

OCD Case Number 11358
 Application of Nearburg Exploration Company to Terminate Injection Operations
 Eddy County, New Mexico

Statistics

Median = The sample value at which 50% of the samples have a greater value

Median Value of the WOR Data = 2.1

If the linear average and median values of the data are close, then a linear average and standard deviation can be used to predict future values.

$$LinearAverage = \frac{1}{n} \sum_{i=1}^n WOR_i$$

Linear Average of the WOR Data = 7.8

Since the median and linear average data values are dramatically different, linear averages cannot be used to predict future values.

$$LogarithmicAverage = 10^{\left(\frac{1}{n} \sum_{i=1}^n \text{Log}_{10}(WOR_i)\right)}$$

Logarithmic Average of the WOR Data = 2.3

Since the logarithmic average and median values are close to each other, the logarithmic mean and standard deviation should be used to predict future values.

Standard Deviation of $\text{Log}_{10}(\text{WOR}) = 0.62$

These statistics do not provide us with an estimate of the value we should expect when we drill only one well. Statistics do however provide us with the ability to predict the probability of encountering certain ranges of WOR's in any well that is drilled (provided that the data is normally distributed). The following table shows the ranges of WOR's that can reasonably be expected to be encountered in this township.

Range	Probability	Predicted Wells In Township	Actual Wells in Township
Between 2.2 and 2.4	2%	2	3
Between 1.5 and 4	27%	30	33
Between 1 and 6	47%	52	52
Between 0.5 and 10	71%	78	80
Between 0.1 and 40	96%	107	106
Between 40 and 100	2%	2	3