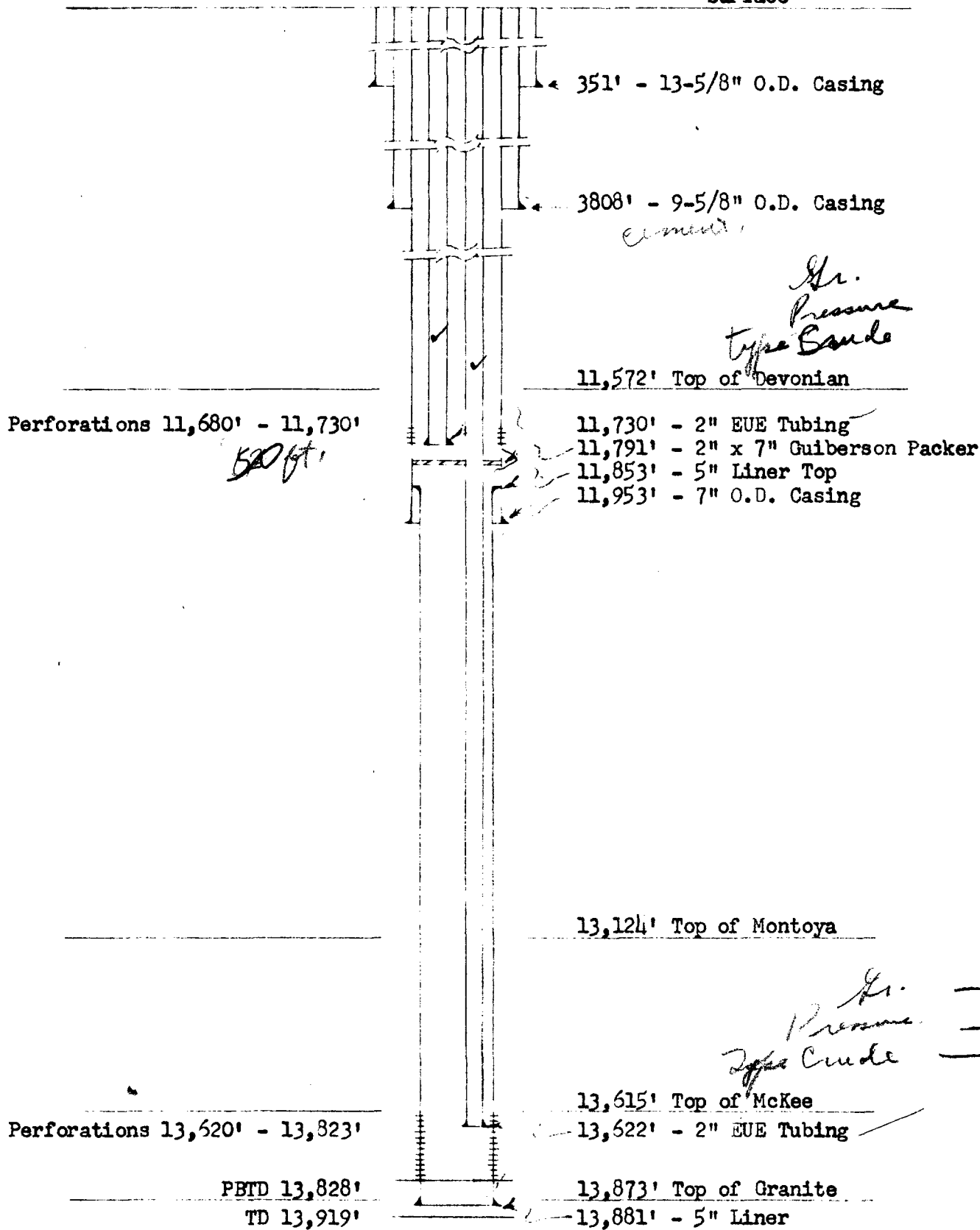


THE PURE OIL COMPANY—PROCESS CALCULATION SHEET

Surface



WELL EQUIPMENT - SOUTH VACUUM UNIT #2-35

Subject _____

Date _____

9-26-58

HCS File No. _____

September 26, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

As lessees of adjoining acreage to the South Vacuum Unit, we have no objection to your proposal to dually complete The Pure Oil Company's South Vacuum Unit #2-35 located 1980' FSL and 660' FEL of Section 35, T18S-R35E, Lea County, New Mexico in the Devonian formation from 11,680' to 11,730' and the McKee formation 13,620' to 13,823'.

THE ATLANTIC REFINING COMPANY

By: R. E. Howard
R. E. Howard
Regional Petroleum Engineer

Date: October 3, 1958

| | |
|-----------------------------|----------------------|
| BEFORE EXAMINER UTZ | |
| OIL CONSERVATION COMMISSION | |
| <u>Pure Oil</u> | EXHIBIT NO. <u>3</u> |
| CASE NO. <u>1537</u> | |

16 Pages.

EXHIBIT 3

September 26, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

As lessees of adjoining acreage to the South Vacuum Unit, we have no objection to your proposal to dually complete The Pure Oil Company's South Vacuum Unit #2-35 located 1980' FSL and 660' FEL of Section 35, T18S-R35E, Lea County, New Mexico in the Devonian formation from 11,680' to 11,730' and the McKee formation 13,620' to 13,823'.

CITIES SERVICE OIL COMPANY

By: 

Date: September 29, 1958

September 26, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

As lessees of adjoining acreage to the South Vacuum Unit, we have no objection to your proposal to dually complete The Pure Oil Company's South Vacuum Unit #2-35 located 1980' FSL and 660' FEL of Section 35, T18S-R35E, Lea County, New Mexico in the Devonian formation from 11,680' to 11,730' and the McKee formation 13,620' to 13,823'.

Jake L. Hamon
By: J. W. Shaw
Dist. Engr.

Date: 9/29/58

September 26, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

As lessees of adjoining acreage to the South Vacuum Unit, we have no objection to your proposal to dually complete The Pure Oil Company's South Vacuum Unit #2-35 located 1980' FSL and 660' FEL of Section 35, T18S-R35E, Lea County, New Mexico in the Devonian formation from 11,680' to 11,730' and the McKee formation 13,620' to 13,823'.


By: 

Date: 9/27/58

September 26, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

As lessees of adjoining acreage to the South Vacuum Unit, we have no objection to your proposal to dually complete The Pure Oil Company's South Vacuum Unit #2-35 located 1980' FSL and 660' FEL of Section 35, T18S-R35E, Lea County, New Mexico in the Devonian formation from 11,680' to 11,730' and the McKee formation 13,620' to 13,823'.

HUMBLE OIL & REFINING CO.

[Handwritten initials]

By *[Signature]*

Date: Oct. 15, 1958

September 26, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

As lessees of adjoining acreage to the South Vacuum Unit, we have no objection to your proposal to dually complete The Pure Oil Company's South Vacuum Unit #2-35 located 1980' FSL and 660' FEL of Section 35, T18S-R35E, Lea County, New Mexico in the Devonian formation from 11,680' to 11,730' and the McKee formation 13,620' to 13,823'.

