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LETTER REGARDING U S EPA REGION VI REVIEW AND COMMENTS ON RCRA FACILITY  
INVESTIGATION CORRECTIVE MEASURES STUDY DRAFT WORK PLANS FOR  
LANDFILLS 4, 5 AND 8 NAS FORT WORTH TX  
7/18/1997  
U S EPA REGION VI



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

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**ADMINISTRATIVE RECORD  
COVER SHEET**

AR File Number 336



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

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JUL 18 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Mark A. Weegar, Project Coordinator  
Texas Natural Resource Conservation Commission  
Industrial and Hazardous Waste Division  
Corrective Action Section  
Federal Facilities Team  
P.O. Box 13087  
Austin, TX 78711-3087

Re: Comments  
RCRA Facility Investigation/Corrective Measures Study  
Draft Work Plans  
WP-07; and Landfills 4, 5, and 8 (January 1997)  
Naval Air Station Fort Worth Joint Reserve Base  
EPA ID No. TX0571924042

Dear Mr. Weegar:

The U.S. Environmental Protection Agency (EPA) has performed technical reviews of the U.S. Air Force's (USAF) "RCRA Facility Investigation/Corrective Measures Study Draft Work Plans for WP-07; and Landfills 4, 5, and 8" (January 1997) for Naval Air Station Fort Worth Joint Reserve Base (NAS FW, formerly Carswell Air Force Base). Enclosed for your review are EPA's comments on the Draft Work Plans (WPs). These comments are being provided based on EPA's representation on the BRAC Cleanup Team for NAS FW.

This correspondence is concurrently being sent to USAF for their review and should not be considered as the final regulatory approval of the referenced Draft WPs. If you have any questions concerning the enclosed comments, please call me at (214) 665-7437.

Sincerely yours,

*Rafael A. Casanova*

Rafael A. Casanova  
Remedial Project Manager  
BRAC Cleanup Team

Enclosures

cc: ✓ Mr. Olen R. Long (BEC/BTC)  
Air Force Base Conversion Agency

U.S. ENVIRONMENTAL PROTECTION AGENCY COMMENTS  
U.S. AIR FORCE  
RCRA FACILITY INVESTIGATION/CORRECTIVE MEASURES STUDY  
DRAFT WORK PLANS FOR WP-07; AND LANDFILLS 4, 5, AND 8  
NAVAL AIR STATION FORT WORTH JOINT RESERVE BASE

The U.S. Environmental Protection Agency has performed technical reviews of the U.S. Air Force's (USAF) "RCRA Facility Investigation [RFI]/Corrective Measures Study [CMS] Draft Work Plans [WP] for WP-07; and Landfills 4, 5, and 8" (January 1997) for Naval Air Station Fort Worth Joint Reserve Base (NAS FW, formerly Carswell Air Force Base). The following comments are presented alphabetically and by the chapters, sections, and pages corresponding to the Draft Work Plans (WPs).

On June 12, 1997, USAF provided EPA with an overview of the Draft WPs. EPA's comments and the discussions resulting from this technical meeting are included here for completeness.

**CHAPTER 2 - SITE GEOGRAPHICAL AND GEOLOGICAL CHARACTERISTICS**

A. Section 2.4.1.2 - Goodland/Walnut Formation, Pages 2-5 and 2-6:

*USAF's Draft WPs*

USAF states that the ground water within the terrace alluvial deposits [Terrace Alluvial Aquifer] is isolated from ground water within the lower aquifers [Paluxy] by the low permeability rocks of the Goodland/Walnut Aquitard. USAF adds that there is no evidence that a "window area," similar to the area beneath the Air Force Plant 4 (AFP4) Superfund Site, exists at NAS FW.

