

ADMIN RECORD



ROCKY FLATS

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS ENVIRONMENTAL
RESTORATION MANAGEMENT

**DOE-RFFO
ENVIRONMENTAL
RESTORATION
PROGRAM**

**Monthly Report for
April 1995**



May 20, 1995

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

Table of Contents

Executive Summary		
Significant Activities and Achievements for April 1995	1	
Interagency Agreement (IAG) Performance Indicators for Monthly Report	3	
Problems and Programmatic Issues	5	
Near-Term IAG Table Six Milestones	7	
1.0	Introduction	9
2.0	Project Status	11
2.1	OU 1 - 881 Hillside Area	11
2.1.1	OU 1 Assessment	11
2.1.2	OU 1 Remediation	13
2.2	OU 2 - 903 Pad, Mound, and East Trenches	15
2.2.1	OU 2 Assessment	15
2.2.2	OU 2 Remediation	19
2.3	OU 3 - Offsite Areas	23
2.4	OU 4 - Solar Evaporation Ponds	27
2.4.1	OU 4 Assessment	28
2.4.2	OU 4 Remediation	29
2.5	OU 5 - Woman Creek	35
2.6	OU 6 - Walnut Creek	39
2.7	OU 7 - Present Landfill	43
2.1A	Industrial Area (IA) OUs (8, 9, 10, 12, 13, and 14)	47
2.8	OU 8 - 700 Area	49
2.9	OU 9 - Original Process Waste Lines	53
2.10	OU 10 - Other Outside Closures	57
2.11	OU 11 - West Spray Field	61
2.12	OU 12 - 400/800 Area	63
2.13	OU 13 - 100 Area	65
2.14	OU 14 - Radioactive Sites	67
2.15	OU 15 - Inside Building Closures	69
2.16	Sitewide Activities	71
3.0	Routine Environmental Monitoring	75
3.1	Surface and Sediments	75
3.2	Soils	75
3.3	Groundwater	75
4.0	Subcontractor Identification	77
Appendix - Acronyms		81

EXECUTIVE SUMMARY

SIGNIFICANT ACTIVITIES AND ACHIEVEMENTS FOR APRIL 1995

The Operable Unit (OU) 1 Final Hot Spot Removal Report was delivered to the regulatory agencies on April 28, 1995.

The OU 2 Trenches and Mound Site Characterization with geophysical surveys and soil sampling continues. The geophysical surveys are 80 percent complete, and the soil sampling is approximately 40 percent complete.

The United States Fish and Wildlife Service approved the construction of the OU 3 air monitoring station at 88th Avenue and the meteorological monitoring station south of the Great Western Reservoir.

On April 28, 1995, the OU 11 Draft RFI/RI Report was completed and delivered to the regulatory agencies approximately three months ahead of the Interagency Agreement (IAG) milestone date of July 20, 1995.

The OU 15 Draft Proposed Plan was completed and submitted to the regulatory agencies on April 7, 1995.

IAG PERFORMANCE INDICATORS FOR MONTHLY REPORT

<u>Number of IAG Table Six Milestones To Date</u>	<u>Current Fiscal Year (FY) 95</u>	
	<u>(10/1/94 - 9/30/95)</u>	<u>Since IAG Inception</u>
Scheduled (including approved extensions)	16	143
Met	12	109
Extensions Granted	14	63
Extensions Denied	0	8
Remaining this FY 95 (to 9/30/95)	22	n/a
Added	1	11
Deleted	1	5

<u>Deliverables in Review</u> <u>by Regulators</u>	<u>Project</u>	<u>Date Submitted/</u>	<u>Date review was completed</u>	
		<u>Completed</u>	<u>EPA</u>	<u>CDPHE</u>
	OU 1 Final Corrective Measures Study/Feasibility Study (CMS/FS) Report	13 Feb 95		11 Apr 95
	OU 1 Revised Draft Proposed Plan	13 Feb 95		

<u>IM/IRA Status</u>	<u>Gallons Treated</u>
OU 1 881 Hillside Treatment	2,753,052 gallons
OU 2 Surface Water IM/IRA Treatment	24,806,170 gallons
OU 4 Water Management Tasks (Interceptor Trench System and Pond Water)	5,358,813 gallons

<u>IAG Document Deliverables Due Next Six Months</u>	<u>IAG Approved Planned Date</u>	<u>Current Projected Completion Date</u>	<u>Comments</u>
OU 1 Final Proposed Plan	18 May 95	18 May 95	See footnote 1
OU 1 Draft Title II Design	05 Jul 95	30 Nov 96	See footnote 1
OU 1 Draft Responsiveness Summary	19 Sep 95	19 Sep 95	See footnote 1
OU 1 Final Title II Design	03 Oct 95	28 Feb 97	Extension requested
OU 2 Draft Phase II RFI/RI Report	30 May 95	30 May 95	On schedule
OU 2 Corrective Design/Remedial Design Work Plan	15 Jun 95	03 Mar 98	Extension requested
OU 2 Final Phase II RFI/RI Report	21 Sep 95	21 Sep 95	On schedule
OU 3 Draft Phase I RFI/RI Report	30 Oct 95	13 Sep 95	Ahead of schedule
OU 4 IM/IRA Responsiveness Summary	09 Jun 95	09 Jun 95	On schedule
OU 4 Final Phase I IM/IRA Decision Document and Final Responsiveness Summary	29 Aug 95	29 Aug 95	On schedule
OU 6 Draft Phase I RFI/RI Report	02 Oct 95	02 Oct 95	On schedule
OU 7 Draft Phase I Proposed IM/IRA Decision Document	31 Aug 95	31 Aug 95	On schedule
OU 9 Draft Phase I Proposed IM/IRA Decision Document	01 May 95	To be determined	See footnote 2
OU 9 Final Phase II RFI/RI Work Plan	07 Aug 95	To be determined	See footnote 2

1 This milestone is in jeopardy because of delays in the review period by the regulatory agencies of the Final Corrective Measures Study/Feasibility Study (CMS/FS) and the Draft Proposed Plan.

2 This milestone is incorporated into the proposed Industrial Area (IA) Operable Units' (OUs) Reconfiguration Plan that is currently under review. Also, all IA OUs are under a Department of Energy (DOE) Stop Work Order directive until agreement can be reached with the regulatory agencies on the IA OU reconfiguration.

<u>IAG Document Deliverables Due Next Six Months</u>	<u>IAG Approved Planned Date</u>	<u>Current Projected Completion Date</u>	<u>Comments</u>
OU 9 Final Phase I Proposed IM/IRA Decision Document	27 Sep 95	To be determined	See footnote ²
OU 10 Draft Phase I Proposed IM/IRA Decision Document	26 May 95	To be determined	See footnote ²
OU 10 Draft Phase II RFI/RI Work Plan	27 Jun 95	To be determined	See footnote ²
OU 10 Final Phase I Proposed IM/IRA Decision Document	24 Oct 95	To be determined	See footnote ²
OU 11 Final Combined Phases RFI/RI Report	19 Sep 95	19 Sep 95	On schedule
OU 11 Draft Phase I Proposed IM/IRA Decision Document	10 Oct 95	10 Oct 95	Proposed elimination
OU 14 Final Phase I RFI/RI Report	23 May 95	To be determined	See footnote ²

<u>Overdue Deliverables</u>	<u>IAG Approved Planned Date</u>	<u>Current Projected Completion Date</u>	<u>Comments</u>
OU 8 Draft Phase I RFI/RI Report	14 Feb 94	To be determined	See footnote ²
OU 8 Final Phase I RFI/RI Report	12 Jul 94	To be determined	See footnote ²
OU 9 Draft Phase I RFI/RI Report	11 Apr 94	To be determined	See footnote ²
OU 9 Final Phase I RFI/RI Report	06 Sep 94	To be determined	See footnote ²
OU 9 Draft Phase II RFI/RI Work Plan	10 Mar 95	To be determined	See footnote ²
OU 10 Draft Phase I RFI/RI Report	25 Aug 94	To be determined	See footnote ²
OU 10 Final Phase I RFI/RI Report	30 Jan 95	To be determined	See footnote ²
OU 12 Draft Phase I RFI/RI Report	20 Apr 94	To be determined	See footnote ²
OU 12 Final Phase I RFI/RI Report	15 Sep 94	To be determined	See footnote ²
OU 13 Draft Phase I RFI/RI Report	08 Aug 94	To be determined	See footnote ²
OU 13 Final Phase I RFI/RI Report	11 Jan 95	To be determined	See footnote ²
OU 14 Draft Phase I RFI/RI Report	20 Dec 94	To be determined	See footnote ²

² This milestone is incorporated into the proposed Industrial Area (IA) Operable Units' (OUs) Reconfiguration Plan that is currently under review. Also, all IA OUs are under a Department of Energy (DOE) Stop Work Order directive until agreement can be reached with the regulatory agencies on the IA OU reconfiguration.

PROBLEMS AND PROGRAMMATIC ISSUES

Comments were due from the regulatory agencies in March 1995 for the OU 1 Final Corrective Measures Study/Feasibility Study (CMS/FS) and the Draft Proposed Plan. To date, comments have not been received for the Draft Proposed Plan. Additionally, the EPA's CMS/FS comments have not been received.

The Colorado Department of Public Health and Environment (CDPHE) accepted pond sludge as remediation waste but rejected pondcrete. This position, if successfully defended, has large cost ramifications for OU 4.

In the Industrial Area (IA) OUs, if the Stop Work Order is not resolved, it has the potential to significantly disrupt the flow of work and the progress of the OU projects. If field crews are lost to other projects while the Stop Work Order is in effect, much greater than day-for-day schedule and cost impacts are possible.

NEAR-TERM IAG TABLE SIX MILESTONES

<u>OU #</u>	<u>IAG</u> <u>Milestone Description</u>	<u>Date Scheduled</u> <u>to EPA/CDPHE</u>	<u>Status</u>
9	Submit Draft Phase I Proposed IM/IRA Decision Document	01 May 95	See footnote 2
1	Submit Final Proposed Plan	18 May 95	See footnote 1
14	Submit Final Phase I RFI/RI Report	23 May 95	See footnote 2
10	Submit Draft Phase I Proposed IM/IRA Decision Document	26 May 95	See footnote 2
2	Submit Draft Phase II RFI/RI Report	30 May 95	On schedule
4	Submit IM/IRA Responsiveness Summary	09 Jun 95	On schedule
2	Submit Corrective Design/Remedial Design Work Plan	15 Jun 95	Extension requested
10	Submit Draft Phase II RFI/RI Work Plan	27 Jun 95	See footnote 2
1	Submit Draft Title II Design	05 Jul 95	See footnote 1
9	Submit Final Phase II RFI/RI Work Plan	07 Aug 95	See footnote 2
4	Submit Phase I Final IM/IRA Decision Document and Final Responsiveness Summary	29 Aug 95	On schedule
7	Submit Draft Phase I Proposed IM/IRA Decision Document	31 Aug 95	On schedule
1	Submit Draft Responsiveness Summary	19 Sep 95	See footnote 1
11	Submit Final Phases (combined) RFI/RI Report	19 Sep 95	On schedule
2	Submit Final Phase II RFI/RI Report	21 Sep 95	On schedule
9	Submit Final Phase I Proposed IM/IRA Decision Document	27 Sep 95	See footnote 2
6	Submit Draft Phase I RFI/RI Report	02 Oct 95	On schedule
1	Submit Final Title II Design	03 Oct 95	See footnote 1
11	Submit Draft Phase I Proposed IM/IRA Decision Document	10 Oct 95	Proposed elimination
10	Submit Final Phase I Proposed IM/IRA Decision Document	24 Oct 95	See footnote 2
3	Submit Draft Phase I RFI/RI Report	30 Oct 95	On schedule
5	Submit Draft Phase I RFI/RI Report	01 Nov 95	On schedule
10	Submit Final Phase II RFI/RI Work Plan	21 Nov 95	See footnote 2
4	Submit Final IM Title II Design	18 Dec 95	On schedule
1	Submit Final Responsiveness Summary	22 Dec 95	See footnote 1

¹ These milestones are in jeopardy because of delays in the review period by the regulatory agencies of the Final Corrective Measures Study/Feasibility Study (CMS/FS) and the Draft Proposed Plan.

² This milestone is incorporated into the proposed Industrial Area (IA) Operable Units' (OUs) Reconfiguration Plan that is currently under review. Also, all IA OUs are under a Department of Energy (DOE) Stop Work Order directive until agreement can be reached with the regulatory agencies on the IA OU reconfiguration.

<u>OU #</u>	<u>IAG</u> <u>Milestone Description</u>	<u>Date Scheduled</u> <u>to EPA/CDPHE</u>	<u>Status</u>
1	Submit Draft Corrective Action Decision/Record of Decision	22 Dec 95	See footnote 1
7	Submit Draft Final Phase I IM/IRA Decision Document	05 Jan 96	On schedule
9	Submit IM/IRA Responsiveness Summary	08 Feb 96	See footnote 2
2	Submit Draft Title II Design	15 Feb 96	On schedule
6	Submit Final Phase I RFI/RI Report	21 Feb 96	On schedule
10	Submit IM/IRA Responsiveness Summary	06 Mar 96	See footnote 2
11	Submit Final Phase I Proposed IM/IRA Decision Document	14 Mar 96	Proposed elimination
1	Submit Final Corrective Action Decision/ Record of Decision	29 Mar 96	See footnote 1
1	Submit Corrective Design/Remedial Design Work Plan	29 Mar 96	See footnote 1
7	Submit IM/IRA Responsiveness Summary	01 Apr 96	On schedule
5	Submit Final Phase I RFI/RI Report	02 Apr 96	On schedule
4	Submit Draft Phase II RFI/RI Report	16 Apr 96	See footnote 3

¹ This milestone is incorporated into the proposed Industrial Area (IA) Operable Units' (OUs) Reconfiguration Plan that is currently under review. Also, all IA OUs (OUs 8, 9, 10, 12, 13, and 14) are under a Stop Work Order directive that was agreed to by the regulatory agencies and DOE.

