

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 : SIX FEDERAL
 Well : #2
 Sample Pt. : WELLHEAD

 Date : 03/29/94
 Date Sampled : 03/29/94
 Analysis No. : 634

ANALYSIS		mg/L		* meq/L
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1. pH	6.0			
2. H ₂ S	1 PPM			
3. Specific Gravity	1.045			
4. Total Dissolved Solids		68384.5		
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	85.0	HCO ₃	1.4
12. Chloride	Cl	41961.0	Cl	1183.7
13. Sulfate	SO ₄	125.0	SO ₄	2.6
14. Calcium	Ca	2840.0	Ca	141.7
15. Magnesium	Mg	754.8	Mg	62.1
16. Sodium (calculated)	Na	22618.6	Na	983.8
17. Iron	Fe	NR		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO ₃)		10200.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter		Compound	Equiv wt	X meq/L	= mg/L
-----		-----	-----	-----	-----
142 *Ca <-----	*HCO ₃	Ca (HCO ₃) ₂	81.0	1.4	113
-----	/----->	CaSO ₄	68.1	2.6	177
62 *Mg ----->	*SO ₄	CaCl ₂	55.5	137.7	7642
-----	<-----/	Mg (HCO ₃) ₂	73.2		
984 *Na ----->	*Cl	MgSO ₄	60.2		
-----		MgCl ₂	47.6	62.1	2956
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	983.8	57496
BaSO ₄	2.4 mg/L				

REMARKS:

----- A. MILLER / FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,
STEVE TIGERT