

WATER ANALYSIS

#1 -- Welch-Delaware Pool, T26S-R27E
Produced Water

Specific Conductance	=	24,000 m/ cm
Total Dissolved Solids	=	22,320 PPM
Chlorides	=	9,050 PPM
Sulphates	=	36 PPM

#2 -- Stock Tank Well Unit M, Section 22, T26S, R27E

Specific Conductance	=	6,100 m/ cm
Total Dissolved Solids	=	5,670 PPM
Chlorides	=	1,420 PPM
Sulphates	=	2,240 PPM

Sample #2 - Well produces from the gypsum beds of Castile formation.

Sulphate correct. Mr. Jim Wright, State Engineer's Office, Roswell, New Mexico, pulled card on their nearest recorded water well in Section 14, T26S, R27E. It ran 2,300 PPM Sulphate.

J. W. R.

WATER ANALYSIS

#1 Windmill NW - 35-17-29

Specific Conductance	=	13,600 m/ <u>cm</u>
Total Dissolved Solids	=	<u>12,650 PPM</u>
Chlorides	=	<u>4,400 PPM</u>
Sulphates	=	<u>460 PPM</u>

#2 Windmill H - 27-20-28

Specific Conductance	=	2,600 m/ <u>cm</u>
Total Dissolved Solids	=	<u>2,420 PPM</u>
Chlorides	=	<u>92 PPM</u>
Sulphates	=	<u>500 PPM</u>

#3 Russell Pool - House well E - 13-20-28

Specific Conductance	=	3,700 m/ <u>cm</u>
Total Dissolved Solids	=	<u>3,440 PPM</u>
Chlorides	=	<u>608 PPM</u>
Sulphates	=	<u>480 PPM</u>

Water of all three samples apparently produces from a water formation high in gypsum.

Samples #1 and #3 appear to be contaminated by chlorides, that is, in comparison to Sample #2 which has only 92 PPM Chlorides.

J. W. R.
NMOCC - Hobbs

[illegible]

**BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico**

app Exhibit No. *1*
Case No. *4100*

Prepared by
MIDLAND MAP COMPANY
106 N. Marienfeld
P. O. Box 1211 Ph. MU 2-1603
Midland, Texas

APR 10 1969

SAMPLE NO. _____

THE WESTERN COMPANY
Service Laboratory

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

app Exhibit No. 2
Case No. 4100

WATER ANALYSIS

Operator J. M. C. Ritchie

Date Sampled 3-7-69

Well Welch Unit

Date Received 3-11-69

Field

Submitted by Kermit District

Formation Delaware

Worked by Jones

Depth 2200'

Other Description Pit Water

County Eddy, N. M.

CHEMICAL DETERMINATIONS

Density 1.020 @ 72°F

pH 8.0

Iron Very Faint Trace

Hydrogen Sulfide None

Sodium and Potassium 7,500 ppm

Bicarbonate 440 ppm

Calcium 200 ppm

Sulfate 20 ppm

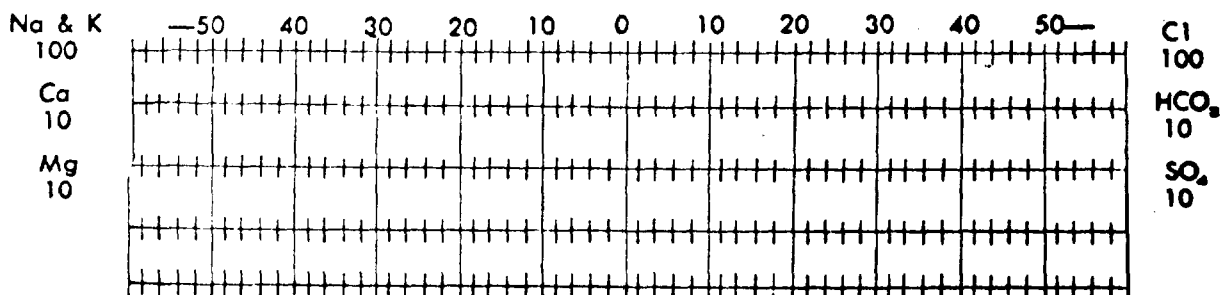
Magnesium 92 ppm

Phosphate ppm

Chloride 12,000 ppm as Sodium Chloride ppm

Remarks:

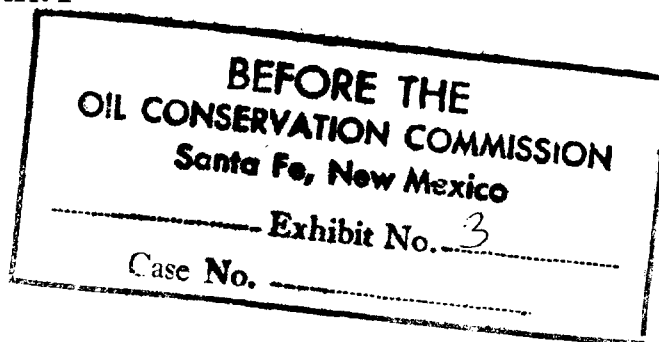
for Stiff type plot (in meq./l.)



