



# GORDON LAB, INC.

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

## WATER ANALYSIS

DATE March 3, 1977

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

1. Phelps                      2. Dickman #6                      3. Schaben #1

	1.	2.	3.	
Specific Gravity	<u>1.084</u>	<u>1.024</u>	<u>1.022</u>	
Chlorides	<u>71,700</u>	<u>17,500</u>	<u>17,400</u>	Milligrams per liter
Calcium	<u>2,310</u>	<u>1,950</u>	<u>1,800</u>	Milligrams per liter
Magnesium	<u>4,470</u>	<u>510</u>	<u>433</u>	Milligrams per liter
Sulfates	<u>1,880</u>	<u>1,970</u>	<u>1,830</u>	Milligrams per liter
Bicarbonates	<u>244</u>	<u>180</u>	<u>488</u>	Milligrams per liter
Iron	<u>4</u>	<u>3</u>	<u>3</u>	Milligrams per liter
Hydrogen Sulfide	<u>0</u>	<u>0</u>	<u>0</u>	Milligrams per liter
Barium	<u>0</u>	<u>0</u>	<u>0</u>	Milligrams per liter
pH	<u>6.2</u>	<u>6.5</u>	<u>7.0</u>	
Sulfate Reducing Bacteria	<u>Negative</u>	<u>Negative</u>	<u>Positive</u>	

cc: Walters Drilling Company  
 Wichita, Kansas

MAR - 4 1977

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Manning/Medlock

BY R. H. Hausler

R. H. Hausler

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

*See for info*



# GORDON LAB, INC.

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

## WATER ANALYSIS

DATE March 15, 1977

TO Walters Drilling Company

Mr. Bob Walters

400 Insurance Bldg. Wichita, Kansas

Phelps

*March 15 1977*

	1.	2.	3.	
Specific Gravity	1.072			Milligrams per liter
Chlorides	62,200			Milligrams per liter
Calcium	2,300			Milligrams per liter
Magnesium	3,600			Milligrams per liter
Sulfates	1,760			Milligrams per liter
Bicarbonates	244			Milligrams per liter
Iron	4			Milligrams per liter
Hydrogen Sulfide	0			Milligrams per liter
Barium	0			Milligrams per liter
pH	6.4			
Sulfate Reducing Bacteria				

Bob:

We are continuing to monitor this well as we discussed in our phone conversation of last week. The above sample indicates a slight variation in chlorides when compared to the 3/3/77 sample. All other mineral components are virtually the same. We will obtain another sample in 2-3 weeks for an additional analysis.

Grady Bolding

cc: Walter Zimmerman  
Larry Benedict

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Manning/Medlock

BY R. H. Hausler

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

*c: Walt  
C. Snider*



# GORDON LAB, INC.

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

## WATER ANALYSIS

DATE April 4, 1977

TO Walters Drilling Co.

Attn: Bob Walters

400 Insurance Bldg. Wichita, Ks.

APR - 6 1977

Phelps

	<u>April 4 1977</u> 1.	2.	3.	
Specific Gravity	_____	_____	_____	Milligrams per liter
Chlorides	<u>63,600</u>	_____	_____	Milligrams per liter
Calcium	<u>2,400</u>	_____	_____	Milligrams per liter
Magnesium	<u>3,500</u>	_____	_____	Milligrams per liter
Sulfates	<u>1,770</u>	_____	_____	Milligrams per liter
Bicarbonates	<u>225</u>	_____	_____	Milligrams per liter
Iron	<u>5</u>	_____	_____	Milligrams per liter
Hydrogen Sulfide	<u>0</u>	_____	_____	Milligrams per liter
Barium	<u>0</u>	_____	_____	Milligrams per liter
pH	<u>6.3</u>	_____	_____	
Sulfate Reducing Bacteria	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	

The above water analysis is being forwarded to you as continuation of our monitoring this well. The mineral composition has not changed since March 15, 1977.

cc: Walter Zimmerman  
Larry Benedict

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

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 June 1, 1977

TO Walters Drilling Co.

Attn: Walter Zimmerman

Box 751 Great Bend, Kansas

#1  
1. Phelps June 1 1977

Phelps #1  
2. Phelps 4/4/77

June 1 1977  
1.

2.

3.

