

ProKem WATER ANALYSIS REPORT

SAMPL

Oil Co. : **Dakota Resources**
Lease : **Big Eddy**
Well No.: **Fed 98**
Location:
Attention:

Date Sampled : **07-April-2017**
Date Analyzed: **13-April-2017**
Lab ID Number: **Apr1817.002- 8**
Salesperson :
File Name : **Apr1817.002**

ANALYSIS

1. Ph 6.900
2. Specific Gravity 60/60 F. 1.108
3. CACO3 Saturation Index @ 80F
@140F

1.217 Severe
2.097 Severe

Dissolved Gasses

4. Hydrogen Sulfide
5. Carbon Dioxide
6. Dissolved Oxygen

MG/L. EQ. WT. *MEQ/L

60

100

Not Determined

Cations

7. Calcium (Ca++)
8. Magnesium (Mg++)
9. Sodium (Na+) (Calculated)
10. Barium (Ba++)

7,032 / 20.1 = 349.85

878 / 12.2 = 71.97

47,353 / 23.0 = 2,058.83

Not Determined

Anions

11. Hydroxyl (OH-)
12. Carbonate (CO3=)
13. Bicarbonate (HCO3-)
14. Sulfate (SO4=)
15. Chloride (Cl-)
16. Total Dissolved Solids
17. Total Iron (Fe)
18. Manganese (Mn++)
19. Total Hardness as CaCO3
20. Resistivity @ 75 F. (Calculated)

0 / 17.0 = 0.00

0 / 30.0 = 0.00

850 / 61.1 = 13.91

2,100 / 48.8 = 43.03

85,981 / 35.5 = 2,422.00

144,194

7.50 / 18.2 = 0.41

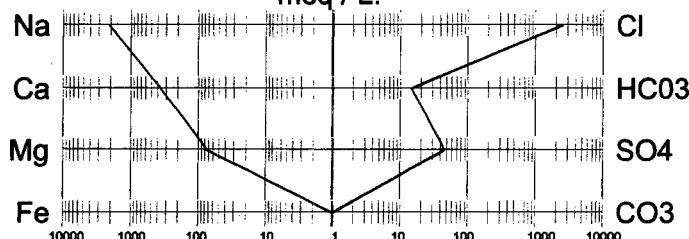
Not Determined

21,175

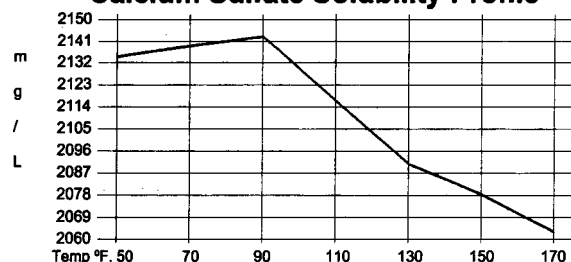
0.044 Ohm · meters

LOGARITHMIC WATER PATTERN

*meq / L.



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	*meq/L	X	EQ. WT. =	mg/L.
Ca(HCO3)2	13.91		81.04	1,127
CaSO4	43.03		68.07	2,929
CaCl2	292.91		55.50	16,256
Mg(HCO3)2	0.00		73.17	0
MgSO4	0.00		60.19	0
MgCl2	71.97		47.62	3,427
NaHCO3	0.00		84.00	0
NaSO4	0.00		71.03	0
NaCl	2,057.13		58.46	120,260

* milliequivalents per Liter

Tony Abernathy, Analyst

BEFORE THE OIL CONSERVATION
DIVISION

Santa Fe, New Mexico

Exhibit No. 13

Submitted by: **DAKOTA RESOURCES, INC.**

Hearing Date: May 25, 2017