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ACTIVITY DESCRIPTION LIBRARIES (ADLS)

07/08/91

DOE-1791-91
DOE-FN EPA
94
LETTER



Department of Energy

Fernald Site Office
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6319

5558

JUL 08 1991

DOE-1791-91

Ms. Catherine A. McCord
Remedial Project Manager
U. S. Environmental Protection Agency
Region V - 5HR-12
230 South Dearborn Street
Chicago, IL 60604

Mr. Graham E. Mitchell, DOE Coordinator
Ohio Environmental Protection Agency
40 South Main Street
Dayton, OH 45402

Dear Ms. McCord and Mr. Mitchell:

ACTIVITY DESCRIPTION LIBRARIES (ADLs)

This letter transmits additional information to support the schedule discussions that are now underway as part of the Consent Agreement negotiations. Enclosed are Activity Description Libraries (ADLs), which provide Operable Unit specific activity descriptions and assumptions. This information is provided to facilitate your use of the RI/FS schedules that we transmitted to U. S. EPA and Ohio EPA on June 27, 1991.

Each ADL enclosed describes the content for corresponding Level III schedule activities as included in the draft RI/FS schedules. A description of each task's scope and key related assumptions is provided.

If you have any questions, please contact me at (513) 738-6159 or FTS 774-6159.

Sincerely,

Jack R. Craig
Fernald Remedial Action
Project Manager

Enclosures: As stated

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cc w/encl.:

R. P. Whitfield, EM-40, FORS

P. D. Grimm, EM-2, FORS

J. Baublitz, EM-40, FORS

J. J. Fiore, EM-42, FORS

D. A. Ullrich, USEPA-V

D. R. Schregardus, OEPA-Columbus

000002

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Activity Description Library

000003

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	0200A02100		
Activity Title	<u>WORK PLAN REVISIONS</u>		
Start	17-Jun-91		
Finish	24-Sep-91		
Remaining Duration	72	Revision #	0
Total Float	20	Revision Date	21-Jun-91

Scope Description:

This RI/FS Work Plan addendum is required to provide the specific details of the methodologies, parameters and exposure scenarios to be utilized in RI/FS risk assessment and risk management activities. The work plan addendum will specifically address the methodology for conducting OU baseline and FS risk assessments, the special FS cumulative risk assessment and the sitewide comprehensive risk assessment. The revised work plan will incorporate the substantive information needed to complete the various tasks. By incorporating the specific details into the work plan, the review and approval process is reduced to a single effort upfront rather than a continuous and recurring process for each technical or management issue that may arise.

Assumptions:

The key assumptions on this process are essentially in two areas:

1) The methodology and organizational approach (from a technical frame of reference) is sound and provides an effective way of completing the RI.

2) The review and approval of the addendum does not result in additional technical and management issues that need to be addressed through the DOE - EPA resolution process.

These two areas can be defined as the technical and political obstacles. Additional assumptions affecting the scope duration include the development of the revised QA program and the CERCLA integration process. Each of these programs can affect the Work Plan addendum.

000004

RI/FS Activity Description Library**5553****July 9, 1991****Activity Data:**

Activity ID	0200A02500		
Activity Title	<u>DOE REVIEW/REVISE/APPROVE</u>		
Start	29-Jul-91		
Finish	24-Sep-91		
Remaining Duration	42	Revision #	0
Total Float	20	Revision Date	21-Jun-91

Scope Description:

DOE will review the document for completeness and accuracy for both the RI and FS portions of the program. The integration of the various addenda must be evaluated and approved to ensure a smooth and efficient process for the completion of the RI/FS at the Fernald site.

Assumptions:

Some of the key assumptions not included in this schedule are related to the resolution of some significant technical issues involving risk assessments (baseline feasibility), quality assurance, CERCLA/RCRA integration, and treatability studies.

000005

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	0200A02600		
Activity Title	<u>EPA REVIEW/REVISE/APPROVE</u>		
Start	25-Sep-91		
Finish	20-Nov-91		
Remaining Duration	41	Revision #	0
Total Float	20	Revision Date	21-Jun-91

Scope Description:

EPA will review, comment, and approve the Work Plan addendum. The approval of this document is expected to reduce the review efforts later in the RI/FS process, particularly in risk assessments. With this objective in mind the EPA review process is expected to cover a number of significant issues.

Assumptions:

The primary assumptions are related to the scope and deliverable as stated above. The schedule duration is predicated on the acceptance by the EPA with only minor difficulties.

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3052

RI/FS Activity Description Library

July 9, 1991

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Activity Data:

Activity ID	0206A02100		
Activity Title	<u>PREPARE PRELIM SITE CHARACTERIZATION REPORT</u>		
Start	24-Oct-91		
Finish	08-Apr-92		
Remaining Duration	120	Revision #	0
Total Float	20	Revision Date	21-Jun-91

Scope Description:

Preparing a site characterization report (secondary document) consistent with the following outline:

PRELIMINARY SITE CHARACTERIZATION REPORT

INTRODUCTION

- Define purpose of document
- Facility description
- Project background and status
- Project approach (OU concept, RA approach, comprehensive OU, etc.)
- Report framework (report organization)

SITE SETTING

- Site history/background
- Discussion of climatic conditions, geology, hydrology, hydrogeology, ecology, demographics, land use, etc.

SITE CHARACTERIZATION

- Discussion of past studies, current effort (RI/FS, etc.), planned investigation
- Explanation of sample collection methodologies, number of samples, where collected, etc.

NATURE AND EXTENT OF CONTAMINATION

- Summarization in tabular format, with figures, foldouts (fence diagrams, x-sections, etc.) of past and current data collection (up to specified cutoff)
- Address quality of data and data validation process status

FATE AND TRANSPORT

- Describe source, pathway, receptor framework
- Describe intermedia relationships
- Discuss models (reference and supplement, as necessary, the RI/FS Work Plan Addenda) including pathway, transport (till, flow, solute), soil erosion, AIRDOS, geochemical, etc.
- Contaminant migration

RI/FS Activity Description Library

July 9, 1991

BASELINE RISK ASSESSMENT

- Brief description of BRA process
- Summarize Preliminary Baseline Risk Assessment (exposure, toxicity assessments, risk characterization) based upon data presented in Nature and Extent Section
- Ecological Assessment
- Substance of BRA consistent with guidance, format of BRA in slight variance with guidance (Introduction sections, etc.)
- Reference and Supplement RI/FS Work Plan Addenda to extent practical
- Address uncertainty in Preliminary Risk Assessment and additional data to be collected
- Summarize results

DESCRIPTION OF REMEDIAL ALTERNATIVES

- Brief summary of status of FS for each OU
- Brief description of remaining alternatives for each OU

SELECTION OF CANDIDATE FOR USE IN OU FS RAs

- Qualify selection process to state only for purposes of estimating risk contribution for sitewide risk analysis in OU FSs
- Qualitative selection of candidates for use in OU FS RAs cumulative risk analysis and logic of selection

SUMMARY AND CONCLUSIONS

The document will provide a summarization of site characterization data available as of July 1, 1990 and provide for the completion of a preliminary site-wide baseline risk assessment. Additionally, the document will review the remaining alternatives in the OU FSs and qualitatively select (with justification) leading candidates for use in the site-wide cumulative FS/RAs. Involves the tabulation and graphical representation of available data and the completion of significant fate and transport modeling in addition to the presentation, for essentially the first time, to the internal reviewers and EPA of the application of the approved WP addendum for the risk assessment process. Considerable comments are anticipated on this report which are assumed to be responded to in the issuance of a revised document. The report is estimated to be approximately 450 pages in length.

Assumptions:

Compilation of all available site characterization data in tabular form only.

Validation documents for models employed will not be a component of the report.

Model code information and input parameters will be provided at summary level only.

Description of OU alternatives will be summary level only and will generally reference the OU ISA reports.

Selection of OU alternatives will be qualitative only with no calculational or risk assessment analysis required.

Substantive portions of report cannot be initiated until approval of Work Plan addendum for risk assessment.

This document is a feeder to all RI and FS reports.

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	0206A02500		
Activity Title	<u>DOE REVIEW/REVISE/APPROVE PRELIM SC REPORT</u>		
Start	09-Apr-92		
Finish	05-Jun-92		
Remaining Duration	42	Revision #	0
Total Float	20	Revision Date	21-Jun-91

Scope Description:

This activity provides for a review of the preliminary site characterization report by DOE and its contractors, comment response/resolution, report revision and final approval for submission to U.S. EPA by EM-40.

Assumptions:

Comments do not require significant change to technical content and format.

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	0206A02600		
Activity Title	<u>EPA REVIEW/REVISE/APPROVE PRELIM SC REPORT</u>		
Start	05-Aug-92		
Finish	01-Oct-92		
Remaining Duration	42	Revision #	0
Total Float	20	Revision Date	21-Jun-91

Scope Description:

This activity includes the review of the preliminary site characterization report by U.S. EPA and OEPA, comment response/resolution and report revision.

Assumptions:

A comment response document will be prepared and resolution sought with the agencies and a revised document prepared even though this is a secondary (feeder) document.

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	0402A02100		
Activity Title	<u>EWMF SAMPLING AND ANALYSIS PLAN</u>		
Start	18-Mar-91	A	
Finish	28-Oct-91		
Remaining Duration	96	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

Based on a survey of existing site and regional data sources, a Sampling and Analysis Plan (SAP) is being developed as an addendum to the existing RI/FS Work Plan. The SAP will be used to gather data for physical characterization of the proposed on-property study area (approximately 330 acres, located north and east of the production area fences). The SAP will address RI/FS and NEPA technical specialty data requirements within the study area to support the following:

Determine the nature and extent of any contamination in the EWMF study area.

Develop a baseline risk assessment to establish baseline conditions for comparing potential public health and environmental risks associated with the EWMF.

Perform a detailed analysis of the EWMF as an on-property technology option per OSWER Directive 9355.3-01.

The SAP will specify data to be collected through the placement of monitoring well and geotechnical boreholes. Radiological, chemical, geochemical, and geotechnical samples will be taken at various depths within each borehole. In addition, surface soil radiation surveys (gamma and radon flux), as well as biological resources and off-property land use activities will be conducted to support public health and environmental assessments.

Assumptions:

Sampling program results do not indicate any anomalies requiring additional sampling efforts.

All document review comments from DOE are coordinated and verbally resolved prior to formal document revision.

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RI/FS Activity Description Library**July 9, 1991**

Activity Data:

Activity ID	0402A02200		
Activity Title	<u>EWMF FIELD INVESTIGATION</u>		
Start	27-Nov-91		
Finish	09-Dec-92		
Remaining Duration	271	Revision #	0
Total Float	9	Revision Date	21-Jun-91

Scope Description:

The EWMF field program will implement the EWMF Sampling and Analysis Plan (SAP). The specified data will be collected through the placement of monitoring well and geotechnical boreholes. Radiological, chemical, geochemical, and geotechnical samples will be taken at various depths within each borehole for laboratory analysis. In addition, surface soil radiation surveys (gamma and radon flux), as well as biological resources and off-property land use activities will be conducted to support public health and environmental assessments.

