)	OH	2000	Remedial											♦	O
Rickenbacker Air National Guard Base	OH	2000	Remedial											♦	PD
Rickenbacker Air National Guard Base – Site 2	OH	2000	Remedial				♦								PD
Rockwell International Superfund Site	MI	2002	Remedial											♦	PD
Rockwell International Superfund Site – OU 2	MI	2002	Remedial				♦								PD
ROSE TOWNSHIP DUMP	MI	1996	Remedial											♦	O
Roto-Finish Co, Inc.	MI	1997	Remedial											♦	PD
Sangamo Electric Dump/Crab Orchard National Wildlife Refuge – OU MISCA	IL	2002	Remedial											♦	PD
5Sangamo Electric Dump/Crab Orchard National Wildlife Refuge – PCB Areas OU	IL	2000	Remedial				♦								D
Sauget Area 2 Superfund Site	IL	2002	Remedial											♦	PD
SCHMALZ DUMP	WI	1993	Remedial											♦	SD
SEYMOUR RECYCLING CORP	IN	1993	Remedial											♦	O
SKINNER LANDFILL	OH	1993	Remedial											♦	SD
South Macomb Disposal Authority	MI	1991	Remedial											♦	O
Southeast Rockford Groundwater Contamination	IL	2002	Remedial	♦											PD
SOUTHWEST OTTAWA COUNTY LANDFILL	MI	1994	Remedial											♦	O
Spartan Chemical Co.	MI	1993	Remedial											♦	PD
Spiegelberg Landfill	MI	1986	Remedial											♦	SD
SPIEGELBERG LANDFILL	MI	1995	Remedial											♦	O
Springfield Township Dump	MI	1990	Remedial	♦											O
SPRINGFIELD TOWNSHIP DUMP	MI	2000	Remedial											♦	O
STURGIS MUNICIPAL WELLS	MI	1997	Remedial											♦	O
SUMMIT NATIONAL LIQUID DISPOSAL SERVICE	OH	1995	Remedial											♦	O

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REGION 5

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS			
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat				
Tar Lake	MI	1992	Remedial	♦													PD
Thermo-Chem, Inc.	MI	1991	Remedial											♦			O
Thermo-Chem, Inc. – OU 1	MI	1991	Remedial	♦													O
Thomas Solvent Raymond Road – OU 1	MI	1985	Remedial											♦			O
TIPPECANOE SANITARY LANDFILL, INC.	IN	1997	Remedial											♦			PD
TRI-STATE PLATING	IN	1992	Remedial											♦			SD
TRW INC MINERVA PLT	OH	1994	Remedial											♦			O
UNIVERSITY MINNESOTA (ROSEMOUNT RES CEN)	MN	1994	Remedial											♦			SD
US AIR FORCE WRIGHT-PATTERSON AFB	OH	1999	Remedial											♦			PD
US AVIEX	MI	1993	Remedial											♦			O
Velsicol Chemical Corp.	IL	1982	Remedial											♦			O
VELSICOL CHEMICAL CORP. (ILLINOIS)	IL	1994	Remedial											♦			O
VERONA WELL FIELD	MI	1997	Remedial											♦			O
Verona Well Field – Dual Blocking Well/ Annex/ Paint Shop	MI	1991	Remedial											♦			O
WAITE PARK WELLS	MN	1999	Remedial											♦			O
WASH KING LAUNDRY	MI	1993	Remedial											♦			O
WASHINGTON COUNTY LANDFILL	MN	1991	Remedial											♦			SD
WASTE DSPL ENGINEERING INC	MN	1995	Remedial											♦			O
WASTE INC LDFL	IN	1998	Remedial											♦			O
WAUSAU GROUNDWATER CONTAMINATION	WI	1994	Remedial											♦			O
Wayne Waste Oil	IN	1990	Remedial		♦												O
WAYNE WASTE OIL	IN	1995	Remedial											♦			O
WHITTAKER CORP –	MN	1992	Remedial											♦			SD
WINDOM DUMP	MN	1992	Remedial											♦			SD
WOODSTOCK MUNICIPAL LANDFILL	IL	1993	Remedial											♦			PD
Wright-Patterson AFB Groundwater – OU12	OH	1999	Remedial						♦								C

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REGION 5

Groundwater Treatment Technology Summary Matrix (continued)

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
Zanesville Well Field	OH	1991	Remedial	◆										0
ZANESVILLE WELL FIELD	OH	1996	Remedial										◆	0

