

**FERNALD CLEANUP PROGRESS BRIEFING/
SILOS PROJECT PUBLIC HEARING
November 25, 1997**

6:00 p.m.	Welcome/Opening Remarks	Gary Stegner
6:05 p.m.	Cleanup Project Updates	
	--Waste Pits Remedial Action	Dave Lojek/Bob Fellman
	--On-Site Disposal Facility	Jay Jalovec/Mike Hickey
	--Facilities Closure & Demolition	Art Murphy/Jamie Jameson
	--Silos Project	Dave Yockman/Don Paine
	--Aquifer Restoration & Soils Characterization and Excavation	John Kappa/Dennis Carr
	--Waste Management	John Sattler/Jerry Lester
	--Project Management	Johnny Reising
6:45 p.m.	Question & Answer Session	Gary Stegner
7:00 p.m.	Cleanup Progress Briefing Concludes	
	--BREAK--	
7:10 p.m.	Silos Project Public Hearing Introductory Remarks	Gary Stegner
7:20 p.m.	Overview of Silo 3 <i>draft Final Explanation of Significant Differences</i> document	Terry Hagen
7:40 p.m.	Question and Answer Session	Gary Stegner
7:45 p.m.	Comments From U.S. EPA	Jim Saric
7:50 p.m.	Comments From Ohio EPA	Tom Schneider
	--BREAK--	
8:00 p.m.	Formal Public Comment Period	Gary Stegner
8:30 p.m.	Meeting Concludes	

FERNALD CLEANUP PROGRESS BRIEFING & SILOS PROJECT PUBLIC HEARING

Nov. 25, 1997

Evaluation Survey

Thank you for attending the Fernald Cleanup Progress Briefing and the public hearing on the Draft Final Explanation of Significant Differences document, which addresses remediation of Silo 3 at the Fernald Site. Please take a few minutes to answer the questions below:

1. **How did you hear about the meeting(s)?**
 Postcard in the mail
 Fernald Report
 A Look Ahead publication
 Internet: Fernald Web site (www.fernald.gov)
 Fernald Envoy
 Other (please indicate) _____

2. **Were the project managers' presentations on the cleanup projects:**
 too brief _____
 good balance of information and detail _____
 too detailed _____

3. **Was the presentation on the Silo 3 path forward (Draft Final Explanation of Significant Differences document) understandable? If not, please specify issues in which you would like more clarification.** (Use side two for more space.)

4. **Do you have any questions or concerns about the Silo 3 path forward?**
 No _____
 Yes _____ Please specify:

5. **How satisfied were you with the responses to questions asked this evening?**

6. **Please indicate potential topics for the Jan. 13 Cleanup Progress Briefing "Topic of the Month".**

7. **Do you have any other constructive comments or suggestions about tonight's meeting?**

Optional:

Name _____ Phone _____

If you did not receive a postcard on the meeting tonight, then you may not be on Fernald's Community Mailing List to receive cleanup news, meeting invitations and document review notices. If you would like to be on the mailing list, please complete the information on the following side.

Public Affairs Mailing List Addition Request

To be added to the Public Affairs mailing list, please complete this form. If the question does not apply to you, please write "n/a".

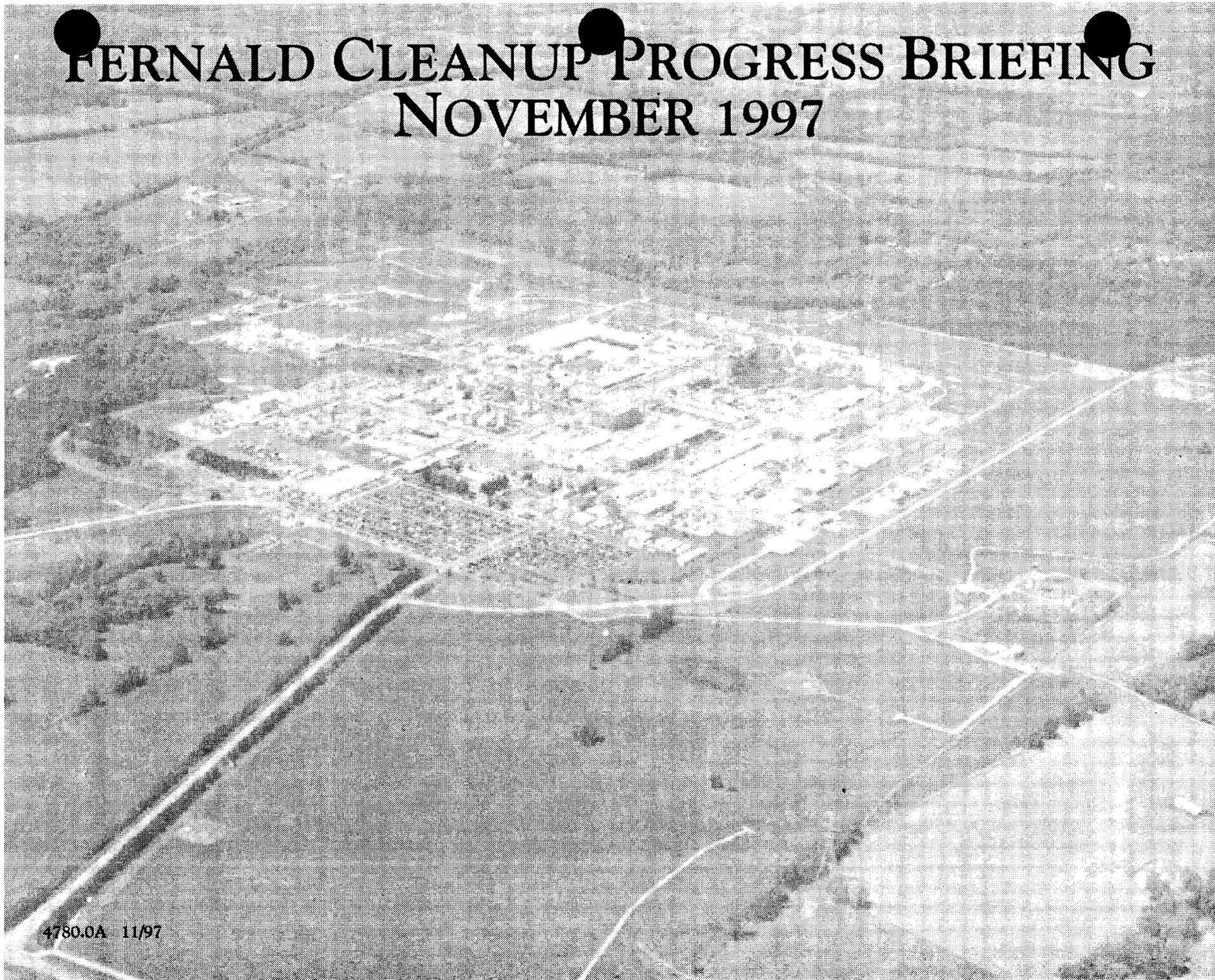
Please spell out all names -- do not use initials.

Title Mr Mrs Miss Ms Dr First Name _____ Last Name _____
Organization _____ Job Title _____
1st Address Line _____ *2nd Address Line _____
City _____ State _____ Zip _____
Home Phone _____ Work Phone _____ Fax _____
Township _____ County _____

* The second address line is a continuation of an address for example: Bob Smith
444 W. 3rd St.
Room 3134
Anywhere, USA 12345

FERNALD CLEANUP PROGRESS BRIEFING

NOVEMBER 1997



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FERNALD CLEANUP PROGRESS BRIEFING

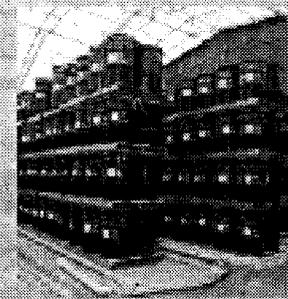
NOVEMBER 1997



OU4 - Silos Project



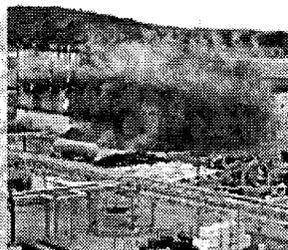
OU1 - Waste Pits Remedial Action Project



Waste Management Project



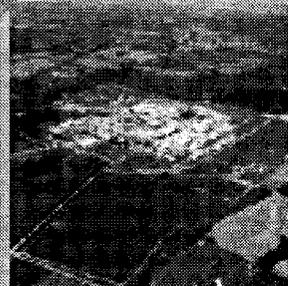
OU5 - Aquifer Restoration/
Wastewater Project



OU3 - Facilities Closure &
Demolition Project



OU2 - On-Site Disposal
Facility Project



Project Management

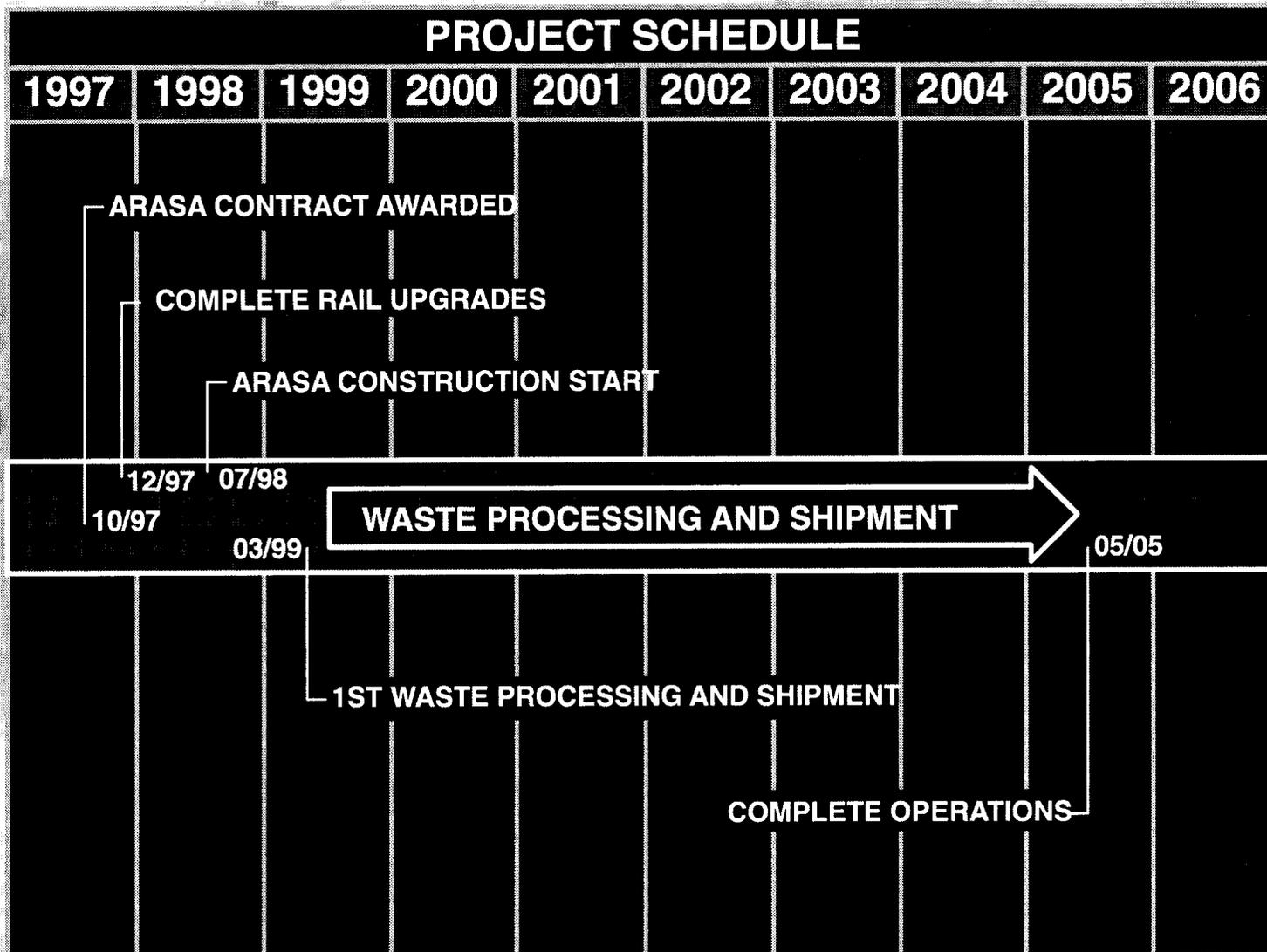


OU5 - Soil Characterization
& Excavation Project

FERNALD CLEANUP PROGRESS BRIEFING NOVEMBER 1997

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 - Waste Management John Sattler/Jerry Lester
 - Project Management Johnny Reising
- 6:45 p.m. Question & Answer Session Gary Stegner
- 7:00 p.m. Cleanup Progress Briefing Concludes

OU1 - WASTE PITS REMEDIAL ACTION PROJECT



OU1 - WASTE PITS REMEDIAL ACTION PROJECT

Major Work Activities - October 1997

- **On Site Improvements**

- Continued onsite rail infrastructure (Enclave, North Railyard, Loadout Area, Rail Maintenance Building)

- Continued Paddy's Run Trestle upgrade

- **Off Site Actions**

- Completed Okeana, Camp Run & Wynn Road Trestle upgrades

- **Planning & Contracts**

- Awarded Alternative Remedial Action Subcontracting Approach (ARASA) contract to IT Corp

