

WATER ANALYSIS REPORT
furnished by TRETOLITE CHEMICALS

COMPANY: ARMSTRONG ENERGY
LEASE: GOVERNMENT (SAN ANDRES)
SAMPLE POINT: HEATER TREATER
SAMPLE DATE:
SAMPLE TEMP.:

pH: 6.4
H₂S: +
SPECIFIC GRAVITY: 1.185

TITRATED AND CALCULATED IONS

	MILLIGRAMS PER LITER	MILLIEQUIVALENTS PER LITER
HCO ₃	122.00	2.00
Cl	155490.00	4380.00
SO ₄	0.00	0.00
Ca	20000.00	1000.00
Mg	5589.00	458.11
Na	67249.36	2923.89

IONIC STRENGTH = 5.12
TOTAL HARDNESS = 73000.0 mg/ltr.
TOTAL DISSOLVED SOLIDS = 248296.8 mg/ltr.
TOTAL IRON (Fe) = 1.0 ppm

PROBABLE MINERAL COMPOSITION AND ION PAIRING

	MILLIEQUIVALENTS PER LITER	MILLIGRAMS PER LITER
Ca(HCO ₃) ₂	2.00	162.08
CaSO ₄	0.00	0.00
CaCl ₂	998.00	55389.00
Mg(HCO ₃) ₂	0.00	0.00
MgSO ₄	0.00	0.00
MgCl ₂	458.11	21815.43
NaHCO ₃	0.00	0.00
Na ₂ SO ₄	0.00	0.00
NaCl	2923.89	170930.30

CALCULATED SCALING TENDENCIES

SCALING INDEX

CaCO₃ @ 80 DEG F. = 1.2
CaCO₃ @ 120 DEG F. = 1.9

SATURATION POINT

CaSO₄ @ 70 DEG F. = 609.2 MG/LTR.
CaSO₄ @ 110 DEG F. = 653.9 MG/LTR.