

**PENNZOIL UNITED, Inc.**

WESTERN DIVISION OFFICE • WALL TOWERS WEST - MIDLAND, TEXAS • PHONE (915) 682-7316
MAILING ADDRESS: P. O. DRAWER 1828 MIDLAND, TEXAS 79701

NOV 23 AM 8 26

November 16, 1970

Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

DHC-75
Due Dec 14

Attention: Mr. A. L. Porter, Jr. - Secretary-Director

Re: Gallagher "8" State No. 1
Vacuum Northwest Penn & Wolfcamp Fields
Lea County, New Mexico

Gentlemen:

Pennzoil United, Inc., hereby seeks the approval of the Oil Conservation Commission for down-hole commingling for the above captioned well, under the provisions of Rule 303, C of the Commission's Rules and Regulations.

This well was spudded on August 31, 1968 and reached a total depth of 11,825 feet on October 26, 1968. During the drilling of the well, oil was recovered on drill stem tests in both the lower Wolfcamp and Penn formations. The well was completed by setting 4 1/2-inch casing at 11,824 feet and perforating the Penn at 11,712-725 feet. On potential test the well flowed 433 BOPD, FTP 800# with a gas:oil ratio of 880 CFPB. The well was produced by flowing until April, 1970 when it was necessary to put it on the pump. The well was pumped for several months and then re-completed to the Wolfcamp. During June, 1970 average production from the Penn zone was 10 BOPD and no water.

The re-completion was accomplished by perforating 10,929-939 feet and treating with 5,500 gallons of acid. A bridge plug was set at 11,050 feet to separate the Wolfcamp and Penn completions. The Wolfcamp completion did not flow and has now produced for about 3 months on the pump. Average production for October, 1970 was 7 BOPD and approximately 25 BWPB. A plat is attached which shows the location of this well and other wells completed in the Vacuum Northwest Penn and Wolfcamp Fields.

In accordance with Rule 303, C, 2, the following data is submitted in support of this application:

- (a) Operator: Pennzoil United, Inc.
P. O. Drawer 1828
Midland, Texas 79701

(b) Well Name and Location:

Gallagher "8" State No. 1
 660 FNL & 510 FWL of Sec. 8, T-17-S, R-34-E
 Lea County, New Mexico

(c) Pool Names:

Vacuum, Northwest Penn Field
 Vacuum, Northwest Wolfcamp Field

The well is not and has never been a dual completion.

(d) Production Tests:

Penn - June, 1970, Pump 10 BOPD, no water, GOR 2348 CFPB
Wolfcamp - October, 1970, Pump 7 BOPD, 25 BWP, GOR 6080 CFPB

(e) A production decline curve is attached for the Penn zone. During the last two months of production from the Penn zone, the well pumped an average of 8.08 BOPD, no water.

During October, the Wolfcamp zone pumped an average of 6.71 BOPD plus 25 BWP. It is recommended that this production data be used as the basis for allocating 55% of the well's commingled production to the Penn and 45% to the Wolfcamp.

Forms C-103 and C-105 are attached which contain a complete summary of the well's completion history.

(f) Estimated Bottom Hole Pressure:

<u>Penn:</u>	<u>Date</u>	<u>BHP</u>	<u>Cum. Production</u>	<u>Remarks</u>
	11-68	7900 psi	0 B0	Estimated based on offset wells.
	12-10-68	6405 psi	5,314 B0	73 hrs S.I.
	7-28-69	2918 psi	28,044 B0	75 hrs. S.I.
	11-70	2000 psi	35,000 B0	Estimated based on BHP vs. cumulative oil production curve.
<u>Wolfcamp:</u>				
	11-68	3790 psi	0 B0	Based on drill stem test.
	11-70	2900 psi	659 B0	Estimated based on BHP vs. cumulative oil production curve for Sinclair "6" State No. 1 (BHP 2790 psi after producing 1027 B0).

The above estimated pressures for the Penn and Wolfcamp reservoirs are static shut-in bottom hole pressures, and due to the low permeability of these reservoirs it would take several days for the pressure to build-up to these values after the well is shut in. If this application is approved, it is planned to pump the well with the pump set at approximately 11,690 feet. The pump will be of sufficient capacity to handle all the fluid entering the well bore. Under this condition the producing bottom hole pressure in the well bore for both zones will be very low and will for all practical purposes be equalized. Unless the well were shut down for several days, allowing the fluid level in the well bore to build-up, there would be little chance for cross-flow to take place between the zones.

