



GORDON LAB, INC.

925 PATTON ROAD • P. O. BOX 605 • GREAT BEND, KANSAS 67530

WATER ANALYSIS

DATE September 15, 1973

TO Walters Drilling Co.
c/o Walter Zimmerman
Box 751

Great Bend, Kansas 67530

OCT. 1 1973

1. Tilley #1

2. Tilley #2

	1.	2.	3.	
Specific Gravity	1.020	1.024		Milligrams per liter
Chlorides	18,000	17,000		Milligrams per liter
Calcium	2,300	2,000		Milligrams per liter
Magnesium	474	446		Milligrams per liter
Sulfates	1,920	1,960		Milligrams per liter
Bicarbonates	305	317		Milligrams per liter
Iron	0	4		Milligrams per liter
Hydrogen Sulfide	34	26		Milligrams per liter
Barium	0	0		Milligrams per liter
pH	7.5	7.5		
Sulfate Reducing Bacteria	Present	None		

cc: Wichita

LABORATORY ANALYST

Pivonka

RESPECTFULLY SUBMITTED

BY

T. J. Gordon

To convert to parts per million, divide by specific gravity.



GORDON LAB, INC.

925 PATTON ROAD • P. O. BOX 605 • GREAT BEND, KANSAS 67530

WATER ANALYSIS

DATE February 28, 1974TO Walters Drilling Co.Box 751Great Bend, Kansas

MAR 1 1974

1. Tilley #12. Tilley #2

	1.	2.	3.	
Specific Gravity	<u>1.024</u>	<u>1.024</u>	<u> </u>	Milligrams per liter
Chlorides	<u>18.000</u>	<u>17.200</u>	<u> </u>	Milligrams per liter
Calcium	<u>2,500</u>	<u>3,300</u>	<u> </u>	Milligrams per liter
Magnesium	<u>530</u>	<u>558</u>	<u> </u>	Milligrams per liter
Sulfates	<u>1,960</u>	<u>2,170</u>	<u> </u>	Milligrams per liter
Bicarbonates	<u>342</u>	<u>415</u>	<u> </u>	Milligrams per liter
Iron	<u>0</u>	<u>0</u>	<u> </u>	Milligrams per liter
Hydrogen Sulfide	<u>68</u>	<u>68</u>	<u> </u>	Milligrams per liter
Barium	<u>0</u>	<u>0</u>	<u> </u>	Milligrams per liter
pH	<u>7.5</u>	<u>7.5</u>	<u> </u>	
Sulfate Reducing Bacteria	<u> </u>	<u> </u>	<u> </u>	
	<u> </u>	<u> </u>	<u> </u>	
	<u> </u>	<u> </u>	<u> </u>	

cc: Wichita

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

ElivonkaBY T. J. Gordon

T. J. Gordon

To convert to parts per million, divide by specific gravity.



GORDON LAB, INC.

925 PATTON ROAD • P. O. BOX 605 • GREAT BEND, KANSAS 67530

WATER ANALYSIS

DATE October 7, 1974TO Walters Drilling CompanyBox 751Great Bend, Kansas1. Tilley #12. Tilley #2 ✓3. Elmore

	1.	2.	3.	
Specific Gravity	<u>1.024</u>	<u>1.023</u>	<u>1.024</u>	Milligrams per liter
Chlorides	<u>12,200</u>	<u>17,400</u>	<u>20,300</u>	Milligrams per liter
Calcium	<u>2,480</u>	<u>3,200</u>	<u>2,790</u>	Milligrams per liter
Magnesium	<u>530</u>	<u>550</u>	<u>640</u>	Milligrams per liter
Sulfates	<u>1,960</u>	<u>2,200</u>	<u>1,640</u>	Milligrams per liter
Bicarbonates	<u>340</u>	<u>420</u>	<u>490</u>	Milligrams per liter
Iron	<u>0</u>	<u>0</u>	<u>0</u>	Milligrams per liter
Hydrogen Sulfide	<u>68</u>	<u>68</u>	<u>34</u>	Milligrams per liter
Barium	<u>0</u>	<u>0</u>	<u>0</u>	Milligrams per liter
pH	<u>7.5</u>	<u>7.5</u>	<u>7.5</u>	
Sulfate Reducing Bacteria	<u>None</u>	<u>None</u>	<u>None</u>	

Walt:

Everything looks normal on these five wells. No bacteria present at this time.

