#### Explanation of Appendix D: Summary of Status Report Updates, Changes, and Deletions

This appendix describes the updates, changes, and deletions made to the database supporting Treatment Technologies for Site Cleanup: Annual Status Report (ASR). The appendix is divided into nine tables, one for each edition of the ASR. Within each table is a description of the updates, changes, and deletions made to the database supporting the ASR from one edition to the next.

The information for the ASR database is collected primarily from Records of Decision (RODs), ROD amendments, Explanations of Significant Differences (ESDs), and contacts with the Remedial Project Managers (RPMs) for Superfund sites. The tables presented in this appendix show the updates changes and deletions made to each project in the ASR database. Due to the large number of new projects based on information gathered from RODs, ROD amendments, and ESDs published between editions of the ASR (133 for the 10th edition), the tables in Appendix D do not describe these new projects. The tables show updates, changes, and deletions to projects that were included in the database used to support the previous edition of the ASR. These updates, changes, and deletions are generated primarily through contacts with RPMs and review of earlier RODs, ROD amendments, and ESDs to identify changes in treatment remedies and errors in the database.

The purpose of Appendix D is to document changes in the ASR database and thereby document changes in treatment remedies at Superfund sites. For each updated, changed, or deleted project, the appendix lists: site identifying information; the specific update, change, or deletion; an explanation of why the update, change, or deletion was made; and a site contact, usually the RPM.

When new projects are discovered through site contacts, and these new projects have not yet been documented in a ROD, ROD amendment, or ESD, they are recorded in Appendix D with the specific treatment technology listed in the "Added" column.

When a remedy is changed from a treatment remedy to one that does not include treatment, the project based on that remedy is listed in Appendix D with a "Yes" in the "Deleted" column. The non-treatment remedy replacing the treatment remedy is described in the "Comments" column. When a remedy is changed from one treatment technology to another treatment technology, the new technology is listed in the "Changed To" column.

The database supporting the ASR contains information about specific projects for the treatment of contamination sources and the in situ treatment of contaminated groundwater at Superfund sites. The database does not track other types of remedies, such as off-site disposal in a landfill or monitored natural attenuation. Therefore, when a remedy is changed from treatment to non-treatment, the project created in the database for that treatment remedy is deleted from the database. Appendix D also shows that project as deleted from the previous edition.

Each superfund site may have multiple waste types and multiple areas of contamination, requiring multiple, separate treatments. For each distinct waste type and each distinct area of contamination treated, the ASR database contains a separate treatment project. When a waste is treated through a treatment train, the ASR database contains a separate treatment project for each step in the treatment train. Appendix D reflects this organization of treatment remedies based on specific projects and may contain multiple rows for the same site. For example, at the Caroll and Dubies Sewage Disposal site in New York, a 1995 ROD indicated that three separate and distinct technologies, bioremediation, soil vapor extraction, and solidification/stabilization, would be used to treat three distinct wastes. Therefore, three separate projects were created in the ASR database for the Caroll and Dubies Sewage Disposal site. However, for all of these wastes, the remedy was changed to off-site disposal. Therefore, all three projects were deleted from the ASR database, and the Appendix D table for the tenth edition of the ASR contains three entries for the Caroll and Dubies Sewage Disposal site, one for each deleted project.

The tenth edition of the report adds information about 133 new treatment projects selected for remedial actions in FY 1998 and FY 1999 Records of Decision (RODs), ROD Amendments, and Explanations of Significant Differences (ESDs). These are not listed in Appendix D.

# Tenth Edition (March 2001): Additions, Changes, and Deletions from the Ninth Edition (April 1999)

REGION	_	_		2	2	2	2	2
SITE NAME, STATE (ROD DATE)	New Bedford, MA (04/06/90)	Silresim Chemical, MA (09/19/91)	Loring Air Force Base - OU 10, Entomology Shop, ME (removal action, no ROD date available)	Carroll & Dubies Sewage Disposal, NY (03/31/95)	Carroll & Dubies Sewage Disposal, NY (03/31/95)	Carroll & Dubies Sewage Disposal, NY (03/31/95)	Ellis Property, NJ (09/30/92)	Ewan Property - OU 2, NJ (09/29/88)
TECHNOLOGY (LISTED IN 9TH EDITION)	Solidification/Stabilization	Solidification/Stabilization	Bioremediation (in situ) - Bioventing	Bioremediation (in situ) - Lagoon	Soil Vapor Extraction	Solidification/Stabilization	Solidification/Stabilization	Chemical Treatment - Groundwater
ADDED 10								
10TH EDITION	Yes	Yes		Yes	Yes	Yes	Yes	Yes
CHANGED TO			Soil Vapor Extraction					
COMMENTS	RODs from FY 1998 and 1999 changed the remedy from onsite incineration followed by solidification/stabilization to offsite disposal due to community concerns. The incineration portion of the remedy was deleted in the eighth edition based on information provided by the site contact, and does not appear in this table.	Specified in a FY 1991 ROD as a contingent remedy to treat soils not effectively treated by soil vapor extraction, but never implemented. Soil vapor extraction treatment is currently treating soil effectively.	The site contact indicated that the remedy was changed because bioventing was determined to be unsuitable due to site hydrogeology.	A FY 1998 ESD changed the remedy to off-site treatment and disposal because additional site investigation revealed that the waste could be easily separated from the underlying soil. The type of off-site treatment has not been determined.	A FY 1998 ESD changed the remedy to off-site treatment and disposal because additional site investigation revealed that the waste could be easily separated from the underlying soil. The type of off-site treatment has not been determined.	A FY 1998 ESD changed the remedy to off-site treatment and disposal because additional site investigation revealed that the waste could be easily separated from the underlying soil. The type of off-site treatment has not been determined.	The site contact indicated that the remedy was changed to off-site disposal because additional site investigation revealed that the contaminant levels were lower than expected.	The site contact indicated that the remedy was changed to groundwater pump-and-treat because treatability studies indicated that in situ chemical treatment was not effective.
CONTACTS/PHONE	Jim Brown 617-573-5779 brown.jim@epa.gov	Mark Otis 978-318-8895 e-mail address not available	Mike Napilinski 617-918-1268 napilinski.mike@epa.gov	Maria Jon 212-637-3967 jon.maria@epa.gov	Maria Jon 212-637-3967 jon.maria@epa.gov	Maria Jon 212-637-396 jon.maria@epa.gov	Richard Ho 212-637-4372 ho.richard@epa.gov	Stephen Cipot 212-637-4411 cipot.stephen@epa.gov

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Cryochem, Inc OU 3, PA (9/30/91)	Brodhead Creek, PA (3/29/91)	Avco Lycoming, PA (12/30/96)	Tutu Well Field - VI (8/5/96)	Reynolds Metals Company - Study Area, NY (09/27/93)	Lipari Landfill, NJ (9/30/85)	GE Wiring Devices, PR (9/30/88)	GCL Tie And Treating - OU 2, NY (3/31/95)	Fried Industries, NJ (6/27/94)	SITE NAME, STATE (ROD DATE)
Soil Vapor Extraction	Incineration (off-site)	Chemical Treatment - Groundwater	Bioremediation (in situ) - Other	Thermal Desorption	Project not in 9th edition of the ASR. Original ROD did not include this project.	Soil Washing	Thermal Desorption	Solidification/Stabilization	TECHNOLOGY (LISTED IN 8TH EDITION)
					Dual-Phase Extraction				ADDED 9
Yes	Yes		Yes				Yes	Yes	9TH EDITION DELETED
		Bioremediation (in situ) - Groundwater		Incineration (off-site)		Incineration (off-site)			CHANGED TO
A FY 1998 ESD eliminated the soil vapor extraction portion of the remedy because soil sampling showed that contaminant concentrations were below remediation goals and soil gas assessment showed that the contaminant levels were below typical levels for effective soil vapor extraction treatment.	ROD was misinterpreted. Incineration is of non-aqueous phase liquids collected through thermally enhanced recovery process, which is considered treatment of residuals, and not source treatment.	ROD was misinterpreted. Technology used stimulates microbes to create an environment in which hexavalent chromium will be reduced to its trivalent state. This technology is more accurately identified as bioremediation.	ROD was misinterpreted. The technology used at the site was soil vapor extraction. This is not a distinct project, it is part of the Tutu Well Field Esso project, which is already listed in the ASR database.	The site contact indicated that the remedy was changed from on-site thermal desorption to off-site incineration because the cost of thermal desorption was too high.	The site contact indicated that dual-phase extraction was added at this site to remove insoluble volatile organic compounds.	A FY 1999 ROD amendment changed the remedy because the cost of soil washing was too high.	The site contact indicated that the sediments of OU 2 have been combined with the soils of OU 1 for treatment using thermal desorption. The work is documented in the 10th edition of the ASR as a single project. Therefore, the OU 2 project has been deleted.	The site contact indicated that the remedy was changed to offsite disposal because additional site investigation revealed large amounts of contaminated debris. The use of solidification/stabilization on this debris would have been impractical.	COMMENTS
Joseph McDowell 215-566-3192 mcdowell.joseph@epa.gov	John Banks 215-814-3214 banks.john-d@epa.gov	Jill Lowe 215-814-5336 lowe.jill@epa.gov	Caroline Kwan 212-637-4275 kwan.caroline@epa.gov	Anne Kelly 212-637-4264 kelly.anne@epa.gov	Fred Cataneo 212-637-4428 cataneo.fred@epa.gov	Caroline Kwan 212-637-4275 kwan.caroline@epa.gov	Janet Cappelli 212-637-4270 cappelli.janet@epa.gov	Tom Porucznik 212-637-4370 porucznik.tom@epa.gov	CONTACTS/PHONE

Mark Fite 404-562-8927 fite.mark@epa.gov	ROD was misinterpreted.			Dual-Phase Extraction	Project not in 9th edition of the ASR. Original ROD did not include this project.	American Creosote Works - OU 2 Phase 1, FL (2/3/94)	4
Randy McElveen 919-733-2801 e-mail address not available	The site contact indicated that the remedy was changed due to public protest. The remedy change will be documented in a future ROD amendment.	Thermal Desorption			Incineration (off-site)	Aberdeen Pesticide Dumps, NC (9/30/91)	4
Christoper Corbett 215-814-3220 corbett.chris@epa.gov	The site contact indicated that the remedy was changed because additional site investigations revealed arsenic contamination, which could not be effectively treated with bioremediation.	Thermal Desorption			Bioremediation (ex-situ) - Other	Whitmoyer Laboratories - OU 3, PA (12/31/90)	ω
Chris Matta 215-814-2317 matta.christian@epa.gov	A FY 1999 ROD changed the treatment train of bioremediation followed by solidification/stabilization to thermal desorption because treatability studies revealed that the remedy could not meet cleanup goals.	Thermal Desorption			Solidification/Stabilization	Ordnance Works Disposal Areas, WV (9/29/89)	ω
Chris Matta 215-814-2317 matta.christian@epa.gov	A FY 1999 ROD changed the treatment train of bioremediation followed by solidification/stabilization to thermal desorption because treatability studies revealed that the remedy could not meet cleanup goals.	Thermal Desorption			Bioremediation (ex situ) - Land Treatment	Ordnance Works Disposal Areas, WV (9/29/89)	ω
Gregory Ham 215-566-3194 ham.greg@epa.gov	The site contact indicated that treatability testing revealed that treatment goals could not be met. A replacement remedy has not yet been selected.		Yes		Thermally Enhanced Recovery (Hot Air Injection)	North Penn Area 6, PA (9/29/95)	ω
John Banks 215-814-3214 banks.john-d@epa.gov	The site contact indicated that this remedy was not implemented because additional site investigations revealed that treatment was not required before off-site disposal of the waste.		Yes		Incineration (off-site)	Hunterstown Road, PA (8/2/93)	ω
Victor J. Janosik 215-814-3217 janosik.victor@epa.gov	A FY 1999 ROD amendment changed the remedy from a treatment train of incineration followed by solidification/ stabilization to solidification/stabilization only, because this technology was determined to be as effective and less expensive.		Yes		Incineration (off-site)	Douglassville Disposal, PA (6/30/89)	ω
Philip Rotstein 215-814-3232 rotstein.phil@epa.gov	The site contact indicated that the remedy was changed because the cost of incineration was too high.	Soil Vapor Extraction			Incineration (off-site)	Delaware Sand & Gravel Landfill, DE (9/30/93)	ω
CONTACTS/PHONE	COMMENTS	CHANGED TO	9TH EDITION DELETED	ADDED	TECHNOLOGY (LISTED IN 8TH EDITION)	SITE NAME, STATE (ROD DATE)	REGION

Al Cherry 404-562-8828 cherry.al@epa.gov	The site contact indicated that chemical treatment was added to reduce chromium to its trivalent state prior to treatment by solidification/stabilization.		Yes	Chemical Treatment	Project not in 9th edition of the ASR. Original ROD did not include this project.	Palmetto Wood Preserving, SC (9/30/87)	4
Giezelle Bennett 404-562-8824 bennett.giezelle@epa.gov	The site contact indicated that the remedy was changed to pump-and-treat of groundwater because treatability testing indicated that bioremediation was not effective.		Yes		Bioremediation (in situ) - Groundwater	General Electric Company - Shepard Farm Site, NC (9/29/95)	4
Bill Denman 404-562-8939 denman.bill@epa.gov	The site contact indicated that the remedy was unnecessary because monitored natural attenuation effectively met cleanup goals.		Yes		Permeable Reactive Barrier	Chevron Chemical Company, FL (5/22/96)	4
Bill Denman 404-562-8939 denman.bill@epa.gov	The site contact indicated that the remedy was unnecessary because monitored natural attenuation effectively met cleanup goals.		Yes		Air Sparging (in situ) - Groundwater	Chevron Chemical Company, FL (5/22/96)	4
Waynon Johnson 404-562-8769 johnson.waynon@epa.gov	A report generated for the site indicated that bioremediation could not meet cleanup goals. A replacement remedy has not yet been selected.		Yes		Bioremediation (ex situ) - Other	Fullco Lumber Company, AL (5/8/95)	4
Samantha Urquhart-Foster 404-562-8760 urquhart- foster.samantha@epa.gov	The site contact indicated that the remedy was changed to offsite incineration because bioremediation could not meet the cleanup goals.		Yes		Bioremediation (ex situ) - Land Treatment	Creotox Chemical Products	4
Debbie Vaughn-Wright 404-562-8539 vaughn- wright.debbie@epa.gov	The site contact indicated that the remedy was changed to monitored natural attenuation because additional site investigations revealed contaminant concentrations much lower than expected.	Incineration (off- site)			Bioremediation (ex situ) - Other	Cecil Field Naval Air Station - OU 2, Site 5, FL (6/24/96)	4
Debbie Vaughn-Wright 404-562-8539 vaughn- wright.debbie@epa.gov	The site contact indicated that the remedy was changed to monitored natural attenuation because additional site investigations revealed contaminant concentrations much lower than expected.		Yes		Air Sparging (in situ) - Groundwater	Cecil Field Naval Air Station - OU 2, Site 5, FL (6/24/96)	4
Jon Bornholm 404-562-8820 bornholm.jon@epa.gov	This remedy was part of a treatment train including thermal desorption. The site contact indicated that this remedy was not implemented because thermal desorption treatment met the cleanup goals without solidification/stabilization.		Yes		Solidification/Stabilization	Cape Fear Wood Preserving, NC (6/30/89)	4
CONTACTS/PHONE	COMMENTS	CHANGED TO	9TH EDITION DELETED	ADDED	TECHNOLOGY (LISTED IN 8TH EDITION)	SITE NAME, STATE (ROD DATE)	REGION

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Moss-American, WI (9/27/90)	Macgillis And Gibbs/ Bell Lumber And Pole - OU 3, MN (9/22/94)	Macgillis And Gibbs/ Bell Lumber And Pole - OU 1, MN (12/30/92)	Koppers Coke - Groundwater OU, MN (4/21/94)	Tar Lake, MI (9/29/92)	Conrail Rail Yard - OU 2, IN (9/9/94)	American Chemical Services, Inc., IN (9/30/92)	Tower Chemical Co., FL (7/9/87)	SITE NAME, STATE (ROD DATE)
Bioremediation (ex situ) - Slurry Phase	Incineration (on-site)	Incineration (on-site)	Bioremediation (in situ) - Groundwater	Solidification/Stabilization	Soil Vapor Extraction	Thermal Desorption	Incineration (on-site)	TECHNOLOGY (LISTED IN 8TH EDITION)
								9 ADDED
	Yes		Yes		Yes	Yes	Yes	9TH EDITION DELETED
Thermal Desorption	Chemical Treatment Followed by Bioremediation	Chemical Treatment Followed by Bioremediation		Thermal Desorption				CHANGED TO
A FY 1998 ROD replaced the treatment train of soil washing followed by slurry phase bioremediation with thermal desorption because the original remedy could not meet cleanup goals. The bioremediation project was changed to thermal desorption and the soil washing project was deleted.	A FY 1999 ROD amendment changed the remedy to a treatment train consisting of chemical treatment followed by bioremediation (biopile) because incineration was too expensive and difficult to implement.	A FY 1999 ROD amendment changed the remedy to a treatment train consisting of chemical treatment followed by bioremediation (biopile) because incineration was too expensive and difficult to implement.	The site contact indicated that the remedy was replaced with monitored natural attenuation because treatability testing revealed that bioremediation was not increasing the rate of degradation of contaminants.	The site contact indicated that the remedy was changed to reduce costs.	The site contact indicated that additional site investigations revealed that contaminant concentrations were lower than expected and soil vapor extraction was unnecessary.	A FY 1999 ROD changed the remedy to installation of an impermeable cap and off-site disposal of some wastes because additional site investigations revealed additional volumes of contaminated soil and debris, making thermal desorption impractical.	The site contact indicated that additional site investigations revealed different contaminants than expected and that incineration would not be appropriate. A revised remedy for the site has not yet been developed.	COMMENTS
Russell Hart 312-886-4844 hart.russell@epa.gov	Darryl Owens 312-886-7089 owens.darryl@epa.gov	Darryl Owens 312-886-7089 owens.darryl@epa.gov	Mark Rys 651-296-7706 mark.rys@pca.state.mn.us	Thomas Bloom 312-886-1967 bloom.thomas@epa.gov	Brad Bradley 312-886-4742 bradley.brad@epa.gov	Kevin Adler 312-886-7078 adler.kevin@epa.gov	Galo Jackson 404-562-8937 jackson.galo@epa.gov	CONTACTS/PHONE

	SITE NAME, STATE	TECHNOLOGY	9-	9TH EDITION			
REGION	(ROD DATE)	(LISTED IN 8TH EDITION)	ADDED	DELETED	CHANGED TO	COMMENTS	CONTACTS/PHONE
ОT	Moss-American, WI (9/27/90)	Soil Washing		Yes		A FY 1998 ROD replaced the treatment train of soil washing followed by slurry phase bioremediation with thermal desorption because the original remedy could not meet cleanup goals. The bioremediation project was changed to thermal desorption and the soil washing project was deleted.	Russell Hart 312-886-4844 hart.russell@epa.gov
5	Refuse Hideaway Landfill, WI (6/28/95)	Bioremediation (in situ) - Groundwater		Yes		The site contact indicated that the remedy was changed to monitored natural attenuation because the contaminants are naturally attenuating.	Anthony Rutter 312-886-8961 rutter.anthony@epa.gov
6	Air Force Plant 4 - Building 181, TX (8/26/96)	Soil Vapor Extraction		Yes		The site contact indicated that the remedy was changed to dual phase extraction and combined with another project at the site already listed in the ASR.	George Walters 937-255-7716 george.walters@wpafb.af.mil
6	Atchison, Topeka, & Santa Fe Clovis/Santa Fe Lake - Tph Soil, NM (9/23/98)	Bioremediation (in situ) - Other		Yes		The site contact indicated that contaminated soil was combined with sediments in an existing ex-situ bioremediation unit at the site. No information is currently available on why this change occurred.	Tetra Sanchez 214-665-6686 sanchez.tetra@epa.gov
6	Baldwin Waste Oil, TX (7/1/92)	Bioremediation (in situ) - Other			Bioremediation (ex situ) - Land Treatment	ROD was misinterpreted.	Gary Guerra 214-665-3120 guerra.gary@epa.gov
6	Double Eagle Refinery Co., OK (9/28/92)	Project not in 9th edition of the ASR. Original ROD did not include this project.	Neutralization			ROD was misinterpreted.	Phillip Allen 214-665-8516 allen.phillip@epa.gov
6	Oklahoma Refining Company - Hazardous Landfill, OK (6/9/92)	Bioremediation (in situ) - Other			Bioremediation (ex situ) - Land Treatment	ROD was misinterpreted.	Earl Hendrick 214-665-8519 hendrick.earl@epa.gov
6	Texarkana Wood Preserving, TX (9/25/90)	Incineration (on-site)		Yes		A FY 1998 ROD changed the remedy to on-site containment through capping because of community concerns.	Earl Hendrick 214-665-8519 hendrick.earl@epa.gov
6	United Creosoting Co., TX (9/29/89)	Solvent Extraction		Yes		A FY 1998 ROD amendment changed the remedy from a treatment train of solvent extraction followed by incineration to off-site disposal because the cost was too high and the capacity of the treatment unit was too small.	Earl Hendrick 214-665-8519 hendrick.earl@epa.gov

REGION	SITE NAME, STATE (ROD DATE)	TECHNOLOGY (LISTED IN 8TH EDITION)	9. ADDED	9TH EDITION DELETED	CHANGED TO	COMMENTS	CONTACTS/PHONE
6	United Creosoting Co., TX (9/29/89)	Incineration (off-site)		Yes		A FY 1998 ROD amendment changed the remedy from a treatment train of solvent extraction followed by incineration to off-site disposal because the cost was too high and the capacity of the solvent extraction treatment unit was too small.	Earl Hendrick 214-665-8519 hendrick.earl@epa.gov
6	Prewitt Abandoned Refinery, NM (9/30/92)	Dual Phase Extraction			Air Sparging	ROD was misinterpreted.	Gregory Lyssy 214-665-8317 lyssy.gregory@epa.gov
7	Hastings Groundwater Contamination- Colorado Ave., OU 1, NE (09/30/91)	Project not in 9th edition of the ASR.	Air sparging (in situ) - Groundwater			ROD was misinterpreted.	Darrell Sommerhauser 913-551-7711 sommerhauser.darrell@epa.gov
7	Hastings Groundwater Contamination- Colorado Ave., OU 1, NE (09/30/91)	Project not in 9th edition of the ASR.	In-Well Air Stripping			ROD was misinterpreted.	Darrell Sommerhauser 913-551-7711 sommerhauser.darrell@epa.gov
7	Midwest Manufacturing/North Farm, IA (2/28/93)	Bioremediation (in situ) - Other		Yes		ROD was misinterpreted.	Diane Easley 913-551-7797 easley.diane@epa.gov
7	Sherwood Medical Co., NE (9/5/1995)	Soil Vapor Extraction (ex situ)			Mechanical Soil Aeration	The site contact indicated that, after mechanical soil aeration was conducted in preparation for ex situ soil vapor extraction, the contaminant concentrations met cleanup goals and soil vapor extraction was unnecessary.	Steve Auchterlonie 913-551-7778 auchterlonie.steve@epa.gov
∞	Broderick Wood Products, CO (9/24/91)	Incineration (off-site)		Yes		ROD was misinterpreted.	Armando Saenz 313-302-6359 saenz.armando@epa.gov
ω	Lockheed/Martin - Denver Aerospace, CO (9/24/90)	Solidification/Stabilization		Yes		The site contact indicated that the remedy was not required because additional site investigation revealed contaminant levels were below cleanup goals.	Charles Johnson 303-692-3348 Johnson.Charles@State.CO.US
&	Rocky Flats Plant - Buffer Zone, CO (08/10/92)	Soil Vapor Extraction			Permeable Reactive Barrier	The site contact indicated that the remedy was changed because additional contamination was found that was not amenable to soil vapor extraction, including dense non-aqueous phase liquids.	Norma Casaneda 303-966-4226 casaneda.norma@epa.gov
8	Rocky Mountain Arsenal - Onpost OU, Hex Pits, CO (6/11/96)	Thermal Desorption			Thermally Enhanced Recovery	ROD was misinterpreted.	Kerry Guy 303-312-7288 guy.kerry@epa.gov

Neil Thompson 206-553-7177 thompson.neil@epa.gov	The site contact indicated that the project was solidification only, and no stabilization occurred. Solidification only projects are not currently tracked in the ASR.		Yes		Solidification/Stabilization	Queen City Farms, WA (10/24/ 86)	10
Sean Hogan 415-744-2334 hogan.sean@epa.gov	The site contact indicated that the remedy was changed because bioventing could not meet cleanup goals.	Soil Vapor Extraction			Bioventing	Williams Air Force Base - OU 3, AZ (12/30/92)	9
Robert Mandel 415-744-2290 mandel.bob@epa.gov	ROD was misinterpreted.	Bioremediation (ex situ) - Other			Bioremediation (in situ) - Other	Navajo Toxaphene, AZ (1/1/95)	9
Paula Schmittdiel 303-312-6861 schmittdiel.paula@epa.gov	ROD was misinterpreted.		Yes		Solidification/Stabilization	Utah Power & Light/American Barrel, UT (7/7/93)	∞
Victor Ketellaper 303-312-6578 ketellapper.victor@epa.gov	ROD was misinterpreted.			Neutralization	Project not in 9th edition of the ASR.	Summitville Mine - OU 2, CO (12/15/94)	8
Erna Waterman 303-312-6762 waterman.erna@epa.gov	ROD was misinterpreted.		Yes		Soil Vapor Extraction	Sand Creek Industrial, OU 4, CO (4/2/94)	œ
Kerry Guy 303-312-7288 guy.kerry@epa.gov	The site contact indicated that this remedy was specified as a contingent remedy, but never implemented.		Yes		Soil Washing	Rocky Mountain Arsenal - Onpost OU, CO (6/11/96)	8
CONTACTS/PHONE	COMMENTS	CHANGED TO	9TH EDITION DELETED	ADDED 9	TECHNOLOGY (LISTED IN 8TH EDITION)	SITE NAME, STATE (ROD DATE)	REGION

# Ninth Edition (April 1999): Additions, Changes, and Deletions from the Eighth Edition (November 1996)

and innovative technologies selected for two RCRA corrective actions. Other changes are listed below. The ninth edition of the report adds information about 42 treatment selected for remedial actions in FY 1996 and FY 1997 RODs, - treatment technologies non-Superfund,

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Loring AFB - OU 11, Vehicle Maintenance Building, ME (05/20/96)	Sullivan's Ledge, MA (09/27/91)	Sullivan's Ledge, MA (06/28/89)	Salem Acres, MA (03/25/93)	Iron Horse Park - OU 1, MA (09/15/88)	Charles George Reclamation Trust Landfill, MA (09/29/88)	Cannon Engineering - Plymouth OU, MA (03/31/88)	Beacon Heights Landfill, CT (09/28/90)	SITE NAME, STATE (ROD DATE)
Soil vapor extraction	Solidification/ stabilization	Solidification/ stabilization	Solidification/ stabilization	Bioremediation (ex situ) - land treatment	Solidification/ stabilization	Incineration (off site)	Incineration (off site)	TECHNOLOGY (LISTED IN 8TH EDITION)
								ADDED 9
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9TH EDITION DELETED
								CHANGED TO
Never implemented. Soils were excavated and connected to the base laundry SVE; soils were put into rolloff containers with PVC pipe.	Stabilization is no longer part of the remedy. An ESD was issued in 1996 to eliminate that requirement.	Stabilization is no longer part of the remedy. An ESD was issued in 1996 to eliminate that requirement.	Contaminated soils were excavated and hauled from the site instead of using soildification/stabilization. The estimated volume of contaminated media had decreased; the technology was no longer effective.	Land treatment was changed to asphalt batching off site at a state-permitted soil recycling facility. Bioremediation was taking longer than expected; treatment goals could not be met. An ESD was issued in October 1997.	The contaminated area was capped instead of using solidification/stabilization. The estimated volume of contaminated media had decreased; the technology was no longer effective.	About 264 tons of soil contaminated with lead and PCBs were disposed of at the Adams Center Sanitary Landfill in Fort Wayne, Indiana. Incineration was never used. PRP's contractor was allowed to put soil in a landfill without ROD amendment or ESD.	At \$20 billion, incineration was considered cost-prohibitive. In addition, the community was concerned about the safety of transporting 22 acres of material by truck over switchback mountain roads.	COMMENTS
Mike Nalipinski 617-223-5503	Dave Lederer 617-573-9665	Dave Lederer 617-573-9665	Elaine Stanley 617-223-5515	Don McElroy 617-223-5571	Elaine Stanley 617-223-5515	Dan Coughlin 617-573-9621	Elise Jakabhazy 617-573-5760	CONTACTS/PHONE

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Davis Liquid Waste, RI (09/29/87)	South Municipal Water Supply Wells, NH (09/27/89)	South Municipal Water Supply Wells, NH (09/27/89)	Ottati & Goss/Kingston Steel Drum - OU 4, NH (01/16/87)	Union Chemical, ME (12/27/90)	Union Chemical, ME (12/27/90)	O'Connor, ME (09/27/89)	O'Connor, ME (09/27/89)	SITE NAME, STATE (ROD DATE)
Solidification/ stabilization	In situ air stripping (air sparging)	Soil vapor extraction	Incineration (on site)	Solidification/ stabilization	Incineration (off site)	Solidification/ stabilization	Incineration (off site)	TECHNOLOGY (LISTED IN 8TH EDITION)
								ADDED 9
Yes	Yes	Yes		Yes	Yes	Yes	Yes	9TH EDITION DELETED
			Thermal desorption					CHANGED TO
Solidification/stabilization was proposed in the ROD as a treatment for the residues of incineration, but thermal desorption was used instead of incineration. Therefore, solidification/stabilization was not used. No ROD amendment or ESD was needed.	The air injection well was not installed deep enough to deliver air below the water table. Because of installation of deeper air injection wells would have caused penetration of a confining layer, that activity was not performed. An ESD was issued on 02/03/97.	A second ESD, issued in February 1997, granted a technical impracticality waiver. The waiver eliminated SVE because of the presence of DNAPLs. The SVE system has been shut down.	A change in cleanup level may be necessary under new risk guidance issued since the ROD was signed.  Thermal desorption is more cost effective; the volume of contaminated media had increased. A change in future use from residential to nonresidential would require a ROD amendment.	Misinterpretation of the ROD. The 1990 ROD selected thermal desorption. That remedy was subsequently changed to SVE in 1994. An ESD was issued in April 1994. See page D-36 for more information.	Misinterpretation of the ROD. The 1990 ROD selected thermal desorption. That remedy was subsequently changed to SVE in 1994. An ESD was issued in April 1994. See page D-36 for more information.	The solidification/ stabilization remedy option provided treatment of lead if incineration was chosen. Incineration was not selected as a remedy. Contaminated soil was landfilled off site. An ESD was issued on 07/11/94.	Problems included high cost for implementation of the technology and equipment or site problems. Contaminated soil was landfilled off site. An ESD was issued on 07/11/94.	COMMENTS
Neil Handler 617-573-9636	Roger Duwart 617-573-9628 Tom Andrews (NHDES) 603-271-2910	Roger Duwart 617-573-9628 Tom Andrews (NHDES) 603-271-2910	Richard Goehlert 617-573-5742	Terrence Connelly 617-573-9638	Terrence Connelly 617-573-9638	Ross Gilleland 617-573-5766	Ross Gilleland 617-573-5766	CONTACTS/PHONE

REGION	SITE NAME, STATE (ROD DATE)	TECHNOLOGY (LISTED IN 8TH EDITION)	ADDED	DELETED DELETED	CHANGED TO	COMMENTS	CONTACTS/PHONE
2	Cosden Chemical Coatings Corp., NJ (09/30/92)	Solidification/ stabilization		Yes		The estimated volume of contaminated media had decreased; the technology was no longer effective. An ESD is to be issued in the near future.	Edward Finnerty 212-637-4367
2	De Rewal Chemical Co., NJ (09/29/89)	Solidification/ stabilization		Yes		The treatability study indicated that leaching inorganics from the solidified mass would increase contamination of the groundwater. An ESD, issued on 06/12/97, eliminates solidification/stabilization and provides for off-site disposal.	Lawrence Granite 212-637-4423
2	Ellis Property, NJ (09/30/92)	Incineration (off site)			Solidification/ stabilization	Off-site incineration never was used because of high cost; chemical stabilization was used instead.	Richard Ho 212-637-4372
2	Kauffman & Minteer, NJ (09/27/96)	Incineration (off site)		Yes		No hazardous waste has been detected at this OU. The nonhazardous waste currently is being excavated and disposed of with no treatment. Additional characterization currently is being performed.	Paolo Pascetta 212-637-4383
2	Reich Farms, NJ (09/30/88)	Incineration (off site)		Yes		This was a contingency in the ROD. The ROD specified enhanced volatilization followed by either incineration or on-site disposal. All soil was treated successfully by enhanced volatilization and thus incineration was not necessary.	Jonathan Gorin 212-637-4361
2	Renora, Inc., NJ (09/29/87)	None				Original remedy was not listed in the ASR. The 1987 ROD selected bioremediation (in situ) for groundwater. It was cancelled because treatability studies showed bioremediation to be ineffective in treating PAH-contaminated soils. A ROD Amendment signed on 09/30/94 changed the remedy to off-site disposal.	Jonathan Gorin 212-637-4361
2	Roebling Steel Co., NJ (03/29/90)	Solidification/ stabilization		Yes		Solidification/stabilization was considered and rejected because of the high cost of cleaning up a large area of contamination (10 acres). A ROD amendment is expected in December 1998.	Tamara Rossi 212-637-4368
2	Roebling Steel Co., NJ (09/26/91)	Solidification/ stabilization		Yes		Solidification/stabilization was considered and rejected because of the high cost of cleaning up a large area of contamination (10 acres). A ROD amendment is expected in December 1998.	Tamara Rossi 212-637-4368
2	Swope Oil & Chemical, NJ (09/27/91)	Incineration (off site)		Yes		Remedy included only SVE treatment, and no off-site incineration was conducted. Misinterpretation of ROD.	Joseph Gowers 212-637-4413

