



WATER ANALYSIS REPORT

Company : SANTA FE
 Address : ARTESIA, NM
 Lease : 9-1
 Well : BATTERY
 Sample Pt. : TANK

Date : 10/19/95
 Date Sampled : 10/18/95
 Analysis No. : 020

9-23s-31e

ANALYSIS		mg/L		* meq/L
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1. pH	5.5			
2. H2S	0 PPM			
3. Specific Gravity	1.195			
4. Total Dissolved Solids		289808.2		
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	24.0	HCO3	0.4
12. Chloride	Cl	179772.0	Cl	5071.1
13. Sulfate	SO4	125.0	SO4	2.6
14. Calcium	Ca	24400.0	Ca	1217.6
15. Magnesium	Mg	3562.3	Mg	293.1
16. Sodium (calculated)	Na	81924.8	Na	3563.5
17. Iron	Fe	NR		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO3)		75600.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter		Compound	Equiv wt	X meq/L	=	mg/L

1218	*Ca <----- *HCO3	Ca(HCO3)2	81.0	0.4		32
	/----->	CaSO4	68.1	2.6		177
293	*Mg -----> *SO4	CaCl2	55.5	1214.6		67396
	<-----/	Mg(HCO3)2	73.2			
3563	*Na -----> *Cl	MgSO4	60.2			
		MgCl2	47.6	293.1		13952
		NaHCO3	84.0			
		Na2SO4	71.0			
		NaCl	58.4	3563.5		208251
Saturation Values Dist. Water 20 C						
	CaCO3					13 mg/L
	CaSO4 * 2H2O					2090 mg/L
	BaSO4					2.4 mg/L

REMARKS:

----- ANDY MILLER

Petrolite Oilfield Chemicals Group

Respectfully submitted,
 SHAWNA MATTHEWS