Grady Bolding

cc: Don Froelich
Ransom, Kansas

OCT 10 1974

Walters Drilling Co.

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Gordon

BY

T. J. Gordon

To convert to parts per million, divide by specific gravity.



GORDON LAB, INC.

925 PATTON ROAD • P. O. BOX 605 • GREAT BEND, KANSAS 67530

WATER ANALYSIS

DATE May 13, 1975TO Walters Drilling CompanyWalter ZimmermanBox 751, Great Bend, Kansas1. Tillie #12. Tillie #2

	1.	2.	3.	
Specific Gravity	<u>1.024</u>	<u>1.025</u>	<u> </u>	Milligrams per liter
Chlorides	<u>17,200</u>	<u>18,200</u>	<u> </u>	Milligrams per liter
Calcium	<u>2,440</u>	<u>3,100</u>	<u> </u>	Milligrams per liter
Magnesium	<u>520</u>	<u>550</u>	<u> </u>	Milligrams per liter
Sulfates	<u>1,900</u>	<u>2,100</u>	<u> </u>	Milligrams per liter
Bicarbonates	<u>335</u>	<u>400</u>	<u> </u>	Milligrams per liter
Iron	<u>0</u>	<u>0</u>	<u> </u>	Milligrams per liter
Hydrogen Sulfide	<u>68</u>	<u>68</u>	<u> </u>	Milligrams per liter
Barium	<u>0</u>	<u>0</u>	<u> </u>	Milligrams per liter
pH	<u>7.5</u>	<u>7.5</u>	<u> </u>	
Sulfate Reducing Bacteria	<u>None</u>	<u>Present</u>	<u> </u>	
	<u> </u>	<u> </u>	<u> </u>	

cc: Larry Benedict
Ness City, Kansas

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Gordon/ManningBY T. J. Gordon

T. J. Gordon

To convert to parts per million, divide by specific gravity.



GORDON LAB, INC.

925 PATTON ROAD • P. O. BOX 605 • GREAT BEND, KANSAS 67530

WATER ANALYSIS

DATE October 4, 1975TO Mr. Walter ZimmermanWalters Drilling CompanyBox 751, Great Bend, KansasTilley #2

	1.	2.	3.	
Specific Gravity	1.025			Milligrams per liter
Chlorides	18,690			Milligrams per liter
Calcium	2,000			Milligrams per liter
Magnesium	690			Milligrams per liter
Sulfates	2,010			Milligrams per liter
Bicarbonates	488			Milligrams per liter
Iron	0			Milligrams per liter
Hydrogen Sulfide	68			Milligrams per liter
Barium	0			Milligrams per liter
pH	7.5			
Sulfate Reducing Bacteria	None			

cc: Larry Benedict
Ness City, Kansas

OCT 14 1975

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Gordon/Manning

BY

T. J. Gordon

To convert to parts per million, divide by specific gravity.



GORDON LAB, INC.

925 PATTON ROAD • P. O. BOX 605 • GREAT BEND, KANSAS 67530

WATER ANALYSIS

DATE February 12, 1976

TO Mr. Walter Zimmerman
Walters Drilling Company
P.O. Box 751, Great Bend, Kansas

Tilley #2

	1.	2.	3.	
Specific Gravity	<u>1.026</u>	<u> </u>	<u> </u>	Milligrams per liter
Chlorides	<u>18,000</u>	<u> </u>	<u> </u>	Milligrams per liter
Calcium	<u>1,700</u>	<u> </u>	<u> </u>	Milligrams per liter
Magnesium	<u>787</u>	<u> </u>	<u> </u>	Milligrams per liter
Sulfates	<u>1,820</u>	<u> </u>	<u> </u>	Milligrams per liter
Bicarbonates	<u>354</u>	<u> </u>	<u> </u>	Milligrams per liter
Iron	<u>4</u>	<u> </u>	<u> </u>	Milligrams per liter
Hydrogen Sulfide	<u>0</u>	<u> </u>	<u> </u>	Milligrams per liter
Barium	<u>0</u>	<u> </u>	<u> </u>	Milligrams per liter
pH	<u>6.7</u>	<u> </u>	<u> </u>	
Sulfate Reducing Bacteria	<u>None</u>	<u> </u>	<u> </u>	
	<u> </u>	<u> </u>	<u> </u>	
	<u> </u>	<u> </u>	<u> </u>	

Walt:

This sample looks normal. Please note that we had
 no bacteria in the sample according to bacteria culture.

