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# TRENCHING IN THE OU#2 SOLID WASTE LANDFILL AND SOUTH FIELD AREA 2

01/14/93

USEPA/DOE-FN
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LETTER

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 15 1993

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REPLY TO THE ATTENTION OF:

JAN 14 1993

Mr. Jack R. Craig
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

HRE-8J

RE: Trenching in the OU #2 Solid Waste Landfill and South Field Area 2

Dear Mr. Craig:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the Responses to Comments (RTC) on the Operable Unit (OU) #2 Report on Characterization Trenching in the Solid Waste Landfill and South Field Area 2. The RTC states the United States Department of Energy's (U.S. DOE) position that the Solid Waste Landfill (SWL) has been adequately characterized, and the findings are adequate to support a risk assessment and the development of remedial alternatives. Based upon review of the RTC and as a result of the January 7, 1993, meeting between U.S. EPA, U.S. DOE, and the Ohio Environmental Protection Agency, U.S. EPA does not concur with U.S. DOE's position. U.S. EPA's comments are attached.

U.S. DOE has proposed a leading remedial alternative for OU #2 which calls for capping of the waste units. Given the high degree of uncertainty with respect to the characterization of the SWL and its impact on groundwater, an alternative involving capping does not appear feasible.

Therefore, although the Report appears to meet U.S. DOE's original objectives, U.S. EPA has concerns regarding the development of future remedial alternatives for Operable Unit #2. It is anticipated that this issue and others will be discussed at the January 28, 1993 meeting.

(REISING)
ACTION RESPONSE
TO DOE-0510-93
(5408)

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Please contact me at (312/FTS) 886-0992 if you have any questions.

Sincerely,

James A. Saric
Remedial Project Manager

Enclosure

cc: Graham Mitchell, OEPA-SWDO
Pat Whitfield, U.S. DOE-HDQ
Nick Kauffman, FERMCO
Jim Theising, FERMCO
Paul Clay, FERMCO

OPERABLE UNIT 2,
CHARACTERIZATION TRENCHING IN THE SOLID WASTE LANDFILL
AND SOUTH FIELD AREA 2
FINAL REPORT

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GENERAL TECHNICAL COMMENT

1) The U.S. Department of Energy (DOE) believes that the Solid Waste Landfill (SWL) has been adequately characterized. EPA reiterates its primary concern: unexpected wastes were encountered during trenching, and when these wastes were encountered, the trenching activities were terminated. Findings included possible yellow cake material with more than 500,000 disintegrations per minute (dpm) and that the leaking solvent-containing paint cans exhibit photoionization readings of greater than 200 parts per million (ppm). In addition, when samples were collected from the trenches, these suspect areas were avoided, thus sampling points were biased towards the uncontaminated portions of the trenches.

DOE argues that the characterization's findings are adequate to support a risk assessment and the development of remedial alternatives based on the results of boring samples. EPA does not concur. DOE believes that the source term is a conservative estimate because the boring samples were biased towards high contamination. However, DOE should note that the borings sampled only a small portion of the SWL and many of the borings had little or no recovery in the landfill material. Furthermore, the trenching activities which were used to characterize the landfill material, only covered a little more than 14-percent of the landfill's surface area. The surface area of the SWL is approximately 70,000 square feet; the surface area of the trenched portion was approximately 10,000 square feet. Further, only about 50-percent of the trenches extended to the base of the landfill. Finally, the trenches were terminated when hazardous materials were encountered. Given this information, it appears DOE excavated about 5-percent of the SWL. Moreover, during this limited investigation, DOE identified relatively hazardous materials that were not expected in the landfill. These materials were not sampled. Considering the small portion of the SWL that has been characterized, the fact that hotspots were identified but not sampled, and the fact that unexpected material was found, EPA

believes that there is a high level of uncertainty associated with the characterization's findings. As a result, the adequacy of the source term used to model future ground-water contamination is questionable.

Secondly, DOE has proposed a leading remedial alternative (LRA), that calls for capping only. To support the capping option, the contents of the SWL would have to be determined with a much higher degree of certainty. However, only a small portion of the landfill has been sampled, and hotspots exist and have not been characterized. The degree of uncertainty does not support the LRA.

EPA believes that DOE will have to further characterize the SWL or acknowledge the uncertainty associated with the waste characterization and modify its LRA. However, without better information about the hotspots, the definition of the source term appears inadequate to characterize risk. Thus, investigation should be conducted to characterize the hotspots.

## SPECIFIC COMMENT

1. Response to Original General Comment No. 1, Page 2, Paragraph 4. DOE notes that the gamma frisker measurement was 50,000 counts per minute (cpm). However, Figure 2.6 indicates that the actual reading was 500,000 disintegrations per minute (dpm). DOE should correct this discrepancy.

2. Response to Original Comment No. 4, Page 4, Paragraph 4. DOE notes that the photoionization unit measurements were 20 parts per million (ppm). However, Figure 2.7 indicates that the actual reading was 200 ppm. DOE should correct this discrepancy.

3. Response to Original General Comment No. 4, Page 5, Paragraph 1. DOE notes that the gamma frisker measurement was 50,000 counts per minute (cpm). However, Figure 2.6 indicates that the actual reading was 500,000 dpm. DOE should correct this discrepancy.

4. Response to Original General Comment No. 7, Page 6, Paragraph 2. DOE's response indicated that magnesium fluoride was identified using visual

observation only. DOE should indicate which production process generated magnesium fluoride and identify any associated hazards, such as radioactivity.

5. <u>Response to Original Specific Comment No. 8, Page 8, Paragraph 4</u>. DOE indicates that no ground-water samples were collected from the trenches because no waste was encountered. DOE has not characterized the perched water in the Southfield. DOE should consider installing wells is the area of trenching to sample perched water.