



C CFB 05

DEPARTMENT OF THE AIR FORCE
27TH CIVIL ENGINEER SQUADRON (ACC)
CANNON AIR FORCE BASE NEW MEXICO

APR 19 2005

Lieutenant Colonel Alexander P. Karibian
Commander
506 N DL Ingram Blvd
Cannon AFB NM 88103-5003

Mr. James Bearzi
Hazardous Waste Bureau Chief
New Mexico Environment Department
2905 Rodeo Dr E Building 1
Santa Fe NM 87505-6303



Dear Mr. Bearzi

Cannon Air Force Base has submitted under separate cover two copies of the Final Report - Phase I Soil Investigation Fire Training Area 04, Cannon Air Force Base, New Mexico, dated Jan 05, for your review and records. These copies were sent to Mr. David Cobrain in your Santa Fe Office.

The purpose of this investigation was to confirm previously identified contamination caused by historical jet fuel releases. Contamination was confirmed and soil excavation is planned as an initial corrective measure at this site.

If you have any questions regarding this information, please contact Mrs. Sheila Newman, Environmental Flight, at (505) 784-6391 or email sheila.newman@cannon.af.mil.

Sincerely

ALEXANDER P. KARIBIAN, Lt Col, USAF



**DEPARTMENT OF THE AIR FORCE
27TH CIVIL ENGINEER SQUADRON (ACC)
CANNON AIR FORCE BASE NEW MEXICO**

APR 19 2005

Lieutenant Colonel Alexander P. Karibian
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506 N DL Ingram Blvd
Cannon AFB NM 88103-5003

Mr. David Cobrain
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Dr E Building 1
Santa Fe NM 87505-6303

Dear Mr. Cobrain

Enclosed for your review and records are two copies of the Final Report – Phase I Investigation at Fire Training Area 04, Cannon Air Force Base, New Mexico, dated Jan 05. Fire Training Area 04 consists of Solid Waste Management Units 109, 110, 111, and 112.

The purpose of this investigation was to confirm previously identified contamination caused by historical jet fuel releases. Contamination was confirmed and soil excavation is planned as an initial corrective measure at this site.

If you have any questions regarding this information, please contact Mrs. Sheila Newman, Environmental Flight, at (505) 784-6391 or email sheila.newman@cannon.af.mil.

Sincerely

A handwritten signature in black ink that reads "Alexander P. Karibian". The signature is written in a cursive style with a large, sweeping initial "A".

ALEXANDER P. KARIBIAN, Lt Col, USAF

Attachment:
Final Report – Phase I Investigation at Fire Training Area 04, Cannon Air Force Base, New Mexico (2 cys)

Report
Phase I Investigation
Soil Corrective Measures
Fire Training Area 04
Cannon AFB,

This disc has been
scanned and found
to be virus free.

Prepared By



January 10, 2005

RESPONSE TO COMMENTS
Draft Report dated December 11, 2004
Phase I Investigation - Soil Corrective Measures
Fire Training Area 04, Cannon Air Force Base, New Mexico

Comments received from Jane Davey, Project Manager, U.S. Army Corps of Engineers (USACE) on December 23, 2004.

1. Page 1, Section 1.0 Introduction, 2nd paragraph: The text states that relevant historical investigative data from Tetra Tech Foster Wheeler's May 21, 2004 Technical Memorandum is included in Appendix A of the report. Is it clearly understood that a complete copy of the Technical Memorandum is included in the Work Plan as NMED had requested? I have checked with the Base to see if NMED will receive a copy of the Work Plan. If not, perhaps the complete Technical Memorandum be included in Appendix A.

Response: For the reader's convenience, the entire Technical Memorandum will be included in Appendix A of the final report.

2. Page 1, Section 1.0 Introduction, 2nd paragraph, last sentence: Correct "an" to "and".

Response: Correction made.

3. Page 3, Section 2.3 Site Investigative History, last paragraph, last sentence: Correct "exceed" to "exceeded".

Response: Correction made.

