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 SO_4)	176.10
Dissolved CO_2(as CO_2)	50.98
Bicarbonate(as HCO_3)	92.00
Carbonate(as CO_3)	0.00
Silica(as SiO_2)	0.00
Phosphate(as PO_4)	0.00
H_2S (as H_2S)	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 $CaSO_4*2H_2O$		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. $\{Ca\}\{CO_3\}/K_{sp}$. pCO_2 (psia) is the partial pressure of CO_2 in the gas phase.
Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.