

APPENDIX P:

**Remediation Design and
Implementation Schedule**

**Annual Update
Fiscal Year 2011**

November 2010

**Appendix P – Remediation Design and Implementation Schedule Annual Update,
Fiscal Year 2011**

Table of Contents

<u>Section</u>	<u>Page</u>
1.0	MILESTONE DATES..... P-1
1.1	Current Deadline Dates..... P-1
1.1.1	Design Deadline Dates..... P-2
1.1.2	Implementation Deadline Dates..... P-4
1.1.3	Water Treatment Operations and Other ROD Components P-6
1.2	Establishment and Modifications to Enforceable Deadline Dates..... P-8
2.0	RMA CONSTRUCTION COMPLETION REPORT - TRACKING P-9
3.0	IMPLEMENTATION PROJECT STATUS P-13
3.1	Disposal Facilities – Basin A/Landfills P-13
3.1.1	Construction of Hazardous Waste Landfill (Double Lined)..... P-13
3.1.2	Construction of Enhanced Hazardous Waste Landfill..... P-15
3.1.3	Basin A Consolidation and Remediation:..... P-17
3.2	Early Start Projects P-18
3.2.1	Sanitary/Chemical Sewer Manhole Plugging – Phase I P-18
3.2.2	Shell/Complex (Army) Disposal Trench Slurry Walls..... P-19
3.2.3	Post-ROD Removal Action for Structures..... P-20
3.3	Phase I – Outlying Areas P-21
3.3.1	Toxic Storage Yards Soil Remediation..... P-21
3.3.2	Existing (Sanitary) Landfills Remediation P-21
3.3.3	Lake Sediments Remediation P-22
3.3.4	Burial Trenches Soil Remediation P-22
3.3.5	Munitions (Testing) Soil Remediation..... P-23
3.3.6	Miscellaneous Northern Tier Soil Remediation P-25
3.3.7	Miscellaneous Southern Tier Soil Remediation P-25
3.3.8	Section 36 Bedrock Ridge Groundwater Plume Extraction System..... P-26
3.3.9	South Plants Structure Demolition and Removal P-26
3.3.10	Miscellaneous RMA Structures Demolition and Removal..... P-27
3.4	Phase II – South Plants Area..... P-29
3.4.1	Buried M-1 Pits Soil Remediation..... P-29
3.4.2	Hex Pit Soil Remediation..... P-30
3.4.3	South Plants Balance of Areas and Central Processing Area Soil Remediation – Phase II..... P-30
3.4.4	South Plants Balance of Areas and Central Processing Area Soil Remediation – Phase I32
3.5	Phase III – Sections 35 And 36 Sites P-33
3.5.1	Sanitary Sewer Manhole Plugging – Phase II..... P-33
3.5.2	Section 36 Balance of Areas Soil Remediation P-33
3.5.3	Secondary Basins Soil Remediation P-35
3.5.4	Complex (Army) Disposal Trenches Remediation - Cover..... P-36

3.5.5	Shell Disposal Trenches Remediation – Cover	P-37
3.5.6	North Plants Soil Remediation.....	P-39
3.5.7	Section 35 Soil Remediation.....	P-40
3.5.8	North Plants Structure Demolition and Removal	P-40
3.6	Phase IV – Basin F/Lime Basins	P-42
3.6.1	Basin F Wastepile Remediation.....	P-42
3.6.2	Former Basin F Principal Threat Soil Remediation.....	P-43
3.6.3	Basin F and Basin F Exterior Remediation.....	P-44
3.6.4	Section 36 Lime Basins Soil Remediation.....	P-47
3.7	Site-Wide Programs.....	P-49
3.7.1	RCRA – Equivalent Cover Demonstration Project	P-49
3.7.2	Borrow Areas	P-49
3.7.3	Site-Wide Biota Monitoring – Biological Advisory Subcommittee.....	P-50
3.7.4	Site-Wide Air Monitoring – Air Pathways Analysis	P-51
3.7.5	Contingent Soil Volume	P-51
3.7.6	Site-Wide Plume Monitoring.....	P-52
3.7.7	Confined Flow System Monitoring	P-54
3.7.8	Medical Monitoring Program	P-54
3.7.9	Traffic Management.....	P-55
3.7.10	Biota Barrier.....	P-56
3.7.11	Geophysical Surveying	P-56
3.7.12	UXO Emergency Response	P-57
3.7.13	Permanent Revegetation/Mitigation/Irrigation	P-58
3.7.14	Drummed Waste Handling – Plan Development.....	P-59
3.7.15	Well Abandonment.....	P-60
3.8	Water Treatment/Monitoring.....	P-60
3.8.1	South Adams County Water Supply/Henderson Distribution	P-60
3.8.2	On-Post Water Supply	P-61
3.8.3	Section 36 Bedrock Ridge Groundwater Plume Extraction System.....	P-64
3.8.4	Confined Flow System Well Closure	P-64
3.8.5	Irondale Containment System.....	P-64
3.8.6	Basin A Neck System	P-65
3.8.7	CERCLA Wastewater Treatment Facility	P-66
3.8.8	Northwest Boundary Containment System.....	P-66
3.8.9	North Boundary Containment System	P-67
3.8.10	South Lakes Plume Management.....	P-67
3.8.11	Groundwater Mass Removal System.....	P-67
3.8.12	North Plants Light Non-Aqueous Phase Liquid	P-70
3.8.13	Dense Non-Aqueous Phase Liquid Remedial Investigation/Feasibility Study..	P-72
3.9	Remediation Venture Office.....	P-74
3.9.1	Program Management Contractor (PMC Acquisition).....	P-74
3.9.2	Site-Wide Implementation Planning Team.....	P-75
3.9.3	Land Transfers/Partial Deletions	P-75
3.9.4	Lake Ladora Dam and Spillway Project.....	P-77
3.9.5	Shoreline Expansion Project.....	P-77
3.9.6	Five Year Site Review	P-78

3.9.7	Long-Term Environmental Management System.....	P-78
3.10	Program Management.....	P-79
3.10.1	Trust Fund.....	P-79
3.11	Off-Post Remedy	P-80
3.11.1	Off-Post Surficial Soil.....	P-80
3.11.2	Off-Post Water Treatment Facility	P-80
3.11.3	Off-Post Well Closures.....	P-80
4.0	SCHEDULE AND BAR CHARTS.....	P-81
4.1	Schedule Modifications and Justification.....	P-81
4.2	Bar Charts	P-82

Attachments

BAR CHARTS

- 4.2.1 Project Design Summary Bar Chart
- 4.2.2 Project Implementation Summary Bar Chart
- 4.2.3 Regulator Review Activity Bar Chart
- 4.2.4 Detail Bar Chart And Tabular Schedule

5.0 MULTI-PARTY AGREEMENTS

APPENDIX P
REMEDIATION DESIGN AND IMPLEMENTATION SCHEDULE ANNUAL UPDATE,
Fiscal Year 2011

1.0 MILESTONE DATES

Included in this Appendix are a series of graphical depictions of the current progressed schedule and a listing of the enforceable deadline dates that are currently in effect. Changes to enforceable deadlines are documented in Section 4.1 of this Appendix. The previous sections of the Remediation Design and Implementation Schedule (RDIS) provided an overall understanding of the process and philosophy used to develop this schedule and established guidelines for its use and modification throughout the Remedial Design and Remedial Action process. This Appendix serves as the annual RDIS update, which provides current implementation project progress and modifications, current schedules, and enforceable deadlines, as agreed to by the Regulatory Agencies.

Notice: As the status of the remedy execution is nearing completion, this will be the final annual update to the RDIS document. The RMA is expected to achieve its final remedy execution milestone in the Second Quarter of FY11. As such, and in accordance with Section 4.3.5 of the mainbody document, documentation of the final remedy schedule will be provided within the Remedial Action Summary Report (RASR). Any remaining activities that are required for site completion will be identified within the RASR along with identification of the responsible organization for that activity and the anticipated dates for completion of those activities.

1.1 Current Deadline Dates

The following is a list of current deadline dates that have been estimated based on the best information available to date. The deadline dates are shown in three separate sections, design activities, remedy implementation, and water treatment plant operations and other Record of Decision (ROD) components. The list shows current forecast or enforceable dates and the current status (actual dates) is noted.

1.1.1 Design Deadline Dates

Compliance Order on Consent			
Implementation Project	Enforceable Milestone Date	Current Forecast Date	Actual Date
Disposal Facilities – Landfills			
Construct Hazardous Waste Landfill:			
30% design	31 Mar 97		31 Mar 97
60% design – 60 days after receipt of 30% comments	9 Jun 97		9 Jun 97
100% design – 35 days after receipt of 90% comments	13 Feb 98		13 Feb 98
Construction of Enhanced Hazardous Waste Landfill:			
30% design	17-May-01		15-May-01
95% design	28-Mar-02		28 Mar 02

Federal Facility Agreement				
Implementation Project	Enforceable Draft Design SOW	Actual/Forecast Draft Design SOW	Enforceable Draft Final Design	Actual/Forecast Draft Final Design
Disposal Facilities – Basin A				
Basin A Consolidation and Remediation	30 Sep 96	30 Sep 96 A	21 Jul 97	21 Jul 97 A
Early Start Projects-				
Sanitary/Chemical Sewer Manhole Plugging – Phase I	30 Sep 96	30 Sep 96 A	7 Mar 97	7 Mar 97 A
Shell Complex Trench Slurry Walls	30 Sep 96	30 Sep 96 A	23 Jun 97	23 Jun 97 A
Phase I – Outlying Areas -				
Toxic Storage Yards Soil Remediation	18 May 98	15 May 98 A	7 Dec 98	7 Dec 98 A
Existing (Sanitary) Landfill Remediation	14 Oct 97	14 Oct 97 A	23 Jun 98	22 Jun 98 A
Lake Sediments Remediation	24 Nov 97	24 Nov 97 A	4 Aug 98	3 Aug 98 A
Burial Trenches Soil Remediation	1 Oct 97	1 Oct 97 A	15 Sep 99	15 Sep 99 A
Munitions (Testing) Soil Remediation	1 Oct 97	1 Oct 97 A	15 Sep 99	15 Sep 99 A
Misc. Northern Tier Soil Remediation	24 Nov 97	24 Nov 97 A	4 Aug 98	3 Aug 98 A
Misc. Southern Tier Soils Remediation	24 Nov 97	24 Nov 97 A	4 Aug 98	3 Aug 98 A
Section 36 Bedrock Ridge Groundwater Plume Extraction System	18 Apr 97	18 Apr 97 A	2 Nov 98	2 Nov 98 A
South Plants Structure Demolition and Removal: Work Packages Nos. 1-4, Nonagent Structures Work Packages No. 5, Agent Structures	20 Oct 97	20 Oct 97 A	17 Aug 98 30 Apr 99	14 Aug 98 A 30 Apr 99 A

Implementation Project	Enforceable Draft Design SOW	Actual/Forecast Draft Design SOW	Enforceable Draft Final Design	Actual/Forecast Draft Final Design
Misc. RMA Structure Demolition and Removal	13 Nov 98	13 Nov 98 A	2 Nov 99	2 Nov 99 A
Phase II – South Plants Area-				
Buried M-1 Pits Soil Remediation	17 Mar 00	17 Mar 00 A	18 Oct 00	18 Oct 00 A
Hex Pit Soil Remediation	16 Feb 00	16 Feb 00 A	2 Aug 00	2 Aug 00 A
Hex Pit Re-design	21 Mar 03	21 Mar 03 A	26 Aug 03	26 Aug 03 A
South Plants Balance of Areas and Central Processing Area Soil Remediation - Phase II	4 Sep 98	4 Sep 98 A	7 Aug 00	7 Aug 00 A
South Plants Balance of Areas and Central Processing Area Soil Remediation - Phase I	4 Sep 98	4 Sep 98 A	15 Dec 99	15 Dec 99 A
Phase III – Sections 35 & 36 Sites-				
Sanitary Sewer Manhole Plugging – Phase II	12 Feb 02	12 Feb 02 A	19 Sep 07	19 Sep 07 A
Section 36 Balance of Areas Soil Remediation	12 Feb 01	6 Feb 01 A	26 Nov 02	26 Nov 02 A
Secondary Basins Soil Remediation	17 Sep 99	17 Sep 99 A	26 May 00	26 May 00 A
Complex (Army) Disposal Trenches Remediation – Cover	10 Mar 03	6 Mar 03 A	8 Jun 06	8 Jun 06 A
Shell Disposal Trenches Remediation – Cover	10 Mar 03	6 Mar 03 A	24 Feb 05	24 Feb 05 A
North Plants Soil Remediation	20 Sep 04	14 Sep 04 A	NA	NA
Section 35 Soil Remediation	20 Jan 99	20 Jan 99 A	20 Nov 01	20 Nov 01 A
North Plants Structure Demolition and Removal	31 Mar 00	31 Mar 00 A	18 Apr 01	18 Apr 01 A
Phase IV –Basin F Lime Basins-				
Basin F Wastepile Remediation	31 Jan 01	31 Jan 01 A	1 Jul 02	1 Jul 02 A
Former Basin F Principal Threat Soil Remediation	1 Nov 05	1 Nov 05 A	30 Nov 06	14 Nov 06 A
Basin F and Basin F Exterior Remediation-Part 1	17 Sep 99	17 Sep 99 A	26 May 00	26 May 00 A
Basin F and Basin F Exterior Remediation- Part 2	15 May 01	15 May 01 A	30 Dec 03	30 Dec 03 A
Revised 95% Design – Part 2			19 Oct 07	18 Oct 07 A
Section 36 Lime Basins Soil Remediation	1 Nov 05	1 Nov 05 A	15 Dec 06	14 Dec 06 A
Water Treatment Monitoring-				
Confined Flow System Well Closure	22 Sep 97	22 Sep 97 A	30 Mar 98	30 Mar 98 A

Note: Shaded areas denote significant changes in forecast or enforceable milestone dates not previously documented by letter. Reference the status write-up for each implementation project.

1.1.2 Implementation Deadline Dates

Compliance Order on Consent			
Implementation Project	Enforceable Milestone Data	Current Forecast Date	Actual Date
Disposal Facilities – Landfills			
<i>Construct Hazardous Waste Landfill</i>			
Landfill Open to Receive Waste	3 May 99		30 Apr 99
Landfill Closed \neq	NA		30 Apr 04
<i>Construct Enhanced Hazardous Waste Landfill</i>			
Landfill Open to Receive Waste	10 Apr 06		7 Mar 06
Landfill Closed \neq	NA	Jun 08	5 May 08

Federal Facility Agreement				
Implementation Project	Enforceable Start Dates\angle	Actual/Forecast (A)/(F)	Enforceable Finish Dates\angle	Actual/Forecast (A)/(F)
Disposal Facilities – Basin A -				
Basin A Consolidation and Remediation (Landfill Closed)	19 Jan 98	14 Nov 97 A	NA	30 Jun 04 A
Early Start Projects -				
Sanitary/Chemical Sewer Manhole Plugging – Phase I	10 Sep 97	3 Sep 97 A	27 Feb 98	23 Feb 98 A
Shell/Complex Trench Slurry Walls	27 Apr 98	24 Apr 98 A	14 Apr 00	7 Apr 00 A
Post-ROD Removal Actions for Structures: Asbestos Removal		3 Jun 96 A	1 Dec 97	1 Dec 97 A
Phase I Chemical Process Equipment Removal (Exterior)		3 Jun 96 A	19 Jan 98	19 Jan 98 A
Phase II Chemical Process Equipment Removal (Interior)		19 Jan 98 A	31 Dec 99	28 Dec 99 A
Phase I – Outlying Areas -				
Toxic Storage Yards Soil Remediation	3 May 99	3 May 99 A	27 Sep 99	15 Sep 99 A
Existing (Sanitary) Landfill Remediation	24 Nov 98	22 Nov 98 A	31 Aug 04	16 Jun 04 A
Lake Sediments Remediation	22 Dec 98	13 Dec 98 A	27 Oct 99	25 Aug 99 A
Burial Trenches Soil Remediation	1 Mar 00	28 Feb 00 A	28 Mar 03	6 Mar 03 A
Munitions (Testing) Soil Remediation Additional remediation, includes ESA-4a	1 Mar 00 NA	1 Mar 00 A NA	17 Nov 00 30 Apr 08	8 Nov 00 A** 25 Mar 08 A
Misc. Northern Tier Soil Remediation	22 Dec 98	22 Dec 98 A	7 Oct 99	7 Oct 99 A
Misc. Southern Tier Soils Remediation	22 Dec 98	22 Dec 98 A	6 Oct 99	30 Sep 99 A

Implementation Project	Enforceable Start Dates ∠	Actual/Forecast (A)/(F)	Enforceable Finish Dates ∠	Actual/Forecast (A)/(F)
Section 36 Bedrock Ridge Groundwater Plume Extraction System	21 May 99	19 May 99 A	25 Feb 00	25 Feb 00 A
South Plants Structure Demolition and Removal	25 Nov 98	22 Nov 98 A	11 Oct 01	30 May 01 A
Misc. RMA Structure Demolition and Removal	24 Feb 00	24 Feb 00 A	19 Nov 10	19 Nov 10 F
Phase II – South Plants Area -				
Buried M-1 Pits Soil Remediation	9 Feb 01	1 Feb 01 A	4 Dec 01	1 Nov 01 A
Hex Pit Soil Remediation	21 Mar 01	21 Mar 01 A	15 Jul 02	27 Jun 02 A
Implementation of Hex Pit Soil Re-design	20 Nov 03	19 Nov 03 A	9 Feb 04	28 Jan 04 A
South Plants Balance of Areas and Central Processing Area Soil Remediation – Phase II	5 Dec 01	3 Dec 01 A	19 Nov 10	29 Oct 10 F
South Plants Balance of Areas and Central Processing Area Soil Remediation – Phase I	28 Feb 00	28 Feb 00 A	31 Oct 01	12 Oct 01 A
Phase III – Sections 35 & 36 Sites -				
Sanitary Sewer Manhole Plugging – Phase II	6 Mar 08	13 Dec 07A	12 Sep 08	12 Aug 08 A
Section 36 Balance of Areas Soil Remediation	30 May 03	19 May 03 A	14 Nov 06	14 Nov 06A
Secondary Basins Soil Remediation	27 Apr 01	21 Mar 01 A	31 Mar 03	26 Feb 03 A
Complex (Army) Disposal Trenches Remediation	15 Aug 05	27 Jul 05 A	19 Nov 10	29 Oct 10 F
Shell Disposal Trenches Remediation	1 Mar 05	4 Feb 05 A	30 Apr 10	21 Apr 10 A
North Plants Soil Remediation		NA	NA	NA
Section 35 Soil Remediation	15 Jul 02	28 Jun 02 A	7 Apr 03	26 Feb 03 A
North Plants Structure Demolition and Removal	21 Mar 01	21 Mar 01 A	29 Aug 03	4 Jun 03 A
Phase IV – Basin F Lime Basins -				
Basin F Wastepile Remediation	5 Aug 05	30 Mar 05 A	15 Apr 08	10 Jan 08 A
Former Basin F Principal Threat Soil Remediation	3 Apr 07	3 Apr 07 A	9 Dec 08	24 Oct 08 A
Basin F and Basin F Exterior Remediation Part 1	19 Feb 02	20 Dec 01 A	11 Apr 03	24 Jan 03 A
Basin F and Basin F Exterior Remediation Part 2	3 Apr 07	3 Apr 07 A	30 Sep 10 F	20 Sep 10 A
Section 36 Lime Basins Soil Remediation	20 Apr 07	20 Apr 07 A	19 Nov 10	20 Oct 10 F
Water Treatment Monitoring -				
Confined Flow System Well Closure	2 Apr 99	22 Mar 99 A	1 Oct 99	24 Sep 99 A
RMA Remediation Completion			30 Sep 11*	19 Nov 10 F

- ∉ Finish Dates are linked to the completion of implementation projects dependent upon the availability of the disposal facilities. Closure also represents when full scale operations ended and subgrade/cover efforts began.
- ∠ Enforceable start and finish dates shall be established upon acceptance of final design.
- * Enforceable milestone date of September 30, 2011 was established by the RDIS dispute resolution (August 8, 1997). The date shown is the current baseline target date for internal Remediation Venture Office (RVO) control.
- ** Date denotes enforceable finish date of original Scope of Work (SOW). Changes resulting from the summary team finding were added after this date.

Note: Shaded areas denote significant changes in forecast or enforceable milestone dates not previously documented by letter. Reference the status write-up for each implementation project.

1.1.3 Water Treatment Operations and Other ROD Components

Description	Start Date Actual/Forecast (A)/(F)	Finish Date Actual/Forecast (A)/(F)
Water Treatment:		
Section 36 Bedrock Ridge System	29 Jan 99 F	Not Established∇
Irondale System	3 Jun 96 A	Not Established∇
Basin A Neck System	3 Jun 96 A	Not Established∇
CERCLA Wastewater Treatment Facility	3 Jun 96 A	30 Jun 10 F
Northwest Boundary System	3 Jun 96 A	Not Established∇
North Boundary System	3 Jun 96 A	Not Established∇
South Lakes Plume Management	3 Jun 96 A	Not Established∇
Groundwater Mass Removal	March 2005 A	31 May 11 F✂
North Plants LNAPL Remediation	July 2001 A	29 Oct 10 F⊕
DNAPL RI/FS	30 Nov 09	25 Apr 11 F⊕
Other ROD Components:		
Medical Monitoring Program	13 Jun 95 A	17 Feb 11 FΩ
Biological Advisory Subcommittee	3 Jun 96 A	21 April 11 F¥
Trust Fund	18 Aug 96 A	20 Apr 06 A
SACWSD Water Distribution (Finish Milestones): Distribution Line Hookup Complete Water Supply Under Contract SACWSD Water Supply Operational		14 Aug 98 A® 1 Feb 99 A® 28 Apr 00 A®
5-Year Reviews:	1 st 2 nd 3 rd	Nov 99 A© Oct 04 A 30 Sept 09 A
		31 Jan 01 AⓈ 20 Dec 07 A Ⓢ May 11 F

- ∇ These systems will be operated until shut-off criteria as described in the ROD are met.
- ® Enforceable date for South Adams County Water and Sanitation District (SACWSD) Water Supply to be operational is September 30, 2011.
- © This date represents the first periodic (5 year) review based upon signature of off-post ROD, and will be conducted every 5 years thereafter as required by Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
Start date represents date five-year review team charter was approved and signed.
- Ⓢ This date represents final acceptance by letter from the U.S. Environmental Protection Agency (EPA).
- ✂ This date represents approval of the Construction Completion Report (CCR) (Construction & Operation) for the Groundwater Mass Removal.
- ⊕ This date represents final submittal of Light Non-Aqueous Phase Liquid (LNAPL) Pilot Study Report.

- Ω This date represents approval of the Monitoring Completion Report (MCR) for the Medical Monitoring Program (MMP).
- ¥ This date represents approval of the MCR for the Biomonitoring Program.
- ¢ This date represents completion of the RI/FS Report and signing of the Final Decision Document.

Note: Shaded areas denote significant changes in forecast or enforceable milestone dates not previously documented by letter.

1.2 Establishment and Modifications to Enforceable Deadline Dates

The enforceable and target deadline dates provided, as of the original issue date of this RDIS (December 9, 1996), were based upon the best information available at that time. Through the dispute resolution process (August 8, 1997), the Regulatory Agencies agreed to the following:

- The RDIS will be revised so that all target draft final design dates become enforceable deadlines.
- Upon acceptance of the final design, implementation start and finish deadlines will become enforceable. Modifications of extensions of enforceable milestones shall be handled in accordance with Federal Facility Agreement Section XXVI (v).
- An enforceable deadline of September 30, 2011 has been established in the RDIS for the completion of the entire remediation.
- The RDIS will include an enforceable deadline for the Enhanced Landfill Cell 30 Percent Design Package Document (December 13, 1999).
- Section 5.5, Modification Methods, will be updated to reflect that the Rocky Mountain Arsenal (RMA) Council will be involved in annual schedule reviews. These annual reviews will include: the overall status of the RMA cleanup, budget analysis and discussion of potential problems or funding constraints that might affect the schedule, and a presentation of the revised schedule.

**2.0 RMA Construction Completion Report - Tracking
Month End October 1, 2010**

WBS	PHASE/IMPLEMENTATION PROJECT/CCR	PARTIAL CCR	FINAL CCR	COMMENTS
2	RMA On-Post Operable Unit			
2.01	Disposal Facilities – Basin A/Landfill			
2.01.01	Construct Hazardous Waste Landfill			
	CAMU/Basin A Well Abandonment Project CCR CAMU Soil Remediation CCR Landfill Wastewater Treatment System (LWTS) Project CCR Hazardous Waste Landfill Phase I Project CCR CAMU Soils Remediation Completion and Support Project CCR Section 26 HHE and Biota Exceedance Soils Removal Project CCR Hazardous Waste Landfill Phase II Project CCR Section 26 HHE and Biota Exceedance Soils Removal Project CCR Addenda Hazardous Waste Landfill Operations/Waste Placement CCR Hazardous Waste Landfill – Cap Construction CCR Landfill Waste Water Treatment System (LWTS) – Closure CCR	30-Sep-98A 30-Sep-98A 27-Sep-00A 27-Sep-00A 29-Sep-00A 17-Oct-00A 18-Apr-01A 30-Mar-06A 08-Apr-08A 21-Jul-10A 20-Apr-11F		Includes closure of 71 wells in Basin A area Includes placement of 1 foot soil foundation layer over Basin A Additional CSV
2.01.02	Construction of Enhanced Hazardous Waste Landfill (ELF)			
	Enhanced Hazardous Waste Landfill Construction CCR Enhanced Hazardous Waste Landfill-Ion Exchange Installation – LWTS Modification CCR Enhanced Hazardous Waste Landfill Operations/Waste Placement CCR Enhanced Hazardous Waste Landfill Cover Construction	01-Feb-07A 17-Jul-08A 05-May-09A 19-Nov-10F		
2.01.03	Basin A Consolidation and Remediation			
	Basin A Consolidation and Remediation Operations/Subgrade CCR Basin A Consolidation and Remediation Cover-ICS Cover Construction CCR – Part 1 Basin A Consolidation and Remediation Cover-ICS Cover Construction CCR – Part 2 (Amendment)	03-Sep-09A 07-Oct-10F 18-May-15F		On hold until Notch interim ops is complete Documents Cover Constr Per Design-1 CCR for entire ICS Dsgn documents Operational and Functional (O&F)
2.02	Early Start Tasks			
2.02.04	Sanitary/Chemical Sewer Manhole Plugging – Phase I			
	RMA Sanitary and Chemical Sewer Plugging Project CCR			
2.02.06	Shell/Complex (Army) Disposal Trenches Slurry Walls			
	Shell Section 36 Trenches Groundwater Barrier Project CCR Complex (Army) Trenches Groundwater Barrier Project CCR Addendum Complex Army Groundwater Barrier Project O&F Report Dewatering of Army Trenches – CCR	08-Jun-01A 03-Jul-01A 30-Sep-02A TBD		
2.02.07	Post-ROD Removal Actions for Structures			
	Asbestos IRA Asbestos Remediation Final CCR Chemical Process Related Activities Chemical Process Related Equipment Outside Pipe and Tank Removal CCR Interior Building Chemical Related Activities for South Plants CCR	30-Sep-98A 29-Sep-00A		30-Sep-03A 29-Sep-00A See South Plants Structure Demo & Removal – Phases I & II
2.03	Phase I – Outlying Areas			
2.03.08	Toxic Storage Yards Soil Remediation			
	Toxic Storage Yards Soil Remediation Project CCR			
				20-Jun-00A

WBS	PHASE/IMPLEMENTATION PROJECT/CCR	PARTIAL CCR	FINAL CCR	COMMENTS
2.03.09	Existing (Sanitary) Landfills Remediation			
	Existing (Sanitary) Landfills Remediation – Section 1 CCR Existing (Sanitary) Landfills Remediation – Section 4 CCR Existing (Sanitary) Landfills Remediation – Section 36 CCR Existing (Sanitary) Landfills Remediation – Section 30 CCR Existing (Sanitary) Landfills Remediation – Section 1 Addenda	29-Feb-00A 25-May-00A 15-Jul-04A 16-Aug-05A 30-Mar-06A	16-Aug-05A 30-Mar-06A	Additional CSV
2.03.10	Lake Sediments Remediation			
	Lake Sediments Remediation Project CCR		20-Apr-00A	
2.03.11	Burial Trenches Soil Remediation			
	Burial Trenches Soil Remediation Project CCR Part I Burial Trenches Soil Remediation Project CCR Part II	25-Sep-02A 30-Sep-04A	30-Sep-04A	
2.03.12	Munitions (Testing) Soil Remediation			
	Munitions (Testing) Soil Remediation Project CCR Part I Munitions (Testing) Soil Remediation Project CCR Part II Munitions (Testing) Soil Remediation Project CCR Part III Munitions (Testing) Soil Remediation Project CCR Part IV	15-Jul-04A 08-Apr-08A 26-Mar-08A 14-May-09A	14-May-09A	
2.03.13	Miscellaneous Northern Tier Soil Remediation			
	Miscellaneous Northern Tier Soil Remediation Project CCR Miscellaneous Northern Tier Soil Remediation Project CCR Addenda ¹		20-Apr-00A 30-Mar-06A	Additional CSV
2.03.14	Miscellaneous Southern Tier Soil Remediation			
	Miscellaneous Southern Tier Soil Remediation Project CCR Miscellaneous Southern Tier Soil – Deep Acute – CCR Addenda Miscellaneous Southern Tier Soil – Sand Creek Lateral Soil Remediation – CCR	14-Jul-00A 30-Mar-06A 02-Sep-08A	02-Sep-08A	
2.03.15	Section 36 Bedrock Ridge Groundwater Barrier Plume Extraction System			
	Section 36 Bedrock Ridge Groundwater Barrier Plume Extraction System Project CCR		30-Sep-08A	
2.03.16	South Plants Structure Demolition and Removal			
	South Plants Structure Demolition and Removal Project Phase I CCR South Plants Structure Demolition and Removal Project Phase II CCR	29-Sep-00A 02-Jul-02A	02-Jul-02A	
2.03.17	Miscellaneous RMA Structures Demolition and Removal			
	Miscellaneous RMA Structures Demolition and Removal Project Phase I CCR Miscellaneous RMA Structures Demolition and Removal Project Phase II CCR Miscellaneous RMA Structures Demolition and Removal Project Phase III CCR Miscellaneous RMA Structures Demolition and Removal Project - CERCLA WTP Demo	30-Sep-02A 30-Mar-06A 08-Dec-09A 25-Mar-11F	25-Mar-11F	Rev 1 CCR issued July 01, 2003
2.04	Phase II – South Plants Area			
2.04.18	Buried M-1 Pits Soil Remediation			
	Buried M-1 Pits Soil Remediation Project CCR		18-Jul-02A	
2.04.19	Hex Pit Soil Remediation			
	Hex Pit Soil Remediation Project CCR		21-Jul-04A	
2.04.20	South Plants Balance of Areas and Central Processing Area Soil Remediation - Phase II			
	South Plants BOA & CPA Soil Remediation Project – Part I Soil Remediation CCR South Plants BOA & CPA Soil Remediation Project –ICS Cover Construction CCR-Part 1 So Plants BOA & CPA Soil Remediation Project –ICS Cover Construction CCR Part 2-Amendment	19-Jan-10A 07-Oct-10F 18-May-15F	07-Oct-10F 18-May-15F	Documents Cover Constructed Per Design Documents Operational and Functional (O&F)