4. Page 4, Section 2.5 Regulatory Framework, first sentence: Should the date of the current permit (issued 14 Oct 03 and effective 13 Nov 03) be stated rather than "original"?

Response: The first sentence of this section was revised to include the issuance and effective dates as suggested.

5. Page 6, Section 4.2.3 Borehole Abandonment, second sentence: The borehole abandonment was a non-approved variance to the approved SAP. The New Mexico Underground Storage Tank Bureau "Guidelines for Corrective Action" (March 2000) was also specified for borehole abandonment in the Work Plan. Was there a variance from these guidelines?

Response: This section was revised to state that the abandonment method was in variance to the SAP and New Mexico guidance.

6. Page 8, Section 5.0 Results of the Investigation, first sentence: Please correct "Phase II" to "Phase I".

Response: Correction made.

RESPONSE TO COMMENTS
Draft Report dated December 11, 2004
Phase I Investigation - Soil Corrective Measures
Fire Training Area 04, Cannon Air Force Base, New Mexico

Comments received from Sheila Newman, RCRA Coordinator for Cannon AFB on December 29, 2004.

1. Add the word "a" in the Executive Summary second paragraph, seventh line before northeast;

Response: Correction made.

2. The Technical Memorandum is not included in Appendix A as stated on the page 1 introduction. It is however complete in the Work Plan and NMED does have an electronic copy of that Work Plan.

Response: As stated earlier, the entire Technical Memorandum will be included in Appendix A of the final report.

3. The pictures in Appendix F in my hard copy are upside down.

Response: Correction made.

Comments received from Kim Mulhern, Project Geologist, U.S. Army Corps of Engineers (USACE) on January 4, 2005.

1. Page 4. Should the Acronym be LF-4 rather than LF-5?

Response: Landfill 5 is the correct site name. The acronym was changed to LF-05 to be consistent with earlier reports.

2. Page 5, Last paragraph of ES, should "be" instead be "is" or "will be"

Response: Correction to "is" made.

3. Page 7: Second sentence of 2.2.2. This should be LF-5 not LF-4.

Response: Correction made.

4. Page 10: Second paragraph of Section 4.2. Please include a rationale for additional soil boring location as well as the adjustments for field conditions, i.e., what were the offsets and what were the field conditions that necessitated the offsets.

Response: Specific borehole placement information was added to this section.

5. Soil boring logs: If bedrock was not encountered, then log should have 51.0' as overburden thickness and 0.0' as depth drilled into rock.

Response: Corrected on final boring log (CADD version).

6. Soil boring logs: If these are CADD for final version, please format according to the SOP.

Response: Soil boring logs will be converted to CADD (through gINT software) using HTRW forms. Final format will be in accordance with the USACE geologic logging SOP.

RESPONSE TO COMMENTS

Draft Report dated December 11, 2004

Phase I Investigation - Soil Corrective Measures
Fire Training Area 04, Cannon Air Force Base, New Mexico

7. Soil boring logs: boring logs in the final report are supposed to be CADD drafted. Was this requirement included during negotiations?

Response: Final form of the soil boring logs was not included in negotiations; however, in response to this comment we will have soil boring logs in CADD form for the final report.

8. Soil boring logs: Line-outs should be initialed.

Response: Line-outs were initialed on hand-written forms. CADD version of logs will include only corrected information.

9. Soil boring logs: Bottom of hole should be marked across all columns with a double line and BOH depth in feet.

Response: Correction made on hand-written logs and will be shown on CADD version of logs in final report.

Comments received from Paula Peters, Project Chemist, U.S. Army Corps of Engineers (USACE) on January 4, 2005.

1. Figure3 – The field duplicate results for samples CAFB-SB04, CAFB-200405, and CAFB-SB01 need to be included on this figure.

Response: Addition made.

2. Appendix A Chain of Custody Forms

a. Form 232090: Several samples were taken on 15 Nov 04, but not shipped to the lab until 17 Nov 04. In order to make it easier to labs to meet holding times, all samples should be shipped within 24 hours of being taken.

b. Form 232091: Again, a few samples were taken on 15 Nov 04, but not shipped until 2 days later. Also, the date “relinquished by” on the chain of custody was shown as 10/17/04, when it should have been 10/17/04.

