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

WATER ANALYSIS REPORT

Company : YATES PETROLEUM
Address : ARTESIA, NEW MEXICO
Lease : ROY "AET"
Well : #3 P-7-19-25
Sample Pt. : SWD TANK

Date : 10-26-92
Date Sampled : 10-20-92
Analysis No. : 2590

	ANALYSIS		mg/L		* meq/L
1.	pH	7.7			
2.	H2S	260 PPM			
3.	Specific Gravity	1.010			
4.	Total Dissolved Solids		10921.6		
5.	Suspended Solids				
6.	Dissolved Oxygen				
7.	Dissolved CO2				
8.	Oil In Water				
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)		860.0		
11.	Bicarbonate	HCO3	1049.2	HCO3	17.2
12.	Chloride	Cl	4223.5	Cl	119.1
13.	Sulfate	SO4	2000.0	SO4	41.6
14.	Calcium	Ca	1362.7	Ca	68.0
15.	Magnesium	Mg	272.3	Mg	22.4
16.	Sodium (calculated)	Na	2013.6	Na	87.6
17.	Iron	Fe	0.2		
18.	Barium	Ba	0.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		4524.1		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

68	*Ca <----- *HCO3	17
	/------->	
22	*Mg -----> *SO4	42
	<---------/	
88	*Na -----> *Cl	119

Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	17.2	1394
CaSO4	68.1	41.6	2835
CaCl2	55.5	9.2	508
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	22.4	1066
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	87.6	5119

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	: ROY	Analysis No.	: 2590
Well	:	Analyst	: SUE CRISS
Sample Pt.	: SWD TANK		

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

S.I. = 1.8 at 80 deg. F or 27 deg. C
S.I. = 1.9 at 120 deg. F or 49 deg. C

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

S = 2363 at 80 deg. F or 27 deg C
S = 2415 at 120 deg. F or 49 deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,
SUE CRISS