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LETTER REGARDING REGULATORY REVIEW AND CONDITIONAL APPROVAL OF
UNNAMED STREAM DRAFT RCRA FACILITY INVESTIGATION REPORT NAS FORT
WORTH TX
7/26/1995
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION



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

**ADMINISTRATIVE RECORD
COVER SHEET**

AR File Number 257

John Hall, *Chairman*
Pam Reed, *Commissioner*
R. B. "Ralph" Marquez, *Commissioner*
Dan Pearson, *Executive Director*



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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

July 26, 1995

Mr. Ohlen Long, P.E.
Site Manager
Carswell Air Force Base/NAS Ft. Worth
AFBCA/OL-H
6550 White Settlement Road
Ft. Worth, TX 76114

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Re: Carswell AFB/ NAS Ft. Worth
TNRCC Solid Waste Registration No. 65004
EPA ID NO. TX0571924042
Hazardous Waste Permit No. 50289
Unnamed Stream Draft RFI Report, dated December, 1994

Limited RFI Approval Notice to Proceed

Dear Mr. Long:

The Corrective Action staff has completed its review of the draft RCRA Facility Investigation (RFI) Report (Report) referenced above. The Report was dated December, 1994; however, an official copy was submitted via cover letter dated May 15, 1995. The Report was also evaluated for compliance with TNRCC's September, 2, 1993 Approval with Modification of the investigation work plan for SWMU 68 (POL Tank Farm) and SWMU 64 (Unnamed Stream). The RFI was submitted in accordance with Provision VIII of Hazardous Waste Permit No. HW-50289.

The RFI appears to have gained valuable information concerning the extent of fuel related contaminants between Farmers Branch, the POL Tank Farm, and the Abandoned Service Station. The investigation, however, did not define the nature and extent of contamination, nor the source of the contamination. We have provided the following comments and requirements based upon our review of the Report and the information it provided:

1. Section 1.1 INSTALLATION RESTORATION PROGRAM BACKGROUND - Please be reminded that RCRA closures under the hazardous waste Permit are not optional, as indicated in the last sentence of this section. RCRA terminology for site investigations and remediation/closures should be used.

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2. Section 1.2 FACILITY AND SITE DESCRIPTION - The Report states that the gasoline station has been completely removed. However, the geophysical survey indicates there may be underground storage tanks (UST) acting as a source of contamination.
3. Section 3.2.1.2 Groundwater Screening Program - The groundwater screening program was acceptable for providing an economical estimate of the nature and extent of contamination. However, the screening program must be followed by the installation of proper monitor wells capable of obtaining samples representative of groundwater conditions. Monitor wells must be installed at groundwater grid location E-4+00 and along the north, east and south edges of the plume defined on Figure 4-4 of the RFI Report, at a minimum. Please note that the TNRCC assumes that a groundwater plume extends to the first uncontaminated monitor well (i.e. the contaminant concentration in the well is at or below background or Practical Quantitation Limits (PQL), which ever is greater).

After researching further, we note in a revised RFI Work Plan dated February, 1994, that there are several monitor wells already in place in and around the POL plume (ST14-01 through 04 and ST14-17I through 17M). The TNRCC does not understand why sample results from these wells were replaced by the groundwater screening program and not sampled during the RFI. It appears to the TNRCC that the groundwater screening program was of limited use east of Building 1202 where the plume has already been established by previous investigations. In the future, the TNRCC suggests that screening programs be used to complement existing facilities and data.

4. Section 3.3.2 Analytical Methodologies - Provision VIII.A.2.b of Carswell's Hazardous Waste Permit requires analysis for all 40 CFR Part 264, Appendix IX constituents, unless specific justification is presented for an abbreviated list of analytes. Carswell was advised of this requirement in TNRCC's September 2, 1993 Approval with Modifications and our December 23, 1992 Notice of Deficiency for Carswell's East Area RFI. That RFI included the POL Tank Farm and Unnamed Stream.

