

ANALYSIS - BRUSHY CANYON
PRODUCED WATER

POGO PRODUCING COMPANY
RED TANK "28" FEDERAL #3
Section 28, TWP 22-S, R 32-E
Lea County, New Mexico

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WATER ANALYSIS REPORT

Company : POGO PRODUCING
Address : MIDLAND, TEXAS
Lease : RED TANK FED. 28
Well : #1 *Brushy Canyon (Del)*
Sample Pt. : WELLHEAD

Date : 01/08/93
Date Sampled : 01/04/93
Analysis No. : 005

ANALYSIS		mg/L		* meq/L
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1. pH	6.2			
2. H ₂ S	3 PPM			
3. Specific Gravity	1.160			
4. Total Dissolved Solids		279018.4		
5. Suspended Solids		NR		
6. Dissolved Oxygen		NR		
7. Dissolved CO ₂		80 PPM		
8. Oil In Water		NR		
9. Phenolphthalein Alkalinity (CaCO ₃)				
10. Methyl Orange Alkalinity (CaCO ₃)		60.0		
11. Bicarbonate	HCO ₃	73.2	HCO ₃	1.2
12. Chloride	Cl	170409.6	Cl	4807.0
13. Sulfate	SO ₄	1000.0	SO ₄	20.8
14. Calcium	Ca	16881.7	Ca	842.4
15. Magnesium	Mg	1186.3	Mg	97.6
16. Sodium (calculated)	Na	89409.6	Na	3889.1
17. Iron	Fe	58.0		
18. Barium	Ba	NR		
19. Strontium	Sr	NR		
20. Total Hardness (CaCO ₃)		47042.3		

PROBABLE MINERAL COMPOSITION

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

842 *Ca <----- *HCO ₃	1	Ca (HCO ₃) ₂	81.0	97
----- /----->		CaSO ₄	68.1	1417
98 *Mg <-----> *SO ₄	21	CaCl ₂	55.5	45523
----- <----- /		Mg (HCO ₃) ₂	73.2	
3889 *Na <-----> *Cl	4807	MgSO ₄	60.2	
-----		MgCl ₂	47.6	97.6 4646
Saturation Values Dist. Water 20 C		NaHCO ₃	84.0	
CaCO ₃	13 mg/L	Na ₂ SO ₄	71.0	
CaSO ₄ * 2H ₂ O	2090 mg/L	NaCl	58.4	3889.1 227277
BaSO ₄	2.4 mg/L			

REMARKS:

----- L. MALLET / FILE

Petrolite Oilfield Chemicals Group

Respectfully submitted,
ROZANNE JOHNSON