- Negotiating contract for Shandon Yard Improvements

No Enforceable Milestones Due in October

OU1 - WASTE PITS REMEDIAL ACTION PROJECT

90-Day Look Ahead - Work Activities

- ARASA pre-mobilization and issue Notice to Proceed - 11/97
- Complete Paddy's Run trestle construction activities - 11/97
- Award contract for Shandon Yard upgrade - 11/97; complete construction - 1/98
- Complete onsite rail infrastructure construction - 12/97

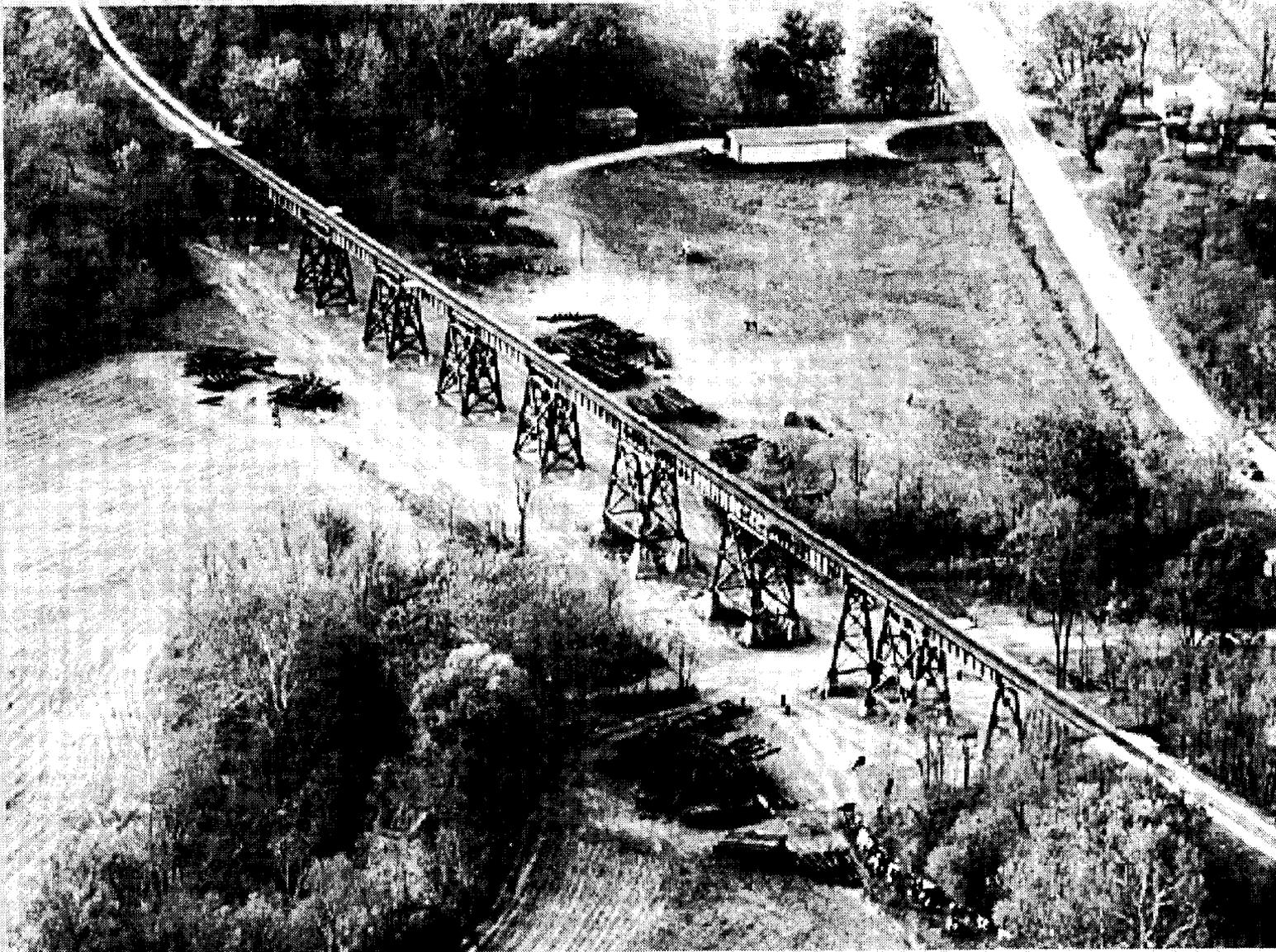
OU1 - WASTE PITS REMEDIAL ACTION PROJECT

90-Day Look Ahead - Work Activities (Continued)

- Submit an Amendment to Final Remedial Action Work Plan for Remedial Actions at OU1 to Agencies, providing enforceable milestone dates for submittal of ARASA subcontractor's RD and RA document packages - 12/97
- Award contract for rail and access road lighting - 12/97; begin construction - 1/98
- Award contract for railcar procurement - 2/98

No Enforceable Milestones Due in Next 90 Days

OKEANA TRAIN TRESTLE - OCT '97



6738-157 11/97

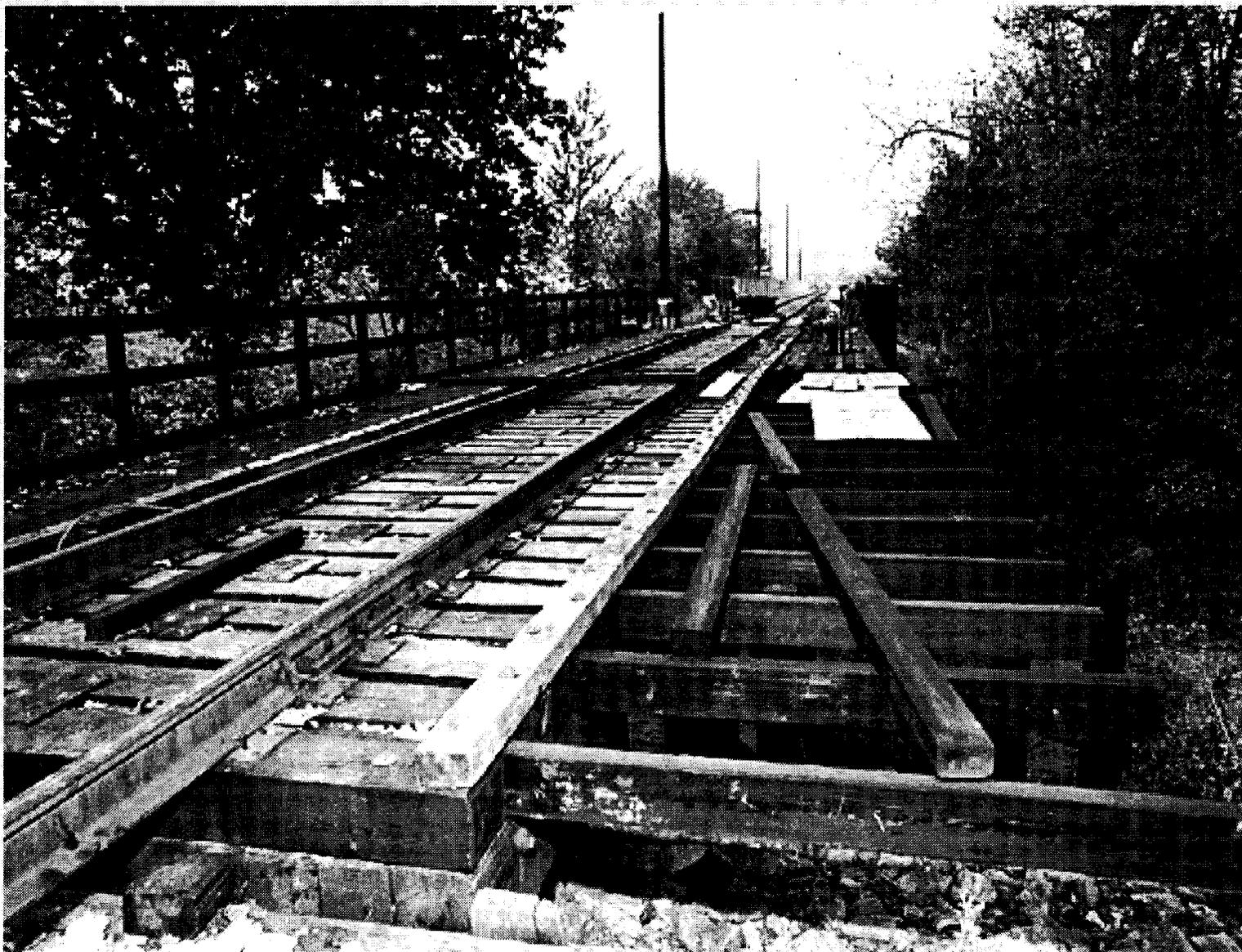
OKEANA TRAIN TRESTLE - JULY '94



5784-14 11/97

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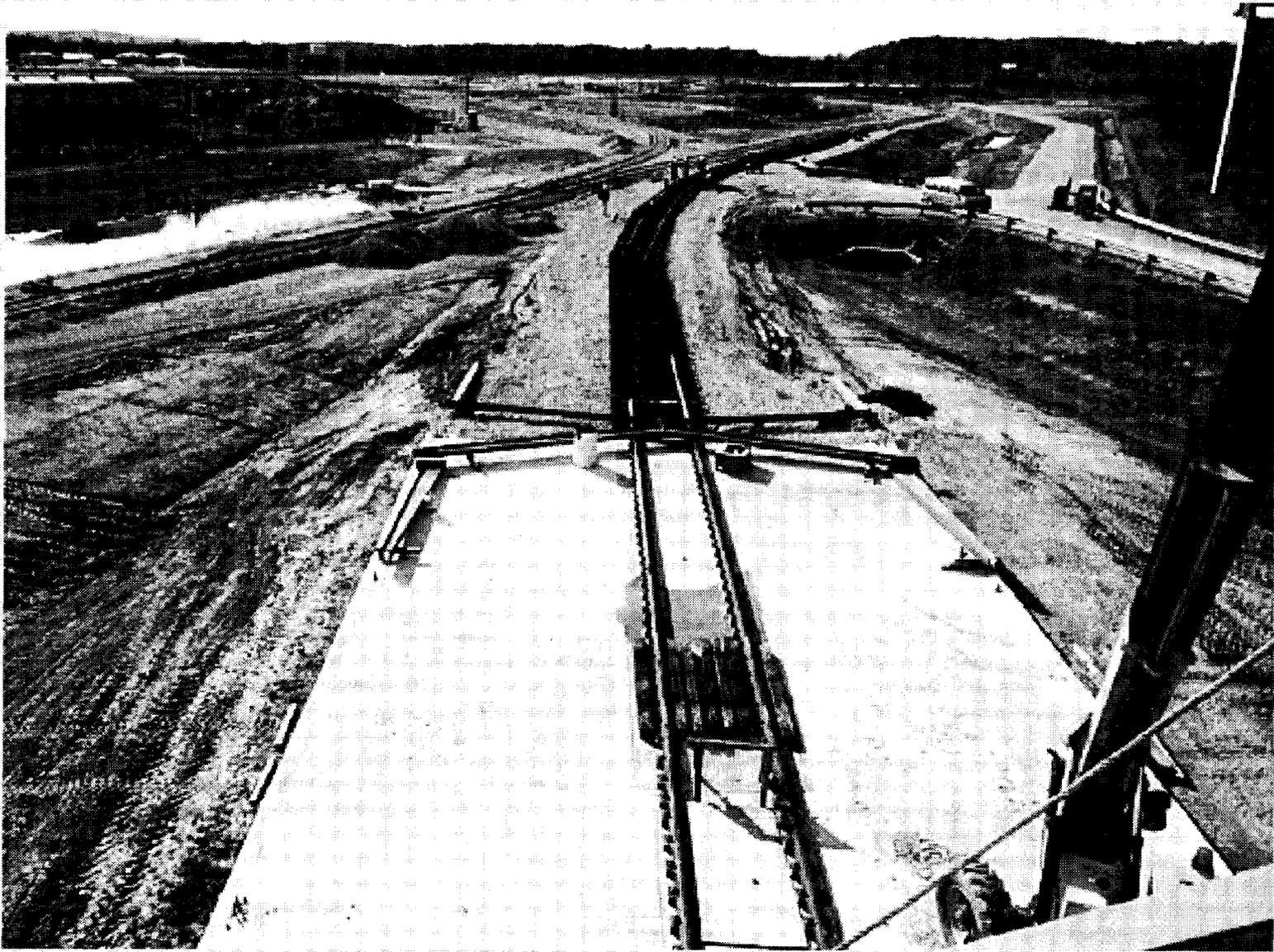
PADDY'S RUN TRAIN TRESTLE - OCT '97



