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LETTER REGARDING REGULATORY REVIEW AND COMMENTS ON FINAL RCRA
FACILITY INVESTIGATION REPORT FOR AREA OF CONCERN 2 NAS FORT WORTH TX
4/20/2001
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

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**NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS**

**ADMINISTRATIVE RECORD
COVER SHEET**

AR File Number 563

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Robert J. Huston, *Chairman*
R B "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Jeffrey A Saitas, *Executive Director*



TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

April 20, 2001

**CERTIFIED MAIL #9708
RETURN RECEIPT REQUESTED**

Mr. Don Ficklen
Restoration Team Chief
Air Force Center for Environmental Excellence (AFCEE)
3207 North Road
Brooks AFB, TX 78235-5363

Re: Comments to Final RCRA Facility Investigation Report, Area of Concern 2,
NAS Fort Worth JRB, Texas, dated November 2000
Naval Air Station Fort Worth JRB/Carswell AFB (NAS Ft. Worth)
TNRCC Industrial Solid Waste Registration No. 65004
TNRCC Hazardous Waste Permit No. HW-50289
EPA ID No. TX0571924042

Dear Mr. Ficklen:

The Texas Natural Resource Conservation Commission's (TNRCC) contractor, TCAT, has reviewed the above referenced Report, submitted November 27, 2000. The TNRCC has also reviewed a comment letter sent by the Environmental Protection Agency (EPA), dated January 29, 2001, to the TNRCC concerning the above referenced Report. Based on our review of these documents, the TNRCC can not approve the RCRA Facility Investigation (RFI) Report for Area of Concern 2, at this time. A list of RFI comments is enclosed. Please perform any additional work necessary/required for the RFI, and prepare a written response to each comment, referencing the assigned TNRCC comment number and EPA comment number, unless otherwise specifically requested in the enclosure. The facility name, location and identification number(s) in the TNRCC reference line above should be included in your response.

In addition, the TNRCC is still concerned that the plume is not appropriately delineated, both horizontally and vertically. The TNRCC is concerned that some of the wells may not have their screens set at the appropriate elevation for monitoring DNAPL contaminants (see comment 9 in the enclosed TCAT response). The TNRCC is also concerned that there appears to be more than one monitoring program at the Carswell site. The TNRCC feels that one program with all the wells sampled at the same time or in same events for the same COCs is the best way to conduct this monitoring program.

Please contact me at (214)665-8306 should you wish to discuss this further.

Sincerely,



Gary W. Miller
Senior Project Manager
Base Closure Team

cc. ✓ Mark Weegar, TNRCC
Charles Pringle, AFCEE
Ruben Moya, EPA 6SF
Luda Voskov, TNRCC

Final RCRA Facility Investigation Report, Area of Concern 2, NAS Fort Worth JRB,
Texas

REVIEW COMMENTS

The following comments were generated from a review of the *Final RCRA Facility Investigation Report, Area of Concern 2, NAS Fort Worth JRB, Texas*, prepared for U.S. Air Force Center for Environmental Excellence by CH2MHILL, Inc. dated November 2000.

General Comments

1. The Preface to the RFI states that Version 1.1 incorporates TNRCC and EPA Region 6 review comments. Please include these review comments and responses in an Appendix to the RFI. Also, provide a cross reference to the main text showing where the comment responses have been included in the RFI.
2. The version numbers for sections of the RFI are either Version 1.0 or Version 1.1. The Version 1.0 sections are outdated. Revise these sections to bring the entire document up to Version 1.1. An example needing revision is Section 1.0 (Version 1.0) at Page 1-13 where the text states "The next sampling event is scheduled to be conducted in October 1998."
3. Section 1.3.2.5 discusses Waste Accumulation Areas (WAAs). The text states "Several of these sites are being addressed under a specific sampling effort...to confirm the lack of significant releases..." Explain how the RFI can be complete without the results from investigations at the WAAs, which may be sources within the northern lobe TCE plume.
4. The report discusses preferential flow paths and their effect on groundwater flow and plume migration. It concludes that these preferential flow paths are located along stream paleochannels, where it is claimed that hydraulic conductivities are relatively high and the conductive sediments tend to be thicker. For groundwater to move along a preferential flow path, the driving potential (head) must be favorable. That is, a flow path can only be defined by considering both hydraulic conductivity and head gradients. The flow path conclusions in the RFI report are not correct because groundwater head gradients are not considered. In addition, the groundwater potentiometric maps are not accurate. See Specific Comment 1 below.