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REGION 6

Groundwater Treatment Technology Summary Matrix

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
Air Force Plant 4	TX	1996	Remedial										♦	O
Air Force Plant 4 – Building 181	TX	1996	Remedial			♦								C
Alcoa (Point Comfort)/Lavaca Bay Site	TX	2002	Remedial										♦	PD
American Creosote Works, Inc. – Winnfield Plant	LA	1993	Remedial		♦									O
American Creosote Works, Inc. – Winnfield Plant	LA	1993	Remedial										♦	PD
Arkwood Inc.	AR	1990	Remedial										♦	PD
AT&SF Albuquerque Superfund Site	NM	2002	Remedial										♦	PD
BAILEY WASTE DISPOSAL	TX	1997	Remedial										♦	SD
BAYOU BONFOUCA	LA	1997	Remedial										♦	O
Brio Refining	TX	1997	Remedial										♦	PD
CIMARRON MINING CORP	NM	1992	Remedial										♦	SD
City of Perryton Well #2	TX	1999	Remedial										♦	D
CRYSTAL CHEMICAL CO.	TX	1997	Remedial										♦	O
Delatte Metals Superfund Site	LA	2000	Remedial				♦							BI
FRENCH, LTD	TX	1994	Remedial										♦	SD
Fruit Avenue Plume Site	NM	2001	Remedial						♦					D
Fruit Avenue Plume Site	NM	2001	Remedial										♦	PD
GENEVA INDUSTRIES/FUHRMANN ENERGY	TX	1993	Remedial										♦	O
HARDAGE/CRINER – Pump and Treat	OK	1997	Remedial										♦	O
Highway 71/72 Refinery Site	LA	2000	Remedial										♦	PD
Highway 71/72 Refinery Site	LA	2000	Remedial			♦								PD
Koppers Co Inc – Texarkana Plant	TX	2002	Remedial			♦								O
Longhorn Army Ammunition Plant	TX	1995	Remedial										♦	O
Marion Pressure Treating Company	LA	2002	Remedial										♦	PD
Midland Products	AR	1988	Remedial										♦	O
Mid-South Wood Products	AR	1987	Remedial										♦	O

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REGION 6

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
MOTCO	TX	1989	Remedial										♦	PD
North Cavalcade Street	TX	1988	Remedial										♦	O
North Railroad Avenue Plume Superfund Site	NM	2001	Remedial		♦									D
North Railroad Avenue Plume Superfund Site	NM	2001	Remedial								♦			D
ODESSA CHROMIUM #1	TX	1994	Remedial										♦	O
ODESSA CHROMIUM #2 (ANDREWS HIGHWAY)	TX	1994	Remedial										♦	SD
Odessa Chromium I Superfund Site	TX	1988	Remedial										♦	SD
Odessa Chromium II Superfund Site	TX	1988	Remedial										♦	SD
Odessa Chromium II Superfund Site	TX	1994	Remedial										♦	SD
Odessa Chromium II Superfund Site	TX	2000	Remedial					♦						O
Oklahoma Refining Co.	OK	1992	Remedial										♦	PD
Old Inger Oil Refinery	LA	1984	Remedial										♦	PD
Petro-Chemical Systems, Inc.	TX	1998	Remedial										♦	O
Petro-Chemical Systems, Inc. – OU 2	TX	1998	Remedial		♦									O
Prewitt Abandoned Refinery	NM	1992	Remedial	♦										O
PREWITT ABANDONED REFINERY	NM	1996	Remedial										♦	O
SOL LYNN/INDUSTRIAL TRANSFORMERS	TX	1993	Remedial										♦	O
SOUTH CAVALCADE STREET	TX	2000	Remedial										♦	O
South Valley – OU 3	NM	1996	Remedial										♦	O
South Valley – OU 6	NM	1996	Remedial										♦	O
SOUTHERN SHIPBUILDING	LA	1997	Remedial										♦	SD
Sprague Road Ground Water Plume	TX	2000	Remedial										♦	D
Texarkana Wood Preserving	TX	1993	Remedial										♦	PD
Tinker AFB	OK	1990	Remedial										♦	PD
Tinker AFB – Soldier Creek And Building 3001	OK	1990	Remedial		♦									I
UNITED NUCLEAR CORP	NM	1998	Remedial										♦	O
Vertac, Inc.	AR	1996	Remedial										♦	O

