



DEPARTMENT OF THE NAVY
NAVAL WEAPONS SUPPORT CENTER
CRANE, INDIANA 47522-5000

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IN REPLY REFER TO:

11346/CLOS. PL.
09245

22 MAY 1986

Mr. Terry Gray
Indiana Department of Environmental Management
Hazardous Waste Management Branch
1330 West Michigan Street
P. O. Box 1964
Indianapolis, IN 46206-1964

Dear Mr. Gray:

We are submitting additional information for our R-150 Tank Site Closure Plan as requested in your correspondence of April 25, 1986. We hope the enclosed information will sufficiently address all issues highlighted in that letter.

NAVWPNSUPPCEN Crane point of contact is Mr. Jim Hunsicker, Code 09245, telephone AV 482-3114, FTS 336-3114 or commercial 812-854-3114, zip code 47522-5009.

Sincerely,

J. D. FARIS
Manager, Engineering Division
Public Works Department
By direction of the
Commanding Officer

Encl:

(1) R-150 Tank Closure Plan Review-
Deficiency Response-Second
Technical Review

Copy to:

Northern Division, Naval Facilities
Engineering Command (Code 114)

Writer: J. Hunsicker, Code 09245, Ext 3114
Typist: C. Made, Date 21 May 86

R-150 TANK CLOSURE PLAN
SECOND TECHNICAL REVIEW
DEFICIENCIES AND RESPONSE
NAVAL WEAPONS SUPPORT CENTER CRANE
IN5170023498

? 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.

RESPONSE: The samples collected from Sampling Points 5, 6, and 7 were analyzed for EP toxic heavy metals levels only. As indicated in information submitted to your office on May 24, 1985, the soil samples from four borings around the tank were analyzed for total metal levels. Additional analytical results needed to correct the deficiency will be available in November. The U. S. Army Corps of Engineers will be here the next quarter to drill the borings as required.

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.

RESPONSE: Using a backhoe to excavate the tank precluded the prevention of cross contamination from occurring between horizons. We did not anticipate cross contamination to be significant at those levels.

b. Provide documentation that cross contamination has not occurred.

RESPONSE: There is no documentation available to show that cross contamination didn't occur.

c. Describe decontamination procedures for the equipment used during the tank removal.

RESPONSE: The soil was cleaned off the equipment with scrapers.

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.

RESPONSE: PCB analysis of soil samples taken at time of excavation was not done. However, prior to excavation, PCB analysis was performed on borings and water samples, as indicated in Attachment (4) of correspondence dated May 24, 1985.

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.

RESPONSE: These borings were drilled on:

1. WT-1-83 - July 20, 1983
WT-2-83 - July 20, 1983
2. WT-3-83 - July 20, 1983
WT-4-83 - July 20, 1983

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)).

RESPONSE: See Attachment (1) of this correspondence for drilling logs for borings. See Attachment (2) of this correspondence for Cross Section A-A.

c. Provide answers to the following:

1. Were these four borings made into monitoring wells?

RESPONSE: These four borings were grouted shut following completion of tank study.

2. What depths were these borings terminated at?

RESPONSE: See Attachment (1) of this correspondence for this information.

3. What procedures and containers were used to sample the soil and the water at these borings?

RESPONSE: This information was not recorded and personnel who were involved with sampling no longer work on Center.

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?

RESPONSE: Failure to perform PCB analysis on soil and water samples from borings W.T.-3 and W.T.-4 was probably due to insufficient samples or an oversight.

5. How can water be sampled in W.T.-2 from zero to 14 feet, and at 14 feet? Please explain the procedure used.

RESPONSE: According to information we have, two samples were collected at this site. One water sample was collected during the drilling process (0-14 feet). The second water sample was taken after boring had been drilled to a depth of 14 feet.

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.

RESPONSE: In our opinion the tank was not the only source contributing to the contamination in this area. Information obtained from interviews and conversations with Center personnel indicate that water at times was removed from the tank which contained waste oil for reclamation and was dispersed on the ground behind the tank area and allowed to run down the hill.

It should be noted that a Haloscan was performed on the water from the wells. Each specific halogenated organic was analyzed separately. The totals of each of these should reflect the total organic halide concentration in the water in each well.

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.

RESPONSE: These four new monitoring wells should be installed by late June or early July 1986, by the Army Corps of Engineers.

6. Sample the soil at these borings at 5 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.

RESPONSE: Soil samples will be collected at 5 foot intervals via the Army Corps of Engineers while installing the new wells. We will send these soil samples to our contractor laboratory for analyses for these parameters.

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.

RESPONSE: After new monitoring wells are installed in late June or early July we will begin quarterly sampling of the aforementioned wells for 1,1,1-trichloroethane, trichloroethylene and PCBs and perform annual sampling of metals for the next five years.

8. Submit a map showing groundwater elevation contours, groundwater flow direction, and the boring locations for each sampling event.

RESPONSE: In our opinion, because the information is not expected to change during each sampling event concerning groundwater, the requirement for repeatedly submitting a map

identifying groundwater flows and boring locations is not necessary. We realize the need for submitting the groundwater elevations for each sampling interval and this will be done. The new borings, elevations and water flow direction will be noted on a map.

9. Drill a background boring upgradient and as far away from the pest control site as possible. Sample at the 5 foot intervals and analyze for the constituents listed in Deficiency Number Six.

RESPONSE: The new background well will be installed at same time the Army Corps of Engineers is installing the other new wells you requested in the vicinity of the excavation site. The Corps of Engineers will collect soil samples at 5 foot intervals and we will send them off site for the analysis listed in Deficiency Number Six.

10. Drill a soil boring through the new fill material 10 feet below the excavation floor and sample at 5 foot intervals starting at the bottom of the excavation proceeding 10 feet into the undisturbed material, if possible, and analyze for the constituents listed in Deficiency Number Six.

RESPONSE: The required soil boring will be done by Corps of Engineers while they are at the site next quarter installing new monitoring wells. After these soil samples have been collected the hole will be grouted shut. These soil samples will be sent off to our contractor's laboratory for analysis.

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 Number Five listed above.

RESPONSE: We will incorporate this guidance into our closure plan.