Grady Bolding

cc: Larry Benedict
 Ness City, Kansas

Walters Drilling Company
 Wichita, Kansas

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Gordon/Manning

BY

T. J. Gordon

To convert to parts per million, divide by specific gravity.

From Gordon Lab,

Imatin

LABORATORY REPORT

Date July 8, 1976

TO Mr. Walter Zimmerman

Walters Drilling Company

P.O. Box 751, Great Bend, Kansas

We Give Below Results of OUR Exam. Of Water samples (bacteria cultures)

Submitted By Larry Benedict

Marked (see below)

<u>WELL</u>		<u>SULFATE REDUCING BACTERIA</u>
Dickman #1	-	Present
#2	-	None
#3	-	None
Elmore #1	-	None
Klitzky #1	-	None
Tilley #1	-	Present
#2	-	None

cc: Larry Benedict

JUL 12 1976

LABORATORY ANALYST

Respectfully Submitted

Grady Bolding
Grady Bolding



GORDON LAB, INC.

925 PATTON ROAD • P. O. BOX 605 • GREAT BEND, KANSAS 67530

WATER ANALYSIS

DATE December 21, 1976TO Walters Drilling CompanyMr. Walter ZimmermanP.O. Box 751, Great Bend, Kansas1. Tillie #12. Tillie #2

	1.	2.	3.	
Specific Gravity	1.022	1.025		Milligrams per liter
Chlorides	15,800	17,300		Milligrams per liter
Calcium	1,700	1,800		Milligrams per liter
Magnesium	446	460		Milligrams per liter
Sulfates	2,180	2,230		Milligrams per liter
Bicarbonates	451	460		Milligrams per liter
Iron	13	13		Milligrams per liter
Hydrogen Sulfide	0	0		Milligrams per liter
Barium	0	0		Milligrams per liter
pH	6.9	7.0		
Sulfate Reducing Bacteria	Negative	Positive		

Walt:

These samples compare with previous analyses run. Tillie #2 does indicate bacteria. We would recommend slugging this well with Corrosion Inhibitor #3 (Bactericide) for three successive weeks (five gals. per week).

Grady Bolding

cc: Larry Benedict
New City, Kansas

RESPECTFULLY SUBMITTED

LABORATORY ANALYST Walters Drilling Co.
Wichita, Kansas
Manning/Medlock

BY

R. H. Hausler

R. H. Hausler

To convert to parts per million, divide by specific gravity.



GORDON LAB, INC.

925 PATTON ROAD • P. O. BOX 605 • GREAT BEND, KANSAS 67530

WATER ANALYSIS

DATE May 5, 1978TO Walters Drilling Co.Attn: Walt ZimmermanBox 751 Great Bend, KansasTilley #2

	1.	2.	3.	
Specific Gravity	<u>1.022</u>	<u> </u>	<u> </u>	Milligrams per liter
Chlorides	<u>14,800</u>	<u> </u>	<u> </u>	Milligrams per liter
Calcium	<u>1,800</u>	<u> </u>	<u> </u>	Milligrams per liter
Magnesium	<u>480</u>	<u> </u>	<u> </u>	Milligrams per liter
Sulfates	<u>1,880</u>	<u> </u>	<u> </u>	Milligrams per liter
Bicarbonates	<u>490</u>	<u> </u>	<u> </u>	Milligrams per liter
Iron	<u>2</u>	<u> </u>	<u> </u>	Milligrams per liter
Hydrogen Sulfide	<u>0</u>	<u> </u>	<u> </u>	Milligrams per liter
Barium	<u>0</u>	<u> </u>	<u> </u>	Milligrams per liter
pH	<u>6.8</u>	<u> </u>	<u> </u>	
Sulfate Reducing Bacteria	<u>positive</u>	<u> </u>	<u> </u>	
	<u> </u>	<u> </u>	<u> </u>	
	<u> </u>	<u> </u>	<u> </u>	

MAY - 8 1978

cc: Wichita

LABORATORY ANALYSIS

Manning/Medlock

RESPECTFULLY SUBMITTED

BY

R. H. Hausler
R. H. Hausler

To convert to parts per million, divide by specific gravity.



