

**Shapiro-Wilk Test of Normality**  
**Lead Detected in Crawford and Bexar Stony Soils**  
**Camp Stanley Storage Activity, Texas**

Number of Samples, n	Ordered Concentrations	Reverse Ordered Concentrations	Difference			In of Ordered Concentrations	In of Reverse Ordered Concentrations	Difference		
	x(i)	x(n-i+1)	x(n-i+1)-x(i)	a(n-i+1) <sup>a</sup>	b(i) <sup>b</sup>	ln x(i)	ln x(n-i+1)	ln x(n-i+1)- ln x(i)	a(n-i+1) <sup>a</sup>	b(i) <sup>b</sup>
1	5.5	50.0	44.5	0.5739	25.54	1.70	3.91	2.21	0.5739	1.27
2	6.9	49.0	42.1	0.3291	13.86	1.93	3.89	1.96	0.3291	0.65
3	7.5	19.0	11.5	0.2141	2.46	2.01	2.94	0.93	0.2141	0.20
4	7.5	16.0	8.5	0.1224	1.04	2.01	2.77	0.76	0.1224	0.09
5	8.7	9.8	1.1	0.0399	0.04	2.16	2.28	0.12	0.0399	0.00
6	9.8	8.7	-1.1		b= 42.94	2.28	2.16	-0.12		b= 2.21
7	16.0	7.5	-8.5			2.77	2.01	-0.76		
8	19.0	7.5	-11.5		W <sup>c</sup> = 0.697	2.94	2.01	-0.93		W <sup>c</sup> = 0.848
9	49.0	6.9	-42.1		(0.05,10)= 0.842	3.89	1.93	-1.96		W(0.05,10)= 0.842
10	50.0	5.5	-44.5		Normality= Not normal	3.91	1.70	-2.21		Normality= <b>Lognormal</b>

\*\*\* Distribution is lognormal because of higher W value.

<sup>a</sup> From An Analysis of Variance Test for Normality (complete samples), by S.S. Shapiro and M.B. Wilk, Biometrika, vol. 52, pp. 591-611.

<sup>b</sup>  $b(i) = [x(n-i+1) - x(i)] * a(n-i+1)$

<sup>c</sup>  $W = b*b/S*S*n$