Case file paragraph (L) of 1473

BUCKSHOT FIELD
(4950' Sand)
Cochran County, Texas.

Special Order No. 8-35,048, Adopting Operating Rules for the Buckshot (4950' Sand) Field, Cochran County, Texas, Effective March 4, 1957, and Amended by Order Effective August 12, 1957.

WHEREAS, After due notice, the Railroad Commission of Texas held a hearing on February 28, 1957, on the application of Anderson-Prichard Oil Corporation to consider the adoption of rules and regulations to govern the drilling, completion and operation of wells in the Buckshot (4950' Sand) Field, Cochran, County, Texas; and

WHEREAS, From evidence adduced at said hearing, it appears to the Commission that the subject field was discovered in 1956 and produces from a San Andres Dolomite at 4950-5010' with an average gross pay thickness of 90 feet and an average net thickness of 55 feet; that the average porosity of the formation is 7.4 and the permeability is 2.02 mds and that one well will effectively drain 40 acres in this reservoir; that the field has been developed by the completion of 9 wells and that additional drilling is under way and contemplated for further development of said field; and

WHEREAS, From evidence submitted at said hearing, the Commission is of the opinion and finds that waste as the term is defined in the applicable statutes will take place in said field unless rules are adopted by the Commission for the prevention thereof, and that the following field rules are necessary to prevent such waste and to provide for a more orderly development and operation of said field.

NOW, THEREFORE, IT IS ORDERED By the Railroad Commission of Texas that effective March 4, 1957, the following rules in addition to such of the Commission's general rules and regulations as are not in conflict herewith, be and the same are hereby adopted to govern the drilling, completion and operation of wells in the Buckshot (4950' Sand) Field, Cochran County, Texas.

RULE 1. No well for oil or gas shall hereafter be drilled nearer than twelve hundred (1200) feet to any well completed in or drilling to the same reservoir on the same lease, unitized tract or farm, and no well shall be drilled nearer than five hundred ten (510) feet to any property line, lease line or subdivision line, provided, however, that the Commission will, in order to prevent waste or to prevent the confiscation of property grant exceptions to permit drilling within shorter distances than herein prescribed whenever the Commission shall have determined that such exceptions are necessary either to prevent waste or to prevent the confiscation of property. When exception to this rule is desired, application therefor shall be filed and will be acted upon in accordance with the provisions of Commission Statewide Rules 37 and 38, which applicable provisions of said rules are incorporated herein by reference.

The aforementioned distances in the above rule are minimum distances to allow an operator flexibility in locating a well, and the above spacing rule and the other rules to follow are for the purpose of permitting only one well to each forty (40) acre proration unit.

In applying this rule the general order of the Commission with relation to the subdivision of property shall be observed.

RULE 2. The acreage assigned to the individual oil well for the purpose of allocating allowable oil production thereto shall be known as a proration unit. No proration unit shall consist of more than forty (40) acres except as hereinafter provided, and the two farthermost points in any proration unit shall not be in excess of twenty-one hundred (2100) feet removed from each other; provided, however, that in the case of long and narrow leases or in cases where because of the shape of the lease such is necessary to permit the utilization of tolerance acreage the Commission may after proper showing grant exceptions to the limitations as to the shape of proration units as herein contained. All proration units, however, shall consist of continuous and contiguous acreage which can reasonably be considered to be productive of oil.

If after the drilling of the last well on any lease and the assignment of acreage to each well thereon in accordance with the regulations of the Commission there remains an additional unassigned lease acreage of less than forty (40) acres, then and in such event the remaining unassigned lease acreage up to and including a total of twenty (20) acres may be assigned to the last well drilled on such lease or may be distributed among any group of wells located thereon so long as the proration units resulting from the inclusion of such additional acreage meets the limitations prescribed by the Commission.

Operators shall file with the Commission certified plats of their properties in said field, which plats shall set out distinctly all of those things pertinent to the determination of the acreage credit claimed for each well; provided that if the acreage assigned to any proration unit has been pooled, the operator shall furnish the Commission with such proof as it may require as evidence that interests in and under such proration unit have been so pooled.

RULE 3. The daily total field oil allowable, as fixed by the Commission after deductions have been made for marginal wells, high gas-oil ratio wells and wells which are incapable of producing their allowables as determined hereby, shall be distributed among the remaining producing wells in the field on the following basis:

(a) The daily acreage allowable for each well, after said deductions have been made, shall be that proportion of seventy-five (75) percent of the daily field allowable which the acreage assigned to the well bears to the remaining acreage assigned to all the wells in the field.

(b) The daily per well allowable for each well, after said deductions have been made, shall be determined by dividing twenty-five (25) percent of the total field daily allowable by the number of producing wells in the field.

(c) The total daily oil allowable for each well shall be the sum of its per well and acreage allowables.

RULE 4. The permitted gas-oil ratio for all wells shall be two thousand (2000) cubic feet of gas per barrel of oil produced. Any oil well producing with a gas-oil ratio in excess of two thousand (2000) cubic feet of gas per barrel of oil shall be allowed to produce daily only that volume of gas obtained by multiplying the daily oil allowable of such well as determined by the applicable rules of the Commission by two thousand (2000) cubic feet. The gas volume thus obtained shall be known as the daily gas limit of such well. The daily oil allowable therefor shall then be determined and assigned by dividing the daily gas limit by its producing gas-oil ratio.

RULE 5. (As Amended by Order No. 8-36,057, Effective August 12, 1957.) Surface casing shall be of new or reconditioned pipe of proper weight and test to withstand the known pressures in said field set and cemented at a depth not less than twenty (20) feet below the top of the Red Beds, said amount of surface casing to be adequate to protect all fresh water sands. Cementing shall be by the pump and plug method with a sufficient volume of cement used to fill the annular space back of the casing to the surface of the ground or the bottom of the cellar. Cement shall be allowed to stand a minimum of twenty-four (24) hours under pressure before drilling the plug or initiating tests. Before drilling the plug, pump pressure of at least one thousand (1000) pounds per square inch shall be applied. If at the end of thirty (30) minutes the pressure shows a drop of one hundred (100) pounds per square inch, or more, the casing shall be condemned. After corrective operations, the casing shall be tested again in the same manner. The depth to the top of the Red Beds in each well shall be shown on Form 2 (Well Record) for such well.

RULE 6. The datum reservoir pressure of all oil wells in the field, except marginal wells as defined by statutes, shall be determined once a year during the months of October-November-December and the results reported to the Commission by the first (1st) day of January. The datum reservoir pressure shall be obtained by the use of a subsea pressure gauge and the pressure observations shall be made at or corrected to a datum of one thousand eighty (1080) feet below sea level after a shut-in period of not less than seventy-two (72) continuous hours. The Commission's Form BHP-1 shall be used to report to the Commission the results of all pressure determinations made under the provisions of this rule.

(BUCKSHOT (4950' SAND) FIELD—Cont'd)

In any well where it is impossible or impracticable to use a subsea pressure gauge, excluding parafine obstructions which may be cleaned by scraping, the bottom hole pressure determinations may be made by using the float or sound wave method to determine the fluid level after the well has been shut-in for the same number of hours required to obtain bomb pressure results. The pressure at the datum depth shall be calculated by adding the pressure exerted by the weight of the oil and gas column above this level in pounds per square inch to the gauge pressure at the tubing head when the float method is used, and to the gauge pressure at the casing head when the sound wave method is used.

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

MONAHANS, NORTH FIELD
(Devonian)
Winkler County, Texas.

Special Order No. 8-35,089, Adopting Operating Rules for the Monahans, North (Devonian) Field, Winkler County, Texas, Effective March 4, 1957.

WHEREAS, After due notice, the Railroad Commission of Texas held a hearing on February 26, 1957, on the application of Pan-American Petroleum Corporation to consider the adoption of rules and regulations to govern the drilling, completion and operation of wells in the Monahans, North (Devonian) Field, Winkler County, Texas; and

WHEREAS, From evidence adduced at said hearing, the Commission finds that said field was discovered in 1955, and is developed with five oil wells producing from an average depth of 9300', and said reservoir has been penetrated by eight wells; the producing formation has a gross thickness of 235', and the average porosity and permeability is 4% and 14 mds., with permeability ranging up to 494 mds., and the reservoir pressure data indicate one well will drain 80 acres; and

WHEREAS, From evidence submitted at said hearing, the Commission is of the opinion and finds that waste as the term is defined in the applicable statutes will take place in said field unless rules are adopted by the Commission for the prevention thereof, and that the following field rules are necessary to prevent such waste and to provide for a more orderly development and operation of said field.

NOW, THEREFORE, IT IS ORDERED By the Railroad Commission of Texas that effective March 4, 1957, the following rules in addition to such of the Commission's general rules and regulations as are not in conflict herewith, be and the same are hereby adopted to govern the drilling, completion and operation of wells in the Monahans, North (Devonian) Field, Winkler County, Texas.

RULE 1. No well for oil or gas shall hereafter be drilled nearer than thirteen hundred and twenty (1320) feet to any well completed in or drilling to the same reservoir on the same lease, unitized tract or farm, and no well shall be drilled nearer than four hundred forty (440) feet to any property line, lease line or subdivision line; provided ,however, that in order to prevent waste or to prevent the confiscation of property the Commission will grant exceptions to permit drilling within shorter distances than herein prescribed whenever the Commission shall have determined that such exceptions are necessary sary either to prevent waste or to prevent the confiscation of property. When exception to this rule is desired, application therefor shall be filed and will be acted upon in accordance with the provisions of Commission Statewide Rules 37 and 38, which applicable provisions of said rules are incorporated herein by reference.

The aforementioned distances in the above rule are minimum distances to allow an operator flexibility in locating a well, and the above spacing rule and the other rules to follow are for the purpose of permitting only one well to each eighty (80) acre proration unit.

In applying this rule the general order of the Commission with relation to the subdivision of property shall be observed.

RULE 2. The acreage assigned to the individual oil well for the purpose of allocating allowable oil production thereto shall be known as a proration unit. No proration unit shall consist of more than eighty (80) acres except as hereinafter provided, and the two farthermost points in any proration unit shall not be in excess of three thousand (3,000) feet removed from each other; provided, however, that in the case of long and narrow leases or in cases where because of the shape of the lease such is necessary to permit the utilization of tolerance acreage the Commission may after proper showing grant exceptions to the limitations as to the shape of proration units as herein contained. All proration units, however, shall consist of continuous and contiguous acreage which can reasonably be considered to be productive of oil.

If after the drilling of the last well on any lease and the assignment of acreage to each well thereon in accordance with the regulations of the Commission, there remains an additional unassigned lease acreage of less than eighty (80) acres, then and in such event the remaining unassigned lease acreage up to and including a total of forty (40) acres may be assigned to the last well drilled on such lease or may be distributed among any group of wells located thereon so long as the proration units resulting from the inclusion of such additional acreage meets the limitations prescribed by the Commission.

Operators shall file with the Commission certified plats of their properties in said field, which plats shall set out distinctly all of those things pertinent to the determination of the acreage credit claimed for each well; provided that if the acreage assigned to any proration unit has been pooled, the operator shall furnish the Commission with such proof as it may require as evidence that interests in and under such proration unit have been so pooled.

RULE 3. The daily total field oil allowable, as fixed by the Commission after deductions have been made for marginal wells, high gas-oil ratio wells and wells which are incapable of producing their allowables as determined hereby, shall be distributed among the remaining producing wells in the field on the following basis:

(a) The daily acreage allowable for each well, after said deductions have been made, shall be that proportion of seventy-five (75) percent of the daily field allowable which the acreage assigned to the well bears to the remaining acreage assigned to all the wells in the field.

(b) The daily per well allowable for each well, after said deductions have been made, shall be determined by dividing twenty-five (25) percent of the total field daily allowable by the number of producing wells in the field.

(c) The total daily oil allowable for each well shall be the sum of its per well and acreage allowables.

RULE 4. Surface casing shall be of new or reconditioned pipe of proper weight and test to withstand the known pressures in said field, set and cemented at a depth not less than six hundred (600) feet below the surface of the ground; said amount of surface casing to be adequate to protect all fresh water sands. Cementing shall be by the pump and plug method with a sufficient volume of cement used to fill the annular space back of the casing to the surface of the ground or the bottom of the cellar. Cement shall be allowed to stand a minimum of twenty-four (24) hours under pressure before drilling the plug or initiating tests. Before drilling the plug, pump pressure of at least one thousand (1,000) pounds per square inch shall be applied. If at the end of thirty (30) minutes the pressure shows a drop of one hundred (100) pounds per square inch, or more, the casing shall be condemned. After corrective operations ,the casing shall be tested again in the same manner.