*EPA's Comments*

The Paluxy Aquifer (the saturated portion of the Paluxy Formation) is the primary source of drinking water for the surrounding communities. Ground water contamination, primarily trichloroethylene (TCE), has already been discovered in the Paluxy Aquifer and in the Upper Sand of the Paluxy Formation at AFP4 (located immediately adjacent to NAS FW). The contamination in the Upper Sand of the Paluxy Formation has been attributed to contaminated ground water from the Terrace Alluvial Aquifer entering the Paluxy Formation in the vicinity of the "window area." This "window" is a buried bedrock channel, or paleo-channel, that resulted in the thinning of the Goodland/Walnut Aquitard.

Several of the cross-sections referenced in Section 2.3.2.1 (Flightline Area Cross-Sections) of these Draft WPs suggest the presence of channel erosional features on the surface of the bedrock [Goodland/Walnut Aquitard] which could be attributed to the former stream channel of Farmers Branch Creek. These cross-sections do not confirm the thickness of the aquitard nor the isolation of the Terrace Alluvial Aquifer from the Paluxy Formation in the area proposed for study under these Draft WPs.

To ensure protection of human health and the environment, USAF should demonstrate that the ground water contamination known to exist in the Terrace Alluvial Aquifer at NAS FW, specifically in the area being proposed for study in these Draft WPs, is significantly isolated from the underlying Paluxy Formation. USAF should provide stratigraphic data in the Amended RFI WPs or the Draft RFI Report that depicts this isolation and that demonstrates that additional field investigations to determine the degree of isolation and interim corrective measures are not required.

**CHAPTER 5 - SITE DESCRIPTIONS, PRELIMINARY ASSESSMENT OF NATURE AND EXTENT OF CONTAMINATION, DATA NEEDS AND PROPOSED SAMPLING**

**B. Section 5.1.2 - Preliminary Nature and Extent of Contamination, Page 5-1:**

*USAF's Draft WPs*

Tables 5.2 through 5.7 summarize the results of laboratory analyses previously performed and list Media Specific Concentration (MSC) values as defined in TNRCC's Risk Reduction Standard No. 2. USAF adds that MSCs were used as comparison criteria to evaluate the need for additional sampling for both inorganic and organic analyses. USAF also states in the Draft WPs that background concentrations are not presently available for media at NAS FW. USAF stated during the technical meeting held on June 12, 1997, that the background values presented in the report titled, "Draft Base-Wide Background Study, NAS Fort Worth JRB, Texas" (January 1997) will be used in the development of the Draft RFI Report.

*EPA's Comments*

For clarification purposes, the objective of the RFI is to delineate the full vertical and horizontal extent of contamination to background conditions. Simply investigating to MSCs does not account for impacts to environmental receptors or all pertinent exposure pathways applicable to NAS FW. Concluding the investigation at MSCs may not detect other areas of contamination associated with the disposal operations at the site. For deed certification, background is used to determine the boundaries of the area. EPA realizes that in some cases delineating the extent of contamination to unaffected background may not be possible or practical. USAF should discuss this issue with TNRCC and EPA if this is the case at NAS FW. Additionally, USAF should propose additional investigations if previously collected analytical data are not sufficient to determine the full vertical and horizontal extent of contamination at the sites proposed for study under these Draft WPs.

It is our understanding that the background study referenced by USAF in these Draft WPs has not been approved by TNRCC. EPA agrees that these values should be used in the development of the Draft RFI Report if TNRCC approval has not been received before the scheduled due date for the report. This report may require amendment based on TNRCC's comments concerning the background study.

C. Section 5.1.3 - Data Needs and Proposed Sampling [Flightline Area Site-Wide Ground Water], Page 5-3:

*USAF's Draft WPs*

USAF proposes to sample and analyze the ground water from five existing wells in the vicinity of the Flightline Area. These wells will be sampled for volatile organic constituents, semi-volatile organic constituents, and priority pollutant metals. USAF states that quarterly ground water sampling for additional wells in this area will begin in July 1997 under a separate project.

