

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

Number of Samples, n	Reverse					ln of Reverse				
	Ordered Concentration x(i)	Ordered Concentration x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1) ^a	b(i) ^b	ln of Ordered Concentrations ln x(i)	Ordered Concentration ln x(n-i+1)	Difference ln x(n-i+1)- ln x(i)	a(n-i+1) ^a	b(i) ^b
1	20.0	77.0	57	0.5739	32.71	3.00	4.34	1.35	0.5739	0.77
2	25.0	76.3	51.3	0.3291	16.88	3.22	4.33	1.12	0.3291	0.37
3	33.0	65.0	32	0.2141	6.85	3.50	4.17	0.68	0.2141	0.15
4	33.0	61.0	28	0.1224	3.43	3.50	4.11	0.61	0.1224	0.08
5	39.0	45.0	6	0.0399	0.24	3.66	3.81	0.14	0.0399	0.01
6	45.0	39.0	-6		b= 60.11	3.81	3.66	-0.14		b= 1.37
7	61.0	33.0	-28			4.11	3.50	-0.61		
8	65.0	33.0	-32		W ^c = 0.915	4.17	3.50	-0.68		W ^c = 0.938
9	76.3	25.0	-51.3		W(0.05,10)= 0.842	4.33	3.22	-1.12		W(0.05,10)= 0.842
10	77.0	20.0	-57		Normality= Normal	4.34	3.00	-1.35		Normality= Lognormal

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

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

^b $b(i) = [x(n-i+1) - x(i)] * a(n-i+1)$

^c $W = b*b/S*S*n$