



**Saturation Index Calculations**  
*Champion Technologies, Inc.*  
 (Based on the Tomson-Oddo Model)

**Site Information**

Company	Sonat Raton LLC
Field	VPR A
Point	24
Date	9/24/1999

**Water Analysis (mg/L)**

Calcium	188
Magnesium	65
Barium	0
Strontium	0
Sodium*	1212
Bicarbonate Alkalinity	1,586
Sulfate	13
Chloride	1,454

\* - Calculated Value

**Appended Data**

CO2	1 mg/L
H2S	0 mg/L

*TDS - 4,516*

**Physical Properties**

Ionic Strength*	0.07
pH*	7.60
Temperature	90°F
Pressure	50 psia

\* - Calculated Value † - Known/Specified Value

**Calcite Calculation Information**

<i>Calculation Method</i>	<i>Value</i>
pH	7.60
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<i>Bicarbonate Alkalinity Correction(s)</i>	<i>Value</i>
None Used	---

**SI & PTB Results**

<i>Scale Type</i>	<i>SI</i>	<i>PTB</i>
Calcite (Calcium Carbonate)	1.25	151.2
Gypsum (Calcium Sulfate)	-2.99	N/A
Hemihydrate (Calcium Sulfate)	-2.78	N/A
Anhydrite (Calcium Sulfate)	-3.24	N/A
Barite (Barium Sulfate)	N/A	N/A
Celestite (Strontium Sulfate)	N/A	N/A