

**U.S. DOE-FEED MATERIALS PRODUCTION CENTER
HAMILTON COUNTY SOLID AND HAZARDOUS
WASTE MANAGEMENT
OH 890 008 976 G-TSDF**

DOCUMENT DATE 08-15-86



State Of Ohio Environmental Protection Agency

Southwest District Office
7 East Fourth Street, Dayton, Ohio 45402-2086

(513) 449-6357

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Richard F. Celeste, Governor

August 15, 1986

Re: U.S. DOE-FEED MATERIALS PRODUCTION CENTER
HAMILTON COUNTY
SOLID AND HAZARDOUS WASTE MANAGEMENT
OH6890008976
G-TSDF

Mr. James A. Reafsnyder, Site Manager
Department of Energy
P.O. Box 398705
Cincinnati, Ohio 45236

Dear Mr. Reafsnyder:

Our inspection of May 12-13, 1986 included a detailed review of your groundwater monitoring program around waste pit #4 to determine its compliance with Ohio Hazardous Waste Rules. This review has been completed and the following deficiencies were noted:

1. The current groundwater monitoring system does not meet the requirements of OAC 3745-65-90(A) and 3745-65-91(A). Specifically, the present system does not monitor the entire uppermost aquifer which has been determined to consist of both the glacial till and outwash sand and gravel. The present system, which consists of three wells placed in the glacial till at approximately 11 feet below the surface, is only capable of detecting a release from the sidewalls of the landfill. In addition, the upgradient well is screened in the lower portion of a clay till and the upper portion of the shale bedrock, which is a different formation than the present downgradient wells.
2. The groundwater sampling and analysis plan as required by OAC 3745-65-92 was found to be inadequate. The plan was too general in nature and must be more detailed in the areas of sample collection, preservation, chain of custody control, and analytical procedures.
3. An outline of a groundwater quality assessment program had not been prepared as required by OAC 3745-65-93(A).

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4. The construction of the three sets of cluster wells around pit #4 does not conform to acceptable installation practices for monitoring wells. The three shallow wells were developed from the excavation of test pits, and, due to the large area of artificially placed gravel packed around the wells, the chemical composition of samples from these wells may not be representative of the perched groundwater system within the till as required by OAC 3745-65-91. The deeper wells in each cluster were installed using mud rotary drilling which may result in significant formation damage and may yield samples which are not representative of the aquifer. In addition, all the wells were developed with Schedule 40 PVC casings and screens which does not follow the U.S. EPA guidance document for monitoring wells which requires all stainless steel wells.

To correct the above deficiencies to your present groundwater monitoring system for pit #4, the following actions must be taken:

1. Develop a detailed groundwater sampling and analysis plan.
2. Develop an outline of a groundwater quality assessment program.
3. Revise the current groundwater monitoring system so that the entire uppermost aquifer is being monitored. This system must consist of at least three downgradient wells with cluster wells in the glacial till and the outwash sand and gravel while the upgradient wells must be installed in these same formations being monitored in the downgradient wells. A cluster well configuration such as the ones currently existing around pit #4 would appear to meet this criteria. The existing downgradient wells may still be utilized as part of your revised monitoring system in spite of the construction problems noted above. At this point it is more important to complete the four quarters of sampling already started to establish initial background quality and determine if pit #4 is leaking. However, any new wells that are required to be constructed must be drilled utilizing acceptable drilling methods which do not introduce liquids into the hole. Also, any new wells must utilize stainless steel casings and screens. This does not guarantee that at some time in the future these existing wells will not have to be replaced due to the suspected reliability of their analytical results.

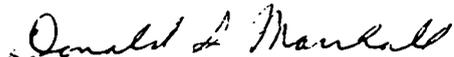
Within ninety (90) days from the date of this letter, submit to this office your revised groundwater monitoring plan for approval. A copy of the completed

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inspection form has been enclosed for your records.

Should you have any questions, please feel free to contact Mr. Rich Bendula, District Geologist, or me at this office.

Very truly yours,



Donald S. Marshall
Solid & Hazardous Waste Management Unit

DSM/dkp

cc: Ed Kitchen, DSHWM/OEPA
Rich Bendula, SWDO/OEPA
Steve Clough, USEPA, Region V
Dave Jones, Westinghouse Materials Company of Ohio

2018
7/11/90

RCRA INTERIM STATUS INSPECTION FORM

SUBPART F: GROUNDWATER MONITORING

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Type of facility: (check appropriately)

- a) surface impoundment
- b) landfill
- c) land treatment facility

	Yes	No	Unknown	Not Valid
a)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
b)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
c)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

NOTE: UNDER INTERIM STATUS STANDARDS A WASTE PILE IS NOT SUBJECT TO GROUNDWATER MONITORING REQUIREMENTS. PLEASE NOTE, HOWEVER, THAT IF ANY HAZARDOUS WASTE FROM A WASTE PILE IS LEFT IN PLACE AT CLOSURE, THE "WASTE PILE" BECOMES A "LANDFILL" AND MUST MEET POST-CLOSURE RULES APPLICABLE TO LANDFILLS.

