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LETTER REGARDING REGULATORY COMMENTS ON DRAFT WORK PLAN, HEALTH AND  
SAFETY PLAN, QUALITY ASSURANCE PLAN AND FIELD SAMPLING PLAN FOR SANITARY  
SEWER SYSTEM NAS FORT WORTH TX

2/18/1997

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION



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

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**ADMINISTRATIVE RECORD  
COVER SHEET**

AR File Number 392

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File: 17A - 77  
A.F.

392

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

1997 FEB 24 AM 10:05

*Protecting Texas by Reducing and Preventing Pollution*

February 18, 1997

Mr. Charles A. Rice  
Team Chief  
Base Closure Restoration Division  
Air Force Center for Environmental Excellence  
3207 North Road, Building 532  
Brooks AFB, Texas 78235-5363

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Re: Naval Air Station Ft. Worth JRB/Carswell AFB (NAS Ft. Worth)  
TNRCC Solid Waste Registration No. 65004  
EPA ID No. TX0571924042  
Hazardous Waste Permit No. 50289  
**Preliminary Draft Work Plan for Site Characterization of Sanitary Sewer**

**Approval With Modifications**

Dear Mr. Rice:

The Texas Natural Resource Conservation Commission (TNRCC) has completed our review of the referenced Work Plan dated November 1996 and received by the TNRCC on December 4, 1996. The Work Plan includes a preliminary draft Health and Safety Plan, Field Sampling Plan (FSP), and Quality Assurance Project Plan (QAPP). The Health and Safety Plan was not reviewed by the TNRCC and no comments are provided. Based upon our review of the referenced Work Plan, FSP, and QAPP, the following comments must be satisfactorily addressed by the final work plan and support documents:

- Discrete surface soil samples must be collected from a 0 to 2 foot interval, rather than the 0 to 1 foot interval proposed in Section 3.1.1, Field Procedures.
- We encourage the Air Force Center for Environmental Excellence (AFCEE) to incorporate not only data collected from previous Oil/Water Separator (OWS) investigations, but any other data with acceptable Quality Assurance/Quality Control (QA/QC), that apply.
- Section 3.2.1 of the Work Plan proposes to characterize subsurface soils by sampling two feet above the water table or two feet below the sewer line/manhole invert, whichever is less. Sections 3.2.1 and 3.3.1 of the Field Sampling Plan (FSP) indicate subsurface soil samples will be obtained at the invert elevation or immediately above the water table, whichever is less. We accept samples

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2 feet above the water table over established ground water contaminant plumes that are clearly attributed to other waste management units. However, when no previously known ground water plume is present or the source of the ground water plume is suspect, samples should be taken immediately above the water table. In addition, in the few instances where the invert of the sewer line/manhole is greater than 7 feet above the water table, one sample should be taken at or 2 feet below the invert and also above the water table. Discrete samples should be collected within the sampling interval.

- The use of Direct Push Technology (DPT) (Section 3.3, Work Plan; Sections 3.2.2 and 5.6.1, FSP) for ground water sampling is only acceptable as a screening tool used in conjunction with properly installed and sampled monitor wells. DPT has serious deficiencies especially when it comes to the assessment of metals impacts to ground water. Since volatile organic compound (VOC) releases from the sanitary sewer system is not the only contaminant of concern, neither the TNRCC's Federal Facilities Team or EPA Region VI's Base Closure Team have, in the past, agreed that DPT provides sufficient data quality for the assessment of ground water releases. The TNRCC and EPA evaluate total (unfiltered) ground water samples. DPT typically produces samples with elevated turbidity which when preserved will yield inaccurate data. The TNRCC has previously agreed that DPT may be used to screen a site (e.g., Bergstrom AFB), however, a minimum of 25% of the non-detect DPT locations were required to be converted to monitoring wells (temporary or otherwise) in order to confirm the DPT results: DPT sites which identified a release must be evaluated to determine the most appropriate location for permanent wells. The permanent monitoring wells proposed in Section 5.6.3 of the FSP are acceptable; however, we suggest that AFCEE evaluate the merits of installing the type of temporary monitoring wells proposed in the Air Force Base Conversion Agency's (AFBCA) March 7, 1995 letter to Mr. Paul Lewis. These augured wells have a sand pack and bentonite seal allowing for proper development, purging and sampling, but are not cement grouted to the surface, allowing for their removal and plugging should sampling results not justify completion as a permanent monitoring well. A work plan which addresses this issue was implemented at Bergstrom. In the interest of expediting this investigation, we suggest that your Bergstrom AFBCA and AFCEE counterparts be contacted for a copy of this work plan.
- Activated carbon that is not acceptable to the vendor for regeneration/recycling (Section 3.6) must be classified in accordance with 30 Texas Administrative Code (TAC) §335, Subchapter R, for proper waste disposal.
- The third paragraph of Section 3.6 of the work plan vaguely references TNRCC regulatory concentrations as a criteria for soil disposal. Please note that investigation derived waste (IDW) such as soil cuttings, purge water etc. must be characterized per the requirements of 30 TAC §335 Subchapter R Waste Classification. The results of this classification will determine disposal options.
- Please provide justification for any chemicals that are eliminated as Contaminants of Concern (COC) (Section 4.1).

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- Section 4.1 states that chemical constituents will be compared to background values, to the extent practicable, using statistical tools such as the Student t-test. Please be advised that the TNRCC Corrective Action Section considers direct comparison of individual site data to background Upper Tolerance Limits (UTLs) or practical quantitation limits (PQLs) as the most appropriate and productive method for establishing whether a release has occurred. Site values that exceed the background UTL or PQL will be further evaluated to determine whether their magnitude and frequency indicate a release to the environment of hazardous constituents.
- Although the TNRCC still uses EPA's Risk Assessment Guidance for Superfund (RAGS) as guidance for its own Risk Reduction Rules, the risk assessment should not be applied in a CERCLA, site-wide fashion over the entire sanitary sewer system. Releases should be assessed individually, as practicable; although we recognize that releases along any one sewer line can reasonably be combined as a single exposure event. In addition, the Work Plan's proposal to automatically eliminate chemicals that are detected in fewer than 5% of the samples (i.e. 95% confidence) appears arbitrary without consideration of potential outliers, concentration, location, source, etc. The Texas Risk Reduction Rules require releases of hazardous constituents to be defined to the PQL (organics) or background (inorganics). The use of health-based levels and the frequency of detection as criteria for the elimination of contaminants of concern (CoC) is not appropriate. The TNRCC will evaluate proposals to eliminate CoC on a site specific case-by-case basis.
- The risk assessment must address ecological impacts as well as human health.
- The method for calculating media cleanup levels for carcinogens, called Preliminary Remediation Goals (PRGs) in the Work Plan, appears to be missing between paragraphs three and four of Section 4.3.2.
- We note that Section 4.3.2 of the work plan proposes to use site-specific values for body weight, averaging time, exposure frequency, and exposure duration, even though Section 4.2.2 states that default values will be used. The risk assessment must contain justification for any site-specific values, including the justification for industrial versus residential parameters.
- The requirements and methodologies contained in the Risk Reduction Rules (30 TAC, Subsection S) take primacy over the EPA's RAGS, when there are inconsistencies.
- Please explain why the City of Ft. Worth sewer main is not included in the Sanitary Sewer investigation. We presume that this sewer main and its trench could act as a conduit for contaminant migration in addition to receiving waste from NAS Ft. Worth/Carswell. If wastes from either Air Force Plant 4 or NAS Ft. Worth/Carswell enter the City of Ft. Worth's sewer main, those portions of the main that are on NAS Ft. Worth/Carswell property and are "down-stream" of where the wastes enter the main must be investigated at the same sampling interval as the other portions of the sewer main.
- If not already targeted by the sampling interval proposed in the sanitary sewer work plan, areas

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of the sanitary sewer which have undergone slip lining to repair areas of known structural defects (e.g., cracks, collapsed sections, breaks etc.) must also be targeted for investigation.