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

ROWAN OIL COMPANY
P. O. Drawer 12247
Fort Worth, 16, Texas

CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

EXHIBIT 4

COMPANY ROWAN OIL COMPANY — DATE ON 12-31-57 — FILE NO. WP-3-980 WC
WELL FEDERAL NO. 1 — DATE OFF 1-6-58 — ENGRS. NEFF
FIELD WILDCAT — FORMATION SAN ANDRES — ELEV. 3924' KB
COUNTY LEA — STATE NEW MEXICO — DRLG. FLD. WATER BASE MUD — CORES DIAMOND 3½"
LOCATION 660 FS & EL SEC 33-T9S-R38E — REMARKS SAMPLED AS DIRECTED BY CLIENT

Special Analysis

CORE REPORT

SAND · LIMESTONE · CONGLOMERATE · CHERT · SHALE · DOLOMITE · ANHYDRITE

F-FRACTURED
PP-PINPOINT POROSITY

SAMPLE NUMBER	FEET	PERMEABILITY MILLIDARCYS MAX	90°	POROSITY PERCENT	RESIDUAL SATURATION PORE SPACE OIL	TOTAL WATER	VISUAL DESCRIPTION
		WHOLE-CORE ANALYSIS					
1	4960.0-61.4	0.4	0.2	2.9	6.9	79.4	
1A		0.6	0.2				
2	4961.4-62.8	0.1	<0.1	6.0	15.0	40.0	F
3	62.8-64.6	0.1	<0.1	7.9	11.4	32.7	F,PP
3A		<0.1	<0.1				
4	4964.6-66.4	0.4	0.2	6.8	17.6	23.6	PP
5A		1.1	0.8				
5	4966.4-68.1	0.6	0.4	8.0	15.0	25.0	PP
6	68.1-69.8	2.7	0.8	9.2	14.1	20.6	F,PP
6A		0.9	0.5				
7	4969.8-71.5	0.3	0.2	10.4	14.4	27.0	
7A		0.2	0.2				
8	4971.5-73.3	0.2	0.1	9.4	17.0	28.8	F,PP
9A		<0.1	<0.1				
9	4973.3-75.0	0.9	0.9	6.9	11.6	29.0	PP
10	75.0-76.8	0.1	0.1	9.7	15.5	19.6	PP
10A		0.7	0.4				
11	4976.8-78.5	2.8	2.2	8.1	13.6	26.0	F,PP
12A		<0.1	<0.1				
12	4978.5-80.1	2.7	2.4	5.1	15.7	37.4	F,PP
13	80.1-81.8	0.2	0.1	4.9	8.2	42.9	F,PP
13A		0.9	0.7				
14	4981.8-83.4	1.8	1.5	9.0	16.7	31.1	F,PP
14A		2.8	2.4				
15	4983.4-85.0	0.5	0.2	5.0	12.0	38.0	F,PP
16	85.0-86.7	<0.1	<0.1	4.9	12.2	34.8	PP
16A		0.1	<0.1				
17	4986.7-88.3	4.1	3.2	11.3	12.4	31.0	PP
18A		1.2	0.8				
18	4988.3-90.0	0.6	0.6	11.9	16.7	27.7	PP
19	90.0-91.7	0.1	<0.1	4.6	8.7	45.6	F,PP
19A		0.3	0.1				
20	4991.7-92.7	7.1	3.9	5.2	13.4	30.7	F,PP
21	92.7-94.0	4.1	1.5	12.5	9.6	30.4	PP
22	94.0-95.8	1.0	0.8	2.0	10.0	75.0	F,PP
22A		0.7	0.5				
23	4995.8-97.7	0.2	<0.1	2.4	12.5	58.4	F,PP
23A		0.4	0.1				
24	4997.7-99.6	1.2	0.2	7.6	17.1	30.3	F,PP
24A		0.8	0.3				
25	4999.6-01.3	1.0	0.9	10.1	21.8	26.7	F
26A		1.0	0.7				
26	5001.3-03.0	1.0	0.8	8.9	16.8	30.3	F,PP
27	03.0-04.5	0.6	0.5	7.9	16.5	35.4	F,PP
28A		1.2	1.2				
28	5004.5-06.0	1.1	0.9	9.6	11.5	29.2	F,PP
29	06.0-07.7	0.4	0.2	9.5	13.7	30.5	F,PP
29A		0.6	0.3				
30	5007.7-09.5	1.0	0.4	10.3	12.6	32.0	F,PP
31A		0.3	0.1				
31	5009.5-11.0	<0.1	<0.1	7.3	12.3	41.0	F,PP
32	11.0-12.8	0.1	<0.1	6.0	11.7	60.0	V,F
32A		<0.1	<0.1				
33	5012.8-14.4	0.8	0.5	9.6	15.6	31.2	F,PP
34A		0.9	0.9				
34	5014.4-15.8	0.7	0.6	11.9	16.8	22.6	SF,PP
35	15.8-17.5	5.4	3.6	7.1	16.9	33.8	F,PP
36A		0.7	0.6				
36	5017.5-19.0	0.7	0.5	9.1	14.3	29.7	SF,PP
37	19.0-20.3	0.7	0.5	10.3	18.4	30.0	SF,PP
38A		<0.1	<0.1				
38	5020.3-22.0	<0.1	<0.1	1.0	TR	80.0	SF,PP
39	22.0-23.8	<0.1	<0.1	2.0	5.0	60.0	F,PP
39A		<0.1	<0.1				
40	5023.8-25.4	<0.1	<0.1	1.4	TR	78.5	F,PP
41A		<0.1	<0.1				
41	5025.4-27.2	<0.1	<0.1	2.3	13.0	47.7	SF,PP
42	27.2-28.5	<0.1	<0.1	1.7	11.8	70.5	F
43A		<0.1	<0.1				
43	5028.5-30.0	<0.1	<0.1	2.1	9.5	52.5	F,PP
	TOO BROKEN FOR ANALYSIS						

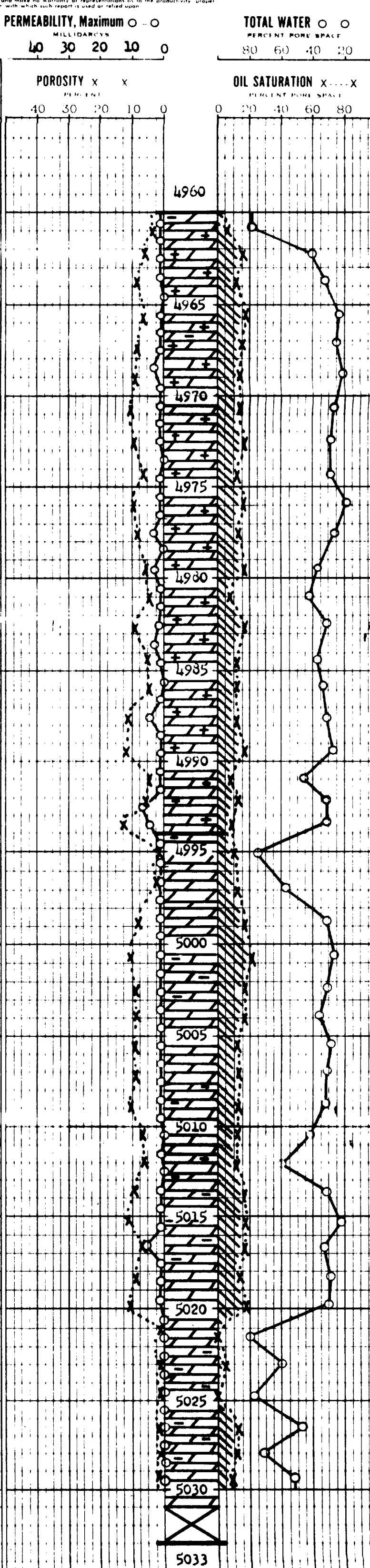


Exhibit 5

CACTUS Petroleum, Inc.

W. D. YORK
PRESIDENT
ED S. BROOKS
VICE PRESIDENT
T. D. JENKINS
VICE PRESIDENT
C. J. RUTTEN
V. PRES. & TREAS.

P. O. BOX ~~XXXX~~ 634 MIDLAND, TEXAS TELEPHONE MU 2-0801

May 19, 1958

Re: Rowan Oil Company
Federal Lease
South Sawyer San Andres Field
Lea County, New Mexico

Rowan Oil Company
P. O. Box 1873
Midland, Texas

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
Rowan EXHIBIT No. 5
CASE 1473-L

Attention: Mr. J. T. Klingler

Gentlemen:

This will confirm our telephone conversation of May 16, 1958 regarding the captioned lease.

You will please recall that at the time the number one well on this property was completed, we advised that we anticipated no difficulty in arranging a market for the oil if the well was classified in the Buckshot (4950' Sand) Field. We have purchased the oil during the time the well was carried as an undesignated location; however, the lease has now been placed in the South Sawyer San Andres Field and it is necessary that we discontinue purchasing this oil.

Our market outlet in this area is to The Atlantic Refining Company and said Company does not desire to purchase oil from the South Sawyer San Andres Field.

Since this well is producing like crude to the Buckshot (4950' Sand) Field and is located immediately west across the Texas-New Mexico State line, it might be that you could prevail upon the New Mexico Oil Conservation Commission to re-classify this well in the Buckshot Field, and if so, we will be in position to resume our purchases.

Yours very truly,

CACTUS PETROLEUM, INC.

Norvin R. Griffin

NRG:bg

cc: Mr. Sam F. Weir

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

August 14, 1958

COPY

Mr. Jack Campbell
Campbell & Russell
P.O. Box 721
Roswell, New Mexico

Dear Mr. Campbell:

On behalf of your client, Rowan Oil Company, we enclose two copies of Order R-1210-A, Order of Dismissal, issued in Case 1473.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

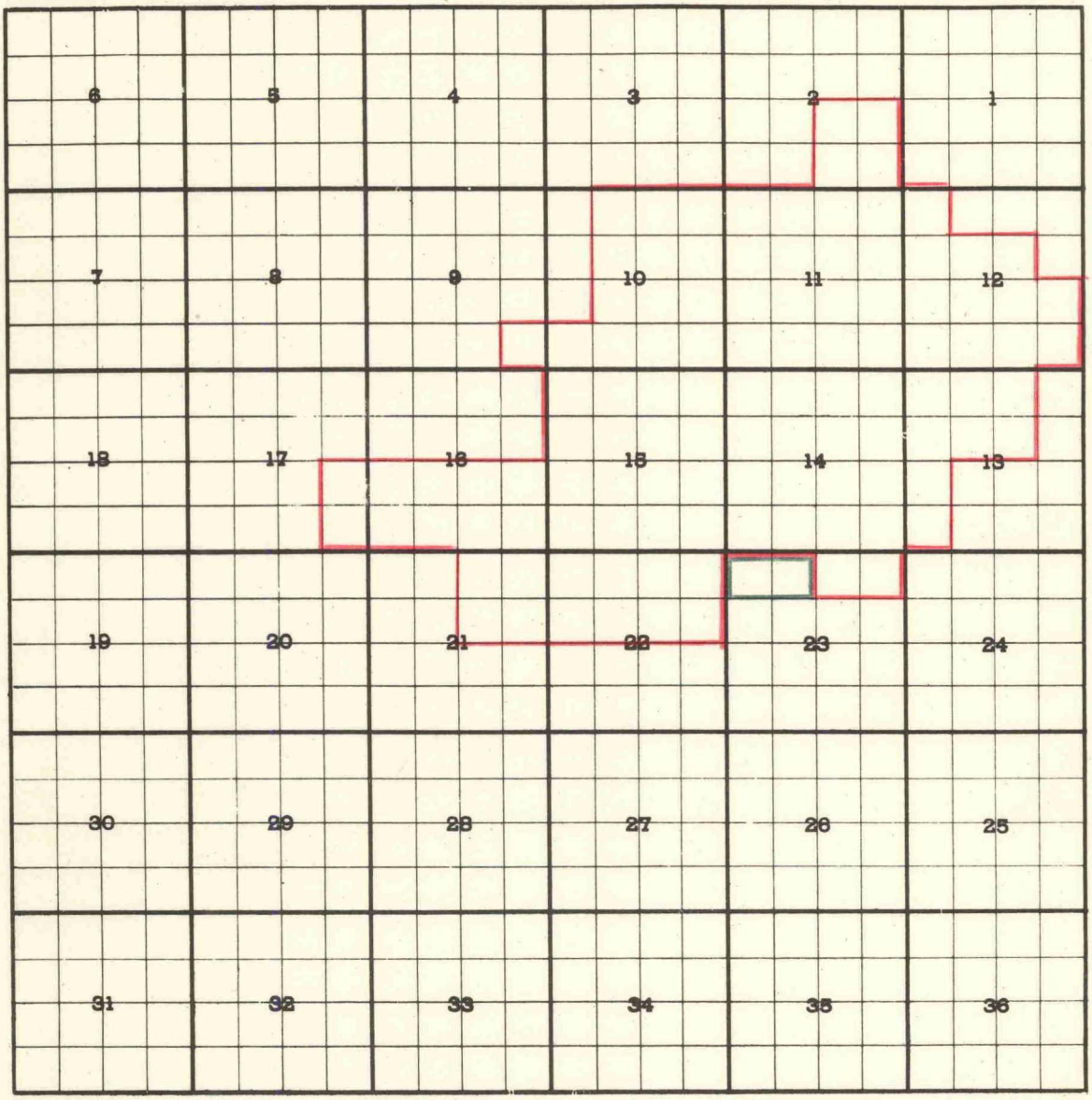
bp
Encls.

