

4. pH:- The negative logarithm of the hydrogen ion activity is the theoretical definition of pH. In practice pH is defined by the approximate relation

$$\text{pH} = -\log_{10} [\text{H}^+]$$

It is measured by a pH meter usually using the calomel-glass electrode system.

Although pH is a useful parameter in assessing the quality of mine water, it does not establish the true pollutional potential of a water. The following data relate pH to sulfuric acid acidity:

<u>pH</u>	<u>Acidity as H₂SO₄, ppm</u>	<u>pH</u>	<u>Acidity as H₂SO₄, ppm</u>
2	490	5	0.49
3	49	6	0.049
4	4.9	7	0.0049

The accurate measurement of pH in the field is complicated by the many variables affecting the measurement such as temperature, variability of composition, and dissolved gases.