

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

RECEIVED

NOV 24 1992

C. C. D.
ANALYST

WATER ANALYSIS REPORT

Company : YATES PETROLEUM
Address : ARTESIA, NEW MEXICO
Lease : BATE
Well : Cholla "AGE" Fed #2
Sample Pt. : SWD I-3-20-24

Date : 10-26-92
Date Sampled : 10-20-92
Analysis No. : 2580

ANALYSIS		mg/L	* meq/L
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1.	pH	7.4	
2.	H2S	290 PPM	
3.	Specific Gravity	1.010	
4.	Total Dissolved Solids	10429.6	
5.	Suspended Solids		
6.	Dissolved Oxygen		
7.	Dissolved CO2		
8.	Oil In Water		
9.	Phenolphthalein Alkalinity (CaCO3)		
10.	Methyl Orange Alkalinity (CaCO3)	900.0	
11.	Bicarbonate	HCO3 1098.0	HCO3 18.0
12.	Chloride	Cl 4254.0	Cl 120.0
13.	Sulfate	SO4 2055.0	SO4 42.8
14.	Calcium	Ca 1290.6	Ca 64.4
15.	Magnesium	Mg 1059.9	Mg 87.2
16.	Sodium (calculated)	Na 671.1	Na 29.2
17.	Iron	Fe 1.0	
18.	Barium	Ba 0.0	
19.	Strontium	Sr 0.0	
20.	Total Hardness (CaCO3)	7586.8	

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter				Compound	Equiv wt	X meq/L	= mg/L
+-----+				-----			
64	*Ca <-----	*HCO3	18	Ca(HCO3)2	81.0	18.0	1459
	/----->			CaSO4	68.1	42.8	2913
87	*Mg ----->	*SO4	43	CaCl2	55.5	3.6	200
	<-----/			Mg(HCO3)2	73.2		
29	*Na ----->	*Cl	120	MgSO4	60.2		
+-----+				MgCl2	47.6	87.2	4151
Saturation Values Dist. Water 20 C				NaHCO3	84.0		
CaCO3 13 mg/L				Na2SO4	71.0		
CaSO4 * 2H2O 2090 mg/L				NaCl	58.4	29.2	1706
BaSO4 2.4 mg/L							

REMARKS: MALLET - 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	: BATE	Analysis No.	: 2580
Well	:	Analyst	: SUE CRISS
Sample Pt.	: SWD		

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

S.I. = 1.5 at 80 deg. F or 27 deg. C
S.I. = 1.6 at 120 deg. F or 49 deg. C

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

S = 2677 at 80 deg. F or 27 deg C
S = 2738 at 120 deg. F or 49 deg C

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Respectfully submitted,
SUE CRISS