T. 27 N. 20W Sec. 5

TRETOLITE

PETROLITE

WATER ANALYSIS REPORT

Mid-Continent Region
Technical Services
5801 West 10th Street
Great Bend, Kansas 67530
(316) 792-7728

Company : Mull Drilling Co.
Address :
Lease : Einsel
Well : J-1
Sample Pt. :

Date : 05/11/92
Date Sampled : 05/07/92
Analysis No. :

	ANALYSIS		mg/L		* meq/L
1.	pH	5.9			
2.	H2S	Positive			
3.	Specific Gravity	1.044			
4.	Total Dissolved Solids		76851.7		
5.	Suspended Solids				
6.	Dissolved Oxygen				
7.	Dissolved CO2				
8.	Oil In Water				
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)		66.0		
11.	Bicarbonate	HCO3	80.5	HCO3	1.3
12.	Chloride	Cl	46642.3	Cl	1315.7
13.	Sulfate	SO4	775.0	SO4	16.1
14.	Calcium	Ca	3531.0	Ca	176.2
15.	Magnesium	Mg	904.3	Mg	74.4
16.	Sodium (calculated)	Na	24888.5	Na	1082.6
17.	Iron	Fe	20.0		
18.	Barium	Ba	10.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		12541.3		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

176	*Ca <----- *HCO3	1
	/------->	
74	*Mg -----> *SO4	16
	<----------/	
1083	*Na -----> *Cl	1316

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	1.3	107
CaSO4	68.1	16.1	1098
CaCl2	55.5	158.7	8809
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	74.4	3542
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	1082.6	63266

REMARKS: Ed Heronema
Sales Engineer

Respectfully submitted,

R. Rush Blaz

Petrolite Oilfield Chemicals Group
Mid-Continent Region
5601 Northwest 72nd, Suite 324
Oklahoma City, OK 73132

TRETOLITE

PETROLITE

SCALE TENDENCY REPORT

Mid-Continent Region
Technical Services
5801 West 10th Street
Great Bend, Kansas 67530
(316) 792-7728

Company	: Mull Drilling Co.	Date	: 05/11/92
Address	:	Date Sampled	: 05/07/92
Lease	: Einsel	Analysis No.	:
Well	: J-1	Analyst	: R. Rush Blaz
Sample Pt.	:		

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

S.I. = -0.9 at 80 deg. F or 27 deg. C
S.I. = -0.9 at 100 deg. F or 38 deg. C
S.I. = -0.8 at 125 deg. F or 52 deg. C
S.I. = -0.6 at 150 deg. F or 66 deg. C
S.I. = -0.5 at 180 deg. F or 82 deg. C

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

S = 3173 at 80 deg. F or 27 deg C
S = 3321 at 100 deg. F or 38 deg C
S = 3388 at 125 deg. F or 52 deg C
S = 3391 at 150 deg. F or 66 deg C
S = 3309 at 180 deg. F or 82 deg C

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