WBS	PHASE/IMPLEMENTATION PROJECT/CCR	PARTIAL CCR	FINAL CCR	COMMENTS
2.04.21	South Plants Balance of Areas and Central Processing Area Soil Remediation – Phase I			
	South Plants Balance of Areas & Central Processing Area Soil Remediation Project – Phase I CCR		24-Sep-02A	
2.05	Phase III – Sections 35 and 36 Sites			
2.05.22	Sanitary Sewer Manhole Plugging – Phase II			
	Sanitary Sewer Manhole Plugging Project – Phase II CCR		17-Feb-09A	
2.05.23	Section 36 Balance of Areas Soil Remediation			
	Section 36 Balance of Areas Soil Remediation Project CCR – Part 1 Section 36 Balance of Areas Soil Remediation Project CCR – Part 2		05-May-09A 22-Feb-10A	
2.05.24	Secondary Basins Soil Remediation			
	Secondary Basins Soil Remediation Project CCR Secondary Basins Soil Remediation – (Ditch) HHE Removal		15-Jul-04A 15-Jun-09A	
2.05.25	Complex (Army) Disposal Trenches Remediation - Cover			
	Complex (Army) Disposal Trenches Remediation Sub-grade Construction CCR Complex (Army) Disposal Trenches Remediation-ICS Cover Construction CCR–Part 1 Complex (Army) Disposal Trenches Remediation–ICS Cover Construction CCR-Part 2 (Amendment)	17-Jul-08A 07-Oct-10F 18-May-15F	07-Oct-10F 18-May-15F	Documents Cover Constructed Per Design Documents Operational and Functional (O&F)
2.05.26	Shell Disposal Trenches Remediation – Cover			
	Shell Disp Trenches Rem RCRA Equiv Cover Construction Project – Part 1 CCR Shell Disp Trenches Rem-ICS Cover Construction CCR-2 Foot Soil Covers Shell Disp Trenches Rem-ICS Cover Construction CCR–Part 2 CCR (Amendment)	05-Jan-09A 07-Oct-10F 21-May-13F	05-Jan-09A 21-May-13F	Documents Cover Constructed Per Design Documents Operational and Functional (O&F)
2.05.27	North Plants Soil Remediation – Cover			
	North Plants Soil Remediation Cover Construction Project CCR	NA	NA	ESD to eliminate cover requirement approved January 2009
2.05.28	Section 35 Soil Remediation			
	Section 35 Soil Remediation Project CCR Section 35 Soil Remediation – Sand Creek Lateral Soil Remediation –CCR		15-Jul-04A 02-Sep-08A	
2.05.29	North Plants Structure Demolition and Removal			
	North Plants Structure Demolition and Removal Project CCR		30-Sep-04A	Includes GB equipment. Awaiting Completion and Approval of Soil Volume ESD.
2.06	Phase IV – Basin F/Lime Basins			
2.06.30	Basin F Wastepile Remediation			
	Basin F Wastepile Remediation Project CCR		15-Jun-09A	
2.06.31	Former Basin F Principal Threat Soil Remediation			
	Former Basin F Principal Threat Soil Project CCR		16-Jul-09A	
2.06.32	Basin F and Basin F Exterior Remediation			
	Basin F and Basin F Exterior Remediation Project – Part 1/Phase I CCR Basin F and Basin F Exterior Remediation Project – Part 1/Phase II Remaining Biota Soil CCR Basin F/ F Exterior Project RCRA Equiv Cover Construction CCR-Part 1 (Part 2 Design) Basin F and Basin F Exterior Project RCRA Equiv Cover Construction CCR-Part 2 (Amendment)	21-Sep-06A 09-Dec-08A 10-Dec-10F 18-May-15F	10-Dec-10F 18-May-15F	Errata sheets issued June 08, 2006-Awaiting acceptance letters from Regulatory Agencies Documents Cover Constructed Per Design Documents Operational and Functional (O&F)
2.06.33	Section 36 Lime Basins Soil Remediation			
	Section 36 Lime Basins Soil Remediation Slurry/Barrier Wall CCR	10-Sep-10F		

WBS	PHASE/IMPLEMENTATION PROJECT/CCR	PARTIAL CCR	FINAL CCR	COMMENTS
	Section 36 Lime Basins Soil Remediation – ICS Cover Construction CCR-Part 1 Section 36 Lime Basins Soil Remediation –ICS Cover Construction CCR-Part 2 (Amendment)	07-Oct-10F 18-May-15F	07-Oct-10F 18-May-15F	Documents Cover Constructed Per Design Documents Operational and Functional (O&F)
2.07	Site Wide Programs			No CCRs required
	Residual Ecological Risk Soil Remediation – Part 1 CCR Residual Ecological Risk Soil Remediation – Part 2 CCR	30-Mar-06A	03-Sep-09A	
2.08	Water Treatment/Monitoring			
2.08.15	Section 36 Bedrock Ridge Groundwater Plume Extraction System - Monitoring		N/A	See Implementation Project (WBS 2.03.15)
2.08.44	South Adams County Water and Sanitation District (SACWSD)			
	SACWSD Henderson Pipeline Construction CCR Acquisition and Delivery of 4,000 Acre-Foot Potable Water Supply – Completion Report	30-Sep-99A 29-Sep-00A	29-Sep-00A	Reference April 28, 2000 letter – Army fulfills obligation to SACWSD
2.08.45	On-Post Water Supply			
			N/A	Acquisition/agreement for 1,200 Acre-feet re-use water (October 1, 2011) and 50 acre-feet of potable water (Dec 1, 1998) are in place. What about delivery system to RMA site and distribution system to lake or wherever within RMA?
2.08.46	Confined Flow System Well Closure			
	Confined Flow System Well Closure CCR		27-Sep-00A	
2.08.47	Irondale Containment System			
	Irondale: Main Well Field Treatment Shutdown CCR Irondale: Motor Pool Area Treatment Shutdown CCR Irondale: Rail Classification Yard Treatment Shutdown CCR	21-May-03A 11-Nov-10F TBD	TBD	Interim CCR = IRA Report See Table A-2 Appendix A RDIS Report #4
2.08.48	Basin A Neck System			
	Groundwater Intercept and Treatment System North of Basin F CCR Basin A Neck System – Lime Basin Groundwater Treatment Relocation & A-Neck Expansion Basin A Neck System – Achieve Shutdown Criteria CCR	28-Sep-05A 12-May-11F	TBD	Interim CCR = IRA Report See Table A-2 Appendix A RDIS
2.08.49	CERCLA Wastewater Treatment Facility			Pre-treatment, no shut-down criteria listed in ROD, no CCR required
2.08.50	Northwest Boundary System			
	Northwest Boundary Containment System Achieve shutdown Criteria CCR		TBD	Interim CCR = IRA Report See Table A-2 Appendix A RDIS Report #3
2.08.51	North Boundary System			
	North Boundary Containment System Modification for Treatment of NDMA CCR North Boundary Containment System: Achieve Shutdown Criteria CCR	30-Sep-98A	TBD	Interim CCR = IRA Report See Table A-2 Appendix A RDIS Report #2
2.08.52	South Lakes Plume Management			
	South Lakes Monitoring Program Results CCR	NA		ESD was written to eliminate Lake Level Monitoring Req.
2.08.77	Mass Removal Systems			
	Installation and Operations of South Tank Farm And Lime Basins Area Mass Removal Systems - CCR		31-May-11F	
2.08.78	North Plants LNAPL Remediation		TBD	

WBS	PHASE/IMPLEMENTATION PROJECT/CCR	PARTIAL CCR	FINAL CCR	COMMENTS
3	RMA Off-Post Operable Unit			
3.11	Off-Post Remedy			
3.11.60	Off-Post Surficial Soil			
	Off-Post Tillage Task (Report) CCR		30-Sep-98A	
3.11.61	Off-Post Water Treatment Facility			
	Off-Post Water Treatment Facility Achieve Shutdown Criteria CCR		TBD	Interim CCR = IRA Report See Table A-2 Appendix A RDIS Report #1
3.11.62	Off-Post Well Closures			
	Off-Post Well Abandonment CCR		30-Sep-99A	

* A = Actual completion date

F = Forecast completion date

TBD = Completion date to be determined

3.0 IMPLEMENTATION PROJECT STATUS

It is intended that the information in this appendix provide a general overview of each projects status and a highlight of the major activities accomplished through the defined data date for this update. While the RVO strives to ensure the accuracy of this information, details concerning specific scope changes are documented in the appropriate design documents, operations manuals, and/or CCR reports for that project. To that extent such changes may not be completely reflected within the text of this document. For that reason the scope and status descriptions within the RDIS should only be used as a reference for understanding the schedule status of the RMA remediation program.

The following subsections detail current implementation project status.

3.1 Disposal Facilities – Basin A/Landfills

3.1.1 Construction of Hazardous Waste Landfill (Double Lined)

Status - Active

History

- Design began in March 1996 by the U.S. Army Corp of Engineers for a forecast volume of 1.8 million bank cubic yards (bcy).
- Final design was approved by the Regulatory Agencies on February 13, 1998.
- The design of the Landfill Wastewater Treatment Facility (LWTF) and Influent/Effluent Basins was approved by the Regulatory Agencies on April 13, 1998.
- The CCR for Corrective Action Management Unit (CAMU) Soils Remediation and CAMU/Basin A Well Abandonment were accepted as complete by the EPA and Colorado Department of Public Health and Environment (CDPHE) on September 30, 1998.
- Cell 1 approved by the Regulatory Agencies to receive waste on April 30, 1999.
- Cell 2 approved by the Regulatory Agencies to receive waste on December 7, 2000.
- The redesign of the final cap commenced in July 2002 and was completed in August 2003.
- Based on revised waste volume estimates during November 2002, a decision was made to revert to the original waste volume of 1.8 million bcy rather than an anticipated reduced volume. The cap geometry was revised to reflect the updated waste placement plan.
- Settlement monitoring of the landfill began June 10, 2003.
- Construction began on the Hazardous Waste Landfill (HWL) Intermediate Cover on July 3, 2003.
- Waste was received at the HWL on a full-time basis through April 30, 2004. Part time (Interim) operations began on May 1, 2004.
- The HWL operations concluded in October 2006 with completion of the Phase V intermediate Cover.

- The HWL Closure Plan was approved by the CDPHE in September 2006. The Closure Plan includes discussion of the fact that the 180 day limit will be exceeded due to the scope of the Cap Construction project.
- The HWL Ramp Removal and Closure activities concluded in October 2006. The Certification Report for the Ramp Removal and Closure was submitted to the Regulatory Agencies as Final in November 2006.
- Mobilization for Final Cap construction began in November 2006.
- The HWL Operations CCR was submitted for the Regulatory Agencies' acceptance in January 2007; final Regulatory Agencies' acceptance of the CCR was received in December 2007.
- Final Cap Construction activities concluded in May 2009.
- Preparation of the Final Cap Construction CCR began in July 2009.
- The revised HWL Post Closure Plan was approved in July 2009.
- The HWL Cap Short-Term Monitoring & Maintenance and Post-Closure Groundwater Monitoring activities began in May 2009, upon completion of the HWL Cap Construction Final Inspection.

Review of Last Year

The Regulatory Agencies' acceptance of the Final HWL Cap Construction Quality Assurance (CQA) Engineer's Certification Report and the HWL Closure Certification Report was received in March 2010.

The 2009 Annual Cover Report was prepared in FY10 and issued as Final in May 2010.

The Regulatory Agencies' acceptance of the HWL Final Cap Construction CCR was received in July 2010.

The HWL Post-Closure Groundwater Monitoring Continued in FY10 with quarterly sampling, analysis, evaluation, and reporting on the Regulatory Agencies approved network of monitoring wells and the Leachate Collection System and Leak Detection System Sumps. Analytical results will be included as an Appendix in the 2010 Annual Covers Report for Resource Conservation and Recovery Act (RCRA) Caps.

The LWTS Closure Plan (including closure design) was approved following the Regulatory Agencies' review and public comment in April 2010. Procurement of the LWTS closure subcontractor was completed in June 2010 based on the requirements of the LWTS Closure Plan and design. In conjunction with the approval of the LWTS Closure Plan, modifications were made to the landfill wastewater conveyance system to allow for the transfer of the landfill wastewater from the wastewater lift station to the Landfill Leachate Storage and Loadout Facility (LS/LF) to facilitate the off-post disposal of wastewater from the HWL.

The closure of the LWTS began with the approval of the LWTS Closure Plan starting with the treatment and discharge of wastewater inventory to allow for the closure of the facility. The Demolition of the LWTS began in August 2010 starting with the removal of the floating cover from the influent equalization basin.

The Decontamination of the treatment equipment and piping inside the LWTS building was conducted in September 2010, and the analytical results to certify successful completion of this activity are pending.

Look Ahead

The 2010 Annual Covers Report for RCRA Caps, documenting HWL Post-Closure Monitoring & Maintenance activities for the period beginning October 2009 through April 2010 will be issued in October 2010. This report will include the 2009 HWL Post-Closure Groundwater Monitoring results as an Appendix.

The 2011 Annual Covers Report for RCRA Caps, documenting both HWL and Enhanced Hazardous Waste Landfill (ELF) Post-Closure activities for the period beginning May 2010 through April 2011 is scheduled to be issued in June 2011. This report will include the 2010 HWL and ELF Post-Closure Groundwater Monitoring results as an Appendix.

The LWTS Closure construction activities will continue through December 2010 including: demolition and disposal of the liner systems of the influent and treated water equalization basins; removal of equipment from the LWTS building for salvage, recycling or disposal; decontamination and confirmatory sampling of the LWTS building interior services to certify acceptability of the building for future use; and the preparation of the LWTS Closure Certification Report upon the completion of closure activities.

3.1.2 Construction of Enhanced Hazardous Waste Landfill

Status - Active

History

- Treatability Studies for the Basin F Wastepile and Section 36 Lime Basins Soil Remediation, which are keys to the design of the ELF facility, have been completed and the final reports were submitted to the Regulatory Agencies in November 2000, and September 2000 respectively.
- The design of the ELF started in November 2000 and was completed in July 2002.
- An Integrated Conceptual Design (ICD) for the Basin F Wastepile, Section 36 Lime Basins and the ELF was completed in January 2001. The ICD focuses on design interfaces particularly waste management and the control and treatment of the impacted stormwater from the three concurrent projects.
- An amendment to the Final Chemical Compatibility Testing Report was submitted to the Regulatory Agencies during July 2003; thereby completing the testing program.
- The design to upgrade the LWTS began in July 2001 and was suspended in July 2002.
- The Design for the LWTS Ion Exchange System addition began in August 2003 and was completed in June 2004.
- The design of the Contingent Contaminated Stormwater Control System started in December 2002 and was completed in August 2003. As part of the overall wastewater management strategy, this temporary storage system is needed to provide for storage of the potentially contaminated wastewater in the event that commingling of the contaminated with the potentially contaminated wastewater was to occur.

Under such circumstances the commingled wastewater will be sent off-post for disposal.

- Site preparation work for the ELF started during August 2003 and was completed in November 2003.
- Installation of the LWTF Ion Exchange System began in November 2004 and was completed in August 2005. This component is necessary to treat potentially contaminated stormwater from ELF Operations and the Basin F Wastepile.
- Per specification, the LWTS receives and treats for discharge ELF Operations generated fluids including decontamination water, potentially contaminated storm water and leak detection water. In addition, the LWTS receives and treats leak detection water and leachate from the HWL.
- Construction of the ELF began in October 2003. Cell excavation and construction of the perimeter berms were completed in May 2004. Construction of the liner system started in May 2004 and was completed in October 2005.
- The Regulatory Agencies approved the Construction Quality Assurance Engineer (CQAE) certification report in March 2006. The Regulatory Agencies approval to place waste in the ELF was also received in March 2006.
- The ELF operations subcontractor mobilized in the 1st Quarter of FY06. Waste placement activities at the ELF began in April 2006 in conjunction with the Basin F Wastepile Slow Start activities.
- Waste placement operations at the ELF were completed on May 5, 2008. In June of 2008, the ELF Operations staff was tasked to identify an area within the ELF waste mass to accommodate disposition of debris generated by the closure of the on-site agent laboratory, Building 130. On July 17, 2008, the Building 130 support activities were completed at the ELF, and on July 18, 2008, the ELF Intermediate Cover was re-established as complete. At the conclusion of FY08, a total of 1,100,930 compacted cubic yards (ccy) of material had been placed in the ELF and all scheduled waste placement operations were complete.
- The ELF Cap Construction procurement process began as scheduled in May 2008. However, the contract was awarded in August 2008, approximately 4 months ahead of schedule. Construction subcontractor mobilization activities began in September 2008.
- The ELF Closure Plan was approved by the CDPHE in August 2008 and it includes discussion of the fact that the 180 day limit will be exceeded due to the scope of the Cap Construction project.
- The ELF Cap Construction project began in October 2008.

Review of Last Year

The ELF Cap Construction project continued and was completed in May 2010.

The field activities under the ELF Operational and Closure Groundwater Monitoring Program concluded in May 2010 with the start of Post-Closure activities at the ELF. The 2008 Annual Groundwater Monitoring Report, including ELF Closure Groundwater Monitoring, was issued in October 2010.

The Post-Closure Monitoring & Maintenance activities began in late May 2010 following completion of Cap Construction final inspection activities.

The ELF Post-Closure Plan received CDPHE approval in August 2010, and acceptance from the other Regulatory Agencies' by October 2010.

Look Ahead

The 2009 Annual Groundwater Monitoring Report, including ELF Closure Groundwater Monitoring through May 2010, is planned to be issued in December 2010. The 2011 Annual Covers Report for RCRA Caps, documenting both HWL and ELF Post-Closure activities for the period beginning May 2010 through April 2011 is scheduled to be issued in June 2011. This report will include the 2010 HWL and ELF Post-Closure Groundwater Monitoring results as an Appendix.

3.1.3 Basin A Consolidation and Remediation:

Status - Active

History

- Design began in June 1996 by the RVO and was completed on September 29, 1997.
- Placement of biota and Priority 1 (P1) soils from the CAMU area began in January 1998, and was completed in April 1998. The placement of soils to a minimum depth of one-foot over the entire footprint of Basin A provided the required separation between potential Unexploded Ordnance (UXO) and future equipment and personnel that will travel over the area during the waste consolidation phase of the project.
- A Basin A Dispute Resolution Subcommittee was formed in December 1997. The work of the subcommittee resulted in a dispute resolution agreement, which was signed by the RMA Committee and RMA Council in March 1998 that identifies actions to be taken to resolve EPA and CDPHE disputes.
- Design of the Basin A Operators Support Facilities began in May 1998 and was completed in October 1998.
- Construction of Basin A Support Facilities was completed in April 1999.
- During FY03, Basin A imported gradefill from both BA 3, and 9A, and P1 soil removal from Section 25.
- The redesign of the Basin A Cover began in August 2003. This design is to address an RVO/Regulatory Agencies agreement to make the Basin A Cover a RCRA-Equivalent Cover. The re-design of the cover will be integrated into the design of the covers of adjoining projects to ensure continuity and consistency of stormwater management and routing.
- Basin A continued to receive waste on a full-time basis through June 30, 2004, and part-time (Interim) operations began July 1, 2004. The Basin A Operations Plan was modified prior to the start of Interim Operations to address the reduced level of activities.
- The redesign of the Basin A Cover continued with preparation of a Subgrade DCN-BAOPS-064. Revision two was approved in April 2004.

- Interim O&M of the entire Basin A Consolidation Area concluded in the 3rd Quarter of FY05. Interim Operations continued in the Notch area during 2008, primarily supporting the MSD 3 project and various other RMA performers.
- Interim operations/waste placement activities at Basin A were completed with the Notch (2009) an area located near the central/western portion of the Consolidation Area. Based on the final survey, a total of 249,305 ccy of material were placed in the Basin A Notch Area.
- The Basin A Consolidation and Remediation Operations/Subgrade CCR was finalized and approved by the Regulatory Agencies on September 3, 2009. This CCR describes the waste consolidation operations and gradefill placement that occurred prior to cover construction.

Review of Last Year

Construction activities for FY10 primarily included installation of engineering controls, construction of the perimeter access road and Integrated Cover System (ICS) construction subcontractor demobilization. ICS Cover Construction Final Inspection activities were completed in April 2010.

Short-Term Monitoring & Maintenance of the Basin A cover continued throughout FY10.

The Final ICS CQA Certification Report was transmitted to the Regulatory Agencies in September 2010. The Final ICS CCR was transmitted to the Regulatory Agencies in September 2010.

Look Ahead

Upon Regulatory Agencies' approval of the CCR, planned for early October 2010, this Remedy Project will be complete.

The FY10 Short-Term Monitoring & Maintenance activities for RCRA-Equivalent, 2-, and 3-Foot Cover will be documented in the 2010 Annual Covers Report, which is scheduled to be issued in November 2010.

3.2 Early Start Projects

3.2.1 Sanitary/Chemical Sewer Manhole Plugging – Phase I

Status - Complete

History

- Design began in June 1996 by the RVO, and was completed on May 30, 1997.
- Subcontract was awarded to Spectrum Services on September 3, 1997.
- Pre-Final Inspection was conducted on February 2, 1998.
- Fieldwork was completed on February 23, 1998 and the Final Inspection was conducted.
- Draft CCR submitted to the Regulatory Agencies on April 24, 1998.

- Project accepted as complete (CCR was approved) by the Regulatory Agencies on September 30, 1998.

3.2.2 Shell/Complex (Army) Disposal Trench Slurry Walls

Status - Active

History

- Design began in June 1996 by the RVO and was completed on September 12, 1997.
- Program Management Contractor (PMC) separates implementation project into six major work packages:
 - Construction of Access Roads/Working Benches (completed in July 1998)
 - Subsurface Exploration (completed in October 1998)
 - Deep Soil Mixing; Construction of the Complex Army and Shell Trenches Slurry Walls (completed in April 1999)
 - Installation of Extraction Trench/Well System (completed in February 2000)
 - Installation of Monitoring Well System (completed in March 2000)
 - Interim Revegetation (Fall 2000)
 - Records review completed in March 2001
- The Shell Trenches project was accepted as complete (CCR approved) by the Regulatory Agencies on June 8, 2001.
- The Complex (Army) Trenches CCR was approved on July 3, 2001. It was noted that the project was constructed according to the approved design, but that future documentation was required to demonstrate that the extraction trench is operational and functional.
- Received the Regulatory Agencies' approval of the Operational and Functional Report on September 30, 2002.
- Record documents transferred to RVO Document Tracking Center on August 3, 2001.

Review of Last Year

Dewatering operations continue; see Basin A Neck for operation detail.

Look Ahead

Dewatering of the Complex (Army) Trenches is ongoing. Achieving the dewatering calls is not required until five years after the cover vegetation is established. Cover construction, revegetation and initial irrigation were completed in September 2009; consequently, achievement of the dewatering goals is expected to occur by September 2014. Dewatering will continue until the shut-off goals are met.

3.2.3 Post-ROD Removal Action for Structures

Asbestos Removal:

Status – Complete

History

- This removal action is the completion of work begun under the Asbestos Removal Interim Response Action (IRA). For a description and brief history of this IRA refer to Appendix A.
- The RVO prepared a CCR for the completion of three Asbestos Containing Material (ACM) removal projects that were conducted after the Asbestos Removal IRA, but prior to any ROD Implementation Projects.
- The RMA Administrative Area Asbestos Remediation Projects final CCR dated January 14, 2003 was accepted as complete (CCR approved) by the Regulatory Agencies on September 30, 2003.

Chemical Process Equipment Removal (Non-Agent) (Exterior)

Status - Complete

History

- This removal action is the completion of work begun under the Chemical Process-Related Equipment IRA. For a description and brief history of this IRA refer to Appendix A.
- The Shell Outside-Pipeline Removal project was completed in January 1998 after approximately 1,300 tons of steel was recycled.
- The completion report was issued in March 1998, and the EPA and CDPHE accepted the project as complete on September 30, 1998.

Chemical Process Equipment Removal (Non-Agent) (Interior)

Status – Complete

History

- This removal action began in January 1998. In preparation for structure demolition, the equipment and piping were characterized and partially removed.
- The project was completed in December 1999, and approximately 308 tons of steel was recycled.
- A Pre-Final Inspection was held on January 10, 2000, and upon completion of the site inspection, the Regulatory Agencies attending agreed that the Pre-Final Inspection would also serve as the Final Inspection.
- The final draft of the CCR was sent to the Regulatory Agencies for final approval in September 2000, and the EPA and CDPHE accepted the project as complete on September 29, 2000.

3.3 Phase I – Outlying Areas

3.3.1 Toxic Storage Yards Soil Remediation

Status - Complete

History

- Design began in April 1998 and was completed on March 1999.
- Fieldwork began in June 1999.
- Fieldwork completed in September 1999.
- Final Inspection was held on October 13, 1999.
- Project accepted as complete (CCR was approved) by the Regulatory Agencies on June 20, 2000.
- Record documents transferred to RVO Document Tracking Center on August 21, 2000.

3.3.2 Existing (Sanitary) Landfills Remediation

Status - Complete

History

- Design began in August 1997 and was completed in August 1998.
- Fieldwork began in May 1999.
- Section 1 Landfill fieldwork completed in September 1999.
- Final Inspection held for Section 1 - September 20, 1999.
- Section 4 Landfill fieldwork completed in December 1999.
- Final Inspection held for Section 4 – November 16, 1999.
- Section 1 Landfill accepted as complete (CCR approved) by the Regulatory Agencies on February 29, 2000. Record documents transferred to RVO Document Tracking Center on April 28, 2000.
- Section 4 Landfill accepted as complete (CCR approved) by the Regulatory Agencies on May 25, 2000. Record documents transferred to RVO Document Tracking Center on July 24, 2000.
- Section 30 Landfill was potholed in September and October 2000 to determine the percentage of asbestos present in the debris. This work was necessary to forecast the asbestos debris for the HWL. Minimal ACM was found.
- A design revision (DCN-ESL36-19A) to incorporate Lessons Learned from the Section 1 and Section 4 Landfill(s) was completed in May 2003.
- Remediation of the Section 36 Landfill was completed in August 2003. Record documents transferred to the RVO Document Tracking Center on November 3, 2005.
- Additional biota soil was identified in Section 1 and remediated as additional Contingent Soil Volume (CSV) in July 2003 by the subcontractor performing the Section 36 work.

- Remediation of the Section 30 Landfill began in November 2003 and was completed in July 2004. Record documents transferred to the RVO Document Tracking Center on July 27, 2004.
- The Section 36 Landfill was accepted as complete (CCR approved) by the Regulatory Agencies on July 15, 2004.
- Explanation of Significant Differences (ESD) to explain volume difference was approved in May 2005.
- The Section 30 Landfill was accepted as complete (CCR approved) by the Regulatory Agencies on August 16, 2005.

3.3.3 Lake Sediments Remediation

Status - Complete

History

- Design began in September 1997 and was completed in October 1998.
- Fieldwork began in June 1999.
- Fieldwork completed in August 1999.
- Final Inspection was held on October 7, 1999.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on April 20, 2000.
- Record documents transferred to RVO Document Tracking Center on June 7, 2000.

3.3.4 Burial Trenches Soil Remediation

Status – Complete

History

- Design began in August 1997 and was completed in December 1999.
- Physical fieldwork began in April 2000.
- The remediation subcontractor completed the base SOW as outlined in the 100 Percent Design Package (dated December 1999) in October 2000.
- In addition, the RVO has incorporated 15 new sites from Sections 4 and 9 into the Burial Trenches (BT) work scope, and these sites were designated as BT4-01 through BT4-14 and BT9-01. The sites included both surface debris and trenches and were remediated as a “housekeeping” exercise. Sites BT4-01 through -07 was completed in October 2000, Sites BT4-08 through BT4-14 was completed in April 2001, and BT9-01 was completed in August 2001.
- Project accepted as complete (Part 1 CCR approved) by the Regulatory Agencies on September 25, 2002.
- The Army approved amendments to the Chemical Site Safety Submission and Explosive Site Safety Submission in August 2002.
- Remediation activities recommenced during August 2002 focused on Sites ESA-2c, BT20-01, BT29-01, BT29-02, BT30-01 and BT30-01. BT4-15, a site north of the Building 111 parking lot, consisting of railroad ballast with munitions debris was also remediated. Remediation activities were completed in January 2003.

- The Part 2 CCR was accepted as complete (CCR approved) by the Regulatory Agencies on September 30, 2004.
- Project record documents transferred to the RVO Document Tracking Center on February 4, 2005.

3.3.5 Munitions (Testing) Soil Remediation

Status - Complete

History

- Design began in August 1997 and was completed in December 1999.
- Mobilization of equipment for Munitions (Testing) (MT) and BT began in April 2000.
- Physical fieldwork began in July 2000.
- Completed the Final Inspection (Part 1) in November of 2000 and the Regulatory Agencies records review was conducted in January of 2001 without issue.
- Decision by the Summary Team to expand Site ESA-4a beyond the ROD boundary and perform an additional electromagnetic (EM-61) geophysical survey documented in May 2002. The Summary Team also identified additional work in CSA-2c; additional work in CSA-2c is documented in CCR Part 1.
- The process for development of final target clearance criteria was approved by the Regulatory Agencies on April 15, 2003 (Ref: DCN-MTBT-057).
- A Council Meeting to develop a mutually agreeable Path Forward for continued characterization of Site ESA-4a was held on December 10, 2003. The Path Forward for Site ESA-4a was signed by the Regulatory Agencies and the RVO on January 6, 2004.
- The MT CCR Part 1 was approved by the Regulatory Agencies on July 15, 2004.
- An Amendment to the Resolution on the Path Forward for Site ESA-4a, that documented the final target clearance criteria of 3.5 mV for the interval from 0 to 1 foot below ground surface established by the working group in DCN-MTBT-068, was approved by the Regulatory Agencies and the RVO on August 24, 2004.
- Characterization of targets continued during FY05; all target characterization work was completed in July 2005. Approximately 12.4 acres were added to the original site area (approximately 205 acres) during March 2005 when Munitions and Explosive of Concern (MEC) were found in close proximity to the southeast corner of Site ESA-4a in Section 29. Target characterization in this area was completed in June 2005
- A surface sweep of the Borrow Area (BA) BA 10 Burn Area and a geophysical survey and target characterization of the ground surface surrounding BT32-10 were added to the project via DCN and performed under MT Part II in 2005. There were no MEC recovered from either site.
- In June 2005, the RVO directed that site assessment activities for the MT Demolition Range Exclusion Zone (DREZ) (initial sample area of approximately 7.6 acres) be added to the SOW of the MT Project to assist with future decision making for remediation of the DREZ. The RVO expanded the sample area for the MT DREZ in late July 2005 adding an additional 10.7 acres. Target characterization work in the

MT DREZ commenced in July 2005 and was completed in August 2005. The Demolition Range will be remediated as MT Part IV.

- Activities to support permanent revegetation of Site ESA-4a were deferred until early September 2005 to mitigate potential environmental impacts to the burrowing owls that reside in the site area during the summer. Ripping to a nominal depth of 1-foot commenced early in September 2005. Seedbed preparation began in September 2005.
- In July of 2005, the RVO directed the PMC to perform a site assessment of the area contiguous to the historic M47 test pad (intersection of the current North Plants Haul Road and 8th Avenue). This assessment led to a munitions response action requirement for sites BA 9A (Parcel 2) and Site CSA-2c. Southwest/Northwest that was completed in September 2006.
- The site assessment activities for DREZ subsequently led to proposed munitions response action for DREZ. Field operations for the DREZ munitions response were completed in September of 2006. This effort involved the characterization of 41,888 targets and resulted in the recovery of 133 MEC.
- Sampling of the MT site ESA-4a demolition/burn/burial pits was performed in the 1st Quarter of FY07 and the analytical results indicated that there was no concern related to munitions constituents. The Final Inspection for site ESA-4a was performed in December of 2006. The MT CCR Part II final revision was issued as Final in September 2007.
- The Final Inspection of the DREZ and for the munitions response action for sites BA 9A (Parcel 2) and Site CSA-2c Southwest/Northwest was completed in February 2007. The munitions response action for the DREZ, BA 9A (Parcel 2) and Site CSA-2c Southwest/Northwest are addressed in the MT CCR Part III, which was prepared in FY07.
- With approval of DCN-MTBT-092 in Spring 2007, the PMC began efforts to close the RMA Demolition Range and MT Part IV. Effort included the development/approval of the Remediation Plan for the RMA Demolition Range, performance of a surface sweep, initial/Quality Assurance (QA) geophysical surveys, and initial QA target characterization.
- All field work associated with the munitions response portion of the closure of the Demolition Range was completed in November of 2007. All field efforts, including removal of biota soil, were completed in the 2nd Quarter of FY08 and the Final Inspection was performed in March 2008.
- All administrative closure efforts associated with the MT Implementation Project are complete. Final Regulatory Agencies' acceptance of the MT ESD was received on November 18, 2008. Final Regulatory Agencies' acceptance of the MT CCR Part IV was received on May 14, 2009.