- The investigation of the sanitary sewer system should be limited to the discharge of industrial wastes from industrial/support related facilities and activities to the sewer system (e.g., flight line support, equipment maintenance, corrosion control, etc.) and the "down-stream" reach of the sewer system. The sanitary sewer system in the base family housing area is not required to be included unless AFBCA/AFCEE has reason to believe that industrial type wastes were disposed of in these areas or family housing was expanded into areas that were previously used for industrial activities.
- EPA recommends that the screened interval not extend more than 2 feet above the historic high groundwater elevation. Section 5.6.3 has the screened interval a minimum 3 feet above the saturated interval. Please shorten the height of the screen.
- Section 5.6.3 also states that while the screened interval will cover the full saturated thickness of the water bearing unit, the screens will not exceed 10 feet in length. Please explain what will happen if the saturated interval is greater than 10 feet thick. Longer screens may be approved by the TNRCC on a case-by-case basis.
- In addition to looking for floating product, the investigation must also look for dense non-aqueous phase contaminants (Sections 6.2.1 and 7.4.2 of the FSP).
- The DPT and monitoring well development and purging procedures outlined in Sections 5.6.2 and 5.6.3 of the draft FSP does not meet the recommended protocols outlined in the USEPA guidance document entitled *RCRA Ground-Water Monitoring: Draft Technical Guidance (November 1992)*, and should not be assumed to "accomplish the objectives of the micro-purge technique". DPT's inability to produce a low turbidity sample, (<5 nephelometric turbidity units (NTUs)) is one of the inherent problems with this tool, generally limiting this tool's usefulness to screening for VOCs. Consistent with the USEPA guidance cited above, monitoring wells that are not capable of yielding low turbidity samples (e.g., <5 NTUs) may require redevelopment, redrilling or other remedial actions.

In addition, the TNRCC does not recommend the use of bailers for well purging or sampling. The use of low flow pumps is preferred for both purging and sampling. It is recommended 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 intake of the purge pump should be set opposite the most transmissive zone within the screened interval. The purging rate may be increased to one (1) liter/min provided the 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. Samples should be collected once water quality parameters have stabilized, rather than after an arbitrary number of well volumes have been removed. In addition, every effort should be made to avoid purging low yield wells to dryness. Low flow pumps have been shown to be effective in preventing this from occurring. If purging low yield wells to dryness

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cannot be avoided, the ground water sample should be collected as soon as a sufficient volume of water has entered the well to allow for sample collection.

- Section 6.2.2 of the FSP proposes to filter ground-water samples via a 0.45 micron ( $\mu\text{m}$ ) filter. The TNRCC will only evaluate unfiltered ground-water samples for indications of a release to the environment and for comparison to the appropriate cleanup values. The TNRCC's ground water protection standards coincide with the EPA's maximum contaminant levels (MCLs). The comparison to MCLs can only be made through the use of unfiltered data as the MCLs are based upon total (unfiltered) metals. Field filtration is typically used as a fix for poor well installation, development and/or sampling practices. In situations involving extremely fine-grained sediments that prohibit the collection of low turbidity samples despite all efforts to properly develop wells, some researchers have suggested that the use of a 10  $\mu\text{m}$  filter would be acceptable as this is the upper limit of colloidal particle size. The use of the proposed 0.45  $\mu\text{m}$  filter, although the "industry standard" in the past, has no scientific basis. In situations where a truly "dissolved" sample is required in order to assess a contaminant's mobility, a 0.1  $\mu\text{m}$  filter is required as this is the lower limit of colloidal particle size. Any proposal to filter ground-water samples will be reviewed on a site specific basis and must receive prior approval from the TNRCC project coordinator.
- We could not locate any proposed analytical quantitation limits. Please make certain that the quantitation limits for this investigation are at or below Risk Reduction Standard No. 2 cleanup values. Acceptable PQLs listed in 40 CFR, Part 264, Appendix IX should be considered an upper performance standard. If your laboratory is capable of achieving lower quantitation limits, include them in your report. Excessively high PQLs will require justification. In addition, the TNRCC has been informed by EPA Region VI that SW-846 Method 8240 is being replaced by Method 8260 for volatile analysis. Please make this change to the FSP where appropriate.

The Work Plan, FSP, and QAPP are hereby approved, contingent upon incorporation of the modifications listed above. Our review and comments do not warrant that the investigation will meet the performance criteria to define the nature and extent of contamination. It is the responsibility of the Air Force to address all relevant issues required by Hazardous Waste Permit IIW-50289 and 30 TAC §335, Subchapters A and S. Please proceed with the investigation in accordance with the proposed schedule.

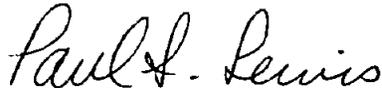
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If you have any questions or need further assistance with this matter, please contact Mark Weegar of the TNRCC's Federal Facilities Restoration Team at (512) 239-2360, mail code MC127, or via e-mail address [mweegar@tnrcc.state.tx.us](mailto:mweegar@tnrcc.state.tx.us).

Sincerely,



Paul S. Lewis, Manager  
Corrective Action Section  
Industrial and Hazardous Waste Division

PL/ap/mw/gm

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