

CAFB
9/17/06



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 27TH FIGHTER WING (ACC)
CANNON AIR FORCE BASE NEW MEXICO

Colonel Scott D. West
Commander
100 N DL Ingram Blvd
Cannon AFB NM 88103-5214



Mr. James Bearzi
Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East Building 1
Santa Fe NM 87505-6303

Dear Mr. Bearzi

Cannon AFB hereby submits Attachment 1 in response to your comments sent to us in the Notice of Deficiency (NOD), Naturally Occurring Concentrations of Inorganics and Background Concentrations of Pesticides at Cannon Air Force Base, New Mexico, EPA ID NO. NM7572124454, CAFB-06-001. If you have any questions, contact Mr. Peter P. Zamie at (505)784-1092.

PETER P. ZAMIE, P.E.
Acting Chief, Environmental Flight

1st Ind, 27 CES/CC

Concur/~~nonconcur~~.

Stephen D. Wood
STEPHEN D. WOOD, Lt Col, USAF
Commander, 27th Civil Engineer Squadron

2d Ind to 27 MSG/CC, 3 SEP 06, Ltr to Mr. James Bearzi

Concur/~~nonconcur~~.



MARGARET B. POORE, Colonel, USAF
Commander, 27th Mission Support Group

SEP 07 2006

3d Ind, 27 FW/CC

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely



SCOTT D. WEST, Colonel, USAF
Commander

Attachment:
Response to NMED Comments

cc:
NMED HWB Bureau (C. Frischkorn) w/o Atch
EPA Region VI (B. Sturdivant) w/ Atch

RESPONSE TO COMMENTS
1997 FINAL REPORT
NATURALLY OCCURRING CONCENTRATIONS OF INORGANICS AND
BACKGROUND CONCENTRATIONS OF PESTICIDES AT CANNON AFB
CANNON AFB, NEW MEXICO

Comments from James P. Bearzi, Chief, Hazardous Waste Bureau, New Mexico Environment Department, dated March 16, 2006.

Comment 1. One of the purposes of the Report is to determine the natural background level for pesticides. However, pesticides do not occur naturally in the environment. It is typically assumed that detections of pesticides are due to site activities. It is not clear in the Report whether the history of farming and agriculture activities in the area has led to elevated levels of pesticides in general. Low-levels of pesticides may also be indicative of industrial or residential use, or both. Given that only one pesticide (4,4-DDT) was detected in one surface soil sample, it appears that establishment of a background pesticide level for 4,4-DDT is not appropriate and that adequate demonstration of 4,4-DDT as an area-wide contaminant has not been provided. NMED does not recommend that background levels for pesticides be established.

Response: The intent was to determine the “naturally occurring concentrations of inorganics and background concentrations of pesticides in the soils at Cannon Air Force Base.” The majority of the land surrounding Cannon AFB is productive, irrigated farmland or grassland and is used for cattle grazing. Background concentrations of pesticides could be a result of application on surrounding farmland and/or due to site-specific application of pesticides for its intended use rather than a result of a chemical release. However, it is agreed that establishment of background pesticide levels may not be appropriate given that only one pesticide was detected (4,4-DDT) at a very low detection frequency. The following text will be added to Section 7: “Background concentrations are presented only for 4,4-DDT in surface soil since results for all other pesticides were nondetect. Only one surface soil sample contained 4,4-DDT above the detection limit. For this reason, establishing area-wide background levels for pesticides is not recommended.”

Comment 2. The Report did not clearly describe how field replicates were handled for the background soil samples. Typically for field duplicates, if both of the sample results are detected values, the primary and duplicate sample results are averaged. If one sample result was a detected value, and the other was a non-detect, the detected value is averaged with one-half the sample quantitation limit (SQL) of the non-detect. Further, if both samples were non-detect values, one-half the results with the lowest SQL is used as a surrogate value. CAFB must clarify how field replicates were addressed.