Magnolia Petroleum Company

By: E. L. Downing

Date: October 6, 1958

September 26, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

As lessees of adjoining acreage to the South Vacuum Unit, we have no objection to your proposal to dually complete The Pure Oil Company's South Vacuum Unit #2-35 located 1980' FSL and 660' FEL of Section 35, T18S-R35E, Lea County, New Mexico in the Devonian formation from 11,680' to 11,730' and the McKee formation 13,620' to 13,823'.

The Ohio Oil Co

By: Coe S. Mills
SES

Date: 10-1-58

SINCLAIR OIL & GAS COMPANY

PETROLEUM LIFE BUILDING
Box 1470
MIDLAND, TEXAS

October 1, 1958

G. D. ALMEN, JR.
VICE PRES. & DIVISION MANAGER

R. L. ELSTON
ASSISTANT DIVISION MANAGER

C. S. TINKLER
DIVISION EXPLORATION SUPT.

H. F. DEFENBAUGH
DIVISION PRODUCTION SUPT.

F. C. ROGERS
DIVISION GAS & GAS PRODUCTS SUPT.

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

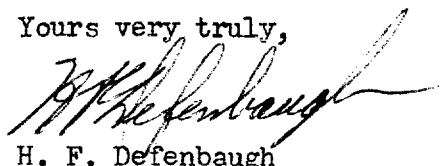
Attention: Mr. A. L. Porter, Jr.

Gentlemen:

We have been advised that The Pure Oil Company has made Application for Dual Completion on their South Vacuum Unit Well #2-35 in the South Vacuum Devonian Pool and an undesignated McKee Gas Pool, Lea County, New Mexico. We understand that this well is located 1980 feet from the South line and 660 feet from the East line of Section 35-18S-35E.

Sinclair Oil & Gas Company has no objection to the dual completion of this well and hereby waives their right to notice and hearing on same.

Yours very truly,



H. F. Defenbaugh

HFD:RNA:mk

Orig. & 2 cc: The Pure Oil Company
Box 2107
Fort Worth 1, Texas

September 26, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Gentlemen:

As lessees of adjoining acreage to the South Vacuum Unit, we have no objection to your proposal to dually complete The Pure Oil Company's South Vacuum Unit #2-35 located 1980' FSL and 660' FEL of Section 35, T18S-R35E, Lea County, New Mexico in the Devonian formation from 11,680' to 11,730' and the McKee formation 13,620' to 13,823'.

Skelly Oil Company

By: 

Date: _____

September 26, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

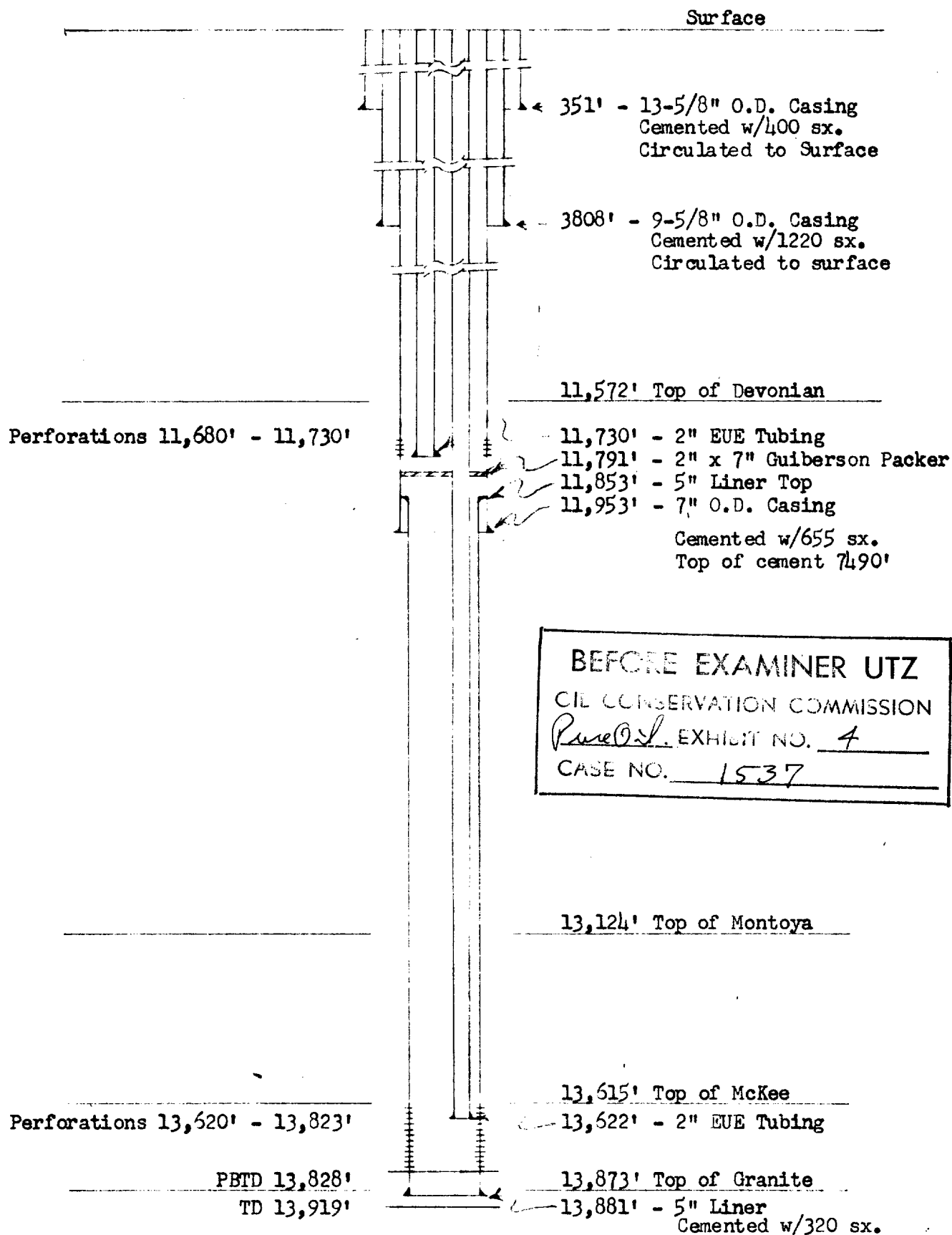
Gentlemen:

As lessees of adjoining acreage to the South Vacuum Unit, we have no objection to your proposal to dually complete The Pure Oil Company's South Vacuum Unit #2-35 located 1980' FSL and 660' FEL of Section 35, T18S-R35E, Lea County, New Mexico in the Devonian formation from 11,680' to 11,730' and the McKee formation 13,620' to 13,823'.