Case 1473: (A) Extension of an existing pool

County EDDY Pool ATOKA

O-5 San Andres

TOWNSHIP 18 South, RANGE 26 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: One completed well capable of producing

Pool Boundary colored in Red:

Proposed Extension colored in Green: Section 23: N/2 NW/4

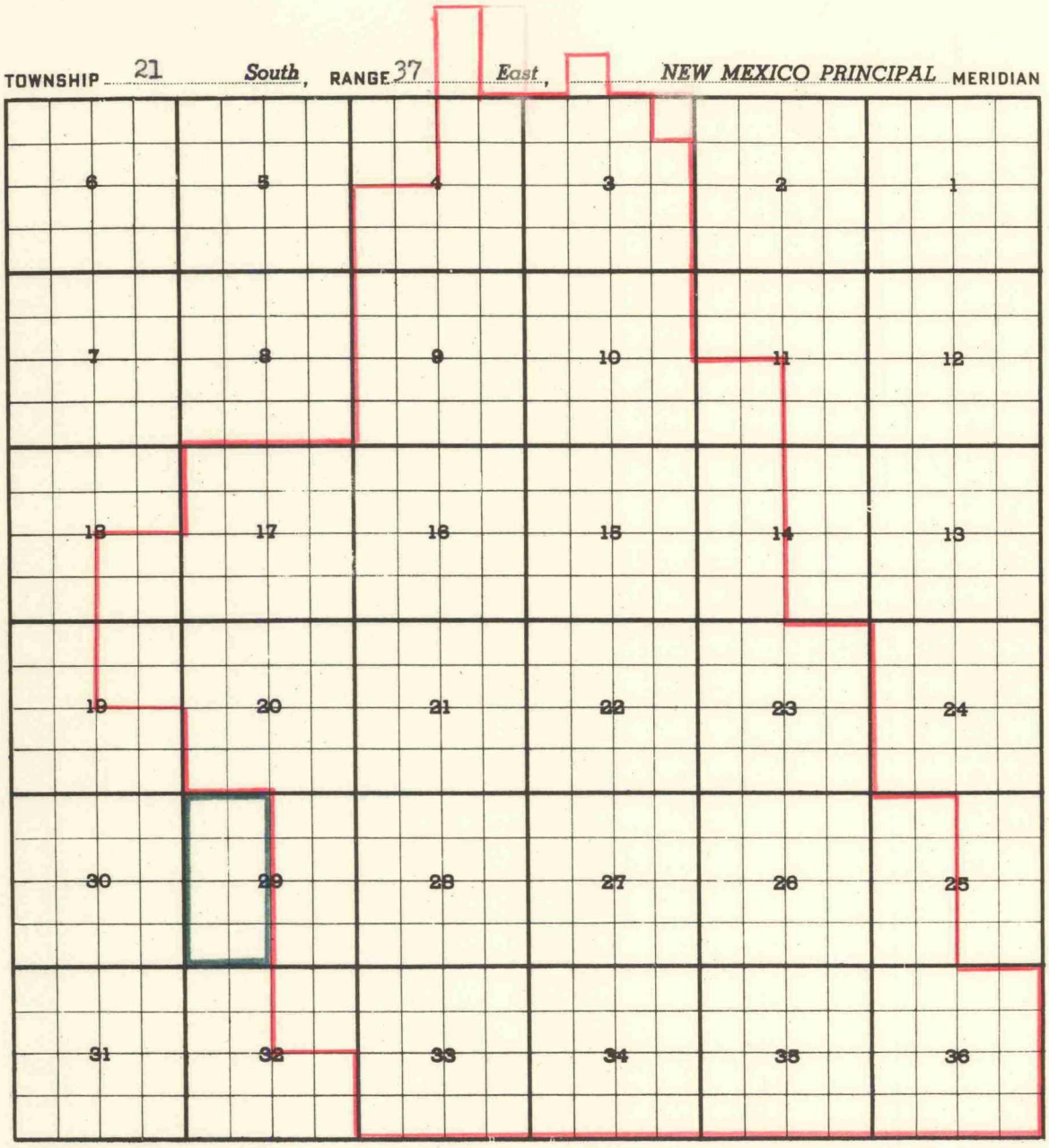
Pan American Pet. Corp.-C. R. Martin #1 in Unit C of Sec. 23-18-26
Comp. in San Andres 4/15/58. Top perf. 1584

Case 1473: (B) Extension of an existing pool

County LEA Pool BLINEBRY GAS

5-6 Blinebry

TOWNSHIP 21 South, RANGE 37 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: One completed well capable of producing

Pool Boundary Colored in Red:

Proposed Extension colored in Green: W/2 of Section 29

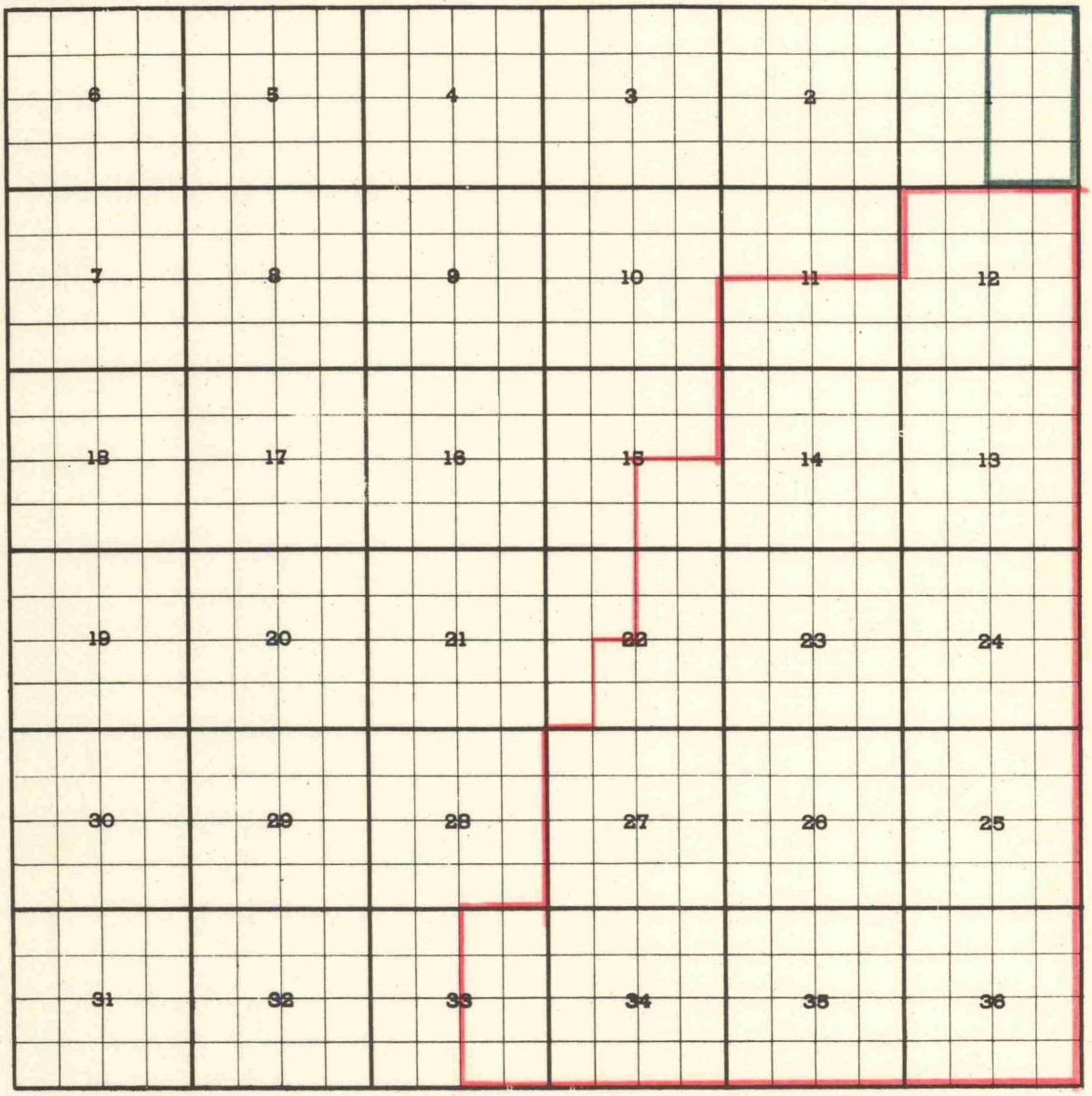
Sinclair Oil & Gas Co.-H. S. Turner #3 in Unit N of Sec. 29-21-37
Comp. in Blinebry 10/31/57. Top perf 5567.

Case 1473: (C) Extension of an existing pool

County LEA Pool EUMONT GAS

O-5 Yates, Seven Rivers, & Queen

TOWNSHIP 19 South, RANGE 36 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: Two completed wells capable of producing

Pan American Pet. Corp.-State B #1 in Unit H of Sec. 1-19-36
Comp. in Queen 3/22/58. Top perf. 3930

Pan American Pet. Corp.-State B #2 in Unit A of Sec. 1-19-36
Comp. in Penrose 5/26/58. Top perf. 3992

Pool Boundary Colored in Red

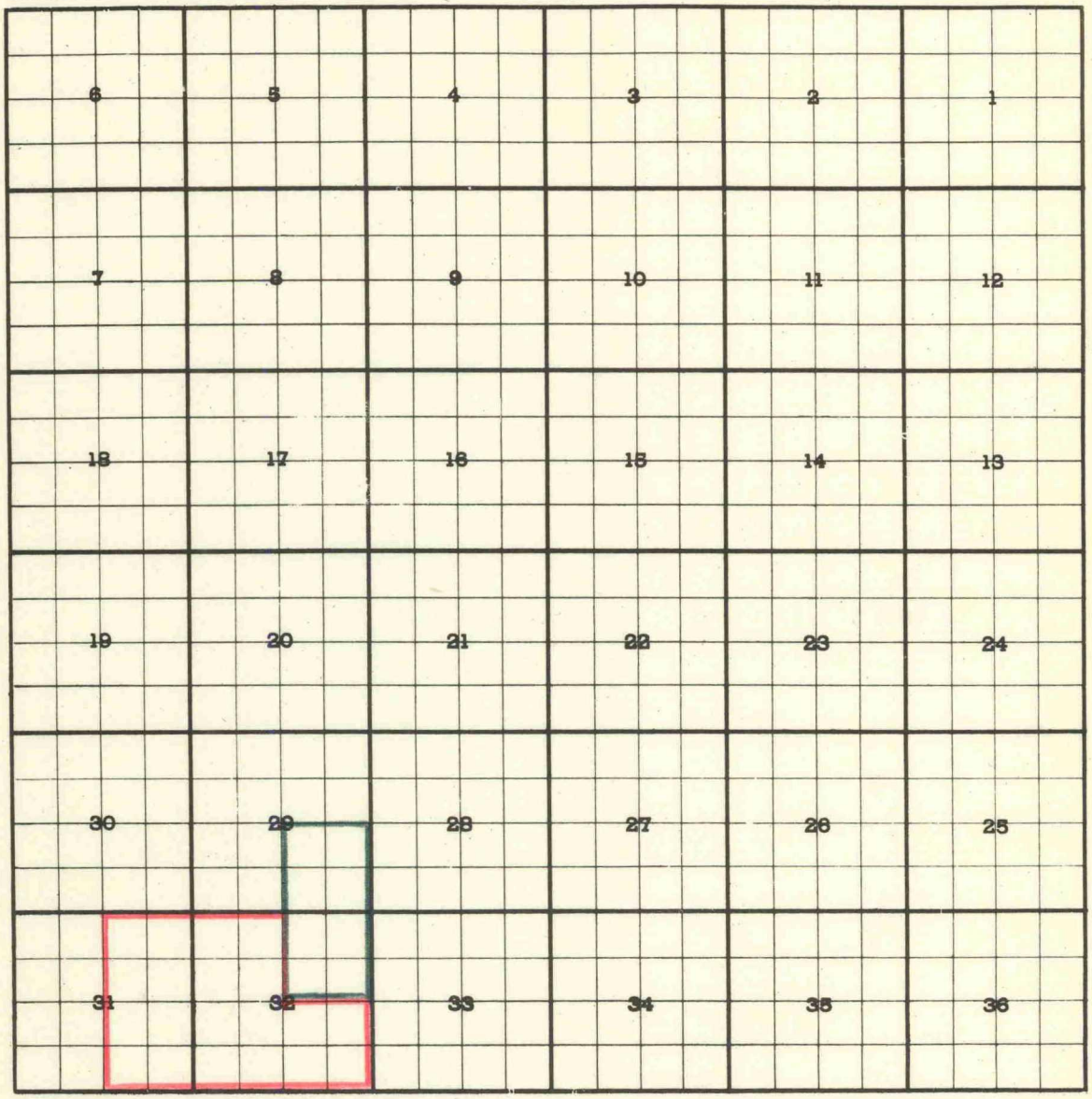
Proposed Extension colored in Green: E/2 of Section 1

Case 1473: (D) Extension of an existing pool

County LEA Pool GLADIOLA

12-13 Devonian

TOWNSHIP 11 South, RANGE 38 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: One completed well capable of producing

Shell Oil Co.-Ivey #1 in Unit O of Sec. 29-11-38

Comp. in Devonian 4/4/58. Top Perf. 12,068.