3.3.6 Miscellaneous Northern Tier Soil Remediation

Status - Complete

History

- Design began in September 1998 and was completed in October 1998.
- Fieldwork began in April 1999.
- Fieldwork completed in October 1999.
- Final Inspection was held on October 7, 1999.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on April 20, 2000.
- Record documents transferred to RVO Document Tracking Center on June 7, 2000.
- Additional CSV identified during the summer of 2002 and CSV removed in early 2003. CCR addendum issued in March 2004.

3.3.7 Miscellaneous Southern Tier Soil Remediation

Status - Complete

History

- Design began in September 1998 and was completed in October 1998.
- Fieldwork began in April 1999.
- Fieldwork completed in September 1999.
- Final Inspection was held on October 7, 1999.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on July 20, 2000.
- Record documents transferred to RVO Document Tracking Center on August 29, 2000.
- This project was reopened due to soils from the Sand Creek Lateral (SCL) and the South Lake Ditches, located in Section 1 and 2, identified by the Biological Advisory Subcommittee (BAS) to be removed. These soils are referred to as Deep Acute. Work to remove these soils and place them in the HWL began in September 2004.
- Work performed in the fall of 2004 at sites SSA-2a and SSA-2b involved CSV excavation of acute Human Health Exceedance (HHE) level soils at depth and backfilling of the excavated sites. A total of 4,254 bcy of CSV was excavated from the SSA-2a deep acute CSV sites and 3,565 bcy of CSV was excavated from the SSA-2b deep acute CSV sites. The work was performed under the Bald Eagle Management Area (BEMA) guidelines and was completed in December 2004.
- An addendum to the Miscellaneous Southern Tier Soils (MSTS) CCR was submitted to the Regulatory Agencies in June 2005.
- Late in FY04, the U.S. Fish and Wildlife Service (USFWS) tilled a Terrestrial Residual Ecological Risk (TRER) site near the SCL (and the Visitor's Center) in Section 2 as part of the remediation plan for TRER sites. Planned post-TRER remediation soil samples identified HHE and Biota soil contamination. Historical photographic analysis indicated that dredging activities of the Lateral in the 1950s spread contamination onto the Lateral's banks. To address this issue, a site

characterization effort was completed in FY05 to delineate the extent of contamination.

- At the conclusion of the FY05 site characterization effort, a DCN for the remediation of the SCL in Section 2 (MSTS) was prepared and approved in early FY06. A contract to remediate the SCL Biota and HHE soils was awarded in January 2006. The Biota soils were disposed in the Basin A Notch and HHE was placed in the HWL. When the HWL met final waste grades the remaining HHE was disposed in the ELF. The MSTS Remediation included excavation and disposal of approximately 88,000 bcy of HHE and Biota Soils. The MSTS Project finished in the winter of 2006 and revegetation will be performed by the USFWS.
- The Draft CCR for MSTS and Section 35 was submitted to the Regulatory Agencies on February 2007.
- The Final SCL CCR for the MSTS and Section 35 Soil Remediation was accepted as complete (CCR approval) by the Regulatory Agencies on September 2, 2008.

3.3.8 Section 36 Bedrock Ridge Groundwater Plume Extraction System

Status – Complete

History

- Design began in February 1997 by the RVO and was completed in March 1999.
- Contract award made to Morrison Knudsen, May 19, 1999; letter dated May 25, 1999 sent to the Regulatory Agencies informing them that Shell Oil Company (Shell) had assumed lead party responsibility.
- Fieldwork began in July 1999 and was completed in February 2000.
- One year Operational Verification of System Performance was completed in March 2001.
- A two-month-long extraction test began in September 2004 to determine the aquifer response based on use of the monitoring well as an extraction well. Based on the results of the long-term pump test, a DCN will be prepared to best achieve plume capture.
- Fourth extraction well was installed and become operational in August 2005.
- The Bedrock Ridge project was accepted as complete (CCR approved) by the Regulatory Agencies on September 30, 2008.

3.3.9 South Plants Structure Demolition and Removal

Status - Complete

History

The South Plants Structure Demolition project is divided into two phases and five work packages (WP).

Phase I - Work Packages 1-4

- 100 Percent Design Package for Phase I (WPs 1-4 – non-agent) was completed and issued to the Regulatory Agencies in October 1998.
- Phase I (WPs 1-4) consist of nonagent-related structures and is field complete. A total of 148 structures were demolished, with debris from 138 structures transported

to Basin A and debris from 10 structures transported to the HWL. The CCR for Phase I was approved by the Regulatory Agencies on September 29, 2000.

- Record documents transferred to RVO Document Tracking Center on October 18, 2000.

Phase II – Work Package 5

- 100 Percent Design Package for Phase II (WP5 – agent) was completed and issued to the Regulatory Agencies in October 1999.
- Phase II (WP5) mainly consists of agent-related structures.
- A total of 50 structures were demolished, with debris from 49 of the structures transported to the HWL for disposal.
- Fieldwork was completed in May 2001.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on July 2, 2002.
- Record documents transferred to RVO Document Tracking Center on September 16, 2002.

3.3.10 Miscellaneous RMA Structures Demolition and Removal

Status - Active

History

- Design began in November 1998 and was completed in January 2000.
- Phase I Structure Demolition original SOW was completed in November 2000. A total of 102 structures within Phase I have been demolished, with debris from 87 structures transported to Basin A and debris from 15 structures transported to the HWL.
- The final CCR for Phase I, including demolition of Building 809, (added scope) was transmitted to the Regulatory Agencies in May 2002, with the Regulatory Agencies acceptance on September 30, 2002. Revision 1 of the CCR was transmitted to the Regulatory Agencies on July 1, 2003.
- Record documents transferred to the RVO Document Tracking Center September 30, 2002.
- DCN-MSD2-002 was prepared to update specifications and drawings and to add the removal of debris piles to the design; the DCN was approved in October 2003.
- Phase II began in August 2003 and was completed in October 2004. A total of 53 debris piles and 30 structures were removed/demolished as part of Phase II.
- The Phase II CCR was completed in January 2006 and accepted by the Regulatory Agencies in June 2006.
- DCN-MSD2-013 was prepared and approved in FY06 which incorporated into the design the refinement of 17 ROD identified “No Future Use” structures “No Future Use” Sub Stations to “Future Use” structures.
- The RVO identified two potential new sites associated with the North Plants construction and/or operations requiring investigation for potential contamination. The RVO requested that PMC prepare a task order proposal to perform this new

SOW under Miscellaneous RMA Structure Demolition and Removal Project – Phase III.

- During FY07 it was decided, based on an assumed program-wide funding availability projection, that the implementation schedule for the Miscellaneous RMA Structure Demolition and Removal Project – Phase III would be accelerated from FY09 to FY08. To meet the accelerated schedule the Phase III DCN was distributed to the Regulatory Agencies for approval in September 2007.
- In addition, the RVO elected to remove the asbestos containing material and miscellaneous debris in Section 25 under the Miscellaneous phase III Project. A DCN proposing remediation of the site was approved in September 2007 by the Regulatory Agencies.
- Building 884 refinement to Future Use classification (DCN-MSD3-003) was accepted by the Regulatory Agencies in August 2007. Building 132 refinement to Future Use classification (DCN-MSD3-004) was accepted by the Regulatory Agencies in November 2007.
- Phase III began in February 2008 remediation included:
 - Excavation of asbestos-containing soil and miscellaneous construction debris (Section 25 Asbestos Remediation)
 - Section 29 Magazine Area Munitions Response that included soil excavation and clearance of the soil beneath three magazines
 - Demolition of 25 aboveground and belowground structures
 - Removal Asbestos-Containing Soil in Building 111 Crawl Space
 - Removal of transite and Thermal System Insulation (TSI) from Structures 111,618, 619 and 1726. After close of the ELF asbestos containing soil from Structure 111 Crawl Space Remediation and friable TSI were transported off-site.
- In October 2008 and subsequently in March 2009, previously unidentified features (i.e., concrete pad, sump and manhole) were discovered in Section 4; removal backfill and grading were completed in May 2009. The Data Summary Report (DSR) which was in progress was revised to include the results of the two CSV samples that were collected. The Final DSR and responses to the Regulatory Agencies comments were transmitted to and accepted by the Regulatory Agencies in May 2009.
- A DCN was prepared in responses to the Regulatory Agencies' comments on the Draft CCR regarding documentation for the RMA Primary Electrical Substation and the future demolition of CERCLA Building 318 the CERCLA Waste Water Treatment Plant (WWTP). The DCN was approved in July 2009, which resulted in a Miscellaneous Structure Phase IV to demolish and document the demolition of Building 318.
- The Draft CCR for Phase III was issued to the Regulatory Agencies in October 2008; the Final Records Review was conducted in November 2008. The Final Inspection for Phase III structure portion was completed in August 2009.

Drummed Waste Handling and Disposal

Status - Completed

- The drum processing and disposal task for drums in the South Plants/Miscellaneous Structures began operations in June 2000 and completed task in December 2000.
- Close to 13,000 items were processed through the drum shredder and disposed of in the HWL.
- The drum shredding project completion report was included in the Miscellaneous RMA Structure Demolition and Removal – Phase I CCR.
- The task for drums stored in the North Plants was awarded in August 2000 and completed in December 2000. 4,446 drums were processed, of which 197 poly drums were shredded and the remaining drums were emptied and crushed. All debris was disposed of in the HWL.
- The North Plants drum removal project completion report was included in the Miscellaneous RMA Structure Demolition and Removal – Phase I CCR.

Section 36 Boneyard Screening and M139 Bomblet Destruction Task

Status - Completed

- Discovery, handling and destruction of M139 bomblets and final screening and debris removal of the Section 36 Boneyard are documented in the Miscellaneous RMA Structures Demolition and Removal Project Phase I CCR. See the section entitled “UXO Emergency Response” for further information.

Review of Last Year

The Final CCR for Phase III was issued in November 2009 and received the Regulatory Agencies’ approval in December 2009.

Prepared a DCN to address CERCLA demolition design requirements. Miscellaneous RMA Structures Demolition and Removal Phase IV, including demolition of the CERCLA Wastewater Treatment Facility began late August 2010.

Look Ahead

Phase IV demolition and removal activities are planned to finish in November 2010. The phase IV CCR will be prepared and is planned to be approved in late March 2011.

3.4 Phase II – South Plants Area

3.4.1 Buried M-1 Pits Soil Remediation

Status - Complete

History

- Treatability Study was completed in 1999 and a Treatability Study Report was issued in early 2000.
- Cement Soil Stabilization was selected as the best option for meeting the ROD goals and standards for stabilizing the contaminated soil prior to disposal in the HWL.

- Design began in January 2000 and was completed in January 2001.
- Fieldwork awarded in February 2001 and completed in November 2001.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on July 18, 2002.

3.4.2 Hex Pit Soil Remediation

Status - Complete

History

- In-Situ Thermal Desorption (ISTD) was selected as the remedy method (March 2000).
- Shell Corporation donated the patent rights to the ISTD technology to the University of Texas at the end of 1999.
- TerraTherm (TT) LLC, was formed as the sole licensee to use this technology in early 2000.
- Design began in February 2000 and was completed in March 2001.
- TT mobilized in September 2001 and began site preparation in October 2001.
- System evaluation began on March 18, 2002, after failure of remedy method, with the decision to terminate on April 17, 2002.
- The working group, with concurrence of Restoration Advisory Board (RAB) members selected soil excavation and disposal in the HWL. Due to the change in the method of remediation, a ROD Amendment was required.
- A Treatability Study was performed to demonstrated Hex Pit leachate and HWL liner compatibility, and completed in November 2002.
- ROD amendment began in June 2002; with the Regulatory Agencies approval (Transmittal of document, signed by the RVO and the Regulatory Agencies), April 17, 2003.
- Redesign of the Hex Pit Soil Remediation Project began in October 2002 and was completed in October 2003.
- Excavation and disposal to the HWL began in November 2003 and was completed in January 2004. Approximately 4,310 bcy were placed in the HWL (2,795 bcy of HHE, 1,436 bcy of P1 soils, and 79 bcy of debris).
- The project was accepted as complete (CCR approved) by the Regulatory Agencies on July 21, 2004.

3.4.3 South Plants Balance of Areas and Central Processing Area Soil Remediation – Phase II

Status - Active

History

- The Draft Design Scope of Work (DDSOW) was submitted to the Regulatory Agencies in September 1998. The South Plants Central Processing Area (SPCPA) Soil Remediation and South Plants Balance of Areas (BOA) Soil Remediation were separated into two phases.
- The Phase II Design Deadline (95 Percent Design) was submitted August 7, 2000.

- The Phase II 100 Percent Design Package was submitted to the Regulatory Agencies in June 2001. Phase II includes the excavation of HHE soil in the Central Processing Area (CPA), consolidation of biota soil, and the construction of a soil cover for all the South Plants Area. The implementation of this design will be accomplished in two distinct parts: 1) Excavation of HHE soil, consolidation of biota soil, and subgrade construction; and 2) Final cover construction.
- The Phase II Part 1 remediation began in December 2001.
- During Phase II Part 1 approximately 16,000 bcy of HHE soil from CPA was excavated and transported to the HWL. 124 foundations were removed from the CPA. 136 foundations were removed in BOA, 300,000 bcy of biota soil excavated and 150,000 bcy excavated from Borrow Area 11 and placed in Complex Army Trenches, and 1.3 million bcy of gradefill was excavated and placed in CPA. Phase II Part 1 remediation was completed in June 2003.
- Cover redesign began in April 2003 to meet the RCRA-Equivalent Cover specifications.
- The procurement cycle for the SPCPA and BOA subgrade construction was initiated in January 2004 and the subcontract was awarded on June 14, 2004. Mobilization activities began in early July 2004. The work was completed in November 2004.
- The cover redesign work was dependent upon the Basin F/Basin F Exterior Soil Remediation – Part II project to provide resolution of the remaining Regulatory Agencies design issues pertaining to RCRA-Equivalent Covers.
- The Borrow Area characterization sampling and testing were performed to find acceptable soils from within Borrow Area 10 for the RCRA-Equivalent Cover and soils with acceptable fines content and agronomic characteristics for the 3.5-foot cover from Borrow Area 3.
- In Summer 2007, based on a 2006 EPA evaluation of ditch banks, the Regulatory Agencies directed CSV soil sampling was performed in SAR Site SPSA-9A, which is located in the 1-Foot Backfill Area. In Spring/Summer 2007 soil sampling was performed in the 1-Foot Backfill Area for the purpose of eliminating the 1-Foot Backfill requirement. The requirement for placement of 1-foot of backfill was eliminated from sampled areas and, as a result of this and the CSV sampling, in Spring/Summer 2008, approximately 18,000 cy of additional biota exceedance soil was excavated and consolidated within the CPA boundary. The requirements of remediation of the biota soil identified in 2007 were proposed in DCN-ICSC-6, which was approved by the Regulatory Agencies in April 2008.
- The Integrated Cover System Design (ICSD) Revised 95 Percent Design Package was disputed by the Regulatory Agencies, specifically the agreed upon redesign of the capillary barrier system. Revised 95 Percent Design was resolved and documented in the Dispute Resolution Agreement for the Revised 95 Percent ICSD – Signed by all Parties on June 6, 2007. The revisions as documented in the Dispute Resolution were incorporated and presented in Revision 1 of the ICSD 100 Percent Design, dated July 24, 2007.
- Completion of Revision 1 of the South Plants Phase 2, Part 1 and Part 2 CCR was delayed during FY08 due to the additional biota soil removal activities in the South Plants 1-Foot Backfill Area performed in Spring/Summer 2008.

- Draft ICS Project Subgrade and Cover Construction CCR – Part 1, which documented all ICS work completed through the end of FY08, was transmitted to the Regulatory Agencies in December 2008.

Review of Last Year

The South Plants Phase 2, Part 1 and Part 2 CCR Revision 1 was approved by the Regulatory Agencies in January 2010.

Construction activities for FY10 primarily included installation of engineering controls, construction of the perimeter access road and ICS construction subcontractor demobilization. ICS Cover Construction Final Inspection activities were completed in April 2010.

Short-Term Monitoring & Maintenance of the South Plants covers began in April 2010 after completion of the first season of irrigation and final inspection activities.

The Final ICS CQA Certification Report was transmitted to the Regulatory Agencies in September 2010. The Final ICS CCR was transmitted to the Regulatory Agencies in September 2010.

Look Ahead

Upon Regulatory Agencies' approval of the ICS CCR, planned for early October 2010, this Remedy Project will be complete.

The FY10 Short-Term Monitoring & Maintenance activities for RCRA-Equivalent, 2-, and 3-Foot Covers will be documented in the 2010 Annual Covers Report, which is scheduled to be issued in November 2010.

3.4.4 South Plants Balance of Areas and Central Processing Area Soil Remediation – Phase I

Status - Complete

History

- The Draft SOW was submitted to the Regulatory Agencies in September 1998. This acceleration was essential in order to support the requirements of a 3:1 ratio of soil to debris the HWL. HHE soil excavation must be concurrent with WP 5 of the South Plants Structure Demolition project to support this effort. The SPCPA Soil Remediation and South Plants BOA Soil Remediation were separated into two phases.
- The Phase I 100 Percent Design Package was submitted to the Regulatory Agencies in March 2000. Phase I included the excavation of HHE soil within the South Plants BOA. Phase I activities commenced in Spring 2000 and were completed in October 2001.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on September 24, 2002.

3.5 Phase III – Sections 35 And 36 Sites

3.5.1 Sanitary Sewer Manhole Plugging – Phase II

Status – Complete

History

- The Final Design Scope of Work (DSOW) was issued in July 25, 2002.
- The majority of the sanitary sewers included in the scope serve structures that are currently scheduled for demolition under Phase III of Miscellaneous RMA Structure Demolition and Removal Project. Therefore, the Sanitary Sewer Manhole Plugging Project – Phase II design has been placed on hold and is scheduled to resume in 2009 to coincide with the implementation of Phase III of the Miscellaneous RMA Structure Demolition and Removal Project.
- The design will commence at the 95 Percent level as identified in the Final DSOW.
- Revision 1 of the Final DSOW was issued on February 2006 to clarify the scope of the project regarding use of specific manholes.
- The 95 Percent Sanitary Sewer Manhole Plugging Project – Phase II Design Package was issued to the Regulatory Agencies in September 2007.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on February 17, 2009.

3.5.2 Section 36 Balance of Areas Soil Remediation

Status – Complete

History

- Design began in December 2000.
- The 30 Percent Design Package issued to the Regulatory Agencies in May 2001.
- The issue of Maximum Credible Event (MCE) was introduced to the project in December 2001. Due to MCE issues, the plan was for two designs, MCE areas and non MCE areas.
- Following revised MCE determinations, “it is not possible to determine an MCE for this project,” (3rd Quarter FY 2002) from the Department of Defense Explosives Safety Board (DDESB), the scope reverted back to a single design for the entire project.
- Final 100 Percent Design Package was completed in April 2003. This included a Sampling and Analysis Plan (SAP) to Determine Potential Residual Biota Risk for Soil Cover Deletion Areas.
- Implementation start occurred in May 2003. The work has been divided into two parts due to budget constraints. Part 1 includes all remediation and backfill. Part 2 includes excavation and grading for contours to allow run-off from Basin A, Complex (Army) Trenches, and Shell Disposal Trenches (SDT).
- A Surface Sweep by UXO personnel began late in June 2003 and was finished in August 2003. An area within the boundaries of Site CSA-4 is the Explosive Site Safety Submission boundary, which is believed to have the greatest potential to produce MEC during the remediation process. This boundary was established using

a characterization process, which included a surface sweep using magnetometers to help identify which areas, had the densest sub-surface debris. During this characterization process the PMC UXO sweep team members recovered five M15 White Phosphorus grenades. A Site Safety Submission was prepared by the project team approved by the DDESB; remediation was completed in April 2004.

- In FY03, the operations subcontractor for Basin A removed biota soils from an area of Section 36 BOA and placed them as gradefill in Basin A, initiating Part 1 of the project.
- A subcontract for soil remediation was awarded in July 2003 to excavate and transport HHE soils to the HWL, and Biota and P1 soils to Basin A. The SOW for this subcontract comprised the majority of the Section 36 BOA Part 1 project.
- The subcontractor mobilized in September 2003 to remediate HHE and debris designated by the ROD for placement in the HWL, and all other debris for placement in Basin A. The original SOW was completed in January 2004.
- Scope changes identified in FY04 included excavation and disposal of additional P1 soils along the Complex (Army) Trenches boundary and the excavation of additional chemical sewer lines. Sampling results indicated additional excavation was required to meet the ROD-specified width of 20 feet and a depth of either 10 feet or 2 feet below the bottom of pipe, whichever was greater. This action was consistent with the chemical sewer line SAP and Appendix M-1 to the 100 Percent Design.
- The final grade design of the primary drainage channel in the southeastern portion of Section 36 BOA was raised 3 feet due to revised design criteria. This change reduced the volume of gradefill available in the area by approximately 91,000 cy.
- Mobilization for the first phase of Section 36 BOA – Part 2 began in April 2005. The scope of Part 2, Phase 1 established the flow lines of the southeast drainage areas and constructed the subgrade for the SDT 2-foot soil cover, the SDT RCRA-Equivalent cover and Basin A South RCRA-Equivalent cover. Part 2, Phase 1 was completed in October 2005.
- Mobilization for Part 2, Phase 2 began in September 2005. Part 2, Phase 2 work activities finished the southeast drainage areas, provided gradefill for the Complex (Army) Trenches RCRA-Equivalent cover subgrade and established drainage for the northwest part of the section into Borrow Area 3.
- Upon approval from the RVO, the PMC demolished Building 312, (Fire and Emergency Services Building) and Building 307 (potable water meter pits). Debris from this effort was transported to the HWL and the Basin A Consolidation Area Notch for disposal.
- The Draft CCR for Section 36 BOA – Part 1 was submitted to the RVO for review in March 2006.
- Sampling of the final graded surface in the southeastern drainage area was performed in the September 2006. No additional contaminated soil was identified by the sampling.
- The southeastern drainage area was prepared for revegetation in the Spring and Summer 2007. The area was ripped, disced, rocks were removed from the site, and soil amendments were applied.
- A DCN was prepared in March 2008 which added the removal of a drainage pipe identified during the geophysical survey of site CSA-4 North to the project scope.

The drain pipe was excavated and disposed in Basin A in March 2008. The area was subsequently screened by UXO personnel for anomalies. No anomalies were identified during the screening process.

- Final Inspections were performed on the subgrade of the SDT 2-foot cover, which was constructed as part of the Section 36 BOA – Part 2 project. The subgrade was inspected in two parts in March 2008 and August 2008 prior to cover construction.
- The Section 36 BOA Munitions Response Report, Revision 1 was transmitted to the Regulatory Agencies in April 2008, and was subsequently approved.
- The Section 36 BOA – Part 1 CCR, was approved by the Regulatory Agencies on May 5, 2009.
- The Section 36 BOA Waste Volume and Cost ESD received the Regulatory Agencies approval on October 8, 2009.
- The Section 36 BOA – Part 2 CCR received the Regulatory Agencies approval on February 22, 2010.

3.5.3 Secondary Basins Soil Remediation

Status - Complete

History

- Design began August 1999 and was finalized in August 2000.
- Implementations are divided into two parts: Part 1 includes HHE removal in support of demolition of the North Plant structures to maintain an appropriate soil to debris ratio at HWL. Part 2 includes excavation and disposal of biota and P1 soils into Basin A.
- HHE soil removal began in June 2001 and completed in September 2001.
- Verification sampling to support backfill instead of 2-foot soil cover completed in the summer of 2001; results indicated that there was no material remaining in the secondary basins project area that contained contaminants above the HHE criteria for the Chemical of Concern or contained contaminants that could affect groundwater.
- ESD reflecting change from soil cover to backfill approved in January 2002.
- Excavation of biota and P1 soils began in June 2002 and was completed in February 2003.
- The project was accepted as complete (CCR approved) by the Regulatory Agencies on July 15, 2004. Record document transferred to the RVO Document Tracking Center on July 20, 2004.
- CSV excavation in 2007 was added to the Secondary Basins Soil Remediation Project after the discovery of human health exceedance soil near a former ditch as a result of sampling conducted as part of the site-wide investigation of ditches at RMA. This CSV excavation was completed on December 7, 2007. A total of 1,909 bcy of CSV soil was excavated from the Secondary Basins area and disposed in the ELF.
- Backfill of the Secondary Basins ditch CSV excavation began on February 21, 2008 and was completed on February 28, 2008. Preparation of the Secondary Basins CSV CCR began in April 2008 following completion of backfill and Final Inspection activities. The CCR was temporarily suspended to allow for a 5-point composite sample for Biota risk to be collected of the backfill material, as this material was

obtained from an area southeast of Basin F that was subsequently suspected to have residual biota risk.

- Based on the analytical results of the 5-point composite sample for Biota risk, the backfill material was excavated in October 2008 and disposed in the Basin A Consolidation Area Notch and the removed backfill material was replaced with clean fill.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on June 15, 2009.

3.5.4 Complex (Army) Disposal Trenches Remediation - Cover

Status - Active

History

- Design began in December 2002.
- The 30 Percent Design Package was submitted to the Regulatory Agencies in August 2003.
- As outlined in a letter to the Regulatory Agencies in June 2003, the strategy for this project design schedule has been to follow the Basin F/Basin F Exterior – Part 2 Design (RCRA-Equivalent Cover Design).
- Approximately 150,000 bcy of P1 soil excavated from BA 11 were placed in Complex Army Trenches by the SPCPA project in FY03 as gradefill. This closed Borrow Area 11.
- The RVO/PMC linked the start of 60 Percent Design to the completion of the Regulatory Agencies review and comment period for the Basin F/Basin F Exterior – Part 2 95 Percent Design. The Basin F/Basin F Exterior – Part 2 Design comments were received in April 2004.
- The Complex (Army) Trenches Remediation design was separated into two phases: Phase I – Subgrade Construction and Phase II – Cover Construction. The subgrade design started in May 2004 and the 95 Percent Design were completed in September 2004.
- During FY04, additional scope was developed for BAs 10 and 9c soils characterization for use as RCRA-Equivalent Cover soils and a surface sweep for the subgrade phase of the design were performed.
- A subcontract was awarded in September 2005 to construct the Complex (Army) Trenches Subgrade including placement of approximately 914,801 bcy of gradefill from the Section 36 BOA excavation area and approximately 283,592 bcy of gradefill from BA 10 into the Complex (Army) Trenches. This effort was completed in October 2006.
- The ICSD Revised 95 Percent Design Package was disputed the Regulatory Agencies, specifically the agreed upon redesign of the capillary barrier system. The dispute of the ICSD Revised 95 Percent Design Package was resolved and document in the Dispute Resolution Agreement for the revised 95 Percent Design Package ICSD – signed by all Parties on June 6, 2007. The revisions as documented in the Dispute Resolution were incorporated and presented in Revision 1 of the ICSD 100 Percent Design, submitted in July 2007. Comments from the Regulatory Agencies on Revision 1 of the 100 Percent Design Package were received in August 2007.

- Completion of ICS construction has been accelerated from September 2011 to September 2010, based on availability of funds and proceeding with the phased construction approach. The phased construction approach was approved by the RVO and accepted by the Regulatory Agencies.

Review of Last Year

Construction activities for FY10 primarily included installation of ICS engineering controls, construction of the ICS perimeter access road and ICS construction subcontractor demobilization. ICS Cover Construction Final Inspection activities were completed in April 2010.

Short-Term Monitoring & Maintenance of the CAT cover continued throughout FY10.

The Final ICS CQA Certification Report was transmitted to the Regulatory Agencies in September 2010. The Final ICS CCR was transmitted to the Regulatory Agencies in September 2010.

Look Ahead

Upon Regulatory Agencies' approval of the ICS CCR, planned for early October 2010, this Remedy Project will be complete.

The FY10 Short-Term Monitoring & Maintenance activities for RCRA-Equivalent, 2-, and 3-Foot Covers will be documented in the 2010 Annual Covers Report, which is scheduled to be issued in November 2010.

3.5.5 Shell Disposal Trenches Remediation – Cover

Status - Active

History

- Design began in December 2002; the 30 Percent Design Package was submitted to the Regulatory Agencies in August 2003.
- As outlined in a letter to the Regulatory Agencies in June 2003, the strategy for this project design schedule has been to follow behind the Basin F/Basin F Exterior – Part 2 Design (RCRA-Equivalent Cover Design).
- The RVO/PMC linked the start of 60 Percent Design to the completion of the Regulatory Agencies' review and comment period for the Basin F/Basin F Exterior – Part 2 95 Percent Design. The Basin F/Basin F Exterior – Part 2 Design comments were received in April 2004.
- The comments led to a recommendation by the RVO/PMC team for the SDT RCRA-Equivalent Cover to be the first of the covers to be constructed. In addition, the Regulatory Agencies requirement for the inclusion of moisture probes will allow the earliest start of data collection.
- The Shell Trenches RCRA-Equivalent Cover Design was separated into two phases: Phase I – Subgrade Construction and Phase II – Cover Construction. The subgrade design (started in April 2004) and the 95 Percent Design were completed in July 2004.

- The RCRA-Equivalent Cover Design began in June 2004.
- The 100 Percent Design was issued in December 2005 and revised in May 2006.
- The Regulatory Agencies approval was received in June 2006.
- A subcontract was awarded and work began on construction of the RCRA-Equivalent Cover in August 2006.
- Between the end of December 2006 and March 2007 field activities were suspended due to heavy snow. Construction continued in March 2007 with geotextile placement followed by protective soil layer placement in March 2007 as well.
- After approximately 70% of the protective soil layer was placed, a DCN was issued calling for the removal of the upper portion of the protective soil layer based on RVO concerns regarding soil compaction and future root penetration.
- Physical construction of the SDT RCRA-Equivalent Soil Cover, through completion of permanent revegetation was completed in June 2007.
- Irrigation of the RCRA-Equivalent Soil Cover was completed in September 2007.
- Preparation of the CQAE Certification Report for construction of the RCRA-Equivalent Soil Cover began in June 2007 and was approved by the CDPHE in June 2008.
- Final Inspection activities for the SDT RCRA-Equivalent Soil Cover were completed in October 2007.
- Short-Term Monitoring & Maintenance of the RCRA-Equivalent Cover began in October 2007 after completion of the first season of irrigation.
- The Part 1 CCR for the RCRA-Equivalent Cover Construction Project was approved by the Regulatory Agencies on January 5, 2009.

Review of Last Year

Construction activities for FY10 primarily included installation of ICS engineering controls, construction of the ICS perimeter access road and ICS construction subcontractor demobilization. The ICS Cover Construction Final Inspection activities were completed in April 2010.

Short-Term Monitoring & Maintenance of the SDT cover continued throughout FY10.

The Final ICS CQA Certification Report was transmitted to the Regulatory Agencies in September 2010. The Final ICS CCR was transmitted to the Regulatory Agencies in September 2010.

Look Ahead

Upon Regulatory Agencies approval of the ICS CCR planned for early October 2010 this Remedy Project will be complete.

The FY10 Short-Term Monitoring & Maintenance activities for RCRA-Equivalent, 2-, and 3-Foot Covers will be documented in the 2010 Annual Covers Report, which is scheduled to be issued in November 2010.

3.5.6 North Plants Soil Remediation

Status - Complete

History

- All soil remediation Study Area Report (SAR) sites were transferred to the North Plants Structure Demolition and removal project in FY01. The design of the soil cover remains in this implementation project.
- During the North Plants Structures Demolition project, a petroleum-contaminated soil was discovered, along with free product on the water table. The discovery of the petroleum-contaminated soils resulted in a revised scope to the North Plants Soil Remediation project, and a design analysis.
- Design began in June 2003. The SAP was presented in July 2003 and approved in November 2003 to further delineate the free product plume within the North Plants boundary and determine a plan for remediation.
- Sampling, analysis, and characterization were conducted between November 2003 and February 2004 to determine the extent of the petroleum contamination. A Petroleum Release Evaluation Report (PRER) describing the historical diesel fuel spill, and the current conditions of the water table was prepared and presented to the Regulatory Agencies in March 2004.
- Work on the DDSOW began in July 2004 and the DSOW was submitted in September 2004. It includes the design of the Free Product Recovery System.
- The North Plants Soil Remediation 30 Percent Design was submitted to the Regulatory Agencies for review in January 2005. The 95 Percent Design Deadline was delayed due to issues raised by the Regulatory Agencies regarding Free Product characterization and removal from groundwater.
- Water table and Light Non-Aqueous Phase Liquids (LNAPL) thickness measurements were obtained in July 2007 and discussions between the RVO and Regulatory Agencies were held to resolve the manner in which the site would be remediated. By the end of FY07, it appeared likely that the RVO would pursue remediation of the site in manner consistent with the Colorado Division of Oil and Public Safety (OPS) guidelines.
- A formal evaluation of the existing water table and LNAPL data, titled Petroleum Release Evaluation Action Plan (PREAP), was prepared in early FY08 by RVO. Following the review and comment process with the Regulatory Agencies, the Final PREAP was issued in April 2008.
- As a result of the PREAP, the RVO prepared a LNAPL Action Plan in FY08 which presented pilot study and remediation options for the area.
- Based on evaluation of new and historic data, the LNAPL-related actions were separated from the North Plants Soil Remediation project for implementation. LNAPL Action Plan preparation and related treatment activities, if any, will be implemented under the Water Treatment Work Breakdown Structure.
- As a result of the FY08 LNAPL-related actions, the RVO was able to finalize and submit the ESD for elimination of the 2-foot Cover in early FY09 and the ESD was approved on January 6, 2009, completing this Implementation Project.

3.5.7 Section 35 Soil Remediation

Status – Complete

History

- Design began in December 1998.
- An ESD was submitted and approved by the Regulatory Agencies to eliminate further remedy of the Former Chemical Sewer site (NCSA-6a) located in Sections 26 and 35, as the work was already performed in 1982. A portion of the surficial biota soil that fell in Section 26 was transferred to the Secondary Basins Soil Remediation Project – Part 1 during the 30 Percent Design Package.
- The Final Design for Section 35 was completed in February 2002.
- Remediation for this project was performed by the same subcontractor on the Secondary Basins project for Part 2. Excavation of contaminated soils began in June 2002 and was completed in February 2003.
- The project was accepted as complete (CCR approved) by the Regulatory Agencies on July 15, 2004. Record documents transferred to the RVO Document Tracking Center on July 20, 2004.
- Late in FY04, the USFWS tilled a TRER site near the SCL (and the Visitor’s Center) in Section 2 as part of the remediation plan for TRER sites. Planned post-TRER remediation soil samples identified HHE and Biota soil contamination. Historical photographic analysis indicated that dredging activities of the Lateral in the 1950s spread contamination onto the Lateral’s banks. To address this issue, a site characterization effort was completed in FY05 to delineate the extent of contamination.
- At the conclusion of the FY05 site characterization effort, a DCN for the remediation of the SCL in Section 35 was prepared and approved in early FY06. The Biota soils were disposed in the Basin A Notch and HHE was placed in the HWL. When the HWL met final waste grades the remaining HHE was disposed in the ELF. Section 35 Soil Remediation included excavation and disposal of approximately 75,500 bcy of HHE and Biota soils.
- The Draft CCR for MSTs and Section 35 was submitted to the Regulatory Agencies February 2007.
- The Final SCL CCR for the MSTs and Section 35 Soil Remediation received the Regulatory Agencies’ approval on September 2, 2008.

3.5.8 North Plants Structure Demolition and Removal

Status - Complete

History

- The 100 Percent Design Package for the Structures Demolition was delivered to the Regulatory Agencies in July 2001.
- The 100 Percent Design Package for the Destruction of Specialized Equipment was delivered to the Regulatory Agencies in April 2001.
- Soil remediation and chemical sewer removal have been transferred from the North Plants Soil Remediation Project and have been included in the design.

- A portion of the SOW, which is identified under the Chemical Weapons Convention (identified in the schedule as Specialized Equipment) started in May 2001. A stop work order was issued by the RVO in July 2001 (for chemical weapons treaty declared equipment only) due to the lack of an approved “verification plan” to document destruction of declared equipment. The subcontractor completed the remaining SOW other than the declared equipment in September 2001 and demobilized from the site. The subcontract for the North Plants Structures Demolition and Removal Project was awarded on October 10, 2001. This subcontractor has completed the destruction of the remaining “specialized equipment”. This work began in December 2001.
- In June 2001, an SAP was issued with the design and approved in July 2001. The purpose is primarily to provide the Regulatory Agencies with groundwater data, which they will use to determine where confirmatory samples will be taken. Verification samples were taken in support of potentially eliminating the requirement for a soil cover much like what occurred in the Secondary Basins Soil Remediation project. If the results of the confirmatory samples are favorable, an ESD will be prepared for the Regulatory Agencies review and public comment for the purpose of eliminating the requirement for a soil cover.
- All HHE soil and biota soil associated with SAR sites have been excavated and disposed in the HWL. Approximately 2,100 linear feet of chemical sewer downstream from Sump 1727 has been excavated and backfilled. Fifty-two structures have been demolished and completely removed.
- All treaty equipment was destroyed in 2001 with the exception of ten Sarin (GB) fill machines and 23 drums containing valves, miscellaneous items, residues, asbestos, or salts. These items required additional decontamination. To decontaminate this equipment, a vapor containment structure was built and decontamination was completed in April 2003.
- All treaty equipment destroyed in 2001 has been disposed of in the HWL. The ten destroyed fill machines were inspected by treaty personnel and were disposed in the HWL in 2003.
- Implementation Finish (Final Inspection) was in June 2003.
- Work began on the CCR in June 2003 and continued through FY04. The CCR was delayed while an ESD for the increase in soil volume excavation was prepared and approved. The ESD was approved on September 28, 2004.
- This project was accepted as complete (CCR was approved) by the Regulatory Agencies on September 30, 2004. Record documents transferred to the RVO Document Tracking Center on February 15, 2005.

3.6 Phase IV – Basin F/Lime Basins

3.6.1 Basin F Wastepile Remediation

Status - Complete

History

- The RVO submitted the Wastepile Treatability Study Draft Final Report to the Regulatory Agencies in November 2000.
- ICD submitted to the Regulatory Agencies in January 2001.
- The 95 Percent Design Package was submitted to the Regulatory Agencies in July 2002.
- The public comment period for the 95 Percent Design Package ended in August 2002.
- The Final 100 Percent Design Package was approved in December 2002.
- A design revision on the Basin F Wastepile Remediation project was approved in June 2005. The revision relocated project facilities which will be used by the Basin F Wastepile Remediation project and by the Former Basin F PT Soil Remediation project. The facilities that were relocated include the Drying Facility, Decontamination Pad, Stormwater Transfer Line, and Haul Road to the ELF. The DCN was approved by the Regulatory Agencies in June 2005.
- Mobilization and site preparation activities for the project began in October 2005. Construction of the Drying Facility/Leachate Storage Facility was completed in December 2005. Site Preparation work was completed in March 2006.
- The Odor control Evaluation/Slow Start began in April 2006 upon receiving the Regulatory Agencies approval to place waste in the ELF. After the results of the Slow Start we evaluated, excavation of the Basin F Wastepile began at the normal operations excavation rate.
- Wastepile excavation was completed on July 30, 2007. A total of 489,396 bcy of wastepile material was excavated, transported, and disposed in the ELF. Subcontractor demobilization activities were completed in August 2007.
- Preparation of the Basin F Remediation Closure Certification Report – Part 1 (for wastepile excavation), began in July 2007. Preparation of the CCR began in August 2007 following completion of backfill and Final Inspection activities.
- The Closure Certification Report – Part 1 was issued to the Regulatory Agencies in January 2008.
- The Basin F Wastepile Remediation CCR received the Regulatory Agencies' approval on June 15, 2009.
- The Closure Certification Report for the entire Basin F Remediation project that includes: Part 1 (Basin F Wastepile), Part 2 (PT Soil Remediation), Part 3 (Basin F RCRA-Equivalent Cover Construction), and a Closure Certification statement were submitted in August 2010 and the Regulatory Agencies' approval was received on September 29, 2010.

3.6.2 Former Basin F Principal Threat Soil Remediation

Status - Complete

History

- Project planning and preparation of the Solidification Treatability Study protocol began in April 2001.
- Procurement of a Solidification Treatability Study laboratory subcontract began in August 2001.
- Field activities to collect soil samples were conducted in November and December 2001.
- Laboratory Testing began December 17, 2002.
- The Treatability Study progressed to near completion, when a revised remedy for the Section 36 Lime Basins site was proposed. The proposed revised Lime Basins remedy is contain-in-place, in lieu of excavation and disposal in the ELF. The revision to the Lime Basins remedy would make the ELF Lime Basins disposal cell available. The proposal was made to utilize the available cell for the disposal of Basin F PT Soil, identified in the ROD for solidification. Therefore, the final tier of the Treatability Study was suspended.
- The PMC issued the Final Treatability Study Report to the RVO for transmittal to the Regulatory Agencies in January 2005. This concluded the Solidification approach to this material.
- To support the proposed Former Basin F PT Soil Remediation, odor and chemical flux testing was performed in July 2005.
- ROD Amendment was approved in October 2005, and included the following: changed selected remedy for Section 36 Lime Basins from excavate/landfill to RCRA-Equivalent cover and groundwater barrier wall. Change selected remedy for Basin F PT Soil from in-situ solidification to excavate and dispose in ELF.
- A pilot demonstration of odor control measures (soil, geomembrane, foam, and combinations) was performed on the most odorous principal threat soils in March and April 2006.
- The Full-Scale Excavation and Odor Controls Demonstration Work Plan were submitted to the Regulatory Agencies for review in July 2006. The Regulatory Agencies' comments received in August 2006 and included consensus suggestion that the scope should be significantly reduced. In September 2006 it was suggested that the Full-Scale Demonstration was unnecessary to prove that the design could be implemented. The basis for this included the odor and chemical flux testing and demonstration of odor control measures performed after the ROD Amendment strongly indicated that very high odor soils are not as prevalent as initially conceived and conventional odor control measures were shown to be 98 to 100% effective.
- A DCN to add the excavation of Key-Cut soils to support Basin F Cover construction was finalized in August 2007. The subcontract for the Basin F PT Soil Remediation Project was awarded in April 2007. Mobilization and site preparation began in June 2007. Excavation began in July 2007.
- Excavation of the PT soils was completed in November 2007. Excavation of the HHE soils to utilize airspace in the ELF began in August 2007 and was completed in February 2008. Excavation and placement of Key-Cut soils was completed in March

2008. The Project Final Inspection of the Basin F PT Soil Remediation Project was completed in April 2008.

- Preparation of Part 2 of the Basin F Remediation Closure Certification Report and the Drying Facility Closure Certification Report began in March 2008. Preparation of the CCR began in April 2008.
- Part 2 of the Basin F Remediation Closure CQA Certification Report (the Certification Report for the Basin F PT Project) was submitted to the Regulatory Agencies in October 2008.
- The Drying Facility Closure CQA Certification Report was accepted as complete and approved in November 2008.
- The CCR for the Basin F PT Soil Remediation and Wastepile Drying Facility Demolition was accepted as complete and approved by the Regulatory Agencies in July 2009.
- The Closure Certification Report for the entire Basin F Remediation project that includes: Part 1 (Basin F Wastepile), Part 2 (PT Soil Remediation), Part 3 (Basin F RCRA-Equivalent Cover Construction), and a Closure Certification statement were submitted in August 2010 and the Regulatory Agencies' approval was received on September 29, 2010.

3.6.3 Basin F and Basin F Exterior Remediation

Status - Active

History

- Design was separated into two parts: Part 1 design involves removal of HHE and biota soils on the exterior of the former Basin F Area. Part 2 design includes final grading and construction of the RCRA-Equivalent Cover. Part 1 design was implemented in two phases: Phase I involved removal of HHE and disposal in the HWL and biota removal and disposal in Basin A. Phase II involves the excavation of remaining biota soils and consolidation in the foot print of the RCRA-Equivalent Cover.
- Part 1 design began in August 1999 and was completed in August 2000.
- Part 1 implementation began in March 2002 (fieldwork) and was completed in February 2003.
- Part 2 design began in March 2001.
- The Part 2 95 Percent Design was completed in December 2003. Comments from the Regulatory Agencies were received and responses were prepared. Prior to finalizing this effort, design resources were shifted over to the Shell Trenches Cover Design as a decision was made that the first RCRA-Equivalent Cover would be constructed for the Shell Trenches project beginning in FY05, or later. Therefore, the Basin F Cover 100 Percent Design, which began in May 2004, has been tabled until Summer 2007, and the resolution of RCRA-Equivalency issues will be presented in the Shell Trenches Cover Design and the ICSD.
- BA 4 characterization sampling was completed to identify acceptable soils for RCRA-Equivalent Cover construction.
- A capillary break workplan was developed to confirm that various construction materials would sufficiently form a capillary break at the biota barrier and cover soil

layer interface in full-scale covers. The capillary break testing was very successful and confirmed that any of the three scenarios tested would be acceptable for full-scale cover construction.

- The Moisture Probe Assessment draft report was completed and issued to the Regulatory Agencies for review and comment. Although it has been agreed that moisture probes will not be used to determine compliance with the cover performance criterion, the RVO/Regulatory Agencies did agree to use moisture probe sensors to monitor one cover site for a specified duration due to a strong desire by EPA to collect additional data to evaluate how the covers are performing. A draft moisture probe installation workplan was prepared for use by the Shell Trenches Cover project.
- Excavation of Deep Acute HHE CSV soils from the North Central Study Area-4a (NCSA-4a) was completed in September 2004.
- A draft Long-Term Care Program Plan, including related Standard Operating Procedures, was prepared in January and February 2004. The plan provides for long-term monitoring and maintenance following construction of all RCRA-Equivalent 2-foot and 3-foot covers. Comments were received from the Regulatory Agencies and a draft final version of the plan was transmitted in August 2004.
- The Regulatory Agencies' comments on the 95 Percent Design were completed in August 2004.
- The Summary Report for Acceptance Zone Development and Density Requirements for RCRA-Equivalent cover Soils (aka The AZ Report) was issued final in February 2005.
- The BBM Placement and Gradation Evaluation (aka The WipFrag demonstration) was performed in March and April 2005. This included construction of a 50 ft by 150 ft Biota Barrier test pad and demonstration of WipFrag software as a means of evaluating and documenting gradation of BBM after placement.
- The RVO continued to modify responses to the Regulatory Agencies' comments on comments regarding the Basin F/Basin F Exterior Soil Remediation – Part 2 95 Percent Design to be consistent with the revised SDT RCRA-Equivalent Cover 95 Percent Design. Additional design activities, initial preparation of the Basin F/Basin F Exterior Soil Remediation – Part II 100 Percent Design, and BA 4 soil characterization were also performed.
- The CCR for Part 1 Design (Phase I Implementation) was approved September 21, 2006.
- The excavation of remaining biota soil (Part 1/Phase II), was included in the Basin F PT Soil Remediation Project subcontract and was awarded in April 2007.
- In June 2007, the Regulatory Agencies provided the RVO with notification of their dispute issues on the Final LTCP (Revision 0). The Regulatory Agencies disputed the RVO's proposed compliance and performance standards (seeking more stringent standards) for RCRA-Equivalent, 2- and 3 foot Covers that will be applied during the 30+ year maintenance period.
- Excavation of remaining biota soil (Part 1/Phase II) began in October 2007 and was completed in February 2008. The biota soil was used as backfill for the PT soil excavation.

- The Revised 95 Percent Design of the Basin F Cover Project was issued to the Regulatory Agencies for review in October 2007. The 100 Percent Design was approved in May 2008.
- The Basin F RCRA-Equivalent Cover construction began in May 2008. Final approval of the Long-Term Care Plan was received in September 2008.
- The PMC supported the RVO in the successful resolution of the dispute of the final LTCP, Revision 0, for 2- and 3-foot Soil Covers and RCRA-Equivalent Covers. Support included participation in the LTCP Working Group and participation, as requested, in issue resolution during the RMA Committee, Council, and/or Steering Policy Committee meetings. The final LTCP, Revision 1 was transmitted to the RVO for distribution to the Regulatory Agencies in September 2008. The EPA issued a letter of approval on October 2, 2008.
- The CCR for Part 1/Phase II Implementation (remaining biota soils) was accepted as complete on December 9, 2008.
- An ESD for the Chemical Sewer Cover Extension was accepted as complete in January 2009.
- The Basin F RCRA-Equivalent Cover construction was completed (through permanent revegetation and irrigation) in September 2009.

Review of Last Year

Short-Term Monitoring & Maintenance of the RCRA-Equivalent Cover began in April 2010 after completion of the first season of irrigation (completed in September 2009) and final inspection activities (completed in March 2010).

A draft of the ESD for the Basin F/Basin F Exterior was submitted in September 2010.

The CCR for the Basin F RCRA-Equivalent Cover was submitted in August 2010 with the understanding that replacement pages would be issued for references to the Basin F Closure Certification Report, the ICS Certification Report and the ESD for the Basin F/Basin F Exterior after the dates of all 3 of these documents are established.

The Closure Certification Report for the entire Basin F Remediation project that includes: Part 1 (Basin F Wastepile), Part 2 (PT Soil Remediation), Part 3 (Basin F RCRA-Equivalent Cover Construction), and a Closure Certification statement was submitted in August 2010 and the Regulatory Agencies' approval was received on September 29, 2010.

Look Ahead

The FY10 Short-Term Monitoring & Maintenance activities for RCRA-Equivalent, 2-, and 3-Foot Covers will be documented in the 2010 Annual Covers Report, which is scheduled to be issued in November 2010.

The ESD for the Basin F/Basin F Exterior is scheduled to undergo public review in November 2010 and be accepted as complete in December 2010.

The CCR Part 1 for the cover is scheduled to be accepted as complete in December 2010.

3.6.4 Section 36 Lime Basins Soil Remediation

Status - Active

History

- The Lime Basins Treatability Study Final Report was issued for the Regulatory Agencies' approval in September 2000.
- The PMC prepared an Analysis of Alternative Remedies for the Lime Basins remediation and presented it to the Regulatory Agencies in early FY02. The intent was to use the Lessons Learned from M-1 and provide viable remediation alternatives to the Regulatory Agencies. The Regulatory Agencies ultimately directed the RVO to proceed with the ROD prescribed remedy.
- The PMC issued the draft DSOW on May 16, 2002 and the final SOW on July 2, 2002.
- The PMC initiated another treatability study including installation of seven groundwater monitoring wells, collection of geotechnical samples, ROD 3X screening and a demonstration mix pad to test at full scale various mixing approaches. The PMC did this as a direct application of Lessons Learned from the M-1 with the plan to determine appropriate mixing techniques for the lime basins clays and to control odors. The first phase of this (wells, geotechnical testing and ROD 3X screening) took place in September 2002.
- The demonstration mix pad activity was conducted in the first quarter of FY03, and successfully demonstrated wet, plastic lime basins material can be stabilized by blending with soil.
- The 30 Percent Design Package was issued in March 2003.
- The 60 Percent Design Package was issued in September 2003.
- The RVO submitted formal proposed change with justification to the Regulatory Agencies on May 5, 2004. The RVO considered this document to meet requirement of Federal Facility Agreement.
- In June 2004, the RMA Committee and Council reached a conceptual agreement (Decision Document DD-FBF-02) on proposed alternative remedies for Lime Basins and the Former Basin PT Soils Remediation. These alternative Remedies are described as follows: Alternative Remedy for Section 36 Lime Basins – An alternative remedy for Section 36 Lime Basins replaced excavation, stabilization, and disposal of Lime Basin soils in the ELF cell with containment of the three Lime Basins with slurry wall and RCRA-Equivalent Cover. Alternative Remedy for Former Basin F Solidification – An alternative remedy for the Former Basin F Solidification was the Basin F PT Soil Remediation which replaced in-situ soil solidification with excavation and disposal of Former Basin F PT Soils in the ELF.
- EPA requested Technical Summary of Alternatives (TSA) document to meet same Federal Facility Agreement requirements.
- TSA, Revision B submitted on October 26, 2004.
- TSA, Revision D submitted on December 16, 2004.
- Resolution Agreement signed by the RMA Council on March 15, 2005.
- TSA, Revision 0 submitted on April 12, 2005.

- ROD Amendment was approved in October 2005, and included the following: changed selected remedy for Section 36 Lime Basins from excavate/landfill to RCRA-Equivalent cover and groundwater barrier wall. Change selected remedy for Basin F PT Soil from in-situ solidification to excavate and dispose in ELF.
- The compatibility testing for the slurry/barrier wall began in September 2005 and was completed in October 2006.
- The 100 Percent Design for the Lime Basins Slurry/Barrier Wall was approved in June 2007.
- The subcontract for the Lime Basins Slurry/Barrier Wall was awarded in August 2007. A drilling subcontract to support the slurry/barrier wall project was awarded in August 2007. Well abandonment activities began in September 2007.
- Slurry wall installation began in October 2007. An air monitoring sample tested positive for lewisite on October 31, 2007. A stop work order was implemented to allow further investigation on the source of the lewisite detection. Work resumed on November 23, 2007.
- Slurry wall installation was completed in February 2008. Soil stabilization and demobilization was completed in April 2008.
- Monitoring well installation began in April 2008 and was completed in June 2008.
- Piping and instrumentation installation began in May 2008 and was completed in August 2008.
- DNAPL were detected in two dewatering wells inside of the Lime Basins Slurry Wall. The RVO extended the Regulatory Agencies' review period for the Draft Section 36 Lime Basins Slurry/Barrier Well CCR, during the investigation of the DNAPLs. The DNAPL RI/FS will be completed under the Site Wide Programs, Water Treatment/Monitoring work breakdown structure.

Review of Last Year

The ICS cover construction activities for Lime Basins in FY10 consisted of the construction of engineering controls, demobilization and completion of Final Inspection. Short-Term Monitoring & Maintenance activities continued.

The Lime Basins CCR, Revision 0, was prepared and transmitted to the Regulatory Agencies in August 2010.

The Final ICS CCR, Part 1, which documented all ICS work, including construction of the Lime Basins subgrade and RCRA-Equivalent Cover, was transmitted to the Regulatory Agencies in September 2010. The Final ICS CQA Certification Report was also transmitted to the Regulatory Agencies in September 2010.

Look Ahead

The Regulatory Agencies' approval letter expected on the Lime Basins CCR, Revision 0, the ICS CCR, and the CQA Certification Report is planned for early FY11.

The FY10 Short-Term Monitoring & Maintenance activities for RCRA-Equivalent, 2-, and 3-Foot Covers will be documented in the 2010 Annual Covers Report, which is scheduled to be issued in November 2010.

3.7 Site-Wide Programs

3.7.1 RCRA – Equivalent Cover Demonstration Project

Status - Active

History

- The design process began in June 1996 and was completed in January 1998.
- Construction of test covers - March 1998 through September 1998.
- Vegetation establishment period - Summer 1998 through Summer 2000.
- Test year period – September 2000 through August 2001.
- The PMC transferred the construction record documents to the RVO Document Tracking Center in June 2000.
- The PMC issued the RCRA-Equivalent Cover Construction Report to the RVO and Regulatory Agencies on August 21, 2000.
- Two formal cover inspections were held during the test period, in addition to the final project inspection held September 4, 2001.
- Results of the final project inspection indicated that all four test covers were successful in meeting performance criteria and passing the field test.
- A draft final report was issued on November 29, 2001.
- The test covers were monitored quarterly through FY04. They continued to perform successfully and provided information to support full scale cover construction.
- A formal cover inspection for the 2004 operating year was conducted on August 31, 2004.
- Work was focused on full-scale cover projects and long-term care planning for covers, as the need for the test covers no longer existed.
- In the Committee Meeting on September 11, 2008, the RVO informed the Regulatory Agencies of the plan to proceed with closing out the tests covers in late 2008. There were no objections from the Regulatory Agencies.
- Work to remove and close out the test covers was started in September 2008 and completed in December 2008.

Review of Last Year

No activities performed in FY10.

Look Ahead

The RCRA-Equivalent Cover Demonstration project final report will be finalized, to complete the demonstration project and document the removal and close out of the test covers.

3.7.2 Borrow Areas

Status - Active

History

- 100 Percent Design Package issued to the Regulatory Agencies in October 1998.
- Annual updates completed each year since 1998.

- 1997 Committee Agreement included management of P1 soil sites under the Borrow Management Plan.
- June 2003 Committee Agreement included management of TRER soil sites under Borrow Management Plan and documented in annual updates. After all remedy actions for P1 and TRER sites are complete, a final CCR will be written.
- TRER areas remediation boundary refinements, June 2004.
- TRER Soil Tilling Demonstration Study Report, March 2006.
- TRER Soil Remediation Part 1 CCR, project accepted as complete (CCR approved) by the Regulatory Agencies on March 30, 2006.

Review of Last Year

Borrow Areas 3, 4, 5, and 10 were active in FY10 in support of the ICS and ELF Cap Construction projects.

During FY10, the PMC/RVO Team prepared the Final BA and RER Soil Update documenting completions of all borrow activities at RMA.

Look Ahead.

No further BA Operations are planned for the RMA Remedy. Upon completion of associated final administrative functions, this implementation project will be complete.

3.7.3 Site-Wide Biota Monitoring – Biological Advisory Subcommittee

Status - Active

History

- Supplemental Field Study – Phase I, July 1996
- Design Refinement of Excavation Boundaries for Surficial Soil and Reduction of Residual Biota Risk, (P1 Soil agreement) May 1997.
- Dioxin/Furan Tier 1 Field Study results in Wildlife Tissues Final Report, June 2001.
- Assessment of RER Management Recommendation Part 1: Terrestrial Pathways and Receptors, April 2002.
- Assessment of RER and Risk Management Recommendations, Part 2: Aquatic Pathways and Receptors, July 2003.
- Long-Term Contaminant Biomonitoring Program for Terrestrial Ecological Receptors at RMA Revision 0, November 2006.
- The BAS completed all-ROD related tasks assigned to it and disbanded in 2006.

Review of Last Year

The 2007/2008 Annual DSR was finalized in February 2010. Starling brain and kestrel egg samples were collected in FY10.

Look Ahead

An Annual DSR for 2009 data was transmitted to the Regulatory Agencies on November 1, 2010. Analytical results from 2010 samples are expected to be received by December 2010. If the 2010 biomonitoring data are satisfactory, the biomonitoring program will be deemed complete for the purposes of the Remedial Action Summary Report. A (MCR) for the

Biomonitoring Program will be prepared and submitted to the Regulatory Agencies for review. Additional biomonitoring data collected in 2011 and 2012 will be submitted as addenda to the Biomonitoring Program MCR.

3.7.4 Site-Wide Air Monitoring – Air Pathways Analysis

Status - Active

History

- Remedy Air Monitoring Program began in October 1997.
- Site-Wide Odor Monitoring Plan approved in July 1999.
- Site-Wide Air Quality Monitoring Program (SWAQMP) approved in September 1999.
- Revised SWAQMP approved in February 2006.
- The final version of the Interactive Comprehensive Air Pathway Analysis Annual Screening Analysis for 2008 projects were transmitted to the Regulatory Agencies in July 2008.
- The 2008 Air Pollutant Emissions Notice (APEN) was submitted to the Air Pollution Control Division in February 2008.
- Decision document to phase out routine air monitoring plan after completion of contaminated soil work was developed by the RVO and approved by the Regulatory Agencies on June 5, 2008.
- As per the decision document, 24 hour integrated PM-10 monitoring at 4 locations was initiated on August 1, 2008.
- An outline for air and odor program MCRs was approved by the Regulatory Agencies.
- The Air and Odor Monitoring Data Assessment Report for Calendar Year (CY) 2007 (CY07) was prepared and transmitted to the Regulatory Agencies for review and comment.

Review Last Year

The Air MCR was accepted by the Regulatory Agencies in April 2010. The Final APEN for RMA 2010 projects was submitted on March 25, 2010. 24 hour integrated PM-10 monitoring at AQ3 was conducted until May 1, 2010.

Look Ahead

The PM-10 monitoring data collected from January 1, 2009 – May 1, 2010 was summarized in an addendum to the Air MCR in November 2010. The addendum will be the final deliverable for the Site-Wide Air Monitoring Program.

3.7.5 Contingent Soil Volume

Status - Active

Confirmatory sampling and CSV identification and removal are being conducted according to the RMA CSV procedure. Review of sampling results and CSV removal is provided at weekly project status meetings and a summary of program-wide samples and volume is provided monthly to the RMA Committee.

History

- To date the following projects have removed CSV:
 - Miscellaneous Northern Tier Soil Remediation
 - Miscellaneous Southern Tier Soil Remediation
 - Lake Sediments Remediation
 - Existing Sanitary Landfills – Sections 1 and 4
 - HWL – Section 26 HHE and Biota Exceedence Soils Removal Project
 - South Plants BOA and CPA Soil Remediation-Phase I
 - Secondary Basins Soil Remediation
 - Miscellaneous RMA Structures Demolition and Removal – Phase I
 - Basin F and Basin F Exterior Remediation
 - Section 35 Soil Remediation
 - South Plants BOA and CPA Soil Remediation-Phase II
 - Section 36 BOA
 - Basin F PT Soil Remediation
- In September 2003, the RVO issued the Calculation Summary for CSV based on Deep Acute Exceedances.

Note: All CSV activities and related costs are scheduled and collected under the appropriate implementation project.

Review of Last Year

There were no confirmatory samples collected during FY10. The total number of confirmatory samples collected remains at 1,006, leaving 8 samples remaining of the 1,014 available per the ROD. Through September 2010 approximately 204,907 bcy of CSV have been identified and excavated by the projects listed above.

Look Ahead

Remaining confirmatory samples are planned for CERCLA WWTF demolition under Miscellaneous RMA Structure Demolition and Removal Project – Phase IV or as identified by the Regulatory Agencies.

3.7.6 Site-Wide Plume Monitoring

Status - Active

History

- The initial Long Term Monitoring Plan (LTMP) for Groundwater was issued in December 1999 and was replaced with a revised version, the 2010 LTMP for Groundwater and Surface Water, in March 2010.
- Per the Regulatory Agencies request a Surface Water Quality Monitoring Report was issued in 2003; covering the data period from the signing of the ROD through 2000. The Surface Water Quality Monitoring Report transmitted to the Regulatory Agencies in 2008 remains to be finalized.
- An RMA Surface Water Management Plan is prepared for the RVO to help balance forecast water demands with forecast water supplies.

Review of Last Year

Surface Water Management

- Collected continuous stream flow data at ten gauging stations.
- Collected continuous stage data at five lakes and ponds.
- Presented Monthly Hydrologic Conditions Reports at monthly surface water management team meeting.
- Implemented data collection on Section 4 Well aquifer in cooperation with SACWSD.
- Operated Lake Ladora Pump House (LLPH) Dechlor and Tapwater Discharge System.
- Completed and implemented Substitute Water Supply Plan approved by Colorado Water Court and State Engineer to allow Section 4 Wells groundwater production above decreed groundwater rights.
- Submitted monthly RMA water management accounting reports to Colorado State Engineer.
- Section 12 Well decree application retained by the RVO to finish adjudication by Colorado Water Court.
- Completed successful rehab of south Section 4 Well.
- Completed FY10 Surface Water Management Plan.

