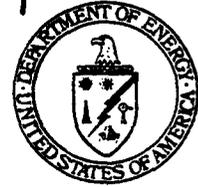




Department of Energy

**Ohio Field Office
Fernald Area Office**

P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155



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OCT 09 1998

**Mr. Gene Jablonowski, Remedial Project Manager
U.S. Environmental Protection Agency
Region V, SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590**

DOE-0030-99

**Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911**

Dear Mr. Jablonowski and Mr. Schneider:

**TASK ORDER NUMBER 384 COMPLETION REPORT FOR THE ABOVE-GRADE
DECONTAMINATION AND DISMANTLEMENT OF MISCELLANEOUS SMALL STRUCTURES**

Reference: Revision 0, "Miscellaneous Small Structures Implementation Plan (MSS-IP) for Above-Grade Decontamination and Dismantlement," dated September 1998.

Section 4.0 of the referenced Miscellaneous Small Structures-Implementation Plan (MSS-IP) states that, "Within 30 days from completion of D&D activities covered in a Task Order, DOE will provide the regulatory agencies with a Task Order Completion Report..." Accordingly, the Completion Report for the Decontamination and Dismantlement (D&D) of Components in Task Order Number 384 is enclosed.

Task Order Number 384 included the remediation of the Propane Storage Building (38A) and the Cylinder Filling Station (38B). This remediation was accomplished safely, within schedule and budget, and without incident.

The "Lessons Learned" portion of the Completion Report summarizes a comparison of cutting thick steel plates by using hydraulic shears and oxy-gas technologies, and also discusses the use of hand held shears to cut through small steel objects. This project was funded through the Accelerated Site Technology Deployment Program.

Mr. Gene Jablonowski
Mr. Tom Schneider

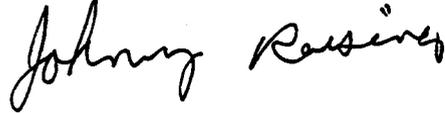
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OCT 09 1998

If you have any questions, please contact Arthur E. Murphy at (513) 648-3132.

Sincerely,



Johnny W. Reising
Fernald Environmental Remediation
Project Manager

FEMP:Trygier

Enclosure

cc w/enclosure:

N. Hallein, EM-42/CLOV
A. Murphy, OH/FEMP
J. Saric, USEPA-V, SRF-5J
R. Beaumier, TPSS/DERR, OEPA-Columbus
T. Schneider, OEPA-Dayton (3 copies total of enc.)
F. Bell, ATSDR
M. Schupe, HSI GeoTrans
R. Vandegrift, ODH
F. Barker, Tetra Tech
AP Coordinator, FDF/78

cc w/o enclosure:

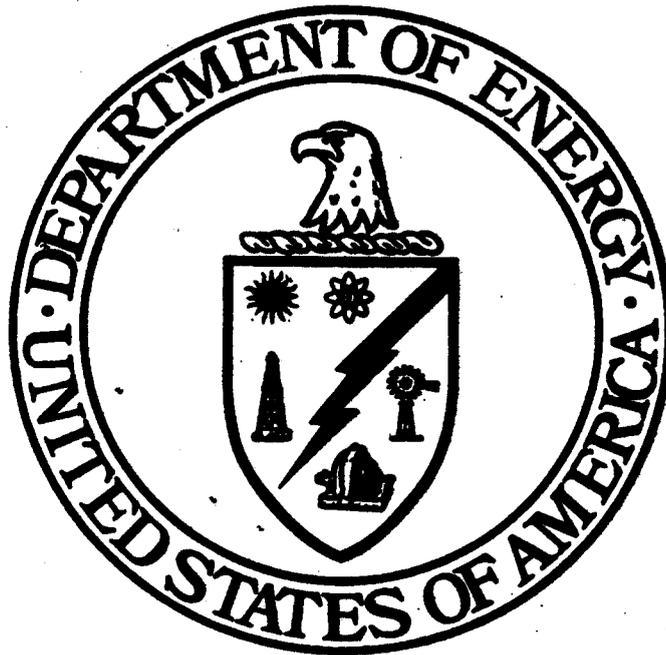
A. Tanner, OH-FEMP
P. R. Courtney, FDF/52-3
L. C. Goidell, FDF/65-2
T. Hagen, FDF/65-2
L. H. Hampshire, FDF/52-3
J. Harmon, FDF/90
R. Heck, FDF/2
S. Hinnefeld, FDF/90
R. P. McCullough, FDF/52-3
D. Paine, FDF/52-4
N. E. Pennington, FDF/44-1
T. J. Walsh, FDF/65-2
EDC, FDF/52-7

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OPERABLE UNIT 3 1763

MISCELLANEOUS SMALL STRUCTURES D&D PROJECT

TASK ORDER #384 COMPLETION REPORT



OCTOBER 1998

**FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO**

**U. S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE**

INTRODUCTION

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The attached Task Order #384 Completion Report is submitted in accordance with the "Miscellaneous Small Structures Implementation Plan For Above-Grade Decontamination and Dismantlement", which was previously approved by the regulatory agencies. Section 4.0 of that Plan states:

"Within 30 days from completion of D&D activities covered in a Task Order, DOE will provide the regulatory agencies with a Task Order Completion Report that will address the following issues:

- A summary description of the Task Order scope and components;
- The completion date of D&D activities;
- The location of the debris generated by the D&D activities; and
- Any documented lessons learned from the Task Order implementation.

All other details will be submitted in the MSS-D&D Project Completion Report."

Accordingly, the attached report summarizes the above information for Task Order #384, which includes the Propane Storage Building (38A) and the Cylinder Filling Station (38B).

Task Order #384 was funded through the Accelerated Site Technology Deployment Program.

SUMMARY DESCRIPTION OF TASK ORDER #384 SCOPE AND COMPONENTS:

The scope of Task Order #384 consisted of the D&D of Component 38A, the Propane Storage Building; and 38B, the Cylinder Filling Station.

The Propane Storage Building was a single-story structure consisting of cinder block walls, a built-up roof, and a reinforced concrete floor. It was approximately 23 ft. x 33 ft. x 10 ft. high, and was located southeast of the Coal Pile. The scope of D&D also included two steel vessels with a capacity of 33,000 gallons each, and the associated piping.

Salient points regarding the D&D activities include:

- No hold-up material or legacy waste (inventory) was present. Therefore, aside from utility disconnections, no preparatory actions were necessary;
- This component was not declared to be a Hazardous Waste Management Unit (HWMU);
- An encapsulant was sprayed on the roof to fix any loose radiological contamination;
- There were approximately 6 linear feet of asbestos-containing pipe insulation associated with Component 38A. This insulation was abated in accordance with Project Specification 3-1751-TS-0001, "Asbestos Abatement", and was then double-wrapped with 6-mil poly and placed in the Special Materials Roll-Off Box, located adjacent to Component 24B;
- Equipment/systems dismantlement activities before structural dismantlement were unnecessary; the small amounts of material (all non-process) that were present were dismantled along with the building;
- A hydraulic shear was used both to break up the cinder block walls, and also to dismantle and size-reduce the steel. Water spray was used as a dust control measure, as was deemed to be necessary; and
- The two steel vessels were dismantled by using the hydraulic shear and oxy-gasoline torches (see "Lessons Learned", in Section 4 below).

The Cylinder Filling Station was a single-story building consisting of a steel frame, transite roof and walls, and a reinforced concrete floor. It was approximately 6 ft. x 10 ft. x 8 ft. high, and was located east of the Propane Storage Building (38A).

Salient points regarding the D&D activities include:

- No hold-up material or legacy waste (inventory) was present. Therefore, aside from utility disconnections, no preparatory actions were necessary;
- This component was not declared to be a HWMU;

- There were approximately 2 linear feet of asbestos-containing pipe insulation in this building. This insulation was abated in accordance with Project Specification 3-1751-TS-0001, "Asbestos Abatement", and was then double-wrapped with 6-mil poly and placed in the Special Materials Roll-Off Box, located adjacent to Component 24B;
- There were approximately 128 square feet of transite panels, which were encapsulated and removed in accordance with Project Specification 3-1751-TS-0001, "Transite Removal". The panels were then strapped on pallets, and were transported from the project on a flat bed trailer for OSDF disposal;
- A hydraulic shear dismantled and size-reduced the steel.

TIME FRAME:

Task Order #384 was issued on July 2, 1998. The project was started on July 27, 1998, and was completed on September 9, 1998.

LOCATION OF DEBRIS:

The debris from Components 38A and B was placed into 12 Roll-Off Boxes. These boxes were moved to staging areas as follows:

<u>Category</u>	<u>Description</u>	<u>No. of Boxes</u>	<u>ROB Staging Location</u>
A, B, & D	Metal	2	22D
		1	4B
		4	77
E	Concrete	4	22D
G	Transite	(a)	4 Pad
H	ACM	< 1(b)	24B
I4	Misc. Debris	1	77

(a) ROBs were not used; approximately (9) c.y. of transite panels were strapped to pallets, and then were transported on a Flat Bed Truck.

(b) Approximately (8) l.f. of ACM insulated piping was transferred to the ROB located near 24B.

In Component 38A, a small amount of mercury was removed from three pressure gauges prior to structural dismantlement. The mercury has been dispositioned in the mercury storage area in Building 79, which is a RCRA storage warehouse located in the controlled area.

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LESSONS LEARNED:

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A. Use of hydraulic shears to cut up thick steel vessels

Hydraulic shears have been successfully used at the FEMP to dismantle and size-reduce structural steel members, as well as cinder block and other miscellaneous materials. As a part of new technology development, it was decided to determine if hydraulic shears could effectively cut through and size-reduce the two thick walled steel vessels that were associated with the Propane Storage Building.

The walls of the vessels were made from SA 212 high carbon steel. The ends and the shells of the vessels were approximately $\frac{1}{4}$ inch thick.

The cutting was attempted by using a Pemberton demolition rotating mobile shear, model PES-II-700. This shear weighed 15,100 pounds, and had hydraulics for 360 degrees of rotation. It was mounted on a John Deere 450LC Crawler Excavator.

Several attempts were made to cut the steel, and the results were mixed. The Shear did manage to cut numerous small, jagged pieces. However, these cuts were made slowly, and the Shear seemed to be working at maximum capacity. Due to the fact that the Shear could be used more productively elsewhere, it was decided to terminate the trial.

The vessels were cut up and size-reduced by laborers, using oxy-gas torches. This was accomplished effectively, and without incident.

The Lesson Learned was that in cutting the hard, thick steel of the vessels, the new technology of using oxy-gasoline was more effective than using this particular size and type of hydraulic shear.

B. Use of hand-held shears for cutting miscellaneous steel

Code 3 shears from ResQ Equipment, Inc. were used to cut small piping, conduit, and miscellaneous items. These hand-held shears were effective in cutting light weight steel, especially when the steel was close to the ground. The weight of the shears - approximately 40 to 45 pounds - made it difficult to lift and cut anything above waist level.

The shears proved to be useful in cutting piping up to two inches in diameter.