

WATER ANALYSIS REPORT

Company : YATES PETROLUUM Date : 10/19/95
 Address : ARTESIA, NM Date Sampled : 10/18/95
 Lease : COTTON DRAW Analysis No. : 010
 Well : BATTERY
 Sample Pt. : TANK 23-246-31e

ANALYSIS		mg/L		* meq/L
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1. pH	5.4			
2. H2S	0 PPM			
3. Specific Gravity	1.200			
4. Total Dissolved Solids		287257.9		
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	61.0	HCO3	1.0
12. Chloride	Cl	178920.0	Cl	5047.1
13. Sulfate	SO4	100.0	SO4	2.1
14. Calcium	Ca	26680.0	Ca	1331.3
15. Magnesium	Mg	4486.8	Mg	369.1
16. Sodium (calculated)	Na	77010.1	Na	3349.7
17. Iron	Fe	NR		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO3)		85100.0		

PROBABLE MINERAL COMPOSITION

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

1331	*Ca <----- *HCO3	Ca(HCO3)2	81.0	1.0	81
	/----->	CaSO4	68.1	2.1	142
369	*Mg -----> *SO4	CaCl2	55.5	1328.3	73705
	<-----/	Mg(HCO3)2	73.2		
3350	*Na -----> *Cl	MgSO4	60.2		
		MgCl2	47.6	369.1	17573
Saturation Values Dist. Water 20 C		NaHCO3	84.0		
	CaCO3 13 mg/L	Na2SO4	71.0		
	CaSO4 * 2H2O 2090 mg/L	NaCl	58.4	3349.7	195758
	BaSO4 2.4 mg/L				

REMARKS:
 ----- ANDY MILLER