Surface Water Monitoring

- Collected twelve stream water-quality samples.
- Collected four Lake water-quality samples.

Groundwater Monitoring

- Annual project-specific water level monitoring was conducted in FY10 for the annual site-wide water table map. A revised LTMP was issued in March 2010.

An ESD for groundwater that addresses the ROD changes resulting from the LTMP revisions was transmitted to the Regulatory Agencies in September 2010 and will be finalized in FY11.

Look Ahead

Surface Water Management

- Continue SACWSD data collection activity, as necessary.
- Maintain stream flow gauging station network for water rights accounting and surface water management through December 31, 2010. Thereafter, the Water Resources Division of the USFWS, Region 6 will provide RMA stream flow and lake level monitoring for water rights accounting and surface water management.
- Maintain seasonal wetland gauging stations for habitat management.
- Present Monthly Hydrologic Conditions Reports at Surface Water Management Team Meetings through December 2010. Thereafter, the Surface Water Management Team will be disbanded.

- Complete implementation of Inter-Governmental Agreement with the Urban Drainage and Flood Control District and City and County of Denver regarding Havana Ponds Dam reconstruction, Uvalda Interceptor reconstruction and debris/sediment catchment basin construction to improve stormwater management on RMA.
- Finalize and implement 2011 Substitute Water Supply Plan for Section 4 Wells.
- Develop and submit monthly RMA water management accounting reports to the Colorado State Engineer.

Surface Water Monitoring

- A Surface Water Quality Monitoring Report will be finalized in FY11.
- Off-Post Water Quality Monitoring is part of the revised LTMP.
- A Surface Water Monitoring Completion Report (MCR) will be finalized in FY11.

Groundwater Monitoring

- Annual project-specific water level monitoring will be conducted in FY11.
- The Groundwater ESD will be finalized in FY11.

3.7.7 Confined Flow System Monitoring

Status - Active

History

- The Confined Flow System (CFS) monitoring is included in the LTMP to meet the ROD requirement for tracking water quality in CFS wells in the South Plants Basin A, and Basin F areas.
- The 19 wells in the CFS network are monitored for water quality (if specified twice in 5 years) and water levels annually.

Review of Last Year

Water level (where specified in the LTMP) were measured in FY10.

Look Ahead

The new LTMP was approved in March 2010. There are 20 wells in the On-Post CFS network and three alternates. Nineteen wells will be sampled for water quality twice in five years (one well is damaged and can only be measured for water levels) and twenty wells are measured for water levels annually. The next water quality sampling will be in 2012.

3.7.8 Medical Monitoring Program

Status - Active

Review of Last Year

Birth Defects Surveillance:

An existing state program, Colorado Responds to Children with Special Needs (CRCSN), is being used to track birth defects specifically in the neighborhoods around the RMA during the remediation. Birth defect rates are being tracked and analyzed temporally and spatially. Specific

case records have been reviewed for clarification of diagnoses and other reporting details. Data were collected for the RMA birth defects surveillance program through March 2009. A report was presented to the CAB at a meeting on May 4, 2010.

Cancer Surveillance:

A final cancer surveillance report based on data from 1997-2005 was prepared and presented to the CAB on May 4, 2010.

Look Ahead

CDPHE to confirm cancer surveillance results from 1997-2005 when 2010 census data become available. Results from the evaluation, as well as evaluation of any additional cancer surveillance data collected up to the availability of the 2010 census data, will be summarized in the 2015 Five Year Review Report.

A Medical Monitoring Program MCR is expected to be complete by January 2011.

3.7.9 Traffic Management

Status - Active

History

- The 100 Percent Design Package was submitted to the Regulatory Agencies in September 1998.
- The Traffic Management Plan was reviewed annually and revised as indicated.
- The Haul Road Operations Plan will be updated annually.
- Haul road construction began in July 1998 and was completed in April 1999.
- Approximately 12.5 miles of primary haul roads have been constructed.
- Haul road Operations and Maintenance (O&M) have been ongoing since January 1, 1999. The O&M contract expires on September 30 of each year and is awarded on a FY basis.
- The SWTM Haul Road and Lay Down Area Removal Plan was finalized in FY09. This plan guides future removal/modification of all Haul Roads and Lay Down Areas on RMA.

Review of Last Year

During FY10 the PMC continued to maintain the RMA haul road system, maintained stormwater drainage systems, installed and maintained traffic controls, removed snow and/or ice, implemented haul road safety standards, performed parking area and perimeter fence maintenance, performed soil ripping in revegetation areas, recovered and recycled jersey barriers and parking markers and removed subcontractor laydown areas.

Look Ahead

Traffic and haul road management in FY11 will include the continuance of activities performed in FY10 as noted above. Traffic and haul road management activities will be completed as schedules require with additional activities managed as resources allow.

Haul Roads/Lay Down Areas will be removed/modified per the SWTH Haul Road and Lay Down Area Removal Plan during FY11: Opportunities will be evaluated during the FY to determine availability of road sections for removal. The Recycled Asphalt Pavement will be reused to support cover access roads or to build future roads as part of the Wildlife Refuge.

3.7.10 Biota Barrier

Status – Complete

History

- Biota Barrier design issues (Material Specifications) were resolved with the Regulatory Agencies in the fourth quarter of FY00.
- The PMC negotiated a unit price for production of concrete BBM with Recycled Materials Company.
- Production for FY01 was 386,500 tons.
- Production for FY02 was 449,310 tons.
- Production for FY03 was 594,000 tons.
- Production for FY04 was 410,452 tons.
- Production for FY05 was 67,700 tons.
- No BBM produced in FY06.
- The remainder of BBM stockpile at the former Stapleton International Airport, was used for construction of caps and covers or stockpile for future use.
- The last load of BBM was removed from the Stapleton stockpile on April 23, 2009.
- A total of 1,907,962 tons of BBM have been hauled from the Stapleton stockpile and placed on the following caps and covers, and in stockpiles, based on truckload count, as follows:
 - Shell Disposal Trenches = 80,800 tons
 - Complex (Army) Trenches = 385,824 tons
 - Basin A South = 203,376 tons
 - Basin A North = 293,784 tons
 - Basin A Notch = 50,544 tons
 - SP = 187,560 tons
 - LB spoils stabilization = 29,640 tons
 - HWL = 115,488 tons
 - Basin F = 363,360 tons
 - ELF stockpile = 103,776 tons

The remainder of the BBM was placed in two stockpiles for future use by the RVO and USFWS.

3.7.11 Geophysical Surveying

Status – Complete

History

- The survey was conducted to facilitate a non-intrusive geophysical screening of the site for subsurface targets. The subcontract was awarded in May 1998. Site work

was conducted from May 1998 through October 1998 covering an area of 3,240 acres. Arrays of total field magnetometers were deployed via a nonmagnetic cart system over the site to efficiently cover the 3,240 acres at an average rate of 34 acres per workday.

- The magnetometer data were positioned using global positioning system (GPS) navigation technology, and integrated within a Geographic Information System (GIS) for processing and analysis.
- Surveying took place in 12 different sections within RMA and a total of 10,693 targets were detected and located. Of these, 90.9 percent were characterized. Characterization was performed using the subcontractor's software system that utilized analytical modeling of the magnetic field data, comparison of targets against a database of known signatures, and expert operator opinion. Detections ranged from small shallow targets estimated to be near the surface and weighing a pounds or less, to large deep targets in excess of 15 feet deep and weighing 500 pounds or more. Additional features were observed in the data and interpreted as burn pits, trenches, and landfills.
- In addition to the geophysical data, several sets of GPS-positioned surface cultural information associated with visible features were also collected. This data was also incorporated into the GIS to aid in data interpretation.

3.7.12 UXO Emergency Response

Status - Complete

History

- The UXO Department has supported a number of project specific tasks, which included a munitions response component, the majority of which are related to the Remediation of Toxic Storage Yards, BT and MT Sites, Existing Sanitary Landfills, Section 36 BOA, Miscellaneous Structure and Lime Basins. As a function of supporting each project, the PMC UXO personnel were tasked with management, including disposal, of all recovered MEC. Potential and confirmed Recovered Chemical Warfare Material (RCWM) was managed and disposed by the U.S. Army Technical Escort Unit.
- During 2007, a three-person UXO Emergency Response team identified and recovered anomalies, managed project-specific munitions response activities, performed utility locates, and responded to on-site discovery of MEC or other anomalies having the potential to contain energetic materials or RCWM.
- The Management Plan for Recovered Material Potentially Presenting an Explosives Hazard (MPPEH) (Revision 3) received the Regulatory Agencies approval during FY09 and is currently guiding the management of all MPPEH recovered on RMA.

M139 Bomblets

Status - Complete

- Six M139 bomblets containing chemical agent GB discovered in the Section 36 "boneyard" between October 15, 2000 and November 20, 2000.
- Large Area Maintenance Shelter was constructed over the boneyard to provide containment and a temperature controlled working environment.
- The Explosive Destruction System was used to destroy the bomblets.

- Destruction of the six bomblets is documented in the Final Destruction Completion Report issued on August 9, 2001.
- Four additional M139 bomblets were discovered during the screening process of the remaining debris removed from the boneyard (May 2001 through June 2001).
- Destruction of the last four bomblets was documented in a second Destruction Completion Report issued on November 29, 2001.

Summary Team

Status – Complete

- Addressing the discovery of M139 bomblets on the Arsenal, the EPA issued a letter on November 26, 2000 indicating, “a comprehensive Arsenal-wide assessment and response is needed.” With this as a charter, the Summary Team was formed in January 2001, for the purpose of performing the requested review and assessment. During the latter stages of the review, the team came to be called the Summary and Evaluation Team. The team members include representatives from the EPA, CDPHE, Tri-County Health Department, and RVO.
- To accomplish the requested task, team members reviewed each section of the Arsenal. Members reviewed aerial photographs from 1937 to present, reviewed existing technical reports, and compared aerial photographs to investigated areas. The team focused on Ordnance and Explosives and recovered chemical warfare materiel. The team members inspected sites for which the record did not include adequate data to draw a clear conclusion. If an inspection of the site also was inadequate to support a conclusion the site was investigated by mean of exploratory investigation. As a direct result of the summary team’s efforts, six additional sites were identified and added to the BT Soil Remediation project, (see “Burial Trenches Soil Remediation” Appendix B for further information). The summary team’s efforts are documented in a final report, which was issued and approved by the Regulatory Agencies in June 2002.

Review of Last Year

During 2010, the PMC UXO Emergency Response team identified recovered anomalies, managed project-specific munitions response activities, performed utility locates, and responded to on-site discovery of MEC or other MPPEH. The RMA no longer maintains sited magazines for storage of recovered MEC or donor explosives.

Look Ahead

It is currently anticipated that PMC UXO Emergency Response services will not be required during FY11.

3.7.13 Permanent Revegetation/Mitigation/Irrigation

Status - Active

History

- RMA National Wildlife Refuge: Habitat Restoration Plan, August 1999.

- A Vegetation Management Plan is prepared on an annual basis for the vegetation management activities for the current CY.
- ESD to clarify revegetation requirements to be consistent with USFWS Management Plan and require USFWS certification for implementation, March 2006.

Review of Last Year

About 460 acres were seeded and irrigated for mitigation revegetation projects during 2010. Revegetation/mitigation/irrigation activities anticipated through 2013 are being scheduled with Primavera Systems software for tracking and documentation of annual completed work. Modifications to this schedule are made annually dependant on field conditions. Approximately 840 acres were scheduled for non-irrigated fall seeding in 2010. Maintenance activities such as weed control and mowing were conducted on areas revegetated in previous years.

The PMC prepared the 2010 Final Site-Wide vegetation Management Plan for the project.

Look Ahead

After the 2010 seeding is completed, there will be approximately 3,335 acres of mitigation restoration seeding remaining. About 350 acres will be seeded in the spring of 2011 and 550 acres are scheduled to be seeded in the Fall of 2011. These projects will not be irrigated. However, approximately 150 acres seeded in 2010 may be irrigated by the USFWS in 2011. Maintenance activities will continue on previously seeded areas.

The PMC will continue to coordinate the vegetation management team meetings with the RVO and USFWS as needed. The PMC will continue to provide weed management services (mowing, herbicide application, and soil discing and cover crop seeding) in areas identified by the vegetation management team. The PMC will continue to provide mulch/soil amendment, mowing and other agricultural activities as directed.

It is the Army's intention to provide the USFWS a final funding appropriation through a Memorandum of Agreement to assume responsibility for completion of all remaining mitigation/restoration work at RMANWR.

3.7.14 Drummed Waste Handling – Plan Development

Status - Complete

History

- The draft drummed waste handling plan was submitted to the Regulatory Agencies in August 1999. The draft plan described performance-based requirements for drum disposal operations. The performance requirements are outlined in the HWL operations plan and will be specified in the SOW and specifications.
- The final plan was submitted to the Regulatory Agencies as DCN #1 to the Miscellaneous RMA Structures Demolition and Removal Project, in January 2000. The DCN was approved by the Regulatory Agencies in March 2000. DCN #1 includes all drums stored within the South Plants and miscellaneous structures outside the boundary of the South Plants. Disposal of these drums is currently being performed under the Miscellaneous RMA Structures Demolition and Removal Project – Phase I.

- In June 2000 the PMC submitted to the Regulatory Agencies DCN #2 under the Miscellaneous RMA Structures Demolition and Removal Project. DCN #2 includes drummed waste stored in the North Plants area and was approved by the Regulatory Agencies in August 2000.

3.7.15 Well Abandonment

Status - Active

History

- Well abandonment activities are completed on a yearly basis to accommodate field implementation projects.
- In late 2001, a consolidated well abandonment campaign was initiated to complete well abandonment's for all remaining areas within the Central Remediation Area.
- 350 wells were abandoned in 2002 under the consolidated well abandonment campaign.
- For FY03, a comprehensive program of well retention, maintenance, and closure for both On-Post and Off-Post Operable Unit (OU) was developed. This program is currently ongoing and includes a systematic evaluation of monitoring networks, proposes potential network reductions where appropriate, proposes well lists for closure, as funding becomes available, and identifies wells requiring repair or replacement. All wells proposed for abandonment are approved through an annual Well Networks Update that is reviewed and approved by the Regulatory Agencies. In FY03 approximately 150 wells were abandoned. Abandoned wells in FY03 were in support of deletion areas (Western Tier) and in Off-Post development areas.
- In FY04 183 wells were closed.

Review of Last Year

There were no well abandonment activities in FY10.

Look Ahead

The Water Team Plans to re-evaluate the well network in FY11 and identify potential candidates for well closure.

3.8 Water Treatment/Monitoring

3.8.1 South Adams County Water Supply/Henderson Distribution

Status - Complete

History

Negotiations have been completed to secure 4,000 acre-feet of supplemental water supply for the SACWSD. In November 1998, the Army, SACWSD, Denver Water Board, and USFWS finalized an agreement for Denver to provide SACWSD with the supplemental supply. Currently, SACWSD and Denver Water are obtaining storage reservoirs and conveyance systems. The Army has completed all National Environmental Policy Act requirements and documentation.

The Henderson pipeline project (construction) was completed in August 1998. The project connected approximately 145 homeowners and businesses to the municipal water supply, taking them off their groundwater wells for drinking water. The closure of this activity completes the ROD obligation for the Henderson water distribution system on schedule.

3.8.2 On-Post Water Supply

Status - Active

History

- In 1998, RMA acquired 2,800 acre feet of High Line Canal water per year to support the remedy as a Temporary Supply (1998 – 2011) from the Denver Water Board (Denver Water) through a Nonpotable Water Lease Agreement (1998 Agreement).
- The 1998 Agreement also provided a Permanent Supply (2011 and beyond) of up to 1,200 acre feet per year of Denver Recycled Water to maintain lakes and wetlands on the RMA National Wildlife Refuge.
- By 2004, RMA had received less than 120 acre feet per year of Temporary Water due to drought-caused water conveyance problems in the High Line Canal system. This shortfall in Temporary Water deliveries triggered RMA negotiations with Denver Water to revise the 1998 Agreement to provide more dependable Temporary Water supplies.
- Discussions between RMA and Denver Water to revise the 1998 Agreement continued through CY07 because of complex water negotiations required to provide dependable alternatives to the High Line Canal as Temporary Water.
- RMA drilled and pump tested a new groundwater production well in Section 12 to enhance and diversify future RMA nonpotable water supplies. This well is expected to yield 300 acre feet of water per year when completed and permitted.
- Nonpotable water supplies at RMA through CY07 were fully adequate to meet remedy requirements. Nonpotable water from the Section 4 groundwater production wells (averaging 700 acre feet per year) coupled with surface water runoff into the RMA Lakes (averaging 500 acre feet per year) were sufficient to supply remedy demands and maintain healthy aquatic ecosystems in RMA lakes and wetlands.

Review of Last Year

Based on provisions of the 2008 Nonpotable Water Lease Agreement (2008 Agreement) between RMA and Denver Water, the RVO dechlorinated and discharged only 95.52 acre feet of Denver potable water (tap water) into Lake Ladora during FY10. Lake level maintenance in Lake Ladora required this relatively small volume of Denver tap water because the RMA lakes remained at or near full pool throughout FY10 due to significant surface water runoff into the lakes from the Upper Irondale Gulch Drainage Basin located upstream from RMA. The

dechlorination and discharge system in the Lake Ladora Pump House operated without incident throughout FY10.

The RVO and Denver Water continued discussions on the design and schedule for construction of Denver Water's Recycled Water main pipeline (Conduit 302) along 56th Avenue, including the location of two turnouts (taps) on this pipeline to deliver Recycled Water onto RMA beginning October 2011. Denver Water is on schedule to complete the construction of Conduit 302 and the RMA taps by October 31, 2011. To coincide with this availability of Recycled Water at RMA, the RMA Refuge developed a concept design for RMA Recycled Water pipelines to deliver Recycled Water from each tap on Conduit 302 to the RMA lakes and wetlands. This concept design was prepared as part of the FY11 design and construction funding requires submitted to Region 6 of the USFWS during June 2010. RMA has a contract right with Denver Water for up to 700 acre feet of Recycled Water per year based on provisions of the 2008 Agreement.

The RVO Decided in March 2010 to continue processing a groundwater rights decree application for the RMA Section 12 Well and Division 1 of the Colorado Water Court, rather than transferring this responsibility to the Water Resources Division of the USFWS, Region 6. This change in strategy was driven by the importance of the Section 12 Well decree application to ongoing negotiation with the SACWSD regarding the future of the Section 4 Wells at RMA. When groundwater rights are decreed, the Section 12 Well will serve as the primary ground water supply for the RMA Refuge, with the Section 4 Wells as a backup groundwater supply.

RMA obtained and implemented a State Engineer-approved 2010 Substitute Water Supply Plan for the Section 4 Wells, allowing groundwater extraction above the 466 acre feet of groundwater rights for these wells previously (1973) decreed by the Colorado Water Court.

2009 groundwater production from the Section 4 Wells through September 2010 (366.48 acre feet) was below the 2002-2008 average (about 700 acre feet) for these wells due to reduced pumping throughout most of FY10. Pumping was reduced because the RMA lakes remained at or near full pool throughout FY10 due to significant surface water runoff into the lakes from the Upper Irondale Gulch Drainage Basin located upstream from RMA.

A 2009 amendment to the 2008 Agreement with Denver Water allows Denver tap water to be used directly from RMA tap water pipelines (e.g., fire hydrants) for remedy activities (e.g., dust control, compaction, and irrigation). The RMA remedy used a total of 2.37 acre feet of Denver tap water by this method during FY 2010. RMA authority for direct use of Denver tap water for remedy purposes terminates on December 31, 2010, under terms of the 2009 amendment.

2008 RMA Nonpotable Water Lease Agreement Summary

Temporary Water (2008 – 2013)

Water Source

Annual Amount of Water

Denver Tap Water

Up to 800 Acre-Feet

(Delivered to L. Ladora after dechlorination)

RMA Section 12 Well Water [S. Platte River depletions augmented (replaced) by Denver Water]	300 Acre-Feet
---	---------------

TOTAL	<hr/> 1,100 Acre Feet
-------	-----------------------

Permanent Water (2014 and beyond)

<u>Water Source</u>	<u>Annual Amount of Water</u>
---------------------	-------------------------------

Denver Reuse (Recycle Plant) Water (Delivered to L. Ladora or Lower Derby Lake after dechlorination)	Up to 700 Acre Feet
--	---------------------

RMA Section 12 Well Water [S. Platte River depletions augmented (replaced) by Denver Water]	300 Acre-Feet
---	---------------

TOTAL	<hr/> 1,000 Acre Feet
-------	-----------------------

Look Ahead

RMA will continue 24/7 operation of the Denver tap water dechlorination and discharge into Lake Ladora as needed to maintain lake levels and supply remedy water demands during FY 2011.

The RVO and Denver Water will continue coordination discussions on the design and construction of the Recycled Water main pipeline along 56th Avenue to assure adequate connections for delivery of Recycled Water onto RMA beginning October 2011.

The RVO will finalize all required groundwater rights and well permitting documents for the Section 12 Well submitted to the Colorado Water Court and State Engineer. The Section 12 Well is no longer needed as a water supply for the RMA remedy, but will become the primary groundwater supply for the RMA Refuge.

RMA has submitted and will pursue Colorado State Engineer approval of a 2011 Substitute Water Supply Plan for the Section 4 Wells, allowing groundwater extraction above the 466 acre feet of groundwater water rights for these wells previously (1973) decreed by the Colorado Water Court. 2011 definitely will be the final year when a Substitute Water Supply Plan is required because there will be little or no remedy demand for nonpotable water in 2012 or thereafter.

RMA anticipates a CY10 nonpotable water supply at or above 1,600 acre feet with a nonpotable demand estimated at less than 1,000 acre feet. As a result, the 2011 water supply outlook is very favorable.

3.8.3 Section 36 Bedrock Ridge Groundwater Plume Extraction System

Status - Active

History

Operations began in the first quarter of FY00. All operations, maintenance and monitoring will be included under operations of the Basin A Neck System. Refer to Basin A Neck System, and Section 36 Bedrock Ridge Groundwater Plume Extraction System for status.

3.8.4 Confined Flow System Well Closure

Status - Complete

History

- Design started September 1997.
- Dispute Resolution process invoked at the 95 Percent Design Package review; April 1998.
- 100 Percent Design Package issued January 1999.
- Contract awarded on March 22, 1999.
- Fieldwork began June 1999.
- Fieldwork completed September 1999.
- Final Inspection held on October 7, 1999.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on September 27, 2000.

3.8.5 Irondale Containment System

Status - Active

History

- The skid mounted absorber units were installed at the metering station in FY01.
- The original Irondale Treatment plant was demolished in FY02.
- Irondale main well field extraction system shut down criteria accepted as complete (CCR approved) by the Regulatory Agencies on May 21, 2003.
- Shut down monitoring for the Motor Pool system was extended through the end of FY03.

Review of Last Year

Two wells in the railyard are operating at approximately 120 gallons per minute (gpm).

Look Ahead

The CCR for the Motor Pool System is scheduled for completion in the First Quarter of FY11. The Railyard System continues to approach shutoff criteria.

3.8.6 Basin A Neck System

Status - Active

History

- A new air stripper was installed in January 2002. The new air stripper was designed to treat the increased flow from the Bedrock Ridge and Complex Trench extraction well fields.
- The Basin A Neck Recharge Trenches were evaluated for recharge capacity; reasons for reduction in recharge flow, and options for rejuvenating capacity during the summer and fall of 2002.
- New recharge trenches were installed in 2004 to accept overflow from the original trenches, which were becoming plugged.
- The airstripper was relocated to the front of the plant to allow stripping of entire plant flow. This modification was completed in 2004.
- A forth extraction well was installed in the Bedrock Ridge area between DW-1 and DW-2 in 2004.
- Design of the Lime Basins Groundwater Treatment relocation project began in April 2009.

Review of Last Year

Operation of the Basin A Neck System continues within effluent parameters at approximately 20 gpm. This includes a flow from the Section 36 Bedrock Ridge Groundwater Plume Extraction System of approximately 3.3 gpm and a flow from the Complex (Army) Disposal Trench Extraction Trench of approximately 1.7 gpm.

The 100 Percent Design Package for the Lime Basins Groundwater Treatment Relocation Project was completed and issued in March 2010. Procurement was completed in May 2010 and award was made to Hudspeth & Associates for the construction of the treatment building foundation, pre-engineered metal building; elevated access platforms for major equipment items; access road construction; and general site earthwork.

Construction under the Hudspeth & Associates subcontract commenced in May 2010 and was completed in September 2010. By September 2010, URS Corporation had procured and installed the major equipment items inside the treatment building expansion including equipment relocated from the CERCLA Wastewater Treatment Plant.

Look Ahead

Construction of the Lime Basins Groundwater Treatment Relocation Project will continue and start-up of the system is anticipated in December 2010. System start-up will include the start-up of the Lime Basins slurry wall dewatering system that will be discharged to the modified Basin A Neck treatment facility for treatment and disposal.

3.8.7 CERCLA Wastewater Treatment Facility

Status - Active

History

- In FY06 the CERCLA Waste Water Treatment Plant was modified to allow for two separate treatment trains to be dedicated to groundwaters from the South Tank Farm Plume and Lime Basins.
- Design of the Groundwater Mass Removal Project was completed in December 2006.
- Construction of the Groundwater Mass Removal Project began in November 2005 (following earlier completion of the Extraction and Recharge System design).
- Construction of the Groundwater Mass Removal Project was completed in June 2006.
- ESD for groundwater remediation and revegetation requirements was completed in March 2006. The ESD added contaminant reduction system for South Tank Farm Plume and South Plants North Plume.

Review of Last Year

Over the past year the South Tank Farm Plume System has processed approximately 505,700 gallons of groundwater and the Lime Basins Groundwater System has processed approximately 433,440 gallons of groundwater. To date, the Groundwater Mass Removal Project has removed approximately 3,923 kilograms of contaminant mass from the South Tank Farm Plume and Lime Basins Groundwater. The GWMR extraction wells were turned off on May 27, 2010 to allow adequate time to treat and rinse all lines in the CERCLA treatment plant before plant demolition. Recharge of the last treated water occurred on June 28, 2010.

Look Ahead

The Lime Basins Groundwater Treatment Relocation Project design was started in FY08 and will expand the Basin A Neck treatment facility to treat and dispose of the groundwater extracted from the Lime Basin slurry wall dewatering system. The shutdown of CERCLA treatment plant operations started in September 2009 and the transfer of treatment of the Lime Basins slurry wall dewatering groundwater will be completed in December 2010.

3.8.8 Northwest Boundary Containment System

Status - Active

Review of Last Year

Operations of the Northwest Boundary Containment System continues with effluent parameters of approximately 825 gpm.

Look Ahead

The south west extension will be evaluated to determine if the system can be shutdown.

3.8.9 North Boundary Containment System

Status - Active

Review of Last Year

Operation of the North Boundary System continues within effluent parameters at approximately 198 gpm.

Look Ahead

Normal operations will continue through the foreseeable future.

3.8.10 South Lakes Plume Management

Status - Active

History

- The South Lakes SAP was approved and implemented in May 2001.
- Two years of monthly monitoring was completed in May 2003 without having any recorded exceedances of the Colorado Basic Standards for Groundwater.
- A Data Assessment Report was prepared showing no contamination in the lake from the South Plants groundwater. The final Data Assessment Report was issued in April 2004.
- ESD for Groundwater Remediation and Revegetation requirements was completed in March 2006. The ESD deleted the lake level maintenance requirement for purpose of groundwater contaminant plume control.

Review of Last Year

Normal monitoring was conducted through FY10.

Look Ahead

Lake-level maintenance during remediation is still required to support aquatic ecosystems in Lake Ladora, Lake Mary and Lower Derby Lake. In addition, groundwater monitoring will be conducted as part of the Long-Term Monitoring Program for groundwater to assess any change in future conditions. The next LTMP sitewide monitoring occurs in FY12.

3.8.11 Groundwater Mass Removal System

Status- Active

History

- Design of the Groundwater Mass Removal Project began in March 2005.
- Design of the Groundwater Mass Removal Project was completed in December 2006.
- Construction of the Groundwater Mass Removal Project began in November 2005 (following earlier completion of the Extraction and Recharge System design).
- Construction of the Groundwater Mass Removal Project was completed in June 2006.
- ESD for groundwater remediation and revegetation requirements was completed in March 2006. The ESD added contaminant reduction system for South Tank Farm Plume and South Plants North Plume (Lime Basins Groundwater).

- Product recovery systems were installed in two of the extraction wells (DW-1 and DW-2) of the South Tank Farm Plume System following detection of significant build-up of free product in these wells. The product recovery systems have been operated to the maximum extent possible to enhance the contaminant mass removal from the plume.
- Two (2) recharge trenches were added to the South Tank Farm Plume system to replace the recharge wells that were not responding to periodic cleanings due to irreversible biofouling.
- Monitoring for free product continues in three (3) of the extraction wells (DW-1, DW-2 and DW-3) of the South Tank Farm Plume system that have historically exhibited detectable accumulation of free product. Although significant product was evacuated from two of the extraction wells (DW-1 and DW-2) early during the operation of the system, the free product disappeared during FY08 but reappeared again in FY09. Approximately 53 gallons of free product was removed from DW-2 and DW-3 during FY09.
- The Lime Basins Groundwater System has been shut down for the majority of the year owing to the need to extend the extraction wells in order to accommodate the construction of the Lime Basins cover. The operation of the system was restarted in April 2009 following significant completion of the Lime Basins cover.

Review of last Year

Over the past year the South Tank Farm Plume System has processed approximately 516,000 gallons of groundwater and the Lime Basins Groundwater System has processed approximately 250,000 gallons of groundwater. At the conclusion of the project in May 2010, the Groundwater Mass Removal Project has removed approximately 3,923.3 kilograms or 8,650.9 pounds of contaminant mass from the South Tank Farm Plume and Lime Basins Groundwater.

DNAPL was discovered in two of the Lime Basins slurry wall dewatering wells (DW-9 and DW-10) during August/September 2009. Investigations were undertaken under a new Lime Basins DNAPL Project to investigate the nature and extent of the DNAPL and its potential impacts to the slurry wall. Meetings were conducted with the Regulatory Agencies to provide updates on the DNAPL investigation and develop an overall with the Regulatory Agencies process for continued investigation and remediation of the DNAPL. Discovery of this DNAPL caused the shutdown of the Lime Basins groundwater extraction wells of the Groundwater Mass Removal Project (DW-1 through DW-4) and the dewatering wells of the Lime Basins slurry wall dewatering system until further investigations could be performed to investigate the impact of the DNAPL.

On December 17, 2009, approximately 7.3 and 7.2 gallons of DNAPL were removed respectively from DW-9 and DW-10. Since this removal, the DNAPL levels as monitored through January 20, 2010 have remained at approximately 0.3 and 0.6 feet respectively in DW-9 and DW-10.

Owing to the lack of detection of DNAPL in the groundwater mass removal extraction wells (DW-1 through DW-4) over several months of monitoring, these extraction wells were restored to operation on November 9, 2009 to continue the system's objective of mass removal.

Owing to the lack of detection of DNAPL in the Lime Basins slurry wall dewatering wells DW-5, DW-6, DW-7, and DW-8 over several months of monitoring, these dewatering wells were restored to operation on February 1, 2010 to continue the system's objective of dewatering inside the slurry wall. This restart of the dewatering wells was proposed and obtained the Regulatory Agencies concurrence during the meeting conducted on January 28, 2010.

