



# Water Analysis Report

1/10/2012

Address:

Customer: Citation Oil & Gas

Attention: Herschel Kennedy

CC: Bob Rogers

Lease: Bledsoe

Formation:

Salesman: Randy Tipton

Target Name: Bledsoe 5-12

Sample Point: Bledsoe 5-12

Sample Date: 11/10/2011

Test Date: 11/21/2011

## Water Analysis(mg/L)

Calcium	7276
Magnesium	967
Barium	
Strontium	
Sodium(calc.)	43015
Bicarbonate Alkalinity	29
Sulfate	1083
Chloride	81204
Resistivity	0.0479

## Appended Data(mg/L)

CO2	202
H2S	1
Iron	39
Oxygen	
Manganese	

## Physical Properties

Ionic Strength(calc.)	2.55
pH(calc.)	
Temperature(°F)	63
Pressure(psi)	25
Density	9.10

## Additional Data

Specific Gravity	1.09
Total Dissolved Solids(Mg/L)	133613
Total Hardness(CaCO3 Eq Mg/	22153

Dew Point	
Lead	
Zinc	

## Calcite Calculation Information

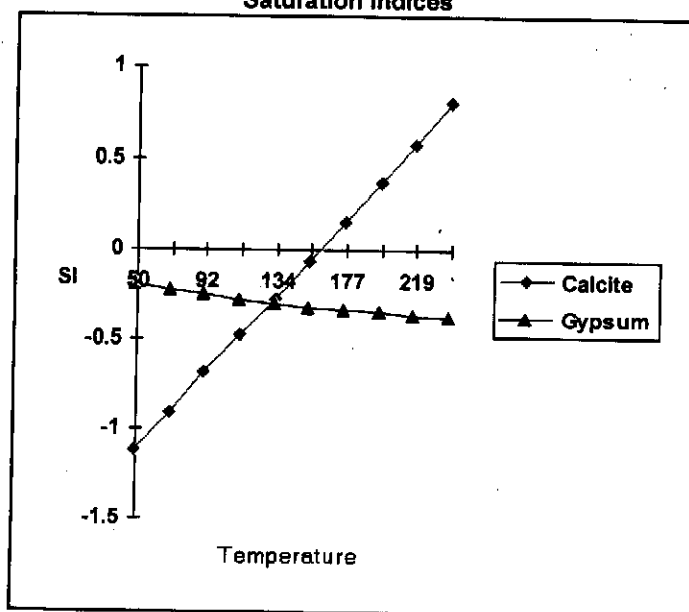
Calculation Method	Value
Known pH	7.00

Remarks:

## SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	-0.99	
Gypsum (Calcium Sulfate)	-0.21	
Hemihydrate (Calcium Sulfate)	-0.24	
Anhydrite (Calcium Sulfate)	-0.39	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

## Saturation Indices



## Saturation Index Data Points

	50	71	92	113	134	156	177	198	219	240
Calcite	-1.12	-0.91	-0.69	-0.48	-0.27	-0.06	0.15	0.37	0.58	0.80
Gypsum	-0.19	-0.22	-0.24	-0.27	-0.29	-0.31	-0.33	-0.34	-0.36	-0.37



# Water Analysis Report

1/10/2012

Address:

Lease: Chris

Formation:

Salesman: Randy Tipton

Customer: Citation Oil & Gas

Attention: Herschel Kennedy

CC: Bob Rogers

Target Name: Chris 5

Sample Point: Chris 5

Sample Date: 11/11/2011

Test Date: 11/21/2011

## Water Analysis(mg/L)

Calcium	4456
Magnesium	795
Barium	
Strontium	
Sodium(calc.)	36429
Bicarbonate Alkalinity	49
Sulfate	1380
Chloride	65327
Resistivity	0.0590

## Appended Data(mg/L)

CO2	229
H2S	1
Iron	40
Oxygen	
Manganese	

## Physical Properties

Ionic Strength(calc.)	2.03
pH(calc.)	
Temperature(°F)	62
Pressure(psia)	25
Density	8.96

## Additional Data

Specific Gravity	1.08
Total Dissolved Solids(Mg/L)	108476
Total Hardness(CaCO3 Eq Mg/	14398