- (g) Attached are copies of the Permian Corporation's run tickets which show the gravities of the oil for both zones - 38.7⁰ API for the Penn and 39.7⁰ API for the Wolfcamp. Also attached is a copy of an analysis of water recovered from the Wolfcamp zone. The Penn zone did not make water. Based on the above, no incompatibility problems are anticipated between the fluids produced from these reservoirs.
- (h) The price received for the oil from this well is \$3.31 per barrel for 40⁰ API and above with a 2¢ reduction per ⁰ API below 40⁰ API. The average price received for the Penn oil for four months before the re-completion was \$3.2702 per barrel. The average price received for the Wolfcamp oil since the re-completion has been \$3.2766 per barrel.
- (i) By a copy of this application the offset operators shown in the distribution have been notified of this proposed commingling.

Ownership of the Penn and Wolfcamp zones in this well is common as to working interest, royalty interest and overriding royalty interest.

The commingling of these zones will not jeopardize the efficiency of future secondary recovery operations. Neither reservoir is considered to be a prospect for secondary recovery.

It is respectfully requested that this application be approved.

Yours very truly,



B. C. Sinclair
Petroleum Engineer

cc: NMOCC - Hobbs
Monsanto Company
Yates Petroleum Corporation
Mobil Oil Corporation
King Resources
Atlantic Richfield Company
Southern Union Production Company

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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

NOV 23 AM 8 26

5a. Indicate Type of Lease
State Fee

5. State Oil & Gas Lease No.

E - 1085

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER- <input type="checkbox"/>	7. Unit Agreement Name
2. Name of Operator Pennzoil United, Inc.	8. Farm or Lease Name Gallagher "8" State
3. Address of Operator P. O. Drawer 1828 - Midland, Texas 79701	9. Well No. 1
4. Location of Well UNIT LETTER <u>D</u> <u>660</u> FEET FROM THE <u>North</u> LINE AND <u>510</u> FEET FROM THE <u>West</u> LINE, SECTION <u>8</u> TOWNSHIP <u>17-S</u> RANGE <u>34-E</u> NMPM.	10. Field and Pool, or Wildcat N.W. Vacuum Wolfcamp
15. Elevation (Show whether DF, RT, GR, etc.) 4106 GL	12. County Lea

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	OTHER <u>Plug back to Wolfcamp from Penn</u> <input checked="" type="checkbox"/>

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

- 8-5-70 Set BP @ 11,050'. Jet perf 2 holes at following depths: 10,929-930', 931', 939', 977, & 978'.
- 8-6-70 Treated pfs. w/500 gals mud acid. Swabbed dry.
- 8-8-70 Re-treated w/1500 gals retarded acid. Swabbed all load of 79 bbls.
- 8-9-70 Swabbed 10 B0 & 70 BXW
- 8-10-70 Swabbed 5 B0 & 72 BXW
- 8-13-70 Squeezed all pfs. w/50 sx Incor cement. Maximum squeeze pressure 4,000#
- 8-14-70 Drilled out good cement through perforated interval.
- 8-15-70 Re-perforate 2 holes @ following depths: 10,929, 930, 931, 938, & 939'. Treated w/500 gals mud acid
- 8-16-70 Swabbed load & swbd dry. Re-treated w/2,000 gals 15% NE acid + 3,000 gals re-tarded acid. Swabbed back all load.
- 8-17-70 Swbd. 2 B0 & 66 BXW
- 8-20-70 Put well on pump
- 8-21-70 to 10-28-70. Testing on pump.
- 10-28-70 Completed potential test. Pumped 8.28 B0 + 25 BW 24 hrs, GOR 6080.