	1.	2.	3.	
Specific Gravity	1.054			Milligrams per liter
Chlorides	46,000	63,600		Milligrams per liter
Calcium	2,530	2,400		Milligrams per liter
Magnesium	2,330	3,500		Milligrams per liter
Sulfates	1,820	1,770		Milligrams per liter
Bicarbonates	354	225		Milligrams per liter
Iron	0	5		Milligrams per liter
Hydrogen Sulfide	0	0		Milligrams per liter
Barium	0	0		Milligrams per liter
pH	6.4	6.3		
Sulfate Reducing Bacteria	negative			

The above water analysis indicates a gradual change in the mineral composition of the produced water from this lease. Please note that the salinity is reduced with respect to results obtained April 4, 1977 and that the calcium and sulfate values are also reduced from values obtained prior to the April analysis. The present mineral composition is giving us less reason to anticipate scaling problems.

cc: Don Froelich  
Larry Benedict  
Wichita Office

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

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 June 28, 1977

TO Walters Drilling Co.  
c/o Walter Zimmerman  
Box 751 Great Bend, Kansas 67530

Phelps #1

*June 28, 1977*

	1.	2.	3.	
Specific Gravity	1.050			Milligrams per liter
Chlorides	40,400			Milligrams per liter
Calcium	2,400			Milligrams per liter
Magnesium	2,100			Milligrams per liter
Sulfates	1,510			Milligrams per liter
Bicarbonates	268			Milligrams per liter
Iron	5			Milligrams per liter
Hydrogen Sulfide	0			Milligrams per liter
Barium	0			Milligrams per liter
pH	6.6			
Sulfate Reducing Bacteria	+			

The above water analysis constitutes a regular check on this lease. We notice that the chloride content is further decreased since the last analysis reported 6-1-77. Also the sulfate content appears to be somewhat less.

cc: Don Froelich  
 Larry Benedict  
 Wichita office

JUN 29 1977

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

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

## LABORATORY REPORT

DATE July 1, 1977

TO Walters Drilling Co.

Attn: Walter Zimmerman

Box 751 Great Bend, Kansas 67530

WE GIVE BELOW RESULTS OF OUR EXAMINATION OF Phelps

SUBMITTED BY \_\_\_\_\_

MARKED \_\_\_\_\_

A bacteria test performed on the water sample, the composition of which was reported to you on 6/28/77 gave a positive result.

JUL - 5 1977

c: Wichita

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Hausler

BY R. H. Hausler

R. H. Hausler

*c Ainder*



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925 PATTON ROAD • P. O. BOX 605 • C

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WATER ANALY

TO Walters Drilling Co. g Co. ny  
Attn: Bob Walters erman  
400 Insurance Bldg. Wichita Kansas Bend, Kansas 67

*PHILIPS* 1 *Ph* *20C*  
*Phelps* 2 *June 28, 1977* *Noll*  
*April 4 1977* 1. *June 1, 1977* 1. *9/7/77*  
 1. 1. 1. 2.

Specific Gravity		1.054	1.050	1.024	
Chlorides	63,600	46,000	40,400	17,300	
Calcium	2,400	2,530	2,400	1,800	
Magnesium	3,500	2,330	2,100	330	
Sulfates	1,770	1,820	1,510	1,970	
Bicarbonates	225	354	268	317	
Iron	5	0	5	1	
Hydrogen Sulfide	0	0	0	0	
Barium	0	0	0	0	
pH	6.3	6.4	6.6	6.9	
Sulfate Reducing Bacteria		negative	+		

The above water analysis is our monitoring this well. The ysis indicate analysis con March 15, 1977. lease. Please side content report is forwarded in cor 1977 and thalso the sulfat this date. As discusse with Cherokee/Mississippi eria prove to be positive led.

cc: Walter Zimmerman  
 Larry Benedict

Grady Bol

enedict

LABORATORY ANALYST

Manning/Medlock

To convert to parts

o convert to part To convert to parts

o convert to parts per million, divide



# GORDON LAB, INC.

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

## WATER ANALYSIS

DATE January 20, 1977TO Walters Drilling Co.Box 751Great Bend, Kansas 67530

### Phelps #1 (New Well)

	1.	2.	3.	
Specific Gravity	<u>1.075</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Chlorides	<u>61,200</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Calcium	<u>2,830</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Magnesium	<u>3,330</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Sulfates	<u>2,980</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Bicarbonates	<u>305</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Iron	<u>18</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>6.3</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>	

The above water analysis performed at your request on this new well indicates a potential scale problem. Please note that this composition bears similarity to Dakota water. We understand that this sample was collected only 2 hours after the start-up of the well and suggest therefore to resubmit a water sample from this lease for analysis in two weeks. Also note that sulfate reducing bacteria are present in this well.

