

WATER ANALYSIS REPORT

Company : YATES PETROLEUM Date : 10/19/95
 Address : ARTESIA, NM Date Sampled : 10/18/95
 Lease : PRONGHORN AAP Analysis No. : 022
 Well : BATTERY
 Sample Pt. : TANK 8-23s-33e

ANALYSIS		mg/L		* meq/L
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1. pH	5.8			
2. H2S	0 PPM			
3. Specific Gravity	1.160			
4. Total Dissolved Solids		275336.2		
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	85.0	HCO3	1.4
12. Chloride	Cl	171678.0	Cl	4842.8
13. Sulfate	SO4	0.0	SO4	0.0
14. Calcium	Ca	16560.0	Ca	826.3
15. Magnesium	Mg	6010.2	Mg	494.5
16. Sodium (calculated)	Na	81003.0	Na	3523.4
17. Iron	Fe	NR		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO3)		66100.0		

PROBABLE MINERAL COMPOSITION

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

826	*Ca <----- *HCO3	Ca(HCO3)2	81.0	1.4	113
	/----->	CaSO4	68.1		
494	*Mg -----> *SO4	CaCl2	55.5	825.0	45777
	<-----/	Mg(HCO3)2	73.2		
3523	*Na -----> *Cl	MgSO4	60.2		
		MgCl2	47.6	494.5	23539
		NaHCO3	84.0		
		Na2SO4	71.0		
		NaCl	58.4	3523.4	205908
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