*EPA's Comments*

It is our understanding that the quarterly ground water sampling will begin concurrently with this project and that the results will be incorporated into the Draft RFI Report for WP-07; and Landfills 4, 5, and 8. This additional sampling includes Wells P6A, FT09-12C, LF04-4F, WP07-10B, WP07-10C, LF05-02, LF05-5G, LF05-18, and LF05-19.

D. Section 5.2.2 - Data Needs and Proposed Sampling [Flightline Area Site-Wide Surface Water], Page 5-4:

*USAF's Draft WPs*

USAF proposes surface water and sediment sampling locations along the unnamed tributaries and Farmers Branch Creek. These sampling locations were chosen to evaluate the upgradient, downgradient, and intermediate extent of contamination in these surface water bodies.

*EPA's Comments*

Based on visual observation, a relatively large section of Farmers Branch Creek is flowing on top of bedrock and it is likely that sediment may not be encountered in the approximate areas proposed for sampling. If this is the case, USAF should extend the sediment sampling program to the nearest creek locations with sediment present in the upgradient and down-gradient locations of the proposed sampling sites. If surface water or sediment contamination is discovered at any of these locations, additional sampling will be required to determine the full extent of contamination along the unnamed tributaries and Farmers Branch Creek. Characterization of the full extent of surface water and sediment contamination will be required for the human health and ecological risk assessments.

E. Section 5.3.3 - Data Needs and Proposed Sampling [Landfill No. 4], Page 5-6:

*USAF's Draft WPs*

Figure 5.8 (Proposal Test Pit Locations, LF-04) depicts the planned pit locations for Landfill 4. During the technical meeting held on June 12, 1997, USAF stated that the northwest corner of the landfill area may have been used as a staging area and no sampling was proposed for that area.

*EPA's Comments*

At least one of the ten test pit locations should be moved to this area for confirmation purposes.

## EPA'S Comments

F. Section 5.5.1 - Preliminary Nature and Extent of Contamination [Waste Burial Area No. 7], Page 5-8:*USAF's Draft WPs*

USAF states that subsurface samples will be collected using direct push Geoprobe®-like equipment.

*EPA's Comments*

EPA and USAF decided during the technical meeting held on June 12, 1997, that a more feasible approach would be to use a hollow stem auger and split spoon sampler in obtaining the subsurface samples.

G. Section 5.6.2 - Data Needs and Proposed Sampling [Landfill No. 8], Page 5-9:*USAF's Draft WPs*

USAF states that two geophysical surveys, electromagnetic induction (EM) and a magnetometer survey, will be utilized to evaluate the extent of the landfill and any "hot spots" that may be present at Landfill 8. USAF adds that the exact location and extent of the landfill is not known and that some of the materials disposed of at this site may have contained hazardous materials. Figure 1.3 (Location of SWMU in Flightline Area) depicts the proposed location for the two geophysical surveys.

*EPA's Comments*

During the technical meeting conducted on June 12, 1997, the Air Force Base Conversion Agency commented that high levels of TCE have been discovered in the ground water underlying the area of the "Phytoremediation Project," located approximately 1200 feet east of the suspected location of Landfill 8. The possibility exists that the landfill area may extend east of Cody Drive in the proximity of the phytoremediation project area. Therefore, the geophysical surveys should be extended into this area accordingly.

The selected instrument for the EM survey should be capable of providing a continuous data profile. Evaluation of existing data and a site reconnaissance should be performed to aid in identifying probable background noise levels. Natural (e.g., changing grain size distributions) and cultural (e.g., power lines, railroads, and surface metal objects) noise levels should be identified.

The magnetometer should be operated in the "walking" mode. The data should consist of total magnetic field intensity and vertical magnetic gradient. In the "walking" mode, data should be collected at a present time interval as the operator of the instrument walks along each traverse line. The grid system chosen should provide the greatest resolution possible. The instrument operator should be free of any magnetic materials such as keys, belt buckles, steel-toed shoes, or metal-rim glasses. To avoid the effects of topography and possibly rocks that may be naturally magnetic, it is important to hold the magnetometer sensor above the ground while taking measurements. The sensor should be held at the same height above the ground for each measurement.