DNAPL was detected in dewatering well DW-5 at an approximate depth of 0.5 feet on February 10, 2010. The depth of the DNAPL and quantities evacuated are reported to the Regulatory Agencies during regular meetings conducted to provide progress updates on the DNAPL investigation.

In order to gain more information in support of the DNAPL investigation, a decision was made to begin operation of Lime Basins dewatering wells DW-9 and DW-10 that contained measureable levels of DNAPL. The primary purpose is to observe the impact of the pumping operations on the accumulation of DNAPL in the dewatering wells, and secondarily to continue the objective of dewatering inside the slurry wall. With the concurrence of the Regulatory Agencies, the two (2) wells were re-started on February 24, 2010.

During the week of April 12, 2010, deterioration was observed of the PVC piping components associated with dewatering well DW-10. Deterioration in the form of softening was observed of the down-well pump discharge pipe, strainer cage and ball valve. The piping associated with the other dewatering wells were also inspected for similar deterioration but none were observed, either with the PVC or HDPE piping components. The deterioration of the piping associated with DW-10 appears to be a function of the specific high concentration of compounds (mostly isomers of dichlorobenzene and chloroform) associated with this well. Details of the investigation were summarized and presented to the Regulatory Agencies during a DNAPL project meeting conducted on April 21, 2010. In accordance with the corrective actions proposed during that meeting, the RVO prepared a DCN detailing the required modifications to the piping system to address the material incompatibility. A non-routine action plan (NRAP) was also prepared for the Regulatory Agencies approval given the need to replace underground piping and, therefore, perform intrusive work inside Army maintained areas. Both the DCN and NRAP have been approved by the Regulatory Agencies.

Consistent with the Committee level agreement for the GWMRP and the current RDIS, the RVO obtained the Regulatory Agencies concurrence and shut down the GWMRP within a time frame that will allow for the decommissioning of the CWTP by June 30, 2010. Based on the need to process the remaining wastewater inventory from the CWTP, the extraction systems of the GWMRP were shut down on May 28, 2010. The start-up of the modified Basin A Neck treatment facility is anticipated in December 2010 and the re-start of groundwater extraction for the Lime Basins Slurry Wall Dewatering System, and the treatment and reinjection of this groundwater at the BANS is expected to occur at this time.

Treatment of the remaining wastewater inventory of the GWMRP at the CWTP was completed in June 2010, after which, URS Corporation decontaminated the equipment and piping at the CWTP. This work was completed in August 2010 and the CWTP structure and the equipment,

pipng, electrical, and instrumentation/control items contained therein were turned over to the PMC for demolition.

Decommissioning and demolition of the South Tank Farm System of the Groundwater Mass Removal Project commenced in August 2010 including removal of pumps, piping, and appurtenances from the extraction wells; flushing of the underground piping that will be abandoned in-place; and the flushing of piping in the meter building that will be demolished along with the building.

Look Ahead

The project will complete the replacement of piping and appurtenances to address the incompatibility of some of the plastic components in accordance with the approved DCN and NRAP. The project will continue and complete the decommissioning and demolition of the components of the South Tank Farm System of the Groundwater Mass Removal Project. Once this has been completed, a CCR will be prepared for the project to capture the work completed during the design, construction, operation, and shut down phases of the project.

3.8.12 North Plants Light Non-Aqueous Phase Liquid

Status – Active

History

- LNAPL associated with groundwater was first identified beneath the North Plants manufacturing area during water level monitoring in Well 25055 in 1993 (TtEC 2007). Follow-up sampling in 1993 showed low levels of BTEX.
- Delineation of the LNAPL was conducted in July 2001 as part of the North Plants Structures Groundwater Monitoring (FWENC 2001a).
- In September 2001, passive recovery of the LNAPL was initiated in September 2001 and continued until demolition activities in the area required abandonment of the well and cessation of recovery in February 2002 (FWENC 2002a). Continuation of LNAPL recovery was planned to follow completion of North Plants surface remediation actions.
- Petroleum-impacted soils were observed during excavation of the chemical sewers surrounding Building 1712 in December 2002. This triggered two rounds of soil sampling to delineate the extent of petroleum contaminated soil. The investigation and evaluation of the petroleum contaminated soil was documented in the North Plants Soil Remediation PRER (TtFW 2004a). The PRER concluded based upon the Remedial Investigation results, groundwater monitoring result and the two rounds of soil sampling (TtFW 2004b), that no action was required for soil.
- The RVO prepared a draft North Plants Free Product Remediation Plan (TtFW 2004c) in March 2004 presenting a concept for LNAPL recovery. This concept was modified in Fall 2004 and presented in the North Plants Soil Remediation Project DSOW (TtFW 2005a) and subsequently in the North Plants Soil Remediation Project 30 Percent Design Analysis (TtFW 2005b). Since that time, experience with the groundwater mass removal system located in South Plants underscored the importance of both site-specific data and site-specific recovery experience when implementing a contaminant recovery system. For that reason, the PREAP identified

- the need to update the LNAPL characterization data collected since late 2004 and present the action plan for a pilot system for LNAPL recovery.
- A PREAP (TtEC 2007) was prepared by the RVO to address the investigation and potential remediation of the groundwater contamination with the historical release of fuel oil in the North Plants. Characterization and evaluation of the groundwater contamination was conducted in accordance with the requirements of Division of OPS Guidance (CDLE 1999), and concluded that no action was required for groundwater. As concluded in the PREAP, concentrations of contaminants in soil do not exceed the Tier 1 Risk-Based Screening Level (RBSLs) presented in the guidance. However, the presence of LNAPL also referred to as free product, in several monitoring well locations, requires evaluation of actions to satisfy requirements under the OPS Guidance for LNAPL removal. Specifically, the LNAPL must be removed to the maximum extent practicable and in a manner that minimizes the spread of contamination.
 - The design of the pilot LNAPL removal action as defined in the North Plants Pilot LNAPL Removal System Action Plan was started and completed in FY09. The construction of the LNAPL recovery and monitoring wells was completed in March 2009. Following construction completion and development of the wells, monitoring commenced in the LNAPL recovery and monitoring wells for the presence of LNAPL.

Review of Last Year

Monitoring of the recovery and monitoring wells continued through April 2010 which marked the completion of one (1) year of monitoring and by agreement, the requirement to prepare an Operations Evaluation Report for review and comment by the Regulatory Agencies. The draft North Plants LNAPL Operations Evaluation Report was submitted to the Regulatory Agencies in June 2010 and comments have been received that are currently being addressed by the RVO. The draft report concluded to measureable LNAPL in any of the monitoring or recovery wells and as a result, recommended the continued monitoring of the system for LNAPL for an additional year. At the end of the additional year of monitoring another evaluation report will be prepared to share the results with the Regulatory Agencies. At that time, a determination will be made regarding the future actions for the projects. These recommendations have been acknowledged and accepted by the Regulatory Agencies.

Look Ahead

The RVO will continue the monitoring for LNAPL in the recovery and monitoring wells. If sufficient accumulation of LNAPL has been observed in the recovery wells during the additional year of monitoring, bail down tests will be conducted to predict the potential yield of LNAPL. Following the completion of the bail down test, LNAPL recovery pumps will be installed in the recovery wells and operation will commence to begin active removal of LNAPL. The monitoring data, results of the bail down tests and operations/maintenance data will be compiled in a Pilot System Report that will be submitted to the Regulatory Agencies for review. Contained within the report will be recommendations for remedial action, if any, that could include the installation of additional LNAPL recovery wells.

3.8.13 Dense Non-Aqueous Phase Liquid Remedial Investigation/Feasibility Study Status – Active

History

- The first indication of the potential for DNAPL to exist in the Lime Basins slurry wall dewatering wells occurred on July 30, 2009 when the readings of level sensing transducers did not correlate with the field measurements.
- Visual confirmation of the presence of DNAPL in dewatering well DW-10 occurred on August 4, 2009 through collection of samples using a sludge judge. The visual confirmation of the presence of free product lead the RVO, with the Regulatory Agencies concurrence, to shut down the dewatering wells until further investigation can be performed to characterize the free product. This action was taken to protect the treatment system and to determine further courses of action that needed to be taken to address free product.
- On August 11 and 12, 2009, field monitoring for DNAPL was conducted in dewatering wells DW-1 through DW-10 and influent tank T-101 using a free product interface probe. Samples of the potential DNAPL, the overlying groundwater, and well pump discharge from the meter building for dewatering well DW-10 were collected and sent off-post for analysis. The analytical results for these samples were received on August 18, 2009 that confirmed the presence of a free phase liquid at the bottom of the well comprised of in descending order of concentration, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,3-dichlorobenzene, and chlorobenzene.
- On August 25, 2009, the RVO proposed a second phase of field investigation based on the results of the initial phase as previously summarized. This second phase of investigation encompassed depth sampling in select wells and influent tank to investigate the potential for DNAPL stratification based on relative density of its compounds. This depth sampling was proposed to be conducted in dewatering wells DW-1, DW-3, DW-8, and DW-10 based on the historical high detections of organic compounds in these wells and their relative locations along the northern boundary of the slurry wall. Three depth samples were collected from each of these dewatering wells and influent tank T-101 corresponding to the top 2 feet, middle 2 feet, and bottom 2 feet relative to the total liquid column in the tank or well.

Review of Last Year

During a meeting conducted on October 1, 2009, the results of the second phase of investigation were reported to the Regulatory Agencies. In general, the analytical results for the depth samples collected in the wells indicated dissolved concentrations of benzene, chloroform, and various isomers of dichlorobenzene that were typical of the historical concentrations detected in the area, and the concentrations did not indicate any variations with the depth of the sample. During this same meeting and based on the results that were presented, the RVO proposed to perform similar depth sampling of the remaining dewatering wells DW-2, DW-4, DW-5, DW-6, DW-7, and DW-9. This phase of investigation was conducted on October 13 and October 15, 2009 and the results were reported to the Regulatory Agencies on October 29, 2009. The bottom interval sample collected from DW-9 revealed the presence of a DNAPL comprised of 1,2-dichlorobenzene, 1,4-dichlorobenzen, 1,3-dichlorobenzene, and chlorobenzene.

Given the confirmation of DNAPL presence in wells DW-9 and DW-10, both visually and with analytical results, the RVO proposed to begin in the removal of DNAPL from these dewatering wells to observe the continued accumulation of DNAPL in these wells that provide insight into the nature, extent, and behavior of the DNAPL.

The DNAPL accumulated in wells DW-9 and DW-10 was removed on December 17, 2009. A QED brand gas displacement pump specifically designed for DNAPL use removed approximately 7.2 gallons of fluid from DW-9 and an additional 7.0 gallons of fluid from DW-10. Prior to pumping, DNAPL thickness was measured in DW-9 (5 feet, 2 inches) and DW-10 (2 feet, 9 inches), or approximately 9 gallons and 4.75 gallons of DNAPL, respectively.

Based on the lack of DNAPL in the dewatering wells outside the slurry wall, the dewatering wells DW-1 through DW-4 resumed pumping on November 11, 2009. Based on the relatively stable DNAPL measurements (i.e., no apparent change in measured DNAPL thickness) following the removal of DNAPL from the two wells, pumping was started in wells DW-5 through DW-8 on February 1, 2010, and pumping from wells DW-9 and DW-10 began on February 24, 2010.

Water level and DNAPL thickness measurements were conducted on a weekly basis in the 10 Lime Basins dewatering wells beginning on December 21, 2009, up through March 23, 2010, when the frequency was revised by bi-weekly with the Regulatory Agencies' concurrence. DNAPL was detected in dewatering well DW-5 at an approximate depth of 0.5 feet on February 10, 2010. Since then the weekly monitoring of DNAPL in this well has detected relatively constant DNAPL depths ranging from 0.3 to 0.6 feet.

DNAPL was detected in well 36231 (MW-1), where it was measured at 0.28 feet. Originally, only water-level measurements were taken in this well, as the intended purpose of well 36231 is to function as a piezometer to evaluate the effectiveness of the slurry wall, in particular as determined by the reverse hydraulic gradient.

On May 28, 2010, dewatering wells DW-1 through DW-10 were shut down to allow for the decommissioning and demolition of the CWTF and the Groundwater Mass Removal Project. The dewatering wells of the Lime Basins Slurry Wall (DW-5 through DW-10) will be restored to operation when the Lime Basins Groundwater Treatment Relocation Project has been completed and commissioned to receive and treat the Lime Basins Groundwater from slurry wall dewatering operations. This is anticipated to occur near the end of 2010.

To fully investigate the nature and extent of the DNAPL and its impact on the existing Lime Basins Slurry Wall and other existing remedies in the Lime Basins Area, the RVO proposed to undertake a RI/FS in accordance with the CERCLA requirements. The approach to executing the RI/FS was presented in a Lime Basin DNAPL RI/FS Work Plan that was transmitted to the Regulatory Agencies for review and comment. This document was issued final in March 2010 following revisions to the document to address the Regulatory Agencies' comments on the draft version of the document.

The RI phase of the project was completed in accordance with the Work Plan and the results, conclusions, and recommendations of the RI were captured in a draft Lime Basins DNAPL RI Summary Report issued in July 2010 for the Regulatory Agencies' review. The document was finalized in September 2010 following revisions to address the Regulatory Agencies' comments on the draft version of the document. At the same time, a project Decision Document was prepared in accordance with the Work Plan to document the completion of the RI and the agreement to proceed with the FS based on the conclusions and recommendations of the RISR. The Decision Document will be signed by Committee level members to document the agreement to proceed accordingly on the project.

Look Ahead

The project will seek concurrence by the Regulatory Agencies through the Decision Document of the agreement that the RI has been completed and the FS will be conducted based on the conclusions and recommendations of the RISR. The project will then proceed with the execution of the FS to address the potential impacts of the DNAPL on the existing Lime Basins Slurry Wall as well as other completed remedies within the Lime Basins area. The efforts of the FS will be captured in an RI/FS Report that will provide recommendations for future remedial actions to address the existence and remediation of the DNAPL.

3.9 Remediation Venture Office

3.9.1 Program Management Contractor (PMC Acquisition)

Status - Complete

History

- The PMC selection process began in July 1996 by publicizing the availability of the contract solicitation in targeted publications and on the Internet. The process involved an innovative two-phase approach. After presenting the PMC solicitation to more than 150 interested contractors, nine prospects were evaluated in Phase I using the criteria of previous related experience, key personnel, and safety performance. Eight finalists were then invited to participate in Phase II, and were evaluated on management, performance risk, approach to an implementation scenario, design approach, and cost.
- The PMC acquisition effort was completed on May 23, 1997, with award of the PMC. Five unsuccessful offerors protested the award to the PMC on the basis of an alleged organizational conflict of interest and other issues. The Army agreed to delay the implementation of the contract to review its procurement procedures. Arsenal staff reevaluated the revised proposals and conducted exhaustive negotiations with all of the bidders to determine which provided the best value for the Arsenal. The PMC proposal still was determined to be the best of the six that were resubmitted, and was re-awarded the contract on December 3, 1997.

3.9.2 Site-Wide Implementation Planning Team

Status - Complete

History

- The Site-Wide Implementation Plan Team (SWIPT) has completed its primary task of technical support to the PMC acquisition. Version 4 of the SWIPT Report was completed in July 1997 and provided to the Regulatory Agencies. No further updates to the SWIPT are anticipated.

3.9.3 Land Transfers/Partial Deletions

To date five partial deletions have been approved, reducing the area at the RMA listed on the National Priorities List (NPL) from an original total of 27 square miles to approximately 1.6 square miles.

Transfer of the Western Tier Parcel

Status – Complete

The Refuge Act (as amended in 1998) stipulates that approximately 815 acres (later more accurately defined as 917 acres), referred to as the Western Tier Parcel (WTP), will be transferred to the adjacent community of Commerce City for fair market value. The first step in the transfer process was the partial deletion of this property from the NPL. In 1997, RMA proposed to EPA the deletion of this property from the NPL. A Notice of Intent of Partial Deletion (NOIDp) was published in the Federal Register in October 1998. The deletion was subsequently postponed to allow for additional soil sampling of the parcel. During the soil sampling, a site reconnaissance was performed that identified approximately eight areas requiring subsurface investigation. An investigation of seven of the eight areas was performed and indicated no evidence of subsurface contamination. The eighth area, a trench, was excavated. Reports documenting the fieldwork, Site Reconnaissance Report and Confirmation Soil Sampling Risk Report were finalized upon finalization of a comprehensive site-wide reevaluation for UXO, which was required after GB bomblets were recovered in October 2000. A second NOIDp was published in the Federal Register in September 2002. A NODp was published in the Federal Register in January 2003. A public notice was published in the local newspapers in July 2003 for review of a Finding of Suitability to Transfer (FOST). The FOST was signed in August 2003 and a Report of Excess (ROE) package was submitted to the Corps of Engineers (COE). The COE transmitted the ROE package to the General Service Administration (GSA) in September 2003. GSA signed the deed in June 2004 and the property was sold to Commerce City.

Perimeter Area

Status - Complete

The Refuge Act specifies that upon receipt of certification from the EPA that all response actions required at RMA have been completed (NPL deletion), the Army shall transfer to the Department of the Interior - USFWS jurisdiction over RMA, except for facilities required to be retained for water treatment or for the disposal of contaminants. In all, the amount of land eligible to be transferred to the USFWS totals approximately 15,000 acres. A map of a portion of the 15,000 acres was presented to the Regulatory Agencies in 1999 with a request for deletion of that property from the NPL. This area was called the Perimeter Area. Discussion with the

Regulatory Agencies on the Perimeter Area map was in progress, but the Regulatory Agencies suspended all deletion activity in October 2000 when the GB bomblets were recovered. Deletion activity did not resume until the comprehensive site-wide reevaluation for UXO was completed. As the site-wide reevaluation was being finalized in November 2001, deletion discussions resumed and the EPA published two NOIDps in the Federal Register in July 2003 for a total of approximately 5,000 acres. A ROE package was submitted to the COE in December 2003. Notices of Partial Deletion were published in January 2004. The Perimeter Area was transferred to USFWS by the COE in March 2004 and the USFWS officially established the RMA National Wildlife Refuge in April 2004. The transfer ceremony included participation by the Secretary of the Interior Gail Norton, Senator Wayne Allard, Congressman Bob Beauprez and Congresswoman Diane DeGette.

Internal Parcel

Status - Complete

Discussions were initiated with the Regulatory Agencies in August 2004 for the next deletion of property from the NPL called the Internal Parcel. Negotiations on the amount of property to be deleted continued with the Regulatory Agencies into FY05 and reached a point where a deletion justification report was able to be drafted and submitted for review in July 2005. That report was finalized in March 2006 and a NOIDp was published in the Federal Register in April 2006, for approximately 7,400 acres. A NODp was published in the Federal Register in July 2006. Transfer of approximately 7,260 acres to USFWS took place on September 1, 2006. A transfer ceremony took place on October 13, 2006; it included participation by the Secretary of the Interior Dirk Kempthorne, the EPA Administrator Stephen Johnson, the Deputy Assistant Secretary of the Army for Environment, Safety and Occupational health Tad Davis, Senator Wayne Allard, and Congressmen Bob Beauprez, Mark Udall, and Tom Tancredo.

Central Areas and Off-Post Surface Media

Status - Complete

A request for deletion of property from the NPL was sent to the EPA in May 2009 for the remaining on-post areas to be transferred to USFWS and for portions of the Off-Post OU. Negotiations on the amount of property to be deleted continued through FY09 with tentative agreement reached on approximately 2500 acres, known as the Central Areas, and 160 acres of the off-post surface media. A NOIDp was published in the Federal Register in June 2010 and the NODp was published in the Federal Register in September 2010. The Central Areas were transferred to the USFWS by the end of FY10. A transfer ceremony took place on October 15, 2010.

100-Foot Strip

Status - Complete

The Refuge Act specifies that 100-feet inside the RMA boundary on the northwest, northern, and southern sides (approximately 11 miles of 100-foot strips, 126 acres), be transferred to local governments, at no cost, to allow for the improvement of public roads. This property was included in the Perimeter Area deletion from the NPL. A public notice for an Environmental Assessment was published in local newspapers in July 2003 and signed in September 2003. A public notice for a FOST was published in local newspapers in January 2003 and signed in March 2004. A ROE was submitted to the COE in March 2004. The property was transferred to local governments in September 2004.

U.S. Post Office Bulk Mail Facility

Status - Complete

The U.S Post Office Bulk Mail Facility is located on a 63-acre parcel of land leased by the U.S. Postal Service. The land surrounding this parcel is the WTP, which has been transferred to Commerce City (see above). The Army identified this “island” of land as excess and a ROE was submitted to the COE in July 2003. The COE transmitted the ROE package to GSA in August 2003. This property was transferred to the U.S. Postal Service in July 2005.

Klein Water Treatment Plant

Status - Complete

The Klein Water Treatment Plant is located on a 12-acre parcel of land leased by the SACWSD. A majority of the land surrounding this parcel is the WTP, which has been transferred to Commerce City (see above). The Army identified this “island” of land as excess and included it with the ROE package for the WTP. This property was transferred to SACWSD in April 2005.

3.9.4 Lake Ladora Dam and Spillway Project

Status - Complete

History

- The SOW for the Lake Ladora Dam Rehabilitation included: repair of the north embankment to reestablish 3:1 side slopes and a new crest elevation; replacement of the south embankment with a clay core and cut-off trench, sand-gravel foundation trench drain, and a new crest elevation; a new outlet works that allows water to be diverted to Lake Mary or discharged into the Lake Ladora spillway; the construction/repair of the spillway to provide a 100-foot wide channel bottom and 3:1 ration side slopes to meet applicable standards. The spillway also includes four grade-control structures to control erosion and velocity.
- The contract was awarded to Parker Excavating Inc., in June 1998 and completed in October 1999. The reason for the repairs was that the dam did not meet the Minimum Acceptable Dam Safety Standards (State of Colorado) and therefore could not have been transferred to the U.S. Department of the Interior until brought into compliance.

3.9.5 Shoreline Expansion Project

Status - Complete

History

- The Lower Derby Lake Shoreline project consists of the construction of two soil peninsulas in Lower Derby Lake, and installation of a fish screen along the Highline Canal. This project was performed at the request of USFWS.
- Lower Derby Lake is located along the south side of Section 1. The lake was drained in 1999 to accommodate the remediation (excavation) work to be performed at the east end of the lake. The construction of the two peninsulas occurred immediately following this remediation work in August 1999. The fish screen was also installed across the High Line Canal upstream from Lower Derby Lake. This project was completed in October 1999.

- Approximately 11,400 bcy of soil was necessary to construct the two peninsulas. The fish screen was purchased from an appropriate vendor, and reinforced concrete and riprap were required for its installation.

3.9.6 Five Year Site Review

Status - Active

History

- First Five Year Site Review, (December 2000), was approved by the EPA on January 31, 2001.
- Preparation of Second Five Year Site Review (December 2005) began in October 2004; draft report sent to the Regulatory Agencies in July 2005.
- Several comments received from the EPA relating to groundwater remediation issues, and being unable to resolve the key issues, the RVO raised the EPA comments to the RMA Committee and RMA Council meeting in November 2005, and then to the SAPC in December 2005.
- In January 2006 the EPA assigned Ms. Helen Dawson to act as a facilitator and help resolve key issues raised by the EPA.
- Second Five Year Site Review, was approved by the EPA on December 20, 2007.

Review of Last Year

The RVO began the third Five Year Site Review (FY10) process in October 2009. Site inspections were conducted in March 2010 through April 2010. A draft Five Year Review Report was issued to the Regulatory Agencies in July 2010, and comments were received in September 2010.

The Five Year Groundwater Summary Report was issued to the Regulatory Agencies in June 2010 and comments were received in August 2010.

Look Ahead

The final Five Year Site Review Report for the Regulatory Agencies' approval is schedule to be issued in the Third Quarter of FY11.

The final Five Year Groundwater Summary Report is forecast to be issued in October 2010.

3.9.7 Long-Term Environmental Management System

Status - Active

History

- In FY05, the RVO and the Regulatory Agencies agreed conceptually on the preparation of the Long-Term Environmental Management System (LEMS).
- During FY08 and FY09, the RVO and the Regulatory Agencies reached agreement on a draft Caps and Covers section to be used as a template for format and level of detail for other sections of the LEMS. A preliminary draft LEMS was transmitted in March 2009.

After receiving general input from the Regulatory Agencies, a revised preliminary draft LEMS was transmitted in August 2009.

Review of Last Year

The RVO worked to more fully develop incomplete sections of the LEMS, especially related to information management. Other sections were updated as component plans were completed or revised (e.g., LTMP, ELF Post-Closure Plan).

Look Ahead

The RVO plans to issue a draft LEMS for review and comment by the Regulatory Agencies during the first quarter of FY11. The forecast completion of the LEMS plan is second quarter of FY11.

3.10 Program Management

3.10.1 Trust Fund

Status - Complete

History

- During the development of the ROD, members of the public and some local governmental organizations expressed keen interest in the creation of a trust fund to help ensure that the long-term O&M obligations of the U.S. Army would be performed. The ROD provided for the formation of a trust fund group to develop a strategy to establish such a trust fund and in August 1996 a Trust Fund Work Group was established. The Group consisted of representatives from the Parties, the RAB, the Site-Specific Advisory Board, the Governor's office, Commerce City officials, and the public. The first meeting was held on August 14, 1996. The Group identified eight possible options for establishing a trust fund and, after much study and discussion, agreed that two options were the most feasible.
- The Trust Fund Working Group proposed two strategies to the Army that would establish a trust fund for long-term operations and maintenance costs. One strategy would have Shell establish a trust fund in its lead party status. The second strategy would have established a sub-account within EPA's Superfund Trust Fund. The Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health reviewed the proposed strategies and determined that both were unacceptable due to legal and policy implications.

In March 2006 CDPHE/EPA issued the "Trust Fund Work Group Summary of Work", the document summarized the major events of the Trust Fund Group from 1996 – 2006. Pages 16 of the document, last paragraph states

At this point, all further work on the Trust Fund ended. Based upon the activities conducted as described above, the Parties believe that they have exercised their good-faith best efforts to establish a Trust Fund for the operation and maintenance of the

remedy, including habitat and surficial soil, as outlined in Section 9.4 of the ROD. No additional efforts to attempt the establishment of a Trust Fund are planned.

3.11 Off-Post Remedy

3.11.1 Off-Post Surficial Soil

Status - Complete

History

- The ROD for the Off-Post OU for the RMA (signed on December 19, 1995) specified that approximately 160 acres in the southeast portion of Section 14 and the southwest portion of Section 13 would be tilled and seeded with an appropriate seed mix. The objective of this project was to thoroughly mix the top eight to ten inches of soil through tillage of appropriate areas within the area of estimated dieldrin concentration greater than 0.04 ug/g, and establish self-sustaining vegetation at those sites. Operator training began on March 1, 1996, and the project was completed on April 16, 1996. The Final Inspection was conducted in October 1996. This project was accepted as complete with approval of the CCR by the Regulatory Agencies on September 30, 1998.

3.11.2 Off-Post Water Treatment Facility

Status - Active

History

- Request by local developer to modify the Northern Pathway was received in August 2003. The request is to relocate approximately 6 wells to facilitate commercial and residential development of property.
- DCN-NPS-FCD-001 approved by the Regulatory Agencies (by signature) August 16, 2006.
- DCN – NPS-FCD-003 approved by the Regulatory Agencies July 1, 2009. The DCN closed out the Northern Pathway Modifications Project.

Review of Last Year

Operation of the Off-Post System continues within effluent parameters at approximately 275 gpm.

Look Ahead

Normal operations will continue through the foreseeable future.

3.11.3 Off-Post Well Closures

Status - Complete

History

- SOW completed May 22, 1998.
- Contract awarded to Los Alamos Technical Associates July 21, 1998.
- Closure of wells and construction of new wells completed

November 24, 1998; remaining fieldwork and final inspection held December 16, 1998.

- Draft CCR issued February 26, 1998.
- Project accepted as complete (CCR approved) by the Regulatory Agencies on September 30, 1999.

4.0 Schedule and Bar Charts

4.1 Schedule Modifications and Justification

The following modifications have been made to the schedule:

Global Modifications:

None

Specific Project Modifications:

- Decision Document titled SAPC Resolution for Off-Post Institutional Controls, (reference letter dated November 9, 2009, Section 5).
- EPA and CDPHE acceptance letters of the CCR for the Miscellaneous RMA Structure Demolition and Removal Project – Phase III, (reference letter dated December 8, 2009, Section 5).
- Milestone extension request (Finish Milestone) for the ICS Projects, (reference letter dated January 12, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the Basin F/Basin F Exterior Remediation – RCRA-Equivalent Cover Project, (reference letter dated January 12, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the Shell Disposal Trenches Remediation Project, (reference letter dated January 12, 2010, Section 5).
- EPA and CDPHE acceptance letters of the CCR for the South Plants Balance of Areas and Central Processing Area Soil Remediation Project – Phase II, Part 1 and Part 2, (reference letter dated January 19, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the Shell Disposal Trenches Remediation Project, (reference letter dated February 11, 2010, Section 5).
- EPA and CDPHE acceptance letters of the CCR for the Section 36 Balance of Areas Soil Remediation Project – Part 2, (reference letter dated February 22, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the ICS Projects, (reference letter dated March 4, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the Shell Disposal Trenches Remediation Project, (reference letter dated March 4, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the Basin F/Basin F Exterior Remediation – RCRA-Equivalent Cover Project, (reference letter dated March 18, 2010, Section 5).

- Decision Document titled Revisions to the Basin A Consolidation and Remediation Project Groundwater Monitoring Plan Requirements, (reference letter dated March 25, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the Shell Disposal Trenches Remediation Project, (reference letter dated April 1, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the ICS Projects, (reference letter dated April 22, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the ICS Projects, (reference letter dated May 20, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the Basin F/Basin F Exterior Remediation – RCRA-Equivalent Cover Project, (reference letter dated May 20, 2010, Section 5).
- EPA and CDPHE acceptance letters of the CCR for the HWL Cap Construction, (reference letter dated July 21, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the ICS Projects, (reference letter dated July 22, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the Basin F/Basin F Exterior Remediation – RCRA-Equivalent Cover Project, (reference letter dated September 2, 2010, Section 5).
- Milestone extension request (Finish Milestone) for the ICS Projects, (reference letter dated September 30, 2010, Section 5).

4.2 Bar Charts

Four different bar chart views of the schedule are included at the end of this section showing various levels of details:

- Project Design Summary Bar Chart
- Project Implementation Summary Bar Chart
- Regulatory Agencies Review Activity Bar Chart (for next two years only)
- Detail Bar Chart

4.2.1 Project Design Summary Bar Chart

Page Left Intentionally Blank

4.2.2 Project Implementation Summary Bar Chart

4.2.3 Regulatory Agencies Review Activity Bar Chart

Activity ID	Rem Dur	Forecast Start	Forecast Finish	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14

Disposal Facilities - Basin A / Landfills

Construct Hazardous Waste Landfill																			
Construction Completion Report																			
LF6-300075	0		29APR11																Project Complete (EPA Accept. of CCR - LWTS)
LF6-400040	30*	07JAN11	05FEB11																Regulator/Committee Review Draft CCR - LWTS
LF6-400060	14	16APR11	29APR11																EPA/State-Prepare/Issue Accept Ltr CCR - LWTS
Operational Construction of Enhanced Haz Wst LF																			
Construction Completion Report																			
LE6-300060	14	06NOV10	19NOV10																EPA/State-Prepare/Issue Accept Ltr CCR- ELF Cap
LE6-300070	0		19NOV10																Project Complete (EPA Accept. of CCR - ELF Cap)
Basin A Consolidation and Remediation																			
Construction Completion Report																			
BA6-360040	0		07OCT10																Cover CCR Part I Complete - ICS Covers

Phase I - Outlying Areas

Miscellaneous RMA Structure Demolition & Removal																				
Construction Completion Report																				
MS6-117120	30	02DEC10	04JAN11																Regulator/Committee Review CCR - CERCLA WTP	
MS6-117140	14	12MAR11	25MAR11																EPA/State Issue Accept Ltr CCR - CERCLA	
MS6-177145	0		25MAR11																Project Complete - Phase IV CERCLA WTP	

Phase II - South Plants Area

SP BOA & CPA Soil Remediation - PH II																				
Construction Completion Report																				
SC6-270040	0		07OCT10																CCR Complete - ICS Covers	

Phase III - Sections 35 & 36 Sites & North Plant

Complex(Army)Disposal Trenches Remediation-Cover																				
Construction Completion Report																				
CT6-200040	0		07OCT10																CCR Complete - ICS Covers	

Start Date 30DEC91 Finish Date 29NOV42 Data Date 02OCT10 Run Date 26OCT10 10:06	 Forecast Bar  Progress Bar	RD10 RMA ROD IMPLEMENTATION 2 YEAR REGULATORY REVIEW BARCHART	Sheet 1 of 2
© Primavera Systems, Inc.			

