

TRETOLITE

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Chemicals and Services

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WATER ANALYSIS REPORT

Company : YATES PETROLEUM
Address : ARTESIA, NEW MEXICO
Lease : GORMAN "GP"
Well : #1
Sample Pt. : WELLHEAD

Date : 08/05/93
Date Sampled : 08/05/93
Analysis No. : 295

ANALYSIS		mg/L		* meq/L
-----		----		-----
1. pH	6.7			
2. H ₂ S	14 PPM			
3. Specific Gravity	1.065			
4. Total Dissolved Solids		106115.8		
5. Suspended Solids		NR		
6. Dissolved Oxygen		NR		
7. Dissolved CO ₂		NR		
8. Oil In Water		NR		
9. Phenolphthalein Alkalinity (CaCO ₃)				
10. Methyl Orange Alkalinity (CaCO ₃)				
11. Bicarbonate	HCO ₃	305.0	HCO ₃	5.0
12. Chloride	Cl	63261.0	Cl	1784.5
13. Sulfate	SO ₄	1500.0	SO ₄	31.2
14. Calcium	Ca	1520.0	Ca	75.8
15. Magnesium	Mg	656.8	Mg	54.0
16. Sodium (calculated)	Na	38873.0	Na	1690.9
17. Iron	Fe	NR		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO ₃)		6500.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt	X meq/L	= mg/L
-----	-----	-----	-----	-----
76 *Ca <----- *HCO ₃	Ca(HCO ₃) ₂	81.0	5.0	405
----- /----->	CaSO ₄	68.1	31.2	2126
54 *Mg -----> *SO ₄	CaCl ₂	55.5	39.6	2198
----- <----- /	Mg(HCO ₃) ₂	73.2		
1691 *Na -----> *Cl	MgSO ₄	60.2		
-----	MgCl ₂	47.6	54.0	2572
Saturation Values Dist. Water 20 C	NaHCO ₃	84.0		
CaCO ₃ 13 mg/L	Na ₂ SO ₄	71.0		
CaSO ₄ * 2H ₂ O 2090 mg/L	NaCl	58.4	1690.9	98814
BaSO ₄ 2.4 mg/L				

REMARKS:

----- A. MILLER / FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,
STEVE TIGERT