The TNRCC finds that the current Report's reference to a 1986 Conceptual Site Model by Radian is not sufficient justification to eliminate any Appendix IX constituents, particularly semi-volatile organics, which were documented in the groundwater in Radian's 1986 Conceptual Site Model report (Table 2-4, pages 2-41 and 2-43). The TNRCC also understands that there is a pesticide storage area near the Unnamed Stream and that the groundwater contains constituents not typically

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associated with petroleum hydrocarbon releases (eg. TCE and methylene chloride). Furthermore, the source of contamination is still in question. An analysis for all Appendix IX constituents is therefore appropriate and must be conducted in the final phase of investigation. This shall include semi-volatile organics and pesticides. In accordance with the Permit, Carswell may propose an abbreviated list of constituents. The arguments must be presented in detail and based upon data gathered from acceptable sources in previous investigations.

5. Section 3.2.3.3 Groundwater Sampling - The groundwater samples were analyzed for dissolved metals by filtering the samples. Comparison of analytical results with Drinking Water Standards, however, must be based on total metal concentrations. The extent of contamination is also based on total metals. Therefore, the Report's conclusions concerning extent and risk of dissolved metal contaminants are of questionable value.

As an alternative to filtering samples, we recommend that purging and sampling of the monitoring wells be accomplished at a rate of 100-300 ml/min until aquifer water quality parameters (specific conductance, dissolved oxygen, and turbidity) stabilize. The sample pump and tubing should be micropurged a minimum of approximately two volumes to ensure the complete removal of stagnant water. It is not necessary to purge the well casing and screen. The purging rate can be increased to one (1) liter/min as long as drawdown does not exceed 0.1 meter. If well drawdown is greater than 0.1 meter, the pumping rate should be reduced until drawdown is minimized.

Once water quality parameters have stabilized, samples should be collected immediately without waiting for an additional period of time. Samples should be taken from dedicated sampling devices such as bladder or submersible pumps. The use of bailers for well purging and/or sample collection is not appropriate.

The intake of the pump should be located within the section of the well screen that is adjacent to the most permeable strata in the saturated interval. It is recommended that this interval be determined via the inspection of the soil boring logs of each well. If a most permeable zone cannot be identified, then the pump intake should be located in the center of the screen. Non-aqueous phase liquids must be sampled for prior to purging or sampling a well.

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The above method is based upon EPA Region VI consultation with EPA's Robert S. Kerr Environmental Research Laboratory (Ada, Oklahoma) and Field Comparison of Micropurging vs. Traditional Groundwater Sampling, (Kearl, Peter M., et al, 1994). This sampling method should considerably reduce the volume of purge water and hazardous waste disposal fees.

6. Section 4 INVESTIGATION RESULTS, Table 4.1 - In order to insure that the groundwater screening holes were able to obtain semi-representative samples, please provide a comparison of the screened intervals with the saturated interval. We note that the penetration tool used for the groundwater screening program only had a six inch screen (page 3-7).
7. Sections 4.2.1 Geophysical Survey (for Abandoned Service Station) - The discussion concerning the geophysical survey for the Abandoned Service Station provides no details on the anomalies detected east of the POL Tank Farm. The map of anomalies around the Abandoned Service Station indicates three possible pipelines across the area. Discussions of the geophysical survey elsewhere in the Report mention a possible Underground Storage Tank (UST) at groundwater sample grid E-4+00 with elevated contaminants associated with that location.

In addition to establishing whether the geophysical anomaly at E-4+00 is indeed a UST and/or a source of contamination, the TNRCC requests that the final investigation determine if any pipelines through the Abandoned Service Station area are acting as contaminant sources and/or conduits for contaminant migration. Likewise, the investigation must verify whether the depression in the groundwater table associated with sampling point E-4+00 and monitoring well SD13-02 (Figure 4-11) is due to the french drain or some other geologic phenomenon, such as a stratigraphic trend or subsurface topographic feature.

8. Section 4.1.2 CONCLUSIONS OF GROUNDWATER SCREENING (page 4-13) We cannot concur with the conclusions presented in this section. We agree that the Pipeline/Truck Loading Area is a likely contaminant source area. However, the Abandoned Service Station, particularly the possible UST at E-4+00, is also a good source candidate. Evidence also indicates that the POL Tank Farm is at least a contributor to the plume.
9. Section 4.3.2, Groundwater Sampling Results - The first paragraph states that monitor well SD13-MW04 contained floating product during three sampling events and, therefore, was not analyzed for specific contaminants. Nevertheless, the

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well's location and state of contamination were omitted from the maps and most tables. In the future, if a well has non-aqueous phase liquids, it must be indicated on all appropriate maps and tables. If specific constituents cannot be determined, then simply state that the well contained free product.

10. Section 5.0, COMPARISON OF ANALYTICAL DATA WITH REGULATORY STANDARDS - Due to time constraints and the fact that comparisons to the Risk Reduction Rules (RRR) are not pertinent to this stage of remedial activities, the TNRCC staff did not review this section thoroughly. We would, however, like to emphasize that all three closure standards under the RRR require that extent of contamination be determined to background levels or PQL, whichever is greater. This assumes that appropriate PQL's are obtained which enables the facility to at least demonstrate that cleanup standards have been achieved.
11. Section 5.1.1.4, Leaking Storage Tank Sites - Please be advised that the POL Tank Farm/Unnamed Stream area and associated SWMU's will be closed/remediated under the RCRA hazardous waste program until further notice from the TNRCC. Petroleum Storage Tank risk rules and regulations are not be applicable at this time. However, if further investigation indicates that the plumes are strictly petroleum releases and not commingled with hazardous waste constituents, then the TNRCC will reconsider Carswell's proposal.
12. Section 5.1.2, Environmental Setting - It is our understanding that a comprehensive background study is underway for both soils and groundwater at Carswell. The results of that study should be used for compliance, rather the limited background study conducted for this investigation. Please be reminded that Provision VIII.A.2.b.(4) of Hazardous Waste Permit HW-50289 requires that statistical methods be used to determine contamination/background, rather than a simple comparison to a range of values for the facility or the western United States.
13. Section 6.1 POL TANK FARM AREA (CONCLUSIONS) - The TNRCC agrees that the POL Tank Farm is not the primary source of contamination, as stated in the Report's conclusions. However Figures 4-4 through 4-7 indicate that every contaminant plume mapped for the Report can be extended westward underneath the POL tanks. In addition, if one adds the information from the 1991 Radian report (Figures 4-1 and 4-2), it is apparent that some contamination is contributed from the POL Tanks Farm.

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The TNRCC also concurs with the Report's conclusion that the Pipeline/Truck Loading Area and the Abandoned Service Station are associated with significant plume concentrations and may be contaminant sources. It is the TNRCC's opinion that the plumes are not disconnected as portrayed or implied in Figures 4-4 through 4-7 and that, in fact, the plumes are likely commingled and continuous from the POL Tank Farm to the oil/water separator (O/W) and Unnamed Stream.

With regards to the extent of contamination, the TNRCC cannot concur with the Report's conclusion that the northern, eastern, and western extent of the plumes have been tentatively defined by any results, including the groundwater screening results, provided in the Report. Please be aware that the TNRCC typically requires that the extent of contamination be delineated by uncontaminated sampling points, either monitor wells or soil sampling location. The extent of the existing plumes is not outlined by any uncontaminated sampling locations north and east of the groundwater sampling grid, i.e. under buildings 1215, 1217, 1219, and further east. The same is true for sampling further north along the railroad tracks where, except for grid point C-0+00, the last sampling locations (A-1+00 and B-1+00) were contaminated with BETX and possibly lead. The western extent of contamination under the tank farm also remains undefined, as mentioned previously.

Figures 4-4 through 4-7 indicate the southern most groundwater screening locations (A-9+00, B-10+00, E-6+00) were above background for organic constituents. Until background is determined, the extent of contamination cannot be established for lead and other inorganics.

The second paragraph states that petroleum constituents are the major constituents of concern and that additional assessment and/or remedial activities be in accordance with Texas Leaking Petroleum Storage Tank (PST) regulations. The TNRCC cannot agree with this statement until the groundwater is sampled from proper monitor wells and analyzed for all Appendix IX constituents, as per the Permit No. HW-50289. Once the nature and extent of contamination has been determined, the TNRCC will re-examine whether it is more appropriate to conduct closure/remediation under the Texas PST program. Until that time, the TNRCC agrees that Carswell should utilize all historic data and continue to expand the investigation. The investigation must include not only additional sampling locations, but continued monitoring of existing monitor wells to determine groundwater flow and the current conditions of the groundwater plume.