² This milestone is incorporated into the proposed Industrial Area (IA) Operable Units' (OUs) Reconfiguration Plan that is currently under review. Also, all IA OUs are under a Department of Energy (DOE) Stop Work Order directive until agreement can be reached with the regulatory agencies on the IA OU reconfiguration.

³ This milestone will not be met under the current funding scenario for FY 96. The Activity Data Sheet assumes OU 4 Phase II is to be consolidated with the IA OUs in one groundwater effort. There is no FY 96 funding for that effort.

SECTION 1. INTRODUCTION

This monthly status report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for April 1995. This program implements the Interagency Agreement (IAG) among the U. S. Department of Energy (DOE), the U. S. Environmental Protection Agency (EPA), and the State of Colorado to investigate, assess and remediate, where necessary, contaminated areas at or adjacent to the DOE's Rocky Flats Environmental Technology Site near Golden, Colorado. This agreement was signed on January 22, 1991, and the work is being performed for DOE by EG&G Rocky Flats, Inc.

The Executive Summary of the report contains highlights of significant achievements, milestone information, and any major unresolved issues of the program. Technical progress, schedule status, and milestone status for each Operable Unit (OU), as well as other program activities, are presented in Section 2. As required by Paragraph 210 of the IAG, Section 3 contains the schedules for routine environmental sampling. As required by Paragraph 13 of the IAG, Section 4 contains a list that identifies the subcontractors performing work on the program.

SECTION 2. PROJECT STATUS

2.1 OU 1 - 881 HILLSIDE AREA

The alluvial groundwater at the 881 Hillside Area, located north of Woman Creek in the southeast section of the Rocky Flats Environmental Technology Site, was contaminated in the 1960s and 1970s with solvents and radionuclides. The area is approximately two miles from the eastern, outer edge of the site's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSSs) that make up Operable Unit (OU) 1 were investigated and treated as high-priority sites because of potentially elevated concentrations of organic compounds in the near-surface groundwater and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Measure (IM)/Interim Remedial Action (IRA) at OU 1 involved the construction of an underground drainage system called a French drain that intercepts and contains near-surface groundwater that flows from the OU 1 area. The near-surface water is treated at the 891 treatment facility, which was designed for this purpose, and is released onsite into the South Interceptor Ditch along Woman Creek. Water collected from this ditch undergoes a secondary analysis prior to release. The IRA construction was completed in April 1992. A Resource Conservation and Recovery Act (RCRA) Facilities Investigation (RFI)/Remedial Investigation (RI) Report was completed in November 1993. To determine the final remedial action, the CMS/FS was submitted in February 1995.

2.1.1 OU 1 ASSESSMENT

Scope of Work

Changes This Period

Accelerated schedule for the Record of Decision for FY 95.

Technical Approach

Changes This Period

Accelerated schedule for the Record of Decision for FY 95.

Interagency Agreement

(IAG) Milestone

Accomplishments

Submit Draft Phase III RFI/RI Work Plan	06 Feb 90
Submit Final Phase III RFI/RI Work Plan	31 Oct 90
Submit Draft Phase III RFI/RI Report	28 Oct 92
Submit Final Phase III RFI/RI Report	15 Nov 93
Submit Revised Phase III RFI/RI Report	15 Jun 94
Submit Draft Corrective Measures Study (CMS)/FS	25 Aug 94
Submit Draft Remedial Action Plan/Proposed Plan	13 Feb 95
Submit Final CMS/FS	13 Feb 95

Future IAG Milestones

Through Fiscal Year (FY) 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Final Proposed Plan	04 Jan 94	18 May 95	18 May 95
Submit Draft Responsiveness Summary	06 May 94	19 Sep 95	19 Sep 95
Submit Final Responsiveness Summary	03 Aug 94	22 Dec 95	22 Dec 95

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Corrective Action Decision/ Record of Decision	03 Aug 94	22 Dec 95	22 Sep 95*
Submit Final Corrective Action Decision/ Record of Decision	01 Nov 94	29 Mar 96	22 Dec 95*
Submit Draft Title II Design	05 Jul 95		30 Nov 96*
Submit Draft Responsiveness Summary	06 May 94	19 Sep 95	19 Sep 95
Submit Final Title II Design	03 Oct 95	03 Oct 95	21 Nov 96
Submit Final Responsiveness Summary	03 Aug 94	22 Dec 95	22 Sep 95
Submit Draft Corrective Action Decision/ Record of Decision	03 Aug 94	22 Dec 95	22 Sep 95
Submit Final Corrective Action Decision/ Record of Decision	01 Nov 94	29 Mar 96	29 Mar 96
Submit Corrective Design/Remedial Design Work Plan	01 Nov 94	29 Mar 96	29 Mar 96
Begin Corrective/Remedial Action Construction	07 May 96	07 May 96	26 Jun 97

- * A Baseline Change Proposal to change the baseline is in progress.

April Work Activity Status

The Corrective Measures Study (CMS) and the revised Draft Proposed Plan were delivered to the regulatory agencies in February 1995. The 30-day review of these documents was scheduled for completion by the regulatory agencies on March 24, 1995. On April 11, 1995, the Colorado Department of Public Health and Environment (CDPHE) comments on the Final CMS/Feasibility Study (FS) were received. A review of these comments has begun and resolution of these comments are being incorporated into a revised Final CMS/FS Report. The Environmental Protection Agency's (EPA) CMS/FS comments have not been received to date. The regulatory agencies' comments on the Draft Proposed Plan have not been received.

A technical position paper to evaluate the pump and treat technology is under development. This technical investigation analyzes the suitability of a pump and treat system for water contaminated with Dense Non-Aqueous Phase Liquids at the Operable Unit (OU) 1 collection well. Preparation of this position paper continued throughout the month.

Technical Memoranda (TM)

Project

OU 1 - 881 Hillside

TM #10

TM Title

TM Status

Preliminary Remediation Goals

When preparation was concluded: 03 May 94

Projected date of submittal to EPA/CDPHE: Submitted

Actual date of submittal: 03 May 94
Date comments were received: EPA 01 June 94, CDPHE
26 Jul 94

TM #11
TM Title
TM Status

Alternative Array
When preparation was concluded: 03 May 94
Projected date of submittal to EPA/CDPHE: Submitted
Actual date of submittal: 03 May 94
Date when comments were received: EPA 24 May 94, CDPHE
06 Jun 94

Planned Work for May

- Upon receipt of comments from the regulatory agencies, these comments will be incorporated in the revised Final CMS/FS and the Final Proposed Plan. A review of the CDPHE comments on the Final CMS/FS will continue, and incorporation of these comments will begin.
- Work on the technical position paper to evaluate the pump and treat technologies continues. This technical investigation analyzes the suitability of a pump and treat system for water contaminated with Dense Non-Aqueous Phase Liquids at the OU 1 collection well. A draft position paper will be delivered to the Department of Energy (DOE) by May 28, 1995.
- Complete the Final Proposed Plan by May 18, 1995.
- A comprehensive review of the OU 1 Administrative Record is being conducted. This review is in preparation of the public review period and the public hearing associated with the Remedial Action Plan.

Problems

Comments were due from the regulatory agencies in March 24, 1995, for the Final CMS/FS and the Draft Proposed Plan. To date, comments have not been received for the Draft Proposed Plan. Additionally, the EPA's CMS/FS comments have not been received.

Open Items

The review and approval of the Final CMS/FS and the Draft Proposed Plan by the regulatory agencies were due in March 1995.

2.1.2 OU 1 REMEDIATION

Scope of Work

Changes This Period

None

Technical Approach

Changes This Period

None

**IAG Milestone
Accomplishments**

Submit Draft Proposed Interim Measure (IM)/IRA Decision Document	18 Sep 89
Submit Proposed IM/IRA Decision Document	06 Oct 89
Submit Final IM/IRA Decision Document	05 Jan 90
Begin Phase I-A IM/IRA Construction	15 Jan 90
Restart Phase I-A IM/IRA Construction (after shutdown)	20 Jun 90
Begin Phase I-B IM/IRA Construction (ahead of schedule)	28 Sep 90
Submit IM/IRA Implementation Document	22 Feb 91
Begin Phase II-A IM/IRA Construction	01 Apr 91
Begin IM/IRA Testing	05 Aug 91
Begin Phase II-B IM/IRA Construction	03 Sep 91
Complete IM/IRA Construction (891 Treatment Building)	02 Mar 92
Complete IM/IRA Construction (French drain)	13 Apr 92

**Future IAG Milestones
Through FY 96**

None

April Work Activity Status

**Interim Measure/Interim Remedial Action (IM/IRA)
Treatment Facility - Normal water treatment continues.**

Treated groundwater this period 19,719 gallons
Total treated to date: (through 27 Mar 95) 2,753,052 gallons

Accelerated Cleanup - OU 1 Hot Spot Removal - The Final Hot Spot Removal Report was delivered to the regulatory agencies on April 28, 1995.

Planned Work for May

**Interim Measure/Interim Remedial Action (IM/IRA)
Treatment Facility**

- Normal operations will continue.

Accelerated Cleanup - OU 1 Hot spot Removal

- If comments on the Final Hot Spot Removal Report are received from the regulatory agency, work will commence on the Final Hot Spot Removal Report.

Problems

None

Open Items

None

**IAG Milestone
Accomplishments**

Submit Draft Phase II RFI/RI Work Plan (Alluvial)	21 Dec 89
Submit Final Phase II RFI/RI Work Plan (Alluvial)	12 Apr 90
Submit Draft Phase II RFI/RI Work Plan (Bedrock)	05 Feb 91
Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91
Submit Field Report for Detailed Soil Vapor Survey	15 Dec 93
Submit Preliminary Draft Phase II RFI/RI Report	16 Dec 93

**Future IAG Milestones
Through FY 96**

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase II RFI/RI Report	12 Mar 93	30 May 95	17 Apr 95
Submit Final Phase II RFI/RI Report	09 Aug 93	21 Sep 95	27 Jul 95
Submit Draft CMS/FS Report	04 Nov 93	19 Jul 96	11 Apr 96
Submit Final CMS/FS Report	10 May 94	19 Dec 96	30 Aug 96
Submit Draft Proposed Plan	10 May 94	10 Jan 97	13 Sep 96
Submit Final Proposed Plan	09 Aug 94	25 Mar 97	26 Nov 96
Submit Draft Responsiveness Summary	13 Dec 94	25 Aug 97	06 May 97
Submit Final Responsiveness Summary	16 Mar 95	05 Dec 97	08 Aug 97
Submit Draft Corrective Action Decision/ Record of Decision	16 Mar 95	05 Dec 97	08 Aug 97
Submit Final Corrective Action Decision/ Record of Decision	15 Jun 95	03 Mar 98	04 Nov 97
Submit Corrective Design/ Remedial Design Work Plan	15 Jun 95		17 Apr 98*
Submit Draft Title II Design	15 Feb 96	15 Feb 96	15 Feb 96
Submit Final Title II Design	14 Jun 96	14 Jun 96	14 Jun 96

* A completion date extension of March 3, 1998, has been requested

April Work Activity Status

Remedial Investigation - On April 12, 1995, DOE received the OU 2 Draft Phase II RFI/RI Report for review. On April 24, 1995, DOE comments were returned to the Rocky Flats Environmental Technology Site personnel. Currently, comments are being incorporated in the Draft Final Phase II RFI/RI Report.

Trench and Mound Site Characterization - The OU 2 Trenches and Mound Site Characterization with geophysical surveys and soil sampling continues. The geophysical surveys are 80 percent complete, and the soil sampling is approximately 40 percent complete.

Feasibility Study

Corrective/Remedial Action Objectives TM - On April 25, 1995, a letter that responds to the regulatory agencies' Applicable or Relevant and Appropriate Requirement comments for the Draft Final

Corrective/ Remedial Action Objectives TM #1 was transmitted to the regulatory agencies.

Development of Remedial Alternatives TM - The preparation of the Development of Remedial Alternatives TM is in process.

Detailed Analysis of Remedial Alternatives - The groundwater flow model calibration is not complete. The conceptual model must be modified to close the mass balance.

