

ernald Report

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July / August 2002

Cleanup moving ahead on all cylinders during dry summer months

As we pass the mid-way point of the calendar year and the construction season I thought I'd take this opportunity to give a brief rundown on where we stand on reaching our 2002 cleanup goals. Of course safety is the most important part of completing this job. If we don't do the work safely, it affects the quality of our work as well as the schedule.

Design and construction work in the Silos Project is progressing. The Radon Control System for Silos 1 & 2 will be operational in November. This will be a major step prior to retrieving and treating waste from the Silos. Likewise work on Silo 3 waste retrieval and packaging is in the final design stages.

In the Waste Pit area train 61 left Fernald the second week of July. By the end of this fiscal year (September 30) we plan to send out seven more unit trains for a total of 21 this year. That's the most we've ever sent in one year. The previous high mark was 20 in 2000.

The Mactec crews are performing demolition in the remaining former production plants (Plants 2/3, 8 and Pilot Plant). With the completion of Building 64/65 and the former Safety & Health Building, another large area of our site has been leveled.

The Soil and Disposal Facility Project means that on a good day 250 trucks will haul contaminated dirt and debris for placement into the On-Site Disposal Facility. This year we expect to place 290,000 cubic yards or enough to fill an entire cell three-quarters full. Despite monsoons this spring, we will exceed our placement goal if the weather continues to cooperate. Likewise construction of cell 4 and 5 liners is moving ahead thanks to good, albeit hot, conditions. Both liners are scheduled to be complete this fall.

So far we are doing well. If we look at this project one year at a time and if we do it safely, then the 2006 closure date will be reached.



Steve McCracken
Director, DOE-Fernald

On the cover: A look at a shear dismantling the former Safety and Health Building. This is the third major administrative structure to be demolished at the site. Upon completion, there will be a clear view from the front of the administrative area to the back of the former process area of the site (7565-d0089).

Silos Update: Staying on the plus side of the curve

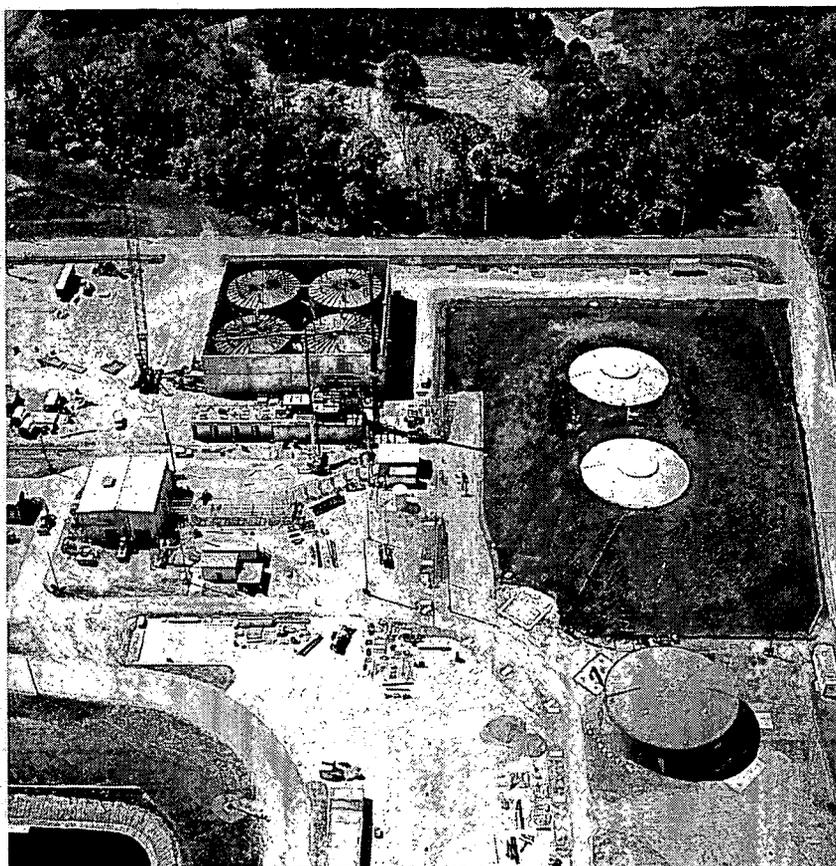
In 1951, workers constructed Silos 1 and 2 to store by-products of the Fernald uranium recovery process. The silos still hold these radium-bearing residues, the most highly-radioactive materials in storage at Fernald. Silo 3 contains fine thorium metal oxides which are also by-products of the process. Consequently, the Silos Project represents the highest-profile cleanup activity on site. In response, Fluor Fernald and the Silos Project team have pledged to stay on the plus side of the curve and reduce or eliminate risks associated with waste retrieval, transportation and disposal while accelerating cleanup to meet the 2006 goal.

According to the accelerated cleanup plan, sluice jets inside Silos 1 and 2 will mix waste material with water and pumps will push the resulting slurry through pipes to four transfer tanks and then to a treatment facility. Fluor Fernald has designed remotely-operated systems to minimize site worker exposure. Maintenance will not require shutdown because Fluor Fernald is installing parallel operating lines with identical equipment shielded from the rest of the process to minimize exposures. Also, workers will be able to quickly swap out parts.

The Silo 3 accelerated plan calls for pneumatic waste retrieval followed by mechanical excavation of compacted material. The main hazard associated with Silo 3 material is exposure as a result of dust inhalation, so Fluor Fernald has designed a system of dust control devices and sealed containment buildings. Proper personal protective equipment will also minimize worker exposure. The Critical Analysis Team, DOE's independent design review group, noted that these methods are "equally protective to systems applied to high level wastes."

To stay on the plus side of the curve in transportation and respond to public concerns, Fluor Fernald designed and tested innovative packaging schemes to reduce or eliminate both radiological and dispersibility hazards. Silos 1 and 2 waste will be shipped in cylindrical metal containers and Silo 3 material in heat-sealed plastic liner bags placed inside soft-sided containers and then inside metal containers. Both types of containers will be certified to meet stringent Department of Transportation requirements for hazardous waste shipping. Fluor Fernald used the RADTRAN software tool developed by Sandia National Labs to assess all aspects of risk during transportation. Also, consultants are evaluating additives that will reduce dispersibility.

Once the waste arrives at the disposal site, remotely-operated systems will handle the containers and place them in the waste cells. This approach, minimizes worker exposure during final handling.



Cleanup **Progress** Update

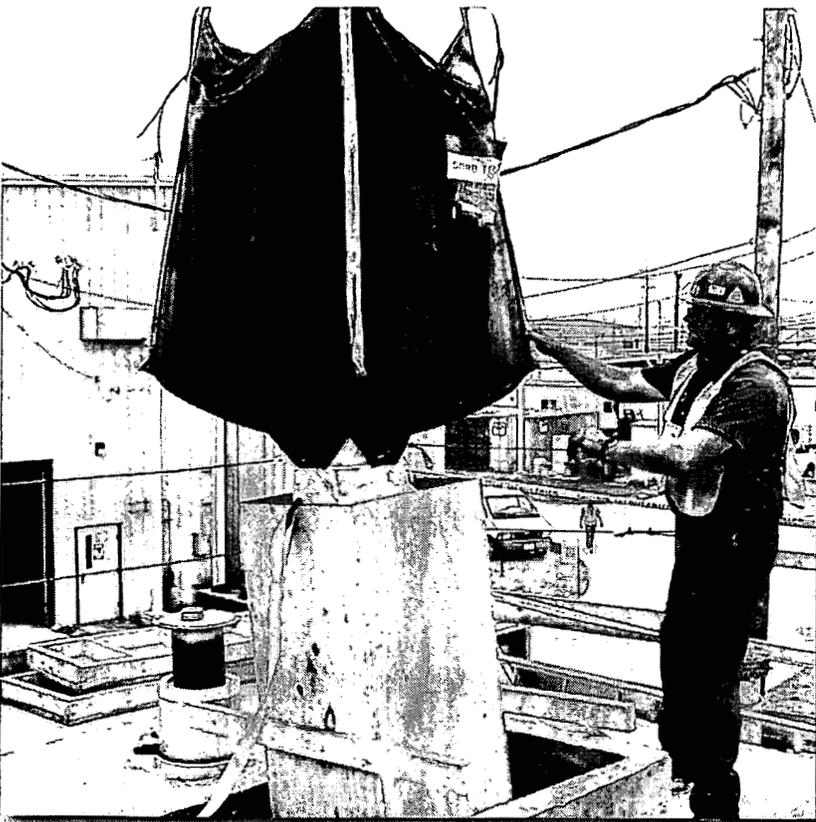


Waste Pits Remedial Action Project (WPRAP)