Response: For this investigation, quality assurance/quality control (QA/QC) samples were collected to assess data quality regarding method-specific precision, accuracy,

representativeness, completeness, comparability, and sensitivity goals. In addition to the laboratory QA/QC, samples were also collected to assess the data quality associated with field sampling procedures (i.e., field duplicates and field splits). These samples were used for QA/QC purposes only and only the original sample was used in the background data set for statistical evaluation. QA/QC sample results were presented in the Section 4 tables, but were not included in the Section 6 tables. The sentence in the third paragraph of Section 5 states the following: "It should be noted that subsurface soil samples CBSB040120, CBSB050110, CBSB060105, and CBSB070101 are QC field duplicates and were not included in the subsurface soil data set." We have also corrected an error that was identified in Table 4-2 during the preparation of this response.

Comment 3. Report's presentation of estimations of Upper Tolerance Limits (UTLs), Upper Confidence Limits (UCLs), and maximum detected concentrations is confusing in that it does not clearly identify what will be used to represent background. Typically, the maximum detected site concentration is compared to a representative UTL for background. It is not clear what purpose the background UCL will serve. CAFB must clarify what values will be used to represent background concentrations and how a comparison to background will be performed.

Response: The following text will be included in Section 7: "The primary statistical measure of the background data set is the 95% upper tolerance limit (UTL) since it represents the upper limit of an interval that is intended to contain the 95th percentile of a background distribution with 95% confidence. However, the 95% UTL can exceed the maximum measured value in the set of background samples, and may not be representative of typical background values. The 95% UTL will be used as the background value unless otherwise noted. Other basic statistics were reported including the number of samples, the detection frequency, minimum, maximum, mean, standard deviation, 95% upper confidence limit (UCL) for the mean, and the data distribution (normal, lognormal, or neither). The initial evaluation will be a point-to-point comparison of the maximum detected concentration with the 95% UTL for each metal. Additional statistics may be required for comparing site data with background data on a case by case basis."

The following footnote will be included in Table 6-2 and Table 6-5: "The initial evaluation will be a point-to-point comparison of the maximum detected site concentration with the 95% UTL for each metal." In addition, in order to minimize confusion, the results for the 95% UCL will be removed from Tables 6-2 and 6-5.

Comment 4. The Report estimates background concentrations (UTLs and UCLs) for metals detected in surface and subsurface soil. However, based upon the discussion of the geology at the site, there may be more than one soil type present. When evaluating background, a background data set for both surface and subsurface soil is acceptable. However, if the site concentrations exceed the site-wide background concentration, the exceedance is often due to differences in soil type. In these cases, background based upon soil type is often determined. CAFB must discuss whether any background concentrations based upon soil type were

determined. This may be of particular concern, for example, if an area predominantly of caliche (Clovis soils) or sand (Amarillo soil) is under investigation. Also discuss how different soil types are accounted for in determining background.

Response: In many cases soil type varies significantly across a site and influences the distribution of naturally occurring inorganic constituents which may necessitate establishing more than one background data set based on soil type. The most common soil type at Cannon AFB is the fine sandy loam classified as SM to SC under the Unified Classification System. The field sampling data sheets in Appendix A indicate that soils are predominantly silty clay with very fine sand. The only exception was soil located at greater than 30 feet bgs in depth, which was classified as silty sand. Review of the background data set results does not suggest that there is a notable difference between the two soil types for any of the metals analyzed. If future sampling indicates a deviation from these predominant soil types, site-specific background sampling may be required.



BILL RICHARDSON
GOVERNOR

State of New Mexico
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RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

March 16, 2006

Colonel John D. Posner
Commander 27th Fighter Wing
100 D.L. Ingram Boulevard
Cannon Air Force Base, New Mexico 88103-5214

SUBJECT: NOTICE OF DEFICIENCY
NATURALLY OCCURRING CONCENTRATIONS OF INORGANICS AND
BACKGROUND CONCENTRATIONS OF PESTICIDES AT CANNON
AIR FORCE BASE, NEW MEXICO
EPA ID NO. NM7572124454
CAFB-06-001

Dear Colonel Posner:

The New Mexico Environment Department (NMED) has reviewed the Cannon Air Force Base's (CAFB) September 1997 document: *Naturally Occurring Concentrations of Inorganics and Background Concentrations of Pesticides at Cannon Air Force Base, New Mexico* (Report), which was resubmitted on August 23, 2005. NMED has determined that CAFB Report is technically deficient. While NMED does not require resubmission of the entire Report, CAFB must address the comments provided in this letter within 60 days of its receipt.

