

TEXACO
U.S.A.
A DIVISION OF TEXACO INC.
P. O. BOX 728
HOBBS, NEW MEXICO 88240
(505) 393-7191

March 3, 1983

APPLICATION FOR WATER INJECTION
WEST VACUUM UNIT WELL NO. 55
LEA COUNTY, NEW MEXICO

State of New Mexico
Oil Conservation Division
P. O. Box 1980
Hobbs, New Mexico, 88240

Attention: Mr. Gilbert Quintana

Gentlemen:

In response to your letter dated February 21, 1983, please find the attached:

- 1.) A current fresh water test.
- 2.) A map specifying location of the water source well that coincides with the location of the water samples taken; Section 2, T-18-S, R-34-E.

If further information is needed, please notify this office.

Yours very truly,

TEXACO INC.
PRODUCING DEPARTMENT-UNITED STATES

A handwritten signature in cursive script, appearing to read "V. G. Johnston".

V. G. Johnston
Assistant District Manager

GDD:JEB

Attachments

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Larry Schlotterback
P.O. Box 728, Hobbs, NM

LABORATORY NO. 283438
SAMPLE RECEIVED 2-24-83
RESULTS REPORTED 3-1-83

COMPANY Texaco, Inc. LEASE No. -2-5838

FIELD OR POOL _____

SECTION 2 BLOCK T 18S SURVEY R 34 E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from water supply well #1 (Unit F). 2-24-83

NO. 2

NO. 3

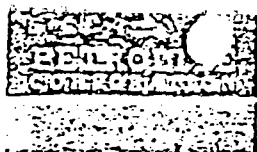
NO. 4

REMARKS: Sample taken by James C. Powell, Martin Water Labs, Inc.

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0024			
pH When Sampled	7.5			
pH When Received	7.5			
Bicarbonate as HCO ₃	220			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	296			
Calcium as Ca	86			
Magnesium as Mg	20			
Sodium and/or Potassium	72			
Sulfate as SO ₄	40			
Chloride as Cl	163			
Iron as Fe	0.23			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	601			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	12.00			
Suspended Oil	0			
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WD 2-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Texaco Incorporated ADDRESS Buckeye, N.M. DATE: 6-6-80
SOURCE Vacuum Grayburg - San Andres - DATE SAMPLED 5-20-80 ANALYSIS NO. 591
Analysis WSW #4 Mg/L *Meq/L

1. pH	<u>7.2</u>	Carbon Dioxide (CO ₂)	<u>14</u>	ppm
2. H ₂ S (Qualitative)	<u>Neq.</u>	Oxygen (O ₂)	<u>5.0</u>	ppm
3. Specific Gravity	<u>1.000</u>	Temperature (F°)	<u>76°</u>	<u>JUNE</u>
4. Dissolved Solids			<u>673</u>	
5. Suspended Solids				
6. Phenolphthalein Alkalinity (CaCO ₃)				
7. Methyl Orange Alkalinity (CaCO ₃)			<u>170</u>	
8. Bicarbonate (HCO ₃)		HCO ₃	<u>207</u>	÷ 61 <u>3</u> HCO ₃
9. Chlorides (Cl)		Cl	<u>125</u>	÷ 35.5 <u>4</u> Cl
10. Sulfates (SO ₄)		SO ₄	<u>150</u>	÷ 48 <u>3</u> SO ₄
11. Calcium (Ca)		Ca	<u>92</u>	÷ 20 <u>5</u> Ca
12. Magnesium (Mg)		Mg	<u>10</u>	÷ 12.2 <u>1</u> Mg
13. Total Hardness (CaCO ₃)			<u>270</u>	
14. Total Iron (Fe)			<u>0.0</u>	
15. Barium (Qualitative)			<u>None Detected</u>	
16. Strontium				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

5	Ca	←	HCO ₃	3	Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
1	Mg	←	SO ₄	3	Ca (HCO ₃) ₂	81.04		3		243
4	Na	←	Cl	4	Ca SO ₄	68.07		2		136
					Ca Cl ₂	55.50				
					Mg (HCO ₃) ₂	73.17				
					Mg SO ₄	60.19		1		60
					Mg Cl ₂	47.62				
					Na HCO ₃	84.00				
					Na ₂ SO ₄	71.03				
					Na Cl	58.46		4		234

Saturation Values Distilled Water 20°C
Ca CO₃ 13 Mg/L
Ca SO₄ • 2H₂O 2,090 Mg/L
Mg CO₃ 103 Mg/L

REMARKS John Caldwell - Bill Jones

Brewer - W. Roberts - Gray - Nix - File

Respectfully submitted
TRETOLITE COMPANY

Terry Jordan

Martin Water Laboratories, Inc

P. O. BOX 1468
MONAHANS, TEXAS 79756
PHONE 943-3234 OR 563-1040

RESULT OF WATER ANALYSES

406 W. ILLINOIS
MIDLAND, TEXAS 79701
PHONE 683-4521

LABORATORY NO. 1076119
SAMPLE RECEIVED 10-15-76
RESULTS REPORTED 10-22-76

TO: Area Engineer
P. O. Box 727, Lovington, N. M.

COMPANY Texaco, Inc. LEASE Vacuum Grayburg-San Andres Unit
FIELD OR POOL Vacuum
SECTION BLOCK SURVEY COUNTY Lea STATE N. M.
SOURCE OF SAMPLE AND DATE TAKEN:

- NO. 1 Raw water - taken from water supply well #1. 10-15-76
NO. 2 Raw water - taken from Reda Pump water supply well #2. 10-15-76
NO. 3 Raw water - taken from water supply well #3. 10-15-76
NO. 4

REMARKS: MIXED WATER SYSTEM

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0018	1.0022	1.0006	
pH When Sampled	7.2	7.1	7.3	
pH When Received	7.3	7.25	7.45	
Bicarbonate as HCO ₃	190	190	185	
Supersaturation as CaCO ₃	4	0	4	
Undersaturation as CaCO ₃	-	-	-	
Total Hardness as CaCO ₃	465	555	180	
Calcium as Ca	140	166	58	
Magnesium as Mg	28	34	9	
Sodium and/or Potassium	73	173	25	
Sulfate as SO ₄	26	71	21	
Chloride as Cl	313	497	42	
Iron as Fe	0.30	0.26	0.24	
Barium as Ba	0	0	0	
Turbidity, Electric	0.0	0.32	0.0	
Color as Pt	0	0	0	
Total Solids, Calculated	770	1,131	340	
Temperature °F.	67	72	66	
Carbon Dioxide, Calculated	20	25	15	
Dissolved Oxygen, Winkler	2.5	0.0	5.5	
Hydrogen Sulfide	0.0	0.0	0.0	
Resistivity, ohms/m at 77° F.	7.50	5.50	25.00	
Suspended Oil				
Filtrable Solids as mg/l	12.6	4.9	2.6	
Volume Filtered, ml	5,850	20,000	20,000	

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

● ACTIVE PRODUCING WELL

Rev. CRC 12-14-82