- Safely transported trains (#57 - #60) to Envirocare of Utah during May/June
- Excavations are ongoing in Pit 3 and Pit 5 - with blending as the primary dryer feed source
- Initiated operating both dryers 24 hours per day, seven days a week to obtain maximum production levels

Silos Project

- Completed preliminary design of the Silo 1 and 2 treatment facility
- Issued silos warehouse and Silo 1 and 2 mat foundation packages for bids
- Awarded several key equipment purchases for the Silo 1 and 2 treatment facility
- Finished construction on all four transfer tanks and began sandblasting exteriors in preparation for painting
- Began cold loop test in Oak Ridge. This test will be used to validate the system design and material retrieval method for Silos 1 and 2
- Began Silo 4 demonstrations
- Construction continued on the Radon Control System (RCS) structure and the piping and ductwork in the RCS air handling building and above the carbon bed building



Above left: A surveyor uses a global positioning satellite survey system to check the elevation of the liner in Cell 5 of the On-Site Disposal Facility. Thousands of these measurements will be taken during the construction of the cells (6319-d3561).

Left: A worker empties carbon from a soft-sided container into one of the four carbon beds (7385-d1834).

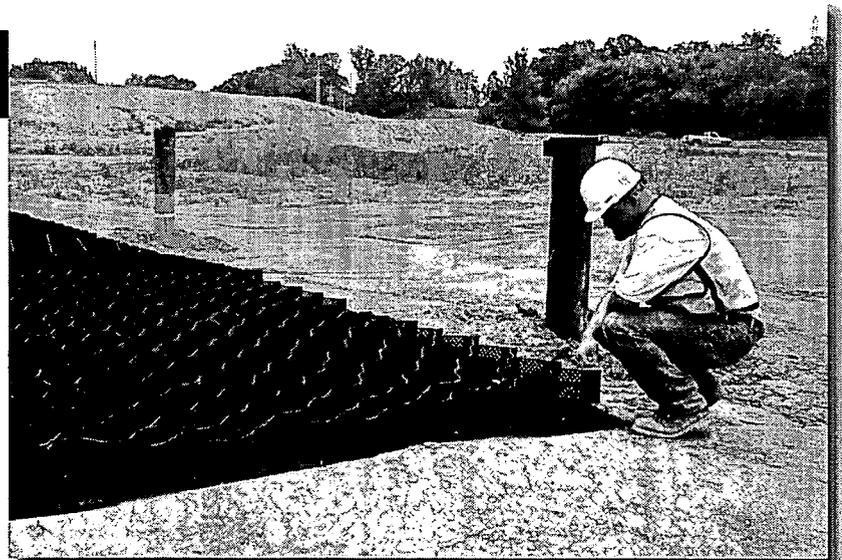
Soil and Disposal Facility Project

- Placed 60,000 cubic yards of impacted material in Cells 2 and 3 of the OSDF
- Placed D&D debris from the Health & Safety Bldg. and Bldg. 64/65 directly into Cells 2 and 3
- Continued construction of the liners of Cells 4 and 5 of the OSDF
- Initiated clay screening in the Borrow Area for Cell 2 cap construction
- Continued excavation of soil in the northeastern quadrant of the production area
- Initiated excavation of the two lime sludge ponds in the production area
- Initiated excavation in the Silos Project area to support construction of the remedial facilities later this year
- Continued restoration of the Southern Waste Units and the Northern Pine area
- Continued operation of the bulk debris staging at the OMTA; over 1,355 roll-off boxes have been emptied to date