Comment 1

One of the purposes of the Report is to determine the natural background level for pesticides. However, pesticides do not occur naturally in the environment. It is typically assumed that detections of pesticides are due to site activities. It is not clear in the Report whether the history

Colonel John D. Posner
March 16, 2006
Page 2

of farming and agriculture activities in the area has led to elevated levels of pesticides in general. Low-levels of pesticides may also be indicative of industrial or residential use, or both. Given that only one pesticide (4,4-DDT) was detected in one surface soil sample, it appears that establishment of a background pesticide level for 4,4-DDT is not appropriate and that adequate demonstration of 4,4-DDT as an area-wide contaminant has not been provided. NMED does not recommend that background levels for pesticides be established.

Comment 2

The Report did not clearly describe how field replicates were handled for the background soil samples. Typically for field duplicates, if both of the sample results are detected values, the primary and duplicate sample results are averaged. If one sample result was a detected value, and the other was a non-detect, the detected value is averaged with one-half the sample quantitation limit (SQL) of the non-detect. Further, if both samples were non-detect values, one-half the results with the lowest SQL is used as a surrogate value. CAFB must clarify how field replicates were addressed.

Comment 3

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Comment 4

The Report estimates background concentrations (UTLs and UCLs) for metals detected in surface and subsurface soil. However, based upon the discussion of the geology at the site, there may be more than one soil type present. When evaluating background, a background data set for both surface and subsurface soil is acceptable. However, if the site concentrations exceed the site-wide background concentration, the exceedance is often due to differences in soil type. In these cases, background based upon soil type is often determined. CAFB must discuss whether any background concentrations based upon soil type were determined. This may be of particular concern, for example, if an area predominantly of caliche (Clovis soils) or sand (Amarillo soil) is under investigation. Also discuss how different soil types are accounted for in determining background.

Colonel John D. Posner

March 16, 2006

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If you have any questions regarding this letter, please call Swarna Vonteddu at (505) 428-2551.

Sincerely,



James P. Bearzi

Chief

Hazardous Waste Bureau

JPB:sv

cc: *J. Kieling, NMED HWB
*Dave Cobrain, NMED HWB
C. Frischkorn, NMED HWB
Swarna Vonteddu, NMED HWB
L. King, EPA Region 6 (6PD-N)
Peter Zamie, CAFB

File: Reading File & CAFB 2006 File

*Electronic copy



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RON CURRY
SECRETARY

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

May 16, 2006

Lieutenant Colonel Alexander P. Karibian
Commander 27th Fighter Wing
100 D.L. Ingram Boulevard
Cannon Air Force Base, New Mexico 88103-5214

**SUBJECT: EXTENSION APPROVAL FOR THE SUBMITTAL OF
RESPONSE TO NOTICE OF DEFICIENCY COMMENTS
CANNON AIR FORCE BASE
EPA ID NO. NM7572124454**

Dear Lieutenant Colonel Karibian:

The New Mexico Environment Department (NMED) received your letter dated May 3, 2006 requesting a time extension to address NMED's March 16, 2006 Notice of Deficiency (NOD) concerning Cannon Air Force Base's (CAFB) September 1997 document *Naturally Occurring Concentrations of Inorganics and Background Concentrations of Pesticides at Cannon Air Force Base*.

NMED hereby approves of an extension request of approximately ninety (90) additional days. Cannon Air Force Base (CAFB) must submit a response no later than August 25, 2006. CAFB must take all necessary steps to ensure that further delays do not occur.

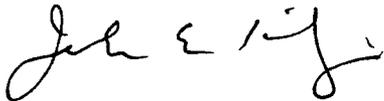
Lieutenant Colonel Alexander P. Karibian

May 16, 2006

Page 2

If you have any questions concerning this letter, please contact Cheryl Frischkorn at 505-428-2550.

Sincerely,



John E. Kieling
Manager
Permit Management Program

JEK:caf

cc: *J. Kieling, NMED HWB
C. Frischkorn, NMED HWB
L. King, EPA Region 6 (6PD-N)
Pete Zamie, CAFB

File: Reading File & CAFB 2006 File