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REGION 7

Groundwater Treatment Technology Summary Matrix

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
10th Street NPL Site	NE	2001	Remedial										♦	PD
10th Street Site – OU 2	NE	2001	Remedial	♦										O
29th and Mead Ground Water Contamination	KS	1992	Remedial										♦	PD
57TH AND NORTH BROADWAY STREETS SITE	KS	1998	Remedial										♦	PD
57th And North Broadway Streets Site – OU 01	KS	1999	Remedial									♦		D
Ace Services	KS	1999	Remedial										♦	BI
BRUNO CO-OP ASSOCIATION/ASSOCIATED PROPERTIES	NE	1998	Remedial										♦	PD
CHEROKEE COUNTY	KS	1997	Remedial										♦	PD
Cleburn Street Well	NE	1996	Remedial										♦	PD
Cleburn Street Well – OU5	NE	2001	Remedial	♦										PD
CONSERVATION CHEMICAL CO	MO	1991	Remedial										♦	O
CORNHUSKER ARMY AMMUNITION PLANT	NE	1994	Remedial										♦	O
DES MOINES TCE	IA	1998	Remedial										♦	O
ELECTRO-COATINGS, INC	IA	2000	Remedial										♦	O
FAIRFIELD COAL GASIFICATION PLANT	IA	1995	Remedial										♦	SD
Findett	MO	1989	Remedial										♦	O
Former Nebraska Ordnance Plant	NE	1997	Remedial										♦	PD
FORT RILEY	KS	1997	Remedial										♦	PD
General Motors Corporation, Former AC Rochester Facility Site	IA	2001	Remedial		♦									PD
Hastings Groundwater Contamination	NE	1993	Remedial										♦	PD
Hastings Groundwater Contamination- Colorado Ave, OU 1	NE	1991	Remedial	♦										I
John Deere	IA	1989	Remedial										♦	O
Kem-Pest Laboratories	MO	1991	Remedial										♦	PD
Lake City Army Ammu. Plant (NW Lagoon) – OU 3	MO	1998	Remedial				♦							O
LAKE CITY ARMY AMMUNITION PLANT (NORTHWEST LAGOON)	MO	1999	Remedial										♦	PD

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REGION 7

Groundwater Treatment Technology Summary Matrix (continued)

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
LEE CHEMICAL	MO	1994	Remedial										♦	O
Lehigh Portland Cement	IA	1991	Remedial										♦	O
LINDSAY MANUFACTURING CO	NE	1995	Remedial										♦	O
Mason City Coal Gasification Site	IA	2000	Remedial										♦	PD
Mcgraw Edison	IA	1993	Remedial										♦	PD
NORTHWESTERN STATES PORTLAND CEMENT CO	IA	1994	Remedial										♦	O
OBEE ROAD – Pump & Treat	KS	1994	Remedial										♦	O
Ogallala Groundwater Contamination – OU1	NE	1999	Remedial										♦	PD
ORONOGO-DUENWEG MINING BELT	MO	1998	Remedial										♦	PD
Peoples Natural Gas	IA	1991	Remedial	♦										I
SHERWOOD MEDICAL CO	NE	1999	Remedial										♦	O
SOLID STATE CIRCUITS, INC	MO	1994	Remedial										♦	O
STROTHER FIELD INDUSTRIAL PARK	KS	1994	Remedial										♦	I
Valley Park TCE Site – OU2	MO	2001	Remedial										♦	D
Valley Park Tce Site Wainwright – OU1	MO	1994	Remedial										♦	SD
VOGEL PAINT & WAX CO	IA	1994	Remedial										♦	O
WAVERLY GROUND WATER CONTAMINATION	NE	1994	Remedial										♦	SD
Weldon Spring Chemical Plant – OU 2	MO	2000	Remedial						♦					C
Well Number 3 Subsite	NE	2001	Remedial										♦	I
WHITE FARM EQUIPMENT CO. DUMP	IA	1990	Remedial										♦	SD

