



FRIDAY MAILING

4/25/97

INCLUDED IN THIS MAILING ARE:

- Summary of DOE Community Meeting - April 15, 1997
- Meeting Handouts from DOE Community Meeting - April 15, 1997
- Fernald Community Reuse Organization Path Forward
- Announcement on Supplemental Environmental Project Input

ANNOUNCEMENTS:

- CRO MEETING:** The Citizens for Reuse Organization (CRO) will hold their next meeting on Tuesday, May 6, 1997, at the Ross High School Media Center.
- WASTE MANAGEMENT COMMITTEE:** The Waste Management Committee will meet on Wednesday, May 7, 1997, at 7:00 p.m. at the Uno Building.
- HEALTH EFFECTS SUBCOMMITTEE MEETING:** There will be a Health Effects Subcommittee Meeting on Wednesday and Thursday, May 7th and 8th at The Plantation. Wednesday -1 to 9 p.m, Thursday -8:30 a.m. to 5 p.m.
- TASK FORCE MEETING:** The next full Task Force Meeting will be held on Saturday, May 10, 1997, at 8:30 a.m. in the Alpha Building. **This meeting will include a site tour of recent and planned remediation activities.**
- WORKSHOP ON SILO 3:** On Wednesday, May 14, 1997, at 7:00 p.m. there will be a workshop on Silo 3 at The Plantation.
- FRESH MEETING:** FRESH will hold their next meeting on Thursday, May 22, 1997, at Venice Presbyterian Church on Layhigh Road in Ross. All are welcome to attend.
- WORKSHOP ON OU2 AND OU5 (tentative):** There is a tentative workshop scheduled to discuss OU2 and OU5 on Tuesday, May 27, 1997.

QUESTIONS:

Please call John at [REDACTED] or Doug at [REDACTED] with questions or concerns. You may also fax or e-mail us at:

John FAX: 281-3331 E-MAIL: john.applegate@law.uc.edu
 Doug FAX: 648-3629 E-MAIL: [REDACTED]

SUMMARY OF DOE COMMUNITY MEETING
April 15, 1997
Plantation, Harrison, Ohio

Approximately 70-80 people attended the DOE Community Meeting at the Plantation on Tuesday evening, April 15. In addition to the general public, this number included representatives from: FRESH, Fernald Citizens Task Force, Community Reuse Organization, Ohio Dept. of Health, trustee from Crosby Township, Ohio EMA, Hamilton Co. DES, reporter from Journal News, U.S. EPA, OEPA, DOE Ohio Field Office, DOE-FN and Fluor Daniel Fernald.

Gary Stegner, DOE Public Affairs, opened the meeting at 7 p.m. with comments on:

- information and clarification on the Draft Ohio Field Office Workforce Restructuring Plan
- the Independent Review Team's reports availability at the PEIC (end of next week)
- gave the WORLD WIDE WEB address of the FEMP's WEB site on the Internet
- introduced DOE-OH Acting Field Office's Director, Bob Folker
- introduced Fluor Daniel Fernald's Public Affairs Director, Tricia Thompson

Next Jack Craig, DOE-FEMP Director, talked about the General Accounting Office's report, Management and Oversight of Cleanup Activities at Fernald, that was released last month. The two recommendations made by the GAO were: (1) to review Fluor Daniel's contract, and (2) DOE-FN needs to improve their oversight. Currently a team from DOE-FN and DOE-Headquarters is reviewing FD's contract options; hope to have a decision by the end of the month. Addressing DOE-FN's oversight, 35 actions have been identified and a plan has been developed and it should be available by the end of the week.

Concerning the Silos Project path forward, an Independent Review Team began meeting last fall and their final report will be available next week. The document consists of a majority report and a minority report. The three committees' combined report on the December melter incident is available at the PEIC. A team from the Army Corps of Engineers is looking at Corps cost estimates for OU4 and their report will be complete by mid-May. The Fernald Citizens Task Force is also evaluating OU4 activities. Their recommendations on Silo 3 and Silos 1 & 2 will be finalized at their May meeting.

The EM 10-year plan was expected to be out this week but will be delayed 2-3 weeks until the new DOE secretary and staff are comfortable with the contents of the plan. It won't be finalized until the end of September. There is a workshop next Tuesday (April 22) to discuss the FEMP's accelerated remediation plan (baseline) which has public involvement incorporated.

Following Craig was Johnny Reising, DOE Associate Director, giving a detailed presentation on the cleanup status of the five operable units, technology and waste management. Copies of his presentation are available by calling 5883.

Next John Bradburne, President of Fluor Daniel Fernald, commented on the three safety assessments that have been conducted at the FEMP. They show that communication with the work groups is getting better. The construction subcontractor has gone four years without a lost time accident. John also said the stability of the workforce in the near future looks good. Reorganizing about six months ago into projects has made FDF more productive and efficient and on some projects, ending up ahead of schedule and under budget. Good examples of uniting the workforce with subcontractors are Perma-Fix and Terra-Kleen. The new ARASA contract will also integrate our workforce with that of subcontractors.

Agency Updates and Stakeholder Groups:

U.S. EPA: Jim Saric -- Regardless of newspaper, Silos/VITPP, GAO Rpt., there is progress being made at the FEMP, as indicated by Reising's presentation. Obstacles are to be expected; implementing the ROD(s) is as hard as getting to that point. EPA is meeting with DOE/FDF tomorrow to discuss the OU4 dispute resolution. There'll be several public meetings regarding the OU4 path forward. Important that everyone stay involved.

OEPA: Graham Mitchell (filling in for Tom Schneider) -- Fernald is showing good progress as J. Reising's presentation indicated. Even though there are problems associated with OU4, there are scores of projects throughout the operable units that are on schedule. Ohio is committed to this site and is committed to keeping up the same level of public involvement.

Fernald Citizens Task Force: John Applegate -- Updates on the following issues:

- **OU4/VITPP:** Concerned that we not move away from vitrification without careful consideration. Recommended Silos 1 & 2 be treated separately from Silo 3; vitrification is the required technology to be used, especially for 1 & 2, but realize there are difficulties there. CTF would like to see side by side comparisons showing vitrification to other technologies to understand the results and the consequences. Very interested in the IRT report(s). Are co-sponsoring the May 14 Silos Project workshop.
- **Cost & Schedule:** CTF is looking for ways to help make sure money is spent on remediation.
- **Transportation:** Shipping waste to NTS by truck is expensive and risky. Looking at intermodal as a way to improve shipping.
- **Recycling:** The more we can recycle will reduce costs and also reduce the material going in the OSDF.

At the March task force meeting, Al Alm said the 10-year plan means nothing if the FEMP doesn't meet its objectives -- meaning "if we can't do it, no one can".

Community Reuse Organization: David McWilliams, Superintendent of Ross Schools and Chair of the CRO -- commented on:

- Completed path forward.
- Establishing a committee structure on: reuse of equipment and materials; reuse of land; workforce transition; economic development; and, tracking CRO's progress. Membership on these committees will be open to the public.
- As of April 11, CRO is incorporated; in process of getting tax-exempt status.
- Will receive check for start-up grant to put out an RFP for technical consultant.
- CRO meets first Tuesday of every month at Ross High School; public is invited.

FRESH: Lisa Crawford -- Commented on:

- **OU4:** Wants OU4 IRT Report as soon as it is released. Wants UC report on OU4. Make sure we have all the information before proceeding with the path forward.
- **10-year plan:** It isn't done? We need better communication from HQ to the local people. Need to look at local vs. National issue -- The FEMP's 10-year plan, HQ's plan & DOE OFO's plan. There's confusion over the 10-year plan. Since cleanup in 10 years will never happen, we need to call it the accelerated cleanup plan. We intend to make sure DOE follows through on its commitments to fund the accelerated cleanup (ref: hold feet to the fire).

- 3161: She's seen the draft report that is coming out tomorrow (16th) and it's causing concern from some employees at the FEMP. (She's had several calls) Need to spell out clearly that it doesn't affect the FEMP. The report, while intended for the Mound facility, sounds like it includes Fernald when it refers to a RIF. Please get copies to the workforce and provide a means where they can get answers from management. Make sure Task Force and CRO also get copies. Comments on the plan will be due May 15.
- Recycling: We've met a couple of times on the recycling issue but have heard nothing for a long time. We need to be updated.

Question & Answer Session:

The following questions/comments were discussed:

Army Corps of Engineers is looking at OU4 cost and design, do they have accounting and finance expertise?

Since you changed from OUs to projectization, how can you track costs and budget?

GAO report mentioned contract reform issue, what is the status of that?

A hot spot was discovered near the old north entrance at Rt. 126 about 20 feet from the road, how did it get there? What's the environmental monitoring status? How long was it open to the elements? Any migration?

One environmental monitoring plan to cover all the projects, what is the status of the IEMP?

Seems like OU4 was totally left out tonight. Lots has happened since the last meeting. Need to hear about it, even though it's not all good news.

Leachate Conveyance System for OSDF, need to be brought up to date on this process.

Mentioned parking lot construction to reroute run-off to Paddys Run instead of AWWT, are you monitoring at point of entrance to Paddys Run? What about leaks of anti-freeze, gas, oil, etc? What about fugitive dust from OSDF construction to parking lot?

What's the status of declaring nuclear materials a waste?

Resident/employee commented on the positive benefits of aggressively going after EM funding for the Technology Deployment Initiative.

Meeting adjourned at 9:05 but DOE/FDF personnel continued meeting with some residents.

A transcript of the meeting will be available in two weeks. If anyone would like handouts from the meeting, please contact Jeanie Foster at 5883.



OPERABLE UNIT 1

FERNALD

Remedial Action Work Plan

- Draft RAWP submitted to EPAs
Final RAWP approved by EPAs
10/21/96
2/06/97

Procurement Action for ARASA Subcontractor

- Issued Request for Proposals to
7 prequalified vendors
Pre-Proposal Conference held with vendors
Proposals received
Award planned for
1/31/97
2/19-20/97
4/04/97
9/97

Okeana Trestle Upgrades

- Contract for the upgrade work for the
Okeana Trestle awarded
Mobilization to begin week of
Completion due
2/14/97
4/14/97
11/97

6



OPERABLE UNIT 1 (con't.)

FERNALD

On-Site Rail Improvements

- **Contract awarded** 10/08/96
- **Completion due** 9/97
- **Includes installation of 17,500 feet of rail, and switches and turnouts**
- **Storage capacity for 135 cars**
- **Contract includes upgrades of Paddy's Run Trestle (on-site trestle)**

Site Improvement Activities

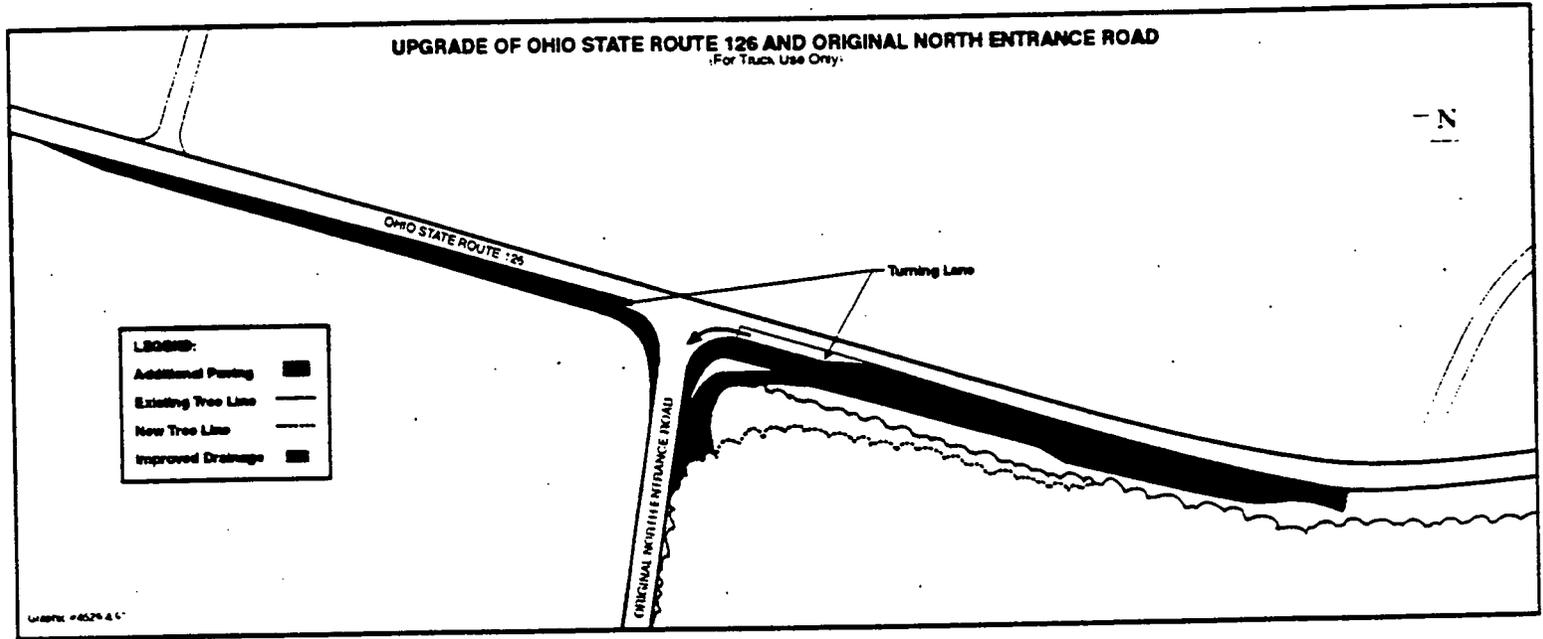
- **Completed all excavation in future waste pit process area** 10/11/96
- **Turned over 80% of completed track area to railroad subcontractor** 12/23/96
- **Completed rail scale pits and rail scale framework** 12/31/96
- **Initiate "original" north access road upgrades** 4/97



Graphic #4528 1 497

UPGRADE OF OHIO STATE ROUTE 126 AND ORIGINAL NORTH ENTRANCE ROAD
(For Truck Use Only)

N



GRAPHIC # 65278 & 6



OPERABLE UNIT 2

FERNALD

On-Site Disposal Facility (OSDF)

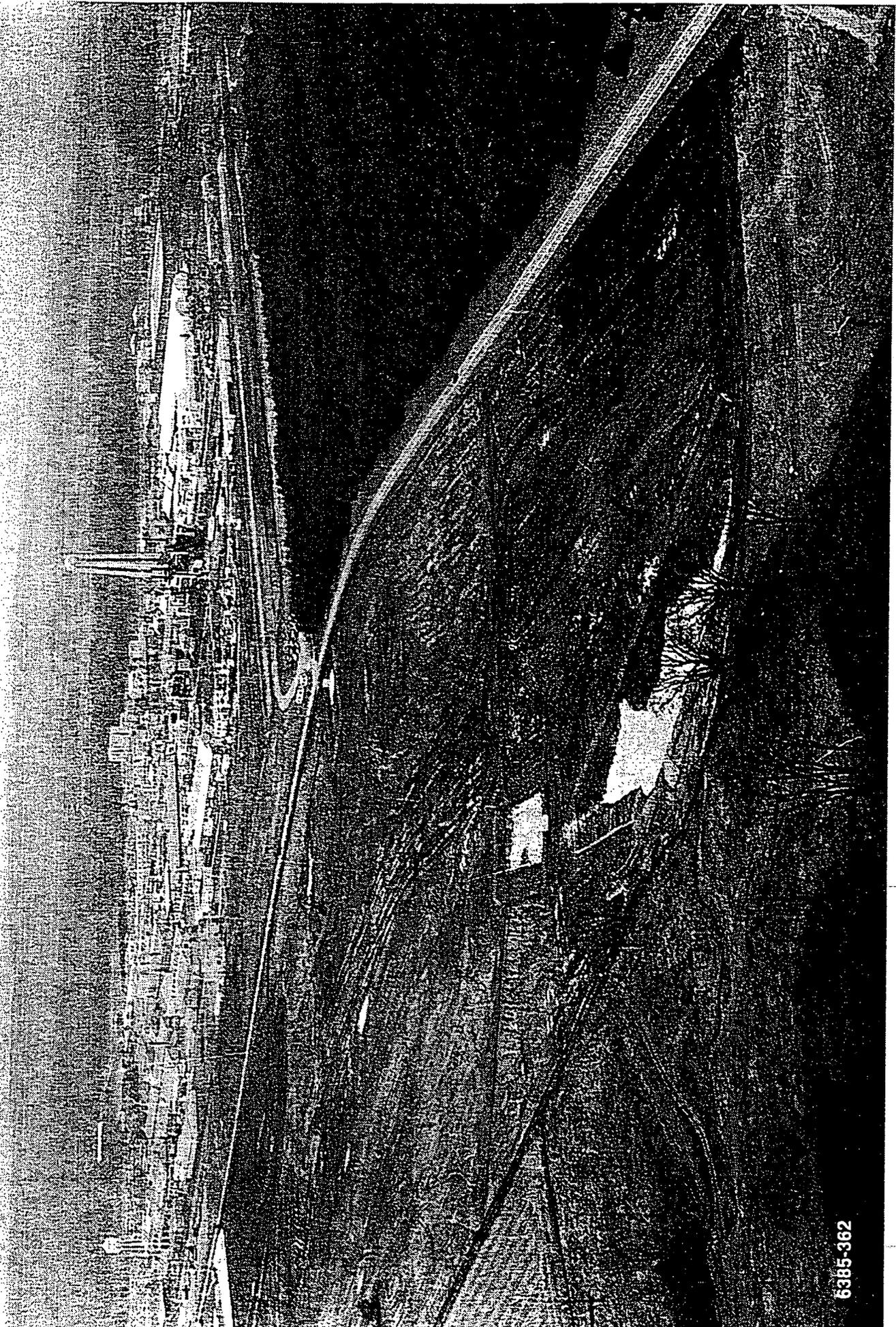
- Final Designs of OSDF and Leachate Conveyance System submitted to EPA and OEPA on Received approval from EPA 10/14/96
11/25/96
- Awarded contract for construction of Leachate Conveyance System 1/13/97
- Awarded contract for construction of Phase I of the OSDF 4/02/97

Haul Road

- Received final approval of Roads Design from EPA 9/27/96
Received final approval of Roads Design from OEPA 1/22/97
- Awarded contract for construction of the Haul Road and Rerouted North Entrance Road 10/07/96
- Construction of Haul Road initiated 2/97

Rerouted North Entrance Road

- Construction of the North Entrance Road expected to begin 7/97
This will result in a temporary closure of the existing North Entrance Road.
The road closure will be discussed in an upcoming public workshop.



6385-362



CONSTRUCTION AREA
 AUTHORIZED PERSONNEL ONLY

ROADS PROJECT

THIS IS ONLY A LIMITED AREA OF THE PROJECT. ALL OTHER AREAS ARE UNDER CONSTRUCTION. ALL ACTIVITIES ARE SUBJECT TO THE DISCRETION OF THE PROJECT MANAGER. ALL PERSONNEL MUST BE IDENTIFIED BY THE PROJECT MANAGER.