Pool Boundary Colored in Red:

Proposed Extension Colored in Green: SE/4 of Section 29

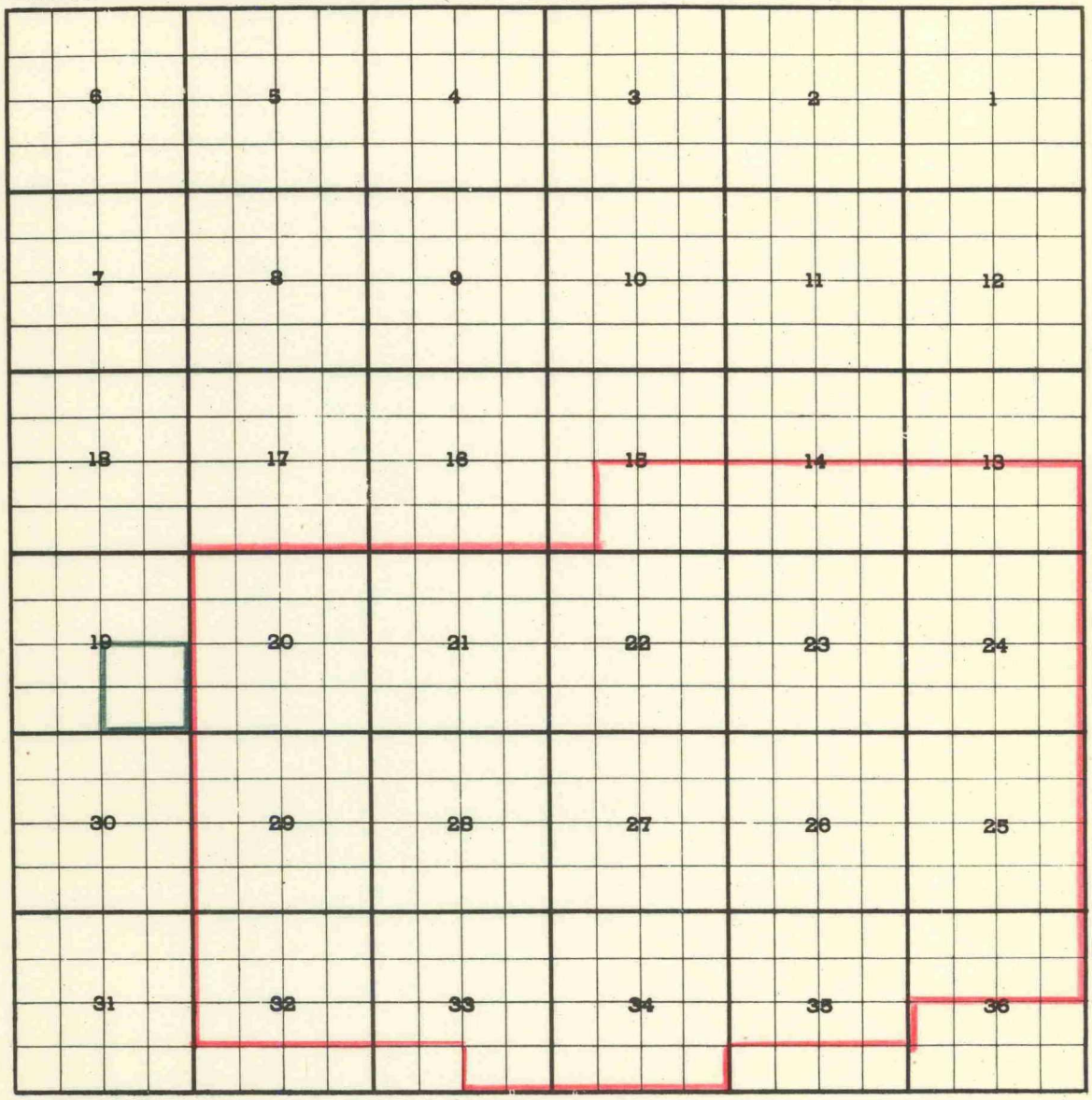
NE/4 of Section 32

Case 1473: (E) Extension of an existing pool

County EDDY Pool GRAYBURG-JACKSON

O-5 Queen, San Andres, & Grayburg

TOWNSHIP 17 South, RANGE 29 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: One completed well capable of producing

Continental Oil Co.-State S-19 #2 in Unit I of Sec. 19-17-29

Comp. in Grayburg 10/27/57. Top perf. 2289

Pool boundary colored in Red:

Proposed Extension Colored IN Green: SE/4 of Section 19

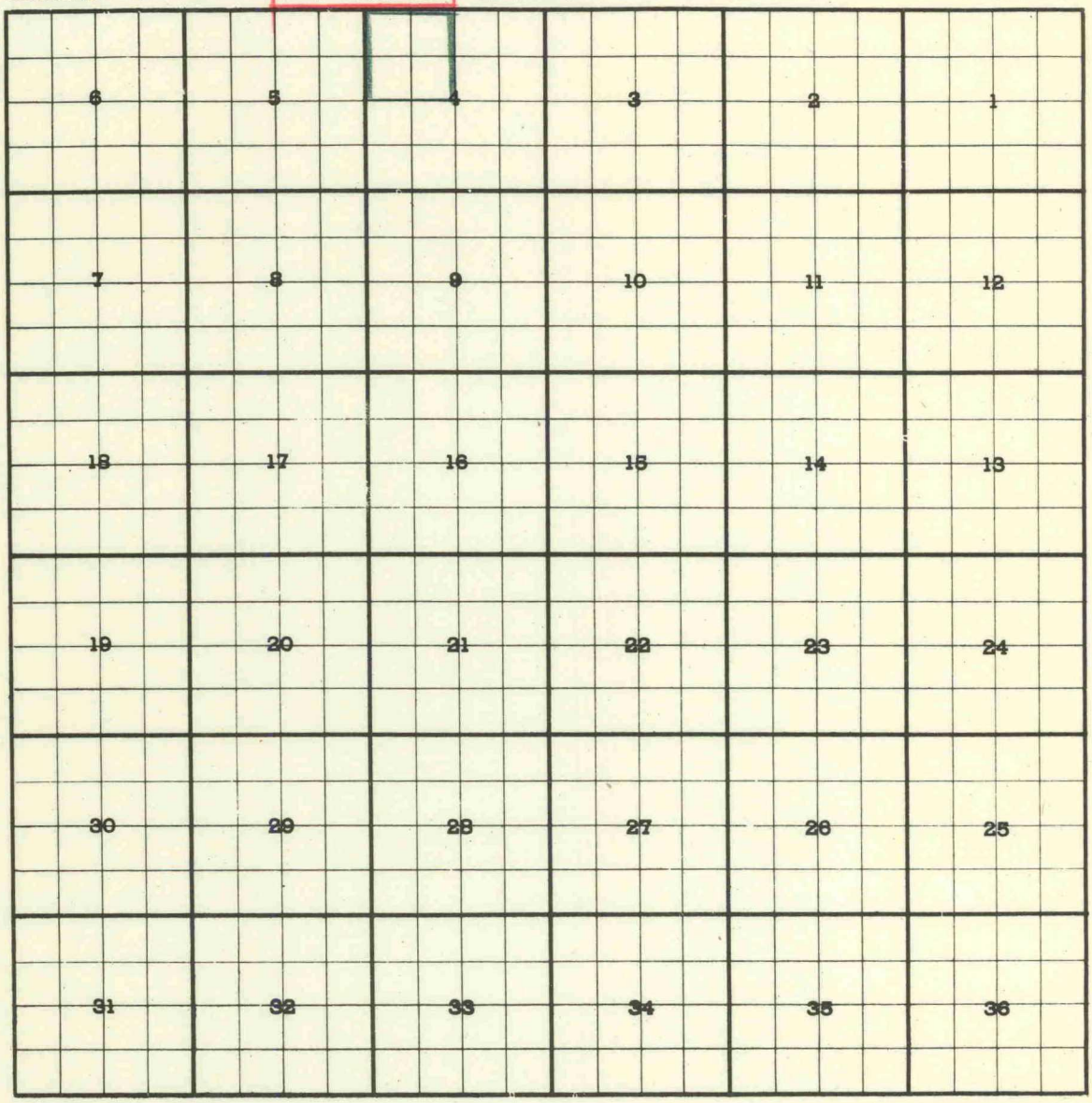
Case 1473: (F) Extension of an existing pool

County LEA Pool HARE

7-8 Simpson

T21S - R37E

TOWNSHIP 22 South, RANGE 37 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: Two Completed wells capable of producing

Shell Oil Co.-Rinewalt #3 in Unit F of Sec. 4-22-37
Comp. in McKee 4/20/58. Top perf. 7380.

Shell Oil Co.-Rinewalt #4 in Unit C of Sec. 4-22-37
Comp. in McKee 5/17/58. Top perf. 7402

Pool Boundary Colored in Red:

Proposed Extension Colored in Green: NW/4 of Section 4

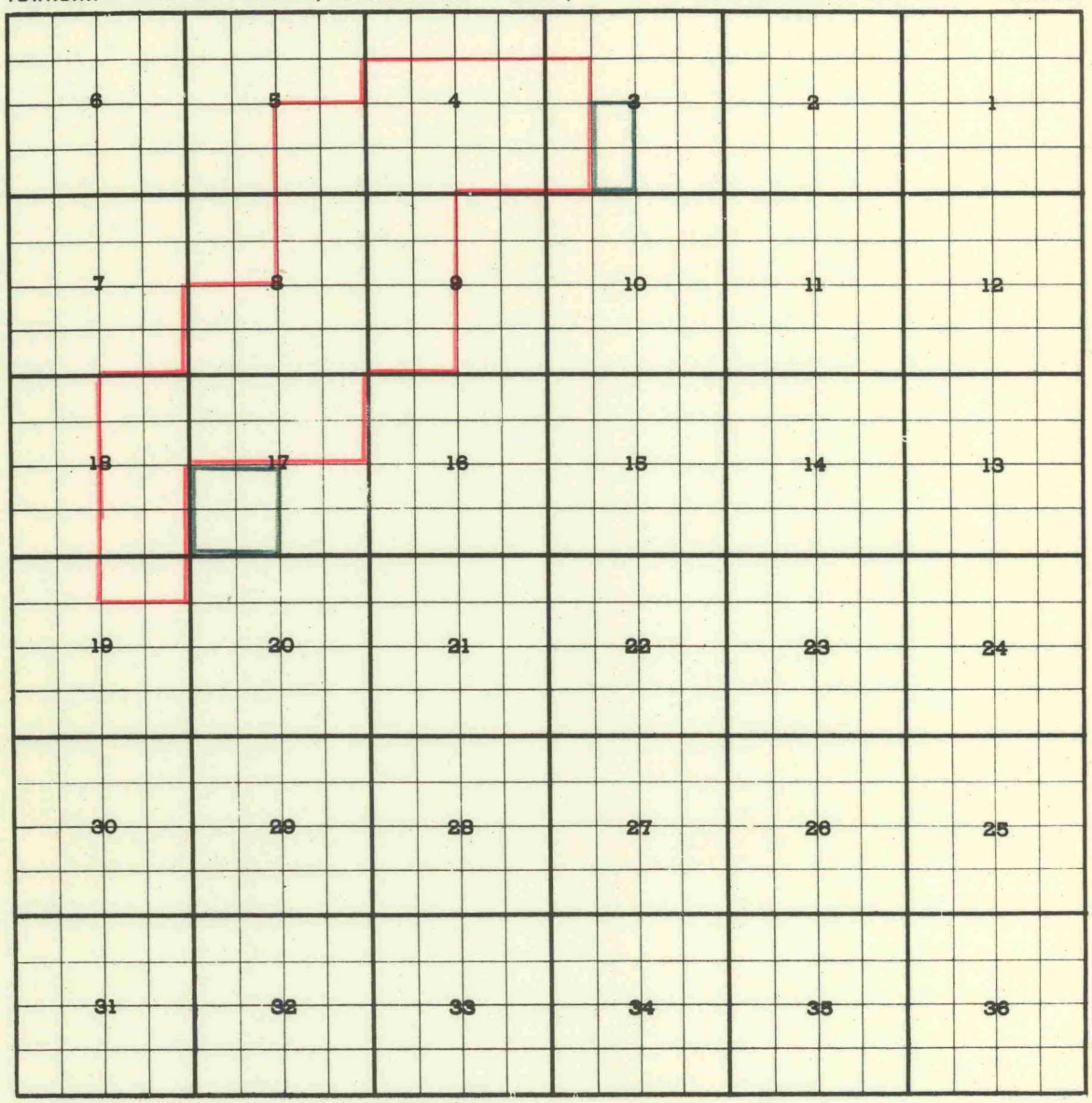
Case 1473: (G) Extension of an existing pool

PART OF THIS UNADVERTISED

County EDDY Pool WEST HENSHAW-GRAYBURG

O-5 Grayburg

TOWNSHIP 16 South, RANGE 30 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: Two completed wells capable of producing

John H. Trigg-Federal D #8-17 in Unit L of Sec. 17-16-30

Comp. in Grayburg 4/10/58. ~~Top Pay~~ Depth to casing shoe 2785.