TEXAS PACIFIC COAL AND OIL COMPANY

By: R. W. Harris
Manager of Production

Date: September 30, 1958

Subject **EXHIBIT 4**

Date 9-26-58 File No. HCS
Page By

NEW MEXICO OIL CONSERVATION COMMISSION
MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

COMPANY The Pure Oil Company - Box 2107, Fort Worth, Texas
(Address)

LEASE South Vacuum Unit WELL NO. 2-35 UNIT I S 35 T 18-S R 35-E
DATE WORK PERFORMED 3-31-58 POOL South Vacuum

This is a Report of: (Check appropriate block) ☒ Results of Test of Casing Shut-off
☐ Beginning Drilling Operations ☐ Remedial Work
☐ Plugging ☐ Other _____

Detailed account of work done, nature and quantity of materials used and results obtained.

Ran 351' of 13-3/8" OD casing with Larkin shoe set at 351', cemented with 400 sacks Lonestar Portland Neat cement, maximum pressure 250#, had cement returns to surface, job complete 7:00 AM 3-22-58, 24 hours WOC, tested casing, control equipment and cement with 1000# for 30 minutes, held OK.

Ran 3808' of 9-5/8" OD casing with Larkin shoe set at 3808', float collar set at 3745', with 4 sets Centralizers installed. Cemented with 1020 sacks Lonestar Portland cement with 6% gels and 1 part Stratacrete to two parts cement added and 200 sacks Portland Neat cement, pumped plug to 3745', maximum pressure 1000#, had cement returns to surface, 24 hours WOC, tested casing, control equipment and cement for 30 minutes with 1000#, held OK.

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. _____ TD _____ PBD _____ Prod. Int. _____ Compl Date _____
Tbng. Dia _____ Tbng Depth _____ Oil String Dia _____ Oil String Depth _____
Perf Interval (s) _____
Open Hole Interval _____ Producing Formation (s) _____

RESULTS OF WORKOVER:

| | BEFORE | AFTER |
|---------------------------------|--------|-------|
| Date of Test | _____ | _____ |
| Oil Production, bbls. per day | _____ | _____ |
| Gas Production, Mcf per day | _____ | _____ |
| Water Production, bbls. per day | _____ | _____ |
| Gas-Oil Ratio, cu. ft. per bbl. | _____ | _____ |
| Gas Well Potential, Mcf per day | _____ | _____ |
| Witnessed by _____ | | |

(Company)

OIL CONSERVATION COMMISSION

Name _____
Title _____
Date _____

I hereby certify that the information given above is true and complete to the best of my knowledge.
Name Ray C. Wells
Position Asst. Chief Division Prod. Engineer
Company The Pure Oil Company

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Pure Oil Co. EXHIBIT NO. 5
CASE NO. 1537

EXHIBIT 5

NEW MEXICO OIL CONSERVATION COMMISSION
MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

COMPANY The Pure Oil Company - Box 2107, Fort Worth, Texas
(Address)

LEASE South Vacuum Unit WELL NO. 2-35 UNIT I S 35 T 18-S R 35-E
DATE WORK PERFORMED 7-24-58 POOL South Vacuum

This is a Report of: (Check appropriate block) ☒ Results of Test of Casing Shut-off
☐ Beginning Drilling Operations ☐ Remedial Work
☐ Plugging ☐ Other _____

Detailed account of work done, nature and quantity of materials used and results obtained.

Ran 11953' of 7"OD casing with Howco guide shoe set at 11953', TIW formation packer at 11788', float collar at 11753' and 11685', Howco DV tool at 11296', cemented with 875 Cu. Ft. Poxmix-Incor cement with 4% gels added, two stages. Ran Temperature survey, top cement outside 7" casing at 7490' from surface. Set model "K" cement retainer at 11911', cemented with 75 sacks Incor Neat cement, 48 hours WOC, tested casing, control equipment and cement with 1000# for 30 minutes, held OK.

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. _____ TD _____ PBD _____ Prod. Int. _____ Compl Date _____
Tbng. Dia _____ Tbng Depth _____ Oil String Dia _____ Oil String Depth _____
Perf Interval (s) _____
Open Hole Interval _____ Producing Formation (s) _____

RESULTS OF WORKOVER:

| | BEFORE | AFTER |
|---------------------------------|--------|-------|
| Date of Test | _____ | _____ |
| Oil Production, bbls. per day | _____ | _____ |
| Gas Production, Mcf per day | _____ | _____ |
| Water Production, bbls. per day | _____ | _____ |
| Gas-Oil Ratio, cu. ft. per bbl. | _____ | _____ |
| Gas Well Potential, Mcf per day | _____ | _____ |
| Witnessed by _____ | | |

(Company)

OIL CONSERVATION COMMISSION

Name _____
Title _____
Date _____

I hereby certify that the information given above is true and complete to the best of my knowledge.
Name Ray C Wells
Position Asst. Chief Division Prod. Engineer
Company The Pure Oil Company

NEW MEXICO OIL CONSERVATION COMMISSION
MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

COMPANY The Pure Oil Company - Box 2107 - Fort Worth, Texas
(Address)

LEASE South Vacuum Unit WELL NO. 2-35 UNIT I S 35 T 18-S R 35-E
DATE WORK PERFORMED 10-2-58 POOL South Vacuum

This is a Report of: (Check appropriate block) ☒ Results of Test of Casing Shut-off
☐ Beginning Drilling Operations ☐ Remedial Work
☐ Plugging ☐ Other _____

Detailed account of work done, nature and quantity of materials used and results obtained.

Ran 2028' of 5" OD Hydril flush joint casing with float and guide shoe at 13881' with plug latch collar at 13840', 5" x 6" casing hanger set in 7" casing at 11864', collapsible packer at 11853', Cemented 5" liner with 205 sacks, maximum pressure 2200#, 2nd stage: ran Baker retrievable cementing tool to 11753', cemented 5" liner with 115 sacks maximum pressure 400#, job complete 6:00 AM 9-9-58. 36 hours WOC. Tested casing, cement and control equipment with 1000# for 30 minutes, held OK.

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. _____ TD _____ PBD _____ Prod. Int. _____ Compl Date _____
Tbng. Dia _____ Tbng Depth _____ Oil String Dia _____ Oil String Depth _____
Perf Interval (s) _____
Open Hole Interval _____ Producing Formation (s) _____

RESULTS OF WORKOVER:

| | BEFORE | AFTER |
|---------------------------------|--------|-------|
| Date of Test | _____ | _____ |
| Oil Production, bbls. per day | _____ | _____ |
| Gas Production, Mcf per day | _____ | _____ |
| Water Production, bbls. per day | _____ | _____ |
| Gas-Oil Ratio, cu. ft. per bbl. | _____ | _____ |
| Gas Well Potential, Mcf per day | _____ | _____ |
| Witnessed by _____ | | |

(Company)

OIL CONSERVATION COMMISSION

Name _____
Title _____
Date _____

I hereby certify that the information given above is true and complete to the best of my knowledge
Name Ray C Wells
Position Asst. Chief Division Prod. Engineer
Company The Pure Oil Company

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

6-1-56

PACKER-SETTING AFFIDAVIT
(Dual Completions)

STATE OF New Mexico)
County of Lea) ss

L. M. Williams, being first duly sworn according to law, upon his oath deposes and says:

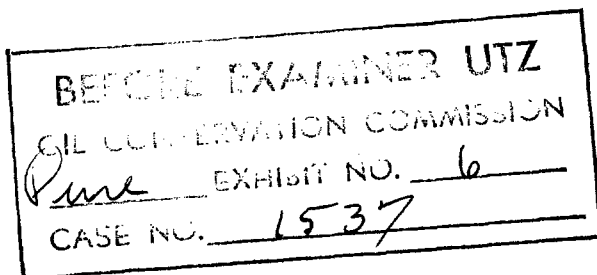
That he is of lawful age and has full knowledge of the facts herein below set out.

That he is employed by The Pure Oil Company in the capacity of Production Engineer and as such is its authorized agent.

That on 9-20, 1958, he personally supervised the setting of a Guiberson Hookwall in The Pure Oil Company's
(Make and Type of Packer) (Operator)
South Vacuum Unit Well No. 2-35, located in Unit
(lease)
Letter I, Section 35, Township 18-S, Range 35-E, NMPM,
Lea County, New Mexico.

That said packer was set at a subsurface depth of 11791 feet, said depth measurement having been furnished by District Office.

That the purpose of setting this packer was to effect a seal in the annular space between the two strings of pipe where the packer was set so as to prevent the commingling, within the well-bore, of fluids produced from a stratum below the packer with fluids produced from a stratum above the packer. That this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.



The Pure Oil Company
(Company)

L. M. Williams
(its Agent)

Subscribed and sworn to before me this the 18th day of Nov., AD, 1958.

John L. Suttle JOHN L. SUTTLE
Notary Public in and for the County
of Tarrant

My Commission Expires June 1, 1959.

EXHIBIT 6

NEW MEXICO
OIL CONSERVATION COMMISSION

4-1-56

PACKER LEAKAGE TEST

Operator The Pure Oil Company Pool (Upper Completion) Devonian
Lease South Vacuum Unit Well 2-35 Pool (Lower Completion) McKee
Location: Unit I, S. 35, T 18-S R 35-E Lea County, N. M.

Pre-Test Shut-In

| | Upper Completion | Lower Completion |
|---|--------------------------|-------------------------|
| Shut-in at (hour, date)..... | <u>7:00 AM 10-26-58</u> | <u>7:00 AM 10-24-58</u> |
| Pressure stabilized at (hour, date)..... | <u>10:00 AM 10-26-58</u> | <u>7:00 AM 10-25-58</u> |
| Length of time required to stabilize (hours)..... | <u>3</u> | <u>24</u> |

Flow Test No. 1

Test commenced at (hour, date) 10:00 PM 10-27-58 Choke size 32/64
Completion producing McKee Completion shut-in Devonian

| | Upper Completion | Lower Completion |
|---|--------------------|---------------------|
| Stabilized pressure at beginning of test..... | <u>778 DWT</u> psi | <u>3498 DWT</u> psi |
| Maximum pressure during test..... | <u>778 DWT</u> psi | <u>3498</u> psi |
| Minimum pressure during test..... | <u>778 DWT</u> psi | <u>80</u> psi |
| Pressure at end of test..... | <u>778 DWT</u> psi | <u>80</u> psi |
| Maximum pressure change during test..... | <u>0</u> psi | <u>3418</u> psi |
| Oil flow rate during test: <u>22.9</u> BOPD based on <u>13.37</u> BO in | | <u>14</u> hours. |
| Gas flow rate during test: <u>511</u> MCFPD based on <u>298</u> MCF in | | <u>14</u> hours. |

Mid-Test Shut-In

| | Upper Completion | Lower Completion |
|---|--------------------------|--------------------------|
| Shut-in at (hour, date)..... | <u>7:00 AM 10-26-58</u> | <u>10:00 AM 10-29-58</u> |
| Pressure stabilized at (hour, date)..... | <u>10:00 AM 10-26-58</u> | <u>10:00 AM 10-30-58</u> |
| Length of time required to stabilize (hours)..... | <u>2</u> | <u>24</u> |

Flow Test No. 2

Test commenced at (hour, date) 1:00 PM 10-30-58 Choke size 7/64"
Completion producing Devonian Completion shut-in McKee

| | Upper Completion | Lower Completion |
|--|--------------------|---------------------|
| Stabilized pressure at beginning of test..... | <u>778 DWT</u> psi | <u>3280 DWT</u> psi |
| Maximum pressure during test..... | <u>778</u> psi | <u>3280</u> psi |
| Minimum pressure during test..... | <u>647 DWT</u> psi | <u>3280</u> psi |
| Pressure at end of test..... | <u>647 DWT</u> psi | <u>3280</u> psi |
| Maximum pressure change during test..... | <u>131</u> psi | <u>200</u> psi |
| Oil flow rate during test: <u>180</u> BOPD based on <u>30</u> BO in | | <u>4</u> hours. |
| Gas flow rate during test: <u>13.5</u> MCFPD based on <u>3.38</u> MCF in | | <u>4</u> hours. |

Test performed by L. M. Williams Title Production Engineer

Witnessed by N. J. Littlejohn Title Production Foreman

REMARKS: Elements in recorder were 4000 psi; chart range was 0-500 psi. Therefore true
pressure = chart pressure x 8.0
Blue curve is McKee - Red curve is Devonian

NOTE: Recording gauge pressure charts, test data sheet, and a graphic depiction of all phases of the test shall be submitted with this report.

AFFIDAVIT:

I HEREBY CERTIFY that all conditions prescribed by Oil Conservation Commission of the State of New Mexico for this packer leakage test were complied with and carried out in full, and that all dates and facts set forth in this form and all attached material are true and correct.

L. M. Williams For The Pure Oil Company
(Representative of Company Making Test) (Company Making Test)

SWORN TO AND SUBSCRIBED before me this the 18th day of November, 19 58

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Pure EXHIBIT NO. 7
CASE NO. 2537

John L. Scott JOHN L. SCOTT
Notary Public in and for the County of Tarrant
State of Texas
(OVER)

EXHIBIT 7

INSTRUCTIONS
(SOUTHEAST NEW MEXICO ONLY)