OPERABLE UNIT 3

FERNALD

OU3 Integrated RD/RA Work Plan

- Submitted draft to EPAs for review and comment
- Anticipate RD/RA Work Plan Approval by

11/20/96
5/97

Boiler Plant/Water Plant (BP/WP)

- Submitted Draft Implementation Plan to EPAs
- Received Ohio EPA Approval and U.S. EPA Conditional Approval on:
Awarded Contract
- Issued Notice To Proceed

9/20/96
12/30/96 and 1/15/97
2/27/97
3/07/97

Thorium/Plant 9

- Submitted Draft Implementation Plan to EPAs
- Submit Comment Responses/Resubmittal

1/02/97
4/97

Safe Shutdown Activities

- Completed safe shutdown of Plant 5
- Plant 2/3

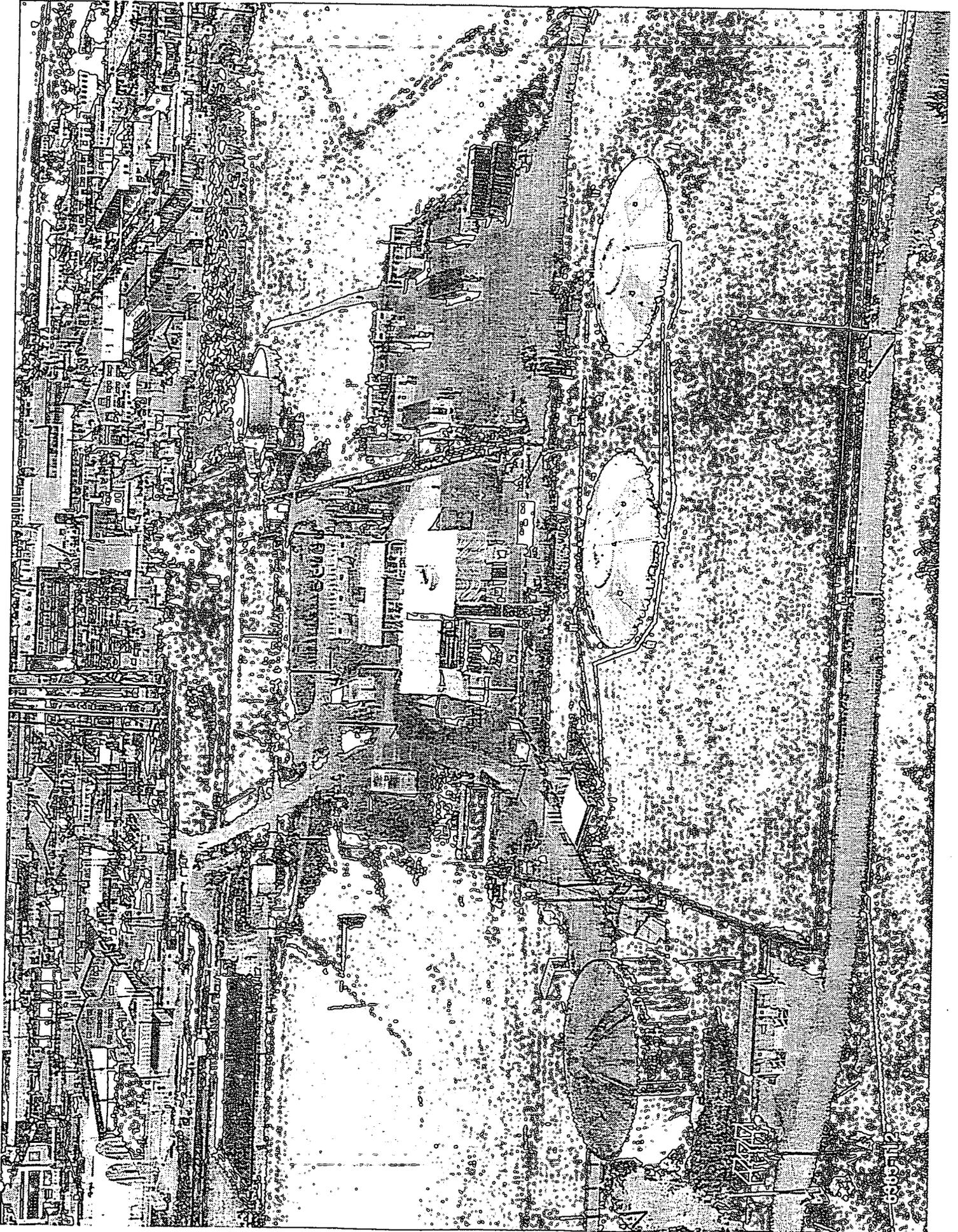
3/14/97
Ongoing

Decontamination and Dismantlement (D&D) Activities:

- Plant 1
 - Imploded Building 1A
 - Complete shearing and stacking of Debris
- Plant 4
 - Submitted Project Completion Report to EPAs