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	
Disposal Facilities - Basin A / Landfills																					
LF5-INF	02FEB98	04SEP09	154*	26FEB98A	10MAR11																
						FIELD-HWL - Construction/Ops/Cover/LWTS Closure															
LE5-INF	10OCT03	17NOV10	3*	22AUG03A	06OCT10																
						FIELD- ELF - Construction/Operations/Cover															
BA4-INF	19JAN98	19NOV10	20*	14NOV97A	29OCT10																
						Basin A Operations/ Interim Ops/ Cover															
BA4-INF5	23JUN08	19NOV10	20*	23JUN08A	29OCT10																
						FIELD-Basin A - RCRA-Eq Cover Constr (Notch)															
Phase I - Outlying Areas																					
MS4-INF	24FEB00	12NOV10	35*	24FEB00A	19NOV10																
						Misc. RMA Structures Demolition & Removal															
MS4-INF4	01SEP10	12NOV10	35*	09MAR10A	19NOV10																
						FIELD-Misc Struct Demo&Rmv-PhIV-CERCLA WTP Dem															
Phase II - South Plants Area																					
SC4-INF	05DEC01	19NOV10	20*	03DEC01A	29OCT10																
						SP BOA & CPA Soil Remediation Phase II															
SC4-INF4	22SEP08	19NOV10	20*	31JAN08A	29OCT10																
						FIELD-SP BOA & CPA-3-Ft Cvr & 1-Ft BF Constr															
Phase III - Sections 35 & 36 Sites & North Plant																					
CT4-INF	15AUG05	19NOV10	20*	07SEP05A	29OCT10																
						FIELD-Complex Army Disposal Trenches-RCRA Eq Cvr															
ST4-INF	01MAR05	30APR10	10*	04FEB05A	15OCT10																
						FIELD-Shell Disposal Trenches-RCRA-Eq Cvr Constr															
Phase IV - Basin F/Lime Basins																					
LB4-INF	20APR07	19NOV10	20*	20APR07A	29OCT10																
						Sec. 36 Lime Basins Soil Remediation															
LB4-INF2	05MAR08	19NOV10	20*	03APR08A	29OCT10																
						FIELD-Sect 36 Lime Basin Subgrade-RCRA Eq Cover															

Start Date 30DEC91
 Finish Date 29NOV42
 Data Date 02OCT10
 Run Date 26OCT10 09:24

 Current Control Baseline
 Forecast Bar
 Progress Bar

RD10

Sheet 1 of 1

RMA ROD IMPLEMENTATION SCHEDULE
 PROJECT IMPLEMENTATION SUMMARY
 FISCAL YEAR ENDING-02 OCTOBER 2010

4.2.4 Detail Bar Chart

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Construction/Operations/Closure																		
LF5-186020			0*	27JUL09A	23MAR10A	100	Closure Certification Report - HWL Cap											
LF5-186010	25AUG08	04SEP09	0*	25AUG08A	23MAR10A	100	CERT REPORT - HWL - Cap Closure											
LF5-002008			0	01MAY09A	24SEP09A	100	REPORT JUL2007-APR2009 HWL Ops Annual GW											
LF5-740000	01JUN98	04SEP09	0*	26FEB98A	23MAR10A	100	Project Support - HWL											
LF5-INF	02FEB98	04SEP09	154*	26FEB98A	10MAR11	97	FIELD-HWL - Construction/Ops/Cover/LWTS Closure											
LF5-900000			23*	14APR10A	03NOV10	84	HWL - LWTS Closure and Demolition											
LF5-191005			88*	02NOV10	10MAR11	0	REPORT - CQA Certification Report - LWTS Closure											
Construction Completion Report																		
LF6-730100	16DEC00*	16FEB01	0	28NOV00A	29JAN01A	100	Prep Constr. Cmplt Report (CCR) - Cell II Constr											
LF6-730102	17FEB01	18MAR01	0	29JAN01A	27FEB01A	100	Regulator/Committee Review CCR - Cell II Constr											
LF6-730104	19MAR01	17APR01	0	24FEB01A	22MAR01A	100	Incorp/Resp. to Comments/Issue Draft CCR - C II											
LF6-730106	18APR01	17MAY01	0	26MAR01A	01MAY01A	100	EPA-State Prepare & Issue Accept Ltr CCR - C II											
LF6-730108		17MAY01	0		24APR01A	100	Project Complete - Cell II Construction											
LF6-INF1	16DEC00	17MAY01	0*	28NOV00A	24APR01A	100	Constr Cmplt Rprt (CCR) Process-HWL Cell II											
LF6-730200	07JUN04*	07AUG04	0*	07JUN04A	06AUG04A	100	Prep Construction Cmplt Report (CCR) - HWL Ops											
LF6-730201	08AUG04	07SEP04	0*	07AUG04A	10NOV04A	100	Regulator/Committee Review CCR - HWL Ops											
LF6-730204	03NOV06	13JAN07	0	30OCT06A	04JAN07A	100	Update HWL Ops CCR - including Interim. Cover											
LF6-730205	14JAN07	02FEB07	0	05JAN07A	30JAN07A	100	RVO/PMC Review Draft CCR - HWL Ops											
LF6-730206	03FEB07*	04MAR07	0	31JAN07A	04JUN07A	100	Regulator/Committee Review CCR - HWL Ops											
LF6-730210	05JUN07*	13NOV07	0	05JUN07A	13NOV07A	100	Incorp/Resp to Comments/Issue Draft CCR -HWL Ops											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Short-Term Monitoring/Maintenance/Operations																		
LF7-840000			15*	01SEP10A	16OCT10	67	REPORT - 2010 Annual Covers Report for RCRA Caps											
Plan Development or Revision																		
LFR#200220			0*	02FEB09A	23APR10A	100	PLAN-LWTS Closure Plan Development											
Operational Construction of Enhanced Haz Wst LF																		
Pre-design Activities																		
LE1-DES030	12APR99*	06JUL00	0*	13APR99A	06JUL00A	100	ELF Geotechnical Investigation											
LE1-DES040	02FEB00*	20AUG03	0*	02FEB00A	12AUG03A	100	ELF Liner Compatibility Study											
LE1-030940			0*	23MAY00A	06AUG02A	100	ELF Pre-Operational Groundwater Mon.-Well Instal											
LE1-040960	01AUG00*	02DEC02	0*	01AUG00A	02DEC02A	100	ELF Operations Manual											
LE1-INF	12APR99	20AUG03	0*	13APR99A	12AUG03A	100	Enhanced Landfill Pre-Design											
Remedial Design																		
LE2-100000	30OCT00*	30MAR01	0*	17NOV00A	04APR01A	100	Prepare/Revise Design SOW- ELF											
LE2-101500		31JAN01	0		30JAN01A	100	Submit Draft Design Scope of Work -ELF											
LE2-101600	01FEB01	02MAR01	0*	31JAN01A	02MAR01A	100	Reg./RMA Committee Review (Design SOW)											
LE2-130000	01FEB01	17MAY01	0*	10JAN01A	15MAY01A	100	Prepare 30% Design - ELF											
LE2-195000	26FEB01*	29APR02	0*	26FEB01A	29APR02A	100	ELF Test Pad Program											
LE2-132500		17MAY01	0		15MAY01A	100	<<<<<Submit 30% - Design Deadline >>>>>											
LE2-140000	18MAY01	17JUN01	0*	16MAY01A	15JUN01A	100	Regulator/Committee Review/Pub. Input-LE30%Design											
LE2-150000	18MAY01	25OCT01	0*	18MAY01A	25OCT01A	100	Prepare 60% Design - ELF											
LE2-160000	26OCT01	28DEC01	0*	26OCT01A	28DEC01A	100	Regulator / Committee Review - 60% Design (ELF)											
LE2-170000	26OCT01	28MAR02	0*	26OCT01A	28MAR02A	100	Prepare 95% (Draft Final) Design - ELF											
LE2-175000		28MAR02	0		28MAR02A	100	<<<<<Design Deadline>>>>> - 95% ELF Design											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Procurement																		
LE3-100020	07OCT08	10NOV08	0*	22APR08A	02SEP08A	100	RVO Procurement Cycle - ELF Cap Construction											
Construction/Operations/Closure																		
LE5-620000	08AUG03	20OCT03	0*	22AUG03A	05NOV03A	100	ELF Initial Sitework FY03											
LE5-630000	10OCT03*	09DEC03	0*	17OCT03A	26NOV03A	100	Mobilization - ELF Berms & Liner											
LE5-650000	30OCT03	05MAY04	0*	04DEC03A	06MAY04A	100	ELF Excavation & Berm Construction Part I											
LE5-002008			13	01MAR10A	14OCT10	70	REPORT-2008 ELF Annual GW											
LE5-002009			60	01JUL10A	02DEC10	37	REPORT-2009 ELF Annual GW											
LE5-176000	18MAR04	09MAR05	0*	18MAR04A	27MAY05A	100	BOR5 Support - ELF Berms & Liners											
LE5-650001	06MAY04	21DEC04	0*	25MAY04A	30NOV04A	100	ELF Cell Liner Construction (Part 1)											
LE5-656000	08NOV04	15NOV04	0*	07OCT04A	12NOV04A	100	ELF Intracell Berm Construction Part I											
LE5-900010	24JAN05*	20JUN05	0*	24JAN05A	26AUG05A	100	Construct LWTS Addition - Ion Exchange											
LE5-660010	19OCT04	06APR05	0*	01DEC04A	11AUG05A	100	ELF CCSCS Construction											
LE5-656010	13OCT04	14APR05	0*	25OCT04A	26SEP05A	100	ELF Infrastructure/Misc Facilities Construction											
LE5-650002	28APR05	01JUL05	0*	03FEB05A	29SEP05A	100	ELF Excavation & Berm Construction Part II											
LE5-656001	05MAY05	15DEC05	0*	16MAR05A	31OCT05A	100	ELF Cell Liner Construction (Part 2)											
LE5-186010	10JUN05	08FEB06	0*	01DEC04A	19OCT05A	100	Develop/Submit CR-ELF/CCSCS											
LE5-656002	19SEP05	14OCT05	0*	05JUL05A	28JUL05A	100	ELF Intracell Berm Construction Part 2											
LE5-660020	28OCT05	28NOV05	0*	14NOV05A	01FEB06A	100	ELF Construction Interim Revegetation											
LE5-710000	16DEC05	28DEC05	0*	24OCT05A	06DEC05A	100	Demobilization - ELF Berms & Liner											
LE5-186020	09FEB06	10APR06	0*	20OCT05A	07MAR06A	100	Regulatory Agencies Approval to Place Waste											

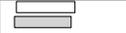
Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Remedial Design																		
BA2-122000	15FEB05*	08JUN06	0*	13JAN05A	08JUN06A	100	Prepare 95% ICSD Design - Basin A DCN											
BA2-123000	09JUN06	29SEP06	0*	09JUN06A	29SEP06A	100	Prepare 100% ICSD Design - Basin A DCN											
BA2-120100	02JAN07*	03APR07	0	02JAN07A	03APR07A	100	Prepare/Revise 95% ICS Design - Basin A											
BA2-120101	04APR07	03MAY07	0	04APR07A	03MAY07A	100	Reg. Review Revised 95% ICS Design - Basin A											
BA2-120102	30APR07	23JUL07	0	30APR07A	23JUL07A	100	Prepare/Revise 100% ICS Design - Basin A											
BA2-120112	24JUL07	23AUG07	0	25JUL07A	23AUG07A	100	Reg Review Revised 100% ICS Design - Basin A											
BA2-110000	21JUL03*	23AUG07	0*	21JUL03A	23AUG07A	100	Basin A RCRA-Equivalent Cover Redesign											
BA2-INF	03JUN96A	23AUG07	0*	03JUN96A	23AUG07A	100	Basin A Design [ICSD]											
BA2-120113			0	24AUG07A	23OCT07A	100	Revise & Submit Final 100% ICS Design - Basin A											
BA2-120114			0	24OCT07A	20NOV07A	100	Reg. Agencies Review R2 100% ICS Design- Basin A											
BA2-120120			0	21NOV07A	22APR08A	100	Prepare DCN & Obtain Agency Approval - Basin A											
Procurement																		
BA3-110000	30SEP97	16JAN98	0*	16OCT97A	13NOV97A	100	RVO Procurement Cycle - Basin A											
BA3-115000	19OCT04	15NOV04	0*	30AUG04A	23SEP04A	100	PMC Prepare T.O. Proposal - Basin A Grading (Ph I)											
BA3-111000	16NOV04	17JAN05	0*	24SEP04A	23NOV04A	100	RVO Review T.O. Proposal - Basin A Grading (Ph I)											
BA3-225000	18JUL06	14AUG06	0	28JUL06A	07AUG06A	100	PMC Prepare T.O. Proposal - Basin A Stockpile AZ											
BA3-222000	15AUG06	03OCT06	0	08AUG06A	08SEP06A	100	RVO Review T.O. Proposal - Stockpile AZ for BA											
BA3-125000	05JUN06	30JUN06	0*	17APR06A	28APR06A	100	PMC Prepare T.O. Proposal - Basin A N Sbgde {S4}											
BA3-112000	03JUL06	28AUG06	0*	22MAR06A	23JUN06A	100	RVO Review T.O. Proposal - Basin A Sbgde (Ph I)											
BA3-120000	05MAR07	23MAR07	0	05MAR07A	23MAR07A	100	PMC Prepare T.O. Proposal - Basin A Cover											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Procurement																		
BA3-121000	26MAR07	20JUL07	0*	26MAR07A	04JUN07A	100	RVO Proc. Cycle-Basin A Covers											
Remediation Activities																		
BA4-120000	19JAN98	01MAY98	0*	14NOV97A	14OCT98A	100	Mobilization - Basin A Operations											
BA4-125000	19JAN98		0	14NOV97A		100	<<<<<Imp. Start Deadline>>>>>											
BA4-131000	13APR98	18AUG98	0*	09JAN98A	16APR98A	100	Visual Surface UXO Survey											
BA4-190000	13APR98		0	19JAN98A		100	*** BASIN A CONSOLIDATION AREA OPEN ***											
BA4-291000	14APR98	20JUL98	0*	19JAN98A	16APR98A	100	Consolidate Biota to Basin A From CAMU Area											
BA4-175000	05MAY99*	31DEC99	0*	11MAY99A	31DEC99A	100	BOR10 Support to Basin A Ops Gradefill											
BA4-200000	13APR98	30JUL04	0*	19JAN98A	30JUN04A	100	--- BASIN A CONSOLIDATION OPS DURATION ---											
BA4-292000	04MAY99	30JUL04	0*	04MAY99A	30JUN04A	100	Basin A Operations											
BA4-140000	13APR98	30JUL04	0*	13JAN99A	30JUN04A	100	BOR7A Support to Basin A Ops Gradefill											
BA4-178000	07MAY03*	30SEP03	0	07MAY03A	30SEP03A	100	BOR9A Support to Basin A Ops Gradefill											
BA4-176000	29MAY02*	31DEC03	0	29MAY02A	31DEC03A	100	BOR3 Support to Basin A Ops G/F - BACR											
BA4-177000	02FEB04*	30JUL04	0*	02FEB04A	30JUN04A	100	BOR8 Support to Basin A Ops G/F - BACR											
BA4-210000		30JUL04	0		30JUN04A	100	*** BASIN A CONSOLIDATION AREA CLOSED ***											
BA4-210010	04OCT04*	15OCT04	0	28OCT04A	29OCT04A	100	Interim Revegetation Borrow Area 3 (BA Support)											
BA4-032002			0*	29NOV04A	04JAN05A	100	Place Biota from Section 36 BOA (Phase I)											
BA4-292030	02AUG04	18APR05	0*	01JUL04A	13MAY05A	100	Basin A Interim Operations - Non-Notch											
BA4-292020	02AUG04	18APR05	0*	01JUL04A	13MAY05A	100	BOR 7B support for Basin A Interim Operations											
BA4-INF1	19JAN98	18APR05	0*	14NOV97A	13MAY05A	100	Basin A Operations / Interim Revegetation											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Remediation Activities																		
BA4-INF5	23JUN08	19NOV10	20*	23JUN08A	29OCT10	97	FIELD-Basin A - RCRA-Eq Cover Constr (Notch)											
BA4-355000		19NOV10	0		29OCT10	0	<<<<<Imp. Finish Deadline>>>>>											
BA4-370000	19JAN98	19NOV10	20*	14NOV97A	29OCT10	99	Project Support - Basin A Consolidation & Remedi											
BA4-INF	19JAN98	19NOV10	20*	14NOV97A	29OCT10	99	Basin A Operations/ Interim Ops/ Cover											
Construction Completion Report																		
BA6-360100	20NOV06*	04JAN08	0*	20NOV06A	03JAN08A	100	Prep Construction Cmpl't Rpt - BA Ops & SG											
BA6-359950			0	15SEP08A	02DEC08A	100	PMC - Prep Draft CCR Part I - ICS Basin A (2008)											
BA6-359960			0	02DEC08A	12FEB09A	100	Agency-Rev'w Draft CCR Part I-ICS (2008)											
BA6-INF0	20NOV06	25APR08	0*	15SEP08A	12FEB09A	100	CCR Part I Draft- ICS Basin A											
BA60INF0			0*	15SEP08A	12FEB09A	100	CCR Pt I 2008 Draft-RCRA-Eq ICS-BA,SP,CAT,2FT,LB											
BA6-360200	18OCT08	12FEB09	0*	27FEB09A	23APR09A	100	Revise CCR to include Notch, 1' Clean Cvr, Subgr											
BA6-360115	13FEB09	14MAR09	0	24APR09A	29MAY09A	100	Regulator/Committee Review CCR - BA Ops/SG											
BA6-360120	15MAR09	10JUN09	0*	01JUN09A	21JUL09A	100	Incorporate Comments & Resubmit CCR - BA Ops/SG											
BA6-360130	11JUN09	12JUL09	0	24JUL09A	03SEP09A	100	EPA-State Prep & Iss Accept Ltr CCR -BA Ops/SG											
BA6-360140		12JUL09	0		03SEP09A	100	Project Complete - Basin A Ops and Subgrade											
BA6-INF1	20NOV06	12JUL09	0*	27DEC04A	03SEP09A	100	CCR - Basin A - Operations & Subgrade											
BA6-360000	02MAR10	30APR10	0*	01FEB10A	01APR10A	100	Prepare Constr Cmpl't Rpt (CCR)											
BA6-360010	01MAY10	30MAY10	0*	02APR10A	13MAY10A	100	Regulator/Committee Review CCR											
BA6-360020	01JUN10	10AUG10	0*	14MAY10A		100	Incorp/Resp to Comments/Iss Draft CCR-ICS Covers											
BA6-360030	11AUG10	24AUG10	6	09SEP10A	07OCT10	57	EPA - State Prep & Iss Accept Ltr CCR-ICS Covers											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Construction Completion Report																		
BA6-360040		24AUG10	0		07OCT10	0												
BA6-INF2	02MAR10	24AUG10	6*	01FEB10A	07OCT10	98	Cover CCR Part I Complete - ICS Covers											
BA6-INF	20NOV06	24AUG10	6*	27DEC04A	07OCT10	100	CCR Part I - ICS RCRA-Eq Covers-Basin A											
							CCR Process - BA Ops / ICS Cover											
Short-Term Monitoring/Maintenance/Operations																		
BA7-600000	02SEP08	30SEP11	35*	01OCT08A	19NOV10	94	BA Cover-Begin 5 Year Veg. Obs. & Rprt Period											
BA7-100000	02SEP08	30SEP11	35*	01OCT08A	19NOV10	94	<<<< Short-Term M&M >>>> - Basin A Cover											
Early Start Projects																		
Sanitary/Chemical Sewer Manhole Plugging-Phase I																		
Remedial Design																		
S12-120000	03JUN96A	19JAN97A	0	03JUN96A	16JAN97A	100	Prepare / Revise Design Scope of Work - S/CSW1											
S12-125000	04NOV96A	08DEC96A	0	15NOV96A	23DEC96A	100	Regulator / RMA Committee Review - S/CSW1											
S12-130000	05AUG96A	17NOV96A	0	05AUG96A	17NOV96A	100	Prepare 30% (Conceptual) Design - S/CSW1											
S12-140000	18NOV96A	22DEC96A	0	18NOV96A	22DEC96A	100	Regulator / Committee Rev. & Public Input-S/SCW1											
S12-150000	18NOV96A	02FEB97A	0	18NOV96A	02FEB97A	100	Prepare 60% Design - S/CSW1											
S12-160000	03FEB97A	02MAR97A	0	03FEB97A	10MAR97A	100	Regulator / Committee Review - S/CSW1											
S12-170000	03FEB97A	07MAR97A	0	03FEB97A	07MAR97A	100	Prepare 95% (Draft Final) Design - S/CSW1											
S12-175000		07MAR97A	0		07MAR97A	100	<<<<<<Design Deadline>>>>>>											
S12-180000	10MAR97A	21APR97A	0	10MAR97A	21APR97A	100	Regulator/Committee Rev. & Public Comment-S/CSW1											
S12-190000	22APR97A	30MAY97A	0	22APR97A	30MAY97A	100	Prepare 100% Design - S/CSW1											
S12-INF	03JUN96A	30MAY97A	0*	03JUN96A	30MAY97A	100	Phase I Sanitary/Chem Sewer Design											
Procurement																		
S13-110000	02JUN97A	03SEP97A	0	02JUN97A	03SEP97A	100	RVO Procurement Cycle - S/CSW1											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Construction Completion Report																		
SW6-INF	07JUL00	03MAR12	3,358*	07JUL00A	26FEB20	52	Constr Cmpl Rprt (CCR) Process - SLWL											
Short-Term Monitoring/Maintenance/Operations																		
SW7G200100	12MAR01*	30SEP02	0*	12MAR01A	30SEP02A	100	Water Level Monitoring of the CDT											
SW7G200200	01OCT02	30SEP10	1,406	03OCT02A	09SEP14	50	Full Scale Operations - Dewatering the CDT											
SW7G200210	01OCT10	30SEP11	1,281	10SEP14	27SEP19	0												
Post-ROD Removal Actions for Structures																		
Remediation Activities																		
CI4-130000	03JUN96A	01DEC97	0	03JUN96A	01DEC97A	100	Asbestos Removal - PRRA											
CI4-140000	03JUN96A	19JAN98	0	03JUN96A	19JAN98A	100	Ph I Chem Proc Equip Removal (Exterior) - PRRA											
CI4-200000	20JAN98	20MAR98	0	20JAN98A	20MAR98A	100	Prep Const Cmpl Report (CCR)-Chem Proc Equip R											
CI4-205000	01DEC97*	31DEC99	0	19JAN98A	28DEC99A	100	Ph II Chem Proc Equip Removal (Interior) - PRRA											
CI4-INF	03JUN96A	31DEC99	0*	03JUN96A	28DEC99A	100	Chem Proc Equip Removal Ph I & Ph II											
Construction Completion Report																		
CI6-210000	02JAN00	29FEB00	0	10JAN00A	17APR00A	100	Prep Const Cmpl Report (CCR)-Chem Proc Equip R											
CI6-210010	01MAR00	11APR00	0	18APR00A	19MAY00A	100	Regulator/Committee Review CCR - Chem Proc Equip											
CI6-210020	12APR00	23MAY00	0	20MAY00A	25SEP00A	100	Incorp/Resp to Com/Issue Draft CCR-Chem Proc Eq.											
CI6-210030	24MAY00	23JUN00	0	26SEP00A	29SEP00A	100	EPA/State Prep & Issue Accept Ltr-Chem Proc Eq											
CI6-210040		23JUN00	0		29SEP00A	100	Project Complete - Chem Process Equip (Interior)											
CI6-INF	02JAN00	23JUN00	0*	10JAN00A	29SEP00A	100	Const Cpl Rprt (CCR) Process-Chem Proc Eq Ph II											
Phase I - Outlying Areas																		
Toxic Storage Yards Soil Remediation																		
Remedial Design																		
TS2-120000	28APR98*	06JUL98	0	21APR98A	21AUG98A	100	Prepare / Revise Design Scope of Work - TXSY											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Remediation Activities																		
LS4-210000	22DEC98	27OCT99	0*	13DEC98A	07OCT99A	100	 Project Support - Lake Sediments Remediation											
LS4-INF	22DEC98	27OCT99	0*	13DEC98A	07OCT99A	100	 Lake Sediments Remediation											
Construction Completion Report																		
LS6-200000	28OCT99	30DEC99	0	08OCT99A	07DEC99A	100	 Prep Construction Cmpl Report (CCR) - LAKS											
LS6-200010	31DEC99	30JAN00	0	08DEC99A	08JAN00A	100	 Regulator/Committee Review CCR - LAKS											
LS6-200020	31JAN00	29FEB00	0	10JAN00A	13FEB00A	100	 Incorp/Respond to Comments/Issue Draft CCR -LAKS											
LS6-200030	01MAR00	30MAR00	0	14FEB00A	20APR00A	100	 EPA - State Prepare & Issue Accept Ltr CCR-LAKS											
LS6-200040		30MAR00	0		20APR00A	100	 Project Complete - Lake Sediments Soil Rem											
LS6-INF	28OCT99	30MAR00	0*	08OCT99A	20APR00A	100	 Const Cplt Rprt (CCR) Process - LAKS											
Burial Trenches Soil Remediation																		
Remedial Design																		
BT2-120000	22AUG97A	22DEC97	0	22AUG97A	22DEC97A	100	 Prepare / Revise Design Scope of Work - BUTR											
BT2-122000		01OCT97*	0		01OCT97A	100	 <<<<< DesignScope Deadline >>>>>- BUTR											
BT2-125000	02OCT97	05NOV97	0	02OCT97A	05NOV97A	100	 Regulator / RMA Committee Review - BUTR											
BT2-130000	06NOV97	15APR98	0	06NOV97A	15APR98A	100	 Prepare 30% (Conceptual) Design - BUTR											
BT2-140000	16APR98	29MAY98	0	16APR98A	29MAY98A	100	 Regulator / Committee Rev. & Public Input - BUTR											
BT2-150000	16APR98	31AUG98	0	16APR98A	28AUG98A	100	 Prepare 60% Design - BUTR											
BT2-160000	01SEP98	01OCT98	0	31AUG98A	05OCT98A	100	 Regulator / Committee Review - BUTR											
BT2-170000	02OCT98*	15SEP99	0	05OCT98A	15SEP99A	100	 Prepare 95% (Draft Final) Design - BUTR											
BT2-175000		15SEP99	0		15SEP99A	100	 <<<<<< Design Deadline >>>>>>> - BUTR											
BT2-180000	16SEP99	15OCT99	0	16SEP99A	13OCT99A	100	 Regulator / Committee Review - BUTR											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Remediation Activities																		
MT4-INF2	01MAY02	16OCT07	0*	01MAY02A	16OCT07A	100	Munitions (Testing) ESA-4a											
MT4-500100	23APR07*	30APR07	0	23APR07A	30APR07A	100	Mobilization - Demo Range Closure MT Part IV											
MT4-500120	01MAY07	14MAR08	0*	01MAY07A	29FEB08A	100	Field Implementation - Demo Range Closure											
MT4-500130	17MAR08	30APR08	0	10MAR08A	14MAR08A	100	Demobilization - Demo Range Closure MT Part IV											
MT4-185001		30APR08	0		25MAR08A	100	<<<<<Imp. Finish Deadline 2>>>>> - MUNT											
MT4-INF3	23APR07	30APR08	0*	01MAY07A	14MAR08A	100	Sec. 29 Demo Range Closure - MT Part IV											
MT4-200000	01MAR00	30APR08	0*	01MAR00A	14MAR08A	100	Project Support - MUNT											
MT4-INF	01MAR00	30APR08	0*	01MAR00A	14MAR08A	100	Munitions Testing Remediation											
MT4-500270			0*	26MAR08A	29JUL08A	100	DSR Process - MT Part IV											
MT4-500280			0*	26MAR08A	18NOV08A	100	ESD - Munitions Testing											
MT4-300500			0*	14NOV05A	16DEC05A	100	BT 32-10 Characterization											
Construction Completion Report																		
MT6-190000	18NOV00	21JAN01	0	09NOV00A	08JAN01A	100	Prep Construction Cmpl't Report (CCR)											
MT6-190010	22JAN01	20FEB01	0	08JAN01A	09FEB01A	100	Regulator/ Committee Review CCR											
MT6-190020	02JAN03	31JAN03	0	03MAR03A	20NOV03A	100	Incorp/Respond to Comments Draft CCR											
MT6-190030	01FEB03	02MAR03	0	21NOV03A	15JUL04A	100	EPA - State Prepare/Issue Accept Ltr CCR											
MT6-190040		02MAR03	0		15JUL04A	100	Project Complete - Munitions Testing											
MT6-INF1	18NOV00	02MAR03	0*	09NOV00A	15JUL04A	100	Const Cplt Rprt (CCR) Process-MUNT											
MT6-190200	01NOV05	23JAN07	0	01NOV05A	23JAN07A	100	Prep Draft Final MT CCR Part II for RVO Review											
MT6-190210	24JAN07	07MAR07	0	01FEB07A	07MAR07A	100	Agency/Committee Review - Draft Final MT CCR Pt II											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Construction Completion Report																		
MS6-177145		25MAR11	0		25MAR11	0	Project Complete - Phase IV CERCLA WTP											
MS6-INF5	01OCT10	25MAR11	169*	01OCT10A	25MAR11	1	CCR-Misc Struct Demo&Rmvl PhIV-CERCLA WTP Demo											
MS6-INF	03MAY01	25MAR11	169*	18DEC00A	25MAR11	95	Const Cplt Rprt (CCR) Process - MIST											
Phase II - South Plants Area																		
Buried M-1 Pits Soil Remediation																		
Predesign Activities																		
M11-100000	16DEC98*	12APR00	0*	16DEC98A	12APR00A	100	PMC - M1 Pits Treatability Study											
M11-INF	16DEC98	12APR00	0*	16DEC98A	12APR00A	100	Treatability Study - M1P											
Remedial Design																		
M12-120000	21DEC99*	14APR00	0*	03JAN00A	14APR00A	100	Prepare / Revise Design Scope of Work - M1P											
M12-122000		17MAR00	0		17MAR00A	100	<<<<< DesignScope Deadline >>>>> - M1P											
M12-125000	18MAR00	16APR00	0	17MAR00A	10APR00A	100	Regulator / RMA Committee Review - M1P											
M12-130000	17APR00	28JUN00	0	18APR00A	28JUN00A	100	Prepare 30% (Conceptual) Design - M1P											
M12-140000	29JUN00	28JUL00	0	29JUN00A	28JUL00A	100	Regulator / Committee Rev. & Public Input - M1P											
M12-170000	31JUL00	18OCT00	0	28JUL00A	18OCT00A	100	Prepare 95% (Draft Final) Design - M1P											
M12-175000		18OCT00	0		18OCT00A	100	<<<<<Design Deadline>>>>> - M1P											
M12-180000	19OCT00	17NOV00	0	18OCT00A	17NOV00A	100	Regulator / Committee Review - M1P											
M12-190000	20NOV00	05JAN01	0	01NOV00A	25JAN01A	100	Prepare 100% Design - M1P											
M12-INF	21DEC99	05JAN01	0*	03JAN00A	25JAN01A	100	Buried M-1 Pit Design											
Procurement																		
M13-109000	18OCT00	17NOV00	0	18OCT00A	17NOV00A	100	PMC Prepare T.O. Proposal - M1P Remediation											
M13-109010	20NOV00	13DEC00	0	20NOV00A	13DEC00A	100	PMC Assemble T.O. Proposal - M1P Remediation											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Construction Completion Report																		
M16-INF	05DEC01	06MAY02	0*	02NOV01A	18JUL02A	100	 Const Cplt Rprt (CCR) Process-M1P											
Hex Pit Soil Remediation																		
Pre-design Activities																		
HX1-110000	09SEP96A	13JUN97A	0	09SEP96A	13JUN97A	100	 Pre-remediation Studies											
HX1-120000	16JUN97A	16FEB98	0	16JUN97A	16FEB98A	100	 Field Investigation											
HX1-125000	02SEP97A	30SEP98	0	02SEP97A	30SEP98A	100	 Thermal Technology Evaluation											
HX1-130000	01MAR99*	06MAR00	0*	01MAR99A	06MAR00A	100	 Hex Pit Treatability Study											
HX1-INF1	09SEP96A	06MAR00	0*	09SEP96A	06MAR00A	100	 Hex Pit - Thermal Tech. Eval./Treatability Study											
HX1-150000	24JUN02*	06NOV02	0*	24JUN02A	06NOV02A	100	 Hex Pit Compatibility Study											
HX1-140000	24JUN02*	25FEB03	0*	24JUN02A	17APR03A	100	 Hex Pit ROD Amendment											
HX1-INF2	24JUN02	25FEB03	0*	24JUN02A	17APR03A	100	 Hex Pit Leachate Production Study/ROD Amendment											
HX1-INF	09SEP96A	25FEB03	0*	09SEP96A	17APR03A	100	 Hex Pit Treatability Study/ROD Amendment											
Remedial Design																		
HX2-120000	09FEB00	15MAR00	0	08FEB00A	22MAR00A	100	 Prepare / Revise Design Scope of Work - HEXP											
HX2-122000		16FEB00	0		16FEB00A	100	 <<<< DesignScope Deadline >>>> HEXP											
HX2-125000	17FEB00	01MAR00	0	16FEB00A	01MAR00A	100	 Regulator / RMA Committee Review - HEXP											
HX2-130000	22FEB00	25APR00	0*	22FEB00A	25APR00A	100	 Prepare 30% (Conceptual) Design - HEXP											
HX2-140000	26APR00	25MAY00	0	26APR00A	25MAY00A	100	 Regulator / Committee Rev. & Public Input - HEXP											
HX2-150000	26APR00	25APR00	0	26APR00A	25APR00A	100	 Prepare 60% Design (waived) - HEXP											
HX2-160000	26APR00	25APR00	0	26APR00A	25APR00A	100	 Regulator / Committee Review (waived) - HEXP											
HX2-170000	26APR00	02AUG00	0	26APR00A	02AUG00A	100	 Prepare 95% (Draft Final) Design - HEXP											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Remediation Activities																		
SC4-INF4	22SEP08	19NOV10	20*	31JAN08A	29OCT10	97	FIELD-SP BOA & CPA-3-Ft Cvr & 1-Ft BF Constr											
SC4-280001	05DEC01	19NOV10	20*	03DEC01A	29OCT10	99	Project Support - SP CPA Subgrade											
SC4-INF	05DEC01	19NOV10	20*	03DEC01A	29OCT10	99	SP BOA & CPA Soil Remediation Phase II											
Construction Completion Report																		
SC6-260000	01MAY03	30JUN03	0*	05JUN03A	14AUG03A	100	Prepare Draft CCR - South Plant BOA & CPA II											
SC6-260010	01JUL03	31JUL03	0*	15AUG03A	14NOV03A	100	RVO & Regulat.Review Draft CCR - SP BOA & CPA II											
SC6-260020	08NOV04	09DEC04	0*	17NOV03A	17MAR05A	100	Incorp. Reg. Com. Draft CCR - SP BOA & CPA II											
SC6-260011			0*	18MAR05A	06MAY05A	100	RVO & Regulat.Review Rev. CCR - SP BOA & CPA II											
SC6-260021			0*	06MAY05A	22SEP05A	100	Incorp. Com. - Prep. Final CCR - SP BOA & CPA II											
SC6-269950			0	15SEP08A	02DEC08A	100	PMC - Prep Draft CCR Part I - ICS SP											
SC6-269960			0	02DEC08A	12FEB09A	100	Agency - Review Draft CCR Part I - ICS SP											
SC6-INF0			0*	15SEP08A	12FEB09A	100	CCR Part I Draft - ICS South Plants											
SC6-260031			0	17DEC08A	10MAR09A	100	Incorporate Biota Soil Removal into CCR											
SC6-260032			0	10MAR09A	04MAY09A	100	Agencies-Review CCR SG & Comments-SPBOA Rem											
SC6-260026			0*	05MAY09A	04NOV09A	100	Incorporate Comments & Resubmit CCR - SPBOA Rem											
SC6-260030	23SEP05*	09MAR09	0	06NOV09A	19JAN10A	100	EPA-State Prep & Iss Acpt Ltr CCR - SP BOA Rem											
SC6-260040			0		19JAN10A	100	CCR Complete - SP BOA											
SC6-INF1	01MAY03	09MAR09	0*	05JUN03A	19JAN10A	100	CCR - South Plants BOA & CPA Phil-Remediation SG											
SC6-270000	01FEB10	01APR10	0	01FEB10A	01APR10A	100	Prep Draft Constr Complt Rep (CCR)-ICS Covers											
SC6-270010	02APR10	01MAY10	0	02APR10A	13MAY10A	100	Regulator/Committee Review CCR- ICS Cover											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Remedial Design																		
SR2-INF	01JUN98	24MAR00	0*	01JUN98A	24MAR00A	100	 S. Plants Balance of Areas Soil Design											
Procurement																		
SR3-109000	14DEC99*	12JAN00	0	14DEC99A	12JAN00A	100	 PMC Prepare T.O. Proposal - SPBA Remediation											
SR3-110000	13JAN00	28FEB00	0	13JAN00A	28FEB00A	100	 RVO Procurement Cycle - SPBA Remediation											
Remediation Activities																		
SR4-120000	28FEB00	07JUL00	0*	28FEB00A	07JUL00A	100	 Mobilization - SPBA											
SR4-125000	28FEB00		0	28FEB00A		100	 <<<<<Imp. Start Deadline>>>>> - SPBA											
SR4-153000	23JUN00	28SEP01	0*	23JUN00A	28SEP01A	100	 Survey Chemical Sewer Line - SPBA											
SR4-155000	23JUN00	28SEP01	0*	23JUN00A	28SEP01A	100	 Excavate/Strip Sewer Overburden - SPBA											
SR4-158000	23JUN00	28SEP01	0*	23JUN00A	28SEP01A	100	 Excavate Chemical Sewer - SPBA											
SR4-160000	08JUN00	31AUG00	0	08JUN00A	31AUG00A	100	 Excavate Agent - SPBA											
SR4-190000	08JUN00	31OCT01	0*	23JUN00A	12OCT01A	100	 Landfill Agent/HH/Chem Sew - SPBA											
SR4-200000	08AUG00	31OCT01	0*	08AUG00A	28SEP01A	100	 Backfill Chem Sewers - SPBA											
SR4-180000	01SEP00	01SEP00	0	31AUG00A	31AUG00A	100	 Caustic Wash Agent Soil/Material - SPBA											
SR4-240000	26OCT01	31OCT01	0	03OCT01A	12OCT01A	100	 Demobilization PH I - SPBA											
SR4-245000		31OCT01	0		12OCT01A	100	 <<<<<Imp. Finish Deadline>>>>> - SPBA											
SR4-230100			0	14NOV01A	13DEC01A	100	 Revegetation - SPBA											
SR4-260000	28FEB00	31OCT01	0	28FEB00A	13DEC01A	100	 Project Support PH I - SPBA											
SR4-INF	28FEB00	31OCT01	0*	28FEB00A	13DEC01A	100	 S. Plants Balance Soil Remediation-PH I											
Construction Completion Report																		
SR6-250000	01NOV01	04JAN02	0	15OCT01A	11DEC01A	100	 Prep Const Cmpl't Rpt (CCR) - SPBA - PH I											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Remedial Design																		
CT2-INF1	17DEC02	29MAR05	0*	17DEC02A	29MAR05A	100	Complex (Army) Trenches Subgrade Design											
CT2-160000	13JUL05	11AUG05	0	31JAN05A	31JAN05A	100	60% Cover Design -- Reg. Rev. - CXTR (Not used)											
CT2-170000	13JUL05	08JUN06	0*	31JAN05A	08JUN06A	100	Prepare 95% Cover Design - CXTR (part of ICSD)											
CT2-175000		08JUN06	0		08JUN06A	100	<<<<<Design Deadline>>>>> - CXTR											
CT2-180000	09JUN06	09JUL06	0	09JUN06A	10JUL06A	100	Regulator / Committee Review - 95% ICSD for CXTR											
CT2-190000	09JUN06	29SEP06	0*	09JUN06A	29SEP06A	100	Prepare 100% ICSD - CXTR											
CT2-174100	02JAN07*	03APR07	0	02JAN07A	03APR07A	100	Prepare/Revise 95% ICS Design - CXTR											
CT2-174105	04APR07	03MAY07	0	04APR07A	03MAY07A	100	Reg. Review Revised 95% ICS Design - CXTR											
CT2-174110	04MAY07	23JUL07	0	30APR07A	23JUL07A	100	Prepare/Revise 100% ICS Design - CXTR											
CT2-195000	24JUL07	23AUG07	0	25JUL07A	23AUG07A	100	Reg Review Revised 100% ICS Design - CXTR											
CT2-INF2	15MAR04	23AUG07	0*	31JAN05A	23AUG07A	100	Complex (Army) Trenches Cover Design [ICSD]											
CT2-INF	17DEC02	23AUG07	0*	17DEC02A	23AUG07A	100	Complex (Army) Trenches Design											
CT2-195001			0	24AUG07A	23OCT07A	100	Revise & Submit Final 100% ICS Design - CXTR											
CT2-195114			0	24OCT07A	20NOV07A	100	Reg. Agencies Review R2 100% ICS Design - CXTR											
CT2-195120			0	21NOV07A	22APR08A	100	Prepare DCN & Obtain Agency Approval - CAT											
Procurement																		
CT3-109000	19MAY05	09JUN05	0	12MAY05A	27MAY05A	100	PMC Prepare TO Proposal - Subgrade -- CXTR											
CT3-110000	10JUN05	15AUG05	0	27MAY05A	27JUL05A	100	RVO Procurement Cycle - Subgrade -- CXTR											
CT3-109200	05MAR07*	23MAR07	0	05MAR07A	23MAR07A	100	PMC Prepare Task Order Proposal - Cover -- CXTR											
CT3-110200	24MAR07	04JUN07	0*	26MAR07A	04JUN07A	100	RVO Procurement Cycle - Cover -- CXTR											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Construction Completion Report																		
CT6-200010	01MAY10	30MAY10	0*	02APR10A	13MAY10A	100	Regulator/Committee Review CCR-ICS Covers											
CT6-200020	01JUN10	10AUG10	0*	14MAY10A	08SEP10A	100	Incorp/Resp to Comments/Iss Draft CCR-ICS Covers											
CT6-200030	11AUG10	24AUG10	6	09SEP10A	07OCT10	57	EPA-State Prepare & Iss Accept Ltr CCR-ICS Cover											
CT6-200040		24AUG10	0		07OCT10	0	CCR Complete - ICS Covers											
CT6-INF2	02MAR10	24AUG10	6*	15SEP08A	07OCT10	99	CCR-Complex Army Disp Trench-ICS RCRA-Eq Covers											
CT6-INF	29NOV06	24AUG10	6*	06NOV06A	07OCT10	100	Const Cplt Rprt (CCR) Process-CXTR											
Short-Term Monitoring/Maintenance/Operations																		
CT7-600000	01SEP09	30SEP11	35*	21SEP09A	19NOV10	88	CAT Cover-Begin 5 Year Veg. Obs. & Rprt Period											
CT7-100000	01SEP09	30SEP11	35*	21SEP09A	19NOV10	88	<<<< Short-Term M&M >>>> - CAT Cover											
Shell Disposal Trenches Remediation - Cover																		
Remedial Design																		
ST2-120000	17DEC02*	18APR03	0	17DEC02A	22MAY03A	100	Prepare / Revise Design Scope of Work - SHTR											
ST2-122000		10MAR03	0		06MAR03A	100	<<<< DesignScope Deadline >>>>- SHTR											
ST2-125000	11MAR03	09APR03	0	07MAR03A	18APR03A	100	Regulator / RMA Committee Review - SHTR											
ST2-130000	10APR03	12AUG03	0	23MAY03A	12AUG03A	100	Prepare 30% (Conceptual) Design - SHTR											
ST2-140000	13AUG03	12SEP03	0	12AUG03A	19SEP03A	100	Regulator / Committee Rev. & Public Input - SHTR											
ST2-171000	15APR04*	22JUL04	0*	15APR04A	22JUL04A	100	Prepare 95% Subgrade Design - SHTR											
ST2-181000	22JUL04	23AUG04	0	22JUL04A	23AUG04A	100	95% Regulator / Committee Review - Subgrade SHTR											
ST2-191000	24AUG04	16DEC04	0*	24AUG04A	23DEC04A	100	Prepare 100% Subgrade Design - SHTR											
ST2-INF1	17DEC02	16DEC04	0*	17DEC02A	23DEC04A	100	Shell Disposal Trenches Subgrade Design											
ST2-150000	29JUN04	22OCT04	0*	29JUN04A	19OCT04A	100	Prep. 60% RCRA Equiv.Cover (R.E.C.) Design -SHTR											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12												
Construction Completion Report																			
ST6-210001	02MAR10	30APR10	0*	01FEB10A	01APR10A	100	Prep Constr. Cmpl't Rpt. (CCR) - ICS Covers												
ST6-210011	01MAY10	30MAY10	0*	02APR10A	13MAY10A	100	Regulator/Committee Review CCR - ICS Covers												
ST6-210021	01JUN10	10AUG10	0*	14MAY10A	08SEP10A	100	Incorp/Resp to Comm/Issue Draft CCR-ICS Covers												
ST6-210031	11AUG10	24AUG10	6*	09SEP10A	07OCT10	79	EPA-State Prep & Issue Accept Ltr CCR-ICS Covers												
ST6-210032		24AUG10	0		07OCT10	0	CCR Complete - ICS Covers												
ST6-INF2	02MAR10	24AUG10	6*	15SEP08A	07OCT10	99	CCR-Shell Disposal Trenches-ICS 2FT Covers												
ST6-INF	29OCT07	24AUG10	6*	21DEC06A	07OCT10	100	Const Cpl't Rpt (CCR) Process-SHTR												
Short-Term Monitoring/Maintenance/Operations																			
ST7-600000	29OCT07	30SEP11	35*	29OCT07A	19NOV10	96	5 Year Veget. Obs & Report Period - SHTR												
ST7-100000	29OCT07	30SEP11	35*	02JUL07A	19NOV10	96	<<<< Short-Term M&M >>>> - SDT Cover												
North Plants Soil Remediation																			
Remedial Design																			
NP2-110000	05JUN03*	07NOV03	0*	05JUN03A	07NOV03A	100	Prepare / Revise Sampling Analysis Plan - NP												
NP2-125500			0	03NOV03A	03NOV03A	100	Prepare Feasibility Study - NP												
NP2-110500	10NOV03	07MAY04	0*	10NOV03A	07MAY04A	100	Perform Sampling and Analysis												
NP2-120000	11AUG04	01NOV04	0*	19JUL04A	14SEP04A	100	Prepare / Revise Design Scope of Work - NP												
NP2-122000		20SEP04	0		14SEP04A	100	<<<<< DesignScope Deadline >>>>> - NP												
NP2-125000	20SEP04	19OCT04	0*	14SEP04A	02NOV04A	100	Regulator / RMA Committee Review - DSOW - NP S												
NP2-130000	20SEP04	26JAN05	0*	30AUG04A	25JAN05A	100	Prepare 30% (Conceptual) Design - NP Soils												
NP2-140000	26JAN05	24FEB05	0*	25JAN05A	04MAR05A	100	Regulator / Comm. Rev. & Input - NP 30%												
NP2-150000	27JAN05	26JAN05	0	25JAN05A	25JAN05A	100	60% Design - NP (Not Applicable)												