Specific Comments

The text states that "Residential scenarios were not considered in this risk assessment for soil pathways as the site is expected to remain industrial." Please expand the discussion on future use, including identifying who expects the site to remain industrial.

7. Section 7.2.2 Exposure Point Concentrations - Page 7-6

A dilution factor of 0.26 is proposed. There is no explanation in this Section or in Section 6.0 how this factor was derived. Provide the derivation of this factor. Also discuss the uncertainties in the derivation and how these may impact the assessment of risk. For example, if there is no dilution in groundwater, how does risk change?

8. Section 8.0 Conclusions and Recommendations - Page 8-1

Conclusion 3 states "There is no evidence to support sources of TCE within the AOC2 study area other than the AFP4 plume migrating from the flightline area." Although soil testing has not found soil sources, the existence of hot spot sources below the water table has not been ruled out (see wells WCHMMHTA010 and A011). These sources could be small amounts of dispersed DNAPL or a body of high TCE concentration groundwater that is trapped in low permeability, clay-rich sediments, the source of which were wastes from NAS Fort Worth operations.

9. Section 8.0 Conclusions and Recommendations - Page 8-2

The text states that groundwater concentrations of TCE are significantly higher in samples from deeper wells. Discuss the implications of this finding for long term monitoring, migration, and possible remediation.

10. Section 8.0 Conclusions and Recommendations - Page 8-2

The AFP source is estimated to have traveled 5500 feet over a 50 yr period. Is the plume still moving? If not, why has it stopped? Section 6.2.4 states that mediated natural attenuation mechanisms should not be considered significant fate processes for the chlorinated solvents. If natural attenuation is not significant, then the plume must be moving if groundwater is moving. Please provide a clear conclusion regarding the expected future movement of the TCE plume.

11. Section 8.0 Conclusions and Recommendations - Page 8-2

Conclusion 4 ignores the influence of head gradients on migration of contaminants. In particular, head gradients near the Trinity River do not conform to surface water elevations (see Figure 2-3). As a result, the statements in this section are questionable.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

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JAN 29 2001

SWR # 65004CAS # 11843
PROJ. MGR R. Risner

Ray Risner
Corrective Action Section
Remediation Division, MC-127
Texas Natural Resource Conservation Commission
P. O. Box 13087
Austin, TX 78711-3087

RECEIVED

JAN 31 2001
REMEDATION DIVISION
Corrective Action Section

Dear Mr. Risner:

The Environmental Protection Agency (EPA) has reviewed the following document, "Final RCRA Facility Investigation Report, Area of Concern 2, NAS Fort Worth JRB, Texas." The following comments are provided:

1. General - The report does not adequately address previous comments submitted in a letter dated February 25, 1999. Specifically the report does not address comments related to nature and extent of the TCE plume and comments related to the Risk Assessment.
2. RFI Objectives - The plume is not fully delineated.
 - a. The information presented indicates the plume could reach the Trinity River. Further delineation of the southeastern tip of the plume, in the vicinity of monitoring wells MW-6, MW-7 and BSS-B and the area to the northeast along the boundary with the prison is needed. The monitoring wells in this area are spread far apart and monitoring well GMI-22-05 is used to delineate the plume along this eastern boundary however, this there is no completion data to show if this well is adequate. Additional monitoring wells should be installed and existing monitoring wells sampled to verify nature and extent of the plume.
 - b. As stated in the recommendations, additional information on the Terrace Alluvial Aquifer is needed and all recommendations should be implemented.
 - c. No sampling information on the Paluxy Aquifer is included. Contamination is present in the Paluxy Aquifer at Air Force Plant 4. No information is presented to show that the contamination has not moved to Carswell. A base wide sampling of monitoring wells screened in the Paluxy Aquifer should be conducted.
 - d. Temporary monitoring point PCHMHTAOE3 contained 250 mg/L of PCE and no additional information is presented to explain the high concentration of PCE this far from Air Force Plant 4. Close-by this point is monitoring well GMI-22-03 which also has several PCE detections during sampling events.

FINAL PAGE

ADMINISTRATIVE RECORD

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