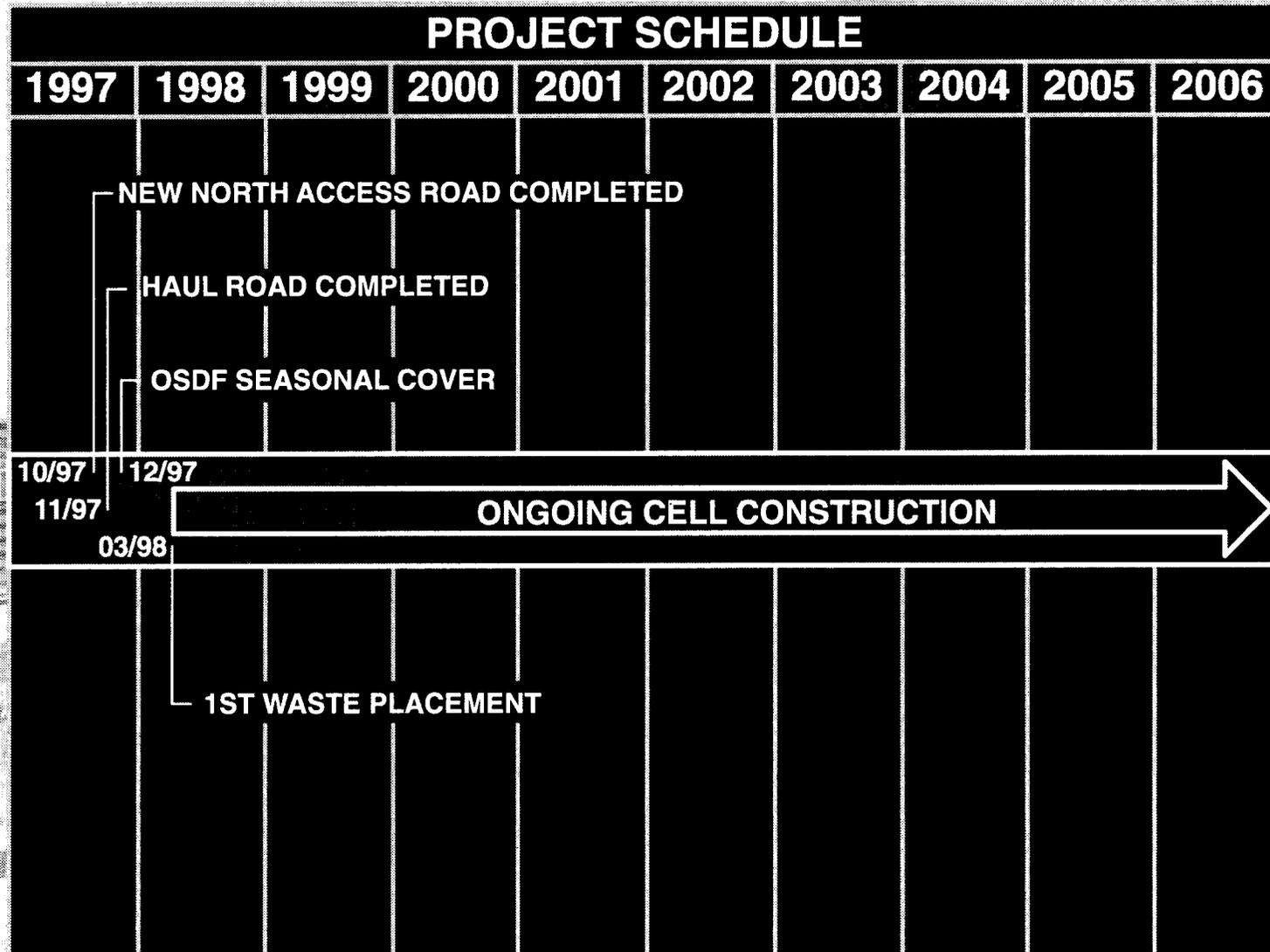
6349-1183 11/97

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LOCOMOTIVE MAINTENANCE FACILITY - NOV '97



OU2 - ON SITE DISPOSAL FACILITY



OU2 - ON SITE DISPOSAL FACILITY

Major Work Activities - October 1997

- **OSDF**

- Completed Cell 1 clay liner installation

- Initiated installation of Cell 1 secondary composite liner

- **Leachate Conveyance System**

- Completed installation of southern & eastern portions of system, & Permanent Lift Station

- Began final testing of leachate lines

OU2 - ON SITE DISPOSAL FACILITY

Major Work Activities - October 1997 (Continued)

- **Roads**

Finished relocated North Entrance Road paving, shoulder work & painting; reopened road 10/20/97

Completed gravel base/geotextile installation on Haul Road; began paving southern & northern portions

No Enforceable Milestones Due in October 1997

OU2 - ON SITE DISPOSAL FACILITY

90-Day Look Ahead - Work Activities

- OSDF

Install primary liner, leak detection system & leachate collection system - 11/97

Begin placement of protective cover - 11/97

Complete protective cover; close OSDF for winter - 12/97

Commence construction of OSDF Debris Transfer Area - 1/98

OU2 - ON SITE DISPOSAL FACILITY

90-Day Look Ahead - Work Activities (Continued)

- **Leachate Conveyance System**

Complete final testing; perform systems operability testing & Standard Startup Review - 11/97

Initiate leachate collection & treatment upon placement of impacted material - 11/97

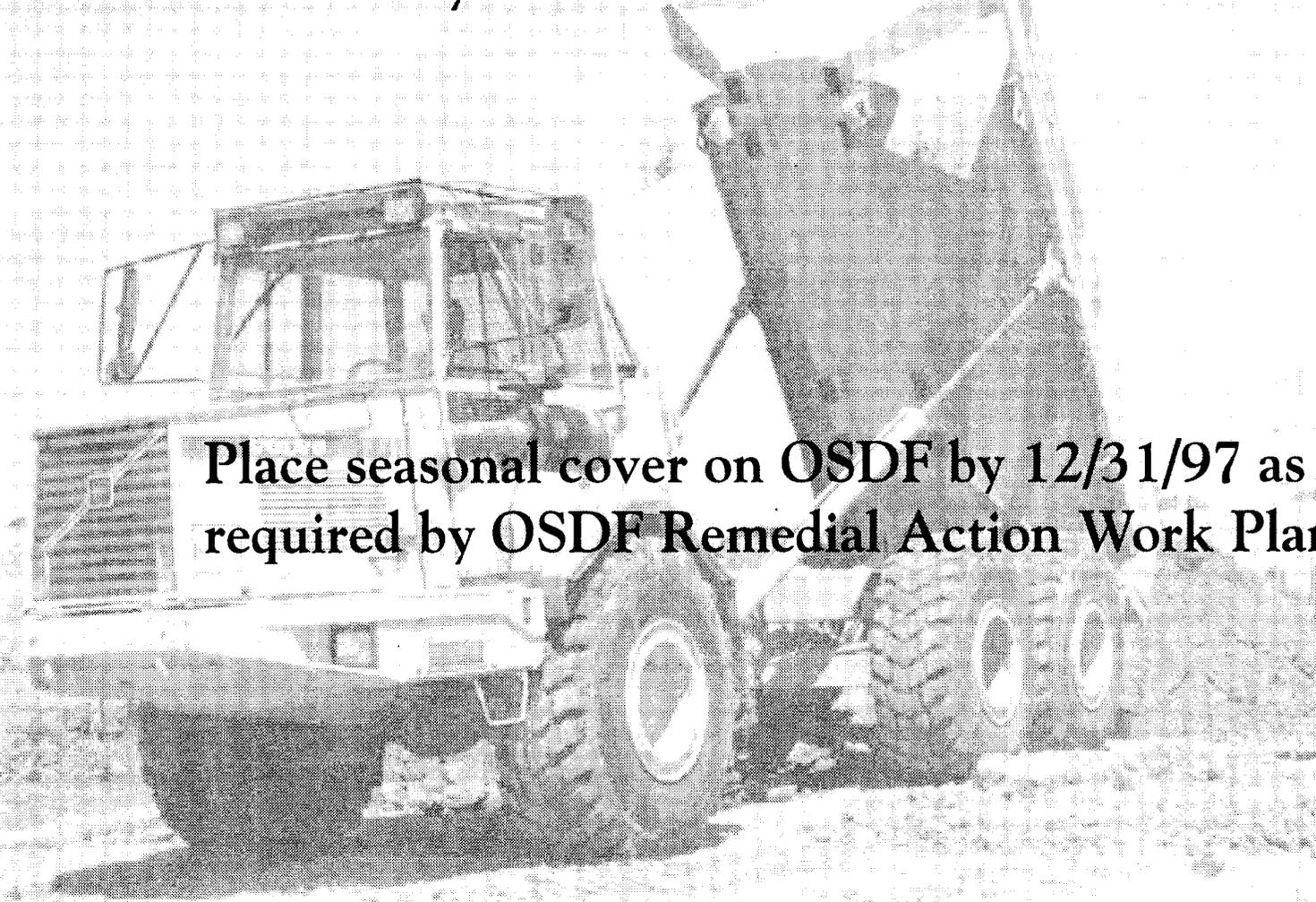
Operate system; perform routine maintenance - 12/97 & continuing

- **Roads**

Complete Haul Road paving, shoulder work, and painting - 11/97

OU2 - ON SITE DISPOSAL FACILITY

90-Day Look Ahead - Milestones

A large tracked vehicle, possibly a bulldozer or similar heavy machinery, is shown in a field. A large, dark metal cover is being lifted by a crane or hoist, positioned over the vehicle. The vehicle has a large cab and multiple sets of tracks. The background shows a flat, open area with some distant structures.

Place seasonal cover on OSDF by 12/31/97 as
required by OSDF Remedial Action Work Plan

OSDF - WEATHER COVER - NOV '97



6319-872 11/97

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1098

OSDF - CLAY DRYING - OCT '97



6319-842 11/97

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OSDF - LINER SEAM WELDING - OCT '97



OSDF - PHASE I, CELL 1 & 2 - OCT '97

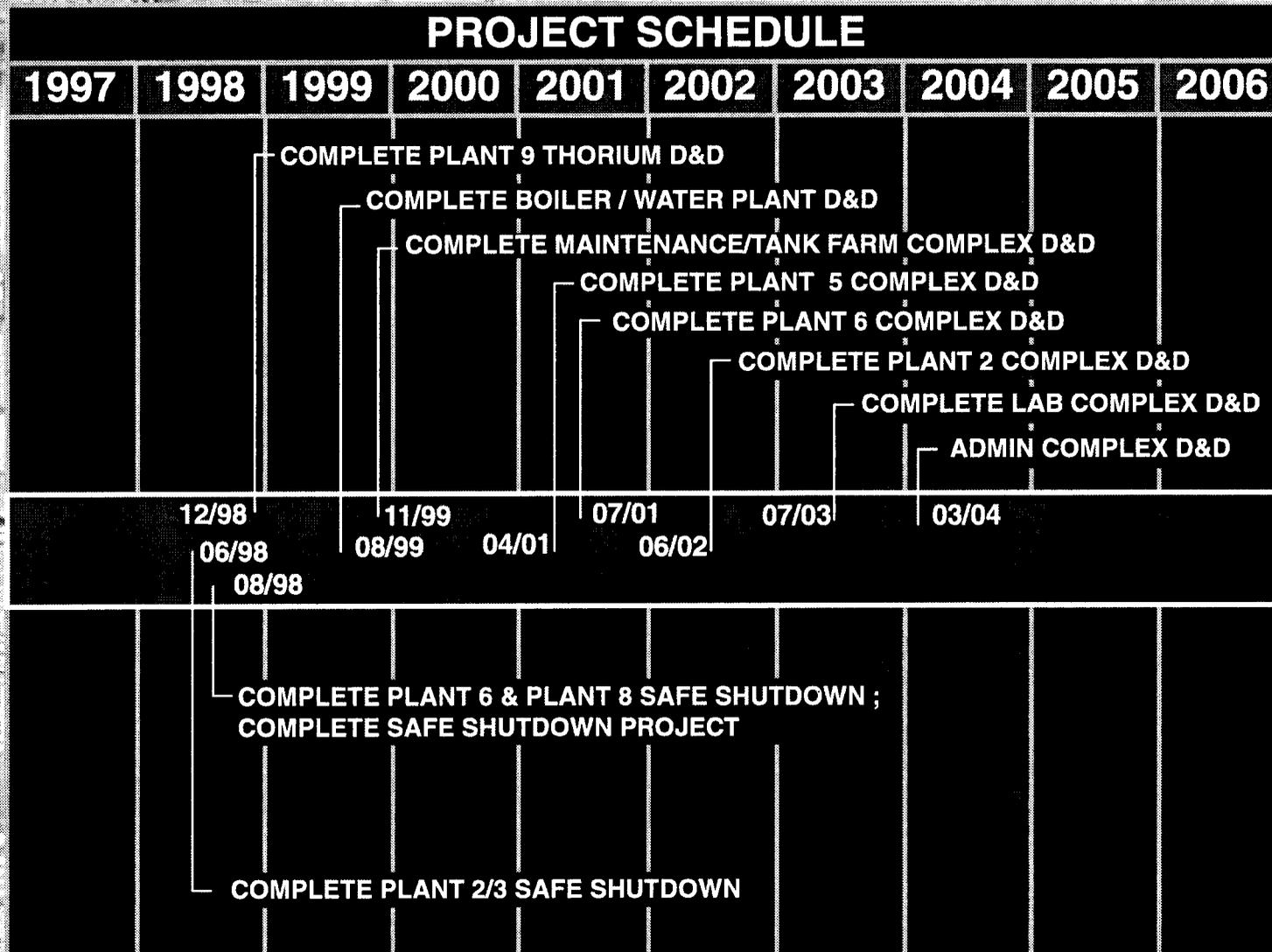


6738-73 11/97

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OU3 - FACILITIES CLOSURE & DEMOLITION PROJECT



OU3 - FACILITIES CLOSURE & DEMOLITION PROJECT

SAFE SHUTDOWN

Major Work Activities - October 1997

- Completed holdup material removal from selected areas in Plants 2/3, 6 & 8
- Completed energy isolation procedures in Buildings 78 & 81, and process trailers
- Excavated underground utility lines for Plants 6 & 8

