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*COMMENTS ON THE O. U. 5 VADOSE ZONE/GLACIAL  
TILL WORK PLAN ADDENDUM*

*06/07/93*

*OEPA/DOE-FN*

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*LETTER*



State of Ohio Environmental Protection Agency

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George V. Voinovich  
Governor

June 7, 1993

Mr. Jack R. Craig  
Project Manager  
U.S. DOE FEMP  
P. O. Box 398705  
Cincinnati, Ohio 45239-8705

Dear Mr. Craig:

Ohio EPA has reviewed the O.U. 5 Vadose Zone/Glacial Till Work Plan Addendum. Comments on this work plan are attached. If you have any questions please contact Mike Proffitt or me.

Sincerely,

Graham E. Mitchell  
Project Manager

GEM/bjb

- cc: Jenifer Kwasniewski, DERR
- Tom Schneider, DERR
- Mike Proffitt, DDAGW
- Jim Saric, U.S. EPA
- Dennis Carr, FERMCO
- Lisa August, GeoTrans
- Jean Michaels, PRC
- Robert Owen, ODH

OHIO EPA COMMENTS

FEMP Glacial Till/Vadose Zone Hydraulic Investigations Work  
Plan, ID# 531-0297, Hamilton County.

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- 1) Commenting Organization: Ohio EPA            Commentor: M. Proffitt  
Section #: 1.1.1            Pg #: 1-1 Line #: 1-4    Code:  
Original Comment #:  
Comment: An additional item should be included which states that nature of contaminant migration in the till needs to be obtained. This includes fracture flow, constituent speciation, colloidal transport, and the attenuation/release characteristics of constituent species.  
  
Response:  
  
Action:
  
- 2) Commenting Organization: Ohio EPA            Commentor: M. Proffitt  
Section #: 1.1.2            Pg #: 1-1            Line #: 30            Code:  
Original Comment #:  
Comment: This data should also be used for the CRU-5 RI Report.  
  
Response:  
  
Action:
  
- 3) Commenting Organization: Ohio EPA            Commentor: M. Proffitt  
Section #: 1.1.2            Pg #: 1-1            Line #: 33            Code:  
Original Comment #:  
Comment: The model can only be used to illustrate what has been determined scientifically.  
  
Response:  
  
Action:
  
- 4) Commenting Organization: Ohio EPA            Commentor: M. Proffitt  
Section #: 1.1.3            Pg #: 1-2            Line #: 10-11        Code:  
Original Comment #:  
Comment: Ohio EPA recognizes the "averaging" effect which occurs in such a variable material as a glacial till deposit. Based on this variability, Ohio EPA recommends an investigation designed to date the formation water in the base of the till. The use of tritium, O<sub>16</sub>-O<sub>18</sub>, Chloroflourocarbons

(CFC's), or other sufficient methods should be applied to the site in order to characterize and quantify the hydraulic communication between the till and the sand and gravel aquifer.

The number and locations of lysimeter installation should be revised so that the glacial till at the site is adequately characterized in light of its variable nature. Because this investigation will yield critical data concerning the hydraulic communication between the till and the sand and gravel aquifer, it may be possible to scale down the hydraulic conductivity investigations scheduled in this work plan.

Response:

Action:

- 5) Commenting Organization: Ohio EPA Commentor: M. Proffitt  
 Section #: 1.3.4 Pg #: 1-6 Line #: 33 Code:  
 Original Comment #:  
 Comment: How will this provide wider coverage of the clay zone?

Response:

Action:

- 6) Commenting Organization: Ohio EPA Commentor: M. Proffitt  
 Section #: 2.2 Pg #: 2-1 Line #: Code:  
 Original Comment #:  
 Comment: It is not clear to Ohio EPA why there are only two (2) slug tests planned for the area southwest of the facility (OU2).

Response:

Action:

- 7) Commenting Organization: Ohio EPA Commentor: M. Proffitt  
 Section #: 2.3.2 Pg #: 2-7 Line #: 1 Code:  
 Original Comment #:  
 Comment: Data should be analyzed during field activities to see if the transducers were moved or damaged during the tests. If so, the test should be repeated.

Response:

Action:

- 8) Commenting Organization: Ohio EPA Commentor: M. Proffitt  
 Section #: 4.2 Pg #: 4-1 Line #: Code:  
 Original Comment #:  
 Comment: The lysimeter monitoring should be expanded so that the water dating investigation can characterize the till for the entire site.

Though the slug and pump tests will yield useful and important information, the water dating investigation is needed to characterize the communication between the till and the sand and gravel aquifer.

Response:

Action:

9) Commenting Organization: Ohio EPA            Commentor: M. Proffitt  
Section #: 5.2.1    Pg #: 5-1            Line #: 37            Code:  
Original Comment #:

Comment: Why is a "spin casing" method proposed for the packer tests? This type of drilling maximizes the smearing and clogging of formation pores with silts and clays. Once this is done, it is often very difficult to "clean out" the borings so that they represent the formation. The Ohio EPA recommends the use of cable tool boring for this project. Cable tool minimizes the smearing of the bore, and, due to the shallow nature of these borings, will not unreasonably delay the project.

Response:

Action:

10) Commenting Organization: Ohio EPA            Commentor: M. Proffitt  
Section #: 5.2.2    Pg #: 5-6            Line #: 4-5            Code:  
Original Comment #:

Comment: How is it possible to pack off intervals in the screened sections of the monitoring wells. It appears to Ohio EPA that it would be difficult to prevent the communication of ground water throughout the sand pack.

Response:

Action: