

Shapiro-Wilk Test of Normality
Lead Detected in Brackett-Tarrant Association Soils
(Including Outlier Values)
Camp Stanley Storage Activity, Texas

Number of Samples, n	Ordered Concentrations	Reverse Ordered Concentrations	Difference $x(n-i+1)-x(i)$			In of Ordered Concentrations	In of Reverse Ordered Concentrations	Difference $x(n-i+1)-\ln x$		
	$x(i)$	$x(n-i+1)$		$a(n-i+1)^a$	$b(i)^b$	$\ln x(i)$	$\ln x(n-i+1)$		$a(n-i+1)^a$	$b(i)^b$
1	5.3	49.0	43.7	0.5739	25.08	1.67	3.89	2.22	0.5739	1.28
2	5.3	49.0	43.7	0.3291	14.38	1.67	3.89	2.22	0.3291	0.73
3	6.0	13.0	7	0.2141	1.50	1.79	2.56	0.77	0.2141	0.17
4	6.9	12.0	5.1	0.1224	0.62	1.93	2.48	0.55	0.1224	0.07
5	7.3	8.9	1.6	0.0399	0.06	1.99	2.19	0.20	0.0399	0.01
6	8.9	7.3	-1.6	b=	41.65	2.19	1.99	-0.20	b=	2.25
7	12.0	6.9	-5.1	S=	16.55	2.48	1.93	-0.55	S=	0.798
8	13.0	6.0	-7	W ^c =	0.633	2.56	1.79	-0.77	W ^c =	0.795
9	49.0	5.3	-43.7	W(0.05,10)=	0.842	3.89	1.67	-2.22	W(0.05,10)=	0.842
10	49.0	5.3	-43.7	Normality=	Not normal	3.89	1.67	-2.22	Normality=	Not lognormal

*** Distribution is neither normal nor lognormal because of the lower 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 $W = b*b/S*S*n$