REGION 2		2	2	2	2	2	2	2
(ROD DATE) Waldick Aerospace Devices,	(03/29/91)	Waldick Aerospace Devices, Inc., NJ (09/29/87)	White Chemical Corp., NJ (09/26/91)	Brookhaven National Laboratory (USDOE) - OU 4, NY (03/25/96)	Circuitron Corp., NY (03/29/91)	Hooker (102nd Street Landfill), NY (09/26/90)	Love Canal - 93rd St. School, NY (09/26/88)	Marathon Battery Corp., NY (09/30/88)
(LISTED IN 8TH EDITION) Incineration	(off site)	Solidification/ stabilization	Solidification/ stabilization	This is an FY96 ROD that was not listed in the eighth edition.	Incineration (off site)	Incineration (off site)	Solidification/ stabilization	Solidification/ stabilization
ADDED				Soil vapor extraction				
DELETED Yes		Yes	Yes		Yes	Yes	Yes	Yes
CHANGED TO								
COMMENTS  Misinterpretation of the ROD. Off-site incineration never was implemented. The ROD specified on site thermal treatment.	or thermal desorption.	Misinterpretation of the ROD.	Misinterpretation of the ROD. ROD specified that the site should be stabilized, referring to the site stabilization process performed during a previous remedial action. This did not mean treatment using stabilization/solidification.	Soil vapor extraction was added to enhance the existing in situ air stripping system.	Misinterpretation of the ROD. Soil was excavated and transported to an approved RCRA treatment and disposal facility. Incineration (off site) was selected as the method of treatment to develop a conservative cost estimate.	Original ROD specified incineration of sediments outside slurry wall. Slurry has been repositioned to contain any migration of NAPL plumes. The site will be capped instead. ROD Amendment issued 06/9/95.	Residents did not want any materials treated on site. Materials were disposed of off site instead. A ROD amendment was issued in 05/91.	All three solidification/ stabilization projects were conducted as one project, even though three RODs were issued. The work is documented in the ASR as a single project. Therefore, the two other projects have been deleted.
CONTACTS/PHONE  Daniel Weissman  212, 427, 4284	212-637-4384 George Buc (USACE) 908-389-3040 Dave Modricker (USACE) 717-748-4505	Daniel Weissman 212-637-4384	Betsy Donovan 212-637-4369	Mary Logan 212-637-4321	Sharon Trocher 212-637-3965	Paul Olivo 212-637-4280	Damian Duda 212-637-4269	Pam Tames 212-637-4255

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Aberdeen Proving Ground (Edgewood Area) J-Field Soil OU, MD (09/27/96)	Halby Chemical Co OU 1, Process Plant Area, DE (06/28/91)	E.I. DuPont-Newport Site, DE (09/23/93)	Delaware Sand & Gravel Landfill - OU 4 and OU 5, DE (09/30/93)	Solvent Savers, NY (09/30/90)	Olean Well Field - OU 2, NY (09/30/96)	Mattiace Petrochemicals - OU 1, 5, and 6, NY (06/27/91)	Marathon Battery Corp., NY (09/30/89)	SITE NAME, STATE (ROD DATE)
This is an FY96 ROD that was not listed in the eighth edition.	Solidification/ stabilization	None	Soil vapor extraction	Thermal desorption	In situ air stripping (air sparging)	Incineration (off site)	Solidification/ stabilization	TECHNOLOGY (LISTED IN 8TH EDITION)
								9 ADDED
					Yes	Yes	Yes	9TH EDITION DELETED
Phyto- remediation	Chemical treatment		Bioremediation (in situ) - bioventing	Soil vapor extraction				CHANGED TO
Incineration and solidification/stabilization, provided for in the original ROD, was considered dangerous because of the presence of unexploded ordnance. A ROD amendment is to be issued in the near future for a change to phytoremediation.	Misinterpretation of ROD; in situ chemical oxidation was used.	Original remedy was not listed in the ASR. The 1993 ROD selected solidification/stabilization (in situ). However, the waste was much deeper than originally estimated. Due to the increased volume of waste, the cleanup costs were significantly higher than cited in the 1993 ROD. On 08/16/95 EPA issued and ESD to change the remedy to containment with pump-and-treat for groundwater.	Treating soil with SVE followed by bioventing would not have enhanced the rate of removal of VOCs from soil. Therefore, bioventing was used without SVE. The remedy was a contingency in the ROD.	SVE is being conducted as a pilot study, but thermal desorption may be used in the future.	Air sparging was considered for the dry cleaning. A pilot test demonstrated that air sparging was not feasible because of site conditions. Contaminated soil will be excavated instead (a contingency in the ROD, so no ESD or ROD amendment is necessary).	The ROD identified incineration as a possible method of treatment, but incineration was not the selected remedy.	All three solidification/ stabilization projects were conducted as one project, even though three RODs were issued. The work is documented in the ASR as a single project. Therefore, the two other projects have been deleted.	COMMENTS
Steven R. Hirsh 215-566-3352	Eric Newman 215-814-3237	Lisa Brown 215-814-5528	Eric Newman 215-814-3237	Lisa Wong 212-637-4267	Thomas Taccone 212-637-4281	Edward Als 212-637-4272	Pam Tames 212-637-4255	CONTACTS/PHONE

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M.W. Manufacturing, PA (03/31/89)	Hebelka Auto Salvage Yard, PA (09/30/91)	Drake Chemical - Phase II, PA (05/13/86)	Douglassville Disposal, PA (06/30/89)	Brown's Battery Breaking Site - OU 2, PA (07/02/92)	Berks Sand Pit, PA (09/29/88)	Aladdin Plating, PA (09/27/88)	Mid-Atlantic Wood Preservers, MD (12/31/90)	SITE NAME, STATE (ROD DATE)
Incineration (off site)	Solidification/ stabilization	Incineration (on site)	Incineration (on site)	Plasma high- temperature recovery	Incineration (off site)	Solidification/ stabilization	Solidification/ stabilization	TECHNOLOGY (LISTED IN 8TH EDITION)
								9 ADDED
	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9TH EDITION DELETED
Solidification/ stabilization and Thermal Desorption								CHANGED TO
Results of treatability study showed burning fluff caused potential threat due to emissions of dioxin. Thus, offsite incineration was not implemented. ROD Amendment issued 12/22/97 selected ex-situ stabilization and low temperature thermal desorption.	The 1991 ROD refers to solidification/stabilization of lead-contaminated soils completed under the 1989 ROD, but the 1991 ROD specifies monitoring of groundwater only; no solidification/stabilization of additional sites is specified.	This is a duplicate project. Both the 1986 and the 1988 ROD specified incineration. Incineration (on site) was chosen because of a preference for on-site treatment. The work is documented as a single project.	Community concerns prohibited the use of the technology. A feasibility study of solidification/stabilization is being conducted. A ROD amendment is expected in FY99.	Problems with implementation include high cost and equipment or site problems.	The source of contamination in sediments is being eliminated because of lowering of the water table, eliminating the need for excavation and incineration (off site) of sediments. An ESD has been proposed and will be made final after a public comment period of 30 days.	A vendor demonstration of electrokinetics to treat contaminated groundwater and soils will continue. A subsequent ROD issued on 12/30/93 requires institutional controls and monitoring, but no solidification/stabilization.	The remedy was a contingency in the ROD. Solidification/ stabilization was to be used only if the level of arsenic was above 1000 mg/kg. Results of soil analysis on all samples at the site show levels of arsenic below 1,000 mg/kg.	COMMENTS
Bhupendra Khona 215-566-3213	Frederick N. Macmillan 215-814-3201	Gregg Crystall 215-566-3207	Víctor J. Janosik 215-566-3217	Richard Watman 215-566-3219	Bruce Rundell 215-566-3317	Gregory D. Hamm 215-566-3194	Eric Newman 215-814-3237	CONTACTS/PHONE

REGION	SITE NAME, STATE (ROD DATE)	TECHNOLOGY (LISTED IN 8TH EDITION)	ADDED 9:	9TH EDITION	CHANGED TO	COMMENTS	CONTACTS/PHONE
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ω	Publicker Industries, Inc OU 3, PA (12/28/95)	Solidification/ stabilization		Yes		The remedy was a contingency. Wastes were disposed of in a landfill.	Frances Costanzi 215-566-3196
ω	Greenwood Chemical Co., VA (12/29/89)	Solidification/ stabilization		Yes		Solidification/stabilization of soils contaminated with arsenic would not have been cost-effective for the small volume of waste present. No ROD amendment or ESD was issued.	Philip Rotstein 215-814-3232
ω	Rentokil Virginia Wood Preserving, VA (06/22/93)	Incineration (off site)		Yes		Cost too high. A value engineering analysis indicated that contaminants in soil could successfully be contained with a slurry wall and cap. A pump and treat system for dewatering could effectively immobilize contaminants. ROD Amendment issued 08/27/96.	Andrew C. Palestini 215-566-3233
ω	Rentokil Virginia Wood Preserving, VA (06/22/93)	Solidification/ stabilization		Yes		Cost too high. A value engineering analysis indicated that contaminants in soil could successfully be contained with a slurry wall and cap. A pump and treat system for dewatering could effectively immobilize contaminants. ROD Amendment issued 08/27/96.	Andrew C. Palestini 215-566-3233
ω	Saunders Supply Co., VA (09/30/91)	Solidification/ stabilization		Yes		Solidification/stabilization was a contingency that was found to be unnecessary.	Andrew C. Palestini 215-566-3233
ω	Fike Chemical, Inc OU 1, WV (09/29/88)	Solidification/ stabilization		Yes		Misinterpretation of the ROD. The ROD called for drainage of water and liquid from the lagoon (referred to as "stabilization" in the ROD). Lagoon sludge then was to be sent off site for incineration.	Katherine Lose 215-566-3240
ω	Fike Chemical, IncWV (03/31/92)	Neutralization		Yes		The excavated drums were damaged and were sent off site for disposal. ESD issued 05/13/93.	Katherine Lose 215-566-3240
ω	Fike Chemical, Inc OU 3 - Drum Removal, WV (03/31/92)	Solidification/ stabilization		Yes		Stabilizing in the ROD referred to stabilizing acidic wastes.  The closeout report indicated that all nonhazardous soils were landfilled and hazardous wastes were incinerated. Solidification/stabilization was a contingency remedy.	Katherine Lose 215-566-3240
4	Ciba Geigy (McIntosh Plant), AL (07/14/92)	Solidification/ stabilization		Yes		Solidification/stabilization was not implemented because it would bring about no cost savings.	Charles L. King, Jr. 404-562-8931

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Gold Coast Oil Corp., FL (09/11/87)	Coleman-Evans Wood Preserving - Amendment, FL (09/26/90)	Cecil Field Naval Air Station - OU 7, FL (07/17/96)	Cecil Field Naval Air Station - OU 7, FL (07/17/96)	Cecil Field Naval Air Station - OU 6, Site 11, FL (09/14/94)	Cecil Field Naval Air Station - OU 2, Sites 5 and 17, FL (06/24/96)	Brown Wood Preserving, FL (04/8/88)	Anodyne, Inc., FL (06/17/93)	Ciba Geigy (McIntosh Plant) - OU 3, AL (07/25/95)	SITE NAME, STATE (ROD DATE)
Solidification/ stabilization	Solidification/ stabilization	Soil vapor extraction	Bioremediation (in situ) - groundwater	Incineration (off site)	Bioremediation (in situ) - groundwater	Solidification/ stabilization	Solidification/ stabilization	Bioremediation (in situ) - other	TECHNOLOGY (LISTED IN 8TH EDITION)
									ADDED
Yes		Yes	Yes	Yes		Yes	Yes		9TH EDITION DELETED
	Thermal desorption				Air sparging			Incineration (on site)	CHANGED TO
The estimated volume of contaminated media had decreased, and the technology was no longer effective.	The 1990 ROD amendment selected a technology train of bioremediation, soil washing and S/S. Treatability studies indicated presence of dioxin, which cannot be treated with bioremediation. So, remedy changed to thermal desorption. ROD Amendment 9/25/97.	SVE and bioremediation were to be implemented in the downgradient area, but concentrations of contaminants have decreased. Therefore, the remedy will not be implemented.	SVE and bioremediation were to be implemented in the downgradient area, but concentrations of contaminants have decreased. Therefore, the remedy will not be implemented.	Wastes were below LDR standards for treatment. Waste was sent off site to a RCRA subtitle C landfill.	Bioremediation was begun, but the cleanup goals were revised. A ROD amendment is to be issued soon, and air sparging will be used.	Contingency. This technology in ROD was to be considered only if ex situ biodegradation - land treatment did not attain the desired cleanup levels for the appropriate indicator chemicals within the two-year time period. Goals were met within 18 months.	The amount of contaminated soil was less than anticipated, and the soil was excavated and landfilled off site.	The treatability study was unsuccessful; treatment goals could not be met. Wastes are being incinerated instead.	COMMENTS
Brad Jackson 404-562-8925	Randall Chaffins 404-562-8929	Debbie Vaughn-Wright 404-562-8539	Debbie Vaughn-Wright 404-562-8539	Debbie Vaughn-Wright 404-562-8539	Debbie Vaughn-Wright 404-562-8539	Rosalind Brown 404-562-8870	Brad Jackson 404-562-8925	Charles L. King, Jr. 404-562-8931	CONTACTS/PHONE

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Aberdeen Pesticide Dumps (Amendment), NC (09/30/91)	Smith's Farm - OU 1, KY (09/29/89)	Mathis Brothers Landfill - South Marble Top Road, GA (03/24/93)	Marzone Inc./Chevron Co OU 1, GA (09/30/94)	Marine Corps Logistics Base - OU 3, PSC 16 & 17, GA (08/14/92)	Whitehouse Oil Pits - Amendment, FL (06/16/92)	Stauffer Chemical Company, FL (12/01/95)	Reeves Southeastern Galvanizing - OU 1, FL (10/13/92)	Homestead Air Reserve - OU 6, Site SS-3, FL (06/27/95)	SITE NAME, STATE (ROD DATE)
Solidification/ stabilization	Solidification/ stabilization	Bioremediation (ex situ) - slurry-phase	Thermal desorption	Solidification/ stabilization	Bioremediation (ex situ) - slurry-phase	Bioremediation (ex situ)	Solidification/ stabilization	Thermal desorption	TECHNOLOGY (LISTED IN 8TH EDITION)
									ADDED 9
	Yes		Yes Yes	Yes	Yes		Yes	Yes	9TH EDITION DELETED
Incineration (off site)						Bioremediation (ex situ)- composting			CHANGED TO
Arsenic is a contaminant at the site. Because the arsenic was commingled with pesticide wastes, all soil contaminated with arsenic was incinerated, and no soil required stabilization.	Solidification/stabilization was planned for the heavy metals remaining in the treated soils after the thermal desorption, but the treatment was not necessary.	Excavation, landfilling, and incineration were less costly and required less time. Soils were excavated and transported off site for landfilling if nonhazardous, and incinerated if hazardous.	Remedy was too costly, the community was opposed to the remedy, and dioxin was discovered. Therefore, the technology was not implemented, and the soil was excavated and disposed of at an off-site landfill. A ROD amendment was issued on 06/18/97.	Misinterpretation of ROD; soil was mixed with clean fill and then disposed of at a permitted landfill. No solidification/stabilization was performed.	Treatment goals could not be met. A ROD amendment was to be issued in mid-September 1998, and a public comment period will be conducted.	The change was made to identify a specific type of ex situ bioremediation.	Implementability (equipment problems and site problems). The PRP could not find a treatment mix that could meet performance standards. An ESD was issued on 04/17/97.	Excavation, hauling, and landfilling as a non-RCRA solid waste was less costly, as per the ESD issued on 10/22/97. One 55-gal. drum and 1,350 cu yd of waste were hauled to a non-RCRA landfill. Data in design showed reduced volume of soil.	COMMENTS
Kay Crane 404-562-8795	Antonio DeAngelo 404-562-8826	Charles L. King, Jr. 404-562-8931	Annie Godfrey 404-562-8919	Robert Pope 404-562-8506	Mark Fite 404-562-8927	Brad Jackson 404-562-8925	Randall Chaffins 404-562-8929	Patricia Goldberg 404-562-8543 Doyle Brittain 404-562-8549	CONTACTS/PHONE