Assumptions:

Work package approval by CCB.

EWMF SAP approval by U.S. EPA.

000012

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	0402A02300		
Activity Title	<u>EWMF MATERIALS SOURCE SURVEY</u>		
Start	17-Jun-91		
Finish	27-Dec-91		
Remaining Duration	140	Revision #	0
Total Float	111	Revision Date	21-Jun-91

Scope Description:

The EWMF Materials Source Survey (MSS) will determine the off-property regional availability, quantity, and suitability of the materials that may comprise the EWMF structure including: concrete, clay, aggregates, and fill soils.

Assumptions:

Work package approval by CCB.

No Sampling and Analysis Plan is required.

Concrete mix design for geochemical analysis.

Samples of composite treated waste leachate from Operable Unit 1.

Treatability tests for batch sorption testing.

000013

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	0402A02400		
Activity Title	<u>EWMF GENERAL SITING REPORT</u>		
Start	06-Oct-92		
Finish	28-Jan-93		
Remaining Duration	83	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

The EWMF RI/FS Siting Report will address the suitability of locations within the FMPC for siting of an EWMF designed to hold all contaminated operable unit waste forms. This report will be used for the detailed analysis of the EWMF as an on-property technology option under CERCLA.

Assumptions:

Work package approved by CCB.

Availability of radiological and geochemical laboratory data.

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Activity Description Library

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1203A02000		
Activity Title	<u>OPERABLE UNIT RELATED FIELD ACTIVITIES</u>		
Start	01-Mar-91	A	
Finish	08-Apr-92		
Remaining Duration	213	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is the hammock for completing the sampling of the waste pits as outlined in the FMPC RI/FS Work Plan Addendum dated March 20, 1991. It includes tasks associated with: site access, sampling permits and approval, sample collection, sample shipment, sample analysis, and data validation. The field sampling consists of 13 borings with monitoring wells installed in borings where leachate is encountered. Three locations will be drilled in Waste Pits 1, 3, and 4. Two locations will be drilled in Pit 2 and the Burn Pit. Waste samples from each boring will be collected and analyzed for chemical, radiological and geotechnical parameters. The leachate from the pits will be sampled and analyzed for radiological and chemical constituents. The results of the field program are required to initiate detailed analysis of alternatives and must be analyzed in the RI report. Samples of waste material collected in the field program will be used in treatability testing.

Assumptions:

No additional sampling is required outside of currently proposed program. No resampling due to data validation requirements.

Samples pass rad screening and can be shipped to the laboratory.

Analytical turnaround time of six months.

A 1000-series well in the waste pits will require five days for setup, drilling, casing installation, and decontamination. There are thirteen 1000-series wells in the waste pits.

The waste in the pits will be of a consistency that will allow samples to be collected using conventional split spoon and Shelby tube sampling equipment.

Well development will require two days per well.

Wells will be sampled at the rate of three per day.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1205A02000		
Activity Title	<u>TREATABILITY STUDIES</u>		
Start	30-Apr-91	A	
Finish	18-Apr-94		
Remaining Duration	741	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including project authorization; work plan preparation, review, and approval; receipt of samples; Phase I, II, and III treatability tests and analysis; and preparation of final reports. Treatability testing consists of laboratory experiments used to verify the effectiveness of proposed treatments for reducing the mobility of contaminants. The deliverable is the treatability results report (a secondary document) for use in the detailed analysis of alternatives during the feasibility study.

Assumptions:

Timely approval of work plans.

Thirty-nine samples will be taken from the waste pit borings during the field investigation.

No delays in the field investigation.

Ten days required to complete shipping documentation/protocols and ship waste samples.

Program consists of 3 phases. Phases I and II are assumed sufficient to meet the requirements for detailed analysis of alternatives.

Phase I is preliminary laboratory treatability testing which includes 80 cement stabilization tests with associated analysis for compressive strength, TCLP or modified TCLP, and waste form temperature. Phase I also includes 40 vitrification tests with compressive strength and TCLP or modified TCLP analysis.

Phase II is advanced laboratory treatability testing which includes up to five cement stabilization tests and one or two vitrification tests to define stabilized waste forms. Analysis is identical to Phase I.

Phase III is optional laboratory treatability testing which applies the two most favorable cement and vitrification experiments to strata samples. Thirty-nine strata samples resulting in 117 experiments will be analyzed similarly to Phase I.

Receipt of samples as scheduled and the timely approval of work plans.

Successful completion of field investigations.

A schedule window is available at the laboratory to accommodate the schedule dates. Delays may occur if scheduled lab start is not achieved.

Full use of TCLP and ANSI/ANS 16.1-1986 will only be used in the bench scale study.

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RI/FS Activity Description Library

July 9, 1991

A modified TCLP procedure is acceptable to U.S. EPA and will be performed on Phase I and II.

Two 120-page treatability study work plans will be prepared.

Two 150-page treatability study analytical result reports will be prepared.

Pit sampling must be completed prior to initiation of treatability studies.

Phase I and II activities are necessary for completion of the alternative evaluation in the detailed analysis.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1206A02100		
Activity Title	<u>REMEDIAL INVESTIGATION REPORT PREPARATION</u>		
Start	23-Apr-92		
Finish	24-Sep-92		
Remaining Duration	111	Revision #	0
Total Float	101	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with preparation of the OU1 RI report and Baseline Risk Assessment. An RI report will be prepared following the outline suggested in the U.S. EPA Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (Directive 9355.3-02) and the Human Health Evaluation Manual (EPA/540/1-89/002). Whenever possible the RI Report will utilize material already prepared in support of the RI report which was underway prior to finalizing the new consent agreement. Major sections include:

- Introduction
- Study Area Investigation
- Physical Characteristics of the Study Area
- Nature and Extent of Contamination
- Baseline Risk Assessment
- Appendices as required

The scope of the OU1 RI includes waste pits 1 through 6, Clearwell, burn pit, berms, liners, and associated contaminated soil. Specific schedule activities include obtaining validated analysis from field work, revising the site characterization, and preparing the draft RI report for reviews.

Assumptions:

Data provided from the previous characterization studies completed by ASI/TT, in addition to data collected from the additional sampling activities, will be sufficient to completely characterize OU1.

Risk assessment methodology to be used in developing the report is approved by EPA prior to report preparation.

Data validation is complete prior to report preparation.

There are no delays in sample collection or in obtaining data from the laboratory.

Receipt and validation of site characterization analysis.

The RI report must be approved by U.S. EPA prior to initiation of the FS/PP document review cycle.

000019

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	1206A02500		
Activity Title	<u>DOE RI REVIEW/REVISE/APPROVE</u>		
Start	25-Sep-92		
Finish	22-Mar-93		
Remaining Duration	127	Revision #	0
Total Float	2446	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with DOE and DOE contractor review, comment resolution, and revision of the OU1 RI report. The draft document is reviewed by DOE Fernald Site Office. Comments are prepared and submitted to ASI/IT for response to comments and document revision, as appropriate. The document follows this same process through DOE Headquarters and DOE-EM1 review levels. Each cycle requires a response to comments document in addition to a revised draft document. Meetings are held periodically to resolve comments.

Assumptions:

DOE-HQ review will come after DOE-FSO review.

Comments do not require significant changes in technical content and format.

Comments are reviewed and screened by integrating contractor before submittal to ASI/IT.

Comments do not exceed 100 in number for any review cycle.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1206A02600		
Activity Title	<u>EPA RI REVIEW & APPROVE</u>		
Start	24-Mar-93		
Finish	18-Jun-93		
Remaining Duration	63	Revision #	0
Total Float	2446	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with U.S. EPA and OEPA review, comment resolution, report revision, and approval of the OU1 RI report. The draft RI report is submitted to both U.S. EPA and OEPA for review and comment. Comments are prepared and transmitted to ASI/IT for resolution and appropriate revision of the text. A formal response to comments document is prepared, which includes an individual response to each comment. The revised text is again submitted to U.S. EPA and OEPA for final review and approval. Additional comments are transmitted via DOE to ASI/IT for response and text revision before final printing of the RI report. Meetings are held periodically to resolve comments.

Assumptions:

The EPA review/approval process will require at least two iterative reviews to obtain EPA approval of the document.

Review follows standard primary document review cycle, as defined by the consent agreement.

Comments do not require significant changes in technical content and format.

No dispute resolution is required.

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1206A02700		
Activity Title	<u>PRINT AND DISTRIBUTE FINAL RI REPORT</u>		
Start	21-Jun-93		
Finish	16-Jul-93		
Remaining Duration	20	Revision #	0
Total Float	2446	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with final assembly, printing, binding, and mailing/delivering the approved RI report. Final comment responses are prepared for U.S. EPA and OEPA comments. The document is revised based upon EPA's comments and is given an internal review by ASI/IT before final printing. Copies are printed, collated, and boxed for shipping. Copies will be delivered to the Administrative Record.

Assumptions:

Print and distribute 65 copies.

U.S. EPA approval of the draft final RI report is required prior to initiation of this activity.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1315A02100		
Activity Title	<u>FEASIBILITY STUDY/PROPOSED PLN REPORT PREPARATN</u>		
Start	01-Feb-93		
Finish	24-Nov-93		
Remaining Duration	213	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This hammock includes all activities necessary to prepare the Detailed Analysis of Alternatives, the Feasibility Study, and the Proposed Plan, as defined in OSWER Directives 9355.3-01 and 9355.3-02. This activity will begin by revising the present alternative conceptual designs to incorporate the additional information obtained from the treatability studies and sampling activities conducted on Operable Unit 1. The FS cumulative risk assessment will be revised based on the selected alternative. This assessment will be included as a separate index. This activity will end by incorporating internal review comments into the draft Feasibility Study (which includes the revised Detailed Analysis of Alternatives) and Proposed Plan.

Assumptions:

The public comment period on the Proposed Plan cannot begin until the plan is approved by U.S. EPA.

Anticipated U.S. EPA guidance documents on preparing risk assessments for feasibility studies do not materially impact the schedule for preparation of the FS report.

US EPA accepts the final OU1 ISA (January 4, 1991) and no changes are made to the alternative structure (other than perched groundwater being remediated as OU5).

Treatability Studies and ARARs determination are complete before initiation of detailed analysis of alternatives.

The work plan addendum addressing risk assessment methodology will be approved prior to the initiation of risk assessment activities.

000023

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1315A02500		
Activity Title	<u>DOE FS/PP REVIEW/REVISE/APPROVE</u>		
Start	25-Nov-93		
Finish	20-May-94		
Remaining Duration	127	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with DOE and DOE contractor review, comment resolution and revision of the OU1 Feasibility Study and Proposed Plan report. The draft document is reviewed by DOE-FSO. Comments are prepared and submitted to ASI/IT for response to comments and document revision, as appropriate. The document follows this same process through DOE-HQ and DOE-EM1 review levels. Each cycle requires a response to comments document in addition to a revised draft document. Meetings are held periodically to resolve comments.