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Construction Completion Report																		
WP6-160040		06APR09	0		15JUN09A	100												
WP6-INF	16APR08	06APR09	0*	07AUG07A	15JUN09A	100	<p>Project Complete - Basin F Wastepile</p> <p>CCR - Basin F Wastepile - Soils Remediation</p>											
Former Basin F Principal Threat Soil Remediation																		
Pre-design Activities																		
FS1-100000	02APR01*	06APR05	0*	02APR01A	06APR05A	100	<p>Basin F Solidification Treatability Study</p>											
FS1-INF	02APR01	06APR05	0*	02APR01A	06APR05A	100	<p>Basin F Solidification Treatability Testing</p>											
Remedial Design																		
FS2-120010	19AUG05*	16DEC05	0*	19AUG05A	05JAN06A	100	<p>Prepare / Revise Design Scope of Work - FBFS</p>											
FS2-122010		01NOV05	0		01NOV05A	100	<p><<<<< DesignScope Deadline >>>>> - FBFS</p>											
FS2-125010	01NOV05	02DEC05	0*	01NOV05A	02DEC05A	100	<p>Regulator / RMA Committee Review - FBFS</p>											
FS2-130010	01NOV05	27JAN06	0*	05DEC05A	28FEB06A	100	<p>Prepare 30% (Conceptual) Design - FBFS</p>											
FS2-140010	28JAN06	26FEB06	0*	28FEB06A	30MAR06A	100	<p>Regulator / Committee Rev. & Public Input - FBFS</p>											
FS2-150010	27FEB06	22MAY06	0*	31MAR06A	26JUN06A	100	<p>Prepare 60% Design - FBFS</p>											
FS2-160010	23MAY06	22JUN06	0*	27JUN06A	27JUL06A	100	<p>Regulator / Committee Review 60% Design - FBFS</p>											
FS2-170010	23JUN06	30NOV06	0*	28JUL06A	14NOV06A	100	<p>Prepare 95% Design (Amend Closure Plan) - FBFS</p>											
FS2-175010		30NOV06	0		14NOV06A	100	<p><<<<<< Design Deadline >>>>>> - FBFS</p>											
FS2-180010	01DEC06	31DEC06	0*	15NOV06A	16DEC06A	100	<p>Regulator / Committee Review 95% Design - FBFS</p>											
FS2-175020	14SEP06*	10SEP07	0*	14SEP06A	30AUG07A	100	<p>Prepare Drying Facility Closure Plan</p>											
FS2-185010	18JAN07	16FEB07	0	14DEC06A	31JAN07A	100	<p>Public Comment 95% Design & Closure Plan - FBFS</p>											
FS2-190010	02JAN07	26FEB07	0*	18DEC06A	13FEB07A	100	<p>Prepare 100% Design - FBFS</p>											
FS2-200000	27FEB07	29MAR07	0*	14FEB07A	16MAR07A	100	<p>Regulator / Committee Review - FBFS</p>											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Remediation Activities																		
FS4-230238	13MAR08	13MAR08	0	12MAR08A	12MAR08A	100	Pre-Final Inspection - BFPT											
FS4-230237	29APR08*	29APR08	0	04APR08A	14APR08A	100	BA-4 TRER Soil Amendments - BFPT											
FS4-230239	30APR08	30APR08	0	16APR08A	16APR08A	100	Final Inspection - BFPT											
FS4-220010	30APR08	05MAY08	0	04APR08A	16APR08A	100	Demobilization BFPT Soil											
FS4-240010	03APR07	09DEC08	0*	01MAY07A	16APR08A	100	Project Support - Basin F Principal Threat Soil											
FS4-220030	17MAR08	17OCT08	0*	13MAR08A	01JUL09A	100	CERT REPORT - Basin F PT-Part 2 Closure (PT/HHE)											
FS4-220020	17MAR08	09DEC08	0*	17MAR08A	24OCT08A	100	CERT REPORT-Basin F PT-Pr2 Closure-Drying Fac											
FS4-040020			0*	17APR08A	29JUL08A	100	DSR Process - FBPT											
FS4-225010		09DEC08	0		24OCT08A	100	<<<<<Imp. Finish Deadline>>>>> - FBFS											
FS4-INF	03APR07	09DEC08	0*	01MAY07A	24OCT08A	100	FIELD-Basin F PT - Soils Remediation											
Construction Completion Report																		
FS6-230100	01MAY08	28AUG08	0	17APR08A	28AUG08A	100	Prep Construction Cmpl't Report (CCR) - FBPT											
FS6-230110	29AUG08	13OCT08	0	29AUG08A	13OCT08A	100	Regulator/Committee Review CCR - FBPT											
FS6-230120	14OCT08	12JAN09	0*	14OCT08A	12MAR09A	100	Incorporate Comments & Resubmit CCR											
FS6-230130	13JAN09	11FEB09	0	13MAR09A	16JUL09A	100	EPA - State Prepare & Issue Accept Ltr CCR-FBPT											
FS6-230140		11FEB09	0		16JUL09A	100	Project Complete - Former Basin F Princ. Threat											
FS6-INF	16OCT07	11FEB09	0*	17APR08A	16JUL09A	100	CCR - Former Basin F PT - Soils Remediation											
Basin F and Basin F Exterior Remediation																		
Remedial Design																		
FC2-120100	23AUG99*	10DEC99	0	23AUG99A	10DEC99A	100	Prepare/Revise Design Scope of Work - FBHH											
FC2-122100		17SEP99	0		17SEP99A	100	<<<<<Desing Scope Deadline>>>>>-FBHH>>>>> FBHH											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Pre-design Activities																		
LB1-010018	23SEP04*	28OCT05	0*	23SEP04A	20OCT05A	100	Sect. 36 LB & Former Basin F ROD Amendment											
LB1-210000	01FEB05*	06MAR06	0*	01FEB05A	07NOV06A	100	Lime Basins ROD Amendment/Compatibility Testing											
LB1-INF	12APR99	06MAR06	0*	12APR99A	07NOV06A	100	Sect. 36 LB Treatability Study/ROD Amendment											
Remedial Design																		
LB2-120000	08OCT01*	03JUL02	0	08OCT01A	02JUL02A	100	Prepare / Revise Design Scope of Work - 36LB											
LB2-122000		16MAY02	0		16MAY02A	100	<<<< DesignScope Deadline >>>>- 36LB											
LB2-125000	16MAY02	17JUN02	0*	16MAY02A	17JUN02A	100	Regulator / RMA Committee Review - 36LB											
LB2-125100	05JUN02	06JAN03	0*	07JUN02A	06JAN03A	100	Soil Sampling/Testing and Test Pad Evaluation											
LB2-130000	07JAN03	25MAR03	0*	07JAN03A	26MAR03A	100	Prepare 30% (Conceptual) Design - 36LB											
LB2-140000	26MAR03	24APR03	0*	27MAR03A	28APR03A	100	Regulator / Committee Rev. & Public Input - 36LB											
LB2-140500	06JUN03	16SEP03	0*	06JUN03A	16SEP03A	100	Field Test Pits and Odor Flux											
LB2-150000	02SEP03	30OCT03	0*	02SEP03A	04NOV03A	100	Prepare 60% Design - 36LB											
LB2-160000	31OCT03	01DEC03	0*	31OCT03A	01DEC03A	100	Regulator / Committee Review - 36LB											
LB2-170500	03DEC03	16JUN04	0*	03DEC03A	16JUN04A	100	Lime Basins Alternative Remediation Evaluation											
LB2-INF1	08OCT01	16JUN04	0*	08OCT01A	16JUN04A	100	Sec 36 Lime Basins Design (Excav Approach)											
LB2-220000	08AUG05*	16DEC05	0*	08AUG05A	30DEC05A	100	Prepare / Revise Design Scope of Work - 36 LB											
LB2-222000		01NOV05	0		01NOV05A	100	<<<<DesignScope Deadline>>>>- 36LB SW											
LB2-225000	01NOV05	02DEC05	0*	01NOV05A	02DEC05A	100	Regulator / RMA Committee Review - 36LB SW											
LB2-230000	05DEC05	03MAY06	0*	06DEC05A	10APR06A	100	Prepare 30% (Conceptual) Design - 36LB SW											
LB2-240000	04MAY06	03JUN06	0*	11APR06A	26MAY06A	100	Regulator / Committee Rev. & Public Input - 36LB											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
Remediation Activities																		
LB4-360000	03MAR10	16MAR10	0	21APR10A	30APR10A	100	Demobilization - 36LB											
LB4-367000		19NOV10	0		29OCT10	0	<<<<<Imp. Finish Deadline>>>>> - 36LB											
LB4-INF2	05MAR08	19NOV10	20*	03APR08A	29OCT10	97	FIELD-Sect 36 Lime Basin-Subgrade-RCRA Eq Cover											
LB4-400000	20APR07	19NOV10	20*	20APR07A	29OCT10	98	Sec 36 Lime Basin Project Support											
LB4-INF	20APR07	19NOV10	20*	20APR07A	29OCT10	98	Sec. 36 Lime Basins Soil Remediation											
Construction Completion Report																		
LB6-180000	06JAN09	06MAR09	0*	15MAY09A	16JUL09A	100	Prep Construction Cmplt Report (CCR) - 36LB SW											
LB6-180010	07MAR09	05APR09	0*	17JUL09A	05FEB10A	100	Regulator/Committee Review CCR - 36LB SW											
LB6-180020	06APR09	02JUL09	0*		26AUG10A	100	Incorp/Respond to Comm./Issue Draft CCR -36LB SW											
LB6-180030	05JUL09	03AUG09	28*	27AUG10A	29OCT10	56	EPA-State Prepare & Issue Acpt Ltr CCR-36LB SW											
LB6-180040		03AUG09	0		29OCT10	0	Slurry Wall CCR Complete- Section 36 Lime Basins											
LB6-INF1	06JAN09	03AUG09	28*	15MAY09A	29OCT10	95	CCR-Sect 36 Lime Basin-Slurry Wall Installation											
LB6-189950			0	15SEP08A	02DEC08A	100	PMC - Prep Draft CCR Part I - ICS Lime Basins											
LB6-189960			0	02DEC08A	12FEB09A	100	Agency-Review Draft CCR Part I - ICS Lime Basins											
LB6-INF0			0*	15SEP08A	12FEB09A	100	CCR Part I Draft - ICS Lime Basins											
LB6-190000	01FEB10	01APR10	0*	01FEB10A	01APR10A	100	Prep Construction Cmplt Report (CCR)-ICS Covers											
LB6-190010	02APR10	01MAY10	0*	02APR10A	13MAY10A	100	Regulator/Committee Review CCR - ICS Covers											
LB6-190020	02MAY10	12JUL10	0*	14MAY10A	09SEP10A	100	Incorp/Resp to Comments/Iss Draft CCR-ICS Covers											
LB6-190030	13JUL10	26JUL10	6	09SEP10A	07OCT10	57	EPA/State Prepare/Issue Accept Ltr CCR-ICS Cover											
LB6-190040		26JUL10	0		07OCT10	0	CCR Complete - ICS Covers											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
+ Basin A Neck System																		
	11JUN96A	30SEP11	154	11JUN96A	12MAY11	89												
+ CERCLA Wastewater Treatment Facility																		
	11JUN96A	30JUN10	0	11JUN96A	31AUG10A	100												
+ Northwest Boundary Containment Sys																		
	11JUN96A	30SEP11	35*	11JUN96A	19NOV10	17												
+ North Boundary Containment System																		
	11JUN96A	30SEP11	252	11JUN96A	30SEP11	94												
+ South Lakes Plume Management																		
	11JUN96A	30SEP11	35*	11JUN96A	19NOV10	17												
+ Mass Removal Syst-So Tank Farm & LB																		
			166	14MAR05A	31MAY11	86												
+ North Plants LNAPL Remediation																		
	14JAN08	01JUL10	20*	14JAN08A	29OCT10	98												
+ Lime Basins DNAPL RI/FFS																		
			141*	30NOV09A	25APR11	60												
Remediation Venture Office																		
+ Program Management																		
	10JUN96A	30SEP11	505	11JUN96A	28SEP12	88												
+ RVO Remedy Support and Operations																		
	10JUN96A	30SEP11	505	11JUN96A	28SEP12	88												
+ Remedy Execution																		
	03JUN96A	30SEP11	505	11JUN96A	28SEP12	87												
+ USFWS																		
	10JUN96A	30SEP11	505	11JUN96A	28SEP12	88												
+ Program Controls																		
	03JUN96A	30SEP11	505	11JUN96A	28SEP12	88												

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12											
5 Year Review - Report Preparation																		
<i>Report Preparation</i>																		
Y5S-100000	01NOV99*	31JAN01	0	01NOV99A	31JAN01A	100	Prep/Revise/Issue/Approved 5yr Review-(2000)											
Y5S1200160	04OCT04*	31JAN06	0*	04OCT04A	20DEC07A	100	Prep/Revise/Issue/Approve 5yr Review-(2005)											
Y5S2200270	05OCT09*	28JAN11	159*	05OCT09A	19MAY11	0	5YR REVIEW-On & Off Post OUs-2010 Site Review											
+ Corrective Actions																		
	05MAR01	27NOV01	0*	05MAR01A	07MAY02A	100												
+ Environmental Management System																		
			154*	24APR08A	10MAR11	0												
Program Management																		
+ Remedy Execution																		
			0*	23FEB09A	05NOV09A	100												
Completion of Remedial Action																		
<i>Remediation Activities</i>																		
CR4-980000		30SEP11*	0		19NOV10	0	Physical Comp of Constr Activities-RMA Remed											
CR4-980001		02MAR12	0		26FEB20	0												
+ Trust Fund																		
	03JUN96A	26DEC08	0	11JUN96A	20APR06A	100												
Closeout Reporting																		
RMA Remedial Action Summary Report																		
<i>Report Preparation</i>																		
D1S-100100	04JAN11	04MAR11	60	04JAN11	04MAR11	0	Prep Remedial Action (RA) Summary Report											
D1S-100110	05MAR11	03APR11	30	05MAR11	03APR11	0	Regulator/Committee Review RA Summary Report											
D1S-100120	04APR11	09JUN11	66	04APR11	09JUN11	0	Incorp/Respond to Comments/Iss Draft RA Sum Rpt											
D1S-100130	10JUN11	23JUN11	14	10JUN11	23JUN11	0	EPA - Prepare/Issue Accept Ltr RA Summary Report											
D1S-100140		23JUN11	0		23JUN11	0	RA Summary Report Complete											

Activity ID	Current Control Start	Current Control Finish	Rem Dur	Forecast Start	Forecast Finish	% Comp	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12
Program Management																						
Completion of Remedial Action																						
<i>Remediation Activities</i>																						
CR4-981000		05MAR41	0		05MAR41	0																
+ Off-Post Remedy - (Reference Only)																						
	03OCT11	28SEP40	7,637	22NOV10	28SEP40	0																
Closeout Reporting																						
+ Preliminary Closeout Report (PCOR) - By EPA																						
	28FEB15	31AUG15	182	28FEB15	31AUG15	0																
+ Final Closeout Report (FCOR)																						
	06MAR41	17OCT41	225	06MAR41	17OCT41	0																
+ RMA Site Deletion Process-NOID & NOD																						
	18OCT41	29NOV42	405	18OCT41	29NOV42	0																