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Savanna Army Depot Activity, IL	Byron/Johnson Salvage Yard, IL (03/13/85)	Belvidere Municipal Landfill - No. 1, IL (06/29/88)	Acme Solvent Reclaiming, Inc., IL (12/31/90)	Wrigley Charcoal, TN (09/30/91)	Wrigley Charcoal, TN (09/30/91)	Arlington Blending and Packaging Co., TN (06/28/91)	Amnicola Dump, TN (03/30/89)	Savannah River (USDOE) - OU 1, SC (06/29/92)	Savannah River (USDOE) - M Area Settling Basin, SC	SITE NAME, STATE (ROD DATE)
Solidification/ stabilization	Incineration (off site)	Incineration (off site)	Incineration (off site)	Solidification/ stabilization	Incineration (off site)	Solidification/ stabilization	Solidification/ stabilization	Solidification/ stabilization	In situ air stripping (air sparging)	TECHNOLOGY (LISTED IN 8TH EDITION)
										ADDED 9
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9TH EDITION DELETED
										CHANGED TO
This project is a RCRA closure - state oversight.	Excavation, hauling, and landfilling were used instead of offsite incineration as indicated in the ROD because of high cost.	Incineration off site was included in the ROD to be used if the concentration of PCBs was greater than 50 ppm. Because the concentration was not, PCBs were disposed of off site.	The ROD identifies off-site incineration as a contingency. The technology was never implemented.	The technology was too expensive; disposed of off site in a landfill. A ROD amendment was issued on 02/02/95.	The technology was too expensive; disposed of off site in a landfill. A ROD amendment was issued on 02/02/95.	The estimated volume of contaminated media has decreased; the technology no longer is effective. An ESD is to be issued in near future.	The volume of soil was much less than had been indicated in the ROD, and it was more cost-effective to dispose of the soil off site.	The work was completed as a RCRA project that is not applicable to the ASR.	This is a demonstration project, not a full-scale application.	COMMENTS
David Seely 312-886-7058	Bill Bolen 312-353-6316	William Ballard 312-353-6083	David Linnear 312-886-1841	Lisa Montalvo 404-562-8805	Lisa Montalvo 404-562-8805	Derek Matory 404-562-8800	Robert West 404-562-8806	Mike Simmons (DOE) 803-725-1627 Brian Looney (WSRC) 803-725-3692	Mike Simmons (DOE) 803-725-1627 Brian Looney (WSRC) 803-725-1627	CONTACTS/PHONE

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	Clare Water Supply, MI (09/16/92)	Carter Industrials, Inc., MI (09/18/91)	Burrows Sanitation, MI (09/30/86)	Berlin & Farro Liquid Incineration, MI (02/29/84)	Wedzeb, IN (06/30/89)	Wayne Waste Oil, IN (03/30/90)	Wayne Waste Oil, IN (03/30/90)	Main Street Well Field, IN (03/29/91)	Fisher-Calo, IN (08/07/90)	SITE NAME, STATE (ROD DATE)
	Thermal desorption	Incineration (off site)	Solidification/ stabilization	Incineration (off site)	Incineration (off site)	Solidification/ stabilization	Bioremediation (in situ)	Incineration (off site)	Soil vapor extraction	TECHNOLOGY (LISTED IN 8TH EDITION)
										ADDED 9
	Yes	Yes	Yes	Yes	Yes	Yes		Yes		9TH EDITION DELETED
							Bioremediation (in situ) - biosparging		Bioremediation (in situ) - biosparging	CHANGED TO
	The remedy should have been listed as SVE. The 1992 ROD specified SVE, not thermal desorption, but SVE was not feasible because of the low permeability of soils. A ROD amendment was issued on 05/15/97.	1991 ROD specified thermal desorption, not incineration off-site. Misinterpretation of ROD. Amended ROD 2/28/95 canceled remedy because the cost for off-site disposal dropped, there was less soil, and restrictions on interstate transport have decreased.	The volume of contamination was smaller than originally had been estimated. It was more cost-effective to excavate and dispose of off site under removal authority.	Contingency in the ROD. ROD specified transportation of PCB liquid wastes, if any, to an approved off-site incinerator.	52,000 drums of PCB capacitors were incinerated off site in 1987 at the Apptus facility in Kansas. Soil was excavated and disposed of off site because the contamination remaining in soil was low. No ROD amendment or ESD was issued.	The technology was determined to be unnecessary. Metals were the only contaminants of concern, and the site had been capped already. Consequently, the risk was minimized. No ROD amendment or ESD was written.	The technology has been reclassified.	Off-site incineration was never implemented at this site.	Biosparging was determined to be more effective than SVE; no ROD amendment or ESD has been issued.	COMMENTS
	Jon Peterson 312-353-1264	Jon Peterson 312-353-1264	Jeffrey Gore 312-886-6552	Robert Whippo 312-886-4759	Kenneth Theisen 312-886-1959	Jeffrey Gore 312-886-6552	Jeffrey Gore 312-886-6552	Deborah Orr 312-886-7576	Jeffrey Gore 312-886-6552	CONTACTS/PHONE

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Ritari Post and Pole - OU 1, MN (06/30/94)	Ritari Post and Pole - OU 1, MN (06/30/94)	MacGillis and Gibbs/Bell Lumber and Pole - OU 3, MIN (09/22/94)	Thermo-Chem, Inc OU 1, MI (09/30/91)	H. Brown Company, Inc., MI (09/30/92)	Forest Waste Products, MI (03/31/88)	Electrovoice, MI (06/23/92)	Duell-Gardner Landfill, MI (09/07/93)	SITE NAME, STATE (ROD DATE)
Incineration (off site)	Incineration (off site)	Bioremediation (in situ) - groundwater	Incineration (off site)	Solidification/ stabilization	Incineration (off site)	Solidification/ stabilization	Thermal desorption	TECHNOLOGY (LISTED IN 8TH EDITION)
								ADDED
Yes		Yes	Yes	Yes	Yes	Yes	Yes	9TH EDITION DELETED
	Bioremediation (ex situ) - land treatment							CHANGED TO
Incineration was too expensive. Chemical oxidation may be used to treat highly contaminated soils, and land treatment will be used for lower concentrations; the use of off site incineration would move the risk outside the site. An ESD is to be issued.	Incineration was too expensive.	The technology is ex situ, not in situ. Groundwater is being pumped and treated above ground.	The concentrations of the contaminants in the soil were low and it was not cost-effective to treat the soil with incineration. The metals could not be treated with incineration. The contaminated soil was excavaled and disposed of off site.	The site was capped with clay and covered with asphalt so that the property could be redeveloped. Two ROD amendments have been issued. The first, issued on 09/29/95, removed solidification/stabilization from the project.	An ESD is to be issued in the near future.	Solidification/stabilization was identified as a contingency remedy in the 1992 ROD. If cleanup goals are not achieved by the SVE system, the soils will be excavated and stabilized. The SVE system is in operation and its performance will be reviewed next year.	The volume of contaminated material was much smaller than originally had been estimated. Consequently, it was more cost-effective to excavate and dispose of the material off site. A ROD amendment was to be issued in FY98.	COMMENTS
Ramon Torres 312-886-3010	Ted Smith 312-353-6571 John Moeger (MPCA) 612-296-9707	Darryl Owens 312-886-7089 Miriam Horneff (MPCA) 612-296-7228	James Hahnenberg 312-353-4213	Timothy Prendiville 312-886-5122	Elizabeth Reiner 312-353-6576	Karen Sikora 312-886-1843	Lolita Hill 312-353-1621	CONTACTS/PHONE

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Popile, AR (02/01/93)	Gurley Pit, AR (10/06/86)	Spickler Landfill, WI (06/03/92)	(08/14/90)	Onalaska Municipal Landfill, WI	Mid-State Disposal Landfill, WI (09/30/88)	Summit National Liquid Disposal Service - Amendment, OH (11/02/90)	Fields Brook, OH (09/30/86)	Allied Chem & Ironton Coke, OH (12/28/90)	SITE NAME, STATE (ROD DATE)
Bioremediation (ex situ)	Incineration (off site)	Solidification/ stabilization	(in situ)	Bioremediation	Solidification/ stabilization	Incineration (off site)	None	Incineration (on site)	TECHNOLOGY (LISTED IN 8TH EDITION)
									ADDED 9
	Yes	Yes			Yes	Yes		Yes	9TH EDITION DELETED
Bioremediation (ex situ) - land treatment			(in situ) - bioventing	Bioremediation					CHANGED TO
The RI data is being reviewed to determine whether there is a more appropriate remedy. The site was capped under a removal action. FS decisions will be made in 1999.	The cost was too high; transportation and safety problems also arose.	Results of a test of stabilization/solidification showed that the technology would not provide a significant reduction in the mobility or hydraulic conductivity of mercury wastes. An impermeable cap with synthetic liner was used to eliminate infiltration.	bioventing.	The technology was reclassified from bioremediation in situ to	Solidification/stabilization was identified as a contingency that was to be used only to solidify the sludge lagoon so that a cap could be placed over it. Solidification/ stabilization was deemed unnecessary. A geomembrane cap was used without solidification/ stabilization.	The 1988 ROD and the 1990 ROD amendment both specified incineration on site. It is documented as a project under the 1988 ROD.	The original remedy in the 1986 ROD was not listed in the ASR. The 1986 ROD specified solidification of sediments. EPA issued and ESD on 08/15/97 changed solidification to disposal.	Contaminated soil volume decreased. A ROD amendment was to be issued in May or June 1998. Soil contaminated with soft tar will be excavated, soil that meets the TCLP limit will be recycled for alternative fuel, and soil that fails the TCLP limit will be disposed of at an off-site landfill.	COMMENTS
Shawn Ghose 214-665-6782	Ernest R. Franke 214-665-8521	John Fagiolo 312-886-0800	(WIDNR) 608-267-0858 Kevin Adler 312-886-7078	George Mickelson	Mary Tierney 312-886-4785	Anthony Rutter 312-886-8961	Terese Van Donsal 312-353-6564	Matthew Mankowski 312-886-1842	CONTACTS/PHONE

_	(Amendment), LA ))  3. Chemical Services,	(07/20/95)  Pab Oil & Chemical Services, Inc., LA (09/22/93)	Pab Oil & Chemical Services, Inc., LA (09/22/93)  Atchison, Topeka, & Santa Fe Clovis/Santa Fe Lake - TPH lake sediments, NM (09/23/88)
(on site)	(on site)  Incineration (off site)  Bioremediation	(on site) (on site) (off site) (off site) Bioremediation (ex situ) - other	(on site)  (on site)  (off site)  Bioremediation (ex situ) - other  (ex situ) - land treatment
Yes	Yes	Yes	Yes
	Solidification/	Solidification/ Stabilization	Solidification/ Stabilization
This ROD amendment (07/20/95) actually covered the off-site	<b>₹ 1</b> 8 <b>→</b> 9	This ROD amendment (07/20/95) actually covered the off-site incineration of waste from the Southern Shipbuilding Corporation site. Therefore, no waste from Bayou Bonfouca was incinerated off site or addressed by this ROD amendment.  Bioremediation was discontinued because of implementability problems. An ESD was issued on 03/12/1997.	This ROD amendment (07/20/95) actually covered the off-site incineration of waste from the Southern Shipbuilding Corporation site. Therefore, no waste from Bayou Bonfouca was incinerated off site or addressed by this ROD amendment.  Bioremediation was discontinued because of implementability problems. An ESD was issued on 03/12/1997.  No information available.
214-665-8516 Mark Hansen	214-665-8516  Mark Hansen 214-665-7548  Caroline Ziegler	214-665-8516  Mark Hansen 214-665-7548  Caroline Ziegler 214-665-2178	214-665-8516  Mark Hansen 214-665-7548  Caroline Ziegler 214-665-2178  Donald H. Williams 214-665-2197

6	6	6	6	6	6	6	6	6	REGION
South Cavalcade Street, TX (09/26/88)	South Cavalcade Street, TX (09/26/88)	Sheridan Disoposal Services, TX (12/29/88)	Petrochemical (Turtle-Bayou), TX (09/06/91)	Petro-Chemical Systems, Inc OU 2, TX (04/30/98)	Kelly Air Force Base - Site 1100, Phase III, TX	Kelly Air Force Base - Site 1100, Phase II, TX	Brio Refining, TX (03/31/88)	Bailey Waste Disposal, TX (06/28/88)	SITE NAME, STATE (ROD DATE)
Soil washing	Incineration (off site)	Solidification/ stabilization	Incineration (off site)	This is an FY98 ROD that was not listed in the eighth edition.	This phase is an addition to the phase listed in the eighth edition.	This phase is an addition to the phase listed in the eighth edition.	Solidification/ stabilization	Solidification/ stabilization	TECHNOLOGY (LISTED IN 8TH EDITION)
				Thermal desorption	Bioremediation (in situ)- bioventing	Soil vapor extraction			9 ADDED
Yes	Yes	Yes					Yes	Yes	9TH EDITION DELETED
			Soil vapor extraction						CHANGED TO
A pilot study of soil washing showed that 40 percent of the volume could not be washed to meet goals. Soils contaminated with carcinogenic PAHs at levels higher than 700 ppm will be sealed and contained beneath a six-inch-thick reinforced concrete cap. A ROD amendment was issued on 06/27/97.	The 09/26/88 ROD listed incineration (off site) for sludges, if encountered. However, no sludges were not found and therefore incineration was not performed.	Misinterpretation of the ROD.	Misinterpretation of ROD. SVE currently is being used to remediate four soil areas at the site.		No information available.	No information available.	Solidification/ stabilization was considered during the RI/FS stages, but was not included in the ROD because it could not meet treatment levels. No ROD Amendment or ESD therefore was necessary.	Cost too high; treatment goals could not be met; more contamination than planned. New remedy includes excavation and offsite disposal of problematic wastes and installation of a geocomposite cap over mixed industrial and municipal wastes. ROD Amendment 12/16/96.	COMMENTS
Glenn Celerier 214-665-8523	Glenn Celerier 214-665-8523	Gary A. Baumgarten 214-665-6749	Chris Villarreal 214-665-6758	Chris Villarreal 214-665-6758	Bill Hall 210-925-3100	Bill Hall 210-925-3100	John Meyer 214-665-6742	Chris Villarreal 214-665-6758	CONTACTS/PHONE

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Lockheed/Martin - W C Astronautics Facility, CO (09/24/90)	Fort Carson - Building 9648 OU, CO	Broderick Wood Products, CO (03/24/92)	Shenandoah Stables, MO (09/28/90)	Missouri Electric Works, MO (09/28/90)	Ellisville Site - Bliss, MO (09/29/86)	Strother Field Industrial Park, KS (03/31/94)	Midwest Manufacturing/North Farm (Amendment), IA (09/30/93)	South Cavalcade Street, TX (09/26/88)	SITE NAME, STATE (ROD DATE)
Soil vapor extraction	Bioremediation (in situ) - other	Bioremediation (in situ) - groundwater	Solidification/ stabilization	Incineration (on site)	Incineration (off site)	Soil vapor extraction	Solidification/ stabilization	Flushing (in situ)	TECHNOLOGY (LISTED IN 8TH EDITION)
									ADDED 9
			Yes			Yes	Yes	Yes	9TH EDITION DELETED
Thermal desorption	Bioremedi-ation (in situ) - bioventing	Bioremediation (in situ) - bioventing		Thermal desorption					CHANGED TO
SVE will not be used. All soil will be excavated and treated by thermal desorption. Doing so will allow the site owner to reduce risk, eliminate the need for post-closure care, and clean-close the unit.	The technology was reclassified.	The remedy was changed to bioventing in the ESD issued on 03/24/95. The pump-and-treat system did not work with LNAPLs; therefore, the cost of implementing it would be high.	Misinterpretation of the ROD.	On-site incineration was too expensive. A ROD amendment was issued in September 1995.	The 1986 ROD called for interim storage of contaminated soil on site and incineration at an off-site commercial facility. The 1991 ROD called for off-site incineration at the Times Beach, MO site operated by the PRPs. A ROD amendment was issued on 09/30/91.	The application of SVE technology is impractical at this site because the soil permeability is too low. The remedy proposed in the ESD is a pump-and-treat system with monitored natural attenuation. An ESD was to be issued by 09/30/98.	The cost was too high; contaminant levels for both OUs were lower than before. Site risks were evaluated to determine that monitoring with institutional controls would effectively address the contamination at both OUs. The original ROD was issued in 1988.	Estimated volume of contaminated soil much less than anticipated, but treatment goals could not be reached anyway. Will cap the site instead. ROD Amendment issued 6/27/97.	COMMENTS
George Dancik 303-312-6206 Charles Johnson (CDPHE) 303-692-3348	John Cloonan 719-526-8004	Armando Saenz 303-312-6559	Robert Feild 913-551-7697	Pauletta France-Isetts 913-551-7701	Robert Feilds 913-551-7697	Paul Roemerman 913-551-7694	Diane Easley 913-551-7797	Glenn Celerier 214-665-8523	CONTACTS/PHONE