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED Charles H. Brown TITLE Mgr. Drilling & Production DATE 11-5-70

APPROVED BY [Signature] TITLE SUPERVISOR DISTRICT DATE 11-5-70

CONDITIONS OF APPROVAL, IF ANY:

106 File

1970 Nov 23 PM 8:25

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101 Revised 1-1-65

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5A. Indicate Type of Lease
STATE FEE

5. State Oil & Gas Lease No.
E - 1085

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

b. Type of Well
 DRILL DEEPEN PLUG BACK
 OIL WELL GAS WELL OTHER
 SINGLE ZONE MULTIPLE ZONE

2. Name of Operator
Pennzoil United, Inc.

3. Address of Operator
P. O. Drawer 1828 - Midland, Texas 79701

4. Location of Well
 UNIT LETTER D LOCATED 660 FEET FROM THE North LINE
 AND 510 FEET FROM THE West LINE OF SEC. 8 TWP. 17-S RGE. 34-E NMPM

7. Unit Agreement Name

8. Farm or Lease Name
Gallagher "8" State

9. Well No.
1

10. Field and Pool, or Wildcat
N.W. Vacuum Penn

12. County
Lea

19. Proposed Depth

19A. Formation

20. Rotary or C.T.

21. Elevations (Show whether DF, RT, etc.)
4106 GL

21A. Kind & Status Plug. Bond

21B. Drilling Contractor

22. Approx. Date Work will start
Immediately

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP

Present zone (11,712-725' Penn) pumping 8 BO & 1 BW per day. - Propose to set BP @ 10,990' and perforate Lower Wolfcamp from 10,929 - 930 - 931 - 939 - 977 and 978'. Manually operated dual preventers will be used. - Operator may later request permission for downhole commingling of these two zones.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM; IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE, GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Charles G. Brown Title Mgr. of Drilling & Prod. Date August 4, 1970

(This space for State Use)

APPROVED BY John A. Clements TITLE Oil & Gas Inspector DATE AUG 6 1970

CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

NOV 13 11 21 AM '66

70 NOV 23 1966

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5a. Indicate Type of Lease
State Fee

5. State Oil & Gas Lease No.
E - 1085

1a. TYPE OF WELL
OIL WELL GAS WELL DRY OTHER _____

b. TYPE OF COMPLETION
NEW WELL WORK OVER DEEPEN PLUG BACK DIFF. RESVR. OTHER _____

7. Unit Agreement Name

8. Farm or Lease Name
Gallagher "8" State

2. Name of Operator
Pennzoil United, Inc.

3. Address of Operator
P. O. Drawer 1828 - Midland, Texas 79701

9. Well No.
1

10. Field and Pool, or Wildcat
Wildcat

4. Location of Well
UNIT LETTER **D** LOCATED **660** FEET FROM THE **North** LINE AND **510** FEET FROM

THE **West** LINE OF SEC. **8** TWP. **17-S** RGE. **34-E** NMPM

12. County
Lea

15. Date Spudded **8-31-68** 16. Date T.D. Reached **10-26-68** 17. Date Compl. (Ready to Prod.) **11-8-68**

18. Elevations (DF, RKB, RT, GR, etc.) **4106' GL** 19. Elev. Casinghead **4106'**

23. Intervals Drilled By
Rotary Tools
Cable Tools
0 - 11,825'

20. Total Depth **11,825'** 21. Plug Back T.D. **11,770'**

22. If Multiple Compl., How Many

24. Producing Interval(s), of this completion - Top, Bottom, Name
11,712 - 11,725' Cisco

25. Was Directional Survey Made
No

26. Type Electric and Other Logs Run
Sonic, Gamma Ray, Neutron, Electric, Microlog

27. Was Well Cored
No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	48#	379	17 1/2	345 SX	None
8 5/8"	24# & 32#	4,312	11	490 SX	None
4 1/2"	11.60# & 13.58	11,825	7 7/8	940 SX	None

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 3/8"	11,675	11,675

31. Perforation Record (Interval, size and number)

11,712 - 716'	.43"	5 holes
11,720 - 721'	.43"	2 holes
11,723 - 725'	.43"	3 holes

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
11,712 - 725'	None

33. PRODUCTION

Date First Production **11-8-68** Production Method (Flowing, gas lift, pumping - Size and type pump) **Flow** Well Status (Prod. or Shut-in) **Shut-in**

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas-Oil Ratio
11-8-68	24	16/64"		433	381	0	880:1

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)
800	Pkr					40.8

34. Disposition of Gas (Sold, used for fuel, vented, etc.) **Vented** Test Witnessed By **Rodney C. Boyd**

35. List of Attachments
Electric log, Hole deviation, DST results, Forms C-103

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED *Charles M. Brown* TITLE **Manager of Production** DATE **11-12-68**

