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**RESPONSE TO COMMENTS ON REVISION 1
WORK PLAN FOR THE SOUTH GROUNDWATER
CONTAMINATION PLUME REMOVAL ACTION,
PARTS 2 AND 3**

05/08/92

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DOE-FN/EPA
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LETTER
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Fernald Environmental Management Project
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MAY 08 1992

DOE-1555-92

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:

**RESPONSE TO COMMENTS ON REVISION 1 WORK PLAN FOR THE SOUTH GROUNDWATER
CONTAMINATION PLUME REMOVAL ACTION, PARTS 2 and 3**

- References: 1) Letter, G. E. Mitchell to J. R. Craig, "Revision 1 to
Conditionally-Approved Part 2 and Part 3 Work Plan for South
Plume," dated March 6, 1992
- 2) Letter, J. A. Saric to J. R. Craig, "Revised South Plume
Removal Action Part 2 and Part 3," dated March 20, 1992

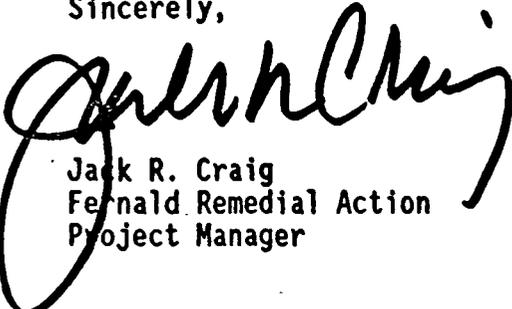
This letter transmits the responses to the United States Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (Ohio EPA) comments (Enclosures 1 and 2) and Revision 2 of the Work Plan Attachment 1, Soil and Rubble Sampling and Analysis Plan for Parts 2 and 3 of the South Groundwater Contamination Plume Removal Action (Enclosure 3).

The U.S. EPA and Ohio EPA submitted additional comments to the conditionally-approved Work Plan (References 1 and 2). The revised Attachment 1 incorporates responses to the comments. The modifications to the Work Plan Attachment 1 are shown highlighted and the text to be deleted is shown struck out to facilitate your review. The highlighting and struck-out text will be removed upon the U.S. EPA and Ohio EPA review and approval of the revised Work Plan Attachment 1.

Subsequently, the Health and Safety Plan will be revised to reflect the changes. The approved Health and Safety Plan will be made available to the U.S. EPA and Ohio EPA, upon request.

If you or your staff have any questions, please contact me at FTS 513-738-6159, or Carlos J. Fermainntt at FTS 513-738-6157.

Sincerely,



Jack R. Craig
Fernald Remedial Action
Project Manager

FN:Fermainntt

Enclosures: As Stated

cc w/encs.:

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AR Coordinator, WEMCO

RESPONSE TO OHIO EPA COMMENTS ON
SOUTH GROUNDWATER CONTAMINATION PLUME REMOVAL ACTION,
PART 2/3 WORK PLAN (REV. 1)

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Commenting Organization: OEPA

Comment #1:

Section 3.2, Page 18: DOE may want to use hand drawn iso-concentration maps for exact location of extraction wells.

Response:

Iso-concentration maps are not being used to locate the well field. The locations of extraction wells are being set based on the "South Plume Removal Action Groundwater Modeling Report", April 1992. The location of the wells were set to avoid interference with the Paddy's Run Road Site (PRRS).

Action:

No action required.

Comment #2:

Section 5.2, Page 18, 2nd Paragraph: DOE should reconsider conducting total rad analyses on monitoring points 607 and 606 (See DOE response to OEPA Comment #6) for a limited duration. Quantitative information on the removal efficiency for other radionuclides will become increasingly important as the site moves towards remediation and waste stream treatment is assessed. DOE should consider these analyses to be an investment for future data needs.

Response:

DOE has reconsidered conducting total RAD analyses on the influent (606) and effluent (607) of the Interim Advanced Wastewater Treatment (IAWWT) unit at the Stormwater Retention Basin. The ion exchange resin being used in this system was chosen specifically for its ability to remove uranium. This resin is in the anionic form since the uranium is expected to be anionic. Additionally, since the other isotopes are expected to be in the cationic form, no removal is expected. Based on this DOE does not feel that the added expense or time required for sample turnaround is warranted.