GORDON LAB, INC.

925 PATTON ROAD • P. O. BOX 605 • GREAT BEND, KANSAS 67530

WATER ANALYSISDATE May 28, 1980

TO Walters Drilling Co., Inc.
Walter Zimmerman
Box 751
Great Bend, Kansas 67530

1. Tilley #12. Tilley #2

	1.	2.	3.	
Specific Gravity	1.025	1.025		Milligrams per liter
Chlorides	17,000	17,000		Milligrams per liter
Calcium	1,800	1,850		Milligrams per liter
Magnesium	510	600		Milligrams per liter
Sulfates	1,680	1,920		Milligrams per liter
Bicarbonates	440	410		Milligrams per liter
Iron	6	5		Milligrams per liter
Hydrogen Sulfide	0	0		Milligrams per liter
Barium	0	0		Milligrams per liter
pH	7.0	7.1		
Sulfate Reducing Bacteria	negative	negative		

These analyses were run for your records. They compare with our results of December 21, 1979.

cc: Wichita ✓
 Larry Benedict

LABORATORY ANALYST

Manning

RESPECTFULLY SUBMITTED

BY Stephen H. Couch

Stephen H. Couch

To convert to parts per million, divide by specific gravity.

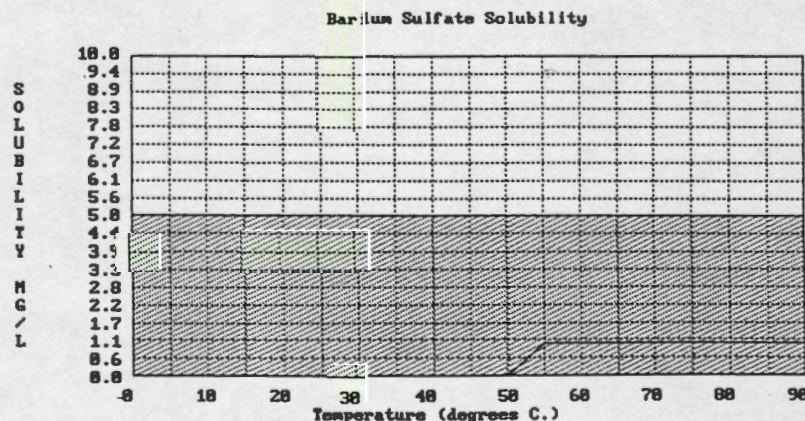
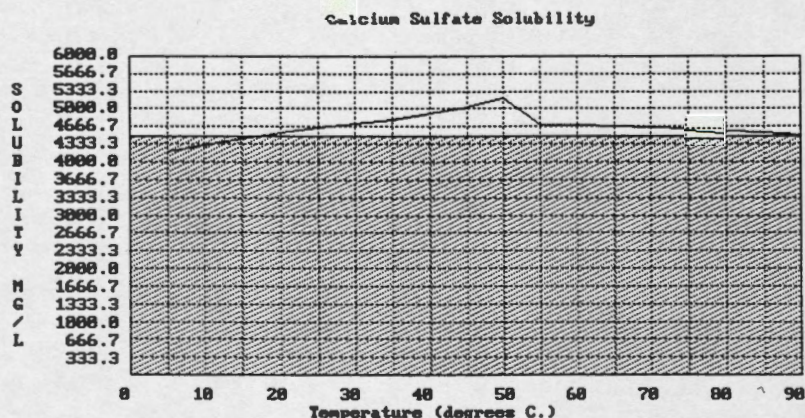
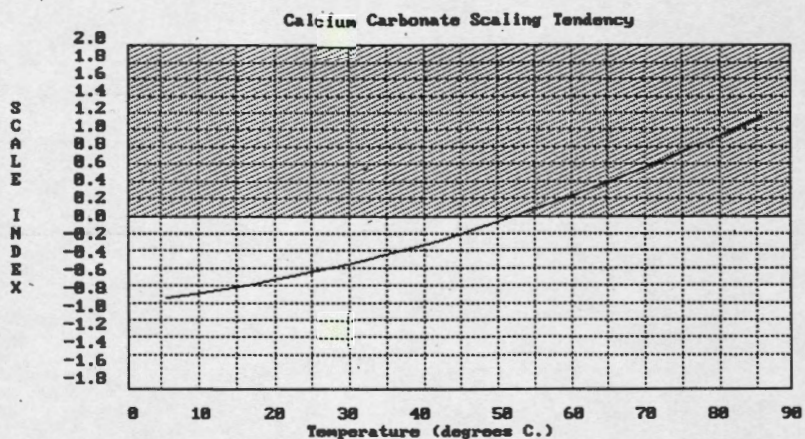


Water Analysis Report

Analysis Number : 000000371

Company.....: **Palomino**
Location.....: **Ness County**
Field.....: **Tilley**
Lease.....: **Bleeder**

Date of Sampling.....: **07/23/94**
Date of Analysis.....: **07/22/44**
Baker Representative.: **Ken Knight**
Well#.....: **2**
Analysis by.....: **Davenport**





Water Analysis Report

Analysis Number : 000000371

Company.....: **Palomino**
Location.....:
Field.....: **Ness County**
Lease.....: **Tilley**
Sample Source....: **Bleeder**

Date of Sampling.....: **07/23/94**
Date of Analysis.....: **07/22/44**
Baker Representative.: **Ken Knight**
Well#.....: **2**
Analysis by.....: **Davenport**

DISSOLVED SOLIDS

CATIONS:

	mg/l	me/l
Ca++	2000.00	100.00
Mg++	561.20	46.00
Fe+++	0.20	0.01
Ba++	3.00	0.04
Na+	12584.68	547.16
Mn++	0.00	0.00

ANIONS:

Cl-	22000.00	619.72
SO4--	3125.00	65.10
HCO3-	378.20	6.20
CO3--	0.00	0.00
OH-	0.00	0.00
S-	35.00	2.19

TOTAL HARDNESS.....: 146.00
TOTAL SOLIDS (quantitative).....: 0.00
RESIDUAL HYDROCARBONS(ppm).....: 0.00

Ø = not determined

DISSOLVED GASES

Hydrogen Sulfide, H2S.....:	100.0
Carbon Dioxide, CO2.....:	28.0
Oxygen, O2.....:	Ø 0.0

PHYSICAL PROPERTIES

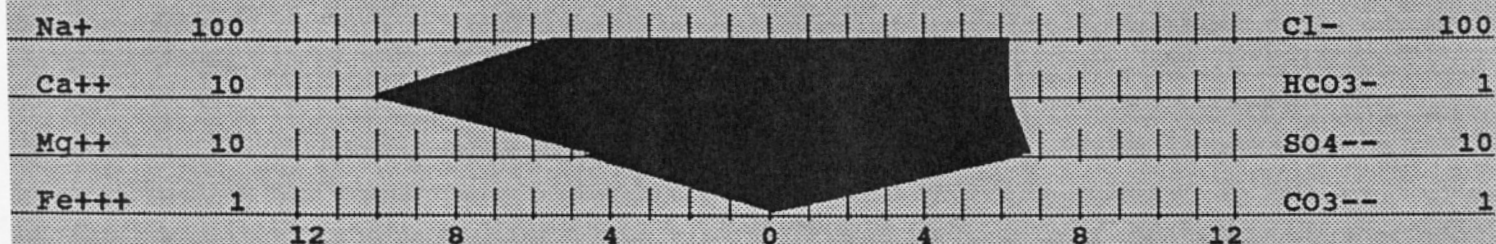
pH.....:	6.2
Specific Gravity.....:	1.015
TDS (calculated) ppm.....:	40687.3
TIS (calculated)	0.8

SCALE STABILITIES

Temp.	°C	°F	CaCO3	CaSO4	BaSO4
	32	90	-0.50	4773	0
	38	100	-0.36	4816	0
	43	109	-0.24	4908	0
Max entity, (calculated):				4480	5

WATER ANALYSIS PATTERN

(number beside ion symbol indicates me/l scale unit)



NOTES: