

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

October 30, 1959

Mr. Jack Campbell
Box 721
Roswell, New Mexico

Dear Mr. Campbell:

On behalf of your client, Southwestern Hydrocarbon Company, we enclose two copies of Order No. R-1517 in Case 1763, issued by the Oil Conservation Commission effective this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir

Enclosures: (2)

*Copy to Hobbs
& Howard Bratton*

C
O
P
Y

October 22, 1959

Mr. W. M. Stanley
District Landman
Union Oil Company of California
P. O. Box 6738
Roswell, New Mexico.

Re: OP90 - Southwestern Hydrocarbon Company
Boundary Prospect
Lea County, New Mexico

Dear Sir:

Reference is made to our letter of September 18, 1959, concerning the above mentioned operating agreement.

Testimony for Southwestern Hydrocarbon Company's application concerning the Sawyer Area of Lea County, New Mexico was presented to the New Mexico Oil Conservation Commission in an examiner's hearing at Santa Fe on September 30. On October 20, Mr. D. S. Nutter, examining engineer for said Commission, was consulted as to whether this regulatory body has made a decision on this case. Mr. Nutter indicated that the Conservation Commission presently is reviewing this case; however, because of its nature, no immediate decision can be expected. He further indicated that the Commission was more than 30 days behind in publishing their orders. Mr. Nutter is aware that Southwestern Hydrocarbon Company is operating on an extension to November 1, 1959, granted by Union Oil Company in its letter to Southwestern Hydrocarbon Company, dated September 22, 1959.

In view of the above information, we request that Union Oil Company of California grant our company an extension from November 1, to that date at which both of our companies receive copies of the published order, plus 15 days, but not to exceed 90 days from November 1, 1959, to commence the next well on the above captioned farmout. This will allow our company sufficient time to take care of the necessary work in staking the location for the next well.

Very truly yours,

JAS:B
cc: D. S. Nutter, OCC
B. S. Guthrie
Lonnie Kemper

SOUTHWESTERN HYDROCARBON COMPANY
By J. A. Sheldon
J. A. Sheldon

KELLER AND PETERSON

PETROLEUM CONSULTANTS

*Petroleum and Geological Engineering Property Appraisals
Reserve Estimates Reservoir Analysis*

W. T. WAGGONER BUILDING

FORT WORTH, TEXAS

October 2, 1959

Mr. D. S. Nutter, Chief Engineer
New Mexico Oil Conservation Commission
107 Mabry Hall, Capitol Building
Santa Fe, New Mexico

Dear Mr. Nutter:

Reference is to your request made at the hearing in Santa Fe on September 30, 1959, in regard to the Sawyer and South Sawyer hearing. You will recall that you requested a copy of the Texas Railroad Commission rules governing San Andres gas wells drilled in the Levelland Field area located east of the Sawyer area and adjacent to the Buckshot Field area in Texas. Levelland Field Rule No. 8 and State-Wide Rule No. 6-B govern this situation. A copy of each of these rules is enclosed as per your request.

If there are any further questions in this regard, please do not hesitate to call me.

Yours very truly,

KELLER AND PETERSON

By 
W. O. Keller

WOKfr

Enclosures

cc: Mr. C. A. Powell
Alamo Corporation
Lubbock, Texas

Mr. Howard Bratten
Hinkle Building
Roswell, New Mexico

(LEVELLAND SAN ANDRES UNIT (SECONDARY RECOVERY)—Cont'd)

hours and for such additional time up to twenty-four (24) consecutive hours as will permit the well being tested, if it is capable of so doing, to produce a volume of oil equivalent to the allowable to which it is entitled under the applicable rules of the Commission. The oil produced during whatever period the well is tested shall be converted to a twenty-four (24) hour basis by multiplying such production during such period by the required factor.

RULE 8. (As Amended by Order No. 8-34,408, Effective October 10, 1956, Order No. 8-37,458, Effective January 21, 1958, and Order No. 8-39,633, Effective January 1, 1959.) A gas well in the area hereinafter described producing from the same reservoir as oil wells shall be allowed to produce monthly that number of cubic feet of gas which, without this rule, are permitted to be produced from such gas well from 42.5 acres under Statewide Rule 6(b); provided, however, that where the acreage assigned by the operator to such gas well is less than or exceeds 42.5 acres, such gas allowable shall be decreased or increased, as the case may be, by multiplying the same by a fraction, the numerator of which is the amount of such assigned acreage and the denominator of which is 42.5. Acreage assigned to an oil proration unit shall not be assigned to a gas well producing from the same reservoir. No acreage can be assigned to a gas well in excess of 708 acres plus a tolerance of 10% thereof, and any so assigned shall consist of acreage which can reasonably be considered to be productive of gas. Acreage assigned to a gas well shall constitute a gas proration unit which shall not be in length more than twice its width and shall be rectangular in shape; provided, however, that in cases of long and narrow leases or where

leases are of such geometric design that it is impossible to comply with the provisions hereof, the Commission may, after proper showing, grant exceptions to the limitations as to the shape of such gas proration units. The provisions of this rule shall be effective only with respect to the following described area lying in the Levelland Field in Cochran County, Texas: That portion of said field lying west of the East Line of the Potter County School Land Surveys and west of the East Line of the Harrison and Brown Survey, Cochran County, Texas, that portion of said field is embraced in Labors 7, 8, 9, 10, 11, 12, 25, 26, and 27 Mills County School Land, A-91, and Labors 8 and 9 Mills County School Land, A-98, and that portion of said field that adjoins on the east the area heretofore described, which is further delineated on the south as the South Line of League 95, Mills County School Land, A-91, on the east as the East Lines of Labors 5, 14, and 23 in Leagues 95, 96, and 97, and Labors 23, 14, 56, and 47, League 98, Mills and Brewster County School Lands A-84, 82, 90, and 91, and on the north as the North Line of League 98, Brewster County School Land, A-84, Cochran County, Texas.

IT IS FURTHER ORDERED That the provisions of this Special Order take precedence over and supersede the provisions of Special Order No. 8-9617, effective October 1, 1946, and Special Orders No. 8-10,707, effective May 19, 1947, No. 8-11,594, effective December 1, 1947, and No. 8-12,141, effective March 22, 1948, amending such order, adopting operating rules for the Levelland Field, Hockley County, Texas, and other prior orders, if any, relating to operating rules for said field; and any and all such orders are hereby rescinded.

IT IS FURTHER ORDERED That this cause be held open on the docket for such other and further orders as may be necessary.

(CONSERVATION RULES—Cont'd)

to the provision of Chapter 100 of the Acts of the Forty-third Legislature of Texas, Regular Session, 1933, usually referred to as Senate Bill No. 92, amending Article 6008, Revised Statutes, 1925.

RULE 4. APPROVED METHODS OF PREVENTING WASTE TO BE USED.—Any person, corporation, company or group of individuals drilling for or producing crude oil or natural gas, or piping oil or gas for any purpose, shall use every possible precaution in accordance with the most approved methods to stop and prevent waste of oil or gas, or both, in drilling and producing operations, storage, or in piping or distributing, the same shall not wastefully utilize oil or gas, or allow same to leak or escape from natural reservoirs, wells, tanks, containers, or pipe lines.

RULE 5. "COMMERCIAL QUANTITIES" DEFINED.—Any gas stratum showing a well-defined gas formation and producing gas shall be considered capable of producing gas in commercial quantities, and any gas coming from such a gas stratum or formation shall be considered a commercial quantity, and such stratum or formation shall be protected the same as under Rule 3.

RULE 6. (Effective December 15, 1933, as Amended by Order No. 20-3,708, Effective June 14, 1942, and Order No. 20-6,839, Effective October 20, 1944.)

(a) Any oil well producing with a gas-oil ratio in excess of two thousand (2,000) cubic feet of gas per barrel of oil produced shall be allowed to produce daily only that volume of gas obtained by multiplying its daily oil allowable, as determined by the allocation formula applicable to said well, by two thousand (2,000) cubic feet. The gas volume thus obtained shall be known as the daily gas limit of such well. The daily oil allowable of such well shall then be determined by dividing its daily gas limit, obtained as herein provided, by its producing gas-oil ratio in cubic feet per barrel of oil produced.

RULE 6(b). (As Added by Order No. 20-6,839, Effective October 20, 1944, and Amended by Order No. 20-22,429, Effective December 12, 1951.) Any gas well producing from the same reservoir in which oil wells are completed and producing shall be allowed to produce daily only that amount of gas which is volumetric equivalent in reservoir displacement of the gas and oil produced from that oil well in the reservoir which withdraws the maximum amount of gas in the production of its daily oil allowable.

The following formula shall be used in the determination of the allowable of a gas well producing with a gas-oil ratio of 100,000 or more under the provisions of this rule:

$$Q = A(r_1 - r_2 + \frac{199.3 \text{ PrB}}{\text{TrZ}})$$

Where:

Q = Gas well allowable, cubic feet per day @ 14.65 PSIA and 60°F.

A = Top oil well allowable, barrels per day at 60°F.

r_1 = Permissible gas-oil ratio applicable to reservoir, cubic feet @ 14.65 PSIA and 60°F per barrel @ 60°F.

r_2 = Cubic feet of gas dissolved in one (1) barrel of oil at average reservoir conditions, cubic feet @ 14.65 PSIA and 60°F per barrel @ 60°F.

Pr = Average reservoir pressure at gas-oil contact, PSIA.

Tr = Average reservoir temperature at gas-oil contact, degrees Rankine.

B = Formation Volume factor of reservoir oil at average reservoir conditions, dimensionless.

Z = Deviation factor of gas from ideal gas laws at average reservoir pressure and temperature, dimensionless.

The following formula shall be used in the determination of the allowable of a gas well producing with a gas-oil ratio of less than 100,000 under the provisions of this rule:

$$Q = \frac{A(r_1 - r_2 + \frac{199.3 \text{ PrB}}{\text{TrZ}})}{1 - \frac{r_1}{r_2} + \frac{199.3 \text{ PrB}}{r_2 \text{ TrZ}}}$$

Where r_1 = Gas-oil ratio of gas well, cubic feet @ 14.65 PSIA and 60°F per barrel @ 60°F. Other symbols are as above.

The necessary reservoir data shall be obtained from the most recent MER hearing file or estimated by the Commission's Engineering Department unless more recent information is submitted by the operators.

IT IS FURTHER PROVIDED, HOWEVER, That where gas produced from an oil reservoir in a field is returned to the same reservoir from which it was produced, only the volume of gas not returned to the reservoir shall be considered in applying the above rule.

(Unnumbered Order Amending Statewide Rule 6-B, Effective May 25, 1954.)

MEMORANDUM TO ALL OPERATORS IN RESERVOIRS HAVING NET GAS-OIL RATIO RULES.

This is to advise that effective June 1, 1954, Statewide Rule 6-B will not be applied to associated gas wells in reservoirs for which a net gas-oil ratio rule has been adopted for oil wells with net gas defined as total gas produced less gas diverted to legal uses. This does not apply where net gas is defined as total gas produced less gas returned to the reservoir or where special field rules have been adopted for associated gas wells.

Associated gas wells in this category will be dropped from the Associated Gas Well Schedule the next time it is revised. The allowables of all such wells will no longer apply after June 1, 1954, however.

ERNEST O. THOMPSON,
Chairman
W. A. MURRAY, JR.,
Commissioner

RULE 7. COMMISSION WILL REGULATE THE TAKING OF NATURAL GAS.—The Railroad Commission of Texas will, as occasion arises, prescribe rules and regulations for the determination of the natural flow of any well or wells in this State, and will regulate the taking of natural gas from any and all sources of supply within the State so as to prevent waste and protect the interests of the public and of all those having a right to produce therefrom in so far as it may lawfully do so.

RULE 8. GAS TO BE MEASURED. (As Amended by Order No. 20-1,035, Effective October 26, 1939, Order No. 20-23,342, Effective April 7, 1952, and Order No. 20-24,164, Effective August 1, 1952.)

a. All natural gas produced from wells completed in gas reservoirs shall be accounted for by measurement, and the producer shall report the volume produced to the Commission.

b. All natural gas produced from wells completed in an oil reservoir but not listed on the oil proration schedule shall be accounted for by measurement, and the producer shall report the volume produced to the Commission.

c. All natural gas produced from oil wells and sold, processed for its gasoline content, used in a field other than that in which it is produced, or used in recycling or repressuring operations, shall be accounted for by measurement, and the producer shall report the volume produced to the Commission.

d. All natural gas produced from oil wells in this State which is not covered by the provisions of 8-c above, shall be accounted for by measurement or an accurate estimate based on its use or periodic test, and reported to the Commission by the producer. The volume of gas produced by wells exempt from gas-oil ratio surveys may be estimated based on general knowledge of the characteristics of the wells without the use of periodic test data. It is further provided that it shall not be necessary for a producer to report any natural gas produced from a marginal well that is exempt from gas-oil ratio survey, if such gas is not sold or utilized off the lease.

e. Exceptions to this order shall be granted only upon written application and proper showing to the Commission.

A record of all measurements or estimates required by this rule shall be maintained for not less than two (2) years in a permanent file and made available to the Commission representatives at all reasonable times. Where settlement or payment for gas is based on measurement made by a plant, a purchaser, or other person taking the gas, the producer may use the volumes determined by such measurement in making this report. The

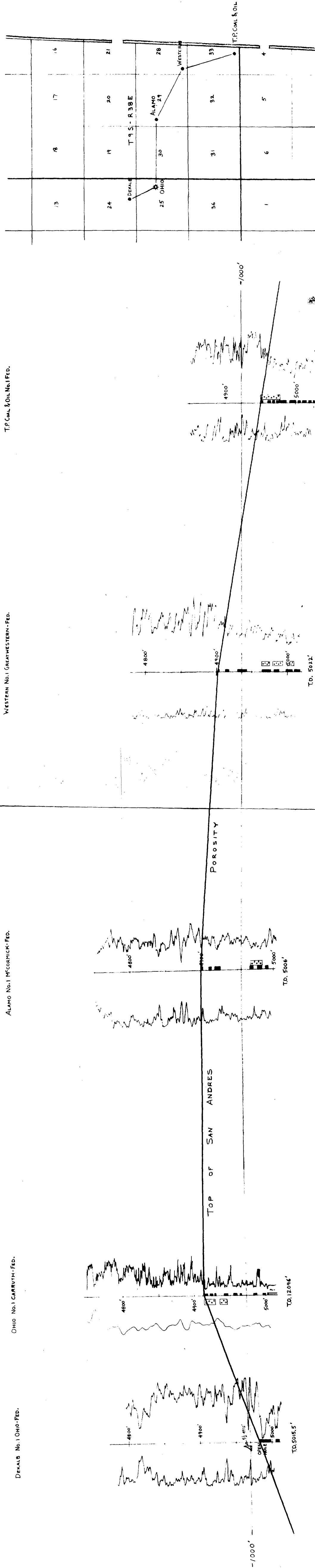
DEKALB No. 1 OHIO-FED.

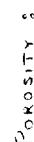
OHIO No. 1 CARRUTH-FED.

ALAMO No. 1 MCCORMICK-FED.

WESTERN No. 1 GREATWESTERN-FED.

T.P. COAL & OIL No. 1 FED.





SOUTHWESTERN HYDROCARBON COMPANY

P. O. Box 578

ROSWELL, NEW MEXICO

SAWYER AREA, LEA COUNTY, N. M.

CASE NO. 1763

EXHIBIT NO. _____

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

Southwestern EXHIBIT NO. 2

CASE NO. 1763

SINCLAIR OIL & GAS COMPANY

SINCLAIR OIL BUILDING

TRUSSA 25, OKLAHOMA

August 12, 1959



GAS AND GAS PRODUCTS DEPARTMENT

PAUL T. DAVIS, JR.
Vice President, Sales and Marketing

Southwest Hydrocarbon Company
P. O. Box 578
Roswell, New Mexico

Re: Lots 1 and 2,
Section 4 and S/2 NE/4
Section 5-10S-38E,
Lea County, New Mexico.

Gentlemen:

By letter dated July 28, 1959, we directed a letter to the attention of Mr. Paul M. Belmont, P. O. Box 530, Corsicana, Texas, advising your Company that we would appreciate being considered a prospective purchaser of gas produced from your well located in the NW/4 of Section 5-10S-38E, Lea County, New Mexico. We now have been furnished with the open flow potential on your well in the NW/4 of Section 5-10S-38E, Lea County, New Mexico and will greatly appreciate your furnishing us with the correct legal description and ownership of the lands upon which your Union-Federal Well #1 is located.

We have now been advised of the farmout by our Company of the acreage described in the lure to this letter to your Company. Please be advised that promptly upon completion of wells drilled on this acreage, and the determination of the availability of commercial quantities of gas for sale, that we will provide marketing facilities for such gas.

Sincerely yours,


P. T. Davis

GAC:eh

ILLEGIBLE

SINCLAIR OIL & GAS COMPANY



MIDLAND, TEXAS

August 5, 1959

W. T. MILLER
V. L. MILLER
J. L. MILLER
J. L. MILLER
J. L. MILLER
J. L. MILLER
J. L. MILLER
J. L. MILLER

Mr. John A. Shelton
Southwestern Hydrocarbon Company
P. O. Box 578
Roswell, New Mexico

Re: Southwestern Hydrocarbon Co. -
Union-Federal, Well No. 1,
Section 5-10S-38E,
Lea County, New Mexico

Dear Sir:

As discussed in our telephone conversation, we are attaching three copies of Multi-Point Back Pressure Test dated July 23-27, 1959, for your Union-Federal, Well No. 1. This Test was run by our Gas Analyst, Mr. W. R. Lord.

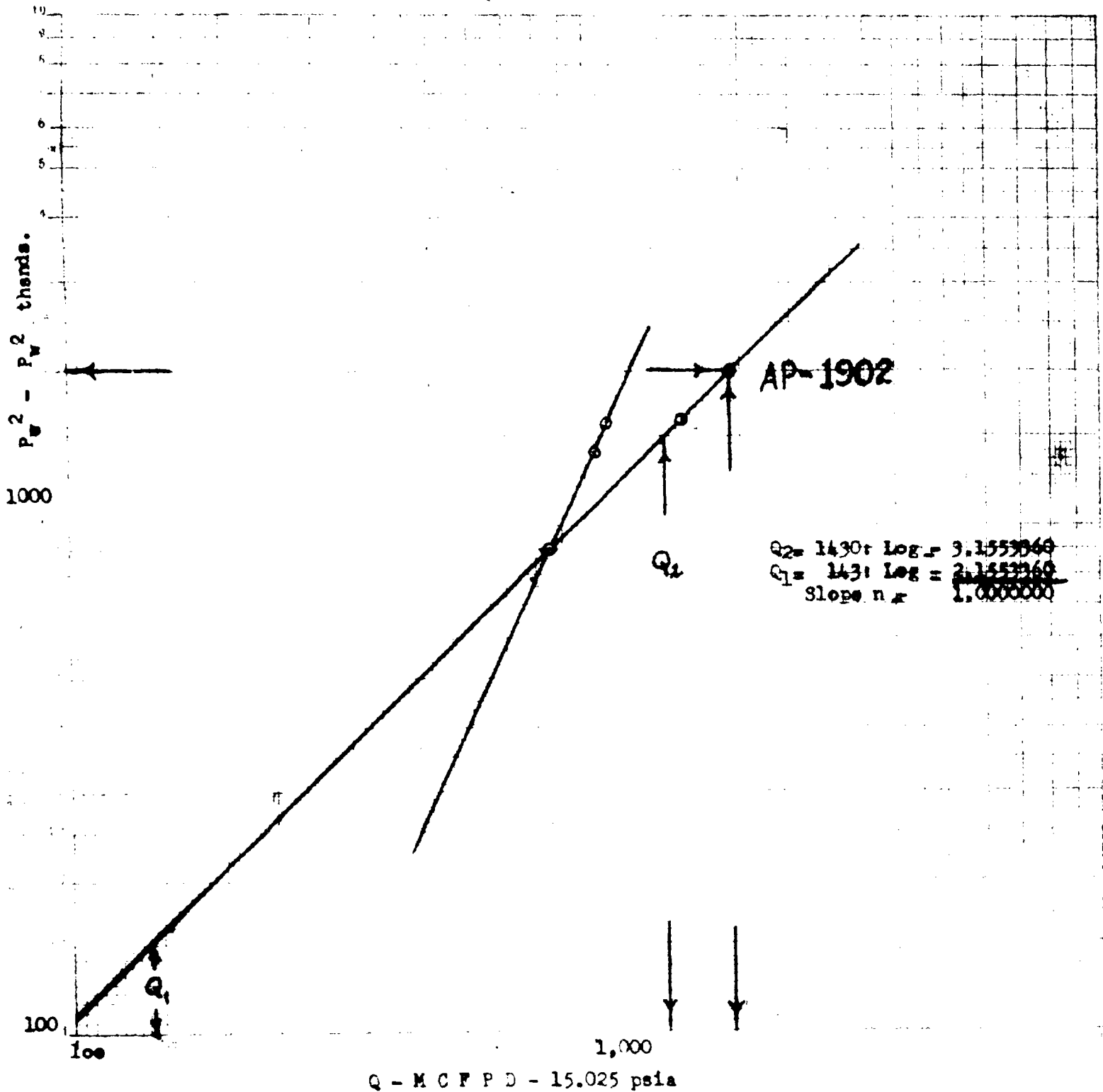
Very truly yours,

C. Wilbur Brady

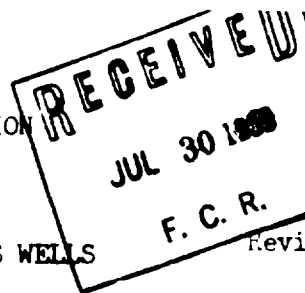
C. Wilbur Brady
Assistant Division Superintendent
Gas and Gas Products Department