THIS PART UNADVERTISED: General American Oil Co. of Tex.-Stablein #4 in Unit S

of Sec. 3-16-30. Comp in Premier 5/29/58. Open hole 2863'

Pool boundary Colored in Red:

Proposed Extension Colored in Green: SW/4 of Section 17.

UNADVERTISED: Lots 19 & 22 of Section 3

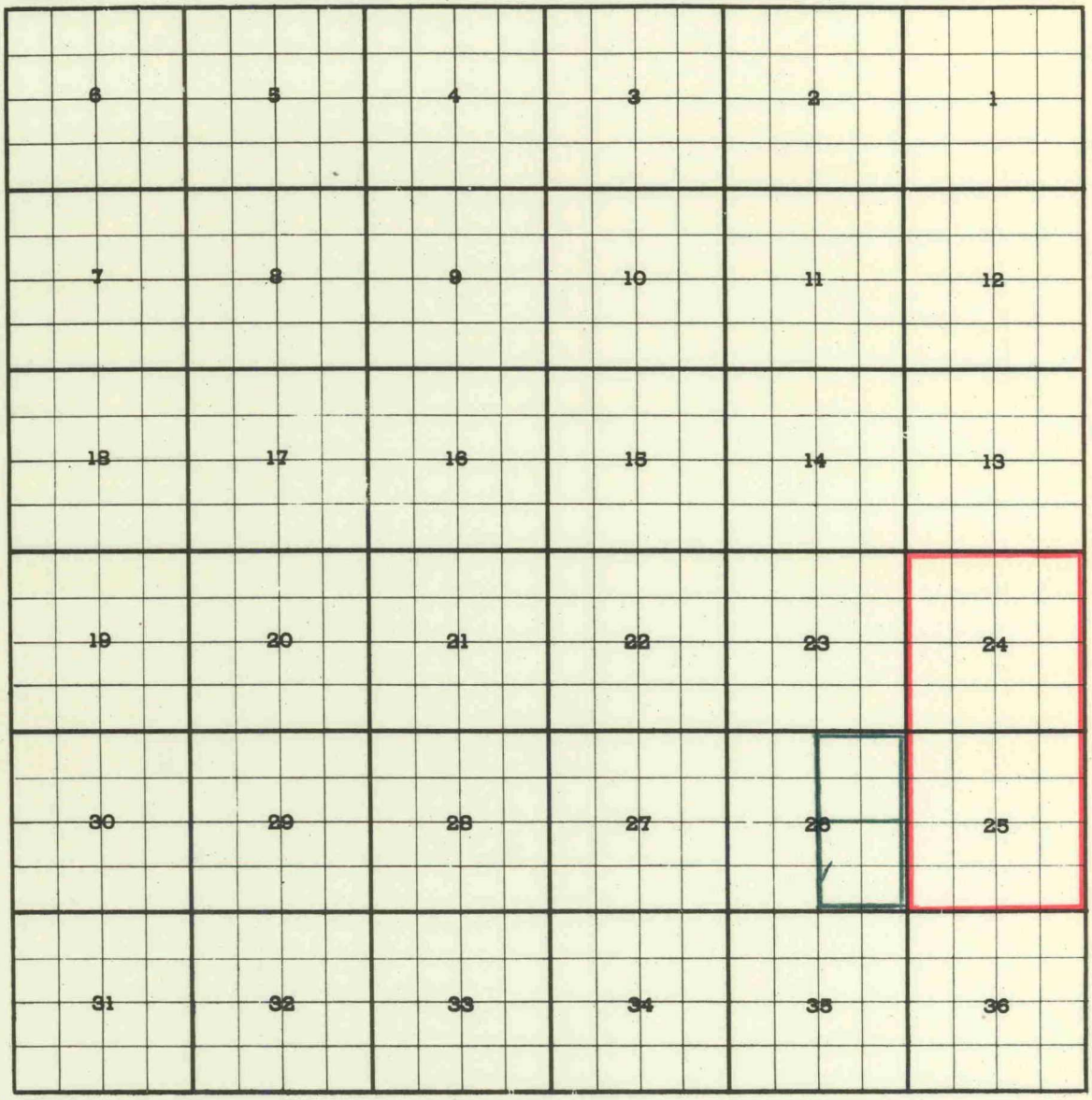
Case 1473: (H) Extension of an existing pool

PART OF THIS UNADVERTISED

County LEA Pool KEMNITZ-WOLFCAMP

10-11 Wolfcamp

TOWNSHIP 16 South, RANGE 33 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: Two completed wells capable of producing

Forest Oil Corp.-State A #1 in Unit A of Sec. 26-16-33

Comp. in Wolfcamp 1/19/58. Top perf. 10,676

THIS PART UNADVERTISED: Forest Oil Corp.-State A #2 in Unit I of Sec. 26-16-33

Comp in Wolfcamp 5/5/58. Top perf. 10,789.

Pool Boundary Colored in Red:

Proposed Extension Colored in Green: NE/4 of Section 26

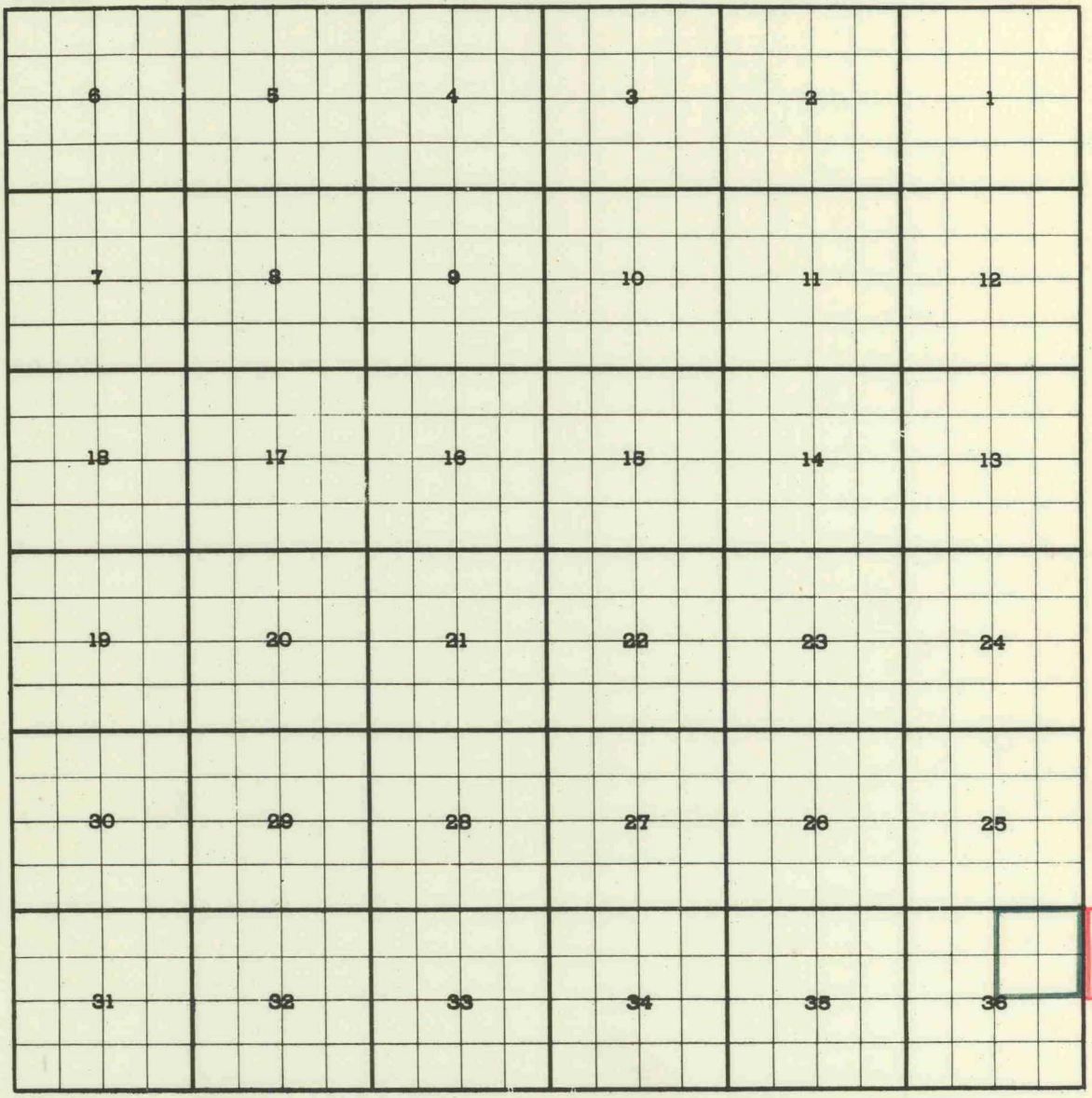
UNADVERTISED: SE/4 of Section 26

CASE 1473: (I) Extension of an existing pool

County EDDY Pool SOUTH LEO-GRAYBURG

O-5 Grayburg

TOWNSHIP 18 South, RANGE 29 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: One completed well capable of producing
Leonard Oil Company-State #-1819 #1 in Unit H of Sec. 36-18-29
Comp. in Grayburg 4/17/58. Top perf 2783.

Pool boundary colored in Red.

Proposed extension colored in Green? NE/4 of Section 36

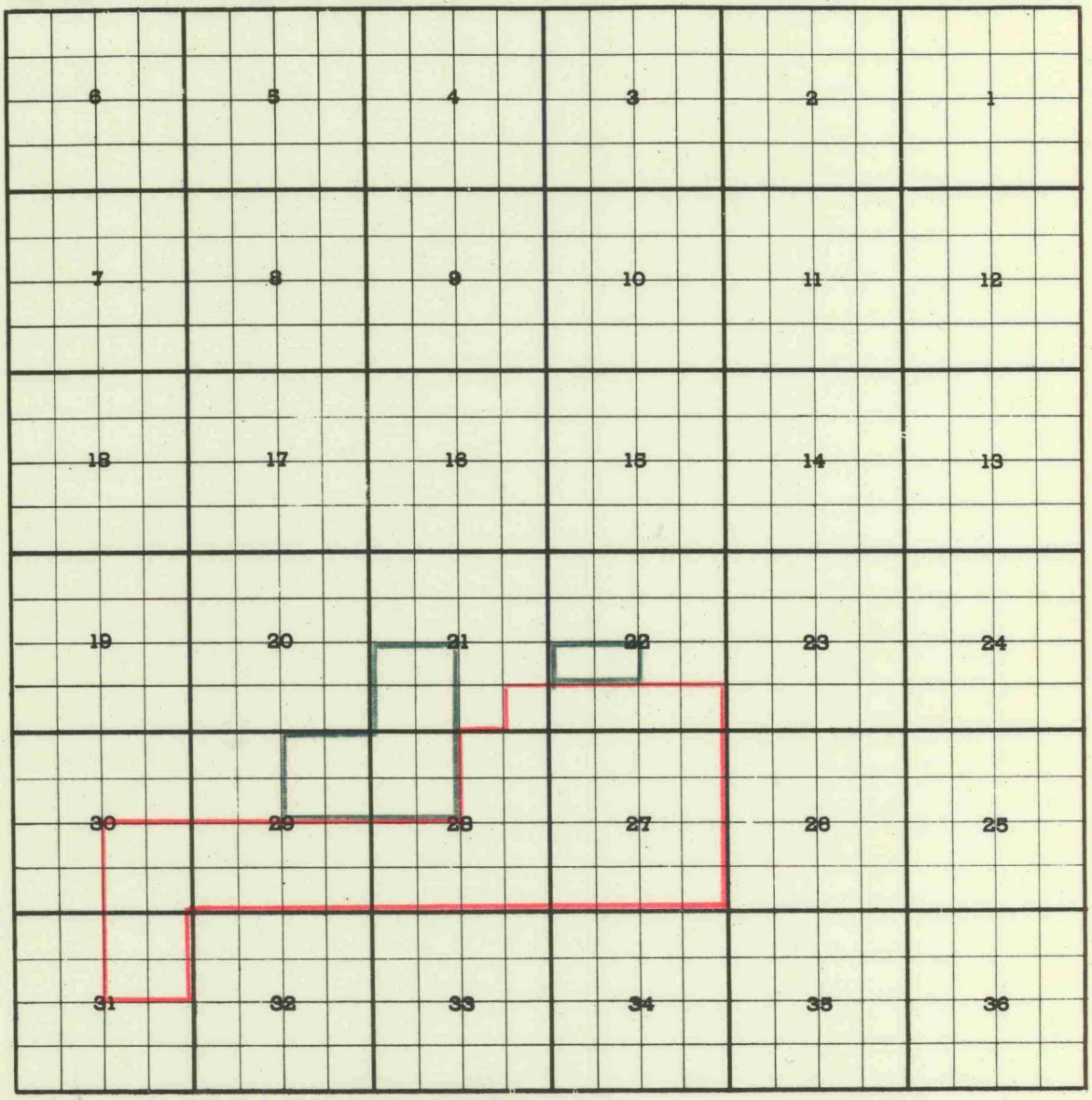
Case 1473: (J) Extension of an existing pool