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Ellsworth AFB - Abandoned Fire Protection Area, SD (05/10/96)	Silver Bow Creek/Butte Area - Rocker Timber Framing and Treatment Plant OU, MT (06/30/92)	Montana Pole and Treating Plant - Soil OU, MT (09/21/93)	Burlington Northern (Somers Plant) - Soil, Base - OU 4, UT (06/14/94)	Summitville Mine - OU 0, CO (12/15/94)	Sand Creek Industrial, CO (09/28/90)	Rocky Mountain Arsenal - OU 29, CO (01/15/93)	Rocky Mountain Arsenal - OU 28, CO (01/15/93)	Rocky Mountain Arsenal - OU 17, CO (05/14/90)	SITE NAME, STATE (ROD DATE)
Soil vapor extraction	Solidification/ stabilization	Bioremediation (in situ) - other	Bioremediation (in situ) - other	Neutralization	Incineration (off site)	Incineration (off site)	Solidification/ stabilization	Solidification/ stabilization	TECHNOLOGY (LISTED IN 8TH EDITION)
									ADDED
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9TH EDITION DELETED
									CHANGED TO
The FY96 ROD only expanded the dual phase system from the FY95 ROD, but did not add any technologies.	Solidification/stabilization treatment was recommended only if chemical treatment was not successful. The estimated volume of contaminated media had decreased; the technology was no longer effective.	The ROD was misinterpreted.	The ROD was misinterpreted.	The ROD was misinterpreted.	No information is available.	OU 29 was an interim remedial action to address PCB wastes. Both off-site incineration and off-site landfilling were selected as the most preferable alternatives for disposal of PCB wastes. The PCB wastes were ultimately disposed of by landfilling.	OU 28 was the evaluation of alternatives for treatment of various future waste streams at RMA. Solidification/ stabilization was considered, but no actions were taken under OU 28.	The ROD was misinterpreted.	COMMENTS
Peter Ismert 303-312-6665	Mike Bishop 9 406-441-1150	James C. Harris 406-441-1150 Neil Marsh (MT) 406-444-1420	James C. Harris 406-441-1150	Victor Ketallappet 303-312-6528	Erna Waterman 303-312-6762	Laura Williams 303-312-6660	Laura Williams 303-312-6660	Laura Williams 303-312-6660	CONTACTS/PHONE

9	9	9	9	9	9	9	<b>&amp;</b>	00	REGION
March AFB - OU 1, Area 5 & Site 4, CA (06/20/96)	March AFB - OU 1, Area 5 & Site 4, CA (06/20/96)	Koppers (Oroville Plant), CA (09/13/89)	J.H. Baxter, CA (09/27/90)	Intel, Mountian View, CA (06/09/89)	FMC Corp. (Fresno Plant), CA (06/28/91)	Fairchild Semiconductor (Mt. View) - Bldg 1-4 (515 & 545 N. Whisman Rd./313 Fairchild Dr.), CA (06/30/89)	Utah Power & Light/American Barrel, UT (07/07/93)	Hill Air Force Base - OU 4, UT (06/14/94)	SITE NAME, STATE (ROD DATE)
Thermal desorption	Bioremediation (in situ) - bioventing	Solidification/ stabilization	Bioremediation (ex situ) - land treatment	Mechanical soil aeration	Solidification/ stabilization	Soil vapor extraction	Incineration (off site)	Soil vapor extraction	TECHNOLOGY (LISTED IN 8TH EDITION)
									ADDED
	Yes	Yes		Yes	Yes	Yes	Yes	Yes	9TH EDITION DELETED
			Bioremediation (in situ) - bioventing						CHANGED TO
No information available.	No information available.	Treatment goals could not be met. The concentrations of dioxins were sufficiently high that solidification/ stabilization was not feasible. A ROD amendment was issued on 08/29/96.	Ex situ bioremediation was replaced with in situ bioremediation. Landfarming may be used; biomass culture was added to contaminated soil. ESD issued 3/27/98.	Soil was excavated and shipped off site.	Removed from proposed NPL listing.	The water table rose and is now too high for SVE to be effective. A pump-and-treat system currently is being used. No ROD amendment or ESD was issued.	Off-site incineration was specified as a contingent remedy but never was implemented.	The bottom half of the landfill is below the water table, and the landfill does not have a slurry wall to divert groundwater flow from it. Therefore, SVE technology could not be implemented. A series of 3 trenches collects leachate from the landfill.	COMMENTS
Richard Russell 415-744-2406	Richard Russell 415-744-2406	Charles Berrey 415-744-2223	Kathy Setian 415-744-2254 Beatriz Bofill 415-744-2235	Eugenia Chow 418-744-2258	Cynthia Wetmore 415-744-2234	Dennis Curran Smith Env. Tech. Corp. 415-960-1640 Eugenia Chow 415-744-2258	Paula Schmittdiel 303-312-6861	Dr. Dan Atkins (DoD) 801-775-2559 Rob Stites 303-312-6664	CONTACTS/PHONE

9	9	9	9	9	9	9	9	REGION
Southern California Edison, Visalia Pole Yard - Groundwa- ter OU, CA (06/10/94)	Southern California Edison, Visalia Pole Yard, CA (06/10/94)	Sacramento Army Depot, CA (01/17/95)	Roseville Drums, CA (03/03/88)	Raytheon, Mountain View, CA (06/09/89)	Purity Oil Sales, Inc., CA (09/26/89)	McColl, CA (06/30/93)	Mather AFB - Soil and Groundwater OU/Smaller UST Sites, CA	SITE NAME, STATE (ROD DATE)
Bioremediation (in situ) - groundwater	Bioremediation (in situ) - groundwater	Solidification/ stabilization	Bioremediation (in situ)	Mechanical soil aeration	Solidification/ stabilization	Solidification/ stabilization	Bioremediation (in situ)	TECHNOLOGY (LISTED IN 8TH EDITION)
								ADDED
Yes		Yes	Yes	Yes	Yes	Yes		9TH EDITION DELETED
	Thermally enhanced recovery		Bioremediation (in situ) - bioventing				Bioremediation (in situ) - bioventing	CHANGED TO
The remedy implemented was a contingency. Concentrations were too high. Bioremediation could not achieve cleanup levels in a realistic time frame.	The remedy was implemented as a contingency. The remedy is actually "dynamic underground stripping:" Treatment goals could not be met because concentrations were too high for bioremediation to work in a timely manner.	The 1995 ROD was a base-wide ROD. It reiterated the S/S remedy specified in the 3/29/93 ROD. It did not add another S/S project. Hence there is only one S/S project at SAD.	The technology was reclassified from bioremediation in situ to bioventing.	Soil was excavated and shipped off site for disposal.	The reason for deletion of the technology is unknown. An ESD was issued in 1995, and capping was performed at the site.	Technology had implementation problems. EPA selected the contingency remedy of RCRA-equivalent closure for the sump wastes. Pilot and full-scale treatability studies were conducted during 1994 and 1995 to determine the feasibility of solidification/stabilization.	The technology was reclassified from bioremediation in situ to bioventing.	COMMENTS
Richard Procunier 415-744-2219 Emmanuel Mensall (CADTSC) 916-255-3704	Richard Procunier 415-744-2219 Emmanuel Mensall (CADTSC) 916-255-3704	Marlon Mezquita 415-744-1499	Bradley Shipley 415-744-2287	Eugenia Chow 415-244-2258	Rosemarie Caraway 415-744-2231	Patti Collins 415-744-2229	Kathleen Salyer 415-744-2214 Terry Winsor (Montgomery Watson) 916-231-4430	CONTACTS/PHONE

SITE NAME, STATE (ROD DATE)	9 Valley Wood Preserving, Inc., CA (09/27/91)	10 FAA Northway Station, AK		10 FAA Strawberry Point Station,					
NATE CLISTED IN 8TH EDITION)	ing, Inc., Solidification/ stabilization	n, AK Bioremediation (in situ)	t Station, Bioremediation	(in situ)		ite, AK	ite, AK	ite, AK nental	ite, AK nental
OGY EDITION) ADDED									
9TH EDITION DELETED	Yes			Yes				₹ es	Yes .
CHANGED TO		Bioremediation (in situ) - groundwater	Bioremediation (in situ) - biosparging			Vitrification	Vitrification	Vitrification	Vitrification  Vitrification (in situ) - bioventing
COMMENTS	The estimated volume of contaminated media had decreased; the technology was no longer effective. A ROD amendment is to be issued in near future.	The technology was reclassified.	The technology was reclassified.	Non-invasive geophysical investigations indicated the presence of buried chemical agents. However, when excavation was				site.	stie.
CONTACTS/PHONE	Michelle Lau 415-744-2227	Daniel McKay 603-646-4738	Daniel McKay 603-646-4738	David Williams (USACE) 907-753-5657	Dianne Soderlund 907-271-3425	Dianne Soderlund 907-271-3425 Terrell Smith Lockheed Marietta GW Restoration Dept. 208-526-5692	Danne Soderlund 907-271-3425  Terrell Smith Lockheed Marietta GW Restoration Dept. 208-526-5692  Wayne Pierre 206-553-7261	Danne Soderlund 907-271-3425  Terrell Smith Lockheed Marietta GW Restoration Dept. 208-526-5692  Wayne Pierre 206-553-7261  Alan Goodman 503-326-3685	Dianne Soderlund 907-271-3425  Terrell Smith Lockheed Marietta GW Restoration Dept. 208-526-5692  Wayne Pierre 206-553-7261  Alan Goodman 503-326-3685  Brian McClure (ORDEQ) 541-298-7255  Alan Goodman 503-326-3685

	10	10	10	10	10	10	10	10	REGION
	Westem Processing Co., Inc Phase II, WA (09/25/85)	Western Processing Co., Inc Phase I, WA (08/05/84)	Westem Processing Co., Inc ESD, WA (12/11/95)	Western Processing Co., Inc., WA	Queen City Farms, WA (10/24/85)	Harbor Island (Lead), WA (09/30/93)	Commencement Bay, South Tacoma Field, WA (09/29/94)	Commencement Bay, South Tacoma Field, WA (09/29/94)	(ROD DATE)
- F C - F C	Solidification/ stabilization	Incineration (off site)	Bioremediation (in situ) - other	Thermal desorption	None	Incineration (off site)	In situ air stripping (air sparging)	Soil vapor extraction	(LISTED IN 8TH EDITION)
					Solidification/ Stabilization				ADDED
-	Yes	Yes	Yes	Yes		Yes	Yes	Yes	DELETED
									CHANGED TO
	The technology never was specified in the ROD as the preferred remedy and therefore never was used at the site. Flyash was added to the soil to absorb moisture for easy transportation. The soil was excavated and disposed of off site.	Contaminated soil was excavated and disposed of off site. Incineration was not required. The specified remedy in the ROD was off-site disposal or incineration, so no amendment or ESD was required.	Natural attenuation already was occurring at site. Bioremediation would not enhance the degradation of contaminants. An ESD will be issued to note the change.	Contaminated soil was excavated and transported off site to a landfill in Arlington, OR. The remedy was contingent and never implemented.	This remedy was not listed in the ASR.	Contaminated soil was disposed of at a hazardous waste disposal facility. The technology was a contingency in the ROD.	The plume smaller than had been estimated; contamination levels have decreased. Air sparging was never implemented, and no ROD amendment or ESD was issued.	The plume was smaller than had been estimated; contamination levels have decreased. SVE was discussed as an option but never implemented.	COMMENTS
	Lee Marshall 206-553-2723	Lee Marshall 206-553-2723	Lee Marshall 206-553-2723	Lee Marshall 206-553-2723	Neil Thompson 206-553-7177	Keith A. Rose 206-553-7721	Cami Grandinetti 206-553-8696	Cami Grandinetti 206-553-8696	CONTACTS/PHONE

# Eighth Edition (November 1996): Additions, Changes, and Deletions from the Seventh Edition (September 1995)

technologies at non-Superfund DoD and DOE sites, and two innovative treatment technologies selected for two RCRA corrective actions. Other changes are listed below. The eighth edition of this report added information about 38 innovative treatment technologies selected for remedial action under FY 1995 RODs and two treatment

	SITE NAME, STATE	TECHNOLOGY	8.	8TH EDITION			
REGION	(ROD DATE)	(LISTED IN 7TH EDITION)	ADDED	DELETED	CHANGED TO	COMMENTS	CONTACTS/PHONE
<u> </u>	New Bedford, MA (04/06/90)	Incineration (on site)		Yes		Remedy canceled because of community concerns. No alternative selected at this time.	David Dickerson 617-573-9632
_	Norwood PCBs, MA (09/29/89)	Solvent extraction		Yes		Remedy not implemented because of space constraints on-site, cost, and safety issues. New cleanup goals based on future land use and changes in risk assessment methodologies. Site will be capped instead. ROD Amendment issued on 5/17/96.	Bob Cianciarulo 617-573-5778
_	Wells G&H, MA (09/14/89)	Incineration (on site)			Incineration (off site)	Remedy changed to off-site incineration because of community concerns. Explanation of significant difference (ESD) signed 04/25/91.	Mary Garren 617-573-9613 Paula Fitzsimmons (MA) 617-223-5572
1	Wells G&H, OU1, MA (09/14/89)	Soil vapor extraction	Soil vapor extraction and in situ air sparging	Yes		Adding air sparging to existing SVE project to enhance pumpand-treat. Conducting SVE on a new area (New England Plastics). ESD to be issued.	Mary Garren 617-573-9613
_	Davis Liquid Waste, RI (09/29/87)	Incineration (on site)			Thermal desorption	Thermal desorption cheaper and more effective based on performance data. ESD signed on 7/19/96.	Neil Handler 617-543-9636
2	Brook Industrial Park, OU 1, NJ (09/30/94)	Incineration (on site)		Yes		Misinterpretation of ROD. Will conduct off-site incineration or disposal.	Donna Vizian 212-637-4295
2	De Rewal Chemical, NJ (09/29/89)	Incineration (on site)		Yes		Remedy changed to off-site disposal because more costeffective. Much less volume of contaminated material than originally projected.	Romona Pezzella 212-637-4385
2	Lipari Landfill, NJ (07/11/88)	Incineration (on site)			Thermal desorption*	ROD specified thermal treatment of marsh sediments. Thermal desorption was selected as the treatment.	Fred Cataneo 212-637-4428
2	Applied Environmental Services, OU 1, NY	Bioventing		Yes		Misinterpretation of ROD.	Maria Jon 212-637-3967
	(00/2#71)						Gerald Ridder (NY) 518-457-0927

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Whitmoyer Laboratories, OU 2, PA (12/17/90)	Sagertown Industrial, PA (01/29/93)	MW Manufacturing, PA (06/29/90)	Eastern Diversified Metals, PA (03/29/91)	Southern Maryland Wood Treating, MD (06/29/88)	Delaware Sand & Gravel, DE (04/22/88)	Sarney Farm, NY (09/27/90)	Love Canal, NY (10/1/87)	Circuitron Corporation, OU 1, NY (03/29/91)	SITE NAME, STATE (ROD DATE)
Incineration (on site)	Incineration (on site)	Incineration (on site)	Incineration (on site)	Incineration (on site)	Incineration (on site)	Incineration (on site)	Incineration (on site)	Soil vapor extraction	TECHNOLOGY (LISTED IN 7TH EDITION)
									ADDED
		Yes						Yes	DELETED DELETED
Incineration (off site)	Incineration (off site)		Incineration (off site)	Thermal desorption	Soil vapor extraction* and bioremediation (in situ)*	Thermal desorption*	Incineration (off site)		CHANGED TO
Remedy changed because the volume of wastes was less than originally projected. ESD signed on 12/28/94.	Remedy changed because of cost and faster treatment time. ESD signed on 03/09/95.	Pilot-scale trial burn could not achieve emission standards. Remedy to be determined; considering solidification/ stabilization at this time.	ROD specified on or off-site incineration. Off-site being conducted because of reduced amount of material to be treated.	Remedy changed to thermal desorption, because of cost and community concerns. ROD issued on 09/08/95.	Remedy was revised to address previously unrecognized site conditions. ROD amendment signed on 09/30/93. SVE subsequently changed to bioventing.	Misinterpretation of the ROD.	PRP was conducting on-site incineration at another site. Waste was transported to that site for incineration. ESD issued 11/96.	Further investigation indicated that VOCs were below action levels.	COMMENTS
Chris Corbet 215-566-3220	Steven Donohue 215-566-3215	Bhupi Khona 215-566-3213	Steven Donohue 215-566-3215	Stephanie Dehnhard 215-566-3234	Eric Newman 215-566-3237	Kevin Willis 212-637-4271	Damian Duda 212-637-4269 Doug Carbarini 212-637-4263	Miko Fayon 212-637-4250 Thomas Simmons (USACE) 816-426-2296	CONTACTS/PHONE

