

TRETOLITE

Chemicals and Services

PETROLITE

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WATER ANALYSIS REPORT

Company : POGO PRODUCING
Address : MIDLAND, TEXAS
Lease : CALMON #5
Well : SWD
Sample Pt. : UNKNOWN

Date : 09/03/93
Date Sampled : 09/02/93
Analysis No. : 330

ANALYSIS	mg/L	* meq/L
1. pH	5.1	
2. H2S	0 PPM	
3. Specific Gravity	1.165	
4. Total Dissolved Solids	261670.1	
5. Suspended Solids	NR	
6. Dissolved Oxygen	NR	
7. Dissolved CO2	NR	
8. Oil In Water	NR	
9. Phenolphthalein Alkalinity (CaCO3)		
10. Methyl Orange Alkalinity (CaCO3)		
11. Bicarbonate	HCO3 61.0	HCO3 1.0
12. Chloride	Cl 161880.0	Cl 4566.4
13. Sulfate	SO4 50.0	SO4 1.0
14. Calcium	Ca 16400.0	Ca 818.4
15. Magnesium	Mg 3338.4	Mg 274.7
16. Sodium (calculated)	Na 79900.7	Na 3475.5
17. Iron	Fe 40.0	
18. Barium	Ba NR	
19. Strontium	Sr NR	
20. Total Hardness (CaCO3)	54700.0	

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
818 *Ca <----- *HCO3	Ca(HCO3)2	81.0 1.0	81
275 *Mg <-----> *SO4	CaSO4	68.1 1.0	71
3475 *Na <-----> *Cl	CaCl2	55.5 816.3	45298
	Mg(HCO3)2	73.2	
	MgSO4	60.2	
	MgCl2	47.6 274.7	13075
	NaHCO3	84.0	
	Na2SO4	71.0	
	NaCl	58.4 3475.5	203106

Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

REMARKS:

----- A. MILLER / FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,
STEVE TIGERT