

fernal
Report

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- Disposal Facility up and running
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Fernald responds appropriately in time of crisis

The past few weeks have been an emotional and challenging time. I know that it has been difficult for us of us to focus and go on as usual with our daily tasks. This country took a terrible blow to the heart on September 11, and the effects of that day will be felt for a very long time. Having said that, I want to

take this opportunity to recognize the employees of Fernald for their hard work, patience and generosity during this time. The employees of this site have raised over \$30,000 dollars for the American Red Cross.

In response to the attacks in New York and Washington, D.C. on September 11, most people were excused for the day and we took a heightened security posture at the site. All employees at Fernald and anyone that entered the site were subject to a complete vehicle check. Security personnel, employees and visitors to the site understood the situation and conducted themselves professionally during this time. Visitors to the site should continue to expect a thorough check when entering the site. Security and safety of this site and the people that work and visit here are of the utmost importance.

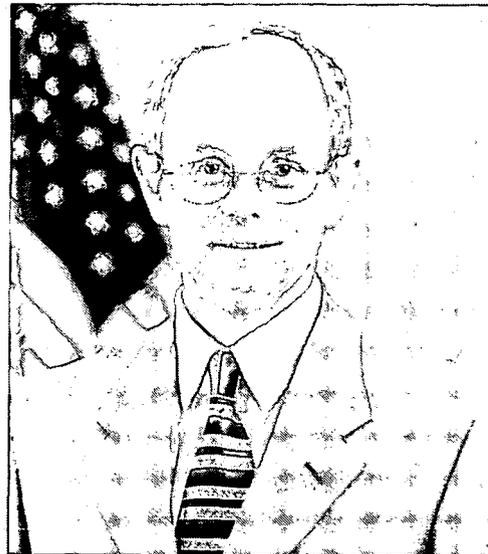
Fernald also responded to the DOE's moratorium placed on waste shipments as a result of the terrorist attacks. We suspended all waste shipments that leave this site via rail and truck to Envirocare of Utah, Nevada Test Site (NTS) and the Portsmouth Gaseous Diffusion Plant. On September 24, the moratorium was lifted and train 45 left Fernald on September 26. Shipments of low level waste to NTS

followed shortly thereafter.

As a result of the events of September 11, many challenges were placed before us and we responded professionally, safely and efficiently. Challenges will continue to come our way and I am confident that in light of our response during these recent events we are, and will continue to be, fully prepared.



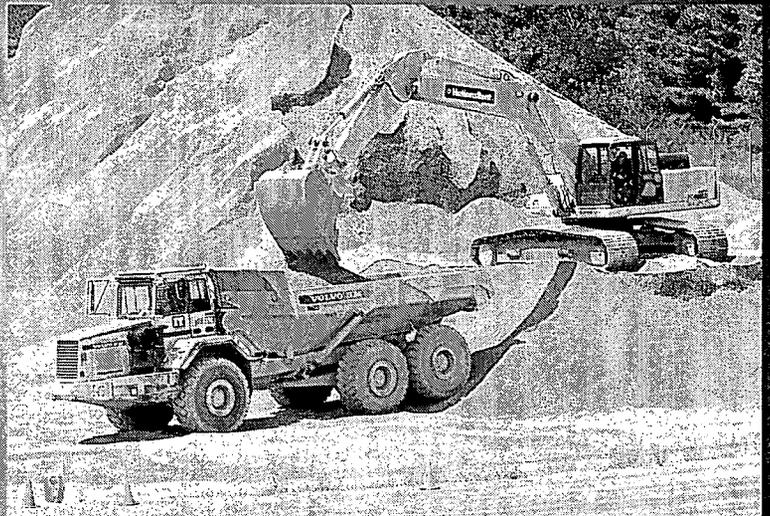
Steve McCracken
Director, DOE-Fernald



Additional funding keeps soil program running

As a result of a supplemental appropriation by the U.S. Congress, the massive 30-ton capacity dump trucks are rolling down Fernald's Haul Road once again. The trucks make as many as 125 trips a day carrying impacted material from the Southern Waste Units to the On-Site Disposal Facility (OSDF). Over 60,000 cubic yards of soil and debris will be removed from the Waste Units by the end of October, bringing that project to completion. Cells 2 and 3 of the OSDF have been opened to receive this material along with the bulk debris that has been held over the winter in the OSDF Material Transfer Area. Since October 2000, crews have emptied over 800 roll-off containers at the Transfer Area, allowing the demolition of buildings to continue even though the OSDF was shut down.