Assumptions:

DOE-HQ review will follow DOE-FSO review.

Comments are reviewed and screened by integrating contractor before submittal to ASI/IT.

Comments do not exceed 100 in number for any review cycle.

Comments do not require significant changes in technical content and format.

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1315A02600		
Activity Title	<u>EPA FS/PP REVIEW/REVISE/APPROVE</u>		
Start	23-May-94		
Finish	19-Aug-94		
Remaining Duration	65	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with U.S. EPA and OEPA review, comment resolution, report revision, and approval for the OU1 Feasibility Study and Proposed Plan report. Comments are prepared and transmitted to ASI/IT for resolution and appropriate revision of the text. A formal response to comments document is also prepared, which includes an individual response to each comment. The revised text is again submitted to U.S. EPA and OEPA for final review and approval. Additional comments are transmitted to DOE for response and text revision before final printing of the FS/PP report. Meetings are held periodically to resolve comments.

Assumptions:

The EPA review/approval process will require at least two iterative reviews to obtain EPA approval of the document.

Review follows standard primary document review cycle as defined by the consent agreement.

Comments do not require significant changes in technical content and format.

No dispute resolution required.

855.8 RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1315A02700		
Activity Title	<u>PRINT AND DISTRIBUTE FINAL FS/PP REPORT</u>		
Start	22-Aug-94		
Finish	16-Sep-94		
Remaining Duration	20	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with final assembly, printing, binding, and mailing/delivering the approved Feasibility Study and Proposed Plan report. Final comment responses are prepared for U.S. EPA and OEPA comments. The document is revised based upon EPA's comments and is given an internal review by ASI/TT before final printing. Copies are printed, collated, and boxed for shipping. Copies will be delivered to the Administrative Record.

Assumptions:

Print and distribute 100 copies.

Requests under NEPA for copies of the FS-EIS will not exceed 35 copies.

U.S. EPA approval of the Proposed Plan is required prior to initiation of the public comment period.

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RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	1318A02100		
Activity Title	<u>PUBLIC COMMENT</u>		
Start	19-Sep-94		
Finish	30-Dec-94		
Remaining Duration	75	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock which includes all activities associated with providing the public with an opportunity to comment on the Proposed Plan, as required and defined by the NCP. A notice will be prepared and printed in a major local newspaper and the Federal Register (a NEPA requirement) to inform the public of the availability of the Proposed Plan for their review and to provide a brief analysis of its contents. This notice will solicit comments and announce a public meeting. Upon receipt of all comments, a responsiveness summary will be prepared that discusses significant comments, criticisms, and new relevant information submitted during the public comment period.

Assumptions:

Public comment period is 45 calendar days to accommodate the requirements of NEPA.

A public meeting is held near the CERCLA site.

Community Relations staff will assist in the preparation of the PP to assure it is written to be understandable by a knowledgeable public.

U.S. EPA approval of the Proposed Plan is required prior to initiation of this activity.

The responsiveness summary will be included in the draft ROD.

000027

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	1319A02100		
Activity Title	<u>DRAFT ROD PREPARATION</u>		
Start	20-Dec-94		
Finish	23-Feb-95		
Remaining Duration	48	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including preparation of a draft ROD as defined by Directive 9355.3-02 for DOE review/approval/submittal to U.S. EPA. The draft ROD includes the following:

Declaration Statement containing description of selected remedy.

Decision Summary providing an overview of the site-specific factors and analysis supporting the selection of alternatives.

Responsiveness summary addressing comments received during the public comment period will be issued as part of the ROD.

Assumptions:

Extensive public comments will require response.

No pre-ROD significant changes resulting from public comments.

Regulatory, community relations and legal support required.

The public comment period must be completed prior to finalization of the draft ROD.

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RI/FS Activity Description Library

July 9, 1991

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Activity Data:

Activity ID	1319A02500		
Activity Title	<u>DOE DRAFT ROD REVIEW/REVISE/APPROVE</u>		
Start	23-Feb-95		
Finish	21-Aug-95		
Remaining Duration	128	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with DOE review of the draft ROD at three levels: DOE-FSO, DOE-HQ, DOE-EM-1. The draft ROD is revised to incorporate DOE comments through three review cycles and associated comment response documents are prepared. Each document revision also includes an internal ASI/TT review before submittal, as well as the printing and distribution of the documents. Meetings are held periodically to resolve comments.

Assumptions:

Comments do not significantly alter technical direction of project.

Comments are reviewed and screened by the integrating contractor prior to submittal.

5553

6-2-82

Activity Description Library

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RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	2203A02000		
Activity Title	<u>OPERABLE UNIT RELATED FIELD ACTIVITIES</u>		
Start	01-Mar-91	A	
Finish	02-Mar-92		
Remaining Duration	186	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is the hammock for completing the additional sampling of the OU2 waste areas as outlined in the FMPC RI/FS Work Plan Addendum dated March 20, 1991. It includes tasks associated with: site access, sampling permits and approval, sample collection, sample shipment, sample analysis, and data validation. OU2 field work includes:

- Installation of 5 borings and possibly 5 monitor wells (auger w/drill rig) in Sanitary Landfill
- Installation of 4 borings (hand auger) in Lime Sludge Ponds
- Installation of 4 borings (hand auger) in South Field
- Installation of 4 borings and possibly 4 monitor wells (auger w/drill rig) in Inactive Fly Ash Disposal Area
- Installation of 4 borings and possibly 4 monitor wells (auger w/drill rig) in Active Fly Ash Pile

Assumptions:

No additional sampling is required outside of currently proposed program. No resampling due to data validation requirements.

No unanticipated delays or work stoppages.

Analytical turnaround time in 6 months.

The information collected in the field activities are required to support the RI Report and Detailed Analysis of Alternatives. Waste material collected in the field program will be used in performance of the treatability studies.

5558

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	2203A02001		
Activity Title	<u>OPERABLE UNIT RELATED FIELD ACTIVITIES</u>		
Start	01-Jul-91		
Finish	04-Mar-92		
Remaining Duration	178	Revision #	0
Total Float	2817	Revision Date	

Scope Description:

This is a hammock for completing additional sampling of the Southfield. It includes tasks associated with site access, sampling permits and approval, sample collection, sample shipment, sample analysis, and data validation. These activities are in support of the additional field work for 4 borings. Samples will be analyzed for HSL contaminants.

Assumptions:

No additional sampling is required outside of currently proposed program.

No unanticipated delays or work stoppages.

Analytical turnaround time of six months.

Timely approval of the Work Plan.

000032

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RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	2205A02000		
Activity Title	<u>TREATABILITY STUDIES</u>		
Start	01-Apr-91	A	
Finish	02-Dec-92		
Remaining Duration	383	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This hammock includes all activities associated with work plan development, approval, performance, and reporting of study results. Treatability sampling will include: determining the amount of additional samples needed and obtaining the additional samples from the field; activities include equipment procurement, mobilization, borings, containerizing and shipping samples, and demobilizing. The treatability testing consists of laboratory experiments used to verify the effectiveness of proposed treatments for reducing the mobility of contaminants. Results of the treatability study tests (a secondary document) will be used as input data in the detailed analysis of alternatives.

Assumptions:

Adequate samples will be obtained from the field investigation.

Contingent on the collection and receipt of samples as scheduled.

Lab scale study will be performed using 12 tests of varying formulations of wastes and reagents. Analysis will consist of TCLP or modified TCLP, and compression tests.

One phase treatability programs provide adequate information for the detailed analysis of alternatives.

A schedule window is available at the laboratory to accommodate the schedule dates. Delays may occur if schedule lab start is not achieved.

TCLP and ANSI/ANS 16.1-1986 will only be used in the bench scale study.

A modified TCLP procedure is acceptable to U.S. EPA.

Two 120-page treatability study work plans will be prepared.

Two 150-page treatability study analytical result reports will be prepared.

Field sampling activities must be completed prior to initiation of treatability testing.

The results of the testing are necessary for completion of alternative evaluation in the detailed analysis. Leaching results are used in fate and transport modeling.

000033

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	2206A02100		
Activity Title	<u>REMEDIAL INVESTIGATION REPORT PREPARATION</u>		
Start	04-Mar-92		
Finish	23-Jul-92		
Remaining Duration	102	Revision #	0
Total Float	2	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with preparation of the OU2 RI report and Baseline Risk Assessment. An RI report will be prepared following the outline suggested in the U.S.EPA Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (Directive 9355.3-02) and the Human Health Evaluation Manual (EPA/540/1-89/002). Whenever possible the RI Report will utilize material already prepared in support of the RI report which was underway prior to finalizing the new consent agreement. Major sections include:

Introduction
 Study Area Investigation
 Physical Characteristics of the Study Area
 Nature and Extent of Contamination
 Contamination Fate and Transport
 Baseline Risk Assessment
 Appendices as required

The scope of the OU2 RI includes the Fly Ash Piles, other Southfield disposal areas, Lime Sludge Ponds, solid waste Landfill, berms, liners, and associated contaminated soils. Specific schedule activities include obtaining validated analysis from field work, revising the site characterization, and preparing the draft RI report for review.

Assumptions:

Data provided from previous characterization studies completed by ASI/IT, in addition to data collected from the additional sampling activities, will be sufficient to completely characterize OU2.

Data validation is complete prior to report preparation.

Risk assessment methodology to be used in developing the report is approved by EPA prior to report preparation.

Receipt and validation of site characterization analysis.

The RI report must be approved by U.S. EPA prior to initiation of the FS/PP document review cycle.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	2206A02500		
Activity Title	<u>DOE RI REVIEW/REVISE/APPROVE</u>		
Start	24-Jul-92		
Finish	18-Jan-93		
Remaining Duration	127	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with DOE and DOE contractor review, comment resolution and revision of the OU2 RI report. The draft document is reviewed by DOE-FSO. Comments are prepared and submitted to ASI/IT for response to comments and document revision, as appropriate. The document follows this same process through DOE-HQ and DOE-EM1 review levels. Each cycle requires a response to comments document in addition to a revised draft document. Meetings are held periodically to resolve comments.

Assumptions:

DOE-HQ review will follow DOE-FSO review.

Comments do not exceed 100 in number for any review cycle.

Comments are reviewed and screened by integrating contractor before submittal to ASI/IT.

Comments do not require significant changes in technical content and format.

000035

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	2206A02600		
Activity Title	<u>EPA RI REVIEW & APPROVE</u>		
Start	20-Jan-93		
Finish	16-Apr-93		
Remaining Duration	63	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with U.S.EPA and OEPA review, comment resolution, report revision, and approval for the OU2 RI report. Comments are prepared and transmitted to ASI/IT for resolution and appropriate revision of the text. A formal comment response document is also prepared, which includes an individual response to each comment. The revised text is again submitted to U.S.EPA and OEPA for final review and approval. Additional comments are transmitted to DOE for response and text revision before final printing of the RI report. Meetings are held periodically to resolve comments.

Assumptions:

The EPA review/approval process will require at least two iterative reviews to obtain EPA approval of the document.