PART THIS UNADVERTISED

County LEA Pool PEARL-QUEEN

O-5 Queen

TOWNSHIP 19 South, RANGE 35 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: Six completed wells capable of producing

Jake L. Hamon-State E-8182 #1, Unit C, Sec. 28-19-35, Comp. in Queen 4/30/58. Perf. 4715'
State E-8182 #2, Unit E, Sec. 28-19-35, Comp. in Queen 5/14/58. Perf. 4734'
State E-8182 #4, Unit F, Sec. 28-19-35, Comp. in Queen 5/20/58. Perf. 4884'

Shell Oil Co.-McIntosh E #1, Unit N, Sec. 21-19-35, Comp. in Queen 4/19/58. Perf. 4743'

THIS PART UNADVERTISED: Shell Oil Co.-McIntosh B #1, Unit L, Sec. 22-19-35. Comp. in Queen 5/8/58. Top perf. 4762'.
Cactus Drlg. Co.-Parks #1, Unit F, Sec. 29-19-35. Comp. in Queen 5/31/58. ~~Top perf.~~ Casing Shoe 4932'.

POOL Boundary Colored in Red:

~~Proposed Extension Colored in Green:~~ ~~SW/4 of Section 21~~
NW/4 of Section 28

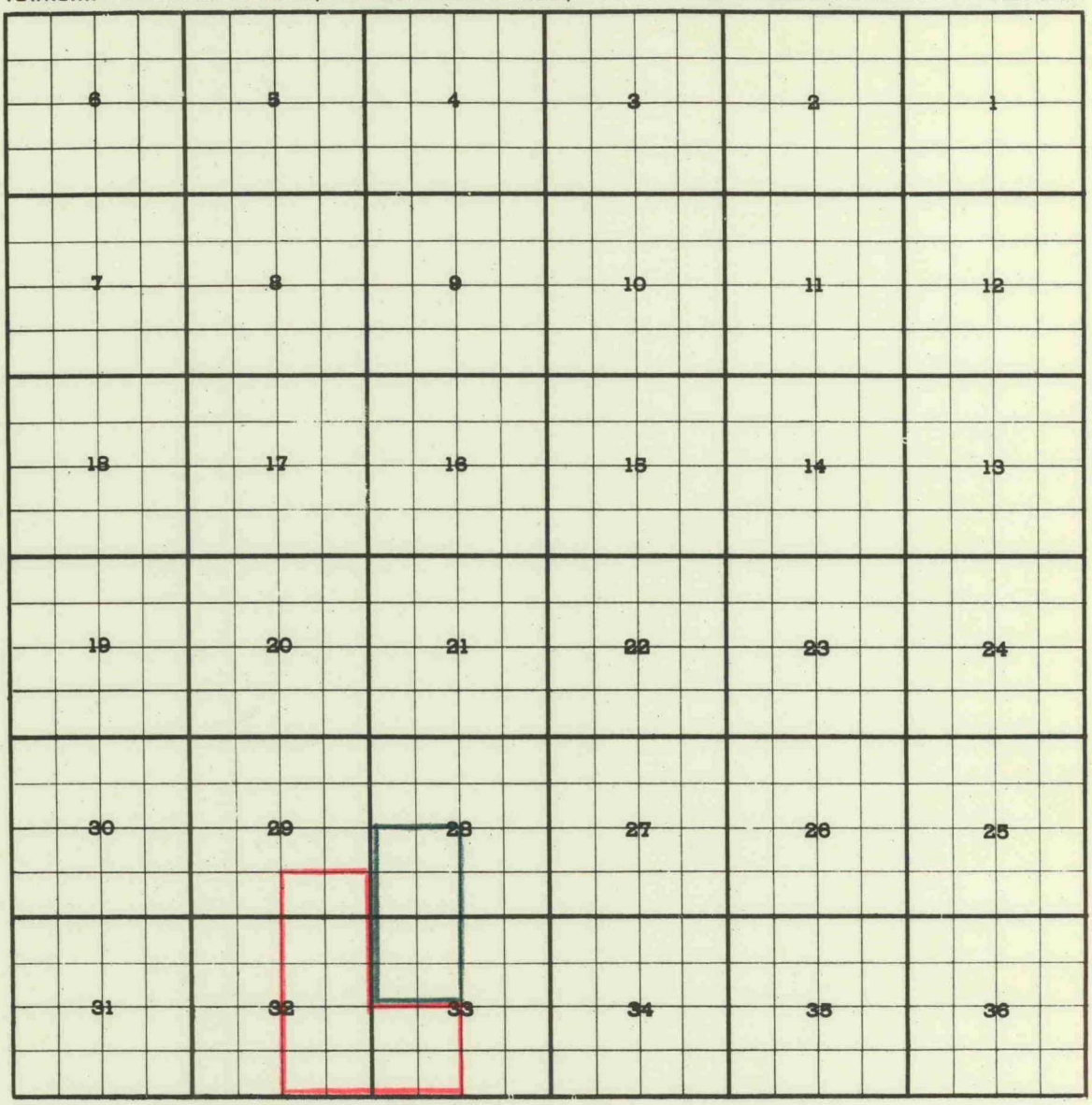
UNADVERTISED: N/2 SW/4 of Section 22
NE/4 of Section 29

Case 1473: (K) Extension of an existing pool

County LEA Pool SAN SIMON

O-5 Yates

TOWNSHIP 21 South, RANGE 35 East, NEW MEXICO PRINCIPAL MERIDIAN



Purpose: One completed well capable of producing

Resler & Sheldon-Phillips State #B-1 in Unit L of Sec. 28-21-35

Comp. in Yates 2/8/58. Top perf. 3850'.

Pool Boundary Colored in Red:

Proposed Extension Colored in Green: SW/4 of Section 28

NW/4 of Section 33

RANGE AND AVERAGES OF

GRAVITIES AND GAS-OIL RATIOS

BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

Gravities:

Range: 24.6 ~~26.2~~ **degrees to 34 degrees**

Average: 28.4 degrees

Gas-Oil Ratio:

Range: 163 to 1 to 92, 359 to 1

Average: 1474 to 1

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: ANDERSON-PRICHARD

Well	Date Potential	Total Depth	G. O. R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Frost No. 1	11/28/56	5108'	163	28.7	4945'-5007'	178.62	0	Flow
Frost No. 2	3/12/57	5056'	4040	29	4995'-5005'	55.89	10	Flow
Frost No. 3	12/27/56	5075'	510	29	4950'-4985'	128.4	0	Flow
Frost No. 4	2/1/57	5060'	1378	29	5014'-5020'	127.13	6	Flow
Frost No. A-1	4/2/57	5080'	562	29.2	4962'-4980' 5006'-5016'	106.21	11	Pump
Frost No. A-2	8/17/57	5056'	3140	29.2	4995'-5005'	67.63	14	Flow
Frost No. A-3	4/1/57	5059'	1185	29.3	4950'-4982'	129.66	15	Flow
Frost No. A-4	5/20/57	5050'	910	29.3	4962'-4986'	165.6	1	Flow
Frost No. A-5	6/22/57	5059'	623	29.8	4954'-4988'	118.62	0	Flow
Frost No. B-1	2/6/58	5073'	370	24.64	4950'-4984'	107.95	0	Pump
Watson No. 1	4/4/58	5093'	562	26.5	5022'-5042'	104.88	21	Pump
Watson No. 2	5/29/58	5052'	991	29.2	5004'-5024'	116.61	0	Flow

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: CHRISTMANN

Well	Date Potential	Total Depth	G.O.R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
No. 1 Wilson	1/19/58	4996'	244	28.6	4966'-4992'	129.65	2.5	Flow
No. 2 Wilson	2/1/58	5006'	300	28.4	4968'-4996'	239.29	0.6	Flow

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: CITIES SERVICE

Well	Date Potential	Total Depth	G.O.R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Wilson "J"-1	2/4/57	5031'	2040	27.3	4967'-4984' 4994'-5010'	403	6	Flow
Wilson "J"-2	4/2/57	5028'	492	28.6	4992'-5014'	828	1.0	Flow
Wilson "J"-4	7/3/57	5049'	515	28.9	4989'-5024'	991	3.0	Flow
Wilson "J"-5	7/14/57	5034'	1047	28.9	4996'-5027'	641.70	0.8	Flow

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: DE KALB

Well	Date Potential	Total Depth	G. O. R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Standefer No. 1	10/24/57	5009'	1875	29	* 4960'	108.30	8	Flow
Standefer No. 2	6/1/58	5010'	401	27.1	* 4959	118.85	0	Pump

* Open hole completion

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: FROST & FLEMING

Well	Date Potential	Total Depth	G. O. R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Frost No. 1	7/28/57	5070'	650	29	4882'-5004'	112	1	Flow
Frost No. 2	9/30/57	5083'	400	29	4986'-5012'	103	30	Pump
Frost No. 3	10/8/57	5056'	450	29	5007'-5021'	103	2	Pump

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: FULTON

Well	Date Potential	Total Depth	G. O. R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Cunningham No. 1	5/8/58	5027'	450	28	4991'-5020'	185.03	8% BS&W	Flow
Pierson No. 1	6/2/58	4996'	250	28	4960'-4990'	62	48	Pump
Effie Wilson No. 1	5/4/58	5015'	550	28	4984'-5012'	287.21	1	Flow

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: HUMBLE

Well	Date Potential	Total Depth	G. O. R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Sherrill No. 1	11/9/57	4993'	92, 359	28	4967'-4980'	13.61	0	Flow

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: KATZ

Well	Date Potential	Total Depth	G.O.R.	Gravity	Perforations Or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Cunningham No. 1	6/5/57	5044'PB	403	28.6	4993'-5000' 5003'-5030'	114.13	25	Pump

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: MONTEREY

Well	Date Potential	Total Depth	G.O.R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Frost No. 31-8	6/3/57	5038'PB	348	29.4	5004'-5024	293.09	3	Flow
Frost No. 41-8	6/30/57	5032'PB	1032	28.9	5008'-5028'	148.5	4	Flow

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: MURCHISON AND MALLORY

Well	Date Potential	Total Depth	G. O. R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Fred Frost No. 1	1/4/57	5003'	1870	28	4944' *	131	4	Flow
Fred Frost No. 2	3/7/57	4995'	1885	28.5	4958'-4995'	140	10	Flow
Fred Frost No. B-1	7/14/57	5037'	968	29.1	5016'-5037'	108.27	12	Flow
J. W. Frost No. 1	6/9/57	5047'	650	28.4	4940'*	121.46	7	Flow
J. W. Frost No. 2	12/12/56	5003'	250	28	4963'-5003'	123	22	Pump
J. W. Frost No. 3	2/14/57	5000'	1450	27.5	4974' *	263	10	Flow
J. W. Frost No. 4	2/6/57	5003'	557	28.5	4952' *	132.48	4	Flow
J. W. Frost No. 5	4/1/57	5039'	650	28	5011' *	119.89	0	Flow
J. W. Frost No. B-1	6/9/57	5047'	650	28.4	4940'-5047'	121.46	7	Flow
J. W. Frost No. B-2	9/13/57	5001'	236	28.3	4984' *	105.50	0	Pump
Frost No. C-1	8/19/57	5036'	325	29.3	4960'-4974'	92.03	0.2	Pump
Frost No. C-2	7/15/57	4999'	515	29.1	4965' *	105.48	0.3	Pump
Frost No. C-3	4/15/58	5014'	595	29	4975'-5014'	105.50	0	Flow
Frost No. D-1	2/12/58	5025'	1437	28.4	5002'-5025'	105.52	0	Flow