Technical Memoranda

Project

OU 2 - 903 Pad, Mound, and East Trenches

TM #1

TM Title

Development of Corrective/Remedial Action Objectives
(Draft submittal in-process)

TM Status

When preparation was concluded: 27 Jan 95
Projected date of Draft submittal to EPA/CDPHE: 01 Feb 95
Actual date of Draft submittal to EPA/CDPHE: 06 Feb 95
Date comments were received: 23 Mar 95
Actual date of Draft Final Corrective Remedial Action Objectives TM #1 submitted to EPA/CDPHE: 25 Apr 95
Date comments were received: To be determined

TM #2

TM Title

TM Status

Development of Remedial Alternatives (Draft submittal in-process)
When preparation is planned to be concluded: 01 Jun 95
Projected date of Draft submittal to EPA/CDPHE: 30 Jun 95
Actual date of Draft submittal to EPA/CDPHE: To be determined
Date comments were received: To be determined

TM #4

TM Title

TM Status

OU 2 Subsurface IM/IRA Soil Vapor Extraction Pilot Test Site 1 (Draft Final submittal in process)
When Draft preparation was concluded: 08 Sep 94
Actual date of Draft submittal: 24 Oct 94
Date comments were received: 10 Nov 94
When Draft Final preparation was concluded: 09 Mar 95
Projected date of Final submittal to EPA/CDPHE: 26 May 95
Actual date of Final submittal to EPA/CDPHE: To be determined
Date comments were received from EPA/CDPHE: None required

TM #5

TM Title

TM Status

Exposure Scenarios (Draft Final submittal in process)
When preparation was concluded: 06 Dec 94
Projected date of Draft Final submittal to EPA/CDPHE: 31 Oct 94
Actual date of Draft Final submittal: 07 Dec 94
Date comments were received from EPA/CDPHE: 02 Feb 95 EPA,
03 Mar 95 CDPHE

<p>TM #6 TM Title TM Status</p>	<p>Modeling When preparation was concluded: 15 Jan 93 Projected date of submittal to EPA/CDPHE: 15 Jan 93 Actual date of submittal to EPA/CDPHE: 15 Jan 93 Date comments were received: 01 Apr 93 EPA, 31 Mar 93 CDPHE TM approved</p>
<p>TM #7 TM Title TM Status</p>	<p>Surficial Soils When preparation was concluded: 07 Jan 93 Projected date of submittal to EPA/CDPHE: 07 Jan 93 Actual date of submittal: 12 Jan 93 Date comments were received: 21 Jan 93 TM approved</p>
<p>TM #8 TM Title TM Status</p>	<p>Bedrock When preparation was concluded: 15 Mar 93 Projected date of submittal to EPA/CDPHE: 01 Mar 93 Actual date of submittal: 15 Mar 93 Date comments were received: 14 Apr 93 EPA, 14 Apr 93 CDPHE TM approved</p>
<p>TM #8 Addendum TM Title TM Status</p>	<p>Contingency Plan for revised Phase II RFI/RI Work Plan (Bedrock) When preparation was concluded: Jun 93 Projected date of submittal to EPA/CDPHE: Jun 93 Actual date of submittal: Jun 93 Date comments were received: FY 93 TM addendum approved</p>
<p>TM #9 TM Title TM Status</p>	<p>Chemicals of Concern When preparation was concluded: 08 Aug 94 Projected date of submittal to EPA/CDPHE: 03 Oct 94 Actual date of Draft submittal: 30 Aug 94 Date comments were received: 05 Oct 94 TM approved</p>
<p>TM #10 TM Title TM Status</p>	<p>Toxicity Assessment When preparation was concluded: 09 Aug 94 Projected date of submittal to EPA/CDPHE: 30 Aug 94 Actual date of Draft submittal: 02 Sep 94 Date comments were received: 05 Oct 94 TM approved</p>
<p>Planned Work for May</p>	<ul style="list-style-type: none"> • Work on the Remedial Investigation and the IM/IRA operations, the FS, and the Treatability Studies continues.

Problems None

Open Items None

2.2.2 OU 2 REMEDIATION

**Scope of Work
Changes This Period**

On March 2, 1995, a Baseline Change Control Proposal to transfer funds from the OU 2 Soil Vapor Extraction Test Sites 2 and 3 work packages to a new Subsurface IM/IRA work package that is entitled OU 2 Accelerated Action (T-3) was approved. The existing OU 2 Soil Vapor Extraction Test Sites 2 and 3 internal milestones have been canceled, and new OU 2 Accelerated Action milestones have been established.

**Technical Approach
Changes This Period**

The OU 2 Accelerated Action (T-3) budget has been completed. Work on the Alternative Analysis document continued.

**IAG Milestone
Accomplishments**

Submit Draft Proposed IM/IRA Decision Document	19 Jun 90
Submit Proposed Plan IM/IRA Decision Document	18 Sep 90
Submit Draft Responsiveness Summary	13 Dec 90
Submit Final Responsiveness Summary and Final IM/IRA Decision Document	11 Jan 91
Field Treatability Test System Installation Complete	10 May 91
Begin Field Treatability Testing (Carbon System)	03 May 91
Submit Draft Treatability Test Report (Phase I Granular Activated Carbon)	01 Apr 92
Complete IM/IRA Construction (radionuclides removal system)	24 Apr 92
Begin Field Treatability Testing (radionuclides removal system)	27 Apr 92
Submit Final Treatability Test Report (Phase I Granular Activated Carbon)	02 Jun 92
Submit Subsurface Site 1 Draft Test Plan	29 Oct 92
Submit Subsurface Site 1 Final Test Plan	12 Jan 93
Submit Draft Pilot Test Plan Site 2	24 Jun 93
Submit Draft Surface Water Field Treatability Report	13 Jul 93
Submit Final Phase II Treatability Study Report	26 Jan 94
Begin Subsurface IM/IRA Test I	14 Feb 94
Submit Subsurface Site 2 Draft Test Plan	06 Jul 94
Submit Draft Pilot Test Report Site 1	10 Nov 94
Submit Final Pilot Test Report Site 1	10 Nov 94

IAG Milestone Accomplishments

Start-up Soil Vapor Extraction Test Site 2	02 Mar 95*
Submit Draft Pilot Test Report Site 2	02 Mar 95*
Submit Final Pilot Test Report Site 2	02 Mar 95*
Submit Draft Pilot Test Plan Site 3	02 Mar 95*
Submit Final Pilot Test Plan Site 3	02 Mar 95*
Complete Pilot Unit 3 Installation	02 Mar 95*
Submit Draft Pilot Test Report Site 3	02 Mar 95*
Submit Final Pilot Test Report Site 3	02 Mar 95*
Submit Liquid Removal Draft Proposed Action Memorandum	03 Mar 95

* Because work scopes were modified, the Soil Vapor Extraction Test Sites 2 and 3 activities were canceled. New milestone dates to reflect new work scopes, which use new technologies, have been negotiated.

Future IAG Milestones Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Alternatives Analysis	11 Apr 95		11 Apr 95
Submit Liquid Removal Final Proposed Action Memorandum	15 May 95		15 May 95
Submit Acceptance of Alternatives Analysis/Proposed			
Submit Action Memorandum by Public Award Equipment System Design Contract	31 Jul 95		31 Jul 95
Finalize Site Designs	12 Sep 95		12 Sep 95
Submit Approval of <i>in situ</i> Vitrification Project Management Plan	24 Oct 95		24 Oct 95
Submit Approval of Site Implementation Plan	14 Nov 95		14 Nov 95
	14 Nov 95		14 Nov 95

April Work Activity Status

Subsurface IM/IRA Operations

Soil Vapor Extraction - DOE is reviewing the Draft Final OU 2 Subsurface IM/IRA Soil Vapor Extraction Pilot Test Site 1 TM #4.

Source Removal - An engineering scale test is anticipated to begin in May 1995.

A working group, consisting of representatives from the CDPHE, DOE and the Rocky Flats Environmental Technology Site personnel, met on March 8 and 29, 1995, to discuss the OU 2 Alternative Analysis. Four options were subjected to a number of criteria to establish the most favorable option. Additionally, preparation of the Draft Alternatives Analysis for Remediating OU 2 Trench T-3 (IHSS 110) continued. On April 4, 1995, this Draft Analysis was completed

by the Rocky Flats Technology Site personnel, and DOE is reviewing the Draft Analysis.

Surface Water IM/IRA Operations

OU 2 Field Treatability Unit Water Treatment Facility - Activities at the OU 2 Field Treatability Unit Water Treatment Facility remained the same for the month of April 1995. All activities are on schedule.

Surface Water IM/IRA treatment activities included the following:

Treated water this month:	0 gallons
Total treated to date:	24,806,170 gallons

Sitewide Treatment Facility - The Sitewide Treatment Facility activities for the month of April 1995 continued on scheduled.

Offsite Disposal of Field Treatability Unit Water Sludge - On April 11, 1995, the OU 2 Filter Cake Waste Summary was submitted to the environmental waste subcontractor for approval. On April 18, 1995, preapproval from the subcontractor for shipment was received. The shipment of filter cake is anticipated to occur the week of May 22, 1995.

Surface Water 59 - The SW-59 investigation activities scheduled for February 1995 were completed in March 1995 and generated six drums on Investigative Derived Material. On March 30, 1995, a Risk Assessment of SW-59 that used the open space and residential scenarios began. A draft was completed April 19, 1995, for review by the Rocky Flats Environmental Technology Site personnel. This Risk Assessment concludes that the ingestion of seep water from SW-59 does not pose an unacceptable risk for open space and ecological worker scenarios.

Planned Work for May

- Work on the Subsurface IM/IRA OU 2 Accelerated Action T-3 activities and on the Surface Water IM/IRA operation will continue.
- The Draft RFI/RI Report comments will be incorporated, and the report will be delivered to the regulatory agencies.
- The Ground Water Flow Model calibration will be completed for the FS.
- A draft of the FS for TM #2 will be prepared.

Problems

None

Open Items

None

On March 20, 1995, TM #3, *Human Health Risk Assessment Model Description*, was delivered to the regulatory agencies. On April 21, 1995, approval for TM #3 was received.

The preparation of a cost estimate and work scope is being completed for the proposed Neighborhood Environmental Watch Network Environmental Monitoring System, which was developed by the Los Alamos National Laboratory, the EPA, and the DOE for public education. The monitoring system will consist of three self-contained meteorological and gamma radiation monitors (one located onsite and two located offsite) that will provide public access to the environmental monitoring data through the Internet system.

The DOE was notified by the United States Fish and Wildlife Service that the Standley Lake bald eagles have left the nesting area and that work can continue at the 100th Avenue Air Monitoring Station Site. The United States Fish and Wildlife Service also approved construction of the air monitoring station at 88th Avenue and the meteorological monitoring station south of the Great Western Reservoir. Work will begin when the procurement process is complete.

Technical Memoranda

Project

TM #1 (RFI/RI)
TM Title
TM Status

OU 3 - Offsite Areas

Field Changes to RFI/RI the Work Plan
When preparation was concluded: 10 May 93
Projected date of submittal to EPA/CDPHE: 10 May 93
Actual date of submittal: 23 Apr 93
Date comments were received: 05 Jan 94

TM #1 (CMS/FS)
TM Title
TM Status

Preliminary Remediation Goals
When preparation was concluded: In progress
Projected date of submittal to EPA/CDPHE: 11 Jul 96
Date comments were received: To be determined

TM #2
TM Title
TM Status

Exposure Scenarios for the Human Health Risk Assessment
When preparation was concluded: 12 May 93
Projected date of submittal to EPA/CDPHE: 12 May 93
Actual date of submittal: 03 May 93
Date comments were received: 15 Jul 93

TM #3
TM Title
TM Status

Modeling
When preparation was concluded: Jan 95
Projected date of submittal to EPA/CDPHE: 02 Mar 95

Actual date of submittal: 30 Mar 95
Date comments were received: 21 Apr 95

TM #4
TM Title
TM Status

Contaminants of Concern
When preparation was concluded: Aug 94
Projected date of submittal to EPA/CDPHE: 20 Sep 94
Actual date of submittal: 26 Sep 94
Date comments were received: 09 Jan 95

TM #5
TM Title
TM Status

Toxicity
When preparation was concluded: Sep 94
Projected date of submittal to EPA/CDPHE: 10 Nov 94
Actual date of submittal: 11 Oct 94
Date comments were received: To be determined

TM #6
TM Title
TM Status

Ecological Evaluation
When preparation was concluded: In progress
Projected date of submittal to EPA/CDPHE: 11 Jul 96
Date comments were received: To be determined

Planned Work for May

- The TM #6, *Ecological Evaluation*, will be completed and incorporated in the Draft Remedial Investigation Report.
- Sections of the Draft RI Report will be developed and prepared.
- Services to install an air monitoring station and a meteorological monitoring station will be obtained.
- The CDPHE Conservative Screen Letter Report will be approved.
- Work on the Proposed Plan for submittal to the regulatory agencies in September 1995 will begin.

Problems

None

Open Items

None

2.4 OU 4 - SOLAR EVAPORATION PONDS

OU 4 comprises five solar evaporation ponds: 207A, 207B series (North, Center, South), and 207C, which were constructed for treatment and storage of process water from industrial operations. The process water contained treated acidic wastes, industrial liquid wastes (e.g., metal plating solutions), and low-level radioactive wastes.

The ponds were relined with various upgraded materials as technology improved through the early 1960s and 1970s; however, leakage from the ponds into the soil and groundwater was suspected. Interceptor trenches were installed in 1971 to collect and recycle contaminated groundwater to the ponds and to minimize natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were upgraded by the current, larger Interceptor Trench System, which returned approximately 4 million gallons of groundwater back into the solar evaporation ponds each year.

Process water has not been pumped into the ponds since 1986, and with the diversion of the Interceptor Trench System water to storage tanks in April 1993, groundwater is no longer returned to the ponds. At the time, the placement of the Interceptor Trench System water into the ponds occurred without meeting Land Disposal Restrictions and the Minimum Technology Requirements of the RCRA. A new, dedicated Building 910 evaporation-treatment facility, which was constructed to process the Interceptor Trench System water stored in the modular tanks, became operational in July 1993. This building was designed to supplement the Site's waste treatment facility in Building 374. Since the completion of Building 910, upgrades have been installed to the Building 374 system, and other Site waste streams that this system has processed have decreased in volume. Presently, the Interceptor Trench System water is treated in Building 910 only if the Building 374 treatment facility is unavailable for extended periods.

The Solar Evaporation Ponds Subproject is comprised of four technical areas: (1) Disposition of noncertified pondcrete and saltcrete and pond sludge processing as required by the Federal Facilities Compliance Act; (2) water management/treatment by means of the IM/IRA Decision Document signed by the regulatory agencies and DOE; (3) the OU 4 assessment and remedial action, which identified the ponds as one of the 16 OUs to be remediated at the Rocky Flats Environmental Technology Site in accordance with the IAG, and superseded the 1988 Ponds-Closure Plan submitted by DOE to the regulators; and (4) pad operations, storage, and disposal activities that are necessary to meet the Site's RCRA interim status and permit requirements for storage of pond wastes. The water and pond sludge management is a necessary precursor to the OU 4 assessment and remediation, while the pad operations are considered necessary support activities.

Work in the four technical areas was planned to close the ponds and remediate OU 4. The scope of the work was to (1) remove water and sludge from the ponds, (2) provide a treatment facility to replace the ponds as evaporation-treatment and storage units for pond-related groundwater, (3) remove and store pond sludge in compliance of all regulations such as RCRA, (4) assess the nature and extent of contamination at the ponds, (5) complete a RCRA closure of the impoundments, (6) remediate the ponds (source and soils) as required, and (7) remediate groundwater as required.

The RCRA/CERCLA investigation Phase I field work began in FY 93 and will continue through construction of the final corrective/remedial action. The technical scope to be performed by means of the IAG is funded through the OU 4 Assessment and Remediation Area with other areas funded to provide necessary precursor and support activities to allow the IAG scope to be completed.

In May 1994, the Pond sludge removal operations in four of the five solar evaporation ponds were completed. In August 1994, operations to remove the sludge in Pond 207C began and this pond was emptied in January 1995.

In February 1995, an IM/IRA/Environmental Assessment Decision Document that proposed the Phase I pond closure and remedy was released for public comment. The proposal recommends the use of newly promulgated RCRA regulations designed to improve corrective actions. Contaminated soil, pond sludge, pondcrete, and debris will be permanently placed into the pond closure and isolated to protect human health and the environment. The Final Decision Document is expected to be complete in FY 96.

2.4.1 OU 4 ASSESSMENT

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
	Submit Final Phase I RFI/RI Work Plan	26 Nov 90
	Submit Draft Phase II RFI/RI Work Plan	27 May 94
	Submit Final Phase II RFI/RI Work Plan	02 Sep 94

Future IAG Milestones Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase II RFI/RI Report	16 Apr 96		16 Apr 96
Submit Final Phase II RFI/RI Report	11 Sep 96		11 Sep 96

April Work Activity Status The Phase I sampling in Pond 207C will be performed by the Phase II subcontractor to realize cost savings. The Phase II schedule will not allow the 207C Pond investigations to occur until May 1995.

On March 23, 1995, the Seismic Refraction Survey was completed. On March 15, 1995, the geoprobe work began and is scheduled to be completed by June 9, 1995.

Technical Memoranda

Project	<u>OU 4 - Solar Evaporation Ponds</u>
TM #1	
TM Title	Vadose Zone Investigation
TM Status	Draft submitted to EPA/CDPHE: 16 Nov 92 Comments received: 30 Nov 92 Conditional approval: 30 Nov 92 Projected submittal of Final TM to EPA/CDPHE: 15 Dec 92 Actual submittal date of Final TM: 15 Dec 92

Submittal of TM #1 Vadose Zone Schedule: 19 May 93
 EPA/CDPHE final approval of TM #1: 17 Jun 93
 TM #2
 TM Title Modification to Field Activities
 TM Status Draft submitted to EPA/CDPHE: 18 Mar 93
 Comments received: 07 May 93
 Projected submittal of Final TM to EPA/CDPHE: 07 Jun 93
 Actual submittal date of Final TM: 09 Jun 93
 EPA/CDPHE final approval of TM #2: 30 Jun 93

TM #3
 TM Title Environmental Evaluation
 TM Status Draft submitted to EPA/CDPHE: 19 Mar 93
 Comments received: EPA 21 Apr 93, CDPHE 02 Jun 93
 Projected submittal of Final TM to EPA/CDPHE: 30 Apr 93
 Actual submittal date of Final TM: 02 Jul 93
 EPA/CDPHE final approval of TM #3: 30 Jul 93

TM #4
 TM Title Human Health Risk Assessment Exposure Scenarios
 TM Status Draft submitted to EPA/CDPHE: 19 Mar 93
 Comments received: EPA 21 Apr 93, CDPHE 23 Apr 93
 Projected submittal of Final TM to EPA/CDPHE: 11 Jun 93
 Actual submittal date of Final TM: 11 Jun 93
 EPA/CDPHE final approval of TM #4: 25 Jun 93

Planned Work for May

- The field activities for the Phase II RFI/RI Program are scheduled to continue.

Problems None

Open Items None

2.4.2 OU 4 REMEDIATION

Scope of Work
Changes This Period None

Technical Approach
Changes This Period None

IAG Milestone
Accomplishments

Draft Phase I Proposed IM/IRA Decision Document	27 May 94
All Solar Ponds Emptied of Water and Sludge	15 Jan 95
Final Phase I Proposed IM/IRA Decision Document	01 Feb 95

**Future IAG Milestones
Through FY 96**

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit IM/IRA Responsiveness Summary	25 Jan 95	09 Jun 95*	On schedule
Submit Final Phase I IM/IRA Decision Document and Final Responsiveness Summary	24 Apr 95	29 Aug 95*	On schedule
Submit IM Title II Design Work Plan	24 Jun 96	18 Dec 95*	On schedule
Start of Soil Excavation Relative to IHSS 101 Closure	28 Jan 97	28 Oct 96*	On schedule

* On November 23, 1994, the regulatory agencies approved the extension.

April Work Activity Status

Waste Treatment

On April 10-11, 1995, a design status meeting was held with the Rocky Flats Environmental Technology Site personnel, and all design basis assumptions were thoroughly reviewed.

On April 10, 1995, delivery of the Draft Conceptual Design Report for the Pond Sludge Processing Train was delivered from the Rocky Flats Environmental Technology Site personnel. On April 28, 1995, review comments were collected and returned.

On April 12, 1995, the Draft Treatability Study Report was delivered to the Rocky Flats Environmental Technology Site personnel for review and comment. On April 28, 1995, review comments were collected and returned.

A vendor quote and delivery schedule has been established for the procurement of a Hi-Vac® pumping system, which will be used to consolidate the 207C Pond sludge from metals into the sludge storage tanks. When the Sludge Processing System is installed, the pumping system that is chosen will also serve as the sludge recovery module.

Additional treatability study mixes are being completed to minimize leachate and to satisfy the requirements of the Fate and Transport modeling criteria. The Rocky Flats Environmental Technology Site personnel are confirming the modeling requirements and are responsible for the overall OU RCRA closure design.

Currently, both the Pond Sludge and Pondcrete Process Trains are being targeted for RCRA, Subpart X permitting. Previously, the processes were anticipated to be permitted as Temporary Units. Regulatory compliance principles at the CDPHE and the Rocky Flats Environmental Technology Site are reviewing the efficacy of using Subpart X provisions within a Corrective Action Management Unit. The OU RCRA closure is seeking to permit the work under the provisions of a Corrective Action Management Unit.

Waste Storage and Disposal

As of April 21, 1995, a total of 2,126 metal containers were repacked and stacked. DOE's compliance strategy continues to be implemented despite the CDPHE's reversal in policy and the subsequent disagreement over the use of absorbent material in the repacked crates. DOE believes the need to take action on long standing pad compliance issues balances the risk that a second repacking effort may ultimately be required. Also, recent communication with the CDPHE indicate that for the waste being stored and the way the waste is being stored, the asphalt pad provides a "sufficiently" impervious surface to meet Part B Permit requirements. This will reduce required upgrades to meet the Part B Permit requirements for which funding must be found.

Interim Remedial Action

Water Management - The modular tanks have a remaining usable volume of about 400,000 gallons. April 1995 was a very wet month and over a million gallons of water flowed into the modular tanks. The RCRA inspections and compressor rotations in Building 910 were satisfactorily completed. Also, the RCRA inspections of the Modular Storage Tanks were completed.

Interim Measure Remediation

IM/IRA Decision Document - On April 11, 1995, the public and regulatory agencies' comment period for the proposed IM/IRA Environmental Assessment Decision Document was concluded, and DOE received approximately 225 comments during this period. Rocky Flats Environmental Technology Site personnel reviewed the first draft of the Responsiveness Summary and changes are being made to the document. The Draft Responsiveness Summary is on schedule. The IM/IRA will be updated after the Draft Responsiveness Summary is submitted for review by the regulatory agencies.

DOE is evaluating whether to remove the closure of Building 964, which has an approved Closure Plan, from the Decision Document. A draft schedule to accelerate the removal of this building has been completed. The schedule was accelerated by a proposal to close the RCRA Unit #24 by means of the Part B Permit Closure Plan instead of utilizing the IM/IRA Decision Document. The estimated completion date was improved by approximately six months. The schedule has been reviewed by the Rocky Flats Environmental Technology Site RCRA Permitting and Compliance personnel to ensure that required permit modifications and regulatory notifications can be accomplished as scheduled. On April 3, 1995, the National Environmental Policy Act Compliance Committee reviewed the project and recommended a Categorical Exclusion. On April 24, 1995, DOE received this recommendation.

Preconstruction - On April 12, 1995, two Radiological Control Technicians were assigned to this activity. However, the removal of excess materials from between the 207A and B Series Ponds has

been stopped until drier weather conditions exist. Radiological Control Technicians have reviewed property release evaluations for this activity and have conducted a pre-job walkdown of the area. However, no surveys have been taken because of damp weather conditions.

On April 11, 1995, two 45-ton cranes were delivered to the Rocky Flats Environmental Technology Site to support the Cargo Container Relocation Project. On April 24, 1995, the operators have been trained on the operation of these cranes and began relocation activities. The cargo container relocation began in April 1995 and is anticipated to be completed in May 1995.

On March 24, 1995, the proposal from the Rocky Flats Environmental Technology Site personnel for the Phase A Building 788 Removals was received. Negotiations were delayed because of the requirement for a formal Procurement Plan but have now been completed and are under review by Site personnel.

A meeting was held with Site representatives of Waste Operations to finalize a completion date for the removal of all excess operations equipment inside Building 788. The date for completion of this activity is May 15, 1995.

On April 17, 1995, a walkdown of Building 964 was held to determine the presence of migratory bird nests inside the building. No active nests were present at this time; however, the ecology expert determined there was approximately a two week window before nesting would begin. Hardware cloth needs to be installed around the building eaves before the nesting begins to prevent birds from entering the building. A Statement of Work has been prepared to contract this work.

A purchase requisition and Statement of Work for procuring the present Site security subcontractor to support the vehicle access gate construction project have been submitted to Procurement. The Site security contractor has refused to submit a proposal to support this activity. DOE is investigating alternate contracting mechanisms.

DOE has held meetings with representatives of the Rocky Flats Environmental Technology Site personnel and the Site security subcontractor to discuss the security perimeters for the OU 4 Phase I construction activities. The Rocky Flats Environmental Technology Site personnel have prepared a draft proposal for the Phase I Remedial Construction security activities and submitted it to the working group. Comments on the draft are being incorporated. A formal presentation of the security proposal is scheduled for May 2, 1995.

On April 19, 1995, the Integrated Work Control Plan for the General Site Improvements Project was reviewed, comments were

incorporated, and the final package was signed. The readiness assessment for this activity is proceeding on schedule. The overhead power modifications Draft Integrated Work Control Plan was completed and is awaiting final signature.

Interim Measure Sludge - Activities to remove sludge from the clarifier to sludge holding tanks have been delayed pending the transfer of the 207C Pond salt that is currently being stored in metal crates. The transfer of 207C Pond material from the metal crates is proceeding. As of April 24, 1995, eleven metals have been emptied. Problems have been encountered in filling the tanks with the material from the metal containers because of debris (mostly tar paper) plugging the inlet piping. Changes to the tank inlets were successful and off loading has become much more reliable. The 12 additional tanks were received, and the first two tanks installed in Tent 6. Certifications are in progress. A new vacuum pump is being ordered to improve the efficiency of the sludge transfer from the metals to the sludge holding tanks.

Planned Work for May

- The transfer of salt in metal containers to sludge holding tanks will continue.
- The site stripout activity will continue.
- The relocation of cargo containers will continue.
- The 904 repack will continue.

Problems

Inadequate Radiological Control Technician support is impacting lower priority Solar Ponds Projects (areas with float) such as site strip out. Corrective actions have been implemented. Two Radiological Control Technician have been reassigned from ER areas, which were just completed.

Open Items

The OU 4 engineered barrier issues that initiated a dispute resolution in July 1994 continue. Although the dispute formally ended on July 27, 1994, full regulatory support was not achieved. Both the EPA and the DOE support the plan that calls for the placement of minimally treated sludge and pondcrete under the engineered barrier in lieu of an offsite disposal, but the CDPHE has opted to reserve comment until after the public comment period on the Phase I IM/IRA Decision Document. An extension was granted in November 1994 for all related Phase I milestones, but the regulatory concurrence for a planned technical scope is still not known. The CDPHE appears supportive on the placement of the processed pond sludge under the cap but does not support pondcrete placement. At the January 25, 1995, meeting, the public response was positive.

A key OU 4 assumption is the use of the Corrective Action Management Unit/Temporary Unit for treating certain remediation wastes during Phase I Remediation. Based upon direction from

CDPHE during the Joint Working Sessions, DOE plans to use the Corrective Action Management Unit/Temporary Unit regulations to promote significant cost savings and schedule acceleration while fully protecting human health and the environment. However, CDPHE is now questioning the applicability of the law on the OU 4 remediation, and the CDPHE has not communicated whether additional requirements will be imposed. Therefore, this regulatory uncertainty poses increased risk to the Phase I remediation project schedule.

Tent 12 and the pad area south on the 750 Pad (for pondcrete) and Tent 11 on the 904 Pad (pondcrete) are required to treat the sludge and pondcrete. These areas need to be made available by either moving wastes to another location or preferably by shipping all saltcrete that complies with the Landfill Disposal Restrictions to an offsite location. Neither option is currently funded, although partial funding for saltcrete disposal does exist. A substantial increase in the funding for saltcrete disposal is needed to execute this option.

The CDPHE did not agree that pondcrete meets the definition of remediation waste. The regulatory agency has yet to provide a detailed rationale for this position. If this position stands, pondcrete cannot be put in the remediation and its ultimate fate must be replanned. This will increase the life-cycle costs of OU 4.