Review follows standard primary document review cycle as defined by the Consent Agreement.

Comments do not require significant changes in technical content and format.

No dispute resolution is required.

000036

RI/FS Activity Description Library

5553

July 9, 1991

Activity Data:

Activity ID	2206A02700		
Activity Title	<u>PRINT AND DISTRIBUTE FINAL RI REPORT</u>		
Start	19-Apr-93		
Finish	14-May-93		
Remaining Duration	20	Revision #	0
Total Float	2491	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock consisting of a series of individual activities. This subtask includes all activities associated with final assembly, printing, binding, and mailing/delivering the approved RI report. Final comment responses are prepared for U.S.EPA and OEPA comments. The document is revised based upon the EPA's comments and is given an internal review by ASI/IT before final printing. Copies are printed, collated and boxed for shipping. Copies will be delivered to the Administrative Record.

Assumptions:

Print and distribute 65 copies.

U.S. EPA approval of the draft final RI report is required prior to initiation of this activity.

000037

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	2315A02100		
Activity Title	<u>FEASIBILITY STUDY/PROP. PLN. REPORT PREPARATION</u>		
Start	19-Apr-93		
Finish	23-Feb-94		
Remaining Duration	223	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This hammock includes all activities necessary to prepare the Detailed Analysis of Alternatives, the Feasibility Study, and the Proposed Plan as defined in OSWER Directives 9355.3-01 and 9355.3-02. This activity will begin by revising the present alternative conceptual designs to incorporate the additional information obtained from the treatability studies and sampling activities conducted on Operable Unit 2. The FS cumulative risk assessment will be revised based on the selected alternative. This assessment will be included as a separate appendix. This activity will end by incorporating internal review comments into the draft Feasibility Study (which includes the revised Detailed Analysis of Alternatives) and Proposed Plan.

Assumptions:

Anticipated U.S. EPA guidance documents on preparing risk assessments for feasibility studies do not materially impact the schedule for preparation of the FS report.

U.S. EPA accepts the final OU2 ISA (April 18, 1991) and no changes are made to the alternative structure (other than perched groundwater being remediated as OU5).

The ISA report will not require modification.

Treatability Studies and ARARs determination are complete before initiation of the Detailed Analysis of Alternatives.

The work plan addendum addressing risk assessment methodology will be approved prior to the initiation of risk assessment activities.

The public comment period cannot begin on the Proposed Plan until the plan is approved by U.S. EPA.

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RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	2315A02500		
Activity Title	<u>DOE FS/PP REVIEW/REVISE/APPROVE</u>		
Start	24-Feb-94		
Finish	19-Aug-94		
Remaining Duration	127	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with DOE and DOE contractor review, comment resolution, and revision of the OU2 Feasibility Study and Proposed Plan report. The draft document is reviewed by the DOE FSO. Comments are prepared and submitted to ASI/IT for response to comments and document revision, as appropriate. The document follows this same process through DOE-HQ and DOE-EM1 review levels. Each cycle requires a response to comments document in addition to a revised draft document. Meetings are held periodically to resolve comments.

Assumptions:

DOE-HQ review will follow DOE-FSO review.

Comments are reviewed and screened by integrating contractor before submittal to ASI/IT.

Comments do not exceed 100 in number for any review cycle.

Comments do not require significant changes in technical content and format.

5558

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	2315A02600		
Activity Title	<u>EPA FS/PP REVIEW/REVISE/APPROVE</u>		
Start	22-Aug-94		
Finish	18-Nov-94		
Remaining Duration	65	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with U.S.EPA and OEPA review, comment resolution, report revision, and approval for the OU2 Feasibility Study and Proposed Plan report. Comments are prepared and transmitted to ASI/TT for resolution and appropriate revision of the text. A formal response to comments document is prepared, which includes an individual response to each comment. The revised text is again submitted to U.S.EPA and OEPA for final review and approval. Additional comments are transmitted to DOE for response and text revision before final printing of the FS/PP report. Meetings are held periodically to resolve comments.

Assumptions:

The EPA review/approval process will require at least two iterative reviews to obtain EPA approval of the document.

Review follows standard primary document review cycle as defined by the Consent Agreement.

Comments do not require significant changes in technical content and format.

No dispute resolution is required.

000040

RI/FS Activity Description Library

July 9, 1991

558

Activity Data:

Activity ID	2315A02700		
Activity Title	<u>PRINT AND DISTRIBUTE FINAL FS/PP REPORT</u>		
Start	21-Nov-94		
Finish	16-Dec-94		
Remaining Duration	20	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with final assembly, printing, binding, and mailing/delivering the approved Feasibility Study and Proposed Plan report. Final comment responses are prepared for U.S.EPA and OEPA comments. The document is revised based upon the EPA's comments and is given an internal review by ASI/IT before final printing. Copies are printed, collated, and boxed for shipping. Copies will be delivered to the Administrative Record.

Assumptions:

Availability of personnel and equipment for task completion will not be a constraint.

Print and distribute 100 copies.

Requests under NEPA for copies of the FS-EIS will not exceed 35.

U.S. EPA approval of the Proposed Plan is required prior to initiation of the public comment period.

5558 RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	2318A02100		
Activity Title	<u>PUBLIC COMMENT</u>		
Start	19-Dec-94		
Finish	31-Mar-95		
Remaining Duration	75	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock which includes all activities associated with providing the public with an opportunity to comment on the Proposed Plan, as required and defined by the NCP. A notice will be prepared and printed in a major local newspaper and the Federal Register (a NEPA requirement) to inform the public of the availability of the Proposed Plan for their review and to provide a brief analysis of its contents. This notice will solicit written comments and announce a public meeting. Upon receipt of all comments, a responsiveness summary will be prepared that discusses significant comments, criticisms, and new relevant information submitted during the public comment period.

Assumptions:

Public comment period is 45 calendar days to accommodate the requirements of NEPA.

Community Relations staff will assist in the preparation of the PP to assure it is written to be understandable by a knowledgeable public.

A public meeting is held near the CERCLA site.

U.S. EPA approval of the Proposed Plan is required before initiation of this activity.

The responsiveness summary will be included in the draft ROD.

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RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	2319A02100		
Activity Title	<u>DRAFT ROD PREPARATION</u>		
Start	21-Mar-95		
Finish	25-May-95		
Remaining Duration	48	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including preparation of a draft ROD as defined by Directive 9355.3-02 for DOE review/approval/submittal to U.S.EPA. The draft ROD includes the following:

Declaration Statement containing description of selected remedy.

Decision Summary providing an overview of the site-specific factors and analysis supporting the selection of alternatives.

Responsiveness summary, addressing comments received during the public comment period, will be issued as part of the ROD.

Assumptions:

Extensive public comments will require response.

No pre-ROD significant changes resulting from public comments.

Regulatory, community relations and legal support are required.

The public comment period must be completed before finalization of the draft ROD.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	2319A02500		
Activity Title	<u>DOE DRAFT ROD REVIEW/REVISE/APPROVE</u>		
Start	25-May-95		
Finish	20-Nov-95		
Remaining Duration	128	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including DOE review of the draft ROD at three levels: DOE-FSO, DOE-HQ, and DOE-EM1. The draft ROD is revised to incorporate DOE comments through three review cycles and associated comment response documents are prepared. Each document revision also includes an internal ASI/IT review before resubmittal, as well as the printing and distribution of the document. Meetings are held periodically to resolve comments.

Assumptions:

Comments do not significantly alter technical direction of project.

Comments are reviewed and screened by the integrating contractor prior to submittal.

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Activity Description Library

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	3200A02100		
Activity Title	<u>SCOPING OF OPER. UNIT #3</u>		
Start	01-Jul-91		
Finish	22-May-92		
Remaining Duration	245	Revision #	0
Total Float	0	Revision Date	

Scope Description:

This is a hammock for OU3 scoping; the Operable Unit definition has been modified to include facilities; bulk contaminants; process inventory; sub-surface and above-ground tanks, utilities and equipment; and roads, railroads, and parking lots. This activity includes review of existing available data (including interviews of plant employees); an assessment of the current situation; development of potential Remedial Action Objectives, the OU3 Conceptual Model, and preliminary Remedial Action Alternatives; identification of preliminary ARARs; and RI/FS Work Plan revision. The Work Plan revision activity also includes revision of the RI/FS Sampling and Analysis Plan including preparation of field sampling plans and required revision of the QAPP, the Health and Safety Plan, and the FS Work Plan.

Assumptions:

OU3 definition is as defined and approved by EPA.

Resources are available for all identified activities.

All work plan revisions will be submitted at one time for a single review cycle.

All site data is readily available to support the assessment of the physical characterization of the site and development of the conceptual site model.

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Activity Description Library

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	4203A02000		
Activity Title	<u>OPERABLE UNIT RELATED FIELD ACTIVITIES</u>		
Start	15-Jan-91	A	
Finish	23-Mar-92		
Remaining Duration	201	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is the hammock for completing the additional sampling of the berm, subsoil, and Silo 1 and Silo 2 contents as outlined in the FMPC RI/FS Work Plan Addendum dated March 20, 1991. It includes tasks associated with site access, sampling permits and approval, sample collection, sample shipment, sample analyses, and data validation. Greater detail is provided in activities 4203A02019, 4203A02020, and 4203A02021.

Assumptions:

No additional sampling is required outside of currently proposed program. No resampling due to data validation requirement.

No unanticipated delays or work stoppages.

Analytical turnaround time of six months.

78 samples will be taken from 15 locations requiring nearly 4500 separate analyses.

Three 150-page analytical report documents will be prepared.

The results of the field program are required to initiate detailed analysis of alternatives and must be analyzed in the RI report. Samples of waste material from the contents sampling program will be used in treatability testing.

000048

RI/FS Activity Description Library**5553****July 9, 1991****Activity Data:**

Activity ID	4203A02019		
Activity Title	<u>OU4 FIELD ACTIVITY - SLANT BORINGS</u>		
Start	25-Jan-91	A	
Finish	23-Mar-92		
Remaining Duration	201	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock for completing the slant boring program. This program includes mobilization, sampling, shipping, and archiving, validation, laboratory analyses, data entry, reporting and demobilization. The field sampling effort consists of five unconventional low-angle auger borings near K-65 silos 1 and 2 and the associated Decant Tank with provisions for sampling perched groundwater, if encountered.

Assumptions:

Presently defined sampling effort will meet Work Plan objectives.

Additional sampling required for the presence of perched water has been considered.

No unanticipated delays or work stoppages.

Analytical turn around time of six months.

28 samples will be taken from 5 locations.

Over 1400 analyses will be performed for soil samples.

Up to 1000 additional analyses will be required for perched water found.

The results of the slant boring program are to be analyzed in the RI report.

000049

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	4203A02020		
Activity Title	<u>OU4 FIELD WORK - VERTICAL BORINGS</u>		
Start	15-Jan-91	A	
Finish	30-Dec-91		
Remaining Duration	141	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock for completing the vertical borings program. This program includes mobilization, sampling, shipping and archiving, validation, laboratory analyses, data entry, reporting and demobilization. The field sampling effort consisted of four borings in the berms around K-65 silos 1 and 2. The purpose of the sampling is to determine and verify the extent of contamination in the berm soils. The borings were completed utilizing the Vibracore (TM) technique.

