

WATER ANALYSIS REPORT

Company : SANTA FE Date : 10/19/95
 Address : ARTESIA Date Sampled : 10/18/95
 Lease : PLADDIUM 7 FEDERAL#1 Analysis No. : 001
 Well : BATTERY 7-246-31e
 Sample Pt. : TANK

ANALYSIS	mg/L	* meq/L
1. pH	5.4	
2. H2S	0 PPM	
3. Specific Gravity	1.205	
4. Total Dissolved Solids	303388.1	
5. Suspended Solids	NR	
6. Dissolved Oxygen	NR	
7. Dissolved CO2	NR	
8. Oil In Water	NR	
9. Phenolphthalein Alkalinity (CaCO3)		
10. Methyl Orange Alkalinity (CaCO3)		
11. Bicarbonate	HCO3 36.0	HCO3 0.6
12. Chloride	Cl 186162.0	Cl 5251.4
13. Sulfate	SO4 0.0	SO4 0.0
14. Calcium	Ca 23600.0	Ca 1177.6
15. Magnesium	Mg 88.6	Mg 7.3
16. Sodium (calculated)	Na 93501.5	Na 4067.1
17. Iron	Fe NR	
18. Barium	Ba NR	
19. Strontium	Sr NR	
20. Total Hardness (CaCO3)	59300.0	

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
1178 *Ca <----- *HCO3	Ca(HCO3)2	81.0 0.6	48
/----->	CaSO4	68.1	
7 *Mg -----> *SO4	CaCl2	55.5 1177.1	65315
<-----/	Mg(HCO3)2	73.2	
4067 *Na -----> *Cl	MgSO4	60.2	
	MgCl2	47.6 7.3	347
Saturation Values Dist. Water 20 C	NaHCO3	84.0	
CaCO3 13 mg/L	Na2SO4	71.0	
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4 4067.1	237679
BaSO4 2.4 mg/L			

REMARKS:

----- ANDY MILLER

Petrolite Oilfield Chemicals Group

Respectfully submitted,
SHAWNA MATTHEWS