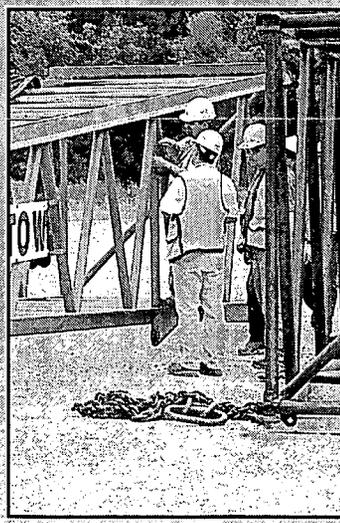
Workers filled Cell 1 of the OSDF to capacity last year and are now constructing the final cover, or cap. The 8.75-foot thick cap is made of numerous layers, beginning with a 2-foot thick layer of compacted clay followed by plastic liners, a gravel drainage layer and a 3-foot thick bio-intrusion cobblestone barrier designed to prevent animals from burrowing and vegetation from taking root. A layer of gravel will be placed over the large cobblestones, then a layer of vegetative soil and finally, to promote grass growth, a 6-inch layer of topsoil. Crews will complete the Cell 1 cap sometime this fall.



What's up at the Silos Project?

Over the coming months, Fernald's neighbors and those passing by will notice a very tall object looming over the site: a 250-ton crane with a 240-foot boom, recently delivered by All Crane Service from Columbus. It took over two weeks and 11 semis, but the crane is now in place near the new Accelerated Waste Retrieval Transfer Tank Area. "We had a few problems because of delivery scheduling and lightning in the area," said Darrell Wilson, Fluor Fernald Assistant Hoisting and Rigging Overseer, "but now it's there and ready to go. There will be a lot of action out here within the next four weeks."

Crews will use the crane to erect the tanks to hold Silos 1 and 2 material awaiting chemical stabilization. Later during final remediation workers will use the crane to build a bridge between Silos 1 and 2 and the future treatment facility.

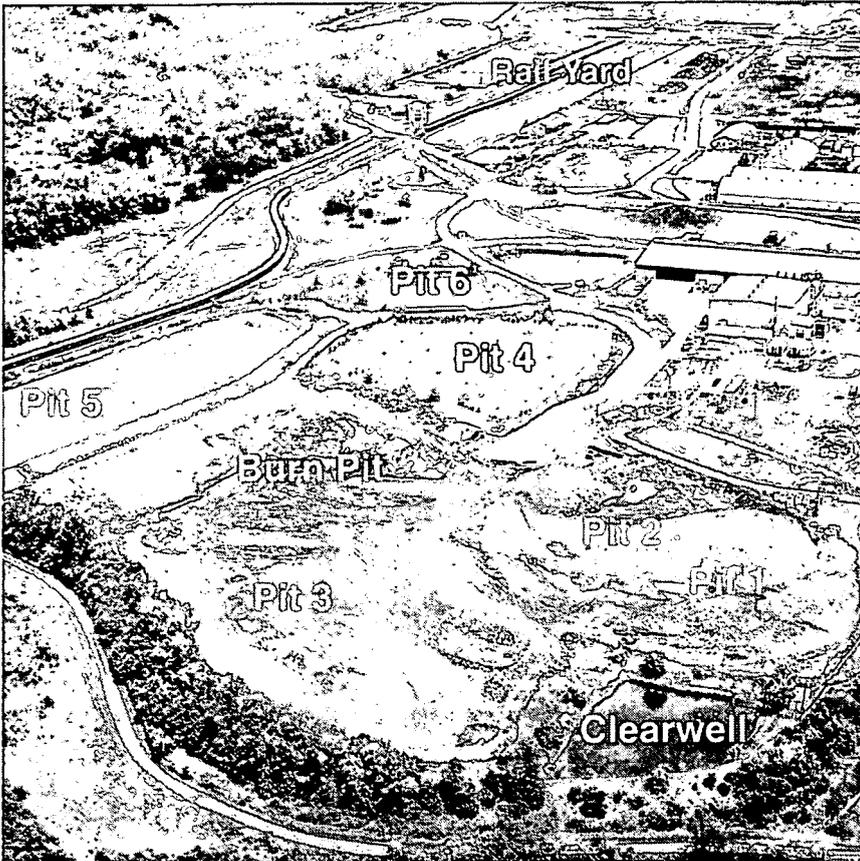


Above: Loading gravel from the Construction Laydown Area to be used in the drainage layer for the Cell 1 cap.