Assumptions:

No additional sampling is required beyond that proposed in the Work Plan.

Analytical turn around time of six months.

24 samples taken from 4 locations.

Over 800 analyses will be performed for the soil samples.

The RI report will analyze information collected and analytical results derived from the vertical boring program.

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RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	4203A02021		
Activity Title	<u>OU4 FIELD WORK - CONTENT SAMPLING</u>		
Start	11-Jul-91		
Finish	09-Mar-92		
Remaining Duration	173	Revision #	0
Total Float	79	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock for the K-65 content resampling. This program includes mobilization, sampling, shipping, and archiving, validation, laboratory analyses, data entry, and reporting and demobilization. Field work consists of content sampling of K-65 silos 1 and 2. Samples will be collected from three manways on each silo. Samples will undergo chemical, radiological and geotechnical analyses.

Assumptions:

No additional sampling is required beyond that proposed in the Work Plan.

No unanticipated delays or work stoppages.

No delays in analytical turn around time.

26 samples taken from 3 locations in each silo (Silo 1 and Silo 2).

Over 1100 analyses will be performed on the residue samples.

The RI report will analyze information collected and the analytical results derived from the contents sampling program. Waste material collected in this program will be utilized in treatability testing.

000051

RI/ES Activity Description Library

July 9, 1991

Activity Data:

Activity ID	4205A02000		
Activity Title	<u>TREATABILITY STUDIES</u>		
Start	18-Jan-91	A	
Finish	01-Feb-93		
Remaining Duration	426	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock for the treatability study program which consists of studies for vitrification, chemical separation of metals from the silo material, and cement stabilization of both the separated and unseparated waste forms. The deliverable is a treatability results report (a secondary document) for use in the detailed analysis of alternatives.

Assumptions:

A schedule window is available at the laboratory to accommodate the schedule dates.

Total radioactivity of each treated sample will be less than 0.01 mCi/g. The price of samples with higher radioactivity will be greater.

Full use of TCLP and ANSI/ANS 16.1-1986 will only be used in the bench scale study.

A modified TCLP procedure will be performed prior to bench scale study.

Over 2500 separate analyses will be performed.

Two 120-page treatability study work plans will be prepared.

Two 150-page treatability study analytical result reports will be prepared.

Waste material from the contents sampling program are required to initiate treatability testing.

The results of testing are necessary for completion of alternative evaluation in the detailed analysis of alternatives.

000052

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	4206A02100		
Activity Title	<u>REMEDIAL INVESTIGATION REPORT PREPARATION</u>		
Start	17-Mar-92		
Finish	10-Aug-92		
Remaining Duration	105	Revision #	0
Total Float	68	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with preparation of the OU4 RI report and Baseline Risk Assessment. An RI report will be prepared following the outline suggested in the U.S. EPA Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (Directive 9955.3-02) and the Human Health Evaluation Manual (EPA/540/1-89/002). Whenever possible the RI Report will utilize material already prepared in support of the RI report which was underway prior to finalizing the new consent agreement. Major sections include:

- Introduction
- Study Area Investigaton
- Physical Characteristics of the Study Area
- Nature and Extent of Contamination
- Contaminant Fate and Transport
- Baseline Risk Assessment
- Appendices as required

The scope of the OU4 RI includes Silos 1,2,3, and 4, berms, decant tank systems, and associated contaminated soils. Specific schedule activities include obtaining validated analysis from field work, revising the site characterization, and preparing the draft RI report for review.

Assumptions:

Data provided from the previous characterization studies completed by ASI/TT, in addition to data collected from the additional sampling activities, will be sufficient to completely characterize OU4. Resampling of Silo 3 is not necessary.

The RI report is approximately 800 pages including appendices.

Data validation is complete prior to report preparation.

Risk assessment methodology to be used in developing the report is approved by EPA prior to report preparation.

Receipt and validation of site characterization analysis.

The RI report must be approved by U.S. EPA prior to initiation of the FS/PP document review cycle.

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DRAFT - FOR NEGOTIATION PURPOSES ONLY

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	4206A02500		
Activity Title	<u>DOE RI REVIEW/REVISE/APPROVE</u>		
Start	11-Aug-92		
Finish	03-Feb-93		
Remaining Duration	127	Revision #	0
Total Float	2479	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with DOE and DOE contractor review, comment resolution, and revision of the OU4 RI report. The draft document is reviewed by DOE-FSO. Comments are prepared and submitted to ASI/IT for response to comments and document revision, as appropriate. The document follows this same process through DOE-HQ and DOE-EM1 review levels. Each cycle requires a response to comments document in addition to a revised draft document. Meetings are held periodically to resolve comments.

Assumptions:

DOE-HQ review will follow DOE-FSO review.

Comments are reviewed and screened by integrating contractor prior to submittal to ASI/IT.

Comments do not require significant changes in technical content and format.

An 800-page draft document is revised for each review cycle.

A 30-page comment response document is anticipated for each review cycle.

Comments do not exceed 100 in number for any review cycle.

000054

DRAFT - FOR NEGOTIATION PURPOSES ONLY

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	4206A02600		
Activity Title	<u>EPA RI REVIEW & APPROVE</u>		
Start	05-Feb-93		
Finish	04-May-93		
Remaining Duration	63	Revision #	0
Total Float	2479	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock which includes all activities associated with U.S. EPA and OEPA review, comment resolution, report revision, and approval for the OU4 RI report. Comments are prepared and transmitted to ASI/IT for resolution and appropriate revision of the text. A formal response to comments document is prepared, which includes an individual response to each comment. The revised text is again submitted to U.S. EPA and OEPA for final review and approval. Additional comments are transmitted to DOE for response and text revision before final printing of the RI report. Meetings are held periodically to resolve comments.

Assumptions:

The EPA review/approval process will require at least two iterative reviews to obtain EPA approval of the document.

Review follows standard primary document review cycle, as defined by the consent agreement.

Comments do not require significant changes in technical content and format.

No dispute resolution is required.

An 800-page document is revised for both review cycles.

A 30-page comment response document is prepared.

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	4206A02700		
Activity Title	<u>PRINT AND DISTRIBUTE FINAL RI REPORT</u>		
Start	05-May-93		
Finish	01-Jun-93		
Remaining Duration	20	Revision #	0
Total Float	2479	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock which includes all activities associated with final assembly, printing, binding, and mailing/delivering the approved RI report. Final comment responses are prepared for U.S. EPA and OEPA comments. The document is revised based upon EPA comments and is given an internal review by the RI/FS contractor before final printing. Copies are printed, collated, and boxed for shipping. Copies will be delivered to the Administrative Record.

Assumptions:

Print and distribute 65 copies.

U.S. EPA approval of the draft final RI report is required prior to initiation of this activity.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	4315A02100		
Activity Title	<u>FEASIBILITY STUDY/PROP. PLN. REPORT PREPARATION</u>		
Start	26-Oct-92		
Finish	16-Aug-93		
Remaining Duration	211	Revision #	0
Total Float	4	Revision Date	21-Jun-91

Scope Description:

This hammock includes all activities necessary to prepare the Detailed Analysis of Alternatives, the Feasibility Report, and the Proposed Plan. This activity will begin by revising the present alternative conceptual designs to incorporate the additional information obtained from the treatability studies and sampling activities conducted on Operable Unit 4. An FS cumulative risk assessment will be performed using the selected alternative from OU4 and "leading" candidates for other operable units. This assessment will estimate the total sitewide risk from a series of proposed or contemplated remedial activities. This assessment will be included as an appendix. This activity will end by incorporating internal review comments into the draft Feasibility Study (which includes the Detailed Analysis of Alternatives) and Proposed Plan Report.

Assumptions:

The ISA report will not require revision based on the new OU definition.

Anticipated U.S. EPA guidance documents on preparing FS risk assessments will not materially impact the schedule for preparation of the FS reports.

A 600 page feasibility study document will be prepared.

Treatability Studies and ARARs determination are complete before initiation of the detailed analysis of alternatives.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	4315A02500		
Activity Title	<u>DOE FS/PP REVIEW/REVISE/APPROVE</u>		
Start	17-Aug-93		
Finish	09-Feb-94		
Remaining Duration	127	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with DOE and DOE contractor review, comment resolution, and revision of the OU4 Feasibility Study and Proposed Plan report. The draft document is reviewed by DOE-FSO. Comments are prepared and submitted to ASI/IT for response and document revision, as appropriate. The document follows this same process through DOE-HQ and DOE-EM1 review levels. Each cycle requires a response to comments document in addition to a revised draft document. Meetings are held periodically to resolve comments.

Assumptions:

- DOE-HQ review will follow DOE-FSO review.
- Comments are reviewed and screened by integrating contractor prior to submittal to ASI/IT.
- Comments do not exceed 100 in number for any review cycle.
- Comments do not require significant changes in technical content and format.

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RI/FS Activity Description Library

July 9, 1991

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Activity Data:

Activity ID	4315A02600		
Activity Title	<u>EPA FS/PP REVIEW/REVISE/APPROVE</u>		
Start	10-Feb-94		
Finish	11-May-94		
Remaining Duration	65	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with U.S. EPA and OEPA review, comment resolution, report revision, and approval for the OU4 Feasibility Study and Proposed Plan report. Comments are prepared and transmitted to the ASI/IT for resolution and appropriate revision of the text. A formal response to comments document is also prepared, which includes an individual response to each comment. The revised text is again submitted to U.S. EPA and OEPA for final review and approval. Additional comments are transmitted to DOE for response and text revision before final printing of the FS/PP report. During the review process, meetings are held to adequately resolve comments.

Assumptions:

The EPA review/approval process will require at least two iterative reviews to obtain EPA approval of the document.

Comments do not require significant changes in technical content and format.

Comments are reviewed and screened by integrating contractor prior to submittal.

Comments do not exceed 100 in number.

Review follows standard primary document review cycle as defined by the consent agreement.

No dispute resolution required.

A 600-page FS/PP and two revisions will be prepared during this review cycle.

One comment response document will be prepared.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	4315A02700		
Activity Title	<u>PRINT AND DISTRIBUTE FINAL FS/PP REPORT</u>		
Start	12-May-94		
Finish	08-Jun-94		
Remaining Duration	20	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities necessary to publish the Final Feasibility Study including the Detailed Analysis of Alternatives and the Proposed Plan. This activity will begin by incorporating EPA final comments on the draft FS/PP into the Feasibility Study and Proposed Plan. This activity will end with the printing and distributing of the Final Feasibility Study and Proposed Plan. The document will be submitted to the Administrative Record.

Assumptions:

Print and distribute 100 copies.

Requests under NEPA for copies of the FS-EIS will not exceed 35 copies.

U.S. EPA approval of the Proposed Plan is required prior to initiation of the public comment period.