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REGION 8

Groundwater Treatment Technology Summary Matrix

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
Anaconda Co. Smelter	MT	1991	Remedial										♦	PD
ARSENIC TRIOXIDE SITE	ND	1988	Remedial										♦	PD
BAXTER/UNION PACIFIC TIE TREATING	WY	1986	Remedial										♦	O
BRODERICK WOOD PRODUCTS	CO	1996	Remedial										♦	O
Burlington Northern (Somers Plant)	MT	1989	Remedial										♦	O
Burlington Northern (Somers Plant)	MT	1989	Remedial		♦									O
CALIFORNIA Gulch	CO	1988	Remedial										♦	PD
CENTRAL CITY, CLEAR CREEK	CO	1991	Remedial										♦	O
CHEMICAL SALES CO	CO	2000	Remedial										♦	SD
Chemical Sales Company – OU 1	CO	1991	Remedial	♦										I
EAGLE MINE	CO	1993	Remedial										♦	O
Ellsworth AFB	SD	1997	Remedial										♦	PD
Ellsworth AFB – OU 1	SD	1995	Remedial			♦								O
F.E. Warren AFB – OU2	WY	1997	Remedial				♦							O
F.E. WARREN AIR FORCE BASE	WY	2001	Remedial										♦	PD
Hill AFB	UT	1997	Remedial										♦	PD
Idaho Pole Company	MT	1998	Remedial										♦	O
Idaho Pole Company	MT	1992	Remedial		♦									O
Kennecott South Zone Site	UT	2002	Remedial										♦	PD
LIBBY GROUND WATER CONTAMINATION	MT	1993	Remedial										♦	O
Libby Groundwater Contamination	MT	1989	Remedial		♦									O
Lockheed/Martin (Denver Aerospace)	CO	1990	Remedial										♦	PD
Lowry Landfill	CO	1994	Remedial										♦	PD
MARSHALL LANDFILL	CO	1993	Remedial										♦	O
Montana Pole and Treating Plant	MT	1993	Remedial										♦	O
Montana Pole And Treating Plant – Groundwater OU	MT	1993	Remedial		♦									O

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REGION 8

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
MONTICELLO MILL TAILINGS (USDOE)	UT	1998	Remedial										♦	PD
Monticello Mill Tailings (USDOE) – OU 03	UT	1998	Remedial				♦							O
MYSTERY BRIDGE RD/U.S. HIGHWAY 20	WY	1994	Remedial										♦	SD
OGDEN DEFENSE DEPOT – OU2	UT	1995	Remedial										♦	O
Rocky Flats Plant (USDOE)	CO	1997	Remedial										♦	PD
Rocky Flats Plant (USDOE) – Buffer Zone	CO	1992	Remedial				♦							O
Rocky Mountain Arsenal	CO	1996	Remedial										♦	PD
SAND CREEK INDUSTRIAL	CO	1993	Remedial										♦	PD
Sand Creek Industrial – OU 4	CO	1994	Remedial				♦							C
SHARON STEEL CORP. (MIDVALE TAILINGS)	UT	1994	Remedial										♦	PD
Silver Bow Creek/Butte Area	MT	1996	Remedial										♦	PD
Silver Bow Creek/Butte Area – Rocker Timber Framing And Treatment Plant OU	MT	1996	Remedial						♦					C
Summitville Mine	CO	2001	Remedial										♦	PD
URAVAN URANIUM PROJECT (UNION CARBIDE CORP.)	CO	1987	Remedial										♦	O
Utah Power & Light/American Barrel	UT	1993	Remedial										♦	PD
WASATCH CHEMICAL CO. (LOT 6)	UT	1997	Remedial										♦	O
ADVANCED MICRO DEVICES, INC	CA	1993	Remedial										♦	O

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REGION 9

Groundwater Treatment Technology Summary Matrix

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS	
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat		
ADVANCED MICRO DEVICES, INC. – BUILDING 915	CA	1992	Remedial											♦	O
Aerojet-General Corporation	CA	2001	Remedial											♦	PD
ANDERSEN AIR FORCE BASE OU3	GU	1998	Remedial											♦	PD
Apache Powder Co.	AZ	1994	Remedial											♦	PD
APPLIED MATERIALS	CA	1993	Remedial											♦	O
BARSTOW MARINE CORPS LOGISTICS BASE	CA	1998	Remedial											♦	PD
Barstow Marine Corps Logistics Base – OU 01	CA	1998	Remedial	♦											O
BECKMAN INSTRUMENTS – PORTERVILLE PLANT	CA	1993	Remedial											♦	O
Brown & Bryant	CA	1994	Remedial											♦	PD
Castle AFB	CA	1997	Remedial											♦	PD
COAST WOOD PRESERVING	CA	1989	Remedial											♦	SD
Cooper Drum Company	CA	2002	Remedial						♦						D
Cooper Drum Company	CA	2002	Remedial			♦									D
Cooper Drum Company	CA	2002	Remedial											♦	PD
CTS PRINTEX, INC	CA	1992	Remedial											♦	O
DEL AMO	CA	1999	Remedial											♦	PD
Del Norte County Pesticide Storage Area	CA	1986	Remedial	♦											C
DEL NORTE PESTICIDE STORAGE	CA	1992	Remedial											♦	SD
Fairchild Semiconductor (Mt. View) – Siemens/Sobrato (455 & 487 Middlefield Road)	CA	1989	Remedial	♦											O
FAIRCHILD SEMICONDUCTOR CORP (MT VIEW)	CA	1999	Remedial											♦	O
FAIRCHILD SEMICONDUCTOR CORP (S SAN JOSE)	CA	1992	Remedial											♦	O
FIRESTONE TIRE&RUBBER CO. (SALINAS PLANT)	CA	1992	Remedial											♦	O
Former El Toro Marine Corps Air Station	CA	2002	Remedial											♦	PD
FORT ORD	CA	1997	Remedial											♦	PD
Fort Ord – Basewide Sites 2/12	CA	1997	Remedial											♦	PD