2.5 OU 5 - WOMAN CREEK

OU 5, the Woman Creek Priority Drainage, comprises the assessment and remediation of 11 IHSSs in the Woman Creek drainage: Original Landfill (IHSS 115); Ash Pits (IHSSs 133.1 - 133.4); Incinerator (IHSS 133.5); Concrete Wash Pad (IHSS 133.6); Detention Ponds C-1 and C-2 (IHSSs 142.10 and 142.11); Surface Disturbance (IHSS 209), southeast of Building 881; and Water Treatment Plant Backwash Pond (IHSS 196). Two additional surface disturbances have been identified: one south of the Ash Pits and a second west of IHSS 209. These last two sites have been included in the OU 5 Work Plan. IHSS 196 has been assigned to this OU. Possible contamination in this OU was caused by landfill operations, storm water runoff into holding ponds, and Ash Pit operations. Constituents in OU 5 include depleted uranium, metals, solvents, pesticides, polychlorinated biphenyl, and Volatile Organic Compounds. Media affected include soils, sediments, surface water, groundwater, and air.

**Scope of Work
Changes This Period**

None

**Technical Approach
Changes This Period**

None

**IAG Milestone
Accomplishments**

Submit Draft Phase I RFI/RI Work Plan
Submit Final Phase I RFI/RI Work Plan

05 Apr 91
30 Aug 91

**Future IAG Milestones
Through FY 96**

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	30 Nov 93	01 Nov 95	11 May 95
Submit Final Phase I RFI/RI Report	03 May 94	02 Apr 96	14 Nov 95

April Work Activity Status

Sitewide central tendency preliminary remediation goals for the open space scenarios were prepared, and the radiological preliminary remediation goals for the other scenarios to incorporate the new slope factors were updated. The preliminary remediation goal tables for OU 5 were also updated and are currently undergoing a quality review for incorporation into FS documentation.

On March 30, 1995, DOE received draft responses to comments from the regulatory agencies on the Draft Final Exposure Assessment TM. The comment responses included the recent guidance regarding mining and open-space receptors and the elimination of residential scenarios. The final comments have been satisfactorily dispositioned, and on April 25, 1995, DOE received the comments. Once the regulatory agencies' concurrence with the dispositions has been obtained, the Exposure Assessment TM will be finalized.

By means of TM #15, *Addendum to the Field Sampling Plan*, the second quarter of groundwater monitoring has been initiated. Core logging and Logit (the software database system that feeds into the

Rocky Flats Environmental Database System) continue with input of sample collection data in Datacap. Groundwater monitoring and water level measurements will continue until FY 96.

Groundwater modeling, surface water modeling, and air modeling activities for the Human Health Risk Assessment are complete. Risk simulations for all three models were developed and incorporated into the Risk Assessment calculations. On April 18, 1995, the Draft Groundwater Modeling Report and the Draft Surface Water Modeling Report were completed. The two reports are undergoing internal review.

On April 6, 1995, a meeting between the regulatory agencies and DOE to discuss creative approaches for expediting closure of OU 5 was held. All parties agreed that the best approach was to continue conducting the FS according through the Detailed Analysis of Alternatives. Once a preferred alternative that is technically defensible in the Detailed Analysis of Alternatives is identified, creative approaches to expedite a closure will be examined.

Agreement was subsequently reached to streamline the OU 5 FS process by replacing FS TMs #1 and #2 with a letter that summarizes the developed Remedial Action Objectives and screened remedial alternatives. In addition to the letters, the Rocky Flats Environmental Technology Site personnel will conduct a detailed presentation of the rationale for the decision. The regulatory agencies have informally agreed to send a letter to DOE confirming their agreement with this approach.

Technical Memoranda

Project

OU 5 - Woman Creek Priority Drainage Remedial Investigation

TM #1

TM Title

TM Status

Surface Water and Sediments

When preparation was concluded: 30 Nov 92

Projected date of submittal to EPA/CDPHE: 30 Nov 92

Actual date of submittal: 13 Oct 92

TM #2

TM Title

TM Status

Surface Geophysics

When preparation was concluded: 30 Nov 92

Actual date of submittal: 13 Oct 92

TM #3

TM Title

TM Status

Soil Sampling at IHSS 115

When preparation was concluded: 07 May 93

Actual date of submittal: 26 Jan 93

TM #4	
TM Title	Soil Sampling at IHSS 133
TM Status	When preparation was concluded: 07 Jun 93 Actual date of submittal: 12 Apr 93
TM #5	
TM Title	Soil Gas Sampling at IHSS 115
TM Status	When preparation was concluded: 07 May 93 Actual date of submittal: 25 Mar 93
TM #6	
TM Title	Cone Penetrometer at IHSS 115
TM Status	When preparation was concluded: 14 Apr 93 Actual date of submittal: 25 Mar 93
TM #7	
TM Title	Soil Borings at IHSS 133
TM Status	When preparation was concluded: 07 May 93 Actual date of submittal: 19 Feb 93
TM #8	
TM Title	Monitoring Wells at IHSS 115
TM Status	TM #8 has been canceled and has been replaced by a letter outlining the justification for the location of the wells in IHSS 115.
TM #9	
TM Title	Monitoring Wells at IHSS 133, Ash Pits, Incinerator, and Concrete Wash Pad
TM Status	Actual date of the Draft TM submittal to EPA/CDPHE: 06 May 93 Actual date of the Final TM submittal to EPA/CDPHE: 28 Jun 93
TM #10	
TM Title	Soil Borings at IHSS 209
TM Status	When preparation was concluded: 06 Mar 93 Actual date of the Final TM submittal to EPA/CDPHE: 06 Mar 93
TM #11	
TM Title	Contaminants of Concern
TM Status	Actual date of the Final TM submitted to EPA/CDPHE: 20 Mar 95 EPA approval pending
TM #12	
TM Title	Exposure Scenarios
TM Status	Actual date of the submittal of the Final TM to EPA/CDPHE: 10 Jan 95 Received comments from CDPHE: 13 Feb 95 Received comments from EPA: 08 Mar 95
TM #13	
TM Title	Modeling
TM Status	Actual date of submittal of the Final to EPA/CDPHE: 29 Nov 94

TM #14
TM Title
TM Status

Toxicity Assessment
Actual date of submittal of the Final to EPA/CDPHE: 14 Nov 94

TM #15
TM Title
TM Status

Addendum to the Field Sampling Plan
Actual date of the Final TM submittal to EPA/CDPHE: 31 Aug 94

Planned Work for May

- Monthly water level measurements and quarterly groundwater sampling will continue.
- The CMS/FS with an emphasis on TM #1 and TM #2 will continue.
- The Human Health Risk Assessment for the RFI/RI Report will continue.
- The Ecological Risk Assessment for the Environmental Evaluation of the RFI/RI Report will continue.

Problems

None

Open Items

Approval of TM #14, *Toxicity Assessment*, is pending.

Approval of TM #11, *Chemicals of Concern*, is pending.

2.6 OU 6 - WALNUT CREEK

OU 6, the Walnut Creek Priority Drainage, comprises assessment and remediation of 19 IHSSs: the A-series Detention Ponds, Ponds A-1 through A-4 (IHSSs 142.1 through 142.4 and 142.12); the B-series Detention Ponds, Ponds B-1 through B-5 (IHSS 142.5 through 142.9); the North Spray Field (IHSS 167.1); the East Area Spray Field (IHSS 216.1), the Trenches A, B, and C (IHSSs 166.1, 166.2, and 166.3); the Sludge Dispersal Area (IHSS 141); the Triangle Area (IHSS 165); the Old Outfall Area (IHSS 143); and the Soil Dump Area (IHSS 156.2).

Completion of field operations resulted in the following samples from the IHSSs in OU 6: stream sediment, pond sediment, surface soil, subsurface soil, and surface and groundwater.

Scope of Work Changes This Period

None

Technical Approach Changes This Period

None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan	19 Apr 91
Submit Final Phase I RFI/RI Work Plan	16 Sep 91

Future IAG Milestones Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	04 Aug 93	02 Oct 95	19 Apr 95
Submit Final Phase I RFI/RI Report	07 Jan 94	21 Feb 96	20 Nov 95

April Work Activity Status

On April 20, 1995, Rocky Flats Environmental Technology Site personnel completed the review of the Preliminary Draft of Chapter 5, Fate and Transport, of the Phase I RFI/RI Report.

Work on the ecological chemicals of concern screening process continued. A new database for each of the applicable OUs was extracted from the Rocky Flats Environmental Database System, and cleanup is proceeding on schedule. A few minor problems were encountered but are not expected to impact the schedule.

On April 20, 1995, a meeting was held with the regulatory agencies to discuss the RFI/RI Report issues and concerns regarding the possible streamlining efforts for the FS. The issues and concerns were resolved, or a course of action was planned to resolve them. The FS TM #2, *Detailed Screening of Alternatives*, will be submitted as a letter that accompanies a presentation.

On April 19, 1995, TM #3 for the Ecological Risk Assessment Methodology was delivered to the regulatory agencies.

OU 6 is waiting for approval from the regulatory agencies on TM #2, *Exposure Assessment*, and TM #3, *Model Descriptions*. OU 6 is also waiting for comments on the Draft Final Ecological Risk Assessment Methodology Site Conceptual Model. These TMs were due in March 1995.

On April, 28, 1995, OU 6 completed the Human Health Risk Assessment text. Minor adjustments and alterations to the Human Health Risk Assessment will continue as it is finalized.

Six key regulatory and Risk Assessment issues with respect to revising the OU 6 TM #1 were resolved. Also; written responses to the DOE and Rocky Flats Environmental Technology Site comments on the Draft TM #1 were completed.

The list of central tendency values based on the new draft open space/recreational preliminary remedial goals was completed. The Rocky Flats Environmental Technology Site personnel have incorporated these central tendency values into the FS TMs #1 and #2.

Work on developing the alternative list for the OU 5 and OU 6 TM #2 continues. Work on the TM #2 for these OUs began on April 10, 1995.

Sprinkler Pipe Cleanup and B-3 Pond Cleanup

Progress during the month of April 1995 on the sprinkler pipe cleanup and B-3 Pond cleanup continued. Inclement weather impeded some of the expected progress. Additionally, off loading has been slow, but progress continues to be made. Surveys will continue in addition to pipe removal. An Integrated Work Control Program for the Pond B-4 cut up is being revised to perform cutting and packaging at the pond rather than Building 788. The Health and Safety Plan for the B-4 pipe cut up is also being revised.

Technical Memoranda

Project

OU 6 - Walnut Creek

TM #1

TM Title

TM Status

Work Plan Modifications

Approved by EPA: 08 Jan 93

TM #2

TM Title

TM Status

Exposure Assessment

When preparation of the Draft TM was concluded: 07 Jul 93

Date the Draft TM was submitted to EPA/CDPHE: 07 Jul 93

Actual date of submittal of the Final TM to EPA/CDPHE: 14 Feb 95

TM #3
TM Title
TM Status

Modeling Description
When preparation of Draft was concluded: 10 Nov 93
Date the Draft TM was submitted to EPA/CDPHE: 10 Nov 93
Date EPA/CDPHE comments were received: 23 Dec 93
Date the Final TM was submitted to EPA/CDPHE: 14 Jan 94
Actual date of submittal of the Second Final TM to EPA/CDPHE:
30 Jan 95

TM #4
TM Title
TM Status

Contaminants of Concern
Date the Draft TM was submitted to EPA/CDPHE: 23 Aug 94
Date EPA/CDPHE comments were received: 03 Oct 94
Approved on 28 Dec 94

TM #5
TM Title
TM Status

Toxicity Factors
Date the Draft Final TM was submitted to EPA/CDPHE: 23 Aug 94
Deleted from submittal by a letter dated 28 Dec 94

Planned Work for May

- Work on the RFI/RI Report will continue. The Human Health Risk Assessment will be reviewed and modified. The nature and extent section will be completed and ready for incorporation into the Draft RFI/RI Report.
- Work on the ecological chemical of concern screening and the problem formulation sections of the ecological Risk Assessment will continue.
- The Draft Final FS TM #1 will be delivered to the regulatory agencies.

Problems

None

Open Items

Approvals of TM #3, *Modeling Description*, and TM #2, *Exposure Assessment*, are pending from the regulatory agencies.

Comments from the regulatory agencies on the Draft Final Ecological Risk Assessment Methodology Site Conceptual Model are pending.

2.7 OU 7 - PRESENT LANDFILL

OU 7, the Present Landfill, is located north of the site complex on the western edge of an unnamed tributary of North Walnut Creek and comprises four IHSSs. IHSS 114 includes landfill waste and leachate at the Present Landfill and soils beneath the landfill potentially contaminated with leachate. IHSS 203 contains potentially contaminated soils at the Inactive Hazardous Waste Storage Area, which is a section of the Present Landfill located in the southwest corner, used between 1986 and 1987 as a temporary storage area for hazardous waste. In order to maintain the landfill pond at an acceptable volume to prevent discharge, spray evaporation of landfill pond water was applied to the north and south of the landfill pond comprising IHSSs 167.2 and 167.3, respectively. The practice of spray evaporation was discontinued in 1993.

The Present Landfill began operation in August 1968 and was originally constructed to provide for disposal of the Rocky Flats Environmental Technology Site nonradioactive and nonhazardous wastes. During the mid-1980s, extensive investigations were conducted on the waste streams (types) placed into the landfill; consequently, hazardous wastes/hazardous constituents were identified. Although currently operating as a nonhazardous sanitary landfill, the facility is considered an inactive hazardous waste disposal unit undergoing RCRA closure.

**Scope of Work
Changes This Period**

None

**Technical Approach
Changes This Period**

Proposed to Regulatory Agencies to modify the Proposed Action Memorandum to be compatible with the final remedy.

**IAG Milestone
Accomplishments**

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	28 Aug 91
Submit Draft Phase I RFI/RI Report	Deleted *
Submit Draft Phase II RFI/RI Work Plan	Deleted *
Submit Final Phase I RFI/RI Report	Deleted *
Submit Final Phase II RFI/RI Work Plan	Deleted *
Submit Preliminary Draft Proposed Action Memorandum (leachate) to CDPHE/EPA ¹	13 Oct 94
Submit Draft Revised Phase I Work Plan Technical Memorandum ²	23 May 94
Submit Final Phase I Work Plan Technical Memorandum ²	08 Sep 94
Submit Final Draft Proposed Action Memorandum (leachate) for Public Comment ³	13 Oct 94
Submit Final Responsiveness Summary and Proposed Action Memorandum to CDPHE/EPA ⁴	30 Nov 94

* CDPHE deleted per Oct 21, 1994, letter.