cc: Wichita, Office  
Larry Benedict

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Manning/Medlock

BY

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 Sept. 30, 1977

to Walters Drilling Co.  
c/o Walter Zimmerman  
Box 751 Great Bend, Kansas 67530

Phelps #1

	1.	2.	3.	
Specific Gravity	<u>1.041</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Chlorides	<u>30,300</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Calcium	<u>2,100</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Magnesium	<u>1,600</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Sulfates	<u>1,870</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Bicarbonates	<u>415</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>7.2</u>	<u>          </u>	<u>          </u>	
Sulfate Reducing Bacteria	<u>          </u>	<u>          </u>	<u>          </u>	
	<u>          </u>	<u>          </u>	<u>          </u>	
	<u>          </u>	<u>          </u>	<u>          </u>	

The above water analysis was prepared as a recheck for foreign water on this lease. The mineral composition looks like normal Mississippi-Cherokee production. In comparison to our analyses of January 20, February 2, and March 3 we observe a dramatic decrease in the mineral content of this water.

cc: Wichita  
 Larry Benedict  
 Don Froelich

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Manning/Medlock

BY

R. H. Hausler  
 R. H. Hausler

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

PHELPS NO 1  
GORDON LFB INC

R7W

Date	Sp.G.	Chlorides	Ca	Mg	Sulphates	Bicarbonates	Fe	N <sub>2</sub> S	B	pH	Sulphate Reduction Bacteria
1997											
Jan 20	1.075	61,200	2,830	3,330	2,980	305	18	0	0	6.3	+
Feb 2	1.084	70,400	3,200	4,300	1,680	305	12	0	0	6.0	
Mar. 3	1.084	71,700	2,310	4,470	1,880	244	4	0	0	6.2	-
Mar 15	1.072	62,200	2,300	3,600	1,760	244	4	0	0	6.4	
April 4		63,600	2,400	3,500	1,770	225	5	0	0	6.3	
June 1	1.054	46,000	2,530	2,330	1,820	354	0	0	0	6.4	-
June 28	1.050	40,400	2,400	2,100	1,510	268	5	0	0	6.6	+
Sept 30	1.041	30,300	2,100	1,600	1,870	415	4	0	0	7.2	
Jan 4	1.037	28,300	2,330	931	2,120	354	5	0	0	6.4	+



# GORDON LAB, INC.

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

## WATER ANALYSIS

DATE January 4, 1978

TO Walters Drilling Co.  
c/o Walter Zimmerman  
Box 751  
Great Bend, Kansas 67530

### Phelps #1

	1.	2.	3.	
Specific Gravity	<u>1.037</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Chlorides	<u>28,300</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Calcium	<u>2,330</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Magnesium	<u>931</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Sulfates	<u>2,120</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Bicarbonates	<u>354</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Iron	<u>5</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>6.4</u>	<u>          </u>	<u>          </u>	
Sulfate Reducing Bacteria	<u>pos.</u>	<u>          </u>	<u>          </u>	

The above water analysis constitutes a regular check on this well. The mineral content of this water is somewhat lower than our analysis on September 30, 1977, however, the composition is quite similar. Please note that a test for sulfate reducing bacteria gave a positive result. This well should be treated with Gordon Lab Corrosion Inhibitor #3 on a monthly basis at the rate of 5 gallons per treatment.

cc: Walters Drilling Co.-Wichita ✓  
 Larry Benedict  
 Don Froelich

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

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 January 6, 1978

o Walters Drilling Co.  
Attn: Walter Zimmerman  
Box 751  
Great Bend, Kansas 67530

### Phelps

	1.	2.	3.	
Specific Gravity	<u>1.034</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Chlorides	<u>24,200</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Calcium	<u>1,840</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Magnesium	<u>960</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Sulfates	<u>2,170</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Bicarbonates	<u>317</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Iron	<u>15</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>6.5</u>	<u>          </u>	<u>          </u>	
Sulfate Reducing Bacteria	<u>          </u>	<u>          </u>	<u>          </u>	
	<u>          </u>	<u>          </u>	<u>          </u>	

The above water analysis was prepared at your request. The mineral composition is quite similar to a water sample analyzed Dec. 19, 1977. We are currently also performing a test for sulfate reducing bacteria and will report the results as soon as available.

cc: Wichita office ✓  
 Larry Benedict  
 file

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

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, 1978

TO Walters Drilling Co.