No Enforceable Milestones Due in October 1997

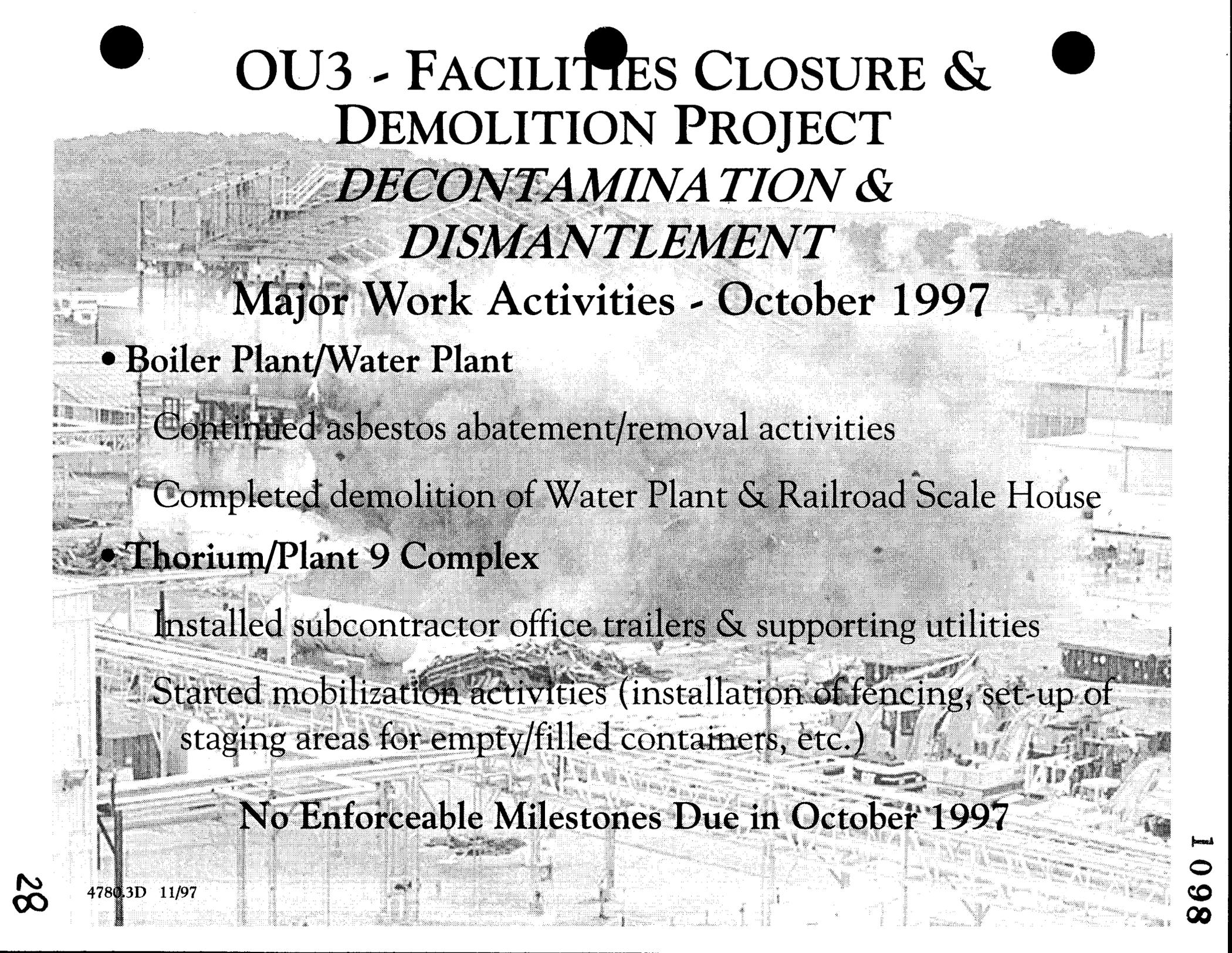
OU3 - FACILITIES CLOSURE & DEMOLITION PROJECT

SAFE SHUTDOWN

90-Day Look Ahead - Work Activities

- Commence asbestos removal in Plant 2/3
- Continue energy isolation procedures in Plants 6 & 8, and Buildings 64 & 65
- Continue holdup material removal in Plants 2/3, 6 & 8
- Excavate underground utility lines for Buildings 64, 65 & 69

No Enforceable Milestones Due in Next 90 Days



OU3 - FACILITIES CLOSURE & DEMOLITION PROJECT *DECONTAMINATION & DISMANTLEMENT*

Major Work Activities - October 1997

- **Boiler Plant/Water Plant**

Continued asbestos abatement/removal activities

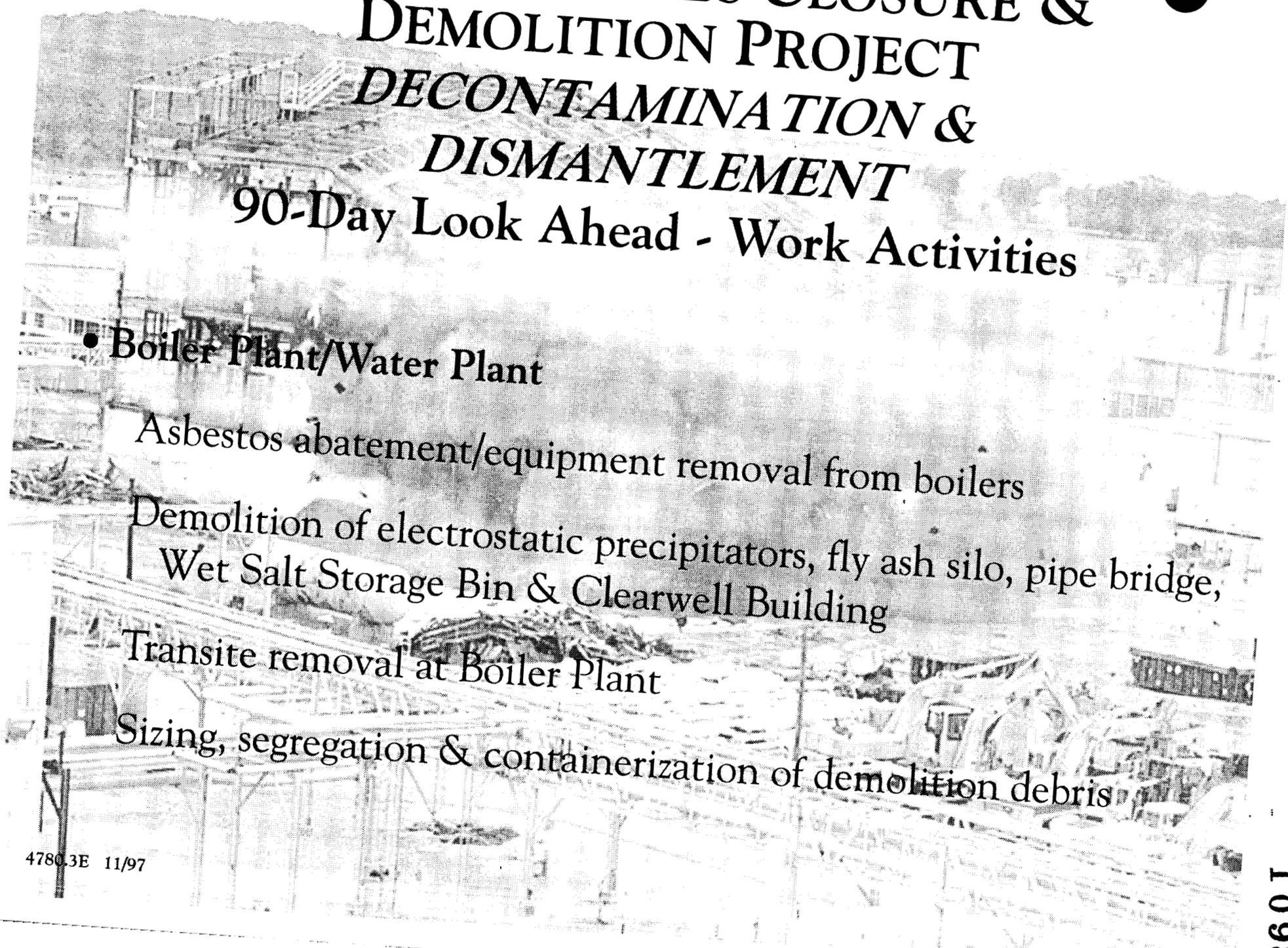
Completed demolition of Water Plant & Railroad Scale House

- **Thorium/Plant 9 Complex**

Installed subcontractor office trailers & supporting utilities

Started mobilization activities (installation of fencing, set-up of staging areas for empty/filled containers, etc.)

No Enforceable Milestones Due in October 1997



**OU3 - FACILITIES CLOSURE &
DEMOLITION PROJECT
DECONTAMINATION &
DISMANTLEMENT**

90-Day Look Ahead - Work Activities

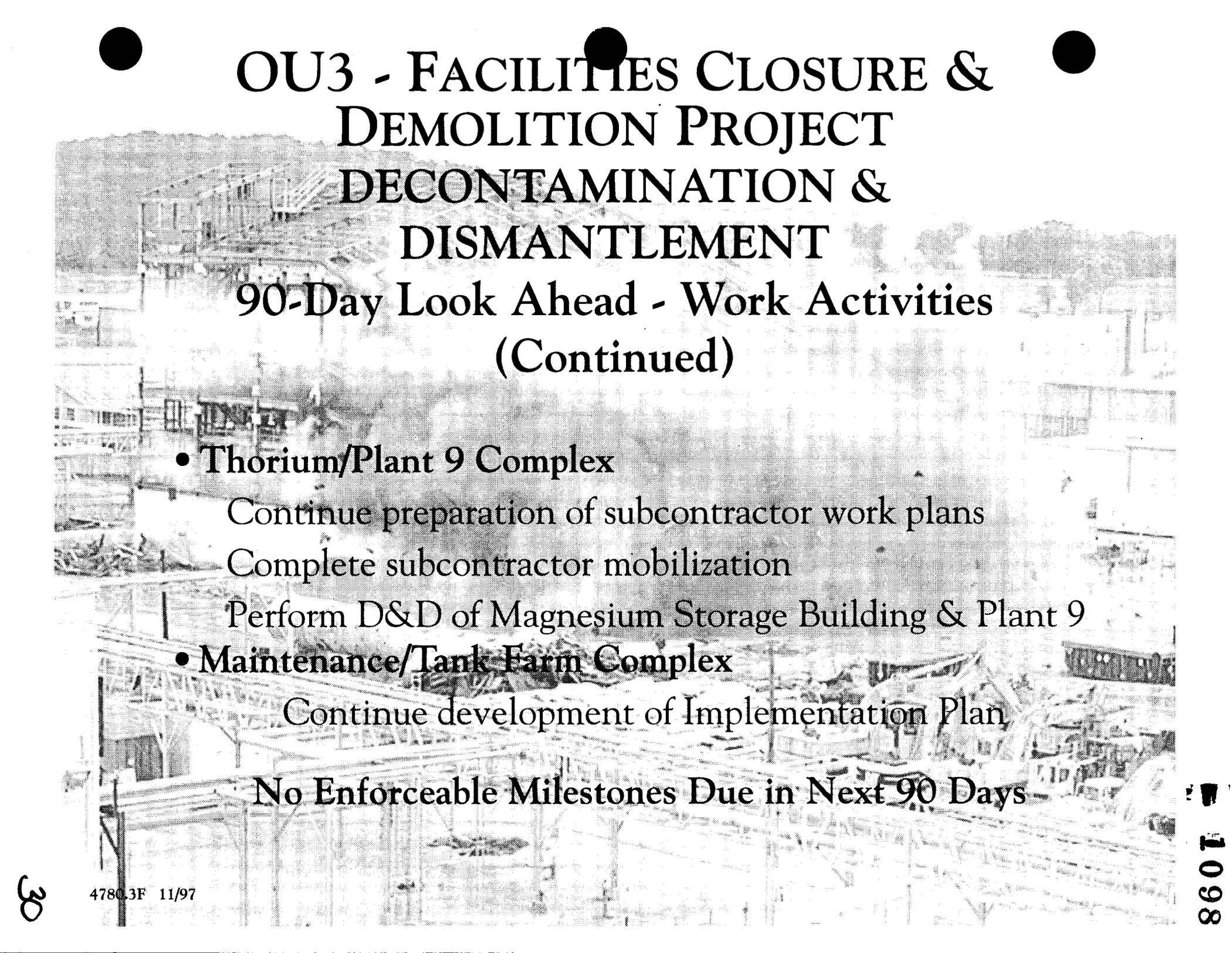
• **Boiler Plant/Water Plant**

Asbestos abatement/equipment removal from boilers

Demolition of electrostatic precipitators, fly ash silo, pipe bridge,
Wet Salt Storage Bin & Clearwell Building

Transite removal at Boiler Plant

Sizing, segregation & containerization of demolition debris



OU3 - FACILITIES CLOSURE & DEMOLITION PROJECT DECONTAMINATION & DISMANTLEMENT

90-Day Look Ahead - Work Activities (Continued)