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14. Section 6.2 UNNAMED STREAM AREA (CONCLUSIONS) - The RRR should not be used to influence decisions concerning the design of future investigations at the site. Again, as stated above, the PST regulations do not apply to these SWMU's at this time.

The Report recommends continued investigation and monitoring in the Unnamed Stream Area. Five elements of the investigation proposed for this area include:

- a. continued groundwater sampling and analysis for metal and solvents from existing monitor wells;
- b. recovery of free product;
- c. further investigation of the magnetic anomaly near Rogner Drive that may be a UST;
- d. permitting the O/W feeding the Unnamed Stream; and
- e. additional sampling and analysis of sediments in the Unnamed Stream for metals.

The TNRCC concurs with all the recommendations above. However, Carswell must analyze for all Appendix IX constituents, including semi-volatile organics and pesticides. Carswell may propose that the list of constituents be abbreviated in accordance with the Permit, especially for those constituents that were absent from previous investigations. Please be advised that the analytical results from the soil samples that were allowed to volatilize in the air for 15 minutes will not be accepted for final determination of the extent of contamination. In the future, discrete soils samples must be collected and containerized as quickly as possible for volatile and semi-volatile analyses. Additional sediments sampling of Unnamed Stream must include analyses for all Appendix IX constituents as previously stated.

The RFI Report dated December, 1994, is hereby given approval within the limitations contained herein. Carswell is requested to submit the Final RFI Work Plan designed to identify the nature and extent of contamination around the POL Tank Farm, Pipeline/Trucking Loading Area, and Unnamed Stream area; and address the deficiencies described above. The Final RFI should include all historic data that is pertinent to the area and provides information about past contaminant conditions. The Final RFI Work Plan shall be submitted to the TNRCC within 90 days of receipt of this letter.

In addition to submittal of the Work Plan, the TNRCC requires that

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Carswell implement interim corrective action as soon as possible to recover free product, contain the groundwater plume, and prevent further discharges to Unnamed Creek and/or Farmers Branch. The corrective actions must include a monitoring and maintenance schedule for the O/W to insure that no further discharges are allowed. The O/W must also be evaluated to determine if it is susceptible to flooding and what precautions are necessary to prevent discharge of contaminants during rain fall events. Carswell may apply for a Water Quality Permit for the O/W by submitting an application to the Watershed Management Division of the TNRCC. Until a permit is issued, no discharges are authorized into or adjacent to waters in the state. An Interim Corrective Measures Work Plan (ICM) must be submitted to the TNRCC within 60 days of the receipt of this letter.

With regards to the documented contaminant releases to groundwater and surface streams, Section 335.4 of the Texas Administrative Code (TAC) states that no person may cause, suffer, allow, or permit the collection, handling, storage, processing, or disposal of industrial solid waste or municipal hazardous waste in such a manner so as to cause:

- a. The discharge or imminent threat of discharge of industrial solid waste or municipal hazardous waste into or adjacent to the waters in the state without obtaining specific authorization for such a discharge from the Texas Natural Resource Conservation Commission;
- b. The creation and maintenance of a nuisance; or
- c. The endangerment of the public health and welfare.

In addition, §26.121 of the Texas Water Code states that no person may engage in any activity which causes or will cause pollution of any water in the State. Please be advised the TNRCC has judged that the contamination associated with the POL Tank Farm and Unnamed Stream poses considerable and unacceptable risk to human health and the environment. Failure to perform the actions specified or to participate in dispute resolution could result in referral for enforcement action. The Commission is authorized to require corrective action, assess administrative penalties of up to \$10,000 per day or both should your facility fail to adequately respond.

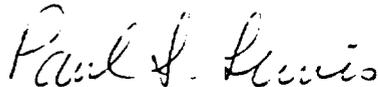
The TNRCC staff requests that the Base Closure Team include this study area on its August 10, 1995 meeting agenda. In addition, the TNRCC staff would like to be included in a scoping meeting for the ICM and Final RFI Work Plan. Please coordinate with Mr. Geoffrey Meyer for an agreeable meeting date.

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If you have any questions or need further assistance with this matter, please contact Mr. Geoffrey Meyer with the Federal Facilities Team in Austin at (512) 239-2577, mail code MC 127.

Sincerely,



Paul S. Lewis, Manager
Corrective Action Section
Texas Natural Resource Conservation Commission

PL/GM

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