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 : ROUTH "NU" Deep Com
Well : #2 B-14-19-24
Sample Pt. : SWD TANK

Date : 10-26-92
Date Sampled : 10-20-92
Analysis No. : 2581

	ANALYSIS		mg/L		* meq/L
1.	pH	7.6			
2.	H2S	210 PPM			
3.	Specific Gravity	1.010			
4.	Total Dissolved Solids		8848.7		
5.	Suspended Solids				
6.	Dissolved Oxygen				
7.	Dissolved CO2				
8.	Oil In Water				
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)		829.0		
11.	Bicarbonate	HCO3	1011.4	HCO3	16.6
12.	Chloride	Cl	3701.0	Cl	104.4
13.	Sulfate	SO4	1730.0	SO4	36.0
14.	Calcium	Ca	1050.1	Ca	52.4
15.	Magnesium	Mg	1176.6	Mg	96.8
16.	Sodium (calculated)	Na	179.4	Na	7.8
17.	Iron	Fe	0.2		
18.	Barium	Ba	0.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		7466.7		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

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+------+                        +------+
|   52 | *Ca <----- *HCO3       |   17 |
|------|   /------->            |------|
|   97 | *Mg -----> *SO4        |   36 |
|------|      <---------/       |------|
|    8 | *Na -----> *Cl         |  104 |
+------+                        +------+
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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	16.6	1344
CaSO4	68.1	35.8	2438
CaCl2	55.5		
Mg(HCO3)2	73.2		
MgSO4	60.2	0.2	12
MgCl2	47.6	96.6	4598
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	7.8	456

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	: ROUTH	Analysis No.	: 2581
Well	:	Analyst	: SUE CRISS
Sample Pt.	: SWD TANK		

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

S.I. = 1.6 at 80 deg. F or 27 deg. C
S.I. = 1.7 at 120 deg. F or 49 deg. C

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

S = 2659 at 80 deg. F or 27 deg C
S = 2714 at 120 deg. F or 49 deg C

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Respectfully submitted,
SUE CRISS