* Open hole completion

OPERATOR: MURCHISON AND MALLORY

Well	Date Potential	Total Depth	G.O.R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Sherrill No. 1	3/3/58	5013'	595	27.5	4981'-4988'	105	0	Flow
Sherrill No. 2	6/2/58	4994'	600	27.7	4971' *	111.30	0.3	Pump
Sherrill No. 3	7/1/58	4991'	460	27.6	4959' *	105	0	Pump
Sherrill No. B-1	3/26/58	5017'	846	28.5	4980' *	103.12	0	Flow
Sherrill No. C-1	5/28/58	5025'	992	27.9	5014' *	112	0.2	Flow
Sherrill No. C-2	7/2/58	5025'	1897	28.9	5019' *	102.78	0	Flow
Murray Watson No. 1	3/22/57	5021'	565	31		135	5	Flow
Murray Watson No. 2	9/18/57	5050'	560	29.6	5019'-5027'	105.56	0	Flow

* Open Hole completion

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: **RUTTER & WILBANKS**

Well	Date Potential	Total Depth	G.O.R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Frost No. A-1	5/15/57	5049'PB	300	26.6	4998'-5010'	112	60	Pump
Frost No. B-1	7/18/57	5117'	300	26.2	5004'-5026'	158	20	Pump
Frost No. B-2	11/3/57	5100'	575	27.3	4996'-5011'	119	15	Pump
Frost No. C-1	12/1/57	5060'	350	28.5	4987'-5000'	108	2	Pump

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: STEKOLL

Well	Date Potential	Total Depth	G.O.R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Frost No. 1	3/6/58	5200'	238	29.5	4959'-5040'	139.89	35	Pump

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: TEXAS COMPANY

Well	Date Potential	Total Depth	G.O.R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
J. Markham No. 1	11/17/57	4976'	940	28.2	4946'-4970'	192	0	Flow
J. Markham No. 2	12/13/57	4977'	27	28.9	4946'-4976'	110.40	0.5	Flow
J. Markham No. 3	1/5/58	4987'	800	28.6	4956'-4978'	405.33	5	Flow
J. Markham No. 4	4/25/58	4999'	1230	27.4	4960'-4990'	596.44	0	Flow
J. Markham No. B-1	4/23/58	5007'	490	27.2	4970'-5006'	158.09	3	Pump

COMPLETION DATA, BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS

FILES OF RAILROAD COMMISSION

OPERATOR: TIDEWATER

-- Well	Date Potential	Total Depth	G.O.R.	Gravity	Perforations or Top Pay	Barrels Oil	Percent Water	Pump or Flow
Cunningham No. 1	3/25/58	5070'	348	34	4993'-5030'	106.19	33	Pump

SUMMARY, CORE DATA

T-9-S, R-38-E, LEA COUNTY & BUCKSHOT FIELD, COCHRAN COUNTY

	Range	Average
Permeability	1.1 to 7.7 md.	4.2 md.
Porosity	5.5 to 10.9	7.58%
Oil Saturation	12.7 to 24.1	17.67%
Water Saturation	18.3 to 38	31.25%

BOTTOM HOLE PRESSURE DATA,
BUCKSHOT FIELD, COCHRAN COUNTY, TEXAS
FILES OF RAILROAD COMMISSION

April 10, 1957

	Top Pay	Shut in Hours	B.H. Temp.	Test Depth	Observed Pressure	Datum Plane	Corrected Pressure
Cities Service:							
Wilson J-1	-1081	24	114	-1080	1567	-1080	1567
Wilson J-2	-1080	24	112	-1080	1601	-1080	1601

December 9, 1957

	Top Pay	Shut in Hours	B.H. Temp.	Test Depth	Observed Pressure	Datum Plane	Corrected Pressure
Andersen-Prichard:							
Jack Frost No. 1	4945	77	115	4997	1436	-1080	1436
Jack Frost No. 2	4995	76	115	5000	1496	-1080	1496
Jack Frost No. 3	4950	74	115	4997	1428	-1080	1428
Jack Frost No. 4	5014	73	115	4991	1303	-1080	1303
Frost A No. 1 *	4962	76	NT			-1080	1463
Frost A No. 3 *	4950	76	NT			-1080	1362
Frost A No. 4	4962	74	115	4944	1272	-1080	1291
Frost A No. 5	4954	73	115	4943	1539	-1080	1563

* Determined by acoustical sounding

Cities Service:							
Wilson J-1	-1081	74	115	4993	1443	-1080	1443

December 9, 1957

	Top Pay	Shut in Hours	B.H. Temp.	Test Depth	Observed Pressure	Datum Plane	Corrected Pressure
Cities Service:							
Wilson J-2	-1088	74	115	4994	1448	-1080	1448
Wilson J-3	-1082	73	115	4998	1611	-1080	1611
Wilson J-4	-1081	72	115	4988	1431	-1080	1431
Wilson J-5	-1083	72	115	4993	1422	-1080	1422
Cyrus Frost, Jr., et al:							
J. W. Frost No. 1	-1053	75-1/2	115	4992	1331	-1080	1331
J. W. Frost No. 2 *	-1058	72	115	4992	1061	-1080	1061
J. W. Frost No. 3 *	-1077	72	115	4992	740	-1080	740
	* Pumping wells tested by acoustical sounding						
Katz Oil Company:							
Cunningham No. 1	-1087	72				-1080	1079
Monterey Oil Company:							
Jack Frost No. 31-8	-1103	70.5	115	-1029	1375	-1080	1392
Jack Frost No. 41-8	-1110	70	115	-1028	1397	-1080	1414
Rutter & Wilbanks:							
Frost A No. 1	4926	69	115	5000	1395	-1080	1411
Frost B No. 1 *	4943	69				-1080	1546
Frost B No. 2 *	4939	69				-1080	1526
Frost C No. 1 *	4906	69				-1080	936
	* Pumping wells tested by acoustical sounding						

December 9, 1957

	Top Pay	Shut in Hours	B.H. Temp.	Test Depth	Observed Pressure	Datum Plane	Corrected Pressure
Texas Company:							
Jack Markham No. 1	-1034	72	110	-1038	1591	-1080	1605

Case No.

1423

Large Exhibits

ROWAN OIL COMPANY
P. O. Drawer 12247
Fort Worth, 16, Texas

CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

EXHIBIT 4

COMPANY ROWAN OIL COMPANY | DATE ON 12-31-57 | FILE NO. WP-3-980 WC
WELL FEDERAL NO. 1 | DATE OFF 1-6-58 | ENGRS. NEFF
FIELD WILDCAT | FORMATION SAN ANDRES | ELEV. 3924' KB
COUNTY LEA STATE NEW MEXICO | DRLG. FLD. WATER BASE MUD | CORES DIAMOND 3½"
LOCATION 660 FS & EL SEC 33-T9S-R30E | REMARKS SAMPLED AS DIRECTED BY CLIENT

Special Analysis

CORE REPORT

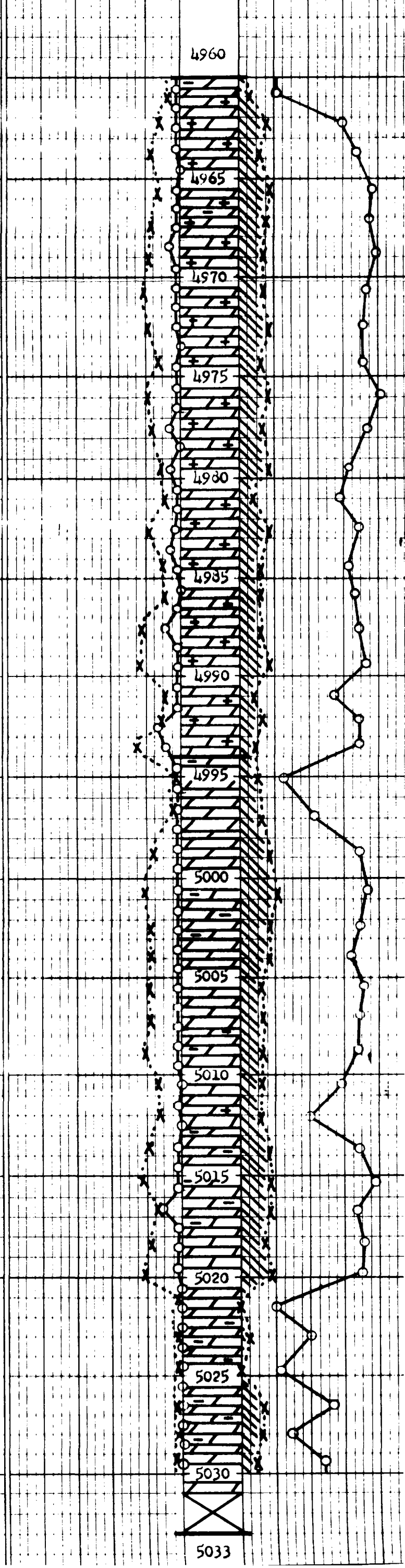
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 4
CASE 1473

SAND | LIMESTONE | CONGLOMERATE | CHERT
SHALE | DOLOMITE | ANHYDRITE

F-FRACTURED
PP-PINPOINT POROSITY

PERMEABILITY, Maximum O–O (MILLIDARCYS) 40 30 20 10 0
TOTAL WATER O–O (PERCENT PORE SPACE) 80 60 40 20
POROSITY x x (PERCENT) 40 30 20 10 0
OIL SATURATION x - - - x (PERCENT PORE SPACE) 0 20 40 60 80

SAMPLE NO.	DEPTH FEET	PERMEABILITY MILLIDARCYS MAX	90°	POROSITY PERCENT	RESIDUAL SATURATION PORE SPACE OIL	RESIDUAL SATURATION PORE SPACE TOTAL WATER	VISUAL DESCRIPTION
		WHOLE-CORE ANALYSIS					
1	4960.0-61.4	0.4	0.2	2.9	6.9	79.4	
1A		0.6	0.2				
2	4961.4-62.8	0.1	<0.1	6.0	15.0	40.0	F
3	62.8-64.6	0.1	<0.1	7.9	11.4	32.7	F,PP
3A		<0.1	<0.1				
4	4964.6-66.4	0.4	0.2	6.8	17.6	23.6	PP
5A		1.1	0.8				
5	4966.4-68.1	0.6	0.4	8.0	15.0	25.0	PP
6	68.1-69.8	2.7	0.8	9.2	14.1	20.6	F,PP
6A		0.9	0.5				
7	4969.8-71.5	0.3	0.2	10.4	14.4	27.0	
7A		0.2	0.2				
8	4971.5-73.3	0.2	0.1	9.4	17.0	28.8	F,PP
9A		<0.1	<0.1				
9	4973.3-75.0	0.9	0.9	6.9	11.6	29.0	PP
10	75.0-76.8	0.1	0.1	9.7	15.5	19.6	PP
10A		0.7	0.4				
11	4976.8-78.5	2.8	2.2	8.1	13.6	26.0	F,PP
12A		<0.1	<0.1				
12	4978.5-80.1	2.7	2.4	5.1	15.7	37.4	F,PP
13	80.1-81.8	0.2	0.1	4.9	8.2	42.9	F,PP
13A		0.9	0.7				
14	4981.8-83.4	1.8	1.5	9.0	16.7	31.1	F,PP
14A		2.8	2.4				
15	4983.4-85.0	0.5	0.2	5.0	12.0	38.0	F,PP
16	85.0-86.7	<0.1	<0.1	4.9	12.2	34.8	PP
16A		0.1	<0.1				
17	4986.7-88.3	4.1	3.2	11.3	12.4	31.0	PP
18A		1.2	0.8				
18	4988.3-90.0	0.6	0.6	11.9	16.7	27.7	PP
19	90.0-91.7	0.1	<0.1	4.6	8.7	45.6	F,PP
19A		0.3	0.1				
20	4991.7-92.7	7.1	3.9	5.2	13.4	30.7	F,PP
21	92.7-94.0	4.1	1.5	12.5	9.6	30.4	PP
22	94.0-95.8	1.0	0.8	2.0	10.0	75.0	F,PP
22A		0.7	0.5				
23	4995.8-97.7	0.2	<0.1	2.4	12.5	58.4	F,PP
23A		0.4	0.1				
24	4997.7-99.6	1.2	0.2	7.6	17.1	30.3	F,PP
24A		0.8	0.3				
25	4999.6-01.3	1.0	0.9	10.1	21.8	26.7	F
26A		1.0	0.7				
26	5001.3-03.0	1.0	0.8	8.9	16.8	30.3	F,PP
27	03.0-04.5	0.6	0.5	7.9	16.5	35.4	F,PP
28A		1.2	1.2				
28	5004.5-06.0	1.1	0.9	9.6	11.5	29.2	F,PP
29	06.0-07.7	0.4	0.2	9.5	13.7	30.5	F,PP
29A		0.6	0.3				
30	5007.7-09.5	1.0	0.4	10.3	12.6	32.0	F,PP
31A		0.3	0.1				
31	5009.5-11.0	<0.1	<0.1	7.3	12.3	41.0	F,PP
32	11.0-12.8	0.1	<0.1	6.0	11.7	60.0	V,F
32A		<0.1	<0.1				
33	5012.8-14.4	0.8	0.5	9.6	15.6	31.2	F,PP
33A		0.9	0.9				
34	5014.4-15.8	0.7	0.6	11.9	16.8	22.6	SF,PP
35	15.8-17.5	5.4	3.6	7.1	16.9	33.8	F,PP
36A		0.7	0.6				
36	5017.5-19.0	0.7	0.5	9.1	14.3	29.7	SF,PP
37	19.0-20.3	0.7	0.5	10.3	18.4	30.0	SF,PP
38A		<0.1	<0.1				
38	5020.3-22.0	<0.1	<0.1	1.0	TR	80.0	SF,PP
39	22.0-23.8	<0.1	<0.1	2.0	5.0	60.0	F,PP
39A		<0.1	<0.1				
40	5023.8-25.4	<0.1	<0.1	1.4	TR	78.5	F,PP
41A		<0.1	<0.1				
41	5025.4-27.2	<0.1	<0.1	2.3	13.0	47.7	SF,PP
42	27.2-28.5	<0.1	<0.1	1.7	11.8	70.5	F
43A		<0.1	<0.1				
43	5028.5-30.0	<0.1	<0.1	2.1	9.5	52.5	F,PP
	TOO BROKEN FOR ANALYSIS						