The 1-foot drainage layer required over 42,000 tons of gravel (6319-d3124) (6319-d3145).

Left: Riggers with the Silos Project assemble the 250-ton crane (7385-d0724).

Cleanup **Progress** Update



Waste Pits Remedial Action Project (WPRAP)

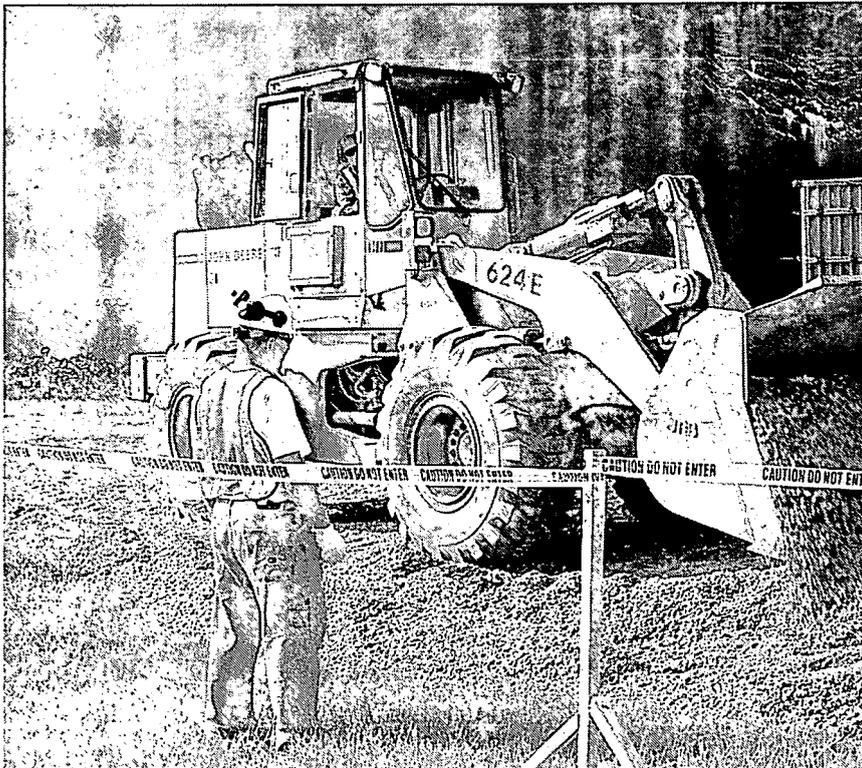
- Unit trains (#41-#46) safely transported over 39,000 tons of material to Envirocare between July-September
- Excavation continues to focus on Pit 1 (90% complete); Pit 3 (50% complete) and Pit 2 (20% complete)
- In July the WPRAP team attained two major milestones:
 - ◇ The total amount of material shipped reached quarter of a million tons
 - ◇ Reached two million safe work hours without a lost time accident

Silos Project

- Continued material deliveries and various review for the Accelerated Waste Retrieval transition activities
- Presented a Silos Project Status briefing to the U.S. Environmental Protection Agency (EPA) and the Ohio EPA
- Continued the conceptual design for the Silo 3 Project
- Initiated an internal review and informal external review of the *Conceptual Design Report for the Silos 1 & 2 Project*

Above left: This aerial shows excavation activity in the Waste Pits area (6471-2).

Left: Construction workers grade the work zone around Silo 3 (7325-d0449).



Soil and Disposal Facility Project

- Began receiving impacted material in cells 2 and 3 of the On-Site Disposal Facility (OSDF)
- Completed the western expansion of the On-Site Disposal Facility Materials Transfer Area (OMTA)
- Continued operation of the OMTA bulk debris staging
- Completed installation of the drainage layer for the Cell 1 cap and began installing the bio-intrusion barrier layer
- Continued screening clay for cells 4 and 5 liners
- Issued the request for proposal for Phase IV of the OSDF and Area 3A/4A excavation



Aquifer Restoration/Wastewater Project

- Completed installation and development of a new extraction well for Phase I of the Waste Storage Area Aquifer Restoration Module and one new well to the Phase I South Field Restoration Module
- Continued construction of the well houses and associated infrastructure required to connect new extraction wells to the existing piping networks
- Completed a public participation process for an OU5 Record of Decision Explanation of Significant Differences document which addressed the aquifer cleanup and wastewater discharge levels. This included a public comment period on the document and a Public Hearing on August 23
- June/July: extracted 354,483,000 gallons of groundwater; treated 203,950,000 gallons of groundwater; removed 154 net pounds of uranium from aquifer



Above: Workers perform a field weld test on the Geo-textile layer of the Cell 1 cap (6319-d2927).