#### **CHAPTER 6 - RISK ASSESSMENT**

##### **H. Section 6.3 - Receptors and Exposure Scenarios [Risk Assessment], Page 6-3:**

###### *USAF's Draft WPs*

Figures 6.1 (Conceptual Exposure Pathway Model for Surface Soil) and 6.2 (Conceptual Exposure Pathway Model for Subsurface Soil) summarize the conceptual models for potential human and environmental exposures to soils, sediments, and surface/ground waters.

###### *EPA's Comments*

The numerical values for the different exposure parameters should be included in these Draft WPs. These parameters are important in verifying assumptions. The RFI risk assessment should be based on current site conditions after all investigations to determine the nature and extent of contamination have been concluded. The CMS risk assessment should consider potential exposures based on the proposed cleanup levels as well as the exposures from the corrective action. A generic conceptual model would have to assume that the same potential exposure scenarios in an RFI exist in a CMS. The model could then be modified on a site-specific basis.

Figure 6.1 (model for surface soil) should include potential exposures from air and soil to off-site residents and on-site recreational receptors. The on-site recreational receptors may be judged relative to on-site maintenance workers depending on

## EPA'S Comments

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the expected exposures for both scenarios; however, the reasonableness of this assumption cannot be verified without the exposure parameters. The off-site residents should be considered since the expected exposure factors for residents are higher. Off-site residents should be considered current receptors since the remedial investigations are not concluded and the assumption of no current exposure to off-site residents cannot be verified. On-site maintenance workers; and on-site recreational, terrestrial, and aquatic receptors should be considered future receptors.

Figure 6.2 (model for subsurface soil) should include on-site recreational receptors and biota as potential future receptors. The possibility of exposures to off-site residents from volatile organics in soils through the air pathway should also be considered.

I. Section 6.4 - Ecological Risk Assessment, Page 6-4:

*USAF's Draft WPs*

USAF states that the ecological risk assessment will be performed according to the protocols described in the document titled "Texas Natural Resource Conservation Commission Draft Guidance for Conducting Ecological Risk Assessments Under the Texas Risk Reduction Program."

*EPA's Comments*

USAF should also consider the protocols described in EPA's guidance titled "Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments" (Interim Final, EPA 540-R-97-006, June 5, 1997).

**CHAPTER 12 - PROJECT SCHEDULE**

J. Section 12.0 - Project Schedule, Page 12-1; Figure 12-1 - Revised Schedule Carswell AFB RFI/CMS Project:

*USAF's Draft WPs*

USAF states that the field activities described in these Draft WPs will be implemented upon agency concurrence in accordance with the schedule provided in Figure 12.1.

## EPA'S Comments

*EPA's Comments*

USAF provided EPA with a schedule of proposed review dates for several BRAC documents during the technical meeting held on June 12, 1997. It is our understanding that the due date for the Draft RFI Report for the activities proposed in these Draft WPs is November 5, 1997.

**DRAFT BASE-WIDE QUALITY ASSURANCE PROJECT PLAN**K. Section 7.2 - Analytical Procedures, Page 7-3:*USAF's Draft WPs*

Section 7.2 of the Draft Base-Wide Quality Assurance Project Plan (QAPP, August 1996) contains tables of practical quantitation limits (PQL) for several analytes.

*EPA's Comments*

If any of the PQL's listed in Section 7.2 of the Draft Base-Wide QAPP are greater than background, then these PQLs shall be used as the cleanup levels. USAF must demonstrate, in the Draft RFI Report, that lower levels of quantitation are not possible. It is our understanding that the Draft Base-Wide QAPP has not been approved by TNRCC and our comments should not be considered final approval of this document.

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