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REGION 9

Groundwater Treatment Technology Summary Matrix (continued)

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
Fort Ord – OU1 Fire Drill Area	CA	1995	Remedial										♦	O
Fort Ord – OU2 Landfill	CA	1994	Remedial										♦	PD
FRESNO MUNICIPAL SANITARY LANDFILL	CA	1996	Remedial										♦	O
George AFB	CA	1994	Remedial										♦	O
Hassayampa Landfill	AZ	1992	Remedial										♦	O
HEWLETT-PACKARD (620-640 PAGE MILL ROAD)	CA	1997	Remedial										♦	O
Hexcel	CA	1993	Remedial										♦	PD
IBM (San Jose)	CA	1989	Remedial										♦	PD
Indian Bend Wash Area	AZ	2001	Remedial										♦	O
INTEL CORP. (MOUNTAIN VIEW PLANT)	CA	1999	Remedial										♦	O
INTEL CORP. (SANTA CLARA III)	CA	1992	Remedial										♦	O
Intel, Mountain View	CA	1989	Remedial										♦	O
INTERSIL INC./SIEMENS COMPONENTS	CA	1992	Remedial										♦	O
IRON MOUNTAIN MINE	CA	1997	Remedial										♦	PD
J.H. Baxter	CA	1998	Remedial										♦	O
JASCO CHEMICAL CORP	CA	1992	Remedial										♦	PD
Jasco Chemical Corp.	CA	1992	Remedial										♦	O
Koppers – Oroville Plant	CA	1999	Remedial		♦									O
Koppers Company Inc. Site	CA	1989	Remedial										♦	O
Lawrence Livermore National Laboratory	CA	1997	Remedial										♦	PD
Lawrence Livermore National Laboratory (USDOE)	CA	1992	Remedial										♦	PD
LORENTZ BARREL & DRUM CO	CA	1998	Remedial										♦	O
March Air Force Base	CA	1996	Remedial										♦	PD
Marine Corps Air Station	AZ	2000	Remedial										♦	PD
Marine Corps Air Station Yuma – OU 1	AZ	2000	Remedial	♦										O
Mather AFB	CA	1996	Remedial										♦	O

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REGION 9

Groundwater Treatment Technology Summary Matrix (continued)

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
McClellan AFB	CA	1995	Remedial										♦	O
MCCOLL	CA	1993	Remedial										♦	PD
MCCORMICK & BAXTER CREOSOTING CO.	CA	1999	Remedial										♦	PD
Mesa Area Ground Water Contamination	AZ	1991	Remedial										♦	PD
MICRO STORAGE/INTEL MAGNETICS	CA	1992	Remedial										♦	O
Modesto Superfund site	CA	1997	Remedial										♦	I
MOFFETT NAVAL AIR STATION	CA	1996	Remedial										♦	PD
MONOLITHIC MEMORIES	CA	1994	Remedial										♦	O
MONTROSE CHEMICAL CORP.	CA	1999	Remedial										♦	PD
Motorola 52nd Street	AZ	1994	Remedial										♦	PD
Muscoy	CA	1995	Remedial										♦	I
NATIONAL SEMICONDUCTOR CORP	CA	1998	Remedial										♦	O
NEWMARK GROUND WATER CONTAMINATION	CA	1995	Remedial										♦	PD
Norton AFB	CA	1994	Remedial										♦	SD
PACIFIC COAST PIPE LINES	CA	1996	Remedial										♦	O
Phillips [Formerly Signetics (Amd 901) (Trw)]	CA	1991	Remedial										♦	PD
Phoenix Goodyear Airport Area (South Facility) – Subunit A	AZ	1996	Remedial	♦										O
Phoenix-Goodyear Airport Area (North Facility)	AZ	1989	Remedial										♦	PD
PURITY OIL SALES, INC.	CA	1989	Remedial										♦	O
RAYTHEON CORP	CA	1999	Remedial										♦	O
Raytheon, Mountain View	CA	1989	Remedial										♦	O
Riverbank Army Ammunition Plant	CA	1994	Remedial										♦	O
Sacramento Army Depot	CA	1995	Remedial										♦	O
SAN FERNANDO VALLEY (AREA 1)	CA	1989	Remedial										♦	O
SAN FERNANDO VALLEY (AREA 2)	CA	1993	Remedial										♦	O
SAN GABRIEL VALLEY (AREA 2)	CA	1994	Remedial										♦	PD