CWE/fa

COMPANY Southwestern Hydrocarbon Co.
 WELL F1 Union-Federal
 LOCATION Unit C Sec. 5- 108- 38E
 COUNTY Lea
 DATE 7/23-27/59



NEW MEXICO OIL CONSERVATION COMMISSION



MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Form C-122
Revised 12-1-55

Pool Wildcat Formation San Andres County Lea
Initial X Annual _____ Special _____ Date of Test 7/23-27/59
Company Southwestern Hydrocarbon Co. Lease Union-Federal Well No. 1
Unit C Sec. 5 Twp. 10S Rge. 38E Purchaser None
Casing 4 1/2 Wt. 11.6# I.D. 4.009 Set at 4299 Perf. 4936 To 4958
Tubing 2 3/8 Wt. 4.7# I.D. 1.995 Set at 4975 Perf. 4941 To 4945
Gas Pay: From 4936 To 4958 L 4941 xG .800 -GL 3952 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single
Date of Completion: 7-24-59 Packer Yes Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. ?

OBSERVED DATA

Tested Through: (Prover) (Cooker) (Meter) Type Taps - - -

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	
SI								70
1.	2"	3/16	1.045		69	1.035	74	3
2.	2"	1/4	755		71	755	74	3
3.	2"	1 1/2	9.2		52	520	74	3
4.	2"	1 1/2	18.9		42	561	80	24
5.								

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wPF}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	.7851		1048.2	0.9915	0.8460	1.111	841.6
2.	1.0020		768.2	0.9896	0.8460	1.119	1034
3.	54.3653		23.1	1.0078	0.8460	1.000	1096
4.	54.3653		23.1	1.0178	0.8460	1.000	1538
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 9.936 (1-e^{-s}) 0.238
Specific Gravity Separator Gas .800
Specific Gravity Flowing Fluid _____
P_c 1417.2 P_c² 2008.4

No.	F _w F _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w P _c
1.	1048.2	1099	8.362	69.92	15.54	1115.4	893.0	1056.1	74.5
2.	768.2	590.1	10.27	105.47	25.16	615.2	1393.2	784.4	55.3
3.	633.2	400.9	10.89	118.59	28.22	429.2	1579.2	655.1	46.2
4.	574.2	329.7	15.28	233.48	55.57	385.3	1623.2	620.7	43.8
5.									

Absolute Potential: 1902 MCFPD; n 1.000 Used (See Notes)COMPANY Sinclair Oil & Gas Co.ADDRESS Mr. Fred RogersAGENT and TITLE W.R. Lord Gas Analyst Box 2431 Hobbs New MexicoWITNESSED Mr. John A. SheldonCOMPANY Southwestern Hydrocarbon Co. P.O. Box 578 Roswell, New Mexico

REMARKS

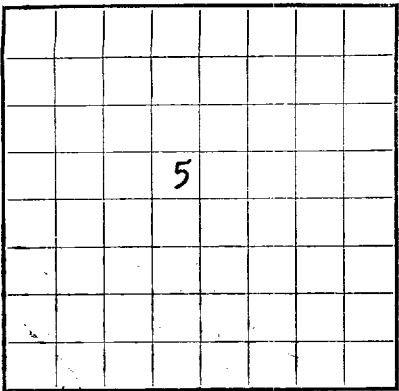
H₂S Content - 432 Grains/100 Cu.Ft.GPM .355

Production -- Well Made Approx. 1bbl.Oil & Approx. 1bbl.Water

n Slope ----- Points above 1,000 Therefore 45 Deg. drawn through 24 Hr. Point

ILLEGIBLE

U. S. LAND OFFICE _____
SERIAL NUMBER _____
LEASE OR PERMIT TO PROSPECT _____



LOCATE WELL CORRECTLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Southwestern Hydrocarbon Co Address P.O. Box 578, Roswell, N.M.
Lessor or Tract Union-Federal Field Wildcat State New Mexico
Well No. 1 Sec. 4 T. 10S R. 38E Meridian NMPM County Lea
Location 552.9 ft. N of N Line and 1980 ft. E of W Line of Section 5 Elevation 3945 ^{DF}
(Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed J. A. Sheldon
Title Geological Consultant

Date 8-17-59

The summary on this page is for the condition of the well at above date.

Commenced drilling 6-28-59, 19____ Finished drilling 7-11-59, 19____

OIL OR GAS SANDS OR ZONES
(Denote gas by G)

No. 1, from 4936 to 5000
No. 2, from _____ to _____
No. 3, from _____ to _____
No. 4, from _____ to _____
No. 5, from _____ to _____
No. 6, from _____ to _____

IMPORTANT WATER SANDS

No. 1, from _____ to _____
No. 2, from _____ to _____
No. 3, from _____ to _____
No. 4, from _____ to _____

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From—	To—	
<u>8-5/8"</u>	<u>24</u>		<u>CF&I</u>	<u>371</u>	<u>Texas</u>				<u>Surface</u>
<u>4-1/2"</u>	<u>11.6</u>		<u>CP&I</u>	<u>4999</u>	<u>Texas</u>		<u>4936</u>	<u>4958</u>	<u>Oil String</u>

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
<u>8-5/8"</u>	<u>371</u>	<u>208</u>	<u>circulated</u>		
<u>4-1/2"</u>	<u>4999</u>	<u>200</u>	<u>Circulated-two stages</u>		

PLUGS AND ADAPTERS

Heaving plug—Material _____ Length _____ Depth set _____
Adapters—Material _____ Size _____

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

TOOLS USED

Rotary tools were used from surface feet to 5000 feet, and from _____ feet to _____ feet
Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

August 17, 1959 Completed Shut-in 8-15 1959
Put to producing 8.5 barrels of fluid of which 5.88 % was oil; 76.5 %

~~acid water and 17.62% salt water~~
The production for the first 24 hours was _____ barrels of fluid of which _____ % was oil; _____ %
emulsion; _____ % water; and _____ % sediment. gauged Gravity, xx 37° API

If gas well, cu. ft. per 24 hours 1,538,000 Gallons gasoline per 1,000 cu. ft. of gas ?
Rock pressure, lbs. per sq. in. 70 hr. SITP 1404 psig; FTP 561 psig.

