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Martin Water Laboratories, Inc.

709 W. INDIANA
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PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Bill Carlton LABORATORY NO. 693231
303 West Wall, Suite 2200, Midland, TX 79701 SAMPLE RECEIVED 6-30-93
RESULTS REPORTED 7-6-93

COMPANY Collins & Ware, Inc. LEASE Sheep Draw Federal
FIELD OR POOL 1. Happy Valley 2. Undesignated
SECTION _____ BLOCK _____ SURVEY _____ COUNTY Eddy STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Sheep Draw Federal #2.NO. 2 Produced water - taken from Sheep Draw Federal #3.

NO. 3 _____

NO. 4 _____

REMARKS: Delaware 1. 4,500' 2. 2,600'

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F	1.1734	1.0789		
pH When Sampled				
pH When Received	6.70	7.20		
Bicarbonate as HCO ₃	107	854		
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	86,000	18,700		
Calcium as Ca	28,400	5,000		
Magnesium as Mg	3,645	1,507		
Sodium and/or Potassium	73,080	35,902		
Sulfate as SO ₄	429	1,845		
Chloride as Cl	173,286	66,758		
Iron as Fe	29.7	9.4		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	278,947	111,866		
Temperature °F				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0	95.0		
Resistivity, ohm-cm at 77° F	0.048	0.087		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Results Reported As Milligrams Per Liter				
Additional Determinations And Remarks We have no records cataloged in the Happy Valley field, but we do note the water from well #2 generally correlates with records of natural Delaware in the area. The water from well #3 shows to be decidedly different. We do have some Delaware records in this county that show ratios of salts somewhat similar to this water and that also contain hydrogen sulfide. However, we have no records that show as low a sodium chloride as has been encountered in this water. Therefore, though we consider it a possibility, we would be reluctant to conclude with confidence that this is natural Delaware.				