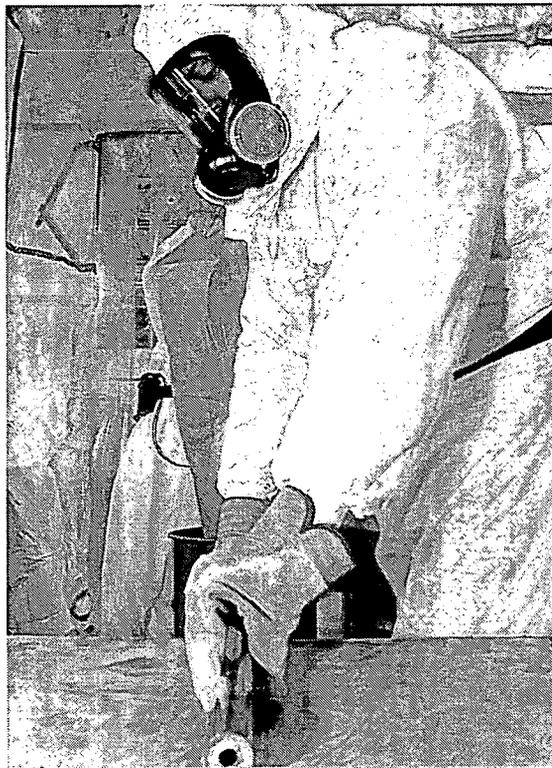
Left: John Vandine, a field technician with the Environmental Monitoring group, is collecting a geoprobe sample to determine the uranium profile in the aquifer near the silos (7098-d0150).

Cleanup **Progress** Update



Above: After removing one side of transite from an interior wall, workers place insulation potentially contaminated with asbestos into bags for disposal (6639-d936).

Right: A Nuclear Materials Disposition hazardous waste operator weighs an enriched uranium fuel element to determine its U235 (superscript) grams, in order to meet the Department of Transportation shipping requirements (7368-d0371).



Demolition Projects

Decontamination & Dismantlement (D&D)

- Plant 6 Complex —
 - ◇ Completed demolition of the Building 62 (Quonset Hut 3), which brings the total to 9 structures currently removed on site
 - ◇ Continue interior transite and roof removal work
 - ◇ Conducting interior demolition
- Facilities Shutdown
 - ◇ Completed removal of the laundry equipment for shipment to the Mound facility in Miamisburg, Ohio
 - ◇ Planning for future demolition of the Health Safety Building(53A), Thorium Warehouse and the Old Plant 5 Warehouse (65)

Waste Generator Services

- Product shipments to DOE-Portsmouth
 - ◇ Total of 183.9 metric tons uranium (MTU) shipped in FY01 as of Aug. 31
 - ◇ Approximately 3,355.7 MTU transferred since June 1999, representing 88% of the 3,801 MTU inventory destined for Portsmouth
- Other product disposition
 - ◇ Continue operation of the new Drum Repackaging Station in Building 56
 - ◇ Received two additional Drum Repackaging Station assemblies from the manufacturer
 - ◇ Received a third consecutive Tri-Star Award working 300,000 consecutive hours without OSHA recordable injury
- Uranium Waste Disposition
 - ◇ Continuing characterization and visual inspection of containers
 - ◇ Continued repackaging of depleted metal for shipment to the Nevada Test Site
 - ◇ Shipped eight containers of fissile metal to Nuclear Fuel Services, Inc. for treatability testing