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REGION 9

Groundwater Treatment Technology Summary Matrix (continued)

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
SAN GABRIEL VALLEY (AREA 4)	CA	1998	Remedial										♦	D
San Gabriel Valley Superfund Site	CA	1993	Remedial										♦	PD
Schofield Barracks (US Army)	HI	1997	Remedial										♦	PD
Selma Pressure Treating	CA	1988	Remedial										♦	O
Sharpe Army Depot	CA	1993	Remedial										♦	O
SOLA OPTICAL USA, INC	CA	1992	Remedial										♦	O
Solvent Service	CA	1990	Remedial										♦	PD
Southern California Edison, Visalia Pole Yard	CA	1994	Remedial										♦	O
SPECTRA-PHYSICS, INC	CA	1992	Remedial										♦	O
STRINGFELLOW	CA	1990	Remedial										♦	O
SYNERTEK, INC. (BUILDING 1)	CA	1992	Remedial										♦	O
TELEDYNE SEMICONDUCTOR	CA	1992	Remedial										♦	O
Tracy Defense Depot (US DLA)	CA	1993	Remedial										♦	O
Travis AFB	CA	1998	Remedial		♦									O
Travis AFB – OU 1	CA	1998	Remedial			♦								O
TRAVIS AIR FORCE BASE	CA	1999	Remedial										♦	PD
TRW MICROWAVE, INC (BUILDING 825)	CA	1993	Remedial										♦	O
Tucson International Airport Property	AZ	1997	Remedial										♦	O
Valley Wood Preserving, Inc.	CA	1991	Remedial										♦	O
Van Waters & Rogers	CA	1991	Remedial										♦	PD
WATKINS-JOHNSON CO. (STEWART DIVISION)	CA	1994	Remedial										♦	O
Western Pacific Railroad Co.	CA	1997	Remedial										♦	PD
WESTINGHOUSE ELECTRIC CORP. (SUNNYVALE)	CA	2000	Remedial										♦	O
WILLIAMS AIR FORCE BASE	AZ	1993	Remedial										♦	PD

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REGION 10

Groundwater Treatment Technology Summary Matrix

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
Adak Naval Air Station	AK	2000	Remedial										♦	PD
AMERICAN CROSSARM & CONDUIT CO.	WA	1993	Remedial										♦	PD
AMERICAN LAKE GARDENS/MCCHORD AFB	WA	1994	Remedial										♦	O
BANGOR ORDNANCE DISPOSAL	WA	1999	Remedial										♦	O
Boomsnub/Airco Superfund Site	WA	2000	Remedial									♦		O
Boomsnub/Airco Superfund Site	WA	2000	Remedial										♦	PD
BUNKER HILL MINING & METALLURGICAL COMPLEX	ID	1992	Remedial										♦	PD
Cascade Corporation – Troutdale Gravel Aquifer	OR	1997	Remedial										♦	PD
Colbert Landfill	WA	1997	Remedial										♦	O
Commencement Bay, Nearshore/Tideflats	WA	1991	Remedial										♦	O
COMMENCEMENT BAY, SOUTH TACOMA CHANNEL	WA	1999	Remedial										♦	O
East Multnomah County Groundwater Contamination	OR	1997	Remedial										♦	PD
East Multnomah County Groundwater Contamination – Cascade Corporation, Troutdale Gravel Aquifer	OR	1997	Remedial	♦										C
EASTERN MICHAUD FLATS CONTAMINATION OU1	ID	1998	Remedial										♦	PD
Elmendorf AFB	AK	1992	Remedial										♦	PD
Elmendorf AFB – OU 6 And Source Area Ss19, Perched Aquifer Groundwater at Sd15	AK	1997	Remedial			♦								O
Fairchild Air Force Base	WA	1993	Remedial										♦	O
Fairchild Air Force Base – Priority 1 OUs (OU 2) Ft-1	WA	1993	Remedial	♦										O
Fort Lewis Logistics Center	WA	1990	Remedial							♦				D
FORT LEWIS LOGISTICS CENTER	WA	1990	Remedial										♦	O
Fort Lewis Military Reservation – Landfill 4	WA	1993	Remedial	♦										C
Fort Richardson	AK	1997	Remedial										♦	PD
Fort Richardson – OU B	AK	1997	Remedial	♦										C
Fort Richardson – OU B	AK	1997	Remedial			♦								C
Fort Wainwright – OU 2 – Building 1168 Leach Well	AK	1997	Remedial	♦										O