000060

RI/FS Activity Description Library**July 9, 1991**

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Activity Data:

Activity ID	4318A02100		
Activity Title	<u>PUBLIC COMMENT</u>		
Start	09-Jun-94		
Finish	21-Sep-94		
Remaining Duration	75	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock which includes all activities associated with providing the public with an opportunity to comment on the FS-EIS and Proposed Plan, as required and defined by NEPA and the NCP. A notice will be prepared and printed in a major local newspaper and the Federal Register (a NEPA requirement) to inform the public of the availability of the FS-EIS and the OU4 FS/PP, for their review and to provide a brief analysis of its contents. This notice will solicit written comments and announce a public meeting. Upon receipt of all comments, a responsiveness summary will be prepared that discusses significant comments, criticisms, and new relevant information submitted during the public comment period.

Assumptions:

Public comment period is 45 calendar days to accommodate the requirements of NEPA.

A public meeting is held near the CERCLA site.

Community relations staff will assist in the preparation of the PP to assure it is written to be understandable by a knowledgeable public.

U.S. EPA approval of the Proposed Plan is required prior to the initiation of this activity.

The responsiveness summary will be included in the draft ROD.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	4319A02100		
Activity Title	<u>DRAFT ROD PREPARATION</u>		
Start	22-Sep-94		
Finish	28-Nov-94		
Remaining Duration	48	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including preparation of a draft ROD as defined by Directive 9355.3-02 for DOE review and approval for submittal to EPA. The draft ROD includes the following:

Declaration Statement containing description of selected remedy.

Decision Summary providing an overview of the site-specific factors and analysis supporting the selection of alternatives.

Responsiveness summary addressing comments received during the public comment period, will be issued as part of the ROD.

Assumptions:

Extensive public comments will require response.

No pre-ROD significant changes resulting from public comment.

Regulatory, community relations and legal support are required.

The public comment period must be completed prior to finalization of the draft ROD.

RI/FS Activity Description Library

July 9, 1991

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Activity Data:

Activity ID	4319A02500		
Activity Title	<u>DOE DRAFT ROD REVIEW/REVISE/APPROVE</u>		
Start	28-Nov-94		
Finish	16-May-95		
Remaining Duration	122	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including DOE review of the draft ROD at three levels: DOE-FSO, DOE-HQ, DOE-EM-1. The draft ROD revision to incorporate DOE comments through three review cycles and associated comment response documents are prepared. Each document revision also includes an internal ASI/TT review before submittal, as well as the printing and distribution of the documents. Meetings are held periodically to resolve comments.

Assumptions:

Comments do not significantly alter technical direction of project.

Comments are reviewed and screened by the integrating contractor prior to submittal to ASI/TT.

A draft ROD and two revisions are prepared during this review cycle.

Two 15-page ROD comment response documents are prepared.

Regulatory, community relations, and legal support are required.

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Activity Description Library

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5203A02000		
Activity Title	<u>OPERABLE UNIT RELATED FIELD ACTIVITIES</u>		
Start	02-Jan-91	A	
Finish	17-Feb-93		
Remaining Duration	438	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a hammock activity which includes all field activities required to complete characterization of the environmental medias: glacial overburden (soils), perched groundwaters, Great Miami Aquifer, and regional groundwaters. Included under this hammock are the following programs:

- 31-Well program
- Paddys Run Sampling
- 8 RCRA Wells
- 6-Well Program
- Water Level Measurements
- Auger Sampling
- Cable Sampling
- Miscellaneous Additional Wells

Assumptions:

Field activities will complete the definition of the nature and extent of contamination for the RI/FS.

Analytical laboratory turn-around times are six months.

No additional sampling will result from data validation.

All field activities must be completed to support the preparation of the RI report and alternative evaluation in the detailed analysis.

000065

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5203A02007		
Activity Title	<u>FACILITIES TESTING</u>		
Start	29-Mar-91	A	
Finish	09-Apr-92		
Remaining Duration	214	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is the hammock for completion of activities under the Production and Additional Suspect Area Work Plan and some follow-on sampling based on results of the initial sampling program. This includes: 10 hand-auger borings in the electrical substation for HSL metals and PCBs; eight soil borings around the KC-2 warehouse and the scrap metal pile; and developing and sampling 10 piezometers. Task includes collection, shipment and analysis of samples; data entry and data validation.

Assumptions:

Samples will meet laboratory screening criteria and can be shipped to the laboratory.

There will be 31 soil samples for PCBs and 10 for HSL metals.

There will be 10 water samples for HSL VOCs.

The piezometers will require two days each for development and sampling.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5203A02010		
Activity Title	<u>OUS FIELD WORK 31 WELL PROGRAM</u>		
Start	15-Mar-91	A	
Finish	16-Apr-92		
Remaining Duration	219	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

Install 19 high priority wells to define uranium in the groundwater plume boundaries at various locations. Twelve contingency wells are included to determine the vertical or lateral extent of the uranium plume if elevated levels of uranium are detected in the high priority wells. One high priority 2000-series well remains to be drilled.

Assumptions:

The data from sampling will require that no more than one additional contingency well be installed.

Property access will be attained by 9/1/91.

A 2000-series well drilled outside the production area and where the glacial overburden is not present requires four days for setup, drilling, casing installation, and rig decontamination. The 2000-series well remaining to be drilled is in this category.

A 3000-series well drilled inside the production area where the glacial overburden is present requires nine days.

Development of the 2000-series well outside the production area requires two days and 3000-series well within the production area requires four days.

Wells will be sampled once at the time of development and again two months later for full rad and general groundwater quality parameters.

000067

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5203A02011		
Activity Title	<u>OUS FIELD WORK - PADDYS RUN SAMPLING</u>		
Start	17-Jun-91		
Finish	30-Nov-92		
Remaining Duration	381	Revision #	0
Total Float	175	Revision Date	21-Jun-91

Scope Description:

There will be 12 2000-series wells installed along Paddys Run to obtain water level measurements and water quality data. In addition, 12 3000-series wells are contingent upon what is found in the 2000-series wells. Stream discharge and seepage investigations will be conducted. Of the 12 2000-series wells, nine have been installed and three have been delayed due to land access problems. Water quality samples are being collected monthly from both the stream and aquifer from 39 wells and five surface water locations.

Assumptions:

Property access will be secured for the remaining three 2000-series wells by 8/1/91.

Only six of the 12 contingency wells will be required.

A 2000-series well drilled outside the Production Area and where the glacial overburden is not present requires four days for setup, drilling, casing installation, and rig decontamination. All of the 2000-series wells are in this category.

A 3000-series well drilled outside the Production Area and where the glacial overburden is not present requires seven days for setup, drilling, casing installation, and rig decontamination. All of the 3000-series wells are in this category.

Development of the 2000-series wells will require two days each; the 3000-series wells, three days each.

Samples will be collected from 39 wells monthly with an average of three samples collected per day. Six additional samples will be collected for QA purposes each month.

000068

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	5203A02012		
Activity Title	<u>OUS FIELD WORK - 8 RCRA WELLS</u>		
Start	29-Mar-91	A	
Finish	10-Mar-92		
Remaining Duration	192	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

Install eight additional groundwater monitoring wells in locations required to satisfy RCRA requirements. The wells are located in the waste storage area and are to investigate the nature and extent of contamination in the glacial overburden and underlying aquifer. The wells include three 1000-series wells surrounding Pit 4, three 2000-series wells around Pit 4, one 2000-series well near the Clearwell to see if constituents detected in Well 1031 have reached the aquifer, and one 4000-series upgradient well. All wells have been installed. Two 1000-series wells require development and two rounds of sampling. Five other wells require completion of the second round of sampling.

Assumptions:

No additional wells will be required as a result of contamination being detected in these wells or due to validation efforts.

Water recharge rate will be adequate for completion of the development of the 1000-series wells. This development will require five days due to slow recharge rates. The initial sampling will be done as the final step in well development. The second sampling will require three days due to slow recharge rates. Second sampling will be approximately two months after well development and initial sampling.

The five other wells will require two days to sample.

Nine water samples will be sent to the laboratory for RCRA constituent analysis. Five additional samples will be shipped for QA and trip blanks.

8553

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5203A02013		
Activity Title	<u>OU5 FIELD WORK - 6 WELL PROGRAM</u>		
Start	13-Jan-91	A	
Finish	10-Sep-91		
Remaining Duration	62	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

Six off-FMPC property wells for RI/FS investigation were installed to further characterize the uranium plume and the Great Miami Aquifer. The wells have been sampled. Once the laboratory results have been received the data will be validated and entered in the RI/FS data base.

Assumptions:

Laboratory results will not indicate the need for additional, deeper, or lateral wells.

Laboratory turn-around times are six months.

No additional field work will be required due to validation efforts.

000070

8/2/91

RI/FS Activity Description Library

July 9, 1991

5553

Activity Data:

Activity ID	5203A02014		
Activity Title	<u>OU5 FIELD WORK - WATER LEVEL MEASUREMENTS</u>		
Start	17-Jun-91		
Finish	13-Oct-92		
Remaining Duration	347	Revision #	0
Total Float	203	Revision Date	21-Jun-91

Scope Description:

To provide information to interpret the influence of groundwater recharge in areas under study in the FMPC RI/FS, it is necessary to conduct water level measurements in all wells and piezometers.

Assumptions:

Two-person crew working half time to measure water levels in approximately 212 wells and 175 piezometers each month.

New wells and piezometers are added to the monthly monitoring program as they are completed.

The information collected under this program will be used as available at the time of preparation of the RI report (i.e. this not a critical path activity).

000071

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5203A02017		
Activity Title	<u>OU5 FIELD WORK - AUGER SAMPLING</u>		
Start	01-Jul-91		
Finish	17-Feb-93		
Remaining Duration	428	Revision #	0
Total Float	63	Revision Date	21-Jun-91

Scope Description:

Conduct soil sampling with standard hollow stem auger drilling equipment to determine the vertical and lateral extent of contamination identified as present during the Production and Additional Suspect area program. The areas to be investigated include: the Fire Training area, nine borings; the Waste Water Treatment Plant, 11 borings; the Administration Building area, nine borings; the pipelines from the Clearwell to MH 175, 17 borings; the biodenitrification surge lagoon and tanks, seven borings; the Plant 1 pad area, 14 borings; and the storm water retention basin, seven borings. In addition 14 shallow auger borings will be sampled in and around the Plant 1 pad. Because of the need to drill through the pad the auger drill will be used to collect these samples. In addition to the auger samples, 12 water samples will be collected from six existing piezometers.

Assumptions:

Approximately 51 borings will hit water and require piezometers.

Weather conditions will not result in excessive delays.

Auger borings within the Production Area require three days for setup, drilling, piezometer installation, and rig decontamination. There are 15 borings within the Production Area.

Auger borings within the Waste Storage Area require five days for setup, drilling, piezometer installation, and rig decontamination. There are 16 borings in the Waste Storage Area.

Auger borings outside the Production Area require two days for setup, drilling, piezometer installation, and rig decontamination. There are 14 borings outside the Production Area.