Waste Generator Services

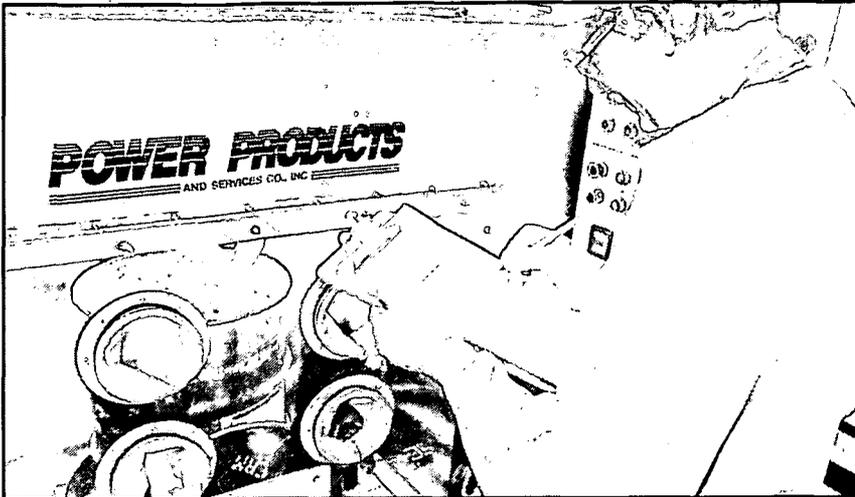
- All WGS projects participated in the Nevada Test Site (NTS) annual audit of Fernald's waste management activities
- WGS recently achieved over 3.5 million safe work hours
- Thorium Legacy Waste Project —
 - ◆ Continued sorting and repackaging of thorium trash for eventual disposal at NTS
 - ◆ Completed processing and shipment of 51 containers of thoria gel
- Waste Treatment and Storage—
 - ◆ Completed four shipments of liquid mixed waste (totaling approximately 14,000 gallons) to the Toxic Substance Control Incinerator in Oak Ridge, Tennessee; final shipment of this liquid mixed waste "batch" to be completed in early September
 - ◆ Shipped 2,800 gallons of sulfuric acid for commercial reuse
 - ◆ Began planning and preparation for use of a vacuum thermal desorption technology for treatment of mixed waste soil, sludge and debris



Above: As part of the Fernald's on-site storage identification, a radiological control technician placards a 55-gallon drum (7536-d141).

Fernald Shipments through August 2001

Contents / Destination	Shipment Mode	Number of Shipments	Monthly Total	FY01 Total	Approximate Project Totals
Low-Level Waste (Nevada Test Site)		4	6,758 cu. ft.	235,011 cu. ft.	5.8 million cu. ft.
Liquid Mixed Waste - Toxic Substance Control Act Incinerator at Oak Ridge		4	14,017 gal.	14,017 gal.	211,017 gal.
Nuclear product/materials (Portsmouth)		22	60,291 net lbs. or 24 metric tons uranium	467,183 net lbs. or 184 metric tons uranium	8.6 million net lbs. or 3,356 metric tons uranium
Soil and debris - On Site Disposal Facility		N/A	13,755 cu. yds.	13,755 cu. yds.	607,857 in-place cubic yards
Waste Pits Project (Envirocare of Utah, Inc.)		2 unit trains (120 railcars)	12,910 tons	98,984 tons	272,951 tons



New drum repackaging station increases safety and efficiency

Timely removal of nuclear product is one of the key elements of Fernald's closure process. In cooperation with DOE's Nuclear Materials Focus Area (NMFA), Fernald recently obtained a drum repackaging station that promises to make repackaging of certain types of nuclear product easier, more efficient and safer for workers.

The Drum Repackaging Station is a self-contained, HEPA-filtered repackaging unit that repackages greater than 1% ^{235}U uranium compounds. It is being used to transfer uranium oxides and compounds of varying particle size and density from storage containers into approved, fissile material packages that can be shipped off site. The uranium product is transferred in Building 56, prior to the containers being moved to another building for final prepping and shipment staging.

Ultimately, this system will be used to repackage 96 metric tons uranium (MTU) weight of uranium trioxide (UO_3). This material is currently stored in 240 containers; which will be repackaged into approximately 3,400 fissile material packages. Two MTU of uranium tetrafluoride (UF_4) currently stored in 33 containers will also be vacuum transferred into approximately 70 fissile material packages. Other compounds are also under consideration for repackaging via this method.

After a competitive bid process, Fernald and the NMFA purchased this system from designer/manufacture Power Products of Georgetown, South Carolina. Following completion of startup activities, Fernald initiated use of the vacuum transfer system on June 28. This first unit will test the design and identify any needed improvements. Information gained will be incorporated into two follow-on units, which were delivered to the site in mid-August and are currently being readied for use.

Top: A worker verifies the weight information for a recently filled drum. The weight measurements are critical in the repackaging process to ensure that the fissile material packaged is less than or equal to 350 grams of U^{235} per package (7536-d088).

Waste Treatment Projects update

The Waste Treatment Projects are a part of the overall Waste Generator Services program at Fernald. They encompass a wide variety of waste management activities including shipment of low-level liquid mixed waste for incineration; treatment and disposal of mixed waste soil, sludge and debris; disposal of hazardous waste; and recycling and pollution prevention efforts.