2/97
4/97

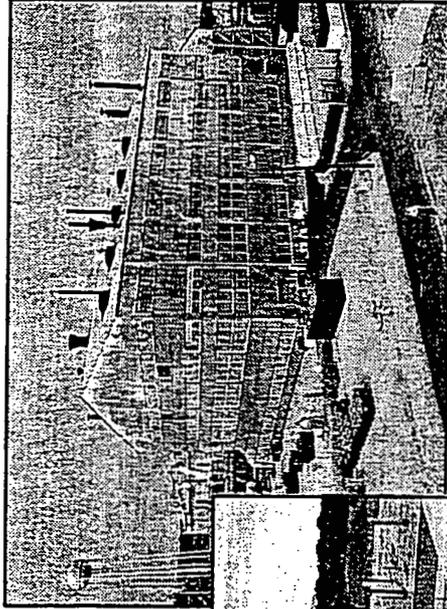
1/15/97





PLANT 4 DEMOLITION

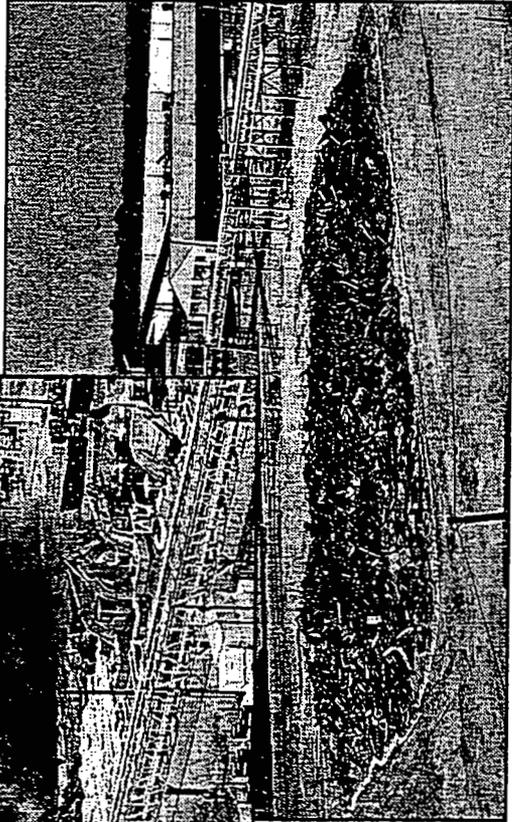
FERNALD



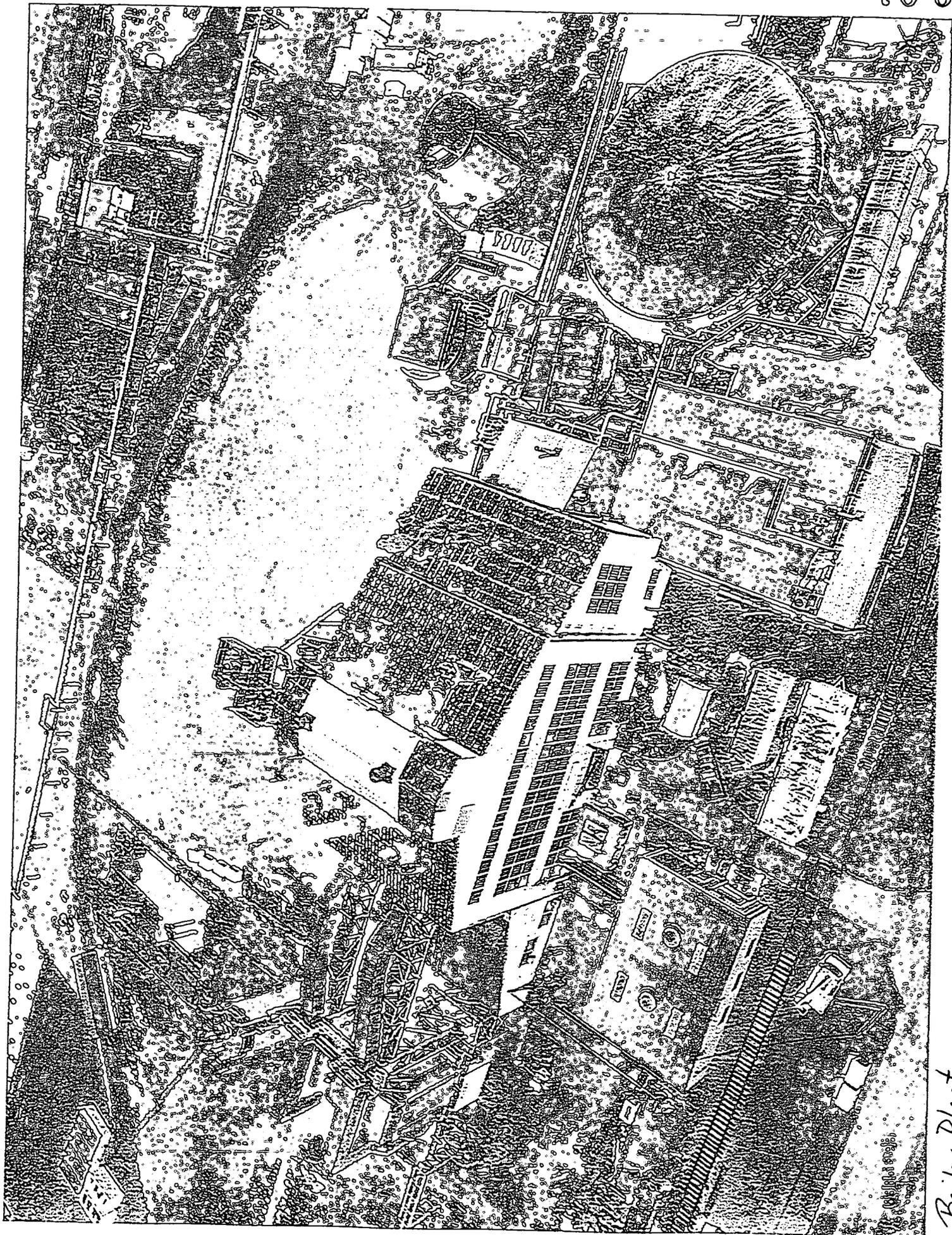
5965-2



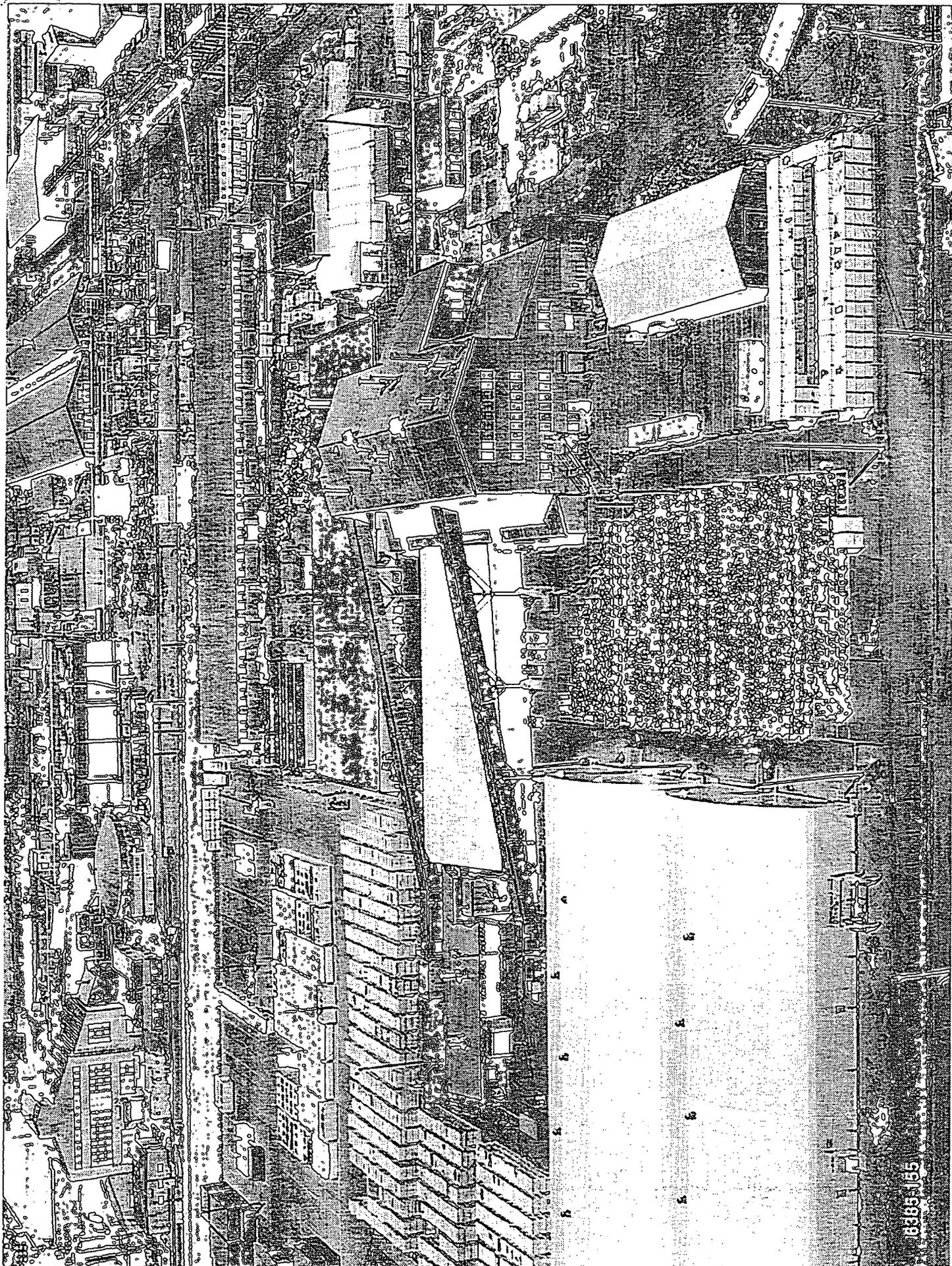
5965-821



5965-1067

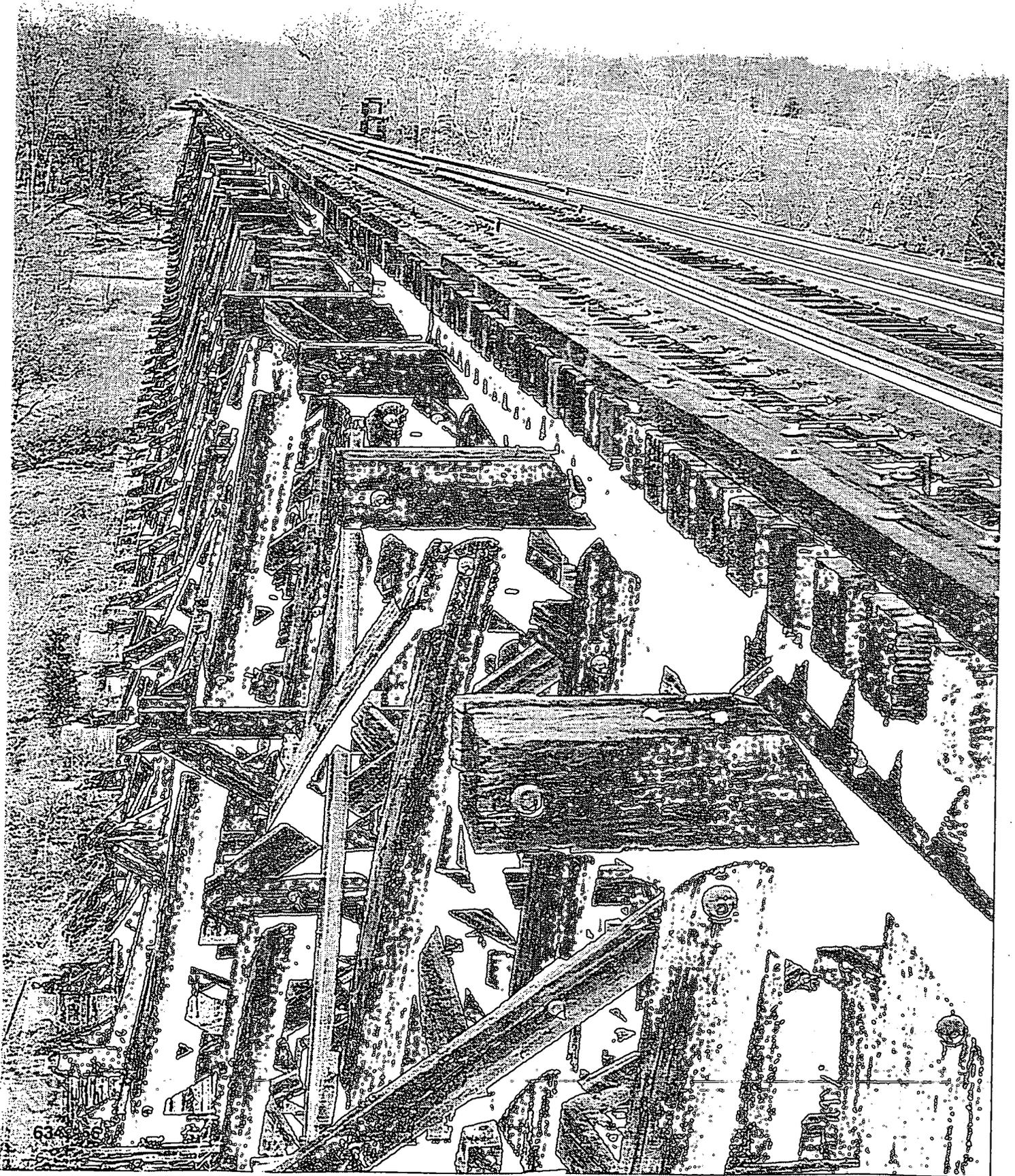


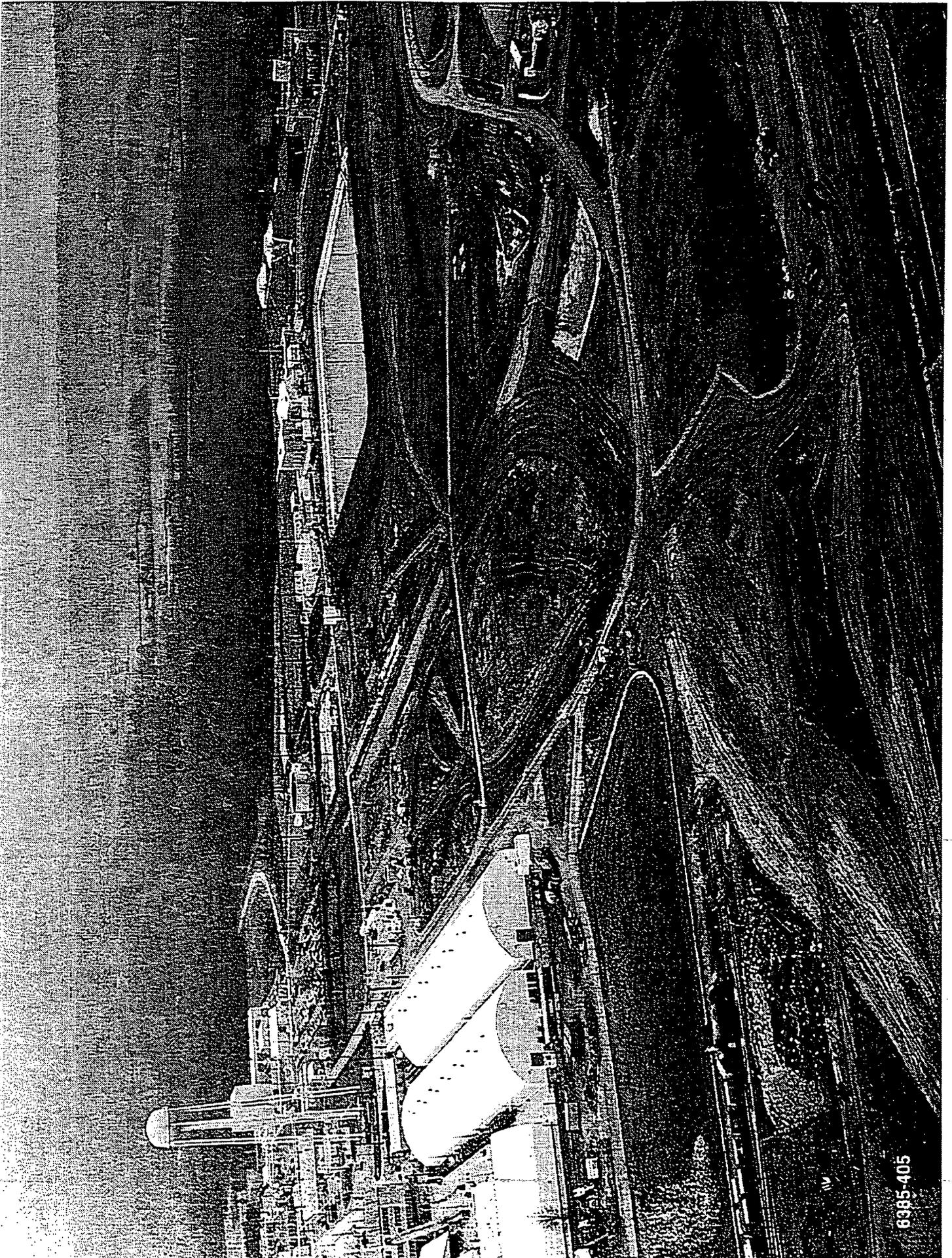
5 Boiler Plant



6385-155

Plant 1 and Plant 1 Pad





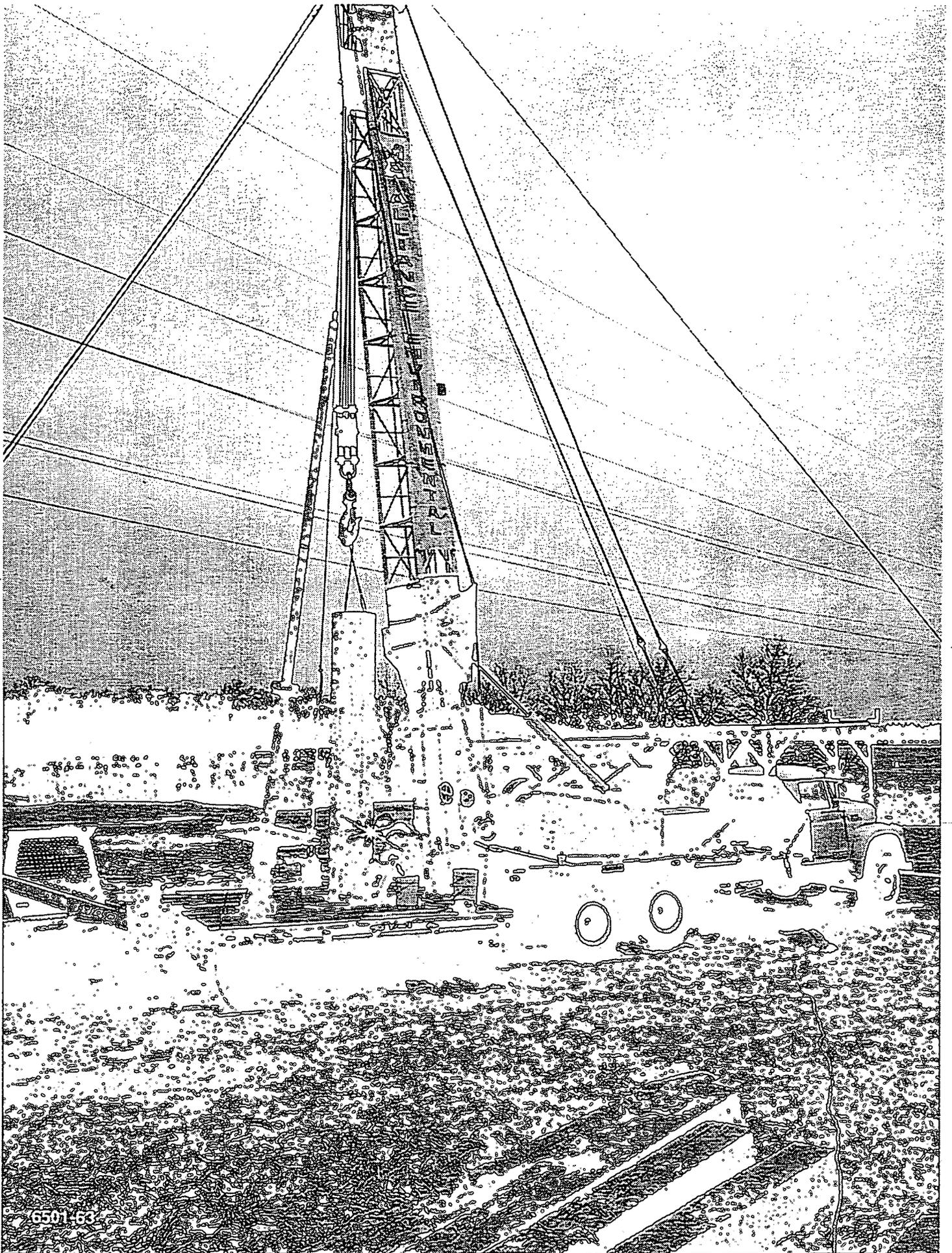
6985-405



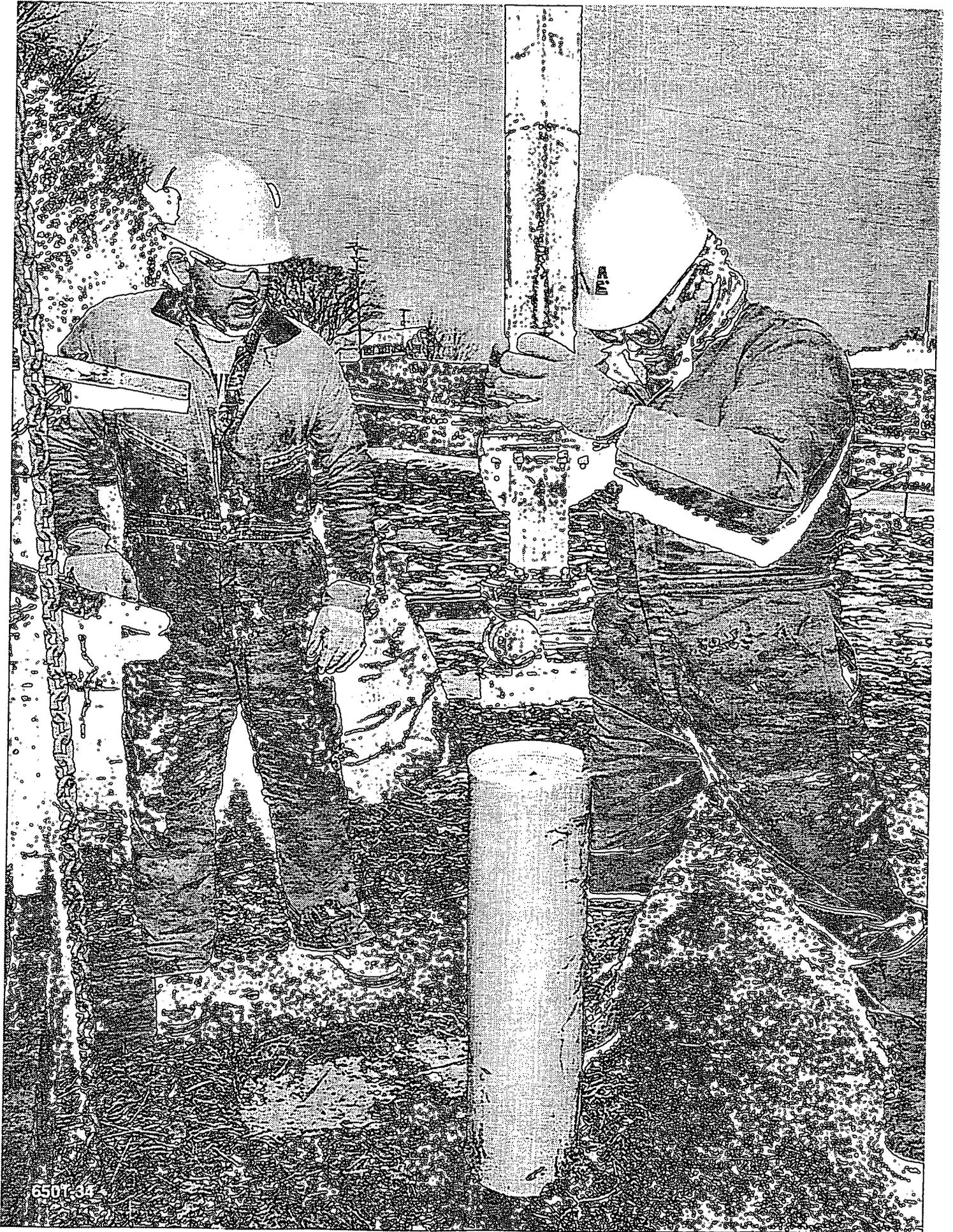
OPERABLE UNIT 5

FERNALD

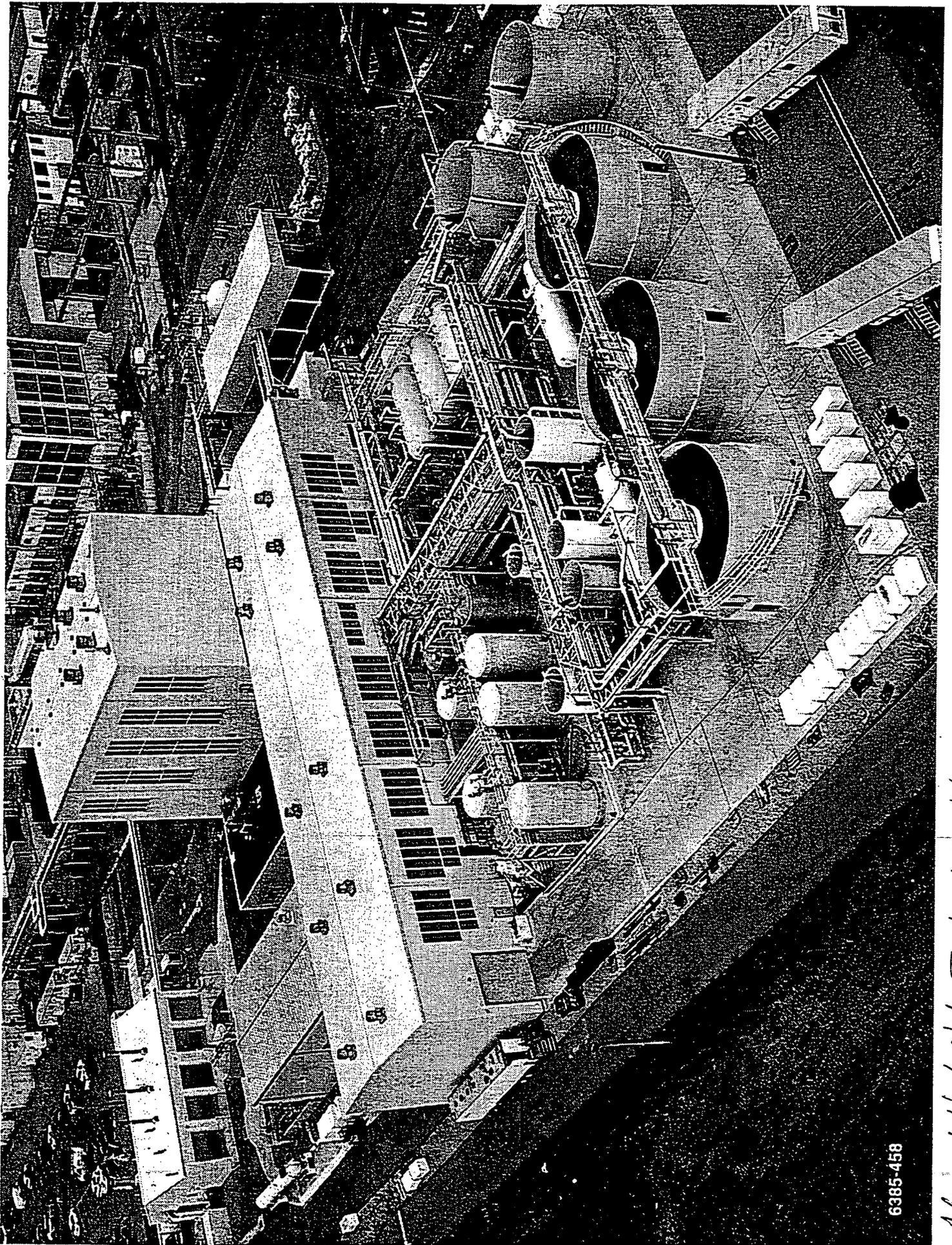
- Initiated drilling of South Plume Injection Demonstration Wells 11/21/96
- AWWT multimedia filters
 - Completed construction 12/14/96
 - Initiated startup and continuous operation 1/97
- Project Specific Plan for Restoration Area Verification Sampling Program submitted to EPAs 1/14/97
- Awarded contract for construction of 1800 gpm groundwater treatment expansion at AWWT 1/97
- Awarded contract for Parking Lot Stormwater Runoff Diversion Project 2/97
- Submitted pre-final design packages to EPAs:
South Plume Optimization 2/03/97
Injection Demonstration Wells 2/03/97
- Draft Final Integrated Environmental Monitoring Plan submitted to EPAs 3/07/97
- Public Water Supply completion Spring '97
- Area 1, Phase 1 Soil Certification milestone extension 7/01/97



6501-63

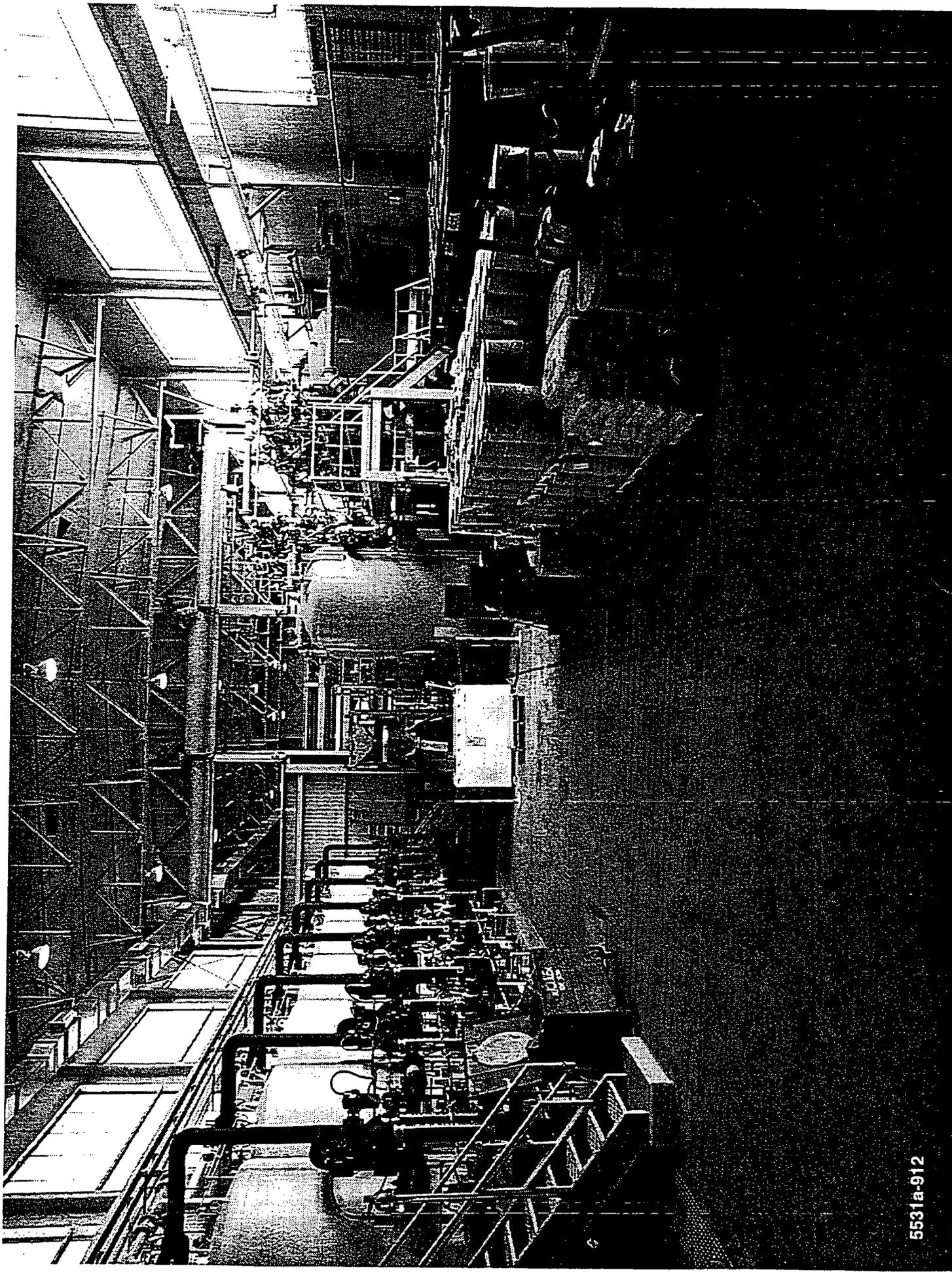


6501-34



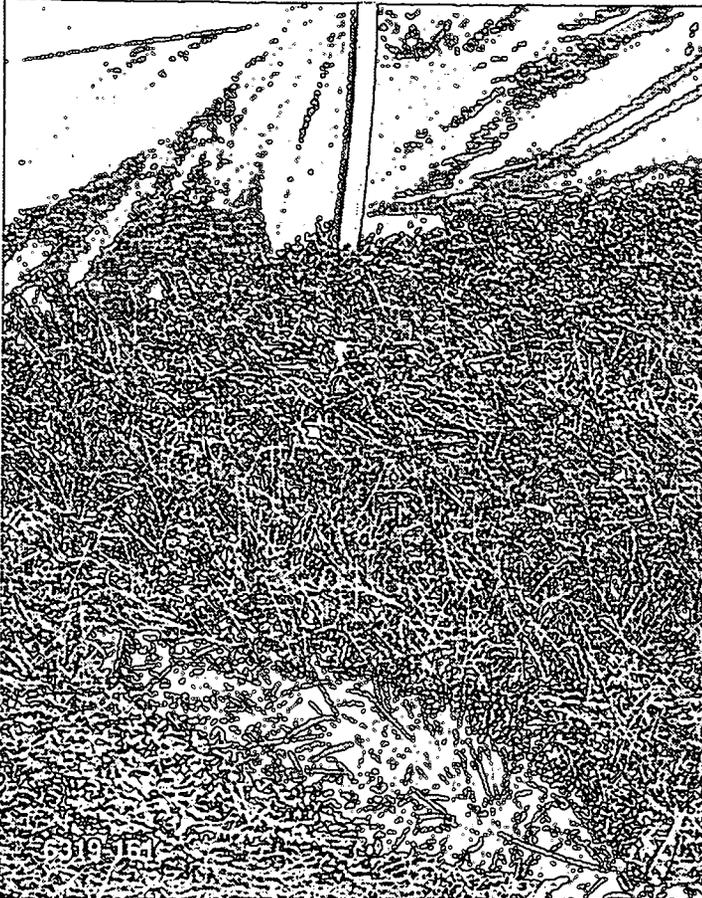
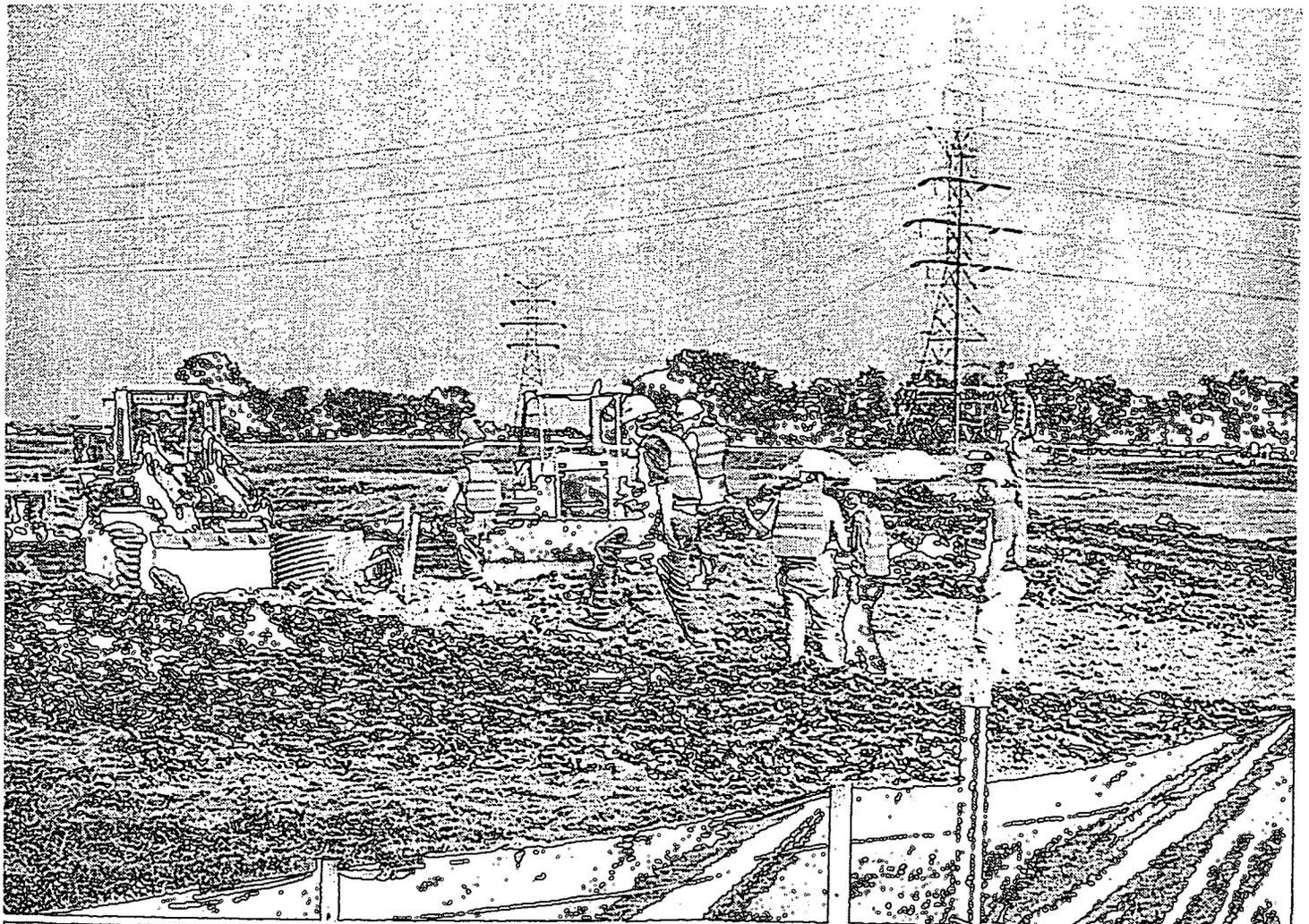
6385-458

