

Table B.6
Extreme Studentized Deviate Outlier Test
Lead Concentrations Detected in All Soils
Camp Stanley Storage Activity, Texas

Sample ID	Concentration mg/kg	Concentration ln mg/kg	Flag	Soil type	Tsi
BKGR-SS19	5.3	1.67		BtE	1.71
BKGR-SS29	5.3	1.67		BtE	1.71
BKGR-SS23	5.5	1.70		Kr	1.66
BKGR-SS34	5.5	1.70		Cb	1.66
BKGR-SS27	6	1.79		BtE	1.55
BKGR-SS25	6.4	1.86		Kr	1.46
BKGR-SS28	6.9	1.93		BtE	1.36
BKGR-SS30	7.3	1.99		BtE	1.29
BKGR-SS33	7.4	2.00		Cb	1.27
BKGR-SS13	7.5	2.01		Cb	1.25
BKGR-SS31	7.9	2.07		Kr	1.18
BKGR-SS43	8.62	2.15	M	BrE	1.07
BKGR-SS35	8.7	2.16		Cb	1.05
BKGR-SS21	8.9	2.19		BtE	1.02
BKGR-SS20	9.8	2.28		Cb	0.90
BKGR-SS22	10	2.30		Kr	0.87
BKGR-SS46	10.5	2.35	J	TaC	0.81
BKGR-SS55	11.38	2.43	M	Tf	0.70
BKGR-SS72	11.45	2.44	M	TaE	0.69
BKGR-SS56	11.55	2.45	M	Tf	0.68
BKGR-SS32	12	2.48		BtE	0.63
BKGR-SS44	12.07	2.49	M	BrE	0.62
BKGR-SS50	12.2	2.50	J	TaC	0.61
BKGR-SS24	13	2.56		Kr	0.52
BKGR-SS26	13	2.56		BtE	0.52
BKGR-SS70	13.36	2.59	M	LvB	0.48
BKGR-SS36	13.55	2.61	M	BrE	0.47
BKGR-SS59	13.87	2.63	M	Tf	0.44
BKGR-SS77	14.08	2.64	M	TaE	0.42
BKGR-SS78	14.38	2.67	M	TaE	0.39
BKGR-SS18	15	2.71		Kr	0.33
BKGR-SS65	15.48	2.74	M	LvB	0.29
BKGR-SS17	16	2.77		Cb	0.25
BKGR-SS79	16.08	2.78	M	TaE	0.24
BKGR-SS15	16.14	2.78	M	Cb	0.23
BKGR-SS67	16.77	2.82	M	LvB	0.18
BKGR-SS42	16.92	2.83	M	BrE	0.17
BKGR-SS54	17.86	2.88	M	Tf	0.10
BKGR-SS12	19	2.94		Kr	0.02
BKGR-SS14	19	2.94		Kr	0.02
BKGR-SS16	19	2.94		Cb	0.02
BKGR-SS66	19.04	2.95	M	LvB	0.01
BKGR-SS76	20.04	3.00	M	TaE	0.05
BKGR-SS58	20.99	3.04	M	Tf	0.12
BKGR-SS61	21.18	3.05	M	Tf	0.13
BKGR-SS40	21.75	3.08	M	BrE	0.16
BKGR-SS68	21.79	3.08	M	LvB	0.17
BKGR-SS63	23.21	3.14	M	LvB	0.25

Sample ID	Concentration mg/kg	Concentration ln mg/kg	Flag	Soil type	Tsi
BKGR-SS80	23.38	3.15	M	TaE	0.26
BKGR-SS41	23.46	3.16	M	BrE	0.26
BKGR-SS51	23.46	3.16	J	TaC	0.26
BKGR-SS47	23.68	3.16	J	TaC	0.28
BKGR-SS62	23.79	3.17	M	Tf	0.28
BKGR-SS45	24.82	3.21	J	TaC	0.34
BKGR-SS74	24.87	3.21	M	TaE	0.34
BKGR-SS11	28	3.33		Kr	0.50
BKGR-SS49	28.09	3.34	J	TaC	0.50
BKGR-SS64	29.28	3.38	M	LvB	0.56
BKGR-SS71	30.16	3.41	M	LvB	0.60
BKGR-SS53	31.85	3.46	J	TaC	0.67
BKGR-SS4	36	3.58		Kr	0.83
BKGR-SS6	36	3.58		LvB	0.83
BKGR-SS73	41.19	3.72	M	TaE	1.01
BKGR-SS37	43.27	3.77	M	BrE	1.08
BKGR-SS69	43.85	3.78	M	LvB	1.09
BKGR-SS75	45.79	3.82	M	TaE	1.15
BKGR-SS3	48	3.87		TaE	1.21
BKGR-SS10	48	3.87		TaC	1.21
BKGR-SS2	49	3.89		Cb	1.24
BKGR-SS7	49	3.89		BtE	1.24
BKGR-SS8	49	3.89		BtE	1.24
BKGR-SS5	50	3.91		Cb	1.27
BKGR-SS38	51.91	3.95	M	BrE	1.32
BKGR-SS1	56	4.03		BrE	1.42
BKGR-SS52	60.55	4.10	J	TaC	1.52
BKGR-SS9	92	4.52		Tf	2.08
BKGR-SS48	98.03	4.59	J	TaC	2.16
BKGR-SS57	212.59	5.36	M	Tf	3.19
Mean (ln mg/kg)	2.96				
Sample Size, n	78				
Stdev, s	0.752				

Notes:

$$T_s = \max[(x_i - \text{mean})/s; i=1,2,\dots,n]$$

critical value = 3.31, critical values from Rosner's generalized ESD many outlier procedure $\alpha=0.05$.

Decision Rule: If $T_s >$ than T_{crit} then the observation is an outlier

$$T_{\text{max}}=3.19 < T_{\text{crit}}=3.39; p>0.05$$

Conclusion: SS57 is not an outlier