

TRETOLITE**Chemicals and Services**

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WATER ANALYSIS REPORT

Company : YATES PETROLEUM
 Address : ARTESIA, NEW MEXICO
 Lease : ESTORIL "Y2"
 Well : #1
 Sample Pt. : WELLHEAD

Date : 08/02/93
 Date Sampled : 08/02/93
 Analysis No. : 292

ANALYSIS		mg/L		* meq/L
1. pH	5.9			
2. H ₂ S	0 PPM			
3. Specific Gravity	1.085			
4. Total Dissolved Solids		134217.8		
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	12.0	HCO ₃	0.2
12. Chloride	Cl	81579.0	Cl	2301.2
13. Sulfate	SO ₄	1625.0	SO ₄	33.8
14. Calcium	Ca	8800.0	Ca	439.1
15. Magnesium	Mg	1560.3	Mg	128.4
16. Sodium (calculated)	Na	40641.5	Na	1767.8
17. Iron	Fe	NR		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO ₃)		28400.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
439 *Ca <----- *HCO ₃	Ca(HCO ₃) ₂	81.0	16
/----->	CaSO ₄	68.1	2303
128 *Mg -----> *SO ₄	CaCl ₂	55.5	22478
<-----/	Mg(HCO ₃) ₂	73.2	
1768 *Na -----> *Cl	MgSO ₄	60.2	
	MgCl ₂	47.6	6111
	NaHCO ₃	84.0	
	Na ₂ SO ₄	71.0	
	NaCl	58.4	103310

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