Aquifer Restoration/Wastewater Project

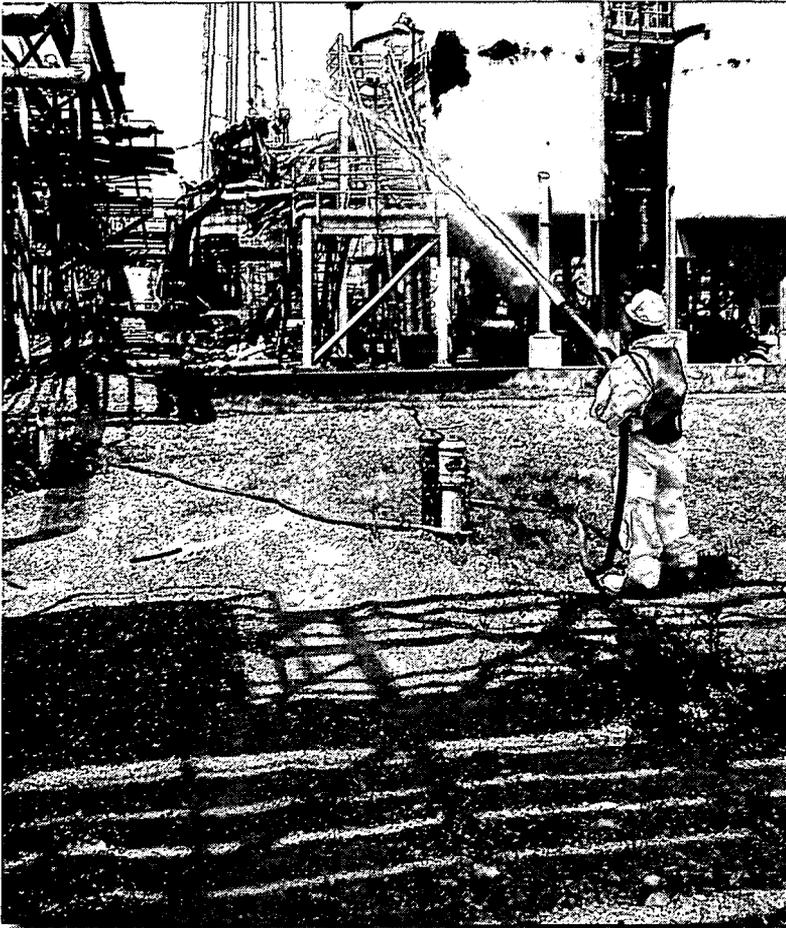
- Continued well drilling and development of relocated replacement injection wells 8 & 9 and new injection well 10A
- Received EPA concurrence and began drilling and development for four new extraction wells, one new injection well, and 26 monitoring wells for the South Field Phase II module
- Began construction of modifications and infrastructure enhancement to the three portable lab trailers located south of the AWWT, which will be used to provide a portion of laboratory functions when the existing lab is dismantled
- Issued the 2001 Site Environmental Report
- Currently have 19 extraction wells operating at an average pumping rate of 260 gallons per minute
- April/May totals: extracted 324,521,000 gallons of groundwater; treated 188,601,000 gallons of groundwater; removed 193 net pounds of uranium from aquifer



Top: Bowser-Morner drillers use a roto-sonic drilling rig to obtain soil core samples prior to the installation of a well (6261-d0668)

Above: John Homer of the Natural Resource Restoration Project inspects geo-material, which will be used as a base for a new road to the wells located in the Southern Waste Units. The voids in the material will be filled with soil, seeded and will eventually be able to support heavy truck traffic (7800-d0074).