Further, the Advanced Wastewater Treatment (AWWT) facility currently being designed calls for use of a flocculation and precipitation step utilizing TRU-Clear® (a potassium ferrate precipitant). The TRU-Clear® processing step is intended to address the other radionuclides as the site moves toward remediation. Studies on the effectiveness of TRU-Clear® for removal of other radionuclides are planned.

DOE plans to monitor the effectiveness of the precipitation step for the removal of radionuclides other than uranium. However, the intended purpose of the AWWT facility is for the removal of uranium as this is the predominant radionuclide in the wastewater flows and represents the majority of the DOE derived concentration guide (DCG) which limits the release of radionuclides to

the environment. Therefore, this monitoring is not planned to be part of the formally permitted AWWT facility. DOE will consider monitoring for the other radionuclides at a point after the ion exchange step of the AWWT process.

Action:

No action required.

Comment #3:

Attachment I, Page I-2, Last Paragraph: Define the difference between Total Volatiles etc. and HSL Volatiles etc. What analytes will be measured for each?

Response:

The label "Total" was used in reference to the analytes listed under the TCLP analytical protocols. There are thirty nine (39) analytes listed under TCLP. For health and safety purposes, we would like to know the total analyte concentration in the soil rather than the amount that would be leached out of the soil. For the non-suspect areas, the only contaminants expected are those listed under the TCLP analyte list.

The list of analytes covered by HSL analytical protocols is more comprehensive than the TCLP analytical protocols. Since we have treated the suspect areas as "unknown", we chose the HSL analytical protocols to determine if contaminants not listed under TCLP are present in the soils. Greater confidence in the selection of personal protective equipment for the workers can then be provided.

Action:

The document will be revised as noted in response.

Comment #4:

Attachment I, Page I-2&3: Since VOCs are not the most likely HSL constituents to be present within the suspect areas and VOCs are the most likely to trigger the field screening instructions, DOE should collect HSL samples at locations with radiological contamination as defined by field instruments. The other option would be for DOE to commit to taking a certain number of samples within suspect areas with or without field screening hits.

Response:

If field screening yields positive results for radiological or organic constituents, then a sample will be collected and sent to the lab for HSL analysis.

Action:

The document will be revised as noted in response.

Comment #5:

Attachment I, Section 3.1, Page I-3: All soils excavated and removed under this removal action should be handled in accordance with the procedures set for within the Removal Action #17 Work Plan. Soil with above background radiological contaminants should be analyzed for total uranium, total thorium

and radium prior to stockpiling. Soil stockpiles should be underlain with non-permeable tarpaulins and placed within an area captured by the stormwater collection system.

Response:

Excess soils will be managed in accordance to FEMP Removal Action #17, Improved Storage of Soil and Debris, Work Plan when finalized. Until Removal Action #17 work plan is finalized, control of contaminated soils will be directed by FEMP Site Standard Operating Procedure, SSOP-0044I, "Controlling the Generation of Construction/Maintenance Waste". The Paddy's Run Road Site is responsible for disposition of soils on their respective properties.

Action:

The document will be revised as noted in response.

Comment #6:

Attachment I, Section 3.3.2, Page I-5, 2nd Paragraph: Category II soils should not be released for unrestricted use. It makes no sense for DOE to redistribute soil which it knows will need to be remediated at a later date. See OUI stormwater removal action methodology for detailing with contaminated soils. Additionally, any excess contaminated soil generated as a part of this removal should be handled in accordance with procedures developed in the Removal Action #17 Work Plan.

Response:

Agree, see response to Comment #5 above.

Action:

The document will be revised as noted in response.

RESPONSE TO U.S. EPA COMMENTS ON
SOUTH GROUNDWATER CONTAMINATION PLUME REMOVAL ACTION,
PART 2/3 WORK PLAN (REV. 1)

Commenting Organization: USEPA

Comment #1:

Section 2.2, Page I-2: The SAP uses "5 meter units above background" as the selection criterion for laboratory analysis. This is too vague a criterion because meter units can apply to different concentration scales. The plan's "5 meter units" should be replaced with "5 parts per million."