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy _____	T. Canyon _____	T. Ojo Alamo _____	T. Penn. "B" _____
T. Salt _____	T. Strawn _____	T. Kirtland-Fruitland _____	T. Penn. "C" _____
B. Salt _____	T. Atoka _____	T. Pictured Cliffs _____	T. Penn. "D" _____
T. Yates _____	T. Miss _____	T. Cliff House _____	T. Leadville _____
T. 7 Rivers _____	T. Devonian _____	T. Menefee _____	T. Madison _____
T. Queen _____	T. Siluriap _____	T. Point Lookout _____	T. Elbert _____
T. Grayburg _____	T. Montoya _____	T. Mancos _____	T. McCracken _____
T. San Andres <u>4613</u>	T. Simpson _____	T. Gallup _____	T. Ignacio Qtzte _____
T. Glorieta <u>6018</u>	T. McKee _____	Base Greenhorn _____	T. Granite _____
T. Paddock <u>6110</u>	T. Ellenburger _____	T. Dakota _____	T. _____
T. Blinebry _____	T. Gr. Wash _____	T. Morrison _____	T. _____
T. Tubb <u>7375</u>	T. Granite _____	T. Todilto _____	T. _____
T. Drinkard _____	T. Delaware Sand _____	T. Entrada _____	T. _____
T. Abo <u>8075</u>	T. Bone Springs _____	T. Wingate _____	T. _____
T. Wolfcamp <u>9870</u>	T. _____	T. Chinle _____	T. _____
T. Penn. <u>11415</u>	T. _____	T. Permian _____	T. _____
T. Cisco (Bough C) <u>11606</u>	T. _____	T. Penn. "A" _____	T. _____

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	300	300	Surface sand & shale				
300	4645	4345	Sd, Sh, Salt & Anhy & Dolomite				
4645	6018	1373	Dolo, Lm & Chert				
6018	8075	2057	Dolo, Lm & Sand				
8075	9870	1795	Sh, Lm, Dolo & Anhy				
9870	11825	1955	Lm, Dolo & Shale				

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OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

Nov 13 11 21 AM '68

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

70 NOV 23 AM 8 26

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

1. <input checked="" type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER-	7. Ufit Agreement Name
2. Name of Operator Pennzoil United, Inc.	8. Farm or Lease Name Gallagher "S" State
3. Address of Operator P. O. Drawer 1328 - Midland, Texas 79701	9. Well No. 7
4. Location of Well UNIT LETTER <u>D</u> FEET FROM THE <u>660</u> LINE AND <u>510</u> FEET FROM <u>West</u> THE <u>8</u> LINE, SECTION <u>17-S</u> TOWNSHIP <u>34-E</u> RANGE <u>34-E</u> NMPM.	10. Field and Pool, or Wildcat Wildcat
15. Elevation (Show whether DF, RT, GR, etc.) 4106 GL	12. County Lea

16.

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

- PERFORM REMEDIAL WORK
- TEMPORARILY ABANDON
- PULL OR ALTER CASING
- OTHER

- PLUG AND ABANDON
- CHANGE PLANS

SUBSEQUENT REPORT OF:

- REMEDIAL WORK
- COMMENCE DRILLING OPNS.
- CASING TEST AND CEMENT JOB
- OTHER
- ALTERING CASING
- PLUG AND ABANDONMENT

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1703.

- 9- 9-68 Start drilling 7 7/8" hole @ 4312'
- 10-26-68 T. D. 11,825'
- 10-27-68 Ran 367 jts. of 4 1/2" 11.6# & 13.50# csg. set @ 11,824'. - D.V. tool @ 5112'. Cemented w/740 sx Class "C" 2% gel, 8# salt per sack, 1/4# flocele & 3/4 of 1% CFR-2. Cemented 2nd stage w/200 sx Incor 6% gel, 8# salt per sack & 1/4# flocele. Plug down @ 9:00 P.M. 10-27-68.
- 11- 4-68 Drill out D.V. tool at 5112'. Test csg. to 2,000 psi held 1 hr O. K. Drill out approximately 300' hard cement 11,470' to 11,770'- Test complete casing string to 2,000 psi for 1 hr held O.K.