1. At least 24 hours prior to the commencement of this test, the operator shall notify the District Office of the Oil Conservation Commission in writing of the exact time said test is to be commenced.
2. The packer leakage test shall commence with both sides of the completion shut-in. Both sides of the completion must be shut-in a sufficient length of time to allow for complete stabilization of both wellhead pressures, and for a minimum of 2 hours thereafter- this minimum of 2 hours shut-in must show on the charts of the pressure recorder and also must appear on the data sheet.
3. For Flow Test No. 1, one side of the dual completion shall be produced with the other side shut-in. Such test shall be continued until the flowing wellhead pressure has become stabilized and for a minimum of 2 hours thereafter, and shall be at a rate of flow approximating the normal rate of flow for the zone being produced.
4. Following the completion of flow test No. 1, the well will again be shut-in, and remain so until the wellhead pressures have again become stabilized and for a minimum of 2 hours thereafter.
5. Flow Test No. 2 shall be performed with the previously shut-in side of the dual completion flowing and with the flowing side of the completion used in test number 1 remaining shut-in. This test shall be conducted exactly as outlined under Flow Test No. 1, and must be performed even though no leak was indicated by Flow Test No. 1.
6. All pressures, throughout the entire test, must be continuously measured and recorded with recording pressure gauges.
7. The accuracy of the recording gauges shall be checked at regular intervals throughout the test with a dead weight test gauge, and such readings shall be recorded on the test data sheet provided.
8. For any well on which the wellhead pressures will not stabilize in (24) twenty four hours or less, the minimum producing or shut-in time allowed for stabilization shall be (24) twenty-four hours.
9. This form must be completed and filed in duplicate with the District Office of the Oil Conservation Commission within 15 days following the completion of the testing, and must be accompanied by:
 - a. all of the charts, or copies thereof, used on the pressure Recorders during the test.
 - b. the test data-sheet (s), or copies thereof, required under paragraph 7 above.
 - c. a graph depicting the pressures and their changes, for both sides of the completion over the entire test.
10. This packer leakage test shall be performed upon dual completion of any new wells so approved by the Commission. This test shall also be required each year during the annual GOR test for the lowermost oil zone or oil pool so concerned. The Commission may also request packer leakage tests at any time they feel that a new test is desirable.

