



Department of Energy

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P. O. Box 538705
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NOV 25 2001

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0068-02

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

Dear Mr. Saric and Mr. Schneider:

UPCOMING SCHEDULED MAINTENANCE ACTIVITIES AT THE ADVANCE WASTE WATER TREATMENT PLANT

In accordance with Section 9.1.5 of the Operable Unit 5 Record of Decision, the purpose of this letter is to request your approval that the upcoming uranium concentrations measured at the Parshall Flume from November 5, 2001 through November 7, 2001 not be considered in the monthly average in demonstrating compliance with the 20 ppb uranium limit.

Fluor Fernald, Inc. Construction/Operations have tentatively scheduled a three-day shutdown of the Advance Waste Water Treatment (AWWT) Phase III system starting November 5, 2001 to provide for the tie-in to the new extraction wells. In addition, sometime during the three days Fluor Fernald, Inc. will shutdown all treatment systems and extraction systems in order to perform the required preventive maintenance of the Valve House Cla-Val valve. The sewage treatment plant will be placed on recycle during this time.

Given uncertainties with the weather as well as construction activities, please be advised that this schedule may be subject to change. The Fernald Environmental Management Project (FEMP) will inform you if the schedule changes and what the revised schedule will be if a change becomes necessary.

OCT 25 2001

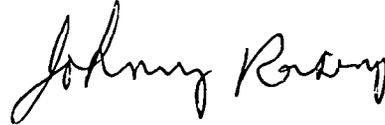
DOE-0068-02

Mr. James A. Saric
Mr. Tom Schneider

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If you should have any questions, please give Robert Janke a call at (513) 648-3124.

Sincerely,



Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:R.J. Janke

cc:

R. Greenberg, EM-31/CLOV
N. Hallein, EM-31/CLOV
R. J. Janke, OH/FEMP
J. Kappa, OH/FEMP
K. Nickel, OH/FEMP
A. Tanner, OH/FEMP
G. Jablonowski, USEPA-V, SRF-5J
F. Bell, ATSDR
M. Schupe, HSI GeoTrans
R. Vandegrift, ODH
F. Hodge, Tetra Tech
D. Brettschneider, Fluor Fernald, Inc./MS52-5
D. Carr, Fluor Fernald, Inc./MS2
M. Frank, Fluor Fernald, Inc./MS90
T. Hagen, Fluor Fernald, Inc./MS65-2
W. Hertel, Fluor Fernald, Inc./MS52-5
S. Hinnefeld, Fluor Fernald, Inc./MS52-2
M. Jewett, Fluor Fernald, Inc./MS52-2
F. Johnston, Fluor Fernald, Inc./MS52-5
T. Walsh, Fluor Fernald, Inc./MS46
AR Coordinator, Fluor Fernald Inc./MS78
ECDC, Fluor Fernald, Inc./MS52-7

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**RESPONSES TO UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
COMMENTS ON THE OPERABLE UNIT 2 REPORT
ON CHARACTERIZATION TRENCHING IN THE
SOLID WASTE LANDFILL AND SOUTH FIELD
AREA 2**

12/04/92

**DOE-0510-93
DOE-FN/USEPA
12//
LETTER**



U-004-306.14

Department of Energy
Fernald Environmental Management Project
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6357

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DEC 04 1992
DOE-0510-93

Mr. James A. Saric, Remedial Project Director
U.S. Environmental Protection Agency
Region V - 5HRE-8J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

Dear Mr. Saric:

**RESPONSES TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON THE
OPERABLE UNIT 2 REPORT ON CHARACTERIZATION TRENCHING IN THE SOLID WASTE
LANDFILL AND SOUTH FIELD AREA 2**

Enclosed for your review and consultation are the responses to United States Environmental Protection Agency (U.S. EPA) comments on the Report on Characterization Trenching in the Operable Unit 2 Solid Waste Landfill and South Field Area 2. The original document has been reorganized into two separate reports, one for the Solid Waste Landfill and the other for the South Field Area 2 (see enclosed reports). As indicated in our responses, the validated analytical results will be submitted for insertion in the report when they become available.

If you or your staff have any questions, please contact Johnny Reising at 513-738-9083.

Sincerely,

Jack R. Craig
Fernald Remedial Action
Project Manager

FN:Reising

Enclosures: As stated

cc w/encs.:

W. E. Murphie, EM-42, TREV
K. A. Hayes, EM-424, TREV
J. Benetti, USEPA-V, AT-18J
B. Barwick, USEPA-V, 5CS-TUB-3
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P. Harris, OEPA-Dayton
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L. S. Farmer, FERMCO/2
J. P. Hopper, FERMCO/52-8
R. J. Skalka, FERMCO/52-2
J. Williams, FERMCO/72
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AR Coordinator, FERMCO

*RESPONSES TO
U. S. EPA COMMENTS*

ON THE

**OPERABLE UNIT 2 (OU 2)
RESULTS OF
CHARACTERIZATION TRENCHING
IN THE SOLID WASTE LANDFILL
AND SOUTH FIELD AREA 2**

NOVEMBER 30, 1992

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**OPERABLE UNIT 2 (OU 2)
RESULTS OF CHARACTERIZATION TRENCHING
IN THE SOLID WASTE LANDFILL
AND SOUTH FIELD AREA 2**

1 ► COMMENT:

U.S. EPA Comment #1 -- General: Three trenches were excavated within the solid waste landfill (SWL). Trenching activities in two of the three trenches had to be discontinued when medical waste in Trench 2 and volatile organic compounds (VOC) and possible yellow cake in Trench 3 were encountered. The purpose of groundwater sampling was to sample leachate from contaminated portions of the SWL; in Trenches 2 and 3, leachate from the areas of greatest contamination was not sampled, because trenching activities were discontinued. Although cessation of trenching activities was an appropriate health and safety precaution, it also creates possible data gaps. The document should note that the samples are not necessarily representative of possible hot spots and should clearly identify the level of uncertainty. The U.S. Department of Energy (DOE) should identify future activities to alleviate data gaps, particularly considering the possible risks posed by materials identified in the SWL. Finally, the relevance of these findings to those of the Operable Unit (OU) 2 remedial investigation (RI) should be discussed.

RESPONSE:

1) As stated in the Data Quality Objectives of the approved Work Plan for this activity, the primary purpose of trenching in the Solid Waste Landfill was to provide visual characterization of waste types in areas of non-recovery associated with RI/FS borings 1719, 1721, and 1722. Perched groundwater/leachate was to be collected for analysis as a secondary objective, and only if encountered during the excavation. If collected, the groundwater/leachate samples would supplement existing RI/FS data, and would be used for geochemical fate and transport modelling in support of OU 2 Feasibility Study Risk Assessments. Since the collection of groundwater/leachate samples was not intended to characterize specific pockets of contamination or possible hot spots within the Solid Waste Landfill, the fact that the trenches were not fully excavated to the maximum depth does not create a data gap in the RI/FS characterization of the Solid Waste Landfill.

2) The visual characterization of wastes encountered during the trenching activity is presented in paragraph 4.2.1 of the Draft OU 2 Remedial Investigation Report, and has been included in the Trenching Report.

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3) With regards to the concerns about possible data gaps resulting from this activity, our response is as follows:

Due to the heterogeneous nature of the waste in the Solid Waste Landfill, it is believed that a full scale excavation of the entire volume would be required to uncover all radiological and chemical anomalies and localized "hot spots" that may be present in the landfill. The RI/FS sampling program represented a systematic approach directed at those areas where previous sampling investigations had indicated high concentrations of radionuclides.

Because of this directed sampling approach, trench number 3 was specifically located adjacent to boring 1722. The boring log for 1722 indicates field readings of 8000 cpm, 19,000 cpm, and 15,000 cpm at depths of 2 feet, 3 feet, and 7 feet respectively. The narrative from the trenching report states that an elevated reading of 900 cpm was observed at the center of trench 3 at 6 feet below surface grade. This was the reading of the soil. Upon discovery of the elevated reading, closer scrutiny was given to the material taken from this portion of the trench. A localized area of yellow material approximately 1 to 2 inches in diameter was detected in the backhoe bucket. Upon placing the beta-gamma frisker directly next to this material, a reading of 50,000 cpm was detected.

This directed sampling methodology tends to produce a bias towards mean radionuclide concentrations at the high end of the assumed sample distribution. As a result, exposure point concentrations based on the 95% UCL for each assumed sample distribution represents what is believed to be an overestimation of the source term. A purely random sampling approach would likely result in a data distribution that includes many sample points where concentrations of contaminants were low or not detected. The field screening data obtained as part of the trenching activity demonstrates this point. In almost all cases, beta/gamma activities and VOC concentrations for the excavated materials, 90% of which were classified as non-burnable soils, were at or near background.

In summary, it is believed that the "hot spot" encountered during trenching does not create a "data gap", because the risk assessment source term calculations are skewed high as a result of the directed systematic sampling approach utilized during the RI/FS.

ACTION:

1) Under a separate cover letter, DOE-FN will submit to U. S. EPA a position paper clarifying the concept of data sufficiency. The paper will address the assumptions implicit in the FEMP sampling approach and why we believe that the OU 2 RI/FS data collected to date are sufficient for performing a baseline risk assessment and the development and evaluation of alternatives. The trenching activities in the Solid Waste Landfill will be used to illustrate these concepts.

2 ▶ COMMENT:

U.S. EPA Comment #2 -- General: Geologic fence diagrams and cross sections are presented for the SWL trenching activities. The fence diagrams do not accurately reflect the termination of trenches at a 6-foot depth in Trench 2 and at a 3-foot depth in Trench 3. The fence diagrams should be modified appropriately.

RESPONSE:

Agree with the comment.

ACTION:

Figures 2-1, 2-2, 2-4, and 2-6 will be modified to clearly indicate the actual depth of excavation.

3 ▶ COMMENT:

U.S. EPA Comment #3 -- General: The location of trenches in both the SWL and South Field Area 2 are not adequately identified. The location of trenches with respect to landfill boundaries or with historically identified features (such as those identified in the 1954 aerial photograph) should be clearly identified on maps. Also, the sampling locations should be identified.

RESPONSE:

Figure 1 of the Work Plan For Excavation of Trenches in the Solid Waste Landfill shows the location of the trenches. This figure will be attached to the revised Trenching Report.

The approximate groundwater/leachate sampling locations are given in paragraphs 2.1.3, 2.2.3, and 2.3.3 of the report.

ACTION:

Figures 2-2, 2-4, and 2-6 will be modified to show the approximate locations where leachate samples were collected.

U.S. EPA Comment #4 -- General: It is not clear whether or not soil samples from the SWL were submitted for analysis. DOE should indicate if suspect material (for example yellow cake and paint-contaminated soils in Trench 3 and medical waste in Trench 2) was sampled when encountered. Also, other information should be provided for identifying the likely constituents of the medical waste, yellow cake, magnesium fluoride, and paint waste identified during the excavation. For instance, labels (such as those on paint cans) identifying the contents or physical characteristics of the waste that could be used to further identify the wastes should be included.

RESPONSE:

In accordance with the approved Work Plan, no soil or waste samples were submitted for laboratory analysis. Excavated materials were continuously monitored using a beta-gamma pancake frisker, a Micro-R detector, and a photoionization detector. The soil samples for field screening were collected from each end and the midpoint of each trench. These soil samples were field screened for radiological activities and volatile organic vapor concentrations. In addition, each sample was visually inspected by the site geologist to determine the soil type and general physical characteristics (i.e. color, texture).

The medical waste encountered in the center of trench number 2 consisted of a variety of wastes contained within plastic trash bags or dispersed within the soil materials. The medical waste included syringes, vials, surgical gloves, tubing, and blood containers. Subsequent to trench backfilling, senior-level FEMP Industrial Hygiene personnel were contacted to define the source of the medical wastes. According to the IH personnel, some medical wastes generated by the FEMP Medical Facility were autoclaved and subsequently disposed of with other FEMP-generated trash at the Solid Waste Landfill.

A variety of cans containing paint materials and possible paint thinners were encountered in the north end of trench number 3. The condition of the cans did not allow for identification or determination of the physical characteristics of the contents. During excavation of the cans, volatile organic vapor concentrations of greater than 20 parts per million above background were detected.

During the excavation in the center of trench number 3, a localized area of suspect yellow material, approximately 1 to 2 inches in diameter, was detected in soil materials within the backhoe bucket. The material exhibited radiological activities of approximately 50,000 cpm and 200 micro-Rems, as measured with a beta-gamma frisker, and Micro-R meter, respectively (See the discussion under response 4 to comment number 1).

This suspect yellow material was found in association with plastic bags containing metal tubing, cloth rags, and broken brown-glass bottles. This may indicate that the material was an excess sample of process related material.

ACTION: The above additional details and descriptions of the waste encountered will be incorporated into the report.

5 ▶ COMMENT: **U.S. EPA Comment #5 -- General: The report consists of three attachments and a cover letter. None of the attachments have numbered pages. The document should be more formally organized and pages should be numbered.**

RESPONSE: We agree with the comment.

ACTION: The document will be reorganized into two separate reports. The pages of the reports will be numbered.

6 ▶ COMMENT: **U.S. EPA Comment #6 -- General: The report does not include any analytical results. The report does however, clearly state that this information will be provided, when available. DOE should provide some schedule for submitting analytical data.**

RESPONSE: The validated analytical results are expected to become available in December, 1992.

ACTION: The validated analytical results will be submitted for insertion in the report when they become available.

- 7 ▶ COMMENT:** U.S. EPA Specific Comment #1 -- Attachment No. 2 Section 2.1: Medicine vials and possibly magnesium fluoride were identified in Trench 1. DOE should clearly indicate what the potential source of this material is and identify, if possible, the possible contents. DOE should also discuss the significance of this finding.
- RESPONSE:** The source of medical-type waste is the on-site medical facility. The identification of possible magnesium fluoride material in the landfill is based solely on visual observations, and cannot be confirmed because samples of the material were not obtained for analysis. The presence of these types of waste materials in the landfill is not expected to effect the OU 2 Feasibility Study.
- ACTION:** None required.
- 8 ▶ COMMENT:** U.S. EPA Specific Comment #2 -- Attachment No. 2, Figure 2.1: The figure is not drawn to scale; however, the figure implies that trenches were all excavated to the same depth. DOE should provide a vertical scale and identify precisely the limits of the excavations (for example 3 feet below ground surface (bgs) in Trench 3, and 6 feet bgs in Trench 2). Also, the trenches should be identified on a map clearly showing their positions within the SWL.
- RESPONSE:** Figure 2-1 shows the estimated lithologic units of the area based on the soils uncovered in the trenching. Figures 2-2, 2-4, and 2-6 will be modified to show the scale and limits of excavation.
- ACTION:** See the action for comment numbers 2 and 3, above.
- 9 ▶ COMMENT:** U.S. EPA Specific Comment #3 -- Attachment No. 2, Figure 2.2: The figure should include the locations where ground-water samples were collected.
- RESPONSE:** See the response to comment number 3, above.
- ACTION:** See the action for comment number 3, above.

- 10 ▶ COMMENT:** U.S. EPA Specific Comment #4 -- Attachment No. 2. Section 2.2.1: The report indicates that medical waste was found in Trench 2. DOE should identify specifically what types of medical waste were identified and include any information that could be used to infer the possible hazardous constituents of this waste.
- RESPONSE:** See the response for comment number 4, above.
- ACTION:** See the action for comment number 4, above.
- 11 ▶ COMMENT:** U.S. EPA Specific Comment #5 -- Attachment No. 2. Figure 2.4: The figure implies that the trench was excavated along its entire length to a depth of 12 feet. However, the text clearly states that excavation in the central and northern sections extended to a depth of 6 feet. The figure should be corrected. Also, ground-water sampling locations should be included.
- RESPONSE:** See the responses to comments 2 and 3, above.
- ACTION:** See the action for comments 2 and 3, above.
- 12 ▶ COMMENT:** U.S. EPA Specific Comment #6 -- Attachment No. 2. Figure 2.6: The figure implies that the trench was excavated along its entire length to a depth of 12 feet. However, the text clearly states that excavation in the central and northern sections extended to a depth of 3 feet. The figure should be corrected. Also, ground-water sampling locations should be included.
- RESPONSE:** See the responses to comments 2 and 3, above.
- ACTION:** See the action for comments 2 and 3, above.
- 13 ▶ COMMENT:** U.S. EPA Specific Comment #7 -- Attachment No. 2. Section 3.3: DOE does not indicate that the horizontal and vertical extent of contamination is unknown because of the limits of the excavation. This section should clearly identify data gaps caused by limiting the investigation.

RESPONSE:

We agree that the trenching alone does not reveal the vertical and horizontal extent of contamination for the Solid Waste Landfill, and, as indicated by the work plan for this activity, was not designed to for this purpose. RI/FS sampling as described in the OU 2 Remedial Investigation Report, in conjunction with the visual characterization of waste from the trenching, provides for complete characterization of the Solid Waste Landfill. No data gaps exist resulting from the limited nature of the trenching activities.

ACTION:

None required.

14 ► COMMENT:

U.S. EPA Specific Comment #8 -- Attachment No. 3. Section 1.4: DOE states that no ground-water sampling was conducted because of the slumping of trench walls. The significance of this data gap should be discussed. DOE should consider additional activities to collect ground-water samples if the data gap will result in unacceptable levels of uncertainty.

RESPONSE:

In accordance with the Work Plan for trenching in the South Field Area 2, no groundwater samples were to be collected unless the trenching uncovered buried material. Since no buried material was found, and the field instrument readings were negative, no groundwater sampling was attempted. Since no buried material or contamination was found, and there are sufficient monitoring wells located nearby, no data gap exists with regards to this area.

ACTION:

None required.