

Treatment and Use of Acid Mine Drainage for Marcellus Hydrofracture Water

MB0509

Opportunity: The huge Marcellus black shale deposit, which underlies most of northern Appalachia, is estimated to contain 168+ trillion cubic feet of natural gas. Due to the depth and compact nature of this formation, horizontal drilling with follow-up fracture of the formation with a mixture of high pressure water and sand is required to obtain economic gas production.

Problem: From 2 to 10 million gallons of hydrofracture water, mixed with additives, is required to completion fracture each horizontal deep well. This is a significant amount and obtaining it of a suitable quality, minimum amount of scale forming constituents present, for makeup as hydrofracture water presents a significant problem for many well drillers.

Solution: The solution to this water quantity and quality problem is to treat the ample amounts of acid mine drainage often present in the same areas that drilling activities are taking place. Treatment of acid mine drainage to remove scale forming impurities renders it suitable for use as frac water and also lower the discharge of pollutants to state waterways.

How: ProChemTech has designed and built many wastewater treatment systems in the past twenty + years in a number of different industries utilizing our unique water treatment chemistries and unique inclined plate clarifiers. This well developed technology permits economical treatment of acid mine drainage for use as hydrofracture makeup water. Units can be manufactured trailer mounted or for stationary placement in flow ratings from 10 to 1000 gpm.

inclined plate clarifier treating acid mine drainage to supply water for trout raising

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