SAMPLE NO. _____

THE WESTERN COMPANY
Service Laboratory

*Tank in
Draw*



WATER ANALYSIS

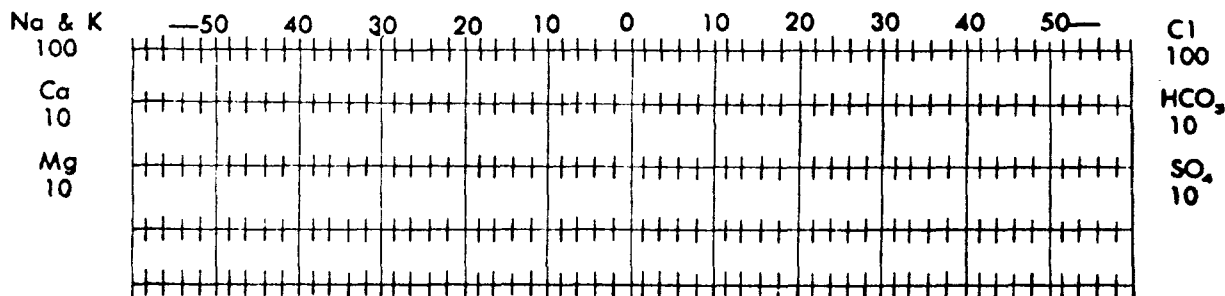
Operator	J. M. C. Ritchie	Date Sampled	3-7-69
Well	Surface Tank	Date Received	3-11-69
Field		Submitted by	Kermit District
Formation		Worked by	Jones
Depth		Other Description	
County	Eddy, N. M.		

CHEMICAL DETERMINATIONS

Density	1.010 @ 72°F	pH	7.7
Iron	Very Faint Trace	Hydrogen Sulfide	None
Sodium and Potassium	1,358 ppm	Bicarbonate	305 ppm
Calcium	192 ppm	Sulfate	2,540 ppm
Magnesium	19 ppm	Phosphate	ppm
Chloride	440 ppm	as Sodium Chloride	ppm

Remarks:

for Stiff type plot (in meq./l.)



RAILROAD COMMISSION REPORTS PREPARED
PROPERTY MANAGEMENT
LEASE APPRAISALS
EVALUATIONS

COMPLETE ENGINEERING SERVICE
BOTTOM HOLE PRESSURES
GAS-OIL RATIOS
WELL COMPLETIONS

**WEST TEXAS OIL REPORTS
AND ENGINEERING SERVICE**

TELEPHONE MU 4-6381 - P. O. BOX 953
401 WILKINSON-FOSTER BUILDING

MIDLAND, TEXAS

EVERETT L. SMITH

REGISTERED PROFESSIONAL ENGINEER

LAMAR ESCHBERGER

REGISTERED PROFESSIONAL ENGINEER

March 12, 1969

New Mexico Oil & Gas Commission
Box 2088
Sante Fe, New Mexico

Gentlemen:

Re: J. M. C. Ritchie
Welch Unit
Welch Delaware Oil Pool
Eddy County, New Mexico

The captioned operator requests that a hearing be set up at the earliest date for the purpose of obtaining an exception to the "no pit" rule. There are four wells on this lease located as follows:

2 D NW/4 NW/4 Sec. 21, 26-27
3 M SW/4 SW/4 Sec. 16, 26-27
4 A NW/4 NW/4 Sec. 20, 26-27
5 C NW/4 NW/4 Sec. 21, 26-27

Yours truly,

Lamar Eschberger

Lamar Eschberger
Petroleum Engineer

/lj

cc: J. M. C. Ritchie

Case 4100

DOUGLAS
4/2/69
Date

NEW MEXICO OIL CONSERVATION COMMISSION
BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Exhibit No. 4
Case No. 4100
WELL RECORD

Mail to District Office, Oil Conservation Commission, to which Form C-101 was sent not later than twenty days after completion of well. Follow instructions in Rules and Regulations of the Commission. Submit in QUINTUPLICATE. If State Land submit 6 Copies

AREA 646 AGREE
LOCATE WELL CONSENTLY

El Paso Natural Gas Company
(Company or Operator)

Welch Unit
(Lessee)

Well No. 3, in SW 1/4 of SW 1/4, of Sec. 16, T. 26 S, R. 27 E, NMPM.

