

Water Analysis Report by Baker Petrolite

OXY USA
OXY THOR FEDERAL
WELL # 1
STACKPACK
Account Manager
FRANK WONER

Summary		Analysis of Sample 114151 @ 75°F					
Sampling Date	12/18/98	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date	1/6/99	Chloride	55.0	1.55	Sodium	238	10.3
Analyst	JOANNA REGAN	Bicarbonate	305	5.00	Magnesium	0.40	0.03
		Carbonate	0.00	0.00	Calcium	2.00	0.10
TDS (mg/l or g/m³)	790.368	Sulfate	4.00	0.08	Strontium	0.03	0.00
Density (g/cm³ or tonne/m³)	1.003	Phosphate	N/A	N/A	Barium	0.10	0.00
Anion/Cation Ratio	0.39	Borate	N/A	N/A	Iron	185	8.63
		Silicate	N/A	N/A	Potassium	1.00	0.03
Carbon Dioxide	300 PPM				Aluminum	N/A	N/A
Oxygen					Chromium	N/A	N/A
					Copper	N/A	N/A
					Lead	N/A	N/A
		pH at time of sampling		6.85	Manganese	N/A	N/A
		pH at time of analysis			Nickel	N/A	N/A
		pH used in Calculations		6.85			

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000bbl						
Temp.	Gauge Press.	Calcite CaCO₃	Gypsum CaSO₄ · 2H₂O	Anhydrite CaSO₄	Celestite SrSO₄	Barite BaSO₄	CO₂ Press.	
°F	psi	Index Amount	Index Amount	Index Amount	Index Amount	Index Amount		psi
80	0.	-1.88	-4.60	-4.87	-4.78	-1.09		0.61
100	0.	-1.74	-4.60	-4.81	-4.76	-1.24		0.79
120	0.	-1.59	-4.60	-4.52	-4.73	-1.36		1.00
140	0.	-1.44	-4.59	-4.42	-4.69	-1.45		1.22

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

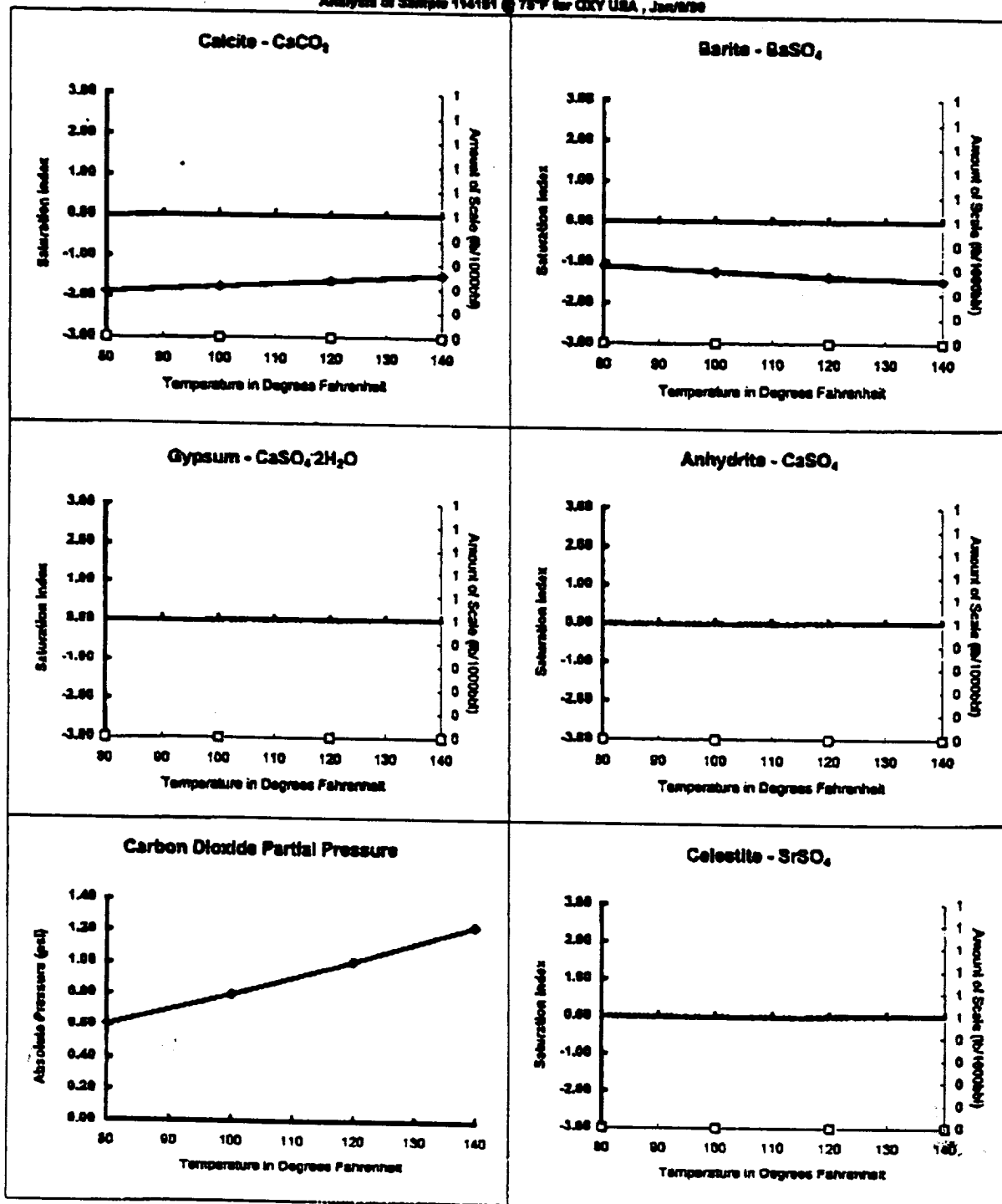
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

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



Scale Predictions from Baker Petrolite

Analysis of Sample 114181 @ 75°F for CXY USA, Jan/99



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