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED [Signature] TITLE Manager of Production DATE 11-12-68

APPROVED BY [Signature] TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

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NEW MEXICO OIL CONSERVATION COMMISSION

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NOV 23 AM 8:26 '70

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease
State Fee

5. State Oil & Gas Lease No.
E - 1085

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

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16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

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SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input checked="" type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input checked="" type="checkbox"/>	OTHER <input type="checkbox"/>

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

- 8-31-68 Spudded 17½" hole at 3:00 P.M. - Drilled to 380' - Ran 11 jts. of 13 3/8" OD, 48# csg. to 379'. - Cement w/195 sx Class "A" 6% gel plus 150 sx Class "A" 2% CaCl. Plug down 10:45 P.M. - Cement circulated O.K.
- 9-1-68 After 19 hrs WOC, tested csg. w/1,000# for 30 min - O.K.
- 9-7-68 Drilled 11" hole to 4312' - Ran 8 5/8", 24# & 32# csg. to 4312'. Cement w/340 sx Class "H" 50/50 posmix 6% gel w/ 31# salt per sack plus 150 Sx Class "C" w/8# salt per sack. Plug down at 4:15 P.M. - Ran temperature survey. - Top cement 2970'.
- 9-8-68 After 24 hrs - Tested csg. w/1400# for 30 min - O.K.

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED [Signature] TITLE Drilling Superintendent DATE 10-4-68

APPROVED BY [Signature] TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

PRODUCER'S COPY

THE PERMIAN CORPORATION
MIDLAND, TEXAS



OWNER <i>Pennsylv United</i>										
WELL NOS.										
LEASE <i>Hallager 8</i>										
STATION NO.	MO.	DAY	YR.	RUN TKT. NO.						
65	10	13	70	1015557						
LEASE NO.			TANK NO.			FIELD				
565805			40745							
TANK SIZE		GAUGE			OIL LEVEL			TEMP.		CALCULATIONS
500										240.45
Gau.	Ft.	In.	1/4 In.	1ST			73 0 1/4		78	
HGT. OF CON.				2ND			25 0 1/4		160.17	
B. S. & W. LEVEL				OBS. GRAVITY			TEMPERATURE			
1ST -5 1/4				41.0			76			
2ND -5 1/4				3/10%			39.7			
OIL MOVED BY				POWER FURNISHED BY			ESTIMATED BBLs.			
Pump <input type="checkbox"/> Grav. <input type="checkbox"/> Truck <input checked="" type="checkbox"/>				P. L. Co. <input type="checkbox"/> Other <input checked="" type="checkbox"/>			158.27			
REMARKS <i>Label</i>										
988127										

TURNED ON		
TIME <i>3:05 PM</i>	DATE <i>10-13</i>	GAUGER <i>C. L. Lewis</i>
OFF SEAL		OWNERS WITNESS
SHUT OFF		
TIME <i>3:30 PM</i>	DATE <i>10-13</i>	GAUGER <i>C. L. Lewis</i>
ON SEAL		OWNERS WITNESS

PRODUCER'S COPY

THE PERMIAN CORPORATION
MIDLAND, TEXAS



OWNER <i>Pennsylv United</i>										
WELL NOS.										
LEASE <i>Hallager 8 State</i>										
STATION NO.	MO.	DAY	YR.	RUN TKT. NO.						
65	5	28	70	1366634						
LEASE NO.			TANK NO.			FIELD				
565805			40745							
TANK SIZE		GAUGE			OIL LEVEL			TEMP.		CALCULATIONS
500										511.01
Gau.	Ft.	In.	1/4 In.	1ST			15 5 - 1/4		92	
HGT. OF CON.				2ND			14 - 1/4		466.72	
B. S. & W. LEVEL				OBS. GRAVITY			TEMPERATURE			
1ST -6 1/4				41.0			90			
2ND -6 1/4				4/10%			38.7			
OIL MOVED BY				POWER FURNISHED BY			ESTIMATED BBLs.			
Pump <input type="checkbox"/> Grav. <input type="checkbox"/> Truck <input checked="" type="checkbox"/>				P. L. Co. <input type="checkbox"/> Other <input type="checkbox"/>			457.47			
REMARKS <i>WOTC</i>										
980164										

TURNED ON		
TIME <i>1:15 PM</i>	DATE <i>5-28</i>	GAUGER <i>C. Johnson</i>
OFF SEAL		OWNERS WITNESS
SHUT OFF		
TIME <i>3:00 AM</i>	DATE <i>5/29</i>	GAUGER <i>Steve Brooks</i>
ON SEAL		OWNERS WITNESS

