Calculation of Parametric Tolerance Limits
Using Natural Log of
Metals Concentrations Detected in Crawford and Bexar Stony Soils
Camp Stanley Storage Activity, Texas

Sample ID	Arsenic (mg/kg)	Barium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)
BKGR-SS2	3.26	4.33	2.72	3.89
BKGR-SS5	3.00	3.50	1.57	3.91
BKGR-SS13	1.48	3.22	1.96	2.01
BKGR-SS15	1.22	3.50	1.74	1.93
BKGR-SS16	1.67	4.11	2.94	2.94
BKGR-SS17	1.39	4.34	2.40	2.77
BKGR-SS20	0.22	4.17	1.74	2.28
BKGR-SS33	0.22	3.81	1.36	2.01
BKGR-SS34	0.22	3.00	0.88	1.70
BKGR-SS35	0.22	3.66	1.28	2.16
Distribution	Lognormal	Lognormal	Lognormal	Lognormal
Mean (X)	0.702	3.76	1.86	2.56
Standard Deviation (S)	1.13	0.47	0.66	0.80
Number of samples (n)	10	10	10	10
K Tolerance Factor (K)	2.911	2.911	2.911	2.911
Upper Tolerance Limit (of ln)	4.00	5.13	3.77	4.89
Upper Tolerance Limit (UTL)	54.4	169.7	43.4	133.0

Note: Values are natural logs of values presented in previous table.

$$UTL = X + S*K$$