NEW MEXICO
OIL CONSERVATION COMMISSION

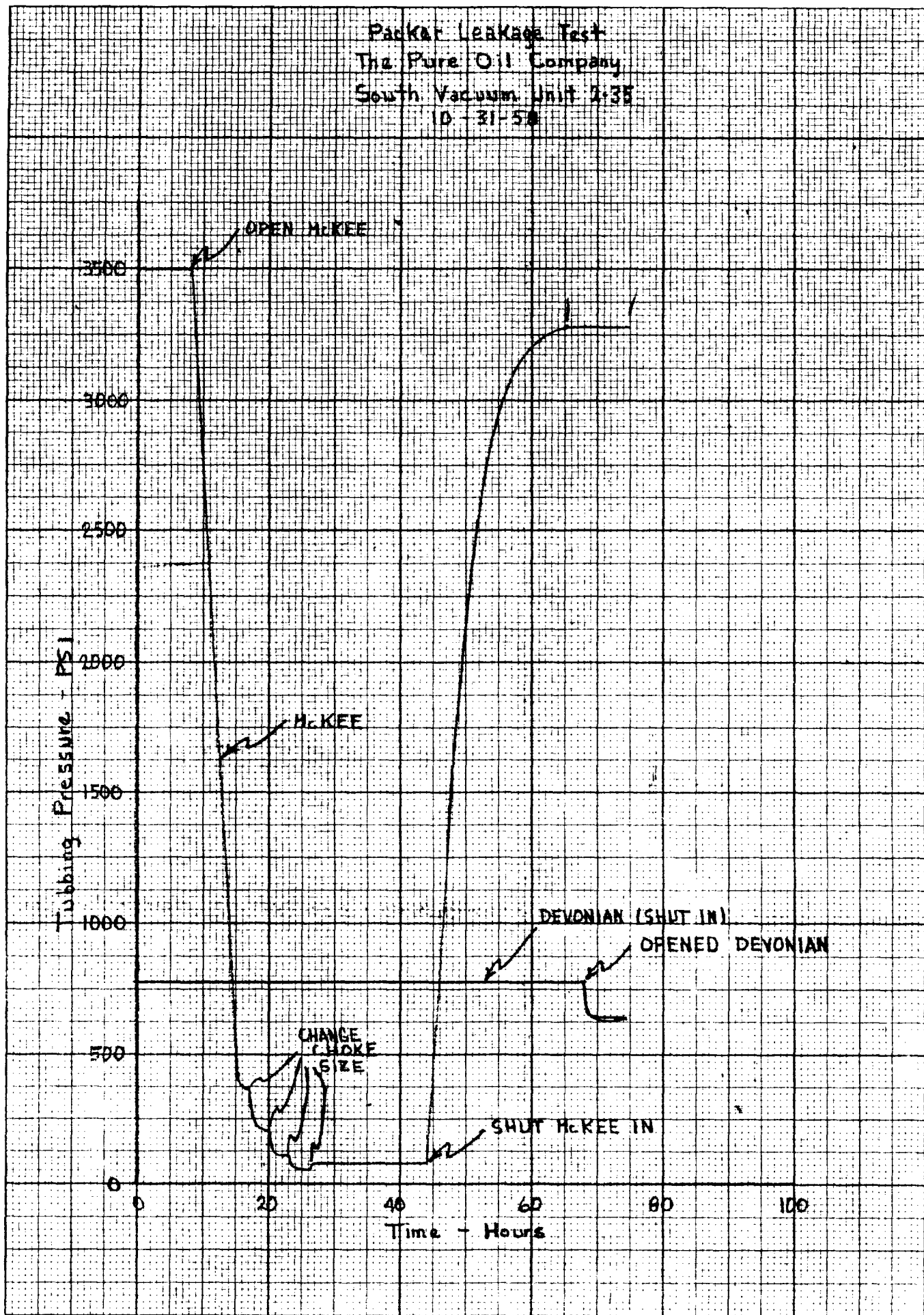
PACKER LEAKAGE TEST

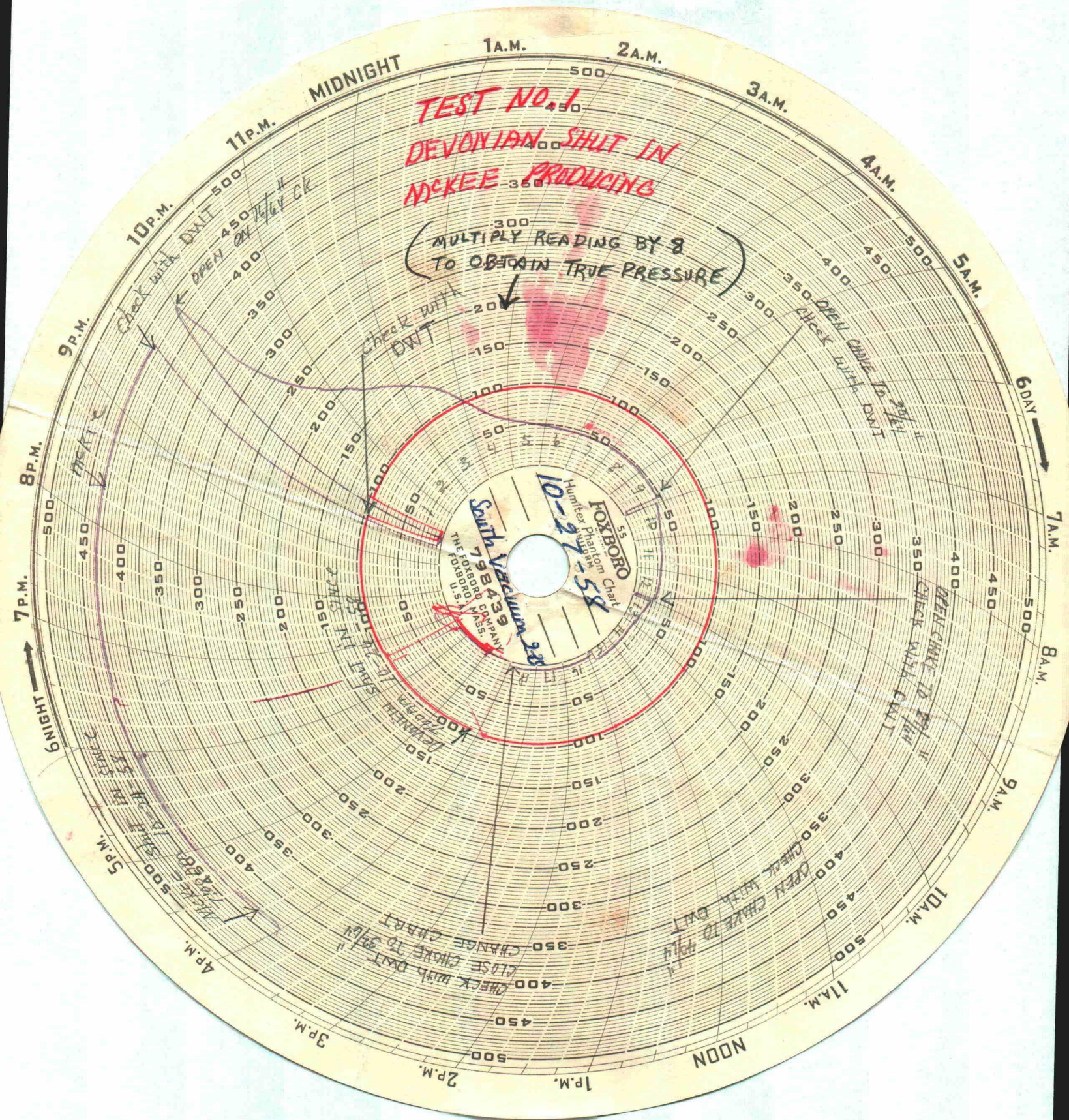
| | | | |
|------------|--|----------|------|
| OPERATOR | The Pure Oil Company | | |
| LEASE NAME | South Vacuum Unit | WELL NO. | 2-35 |
| LOCATION | 660' FEL & 1980' FSL, S-35, T-18-S, R-35-E | COUNTY | Lea |