Cleanup **Progress** Update



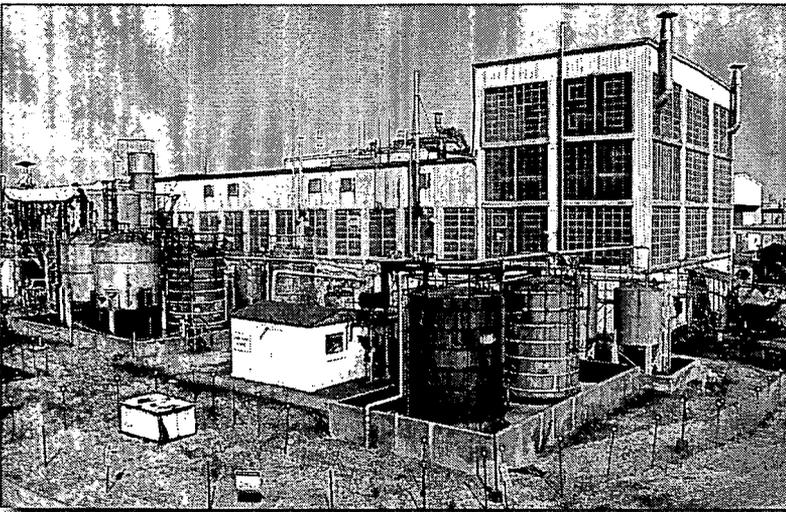
Demolition Projects

Decontamination & Demolition (D&D)

- Plant 6 Complex
 - ◆ Continued closure documentation
- Multi-Complex (Plants 2, 3, 8, Pilot Plant, Building 64, Health & Safety Building and General Sump)
 - ◆ Completed structural demolition of Buildings 64, 6 and the 22E trench
 - ◆ Ongoing activities included: asbestos abatement; removal of equipment, piping, lead and interior transit; gross washdown and size reducing debris placement in roll-off boxes for disposition
 - ◆ Continued removal of structural steel and concrete masonry in the Health & Safety Building
 - ◆ Began mobilization activities in the Pilot Plant

Waste Management Project

- Low Level/ Uranium Waste Project
 - ◆ Continued characterization and visual inspection of containers
 - ◆ Continued packaging of materials for shipment to the Nevada Test Site
 - ◆ Solicited bids for a temporary facility to support of packaging activities
- Liquid Mixed Waste Bulking Project
 - ◆ Submitted Batch 12 liquid mixed waste application to the Toxic Substance Control Act (TSCA) Incinerator and the State of Tennessee for approval
- Inorganic Treatment Project
 - ◆ Began operation of the Mixed Waste Processing Enclosure, which is being used to process and package the Inorganic Treatment Project waste



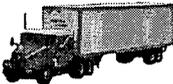
Top left: A Mactec laborer applies water to control fugitive emissions while an operating engineer uses a shear to remove process piping from the Plant 2 area (6383-d0815).

Left: A view from the back side of the Pilot Plant. More than 28,000 pounds of hazardous material was initially removed during safe shutdown. Mactec has mobilized work crews in preparation for future demolition of the plant (6254-d0181).



Left: Two Waste Management Project operators remove liquid from a 55-gallon drum containing sludges. The liquid waste will be treated at the Advanced Waste Water Treatment facility (7819-d002).

Fernald Shipments – May / June 2002

Contents / Destination	Shipment Mode	Number of Shipments	Monthly Total	FY02 Total	Approximate Project Totals
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Contents / Destination</div> ↓ Low-Level Waste (Nevada Test Site)		29	27,189 cu. ft.	187,599 cu. ft.	6.15 million cu. ft.
Mixed Waste - Materials & Energy Corporation at Oak Ridge		0	0 cu. ft.	1,039 cu. ft.	1,039 cu. ft.
Liquid Mixed Waste - Toxic Substance Control Act Incinerator at Oak Ridge		2	5,465 gal.	5,465 gal.	147,360 gal.
Nuclear product/materials (Portsmouth)		9	25,550 net lbs. or 9.82 metric tons uranium	451,305 net lbs. or 181.6 metric tons uranium	9,083,388 net lbs. or 3,541.1 metric tons uranium
Soil and debris - On Site Disposal Facility		N/A	65,000 in-place cubic yards	122,000 in-place cubic yards	755,000 in-place cubic yards
Waste Pits Project (Envirocare of Utah, Inc.)		4 unit trains (244 railcars)	26,272 tons	91,181 tons	376,767 tons

Recycling at Fernald is phun

For years, Fernald workers have been dropping their empty aluminum cans into special recycle barrels on site. Fernald's Waste Minimization and Pollution Prevention Program gives the cans to area school groups who redeem them for cash at recycling centers. Steve Brickner, a physics teacher at Harrison High School, and his group "Physics is Phun" recently emptied out a site storage bin and hauled away 1,721 pounds of cans. The club made \$415.14, which will help pay for supplies and junior engineering program entrance fees. "I had no idea there would be this many cans," Brickner said. "I'm so excited we made this much money."

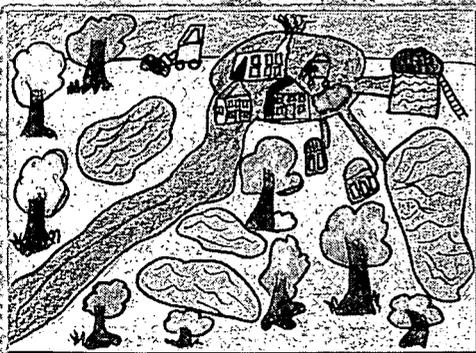
So we all agree that the proper place for aluminum cans is not in the garbage. But what about old videotapes? Walt Saxe, from Fernald Multimedia Visual Services, did some investigating and worked with Waste Minimization and Pollution Prevention to ship more than 800 pounds of used videotapes to a facility in Columbia, Missouri that will clean and package them for reuse. "The firm is called Alternative Community Training Incorporated," said Saxe. "They hire mainly disabled adults to do the work, so companies who donate used computer floppy disks, CDs and videotapes not only get a charitable credit but help employ the disabled, as well."



Above: Left to right: Steve Brickner, Harrison High School physics teacher, and Cas Meyer, a recent Harrison graduate, empty a holding bin full of aluminum cans at Fernald. They redeemed the cans at an area recycling center to help fund a school group called "Physics is Phun" (7810-d0014).

2001 Site Environmental Report

U.S. Department of Energy
Contract DE-AC24-92OR21972



By: Fluor Fernald, Inc.
Issued June 2002
(51350-RP-0019)

Site Environmental Report available

Every year DOE provides the community with a report that details the results of Fernald's environmental monitoring programs for the previous year. The 2001 Site Environmental Report is now available at the Public Environmental Information Center located at 10995 Hamilton-Cleves Highway Harrison, Ohio, 513-648-7480.

The report includes background information about Fernald's remediation activities; environmental monitoring data for groundwater, surface water, sediment and air; and a natural resources update. A summary report is available on the Fernald web page (www.fernaldd.gov) under the "cleanup" heading. Click on the "environmental monitoring" link.

Left: Ross Middle School students submitted drawings of Fernald cleanup activities for a design contest. Fluor Fernald awarded gift certificates to eleven winners and featured several of the drawings on the 2001 Site Environmental Report cover.

Scholarly pursuits

Each year local students benefit from scholarship programs associated with the Fernald site. Hard work and dedication pays great dividends.

To recognize the community commitment of Fernald Residents for Environmental Safety and Health (FRESH), Fluor Fernald offers a \$1,000 scholarship to a senior from either Ross or Harrison High School every year. Jessica Lange, Ross High School, is this year's recipient. She is active in the community, does volunteer work at Fort Hamilton Hughes Hospital and is planning to attend the University of Cincinnati in the fall.

Shannon Patterson, daughter of employee Fred Patterson, is the winner of a \$1,000 scholarship given in honor of Earl Branham to a child of a Fernald Atomic Trades and Labor Council member. This fall Shannon will be back at Morehead State University as a sophomore studying journalism.

The Fluor Foundation selected 143 students from 600 applicants worldwide to receive scholarships during the 2002 Fluor Scholarship program. Eleven of those recipients are sons and daughters of Fernald employees.



Above: Shannon Patterson (center) receives an Earl Branham Memorial Scholarship certificate from Gene Branham (right), president of the Fernald Atomic Trades and Labor Council. Fred Patterson, Shannon's father and union member, was also present at the event (7793-d0006).



Many thanks to Fernald Envoys

In 1994, DOE and Fluor Fernald initiated an Envoy Program to promote one-on-one communication between Fernald and representatives of local community groups interested in Fernald-related activities. Stakeholder acceptance has been the key to the Envoy Program's success. The envoys, who are all volunteers, act as liaisons between the public and Fernald decision-makers.

Currently there are 20 active envoys who meet monthly for updates on current issues, cleanup projects, and general site information. In June, the envoys met for the annual Envoy Appreciation Luncheon during which the Department of Energy and Fluor Fernald expressed gratitude for the many volunteer hours the envoys put in during the year.

The guest speaker at the event was Mr. Robert Gates from the Hamilton County Development Company. Gates is responsible for the administration of tax incentive programs in western Hamilton County. He spoke about future growth and development projects in Crosby Township and western Hamilton County.

Top: Special guest Robert Gates (far right) talks with two of the envoys, Bob Tabor (left) and Joe Schomaker (middle) (7817-d005).

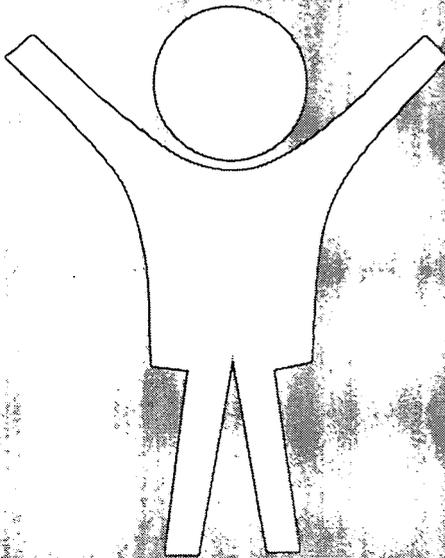


A little goes a long way

An acre of rainforest in Belize, safety goggles in a greenhouse, a visit from the Center of Science and Industry and a butterfly garden. What do these things have in common? They're all examples of ways that local schools have used donations from Fernald to enhance science and math education. A school's budget often includes only the basics, so a little extra cash goes a long way toward purchasing certain supplies that lead to exciting discoveries.

Carter Cordes, principal at Miamitown Elementary, used the funding to equip a separate science lab at the school. "Students look forward to their time in the lab. The kids will remember a hands-on activity for years because it grabs their attention. Additional funding allows us to keep our shelves stocked with supplies that make such things possible."

Left: Two students from Harrison Elementary School follow directions for making slime in the school's Science Lab. Donations from the Fernald site helped purchase safety equipment and supplies for the lab (6752-15).



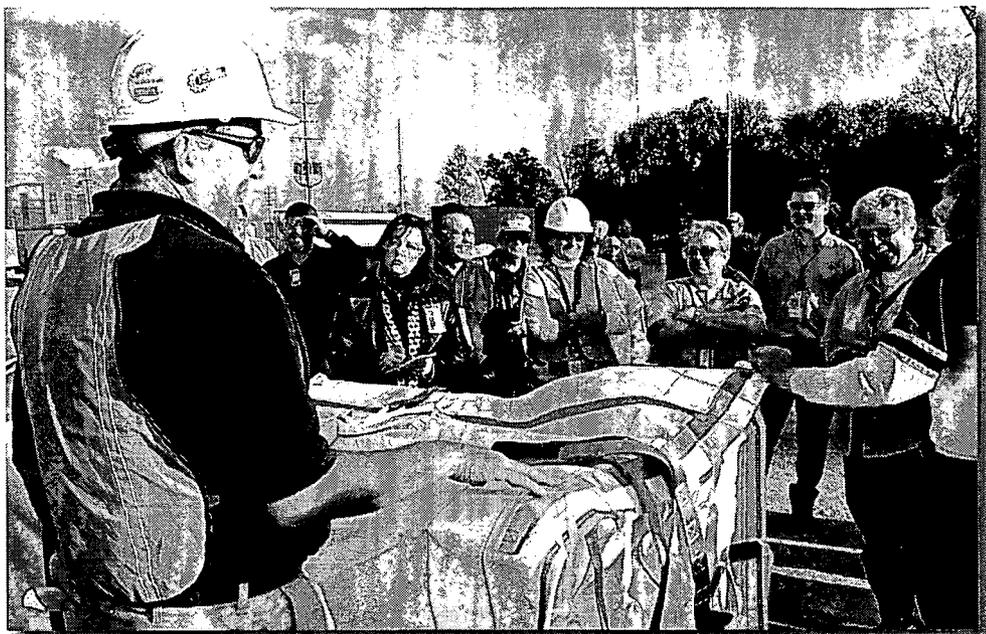
Linking is learning

Carla Adams, a teacher with Southwest Local Schools, put it this way: "I have to admit, I have not stopped talking to my friends and family about the workshop. It was truly a neat experience." Adams is talking about "Linking Community with Environment," an educational seminar for teachers held at the Fernald site this summer. It was offered by the University of Cincinnati and sponsored by a grant from the Ohio Environmental Education Fund. Thirty local teachers attended, including those who teach English, journalism, philosophy and religion as well as math and science. Over two days, the group listened to a variety of speakers, took a tour of the Fernald site and participated in classroom idea brainstorming sessions. During the upcoming school year the teachers will transform information from the workshop into meaningful lessons about our country's history, Fernald's legacy and the site's current remediation activities.

the public tours Fernald

Most people in the Tri-state area have heard that the Fernald site is heading for closure in 2006. They know Fernald workers are tearing down buildings, excavating contaminated soil and material from pits, and pumping and treating groundwater, but they may have never personally seen evidence of cleanup.

One of the best ways to track Fernald's progress is to take the annual public tour sponsored by the Department of Energy every year. This year 120 visitors, many of whom were Fernald retirees or past employees from the production years, did just that. Some worked at Fernald for over 30 years and never ventured outside the production area, so visiting outlying areas such as the Site Disposal Facility, the Southern Waste Units, and the Wetlands was a first for them. A stop at the Silos Project was the highlight of the tour. Project managers escorted groups to various structures under construction and discussed the future remediation of Silos 1, 2 and 3.



Above: A group from this year's public tour views a soft-sided container similar to the type that Fernald may use to package and ship Silo 3 material to an off-site disposal facility (7788-d0046).

Fernald's Performance Management Plan

Earlier this year, the Department of Energy (DOE) completed its Top-to-Bottom Review of the Environmental Management Program and determined that it was necessary to re-focus cleanup efforts and improve risk reduction at sites across the country. As a result of this review, DOE required each site to write an up-to-date cleanup plan based upon accelerated closure goals. The Department of Energy recently distributed a predecisional draft of Fernald's *Performance Management Plan* to the public for comment. It outlines DOE's approach to achieving the safe and effective cleanup of the Fernald site by 2006.

Public comments were due by July 17 and DOE submitted a revision to Assistant Secretary of Environmental Management Jessie Roberson in late July. The most recent draft is available on the Fernald home page, www.fernalddoe.gov, the Ohio Field Office home page, www.ohio.doe.gov, and the Fernald Citizens Advisory Board (FCAB) home page, www.fernaldcab.com. If you prefer a hard copy, visit the Fernald Public Environmental Information Center near the site at 10995 Hamilton Cleves Highway.

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's Public Environmental Information Center (PEIC):

- Waste Pits Remedial Action Project
 - ◇ USEPA Approval – Direct Haul of Additional Bulk Materials to the Waste Pits Remedial Action Project
- Soil and Disposal Facility Project
 - ◇ OEPA Approval – Final Southern Waste Units Accelerated Natural Resource Restoration Design Plan and Response to Comments
 - ◇ OEPA Approval – Baseline Groundwater Conditions at the On-Site Disposal Facility
- Decontamination and Demolition Project
 - ◇ USEPA Approval – Commingling of Debris in the Administration Complex
 - ◇ OEPS Approval – D&D Plan for the Lab Complex
- Silos Project
 - ◇ Draft Revised Remedial Design Package for the Silos 1 and 2 Accelerated Waste Retrieval Project

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.

We're moving!

The Public Environmental Information Center (PEIC) is moving from its current location on Hamilton-Cleves Highway to the Fernald site near the Security Offices by the end of September. The Administrative Record, DOE Public Reading Room and Post Record of Decision files will all still be available in the new space. The PEIC will be open 2 days a week or by appointment.



Fernald Report

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