

APPENDIX A

SUPERFUND TREATMENT TECHNOLOGIES BY FISCAL YEAR



Superfund Remedial Actions:

Treatment Technologies by Fiscal Year

Technology Type	Fiscal Year															TOTALS
Ex Situ Source Control Technologies	1982-85	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	TOTALS
Solidification/Stabilization	3	3	6	7	9	13	20	20	9	11	2	5	3	15	11	137
Incineration (off-site)	3	3	3	7	10	15	11	7	9	5	7	5	3	1	5	94
Thermal Desorption	2	1	4	4	3	7	9	3	5	5	4	1	5	6	2	61
Bioremediation	1	1	0	3	6	2	1	8	3	4	6	4	0	3	7	49
Incineration (on-site)	3	3	4	7	7	3	3	3	1	1	2	1	4	0	0	42
Chemical Treatment	1	0	1	0	0	1	1	1	0	0	1	1	0	0	3	10
Neutralization	0	0	0	1	0	0	0	4	0	0	2	0	0	0	0	7
Soil Washing	0	0	0	0	1	3	0	1	0	0	0	0	0	1	0	6
Mechanical Soil Aeration	1	0	0	1	0	1	0	0	0	0	1	0	0	0	1	5
Soil Vapor Extraction	0	0	0	0	0	0	0	0	2	1	0	0	0	1	1	5
Solvent Extraction	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	4
Open Burn/Open Detonation	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
Vitrification	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Physical Separation	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
TOTALS	14	11	19	30	36	46	46	47	31	29	27	17	15	27	30	425
In Situ Source Control Technologies	1982 - 85	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	TOTALS
Soil Vapor Extraction	4	2	1	8	21	17	32	16	19	6	9	21	18	9	13	196
Solidification/Stabilization	0	2	3	3	3	3	2	7	6	0	2	6	4	3	2	46
Bioremediation	0	0	1	1	0	3	1	3	4	4	3	6	0	7	2	35
Soil Flushing	1	1	0	0	4	1	2	1	2	3	0	0	0	0	1	16
Thermally Enhanced Recovery	0	0	0	0	0	0	1	0	0	1	0	2	0	1	1	6
Chemical Treatment	0	0	0	0	0	0	1	0	0	0	0	0	1	1	2	5
Phytoremediation	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2	5
Dual-Phase Extraction	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
Electrical Separation	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Vitrification	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTALS	6	5	5	12	28	24	40	27	31	14	14	36	23	24	25	314
In Situ Groundwater Technologies	1982 - 85	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	TOTALS
Air Sparging	0	1	0	0	1	0	8	3	5	1	2	7	8	5	7	48
Bioremediation	1	0	0	0	3	3	1	1	3	1	1	1	1	2	3	21
Dual-Phase Extraction	0	0	0	0	0	0	0	0	1	2	1	1	4	1	0	10
Permeable Reactive Barrier	0	0	0	0	0	0	0	3	0	1	0	0	1	3	0	8
Phytoremediation	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4
Chemical Treatment	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
In-Well Air Stripping	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
TOTALS	1	1	0	0	4	3	9	7	10	5	5	9	14	15	12	95