Welch Delaware Pool, Eddy County.

Well is 330 feet from South line and 990 feet from West line

of Section 16. If State Land the Oil and Gas Lease No. is E-1719-4

Drilling Commenced February 3, 1958 Drilling was Completed February 12, 1958

Name of Drilling Contractor Frontier Drilling Company

Address 20th Floor Wilco Building; Midland, Texas

Elevation above sea level at Top of Tubing Head 3250.8 The information given is to be kept confidential until

19

OIL SANDS OR ZONES

No. 1, from 2137 to 2147 (011) No. 4, from to

No. 2, from to No. 5, from to

No. 3, from to No. 6, from to

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from to feet

No. 2, from to feet

No. 3, from to feet

No. 4, from to feet

CASING RECORD

SIZE	WEIGHT PER FOOT	NEW OR USED	AMOUNT	KIND OF END	CUT AND PULLED FROM	PERFORATIONS	PURPOSE
8-5/8	24#	New	238	Guide	-	-	Surface
5-1/2	15.5#	New	2233	Guide	-	2137 - 2147	Production

MUDDING AND CEMENTING RECORD

SIZE OF HOLE	SIZE OF CASING	WHERE SET	NO. BAGS OF CEMENT	METHOD USED	MUD GRAVITY	AMOUNT OF MUD USED
11"	8-5/8	238	150	Pump & Plug		
7-7/8"	5-1/2	2233	150	Pump & Plug		

RECORD OF PRODUCTION AND STIMULATION

(Record the Process used, No. of Qts. or Gals. used, interval treated or shot.)

Spotted 200 gallons acid at perforations 2137 - 2147. Treated thru perforations with 4000 gallons oil & 4000# sand.

Result of Production Stimulation

Depth Cased Out 2214'

If geophysical or other special tests or deviation surveys were made, submit report on separate sheet and attach hereto:

TOOLS USED

Rotary tools were used from Surface feet to 2236 feet, and from 2236 feet to 2236 feet.
Cable tools were used from Surface feet to 2236 feet, and from 2236 feet to 2236 feet.

PRODUCTION

Put to Producing February 23, 19 58

OIL WELL: The production during the first 24 hours was 120 barrels of liquid of which 50 % was oil; 1 % was emulsion; 50 % water; and 1 % was sediment. A.P.I. Gravity 41°

GAS WELL: The production during the first 24 hours was 0 M.C.F. plus 0 barrels of liquid Hydrocarbon. Shut in Pressure 0 lbs.

Length of Time Shut in 0

PLEASE INDICATE BELOW FORMATION TOPS (IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE):

Southeastern New Mexico

Northwestern New Mexico

T. Anhy. <u>222</u>	T. Devonian	T. Ojo Alamo
T. Salt <u>1308</u>	T. Silurian	T. Kirtland-Fruitland
B. Salt <u>1889</u>	T. Montoya	T. Farzington
T. Yank Del. Lime - <u>2075</u>	T. Simpson	T. Pictured Cliffs
T. Yank Del. Sand - <u>2110</u>	T. McKee	T. Menefee
T. Queen	T. Ellenburger	T. Print Lookout
T. Grayburg	T. Gr. Wash	T. Mancos
T. San Andres	T. Granite	T. Dakota
T. Glorieta	T.	T. Morrison
T. Drinkard	T.	T. Penn
T. Tubbs	T.	T.
T. Abo	T.	T.
T. Penn	T.	T.
T. Miss	T.	T.

FORMATION RECORD

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	222	222	Sand, gravel, gypsum				
222	1308	1086	Anhydrite lime				
1308	1500	192	Salt limestone				
1500	1590	90	Anhydrite				
1590	1889	299	Salt				
1889	2075	186	Anhydrite, lime				
2075	2110	35	Lime, shaly sand				
2110	2236	126	Sand, shale				
	T.D.						

ATTACH SEPARATE SHEET IF ADDITIONAL SPACE IS NEEDED

I hereby swear or affirm that the information given herewith is a complete and correct record of the well and all work done on it so far as can be determined from available records.

February 24, 1958

(Date)

Company or Operator El Paso Natural Gas Company

Address 2006 Wilco Building

Name Lloyd R. Baskin

Position or Title Drilling and Production Supt.