Attn: Walt Zimmerman

Box 751 Great BEnd, Kansas

Phelps #1

	1.	2.	3.	
Specific Gravity	<u>1.028</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Chlorides	<u>21,400</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Calcium	<u>1,700</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Magnesium	<u>732</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Sulfates	<u>1,630</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Bicarbonates	<u>354</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Iron	<u>35</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>positive</u>	<u>          </u>	<u>          </u>	
	<u>          </u>	<u>          </u>	<u>          </u>	
	<u>          </u>	<u>          </u>	<u>          </u>	

MAY - 8

cc: Wichita  
Larry Benedict  
LABORATORY ANALYST

RESPECTFULLY SUBMITTED

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 Nov. 6, 1978TO Walters Drilling CompanyAttn: Walt ZimmermanBox 751 Great Bend, Kansas 67530Phelps #1

	1.	2.	3.	
Specific Gravity	<u>1.025</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Chlorides	<u>16,700</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Calcium	<u>2,600</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Magnesium	<u>296</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Sulfates	<u>1,480</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Bicarbonates	<u>268</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Iron	<u>5</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>	

cc: Wichita ✓  
 Don Froelich  
 Larry Benedict

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Manning/Medlock

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 21, 1979

TO Walters Drilling Co.

Walt Zimmerman

Box 751 Great Bend, Kansas 67530

Phelps #1

	1.	2.	3.	
Specific Gravity	<u>1.026</u>	_____	_____	Milligrams per liter
Chlorides	<u>17,200</u>	_____	_____	Milligrams per liter
Calcium	<u>2,300</u>	_____	_____	Milligrams per liter
Magnesium	<u>300</u>	_____	_____	Milligrams per liter
Sulfates	<u>2,120</u>	_____	_____	Milligrams per liter
Bicarbonates	<u>250</u>	_____	_____	Milligrams per liter
Iron	<u>3</u>	_____	_____	Milligrams per liter
Hydrogen Sulfide	<u>0</u>	_____	_____	Milligrams per liter
Barium	<u>0</u>	_____	_____	Milligrams per liter
pH	<u>7.1</u>	_____	_____	
Sulfate Reducing Bacteria	<u>positive</u>	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	

cc: Wichita  
LABORATORY ANALYST

Manning/Medlock

RESPECTFULLY SUBMITTED

BY 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 May 24, 1979

TO Walters Drilling Co.

Walt Zimmerman

Box 751 Great Bend, Kansas 67530

Phelps #1

	1.	2.	3.	
Specific Gravity	<u>1.022</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Chlorides	<u>17,200</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Calcium	<u>1,700</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Magnesium	<u>389</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Sulfates	<u>1,960</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Bicarbonates	<u>342</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>7.3</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>	<u>          </u>	<u>          </u>	

cc: Wichita  
LABORATORY ANALYST

Manning/Medlock

RESPECTFULLY SUBMITTED

BY

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 Dec. 21, 1979

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

Phelps #1

	1.	2.	3.	
Specific Gravity	<u>1.023</u>	_____	_____	Milligrams per liter
Chlorides	<u>15,200</u>	_____	_____	Milligrams per liter
Calcium	<u>2,580</u>	_____	_____	Milligrams per liter
Magnesium	<u>285</u>	_____	_____	Milligrams per liter
Sulfates	<u>1,780</u>	_____	_____	Milligrams per liter
Bicarbonates	<u>310</u>	_____	_____	Milligrams per liter
Iron	<u>8</u>	_____	_____	Milligrams per liter
Hydrogen Sulfide	<u>0</u>	_____	_____	Milligrams per liter
Barium	<u>0</u>	_____	_____	Milligrams per liter
pH	<u>7.0</u>	_____	_____	
Sulfate Reducing Bacteria	<u>none</u>	_____	_____	

The above analysis was run for your records. It compares with our results of May 24, 1979.

cc: Wichita ✓  
Larry Benedict

RESPECTFULLY SUBMITTED

LABORATORY ANALYST

Manning/Medlock

BY Stephen H. Couch  
 Stephen H. Couch

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 28, 1980

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

Phelps #1

	1.	2.	3.	
Specific Gravity	<u>1.025</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Chlorides	<u>17,000</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Calcium	<u>2,400</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Magnesium	<u>400</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Sulfates	<u>1,650</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Bicarbonates	<u>400</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Iron	<u>0</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Hydrogen Sulfide	<u>15</u>	<u>          </u>	<u>          </u>	Milligrams per liter
Barium	<u>0</u>	<u>          </u>	<u>          </u>	Milligrams per liter
pH	<u>7.1</u>	<u>          </u>	<u>          </u>	
Sulfate Reducing Bacteria	<u>negative</u>	<u>          </u>	<u>          </u>	
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	

These results compare with our analysis 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.



# GORDON LAB, INC.

925 PATTON ROAD • P.O. Box 1506 • GREAT BEND, KANSAS 67530

WATER ANALYSISDATE Feb. 12, 1981

TO Walters Drilling Co., Inc.  
Walt Zimmerman  
Box 751

Great Bend, KS 67530

Phelps #1

	1.	2.	3.	
Specific Gravity	<u>1.027</u>	_____	_____	Milligrams per liter
Chlorides	<u>18,000</u>	_____	_____	Milligrams per liter
Calcium	<u>2,500</u>	_____	_____	Milligrams per liter
Magnesium	<u>410</u>	_____	_____	Milligrams per liter
Sulfates	<u>2,010</u>	_____	_____	Milligrams per liter
Bicarbonates	<u>400</u>	_____	_____	Milligrams per liter
Iron	<u>3</u>	_____	_____	Milligrams per liter
Hydrogen Sulfide	<u>0</u>	_____	_____	Milligrams per liter
Barium	<u>0</u>	_____	_____	Milligrams per liter
pH	<u>7.2</u>	_____	_____	
Sulfate Reducing Bacteria	<u>negative</u>	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	

These results compare with our analysis of May 28, 1980.

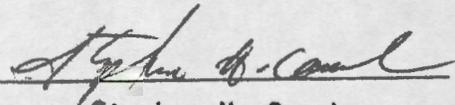
cc: Wichita ✓  
 Don Froelich  
 Larry Benedict

LABORATORY ANALYST

Manning/Gee

RESPECTFULLY SUBMITTED

BY

  
 Stephen H. Couch

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

stream-serve Inc.

105 South Broadway  
Suite 705, Broadway Plaza Bldg.  
Wichita, Kansas 67202  
Phone (316) 263-3399

WATER ANALYSIS REPORT

SHEET NUMBER

DATE

4/26/84

Walters Drilling

COUNTY OR PARISH

Ness

STATE

Kansas

DRILLER

WELL(S) NAME OR NO.

WATER SOURCE (FORMATION)

Phelps

#1

Cherokee

DEPTH

BHT, F

SAMPLE SOURCE

TEMP, F

WATER, BBL/DAY

OIL, BBL/DAY

GAS, MMCF/DAY

152

11

SAMPLED

4/16/84

TYPE OF WATER

PRODUCED

SUPPLY

WATERFLOOD

SALT WATER DISPOSAL

DISSOLVED SOLIDS

	me/l*	mg/l*	ANIONS		
Hardness	118		Chloride, Cl <sup>-</sup>	761	27,000
Ca <sup>++</sup>	84	1,680	Sulfate, SO <sub>4</sub> <sup>=</sup>	47	2,250
Mg, Mg <sup>++</sup>	34	415	Carbonate, CO <sub>3</sub> <sup>=</sup>		
Total Fe <sup>+++</sup>	0	0	Bicarbonate, HCO <sub>3</sub> <sup>-</sup>	1.5	92
Ba <sup>++</sup>			Hydroxyl, OH <sup>-</sup>		
Na <sup>+</sup> (calc.)	694	15,962	Sulfide, S <sup>=</sup>	2	27
			Sulfate Reducing Bacteria	negative	

PHYSICAL PROPERTIES

Resistivity (25°C) 6.6 MV  
 Specific Gravity 1.090  
 Total Solids (calc.) 47,426 mg/l\*

DISSOLVED GASES

Hydrogen Sulfide, H<sub>2</sub>S 75 mg/l\*  
 Carbon Dioxide, CO<sub>2</sub> \_\_\_\_\_ mg/l\*  
 Oxygen, O<sub>2</sub> \_\_\_\_\_ mg/l\*  
 Residual Hydrocarbons \_\_\_\_\_ ppm(Vol./Vol)

SUSPENDED SOLIDS (QUALITATIVE)

Iron Sulfide  Iron Oxide  Calcium Carbonate  Acid Insoluble

REMARKS AND RECOMMENDATIONS:

DRILLER	DIST. NO.	ADDRESS	OFFICE PHONE	HOME PHONE
Patton		Great Bend, Kansas	793-8154	793-7602
	DATE	DISTRIBUTION	<input type="checkbox"/> CUSTOMER	<input type="checkbox"/> DISTRICT OFFICE
Books	4/26/84			