During August and early September, Fernald transported five shipments of liquid mixed waste to the Toxic Substance Control Act Incinerator (TSCAI) in Oak Ridge, Tenn. These shipments totaled over 17,000 gallons, bringing the total liquid mixed waste shipment to TSCAI over the life of the project to approximately 214,000 gallons. The project has just completed sampling on another "batch" of liquid mixed waste, and has begun the application process for eventual transport of that waste to TSCAI.

Fernald is also planning to provide treatment for other mixed wastes through a process known as vacuum thermal desorption. The waste will be processed in a vacuum via indirect heating, within a closed-loop system that reduces air emissions and simplifies off-gas system equipment procurement and maintenance. After treatment, the resulting product is no longer a mixed waste and Fernald can ship and dispose of it as low-level radioactive waste. Since this treatment method decreases the volume of primary waste in the processed containers by up to 50 percent, it also reduces the cost of shipping and disposal. The project plans to use this method to process about 1,700 containers of organically-contaminated sludge, soil and debris, and 4,000 cubic yards of organically-contaminated soil. The project hopes to select a vendor in early 2002, and begin processing by early 2003.

On the recycling front, Fernald recently made a shipment of 2,800 gallons of sulfuric acid to a local commercial drum-reconditioning facility for reuse. Meanwhile, "legacy" chemicals are being sorted and radiologically surveyed to determine whether they require disposal as hazardous waste or can similarly be released for reuse.

Unlike low-level waste shipping to the Nevada Test Site or nuclear product shipments to Portsmouth, Fernald's Waste Treatment Projects do not deal in large, impressive numbers of cubic feet or metric tons uranium shipped per year. They do however, represent an enormous amount of effort and planning, and require careful coordination with variety of agencies such as other DOE sites, state governments, commercial companies and technology vendors. Successful completion of Waste Treatment Projects is vital to closure of the Fernald site.



Above: An aerial view of Plant 6. Mactec is expected to complete final D&D in December 2001 (7647-166).

MACTEC'S job is making buildings "disappear"

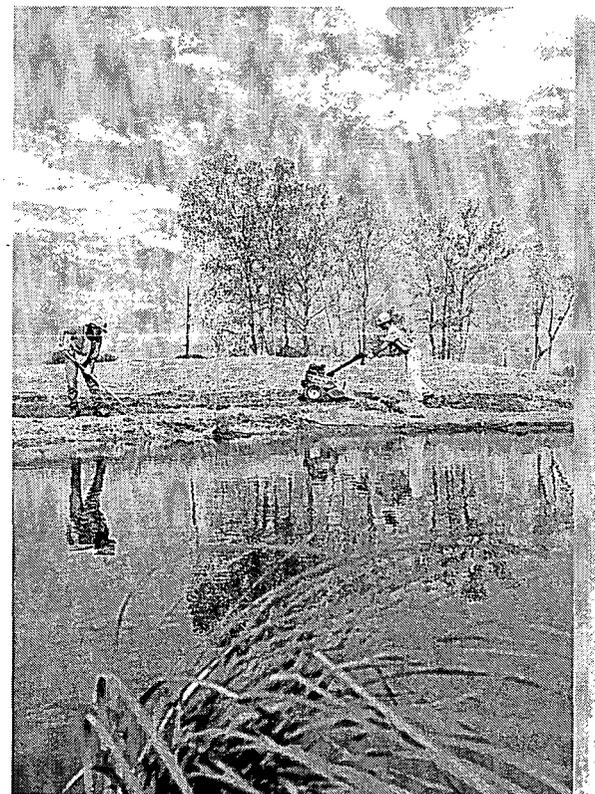
MACTEC, Inc. is no stranger to Department of Energy projects. After coming on board with DOE in 1987, they have been involved in remediation, restoration and construction activities at the Los Alamos, Oak Ridge, Paducah, Rocky Flats, Savannah River, and Hanford, as well as a host of other sites. Here at Fernald, they dismantled Plant 5 and are currently working on the Plant 6 complex. One of the most visible future projects that MACTEC is handling is not in the former process area, however, but on the administrative side. The Safety and Health Building, a part of Fernald since the early 1950s, will be demolished beginning this winter. Because the building is in the administrative area and no decontamination is necessary, the work should progress quickly. Other upcoming demolition projects include Plant 2/3, Plant 8, the Pilot Plant complex and Building 64/65.