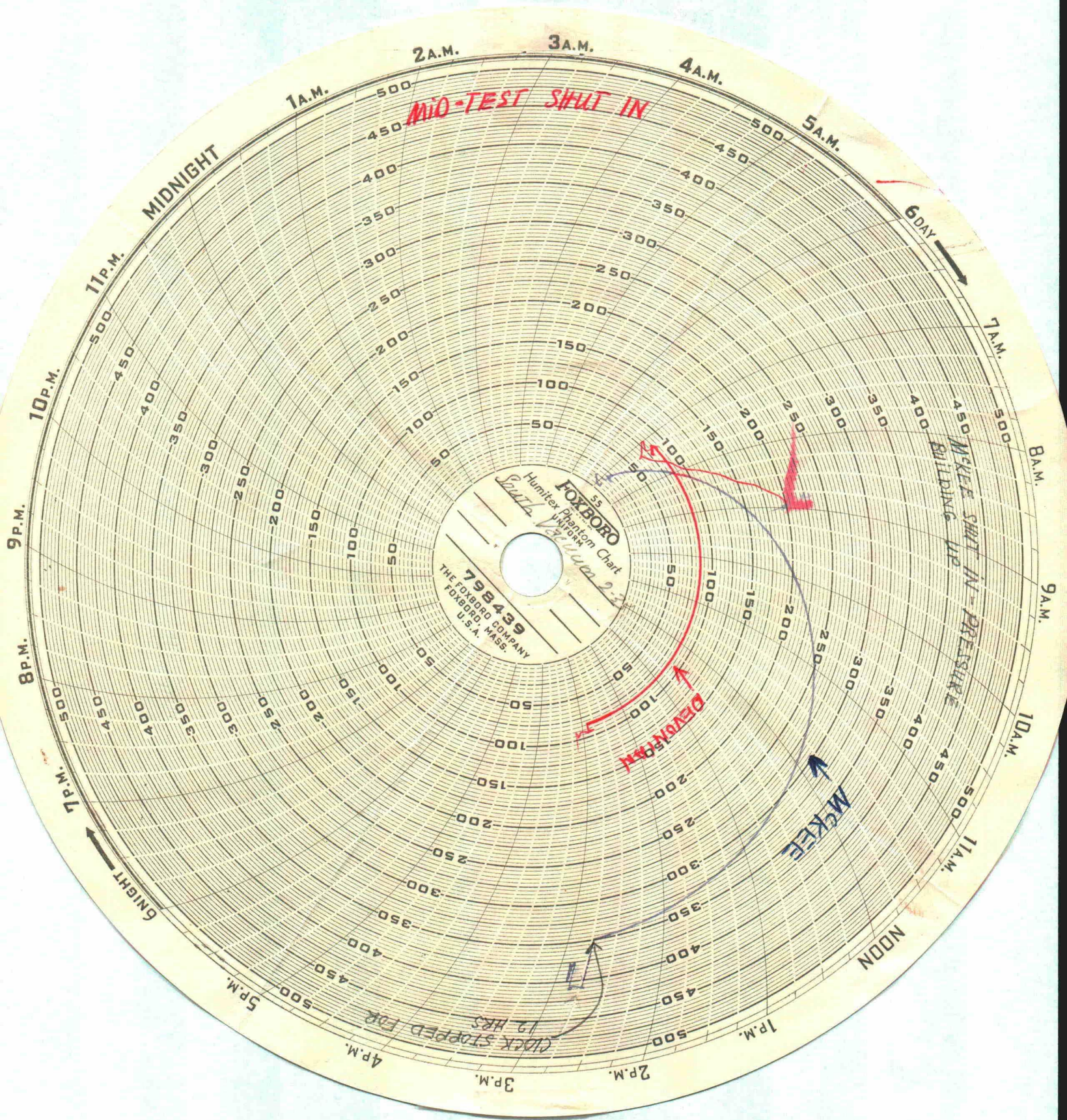
TEST DATA SHEET

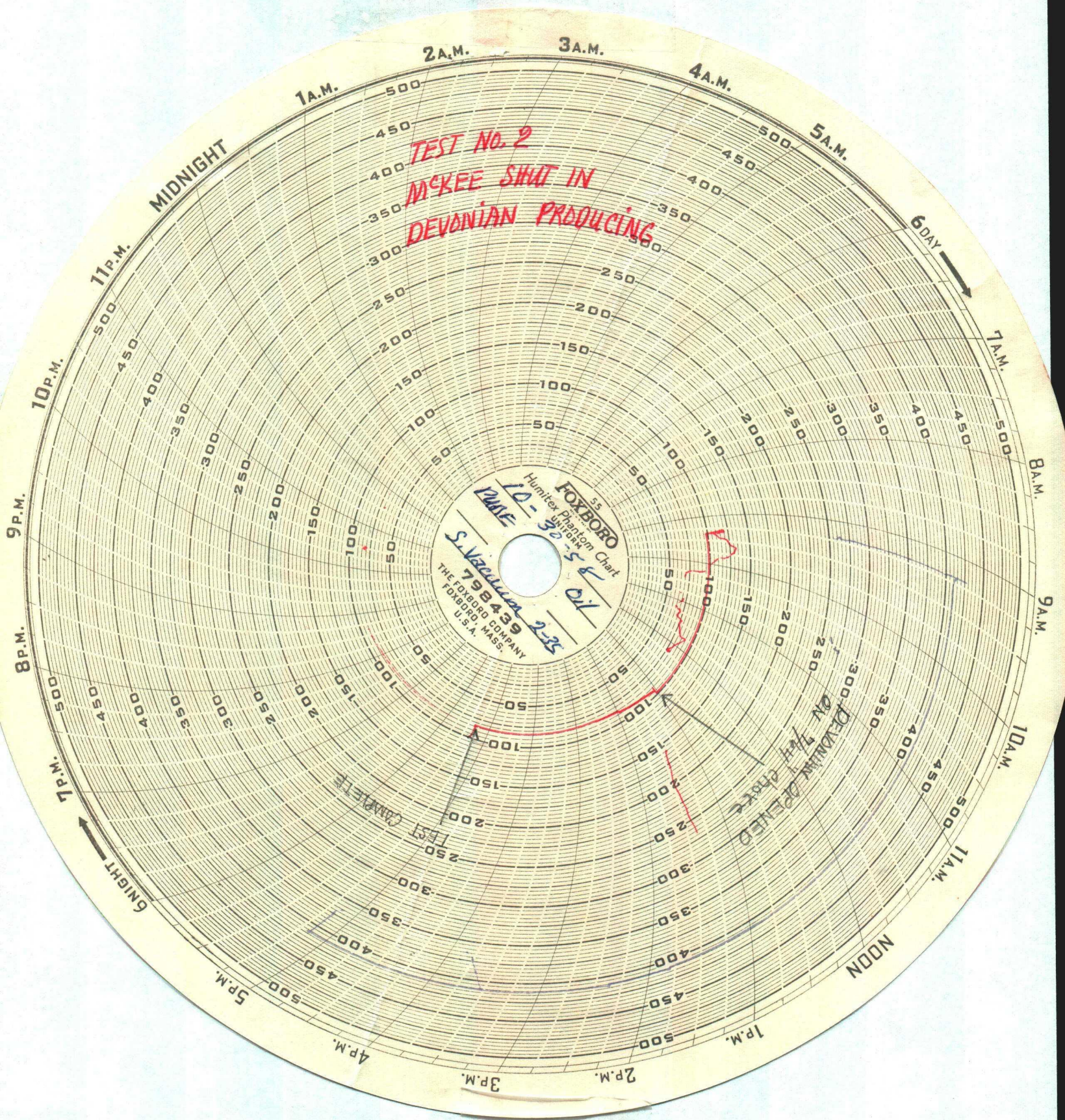
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EXHIBIT 7









NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR The Pure Oil Company POOL South Vacuum Devonian
ADDRESS Box 2107, Fort Worth, Texas MONTH OF November, 1958
SCHEDULED TEST _____ COMPLETION TEST X SPECIAL TEST _____ (Check One)
(See Instructions on Reverse Side)

| Lease | Well No. | Date of Test | Producing Method | Choke Size | Test Hours | Daily Allowable Bbls. | Production During Test | | | GOR Cu. Ft. Per Bbl. |
|--|----------|--------------|-----------------------------------|------------|-------------------|-----------------------|------------------------|-----------|---------|----------------------|
| | | | | | | | Water Bbls. | Oil Bbls. | Gas MCF | |
| South Vacuum Unit | 2-35 | 11/3/58 | F | 6/64 | 24 | 193 | 8 | 216 | 16.2 | 75 |
| Note: | | | Gravity of crude | | 49.5° API @ 60° F | | | | | |
| | | | Specific Gravity of Separator Gas | | 0.850 | | | | | |
| <div>BEFORE EXAMINER UTZ OIL CONSERVATION COMMISSION <i>Pure</i> EXHIBIT NO. <u>8</u> CASE NO. <u>1537</u></div> | | | | | | | | | | |

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date November 18, 1958

The Pure Oil Company
By *Larry C. Wells*
Ass't. Div. Production Engineer
Title

EXHIBIT 8

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool South Vacuum Formation McKee County Lea
Initial X Annual _____ Special _____ Date of Test 10-27-58
Company The Pure Oil Company Lease South Vacuum Unit Well No. 2-35
Unit I Sec. 35 Twp. 18-S Rge. 35-E Purchaser Phillips Petroleum Company
Liner 5" Wt. 17.93 I.D. 4.276 Set at 13881 Perf. 13620 To 13823
Tubing 2 Wt. 4.70 I.D. 1.995 Set at 13622 Perf. Open Ended To _____
Gas Pay: From 13620 To 13823 L 13721 xG 0.801 -GL 11000 Bar.Press. 30.18" Hg.
Producing Thru: Casing _____ Tubing X Type Well G. O. Dual
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 9-28-58 Packer Guiberson Hookwa Reservoir Temp. 200° F 165° F

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps Flange

| Flow Data | | | | | | Tubing Data | | Casing Data | | Duration of Flow Hr. |
|-----------|----------------------------|------------------------------|----------------|-------------------------|--------------|----------------|--------------|----------------|--------------|----------------------------|
| No. | (Prover) (Line) Size | (Choke) (Orifice) Size | Press. psig | Diff. h _w | Temp. °F. | Press. psig | Temp. °F. | Press. psig | Temp. °F. | |
| SI | | | | | | 3498 | 78 | Packer | | 64 |
| 1. | 4.026 | 2.000 | 26 | 11 | 44 | 368 | 76 | | | 9 |
| 2. | 4.026 | 2.000 | 26 | 11 | 44 | 211 | 76 | | | 3 |
| 3. | 4.026 | 2.000 | 26 | 11 | 45 | 110 | 75 | | | 3 |
| 4. | 4.026 | 2.000 | 26 | 11 | 45 | 82 | 75 | | | 3 |
| 5. | 4.026 | 2.000 | 26 | 11 | 44 | 53 | 75 | | | 24 |

