

TRETOLITE DIVISION

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 Reply to:
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 Artesia, NM
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WATER ANALYSIS REPORT

 Company : YATES PETROLEUM
 Address : ARTESIA, NM
 Lease : LILY "ALY" FEDERAL
 Well : #1
 Sample Pt. : WELLHEAD

 Date : 4/6/94
 Date Sampled : 4/6/94
 Analysis No. : 673

ANALYSIS		mg/L		* meq/L
1. pH	5.1			
2. H ₂ S	NEG			
3. Specific Gravity	1.145			
4. Total Dissolved Solids		220730.1		
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	61.0	HCO ₃	1.0
12. Chloride	Cl	143562.0	Cl	4049.7
13. Sulfate	SO ₄	125.0	SO ₄	2.6
14. Calcium	Ca	16320.0	Ca	814.4
15. Magnesium	Mg	15482.4	Mg	1273.7
16. Sodium (calculated)	Na	45179.6	Na	1965.2
17. Iron	Fe	NR		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO ₃)		104500.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
814 *Ca <----- *HCO ₃	Ca (HCO ₃) ₂	81.0	81
----- /----->	CaSO ₄	68.1	177
1274 *Mg -----> *SO ₄	CaCl ₂	55.5	810.8 44990
----- <----- /	Mg (HCO ₃) ₂	73.2	
1965 *Na -----> *Cl	MgSO ₄	60.2	
	MgCl ₂	47.6	1273.7 60637
	NaHCO ₃	84.0	
	Na ₂ SO ₄	71.0	
	NaCl	58.4	1965.2 114845

Saturation Values Dist. Water 20 C	
CaCO ₃	13 mg/L
CaSO ₄ * 2H ₂ O	2090 mg/L
BaSO ₄	2.4 mg/L

REMARKS:

Petrolite Oilfield Chemicals Group

 Respectfully submitted,
 S. TIGERT