Advanced Waste Water Treatment Facility



5531a-912

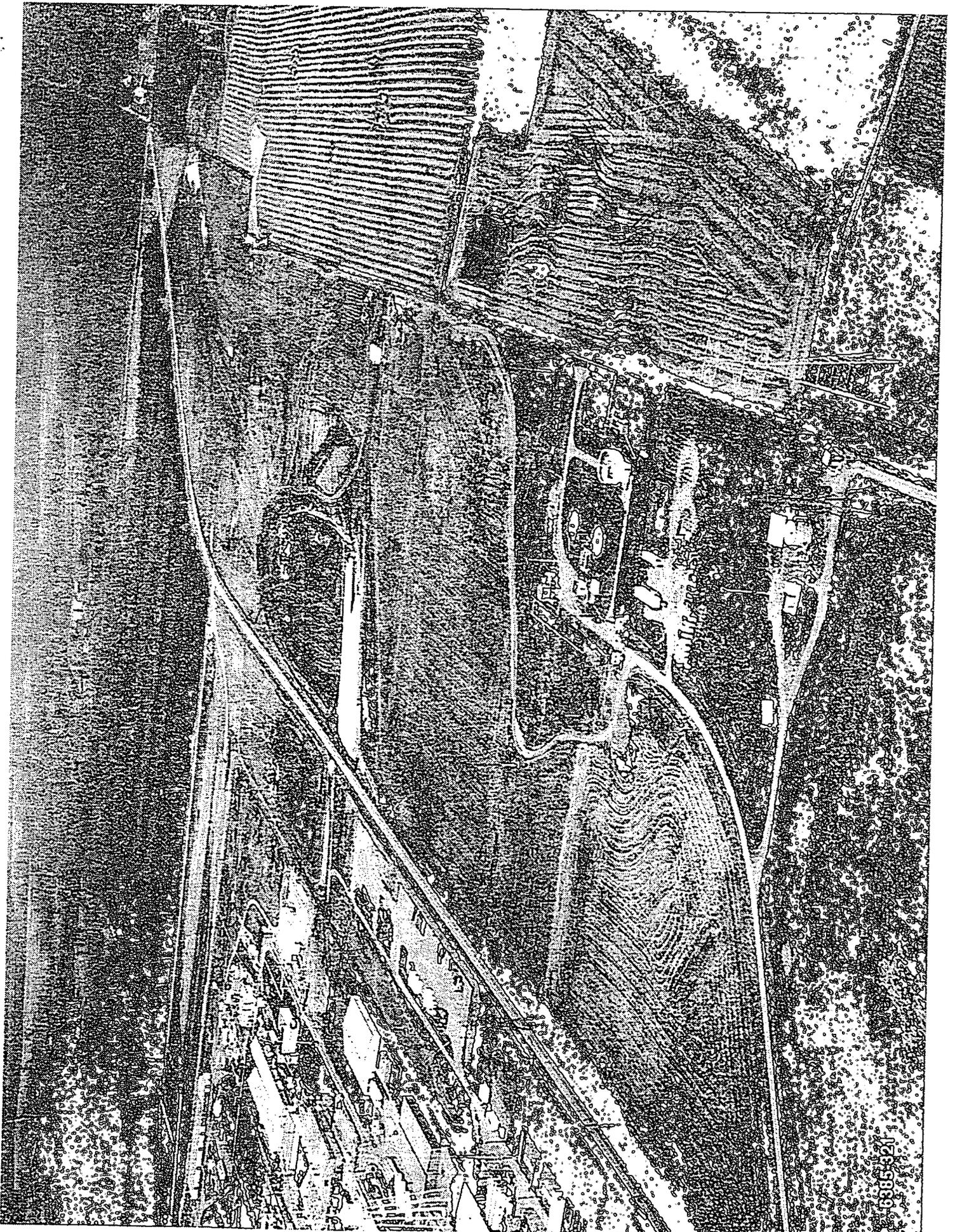
Advanced Waste Water Treatment Facility



CONSTRUCTION AREA
AUTHORIZED PERSONNEL ONLY

AREA 1 PHASE 1 (EAST)
SOIL REMEDIATION

ENTRY IS ONLY PERMITTED AT DEFINED ENTRANCE POINTS
YOU MUST HAVE BEEN BRIEFED ON THE PROJECT
SPECIFIC HEALTH & SAFETY REQUIREMENTS OF THIS
PROJECT AND BE APPROVED BY CONSTRUCTION
MANAGEMENT PRIOR TO ENTRY TO THIS CONSTRUCTION AREA
CONTACT LEE McDANIAL BY CONSTRUCTION RADIO #741602
OR LOU WEHLITE #741567 TO OBTAIN PERMISSION FOR ENTRY
AFTER HOUR SECURITY PHONE # 648-5614



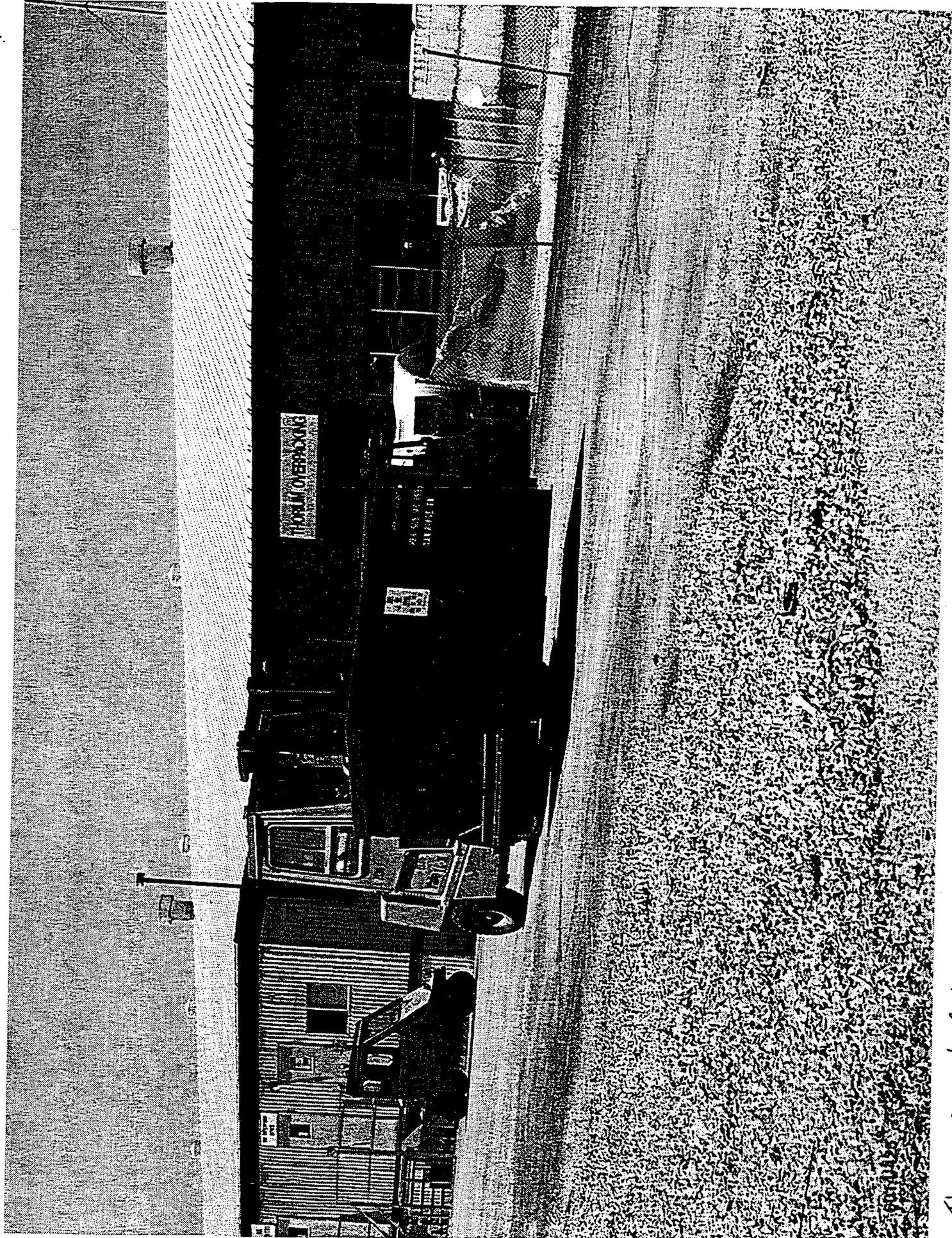


TECHNOLOGY PROGRAMS

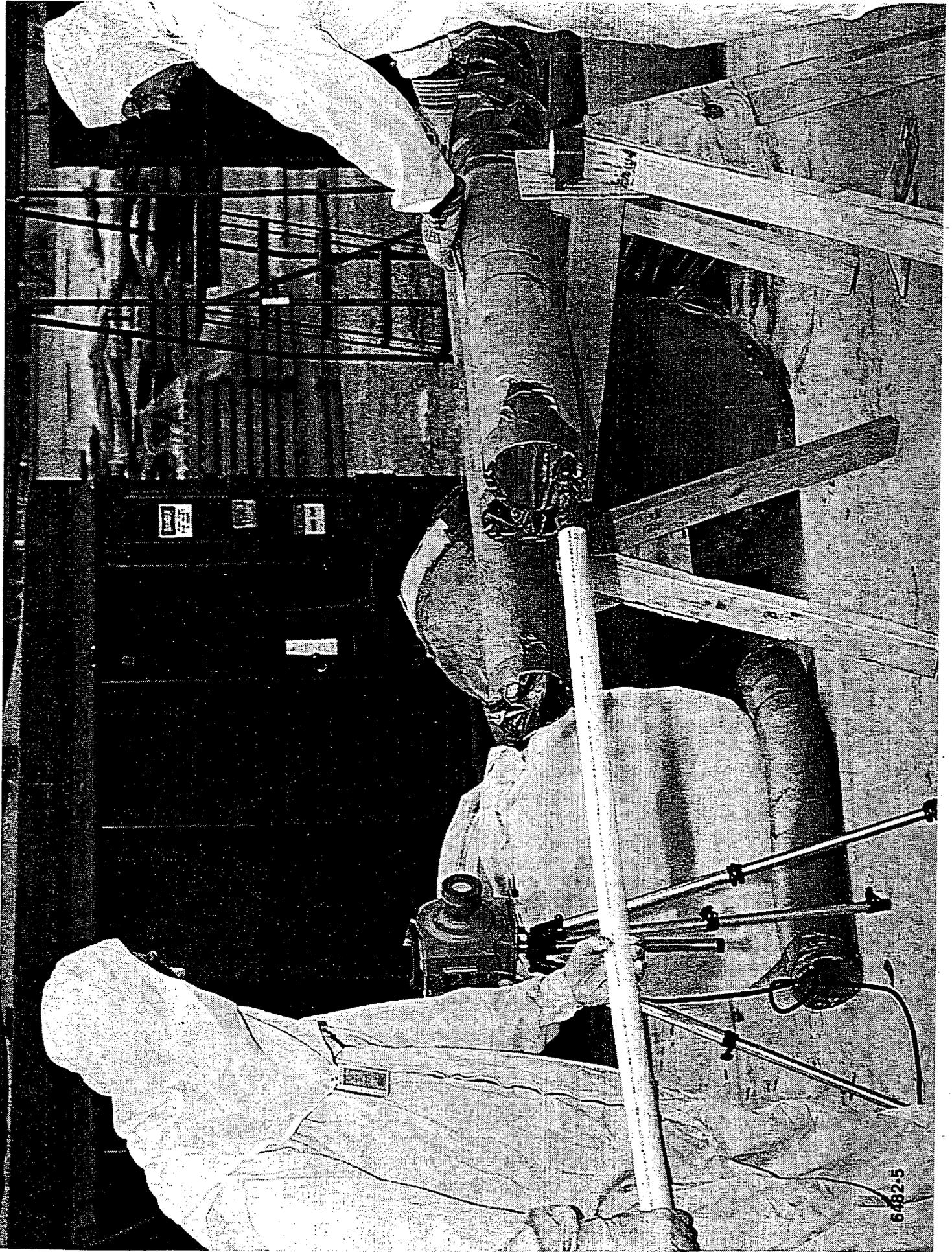
1997

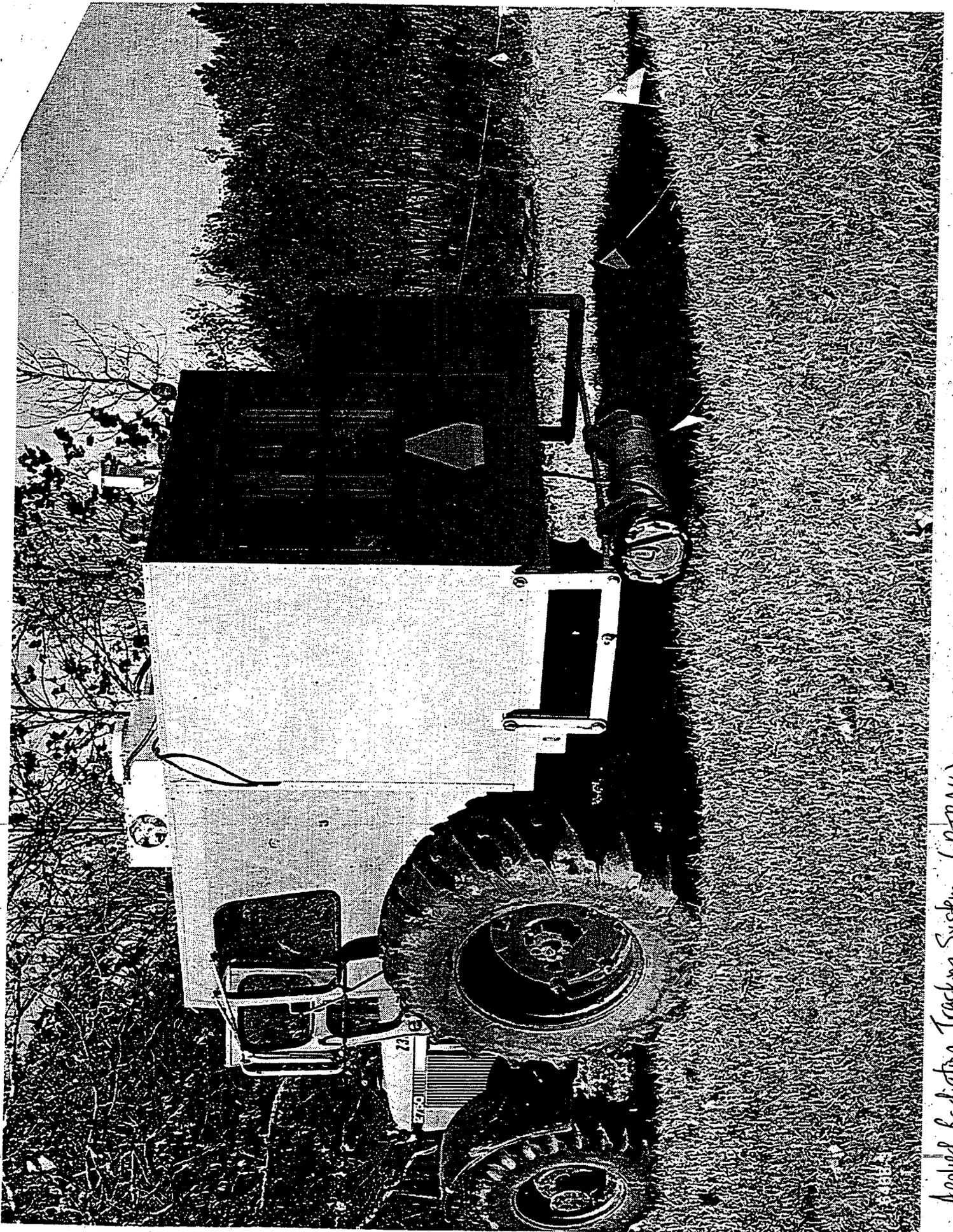
FERNALD

- Conducted six additional Large Scale D&D technology demos for Plant 1
- Hosted periodic meetings of stakeholder Site Technology Coordination Group (STCG) in October, January, and March
- Applied Radiation Tracking System—RTRAK—vehicle to map relative contamination in accessible area for Onsite Disposal Facility footprint
- Provided tour and presentations of the FEMP Large Scale D&D Technologies Demonstrations for the National Academy of Sciences Review on March 13, 14
- Developing Proposals for Technology Deployment Initiative



27 Thorium Overpack Container





Applied Radiation Tracking System (RTRAK)

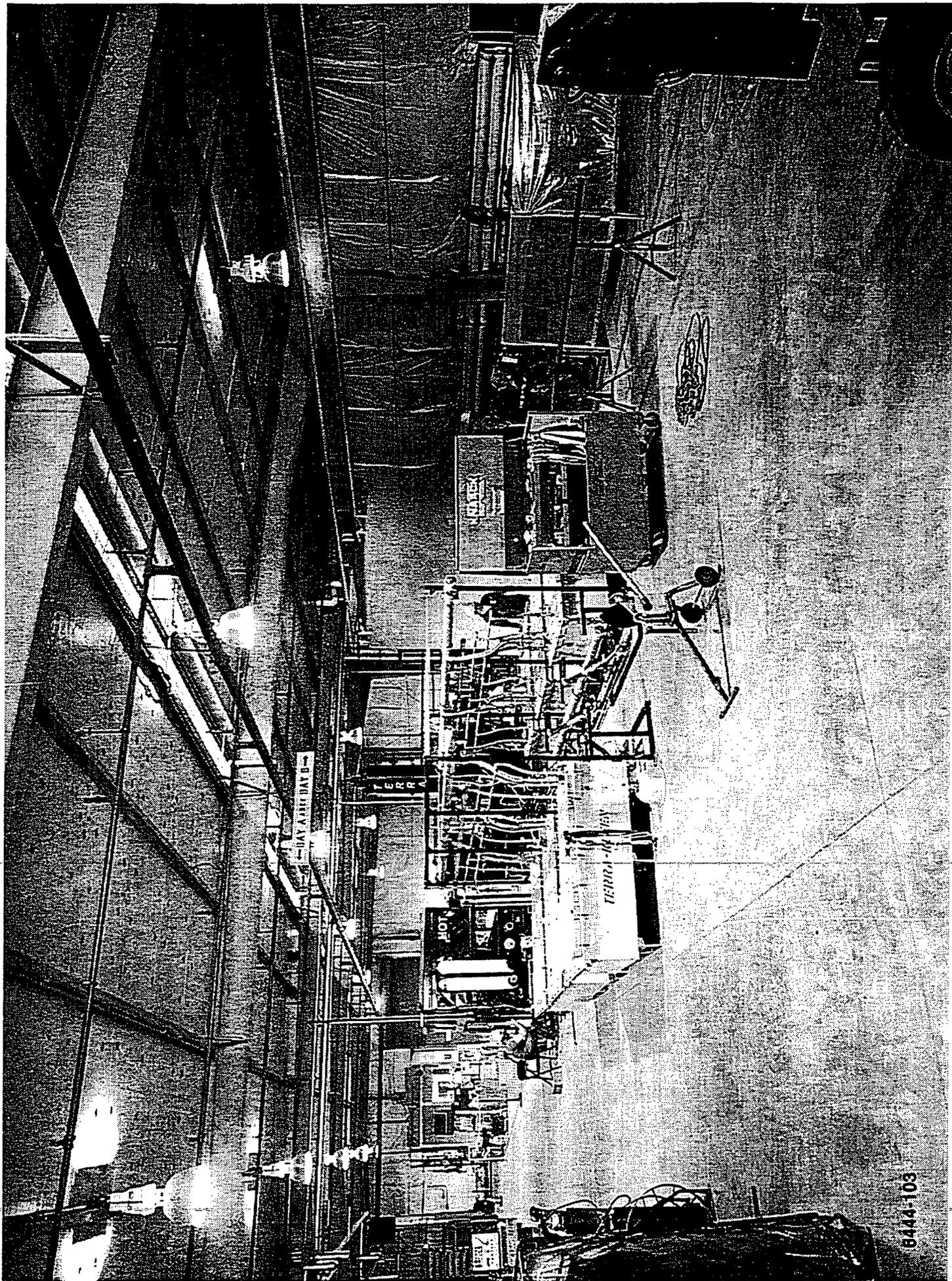


WASTE MANAGEMENT ACTIVITIES

FERNALD

- **Mixed Waste Projects:**
 - Shipped 10,759 cu. ft. of mixed waste to the Envirocare of Utah 1/30/97
 - Began thorium sampling to complete characterization of remaining thorium waste on site 1/28/97
 - Treated ⁵⁸⁸450 of 550 drums of waste in the Neutralization/Precipitation/Deactivation/Stabilization Project 8/29/96
- **Rapid Commercialization Initiative Solvent Extraction Project:**
 - Received final approval on work plan 3/26/97
 - Mobilization of Terra-Kleen equipment in Bldg. 80 3/03/97
- Shipped 123,720 cu. ft. of low-level waste NTS 3/28/97
- **Nuclear Materials Inventory (as of 3/01/97):**
 - Depleted - 8,504,485 lbs.
 - Normal - 486,862 lbs. *most sold to Allied Signal*
 - Enriched - 6,762,602 lbs. *interest in ~40%*
- **Thorium Overpack Project - (as of March 27, 1997)**
 - Project began May 6, 1996 with inventory of approximately 5600 drums
 - Overpacked 4,436 drums of thorium into ⁸³⁰758 thorium overpack containers (TOCs) *785 shipped*
 - Shipped 721 TOCs, or approximately 4,230 drums, to Nevada Test Site

Graphics 4528.10 4/97



6444-103



PUBLIC MEETINGS/AVAILABILITY SESSIONS FOR 1997 (some TBD)

FERNALD

<p>JANUARY</p> <ol style="list-style-type: none"> 1. CRO Meeting 7 2. Task Force 11 3. STCG 22 4. FRESH 23 	<p>FEBRUARY</p> <ol style="list-style-type: none"> 1. CRO Meeting 4 2. IRT Availability Session 12 3. Health Effects Sub 12,13 4. IRT Public Briefing 26 	<p>MARCH</p> <ol style="list-style-type: none"> 1. CRO Meeting 4 2. CTF/FRESH & DOE/FDF 13 3. Task Force 15 4. STCG 18
<p>APRIL</p> <ol style="list-style-type: none"> 1. CRO Meeting 1 2. FRESH 3 3. DOE Community Mtg. 15 4. DOE 10-Year Plan Mtg. 22 	<p>MAY</p> <ol style="list-style-type: none"> 1. CRO Meeting 6 2. Health Effects Sub 7,8 3. Task Force 10 4. Silos Project Workshop 14 5. Joint Response 20 6. C,P & T Mtg. 21 7. FRESH 22 8. OU2/OUS workshop (tent.) 27 9. STCG TBD 	<p>JUNE</p> <ol style="list-style-type: none"> 1. CRO Meeting TBD 2. Silos Project Workshop 3
<p>JULY</p> <ol style="list-style-type: none"> 1. CRO Meeting 1 2. Task Force 12 3. FRESH 24 4. STCG TBD 5. Silos Project Workshop TBD 	<p>AUGUST</p> <ol style="list-style-type: none"> 1. CRO Meeting 5 2. DOE Community Meeting 12 	<p>SEPTEMBER</p> <ol style="list-style-type: none"> 1. CRO Meeting 2 2. Task Force 20 3. FRESH 25 4. STCG TBD
<p>OCTOBER</p> <ol style="list-style-type: none"> 1. CRO Meeting 7 	<p>NOVEMBER</p> <ol style="list-style-type: none"> 1. CRO Meeting 4 2. Task Force 15 3. FRESH 20 4. STCG TBD 5. DOE Community Mtg. TBD 	<p>DECEMBER</p>

For more information, please call Gary Stegner at 648-3153.