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Pam Scully 404-347-6246	Remedy changed because of community concerns and because the state would not concur with incineration. ROD amendment issued on 03/01/90.	Solidification/ stabilization*			Incineration (on site)	Zellwood Groundwater, FL (12/17/87)	4
Mark Fite 404-562-8927	Determined that pump-and-treat alone would be effective.		Yes		Surfactant flushing - groundwater	American Creosote Works, Inc., OU 2, FL (02/03/94)	4
Tim Woolheater 404-347-2643	Remedy changed because of cost.	Solidification/ stabilization	Yes		Incineration (on site)	Mowbray Engineering, AL (09/25/86)	4
Charles L. King, Jr. 404-562-8931	Treatability study showed percolation from precipitation was just as effective. Minimal benefit would be gained from flushing (in situ).		Yes		Flushing (in situ)	Ciba-Geigy (McIntosh Plant), OU 4, AL (07/14/92)	4
Charles L. King, Jr. 404-562-8931	Treatability study showed that incineration was more costeffective.	Incineration (on site)			Thermal desorption	Ciba-Geigy (McIntosh Plant), OU 4, AL (07/14/92)	4
Charles L. King, Jr. 404-562-8931	Treatability study showed percolation from precipitation was just as effective. Minimal benefit would be gained from flushing (in situ).		Yes		Flushing (in situ)	Ciba-Geigy (McIntosh Plant), OU 2, AL (09/30/91)	4
Charles L. King, Jr. 404-562-8931	Treatability study showed that incineration was more costeffective.	Incineration (on site)*			Thermal desorption	Ciba-Geigy (McIntosh Plant), OU 2, AL (09/30/91)	4
Melissa Whittington 215-566-3235	Remedy changed because of community concerns. ROD amended in 1/89.	Bioremediation (ex situ)*	Yes		Incineration (on site)	Ordnance Works Disposal, WV (03/31/88)	ω
Andrew Palestini 215-597-1286	Remedy changed to off-site incineration due to implementability, short-term effectiveness, and cost. ROD Amendment issued on 9/27/96.	Incineration (off site)			Dechlorination and Thermal desorption	Saunders Supply Co., 0U 1, VA (09/30/91)	ω
Andrew Palestini 215-597-1286	Groundwater modeling indicated that there would be no further groundwater contamination if source soils were left in place. Site will be capped. ROD amendment issued on 8/27/96.		Yes		Thermal desorption	Rentokil, VA (06/22/93)	ω
CONTACTS/PHONE	COMMENTS	CHANGED TO	DELETED DELETED	ADDED	TECHNOLOGY (LISTED IN 7TH EDITION)	SITE NAME, STATE (ROD DATE)	REGION

	SITE NAME, STATE	TECHNOLOGY		8TH EDITION			
REGION	(ROD DATE)	(LISTED IN 7TH EDITION)	ADDED	DELETED	CHANGED TO	COMMENTS	CONTACTS/PHONE
4	Mathis Brothers Landfill (South Marble Top Road), GA (03/24/93)	Incineration (on site)			Incineration (off-site) and bioremediation (ex-situ)*	Remedy changed because of community concerns, cost-effectiveness, and decreased waste volume from original ROD. Bioremediation will treat dicamba wastes. Incineration (off site) will treat all other wastes.	Charles L. King.Jr. 404-562-8931
4	Smith's Farm Brooks, KY (09/29/89)	Incineration (on site)			Dechlorination*, thermal desorp- tion* and, Solidification/ stabilization*	Remedy changed because of community concerns.  Amended remedy is dechlorination and thermal desorption followed by solidification/stabilization. ROD amendment issued on 09/30/91.	Antonio DeAngelo 404-562-8826
4	Aberdeen Pesticide Dump Fairway, NC (06/30/89)	Incineration (on site)			Thermal desorption *	Remedy changed because of community concerns, cost, and a preference for using an innovative technology. ROD amendment signed on 09/30/91.	Kay Crane 404-562-8795 Randy McElveen (NC) 919-733-2801
4	Cape Fear Wood Preserving, NC (06/30/89)	Bioremediation (ex situ) - slurry-phase		Yes		Original remedy called for soil washing followed by slurry-phase bioremediation of fines, based on an 80% reduction in volume of contaminated soil achieved by soil washing. Soil washing bidders claimed a 96% reduction in volume of contaminated soil, thus making slurry-phase bioremediation too costly for the 0.4% of contaminated fines remaining.	Jon Bornholm 404-562-8820
4	Geiger/C&M Oil, SC (06/01/87)	Incineration (on site)			Solidification/ stabilization*	Further investigation found that organics were not present at their previous levels. ROD amendment issued 07/13/93.	Sherry Panabaker 404-562-8810
4	Para-Chem Southern, Inc., SC (09/27/93)	Bioremediation (ex situ) - slurry-phase		Yes		Remedy canceled because of concerns about feasibility, performance, and treatment time. Will excavate and dispose off-site.	Judy Canova 803-896-4046
4	American Creosote Works (Jackson Plant), TN (01/05/89)	Incineration (on site)		Yes		Action completed as a removal by excavating and disposing off site. ESD issued in 1992.	Femi Akindale 404-347-7791
Oī	Acme Solvent Reclaiming, IL (09/27/85)	Incineration (on site)		Yes		PRPs excavated and disposed of soil off-site.	Deborah Orr 312-886-7576
<b>5</b> 1	Fort Wayne Reduction, IN (08/26/88)	Incineration (on site)			Incineration (off site)	Remedy changed to ROD contingency off-site incineration because of community concerns, cost, and implementability.	Fred Mickey 312-886-5123

Tom Alcamo 312-886-7278	1990 ROD amendment specified thermal destruction. Thermal desorption selected as the thermal destruction technology.	Thermal desorption*			Incineration (on site)	Pristine, OH (03/30/90) (Amendment)	ъ
Tom Alcamo 312-886-7278	Misinterpretation of ROD specified in situ vitrification. This remedy was changed to SVE and thermal destruction. Thermal desorption was selected as the thermal destruction technology. ROD amendment issued on 03/30/90. (see below)	Soil vapor extraction* and thermal destruction*			Incineration (on site)	Pristine, OH (12/31/87)	О
Ed Hanlon 312-353-9228	Remedy changed because of cost, community concerns, and reduced concentration. ESD issued on 8/15/97.	Incineration (off site)			Incineration (on site)	Fields Brook, OH (09/30/86)	Oī
Ramon Torres 312-886-3010	Misinterpretation of ROD. Remedy now being reconsidered. Capping is a contingency.	Incineration (off site)			Incineration (on site)	Ritari Post and Pole, OU 1, MN (06/30/94)	OI
Edwin Smith 312-353-6571	Remedy was changed to solvent extraction because of costeffectiveness and short-term effectiveness. ROD amendment signed on 02/09/94.	Solvent extraction*			Incineration (on site)	Arrowhead Refinery Co., MN (09/30/86)	ОЛ
Jim Hahnenberg 312-353-4213	Added to enhance SVE system.			Air sparging	Soil vapor extraction	Thermo-Chem, Inc., OU 1, MI (09/30/91)	Ŋ
Kashual Khanna 312-353-2663	Remedy canceled because of community concerns. ROD amendment projected to be issued in Fall 1996. Remedy to be determined.		Yes		Incineration (on site)	Springfield Township Dump, MI (09/29/90)	O
John Fagiolo 312-886-0800	The state revised the cleanup goals. Consequently, the amount of soils requiring remediation was reduced. Also shallow groundwater present at the site would continue to contaminate clean backfilled soil. Cost was also a factor. No alternative remedy has been selected at this time.		Yes		Thermal desorption	Ott/Story/Cordova Chemical, Ml (09/27/93)	OI
Beth Reiner 312-886-6337	Original ROD specified either on-site or off-site incineration as the remedy. ESD signed on 05/04/93.	Incineration (off site)			Incineration (on site)	Forest Waste Products, MI (03/31/88)	5
John Fagiolo 312-886-0800	Remedy changed from on-site incineration to disposal in an on- site landfill because of cost. Volume of material to be treated much greater than expected. ROD amendment signed on 07/22/ 92. Now proposing containment via slurry wall because of cost.		Yes		Incineration (on site)	Bofors Nobel, MI (09/17/90)	ഗ
Bernard Schorle 312-886-4746	Remedy changed because of cost. Soil vapor extraction will treat larger area than soil flushing remedy that was completed in 1994. Soil flushing removed most of the heavier contaminants. ROD amendment signed on 9/13/94.	Soil vapor extraction			Incineration (on site)	Ninth Avenue Dump, IN (06/30/89)	Oī
CONTACTS/PHONE	COMMENTS	CHANGED TO	DELETED DELETED	ADDED	TECHNOLOGY (LISTED IN 7TH EDITION)	SITE NAME, STATE (ROD DATE)	REGION

	SITE NAME, STATE	TECHNOLOGY		8TH EDITION			
REGION	(ROD DATE)	(LISTED IN 7TH EDITION)	ADDED	DELETED	CHANGED TO	COMMENTS	CONTACTS/PHONE
5	Skinner Landfill OU 2, OH (06/04/93)	Soil vapor extraction		Yes		Further investigation through a feasibility study indicated that the site conditions would not be amenable to SVE. Will cap instead.	Jamey Bell 312-886-6436
OI	Van Dale Junkyard, OH (03/31/94)	Bioremediation (in situ) - other		Yes		Predesign sampling indicated that contaminant levels had decreased. No active bioremediation is occurring. The site will be capped and will rely on natural attenuation with monitoring.	Lawrence Schmitt 312-353-6565 James Campbell 412-351-6132
ΟΊ	Zanesville Well Field, OH (09/30/91)	Soil vapor extraction	Air sparging			Implemented by PRPs to accelerate groundwater remediation.	Dave Wilson 312-886-1476
ОЛ	Zanesville Well Field, OH (09/30/91)	Soil washing		Yes		Will excavate and dispose off-site because soil volume was much smaller that originally projected.	Dave Wilson 312-886-1476
ഗ	City Disposal Corporation Landfill, WI (09/28/92)	Soil vapor extraction		Yes		Rise in groundwater table prevented implementation of SVE. Remedy changed to capping with gas collection.	Russ Hart 312-886-4844 Mike Schmoller (WI) 608-275-3303
Ŋ	Hagen Farm, Groundwater Control OU, WI (09/30/92)	Bioremediation (in situ) - groundwater		Yes		Treatability studies indicated that bioenhancement would not provide any additional benefit. Relying on natural attenuation. Explanation of Significant Differences (ESD) signed on 08/27/96.	Steve Padovani 312-353-6755
6	Vertac, AR (09/27/90)	Incineration (on site)		Yes		Incinerator would not function properly. Community preferred landfilling and was cheaper. ROD amendment issued 9/17/96.	Phillip Allen 214-665-8516
6	Gulf Coast Vacuum Services, OU 1, LA (09/30/92)	Incineration (on site)			Bioremediation (ex situ)- land treatment	Agreement between PRPs and EPA to meet the treatment standards using bioremediation.	Kathleen Aisling 214-665-8509
6	MOTCO, TX (03/15/85)	Incineration (on site)			Incineration (off site)	Remedy changed because of contractor problems and cost. ESD has been issued.	Mary Ann Abramson 214-665-6754
6	Petro-Chemical Systems, Inc. OU 2, TX (09/06/91)	Air sparging			Bioremediation (in situ)- groundwater	Bioremediation thought to be more effective.	Chris Villarreal 214-665-6758

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Idaho Pole Company, MT (09/28/92)	Lockheed/Martin (Denver Aerospace), CO (Remedial Action) (09/24/90)	Broderick Wood Projects, CO (06/30/88)	Valley Park TCE Site, Wainwright OU, MO (09/24/94)	Valley Park TCE Site, Wainwright OU, MO (09/29/94)	Sherwood Medical, NE (09/28/93)	Hastings Groundwater Contamination (East Industrial), NE (09/28/90)	People's Natural Gas, IA (06/16/91)	SITE NAME, STATE (ROD DATE)
Flushing (in situ)	Soil vapor extraction and thermal desorption	Incineration (on site)	Thermal desorption	In situ air stripping	Thermal desorption	Incineration (on site)	Bioremediation (in situ) - other	TECHNOLOGY (LISTED IN 7TH EDITION)
							Air sparging	ADDED
	Listing as a Superfund remedial action has been deleted.	Yes		Yes				8TH EDITION DELETED
Bioremediation (ex situ) - land treatment*		Incineration (off site)*	Soil vapor extraction (ex situ)*		Soil vapor extraction (ex situ)	Incineration (off site)		CHANGED TO
Further investigation indicated flushing (in situ) would not be effective. Soils were excavated and will be treated as part of the land treatment remedy. ESD issued on 05/21/96.	Remedial action being handled as a RCRA corrective action.	Remedy canceled based on new technical data and cost. Will excavate and recycle and incinerate off-site. ROD amendment signed on 09/24/91.	Soil vapor extraction (ex situ) more cost-effective. ESD issued on 04/02/96.	Air sparging would be difficult to implement and nearby residences might be adversely affected. Will do pump-and-treat instead. ESD issued on 04/02/96.	Soil vapor extraction (ex situ) will be more cost-effective. ESD issued 09/05/95.	Remedy changed because volume of soil was less than originally projected. More cost-effective to incinerate off-site. ROD amendment issued 02/28/95.		COMMENTS
Jim Harris 406-441-1150	George Dancik 303-312-6935 Charles Johnson (CO) 303-692-3348	Armando Saenz 303-312-6559	Steve Auchterlonie 913-551-7778 Dave Mosby (MO) 573-751-1288	Steve Auchterlonie 913-551-7778 Dave Mosby (MO) 573-751-1288	Steve Auchterlonie 913-551-7778	Ron King 913-551-7063	Diana Engeman 913-551-7797	CONTACTS/PHONE

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Middlefield-Ellis-Whisman (MEW) - Siemins/Sobrato (455 & 487 Middlefield Road), CA (06/30/93)	Koppers Company, Inc. (Oroville Plant), CA (09/13/89)	Koppers Company, Inc. (Oroville Plant), CA (09/13/89)	Intel Mountain View (355 Middlefield Road), CA (06/09/89)	Hexcel, CA (09/21/93)	Seal Beach Navy Weapons Station, IR Site 14, CA (DoD Action)	Motorola 52nd Street, AZ (09/30/88)	Summitville Mine, OU 1, CO (12/15/94)	SITE NAME, STATE (ROD DATE)
Soil vapor extraction	Bioremediation (in situ) - other	Soil washing	Soil vapor extraction	Air sparging, bioremediation (in situ) - groundwater, soil vapor extraction	Soil vapor extraction	Soil vapor extraction	This is a FY 1995 ROD and was not listed in the seventh edition. The FY 1995 ROD specified bioremediation (in situ)	TECHNOLOGY (LISTED IN 7TH EDITION)
Air sparging						Air sparging		ADDED
	Yes	Yes	Yes	Yes	Yes		Yes	BTH EDITION
								CHANGED TO
	Presence of metals and dioxins made bioremediation infeasible, and land use scenario changed. Soil will be disposed of in a landfill with the potential for two percent of the most contaminated soil treated by solidification/stabilization. ROD amendment issued on 8/29/96.	Further analysis determined soil washing would be ineffective, more dioxins discovered and land use scenario changed. Soil will be disposed of in a landfill with the potential for two percent of the most contaminated soil treated through solidification/stabilization. ROD amendment issued on 8/29/96.	Groundwater table rose, leaving too little unsaturated soil to warrant SVE. Soils were excavated and aerated.	Hexcel was removed from the National Priorities List (NPL) on November 1, 1993.	Research project, not a full-scale cleanup.		When heap leach pad rinsed with water, cyanide concentrations were reduced and bioremediation was not necessary. ESD issued on 6/4/97.	COMMENTS
Elizabeth Adams 415-744-2235	Fred Schauffler 415-744-2359	Fred Schauffler 415-744-2359	Elizabeth Adams 415-744-2235 Michael Maley 510-450-6159	Mark Johnson 510-286-0305	Ken Reynolds 619-532-2912	Fred Schauffler 415-744-2359 Mana Font 602-207-4194	James Hanley 303-312-6725 Victor Ketellepepper 303-312-6578	CONTACTS/PHONE