REFERENCE Nº A 1959 -A

LANE WELLS COMPANY
RADIOACTIVITY LOG

FILE NO

Location of Well 742'	COMPANY:	GREAT WESTERN DRILLING CO.
	WELL:	STARNES No. 1 - 23
	FIELD:	LEVELLAND
	COUNTY:	COCHRAN STATE: TEXAS
ELEV. D.F. 3797'	LOCATION:	660 FN. & EL. SW.¼ SEC. 23 HARRISON & BROWN SURVEY

COMPANY: GREAT WESTERN DRILLING CO.
WELL: STARNES NO. 1 - 23
FIELD: LEVELLAND
COUNTY: COCHRAN STATE: TEXAS
LOCATION:

LOG MEAS. FROM	D.F.	ELEV. 3797
DRLG. MEAS. FROM	D.F.	ELEV. 3797
PERM. DATUM	G.L.	ELEV. 3790

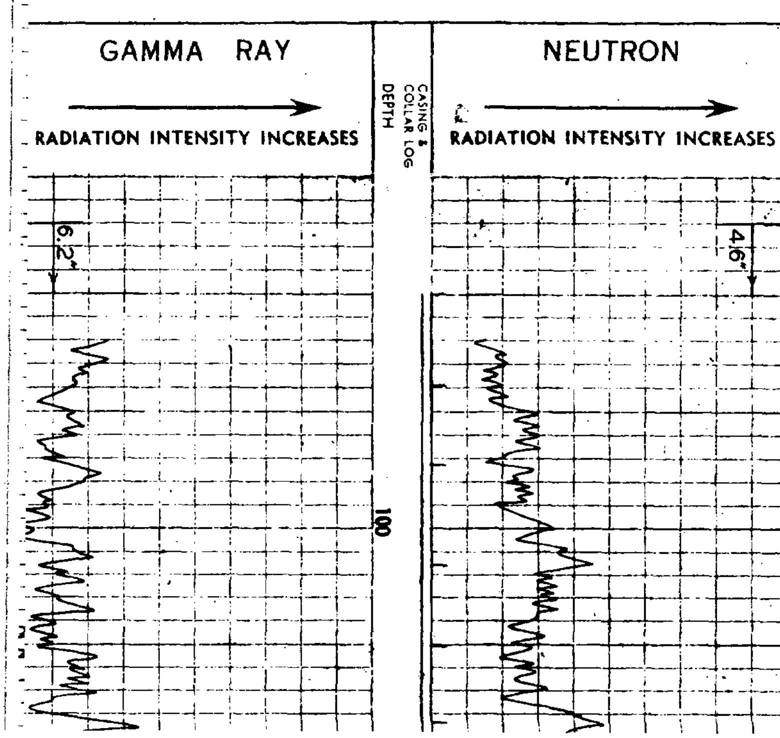
TYPE OF LOG	G/R	N/L
RUN NO.	1 N/W	1 N/W
DATE	7-5-52	7-5-52
TOTAL DEPTH (DRILLER) W.L.	5067	5067
EFFECTIVE DEPTH (DRILLER)	5067	5067
TOP OF LOGGED INTERVAL	SURF.	SURF.
BOTTOM OF LOGGED INTERVAL	5066	5066
TYPE OF FLUID IN HOLE	OIL	OIL
FLUID LEVEL	5034	5034
MAXIMUM RECORDED TEMP.		
NEUTRON SOURCE STRENGTH & TYPE		500N
SOURCE SPACING — IN.		8.25
LENGTH OF MEASURING DEVICE — IN.	36	9
O.D. OF INSTRUMENT — IN.	3-5/8	3-5/8
TIME CONSTANT — SECONDS	4	3.2
LOGGING SPEED FT. MIN.	30	30
STATISTICAL VARIATION — IN.		
SENSITIVITY REFERENCE	274	275
RECORDED BY	CLIFTON	CLIFTON
WITNESSED BY	THORNTON	THORNTON

Approx 11 miles East of Dekalb & Standard

CASING RECORD

RUN NO.	BIT SIZE	CASING	WT.—LB.	WELL RECORD FROM	TO	INTERVAL R A LOG FROM	TO
1		9-5/8		SURF.	327	SURF.	335
1		5-1/2		SURF.	5019	SURF.	5017
1	4-3/4			5019	5067	5017	5068

REMARKS OR OTHER DATA



BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO
Western EXHIBIT No. 2
CASE 1473 = L

WELEX

RADIOACTIVITY LOG

COMPANY ROWAN OIL COMPANY
WELL ROWAN OIL COMPANY FEDERAL # 1
FIELD WILDCAT
County LEA
State NEW MEXICO
File

COMPANY ROWAN OIL COMPANY
WELL ROWAN OIL COMPANY FEDERAL # 1
FIELD WILDCAT
COUNTY LEA STATE NEW MEXICO

Location
Sec 33 Twp 0-S Rge E
660' F SL
660' F EL

Permanent Datum GROUND LEVEL Elev. 3913'
Log Measured From 1' ABOVE ROTARY TABLE Elev. K.B. 3924'
Drilling Measured From KELLY DRIVE BUSHING Elev. D.F. G.L.

	GAMMA	N - N
Type Log		
Run No.	ONE	ONE
Date	1-3-58	1-4-58
Total Depth Driller	5032'	5032'
Present Depth Driller	5032'	5032'
Total Depth Welex	5035'	5035'
Survey Begins	5022'	5033'
Survey Ends	50'	50'
Mud Data		
Type Fluid in Hole	MUD	MUD
Solinity PPM Cl		
Weight lb/gal		
Fluid Level		
Max Hole Temp		
Recorded By	YATES	
Witnessed By	WHITE & KLINGLER	

BORE HOLE RECORD

Run	Bit From	To	Size	From	To
1		332'	7 7/8"	332'	5032'

CASING RECORD

Run	Size	Wgt	Grade	From	To
1	8 5/8"	24#		0	332'

EXHIBIT #3

ROWAN OIL COMPANY
P. O. Drawer 12247
Fort Worth, 16, Texas

LOGGING TRUCK DATA

Truck No. 488 32-.006 Base Truck No. 467 32-695

GAMMA RAY
Unit Model No. 402 Det. 3 5/8"
Detector Model No. DGG1
Type SCINTILLATION Length 4"
Distance to Source 11 1/2"
Reference Signature

NEUTRON
Unit Type NEUTRON-NEUTRON
Unit Model No. 402 Det. 3 5/8"
Detector Model No. DGN1
Type SCINTILLATION Length 4"
Source Model No. S10A3 Source No. 3016
Spacing 13.5"
Type RADIUM BERYLLIUM
Strength 300 MG

LOGGING DATA

Depth From	Depth To	Speed F/M	Speed Sec	Sensitivity	Gamma Ray Suppression Zero	Scale	Time Constant	Neutron Scale	Neutron Suppression	Neutron Sensitivity
5033'	2300'	20	2 1/2	3.5 RU	0 RU	100'	1.5	125 LU	-625 LU	3125
5033'	2300'	10	2 1/2	3.5 RU	0 RU	100'	1.5	125 LU	-625 LU	3125
2300'	50'	10	2 1/2	3.5 RU	-11 RU	100'	1.5	125 LU	-625 LU	3125

Calibrated Using G R STANDARD C 933 N L ENVIRONMENTAL D 363

REMARKS

GAMMA RAY — RADIATION INTENSITY INCREASES →

NEUTRON — RADIATION INTENSITY INCREASES →

CASING & COLLAR LOG DEPTH

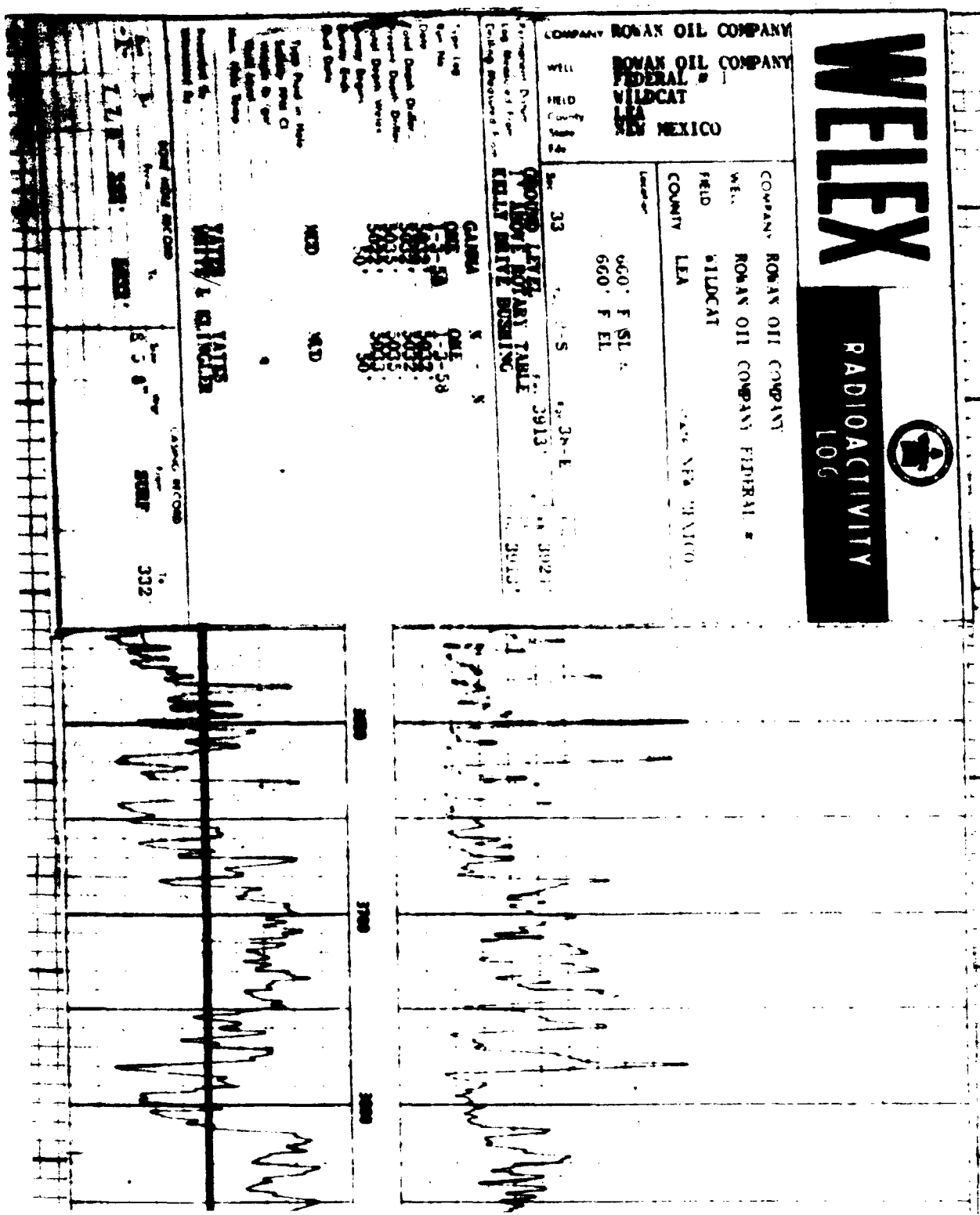
3.5 RU

12½ LU

1		49
0		84
1		119
	625	3125

100

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 3
CASE 1473-L



ROWAN OIL COMPANY
P. O. Drawer 12247
Fort Worth, 16, Texas

WEST to EAST CROSS SEC
BUCKSHOT AREA
LEA CO., NEW MEXICO & COCHRAN

Vertical Scale 1" = 100'
Horizontal Scale 1" = 500'

EXHIBIT 2

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. 2
CASE 1473