Natural Resource Trustees sign Memorandum of Understanding

Representatives from DOE, Ohio EPA, and the U.S. Department of Interior serve as the Fernald Natural Resource Trustees. On August 9, they signed a Memorandum of Understanding regarding natural resource damage liability at the Fernald site. The signing moves DOE one step closer to final settlement of a \$206 million lawsuit filed by the State of Ohio in 1986. The Memorandum formalizes plans to resolve DOE's natural resource damage liability through the implementation of the Natural Resource Restoration Plan and establishes a Natural Resource Trustee Council at Fernald.

The Trustees have been meeting and negotiating since 1994. In 1998, they drafted the Natural Resource Restoration Plan, which contains conceptual restoration plans for each area of the Fernald site. The Natural Resource Trustees sought public input on the draft plan in September 1998, in conjunction with discussions regarding final land use of the site following remediation. Future public use, ecological restoration, and long-term stewardship requirements continue to be topics of discussion. The Restoration Plan will be finalized later this year. A revised draft will be made available to the public prior to any final agreement among the NRTs.

*Right:
Fernald workers seed native grasses and wildflowers in a restored area (7321-d50).*



Management changes within Fluor Fernald

Continuing its efforts to achieve accelerated site completion safely and efficiently, Fluor Fernald recently announced changes in its management structure. Effective in August, John Bradburne began serving as Chairman and CEO of Fluor Fernald. Bradburne's primary objective is to work with our elected officials and personnel at DOE-HQ to ensure that Fernald remains a priority for closure. "I don't anticipate my involvement in Fernald activities to slow down at all," Bradburne said. "We've got a great group of highly skilled people here, and I'm proud to be a part of that team. The quality of the work we do here makes my job in Washington a whole lot easier."

Jamie Jameson has been promoted to President of Fluor Fernald. Jameson has more than 30 years of experience with Fluor and has been a vice president at Fluor Fernald for the past six years. "I'm looking forward to working with our client, employees, stakeholders and regulators to achieve site completion," Jameson said. "I'm committed to working with all of these groups to find solutions that make sense. We all need to be involved to see this project through to closure within the next few years."

As a further reflection of its commitment to closure, Fluor Fernald's Board of Directors voted to add the responsibilities of Chief Operating Officer to Dennis Carr's duties as Executive Vice President. Bob Nichols has been appointed Director of Project Execution where he will focus on ensuring excellence in execution as the company works toward site completion.

A New Face On the Silos Project

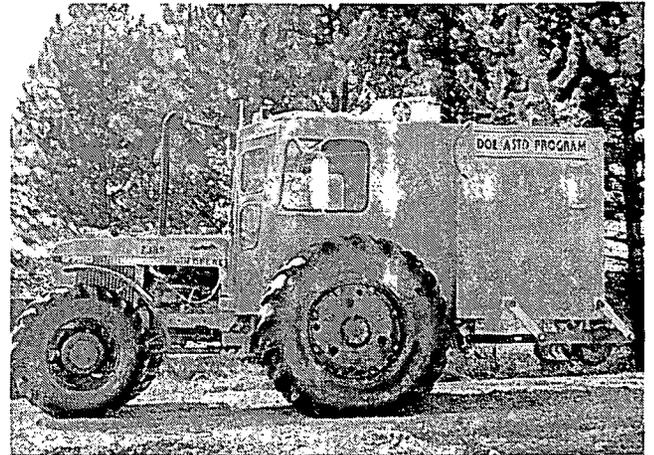
Ray Corradi, a Fluor veteran, has joined the Silos team as its new project director. Corradi, a professional mechanical engineer, has more than 25 years experience managing complex projects throughout the country. His most recent assignment was through Fluor's Telecommunications business unit managing operations in 40 different cities. Corradi said, "My top priority is to get the job done safely and I also think we've got some opportunities for schedule acceleration and cost savings. I'm working with a great team and we have a very workable plan."