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USDOE Hanford 100 Area, OUs 100-BC-1, 100-DR-1, 100- HR-1, WA (9/27/95)	Idaho National Engineering Laboratory, Pit 9 (OU7-10), ID (09/23/93)	Eielson AFB, OUs 3, 4, and 5, AK (9/22/95)	Van Waters and Rogers, CA (09/30/91)	SITE NAME, STATE (ROD DATE)	
This is a FY95 ROD that was not listed in the seventh edition. The FY95 ROD specified thermal desorption for soil contaminated with organic compounds	Solvent extraction	This is a FY 1995 ROD and was not listed in the seventh edition. The FY 1995 ROD specified bioventing and soil vapor extraction.	Soil vapor extraction	(LISTED IN 7TH EDITION)	H10000
	Vitrification			ADDED	
Yes		Yes	Yes	DELETED	NOLLIUS HLS
				CHANGED TO	
Remedy changed to on-site disposal because further investigation did not indicate that organics were present.	Misinterpretation of the ROD.	Remedy changed to institutional controls because there was not enough contamination present to warrant active remediation. Groundwater also was contained, preventing risk due to groundwater.	Site was proposed for listing on the NPL but has been removed. Responsibility was picked up under RCRA and subsequently dropped from RCRA authority.	COMMENTS	
Doug Sherwood 509-376-9529 Audrey Dove 509-376-6865	Mary Jane Nearman 206-553-6642	Mary Jane Nearman 206-553-6642	Belinda Wei 415-744-2280 Duazo Ricco 510-268-0837	CONTACTS/PHONE	

# Seventh Edition (September 1995): Additions, Changes, and Deletions from the Sixth Edition (September 1994)

treatment technologies selected for seven RCRA corrective actions. The seventh edition of this report added information about 42 innovative treatment technologies selected for remedial action under FY 1994 RODs and eight innovative

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Carter Industries, MI (09/18/91)	Helena Chemical, SC (09/08/93)	Brown's Battery Breaking Site, OU 2, PA (07/02/92)	Bendix, PA (09/30/88)	Pasley Solvents and Chemicals, Inc., NY (04/24/92)	General Motors Central Foundry Division (OU 1 and OU 2), NY (12/17/90) & (03/31/92)	GCL Tie and Treating, NY (Removal Action)	American Thermostat, NY (06/29/90)	Linemaster Switch Corporation, CT (07/21/93)	SITE NAME, STATE (ROD DATE)
Thermal desorption	Bioremediation (ex situ) and dechlorination	Fuming gasification	Soil vapor extraction	Flushing (in situ) and soil vapor extraction	Bioremediation (ex situ) - slurry-phase	Bioremediation (ex situ) - Composting	Thermal desorption	Soil vapor extraction	TECHNOLOGY (LISTED IN 6TH EDITION)
				Air sparging			Thermal desorption (phase 2)		ADDED 7
Yes	Yes								7TH EDITION DELETED
	Incineration (off site)	Plasma high- temperature metals recovery	Mechanical aeration	Soil vapor extraction and air sparging	Thermal desorption	Thermal desorption (being implemented as a remedial action with the ROD signed 09/30/94)		Dual-phase extraction	CHANGED TO
Thermal desorption was too costly (approximately \$300 per cu yd). It is less expensive to dispose of the wastes at TSCA landfill (approximately \$186 per Ton).	Technologies could not meet cleanup goal.	The name of the technology was changed to reflect the treatment process more accurately.	It was determined that SVE was not a viable remedy; soil was too tightly compacted. No alternative has been selected. ESD issued on 11/22/95.	SVE, in combination with air sparging, will eliminate the need for soil flushing. ROD amendment was signed 05/22/95.	Both OUs were combined under the thermal desorption remedy. ROD amended to combine both OUs under a thermal desorption remedy.	Site is not amenable to composting because of the presence of long-chain PAHs and the time constraints of the removal process. A treatability study achieved over 90% reduction but little degradation of long chain carcinogenic hydrocarbons occurred.	Project is being conducted in two phases. Phase 1 has been completed and is listed as a separate project.	Groundwater also is being treated with this technology.	COMMENTS
Jon Peterson 312-353-1264	Bernie Hayes 404-562-8822	Richard Watman 215-566-3219	Jim Harper 215-597-6906	Sherrel Henry 212-637-4273	Lisa Jackson 212-637-4274	Joe Cosentino 908-906-6983	Christo Tsiamis 212-637-4257	Elise Jakabhazy 617-573-5760	CONTACTS/PHONE

### Seventh Edition (September 1995) (Continued)

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Ron Bertran 406-449-5720	Reducing chromium VI to chromium III not considered innovative.		Yes		Chemical treatment	Mouat Industries, MT (Removal Action)	8
Armando Saenz 303-312-6559	Air sparging was added under the existing ROD to treat groundwater.			Air sparging	Soil vapor extraction	Chemical Sales Company (OU 1), CO (06/27/91)	8
Ursula Lennox 214-665-6743	Flushing (in situ) was never intended as a treatment at the site. Misinterpretation of the ROD during ROD analysis.		Yes		Flushing (in situ)	Koppers/Texarkana, TX (09/23/88)	6
Ursula Lennox 214-665-6743	Volume of soil was not as large as originally had been projected. The small volume did not warrant bringing a soil washing unit on-site. Will excavate and dispose of soil offsite.		Yes		Soil washing	Koppers/Texarkana, TX (09/23/88)	6
Duane Heaton 312-886-6399	Air sparging was added under the existing ROD to treat groundwater.			Air sparging	Soil vapor extraction	Wayne Reclamation and Recycling, IN (03/30/90)	ഗ
Janice Bartlett 312-886-5438	Conducting soil vapor extraction at two separate sites under this ROD: Annex area and Paint shop area. Projects are listed as separate entries in the ASR seventh edition.			Soil vapor extraction	Soil vapor extraction	Verona Well Field OU 2, MI (06/28/91)	OI
Jeff Gore 312-886-6552	Bioremediation of groundwater was not actively pursued. Contamination degraded through natural attenuation.		Yes		Bioremediation (in situ groundwater)	Seymour Recycling, IN (09/30/86)	5
Michael Gifford 312-886-7257	Remedy was canceled. Conditions at the site had changed since 1989. Project was implemented as a time critical removal action.		Yes		Vitrification (in situ)	Ionia City Landfill, MI (09/29/89)	5
Eugenia Chow 312-353-3156	Technology actually is a combination of SVE and air sparging called the Subsurface Volatilization and Ventilation System $^{\text{TM}}$ .			Air sparging	Soil vapor extraction	Electro-Voice, OU 1, MI (06/23/92)	ഗ
Ken Glatz 312-886-1434	Remedy could not reduce concentrations of benzo(a) pyrene to acceptable level. Contaminated soil was excavated and placed in a permitted landfill.		Yes		Bioremediation (ex situ)	Cliffs/Dow Dump, MI (09/27/89)	ഗ
CONTACTS/PHONE	COMMENTS	CHANGED TO	7TH EDITION DELETED	ADDED	TECHNOLOGY (LISTED IN 6TH EDITION)	SITE NAME, STATE (ROD DATE)	REGION

### Seventh Edition (September 1995) (Continued)

TECHNOLOGY (LISTED IN 6TH EDITION)         7TH EDITION         CHANGED TO         COMMENTS           Soil vapor extraction         Soil vapor extraction extraction         Soil vapor extraction extraction         Site is divided into 2 areas: North area & South area & South area is listed as an individual project in the seventh edition ASR.           Two listings for soil vapor vapor extraction extraction         Three more soil vapor extraction projects         Soil vapor extraction systems are being implemented at 5 different areas at the site.           Soil vapor extraction areas using soil vapor extraction areas using soil vapor extraction areas of, 7, 8, and 12, at the site. Each site is considered as an individual project.	9 Intersil, CA (09/27/90)  9 Solvent Service, CA Soil vapor extraction (09/27/93)
DELETED CHANGED TO  Site is di area is 1 ASR.  Soil vap different individua  Site rene	Soil vapor extraction
CHANGED TO  Site is di area is I ASR.  Soil vap different suraeas 6, individui  Site rena	
Site is di area is I ASR.  Soil vap different different individua individua Site rene Site rene RCRA c	
ap ent s di s d	
	Remedy was not implemented because of the following

### Seventh Edition (September 1995) (Continued)

Naval Submarine Base, Bangor Sile A, Ou 1, WA (12/10/91)  Union Pacific Railroad Sludge Flushing (in situ)  Port Lewis Military Res. Landfill 4 and Solvent Refined Coal Plant, WA (19/24/93)  Eleison Air Force Base, AK (19/24/93)  Eleison Air Force Base	DECION	SITE NAME, STATE	TECHNOLOGY	ADDED 7	7TH EDITION	CHANGED TO	COMMENTS
Naval Submarine Base, Bangor Sile A, OU 1, WA (12/10/91)  Union Pacific Railroad Sludge Pit, ID (09/10/91)  Fort Lewis Military Res. Landfill 4 and Solvent Refined Coal Plant, WA (09/24/93)  Eleison Air Force Base, AK (9/29/92)  Bioremediation (in situ)- bioventing and soil vapor extraction  Flushing (in situ) Yes Thermal desorption Soil vapor extraction	VEGICIA	(אסט טאוב)	(FISTED IN OTH EDITION)	ADDED	טבנבובט	CHANGED TO	COMMENIA
Union Pacific Railroad Sludge Flushing (in situ)  Pit, ID (09/10/91)  Fort Lewis Military Res. Landfill 4 and Solvent Refined Coal Plant, WA (09/24/93)  Eielson Air Force Base, AK Bioremediation (in situ)- bioventing and soil vapor extraction  Yes  Thermal desorption Soil vapor extraction	10	Naval Submarine Base, Bangor Site A, OU 1, WA	Soil washing			Flushing (in situ)	Will excavate and place soil in a lined pit. Soil will be sprawith water and leachate and will be collected and treated.
Union Pacific Railroad Sludge Plushing (in situ)  Pit, ID (09/10/91)  Fort Lewis Military Res. Landfill 4 and Solvent Refined Coal Plant, WA (09/24/93)  Eielson Air Force Base, AK (9/29/92)  Eielson Air Force Base, AK (9/29/92)  Soil washing Thermal desorption (in situ)-bioventing and soil vapor extraction		(12/10/91)					
Union Pacific Railroad Sludge Plushing (in situ)  Pit, ID (09/10/91)  Fort Lewis Military Res. Landfill 4 and Solvent Refined Coal Plant, WA (09/24/93)  Eielson Air Force Base, AK (9/29/92)  Eielson Air Solventing and soil vapor extraction  Eielson Air Force Base, AK (9/29/92)							
Fort Lewis Military Res. Landfill 4 and Solvent Refined Coal Plant, WA (09/24/93)  Eielson Air Force Base, AK (9/29/92)  Eielson Air Solventing and soil vapor extraction  Soil vapor extraction	10	Union Pacific Railroad Sludge Pit, ID	Flushing (in situ)		Yes		Remedy was not implemented. Excavation of sludge did not indicate that contaminants were present. Amended ROD was 1004. Will execute and troot off site in addition to a
Fort Lewis Military Res. Landfill 4 and Solvent Refined Coal Plant, WA (09/24/93)  Eielson Air Force Base, AK (9/29/92)  Eielson Air Force Base, AK extraction  Soil vapor extraction		(07110171)					pump-and-treat operation.
Eielson Air Force Base, AK  (9/29/92)  Bioremediation (in situ)- bioventing and soil vapor extraction  extraction	10	Fort Lewis Military Res. Landfill 4 and Solvent Refined Coal Plant, WA (09/24/93)	Soil washing			Thermal desorption	ROD specified soil washing or thermal desorption as the remedy. Thermal desorption was selected based on the results of a treatability study.
	10	Eielson Air Force Base, AK (9/29/92)	Bioremediaiton (in situ)- bioventing and soil vapor		Soil vapor extraction		Soil vapor extraction written into ROD as a contingency.
			CAU DOUBLE				

# Sixth Edition (September 1994): Additions, Changes, and Deletions from the Fifth Edition (September 1993)

listed below. The sixth edition of this report added information about 53 innovative treatment technologies selected for remedial action under FY 1993 RODs. Other changes are

REGION SI	1 Union Chemic ME (12/27/90)		1 Tibbetts R (09/29/92)		2 Ewan Proj (09/29/88)	2 Naval Air F OU 7, Intel		2 Solvent Sa (09/28/90)	3 U.S. Titanii (11/21/89)		-
SITE NAME, STATE (ROD DATE)	Union Chemical Co., OU 1, ME (12/27/90)		Tibbetts Road, NH (09/29/92)		Ewan Property, OU 2, NJ (09/29/88)	Naval Air Engineering Center, OU 7, Interim Action, NJ	, i	Solvent Savers, NY (09/28/90)	U.S. Titanium, VA (11/21/89)		L.A. Clarke & Sons, OU 1 (Soils) VA
TECHNOLOGY (LISTED IN 5TH EDITION)	Thermal desorption (In situ)		Flushing (in situ)		Soil washing and solvent extraction	Flushing (in situ)		Soil vapor extraction	Flushing (in situ)		Bioremediation
ADDED											
OELETED DELETED			Yes		Yes	Yes		Yes			Yes
CHANGED TO	Soil vapor extraction								Neutralization with lime (ex situ)	(ev sim)	
COMMENTS	It was determined that SVE would be the more cost-effective of the two. ESD was signed April 1994.		Misinterpretation of ROD during ROD analysis. Soil was not targeted for treatment.		Reevaluation of site found significantly less contaminated soil than originally had been estimated. Soil will be disposed of off-site. ESD was signed July 1994.	Misinterpretation of the ROD during ROD analysis.		Soil vapor extraction is a secondary remedy that may be used instead of thermal desorption, the primary remedy, if treatability studies show it to be effective.	Treatability studies indicated that the technology was not feasible. ESD is under preparation.		Facility is no longer in operation, and excavation can be done.
CONTACTS/PHONE	Terry Connelly 617-573-9638	Christopher Rushton (ME DEP) 207-287-2651	Darryl Luce 617-573-5767	Mike Robinette (NH) 603-271-2014	Kim O'Connell 212-637-4399	Jeff Gratz 212-637-4320	Robert Wing 212-264-8670	Lisa Wong 212-637-4267	Vance Evans 215-597-8485	Jeff Howard (VA) 804-762-4203	Andy Palestini

#### Sixth Edition (September 1994)(continued)

Б	Ŋ	4	4	4	4	4	3	ω	သ	REGION
Allied Chem & Ironton Coke, OU 2, OH (12/28/90)	South Andover Salvage Yard, OU 2, MN (12/24/91)	Arlington Blending & Packaging Co., OU 1, TN (06/28/91)	Palmetto Wood Preserving, SC (09/30/87)	Charles Macon Lagoon, Lagoon #10, NC (09/31/91)	Benfield Industries, NC (07/31/92)	Cabot Carbon/Koppers (Groundwater), FL (09/27/90)	Henderson Road, PA (06/30/88)	L.A. Clarke & Sons, Lagoon Sludge OU, VA (03/31/88)	L.A. Clarke & Sons, OU 1 (Soils), VA (03/31/88)	SITE NAME, STATE (ROD DATE)
Bioremediation (in situ)	Bioremediation (ex situ)	Dechlorination	Chemical treatment	Bioremediation (ex situ)	Soil washing and bioremediation (ex situ) (slurry-phase)	Bioremediation (in situ) - groundwater	Soil vapor extraction	Bioremediation (ex situ)	Flushing (in situ)	TECHNOLOGY (LISTED IN 5TH EDITION)
Bioremediation (ex situ) (magneti- cally enhanced land farming)										ADDED 6
	Yes	Yes	Yes	Yes		Yes	Yes		Yes	OELETED
	Thermal treatment				Bioremediation (ex situ) - land treatment			Reuse off-site as fuel		CHANGED TO
Adding technology to treat more highly contaminated soil. ROD Amendment issued on 9/4/97.	Technology changed to off-site thermal treatment (either thermal desorption or incineration) because of reduced volume of contamination found during RD investigations. ROD amendment was signed 5/31/94.	Another disposal method is likely to be used.	Waste will be disposed of more cost-effectively off-site.	Treatability study indicated that the technology could not treat the contaminants of concern because of materials problems. Will excavate and dispose of wastes off-site. ROD amendment was signed in 3/94.	Land treatment was determined to be a more cost-effective technology.	Groundwater is not being treated; only soil is being treated.	Conducted air injection only to facilitate pump-and-treat system. Vapors were not extracted. Further investigation revealed that the vadose zone was not an area of concern.	Technology changed because of uncertainty about the ability of bioremediation to reach treatment goals. ESD was signed on 3/94.	Facility is no longer in operation, and remedies being considered include thermal desorption.	COMMENTS
Tom Alcamo 312-886-7278	Bruce Sypniewski 312-886-6189	Derek Matory 404-562-8800	Al Cherry 404-342-7791	Geizelle Bennett 404-562-8824 David Lown (NC) 919-733-2801	Jon Bornholm 404-562-8820	Patsy Goldberg 404-562-8543	Joe McDowell 215-566-3192	Andy Palestini 215-597-1286	Andy Palestini 215-597-1286	CONTACTS/PHONE