Response: TN&A coordinated and communicated with the subcontract laboratory to ensure that holding time requirements were met. No holding time violations resulted for this project. The correct “relinquish” dates were written on both chain of custody forms. No changes were made in the document in response to this comment.

3. Appendix C, Data Validation Report, page 4, Minor Issues – This section needs to better explain the dilution of the nineteen samples for TPH and how that effected the percent recovery for the surrogates. List out all of the samples and the dilutions, and explain what happened. Some samples were diluted 20 times, 50 times, and even 100 times. This will give the reader a clearer picture of how dilution affects recoveries of spiked samples. Because the QC results were not provided (MS/MSD and LCS), I was not able to fully investigate the problem. A complete discussion in the Data Validation Report will clarify the problem.

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Response: The data validation report states on page 4 that the reason that samples were diluted was because of high analyte concentration. There was no other reason for the dilutions. The effect on surrogate recoveries is also stated. Despite the dilution the resultant data are still considered valid and useable for the purpose of this project, which was to confirm already known areas of TPH contamination. Dilution factors for each sample were added to table 1 for clarification. QA/QC summary pages from the data package were added to Appendix C (see below).

4. Appendix C to Appendix C – Summary of Qualified Results - No qualified results are shown. If none of the results are qualified, then a statement to that effect needs to be included.

Response: Appendix C has been changed to include MS/MSD and LCS recovery forms from the data package instead of qualified results as no qualifiers were added. The statement “No qualification was applied to analytical results as a result of data validation” has been added to the text for clarification.

Comments received from Carol Bieniulis, Project Manager, Tetra Tech Foster Wheeler, on January 5, 2005.

1. General: My review was conducted with regards to the presentation of information and data that will be used to develop a plan for corrective action of the site. The focus of the review was Sections 4 and 5, as well as Appendices B, C, and F.

Response: No response required.

2. General: The correct name of our company is Tetra Tech FW, Inc. and it is abbreviated as TtFW. The use of “Foster Wheeler” is prohibited since the acquisition of Foster Wheeler Environmental by Tetra Tech in March 2003.

Response: Correction made.

3. General: Somewhere in the report it should be noted that vehicle traffic occasionally flows through the area. During staking operations, a vehicle was observed to travel across the FTA4 site. It is very likely that traffic has probably traveled across the area for several years.

Response: This note was added to section 4.1 Site Access, Utility Clearance, and Permits, page 5.

4. Comment withdrawn by TtFW.

5. Section 4.2: Just a note... We may want to revise the GIS coverage of the location of the former concrete pad. The locations of the soil borings were, for the most part, found from original markers still remaining in the field. If the relative location of the former concrete pad and the original soil borings is correct, the GIS coverage for the pad needs to be moved to the southwest as shown in Figure 3.

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Phase I Investigation - Soil Corrective Measures
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Response: After further discussion of this comment with Ms. Bieniulis, the location of the former concrete pad outline (on Figure 3) was moved to the southwest. This location on the drawing provides better agreement with how the boreholes were located in the field and with Ms. Bieniulis' knowledge of the site. Additionally, the revised Figure 3 pad location coincides with field observations of the depression that collected rain water at the time of the investigation. However, the revised location does not agree with survey coordinates that we were provided.

6. Section 5: Please verify where soil boring SB04 was located in the field. Was it located adjacent to the pipe structure still remaining on the site from previous operations? This area is definitely suspect. While staking sample locations stained and distressed vegetation was observed at this location and we were unsure whether SB04 was originally located here or elsewhere since a marker could not be found at the time for SB04.

Response: We are confident of the location of SB04 as shown on Figure 3. The distressed vegetation area and stand pipe near this boring can be seen in Appendix F, Photo #573. Text for this photograph was revised to indicate the drilling location of SB04.

Response to Comments prepared by:

Nova Clite, PG
Sr. Hydrogeologist/Project Manager
T N & Associates, Inc.