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REGION 10

Groundwater Treatment Technology Summary Matrix (continued)

				Groundwater Technologies										
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat	
SITE NAME	STATE	FY	ACTION	TECHNOLOGY TYPE										STATUS
Fort Wainwright – OU 2 – DRMO Yard	AK	1997	Remedial	◆										O
Fort Wainwright – OU 3	AK	1996	Remedial	◆										O
Fort Wainwright – OU 4	AK	1996	Remedial	◆										O
Fort Wainwright – OU 5 WQFS1	AK	1999	Remedial	◆										O
Fort Wainwright – OU 5 WQFS2	AK	1999	Remedial	◆										O
Fort Wainwright – OU 5 WQFS3	AK	1999	Remedial	◆										O
Frontier Hard Chrome Inc – OU 1 and 2	WA	2001	Remedial			◆								D
Frontier Hard Chrome Inc – OU 1 and 2	WA	2001	Remedial					◆						D
Frontier Hard Chrome Inc – OU 1 and 2	WA	2001	Remedial					◆						PD
Frontier Hard Chrome, Inc.	WA	1988	Remedial									◆		PD
GOULD, INC.	OR	1997	Remedial									◆		PD
Hanford 200 Area (USDOE)	WA	1995	Remedial									◆		O
Hanford Site – 100 Area	WA	1996	Remedial									◆		O
Hanford Site – 100 Area	WA	1996	Remedial									◆		O
Hanford Site – 100 Area – OU 2	WA	2000	Remedial					◆						O
Harbor Island (Lead)	WA	1993	Remedial									◆		O
Idaho National Engineering and Environmental Laboratory (USDOE)	ID	1995	Remedial									◆		PD
Idaho National Engineering and Environmental Laboratory (USDOE) – Test Area North OU 1-07B	ID	2001	Remedial		◆									PD
Kaiser Aluminum	WA	2002	Remedial									◆		PD
LAKEWOOD SITE	WA	1992	Remedial									◆		O
MARTIN-MARIETTA ALUMINUM CO.	OR	1988	Remedial									◆		O
MCCHORD AFB (WASH RACK/TREATMENT AREA)	WA	1992	Remedial									◆		PD
MCCORMICK & BAXTER CREOSOTING CO. (PORTLAND PLANT)	OR	1996	Remedial									◆		PD
NAVAL AIR STATION, WHIDBEY ISLAND (AULT)	WA	1997	Remedial									◆		SD
NAVAL UNDERSEA WARFARE ENGINEERING STATION (4 WASTE AREAS)	WA	1998	Remedial									◆		PD

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REGION 10

Groundwater Treatment Technology Summary Matrix (continued)

SITE NAME	STATE	FY	ACTION	Groundwater Technologies										STATUS			
				Air Sparging	Bioremediation	Multi-Phase Extraction	Permeable Reactive Barrier	Phytoremediation	Chemical Treatment	In Situ Thermal Treatment	Flushing	In-Well Air Stripping	Pump and Treat				
Naval Undersea Warfare Station (4 Areas) – OU 01	WA	1998	Remedial					♦									O
North Market Street	WA	2000	Remedial	♦													O
NORTHSIDE LANDFILL	WA	1993	Remedial											♦			O
NORTHWEST PIPE & CASING/HALL PROCESS COMPANY	OR	2001	Remedial											♦			PD
Northwest Pipe and Casing Company/Hall Process Company – OU 2	OR	2001	Remedial										♦				PD
Palermo Wellfield	WA	2000	Remedial											♦			PD
Reynolds Metal Company	OR	2002	Remedial											♦			PD
SILVER MOUNTAIN MINE	WA	1990	Remedial											♦			PD
Teledyne Wah Chang	OR	1994	Remedial											♦			O
TULALIP LANDFILL	WA	1996	Remedial											♦			PD
U.S. Naval Submarine Base – OU 8	WA	2000	Remedial		♦												PD
Umatilla Chemical Depot (Lagoons)	OR	1994	Remedial											♦			O
Union Pacific Railroad Tie Treatment	OR	1996	Remedial											♦			PD
UNITED CHROME PRODUCTS, INC	OR	1992	Remedial											♦			O
VANCOUVER WATER STATION #1 CONTAMINATION	WA	1998	Remedial											♦			PD
VANCOUVER WATER STATION #4 CONTAMINATION	WA	1999	Remedial											♦			O
WESTERN PROCESSING CO., INC	WA	1992	Remedial											♦			O
Wyckoff/Eagle Harbor	WA	1994	Remedial											♦			PD
Wyckoff/Eagle Harbor – Soil	WA	2000	Remedial								♦						PD

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APPENDIX C

TREATMENT TRAINS WITH INNOVATIVE TECHNOLOGIES



Superfund Remedial Actions:

Treatment Trains with Innovative Technologies

Air Sparging Followed by

Soil Vapor Extraction	Barstow Marine Corps Logistics Base – OU 01	CA
Soil Vapor Extraction	Burgess Brothers Landfill – OU 01	VT
Soil Vapor Extraction	Cecil Field Naval Air Station – OU7, Site 16, SVE	FL
Soil Vapor Extraction	Chemical Sales Company – OU 1	CO
Soil Vapor Extraction	East Multnomah County Groundwater Contamination – Cascade Corporation, Troutdale Gravel Aquifer	OR
Soil Vapor Extraction	FCX – Statesville – OU 3	NC
Soil Vapor Extraction	Fort Lewis Military Reservation – Landfill 4	WA
Soil Vapor Extraction	Fort Wainwright OU 5 WQFS3	AK
Soil Vapor Extraction	Kentucky Avenue Wellfield – OU 3	NY
Soil Vapor Extraction	Naval Surface Warfare Center, Dahlgren, Site 12 – Chemical Burn Area	VA
Soil Vapor Extraction	Otis Air National Guard – Fuel Spill 12	MA
Soil Vapor Extraction	Pease Air Force Base – Site 45	NH
Soil Vapor Extraction	Southeast Rockford Groundwater Contamination – OU 3	IL
Soil Vapor Extraction	Thermo-Chem, Inc OU1	MI
Soil Vapor Extraction	Vienna Superfund Site	WV

Bioremediation Followed by

Flushing	Eastland Woolen Mill – OU1	ME
Pump and Treat	Petro-Chemical Systems, Inc. – OU 2	TX
Soil Vapor Extraction	Fisher-Calo	IN
Soil Vapor Extraction	Shore Realty (Formerly Applied Environmental Services) – Groundwater OU	NY
Soil Vapor Extraction	Wayne Waste Oil	IN
Solidification/Stabilization	French Limited	TX
Solidification/Stabilization	Gulf Coast Vacuum Services – OU 1	LA
Solidification/Stabilization	Penta Wood Products – OU 01	WI
Solidification/Stabilization	Vogel Paint & Wax	IA

Chemical Treatment Followed by

Multi-Phase Extraction	Cooper Drum Company	CA
Neutralization	Tex-Tin OU 1 (ROD Amendment)	TX
Solidification/Stabilization	JFD Electronics/Channel Master	NC
Solidification/Stabilization	Palmetto Wood Preserving	SC
Thermal Desorption	Wide Beach Development Site	NY

Flushing Followed by

Bioremediation	Montana Pole And Treating Plant – Area Under Interstate 15/90	MT
Bioremediation Followed by Soil Vapor Extraction	North Railroad Avenue Plume Superfund Site	NM

Multi-Phase Extraction Followed by

Bioremediation	American Creosote Works OU2	FL
Soil Vapor Extraction	Fort Richardson – OU B	AK

Soil Vapor Extraction Followed by

Flushing	Jadco-Hughes Facility	NC
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Soil Washing Followed by

Bioremediation	Cabot/Koppers - Koppers OU	FL
Thermal Desorption and Chemical Treatment	Myers Property	NJ

Solvent Extraction Followed by

Incineration	United Creosoting Co.	TX
Solidification/Stabilization	Arctic Surplus	AK
Vitrification	Idaho National Engineering Laboratory – Pit 9, OU 7-10	ID

Thermal Desorption Followed by

Chemical Treatment	FCX – Statesville – OU 2	NC
Chemical Treatment	Smith's Farm – OU 1 (Amendment)	KY

In Situ Thermal Treatment Followed by

Bioremediation	Southern California Edison, Visalia Pole Yard	CA
Incineration	Brodhead Creek	PA
Soil Vapor Extraction and Bioremediation	Petro-Chemical Systems, Inc. – OU 2	TX