Two auger rigs will be working concurrently to complete this program.

Four of the borings around the biodenitrification surge lagoon will be completed as 4-inch stainless steel monitoring wells to be used in the RCRA program.

Assumed Soil Analysis (Parameter - Number of Samples):

Full Rad - 154
 Total U & Th - 262
 Full HSL - 79
 HSL VOC only - 34
 Tc-99 - 44

Assumed Water Samples (Parameter - Number of Samples):

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July 9, 1991

Total U - 77
Full Rad - 105
Full HSL - 49
HSL VOC - 70
General Water Qual - 94
Tc-99 - 34
Nitrates - 22

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RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	5203A02018		
Activity Title	<u>OU5 FIELD WORK - CABLE SAMPLING</u>		
Start	01-Nov-91		
Finish	16-Dec-92		
Remaining Duration	294	Revision #	0
Total Float	118	Revision Date	21-Jun-91

Scope Description:

Install 2000-series monitoring wells to determine vertical extent of contamination in the aquifer under the Production Area and Waste Storage Area effluent lines. This includes four wells along the line from the Clearwell to MH 175, four wells along the effluent line between MH 175 and MH 180, four wells around the bionitrification surge lagoon and tanks and one well at the storm water surge lagoon. Each well will be sampled at the time the well is developed and again two months later to confirm the initial results.

Assumptions:

Property access for the wells in the MH 175 to MH 180 area will be secured as indicated in Level A schedule.

Existing H & S plans will suffice for this work.

Installation of a 2000-series well within the Waste Storage Area requires seven days for setup, drilling, casing installation, and rig decontamination. There are seven wells within the Production and Waste Storage Area.

Installation of a 2000-series well outside the Production Area where the glacial overburden is present will require six days for setup, drilling, casing installation, and rig decontamination. There are six wells outside the Production Area to be installed.

Well development inside the Production Area requires four days and outside the Production Area requires two days.

Sample Analysis (Parameter - Number of Samples):

General Groundwater Qual - 26
 Full Rad - 13
 Full HSL - 13
 Total U - 13

Approximately three 2000-series wells can be sampled per day with a two-man sampling team.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5203A02023		
Activity Title	<u>OU5 FIELD WORK - MISC. ADDITIONAL WELLS</u>		
Start	02-Jan-91	A	
Finish	17-Nov-92		
Remaining Duration	372	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

The proposed wells will be used to define boundaries of the uranium plume in the following areas:

Three 2000-series and 3000-series well pairs to define the eastern extent of contamination south and east of the Storm Sewer Outfall Ditch.

Two 2000-series wells to determine if the Inactive Fly Ash Pile is a source of uranium to the aquifer.

Three 2000-series and 3000-series well pairs east of Plant 6 and northwest of the Sewage Treatment Plant to determine the eastern boundary of the Plant 6 uranium plume.

Four 1000-series wells around well Location 013 to determine if perched water is present in the glacial overburden and if it is the periodic source of uranium in Wells 3013 and 4013.

A contingency 2000-series and 3000-series well pair east of well Location 013 if uranium is not found in the four 1000 series wells. This well pair will be used to confirm data from the current wells at Location 013.

A 2000-series, 3000-series and 4000-series well cluster east of the Fire Training Area to determine if contamination from the waste pits has migrated this far east.

A 2000-series and 3000-series well pair north of the Fire Training Area to determine the northern boundary of the uranium migrating from the waste pit area.

A 2000-series and 3000-series well pair along the northern edge of the FMPC to determine depth to bedrock and background water quality upgradient of the waste pits and Production Area.

All wells will be sampled twice for full rad and general groundwater quality parameters as defined in the RI/FS Work Plan, March 1988. Each well will be sampled at the time it is developed and again approximately two months later to determine if the sample data are consistent.

Assumptions:

2-cable tool rigs available.

2-development well rigs available.

Nine days to complete water sampling on all 27 wells.

A 1000-series well inside the Production Area at Location 013 will require three days for setup, drilling,

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RI/FS Activity Description Library**July 9, 1991**

well installation, and rig decontamination.

A 2000-series well outside the Production Area requires seven days for setup, drilling, installation of well casing, and rig decontamination.

A 3000-series well outside the Production Area where the glacial overburden is present requires eight days for setup, drilling, well installation, and rig decontamination.

A 4000-series well outside the Production Area requires 12 days for setup, drilling, well installation, and rig decontamination.

Well development and sampling of a 1000-series well inside the Production Area requires four days.

Well development and sampling of a 2000-series, 3000-series and 4000-series well outside the Production Area requires two, four, and six days respectively.

A total of 54 samples will be collected plus approximately eight trip blanks and eight QA samples. All analyses will be for full rad and general water quality parameters as defined in the RI/FS Work Plan, March 1988.

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	5205A02000		
Activity Title	<u>TREATABILITY STUDIES</u>		
Start	17-Jun-91		
Finish	08-Apr-93		
Remaining Duration	474	Revision #	0
Total Float	212	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock that includes project authorization; subcontractor procurement; work plan preparation for soil washing and vitrification/stabilization; review and approval of the work plan by DOE and subsequently by U.S. EPA and OEPA; receipt of samples; treatability tests and analysis; preparation of treatability final reports; and review of treatability reports by DOE, U.S. EPA and OEPA.

Assumptions:

OU5 treatability studies are modified to incorporate former OU3 soils testing.

Timely approval of work plans.

Assumes one-phase treatability programs provide adequate information for the detailed analysis.

Treatability cannot begin until samples are received. Samples will be taken during the field investigation.

Delays in the field investigation will necessarily delay the treatability studies.

Completion of treatability testing is necessary to evaluate alternatives during the detailed analysis.

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RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	5206A02100		
Activity Title	<u>REMEDIAL INVESTIGATION REPORT PREPARATION</u>		
Start	10-Aug-92		
Finish	24-Aug-93		
Remaining Duration	272	Revision #	0
Total Float	2690	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with preparation of the OU5 RI report and Baseline Risk Assessment. An RI report will be prepared following the outline suggested in the U.S. EPA Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (Directive 9355.3-01) and the Human Health Evaluation Manual (EPA/540/1-89/002). Whenever possible the RI Report will utilize material already prepared in support of the RI report which was underway prior to finalizing the new consent agreement. Approximately 60% of the data which will be available has been reviewed and incorporated into existing reports. Major sections include:

- Introduction
- Study Area Investigation
- Physical Characteristics of the Study Area
- Nature and Extent of Contamination
- Contaminant Fate and Transport
- Baseline Risk Assessment
- Appendices as required

The scope of the OU5 RI includes all soils, groundwater, surface water/sediments, flora/fauna, and air. RI preparation will include the integration of the existing OU3, OU5, and Groundwater Reports as well as the interpretation and integration of thousands of new analytical results derived from the additional site characterization proposed for OU5. Additionally, groundwater modeling for current conditions is included within the scope of OU5. Specific schedule activities include obtaining validated analysis from field work, revising the site characterization, and preparing the draft RI report for review.

Assumptions:

Data provided from the previous characterization studies completed by ASI/TT, in addition to data collected from the additional sampling activities, will be sufficient to completely characterize OU5.

Risk assessment methodology to be used in developing the report is approved by U.S. EPA prior to report preparation.

Data validation is completed prior to report preparation.

No delays in sample collection or in obtaining data from the laboratory.

Integration of existing OU3 and OU5 RI reports can begin prior to completion of additional field work.

15 volumes per report at 500 pages per volume.

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July 9, 1991

Receipt and validation of site characterization analysis.

The RI report must be approved by U.S. EPA prior to initiation of the FS/PP document review cycle.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5206A02500		
Activity Title	<u>DOE RI REVIEW/REVISE/APPROVE</u>		
Start	25-Aug-93		
Finish	16-Feb-94		
Remaining Duration	126	Revision #	0
Total Float	2210	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with DOE and DOE contractor review, comment resolution, and revision of the OUS RI report. The draft document is reviewed by DOE-FSO. Comments are prepared and submitted to ASI/IT for response to comments and document revision, as appropriate. The document follows this same process through DOE-HQ and DOE-EM1 review levels. Each cycle requires a response to comments document in addition to a revised draft document. Meetings are held periodically to resolve comments.

Assumptions:

DOE-HQ review will follow DOE-FSO review.

Comments are reviewed and screened by integrating contractor before submittal to ASI/IT.

Comments do not require significant changes in technical content and format.

Comments do not exceed 100 in number in any review cycle.

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RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5206A02600		
Activity Title	<u>EPA RI REPORT REVIEW/REVISE/APPROVE</u>		
Start	17-Feb-94		
Finish	16-May-94		
Remaining Duration	63	Revision #	0
Total Float	2210	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with U.S. EPA and OEPA review, comment resolution, report revision, and approval for the OUS RI report. Comments are prepared and transmitted to ASI/IT for resolution and appropriate revision of the text. A formal response to comments document is also prepared, which includes an individual response to each comment. The revised text is again submitted to U.S. EPA and OEPA for final review and approval. Any additional comments are transmitted to DOE for response and text revision before final printing of the RI Report. Meetings are held periodically to resolve comments.

Assumptions:

The EPA review/approval process will require at least two iterative reviews to obtain EPA approval of the document.

Review follows standard primary document review cycle as defined by the consent agreement.

Comments do not require significant changes in technical content and format.

No dispute resolution required.

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5206A02700		
Activity Title	<u>PRINT AND DIST FINAL REPORT</u>		
Start	17-May-94		
Finish	13-Jun-94		
Remaining Duration	20	Revision #	0
Total Float	2210	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock consisting of a series of activities associated with final assembly, printing, binding, and mailing/delivering the approved RI report. Final comment responses are prepared for U.S.EPA and OEPA comments. The document is revised based upon EPA's comments and is given an internal review by ASI/IT before final printing. Copies are printed, collated, and boxed for shipping. Copies will be delivered to the Administrative Record.

Assumptions:

Print and distribute 65 copies.

U.S. EPA approval of the draft final RI report is required before initiation of this activity.

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RI/FS Activity Description Library

July 9, 1991

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Activity Data:

Activity ID	5312A02100		
Activity Title	<u>INITIAL SCREENING OF ALTERNATIVES</u>		
Start	17-Jun-91		
Finish	25-Oct-91		
Remaining Duration	95	Revision #	0
Total Float	238	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including the following activities:

- Revision of Remedial Action Objectives
- Revision of General Response Activities
- Revision of Process Options and Screening of Technologies
- Revision of Process Option Evaluations
- Modification of Alternatives
- Update of ARARs
- Revision of Alternative Cost Estimates
- Revision of Alternative Screening

The existing Final OU5 ISA report will be modified to incorporate ten additional alternatives regarding soils and perched groundwater developed within the OU3 ISA and incorporate other changes as agreed to as part of the OU3 dispute resolution. The draft Initial Screening document will undergo an internal review by ASI/IT for technical and editorial correctness before submittal to DOE. The reproduction of reports is also a part of this activity.

Assumptions:

ISA can begin immediately and data from additional field investigations and treatability studies do not impact its completion.

