

Water Analysis Report by Baker Petrolite

OXY USA

OXY ROSCOE FEDERAL COM.

WELL # 1

STACKPACK

Account Manager
FRANK WONER

Summary			Analysis of Sample 114153 @ 75°F					
Sampling Date	12/18/98		Anions			Cations		
Analysis Date	1/6/99			mg/l	meq/l		mg/l	meq/l
Analyst	JOANNA REGAN		Chloride	63.0	1.78	Sodium	76.6	3.33
			Bicarbonate	281	4.60	Magnesium	0.80	0.07
			Carbonate	0.00	0.00	Calcium	4.00	0.20
TDS (mg/l or g/m ³)	514.124		Sulfate	7.00	0.15	Strontium	0.08	0.00
Density (g/cm ³ or tonne/m ³)	1.003		Phosphate	N/A	N/A	Barium	1.00	0.01
Anion/Cation Ratio	1.00		Borate	N/A	N/A	Iron	79.0	2.83
			Silicate	N/A	N/A	Potassium	2.00	0.05
Carbon Dioxide	200 PPM					Aluminum	N/A	N/A
Oxygen			Hydrogen Sulfide		10 PPM	Chromium	N/A	N/A
						Copper	N/A	N/A
			pH at time of sampling		7.10	Lead	N/A	N/A
			pH at time of analysis			Manganese	N/A	N/A
			pH used in Calculations		7.10	Nickel	N/A	N/A

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000bbl						
Temp.	Gauge Press.	Calcite CaCO ₃	Gypsum CaSO ₄ · 2H ₂ O	Anhydrite CaSO ₄	Celestite SrSO ₄	Barite BaSO ₄	CO ₂ Press.	
°F	psi	Index Amount	Index Amount	Index Amount	Index Amount	Index Amount	Index Amount	psi
80	0.	-1.30	-3.92	-3.99	-3.90			
100	0.	-1.17	-3.92	-3.93	-3.87	0.28	0.27	0.33
120	0.	-1.02	-3.91	-3.84	-3.84	0.14	0.15	0.43
140	0.	-0.86	-3.89	-3.72	-3.79	0.03	0.04	0.54
						-0.05		0.67

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

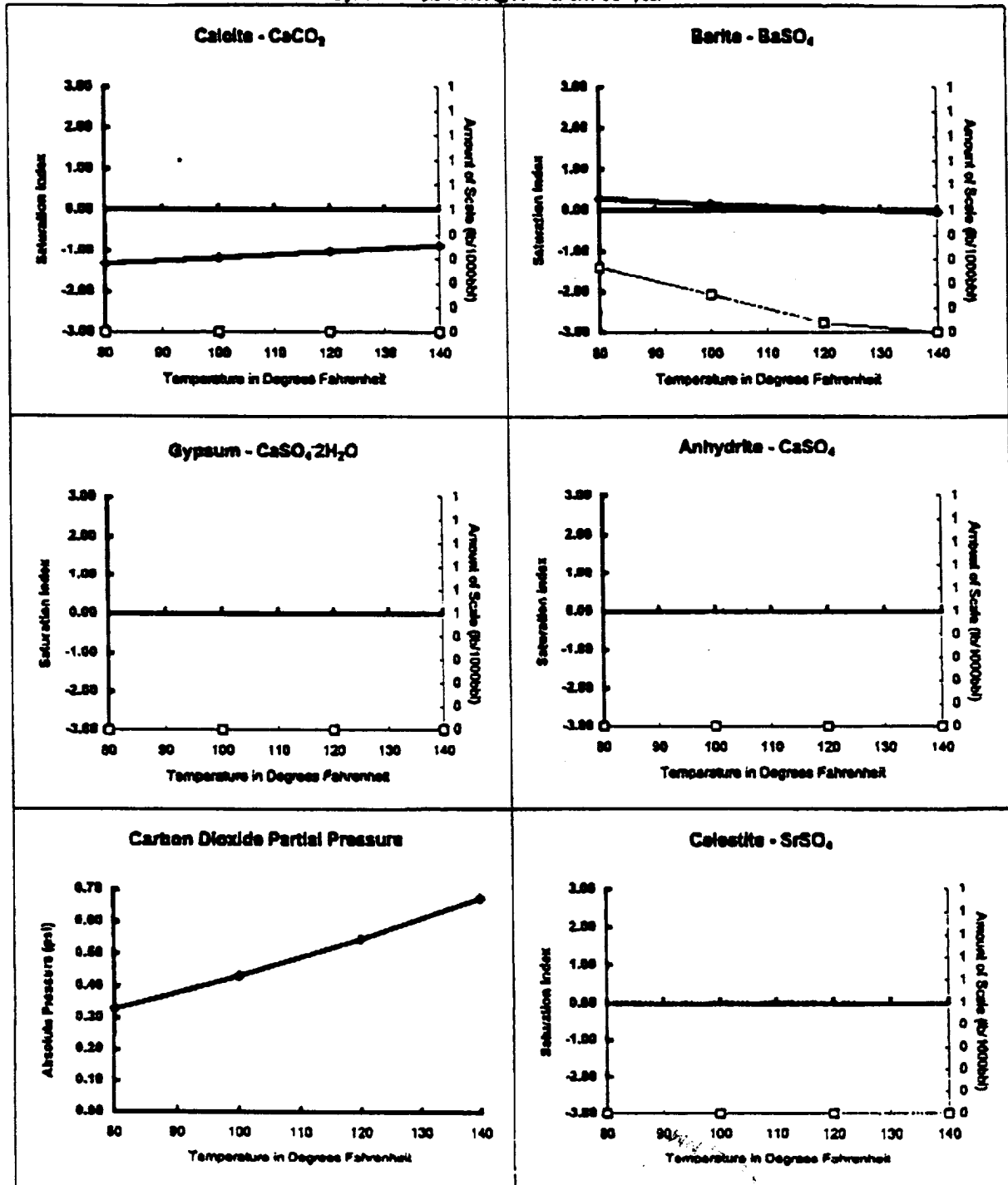
Note 3: The reported CO₂ pressure is actually the calculated CO₂ fugacity. It is usually nearly the same as the CO₂ partial pressure.

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Scale Predictions from Baker Petrolite

Analysis of Sample 114153 @ 78°F for OXY USA, Jan 1998



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