EMPLOYEES

Verna Drilling Co., Driller _____, Driller _____
_____, Driller _____, Driller _____

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
			<u>Rotary Drilling Samples</u>
<u>0</u>	<u>18</u>	<u>18</u>	<u>Caliche & Sd.</u>
<u>18</u>	<u>390</u>	<u>372</u>	<u>Sh. & Sd. (Ogallala)</u>
<u>390</u>	<u>2210</u>	<u>1820</u>	<u>Red, green & gray sh. & sd. (Dockum Group-Undiff)</u>
<u>2210</u>	<u>2315</u>	<u>105</u>	<u>Red sh. & sd. (Dewey Lake)</u>
<u>2315</u>	<u>2370</u>	<u>55</u>	<u>Anhy, red sh. (Rustler)</u>
<u>2370</u>	<u>2920</u>	<u>550</u>	<u>Anhy, salt & red sh. (Salado)</u>
<u>2920</u>	<u>3660</u>	<u>740</u>	<u>Anhy, red sh. & red sd. (Yates-7 Rivers) Undiff) Yates sd. 2920-3040, no shows.</u>
<u>3660</u>	<u>4250</u>	<u>545</u>	<u>Anhy, red sh. & red sd. w/tr ls. (Queen Grayburg Undiff) Queen sd. 3660-3755'</u>
<u>4205</u>	<u>5000</u>	<u>795</u>	<u>sl stn Premier sd. 4154-4205' no show Anhy, red sh & dolomite (San Andres) 4935-5000' smpls. bldg. O&G, good cut, stn. & flour.</u>

HISTORY OF OIL OR GAS WELL

16-43094-2 U. S. GOVERNMENT PRINTING OFFICE

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.

Spudded well 6-28-59 with Verna Drilling Co. rotary tools. Ran 8-5/8" OD, 24#/ft. CR&I seamless surface casing to 371 ft. in red beds and circulated 208 sx of cmt. to surface. Pressured up to 500# for 30 minutes. Cement set for 24 hrs. before drilling ahead. Drid. ahead w/7-7/8 inch bit to 4952'. Cored w/7-13/16" core bit from 4952 to 4993', cut and recovered 41' of tan-gray dolomite w/any inclusions, generally fair pp porosity throughout, broken and fractured, bleeding oil and gas throughout. Ran GH-N log from surface to TD 4993'. Drid. ahead w/7-7/8" bit to TD of 5000'. Ran 4999' 4-1/2" OD, 9.5# & 11.6#, J-55, CR&I seamless casing with 1' shoe to 5000'. Cemented with 200 sx of Halliburton 50-50 pozmix (4% gel) two stages. First stage: Pumped to bottom & circulated 125 sx. Leaving 5' in bottom of pipe. Pumped water behind first stage up to Halliburton DV tool located at 3041' in the oil string from surface. Pumped second stage of 75 sx of same type cement through DV tool and circulated up across Yates sd. Pumped wire line plug down to DV tool with water and let set for 30 minutes. Plug held. Let cement set for 8 hrs. then drilled out plug at DV tool and bottom plug to 4997'. Cement set for additional 12 hrs. Perforated with 4 shots per foot (Lene Wells Bullets) from 4936-58". Ran 2" ID, external upset J-55, tubing with 4" perforation anchor and Halliburton J-3 packer to 4974'. Packer set at 4880'. Perfor- ation anchor set at 4941-45'. Spotted 20 bbls Dowell reg. acid in tbg. Set packer. Acidized w/10,000 gals Dowell reg. acid w/de-emulsified added. Formation broke at 2400#. Treated formation at 3000# w/avg. injection rate of 5 bbls/min. Shut well in for 2 hrs. Opened well head and swabbed thru tbg. On third swab, well kicked off and flowed for 2-1/2 hrs. and died. On 15th swabbing pull well kicked off and flowed by heads, oil cut acid water and gas. Well flowed back 240 bbls of oil cut acid water in 1-1/2 days. Est oil volume 10 bbls. Est. gas volume over 1,000,000 CFPP. Sinclair's Gladrola gas department ran an unofficial 4-point back pressure test to determine gas volume. 70 hr. SITP 1404 psig. On 24 hr. potential flow test, well flowed 1,538 MCFGPD thru 1-1/2" critical prover choke and 8.5 bbls fluid being 6.5 bbls acid wtr., 1.5 bbls salt water, and 0.5 bbls oil. Gravity of oil 37° API corrected. Tbg. RP 561 psig. Well completed 8-15-59, shut-in waiting on pipeline connections.

Hand-drawn geological profile sketch on a grid. The vertical axis is labeled with elevations 3800, 4100, 4200, and 4300. A horizontal line is drawn at the 4200 mark, with the handwritten text "TOP SAN ANDRES" and "4205' (-260')" written below it. The profile shows a jagged line representing the topography, with a peak reaching above 4200 and a dip below 4200.