- **Thorium/Plant 9 Complex**

- Continue preparation of subcontractor work plans

- Complete subcontractor mobilization

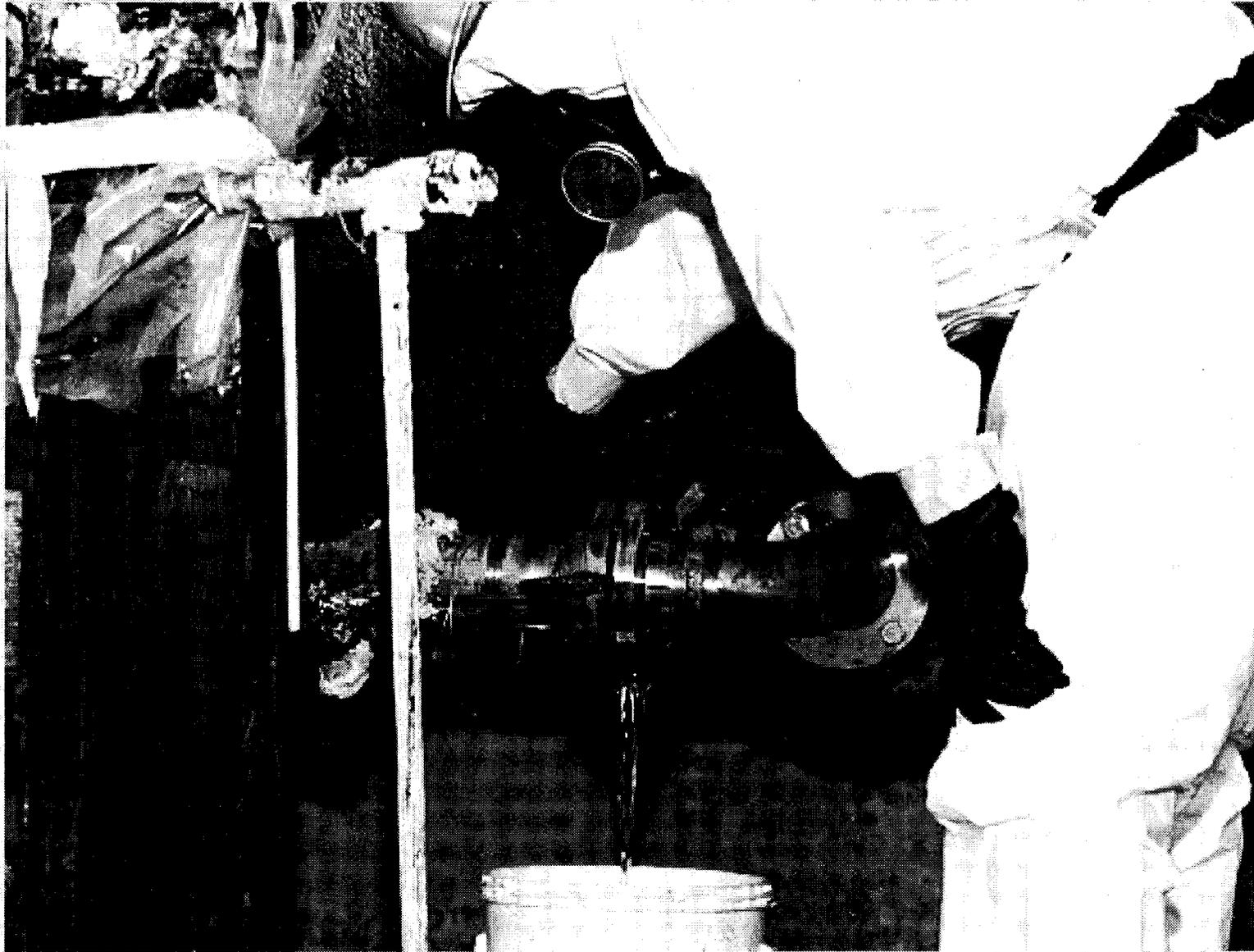
- Perform D&D of Magnesium Storage Building & Plant 9

- **Maintenance/Tank Farm Complex**

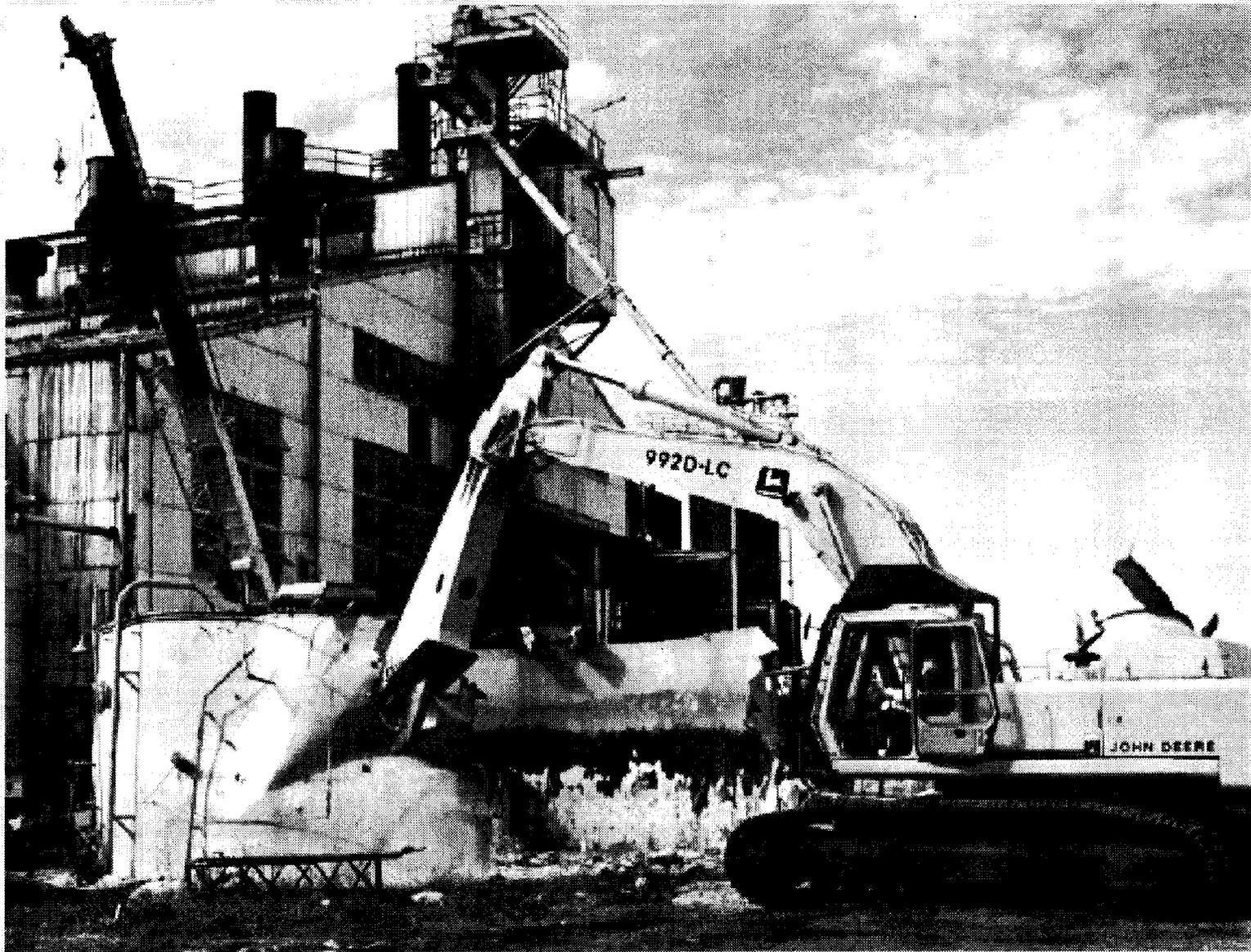
- Continue development of Implementation Plan

No Enforceable Milestones Due in Next 90 Days

SAFE SHUTDOWN - PLANT 8 - OCT '97



BOILER PLANT - REACTIVATOR TANK DEMOLITION - OCT '97



6407-246 11/97

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SAFE SHUTDOWN - PLANT 9 MAWS REMOVAL - SEPT '97



OU4 - SILOS PROJECT

PROJECT SCHEDULE									
1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
DRAFT ESD TO EPA 09/97									
SILO 3									
SILOS 1&2 08/98 02/00 12/00									
DRAFT ROD AMENDMENT TO EPA DRAFT FS/PP TO EPA AWARD OF PROOF OF PRINCIPLE CONTRACT									

OU4 - SILOS PROJECT

Major Work Activities - October 1997

- Received responses to Commerce Business Daily announcement for Silos 1 & 2 Multi-Tech Proof-of-Principle Testing
- Developed Evaluating Criteria & Statement of Work for Silos 1 & 2 Multi-Tech Proof-of-Principle Request for Proposal (RFP)
- Initiated scoping of Silos 1 & 2 Feasibility Study revision

OU4 - SILOS PROJECT

Major Work Activities - October 1997 (Continued)

- Completed re-scoping of Silo 3 Waste Project Draft RFP
- Received USEPA comments on Draft Silo 3 Explanation of Significant Differences (ESD); submitted comment response & revised ESD to Agencies
- Completed analysis on Silo 4 core samples

No Enforceable Milestones Due in October 1997

OU4 - SILOS PROJECT

90-Day Look Ahead - Work Activities

- Issue Draft Final Silo 3 ESD for comment & conduct public hearing - 11/97
- Release Draft Silo 3 Waste Project RFP to Agencies, stakeholders & potential subcontractors for review & comment - 11/97
- Conduct mock-up testing of Silo 3 Small-Scale Waste Retrieval System at Silo 4 - 11/97
- Present Draft Final Silo 3 ESD to Nevada Test Site Citizens Advisory Board; close public comment period & initiate preparation of Responsiveness Summary & Final ESD - 12/97

OU4 - SILOS PROJECT

90-Day Look Ahead - Work Activities (Continued)

- Complete installation of Silo 3 Small-Scale Waste Retrieval equipment, conduct pre-start reviews & complete preparations - 12/97; initiate operations - 1/98
- Receive final report on results of testing on Silo 4 core samples - 12/97
- Complete design basis for Silos 1 & 2 Waste Retrieval System & Radon Control System - 12/97
- Submit Final Silo 3 ESD to Agencies; finalize Silo 3 Waste Project RFP - 1/98

OU4 - SILOS PROJECT

90-Day Look Ahead - Milestones

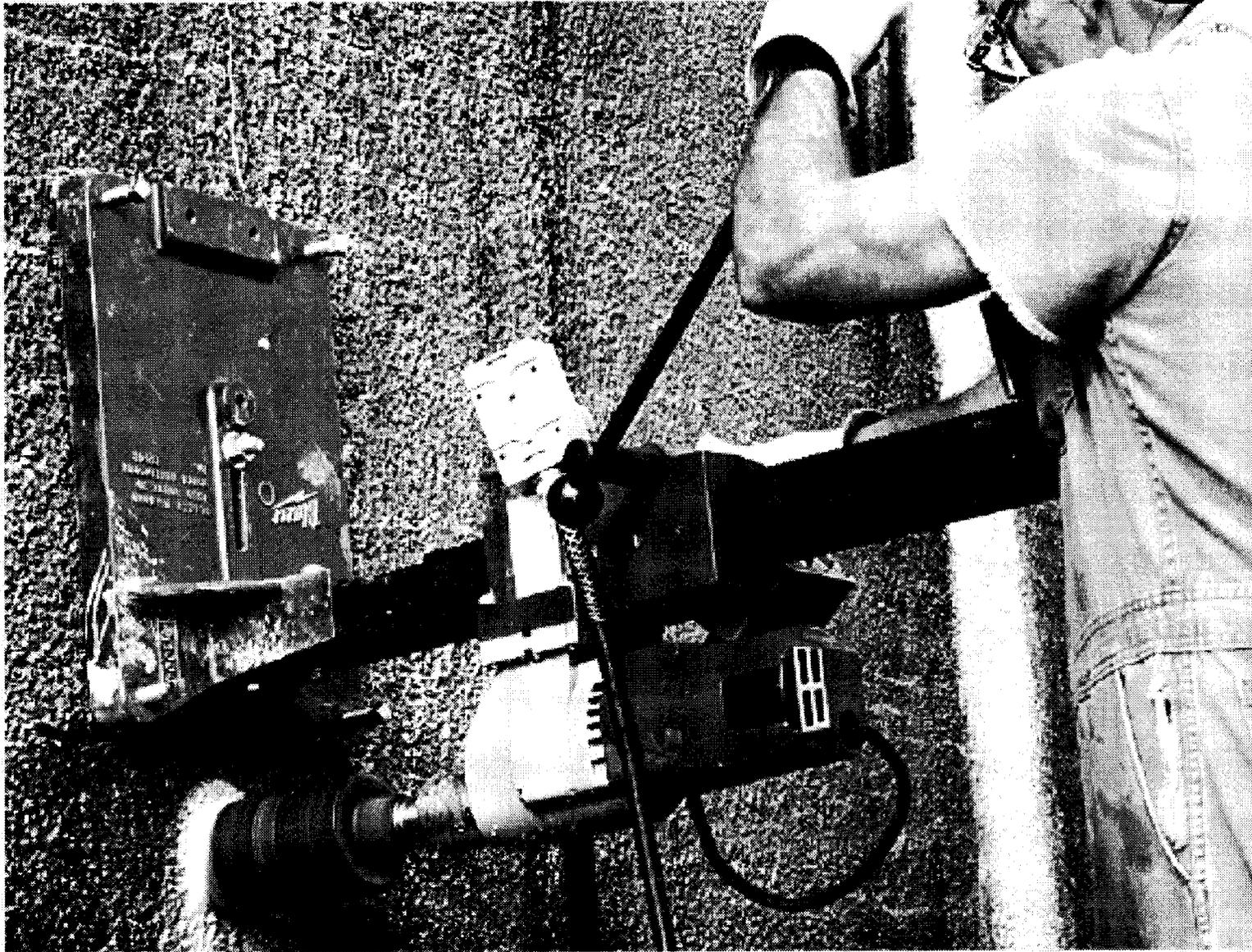
Submit following deliverables to Agencies under the auspices of the OU4 Dispute Settlement Agreement:

- 1) Work Plan for Establishment of Conservation Area - 11/21/97
- 2) Work Plan for Research Grants for Ecological Restoration - 11/21/97
- 3) Work Plan for Creation of Wild Bird/Wild Flower Habitat Area - 12/31/97

SILO 4 SMALL SCALE SILO WASTE RETRIEVAL - NOV '97

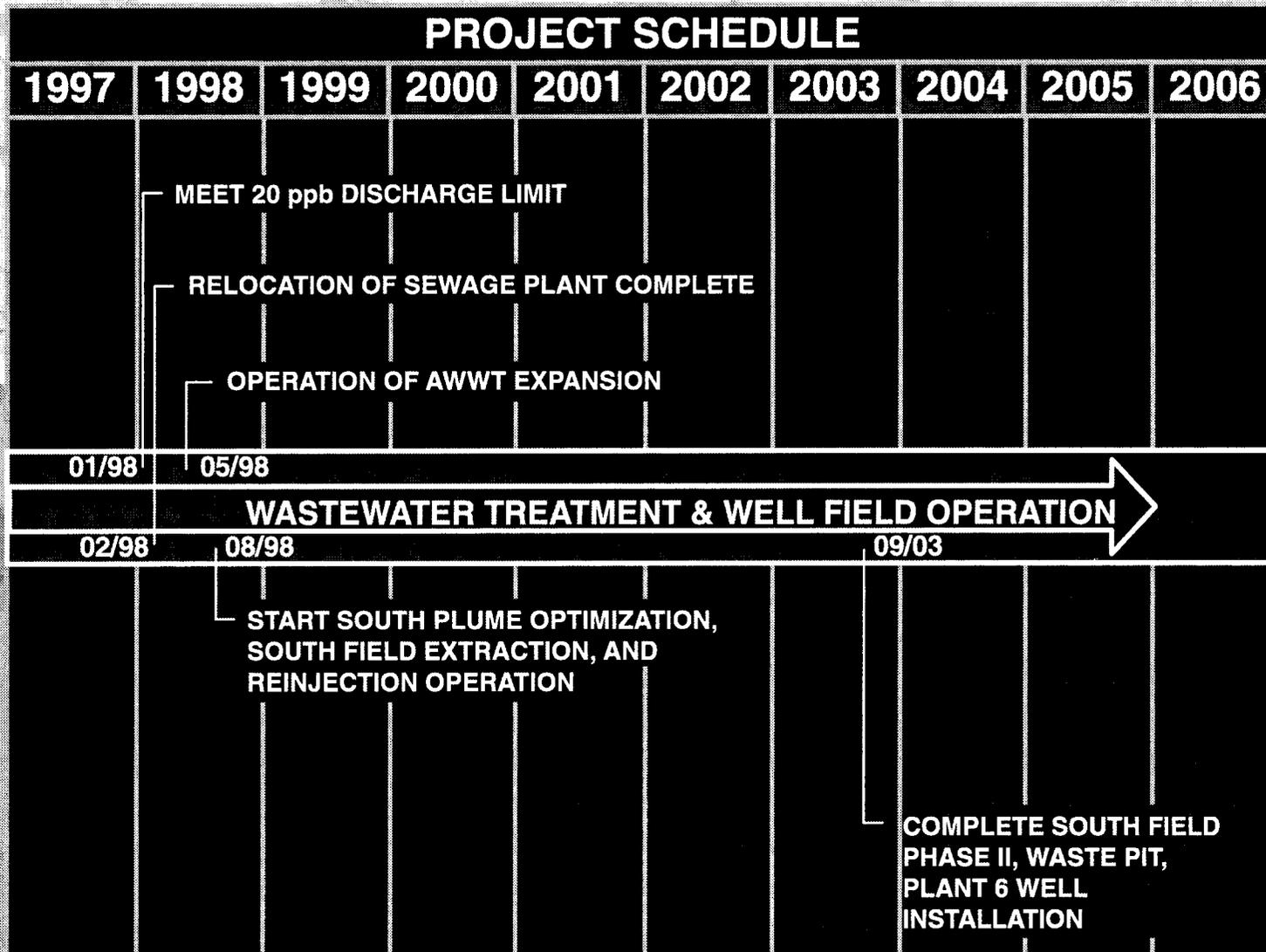


SILO 3 CORE SAMPLING - SEPT '97



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OU5 - AQUIFER RESTORATION/ WASTEWATER PROJECT



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OU5 - AQUIFER RESTORATION/ WASTEWATER PROJECT

Major Work Activities - October 1997

- Continued Advanced Wastewater Treatment (AWWT) facility expansion construction
- Continued AWWT Ion Exchange Regeneration System construction; initiated systems operability testing
- Began drilling monitoring wells for Injection Demonstration System
- Began drilling extraction wells for South Plume Optimization Project
- Relocated Sewage Treatment Plant equipment - 11/97
- Submitted Final Operations and Maintenance Master Plan to Agencies - 11/97

OU5 - AQUIFER RESTORATION/ WASTEWATER PROJECT

Enforceable Milestones - October 1997

- Submitted Design, Monitoring, and Evaluation Program Plan (DMEPP) Semi-Annual Report to Agencies 9/23/97, meeting 10/01/97 milestone date
- Submitted National Pollutant Discharge Elimination System (NPDES) Permit Renewal Application to OEPA 9/22/97, meeting 10/02/97 milestone date

OU5 - AQUIFER RESTORATION/ WASTEWATER PROJECT

90-Day Look Ahead - Major Work Activities

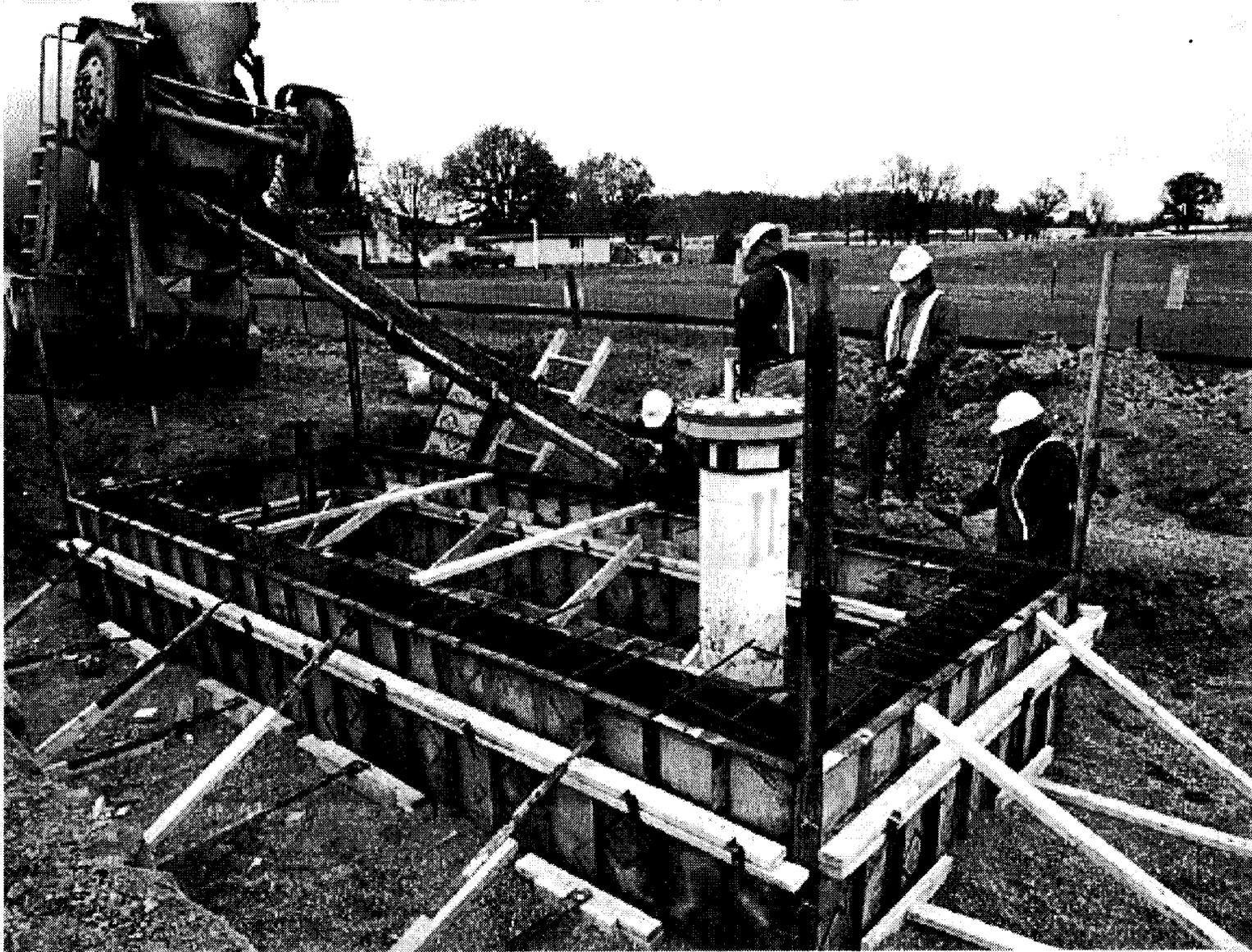
- Submit response to comments on DMEPP to Agencies - 12/97
- Complete AWWT Ion Exchange Regeneration Project construction - 12/97
- Submit response to comments on Draft Final Baseline Remedial Strategy Report to Agencies - 12/97
- Submit Draft Final Injection Demonstration Test Plan to Agencies - 12/97
- Submit South Field Extraction System/South Plume Optimization Startup Monitoring Plan to Agencies - 1/98

OU5 - AQUIFER RESTORATION/ WASTEWATER PROJECT

Enforceable Milestones Due in Next 90 Days

- Submit NPDES Report to OEPA - each month
- Meet 20 ppb average uranium discharge to Great Miami River - beginning 1/98

INJECTION WELL CONCRETE PAD - NOV '97



SEWAGE TREATMENT PLANT - TANK RELOCATION - OCT '97



6607-61 11/97

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WELL PIPING WELDING - OCT '97



