



Water Analysis Report by Baker Petrolite

OXY USA
OXY DUKE FEDERAL
WELL # 1
STACKPACK

Account Manager
FRANK WONER

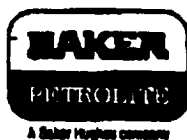
Summary		Analysis of Sample 114155 @ 75°F					
Sampling Date	12/18/98	Anions	<i>mg/l</i>	<i>meq/l</i>	Cations	<i>mg/l</i>	<i>meq/l</i>
Analysis Date	1/6/99	Chloride	798	22.5	Sodium	518	22.5
Analyst	JOANNA REGAN	Bicarbonate	549	9.00	Magnesium	16.0	1.32
		Carbonate	0.00	0.00	Calcium	33.0	1.65
TDS (mg/l or g/m ³)	2187.11	Sulfate	63.0	1.31	Strontium	4.00	0.09
Density (g/cm ³ or tonne/m ³)	1.004	Phosphate	N/A	N/A	Barium	0.20	0.00
Anion/Cation Ratio	1.00	Borate	N/A	N/A	Iron	186	6.68
		Silicate	N/A	N/A	Potassium	20.0	0.51
Carbon Dioxide	120 PPM				Aluminum	N/A	N/A
Oxygen				<10 PPM	Chromium	N/A	N/A
					Copper	N/A	N/A
		pH at time of sampling		6.80	Lead	N/A	N/A
		pH at time of analysis			Manganese	N/A	N/A
		pH used in Calculations		6.80	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.	-0.60	-2.39	-2.46	-1.57	0.22	0.05	1.16
100	0.	-0.47	-2.40	-2.40	-1.55	0.07	0.02	1.51
120	0.	-0.32	-2.40	-2.32	-1.53	-0.05		1.89
140	0.	-0.17	-2.39	-2.22	-1.49	-0.14		2.29

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

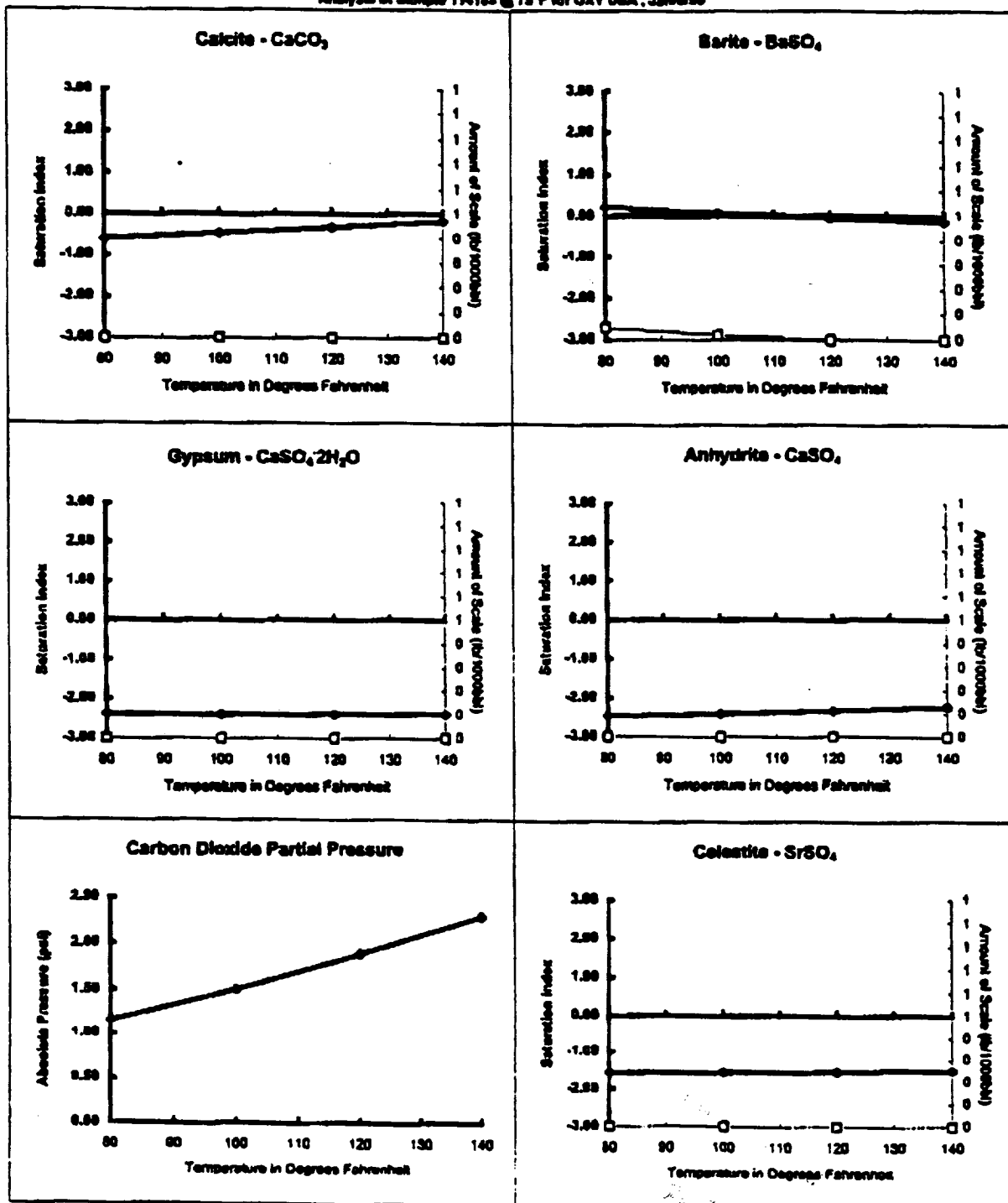
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

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 114163 @ 75°F for OXY UEA, Jan/99



PRODUCT WARRANTY, DISCLAIMER AND LIMITATION OF LIABILITY ARE FOUND ON THE BACK OF THIS SHEET