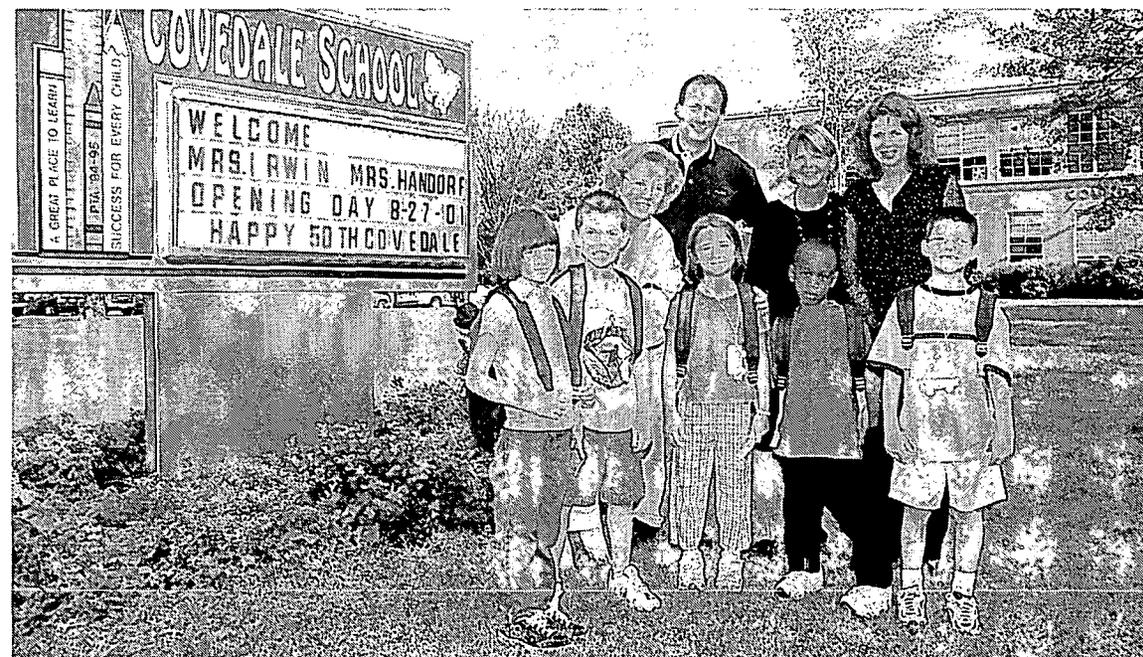
Integrated Technology Suite demonstrated in Oak Ridge

Recently, representatives from Fernald demonstrated to Bechtel-Jacobs Corporation personnel how components of Fernald's Integrated Technology Suite (ITS) could be useful in conducting real-time analysis during soil excavation activities. A sodium iodide Radiation Scanning System, used in conjunction with portable high purity germanium sensors, was deployed on a six-acre disposal area of Oak Ridge Reservation's East Tennessee Technology Park where radiological surface contamination was detected.

The outcome of this ITS demonstration, which was sponsored by the DOE Office of Science and Technology, proved comparable to analytical results and decisions reached using a traditional physical soil sampling and analysis method. The results of this successful deployment of radiation detection technology proved to Tennessee officials and regulators that characterization of soil could be completed accurately, efficiently and at substantially less cost through use of the Radiation Scanning System.



Above: The Radiation Scanning System is designed to detect radionuclide contamination in soil (6876-d77).



Left: Principal Michele Wenger and Fluor Fernald representatives greet eager first graders from Covedale Elementary as they show off the new backpacks they received from Fernald volunteers (7663-d0026).

Backpack Basics... A pact to back our children's future

Going back to school should be an exciting experience for all children. Unfortunately, there are many children who never have the necessary school supplies. Recently, Fernald employees helped students at a local elementary school by donating backpacks and supplies such as crayons, markers, folders, scissors and pencils.

On the first day of school at Covedale Elementary School, a Cincinnati Public School partner, Fernald volunteers distributed the backpacks and supplies to nearly 350 students.

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New documents added to the Public Environmental Information Center

The following information was added to the Public Reading Room, Administrative Record files and Post Record of Decision files at DOE Public Environmental Information Center (PEIC):

- Waste Pits Remedial Action Project
 - ◇ OEPA Letter: Approval – Pit 2 Test Procedure
- Soil Characterization and Excavation Project
 - ◇ OEPA Letter: Reopening the On-Site Disposal Facility (Approval)
- Facilities Closure and Demolition Project
 - ◇ USEPA Letter: Conditional Approval of Draft Multi-Complex Implementation Plan for Above-Grade Decontamination and Dismantlement
 - ◇ USEPA Letter: Approval of Plant 5 Complex Project Completion Report
- Silos Project
 - ◇ Revised Draft Remedial Action Work Plan for Radon Control System Phase I Operation
- Aquifer Restoration Project
 - ◇ OEPA Letter: Concurrence on the Use of New Chemicals to Treat Wells
 - ◇ Project Specific Plan for Installation of the On-Site Disposal Facility Great Miami Aquifer Monitoring Wells, August 2001
 - ◇ June 2001 Re-Injection Operating Report

*Note: This does not represent the complete list of new documents added to the PEIC.
Contact the PEIC, 513-648-7480 for a complete list of new documents.*



Fernald Report

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