Response:

The term "5 meter units above background" is an appropriate designation unless a calibration gas of a known concentration for a known target analyte is used. For example, if the target analyte for field screening investigations is benzene, and the PID device is calibrated with isobutylene, it is incorrect to label the PID readings parts per million due to the differences is used as the calibration gas, then it would be correct to label the PID reading as "parts per million".

Action:

None

Comment #2:

Section 2.2, Page I-2: The SAP states that soil samples will be placed in glass jars that will be sealed with aluminum foil lids. Specific procedures should be presented on how an airtight seal will be maintained.

Response:

In general, the methodology for field screening analyses in Section 2.2 was derived from API Publication 1628, "A guide to the Assessment and Remediation of Underground Petroleum Releases", 2nd Edition, August 1989, which is recognized by some state environmental agencies for field characterization of volatile compounds. The soil material is placed in clean glass bottles at a capacity of approximately one-half of the bottle volume. A piece of aluminum foil is placed over the mouth of the bottle. The bottle lid is gently emplaced over the aluminum foil lid to ensure that the aluminum foil is not punctured. Subsequent to equilibrium of the volatile compounds in the bottle headspace, the bottle lid is removed and the probe of the PID device is inserted through the aluminum foil sheet to evacuate the headspace contents.

Action:

The document will be revised as noted in the response.

Comment #3:

Section 2.2 Page I-2: Specific procedures should be presented for maintaining the soil sample at 60 degrees fahrenheit. Although 60 degrees is high enough to volatize target compounds onto the headspace, better results could be

obtained if the temperature was raised to 86 degrees (30 degrees celsius) or higher. A method more consistent with the headspace screening procedure presented in SW 846 method 3810 is recommended.

Response:

The primary intent of field screening is to allow for decisions to be made at the sample field site rather than returning to a controlled environment at the FEMP Site. The level of effort is greatly increased if the field sampling personnel have to return to the site to heat the samples to (86) degrees Fahrenheit. Therefore, the most viable option is to stimulate volatilization at the field site using heaters equipped in the sampling support vehicles. The ambient temperature within the sampling vehicle should be between 60 to 80 degrees Fahrenheit. SW 846 Method 3810 provides higher quality headspace data; however, this method requires the use of GC/MS equipment and sample preparation in controlled environments. If the sample field site is within the property boundaries of the FEMP Site and the project schedule could allow for sample preparation and headspace analysis in controlled environments, then SW 846 Method 3810 could be a viable option. However, since the sample field site is not within the FEMP Site boundaries and the project schedule does not allow the time required to prepare and analyze samples in controlled environments, the field screening method described in the response to Comment #2 is the most viable option.

Action:

None

Comment #4:

Section 2.2, Page I-2: The SAP should reference all quality control procedures and sampling procedures listed in the approved remedial investigation/feasibility study (RI/FS) quality assurance project plan (QAPJP) or site-wide QAPJP.

Response:

The QAPJP is not an approved document. However, the field sampling and laboratory analytical methods used for characterization not associated with worker health and safety are consistent with the RI/FS QAPP, which is the official quality assurance program plan for the FEMP Site activities.

Action:

The text will be revised as noted in response.

Comment #5:

Section 2.2, Page I-2: The SAP states that the portion of soil used for field screening will be sent to the laboratory for analysis. However, the portion of soil used for field screening should not be used for laboratory analysis because the field screening method will result in loss of volatile organic compounds (VOC). It is suggested that the unscreened soil sample be split before field screening and that the unscreened portion of the sample be sent to the laboratory if field screening indicates this is necessary.

Response:

In the event that the organic screening process detects the presence of VOC's, then a separate sample will be collected from this point and sent to the lab for analysis.

Action:

The text will be revised as noted in response.

Comment #6:

Section 2.2, Page I-2: The SAP states that samples that screen positive in the field for the presence of contamination will be analyzed for different organic and inorganic parameters, depending on whether the soil sample is collected in a suspect or non-suspect area. For example, the SAP states that soil samples from non-suspect areas will be analyzed for "Total Volatiles - all analytes for this category" and that those from suspect areas will be analyzed for "HSL Volatiles - all analytes listed for this category." The SAP should clearly list all parameters and their method detection limits.

