VISCO Water Analysis

Tropared for WOOD, MCSHANE AND THAMS

KERMIT, TEXAS

WAYNE NAIL

NALCO Chemical Company

16-Jul-85

Well Number : SOUTH LEONARD QUEENS

Mater Source : PRODUCED WATER AT WATER STATION

DISSOLVED SOLIDS

| | ===== | | | | | |
|---------------|---------|--------------|----------|----|--------|------------|
| Cations | | mg/l | meq/l | | | mg/l |
| | | ==== | | | | |
| Sodium | Na+ | 34,315.42 | 1,491.97 | as | NaC1 | |
| Calcium | Ca++ | 4,680.00 | 234.00 | as | CaCOS | 11,700.00 |
| Magnesium | Mg++ | 4,860.00 | 399.98 | | CaCO3 | 20,000.00 |
| Barium | Ba++ | | | as | CaCO3 | |
| Johal Cati | ions | 43,855.42 | 2,125.95 | | | |
| Anions | | mg/l ==== | meq/l | | | mg/l |
| Chloride | C1 - | 72,233.00 | 2,036.97 | as | NaC1 | 119,000.00 |
| | | 3,508.44 | 72.98 | as | Na2504 | 5,190,00 |
| Carbonate | | • • • | | as | CaCO3 | |
| Bicarb. | HCO2- | 976.00 | 16.01 | as | CaCO3 | 800.00 |
| Total Anio | ons | 75,717.44 | 2,125.95 | | | |
| Total Sol | ids | 120,572.86 | | | | |
| Iotal Iron,Fe | | | | | Fe | A Section |
| Acid to Pl | hen,CO2 | 176.00 | | as | CaCO3 | 400,00 |
| | | | | | | |

SCALING INDICES

| Temp | CaCO3 . | CaSO4 | EaS04 |
|----------------|----------------|------------------|-------|
| 50 F | +0.84 +1.09 | +28.67 | |
| 95 F | +1.30 +1.68 | +27.96 +29.04 | |
| 149 F | +2.14 | +31.09 | |
| 176 F 203 F | +2.68 +3.30 | 401.07 | |

Positive values indicate scaling is likely. Scaling Indices calculated using ASTM standard practices.

OTHER PROPERTIES

| , | |
|-------------------|-------|
| pH | 7.20 |
| Specific Gravity | 1.10 |
| Turbidity | |
| Oxygen, as O2 ppm | |
| Sulfide as H2Sppm | |
| Temperature F | 70.00 |