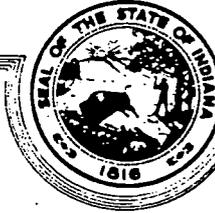


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APR 25 1986

Ms. Cathy Andrews, 0924
Naval Weapons Support Center
Crane, IN 47522

Dear Ms. Andrews:

Re: Closure Plan Second Technical Review
Notice of Deficiency
R-150 Tank Site
Naval Weapons Support Center
IN 5170023498

This is to transmit the results of a second technical review conducted in regard to the closure of your R-150 tank site. Staff have completed a review of the additional information which you submitted May 24, 1985. The Notice of Deficiency enclosed contains the results of this review.

Please respond to the listed deficiencies within 35 days of the date of this letter. An incomplete response may cause the State to modify your plan. This plan would then become the approved closure plan.

If you have any questions in regard to this letter, please contact Mr. Thomas Linson at AC 317/243-5034.

Very truly yours,

Terry F. Gray

Terry F. Gray, Chief
Plan Review and Permit Section
Hazardous Waste Management Branch
Solid and Hazardous Waste Management

TEL/lsm

Enclosure

cc: Mr. Hak Cho, U.S. EPA, Region V
Ms. Pat Vogtmann, U.S. EPA, Region V

Notice of Deficiency
Second Technical Review
R-150 Tank Closure Plan
Naval Weapons Support Center
IN 5170023498

Chemistry Review Deficiencies

1. The results submitted from the soil analyses are only the EP toxic levels. In a cleanup situation such as this, we need the total metal levels to make a final determination. Total levels are necessary to determine if the area is actually clean. A background sample also needs to be collected and analyzed. This will serve as a reference when looking at the soil levels. The samples must be taken from an area that is uncontaminated.

Geology Review Deficiencies

2. During the tank excavation, soil samples were taken and identified at sampling points 5, 6, and 7.
 - a. Address the precautionary steps that were taken to prevent cross contamination within the sampling points from one sampling horizon to the next.
 - b. Provide documentation that cross contamination has not occurred.
 - c. Describe decontamination procedures for the equipment used during the tank removal.
 - d. The test results (dated November 18, 1983) cited in Attachment 2) were for the soil samples taken at the time of the excavation. Since this tank, according to the original closure plan, contained PCB liquid, address why the soil samples were not analyzed for PCBs.
3. Four borings (W.T.-1, 2, 3, and 4) were drilled by the Waterway Experimental Station (W.E.S.).
 - a. Provide the date these borings were drilled.
 - b. Submit the drilling logs for these borings for evaluation, along with the A-A cross section noted on the Boring Location Map (Attachment 6).
 - c. Provide answers to the following:
 - (1) Were these four borings made into monitoring wells?
 - (2) What depths were these borings terminated at?

- (3) What procedures and containers were used to sample the soil and the water at these borings?
 - (4) Attachments 4 and 5 are the analytical test results for the borings drilled by W.E.S. Why were analyses for PCBs at W.T.-3 and W.T.-4 not performed?
 - (5) How can water be sampled in W.T.-2 from zero to 14 feet, and at 14 feet? Please explain the procedure used.
4. Attachment 7 is the analytical test for TOX at the monitoring wells known as WES-9-1-81(9-1), WES-9-3-81(9-3), WES-9-4-81(9-4), and WES-9-5-81(9-5). The test results show, in comparing 9-1 with 9-3, that there is definitely a contamination problem taking place with organic halogens from December, 1981, through August, 1983. The test results from the sampling, performed in February and June of 1984, of the four wells are null and void because the analyses were for total organic chlorides. Samples taken from the four wells in January of 1985 suggest that cleanup has not been achieved. Please provide an explanation of this matter.
 5. Drill for more borings in approximately the same location as W.T.-1, 2, 3, and 4, and install four monitoring wells into the uppermost significant aquifer.
 6. Sample the soil at these borings at five-foot intervals and analyze for the constituents listed in the National Primary Drinking Water Standards (except coliform, bacteria, and turbidity), PCBs, nickel, methylene chloride, copper, 1,1,1,-trichloroethane, and trichloroethylene.
 7. Sample water in the new monitoring wells along with WES-9-1-81, WES-9-3-81, WES-9-4-81, and WES-9-5-81 for 1,1,1,-trichloroethane, trichloroethylene, and PCBs every quarter and metals annually for the next five years.
 8. Submit a map showing groundwater elevation contours, groundwater flow direction, and the boring locations for each sampling event.
 9. Drill a background boring upgradient and as far away from the pest control site as possible. Sample at the five-foot intervals and analyze for the constituents listed in Deficiency #6.
 10. Drill a soil boring through the new fill material ten feet below the excavation floor and sample at five foot intervals starting

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at the bottom of the excavation proceeding ten feet into the undisturbed material, if possible, and analyze for the constituents listed in Deficiency #6.

11. Follow the allowable concentrations listed in the National Primary Drinking Water Standards to assure that the cleanup of water has been achieved. In the absence of standards, background levels should be used. The cleanup of the soil should be to natural background levels found in the new background soil boring as required by Deficiency #5 listed above.

Need WES for
5, 8, 9, 10

Soils analyses: 6, 9, 10 *

Process monitoring
7 *

* Additions to analytical
Service Contract