¹ CDPHE added this milestone per May 11, 1994, letter. Technically fulfilled "Submit Preliminary Draft IM/IRA to CDPHE/EPA"

² New milestones per CDPHE October 21, 1994, letter.

³ CDPHE added this milestone per May 11, 1994, letter. Technically fulfilled "Submit Final Draft IM/IRA for Public Comment"

⁴ CDPHE added this milestone per May 11, 1994, letter. Technically fulfilled "Submit Final Responsiveness Summary IM/IRA to CDPHE/EPA"

**Future IAG Milestones
Through FY 96**

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
<u>Landfill Closure IM/IRA</u>			
Submit Draft Phase I Proposed IM/IRA Decision Document	01 Nov 94	31 Aug 95	03 May 95
Submit Final Phase I Proposed IM/IRA Decision Document		05 Jan 96	03 Jul 95
Submit IM/IRA Responsiveness Summary	14 Aug 96	01 Apr 96	01 Apr 96
<u>Landfill Leachate Collection Proposed Action Memorandum</u>			
Release Final Responsiveness Summary and Proposed Action Memorandum	22 Mar 95		22 Mar 95
Submit Modified Proposed Action Memorandum	15 Jun 95		15 Jun 95
Begin Seep Collection	16 Aug 95		16 Aug 95

April Work Activity Status

The landfill Site closure project team met throughout April 1995. The meetings were held to discuss and develop the closure strategies for each affected media within OU 7.

DOE received for review the completed draft proposed closure strategies for all affected media within OU 7. The document is also undergoing a concurrent review by the Rocky Flats Environmental Technology Site personnel. On April 25, 1995, a meeting was held with the regulatory agencies to present the closure strategies.

In response to a letter from the CDPHE, DOE was directed to implement the Proposed Action Memorandum but allowed for a modification to make the IM action compatible with the remedies under consideration. The OU 7 Rocky Flats Environmental Technology Site personnel investigated the aerial extent of waste in the landfill, life expectancy of the existing clay barrier, effectiveness of the existing groundwater intercept system, and the reasons for a possible failure of the intercept system. Also, a field investigation to determine if Wells 6787 and 6887 actually straddled the existing north slurry wall wing was conducted, and it was determined that the wells do straddle the north slurry wall. Based on this research, the OU 7 Rocky Flats Environmental Technology Site personnel provided the DOE with a recommended strategy for modifying the existing Proposed Action Memorandum from seep collection to groundwater control. Included with the strategy letter was a preliminary schedule for construction and a preliminary cost estimate.

DOE representatives met with the OU 7 Rocky Flats Environmental Technology Site personnel regarding the wetland mitigation for the

landfill closure. Project-specific mitigation will occur separately from the wetland banking project.

Technical Memoranda

Project

OU 7 - Present Landfill

TM
TM Title
TM Status

Revised Work Plan
Submitted the Draft TM to EPA/CDPHE for review: 23 May 94
Comments received: 01 July 94
Submitted the Final TM transmitted to EPA/CDPHE: 09 Sep 94
Approved by the regulatory agencies: 30 Sep 94

Planned Work for May

- Closure strategies for all contaminated media in OU 7 will be finalized.
- Modify the Seep Collection Proposed Action Memorandum.

Problems

None

Open Items

The concurrence from the regulatory agencies on issues concerning the Proposed Action Memorandum for leachate seep collection and treatment. The postponement of the Proposed Action Memorandum activities will affect the associated milestones.

2.IA INDUSTRIAL AREA (IA) OPERABLE UNITS (8, 9, 10, 12, 13, and 14)

The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these OUs are being investigated collectively because of a close proximity to each other and similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). Combining this work will result in improved oversight, coordination, and reduced costs.

**Scope of Work
Changes This Period**

None

**Technical Approach
Changes This Period**

None

**IAG Milestone
Accomplishments**

Submitted Proposed Plan for Reconfiguration
of the IA OUs

04 Nov 94

**Future IAG Milestones
Through FY 95**

This information is listed in the IA OUs.

April Work Activity Status

DOE issued a formal Stop Work Order on March 7, 1995. An Implementation Plan is being developed and will be delivered in May 1995 to finalize tasks that need to continue until a logical closure point is established on tasks that cannot be stopped immediately. The Stop Work Order currently only affects preparation of TMs and other reports that relate to completion of IAG milestones.

The Proposed Plan for Reconfiguration of the IA OUs was submitted to the regulatory agencies November 4, 1994. To date, no written comments have been received on the Proposed Plan.

The in-depth formal review of all the information submitted by the Site Environmental Evaluation subcontractor for the IA was submitted for peer review and was completed in April 1995.

The second sampling event for the Surface Water and Sediment occurred in April 1995. This task is specifically allowed to occur outside of the Stop Work Order by the CDPHE.

IA OUs Quality Assurance

A Self-Evaluation and Checklist for April 1995 was developed.

Information regarding the Quality Assurance records was obtained.

In the IA OUs, surveillance of calibration control and data capture was coordinated with the Rocky Flats Environmental Technology Site personnel.

The Site Commitments Management Program issues were resolved.

Industrial Area Interim Measure/Interim Remedial Action Plan

On April 24, 1995, a kick-off meeting was held to address the Decision Support System for the IA IM/IRA.

Technical Memoranda

Project

Integrated Industrial Area Operable Units

TM #1

TM Title

TM Status

IA Surface Water and Sediment Sampling Plan

Projected date of submittal to EPA/CDPHE: 12 Jan 95

Actual date of submittal: 05 Jan 95

Date CDPHE comments were received: 15 Jan 95

Date CDPHE approval was received: 05 Mar 95

Planned Work for May

- If allowed according to the Stop Work Order, the IA Environmental Evaluation peer review will be completed.

Problems

None

Open Items

None

Under the terms of the Stop Work Order, work will continue on sampling and analysis, but data evaluation and development of recommendations are not being performed. OU 8 has completed all field activities for initial nonintrusive work.

IA IM/IRA Interim Remedial Action Plan

A contract through the Environmental Institute to develop a Decision Support System for the IA IM/IRA was awarded. This system will be utilized to coordinate multi-media sampling efforts and to facilitate the distribution of information to ensure that appropriate response actions are taken in the event of a release.

Preliminary drafts of the Implementation Plan are currently under review by the Rocky Flats Environmental Technology Site personnel. Comments will be incorporated into the Draft Implementation Plan that will be delivered in May 1995.

Installation of the surface water monitoring stations is continuing and will be completed in May 1995.

On April 11, 1995, DOE sent a letter to the IA IM/IRA Rocky Flats Environmental Technology Site personnel that specifically exempts the IA IM/IRA activities from the Stop Work Order.

Technical Memoranda

Project

OU 8 - 700 Area

TM #1

TM Title

Investigation of Foundation Drains and Other Data Compilation Addendum to the OU 8 Work Plan, Draft Final

TM Status

Projected date of submittal to EPA/CDPHE: 01 Dec 94

Actual date of submittal: 23 Nov 94

Date when EPA/CDPHE comments received: To be determined

TM #2

TM Title

Results of Nonintrusive Field Investigations and Intrusive Work Plans (Actual Title has not been finalized)

TM Status

Projected date of submittal to EPA/CDPHE: To be determined

Actual date of submittal: To be determined

Date when EPA/CDPHE comments received: To be determined

Planned Work for May

- Once the Stop Work Order is lifted, complete TM #1.
- Preparation of a Data Summary Report will continue with ^{out} a data interpretation or analysis.
- Once the Stop Work Order is lifted, resume work on TM #2.

Problems

If the IA Stop Work Order is not resolved, there is a potential to significantly disrupt the flow of work and the progress of the project.

If field crews are lost to other projects while the Stop Work Order is in effect, much greater than day-for-day schedule and cost impacts are possible.

Open Items

None

**Future IAG Milestones
Through FY 96**

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	11 Apr 94	Stop Work Order	To be determined*
Submit Final Phase I RFI/RI Report	06 Sep 94	Stop Work Order	To be determined*
Submit Draft Phase II RFI/RI Work Plan	10 Mar 95	Stop Work Order	To be determined*
Submit Draft Phase I Proposed IM/IRA Decision Document	01 May 95	Stop Work Order	To be determined*
Submit Final Phase II RFI/RI Work Plan	07 Aug 95	Stop Work Order	To be determined*
Submit Final Phase I Proposed IM/IRA Decision Document	27 Sep 95	Stop Work Order	To be determined*
Submit IM/IRA Responsiveness Summary	08 Feb 96	Stop Work Order	To be determined*
Submit Final Phase I IM/IRA Decision Document and Responsiveness Summary	07 May 96	Stop Work Order	To be determined*
Submit Corrective Design/Remedial Design Work Plan	07 Jun 96	Stop Work Order	To be determined*

* To be determined pending IA reconfiguration.

April Work Activity Status

While attempting to access Tank T-29, the Rocky Flats Environmental Technology Site tank characterization team encountered a gasket that was suspected to contain asbestos. Without touching the gasket, the manhole entry way was sealed, and a smear sample from the bottom of the tank was taken through an observation port. The sample showed that the tank contained no residue or water.

During sampling efforts at Tank T-16, fixed contamination was found around the tank. Elevated alpha counts, up to 4,500 disintegrations per minute, were found in the general area. Samples could not be taken until the area was posted as an Radiologically Controlled Area.

Three members of the Rocky Flats Environmental Technology Site drilling crew went to the Site medical facility for blood tests because of the possibility of a carbon monoxide or carbon tetrachloride exposure while drilling at Tanks T-9 and T-10. Some of the crew complained of headaches and were sent to the Site medical facility as a precautionary measure.

Elevated levels of Volatile Organic Compounds were detected in the boreholes at Tanks T-9 and T-10. Based on field measurements, it is believed that one of the contaminants present could be carbon tetrachloride. Levels of volatiles were high enough to require supplied air for the drilling crews. Because of these additional health and safety requirements, a schedule delay resulted.

Under the terms of the Stop Work Order issued in March 1995, work on sampling and analysis continues, but data evaluation and development of recommendations are not being performed.

The Draft Final TM #1, *Field Sampling Plan - Volume II, Part A, Outside Pipelines*, has been under review by the regulatory agencies since November 1994. DOE received a plan for rescoping the OU 9 TM #1, *Field Sampling Plan - Volume II, Part A, Outside Pipelines*, in February 1995. Further work on rescoping the pipeline investigation has been suspended because of the Stop Work Order.

Intrusive and nonintrusive sampling activities on the OU 9 Outside Original Process Waste Tanks continued. Sodium iodide surveys, tank inspection and sampling, borehole and surficial soil sampling, and ground water sampling are included in these sampling activities.

Comments from the regulatory agencies on the addendum to OU 9 TM #1, *Volume I, Part A, Field Sampling Plan- Outside Tanks*, to address Tanks T-8, T-9, T-11, T-24, T-30, and T-32 have not been received. However, the addendum has been finalized, and work has been initiated on these tanks.

Technical Memoranda

Project

OU 9 - Original Process Waste Lines

TM #1

TM Title

Field Sampling Plan - Original Process Waste Lines - Volume I, Part A, Outside Tanks

TM Status

When preparation was concluded: Jan 94
Projected date of submittal to EPA/CDPHE: Mar 94
Actual date of submittal: 15 Mar 94
Date EPA/CDPHE comments received: 11 Apr 94

TM #1

TM Title

TM Status

Field Sampling Plan - Volume II, Part A, Outside Pipelines
When preparation was concluded: Aug 94
Projected date of submittal to EPA/CDPHE: Nov 94
Actual date of submittal: Nov 94
Date EPA/CDPHE comments received: To be determined

Planned Work for May

- Work on the following OU 9 outside tank investigation field activities continue: High Purity Germanium Survey, sodium iodide survey, soil boreholes, groundwater sampling, and tank inspection/sampling.

Problems

If the IA Stop Work Order is not resolved, it has the potential to significantly disrupt the flow of work and the progress of the project. If field crews are lost to other projects while the Stop Work Order is in effect, much greater than day-for-day schedule and cost impacts are possible.

Open Items

Comments are due from the regulatory agencies on the Draft TM #1, *Field Sampling Plan - Volume II, Part A, Outside Pipelines*. However, based on verbal comments from the regulatory agencies, rescoping

of the document is needed. Rescoping will be resumed after the Stop Work Order has been lifted.

2.10 OU 10 - OTHER OUTSIDE CLOSURES

OU 10 is composed of 15 IHSSs scattered throughout the Rocky Flats Environmental Technology Site. Six of the IHSSs are located in the Protected Area, two are located in the buffer zone near the present landfill, and the remaining IHSSs are located near various buildings throughout the Rocky Flats Environmental Technology Site. The types of wastes and contaminants identified at these sites include pondcrete/saltcrete storage, diesel and fuel spills, and heavy metal contamination. A Draft and Final TM will be developed that will summarize the nonintrusive portion of the OU 10 field work. Other IHSS-specific intrusive activities are scheduled for FY 94.

OU 10 is currently being managed collectively with the other IA OUs (8, 9, 12, 13, and 14). All of these OUs are being investigated collectively because of the similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). The combination of this work has resulted in improved oversight, coordination, and reduced costs.

Scope of Work

Changes This Period None

Technical Approach

Changes This Period The Stop Work Order issued in March 1995 effectively stops the technical activities and any new field work activities in OU 10. The technical scope for OU 10 remains the same.

