



Water Analysis Report by Baker Petrolite

SALT WATER DISPOSAL SYSTEM

SALT WATER DIPP

128

WELLHEAD

Account Manager
STEVE STROUD

Summary		Analysis of Sample 54722 @ 25°C					
Sampling Date	2/20/98	Anions	<i>mg/l</i>	<i>meq/l</i>	Cations	<i>mg/l</i>	<i>meq/l</i>
Analysis Date	3/2/98	Chloride	53996	1523	Sodium	29575	1288
Analyst	CHRIS BRASHER	Bicarbonate	407	6.67	Magnesium	775	63.8
		Carbonate	0.00	0.00	Calcium	3802	190
TDS (mg/l or g/m³)	90633.8	Sulfate	1361	28.3	Strontium	108	2.47
Density (g/cm³ or tonne/m³)	1.059	Phosphate	N/A	N/A	Barium	0.60	0.01
Anion/Cation Ratio	1.00	Borate	N/A	N/A	Iron	6.00	0.21
		Silicate	N/A	N/A	Potassium	603	15.4
Chemical Treatment					Aluminum	N/A	N/A
Sample Condition		Hydrogen Sulfide		0	Chromium	N/A	N/A
					Copper	N/A	N/A
		pH at time of sampling		6.10	Lead	N/A	N/A
		pH at time of analysis			Manganese	N/A	N/A
		pH used in Calculations		6.10	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	psi
80	0.	0.04		0.22		0.25		0.02	2.43	0.87	0.29	2.51
100	0.	0.06	5.47	0.27		0.23		0.00	0.49	0.69	0.27	3.17
120	0.	0.17	14.96	0.30		0.18		0.00	0.27	0.53	0.24	3.86
140	0.	0.29	24.45	0.32		0.11		0.01	1.47	0.40	0.20	4.55

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 in fact the CO₂ fugacity calculated from the water analysis. It may differ from the true CO₂ partial pressure.