

DownHole SAT™ Water Analysis Report



SYSTEM IDENTIFICATION

1808-087 EP
Range
LA Mineral 19-30 H3
Received on 8/30/2018

Sample ID#: 1
ID: 1

Sample Date: 08-30-2018 at 1200
Report Date: 08-31-2018

WATER CHEMISTRY

CATIONS

Calcium(as Ca) 3180
Magnesium(as Mg) 184.00
Barium(as Ba) 169.00
Strontium(as Sr) 453.00
Sodium(as Na) 0.00
Potassium(as K) 939.00
Lithium(as Li) 31.60
Iron(as Fe) 26.40
Aluminum(as Al) 0.00
Manganese(as Mn) 7.66
Zinc(as Zn) 4.88

ANIONS

Chloride(as Cl) **6238**
Sulfate(as SO₄) 176.10
Dissolved CO₂(as CO₂) 50.98
Bicarbonate(as HCO₃) 92.00
Carbonate(as CO₃) 0.00
Silica(as SiO₂) 0.00
Phosphate(as PO₄) 0.00
H₂S (as H₂S) 1.00
Boron(as B) 8.60

PARAMETERS

Temperature(°F) 77.00
Sample pH 6.00
Conductivity 11930
T.D.S. 11407
Resistivity 83.82
Sp.Gr.(g/mL) 1.18

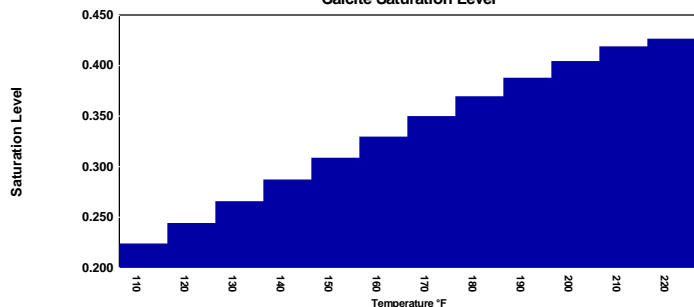
SCALE AND CORROSION POTENTIAL

Temp. (°F)	Press. (psig)	Calcite CaCO ₃		Anhydrite CaSO ₄		Gypsum CaSO ₄ *2H ₂ O		Barite BaSO ₄		Celestite SrSO ₄		Siderite FeCO ₃		Mackawenite FeS		CO ₂ (mpy)	pCO ₂ (psia)
110.00	0.00	0.223	-0.0181	0.101	-293.45	0.140	-235.79	258.20	61.09	1.03	1.30	3.93	0.00449	0.715	-0.0614	0.204	0.352
120.00	0.00	0.244	-0.0166	0.110	-264.26	0.149	-215.21	215.90	59.87	1.05	1.83	4.56	0.00482	0.639	-0.0832	0.196	0.352
130.00	0.00	0.265	-0.0152	0.122	-233.75	0.159	-197.22	181.36	58.73	1.06	2.26	5.25	0.00512	0.574	-0.105	0.184	0.352
140.00	0.00	0.286	-0.0140	0.137	-203.13	0.168	-181.43	153.01	57.65	1.07	2.61	6.00	0.00540	0.518	-0.127	0.170	0.352
150.00	0.00	0.308	-0.0129	0.155	-173.38	0.178	-167.57	129.62	56.64	1.08	2.88	6.81	0.00564	0.469	-0.151	0.165	0.352
160.00	0.00	0.329	-0.0119	0.179	-145.26	0.188	-155.36	110.24	55.69	1.08	3.08	7.67	0.00585	0.425	-0.175	0.160	0.352
170.00	0.00	0.349	-0.0110	0.209	-119.30	0.197	-144.58	94.11	54.80	1.09	3.22	8.57	0.00604	0.386	-0.201	0.155	0.352
180.00	0.00	0.369	-0.0103	0.246	-95.83	0.207	-135.07	80.63	53.96	1.09	3.30	9.50	0.00621	0.350	-0.228	0.122	0.352
190.00	0.00	0.387	-0.00959	0.293	-75.01	0.216	-126.67	69.30	53.17	1.10	3.33	10.46	0.00634	0.318	-0.258	0.0589	0.352
200.00	0.00	0.404	-0.00902	0.353	-56.83	0.225	-119.23	59.76	52.43	1.10	3.32	11.42	0.00645	0.288	-0.290	0.0424	0.352
210.00	0.00	0.418	-0.00853	0.428	-41.20	0.234	-112.67	51.69	51.73	1.09	3.26	12.36	0.00652	0.260	-0.325	0.0487	0.352
220.00	2.51	0.426	-0.00838	0.519	-28.88	0.240	-109.66	44.41	51.75	1.08	2.87	13.16	0.00665	0.269	-0.355	0.0610	0.412
		xSAT Lbs per 1000 Barrels		xSAT Lbs per 1000 Barrels		xSAT Lbs per 1000 Barrels		xSAT Lbs per 1000 Barrels		xSAT Lbs per 1000 Barrels		xSAT Lbs per 1000 Barrels		xSAT Lbs per 1000 Barrels			

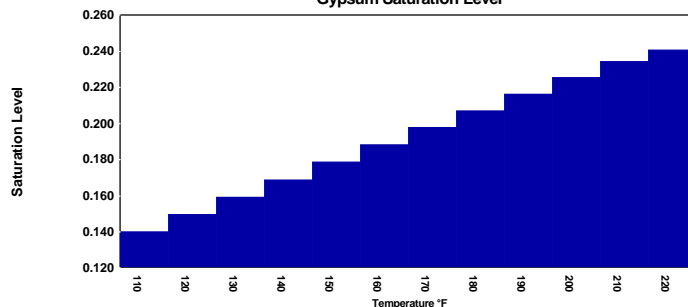
Saturation Levels (xSAT) are the ratio of ion activity to solubility, e.g. {Ca}{CO₃}/K_{sp}. pCO₂ (psia) is the partial pressure of CO₂ in the gas phase.

Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.

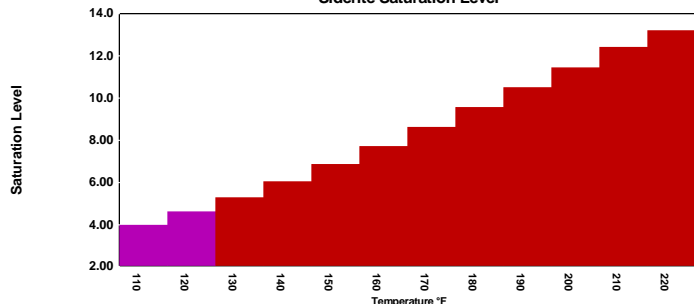
Calcite Saturation Level



Gypsum Saturation Level



Siderite Saturation Level



Barite Saturation Level