COMPANY SOUTHWESTERN HYDROCARBON COMPANYFILE NO. WP-3-1299WELL UNION FEDERAL NO. 1DATE 7-10-59ENGRS. BOONEFIELD WILDCATFORMATION SAN ANDRESELEV. 3945' KBCOUNTY LEA STATE NEW MEXICOORIG. FLD. WATER BASE MUDCORRS. DIAMOND LLOCATION 552 FN & 1980 FWL SEC 5-T10S-R38EREMARKS SAMPLED AS DIRECTED BY CLIENT

COMPLETION COREGRAPH

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted). Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representation as to the productivity, pressure, operation or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.



SAMPLE CHARACTERISTICS

F: Fractured L: Laminated FG; MG; CG: Type Grain Size S: Stycolitic V: Vuggy

PROBABLE PRODUCTION

O: Oil W: Water G: Gas T: Transitional

TOTAL WATER 

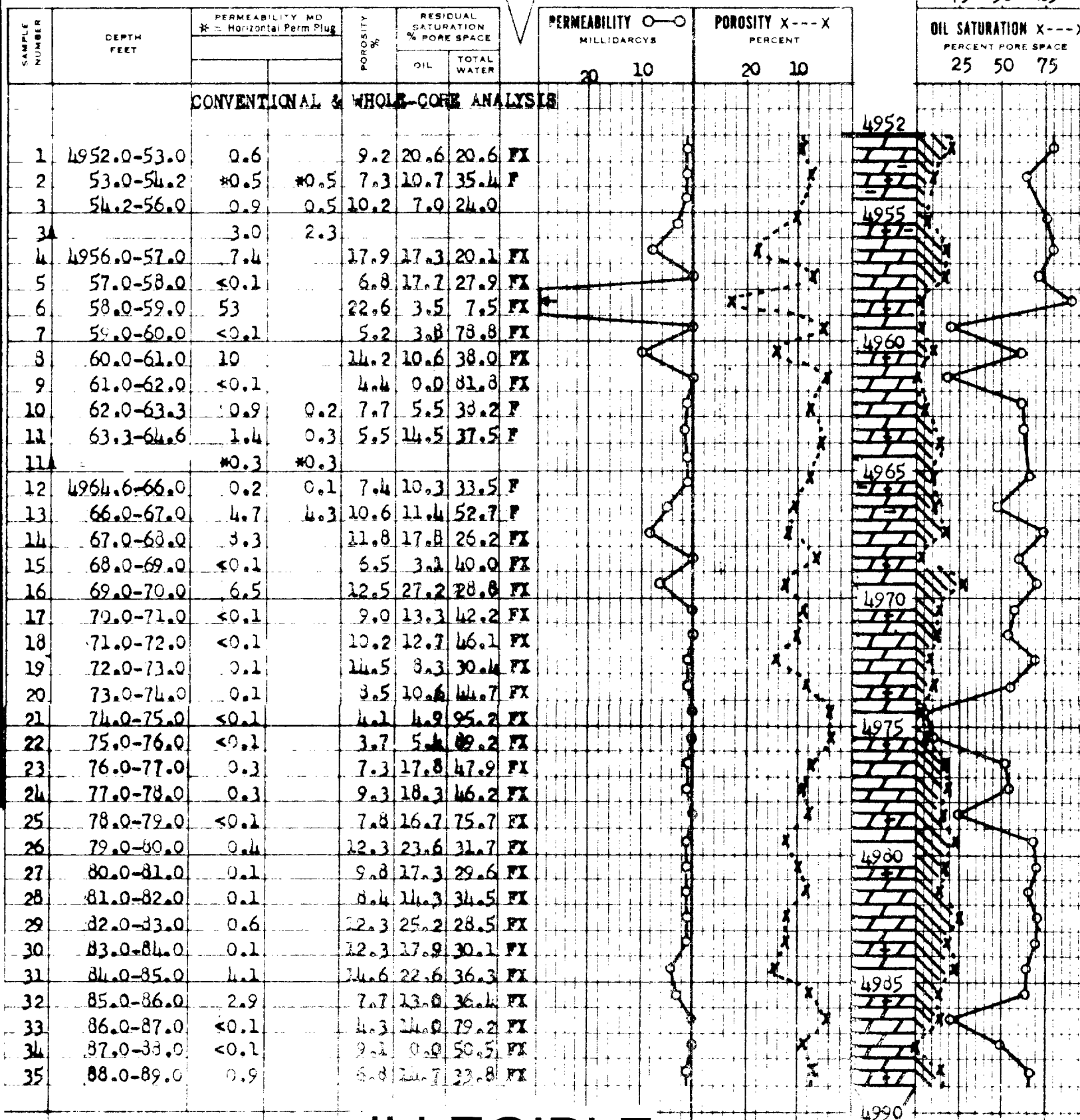
PERCENT PORE SPACE

75 50 25

OIL SATURATION 

PERCENT PORE SPACE

25 50 75



ILLEGIBLE

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE

LARGE FORMAT
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IN THE NEXT FILE

