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RESPONSES TO THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (U.S EPA) COMMENTS ON THE OPERABLE UNIT 2 REPORT ON CHARACTERIZATION TRENCHING IN THE SOLID WASTE

DOE-FN/EPA
DOE-1522-93
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LETTER

Department of Energy
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MAR 30 1993
DOE-1522-93

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

Mr. Graham E. Mitchell, Project Manager
Ohio Environmental Protection Agency
40 South Main Street
Dayton, Ohio 45402-2086

Dear Mr. Saric and Mr. Mitchell:

RESPONSES TO THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA) COMMENTS ON THE OPERABLE UNIT 2 REPORT ON CHARACTERIZATION TRENCHING IN THE SOLID WASTE LANDFILL AND SOUTH FIELD AREA 2

Enclosed for your review are the responses to the second set of 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."

If you or your staff have any questions, please contact Johnny Reising at 513-648-3139.

Sincerely,

Jack R. Craig
Fernald Remedial Action
Project Manager

FN:Reising

Enclosure: As Stated

cc w/ enc.:

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RESPONSES TO U.S. EPA COMMENTS ON THE OPERABLE UNIT 2 RESULTS OF CHARACTERIZATION TRENCHING IN THE SOLID WASTE LANDFILL AND SOUTH FIELD AREA 2

MARCH 1993

1. Commenting Organization: EPA Commentor: Saric
Section #: GENERAL Pg. #: Line #: Code:
Original General Comment #1
Comment: 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.

Response: Based upon the DOE letter of February 2, 1993 to the U.S. EPA, additional work is being proposed for Operable Unit 2.

Action: Additional field investigation is planned to further characterize the Solid Waste Landfill. One objective of this investigation is to sample the waste in the vicinity of this particular trench excavation.

2. Commenting Organization: U.S. EPA Commentor: Saric
Response to Original General Comment No. 1 Pg. #: 2 Line #:
Original Specific Comment #1

Comment: 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.

Response: During the trenching activity, radiological field screening was performed with a beta-gamma GM probe. The instrument reading is given in counts per minute (cpm) of activity. However, disintegrations per minute (dpm) are the typical units used in monitoring radioactivity. To convert from cpm to dpm, a standard correction factor of 10 is used. Therefore, both 50,000 cpm and 500,000 dpm are correct values for this measurement.

Action: None proposed.

3. Commenting Organization: U.S. EPA Commentor: Saric
Response to Original Comment No.4 Pg. #: 4 Line #:
Original Specific Comment #2

Comment: 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.

Response: As stated in sections 2.3.2 and 3.3 of the report, a field screening sample collected from the north end of trench number three exhibited volatile organic vapor concentrations of approximately 200 ppm, as measured by the photoionization detector (PID). In section 2.3.1 of the report, and in the response to original comment

number four, the PID reading in this area is described as greater than 20 ppm above background. This description was used because 20 ppm above background was the level used by the attendant industrial hygiene technicians as a action level requiring additional personal protective equipment. In trench number three, the excavation was terminated when this action level was encountered.

Action: None proposed.

4. Commenting Organization: U.S. EPA Commentor: Saric
Response to Original General Comment No. 4 Pg. #: 4 Line #:
Original Specific Comment #3

Comment: 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.

Response: See Response No. 2.

Action: None proposed.

5. Commenting Organization: U.S EPA Commentor: Saric
Response to Original General Comment No. 7 Pg. #: Line #:
Original Specific Comment #4

Comment: 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.

Response: Magnesium fluoride was used to line uranium derby reduction pots which were filled with a blend of magnesium metal and uranium tetrafluoride. The pots were furnace charged to produce uranium derbies. The "slag" magnesium fluoride, produced from the breakout of the uranium derbies from the pots, was milled for re-use in the production process. This production process introduced low levels of uranium contamination into the magnesium fluoride. An inhalation hazard would be present if the material were to be resuspended into the breathing zone of a worker.

Action: This discussion will be incorporated into appropriate documents pertaining to further investigation of the SWL (such as the Revised RI Report).

6. Commenting Organization: U.S EPA Commentor: Saric
Response to Original General Comment No. 8 Pg. #: 8 Line #:
Original Specific Comment #5

Comment: 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.

Response: The installation of additional groundwater monitoring wells in the South Field area is being examined as part of an overall review of the adequacy of the currently available data, and the possible need for additional field data to support the OU 2 RI/FS.

Action: None proposed.