

North Permian Basin Region
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Lab Team Leader - Sheila Hernandez
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Water Analysis Report by Baker Petrolite

Company:	B P AMOCO INCORPORATED	Sales RDT:	33512
Region:	PERMIAN BASIN	Account Manager:	WAYNE PETERSON (505) 910-9389
Area:	ARTESIA, NM	ID #:	23364
Lease/Platform:	B C FEDERAL '25' LEASE	Analysis Cost:	\$40.00
Entity (or well #):	2 A		
Formation:	UNKNOWN		
Sample Point:	STACK PACK		

Summary		Analysis of Sample 163711 @ 75 °F					
Sampling Date:	12/12/01	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	12/20/01	Chloride:	1974.0	55.68	Sodium:	276.1	12.01
Analyst:	JAMES AHRLETT	Bicarbonate:	186.7	3.06	Magnesium:	8.0	0.66
TDS (mg/l or g/m3):	4350	Carbonate:	0.0	0.	Calcium:	25.0	1.25
Density (g/cm3, tonne/m3):	1.002	Sulfate:	115.0	2.39	Strontium:	6.0	0.14
Anion/Cation Ratio:	0.9999999	Phosphate:			Barium:	0.2	0.
		Borate:			Iron:	198.0	7.15
		Silicate:			Potassium:	1561.0	39.92
Carbon Dioxide:	310 PPM	Hydrogen Sulfide:		2 PPM	Aluminum:		
Oxygen:	0 PPM	pH at time of sampling:		6.9	Chromium:		
Comments:		pH at time of analysis:			Copper:		
		pH used in Calculation:		6.9	Lead:		
					Manganese:		
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
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	-1.18	0.00	-2.34	0.00	-2.41	0.00	-1.23	0.00	0.39	0.00	0.3
100	0	-1.04	0.00	-2.35	0.00	-2.35	0.00	-1.21	0.00	0.25	0.00	0.4
120	0	-0.90	0.00	-2.35	0.00	-2.27	0.00	-1.18	0.00	0.13	0.00	0.5
140	0	-0.76	0.00	-2.33	0.00	-2.16	0.00	-1.15	0.00	0.03	0.00	0.62

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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