BEFORE EXAMINER MUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 4

CASE NO. 1766

PRODUCTION AND PRODUCTIVITY STATUS

SAWYER AREA - LEA COUNTY, NEW MEXICO

AUGUST 1, 1959

OPERATOR Lease and Well No.	Location		Completion Data		Cumulative Oil Production		July Production Bbls.	Remarks
	S	T	Date	Zone	Bbls. 8-1-59	Bbls.		
ALAMO CORPORATION								
Brown-Federal 1	18	9	5-59	1 and 2	510	105	GOR 173,000 5-59	
McCormick "A" 1	29	9	3-59	2	1,219	260	GOR 66,700 5-59	241,280 total
DeKALB AGRICULTURAL ASSOCIATION								
Ohio-Federal 1	24	9	10-58	1	2,775	392		
DEVONIAN OIL COMPANY								
Landreth 1	18	9	6-48	1 and 2			Potential 2,750 MCFD in 1948	
GREAT WESTERN DRILLING COMPANY								
Brown-Federal 1	18	9	N.A.	1	31,390	22	GOR 27,200 5-59	
Byers-Federal 1	30	9	N.A.	1			Tested 330 MCF + 3 BO 8-58	GOR 104,700
GULF OIL CORPORATION								
Brown-Federal 1	19	9	N.A.	1	24,249	140		
OHIO OIL COMPANY								
Carruth-Federal 1	25	9	12-51	1			Potential 735 MCF + 10 BO and 17 BW 12-51	
GEORGE P. LIVERMORE								
Crosby-Federal 1	31	9	9-50	1 and 2			Potential 385 MCF 9-50	
TEXAS PACIFIC COAL AND OIL COMPANY								
Federal 1	33	9	1-58	1	11,173	616	GOR T.S.T.M. 4-58	11,173 bo total p.p.d.
SOUTHWEST HYDROCARBON								
Union-Federal 1	5	10	7-59	1			Potential 1,902 MCF 7-59	
WESTERN DRILLING COMPANY								
Federal 1	28	9	5-58	2	12,164	855	GOR 50,600 5-59	

El Paso Natural Gas Company

127-31

El Paso, Texas

D. H. TUCKER
VICE PRESIDENT

September 21, 1959

ADDRESS REPLY TO:
1008 MAIN STREET - ROOM 1801
HOUSTON 2, TEXAS

RECEIVED
SEP 23 1959

HERVEY DOW & HINKLE
ROSWELL, NEW MEXICO

Alamo Corporation
1005 Lubbock National Bank Building
Lubbock, Texas

Attention: Mr. C. A. Powell, Jr.

Gentlemen:

It is our understanding that you contemplate the development of the Sawyer area in Northeast Lea County, New Mexico as a gas field in the event you are assured of production rules which will warrant such development, and of a satisfactory market.

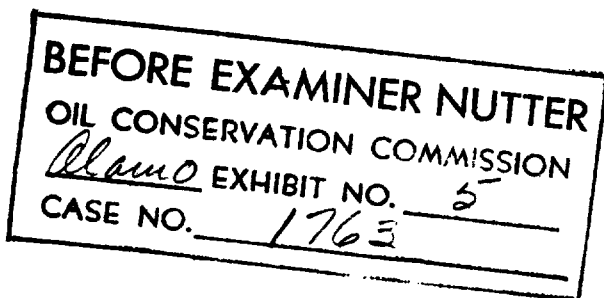
We have made a preliminary examination of this area and agree with you that its development as a gas field may be possible. In the event satisfactory quantities were available, El Paso would be interested in laying a line into the area.

You realize, of course, that no definite decision can be made until further development has taken place. The actual construction of facilities to market the gas will be dependent upon our satisfying ourselves that sufficient quantities are available to warrant the necessary facilities, and also upon our being able to obtain requisite Federal Power Commission authority for the construction of such facilities.

Yours truly,



D. H. Tucker



CLASS OF SERVICE
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WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201

SYMBOLS
DL=Day Letter
NL=Night Letter
LT=International Letter Telegram

The filing time shown in the date line on domestic telegrams is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

LA 192 DA449

D MDA206 NL PD=MIDLAND TEX 29=

1959 SEP 29 PM 3 39

NEW MEXICO CONSERVATION COMMISSON=

SANTA FE NMEX:

=REFERENCE CASE 1763 AS OWNER OF AN INTEREST IN THE SAWYER POOL WE SUPPORT SOUTHWESTERN HYDROCARBONS APPLICATION THAT SAWYER AND SOUTH-SAWYER POOLS BE CONSOLIDATED AND CLASSIFIED AS A GAS POOL TO BE PLACED UNDER STATE-WIDE RULES=

COOLEY AND HOLCOMB.

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE
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WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201

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LA 195 DB307

D MDA208 NL PD=MIDLAND TEX 29=1

1959 SEP 29 PM 3 41

NEW MEXICO CONSERVATION COMMISSON=

SANTA FE NMEX:

=REFERENCE CASE 1763 AS OWNER OF A WORKING INTEREST IN THE SAWYER POOL WE SUPPORT SOUTHWESTERN HYDROCARBONS APPLICATION THAT SAWYER AND SOUTH-SAWYER POOLS BE CONSOLIDATED AND CLASSIFIED AS A GAS POOL TO BE PLACED UNDER STATE-WIDE RULES=

WESTERN DRILLING CO OF LONGVIEW TEXAS.

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE

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WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

SYMBOLS

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1201

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LA2 10 DC320

1959 SEP 29 PM 4 15

D MDA207 NL PD=MIDLAND TEX 29=
NEW MEXICO CONSERVATION COMMISSON=
SANTA FE NMEX=

REFERENCE CASE 1763 AS OWNER OF A WORKING INTEREST IN
THE SAWYER POOL WE SUPPORT SOUTHWESTERN HYDROCARBONS
APPLICATION THAT SAWYER AND SOUTH-SAWYER POOLS BE
CONSOLIDATED AND CLASSIFIED AS A GAS POOL TO BE PLACED
UNDER STATE-WIDE RULES=
GREAT WESTERN DRILLING CO.

SEP 29 4 15 PM '59
RECEIVED

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE