

Table B.5
Aitchison's Adjustment to the Overall Mean and Standard Deviation
of Arsenic Concentrations
Detected in All Soils
Camp Stanley Storage Activity, Texas

Sample ID	Arsenic Concentrations (mg/kg)	Natural log of Arsenic Concentrations (mg/kg)	
BKGR-SS67	2.12	0.75	M
BKGR-SS26	2.6	0.96	
BKGR-SS54	2.64	0.97	M
BKGR-SS22	2.7	0.99	
BKGR-SS11	3	1.10	
BKGR-SS70	3.2	1.16	M
BKGR-SS42	3.79	1.33	M
BKGR-SS68	3.8	1.34	M
BKGR-SS69	3.87	1.35	M
BKGR-SS17	4	1.39	
BKGR-SS12	4.3	1.46	
BKGR-SS14	4.3	1.46	
BKGR-SS66	4.31	1.46	M
BKGR-SS47	4.36	1.47	M
BKGR-SS13	4.4	1.48	
BKGR-SS29	4.4	1.48	U
BKGR-SS30	4.4	1.48	U
BKGR-SS18	4.6	1.53	
BKGR-SS19	4.6	1.53	U
BKGR-SS28	4.6	1.53	U
BKGR-SS10	4.7	1.55	
BKGR-SS53	4.71	1.55	M
BKGR-SS21	4.8	1.57	U
BKGR-SS24	4.8	1.57	U
BKGR-SS27	4.8	1.57	U
BKGR-SS34	4.8	1.57	U
BKGR-SS80	4.88	1.59	M
BKGR-SS43	4.98	1.61	M
BKGR-SS20	5	1.61	U
BKGR-SS32	5	1.61	U
BKGR-SS33	5	1.61	U
BKGR-SS35	5	1.61	U
BKGR-SS58	5.05	1.62	M
BKGR-SS23	5.2	1.65	U
BKGR-SS31	5.2	1.65	U
BKGR-SS16	5.3	1.67	
BKGR-SS55	5.35	1.68	M
BKGR-SS36	5.38	1.68	M
BKGR-SS50	5.38	1.68	M
BKGR-SS44	5.39	1.68	M
BKGR-SS25	5.4	1.69	U
BKGR-SS15	5.66	1.73	M
BKGR-SS79	5.73	1.75	M
BKGR-SS51	5.74	1.75	M
BKGR-SS64	5.89	1.77	M
BKGR-SS56	6.18	1.82	M
BKGR-SS49	6.2	1.82	M
BKGR-SS72	6.26	1.83	M
BKGR-SS59	6.6	1.89	M
BKGR-SS61	6.84	1.92	M
BKGR-SS65	6.84	1.92	M
BKGR-SS62	6.88	1.93	M
BKGR-SS40	6.95	1.94	M
BKGR-SS38	7	1.95	M
BKGR-SS75	7.08	1.96	M
BKGR-SS46	7.13	1.96	J
BKGR-SS57	7.14	1.97	M
BKGR-SS63	7.15	1.97	M
BKGR-SS78	7.47	2.01	M
BKGR-SS74	7.8	2.05	M
BKGR-SS76	9.53	2.25	M
BKGR-SS73	9.88	2.29	M
BKGR-SS48	9.89	2.29	M
BKGR-SS41	9.96	2.30	M
BKGR-SS71	10.04	2.31	M
BKGR-SS8	11	2.40	U
BKGR-SS77	11.12	2.41	M
BKGR-SS45	11.17	2.41	M
BKGR-SS37	11.63	2.45	M
BKGR-SS7	12	2.48	U
BKGR-SS52	12.56	2.53	M
BKGR-SS6	15.8	2.76	
BKGR-SS3	20	3.00	
BKGR-SS5	20	3.00	
BKGR-SS1	21	3.04	
BKGR-SS9	25	3.22	
BKGR-SS2	26	3.26	
BKGR-SS4	26	3.26	U
Mean of Detects (X)		1.87	
Variance of Detects (V)		0.31	
Number of samples (n)		78	
Number of samples with nondetected values (d)		18	
Adjusted Mean (X*)		1.44	
Adjusted Standard Deviation (S*)		0.78	

d = number of samples with nondetected values
n = number of samples

$$X^* = \left(1 - \frac{d}{n}\right)X$$

$$S^* = \left(\frac{n - (d + 1)}{n - 1} V + \frac{d}{n} \left(\frac{n - d}{n - 1} \right) (X^*)^2 \right)^{\frac{1}{2}}$$

Note: Adjustment method was selected based on the probability plot correlation coefficient value:

	Censored (Cohen)	Detects Only (Aitchison)
Lognormal	0.96299	0.978853574