PLANT 1 DEMOLITION AIR MONITORING RESULTS

Summary

Prior to and during the Plant 1 decontamination and dismantling (D&D) project, Fluor Daniel Fernald collected monitoring data from air monitors to detect for potential increase in airborne radioactivity (uranium).

Air monitoring results collected before, during and after the Feb. 22, 1997, implosion of Plant 1 were within administrative and regulatory limits. Data collected from the September 1994 Plant 7 implosion and the August 1996 Plant 4 implosion had similar results, with all emissions well within regulatory guidelines.

The Plant 1 air monitoring results for uranium, lead, asbestos, and nuisance dust are presented below.

Uranium

Four high-volume environmental air monitors were used to evaluate airborne radioactivity specific to Plant 1 activities. The air monitors have been operating around Plant 1 since December 1995. Data were collected for approximately four weeks prior to the start of D&D activities to establish a baseline for uranium concentrations. Filters from the monitors have been exchanged weekly and analyzed in the on-site laboratory for total uranium.

Data collected during the Plant 1 implosion and the week following the implosion (Feb. 22-28) indicate, as expected, a slight increase in uranium concentrations. A maximum value of .022 picocuries per cubic meter (pCi/m³) total uranium was recorded at a project-specific monitor located immediately east of Plant 1. Nine site perimeter fence-line air monitors were also operating during the implosion period. No increased uranium concentrations were detected at the site perimeter monitors. Fluor Daniel Fernald will continue to collect data until all Plant 1 project D&D activities are complete.

Lead

Six air samplers were placed at locations 100 to 700 feet from Plant 1 to detect airborne lead. Air samples were collected on the day before the implosion to measure background levels of lead, and on the day of the implosion. The air sample filters were analyzed for lead using National Institute for Occupational Safety and Health (NIOSH) methodology.

April 1997

Lead (continued)

Five of the six samples collected during the implosion had results which were less than the detection limit for lead. One sample located 250 feet downwind (east) from Plant 1 was slightly elevated with a result of 4.39 ug/m³. This one-time measurement occurred immediately after the implosion and was less than 10 percent of the Occupational Safety and Health Administration Permissible Exposure Limit (OSHA-PEL) for lead.

Asbestos

Seven asbestos samplers were established at locations 700 to 1800 feet from Plant 1. On the day before the implosion, air samples were collected to measure background levels of fibers in the air; a second set of samples was collected on the day of the implosion to measure airborne fiber levels which may have been generated by the implosion. The air sample filters were analyzed for fiber loading using NIOSH methodology. Air samples collected on both days had results which were less than the detection limit of 0.003 f/cc, and indicate fiber concentrations consistent with background levels.

Nuisance Dust

A real-time dust monitor was located about 250 feet east of Plant 1. Dust levels were 0.004 mg/m³ prior to the implosion, peaked at 1.68 mg/m³ immediately after the implosion, then returned to background levels of 0.004 mg/m³ about six minutes after the implosion. The peak level was approximately 20 percent of the American Conference of Governmental Industrial Hygienists Threshold Limit Value (ACGIH TLV) for total nuisance dust, and about 10 percent of the OSHA exposure limit for nuisance dust.

Conclusion

Fluor Daniel Fernald has collected data from three major D&D projects (Plant 7, Plant 4, Plant 1) which used implosion as a final dismantling approach. Monitoring results from all three projects have consistently shown minimal increases in airborne contaminant concentrations, demonstrating that the D&D activities are environmentally safe and effective. Future projects will be evaluated to determine the appropriate level of project-specific air monitoring in accordance with the Operable Unit 3 Integrated Remedial Design/Remedial Action Work Plan.

More Information

For more information on the results, please contact Gary Stegner, U.S. Department of Energy Fernald Environmental Management Project, (513) 648-3153.

EXPOSURE LIMITS

ASBESTOS

OSHA PEL: 0.1 fibers per cubic centimeter (f/cc)

Ohio Department of Health: 0.01 f/cc for airborne fiber levels outside asbestos work areas

LEAD

Detection Limit: 1.43 micrograms per cubic meter (ug/m³)

OSHA PEL: 50 ug/m³

NUISANCE DUST

OSHA PEL -- 15 milligrams per cubic meter (mg/m³)

ACGIH TLV -- 10 mg/m³

Technology to be Demonstrated as Alternative to Thermal Waste Treatment

A new Presidential environmental strategy called Rapid Commercialization Initiative (RCI) has been established to bring new technologies into commercial use and to verify their effectiveness. Under RCI and in conjunction with DOE and Fluor Daniel Fernald, Terra-Kleen Response Group Inc. is demonstrating a new technology at the FEMP. The DOE complex has long been challenged by the difficult prospect of treating mixed waste, but recently the FEMP has made some major steps in mixed waste treatment which have enabled it to move closer to meeting final remediation goals.

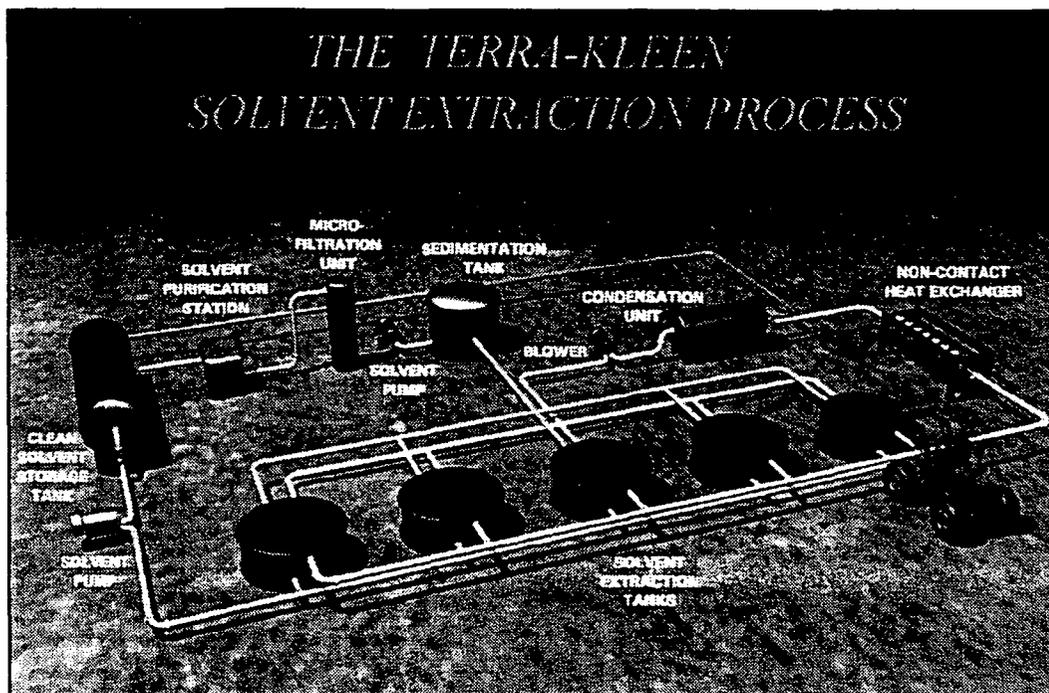
The new technology—called Mobile Solvent Extraction—treats both mixed (hazardous constituents and low-level radioactive) waste and tri-mixed (low-level waste containing hazardous constituents along with polychlorinated biphenyl [PCBs]) waste by using a nonhazardous solvent to wash hazardous organics from soils, sludges, and debris. After contaminated materials are washed with the solvent, the contaminated solvent passes through a recovery unit, where contaminants are separated from the solvent and concentrated, reducing the contaminant volume for disposal.

The Terra-Kleen process holds the only nationwide Toxic Substance Control Act (TSCA) permit for a non-thermal process to remove PCBs. The Terra-

Kleen process, a non-thermal technology, is a response to local citizens' opposition to the use of thermal treatment systems, such as incineration processes, at the FEMP. Non-thermal treatments eliminate the potential for hazardous emissions associated with thermal processes and are, therefore, considered safer for the environment.

The Mixed Waste Focus Area joined DOE, Fluor Daniel Fernald and Terra-Kleen in funding the RCI demonstration. This funding enabled the work to begin some 18 months ahead of schedule and saved the FEMP thousands of dollars in waste storage costs. Several federal agencies including DOE, U.S. EPA, the Department of Commerce, the Department of Defense, have come together to support the FEMP in making the RCI program a success.

The Mobile Solvent Extraction project is being performed at the FEMP in three phases. Phase I—preparation of documents and work plans—has been completed. Phase II—the demonstration phase—is scheduled to begin in March. Following successful demonstration, Phase III could begin as early as April 1997 and will include deployment of the technology for full-scale treatment of the remaining organic contaminated mixed waste inventory at the FEMP.



The Terra-Kleen process maximizes its waste reduction potential by:

- *recycling the extraction solvent as part of the routine system operations;*
- *maintaining a closed-loop process to reduce volatile emissions; and*
- *concentrating organic contaminants.*

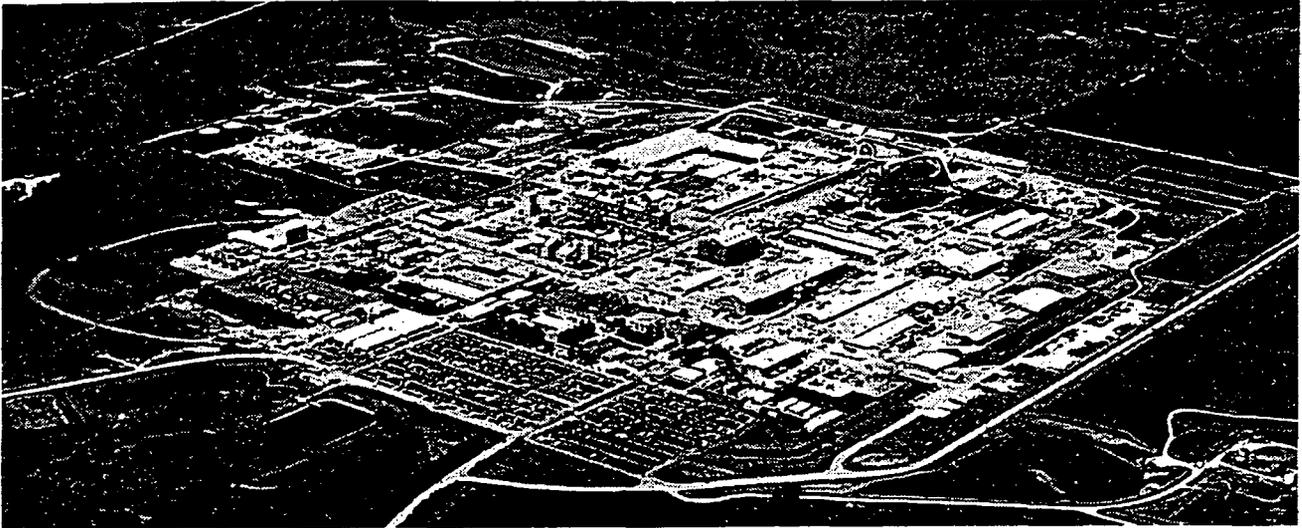


FERNALD

Environmental Management Project

Fact Sheet

February 1997



FEMP File Photo 6385-25: Photographed in July 1996, the Fernald Environmental Management Project covers about 1,050 acres.

Background

The Fernald Environmental Management Project (FEMP) is located about 18 miles northwest of Cincinnati, Ohio. Between 1953 and 1989, the U.S. Department of Energy (DOE) facility, then called the Feed Materials Production Center, produced uranium metal products for the nation's defense programs. The FEMP's products were used in production reactors to make plutonium and tritium at other DOE sites. In July 1989, the FEMP's uranium metal production was suspended to focus resources on environmental restoration.

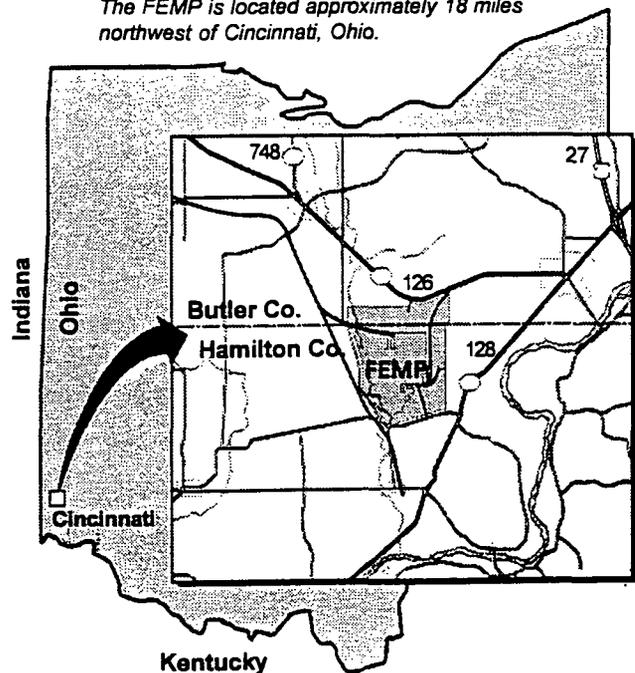
In 1992, Fluor Daniel Fernald assumed responsibilities for managing all cleanup activities at the FEMP under a contract with DOE. Formerly known as the Fernald Environmental Restoration Management Corp., Fluor Daniel Fernald is a wholly owned subsidiary of Fluor Daniel Inc., a global engineering, construction and diversified services corporation based in Irvine, Calif. The Fluor Daniel Fernald team is composed of Fluor Daniel, Jacobs Engineering Group Inc., Haliburton NUS Environmental Services, and Nuclear Fuel Services.

From January 1986 to November 1992, a subsidiary of Westinghouse Electric Corp., was the site's managing contractor. From 1951 to 1985, National Lead of Ohio was the managing contractor.

In October 1991, program management responsibility at DOE Headquarters transferred from Defense Programs to the Office of Environmental Restoration and Waste Management (now the Office of Environmental Management). The DOE Ohio Field Office in Miamisburg, Ohio, oversees the DOE-FEMP Office, which is responsible for FEMP cleanup efforts.

FEMP Location

The FEMP is located approximately 18 miles northwest of Cincinnati, Ohio.



Cleanup Mission

In December 1989, the U.S. Environmental Protection Agency (EPA) added the FEMP to its National Priorities List of federal facilities needing remediation. Since June 1991, when FEMP production ended, the FEMP work force has been dedicated to environmental restoration and waste management.

FEMP Accelerated Cleanup Plan

Under an accelerated cleanup plan, the FEMP will complete remediation approximately 10-15 years earlier than originally projected. Conceived by DOE and Fluor Daniel Fernald during budget negotiations for fiscal year 1996, the accelerated cleanup plan will save an estimated \$3 billion over the life of the project. Protection of worker and public health and safety are the highest priorities under the FEMP's accelerated cleanup plan.

Support and assistance in development of the accelerated cleanup plan was provided by Ohio EPA, U.S. EPA and the Fernald Citizen's Task Force. All three of these organizations provided letters of support to DOE Headquarters for the revised plan.

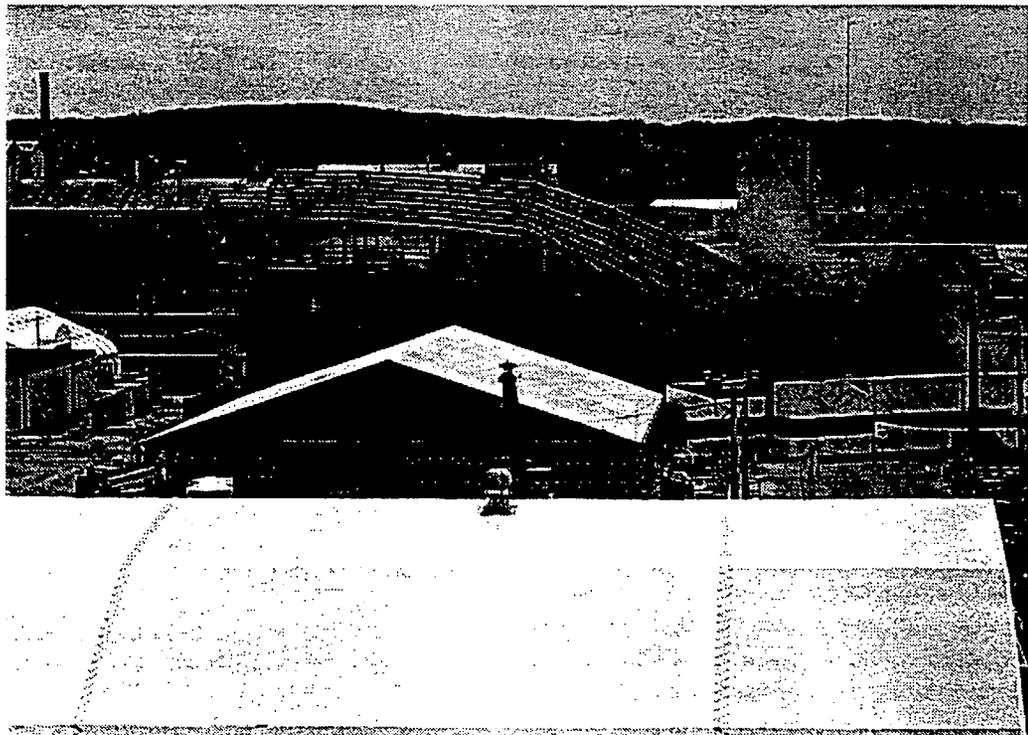
Environmental Compliance

Many of the environmental, safety, and health regulations that are now applicable at the FEMP did not exist in the 1950s and 1960s when the plant was in full production. It was not until the early 1970s that environmental consciousness was raised on a national scale, with particular focus on the environmental effects of the industrial revolution.

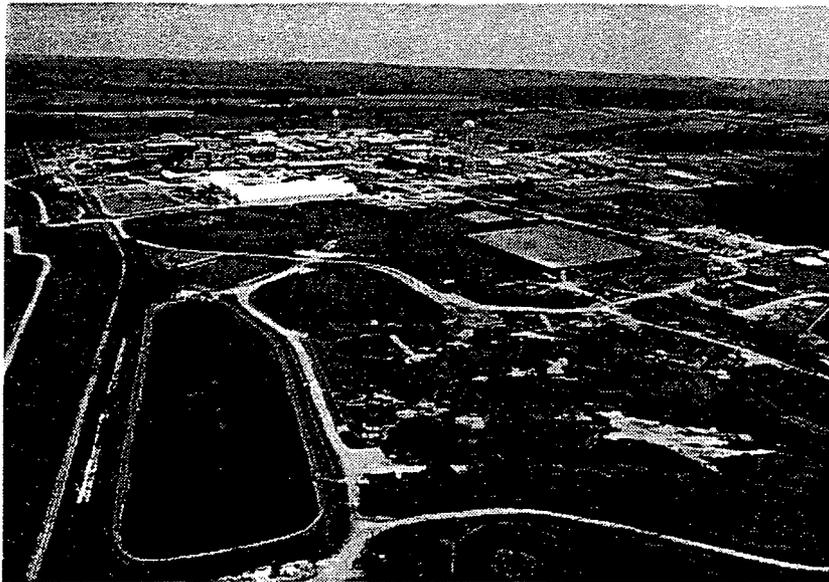
To address the releases and threats of releases of hazardous substances from containers and facilities at the FEMP, DOE and U.S. EPA entered into an amended consent agreement, in 1991, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

In conjunction with U.S. EPA and Ohio EPA, a comprehensive remedial investigation/feasibility study (RI/FS) was conducted in and around the FEMP to identify the nature and extent of contamination and devise cleanup alternatives. Environmental restoration efforts under the RI/FS were divided into five operable units, addressing specific areas/facilities and remedies at the site.

The completed RI/FS and approved records of decision resulted in thorough site characterization, evaluation of cleanup alternatives, public review and comment, and selection of preferred final remedial actions.



FEMP File Photo 6080-633: On Feb. 22, 1997, the FEMP's Plant 1 was the third major structure at the site to be imploded. More than 220 structures, including plants, parking lots, storage pads, etc., are planned for demolition.



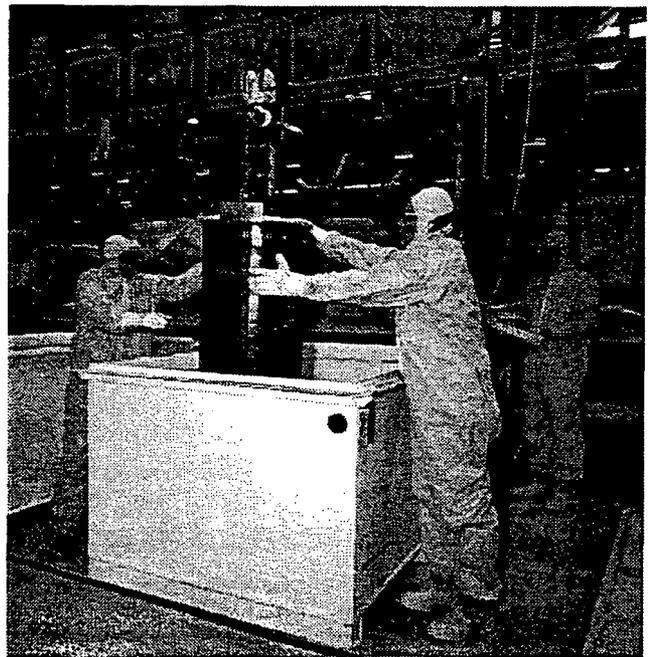
FEMP File Photo 6150-20: The FEMP's six Operable Unit 1 waste pits range in size from that of a baseball diamond to a football field; they vary in depth from 13 feet to 30 feet. More than 700,000 cubic yards of contaminated materials are estimated to be associated with cleanup of the waste pits.