Response:

A list of Total Volatiles and HSL volatiles with the corresponding methods and detection limits shall be prepared and incorporated in the revised work plan.

Action:

The text will be revised as noted in response.

Comment #7:

Section 2.2, Page I-2: The field screening procedure will indicate the presence of VOCs and radiological contaminants but will not indicate other contaminants such as semi-volatile organic compounds, pesticides, polychlorinated biphenyl, and metals. The SAP should be revised to say that soil samples will also be sent to the laboratory if there is any physical evidence of contamination such as strong odor, visual discoloration, or an oily sheen. Also, a few samples that do not exhibit any physical evidence of contamination should be analyzed.

Response:

If physical evidence, ie. (odor, color, oily sheen, etc.), show that an area may exhibit contamination, then a sample of these soils will be taken and sent to the lab. Also, a few samples from non-suspect areas will be analyzed for potential pesticide/herbicide contamination.

Action:

The text will be revised as noted in response.

Comment #8:

Section 2.2, Page I-2: The SAP states that samples will be retained at 60 degrees Fahrenheit for "at least 15 minutes". Samples should be retained for a consistent period of time to produce comparable results among samples.

Response:

Each samples will be allowed a period of 15 minutes for volatilization of the organic compounds to ensure comparable results among the samples.

Action:

The text will be revised as noted in response.

Comment #9:

Section 2.2, Page I-3: The SAP specifies that rinsate and trip blank samples will be used as quality assurance/quality control (QA/QC) samples. The SAP should indicate that duplicate samples will also be collect and used as QA/QC samples.

Response:

Duplicate soil samples will be taken at a frequency of one for every ten samples, or for each sampling event, whichever is more frequent.

Action:

The text will be revised as noted in response.

Comment #10:

Section 2.2, Page I-3: The SAP states that the analytical data does not require full Contract Laboratory Program (CLP) sampling and analytical procedures. Although this is an acceptable approach, the SAP should present the data quality analytical level to be used and should include or reference specific sampling and analytical procedures to be used. In addition, the SAP should specify the laboratory that will be conducting the analytical work.

Response:

Agree. Laboratory contracts are being procured; specific laboratories will be specified when procurement is complete.

Action:

The text will be revised as noted in response.

Comment #11:

Section 2.2, Page I-3: The SAP should indicate that trip blank samples will be included in each cooler containing samples for volatile organic analysis. The SAP should also indicate that rinsate blanks and duplicate samples will be collected at a frequency of one for each ten samples.

Response:

A trip blank will be included in each cooler containing samples for volatile oraganic analysis. Rinsate blanks will be collected at a frequency of one for every ten samples, or for each sampling event, whichever is more frequent.

Action:

The text will be revised as noted in response.

Comment #12:

Section 3.3.2, Page I-4: The section describes the disposition of stockpiled soils depending on whether the soil contains listed Resource Conservation and Recovery Act (RCRA) hazardous waste. This section should present the type of analysis to be conducted and the threshold values that will be used to determine the appropriate disposition of soils as low-level waste, RCRA wastes or mixed wastes.

Response:

The primary objective of soil sampling, field screening, and analysis are to identify contaminants that pose threats to the safety and health of the worker. The data may also later be used to aid in the characterization of soils in the South Plume area and excess excavated soils. The excess excavated soil materials will be managed as clean fill if field screening shows no sign of contamination. Excess soils showing signs of contamination will be characterized in accordance with SW 846 and managed in accordance to FEMP Removal Action #17, Improved Storage of Soil and Debris, Work Plan when finalized. Until Removal Action #17 is finalized, control of contaminated soils will be directed by FEMP Site Standard Operating Procedures, SSOP-0041I, "Controlling the Generation of Construction/Maintenance Waste".

Action:

The text will be revised as noted in response.

Comment #13:

Section 3.3.2, Page I-4: The SAP does not describe how samples of stockpiled soils will be collected to determine the proper disposition of the soils. The SAP should discuss soil collection procedures, the number of samples to be collected, and how it will be statistically determined that the stockpiles have been adequately characterized.

Response:

Sampling and analytical procedures for hazardous materials outlined in SW 846 will be adhered to. Also, refer to response #12.

Action:

The text will be revised as noted in response.