Scope of OU5 has been modified to include all soils and perched groundwater not addressed in other operable units.

000083

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5312A02500		
Activity Title	<u>DOE ISA REVIEW/REVISE/APPROVE</u>		
Start	28-Oct-91		
Finish	20-Apr-92		
Remaining Duration	126	Revision #	0
Total Float	238	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities necessary for DOE to review and comment on the Initial Screening of Alternatives (ISA) through three review cycles (DOE-FSO, DOE-HQ, and DOE-EM1). Each revision cycle includes preparation of a revised document and a comment response document. Meetings will be held throughout this review process to address comment resolution. Each phase of document revision includes an internal review of the document by ASI/IT as well as the printing and distribution of the documents.

Assumptions:

DOE-HQ review will follow DOE-FSO review.

Comments do not significantly alter technical direction of project and no new alternatives are identified.

Comments have been screened and organized by integrating contractor prior to submittal to ASI/IT.

Comments do not exceed 100 in number for any review cycle.

000084

RI/ES Activity Description Library

5558

July 9, 1991

Activity Data:

Activity ID	5312A02600		
Activity Title	<u>EPA ISA REVIEW/REVISE/APPROVE</u>		
Start	21-Apr-92		
Finish	16-Jul-92		
Remaining Duration	63	Revision #	0
Total Float	238	Revision Date	21-Jun-91

Scope Description:

This activity is a schedule hammock including all activities necessary for U.S. EPA and OEPA to review and comment on the Initial Screening of Alternatives through two review cycles. This activity will begin by submitting an initial draft of the ISA to both U.S. EPA and OEPA for review. Review comments will be submitted to ASI/TT via DOE. Each revision cycle includes document revision and preparation of a response to comments document. Meetings will be held throughout the review process to address comment resolution. Each document revision also includes an internal ASI/TT review before submittal as well as the printing and distribution of the documents.

Assumptions:

EPA review/approval process will require at least two iterative reviews to obtain EPA approval of the document.

Review follows standard primary document review cycle as defined by the consent agreement.

Comments do not require significant changes in technical content and format; and no new alternatives are developed.

No dispute resolution is required.

U.S. EPA approval of the ISA is required prior to finalization of the detailed analysis of alternatives.

000085

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5312A02700		
Activity Title	<u>PRINT AND DISTRIBUTE FINAL ISA REPORT</u>		
Start	17-Jul-92		
Finish	13-Aug-92		
Remaining Duration	20	Revision #	0
Total Float	238	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities necessary to publish the final Initial Screening of Alternatives document. This activity includes incorporation of U.S. EPA and OEPA final comments on the ISA. This activity will end with the printing and distributing of the ISA. The document is revised based upon EPA's comments and is given an internal review by ASI/IT before printing and distribution of the document. Copies are printed, collated, and boxed for shipping. Copies will be delivered to the Administrative Record.

Assumptions:

Distribute 65 copies.

U.S. EPA approval of the draft final ISA report is required before initiation of this activity.

000086

RI/FS Activity Description Library

5558

July 9, 1991

Activity Data:

Activity ID	5315A02100		
Activity Title	<u>FEASIBILITY STUDY/PROP. PLN. REPORT PREPARATION</u>		
Start	14-Jul-93		
Finish	23-Aug-94		
Remaining Duration	290	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This hammock includes all activities necessary to prepare the Detailed Analysis of Alternatives, the Feasibility Study and the Proposed Plan as defined in OSWER Directives 9355.3-01 and 9355.3-02. The detailed analysis of alternatives will be conducted first. This includes further definition of alternatives as required by additional site characterization, treatability studies, and changes in the OU5 scope. Additionally, each alternative will undergo an assessment and summary profile against nine evaluation criteria within the three main categories of effectiveness, implementability, and cost. Groundwater modeling runs will also be revised to account for additional data as well as impacts of the revised South Plume removal action. Fate and transport modeling is also conducted. The FS cumulative risk assessment will be revised based on the selected alternative. This assessment will be included as a separate index.

Once the individual analyses are completed, a comparative analysis among the alternatives will be conducted to assess the relative performance of each alternative. The compilation of the Initial Screening of Alternatives, the Detailed Analysis, Comparative Analysis, NEPA Analysis and Risk Assessment will be the final task in preparing the FS report. The FS will undergo internal ASI/IT technical and editorial review. After the FS report is complete the preparation of the Proposed Plan begins. The Proposed Plan is intended to summarize key information including the following components:

- Identification of preferred alternative
- Rationale for selection of preferred alternative
- Site description
- Operable Unit description
- Role of the community in the CERCLA process

Final internal ASI/IT review by Community Relations, technical staff and technical editorial staff, and QA/QC staff before submittal to DOE. The FS and PP will be submitted together.

Assumptions:

The Detailed Analysis will not be submitted as a secondary document, but will instead become a chapter of the FS report.

Operable Unit 5 scope is revised to include all soils and perched groundwater.

Number of alternatives evaluated within the FS include the nine identified within the OU5 ISA report, plus an additional 10 from the incorporation of OU3 perched water and soils into OU5.

Determination of FS evaluation criteria must be available for any on-site disposal facility prior to initiation of the FS.

5553

RI/FS Activity Description Library

July 9, 1991

FS document includes 250 pages of text, 60 figures, and five appendices.

Treatability Studies and ARARs determination are complete before initiation of FS.

Cost estimates provide accuracy of +50%/-30%.

Proposed Plan is prepared as a stand-alone document.

The work plan addendum addressing risk assessment methodology will be approved prior to the initiation of risk assessment activities.

000088

RI/FS Activity Description Library

5553

July 9, 1991

Activity Data:

Activity ID	5315A02500		
Activity Title	<u>DOE FS/PP REVIEW/REVISE/APPROVE</u>		
Start	24-Aug-94		
Finish	16-Feb-95		
Remaining Duration	127	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with DOE and DOE contractor review, comment resolution and revision of the OUS Feasibility Study and Proposed Plan report. The draft document is reviewed by DOE-FSO. Comments are prepared and submitted to ASI/IT for response to comments and document revision, as appropriate. The document follows this same process through DOE-HQ and DOE-EM1 review levels. Each cycle requires a response to comments document in addition to a revised draft document. Meetings are held periodically to resolve comments.

Assumptions:

DOE-HQ review will follow DOE-FSO review.

Comments are reviewed and screened by integrating contractor before submittal to ASI/IT.

Comments do not exceed 100 in number in any review cycle.

Comments do not require significant changes in technical content and format.

000083

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5315A02600		
Activity Title	<u>EPA FS/PP REVIEW/REVISE/APPROVE</u>		
Start	17-Feb-95		
Finish	18-May-95		
Remaining Duration	65	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This activity is a schedule hammock including all activities associated with U.S. EPA and OEPA review, comment resolution, report revision, and approval for the OUS Feasibility Study and Proposed Plan report. Comments are prepared and transmitted to ASI/IT for resolution and appropriate revision of the text. A formal response to comments document is prepared, which includes an individual response to each comment. The revised text is again submitted to U.S. EPA and OEPA for final review and approval. Additional comments are transmitted to DOE for response and text revision before final printing of the FS/PP report. Meetings are held periodically to resolve comments.

Assumptions:

The EPA review/approval process will require at least two iterative reviews to obtain EPA approval of the document.

Review follows standard primary document review cycle as defined by the consent agreement.

Comments do not require significant changes in technical content and format.

No dispute resolution required.

000090

10005553

RI/FS Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	5315A02700		
Activity Title	<u>PRINT AND DIST FINAL FS/PP REPORT</u>		
Start	19-May-95		
Finish	15-Jun-95		
Remaining Duration	20	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including all activities associated with final assembly, printing, binding, and mailing/delivering the approved Feasibility Study and Proposed Plan report. Final comment responses are prepared for U.S. EPA and OEPA comments. The document is revised based upon EPA's comments and is given an internal review by ASI/IT before final printing. Copies are printed, collated, and boxed for shipping. Copies will be delivered to the Administrative Record.

Assumptions:

Print and distribute 100 copies.

Requests under NEPA for copies of the FS-EIS will not exceed 35 copies.

U.S. EPA approval of the Proposed Plan is required prior to initiation of the public comment period.

000001

RI/FS Activity Description Library

July 9, 1991

Activity Data:

Activity ID	5318A02100		
Activity Title	<u>PUBLIC COMMENT</u>		
Start	16-Jun-95		
Finish	14-Sep-95		
Remaining Duration	65	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock which includes all activities associated with providing the public with an opportunity to comment on the Proposed Plan, as required and defined by the NCP. A notice will be prepared and printed in a major local newspaper and the Federal Register (a NEPA requirement) to inform the public of the availability of the Proposed Plan for their review and to provide a brief analysis of its contents. This notice will solicit written comments and announce a public meeting. Upon receipt of all comments, a responsiveness summary will be prepared that discusses significant comments, criticisms, and new relevant information submitted during the public comment period.

Assumptions:

Public comment period is 45 calendar days to accommodate the requirements of NEPA.

Public meeting is held near the CERCLA site.

Community Relations staff will assist in the preparation of the PP to assure it is written to be understandable by a knowledgeable public.

U.S. EPA approval of the Proposed Plan is required before initiation of this activity.

The responsiveness summary will be included in the draft ROD.

000092

6306

RI/FS Activity Description Library**5553****July 9, 1991****Activity Data:**

Activity ID	5319A02100		
Activity Title	<u>DRAFT ROD PREPARATION</u>		
Start	15-Sep-95		
Finish	23-Oct-95		
Remaining Duration	27	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including preparation of a draft ROD as defined by Directive 9355.3-02 for DOE review, approval and submittal to U.S. EPA. The draft ROD includes the following:

Declaration Statement containing description of selected remedy.

Decision Summary providing an overview of the site-specific factors and analysis supporting the selection of alternatives.

Responsiveness summary, addressing comments received during the public comment period, will be issued as part of the ROD.

Assumptions:

Extensive public comments will require response.

No pre-ROD significant changes resulting from public comments.

Regulatory, community relations and legal support are required.

The public comment period must be completed before finalization of the draft ROD.

000093

RI/ES Activity Description Library**July 9, 1991****Activity Data:**

Activity ID	5319A02500		
Activity Title	<u>DOE DRAFT ROD REVIEW/REVISE/APPROVE</u>		
Start	23-Oct-95		
Finish	17-Apr-96		
Remaining Duration	128	Revision #	0
Total Float	0	Revision Date	21-Jun-91

Scope Description:

This is a schedule hammock including DOE review of the draft ROD at three levels: DOE-FSO, DOE-HQ, DOE-EM1. The draft ROD is revised to incorporate DOE comments through three review cycles and the associated comment response documents are prepared. Each document revision also includes an internal ASI/TT review before resubmittal, as well as the printing and distribution of the documents. Meetings are held periodically to resolve comments.

Assumptions:

Comments do not significantly alter technical direction of project.

Comments are reviewed and screened by the integrating contractor prior to submittal to ASI/TT.

000094