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan	27 Nov 91
Submit Final Phase I RFI/RI Work Plan	01 May 92

Future IAG Milestones Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	25 Aug 94	Stop Work Order	To be determined*
Submit Final Phase I RFI/RI Report	30 Jan 95	Stop Work Order	To be determined*
Submit Draft Phase I Proposed IM/IRA Decision Document	26 May 95	Stop Work Order	To be determined*
Submit Draft Phase II RFI/RI Work Plan	27 Jun 95	Stop Work Order	To be determined*
Submit Final Phase II RFI/RI Work Plan	21 Nov 95	Stop Work Order	To be determined*
Submit Final Phase I Proposed IM/IRA Decision Document	24 Oct 95	Stop Work Order	To be determined*
Submit IM/IRA Responsiveness Summary	06 Mar 96	Stop Work Order	To be determined*
Submit Final Phase I IM/IRA Decision Document	04 Jun 96	Stop Work Order	To be determined*
Corrective Design/Remedial Design Work Plan	05 Jul 96	Stop Work Order	To be determined*

* To be determined pending IA reconfiguration.

April Work Activity Status

Under the terms of the Stop Work Order issued in March 1995, work continues on sampling and analysis, but data evaluation and development of recommendations are not being performed. The

Stop Work Order will be in effect until the DOE can negotiate the Rocky Flats Cleanup Agreement, which will contain new milestones for the IA OUs. Integral to the negotiation of this agreement is the approval of the IA OU Reconfiguration Plan, which was submitted to the regulatory agencies in November 1994.

The Draft TM #1 comments were scheduled to be received from the regulatory agencies in February 1995 but have not been received to date. The schedule for the delivery of the OU 10 Final Phase I Nonintrusive TM #1 is in jeopardy of being significantly delayed from the preliminary schedule developed in June 1994. Further delays in receipt of comments will result in a day-for-day slippage of the Final document delivery schedule.

Technical Memoranda

Project

OU 10 - Other Outside Closures

TM #1

TM Title

TM Status

Draft Final Phase I Nonintrusive TM #1

When preparation was concluded: 17 Jan 95

Projected date of submittal to EPA/CDPHE: 17 Jan 95

Actual date of submittal: 17 Jan 95

Date comments were received from the EPA/CDPHE: To be determined

TM #1

TM Title

TM Status

Final Phase I Nonintrusive TM #1

When preparation was concluded: To be determined

Projected date of submittal to EPA/CDPHE: 06 Apr 95

Actual date of submittal: To be determined

Date comments were received from the EPA/CDPHE: To be determined

Planned Work for May

- If the Stop Work Order is lifted, the TM #1 comments will be received from the regulatory agencies and incorporated into the Final TM.
- The validation of the remainder of the sample analytical data will be completed.

Problems

If the IA Stop Work Order is not resolved, it has the potential to significantly disrupt the flow of work and the progress of the project. If field crews are lost to other projects while the Stop Work Order is in effect, much greater than day-for-day schedule and cost impacts are possible.

Comments from the DOE and the regulatory agencies for Draft TM #1 have not been received.

Open Items

The Draft TM #1 comments were scheduled to be received from the regulatory agencies in February 1995 but have not been received to date.

2.11 OU 11 - WEST SPRAY FIELD

The West Spray Field is located within the Rocky Flats Environmental Technology Site buffer zone immediately west of the 130 Trailer complex. The West Spray Field was in operation from April 1982 to October 1985. During operation, excess liquids from Solar Evaporation Ponds 207B North and Center (contaminated groundwater in the vicinity of the ponds and treated sanitary sewage effluent) were pumped periodically to the West Spray Field for spray application. The spray field boundary covers an area of approximately 105 acres, 38 of which received direct application of solar pond water. The RFI/RI process will entail field studies to investigate the presence or absence of hazardous constituents in soil and groundwater.

Scope of Work
Changes This Period None

Technical Approach
Changes this Period None

IAG Milestone	Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Accomplishments	Submit Final Phase I RFI/RI Work Plan	02 Jan 92
	Submit Draft Phases (combined) RFI/RI Report	28 Apr 95

Future IAG Milestones Through FY 95

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Final Phases (combined) RFI/RI Report	22 Feb 95	19 Sep 95*	21 Jul 95
Submit Draft Phase II RFI/RI Work Plan	21 Aug 95		Deleted
Submit Draft Phase I Proposed IM/IRA Decision Document	10 Oct 95		Proposed elimination
Submit Final Phase II RFI/RI Work Plan	24 Jan 96	24 Jan 96	Proposed elimination
Submit Final Phase I Proposed IM/IRA Decision Document	14 Mar 96	14 Mar 96	13 Apr 98
Submit Phase I IM/IRA Responsiveness Summary	22 Jul 96	22 Jul 96	30 Oct 98

* Revised according to the Process Improvement Proposal.

April Work Activity Status Comments from the regulatory agencies on the CDPHE Letter Report were received in April 1995. On April 28, 1995, the OU 11 Draft RFI/RI Report was completed and delivered to the regulatory agencies approximately three months ahead of the IAG milestone date of July 20, 1995.

Technical Memoranda

<u>Project</u>	<u>OU 11 - West Spray Field</u>
TM	
TM Title	Revised Field Sampling Plan and Data Quality Objectives

TM Status

Submitted to EPA/CDPHE: 31 Mar 94
TM approved

TM #1

TM Title

TM Status

Exposure Scenarios

When preparation was concluded: Mar 94 (late)

Projected date of submittal to EPA/CDPHE: 14 Dec 94

Actual date of submittal: Proposed for elimination

Date EPA/CDPHE comments received: To be determined

TM #2

TM Title

TM Status

Modeling

When preparation was concluded: 22 Mar 94 (late)

Projected date of submittal to EPA/CDPHE: Proposed for elimination

Date EPA/CDPHE comments received: To be determined

TM #3

TM Title

TM Status

Contaminants of Concern

When preparation is concluded or estimated to be concluded:
20 Sep 94

Projected date of submittal to EPA/CDPHE: 09 Nov 94

Actual date of submittal: To be determined

Date EPA/CDPHE comments received: To be determined

TM #4

TM Title

TM Status

Toxicity

When preparation is concluded or estimated to be concluded:
10 Oct 94

Projected date of submittal to EPA/CDPHE: 12 Dec 94

Actual date of submittal: Proposed for elimination

Date EPA/CDPHE comments received: To be determined

Planned Work for May

- Comments from the regulatory agencies on the Draft RFI/RI Report will be incorporated.
- Completion of the Draft Proposed Plan is scheduled.

Problems

None

Open Items

None

2.12 OU 12 - 400/800 AREA

The 400/800 Area comprises assessment and remediation of the following 10 IHSSs within the 400/800 Area: Multiple Solvent Spills at the West and South Loading Dock Areas (IHSSs 116.1 and 116.2); Fiberglassing Areas North and West of Building 664 (IHSSs 120.1 and 120.2); Cooling Tower Ponds - northeast and southwest of Building 460 (IHSSs 136.1, and 136.2); Building 881 - Conversion Site (147.2); Radioactive Site - South Area (IHSS 157.2); Acid Leaks (2) (IHSS 187); and Multiple Acid Spills (IHSS 189).

The Phase I RFI/RI Work Plan, which includes both an Environmental Evaluation and a Human Health Risk Assessment, has been completed. Implementation of this Work Plan includes field work and sample analysis. After implementation, a Phase I RFI/RI Report will be prepared. A Phase II Investigation may be performed as necessary. An FS to determine the best methods to remediate the area will be conducted as part of the assessment.

Based on results obtained during the assessment phase of the project, remediation may consist of the development and execution of a Remedial Action Plan. This process includes review and approval by the regulatory agencies followed by a Record of Decision, release to the public, and implementation of the plan.

OU 12 is within the IA at the Rocky Flats Environmental Technology Site and is managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these OUs are being investigated collectively because of similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). The combination of this work will result in improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period

None

Technical Approach Changes This Period

The Stop Work Order issued in March 1995 effectively stops the technical activities and any new field work activities in OU 12. The technical scope for OU 12 remains the same.

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan	08 May 92
Submit Final Phase I RFI/RI Work Plan	05 Oct 92

Future IAG Milestones Through FY 95

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	20 Apr 94	Stop Work Order	To be determined*
Submit Final Phase I RFI/RI Report	15 Sep 94	Stop Work Order	To be determined*

* To be determined pending IA reconfiguration.

April Work Activity Status

DOE issued a Stop Work Order in March 1995. At this time, an agreement has not been reached.

Activities to complete the nonintrusive summary TM have been suspended until resolution of the reconfiguration of the IA OUs.

Technical Memoranda

Project OU 12 - 400/800 Area

TM #2

TM Title

TM Status

Summary of Nonintrusive Field Investigations

Projected date of submittal to EPA/CDPHE: To be determined

Actual date of submittal: To be determined

Date EPA/CDPHE comments were received: To be determined

Planned Work for May

- If the Stop Work Order is lifted, DOE and the Rocky Flats Environmental Technology Site review of the OU 12 Preliminary Draft Nonintrusive Summary TM will continue.

Problems

- Stop Work Order issued in March 1995 will delay characterization activities.

Open Items

None

2.13 OU 13 - 100 AREA

Cleanup of the 100 Area comprises the assessment and remediation of 14 IHSSs: Chemical Storage - North, Middle, and South Sites (IHSSs 117.1, 117.2, and 117.3); Oil Burn Pit #1 (IHSS 128); Lithium Metal Destruction Site (IHSS 134); Waste Spills (IHSS 148); Fuel Oil Tank (IHSS 152); Radioactive Site - North Area (IHSS 157.1); Radioactive Site - Building 551 (IHSS 158); Waste Peroxide Drum Burial (IHSS 169); Solvent Burning Ground (IHSS 171); Valve Vault 12 (IHSS 186); Caustic Leak (IHSS 190); the Hydrogen Peroxide Spill (IHSS 191), and the Scrap Metal Site (IHSS 197).

Assessment will proceed in three steps. The first step, which has been completed, consists of preparing a Phase I RFI/RI Work Plan. The second step is the implementation of the Work Plan in which field work and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. When complete, the Phase I RI Report will include both an Environmental Evaluation and a Human Health Risk Assessment. The third step is a FS, which will determine the best method to remediate the area.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by the regulatory agencies, followed by a Record of Decision, release to the public, and implementation of the plan.

OU 13 is within the IA at the Rocky Flats Environmental Technology Site and is managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these OUs are being investigated collectively because of similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). The combination of this work will result in improved oversight, coordination, and reduced costs.

Scope of Work

Changes This Period

This OU is under a Stop Work Order. No further characterization will be pursued; however, preparation of a Data Summary for nonintrusive investigations will proceed.

Technical Approach

Changes This Period

The Stop Work Order issued in March 1995 effectively stops the technical activities and any new field work activities in OU 13. The technical scope for OU 13 remains the same.

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan	15 May 92
Submit Final Phase I RFI/RI Work Plan	12 Oct 92

Future IAG Milestones Through FY 95

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	08 Aug 94	Stop Work Order	To be determined*
Submit Final Phase I RFI/RI Report	11 Jan 95	Stop Work Order	To be determined*

* To be determined pending IA reconfiguration.

April Work Activity Status

Surficial soils data validation is 99 percent complete.

The Stop Work Order that was put in place in March 1995 could significantly impact schedules including the development of the RFI/RI Report.

A thick sludge-like area of contamination was identified in IHSS 128. DOE received a letter from the Rocky Flats Environmental Technology Site personnel that outlined the concerns and requested permission to accelerate investigations at this IHSS. The Rocky Flats Environmental Technology Site personnel have received direction to not pursue any further characterization in the IA.

Technical Memoranda

Project

OU 13 - 100 Area

TM #1

TM Title

TM Status

Addendum to Field Sampling Plan

When preparation was concluded: Feb 94

Projected date of submittal to EPA/CDPHE: Feb 94

Actual date of submittal: 03 Mar 94

Date EPA/CDPHE comments were received: 16 May 94

TM #2

TM Title

TM Status

Results of the Nonintrusive Field Investigations

Projected date of submittal to EPA/CDPHE: 07 Feb 96

Actual date of submittal: To be determined

Date EPA/CDPHE comments were received: To be determined

Planned Work for May

- Data summary preparation will continue.

Problems

None

Open Items

None

A database format to assist in the evaluation of the analytical data that are being entered in the Rocky Flats Environmental Database System was developed.

The first draft of the Stage I (nonintrusive field investigation) Data Summary for the IA OU 14 has been completed. The Data Summary does not include data interpretation, recommendations, or conclusions. The Data Summary will provide a process for the preservation of the data collected during Stage I of the field investigation. Data will be preserved in the Data Summary through the use of tables, maps, description of field activities, data evaluation methods, etc.

Technical Memoranda

Project

OU 14 - Radioactive Sites

TM #1

TM Title

TM Status

Results of Nonintrusive Field Investigations

Projected date of submittal to EPA/CDPHE: 29 Jan 96

Actual date of submittal: To be determined

Date EPA/CDPHE comments were received: To be determined

Planned Work for May

- The preparation of the OU 14 Data Summary for the nonintrusive field work will be reviewed and work will continue.
- If the Stop Work Order is lifted, the preparation of the OU 14 TM #1 will restart.
- The final approval for the Push Subsurface Soil Sample controlled procedure will be obtained.

Problems

None

Open Items

None

Technical Memoranda

Project

OU 15 - Inside Building Closures

TM #1

TM Title

TM Status

Field Sampling Plan

When preparation is estimated to be concluded:

Projected date of submittal to EPA/CDPHE: 28 Feb 94

Actual date of submittal: 28 Feb 94

Date comments were received: Preliminary 17 Mar 94 (Formal 04 May 94, EPA; 07 Apr 94, CDPHE)

TM #2

TM Title

TM Status

Human Health and Risk Assessment

When preparation is estimated to be concluded:

Actual date the Final TM submitted to EPA/CDPHE: 28 Feb 94

Date comments were received: Preliminary 17 Mar 94 (Formal 04 May 94, EPA; 07 Apr 94, CDPHE)

Planned Work for May

- The Proposed Plan and the Draft RCRA Permit Modification will be finalized.
- Preparation for a public comment period for OU 15 will be completed, and the Record of Decision will begin on May 17, 1995.

