

Attachment E
WATER ANALYSIS REPORT

Company : YATES PET.
Address : ARTESIA
Lease : MEDANO BA V A
Well : 1
Sample Pt. : WELLHEAD

Date : 10-22-90
Date Sampled : 10-19-90
Analysis No. : 1

ANALYSIS		mg/L	* meq/L
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1.	pH	7.1	
2.	H2S	POS	
3.	Specific Gravity	1.085	
4.	Total Dissolved Solids	115832.4	
5.	Suspended Solids	NR	
6.	Dissolved Oxygen	NR	
7.	Dissolved CO2	NR	
8.	Oil In Water	NR	
9.	Phenolphthalein Alkalinity (CaCO3)		
10.	Methyl Orange Alkalinity (CaCO3)		
11.	Bicarbonate	HCO3 207.0	HCO3 3.4
12.	Chloride	Cl 68799.0	Cl 1940.7
13.	Sulfate	SO4 1750.0	SO4 36.4
14.	Calcium	Ca 1480.0	Ca 73.9
15.	Magnesium	Mg 268.2	Mg 22.1
16.	Sodium (calculated)	Na 43328.2	Na 1884.7
17.	Iron	Fe 0.0	
18.	Barium	Ba 0.0	
19.	Strontium	Sr 0.0	
20.	Total Hardness (CaCO3)	4800.0	

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt	X meq/L	= mg/L
+-----+	-----	-----	-----	-----
74 *Ca <----- *HCO3	Ca(HCO3)2	81.0	3.4	275
/----->	CaSO4	68.1	36.4	2480
22 *Mg -----> *SO4	CaCl2	55.5	34.0	1888
<-----/	Mg(HCO3)2	73.2		
1885 *Na -----> *Cl	MgSO4	60.2		
+-----+	MgCl2	47.6	22.1	1050
Saturation Values Dist. Water 20 C	NaHCO3	84.0		
CaCO3 13 mg/L	Na2SO4	71.0		
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4	1884.7	110139
BaSO4 2.4 mg/L				

REMARKS:

Petrolite Oilfield Chemicals Group

Respectfully submitted,
L MALLETT

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

ARTESIA, NEW MEXICO 88210

LABORATORY WATER ANALYSIS

No. W199-87

To: Mr. Billy Horner

Date October 13, 1987

Yates Petroleum Corporation

105 South Fourth Street

Artesia, NM 88210

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Submitted by

Date Rec. October 13, 1987

Well No. Medano VA St. #1 Depth 8065' to 8639'

Formation Bone Springs

County Eddy

Field Sec. 16, T 23S, R 31E

Source

Resistivity220 @ 70°

Specific Gravity 1.022

pH 6.5

Calcium (Ca) 30,519

Magnesium (Mg) 4,480

Chlorides (Cl) 19,000

Sulfates (SO₄) SmallBicarbonates (HCO₃) 76

Soluble Iron (Fe) Moderate

*MPL

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Owen Puckett - Special Operator

cc:

HALLIBURTON COMPANY

NOTICE

This report is limited to the described sample tested. Accuracy of the results is not guaranteed for any other sample.