

Water Analysis

Sample Description:

Company: YARBOROUGH OIL

Field: WEST LYNCH FED. # 1

Date: 3/19/1993

Name	mg/l	meq/l
Sodium	10187.1	443.11
Calcium	480.0	23.95
Magnesium	683.2	56.20
Chloride	17000.0	479.51
Bicarbonate	988.2	16.19
Sulfate	1075.0	22.38
Sulfide	98.0	6.11
Iron	17.3	0.93
Total Dissolved Solids	30528.8	

Density: 1.0228 g/cc
 Ionic Strength: 0.5793 moles/l
 pH: 7.6

SCALE CALCULATION RESULTS

Sample:
 Company: YARBOROUGH OIL
 Field: WEST LYNCH FED. # 1
 Sample Date: 3/19/1993

1st Range - Temperature
 Initial Value: 70.0
 Final Value: 150.0
 Step Value: 10.0

Reported Temperature: 77
 Reported pH: 7.60

CaCO3 Scale Index

Temperature	
70.0	0.74
80.0	0.85
90.0	0.96
100.0	1.06
110.0	1.17
120.0	1.27
130.0	1.37
140.0	1.47
150.0	1.58

CaSO4 Scale Index

Temperature	
70.0	-0.93
80.0	-0.94
90.0	-0.94
100.0	-0.94
110.0	-0.94
120.0	-0.94
130.0	-0.93
140.0	-0.93
150.0	-0.92

BUREAU OF LAND MANAGEMENT
CARLSBAD RESOURCE AREA

Disposal of Produced Water From Federal Wells

Conditions of Approval

Approval of the produced water disposal methodology is subject to the following conditions of approval:

1. This agency be notified of any change in your method or location of disposal.
2. Compliance with all provisions of NTL-2B.
3. This agency shall be notified of any spill or discharge as required by NTL-3A.
4. This agency reserves the right to modify or rescind approval whenever it determines continued use of the approved method may adversely affect the surface or subsurface environments.
5. All aboveground structures on the lease shall be painted sandstone brown, Federal Std. 595-20318, or 30318, within 90 days if you have not already done so.
6. Any on lease open top storage tanks or pits shall be covered with a wire screen or plastic/nylon netting to prevent entry by birds and other wildlife.
7. This approval does not constitute right-of-way approval for any off lease activities. If water is transported via a pipeline that extends beyond the lease boundary, then you need to submit within 30 days an application for right-of-way approval to the Realty Section in this office if you have not already done so.