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. | 25.580 | 20.8 | 26 | 1.0157 | 0.9325 | | 502.0 |
| 2. | 25.580 | 20.8 | 26 | 1.0157 | 0.9325 | | 502.0 |
| 3. | 25.580 | 20.8 | 26 | 1.0157 | 0.9325 | | 502.0 |
| 4. | 25.580 | 20.8 | 26 | 1.0157 | 0.9325 | | 502.0 |
| 5. | 25.580 | 20.8 | 26 | 1.0157 | 0.9325 | | 502.0 |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 22,300 cf/bbl.
Gravity of Liquid Hydrocarbons 56.3 @ 60 deg.
T_c 2.936 (1-e^{-s}) 0.570
Specific Gravity Separator Gas 0.688
Specific Gravity Flowing Fluid 0.801
P_c 3498 P_c 12236004

| No. | P _w P _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. | 368 | 135.2 | 4975 | 24.75 | 13.10 | 148.3 | 12088 | 384.5 | 10.72 |
| 2. | 211 | 44.5 | 4975 | 24.75 | 13.10 | 57.6 | 12178 | 240.0 | 6.85 |
| 3. | 110 | 12.1 | 4975 | 24.75 | 13.10 | 25.2 | 12211 | 158.0 | 4.51 |
| 4. | 82 | 6.72 | 4975 | 24.75 | 13.10 | 19.84 | 12216 | 141.0 | 4.04 |
| 5. | 53 | 2.81 | 4975 | 24.75 | 13.10 | 15.91 | 12220 | 126.0 | 3.61 |

Absolute Potential: 502 MCFPD; n = 00

COMPANY The Pure Oil Company
ADDRESS Box 2107, Fort Worth, Texas
AGENT and TITLE R. M. Williams Production Engineer
WITNESSED N. J. Littlejohn
COMPANY The Pure Oil Company

REMARKS

| |
|-----------------------------|
| BEFORE EXAMINER UTZ |
| OIL CONSERVATION COMMISSION |
| EXHIBIT NO. <u>9</u> |
| CASE NO. <u>1537</u> |

EXHIBIT 9

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w).
MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.
psia

P_w = Static wellhead working pressure as determined at the end of flow period.
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if
flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

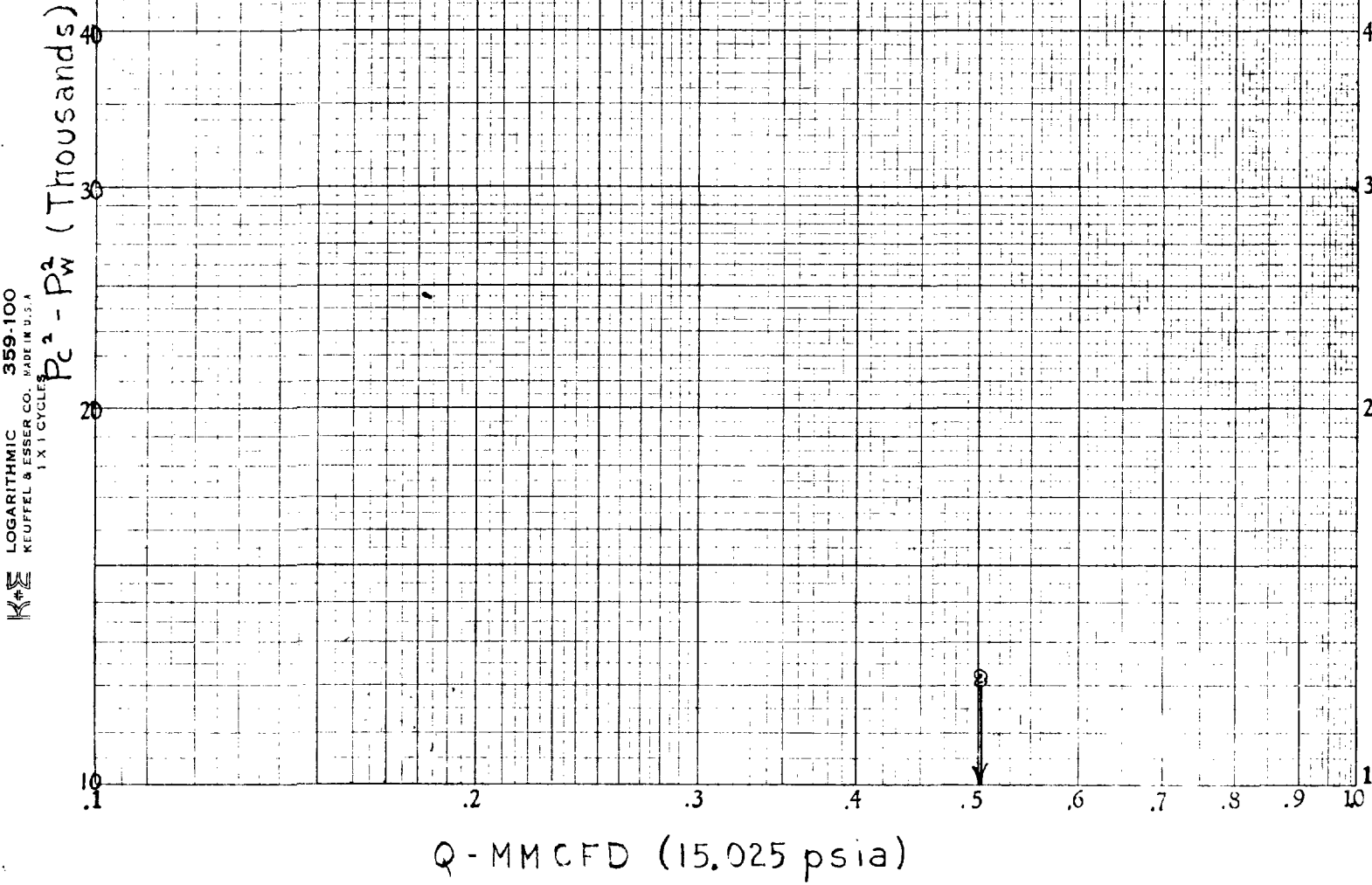
F_t = Flowing temperature correction factor.

F_{pv} = Supercompressibility factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_c .

COMPANY The Pure Oil Company
WELL South Vacuum Unit 2-35
LOCATION I-35-18S-35E
COUNTY Lea
DATE 10-31-58



NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-124
(Rev. 9-53)

COMPANY The Pure Oil Company BOTTOM HOLE PRESSURES South Vacuum - Devonian POOL
POOL DATUM - 7550' NOMINAL SHUT-IN TIME 26 HRS: AVERAGE POOL TEMPERATURE 150 F°

| LEASE NO. | WELL NO. | UNIT | S-T-R | DATE RUN | PRESS. S.I. | TIME S.C.F. | GAUGE DEPTH | GRADIENT B.H.P. @ TBG. | B.H.P. @ POOL DATUM | PREVIOUS TEST @ DATUM | DATE |
|-------------------|----------|------|------------|----------|-------------|-------------|-------------|------------------------|---------------------|-----------------------|------|
| | | | | | | | | | | | |
| South Vacuum Unit | 2-35 | I | 35-188-35E | 10/27/58 | 26/0 | 3860' | 7842' | 0.505 | 4808 | 4666 | none |

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Pure EXHIBIT NO. 110
CASE NO. 1537

