

TRETOLITE

PETROLITE

16010 Barker's Point Lane • Houston, Texas 77079
713 558-5200 • Fax 713 589-4737

Reply to: P.O. Box 60180
Midland, TX 79711-0180

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NOV 24 1992

WATER ANALYSIS REPORT

Company : YATES PETROLEUM
Address : ARTESIA, NEW MEXICO
Lease : MITCHELL IN
Well : #2 I-23-17-25
Sample Pt. : SWD TANK

Date : 10-26-92
Date Sampled : 10-20-92
Analysis No. : 2588

ANALYSIS	mg/L	* meq/L
1. pH	7.1	
2. H2S	5 PPM	
3. Specific Gravity	1.125	
4. Total Dissolved Solids	184862.4	
5. Suspended Solids		
6. Dissolved Oxygen		
7. Dissolved CO2		
8. Oil In Water		
9. Phenolphthalein Alkalinity (CaCO3)		
10. Methyl Orange Alkalinity (CaCO3)	210.0	
11. Bicarbonate	HCO3 256.2	HCO3 4.2
12. Chloride	Cl 110093.5	Cl 3105.6
13. Sulfate	SO4 3000.0	SO4 62.5
14. Calcium	Ca 2901.8	Ca 144.8
15. Magnesium	Mg 1113.4	Mg 91.6
16. Sodium (calculated)	Na 67495.7	Na 2935.9
17. Iron	Fe 1.7	
18. Barium	Ba 0.0	
19. Strontium	Sr 0.0	
20. Total Hardness (CaCO3)	11830.6	

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
145 *Ca <----- *HCO3	Ca(HCO3)2	81.0 4.2	340
/----->	CaSO4	68.1 62.5	4252
92 *Mg -----> *SO4	CaCl2	55.5 78.1	4335
<-----/	Mg(HCO3)2	73.2	
2936 *Na -----> *Cl	MgSO4	60.2	
	MgCl2	47.6 91.6	4361
	NaHCO3	84.0	
	Na2SO4	71.0	
	NaCl	58.4 2935.9	171572
Saturation Values Dist. Water 20 C			
CaCO3 13 mg/L			
CaSO4 * 2H2O 2090 mg/L			
BaSO4 2.4 mg/L			

REMARKS: MALLETT - BENNETT - FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,
SUE CRISS

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SCALE TENDENCY REPORT

Company	: YATES PETROLEUM	Date	: 10-26-92
Address	: ARTESIA, NEW MEXICO	Date Sampled	: 10-20-92
Lease	: MITCHELL	Analysis No.	: 2588
Well	:	Analyst	: SUE CRISS
Sample Pt.	: SWD TANK		

STABILITY INDEX CALCULATIONS (Stiff-Davis Method) CaCO₃ Scaling Tendency

S.I. = 0.8 at 80 deg. F or 27 deg. C
S.I. = 0.9 at 120 deg. F or 49 deg. C

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS (Skillman-McDonald-Stiff Method) Calcium Sulfate

S = 5419 at 80 deg. F or 27 deg C
S = 5761 at 120 deg. F or 49 deg C

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Respectfully submitted,
SUE CRISS