

Permian Treating Chemicals

WATER ANALYSIS REPORT

SAMPLE

1 Co. : Penroc
Lease :
Well No.: 27-2
Analysis:

Sample Loc. :
Date Sampled : 04-November-1994
Attention :

ANALYSIS

1. pH 5.900
2. Specific Gravity 60/60 F. 1.108
3. CaCO₃ Saturation Index @ 80 F. +0.006
@ 140 F. +0.946

Dissolved Gasses

MG/L EQ. WT. *MEQ/L

4. Hydrogen Sulfide Not Present
5. Carbon Dioxide Not Determined
6. Dissolved Oxygen Not Determined

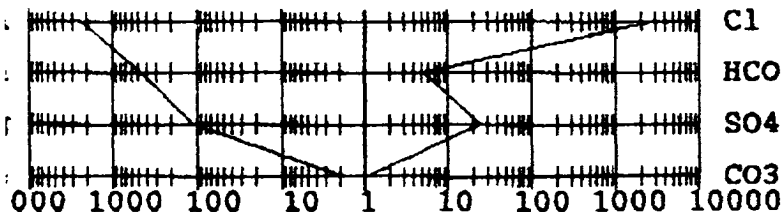
Cations

7. Calcium (Ca⁺⁺) 8,918 / 20.1 = 443.68
8. Magnesium (Mg⁺⁺) 1,337 / 12.2 = 109.59
9. Sodium (Na⁺) (Calculated) 52,734 / 23.0 = 2,292.78
10. Barium (Ba⁺⁺) Not Determined

Anions

11. Hydroxyl (OH⁻) 0 / 17.0 = 0.00
12. Carbonate (CO₃²⁻) 0 / 30.0 = 0.00
13. Bicarbonate (HCO₃⁻) 298 / 61.1 = 4.88
14. Sulfate (SO₄²⁻) 1,150 / 48.8 = 23.57
15. Chloride (Cl⁻) 99,977 / 35.5 = 2,816.25
16. Total Dissolved Solids 164,414
17. Total Iron (Fe) 32 / 18.2 = 1.76
18. Total Hardness As CaCO₃ 27,775
19. Resistivity @ 75 F. (Calculated) 0.026 /cm.

LOGARITHMIC WATER PATTERN *meq/L.



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION				
COMPOUND	EQ. WT.	X	*meq/L	= mg/L.
Cl Ca(HCO ₃) ₂	81.04		4.88	395
HCO ₃ CaSO ₄	68.07		23.57	1,604
SO ₄ CaCl ₂	55.50		415.24	23,046
CO ₃ Mg(HCO ₃) ₂	73.17		0.00	0
MgSO ₄	60.19		0.00	0
MgCL ₂	47.62		109.59	5,219
NaHCO ₃	84.00		0.00	0
NaSO ₄	71.03		0.00	0
NaCl	58.46		2,291.42	133,957

*Milli Equivalents per Liter

is water is somewhat corrosive due to the pH observed on analysis.
e corrosivity is increased by the content of mineral salts in solution.