Dew Point	
Lead	
Zinc	

## Calcite Calculation Information

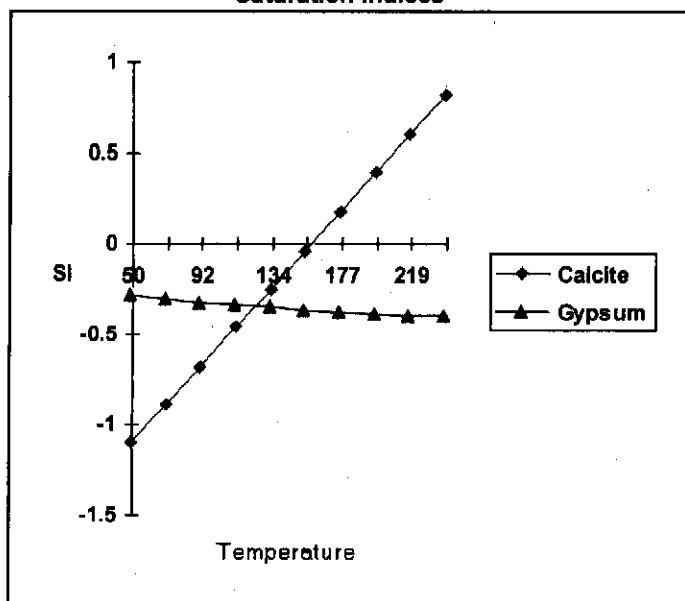
Calculation Method	Value
Known pH	7.00

Remarks:

## SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	-0.98	
Gypsum (Calcium Sulfate)	-0.28	
Hemihydrate (Calcium Sulfate)	-0.30	
Anhydrite (Calcium Sulfate)	-0.53	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

## Saturation Indices



## Saturation Index Data Points

	50	71	92	113	134	156	177	198	219	240
Calcite	-1.10	-0.89	-0.68	-0.46	-0.25	-0.04	0.17	0.39	0.60	0.81
Gypsum	-0.27	-0.29	-0.31	-0.33	-0.34	-0.36	-0.37	-0.38	-0.39	-0.39



# Water Analysis Report

1/10/2012

Address:

Customer: Citation Oil & Gas

Attention: Herschel Kennedy

CC: Bob Rogers

Lease: Bledsoe

Formation:

Salesman: Randy Tipton

Target Name: Bledsoe 3-12

Sample Point: Bledsoe 3-12

Sample Date: 11/11/2011

Test Date: 11/21/2011

## Water Analysis(mg/L)

Calcium	5592
Magnesium	829
Barium	
Strontium	
Sodium(calc.)	37746
Bicarbonate Alkalinity	29
Sulfate	1175
Chloride	69629
Resistivity	0.0557

## Appended Data(mg/L)

CO2	167
H2S	1
Iron	3
Oxygen	
Manganese	

## Physical Properties

Ionic Strength(calc.)	2.17
pH(calc.)	
Temperature(°F)	68
Pressure(psi)	25
Density	9.00

## Additional Data

Specific Gravity	1.08
Total Dissolved Solids(Mg/L)	115003
Total Hardness(CaCO3 Eq Mg/	17378

Dew Point	
Lead	
Zinc	

## Calcite Calculation Information

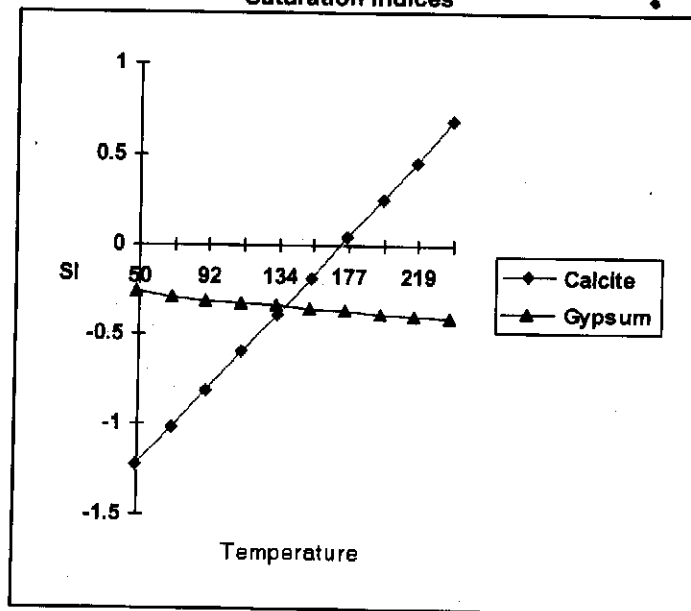
Calculation Method	Value
Known pH	7.00

Remarks:

## SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	-1.05	
Gypsum (Calcium Sulfate)	-0.27	
Hemihydrate (Calcium Sulfate)	-0.30	
Anhydrite (Calcium Sulfate)	-0.47	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

## Saturation Indices



## Saturation Index Data Points

	50	71	92	113	134	156	177	198	219	240
Calcite	-1.23	-1.02	-0.81	-0.60	-0.39	-0.18	0.04	0.25	0.46	0.68
Gypsum	-0.25	-0.28	-0.30	-0.32	-0.33	-0.35	-0.36	-0.38	-0.39	-0.40