In May 1996, DOE, Fluor Daniel Fernald and Ohio EPA signed an agreement that will save more than \$1 million and help accelerate FEMP cleanup. The agreement integrates and streamlines remediation and closure requirements of CERCLA and RCRA. Under CERCLA, U.S. EPA regulates cleanup of radioactive wastes at federal sites. Under RCRA, Ohio EPA ensures hazardous waste is stored, handled and disposed properly. Under the agreement, DOE and Fluor Daniel Fernald are required to prepare one remediation plan to comply with requirements of both CERCLA and RCRA. Also under the agreement, sampling and analyses costs associated with RCRA closure activities affecting 25 hazardous waste management units at the FEMP have been integrated into CERCLA remediation activities, eliminating duplicative sampling efforts.

FEMP Operable Units and Projects

Operable Unit 1 includes waste pits 1 through 6, a burn pit and a clearwell. *Operable Unit 2* includes a sanitary landfill, lime sludge ponds from water treatment activities, two fly ash piles (the result of burning coal in the boiler plant), and the South Field Area. *Operable Unit 3* encompasses the former production area, including all former process buildings, structures and equipment, inventoried hazardous materials, scrap metal piles, and the fire training area. *Operable Unit 4* includes K-65 Silos 1 and 2, which contain radium-bearing wastes; Silo 3, which contains dried uranium-bearing wastes; and Silo 4, which is empty. *Operable Unit 5* includes groundwater, surface water, soil, sediments, air, vegetation and wildlife at and around the FEMP.

Federal and state regulators, as well as interested members of the public, have all participated in the FEMP cleanup decision-making process and will continue to be actively involved as new issues emerge. The FEMP's primary cleanup plans include excavation, treatment, and off-site disposal of the site's most contaminated materials; excavation and on-site disposal of less-contaminated waste materials (primarily soil and demolition debris) in an engineered, on-site disposal facility; dismantling of buildings and other structures; and treatment of contaminated groundwater.



FEMP File Photo 5422-3: FEMP workers load drums into white metal boxes for off-site shipping and burial. The FEMP has an aggressive program in place to ship low-level radioactive legacy waste off site for disposal.

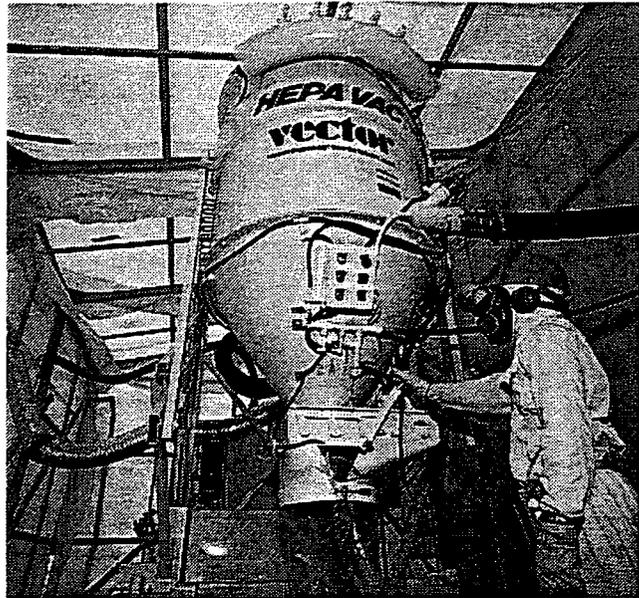
FEMP Waste Management Operations

Waste materials at the FEMP are categorized as low-level radioactive waste, hazardous waste, or mixed waste (waste that is both radioactive and hazardous). At the FEMP, waste materials are stored in six pits, three silos, and thousands of 55-gallon drums and other containers. The treatment, storage, and disposal of hazardous waste must meet requirements of RCRA and its subsequent amendments. Characterization and analysis of all waste materials at the FEMP are necessary to determine the precise nature, quantity, and location of each type of waste, as well as how each should be handled under RCRA regulations.

Waste management activities include sampling of materials suspected to be hazardous, overpacking deteriorated drums to prevent escape of radioactive and hazardous materials into the environment, and proper storage and handling of RCRA-regulated waste. DOE has configured hazardous waste accumulation areas at several locations throughout the FEMP and has implemented procedures for regular inspections. RCRA storage warehouses are equipped with security, emergency response, and environmental protection capabilities. In addition, other site buildings have been refurbished to allow safe storage of hazardous materials.



FEMP File Photo 6014-334: During the thorium overpacking project, operators use remote-controlled equipment to place deteriorated drums of thorium into overpacking containers. During the thorium overpacking project, a 75 percent dose reduction has been achieved by implementing improvements suggested by workers in the field.



FEMP File Photo 6429-64: The HEPA VAC is a self-contained, trailer-mounted vacuum unit that is used commercially to evacuate asbestos fibers through a flexible suction hose up to distances of 1,000 feet. Demonstrated at the FEMP in August 1996, the HEPA VAC technology significantly reduces airborne contamination and handling and greatly enhances worker safety.

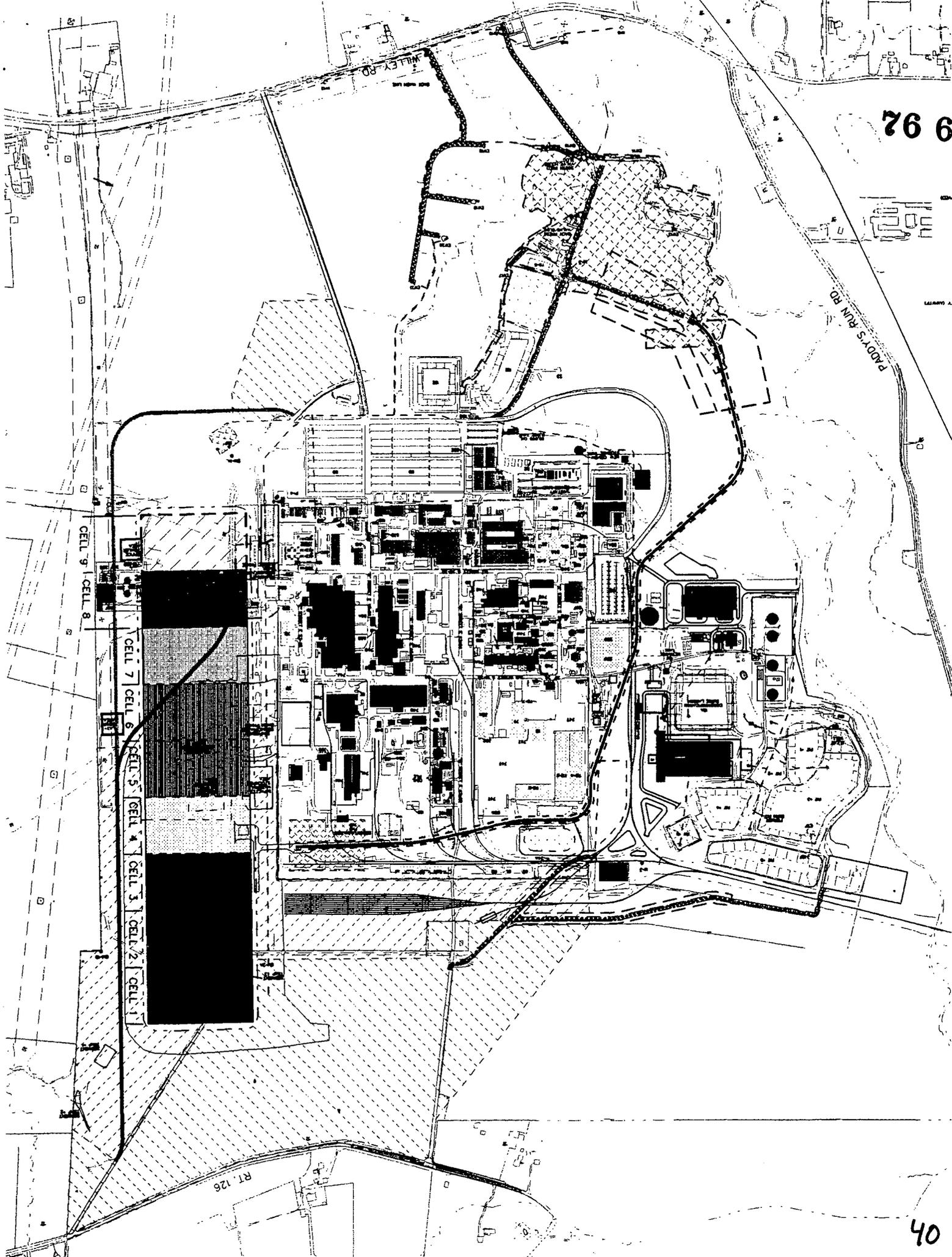
FEMP Technology Programs

Fluor Daniel Fernald is pursuing the development and/or application of additional environmental restoration technologies through the resources of its member firms; contact with university and research communities; and encouragement of small, local contractors. Industrial outreach efforts will locate and encourage firms with special skills to contribute to the restoration effort at the FEMP. These activities are managed by DOE and Fluor Daniel Fernald Technology Programs, in conjunction with the DOE Office of Science and Technology.

For more information about the FEMP, contact:

**Gary Stegner
Public Information Director
U.S. Department of Energy
Fernald Environmental Management Project
P.O. Box 538705
Cincinnati, OH 45253-8705
513-648-3153**

9 26



40

Operable Unit 1

Waste Pits Remedial Action Project

March 1997

Operable Unit 1

Operable Unit 1 is one of five areas being remediated at DOE's Fernald Environmental Management Project (FEMP). Each operable unit was defined based on its location or the potential for similar technologies to be used in the ultimate cleanup.

Based on investigations and studies performed to determine the nature and extent of contamination in Operable Unit 1, alternatives for Operable Unit 1 remediation were developed and analyzed to determine the most appropriate remedy. On March 1, 1995, the U.S. Environmental Protection Agency (U.S. EPA) signed the *Record of Decision for Remedial Actions at Operable Unit 1*.

Key Components of the Selected Remedy

- Excavation of the waste from the pits and residual contaminated soils from beneath the pits;
- Preparation and processing of materials from the waste pits (sorting, crushing, shredding, etc.);
- Thermal drying (as necessary to meet the waste acceptance criteria of the On-Site Disposal Facility);
- Off-gas treatment by a system designed to remove, to acceptable levels, contaminants which might be present in emissions from the drying process prior to discharge to the atmosphere;
- Off-site rail shipment, the planned transportation mode, to a permitted commercial disposal facility;
- Disposal at a permitted commercial facility. (Because this facility has not yet been selected, the remedial design/remedial action process will reflect Envirocare, in Clive, Utah, as the representative permitted commercial disposal facility.);

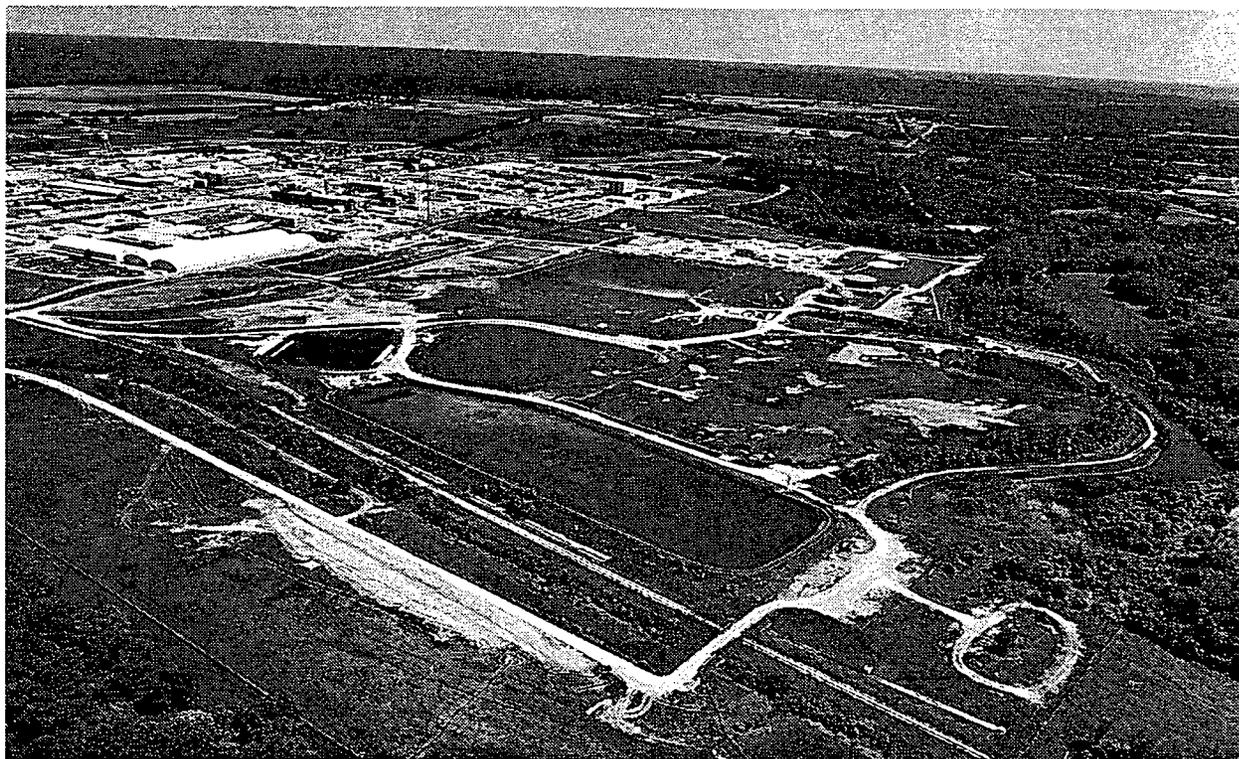
- As a contingency, shipment of any waste that fails to meet the waste acceptance criteria of the permitted commercial disposal facility for disposal at the Nevada Test Site; and
- Decontamination and dismantlement of the treatment facility, upon completion of the waste pit remediation activities, with dispositioning of the resultant materials in accordance with the Operable Unit 3 record of decision.

Operable Unit 1

Located in the northwest quadrant of the FEMP (west of the former Production Area), Operable Unit 1 covers 37 acres and is composed of the following:

- Waste Pits 1, 2, 3, 4, 5, and 6;
- the Burn Pit (used for the disposal and burning of waste);
- the Clearwell (a settling basin for surface water runoff);
- miscellaneous structures and facilities such as berms, liners, concrete pads, underground piping, utilities, railroad tracks, fencing; and
- soil within the Operable Unit 1 boundary.

Paddys Run, an intermittent tributary of the Great Miami River, runs along the west side of FEMP property between Operable Unit 1 and the site boundary.



The Operable Unit 1 waste pits range in size from that of a baseball diamond to a football field and vary in depth from 13 feet to 30 feet. More than 700,000 cubic yards of contaminated materials are estimated to be associated with the cleanup of the waste pits (6385-125).

Operable Unit 1 Remedial Design

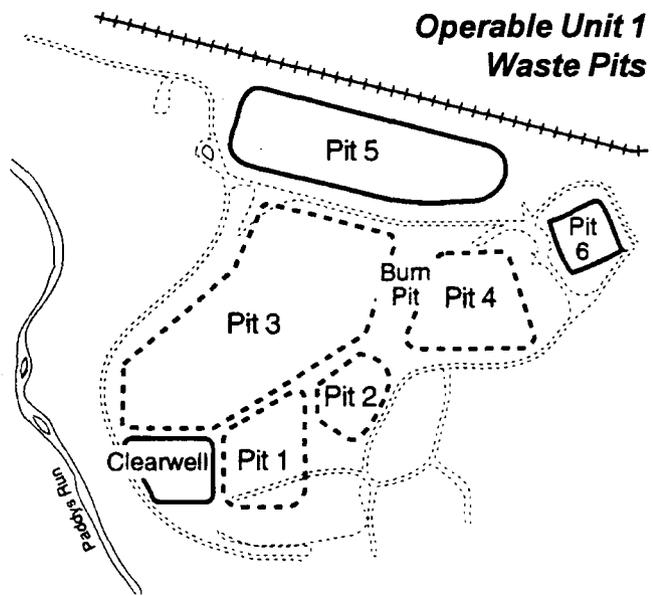
Upon selection of the remedy, the remedial design phase of the project was initiated. During the remedial design, technical requirements and direction were developed and assessed to ensure that the remedial action is implemented in a manner that meets the requirements of the record of decision. The results of this process were documented in various planning and design documents which were developed and submitted to the U.S. EPA and the Ohio EPA for review and approval.

These deliverables included the remedial design work plan, which identified the design deliverables and the schedule for their submittal to U.S. EPA and Ohio EPA. The remedial design work plan was approved by the U.S. EPA on June 21, 1995. The next design deliverable was the preliminary design, which was approved by U.S. EPA on March 13, 1996. The final scheduled design deliverable was the pre-final design, which was approved by U.S. EPA on June 30, 1996.

Submitted with the pre-final design package was an addendum to the Operable Unit 1 remedial design work plan. The purpose of the remedial design work plan addendum is to present the design plan changes resulting from DOE's decision to pursue the Alternative Remedial Action Subcontracting Approach (ARASA) for the remediation of the Operable Unit 1 waste pits.

In general terms, the *Addendum to the Remedial Design Work Plan* indicates the pre-final design would be furthered in one of three ways. First, portions of the approved design would be folded into the statement of work for the ARASA subcontractor. Second, activities proposed in the *Site Improvement Plan* are currently being performed. Third, transportation and disposal continue to be formulated and implemented.

Operable Unit 1 Waste Pits Remedial Action Project



Alternative Remedial Action Subcontracting Approach (ARASA)

In an effort to reduce cleanup costs associated with the remediation of Operable Unit 1, as well as for other reasons, DOE has approved the implementation of ARASA. Under this approach, the subcontractor ultimately will be responsible for excavating the waste pits and surrounding contaminated soils; processing the waste materials, as necessary, to meet the waste acceptance criteria of the disposal facility; and loading the processed waste into railcars (including the installation of a liner and lid) for shipment to a permitted commercial disposal facility.

Fluor Daniel Fernald and DOE-FEMP will be responsible for oversight of the ARASA subcontractor's activities, including acceptance of the subcontractor's "certified-for-shipment" railcars. In addition, Fluor Daniel Fernald will be responsible for transportation (both on- and off-site) and disposal activities.

Various remedial design and remedial action planning documents will be prepared by the ARASA subcontractor for review by Fluor Daniel Fernald, DOE, and the regulators. The public will be notified as these documents become available for inspection. In addition, stakeholders will be informed about the Operable Unit 1 cleanup process and activities.

The Request for Proposals for ARASA was issued Jan. 31, 1997, to potential offerors. A pre-proposal conference was held Feb. 19 and Feb. 20, 1997, for the potential offerors, during which representatives from Fluor Daniel Fernald reviewed the solicitation with the offerors and answered questions the offerors had with respect to the project.

Topics covered in the pre-proposal conference included stakeholder involvement, safety, labor relations discussions, training, environmental compliance, and various other requirements of the project. Proposals were received from the prospective offerors in early April. The ARASA subcontract is anticipated to be awarded in September 1997.

Operable Unit 1 On- and Off-Site Improvement Activities

Site improvement/preparation activities needed to support remediation facilities (including ARASA) and activities, were initiated April 1, 1996. Initiation of these activities demonstrated the beginning of substantial continuous, on-site remedial action (in accordance with CERCLA) within 15 months of signing the Operable Unit 1 record of decision (by June 1, 1996).

The on-site improvements include various activities which directly support the installation and operation of the remediation facility such as: construction of a rail loadout area (with a rail scale); drainage pipe modifications; construction of a retaining wall; installation of erosion control; site clearing and grading for construction of the waste processing facility; and activities required to construct the stormwater management system that will support Operable Unit 1 remediation. These activities are planned for completion in September 1997.

On-site improvements also include construction of an on-site rail system to support the off-site shipment of wastes to the permitted commercial disposal facility. These improvements generally include modifications to existing rail lines in and around the ARASA subcontractor's work area; construction of a railyard to the north of the former production area for the storage of incoming empty and outgoing full railcars; and other improvements in support of this rail system such as lighting and fencing; and the upgrade of the on-site trestle over Paddys Run. A contract for rail work was awarded Oct. 8, 1996, to Annex Railroad Builders, and work is planned for completion in September 1997.

Infrastructure development activities have also progressed off site in support of the eventual shipment of waste materials to the permitted commercial disposal facility. Specifically, design activities were completed in June 1996 for bridge 270, the Okeana trestle, identified by CSXT as needing upgrades to safely support the proposed additional train traffic, which would be new to this branch line, because of the shipment of the Operable Unit 1 wastes. A contract for construction of the upgrades was awarded Feb. 14, 1997. Construction is expected to be completed by late 1997.

Operable Unit 1 Remedial Action Work Plan

Approved by the U.S. EPA and Ohio EPA on Feb. 6, 1997, the *Remedial Action Work Plan for Remedial Actions at Operable Unit 1*, provides the framework for implementing remedial activities authorized under the Operable Unit 1 record of decision, the remedial design work plan and its addendum. Presented in the remedial action work plan is the overall Operable Unit 1 remedial action strategy, including a discussion of the integration of the ARASA subcontractor and DOE activities, as well as the schedule required to implement these activities.

The remedial action work plan summarizes the purpose and scope of the project, describes primary requirements and considerations for implementation of remedial action, sets forth an overall implementation strategy for the Operable Unit 1 remedial action, and provides a framework document from which the remedial action deliverables will be prepared.

