

F-OU-9
HYDRO

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Mr. Art W. Kleinrath
Project Engineer,
Team Leader
U.S. Department of Energy
Miamisburg Area Office
P.O. Box 66
Miamisburg, OH 45343

SEP 08 1994

Dear Mr. Kleinrath:

OU9 HYDROGEOLOGIC INVESTIGATION

Please forward the enclosed responses to comments on the OU9 Hydrogeologic Investigation: Bedrock, Soil Chemistry and Buried Valley Reports. The comments were transmitted as per your request by facsimile to the USEPA and OEPA on September 6, 1994.

Diane Spencer
USEPA
HSRM-6J
77 W. Jackson St.
Chicago, IL 60604

Brian Nickel
OEPA
401 E. Fifth St.
Dayton, OH 45402

Dear Mr. Nickel and Ms. Spencer:

Enclosed is a copy of the DOE responses to comments that were transmitted to you via facsimile September 6, 1994. The revised technical memoranda are expected to be complete by September 15, 1994. If you have any questions please contact Jim Rigano or Alec Bray of EG&G Mound.

Very truly yours,

Monte A. Williams
Manager ER/CERCLA

ORIGINAL SIGNED BY

Charles S. Friedman
Vice President
ER, WM & D&D

MAW/sdf
Enclosure

U.S. DOE Mound Plant
RI/FS
Operable Unit 9, Site-Wide Report
Hydrogeologic Investigation:
Bedrock, Soil Chemistry, and Buried Valley Reports
January and March 1994
RESPONSE To U.S. EPA Comments

HYDROGEOLOGICAL INVESTIGATIONS: BEDROCK REPORT

The information presented appears accurate, but excessive.

DOE believes that this report will serve as the basic reference for the Site bedrock geology. As such it compiles and discusses the attributes and shortcomings of many previous reports, including the results of the original investigations proposed in the OU 9 Site-Wide work plan.

1. It is unclear why the presence of hydraulic connection needs to be determined. If the unit is confined no contaminants could migrate to it. The alluvial deposits would not be affected.

DOE agrees that the hydraulic interconnection does not need to be determined.

2. It is unclear why the orientation of fractures needs to be verified (assuming the orientation will be correlated to ground water flow directions). Although a preferred orientation of fractures may exist fractures are oriented in many directions. Horizontal fractures along bedding plane are also present in the bedrock, which provide pathways of groundwater flow. Therefore, regardless of the preferred orientation of non-horizontal fractures in bedrock, the potential for ground water flow from the bedrock to the buried valley aquifer exists. Water levels should be used to estimate the primary direction of flow.

DOE generally agrees, but notes that in an anisotropic system water levels may not be truly indicative of flow directions, depending on the relationships among the well locations and fracture orientations, i.e., the classic three point solutions may not apply.

HYDROGEOLOGICAL INVESTIGATIONS: SOIL CHEMISTRY REPORT

A detailed evaluation of the calculated PRGs has not been done (by EPA). The proposed action levels appear to be conservatively low. Overall, the sampled subsurface soils do not appear to be a significant source of contamination. No significant source for ground water contamination appears to exist in the sampled locations.

DOE agrees that the proposed action levels published in the January

1994 draft were conservatively low. Consequently, for the subsequent draft, proposed action levels are revised to a 10^{-4} risk. DOE notes that the proposed action levels are reported as simple guidelines to give the average reader a sense of proportion or a gauge by which to judge the soil concentrations reported. Determination of the appropriate action levels from a true risk will require site, pathway and use-specific calculations.

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The site-wide geology and hydrogeology of the site were well defined in this report. How will the rating curve information be used in the FS? Why are additional wells recommended? It seems unnecessary to determine the extent of the cone of depression of the power station. Does this change the flow direction?

The rating curves for the two gauges on the Great Miami River can be used to determine if recharge from the Great Miami River is of sufficient magnitude to be determined by the difference in flow between the two gauges. It would provide an independent estimate of the magnitude of the recharge to the system. This data would be useful if the hydrologic model of the area indicated particular sensitivity to recharge from the river.

Additional wells were recommended because of the uncertainties in the flow system and water quality in areas where there are no wells. As a result of the discussions among EPA, Ohio EPA and DOE at Mound Plant 21 June 1994, work being conducted by other operable units may make the additional wells unnecessary.

DOE agrees that determination of the cone of depression is not necessary. The cone of depression from the power station probably does not change the flow direction at the Mound Plant but it may affect the gradient.

GENERAL RESPONSE

As a result of the discussions among EPA, Ohio EPA and DOE at Mound Plant 21 June 1994, sections 6.6 of the BVA Report and 7.0 of the Bedrock Report will be deleted entirely. The individual discussions of data sufficiency within other sections will be retained.

US DOE MOUND
RI/FS
OPERABLE UNIT 9
HYDROGEOLOGIC INVESTIGATION:
SOIL CHEMISTRY REPORT
TECHNICAL MEMORANDUM (REVISION 0)
JANUARY 1994
OHIO ENVIRONMENTAL PROTECTION AGENCY
RESPONSE TO COMMENTS

GENERAL COMMENT

1. All Preliminary remediation goals (PRGs) are considered preliminary and will need to be evaluated after the OU 9 background sampling is completed.

Comment noted.

2. DOE does not discuss the modifications of proposed action levels based upon additive risk. What efforts will DOE make to do this?

At the present time and within this report, none. Additive risks are best addressed within a risk assessment. The proposed action levels are reported as simple guidelines to give the average reader a sense of proportion or a gauge by which to judge the soil concentrations reported.

SPECIFIC COMMENTS

1. Section 4.3, page 4-9, 4th paragraph. The line "established to prevent target..." should be "established to prevent appreciable target..."

Text will be revised as noted.

2. Section 5.2.1, page 5-1, 1st paragraph of section. The referenced plate number is missing.

Section 5.2.1 occurs on page 5-14. The paragraph will be revised with the correct plate number.

In fact, all of section 5 will be replaced. As a result of our internal review, we found that the data discussions for radionuclides at some wells was erroneously omitted. We will revise Plate 3 as well. The additional data in no way changes the conclusions stated by US EPA that "the sampled subsurface soils do not appear to be a significant source of contamination".

3. Section 6.2, page 6-1, 1st paragraph of section. Data needs to be evaluated with respect to all other background sampling (i.e., radial) to determine the area of influence for the facility including meteorologically deposited contaminants.

See response to general comment #2 above.

4. Section 6.3, page 6-5, 1st paragraph. Ten (10) kilometers is a very large radius for a background soils investigation. It is critical to verify that all samples are outside the influence of the facility, however, soil types and characteristics should closely resemble those found at the facility. How did DOE correlate soil type and values between on-site and off-site?

Comment noted. However, this entire section will be revised in accordance with the finalized background soils investigation report.

US DOE MOUND
RI/FS
OPERABLE UNIT 9
HYDROGEOLOGIC INVESTIGATION:
BURIED VALLEY AQUIFER REPORT
OHIO ENVIRONMENTAL PROTECTION AGENCY
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1. Section 2.2, page 2-6, 2nd paragraph. The monitoring wells and piezometers may not have had sufficient time to recover if the low recharge rate was due to low transmissivity. The formation may yield ground water very slowly, yet may have a sufficient transmissivity to allow the transport of contaminants.

Comment acknowledged. It has been assumed that water is necessary for the contaminants to move in the system.

2. Section 3.5, page 3-20, 1st paragraph. What impact will this lack of information have on the overall ground water monitoring program? Does this data gap necessitate additional work?

The data gap probably has no effect on the monitoring program. DOE does not believe that additional work is necessary unless the buried channel can be shown to be carrying contamination into the Buried Valley aquifer.

3. Section 5.4.3, page 5-10, 3rd paragraph. Change "in order to monitoring" to "in order to monitor".

The requested change will be made.



Department of Energy
 Albuquerque Operations Office
 Dayton Area Office
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F-049

HYDRO

SEP 13 1994

Diane Spencer
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 HSRM-6J
 77 W. Jackson Street
 Chicago, IL 60604

RECEIVED

SEP 15 1994

Ans'd.....

Brian Nickel
 OEPA
 401 E. Fifth Street
 Dayton, OH 45402

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Sincerely,

Arthur W. Kleinrath
 Project Engineer Team Leader

Enclosed

cc w/enclosure:
 Jim Rigano, EG&G
 Alec Bray, EG&G
 Monte Williams, EG&G
 Regina Bayer, CH2M Hill

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OPERABLE UNIT 9
HYDROGEOLOGIC INVESTIGATION:
SOIL CHEMISTRY REPORT
TECHNICAL MEMORANDUM (REVISION 0)
JANUARY 1994
OHIO ENVIRONMENTAL PROTECTION AGENCY
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UNITED STATES ENVIRONMENTAL PROT'
REGION 5
77 WEST JACKSON BOULE'
CHICAGO, IL 60604-3F

F-009
SCOPING
REPORT

June 17, 1994

Mr. Arthur Kleinrath
U.S. Department of Energy
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45343

Copy
- me
- Williams
- Rigano
- Rummel
file DOUG
@USEPA Gov

RE: U.S. DOE Mound Plant
Operable Unit 9:
Volume 12 - Site Summary Report
Background Soils Soil Chemistry Report
Ecological Characterization Report
Hydrogeologic Inv. - Bedrock
Hydrogeologic Inv. - Soil Chemistry
Hydrogeologic Inv. - Buried Valley Report
Volume 8 - Addendum

Dear Mr. Kleinrath:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the above referenced documents. As per the Federal Facility Agreement (FFA), the above list of documents are classified as secondary documents, which include only a regulatory review and comment cycle. The regulatory agencies and U.S. DOE agreed to a modified review and comment schedule for these documents during the FFA meeting held on May 18, 1994. In accordance with the May 18 agreement, comments have been prepared and are included here. No comments will be submitted regarding Volume 8 - Addendum and the Ecological Characterization Reports.

Please feel free to call me at (312) 886-5867 if you have any questions.

Sincerely,

Diane M. Spencer

Diane M. Spencer
Remedial Project Manager

OPTIONAL FORM 90 (7-90)

FAX TRANSMITTAL

of pages *8*

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cc: B. Nickel, OEPA
M. Williams, EG&G
J. Rigano, EG&G

U.S. DOE Mound Plant
Site Scoping Report
Operable Unit 9, Site-Wide
Volume 12 - Site Summary Report
October 1993

U.S. EPA Comments

1. Section 1.3

Page 7, Paragraph 2

The paragraph is somewhat confusing. If 22 sites, which were further subdivided into 32 investigation sites, required analytical data for further characterization, why were only 10 sites recommended for additional characterization? How were the remainder addressed?

2. Appendix A

Table A.1. Comprehensive Tabulation of Potential Release Sites
Plate 1 does not include all the Potential Release Sites identified in Table A.1. Specifically, #133, Area D, #173, ##43-58, #72 are not shown. Also, two #71's were noted. #253 and #254 have not been symbolized as stacks on the map. Also, the T-Building was not labeled.

3. Appendix A

Table A.2. Assignment of Regulatory Authorities to PRS and Recommendations for Further Action

PRS #4 - Miami-Erie canal (runoff hollow) has not been included in Tables B.6, B.7, B.8, and B.9, as stated. Is it to be assumed that PRS #3 - Miami-Erie canal (north canal) also includes the analytical summaries for PRS #4 or was it inadvertently left out of the referenced tables?

4. Appendix A

Table A.2.

Conflict information exists for this PRS - Area C, Former Equipment Storage Area. This area was recommended for no further action based on the "Not Detected" data tables, i.e., Table B.6 - B.9. However, information included in the OU3 Miscellaneous Sites Limited Field Investigation Report (LFIR) indicates that no soil samples were ever collected at this PRS. Were analytical samples collected which resulted in "ND"?

5. Appendix A

Table A.2.

PRS #88, Tritium in Buried Valley Aquifer, has a somewhat misleading "no further action" designation if, tritium levels are being monitored in the ground water

and ground water extraction occurs if levels exceed the MCL of 20 Nci/L.

6. Appendix A

Table A.2.

PRS #281, Area E, Waste Oil Spill indicates that there is evidence of a release, but no further action is recommended. Review of Table A.1. shows no data for this PRS. What was the basis for the "no further action" designation?

7. Appendix A

Table A.2.

It is unclear why Building 29 and Building 49 inactive solvent storage sheds are addressed by RCRA authority, while Building E and Building B inactive solvent storage sheds are addressed by CERCLA authority. How was this determination made?

U.S. DOE Mound Plant
RI/FS
Operable Unit 9, Site-Wide
Background Soils Investigation Soil Chemistry Report
April 1994

U.S. EPA Comments

Few points of concern were noted.

1. Executive Summary

Page ES-1, Paragraph 4

The approach for determining risk is not consistent with that at other operable units. The text states that if the chemical concentrations on the site are greater than background concentrations, the additional risk associated with Mound will be calculated from the measured concentration minus the maximum background concentration at the 95% tolerance limit.

2. Section 2

Page 2, Table II.2

pH in Water, Preservation, Holding Time, and Laboratory fields needs to be completed for consistency purposes.

3. Section 2

Page 2, Table II.2

TAL Inorganics/Bismuth and Cyanide; the preservation temperature was noted as 40 C. This appears to be a typographical error, which should be 4 C, as stated in the report.

4. Section 3

Page 3-1, Paragraph 3, 2nd sentence

Please clarify. The sentence is incomplete.

5. Section 3

Page 3-2, Paragraph 2

The paragraph fails to state which of the 4 anions was not properly identified. Have additional performance evaluation samples been submitted to the laboratory to assure proper identification? Additional information should also be included to address why the laboratory was capable of qualitatively identifying compounds, but experienced difficulty quantitating some analytical results.

6. Section 3

Page 3-6, Table III.2, Metals/Cyanide

Why were 3% of the analytes rejected? Please include a discussion of this information.

7. Section 3

The pesticide performance evaluation sample did not contain an aroclor. If PCBs are a contaminant of concern, an aroclor should be included in future pesticide samples.

8. Section 4

General Comment: The outlying QC results were discussed in detail, yet the qualifiers placed or not placed, is not discussed in sufficient detail, in all cases.

For example:

Page 4-3, Paragraph 3

For the blank contamination affecting beryllium, cadmium, molybdenum, tin, and zinc; were the associated field samples with concentrations less than five times the blank contamination concentration qualified as potentially biased due to blank contamination and appropriately flagged?

Page 4-3, Paragraph 5

The reader is led to believe that the inorganic results associated with laboratory duplicates with relative percent differences greater than 35% were not qualified as potentially biased and not flagged. This needs to be clarified. Explain why this action would be appropriate.

Page 4-5, Paragraph 2

Please clarify this paragraph. Were the samples noted as having poor serial dilution qualified as potentially biased and flagged appropriately?

9. Section 4

Page 4-6, Paragraph 4

Aldrin and lindane LCS recoveries of 30-40% are acceptable only as long as the method reporting limit, and all subsequent action limits, are 60-70% greater than the method detection limits for these compounds. If not, then the possibility exists that low detections of these compounds will be missed.

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