Groundwater Monitoring Program

1. Was the groundwater monitoring program reviewed prior to site visit?
If "No",
 - a) Was the groundwater program reviewed at the facility prior to site inspection? Yes No
2. Has a groundwater monitoring program (capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility) been implemented? Yes No

UPPERMOST AQUIFER NOT CURRENTLY MONITORED
3. Has at least one monitoring well been installed in the uppermost aquifer hydraulically upgradient from the limit of the waste management area? 265.91(a)(1) [3745-65-91(A)(1)] Yes No
 - a) Are groundwater samples from the uppermost aquifer, representative of background groundwater quality and not affected by the facility (as ensured by proper well number, location and depths)? Yes No

WELL DEPT. NOT MONITORED THE SAME AS BACKGROUND

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4. Have at least three monitoring wells been installed hydraulically downgradient at the limit of the waste handling or management area? 265.91(a)(2) [3745-65-91(A)(2)]

Yes No Unknown Waived
LR

a) Do well number, locations and depths ensure prompt detection of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer?

EVIDENT SYSTEM WILL
EASILY DETECT LEAKAGE
FROM SPACES OF
LANDFILL

5. Have the locations of the waste management areas been verified to conform with information in the groundwater program?

a) If the facility contains multiple waste management components, is each component adequately monitored?

N/A

6. Do the numbers, locations, and depths of the groundwater monitoring wells agree with the data in the groundwater monitoring system program? If "No", explain discrepancies.

7. Well completion details. 265.91(c) [3745-65-91(C)]

a) Are wells properly cased?

b) Are wells screened (perforated) and packed where necessary to enable sampling at appropriate depths?

c) Are annular spaces properly sealed to prevent contamination of groundwater?

8. Has a groundwater sampling and analysis plan been developed?
265.92(a) [3745-65-92(A)]

a) Has it been followed?

b) Is the plan kept at the facility?

c) Does the plan include procedures and techniques for:

1) Sample collection?

2) Sample preservation?

3) Sample shipment?

4) Analytical procedures?

5) Chain of custody control?

9. Are the required parameters in groundwater samples being tested quarterly for the first year? 265.92(b) [3745-65-92(B)] and 265.92(c)(1) [3745-65-92(C)]

a) Are the groundwater samples analyzed for the following:

1) Parameters characterizing the suitability of the groundwater as a drinking water supply? 265.92(b)(1) [3745-65-92(B)(1)]

2) Parameters establishing groundwater quality? 265.92(b)(2) [3745-65-92(B)(2)]

3) Parameters used as indicators of groundwater contamination? 265.92(b)(2) [3745-65-92(B)(3)]

(1) For each indicator parameter are at least four replicate measurements obtained at each upgradient well for each sample obtained during the first year of monitoring? 265.92(c)(2) [3745-65-92(C)(2)]

Yes No Unknown Noted

OUTLINE DEVELOPED FOR US AS TOWERS PLAN

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Outline prepared some of this information

More 2nd quarter sampling

(11) Are provisions made to calculate the initial background arithmetic mean and variance of the respective parameter concentrations or values obtained from the upgradient well(s) during the first year? 265.92(c)(2) [3745-65-92(c)(2)]

Yes No Unknown Waived
N/A

b) For facilities which have completed first year groundwater sampling and analysis requirements:

1) Have samples been obtained and analyzed for the groundwater quality parameters at least annually? 265.92(d)(1) [3745-65-92(d)(1)]

 N/A

2) Have samples been obtained and analyzed for the indicators of groundwater contamination at least semi-annually? 265.92(d)(2) [3745-65-92(d)(2)]

 N/A

c) Were groundwater surface elevations determined at each monitoring well each time a sample was taken? 265.92(e) [3745-65-92(e)]

 X

d) Were groundwater surface elevations evaluated annually to determine whether the monitoring wells are properly placed? 265.92(f) [3745-65-92(f)]

 N/A

e) If it was determined that modification of the number, location or depth of monitoring wells was necessary, was the system brought into compliance with 265.91(a) [3745-65-91(A)]? 265.93(f) [3745-65-93(f)]

 N/A

10. Has an outline of a groundwater quality assessment program been prepared? 265.93(a) [3745-65-93(A)]

 X

a) Does it describe a program capable of determining:

1) Whether hazardous waste or hazardous waste constituents have entered the groundwater?

 X

2) The rate and extent of migration of hazardous waste or hazardous waste constituents in groundwater?

 X

3) Concentrations of hazardous waste or hazardous waste constituents in groundwater?

 X