The remedial action work plan proposed establishment of the following enforceable milestones for the Operable Unit 1 remedial action, which were subsequently approved by U.S. EPA and Ohio EPA with their approval of the document:

- initiation of substantial continuous on-site remedial action by June 3, 1996, i.e., within 15 months of signing of the Operable Unit 1 record of decision (This milestone has already been met, with work initiating on April 1, 1996.);
- submittal of the Operable Unit 1 transportation and disposal plan by April 30, 1998;
- initiation of operations (loading of waste which meets the waste acceptance criteria of the permitted commercial disposal facility into railcars) by March 1, 1999; and
- completion of operations (including above-grade decontamination and dismantlement of the waste pit remediation facilities) by May 31, 2005.

In addition, the remedial action work plan stipulates the ARASA subcontractor's "submittal register" will be provided to U.S. EPA and Ohio EPA within 60 days of the award of the ARASA subcontract and identifies dates for the ARASA subcontractor's remedial design and remedial action deliverables, which will form the basis for the establishment of additional enforceable milestones.

For More Information

For specific questions regarding Operable Unit 1, contact Dave Lojek, DOE FEMP Operable Unit 1 branch chief, 513-648-3127; or send an e-mail message to Dave_Lojek@fernald.gov.

For more information about the PEIC and its resources, call Rene Eichhold, 513-738-0164, or send an e-mail message to Rene_Eichhold@fernald.gov.

Operable Unit 2

On-Site Disposal Facility Project and Soil Characterization Excavation Project

March 1997

Operable Unit 2

Operable Unit 2 – the On-Site Disposal Facility Project and Soil Characterization and Excavation Project – is one of five areas being remediated at DOE's Fernald Environmental Management Project (FEMP). Each operable unit was defined based on its location or the potential for similar technologies to be used in the ultimate cleanup.

Operable Unit 2 includes the Solid Waste Landfill, Lime Sludge Ponds, Inactive Fly Ash Pile, Active Fly Ash Pile, and the South Field Area. These areas were used to dispose fly ash from the boiler plant, spent lime from water treatment activities, sanitary waste, and construction rubble from past operations at the FEMP.

Remedial Design

Design of the On-Site Disposal Facility (OSDF) is being performed under the Operable Unit 2 project. The OSDF will be located on the eastern side of the FEMP and will be designed to contain 2.5 million cubic yards of waste material from Operable Units 2, 3, and 5.

On Oct. 14, 1996, the final OSDF design package was submitted to the U.S. Environmental Protection Agency (EPA) and Ohio EPA. The design of the haul road and rerouted north entrance road was approved by U.S. EPA on Sept. 27, 1997, and by Ohio EPA on Jan. 22, 1997.

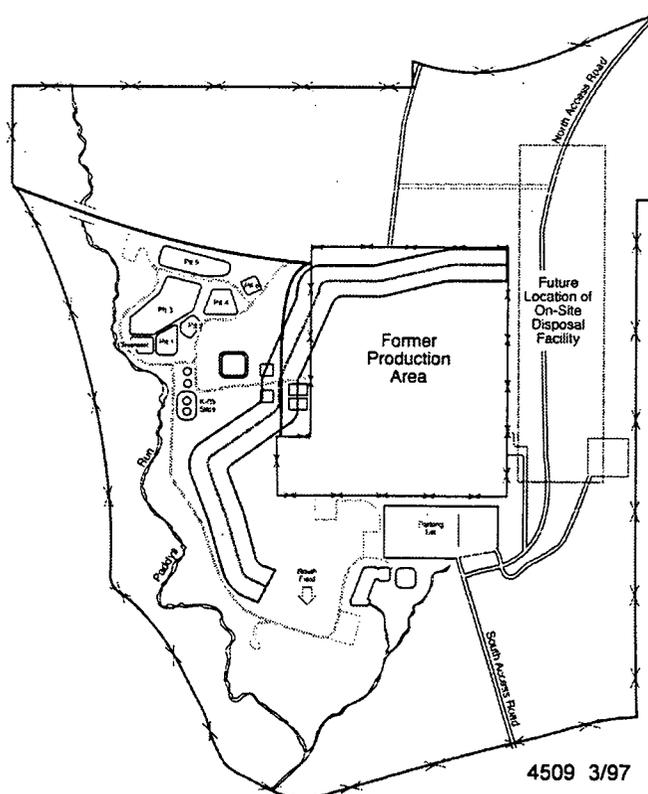
Due to the physical location of the Operable Unit 2 waste units to one another and to other remediation areas, the remedial action will be implemented in three separate pieces: Southern Waste Units (Inactive Fly Ash Pile, Active Fly Ash Pile, and South Field); Lime Sludge Pond; and Solid Waste Landfill.

The tentative excavation schedule for each of the separate remediation areas is:

- Southern Waste Units, 1998;
- Lime Sludge Ponds, after 2000;
- Solid Waste Landfill, after 2000.

The actual excavation schedules will be established when the prefinal design packages for each area are submitted to EPA.

LOCATION OF NEW HAUL ROAD TO ON-SITE DISPOSAL FACILITY



Operable Unit 2

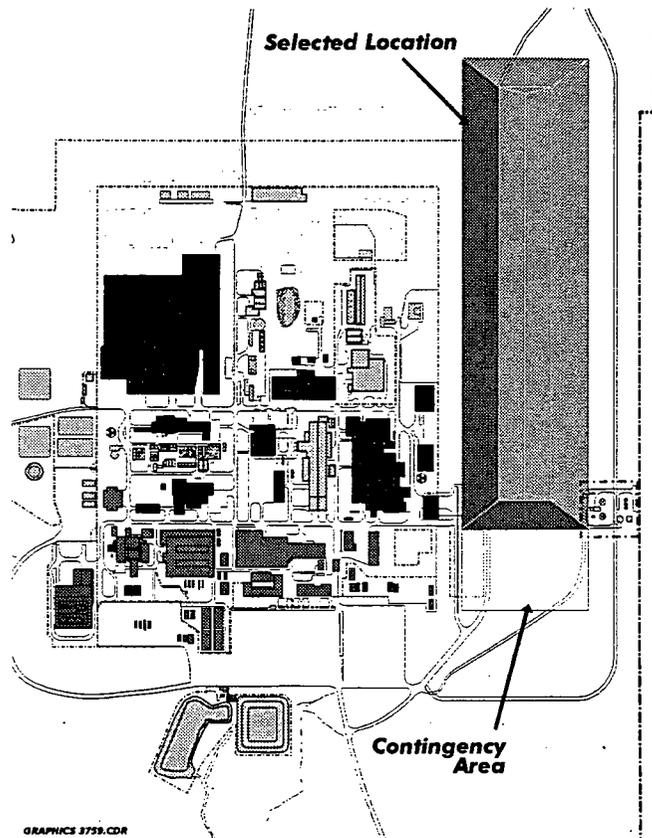
Soil Remediation Project

Remedial Action

On Oct. 14, 1996, the final remedial action work plan for the OSDF was submitted to U.S. EPA and Ohio EPA. On April 3, Fluor Daniel Fernald awarded Petro Environmental Technologies Inc. the contract for Phase I construction of the OSDF. Phase I includes constructing the liner in the OSDF's first cell. OSDF construction began in April 1997.

On April 7, Fluor Daniel Fernald authorized Village Building Services to begin mobilizing for construction of the OSDF's Leachate Conveyance System. Installation of telephone poles began April 8. Construction of the Leachate Conveyance System, which will carry leachate from the OSDF to the Bionitrification Surge Lagoon for eventual treatment at the Advanced Wastewater Treatment facility (AWWT), will be performed by Village Building Services Inc. and will begin in April 1997.

The contract to construct the haul road and the rerouted north entrance road was awarded to Barrett Paving Materials Inc. on Oct. 7, 1996, and construction of the haul road began in February 1997. Phase I construction of the rerouted north entrance road, which will run on the east side of the OSDF, is currently scheduled to begin in July 1997.



For More Information

For specific questions regarding Operable Unit 1, contact Rod Warner, DOE-FEMP Operable Unit 2 branch chief, 513-648-3156; or send an e-mail message to Rod_Warner@fernald.gov.

For more information about the PEIC and its resources, call Rene Eichhold, 513-738-0164, or send an e-mail message to Rene_Eichhold@fernald.gov.

Operable Unit 3

Facilities Closure and Demolition Project

March 1997

Operable Unit 3 – the Facilities Closure and Demolition Project – involves the remediation of more than 200 former uranium processing facilities and equipment at the Fernald Environmental Management Project (FEMP). When the FEMP discontinued production operations in 1989, many production facilities, including process lines, drumming stations and equipment still contained quantities of raw, intermediate and finished uranium products.

The mission of Operable Unit 3 mission is to remove legacy nuclear materials currently stored in FEMP buildings, clean out the buildings and equipment, and decontaminate and dismantle these facilities. Operable Unit 3 also addresses above- and below-grade improvements not covered by the FEMP's other operable units.

Interim Remedial Action

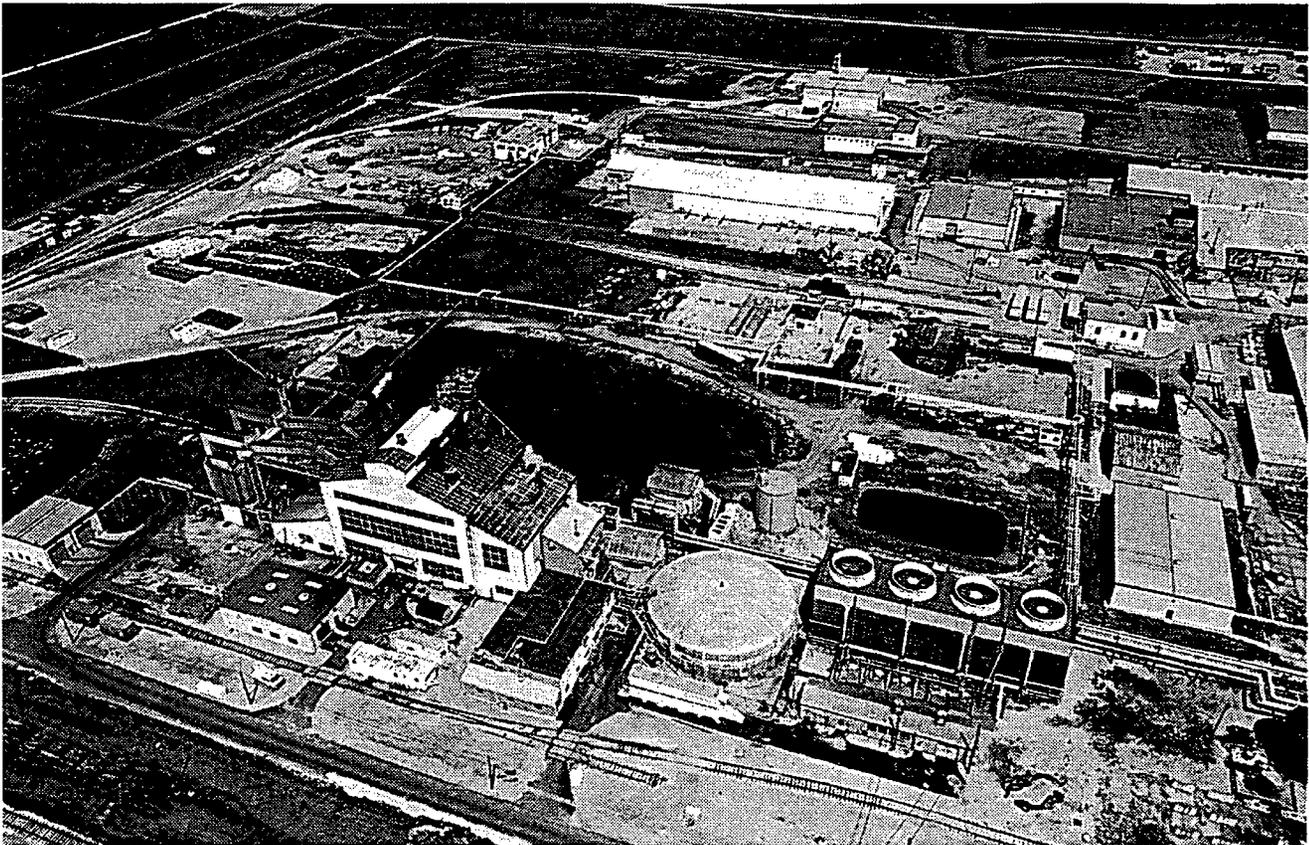
To accelerate decontamination and dismantlement of contaminated, deteriorating buildings and structures, DOE and the U.S. Environmental Protection Agency (EPA) signed the *Operable Unit 3 Record of Decision for Interim Remedial Action* on July 22, 1994. The interim action eliminated several years of work and saved taxpayers millions of dollars.

Final Remedial Action

On Sept. 24, 1996, U.S. EPA, Ohio EPA and DOE signed the *Operable Unit 3 Record of Decision for Final Remedial Action*. This record of decision addresses treatment and final disposition of contaminated materials generated by demolition activities in the FEMP's 136-acre former production area.

Saving years of work and millions of dollars, Operable Unit 3's interim remedial action enabled DOE to accelerate decontamination and dismantlement of contaminated production buildings, such as Plant 1, the former incoming materials sampling plant. Plant 1 was the third of 10 major plants dismantled as part of the FEMP cleanup mission (6080-609).





On Feb. 27, 1997, Fluor Daniel Fernald awarded the decontamination and dismantling Boiler Plant/Water Plant (BP/WP) Complex project to Foster Wheeler Environmental Corp., of Livingston, N.J. Under its 18-month, firm-fixed price subcontract (approximately \$4 million), Foster Wheeler Environmental Corp. will decontaminate and demolish the BP/WP structures and segregate, cut, and containerize the construction debris. (6385-187).

The final remedial action integrates programmatic (ongoing) Operable Unit 3 removal actions and the *Operable Unit 3 Record of Decision for Interim Remedial Action*.

Site-wide Remedial Strategy

Operable Unit 3 remediation plans are consistent with the site-wide remedial strategy which involves balancing off-site disposal of highly contaminated wastes with on-property disposal of less-contaminated wastes. Building removal is planned to coincide with soil excavation in adjacent areas of the site to minimize the staging duration of materials prior to disposal and avoid potential for contaminating clean areas.

The strategy is to continually collapse and consolidate radiologically contaminated zones so they become smaller and fewer until only the On-Site Disposal Facility remains. DOE and Fluor Daniel Fernald will evaluate recycling options and new technologies to help minimize the contaminated material going into the On-Site Disposal Facility.

Decontamination and Dismantling Activities

Decontamination and dismantling projects already completed at the FEMP include: Plant 7; Plant 4; Plant 1; the Plant 1 Ore Silos, the Fire Training Facility, the Hydrofluoric Acid Tank Car, the Nitric Acid Tank Car, several drum storage warehouses, tanks, and other small structures.

Operable Unit 3 *Facilities Closure and Demolition Project*

Scrap Metal Piles (Removal Action 15)

In November 1996, U.S. EPA approved the final phase of the Scrap Metal Piles. Phase 1, which involved containerizing 1,400 tons of scrap copper and about 2,270 tons of recoverable stockpiled ferrous and nonferrous scrap metal to eliminate potential environmental threats, was completed in 1994. Several activities regarding potential beneficial reuse of the scrap copper remain.

Nuclear Materials

Since production ended in 1989, approximately half of the FEMP's 32-million-net-pound inventory of uranium metal products have been removed from the site and transferred to other DOE sites for their use or sold to commercial vendors for non-military use.

The remaining inventory is scheduled to be removed from the site by April 1999. DOE and Fluor Daniel Fernald are negotiating contracts for the sale of the remaining inventory or seeking other disposition options. As of mid-April 1997, depleted uranium metal products represent about 8.5 million net pounds of the remaining goods; enriched products total 6.7 million pounds; and normal uranium – containing 0.7 percent of the compound uranium-235 as uranium is mined from the earth – represents about 440,000 net pounds.

DOE and Fluor Daniel Fernald continue to seek alternative off-site storage facilities for remaining uranium metal products as a contingency, since the buildings currently housing these products are targeted for dismantling.

Hazardous Waste Management Units

On Nov. 20, 1996, the Ohio EPA approved the last of 13 clean closure certifications for Resource Conservation and Recovery Act (RCRA) Hazardous Waste Management Units (HWMU), resulting in a significant regulatory and cleanup accomplishment. Closure of the HWMUs, which included a tank car, storage tanks, a dust collector and other equipment, was completed safely and in accordance with regulatory guidelines. Remaining requirements for HWMUs have been integrated into cleanup activities; no additional closure plans will be required.

For More Information
For specific questions regarding Operable Unit 3, contact John Trygier, DOE FEMP Operable Unit 3 branch chief, 513-648-3154; or send an e-mail message to John_Trygier@fernald.gov.
For more information about the PEIC and its resources, call Rene Eichhold, 513-738-0164, or send an e-mail message to Rene_Eichhold@fernald.gov.



Among the FEMP's product inventory are uranium derbies; each can weigh between 300 and 375 pounds.

Removal Actions

One of the objectives of the *Operable Unit 3 Record of Decision for Final Remedial Action* is to integrate ongoing removal actions with cleanup activities. Four of the original 30 site removal actions are ongoing: Removal of Waste Inventories (Removal Action 9); Safe Shutdown (Removal Action 12); Improved Storage of Soil and Debris (Removal Action 17); Asbestos Abatement (Removal Action 26).

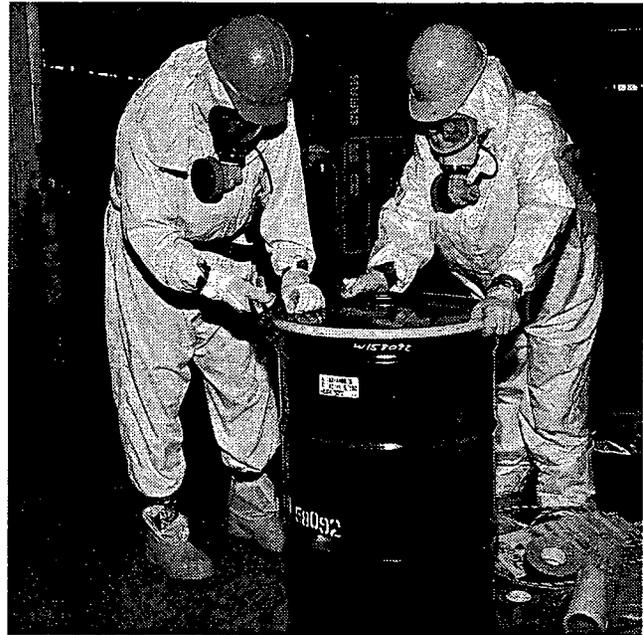
Removal of Waste Inventories (Removal Action 9)

This removal action involves the safe, off-site disposal of existing waste inventories to the Nevada Test Site (NTS) in compliance with DOE Orders, Department of Transportation shipping requirements, and NTS acceptance criteria.

The FEMP currently has an inventory of low-level radioactive waste, mixed waste (waste that is both hazardous and radioactive) and polychlorinated biphenyl (PCB) wastes resulting from production operations. These waste streams include: process area scrap wastes (scrap metal and wood); construction and removal action wastes (demolition debris); uranium production residues; baled trash; processed metal waste; and thorium wastes.

Safe Shutdown (Removal Action 12)

This removal action involves the removal and proper disposition of all nuclear product and in-process residue materials, excess supplies, chemicals, and associated process equipment that were abandoned when the FEMP ended production in 1989. This removal action also provides for the isolation and de-energizing of production-related equipment and utilities and the identification of potential customers of FEMP equipment and nuclear products.



In March 1997, Fluor Daniel Fernald workers completed safe shutdown activities in Plant 5, the former Metals Production Plant, where UF₆ (green salt) was converted to uranium metal derbies (6401-159).

Improved Storage of Soil and Debris (Removal Action 17)

This removal action provides controlled storage of excess contaminated soil and debris generated during FEMP maintenance, construction, removal and remedial actions. It establishes the framework and procedures for managing and storing soil and debris generated during FEMP cleanup.

Asbestos Abatement (Removal Action 26)

This removal action mitigates potential asbestos release and migration. Conducted before decontamination and dismantling activities begin, asbestos abatement activities include in situ repair, encasement, encapsulation, and removal of asbestos-containing materials.