6261-202 11/97

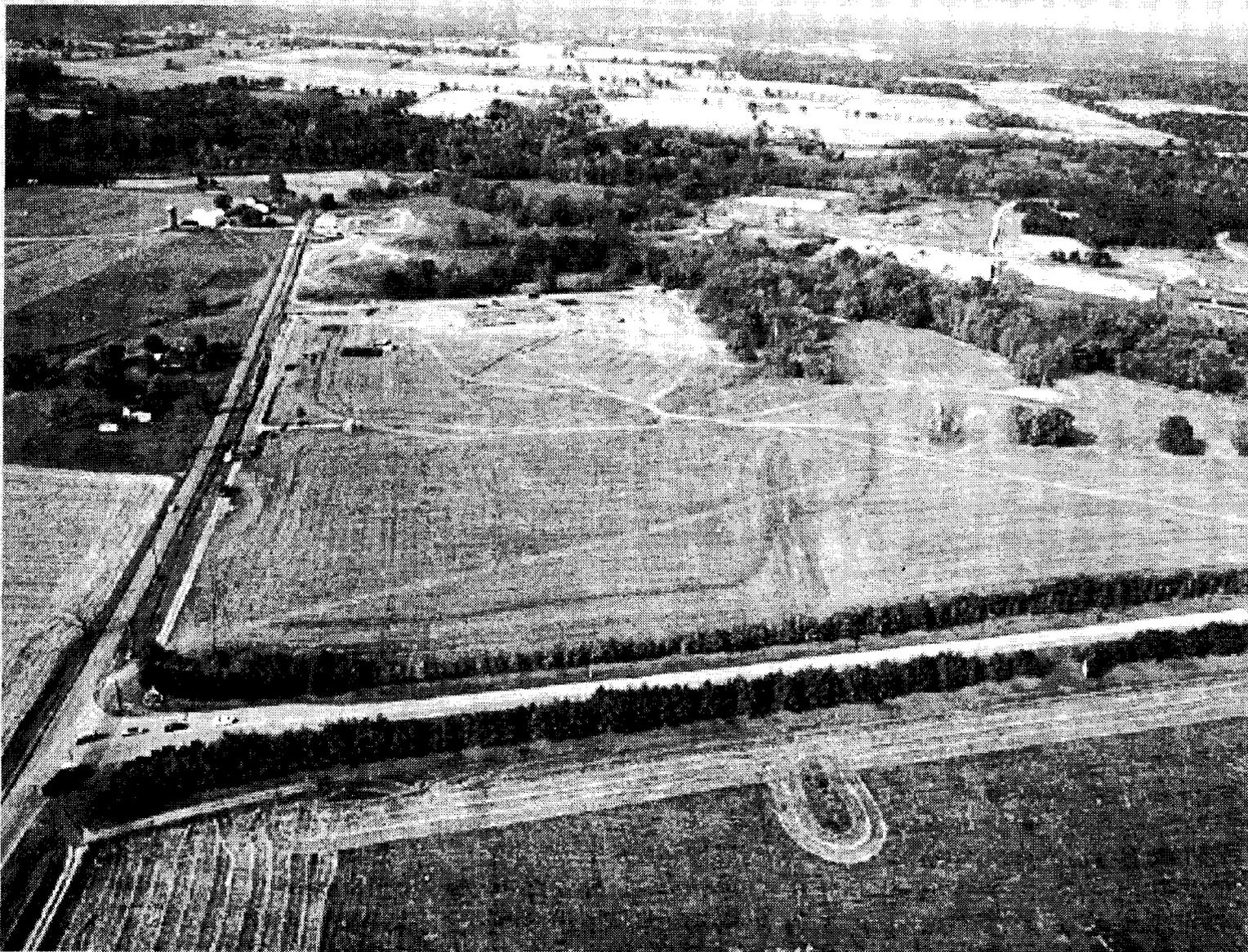
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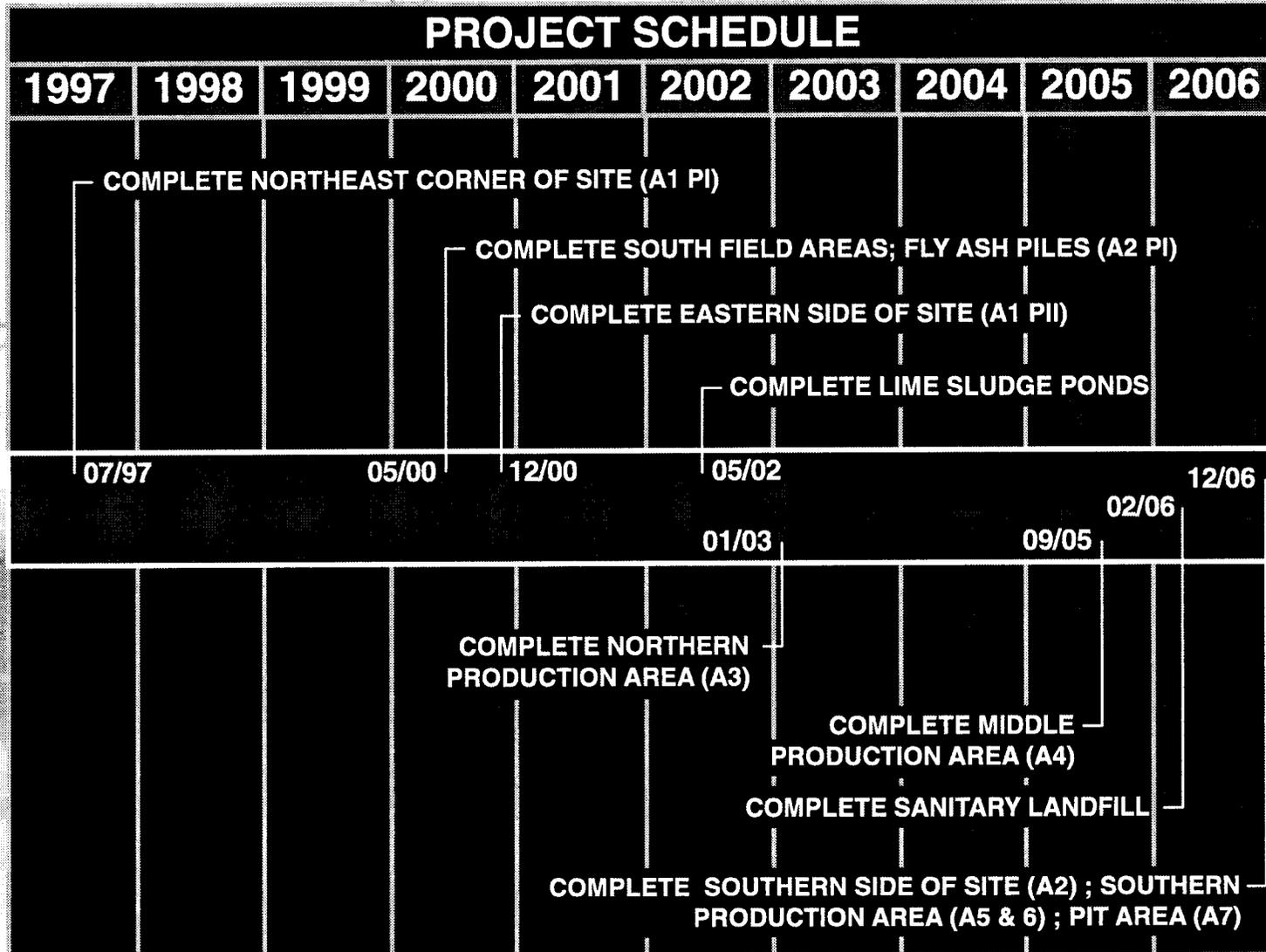
WELL PIPING EROSION BARRIER - NOV '97



SOUTH FIELD AREA - OCT '97



OU5 - SOIL CHARACTERIZATION & EXCAVATION PROJECT



OU5 - SOIL CHARACTERIZATION & EXCAVATION PROJECT

Major Work Activities - October 1997

- Removed downed trees, metal debris & approximately 35 cubic yards of contaminated soil from Paddy's Run channel in response to embankment erosion problem
- Conducted sampling activities in Area 1 Phase II (Southern Half of East Field) and in Paddy's Run Embankment area
- Continued field implementation of Area 2 Phase I (Southern Waste Units) Site Prep Package
- Continued development of Integrated Remedial Design Packages (IRDPs) for Area 1 Phase II and Area 3 (Portion of Former Production Area North of 2nd Street)

OU5 - SOIL CHARACTERIZATION & EXCAVATION PROJECT

Enforceable Milestones - October 1997

Submitted Prefinal Area 2 Phase I IRDP to Agencies 10/23/97;
submittal delayed from 10/20/97 to accommodate discussions
with Agencies on Waste Acceptance Criteria attainment and
real-time instrument application issues

OU5 - SOIL CHARACTERIZATION & EXCAVATION PROJECT

90-Day Look Ahead - Major Work Activities

- Continue development of design of recommended alternative for Paddy's Run Embankment Stabilization; submit design to Agencies - 11/97
- Implement field work in Area 2 Phase I Site Prep package
- Continue field sampling activities to generate data needed for remediation
- Continue development of Integrated Remedial Design Packages (IRDPs) for Area 1 Phase II & Area 3

OU5 - SOIL CHARACTERIZATION & EXCAVATION PROJECT

90-Day Look Ahead - Major Work Activities (Continued)

- Continue development of Project Specific Plans for Area 3
- Submit response to comments to Agencies for:

Area 1 Phase I Certification Report

Area 2 Phase I - Southern Waste Units Site Preparation Package

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OU5 - SOIL CHARACTERIZATION & EXCAVATION PROJECT

90-Day Look Ahead - Enforceable Milestones

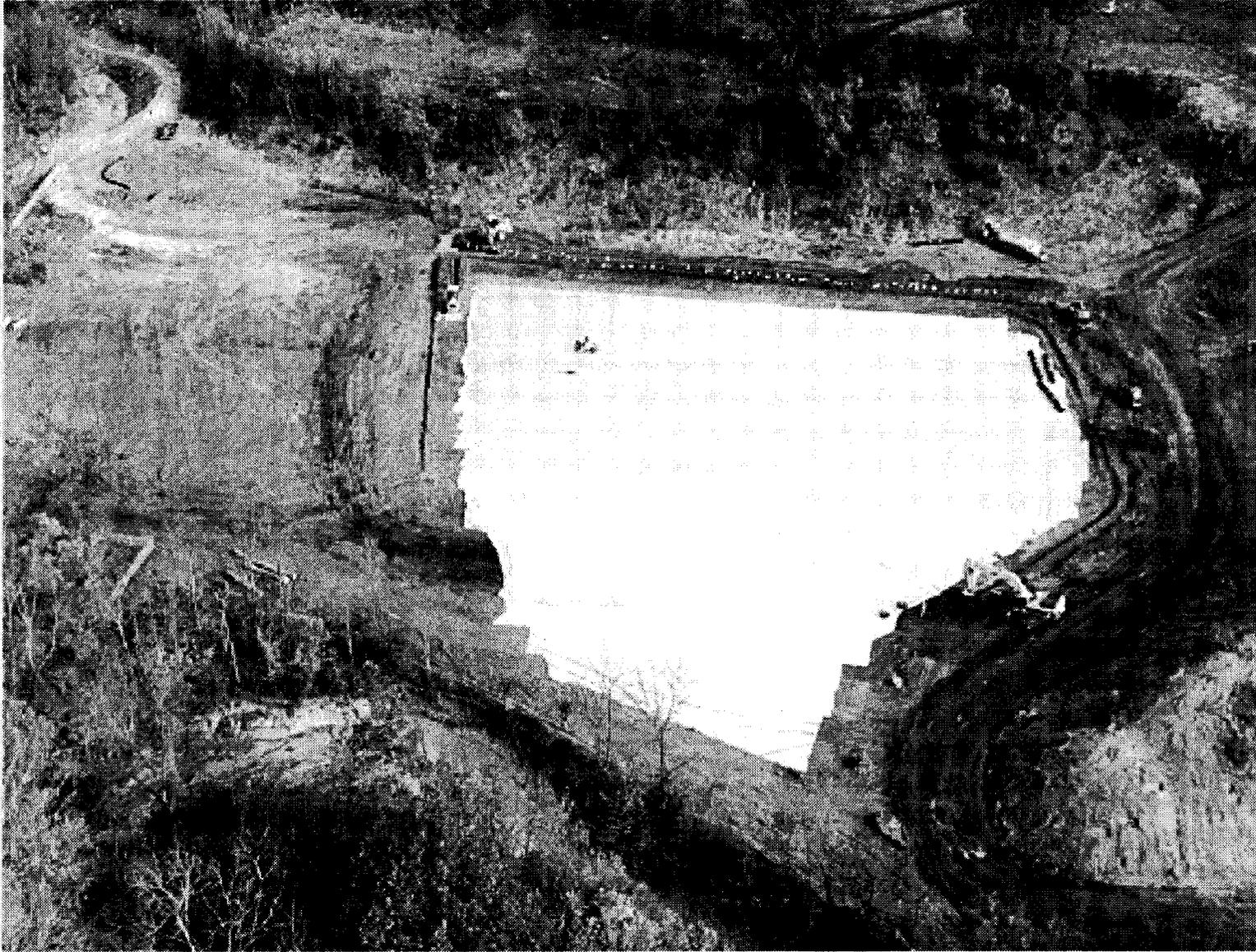
Submit Prefinal Area 1 Phase II IRDP to Agencies 11/21/97

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SOUTHERN WASTE UNITS - STOCKPILE LINER - OCT '97



SOUTHERN WASTE UNITS - STOCKPILE LINER - OCT '97



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6738-54 11/97

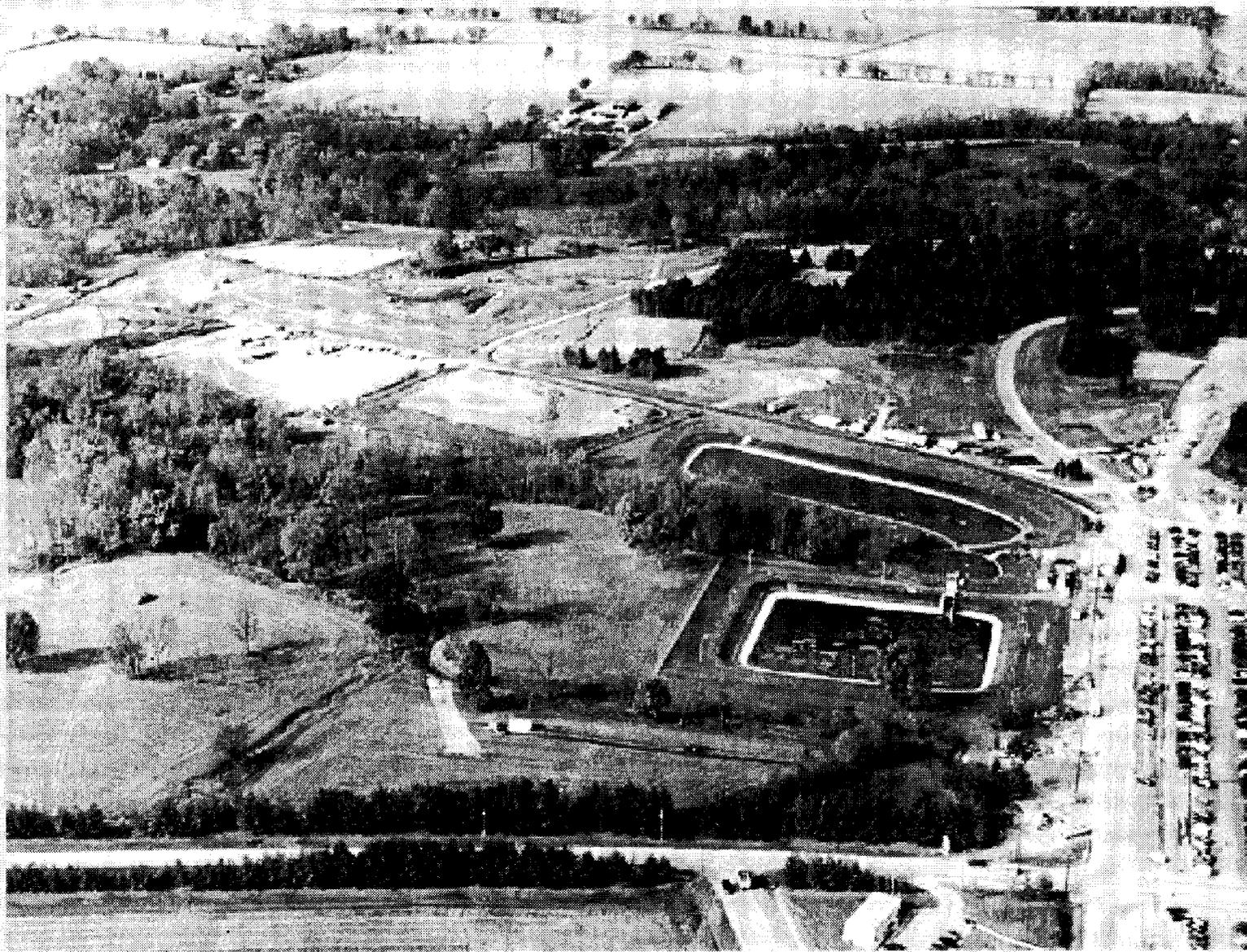
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SOUTHERN WASTE UNITS - RETENTION BASIN 1 - NOV '97



