



State of Ohio Environmental Protection Agency

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May 15, 2006

Mr. Johnny Reising  
U. S. Department of Energy  
Ohio Field Office  
Fernald Closure Project  
175 Tri-County Parkway  
Springdale, Ohio 45246

**RE: COMMENTS ON RTC TO THE ADDENDUM TO WSA PHASE II DESIGN REPORT**

Dear Mr. Reising:

This letter provides Ohio Environmental Protection Agency comments on the responses to Ohio EPA comments on the Addendum to the Waste Storage Area Phase II Design Report.

If you have any questions please contact Tom Ontko or me.

Sincerely,

for Thomas A. Schneider  
Fernald Project Manager  
Office of Federal Facilities Oversight

cc: Jim Saric, U.S. EPA  
Mark Shupe, GeoTrans, Inc.  
Michelle Cullerton, Tetra Tech EM Inc.

**Ohio Environmental Protection Agency Comments on the RTC on the Addendum  
to the Waste Storage Area Phase II Design Report**

- 1) Commenting Organization: Ohio EPA                      Commentor:  
Section #:                      Pg #:                      Line #:                      Code:  
Original Comment #: 2     DOE should specify the depth and lithology of the aquifer sample used in the kd determination from Extraction Well 33262. The lithology data from the Waste Pits area indicates that silty sand and clay lenses are more common in the upper GMA in this portion of the site relative to other areas. For example, Monitoring Well 2028 is logged as silty sand between 65 and 70 feet; 2010 is clay from 66.5 to 70 feet; 3034 is silty gravel from 56.5 to 60 feet. The kd for a chemical is a function of the properties of the chemical and the porous media. If the kd determined from EW-33262 is characteristic of the more permeable (low silt content) portion of the aquifer, it may not be applicable for cleanup of the silty sand and clay lenses in the Waste Storage Area. DOE should sensitivity of the model kd to lithologic variations in the area.
  
- 2) Commenting Organization: Ohio EPA                      Commentor:  
Section #:                      Pg #:                      Line #:                      Code:  
Original Comment #: 3     DOE should propose and conduct the necessary water quality and microbiological testing to verify that biofouling is occurring. Although the comparison of Geoprobe results to adjacent monitoring well results may imply the presence of biofouling, direct evidence is needed given the nearby presence of a known source of manganese contamination and the long term need for accurate interpretation of groundwater monitoring data at the site. Acceptance of the biofouling explanation requires substantiation of the occurrence of this phenomena beyond simple comparisons of Geoprobe data to a nearby monitoring well.
  
- 3) Commenting Organization: Ohio EPA                      Commentor:  
Section #:                      Pg #:                      Line #:                      Code:  
Original Comment #: 4     Given that the waste pits are a known source of manganese contamination to the aquifer, they are the most likely source for the observed elevated manganese concentrations, even if lower concentrations are observed at shallower depth. The lithology data from the Waste Pits area indicates the more frequent presence of silty sand and clay lenses in the upper portion of the aquifer relative to other site areas. The currently observed contamination distribution may be influenced by aquifer lithology. If, at a sampling location, the shallow portion of the aquifer consists of higher permeability, poorly graded sand and gravel underlain by deeper silty sand lenses, it is very likely that shallower concentrations were historically higher but have declined through more efficient flushing of this interval relative to the deeper silty sand lenses. At the time the recent Geoprobe sampling occurred, therefore, the observed condition of lower concentration aquifer overlying higher concentration aquifer likely results from the greater sorptive capacity and lower permeability of this underlying, more poorly flushed zone. In addition, to better interpret the available data, DOE should provide information regarding which of the waste pits received manganese

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bearing wastes.

- 4) Commenting Organization: Ohio EPA      Commentor:  
Section #:                      Pg #:                      Line #:                      Code:  
Original Comment #: 5

The comment response states the assumption that an additional extraction well will not reduce the estimated groundwater cleanup time for the Waste Storage Area uranium and manganese plumes. Given that the purpose of the model is to compare various remedial options, the model should be run to verify this assumption and to show what if any effect an additional well may have on the model-derived cleanup time estimate.