

PETROLITE

WATER ANALYSIS REPORT

Company : YATES DRILLING CO.
 Address : ARTESIA, NM
 Lease : GARNER
 Well : 4
 Sample Pt. : WELLHEAD

Date : 5/27/93
 Date Sampled : 5/27/93
 Analysis No. : 171

ANALYSIS		mg/L		* meq/L
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1. pH	7.3			
2. H2S	0			
3. Specific Gravity	1.005			
4. Total Dissolved Solids		8053.2		
5. Suspended Solids		NR		
6. Dissolved Oxygen		NR		
7. Dissolved CO2		NR		
8. Oil In Water		NR		
9. Phenolphthalein Alkalinity (CaCO3)				
10. Methyl Orange Alkalinity (CaCO3)				
11. Bicarbonate	HCO3	219.0	HCO3	3.6
12. Chloride	Cl	1405.0	Cl	39.6
13. Sulfate	SO4	3750.0	SO4	78.1
14. Calcium	Ca	304.0	Ca	15.2
15. Magnesium	Mg	73.1	Mg	6.0
16. Sodium (calculated)	Na	2302.1	Na	100.1
17. Iron	Fe	NR		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO3)		1060.0		

PROBABLE MINERAL COMPOSITION

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

15 *Ca <-----	*HCO3	4	Ca (HCO3) 2	81.0	3.6	291
-----	/----->	-----	CaSO4	68.1	11.6	788
6 *Mg ----->	*SO4	78	CaCl2	55.5		
-----	<-----/	-----	Mg (HCO3) 2	73.2		
100 *Na ----->	*Cl	40	MgSO4	60.2	6.0	362
-----		-----	MgCl2	47.6		
Saturation Values Dist. Water 20 C			NaHCO3	84.0		
CaCO3	13 mg/L		Na2SO4	71.0	60.5	4297
CaSO4 * 2H2O	2090 mg/L		NaCl	58.4	39.6	2316
BaSO4	2.4 mg/L					

REMARKS: NA
 ----- A. MILLER/FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,
 STEVE TIGERT