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SOUTHERN WASTE UNITS - OCT '97



WASTE MANAGEMENT PROJECT

PROJECT SCHEDULE									
1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
THORIUM OVERPACK COMPLETE									
ORGANIC EXTRACTION									
NUCLEAR MATERIAL DISPOSITION									
07/97 12/98		04/99		09/01					
09/98				COMPLETE TREATMENT OF MIXED WASTE PER STP					
THORIUM LEGACY WASTE									

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WASTE MANAGEMENT PROJECT

Major Work Activities - October 1997

Low Level Waste Projects

- DOE-Nevada Operations Office auditors performed triennial waste shipping certification audit; found Fernald's program to be "generally effective" & recommended lifting of Waste Stream #6 suspension

WASTE MANAGEMENT PROJECT

Major Work Activities - October 1997

Mixed Waste Projects

- Organic Extraction Project (RCI/Terra-Kleen) - Completed solvent washing of soils, debris & sludges
- Liquid Mixed Waste Project - Began bulking of Batch #9 (newly generated waste streams)
- Neutralization/Precipitation/Deactivation/Stabilization (NPDS) Project - Treated 29 drums
- Mixed Waste Shipping - Shipped 307 drums of sump cake to Envirocare for disposal

WASTE MANAGEMENT PROJECT

Major Work Activities - October 1997 *Nuclear Materials Disposition Projects*

- Continued T-Hopper Project construction
- Began major packaging effort involving both depleted & enriched unrestricted materials
- Completed packaging of normal ingots & depleted spill metal
- Contract with BNFL for sale of 2.6 million pounds of enriched materials approved by EURATOM

No Enforceable Milestones Due in October

WASTE MANAGEMENT PROJECT

90-Day Look Ahead - Work Activities *Low Level Waste Projects*

- Resume shipments to NTS, contingent upon lifting of Waste Stream #6 suspension

WASTE MANAGEMENT PROJECT

90-Day Look Ahead - Work Activities *Mixed Waste Projects*

- **Organic Extraction Project -**

Evaluate success of treatment; begin scale-up efforts if treatment is deemed successful

- **Thorium Legacy Waste Stabilization Project -**

Technology Specific Work Plan due to OEPA 12/97; begin shipment of thorium low level waste to NTS in 2/98

- **Liquid Mixed Waste Project -**

Ship Batch #7 and #8 to TSCA Incinerator

- **NPDS Project -**

Process additional waste (65 drums)

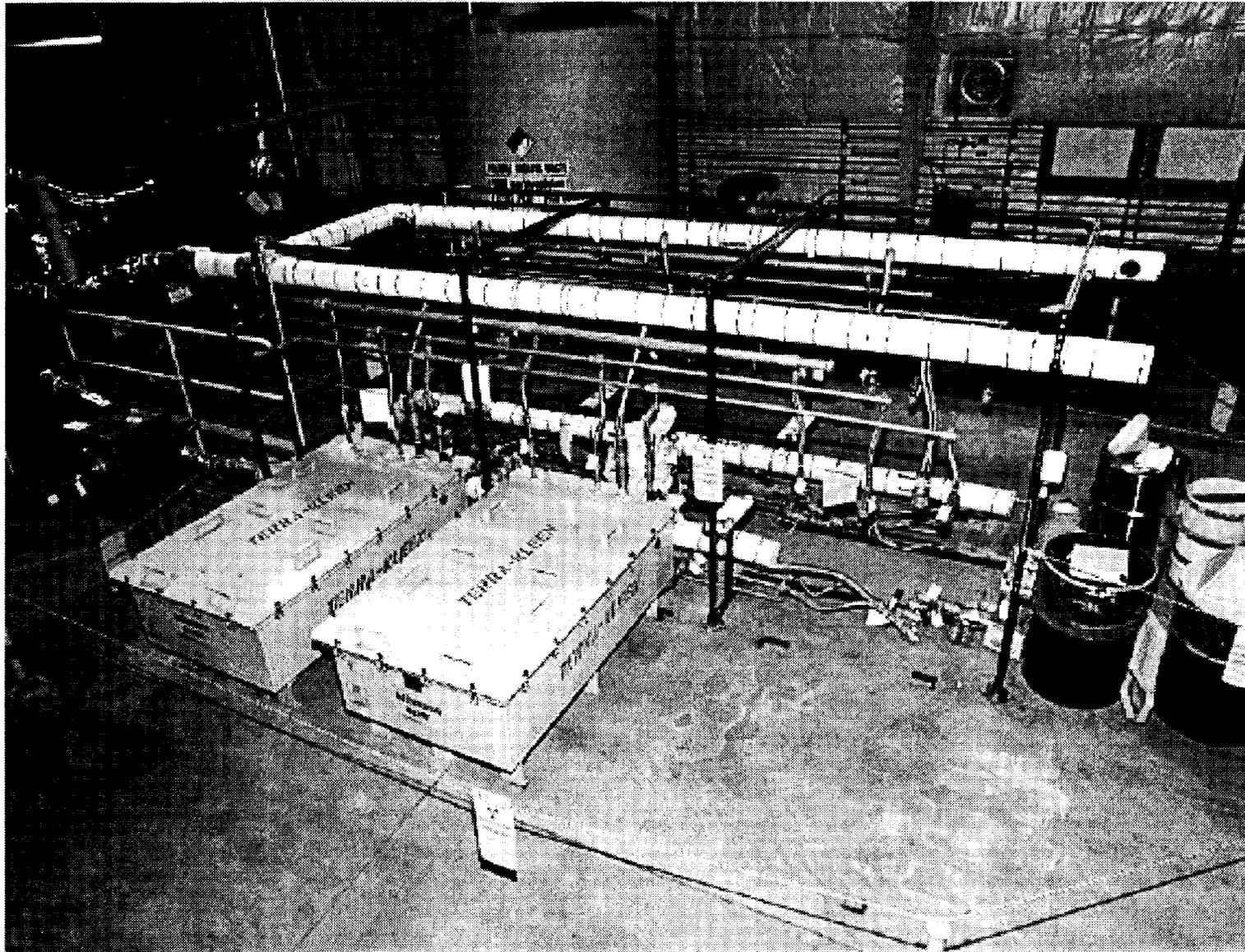
WASTE MANAGEMENT PROJECT

90-Day Look Ahead - Work Activities *Nuclear Materials Disposition Projects*

- Award contract for off-site analytical work in support of BNFL contract
- Continue negotiations on following contracts:
 - Remaining normal compounds and Low Enriched Materials
 - Depleted uranium
 - Normal uranium metal
- Complete T-Hopper Project construction activities - 12/97

No Enforceable Milestones Due in Next 90 Days

RAPID COMMERCIALIZATION INITIATIVE - BUILDING 80 -OCT '97



69 6444-154 11/97

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GREEN SALT OVERPACKING - 4B WAREHOUSE - OCT '97



RAPID COMMERCIALIZATION INITIATIVE - PLANT 6 SOIL SAMPLING - OCT '97



6444-177 11/97

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1098

PROJECT MANAGEMENT

National Plan Review

This Plan is now called the "2006 Plan"

FEMP draft submittal to OH	- Nov. 10
Received comments	- Nov. 17
FEMP final submittal to OH	- Nov. 21
OH submittal to DOE-HQ	- Nov. 26
DOE-HQ submittal to OMB	- Dec. 18
DOE-HQ release to Public(tentative)	- Feb. '98

FERNALD CLEANUP PROGRESS BRIEFING

NOVEMBER 1997

7:10 p.m. Silos Project Public Hearing Gary Stegner

Introductory Remarks

7:20 p.m. Overview of Silo 3 *Draft Final* Terry Hagen

Explanation of Significant Differences
document

7:40 p.m. Question and Answer Session Gary Stegner

7:45 p.m. Comments From U.S. EPA Jim Saric

7:50 p.m. Comments From Ohio EPA Tom Schneider

--BREAK--

8:00 p.m. Formal Public Comment Period Gary Stegner

8:30 p.m. Meeting Concludes

SILOS PROJECT

Silo 3

Original Selected Remedy

- Operable Unit 4 Record of Decision (December 1994)
called for:

Removal and vitrification of the Silo 3 contents

Off site shipment for disposal at the Nevada Test Site

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Application of Original Selected Remedy to Silo 3

- Phase I Vitrification Pilot Plant operations indicated high sulfate concentrations detrimental to success
- Available measures to address high sulfate levels technically uncertain and/or cost prohibitive
- Above experiences led the Fernald Citizens Advisory Board, Independent Review Team, and Army Corps of Engineers to evaluate alternative treatment for Silo 3

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Regulatory Basis of Explanation of Significant Difference (ESD)

- US EPA position that ESD is the appropriate regulatory mechanism to consider alternate treatment if:

Alternate treatment is a Stabilization/Solidification process that meets original remedial objectives and standards

Alternate treatment is performed at a cost roughly equivalent to the original remedy

Remedy includes disposal at a protective, appropriately permitted off site disposal facility

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Overview of ESD

1. Introduction
2. Summary of site history, contamination, and selected remedy
3. Description of the significant differences and the basis for those differences
4. Support agency, public comments and responsiveness summary
5. Affirmation of statutory determination
6. Public participation
7. References

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EPA

Remediation Technologies, Screening Matrix Soils, Sediments, Sludges

Physical/Chemical Processes	Thermal Processes	Other Processes
1. Solidification/Stabilization Full-Scale/Conventional	1. High Temperature Thermal Desorption Full-Scale/Innovative	1. Excavation and Off-Site Disposal Full-Scale/Conventional
2. Solvent Extraction Full-Scale/Innovative	2. Vitrification Full-Scale/Innovative	
3. Chemical Reduction/Oxidation Full-Scale/Innovative		

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Silo 3 Waste Technologies Available

<u>Technology</u>	<u>RI/FS</u>	<u>ERT</u>
• Asphalt (Bitumen) Stabilization	X	X
• Chemical Stabilization/Solidification	X	X
• Polymer (Micro) Encapsulation	X	X
• Vitrification	X	X
• Ceramics		X
• Ceramic Silicon Foam		X
• Macro Encapsulation		X
• Metal Matrix (Ceramet)		X
• Molten Metal Technology		X
• Thermal Setting (Epoxy) Resins		X
• Sulfur/Polymer Encapsulation		X
• Phoenix Ash Stabilization		X

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Technology/Process Screening Factors

- **Effectiveness**

- Mobility of constituents of concern

- Volume increase/decrease

- Waste Acceptance Criteria for characteristic metals

- Long-term effectiveness/permanence

- **Implementability**

- Commercial availability

- Secondary waste produced

- Pretreatment required

- Processing throughput

- System reliability/maintainability

- **Cost**

- Overall cost

- Capital or operation, maintenance, and disposal cost intensive

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Proposed technologies to carry forward for detailed evaluation

- **Chemical Stabilization/Solidification**
- **Polymer (Micro) Encapsulation**
- **Sulfur/Polymer Encapsulation**

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Silos 3 Path Forward CERCLA "Nine Criteria"

- **Threshold Criteria**

- Overall Protection of Human Health and the Environment
- Compliance with Applicable or Relevant and Appropriate Requirements

- **Balancing Criteria**

- Long-Term Effectiveness and Permanence
- Reduction of Toxicity, Mobility, or Volume through Treatment
- Implementability
- Short-Term Effectiveness
- Cost

- **Modifying Criteria**

- State Acceptance
- Community Acceptance

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Proposed Silo 3 Remedy

- Stabilization/Solidification of Silo 3 Contents using one of the Following Treatment Technologies:

Chemical Stabilization/Solidification

Polymer-Based Encapsulation

- Off site Disposal at the Nevada Test Site or an appropriately permitted Commercial Disposal Facility

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Path Forward on ESD

- Public Comment Period ends December 16, 1997
- Develop Responsiveness Summary for incorporation into the Final ESD - expected January 1998
- Final ESD will be available for public inspection at PEIC
- Complete public/vendor review of Draft Request for Proposal (RFP) December 3, 1997
- Issue Final RFP - expected March 1998