Problems

None

Open Items

None

2.16 SITEWIDE ACTIVITIES

Sitewide activities include several tasks that comprise a wide variety of plans, procedures, reports, studies, and activities required by the IAG and that apply to the general Rocky Flats Environmental Technology Site ER activities. Activities include, but are not limited to, the Health and Safety Plan, Sampling and Analysis Plan, Treatability Study deliverables, Background Study Plan, Groundwater Geochemistry, Risk Assessment, IA IM/IRA, hydrological characterization, Background Soils Study Plan, Decontamination Facilities, ER Waste handling facilities, groundwater monitoring, Decontamination and Decommissioning, and Program Management Support activities.

**Scope of Work
Changes This Period**

None

**Technical Approach
Changes This Period**

None

**IAG Milestone
Accomplishments**

Submit Draft Background Study Report (Water)	15 Dec 89
Submit Draft Background Study Report (Soils)	15 Dec 89
Submit Draft Community Survey Plan	23 Jan 90
Submit Final Community Survey Plan	22 Mar 90
Submit Draft Health and Safety Plan	15 Aug 90
Submit Draft Quality Assurance Project Plan	29 Aug 90
Submit Draft Standard Operating Procedures	29 Aug 90
Submit Draft Plan for Prevention of Contaminant Dispersion	19 Sep 90
Submit Draft Treatability Study Plan	21 Sep 90
Submit Draft Community Relations Plan	01 Nov 90
Submit Final Health and Safety Plan	12 Nov 90
Submit Revised Background Study Report	21 Dec 90
Submit Final Community Relations Plan	22 Jan 91
Submit Final Quality Assurance Project Plan	01 Mar 91
Submit Final Standard Operating Procedures	01 Mar 91
Submit Draft Radionuclides Discharge Limits Plan	05 Apr 91
Submit Community Relations Plan Responsiveness Summary	21 Jun 91
Submit Final Treatability Study Plan	03 Jun 91
Submit Final Plan for Prevention of Contaminant Dispersion	22 Jul 91
Submit Final Plan Discharge Limits Radionuclides	16 Sep 91
Submit Final Plan for Prevention of Contaminant Dispersion and Responsiveness Summary	25 Nov 91
Submit Draft Historical Release Report	08 Jan 92
Submit Responsiveness Summary for Radionuclides Discharge Limits Plan	31 Jan 92
Submit Final Historical Release Report	03 Jun 92
Submit Annual Treatability Study Report	08 Mar 93
Submit Annual Treatability Study Report	04 Mar 94
Submit Draft IA IM/IRA Decision Document	23 Mar 94
Submit Draft IA IM/IRA Responsiveness Summary	28 Oct 94
Submit Final IA IM/IRA Decision Document	21 Nov 94
Submit Final Annual Treatability Study Report	10 Mar 95

**Future Milestones
Through FY 96**

None

April Work Activity Status

Sitewide Activities

Sitewide Treatability Studies

Removal of Actinides from Soil - DOE received the Final Removal of Actinides from Soil Report on April 17, 1995.

Bench-Scale Agitated Leaching Studies - In April 1995, the feed and residue analysis by the contracted analytical facility and the initiation of the report preparation by the Los Alamos National Laboratory were accomplished. The analyses are expected to take approximately 30 days, a normal time for radionuclide analyses. The report will be prepared concurrently.

Community Relations

The OU 4 public information and involvement activities continued with a technical staff meeting among interested stakeholders to exchange information and answer questions.

On April 6, 1995, the Citizens Advisory Board met with Community relations and discussed recommendations that will be forwarded to the DOE regarding the proposed closure of OU 4 as described in the IM/IRA Environmental Assessment Decision Document.

On April 20, 1995, DOE presented an overview of the Proposed Plan for closure of OU 15, Inside Building Closures, to the Environmental/Waste Management Committee of the Citizens Advisory Board. A copy of the Draft Proposed Plan was provided to the committee as well as a reprint of the OU 15 article used in the April 27, 1995, *Horizon* and a table top exhibit with pictures of OU 15. A public meeting with formal comments is scheduled for the Environmental Restoration Quarterly Meeting on June 21, 1995, at the Denver West Marriott.

A Public Involvement Plan for the Proposed Plan to close OU 1 was prepared by Community Relations for review and comment by the OU 1 Rocky Flats Environmental Technology Site technical staff.

DOE discussed the proposed Action to remediate polychlorinated biphenyls outside of OU areas. Community Relations prepared a fact sheet to support the document. Announcement of the polychlorinated biphenyl Proposed Action Memorandum was made through an advertisement that was published in the *Denver Post* and *Rocky Mountain News* as well as sent to all participants of the mailing list.

On April 12, 1995, the Technical Review Group held its monthly meeting. A list of upcoming restoration activities was provided so that the group could determine an area of interest for review. OUs 15 and 1 Proposed Plans will be included in the May 1995 meeting.

The Community Relations Plan has been reviewed and corrections submitted to illustrations, which is conducting final layout activities. Completion of and printing of the Plan should be completed in May 1995.

Surface Water Management - Onsite Water Control

Drainage Repair and Improvement Projects

DOE has received the National Environmental Policy Act documentation (Environmental Checklist and Draft Categorical Exclusion) for the Building 991 Flood Proofing project. Upon DOE approval, the Title II Design for the project will be initiated.

Surface Water Drainage Systems Environmental Assessment

The Environmental Assessment assumes that a compensatory wetlands area will be created; however, approval for this action by the regulatory agencies and DOE is uncertain. If the compensatory wetland action is not approved, the implementation of most programs and projects detailed in the Environmental Assessment will not be possible.

Pond Water Management IM/IRA

A meeting was held on April 17, 1995, between DOE and the Rocky Flats Environmental Technology Site personnel to discuss the comments received from the CDPHE on the Draft Final Pond Water Management IM/IRA. DOE decided to postpone a formal response to the CDPHE comments until the comments could be discussed with EPA.

In support of the Biological Assessment, the hydrological evaluation of the Site will be expanded to include calculations of pre-1952 base flow and analyses of how surface and groundwater hydrology has changed throughout the operational years of the Site (1952-1989). Implications of the post-1989 Federal Bureau of Investigation's raid changes to the water table and any pond water management operational changes that could be made in the future to enhance the Site's ecological conditions will also be evaluated.

Planned Work for May

**Sitewide Activities
Community Relations**

- Normal Community Relations activities will continue.

Other Sitewide Operations

Surface Water Management - Onsite Water Control

- Possible Stop Work due to funding limitations.

Problems

None

Open Items

None

SECTION 3.0 ROUTINE ENVIRONMENTAL MONITORING

The following generalized sampling schedule for Routine Environmental Monitoring is provided as requested in Section 210 of the IAG. Detailed quarterly monitoring schedules are prepared in advance and are available to EPA and CDPHE upon request from the Environmental Management Department and EG&G Rocky Flats, Inc. The schedules are lengthy, and, therefore, they are not reproduced here. An EPA- or State-authorized representative may make arrangements to observe field work and obtain split or duplicate samples.

3.1 SURFACE WATER AND SEDIMENTS

Each of the Surface Water Stations (approximately 20 stations) is sampled quarterly.

Each of the Sediment Stations (approximately 10 stations) is sampled quarterly.

Each surface water and sediment sample is analyzed for the following parameters:

Contract Laboratory Program Target Compound List Volatile Organic Analysis
Metals Contract Laboratory Program Target Analysis List and Non-Target Analysis List
Field Parameters
Specific Conductivity
Dissolved Oxygen
Major Anions
Radionuclides
Temperature
Total Dissolved Solids/Total Suspended Solids
pH
Nutrients

Additionally, sediment samples are analyzed for Contract Laboratory Program-Semi Volatile Organic Analysis and Contract Laboratory Program-Pesticides/polychlorinated biphenyls Herbicides-619.

3.2 SOILS

Each of the soil stations (located at 1- and 2-mile radii from the site center) is sampled annually.

Each soil sample is analyzed for plutonium and americium.

3.3 GROUNDWATER

During the month of April 1995, 87 wells were sampled, and 12 weekly water level measurements were ongoing. Of the 87 wells that were sampled, 7 were semiannual wells and 80 were quarterly wells. There were 38 wells that were identified as RCRA compliance wells, and 22 were identified as Protection Area wells.

For the second quarter 1995, 296 wells are planned to be sampled. The actual April 1995 sampling of 87 wells is ahead of schedule of the planned 75 wells and constitutes 29 percent of the total sampling effort.

Groundwater samples are routinely sampled for the following:

Radiochemical Parameters

Gross Alpha
Gross Beta
Plutonium
Americium
Strontium
Tritium
Uranium
Cesium

Inorganic Parameters

Nitrate/Nitrite
Phosphorous
Ammonia
Total Dissolved Solids
Chlorine
Fluorine
Sulfate
Carbonate
Bicarbonate
Total Suspended Solids
Dissolved CLP¹ and additional metals
Cyanide
CLP¹ Volatile Organic Constituents

Field Parameters

Temperature
Turbidity
pH

CLP = Contract Laboratory Program

SECTION 4. SUBCONTRACTOR IDENTIFICATION

Subcontractors being used on the Rocky Flats Environmental Technology Site ER Program and the work they are performing are identified on the following list as required by Paragraph 13 of the IAG.

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub-Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
1	Assessment	Dames & Moore		CMS/FS Report	Jan 92
1	Remediation	Resource Tech.		B-891 Treatment System Operations Group, Inc., (RTG)	
2	Assessment	Woodward-Clyde		OU 2 RFI/RI Work Plan (alluvial and bedrock) and RI field work (drilling, well completion/development)	Feb 92
2	Assessment	Woodward-Clyde	Layne	OU 2 RFI/RI Work Plan (bedrock) surficial soils	Mar 93
2	Remediation	RTG		Installation and operation of the water treatment system for South Walnut Creek Phase of OU 2 IRA	Jan 91
2	Soil Vapor Extraction	Woodward-Clyde		Operation of Soil Vapor Extraction	1993
3	Assessment	CH2M Hill		RI Report	Apr 92
4	Remediation	Halliburton	Halliburton	Demobilize	Sep 91
4	Assessment	Parsons/Eng Science	Rust I&E	Implement the Phase I RFI/RI Work Plan, includes drilling, sampling radiation surveys, etc.	Aug 92
4	Remediation	Parsons/ Eng Science		Development of IM/IRA Decision Document and conceptual design	
4	Remediation	ERM-Rocky Mountain	Geraghty & Miller	Post-Closure Monitoring Plan	Nov 93
4	Remediation	Halliburton		Develop Treatability Study for Pondcrete	Aug 94

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub-Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
4	Remediation	Halliburton		Develop Treatability Study and Conceptual Design for Pond Sludge Processing	Aug 94
5	Assessment	ASI	Dames & Moore Blackhawk Geo Walsh & Assoc. Layne Envir. Serv. S. M. Stoller Adv. Terra Testing	Implementation of OU 5 Work Plan (excluding Environmental Evaluation) Utility Mgmt. Service	Jun 92
5	Assessment	S. M. Stoller		Implementation of Environmental Evaluation section of OU 5 Work	PlanSep 92
6	Assessment	Woodward-Clyde	Lane, Ogden, Geo Envir	OU 6 RFI/RI Work Plan and Quality Assurance Addendum	Aug 92
6	Assessment	S. M. Stoller		Implementation of the Environmental Evaluation Section of OU 6 Work Plan	Sep 92
7	Assessment	S. M. Stoller	Walsh & Assoc.	OU 7 revised Work Plan development and implementation. IM/IRA Decision Document development.	Nov 92
8	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
9	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
10	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
11	Assessment	S. M. Stoller		Implement the RFI field work and report writing	Jan 94
12	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
13	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
14	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
15	Assessment	ERM-Rocky Mtn.	G. S. Miller, Inc.	Implementation of the RFI/RI Work Plan	Mar 93
SW	HRR	IT Corporation	Doty & Assoc.	Prepare HRR	Feb 91
SW	Adm. Record	QuantaLex		Maintain IAG Admin. Record	Oct 90
SW	Geo. Char.	Jacobs Eng		Well Abandonment and Replacement	Mar 93
SW	Geo. Char.	Colorado State University		Support master's thesis of Structural Geology, of Front Range Area near Rocky Flats	Nov 91
SW	Geo. Char.	S. M. Stoller		Prepare 1992 Annual RCRA Report and Addendum	Jan 93
SW	Geo. Char.	Colorado School of Mines		Masters-level training program in Engineering Science and Engineering	Aug 92
SW	Geo. Char.	Woodward-Clyde		Support for the Soil Water Monitoring System	Feb 93

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub-Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
SW	Geo. Char.	Colorado State University		Sequential Extraction	Apr 92
SW	Geo. Char.	University of Soil Colorado		Monitoring Vadose Zone	Jun 92
SW	Geo. Char.	S. M. Stoller		Spatial Analysis/Computer Support	Mar 93
SW	Geo. Char.	Woodward Clyde Water	SAIC/Wright		Jan 93
SW	Monitoring	IT Corporation		Analytical Services for groundwater, surface water, and sediment	Jul 90
SW	QA	Support	SAIC	Develop and implement QA program and field operations oversight	Dec 90
PM	Support	S. M. Stoller		Program Management Support	Oct 92
PM	QA Support	SAIC		Provide Quality Assurance /Quality Control support to ER Program	Nov 92

ACRONYMS

CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMS	Corrective Measures Study
DOE	U. S. Department of Energy
EPA	U. S. Environmental Protection Agency
ER	Environmental Restoration
FS	Feasibility Study
FY	Fiscal Year
IA	Industrial Area
IAG	Interagency Agreement
IHSS	Individual Hazardous Substance Site
IM	Interim Measure
IRA	Interim Remedial Action
IRAP	Interim Remedial Action Plan
OU	Operable Unit
RCRA	Resource Conservation and Recovery Act
RFFO	Rocky Flats Field Office
RFI	RCRA Facilities Investigation
RI	Remedial Investigation
TM	Technical Memorandum