

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, NEW MEXICO
 Lease : BRANNIGAN
 Well : #1
 Sample Pt. : WELLHEAD

 Date : 12/15/93
 Date Sampled : 12/15/93
 Analysis No. : 448

ANALYSIS		mg/L		* meq/L
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1. pH		7.0		
2. H ₂ S		230 PPM		
3. Specific Gravity		1.010		
4. Total Dissolved Solids		19467.5		
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	768.0	HCO ₃	12.6
12. Chloride	Cl	8754.0	Cl	246.9
13. Sulfate	SO ₄	2875.0	SO ₄	59.9
14. Calcium	Ca	840.0	Ca	41.9
15. Magnesium	Mg	166.9	Mg	13.7
16. Sodium (calculated)	Na	6063.6	Na	263.7
17. Iron	Fe	NR		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO ₃)		2785.0		

 PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter		Compound	Equiv wt	X meq/L	= mg/L

42 *Ca <-----	*HCO ₃	Ca(HCO ₃) ₂	81.0	12.6	1020
-----	/----->	CaSO ₄	68.1	29.3	1996
14 *Mg ----->	*SO ₄	CaCl ₂	55.5		
-----	<-----/	Mg(HCO ₃) ₂	73.2		
264 *Na ----->	*Cl	MgSO ₄	60.2	13.7	826
-----		MgCl ₂	47.6		
Saturation Values Dist. Water 20 C		NaHCO ₃	84.0		
CaCO ₃	13 mg/L	Na ₂ SO ₄	71.0	16.8	1194
CaSO ₄ * 2H ₂ O	2090 mg/L	NaCl	58.4	246.9	14431
BaSO ₄	2.4 mg/L				

REMARKS:

----- A. MILLER / FILE

Petrolite Oilfield Chemicals Group

 Respectfully submitted,
 STEVE TIGERT