#### Sixth Edition (September 1994)(continued)

ω	∞	6	6	6	6	6	OI	ഗ	S	REGION
Portland Cement Co. (Kiln Dust No. 2 and No. 3) OU2, UT (03/31/92)	Rocky Mountain Arsenal, M-1 Basins (OU 16), CO (02/26/90)	Tinker AFB (Soldier Creek Bldg. 3001), OK (08/16/90)	South Valley, NM (09/30/88)	Holloman AFB, Main POL Area, NM	Holloman AFB, Main POL Area, NM	Fruitland Drum, NM (09/08/90)	MacGillis and Gibbs Co./Bell Lumber and Pole Co., MN (12/31/92)	United Scrap Lead/SIA, OH (09/30/88)	Allied Chem & Ironton Coke, OU 2, OH (12/28/90)	SITE NAME, STATE (ROD DATE)
Chemical treatment	In situ vitrification	Soil vapor extraction	Soil vapor extraction	Air sparging	Bioremediation (in situ) - groundwater	Dechlorination	Soil washing and bioremediation (ex situ) of fines	Soil washing	Bioremediation (in situ)	TECHNOLOGY (LISTED IN 5TH EDITION)
										ADDED
Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	DELETED
						Incineration (off site)	Incineration (on site)			CHANGED TO
Technology is not considered innovative.	Remedy has been canceled because of problems with the contractor. New ROD is being negotiated.	Determined that SVE was not viable. No alternative has been selected.	Determined there was insignificant concentration to warrant remediation. No further action.	Groundwater remediation is not planned for this area.	Groundwater remediation is not planned for this area.	Dechlorination is not being pursued because of cost considerations.	Incineration was contingency remedy in ROD. State had concerns about effective means of soil washing, and cost of incineration has decreased. ESD will be signed in fall 1994.	Determined to be too expensive. Soil disposed off-site if lead levels above 1,550 ppm; containment of soil below this level. ROD amendment issued on 6/27/97.	Adding technology to treat more highly contaminated soil. ROD Amendment issued on 9/4/97.	COMMENTS
Mike McCeney 303-293-1526	Connally Mears 303-293-1528	Susan Webster 214-655-6784 Major Richard Ashworth (USAF) 405-734-3058	Bert Gorrod 214-655-6779	Ron Stirling (USACE) 402-221-7664	Ron Stirling (USACE) 402-221-7664	Gregory Fife 214-655-6773	Daryl Owens 312-886-7089	Anita Boseman 312-886-6941 Timothy Hull (OH) 513-285-6357	Tom Alcamo 312-886-7278	CONTACTS/PHONE

#### Sixth Edition (September 1994)(continued)

### Fifth Edition (September 1993): Additions, Changes, and Deletions from the Fourth Edition (October 1992)

treatment technologies used in removal actions. Other changes are listed below. The fifth edition of this report added information about 49 innovative treatment technologies selected for remedial action under FY 1992 RODs and 15 innovative

4	4		ω	2	2	2	2	1	_	REGION	
American Creosote Works, FL (09/28/89)	Smith's Farm Brooks, KY (09/30/91)	(Non-Superfund project)	Tobyhanna Army Depot, PA	Caldwell Trucking, NJ (09/25/86)	Naval Air Engineering Center, OU 4, NJ (09/30/91)	Naval Air Engineering Center, OU 2, NJ (02/04/91)	Naval Air Engineering Center, OU 1, NJ (02/04/91)	Pinette's Salvage Yard, ME (05/30/89)	Re-Solve, MA (09/24/87)	(ROD DATE)	SITE NAME STATE
Soil washing	Dechlorination		Bioremediation (in situ)	Thermal desorption	Flushing (in situ)	Flushing (in situ)	Flushing (in situ)	Solvent extraction	Dechlorination	(LISTED IN 4TH EDITION)	TECHNOLOGY
	Thermal desorption									ADDED	(T
Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	DELETED	5TH EDITION
										CHANGED TO	
Bench-scale study of soil washing showed that the concentrations of carcinogenic PAHs were not reduced adequately.  Dioxins also were discovered at much higher concentrations.	Will alter chemistry to achieve dechlorination during thermal desorption.		Will conduct ex situ passive volatilization.	Thermal desorption is not necessary because highly contaminated soil will be incinerated off-site. Remainder of soil will be stabilized. ESD issued.	Remedy involves pump-and-treat system, with on-site discharge. Soil is not being targeted.	Remedy involves pump-and-treat system, with on-site discharge. Soil is not being targeted.	Remedy involves pump-and-treat system, with on-site discharge. Soil is not being targeted.	Will incinerate off-site.	Pilot study showed that dechlorination increased the volume and that the waste still required incineration. An ESD to incinerate residuals off-site is in peer review.	COMMENTS	
Mark File 404-562-8927	Tony DeAngelo 404-562-8826	215-597-3161  Ross Mantione (Tobyhanna) 717-894-6494	Drew Lausch	Ed Finnerty 212-637-4367	Jeff Gratz 212-637-6320	Jeff Gratz 212-637-4320	Jeff Gratz 212-637-4320	Ross Gilleland 617-573-5766	Joe Lemay 617-573-9622	CONTACTS/PHONE	

#### Fifth Edition (September 1993) (continued)

	9	9	9	8	7	6	5	4	4	REGION
	Teledyne Semiconductors, CA (03/22/91)	Signetics (AMD 901) TRW OU, CA (09/11/91)	Koppers Company (Oroville), CA (04/04/90)	Sand Creek Industrial OU 5, CO (09/28/90)	Fairfield Coal & Gas, IA (09/21/90)	Tenth Street Dump/Junkyard, OK (09/27/90)	Cliffs/Dow Dump, MI (09/27/89)	Hollingsworth Solderless, FL (04/10/86)	American Creosote Works, FL (09/28/89)	SITE NAME, STATE (ROD DATE)
			Bioremediation (ex situ)	Soil washing	Bioremediation (in situ)	Dechlorination	Bioremediation (in situ)		Bioremediation (ex situ)	TECHNOLOGY (LISTED IN 4TH EDITION)
	Soil vapor extraction	Soil vapor extraction						Soil vapor extraction		ADDED 5
			Yes		Yes	Yes	Yes		Yes	DELETED
				Thermal desorption						CHANGED TO
	Dropped by mistake from fourth edition.	Remedy added.	Misinterpretation of ROD during ROD analysis.	Soil washing did not meet performance standards and was expensive. ROD amendment was issued in early September 1993.	Pilot study showed in situ bioremediation was too costly. It appears that the present pump-and-treat system will achieve cleanup levels.	Remedy has been suspended because of difficulties in implementation and escalating cost; Actual cost was double the cost projected in ROD. ROD amendment to cap in place is being issued.	Bioremediation (in situ) was a misinterpretation of the ROD. All soil will be excavated and treated by bioremediation (ex situ).	Listed as soil aeration in the third edition.	Bench-scale study of bioremediation (ex situ) showed that the concentrations of carcinogenic PAHs were not reduced adequately. Dioxins also were discovered at much higher concentrations.	COMMENTS
Sean Hogan 415-744-2233	Kevin Graves (CA) 510-286-0435	Joe Healy 415-744-2331	Fred Schlauffler 415-744-2359	Erna Acheson 303-312-6753	Bruce Morrison 913-551-7755	Mike Overbay 214-655-8512	Ken Glatz 312-886-1434	John Zimmerman 404-562-8936	Mark Fite 404-562-8927	CONTACTS/PHONE

#### Fifth Edition (September 1993) (continued)

10	10	REGION
IDEL Warm Waste Pond, ID (12/05/91)	IDEL Warm Waste Pond, ID (12/05/91)	SITE NAME, STATE (ROD DATE)
Soil washing	Acid extraction	TECHNOLOGY (LISTED IN 4TH EDITION)
		ADDED
Yes	Yes	DELETED DELETED
		DELETED CHANGED TO
Treatability study of soil washing did not achieve acceptable results. Did not reduce the volume of waste. Will excavate, consolidate, and cap.	Treatability study of acid extraction did not achieve good extraction rates. Did not reduce the volume of waste. Will excavate, consolidate, and cap.	COMMENTS
Linda Meyer 206-553-6636 Nolan Jenson (DOE) 208-526-0436	Linda Meyer 206-553-6636 Nolan Jenson (DOE) 208-526-0436	CONTACTS/PHONE

### Fourth Edition (October 1992): Additions, Changes, and Deletions from the Third Edition (April 1992)

treatment technologies implemented at non-Superfund sites. Other changes are listed below. The fourth edition of this report added information about 10 innovative treatment technologies selected for remedial action under FY 1992 RODs and 21 innovative

10	9	9	6	6	51	2	2	REGION
Gould Battery, OR (03/31/88)	Teledyne Semiconductors, CA (03/22/91)	Poly Carb, NV (Removal)	Koppers/Texarkana, TX (09/23/88)	Sol Lynn/Industrial Dechlorination Transformers, TX (03/25/88)	University of Minnesota, MN (06/11/90)	GE Wiring Devices, PR (09/30/88)	Lipari Landfill Marsh Sediment, NJ (07/11/88)	SITE NAME, STATE (ROD DATE)
Soil washing	Soil vapor extraction	Bioremediation (in situ)	Soil washing	Dechlorination	Thermal desorption	Thermal desorption		TECHNOLOGY (LISTED IN 3RD EDITION)
Soil washing			In situ flushing				Thermal desorption	ADDED
	Yes			Yes	Yes			4TH EDITION DELETED
		Bioremediation (ex situ)			Incineration (in the fifth edition)	Soil washing		CHANGED TO
Missed during original ROD analysis.	Mistakenly deleted from report.	Reclassified technology.	Remedy added by ROD amendment.	Discontinued because of difficulties in implementation.	An ESD was issued in August 1991 to change remedy to thermal desorption or incineration. Incineration was chosen because it was the less expensive of the two.		Missed during original ROD analysis.	COMMENTS
Chip Humphries 503-326-2678	Sean Hogan 415-744-2233	Bob Mandel 415-744-2290	Ursula Lennox 214-655-6735	John Meyer 214-667-6742	Darrel Owens 312-886-7089	Caroline Kwan 212-637-4275	Tom Graff 816-426-2296	CONTACTS/PHONE

### Fourth Edition (October 1992): Additions, Changes, and Deletions from the Third Edition (April 1992)

treatment technologies implemented at non-Superfund sites. Other changes are listed below. The fourth edition of this report added information about 10 innovative treatment technologies selected for remedial action under FY 1992 RODs and 21 innovative

10	9	9	6	6	51	2	2	REGION
Gould Battery, OR (03/31/88)	Teledyne Semiconductors, CA (03/22/91)	Poly Carb, NV (Removal)	Koppers/Texarkana, TX (09/23/88)	Sol Lynn/Industrial Dechlorination Transformers, TX (03/25/88)	University of Minnesota, MN (06/11/90)	GE Wiring Devices, PR (09/30/88)	Lipari Landfill Marsh Sediment, NJ (07/11/88)	SITE NAME, STATE (ROD DATE)
Soil washing	Soil vapor extraction	Bioremediation (in situ)	Soil washing	Dechlorination	Thermal desorption	Thermal desorption		TECHNOLOGY (LISTED IN 3RD EDITION)
Soil washing			In situ flushing				Thermal desorption	ADDED
	Yes			Yes	Yes			4TH EDITION DELETED
		Bioremediation (ex situ)			Incineration (in the fifth edition)	Soil washing		CHANGED TO
Missed during original ROD analysis.	Mistakenly deleted from report.	Reclassified technology.	Remedy added by ROD amendment.	Discontinued because of difficulties in implementation.	An ESD was issued in August 1991 to change remedy to thermal desorption or incineration. Incineration was chosen because it was the less expensive of the two.		Missed during original ROD analysis.	COMMENTS
Chip Humphries 503-326-2678	Sean Hogan 415-744-2233	Bob Mandel 415-744-2290	Ursula Lennox 214-655-6735	John Meyer 214-667-6742	Darrel Owens 312-886-7089	Caroline Kwan 212-637-4275	Tom Graff 816-426-2296	CONTACTS/PHONE

### Third Edition (April 1992): Additions, Changes, and Deletions from the Second Edition (September 1991)

listed below. The third edition of this report added information to the 70 innovative treatment technologies selected for remedial actions under FY 1991 RODs. Other changes are

9	6	6	ъ	5	OI	4	2	2	2	REGION
Solvent Service, CA (09/27/90)	Crystal Chemical, TX (09/27/90)	Atchison/Santa Fe/Clovis, NM (09/23/88)	U.S. Aviex, MI (09/07/88)	Anderson Development, MI (09/28/90)	Sangamo/Crab Orchard National Wildlife Refuge, IL (08/01/90)	Coleman-Evans Wood Preserving, FL (09/26/90)	GE Wiring Services, PR (09/30/88)	Goose Farm, NJ (09/27/85)	Marathon Battery, NY (09/30/88)	SITE NAME, STATE (ROD DATE)
Bioremediation (in situ)	In situ vitrification	Bioremediation (ex situ)	Flushing (in situ)	In situ vitrification	In situ vitrification	Soil washing	Soil washing	Flushing (in situ)	Thermal desorption	TECHNOLOGY (LISTED IN 2ND EDITION)
										ADDED
Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	3RD EDITION DELETED
					Thermal desorption	Incineration	Thermal desorption			N CHANGED TO
ROD was misinterpreted during ROD analysis.	Remedy was reconsidered after commercial availability of the technology was delayed. Revised remedy will consist of capping and off-site disposal and consolidation of soils.		Cleanup levels were reached by natural attenuation.	Because of concern on the part of the community, the remedy was changed. A ROD amendment was signed on 9/30/91, and an ESD was signed on 10/2/92.	ROD specified the remedy as in situ vitrification or incineration; incineration was chosen.	Problems due to the presence of furans; incineration is likely.	Possible pre-wash of debris with surfactants.	Incorrectly classified. A pump-and-treat system with reinjection of treated water is being used.	During design, soil gas concentration at hot spots was below state standards. Groundwater monitoring will continue.	COMMENTS
Kevin Graves 510-286-0435 Steve Morse (CA) 570-286-0304	Lisa Price 214-655-6735	Ky Nichols 214-655-6783	Robert Whippo 312-886-4759	Jim Hahnenberg 312-353-4213	Nan Gowda 312-353-9236	Tony Best 404-347-2643	Caroline Kwan 212-637-4275	Laura Lombardo 212-264-6989	Pam Tames 212-264-1036	CONTACTS/PHONE

#### Third Edition (April 1992) (continued)

9	REGION
Poly Carb, NV (Removal)	SITE NAME, STATE (ROD DATE)
Bioremediation (ex situ)	TECHNOLOGY (LISTED IN 2ND EDITION)
	ADDED
	3RD EDITION DELETED
Bioremediation (in situ)	N CHANGED TO
Reclassified technology.	COMMENTS
Bob Mandel 415-744-2290	CONTACTS/PHONE

## Second Edition (September 1991): Additions, Changes, and Deletions from the First Edition (January 1991)

innovative treatment technologies used in removal actions. Other changes are listed below. The second edition of this report added information about 45 treatment technologies selected for remedial actions in RODs signed during fiscal year (FY) 1990 and 18

Christine Psyk 206-553-6519	Technology dropped because commercial availability was delayed.		Yes		In situ vitrification	Northwest Transformer, WA (09/15/89)	10
John Meyer 214-665-6742	Reclassified technology.	Dechlorination			Thermal desorption	Sol Lynn/Industrial Transformers, TX (03/25/88)	6
Kate Lose 215-566-3240	During remedial design, sampling indicated VOCs were no longer present in the soils. Heavy metals remained at the surface. An ESD was issued in December 1992. Remedy will consist of capping the site.		Yes (changed to soil vapor extraction in third edition)		Flushing (in situ)	Harvey-Knott Drum, DE (09/30/85)	ω
Philip Rotstein 215-566-3232							
Andy Palestini 215-597-1286	No further action. Risk was re-evaluated and it was determined that risk was not sufficient for remedial action.		Yes		Bioremediation	Leetown Pesticides, WV (03/31/86)	ω
Miko Fayon 212-637-4250	ROD was misinterpreted during ROD analysis.				Chemical treatment	SMS Instruments (Deer Park), NY (09/29/89)	2
Caroline Kwan 212-637-4275	Reclassified technology.	Soil washing			Chemical treatment	GE Wiring Services, PR (09/30/88)	2
Lorenzo Thantu 212-637-4240	Reclassified technology.	Dechlorination	Yes		Chemical extraction	Re-Solve, MA (09/24/87)	_
CONTACTS/PHONE	COMMENTS	CHANGED TO	DELETED	ADDED	(LISTED IN 1ST EDITION)	(ROD DATE)	REGION
			2ND FDITION		TECHNIOI OCV	CITE NAME STATE	