

CAFB DL

Vonteddu, Swarna, NMENV

From: Zamie Pete P Civ 27 CES/CEVC [Pete.Zamie@cannon.af.mil]
Sent: Monday, October 02, 2006 12:52 PM
To: Vonteddu, Swarna, NMENV
Subject: RE: Regarding NOD response

Swarna,

I talked to URS after our conversation this morning and they said that they will be sending out replacements for Sections 5, 6 and 7 but are waiting to hear that their response is adequate. Thanks for your call this morning.

Peter P. Zamie

Remedial Program Manager
27 Civil Engineer Squadron
506 No. DL Ingram
Cannon AFB, NM 88103
DSN 681-1092
Comm 505-784-1092

From: Vonteddu, Swarna, NMENV [mailto:Swarna.Vonteddu@state.nm.us]
Sent: Monday, October 02, 2006 10:02 AM
To: Zamie Pete P Civ 27 CES/CEVC
Subject: Regarding NOD response

Hi Pete,

This email is a follow-up to our phone conversation today about your recent NOD response for the *Naturally Occurring Concentrations of Inorganics and Background Concentrations of Pesticides at Cannon Air Force Base, New Mexico*.

In response to comments 1, 2 and 3, Cannon stated that some text will be added to the report (for example in section 7) and is not clear whether a corrected report is being sent to NMED or will be sent. Please let me know the status of the report with correction stated in this NOD.

Thanks,

Swarna Latha Vonteddu
Environmental Specialist/Scientist
New Mexico Environment Department
2905 Rodeo Park Drive East, BLDG 1
Santa Fe NM 87505
Phone : (505) 428-2551
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7/25/2008

CAF B 06



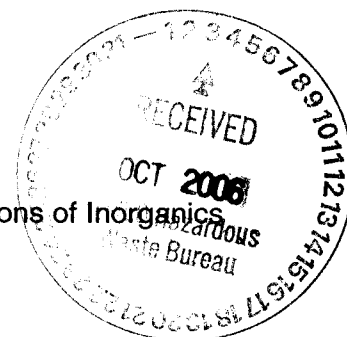
LETTER OF TRANSMITTAL

DATE: 2 October 2006
PROJECT NO.: 16169930.00100

TO: Cannon AFB

ATTN: Pete Zamie, 27 CES/CEVC

RE: Replacement Pages for Final 1997 Naturally Occuring Concentrations of Inorganics and Background Concentrations of Pesticides at Cannon AFB



ENCLOSED ARE THE FOLLOWING:

- Daily Field Report(s) No.(s) For Period
- Report Copies Plans Instructions and Requests
- Other Replacement Pages

FOR YOUR:

- Approval Files Comments
- Distribution Information Use

REMARKS:

Enclosed please find three copies (Cannon AFB), two copies (USACE), or one copy (NMED) of the replacement pages for the Final 1997 Naturally Occuring Concentrations of Inorganics and Background Concentrations of Pesticides at Cannon AFB.

Thank you.

Jeff Voelker

PLEASE NOTIFY US IF ENCLOSURES LISTED ARE NOT RECEIVED.

FROM: Jeff Voelker

COPIES TO: Taunya Howe, USACE (2 copies)
Swarna Latha Vonteddu, NMED (1 copy)

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SUMMARY AND CONCLUSIONS

Background concentrations (i.e., UTLs and UCLs) were calculated for metals in surface soil and subsurface soil at Cannon Air Force Base. Background concentrations are presented for 4,4-DDT in surface soil only, because results for all other pesticides were nondetect. Fourteen surface soil samples collected during July 1997 and two samples (CANOFS-OFS1-0000 and CANOFS-OFS2-0000) used in the previous background report (W-C 1994b) were used to calculate 95 percent UTLs and UCLs for surface soil. Twenty five samples subsurface samples collected during July 1997 were used to calculate 95 percent UTLs and UCLs for subsurface soil. Subsurface soil data from the previous background study were not used.

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.

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. Other basic statistics were reported including the number of samples, the detection frequency, minimum, maximum, mean, standard deviation, 95% upper confidence limit 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.

There appears to be no trend in the new data set background concentrations of metals in either surface or subsurface soil compared to the previous background study. Several of the new UTLs are higher, while others are lower, than the W-C 1994b UTLs. New UTLs for both surface and subsurface soil are within an order of magnitude of the W-C 1994b background concentrations, with the exception of thallium in surface soil and mercury and

selenium in surface and subsurface soil. However, the available data from the previous background report were not divided into surface and subsurface soils. Therefore, any conclusions drawn from the direct comparison between these data sets must be used cautiously.

The new UTLs for metals are lower or within the range of regional concentrations expected for the Clovis area, with the exception of antimony, barium, and calcium in surface soil and antimony, barium, calcium, magnesium, selenium, and thallium in subsurface soil. Again, available data on regional concentrations were not divided into surface and subsurface soils. Therefore, any conclusions drawn from the direct comparison between these data sets must be used cautiously.

TABLE 4-2
DETECTED COMPOUNDS FOR SOIL BORING SAMPLES ASSOCIATED WITH THE BACKGROUND INVESTIGATION
STUDY
CANNON AIR FORCE BASE, NEW MEXICO

PARAMETER ANALYTE UNITS	Pesticides/PCB			Metals			Metals			Metals			Metals			Metals			Metals						
	4,4'-DDT			ALUMINUM			ARSENIC			BARIUM			BERYLLIUM			CALCIUM			CHROMIUM, TOTAL			COBALT			
	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	
CBSB010001	<	0.0034	U	4300	10.3		1.8	1.0		40.2	1.0		0.21	0.21		1350	20.6		6.5	1.0		1.8	1.0		
CBSB010005	<	0.0036	U	7950	10.8		3.0	1.1		73.5	1.1		0.5	0.22		4100	21.5		10.0	1.1		3.5	1.1		
CBSB010010	<	0.0035	U	4990	21.3		3.5	2.1		170	2.1		0.26	0.43	J	171000	42.6		4.5	2.1		<	2.1	U	
CBSB020001	<	0.0034	U	4520	10.3		1.5	1.0		47.1	1.0		0.31	0.21		1580	20.6		6.5	1.0		1.9	1.0		
CBSB020005	<	0.0035	U	6610	10.7		2.7	1.1		66.3	1.1		0.46	0.21		1750	21.4		8.9	1.1		3.1	1.1		
CBSB020010	<	0.0036	U	7080	10.8		3.5	1.1		285	1.1		0.45	0.22		66600	21.7		6.5	1.1		2.7	1.1		
CBSB020020	<	0.0036	U	4560	22.1		1.6	2.2	J	117	2.2		<	0.44	U	190000	44.2		3.0	2.2		<	2.2	U	
CBSB020029	<	0.0038	U	4910	22.8		<	2.3	U	339	2.3		<	0.46	U	150000	45.6		4.4	2.3		<	2.3	U	
CBSB020039	<	0.0037	U	5050	22.3		<	2.2	U	317	2.2		<	0.45	U	158000	44.6		3.6	2.2		<	2.2	U	
CBSB030001	<	0.0034	U	4150	10.3		2.2	1.0		47.5	1.0		0.26	0.21		2500	20.5		6.4	1.0		1.9	1.0		
CBSB030005	<	0.0035	U	6160	10.6		2.6	1.1		91.2	1.1		0.31	0.21		19900	21.2		7.7	1.1		3.5	1.1		
CBSB030010	<	0.0037	U	3370	22.3		<	2.2	U	805	2.2		<	0.45	U	136000	44.5		2.7	2.2		<	2.2	U	
CBSB040010	<	0.0036	U	5110	21.7		3.1	2.2		137	2.2		0.31	0.43	J	135000	43.3		4.9	2.2		4.1	2.2		
CBSB040020	<	0.0036	U	3960	10.8		1.7	1.1		723	1.1		0.17	0.22		42500	21.7		4.0	1.1		1.9	1.1		
CBSB040030	<	0.0036	U	3730	10.9		1.2	1.1		47.9	1.1		0.12	0.22	J	34900	21.9		2.8	1.1		<	1.1	U	
CBSB040041	<	0.0036	U	3560	10.8		1.2	1.1		57.2	1.1		<	0.22	U	88400	21.6		3.0	1.1		<	1.1	U	
CBSB040120	<	0.0036	U	4250	10.9		1.5	1.1		467	1.1		0.36	0.22		50100	21.7		4.3	1.1		2.8	1.1		
CBSB050001	0.0039	0.0035		7090	10.5		2.7	1.0		670	1.0		0.55	0.21		44800	20.9		7.7	1.0		4.5	1.0		
CBSB050005	<	0.0036	U	12200	10.9		2.2	1.1		82.3	1.1		0.66	0.22		23700	21.7		11.1	1.1		4.7	1.1		
CBSB050010	<	0.0035	U	9290	21.5		2.0	2.1	J	264	2.1		0.39	0.43	J	167000	42.9		7.5	2.1		4.0	2.1		
CBSB050110	<	0.0036	U	6720	21.8		3.0	2.2		193	2.2		0.4	0.44	J	128000	43.7		5.7	2.2		3.6	2.2		
CBSB060001	<	0.0034	U	4580	10.4		2.2	1.0		58.6	1.0		0.39	0.21		3360	20.8		6.6	1.0		3.3	1.0		
CBSB060005	<	0.0038	U	4400	11.4		2.5	1.1		103	1.1		0.43	0.23		55000	22.8		4.6	1.1		3.3	1.1		
CBSB060010	<	0.0035	U	7330	10.6		2.1	1.1		79.4	1.1		0.4	0.21		38300	21.1		7.1	1.1		3.0	1.1		
CBSB060105	<	0.0035	U	8620	10.5		2.3	1.1		75.5	1.1		0.39	0.21		33600	21.0		8.4	1.1		3.4	1.1		
CBSB070001	<	0.0034	U	5150	10.4		2.6	1.0		71.5	1.0		0.38	0.21		3930	20.9		7.6	1.0		3.9	1.0		
CBSB070005	<	0.0035	U	3730	52.8		3.6	5.3	J	167	5.3		<	1.1	U	253000	106		4.5	5.3	J	4.5	5.3	J	
CBSB070010	<	0.0036	U	9530	11.1		1.8	1.1		162	1.1		0.58	0.22		52500	22.1		6.9	1.1		3.2	1.1		
CBSB070101	0.0018	0.0034	J	7790	10.4																				

TABLE 4-2
DETECTED COMPOUNDS FOR SOIL BORING SAMPLES ASSOCIATED WITH THE BACKGROUND INVESTIGATION
STUDY
CANNON AIR FORCE BASE, NEW MEXICO

PARAMETER ANALYTE UNITS	Pesticides/PCB			Metals			Metals			Metals			Metals			Metals			Metals					
	4,4'-DDT			ALUMINUM			ARSENIC			BARIUM			BERYLLIUM			CALCIUM			CHROMIUM, TOTAL			COBALT		
	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg					
	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual
CBSB080001	<	0.0034	U	8950	10.4		3.3	1.0		90.6	1.0		0.62	0.21		2930	20.8		10.5	1.0		5.3	1.0	
CBSB080005	<	0.0036	U	8160	10.8		3.3	1.1		100	1.1		0.57	0.22		81900	21.7		8.0	1.1		4.7	1.1	
CBSB080010	<	0.0035	U	5040	10.7		2.6	1.1		168	1.1		0.54	0.21		71800	21.4		5.9	1.1		4.3	1.1	
CBSB080020	<	0.0036	U	4250	10.8		1.5	1.1		74.3	1.1		0.23	0.22		89500	21.6		3.9	1.1		2.9	1.1	
CBSB080030	<	0.0036	U	5680	10.9		<	1.1	U	508	1.1		0.1	0.22	J	87900	21.7		5.3	1.1		1.0	1.1	J
CBSB080040	<	0.0034	U	3380	10.4		<	1.0	U	134	1.0		0.11	0.21	J	43700	20.8		3.0	1.0		1.8	1.0	
CBSB100001	<	0.0034	U	4390	10.4		2.4	1.0		51.6	1.0		0.31	0.21		1570	20.7		6.4	1.0		1.8	1.0	
CBSB100005	<	0.0036	U	6030	11.0		3.3	1.1		185	1.1		0.45	0.22		65900	22.0		5.9	1.1		3.4	1.1	
Maximum		0.0039			12200			3.6	J		805			0.66			253000			11.1			5.3	
Frequency		2/ 37			37/ 37			32/ 37			37/ 37			31/ 37			37/ 37			37/ 37			30/ 37	

Results presented here are only those chemicals which were detected at least once for background samples and have passed data review.

RL = Reporting Limit

U = Nondetected value

J = Estimated value

Samples CBSB040120, CBSB050110, CBSB060105, and CBSB070101 are QC field duplicates.

TABLE 4-2
DETECTED COMPOUNDS FOR SOIL BORING SAMPLES ASSOCIATED WITH THE BACKGROUND INVESTIGATION
STUDY
CANNON AIR FORCE BASE, NEW MEXICO

PARAMETER ANALYTE UNITS	Metals COPPER			Metals IRON			Metals LEAD			Metals MAGNESIUM			Metals MANGANESE			Metals MERCURY		
	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual
CBSB010001	4.1	2.1		5680	10.3		5.7	0.31		784	20.6		99.4	1.0		<	0.034	U
CBSB010005	6.2	2.2		9700	10.8		7.0	0.32		1570	21.5		131	1.1		<	0.036	U
CBSB010010	3.2	4.3	J	5200	21.3		6.1	0.64		3250	42.6		63.7	2.1		<	0.035	U
CBSB020001	4.3	2.1		5920	10.3		6.3	0.31		792	20.6		103	1.0		<	0.034	U
CBSB020005	5.2	2.1		7840	10.7		6.2	0.32		1510	21.4		83.2	1.1		<	0.035	U
CBSB020010	4.5	2.2		6930	10.8		6.7	0.33		3140	21.7		102	1.1		<	0.036	U
CBSB020020	<	4.4	U	3720	22.1		4.3	0.66		3900	44.2		48.3	2.2		<	0.036	U
CBSB020029	2.3	4.6	J	2590	22.8		2.2	0.68		19300	45.6		17.6	2.3		<	0.038	U
CBSB020039	<	4.5	U	3020	22.3		1.5	0.67		11600	44.6		23.1	2.2		<	0.037	U
CBSB030001	4.6	2.1		5670	10.3		6.2	0.31		811	20.5		122	1.0		<	0.034	U
CBSB030005	6.6	2.1		7390	10.6		6.6	0.32		1400	21.2		179	1.1		<	0.035	U
CBSB030010	<	4.5	U	3110	22.3		4.3	0.67		2450	44.5		42.0	2.2		<	0.037	U
CBSB040010	4.1	4.3	J	4550	21.7		5.2	0.65		2780	43.3		94.9	2.2		<	0.036	U
CBSB040020	2.7	2.2		4220	10.8		4.8	0.33		2480	21.7		87.3	1.1		<	0.036	U
CBSB040030	<	2.2	U	2620	10.9		2.7	0.33		5310	21.9		23.3	1.1		<	0.036	U
CBSB040041	<	2.2	U	2430	10.8		2.2	0.32		6390	21.6		27.5	1.1		<	0.036	U
CBSB040120	2.3	2.2		3470	10.9		5.0	0.33		2710	21.7		92.2	1.1		0.025	0.036	J
CBSB050001	7.0	2.1		6840	10.5		8.5	0.31		1930	20.9		181	1.0		0.056	0.035	
CBSB050005	7.4	2.2		9620	10.9		6.3	0.33		3030	21.7		115	1.1		<	0.036	U
CBSB050010	4.0	4.3	J	6240	21.5		4.6	0.64		4390	42.9		71.9	2.1		<	0.035	U
CBSB050110	3.3	4.4	J	5070	21.8		4.7	0.65		3560	43.7		60.4	2.2		0.014	0.036	J
CBSB060001	5.2	2.1		5660	10.4		5.9	0.31		966	20.8		132	1.0		<	0.034	U
CBSB060005	4.3	2.3		4490	11.4		5.2	0.34		2390	22.8		115	1.1		<	0.038	U
CBSB060010	5.3	2.1		6400	10.6		5.1	0.32		2050	21.1		95.0	1.1		<	0.035	U
CBSB060105	5.1	2.1		7260	10.5		5.4	0.32		2130	21.0		100	1.1		<	0.035	U
CBSB070001	6.4	2.1		6270	10.4		6.6	0.31		1120	20.9		183	1.0		<	0.034	U
CBSB070005	<	10.6		2720	52.8		3.1	1.6		2860	106		32.8	5.3		<	0.035	U
CBSB070010	3.4	2.2		6560	11.1		5.8	0.33		3200	22.1		99.9	1.1		<	0.036	U
CBSB070101																		

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DETECTED COMPOUNDS FOR SOIL BORING SAMPLES ASSOCIATED WITH THE BACKGROUND INVESTIGATION
STUDY
CANNON AIR FORCE BASE, NEW MEXICO

PARAMETER ANALYTE UNITS	Metals COPPER			Metals IRON			Metals LEAD			Metals MAGNESIUM			Metals MANGANESE			Metals MERCURY		
	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg					
	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual
CBSB080001	9.7	2.1		10100	10.4		10.0	0.31		1700	20.8		275	1.0		<	0.034	U
CBSB080005	7.3	2.2		7680	10.8		7.1	0.33		2640	21.7		184	1.1		<	0.036	U
CBSB080010	5.0	2.1		5600	10.7		5.3	0.32		3010	21.4		152	1.1		<	0.035	U
CBSB080020	1.8	2.2	J	3170	10.8		3.8	0.32		3070	21.6		68.5	1.1		<	0.036	U
CBSB080030	1.3	2.2	J	3500	10.9		3.0	0.33		8280	21.7		30.2	1.1		<	0.036	U
CBSB080040	1.1	2.1	J	2500	10.4		2.3	0.31		3660	20.8		37.2	1.0		<	0.034	U
CBSB100001	3.7	2.1		5550	10.4		4.9	0.31		804	20.7		85.1	1.0		<	0.034	U
CBSB100005	5.1	2.2		6890	11.0		7.0	0.33		2840	22.0		148	1.1		<	0.036	U
Maximum	9.7			10100			10 B			19300			275			0.056		
Frequency	31/37			37/37			37/37			37/37			37/37			3/37		

Results presented here are only those chemicals which were detected at least once for background samples and have passed data review.

RL = Reporting Limit

U = Nondetected value

J = Estimated value

Samples CBSB040120, CBSB050110, CBSB060105, and CBSB070101 are QC field duplicates.

TABLE 4-2
DETECTED COMPOUNDS FOR SOIL BORING SAMPLES ASSOCIATED WITH THE BACKGROUND INVESTIGATION
STUDY
CANNON AIR FORCE BASE, NEW MEXICO

PARAMETER ANALYTE UNITS	Metals NICKEL			Metals POTASSIUM			Metals SELENIUM			Metals SILVER			Metals SODIUM			Metals VANADIUM			Metals ZINC			
	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg						
	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	
CBSB010001	4.2	4.1		1080	516		<	0.52	U	<	1.0	U	<	516	U	12.6	1.0		15.0	2.1		
CBSB010005	8.0	4.3		1460	538		<	0.54	U	<	1.1	U	<	538	U	22.6	1.1		16.9	2.2		
CBSB010010	4.3	8.5	J	1010	1070	J	0.99	1.1	J	<	2.1	U	<	1070	U	17.4	2.1		11.2	4.3		
CBSB020001	4.4	4.1		1060	516		<	0.52	U	<	1.0	U	<	516	U	13.2	1.0		11.7	2.1		
CBSB020005	7.0	4.3		1220	535		<	0.53	U	<	1.1	U	<	535	U	18.2	1.1		13.9	2.1		
CBSB020010	6.7	4.3		1310	542		<	0.54	U	<	1.1	U	<	542	U	23.2	1.1		14.5	2.2		
CBSB020020	<	8.8	U	1200	1110		<	1.1	U	<	2.2	U	<	1110	U	11.9	2.2		8.7	4.4		
CBSB020029	<	9.1	U	642	1140	J	<	1.1	U	<	2.3	U	<	1140	U	23.3	2.3		6.0	4.6		
CBSB020039	<	8.9	U	886	1110	J	1.1	1.1		<	2.2	U	<	1110	U	13.5	2.2		7.1	4.5		
CBSB030001	4.2	4.1		1060	513		<	0.52	U	<	1.0	U	<	513	U	12.9	1.0		12.7	2.1		
CBSB030005	6.5	4.2		1300	529		<	0.53	U	<	1.1	U	<	529	U	17.3	1.1		18.9	2.1		
CBSB030010	<	8.9	U	777	1110	J	1	1.1	J	<	2.2	U	<	1110	U	9.3	2.2		12.0	4.5		
CBSB040010	5.8	8.7	J	1300	1080		<	1.1	U	<	2.2	U	359	1080	J	15.3	2.2		13.5	4.3		
CBSB040020	4.5	4.3		1220	542		<	0.54	U	<	1.1	U	205	542	J	14.7	1.1		9.9	2.2		
CBSB040030	2.5	4.4	J	660	546		<	0.55	U	<	1.1	U	133	546	J	12.4	1.1		4.5	2.2		
CBSB040041	<	4.3	U	725	540		0.73	0.54		<	1.1	U	82.6	540	J	9.3	1.1		4.8	2.2		
CBSB040120	5.0	4.3		1300	544		<	0.54	U	<	1.1	U	334	544	J	13.2	1.1		9.6	2.2		
CBSB050001	7.2	4.2		1540	523		<	0.52	U	0.4	1.0	J	84.1	523	J	17.8	1.0		20.3	2.1		
CBSB050005	11.4	4.3		2370	543		<	0.54	U	<	1.1	U	<	543	U	18.4	1.1		20.5	2.2		
CBSB050010	7.3	8.6	J	1690	1070		<	1.1	U	<	2.1	U	325	1070	J	16.2	2.1		18.9	4.3		
CBSB050110	5.8	8.7	J	1350	1090		<	1.1	U	<	2.2	U	382	1090	J	15.0	2.2		13.0	4.4		
CBSB060001	6.0	4.2		1300	519		<	0.52	U	<	1.0	U	<	519	U	14.2	1.0		12.6	2.1		
CBSB060005	5.5	4.6		1120	570		<	0.57	U	<	1.1	U	200	570	J	14.1	1.1		11.3	2.3		
CBSB060010	7.0	4.2		1460	528		<	0.53	U	<	1.1	U	85.5	528	J	12.8	1.1		15.4	2.1		
CBSB060105	8.0	4.2		1640	526		<	0.58	U	<	1.1	U	81.9	526	J	14.0	1.1		16.6	2.1		
CBSB070001	6.5	4.2		1510	522		<	0.52	U	<	1.0	U	102	522	J	16.5	1.0		14.9	2.1		
CBSB070005	<	21.1	U	754	2640	J	<	2.6	U	<	5.3	U	<	2640	U	11.8	5.3		8.9	10.6	J	
CBSB070010	5.8	4.4		1800	553		<	0.55	U	<	1.1	U	224	553	J	17.6	1.1		15.5	2.2		
CBSB070101																						

TABLE 4-2
DETECTED COMPOUNDS FOR SOIL BORING SAMPLES ASSOCIATED WITH THE BACKGROUND INVESTIGATION
STUDY
CANNON AIR FORCE BASE, NEW MEXICO

PARAMETER ANALYTE UNITS	Metals NICKEL			Metals POTASSIUM			Metals SELENIUM			Metals SILVER			Metals SODIUM			Metals VANADIUM			Metals ZINC		
	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg					
	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual	Result	RL	Qual
CBSB080001	9.4	4.2		2310	521		<	0.52	U	<	1.0	U	<	521	U	21.3	1.0		29.0	2.1	
CBSB080005	8.8	4.3		1900	542		<	0.54	U	<	1.1	U	136	542	J	16.1	1.1		18.8	2.2	
CBSB080010	8.5	4.3		1310	536		<	0.54	U	<	1.1	U	503	536	J	26.3	1.1		13.8	2.1	
CBSB080020	4.6	4.3		1230	540		<	0.54	U	<	1.1	U	366	540	J	12.3	1.1		9.0	2.2	
CBSB080030	2.5	4.3	J	1030	543		<	0.54	U	<	1.1	U	216	543	J	12.7	1.1		7.5	2.2	
CBSB080040	2.8	4.2	J	817	521		<	0.52	U	<	1.0	U	222	521	J	6.5	1.0		6.0	2.1	
CBSB100001	4.8	4.1		911	518		<	0.52	U	<	1.0	U	<	518	U	13.0	1.0		10.2	2.1	
CBSB100005	7.1	4.4		1350	550		<	0.55	U	<	1.1	U	<	550	U	25.8	1.1		14.6	2.2	
Maximum	11.4			2370			1.1			.4 J			503 J			26.3			29.0		
Frequency	31/ 37			37/ 37			4/ 37			1/ 37			19/ 37			37/ 37			37/ 37		

Results presented here are only those chemicals which were detected at least once for background samples and have passed data review.

RL = Reporting Limit

U = Nondetected value

J = Estimated value

Samples CBSB040120, CBSB050110, CBSB060105, and CBSB070101 are QC field duplicates.

TABLE 6-2

**UPPER TOLERANCE LIMITS (UTLs) FOR METALS IN SURFACE SOIL AT
CANNON AIR FORCE BASE**

Chemical	Distribution ^(a)	Maximum Detected Concentration	UTL ^(b)
Aluminum	neither	8,950	8,950
Antimony	neither	ND	3.15
Arsenic	lognormal	3.3	3.6
Barium	neither	670	670
Beryllium	lognormal	0.62	0.78
Cadmium	neither	ND	0.435
Calcium	neither	44,800	44,800
Chromium	neither	10.5	10.5
Cobalt	lognormal	5.3	6.6
Copper	neither	18.3	18.3
Iron	neither	10,100	10,100
Lead	lognormal	10	12
Magnesium	neither	1,930	1,930
Manganese	lognormal	275	307
Mercury	neither	0.056	0.056
Nickel	lognormal	9.4	11
Potassium	lognormal	2,310	2691
Selenium	neither	ND	0.26
Silver	neither	0.4	0.4
Sodium	neither	102	102
Thallium	neither	ND	0.6
Vanadium	lognormal	21.3	23.3
Zinc	lognormal	29	32.2

^(a) Distribution based on Shapiro-Wilk test, coefficient of skewness, and probability plots (see Appendix C.1).

^(b) See Section 5.5.1 for equations. Those metals which were greater than 50% nondetect were assumed to be neither normally nor lognormally distributed. The UTLs for metals, which were neither normally nor lognormally distributed, are either the highest concentration or one-half the highest reporting limit if the metal was nondetect. The initial evaluation will be a point-to-point comparison of the maximum detected site concentration with the 95% UTL for each metal.

ND = Nondetect

All concentrations are in mg/kg.

TABLE 6-5

**UPPER TOLERANCE LIMITS (UTLs) FOR METALS IN SUBSURFACE SOIL AT
CANNON AIR FORCE BASE**

Chemical	Distribution ^(a)	Maximum Detected Concentration	UTL ^(b)
Aluminum	lognormal	12,200	12,214
Antimony	neither	ND	16
Arsenic	normal	3.6	4.3
Barium	lognormal	805	890
Beryllium	normal	0.66	0.73
Cadmium	neither	ND	1.3
Calcium	normal	253,000	237,498
Chromium	lognormal	11.1	13.3
Cobalt	neither	4.7	4.7
Copper	normal	7.4	8.3
Iron	lognormal	9,700	13,148
Lead	normal	7.1	8.7
Magnesium	neither	19,300	19,300
Manganese	lognormal	184	333
Mercury	neither	ND	0.019
Nickel	lognormal	11.4	14.9
Potassium	lognormal	2,370	2,512
Selenium	neither	1.1	1.1
Silver	neither	ND	2.65
Sodium	lognormal	503	1,227
Thallium	neither	ND	2.65
Vanadium	lognormal	26.3	32.8
Zinc	lognormal	20.5	30.6

^(a) Distribution based on Shapiro-Wilk test, coefficient of skewness, and probability plots (see Appendix C.2).

^(b) See Section 5.5.1 for equations. Those metals which were greater than 50% nondetect were assumed to be neither normally nor lognormally distributed. The UTLs for metals, which were neither normally nor lognormally distributed, are either the highest concentration or one-half the highest reporting limit if the metal was nondetect. The initial evaluation will be a point-to-point comparison of the maximum detected site concentration with the 95% UTL for each metal.

ND = Nondetect

All concentrations are in mg/kg.