Operable Unit 4

Silos Project

March 1997

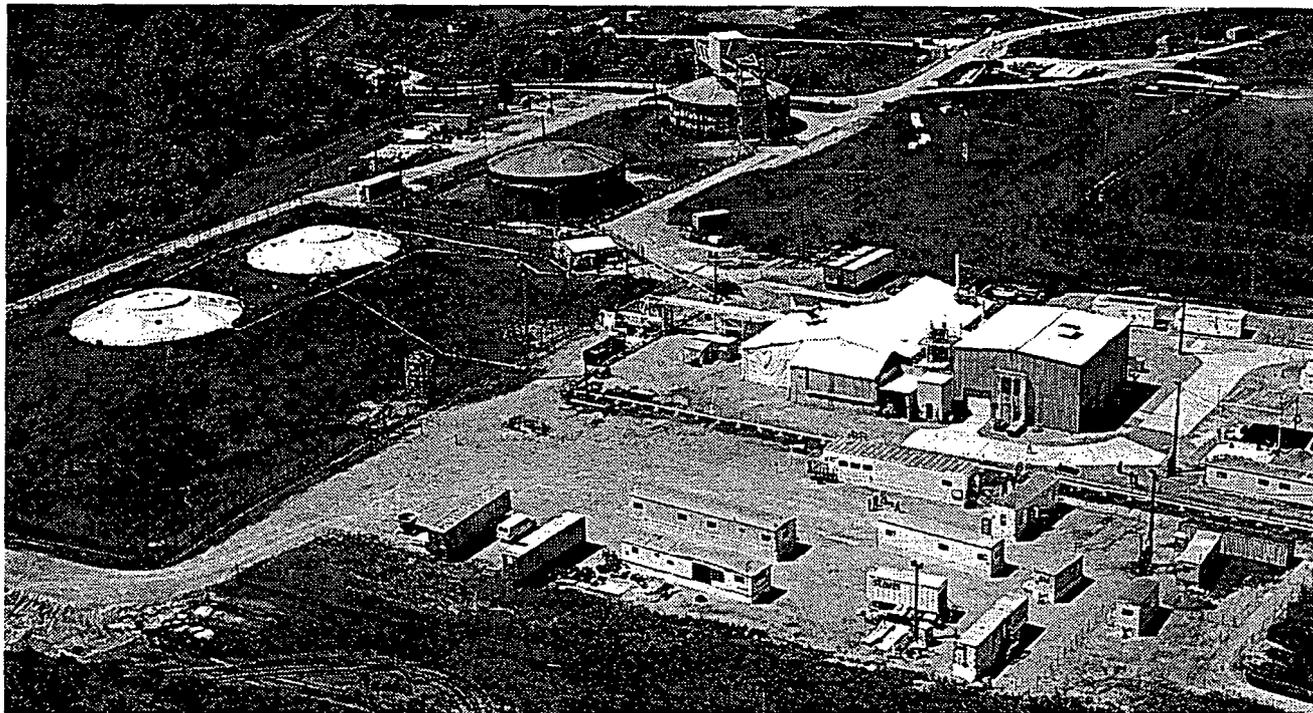
Operable Unit 4

Operable Unit 4 – the Silos Project – is one of five areas being remediated at DOE's Fernald Environmental Management Project (FEMP). Each operable unit was defined based on its location or the potential for similar technologies to be used in the ultimate cleanup.

Located on the western periphery of the FEMP, Operable Unit 4 includes Silos 1 and 2 (K-65 Silos), Silo 3 (metal oxide silo), unused Silo 4, and ancillary structures. Operable Unit 4 remediation will address each of these structures, as well as any contaminated soils within the geographic boundary, and any contaminated perched water encountered during Operable Unit 4 remedial activities.

Silos 1 and 2, commonly called the "K-65 Silos," contain radium-bearing, low-level radioactive wastes dating back to the 1950s. In 1964, the two silos were reinforced with an earthen berm, which was upgraded in 1983.

Other improvements include a 30-foot cap on top of the silo domes, installed for added protection, and a polyurethane foam coating applied over the domes for weather protection. A silo headspace radon treatment system was also constructed, and radon monitors were installed around the FEMP boundary and in the immediate vicinity of Silos 1 and 2. Silo 3 contains dried uranium-bearing wastes. Silo 4 is empty.



Located on the western periphery of the FEMP, Operable Unit 4 – the Silos Project – includes Silos 1 and 2 (K-65 Silos) shown with the white domes; Silo 3 (metal oxide silo), unused Silo 4, shown with a steel superstructure over it; and ancillary structures. The building in the photo is the Vitrification Pilot Plant (6385-142).

Public Workshop on Silos Project to be Held May 14

DOE will hold a public workshop on May 14, beginning at 7 p.m., at the Plantation in Harrison. The focus of the workshop will be the path forward for Silo 3 remediation. DOE and Fluor Daniel Fernald representatives will present various technological alternatives and will request feedback in determining the best path forward.

The decision-making and associated public involvement process for the remediation of Silo 3 will also be discussed. This workshop will be the first in a series of opportunities for the public to become involved with the new direction for the remediation of the FEMP's Silos Project. For more information about the meeting, please call DOE Public Information Director Gary Stegner, 513-648-3153.

For More Information

For specific questions regarding Operable Unit 4, contact Nina Akgunduz, DOE-FEMP Operable Unit 4 branch chief, 513-648-3110; or send an e-mail message to Nina_Akgunduz@fernald.gov.

For more information about the PEIC and its resources, call Rene Eichhold, 513-738-0164, or send an e-mail message to Rene_Eichhold@fernald.gov.

Operable Unit 5

Aquifer Restoration Project

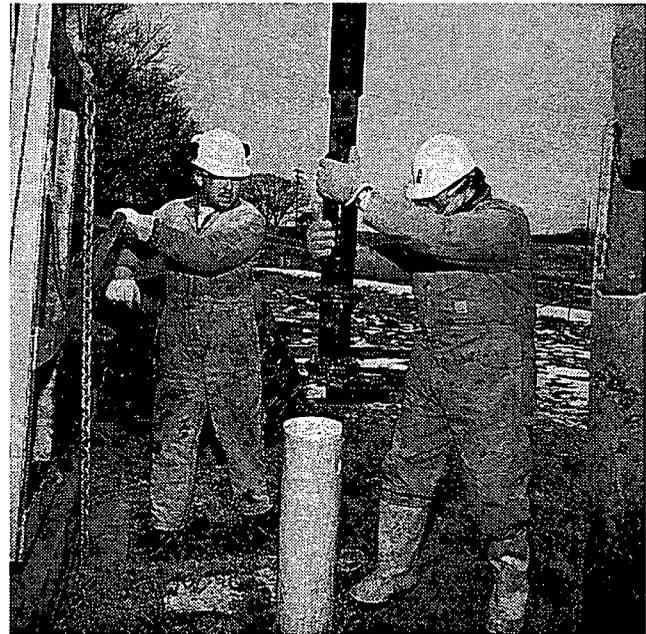
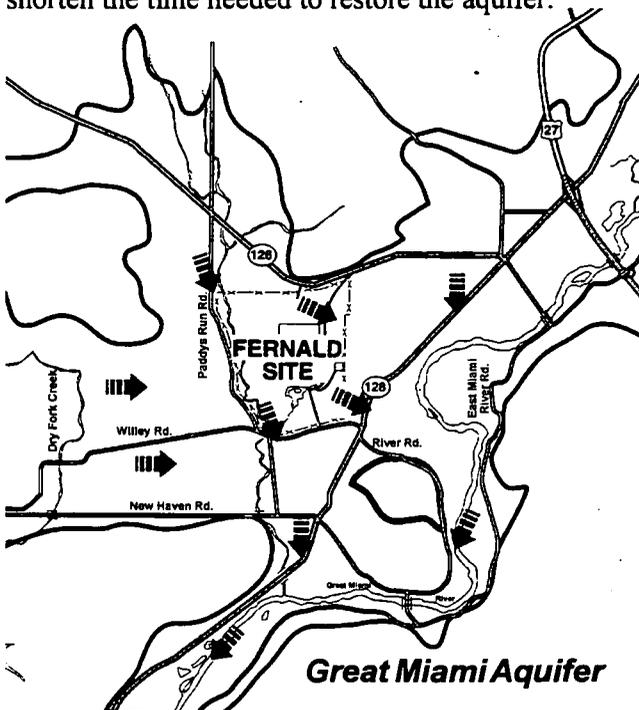
March 1997

Operable Unit 5

Operable Unit 5 is one of five areas being remediated at DOE's Fernald Environmental Management Project (FEMP). Each operable unit was defined based on its location or the potential for similar technologies to be used in the ultimate cleanup.

Selected Remedy for the Great Miami Aquifer

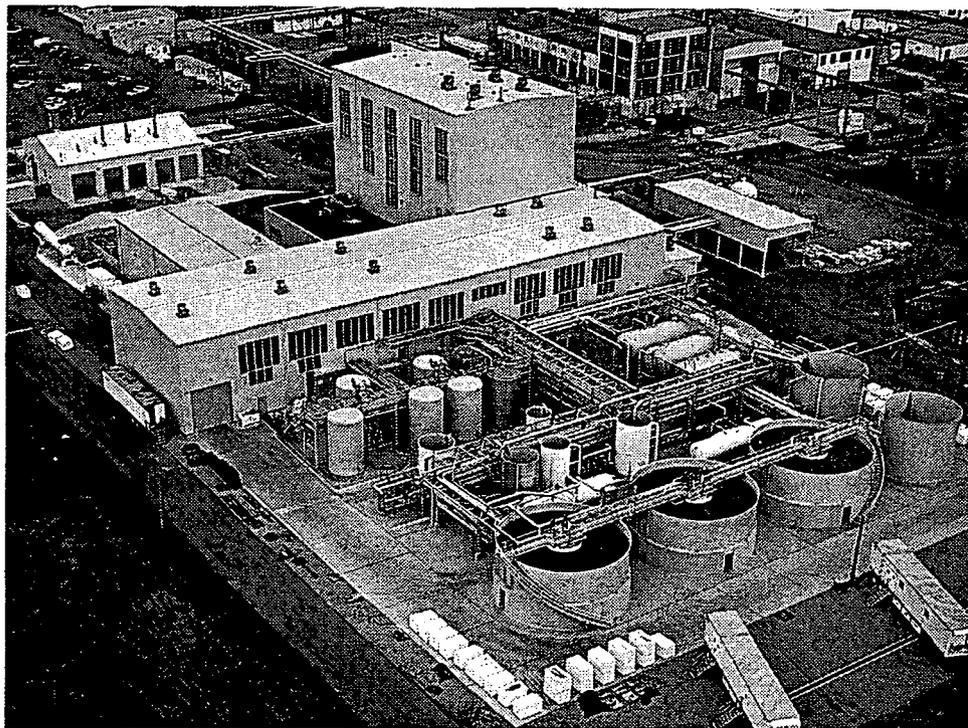
The remedy for the Great Miami Aquifer is announced in the *Record of Decision for Remedial Actions at Operable Unit 5* and was signed by the U.S. Environmental Protection Agency (EPA) on Jan. 31, 1996. Areas of the Great Miami Aquifer exceeding final remediation levels will be restored through extraction methods. DOE will investigate and apply, if appropriate, innovative technologies such as reinjection. It is anticipated that reinjection will help flush contamination to extraction wells and shorten the time needed to restore the aquifer.



Drillers insert a surge block in preparation of a strategically placed extraction well, which will extract contaminated groundwater for processing at the FEMP's Advanced Wastewater Treatment Facility. The block is raised and lowered several times to help form a sand pack around the well screen (6501-31).

Remedial Design

In July, the draft *Final Remedial Design Work Plan for Remedial Actions at Operable Unit 5* was approved by the U.S. EPA and Ohio EPA. As required by the amended consent agreement, the remedial design work plan identifies overall design and strategy for remedy implementation and schedules for delivery of design documents to U.S. EPA. The Operable Unit 5 remedial design work plan fulfills this requirement.



The Advanced Wastewater Treatment Facility currently treats contaminated groundwater at a rate of approximately 30 million gallons per month (6385-458).

Great Miami Aquifer Remedy Objectives

The five objectives of the Great Miami Aquifer remedial design process are to:

- 1) Accommodate the need for sequential restoration modules, each independently designed, installed and operated using “learn-as-you-go” principles over the life of the remedy;
- 2) Build enhancements into the remedy, as described by the Operable Unit 5 feasibility study report and record of decision;
- 3) Develop a solid remedial approach that has the potential to accomplish remedial action objectives within the aggressive time frames contained in Fernald’s current funding baseline (10 years);
- 4) Accommodate transition of the existing groundwater extraction and treatment infrastructure and early-start actions with a coordinated site-wide final remedy; and
- 5) Satisfy discharge limits for the release of groundwater, stormwater, and remedial wastewater to the Great Miami River.

The remedy for the Great Miami Aquifer is unique in that major elements of the remedy have already been designed and implemented as a result of U.S.-EPA-approved early-start initiatives and groundwater-related removal actions. These elements include the Advanced Wastewater Treatment Facility (AWWT), the South Field Extraction System, and the South Plume Removal Action recovery well system. The remedial design process will build upon this existing infrastructure.

For More Information

For specific questions regarding Operable Unit 1, contact Rob Janke, DOE FEMP Operable Unit 5 branch chief, 513-648-3124; or send an e-mail message to Rob_Janke@fernald.gov.

For more information about the PEIC and its resources, call Rene Eichhold, 513-738-0164, or send an e-mail message to Rene_Eichhold@fernald.gov.

FERNALD COMMUNITY REUSE ORGANIZATION PATH FORWARD

INTRODUCTION:

The Fernald Community Reuse Organization (CRO) is made up of concerned and involved citizens. The CRO received a charter, ground rules and a mission statement when it first convened. However, at that time, the CRO was directed to develop a mission in their own words and operational ground rules when they felt the time was right. Additionally, the National Council for Urban Economic Development (CUED) report recommended developing a path forward and a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis for the area. After several hours of education about the Fernald site and several months of public meetings, the CRO decided to begin the process in order to clarify and give direction to the CRO's reason for being.

VISION:

The Fernald CRO envisions a group of interdependent communities sharing resources and participating in long-range planning to provide a safe, family-centered environment that protects the health and welfare of all.

SHARED COMMITMENTS:

As members of the CRO, we stand for . . .

- Honest and ethical decision making.
- Working in the interest of our environment and our natural resources.
- The conscientious use of tax dollars.
- The open exchange of ideas.
- Public involvement representing the broadest cross section of participants possible.
- Representing community values.
- Being mindful of the stakeholders' needs including the Fernald workforce.
- Honoring and sharing the CRO's goals, mission and vision.
- The preservation of historic and cultural resources.
- Public health and safety.
- Doing the right thing, *right*, the first time.
- Working toward consensus in our efforts to serve the community.
- Active and meaningful personal involvement.

MISSION:

The CRO will serve as a regional forum that facilitates public dialogue to develop a comprehensive plan to utilize resources to promote public health and safety, a clean environment and a productive economy.

FOCUS AREAS:

- 1) LAND REUSE AT THE FERNALD SITE.
- 2) EQUIPMENT AND RESOURCE REUSE AT THE FERNALD SITE.
- 3) ECONOMIC TRANSITION INCLUDING THE FERNALD WORK FORCE.
- 4) PUBLIC INVOLVEMENT AND PARTICIPATION.

STAKEHOLDERS:

- 1) Primary stakeholders are those person who work or live in the Tri-Township Area (Crosby, Ross and Morgan).
- 2) Secondary stakeholders are concerned citizens and potential partners who do not live or work in the Tri-Township Area.

MEMBER EXPECTATIONS:

- *Everyone has an equal voice.*
- *No member will be allowed to dominate.*
- *All decisions will be made by consensus whenever possible.*
- *We will honor the viewpoints of all members.*
- *Communication will be open, honest and direct.*
- *Decisions will be based on research and the analysis of alternatives.*
- *Everyone has the responsibility to stay on task and to stay focused.*
- *We will abide by the rules of common courtesy (patient, respectful and courteous).*
- *Everyone will encourage public involvement and participation.*
- *Everyone will take responsibility for expressing themselves.*
The conflict of ideas is a natural part of any group effort. We count on members stating their views and opinions even when they are minority opinions. Also, anything a member says about the CRO or CRO business outside of our meetings should be shared with the group itself. Doing so will keep the group energy in the group.
- *We will abide by the 2 cent rule.*
Once a member has spoken on an issue (given his/her 2 cents worth), he/she will wait until all others have the opportunity to speak before speaking again unless asking a question for clarification purposes.
- *Attendance at all meetings is expected.*
In the event of an absence, the CRO Chair should be notified in advance. The absent member is responsible for getting briefed on what he/she missed.

ANALYSIS OF STRENGTHS, WEAKNESSES, OPPORTUNITIES, THREATS (SWOT):

The Fernald CRO did two SWOT analyses. The first was a general one that gave the participants an overview of the internal strengths and weaknesses of the primary stakeholder region and the opportunities and threats outside the region. The second SWOT analysis dealt more with economic development issues and was based on the recommendations of the CUED report. (see Appendix) The results of a third SWOT analysis done by the Western Hamilton County Collaborative were distributed to the CRO participants as well. From these analyses, the CRO has begun to develop strategies on how to accomplish their goals. (see Appendix)

STRENGTHS

- Caring and concerned citizens with high family and moral values
- A proud community
- Quiet, rural community with good roads and limited traffic problems
- Well trained labor pool
- Available land
- Good schools
- Access to interstate, proximity to Cincinnati
- Department of Energy commitment
- CRO commitment

WEAKNESSES

- Limited infrastructure
- Public perception of the area (Fernald site)
- Resistance to change

OPPORTUNITIES

- Potential for economic, recreational and residential development
- Reuse of Fernald land/resources
- Potential to plan to meet the desires of the community

THREATS

- Lack of regional planning
- Environmental hazards
- External perception of the area
- No central focal point for two counties and three townships
- Environmentalism versus reuse
- Incomplete information
- Lack or loss of resources

STRATEGIES:

1. Organizational Structure:

- 1.1 We will complete the incorporation process.
- 1.2 We will finalize arrangements for the 501.C3.
- 1.3 We will develop a plan for membership and a mechanism for replacing members due to turnover.
- 1.4 We will appoint a sub-committee to employ our consultant.
- 1.5 We will locate and set up the CRO office including a central location, phone, FAX, web site, library, maintenance and the hiring of support staff.
- 1.6 We will develop an organizational chart for the CRO which illustrates the organizational structure, reporting methods and sub-committee relationships.

2. Financial:

- 2.1 We will finalize the start-up grant and obtain the designated funds.
- 2.2 We will develop a mechanism for the disbursement of start-up grant money.
- 2.3 We will establish an accounting and budgeting procedure.
- 2.4 We will research other sources of funding from private and state and other governmental sources.
- 2.5 We will research the criteria for and methods needed to obtain our planning and operating grant and seed and infrastructure moneys.

3. Administrative/Evaluation:

- 3.1 We will establish an overall timeline for completing strategies.
- 3.2 We will establish our success indicators.
- 3.3 We will benchmark with other CRO organizations.
- 3.4 We will establish milestones.
- 3.5 We will monitor, review and revise our path forward as needed.
- 3.6 We will determine priorities.

4. Focus Areas:

- 4.1 We will establish sub-committees to develop action plans which consider both inside and outside the Fernald fence for our four focus areas
 - 4.1A We will charge the **land reuse** committee to develop a plan which encompasses the needs of the community while maintaining environmental safety and cost-effectiveness.
 - 4.1B We will charge the **equipment and materials reuse** committee to ascertain all available equipment and materials and to develop a plan which equitably distributes those resources in a timely fashion so that no usable resources are wasted.
 - 4.1C We will charge the **economic development** committee to determine economic initiatives in our region that impact our area, to develop strategies from the SWOT analysis done by the CRO and the SWOT analysis done by the Western Hamilton County Collaborative, and to establish a network with other economic development organizations in order to represent the views of our stakeholders and to coordinate economic development efforts.
 - 4.1D We will charge the **worker transition** committee to assess the number of workers, their respective skill and wage levels and to make recommendations on job placement, outreach and retraining opportunities.

STRATEGIES (continued):**5. Public Involvement:**

- 5.1 We will develop a comprehensive plan for involving the stakeholder in all facets of the CRO's decision making process.
- 5.2 We will publicize and utilize our web site.
- 5.3 We will conduct focus groups.
- 5.4 We will conduct local meetings.
- 5.5 We will survey the stakeholders to determine their needs.

6. Communication:

- 6.1 We will develop a mechanism for internal communication (within the CRO) which encourages open communication and a clear understanding of all issues and decisions we address.
- 6.2 We will develop a mechanism to continue to ensure two-way communication between the CRO and the Fernald site.
- 6.3 We will develop a comprehensive and proactive plan to communicate with other CROs, the media, local, state and national governmental officials and agencies in order to get "the word out" about the strengths of our area and our successful endeavors to accomplish the CRO mission.
- 6.4 We will establish a crisis management/damage control plan in order to get accurate information out to combat rumors or erroneous information.

Approved April 1, 1997

Author: Bulletin Board Admin at FNST-02
Date: 4/21/97 9:26 AM
Priority: Normal
Subject: Input Sought on Supplemental Environmental Project
----- Message Contents -----

April 21, 1997

INPUT SOUGHT ON SUPPLEMENTAL ENVIRONMENTAL PROJECT

TO ALL TEAM MEMBERS:

Fluor Daniel Fernald is seeking recommendations on a viable supplemental environmental project for implementation at the FEMP. DOE and the United States Environmental Protection Agency (U.S. EPA) are considering the implementation of such a project as a key component of any agreement reached to resolve the current dispute concerning the Silos Project. The dispute involves certain remedial design/remedial action milestones that were not attained, but are considered enforceable under the terms of the Amended Consent Agreement.

These projects are negotiated through the dispute resolution process. They are intended to mitigate payment of stipulated penalties included under Section XVII of the Amended Consent Agreement and resolve disputes while concentrating on environmental restoration activities.

Supplemental environmental projects must meet the following three criteria:

- * The project must be environmentally beneficial. It must improve, protect or reduce risks to public health or the environment.
- * The project must be implemented in settlement of an enforcement action. It cannot be implemented until after the agency has identified a violation.
- * The project must not be otherwise legally required, nor can it include actions which the violator is already required to perform. These projects cannot be actions already included in the baseline to comply with a Record of Decision.

To qualify, the type of environmental project must fall into at least one of the following seven categories:

- 1) public health protection;
- 2) pollution prevention;
- 3) pollution reduction;
- 4) environmental restoration and protection (beyond repairing the damage caused by the violation);
- 5) assessments and audits;
- 6) environmental compliance promotion; and
- 7) emergency planning and preparedness.

Possible examples of supplemental projects would include sponsoring/funding a cleanup of debris along the banks of a nearby river or funding an amnesty day for local residents to bring in unwanted household chemicals for proper disposal.

DOE and U.S. EPA will be the ultimate decision makers on any project implemented at or near the FEMP.

If you have an idea for a supplemental environmental project, please submit a brief description of your recommendation to Mary Bynum at Mail Stop 9, or via cc:Mail, by April 25.