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**TRANSMITTAL OF RESPONSES TO THE USEPA
COMMENTS ON THE PSP FOR PILOT PLANT
DRAINAGE DITCH SEEPAGE AND SURFACE
WATER BACKGROUND INVESTIGATION, MAY
1993**

09/27/93

**DOE-3093-93
DOE-FN/EPA
8
RESPONSES**

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Department of Energy

Fernald Environmental Management Project

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SEP 27 1993

DOE-3093-93

Mr. James A. Saric, Remedial Project Manager
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:

**TRANSMITTAL OF RESPONSES TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
COMMENTS ON THE PROJECT SPECIFIC PLAN FOR PILOT PLANT DRAINAGE DITCH SEEPAGE
AND SURFACE WATER BACKGROUND INVESTIGATION, MAY 1993**

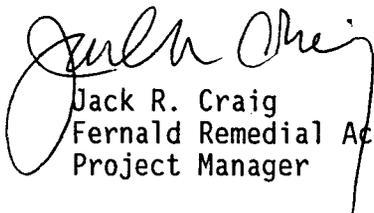
Reference 1: Letter, J. A. Saric to J. R. Craig, "Approval of OU 5 Pilot Plant Drainage Ditch and Surface Water Background Investigation - FEMP," dated July 22, 1993

Reference 2: Letter, G. E. Mitchell to J. R. Craig, "Comments on the OU 5 PSP," dated July 8, 1993

Enclosed for your review are the subject responses. The work plan will be revised upon final resolution of these comments.

If you should have any questions, please contact Pete Yerace at (513) 648-3161 or Kathleen Nickel at (513) 648-3166.

Sincerely,


Jack R. Craig
Fernald Remedial Action
Project Manager

FN:Nickel

Enclosure: As Stated

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cc w/enc:

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**RESPONSES TO U.S. EPA REVIEW COMMENTS ON THE PROJECT
SPECIFIC PLAN FOR PILOT PLANT DRAINAGE DITCH
SEEPAGE AND SURFACE WATER BACKGROUND INVESTIGATION**

Commenting Organization: U.S. EPA

Commentor:

Section #: Figure 2-1

Pg. #: 3

Line #:

Code:

Original Comment # 1

Comment: Figure 2-1 shows the surface water sample PP-DD-03 collection location as just upstream of SEEP10, the seep furthest upgradient from Paddys Run. Since additional seeps may have formed since the drainage ditch site-walk and to better characterize the drainage ditch background contamination level, an additional surface water sample should be collected at the head of the drainage ditch.

Response: The formation of new seeps was judged to be unlikely as the season changed from spring to summer; therefore, additional samples upstream of observed seeps were not planned. Monitoring wells 11069 and 11070 are being installed in proximity to the head waters of the Pilot Plant drainage ditch. These wells will determine if perched groundwater, which feeds the seeps, is contaminated. If these wells do not detect contamination, then the source may be assumed to be the pipes draining the area under the Pilot Plant where there is known perched groundwater contamination or contaminated runoff.

To further delineate the source of contamination in the ditch, DOE will check the three drainages at the head waters of the ditch to see if sufficient water is present to sample. If sufficient water is present, it will be sampled and analyzed for TAL 50.03.16A plus fecal coliform. Fecal coliform analysis is added to the TAL in response to Ohio EPA comment No. 2.

Action: The PSP will be revised to specify the additional sample locations and analytical requirements

Commenting Organization: U.S. EPA

Commentor:

Section #: Figure 2-2

Pg. #: 7

Line #:

Code:

Original Comment # 2

Comment: Figure 2-2 shows the collection location of the upgradient Paddys Run surface water sample (W-5). To better characterize the pilot plant drainage ditch contribution to Paddys Run contaminant loading, a surface water sample should also be collected from Paddys Run just north (upgradient) of the pilot plant drainage ditch discharge point.

Response: The objective of the background sample in Paddys Run is to provide validated data in support of determining background water quality in relation to the overall FEMP site. Sample W-5 is properly located to meet this objective. Sample PP-DD-01 is located in the drainage ditch before the ditch enters Paddys Run. This sample, in conjunction with flow rates calculated from the weir measurements, will provide a direct measure of

contaminant contribution from the drainage ditch. A comparison to sample data from Paddys Run is not needed for the contaminant loading assessment.

Action: No change to the PSP is required.

Commenting Organization: U.S. EPA
Section #: 3.3
Original Comment # 3

Pg. #: 13

Commentor:
Line #:

Code:

Comment: The text states that the upstream surface water sample collected from the Great Miami River will be analyzed for analytes listed in target analyte list (TAL) 50.03.16D, which does not include radionuclides. Because more recent background data for the Great Miami River is needed for the RI and risk assessment, it is unclear why radionuclides are not included as proposed analytes. The Great Miami River sample should also be analyzed for radionuclides or a justification for omitting radionuclides should be included in the text.

Response: The objective of this PSP is to complete the characterization of background surface water conditions in terms of organic and inorganic constituents. Radiological characterization of background is well documented in the DOE report: "Characterization of Background Water Quality for Streams and Groundwater," dated May 1994. Surface water location W-1 has been sampled for the RI five times for a fully validated comprehensive suite of radiological parameters. In addition, this location is monitored semi-annually for radiological parameters. The current data base of radiological analyses was considered adequate for characterizing background on the GMR. In contrast, minimal validated organic and inorganic data are available for surface water location W-1; therefore, analysis for general chemistry and HSL inorganics, volatiles, semi-volatiles and pesticides/PCBs was planned to complete the background characterization. Assessment of location W-1 for the RI/FS will consider the existing radiological data as well as the chemical data generated by this sampling event.

Action: Text will be added to Section 3.3 to justify the omission of radiological analyses.

Commenting Organization: U.S. EPA
Section #: Table 3-3
Original Comment # 4

Pg. #: 16

Commentor:
Line #:

Code:

Comment: The appropriate analytical level section of this table indicates that the Great Miami River surface water sample will be analyzed for radionuclides. Section 3.3 indicates that the Great Miami River surface water sample will be analyzed for analytes listed in TAL 50.03.16D, which does not include radionuclides. This discrepancy should be resolved.

Response: TAL 50.03.16D is correct.

Action: Correct Table 3-3 by removing radionuclides from the Appropriate Analytical Level section of the table.

Commenting Organization: U.S. EPA

Commentor:

Section #: Table 7-1

Pg. #: 23

Line #:

Code:

Original Comment # 5

Comment: Table 7-1 does not include data validation as an administrative procedure. Table 7-1 should be modified to include data validation activities and the quantity of data to be validated.

Response: DOE agrees that the reference for the administrative procedure for data validation should be included in Table 7-1.

Action: Correct Table 7-1 by adding the following citation pertaining to data validation: SCQ Volume 1, Section 11, Appendix D.

**RESPONSES TO OHIO EPA COMMENTS ON THE PROJECT
SPECIFIC PLAN FOR PILOT PLANT DRAINAGE DITCH
SEEPAGE AND SURFACE WATER BACKGROUND INVESTIGATION**

Commenting Organization: Ohio EPA
Section #: 2.1
Original Comment # 1

Pg. #: 4

Commentor:

Line #: 14

Code:

Comment: Additional detail should be provided as to the extent of sampling completed at ASIT-010. Detail should include whether the location was sampled for full HSL and Rad under the PPTS program. If so, the contaminants detected should be included. This data would be useful in determining if it is actually necessary to sample all the seeps with 20 µg/l of uranium as well as the three surface water locations for full HSL. If previous data are available and suggest no organic contaminants are present, then DOE may wish to reconsider sampling for organics and focus primarily upon inorganic and radionuclide contaminants. If sampling was not conducted for the full RAD, then the three surface water locations, at a minimum, should be sampled for full Rad as listed in TAL 50.03.16 C on page A-5.

Response: DOE appreciates Ohio EPA's recommendation, which would reduce the cost and complexity of the PSP. ASIT-010 was sampled for the original RI, however the validity of that analytical data is questionable; therefore, TAL A was specified for the samples from the drainage ditch. DOE feels that the suite of analytes proposed is warranted to provide a complete characterization of the existing condition of the ditch.

Action: No change to the PSP is required.

Commenting Organization: Ohio EPA
Section #: Table 2-3
Original Comment # 2

Pg. #:

Commentor:

Line #:

Code:

Comment: The 3/10/92 elevated concentration of fecal coliform, which exceeds water quality criteria, should be considered in the evaluation of potential source(s) for contamination present within the stream.

Response: The DOE agrees. Part of the apparent source of contamination are the underground drains from the Pilot Plant area. Although the drain for surface water on the south side of the Pilot Plant was plugged at the sump, the pipe is still in place and opens to the head of the ditch. One possibility is that there are problems with sanitary sewers in the Pilot Plant area and leakage from them could result in waste water entering the ditch via the old storm drain pipe. Three feeder ditches at the head waters of the drainage ditch will be inspected for the presence of water. A surface water sample will be collected, where water is present, and analyzed for TAL 50.03.16A plus fecal coliform.

Action: The PSP will be revised to specify the additional sample locations and analytical requirements.

Commenting Organization: Ohio EPA
 Section #: 3.0
 Original Comment # 3

Pg. #: 8
 Commentor:
 Line #:

Code:

Comment: Should the seeps prove to be not highly contaminated, the proposed work will not have met the objective of determining the source of contamination to the stream. If the seeps are not the source of contamination, additional work should be conducted to further evaluate potential upstream source areas (i.e., pilot plant area).

Response: DOE feels that the objective of determining the source of contamination will have been achieved to the best extent possible, given the existing schedule. DOE does not agree with the first judgement. If the seeps are not highly contaminated, the surface water sampling locations in the ditch itself are situated to assess contribution from the Pilot Plant and the drains in that area.

Since the sampling results will have achieved the objective of identifying the likely sources of contamination, no further sampling under the RI Program is planned. Schedule constraints in RI report preparation are also a consideration in this approach. However, if the Pilot Plant drainage appears to be the source of contamination, further sampling, to institute drainage control under a Removal Action, may be conducted.

Action: No change to the PSP is required.

Commenting Organization: Ohio EPA
 Section #: 3.1
 Original Comment # 4

Pp. #: 8, 9
 Commentor:
 Line #:
 Code:

Comment: Infiltration of surface water along the reach of the stream, if present, will affect DOE's ability to determine the flow contribution of the seeps. DOE should consider this during its evaluation of data from the study.

Response: DOE agrees and has expanded the period for recording the flow measurements in the ditch from three days to approximately a month. Rainfall data, from the FEMP weather station, will be reviewed to evaluate the seepage data. This will be useful to determine contribution from rainfall-induced recharge, rather than drainage from the silty sand.

Action: Add a discussion of the expanded measurement effort to the PSP text.

Commenting Organization: Ohio EPA
 Section #: 3.1
 Original Comment # 5

Pg. #: 9
 Commentor:
 Line #:
 Code:

Comment: An expanded list of radionuclide analyses would be helpful in potential source determinations as well as determine the nature of contamination present. DOE should expand the radiological parameter list. As stated previously, DOE may wish to reconsider the analyses for organic contaminants within the seeps, if previous data justify it.

Response: As in the Snapshot PSP, DOE has determined the major radiological contaminants at the FEMP to be uranium, thorium and radium. These are the contaminants of concern and will be most significant to the risk assessment; therefore, radiological analysis is limited to these parameters.

The analyses for the organic constituents are included to build the general inventory of organic sampling data for the risk assessment, as well as to determine contribution of organics from the seeps.

Action: No change to the PSP is required

Commenting Organization: Ohio EPA

Section #: 3.1.3

Original Comment # 6

Pg. #: 11

Commentor:

Line #:

Code:

Comment: DOE should consider the installation of a permanent weir system. The weir system may be useful in future monitoring of stream conditions. Additionally, DOE is more likely to achieve a good seal around a permanently (cemented in) installed weir. Good seals around the weirs are essential to determining the contribution of seep flow to the stream.

Response: DOE agrees. Installation of permanent weirs will be considered when the data from these weirs are evaluated.

Action: No change to the PSP is required.

Commenting Organization: Ohio EPA

Section #: 3.3

Original Comment # 7

Pg. #: 13

Commentor:

Line #:

Code:

Comment: It is unclear as to the reasoning for not sampling W-1 for full radiological analyses. These data are essential for the RI/FS. DOE should provide justification for exclusion within the text or include full Rad analyses.

Response: The objective of this PSP is to complete the characterization of background surface water conditions in terms of organic and inorganic constituents. Radiological characterization of background is well documented in the DOE report: "Characterization of Background Water Quality for Streams and Groundwater," dated May 1994. Surface water location W-1 has been sampled for the RI five times for a fully validated comprehensive suite of radiological parameters. In addition, this location is monitored semi-annually for radiological parameters. The current data base of radiological analyses was considered adequate for characterizing background on the GMR. In contrast, minimal validated organic and inorganic data are available for surface water location W-1; therefore, analysis for general chemistry and HSL inorganics, volatiles, semi-volatiles and pesticides/PCBs was planned to complete the background characterization. Assessment of location W-1 for the RI/FS will consider the existing radiological data as well as the chemical data generated by this sampling event.

Action: The text will be revised to clarify the justification for selection of the analytical parameters.