70 No 23 AH 8 26

PRODUCER'S COPY

THE PERMIAN CORPORATION
MIDLAND, TEXAS



OWNER <i>Pennsylv United</i>											
WELL NOS.											
LEASE <i>Hallager 8</i>											
STATION NO.	MO.	DAY	YR.	RUN TKT. NO.							
65	10	13	70	1015557							
LEASE NO.		TANK NO.			FIELD						
565805		40745									
TANK SIZE		GAUGE		OIL LEVEL			TEMP.			CALCULATIONS	
500										240.45	
Gau.	Ft.	In.	1/4 In.							80.28	
										160.17	
HGT. OF CON.				1ST			2ND				
1 - 1/4				7 3 0 1/4			2 5 0 1/4				
B. S. & W. LEVEL				OBS. GRAVITY			TEMPERATURE				
1ST - 5 1/4				41.0			76				
2ND - 5 1/4				3/10%			39.7			158.27	
OIL MOVED BY				POWER FURNISHED BY							
Pump <input type="checkbox"/> Grav. <input type="checkbox"/> Truck <input checked="" type="checkbox"/>				P. L. Co. <input type="checkbox"/> Other <input checked="" type="checkbox"/>			100%				
REMARKS 988127											

TURNED ON		
TIME	DATE	GAUGER
3:05 PM	10-13	<i>C. Johnson</i>
OFF SEAL	OWNERS WITNESS	
SHUT OFF		
TIME	DATE	GAUGER
3:30 PM	10-13	<i>C. Johnson</i>
ON SEAL	OWNERS WITNESS	

PRODUCER'S COPY

THE PERMIAN CORPORATION
MIDLAND, TEXAS



OWNER <i>Pennsylv United</i>											
WELL NOS.											
LEASE <i>Hallager 8 State</i>											
STATION NO.	MO.	DAY	YR.	RUN TKT. NO.							
65	5	28	70	1366634							
LEASE NO.		TANK NO.			FIELD						
565805		40745									
TANK SIZE		GAUGE		OIL LEVEL			TEMP.			CALCULATIONS	
500										511.01	
Gau.	Ft.	In.	1/4 In.							44.29	
										466.72	
HGT. OF CON.				1ST			2ND				
1 - 1/4				15 5 - 1/4			1 1/4 - 1/4			92	
B. S. & W. LEVEL				OBS. GRAVITY			TEMPERATURE				
1ST - 6 1/4				41.0			90				
2ND - 6 1/4				4/10%			38.7			457.47	
OIL MOVED BY				POWER FURNISHED BY							
Pump <input type="checkbox"/> Grav. <input type="checkbox"/> Truck <input checked="" type="checkbox"/>				P. L. Co. <input type="checkbox"/> Other <input type="checkbox"/>			WOTC				
REMARKS 980164											

TURNED ON		
TIME	DATE	GAUGER
1:15 PM	5-28	<i>C. Johnson</i>
OFF SEAL	OWNERS WITNESS	
SHUT OFF		
TIME	DATE	GAUGER
7:00 AM	5/29	<i>Gene Brooks</i>
ON SEAL	OWNERS WITNESS	

HALLIBURTON DIVISION LABORATORY
 HALLIBURTON COMPANY
 MIDLAND DIVISION

OCT 16 1968

LABORATORY WATER ANALYSIS

No. W2-390-68

To Pennzoil ^{MIDLAND} United, Inc.

Date October 15, 1968

Box 1828

Midland, Texas 79701

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Submitted by _____ Date Rec. 10-11-68

Well No. Gallagher St. "8" #1 Depth 10,991.5 Formation Wolfcamp

County Lea Field W/C Source DST #8

	Sampler	Top of Rec.	Pit
Resistivity	.130 @ 77 F		
Specific Gravity	1.048		
pH	6.8		
Calcium (Ca)	2,750		*MPL
Magnesium (Mg)	660		
Chlorides (Cl)	42,500		1,500
Sulfates (SO ₄)	440		
Bicarbonates (HCO ₃)	245		
Soluble Iron (Fe)	115		
API Gravity		38.5 @ 60 F	
B S & W		Less than 0.1 %	

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Frank Whitfield

HALLIBURTON COMPANY

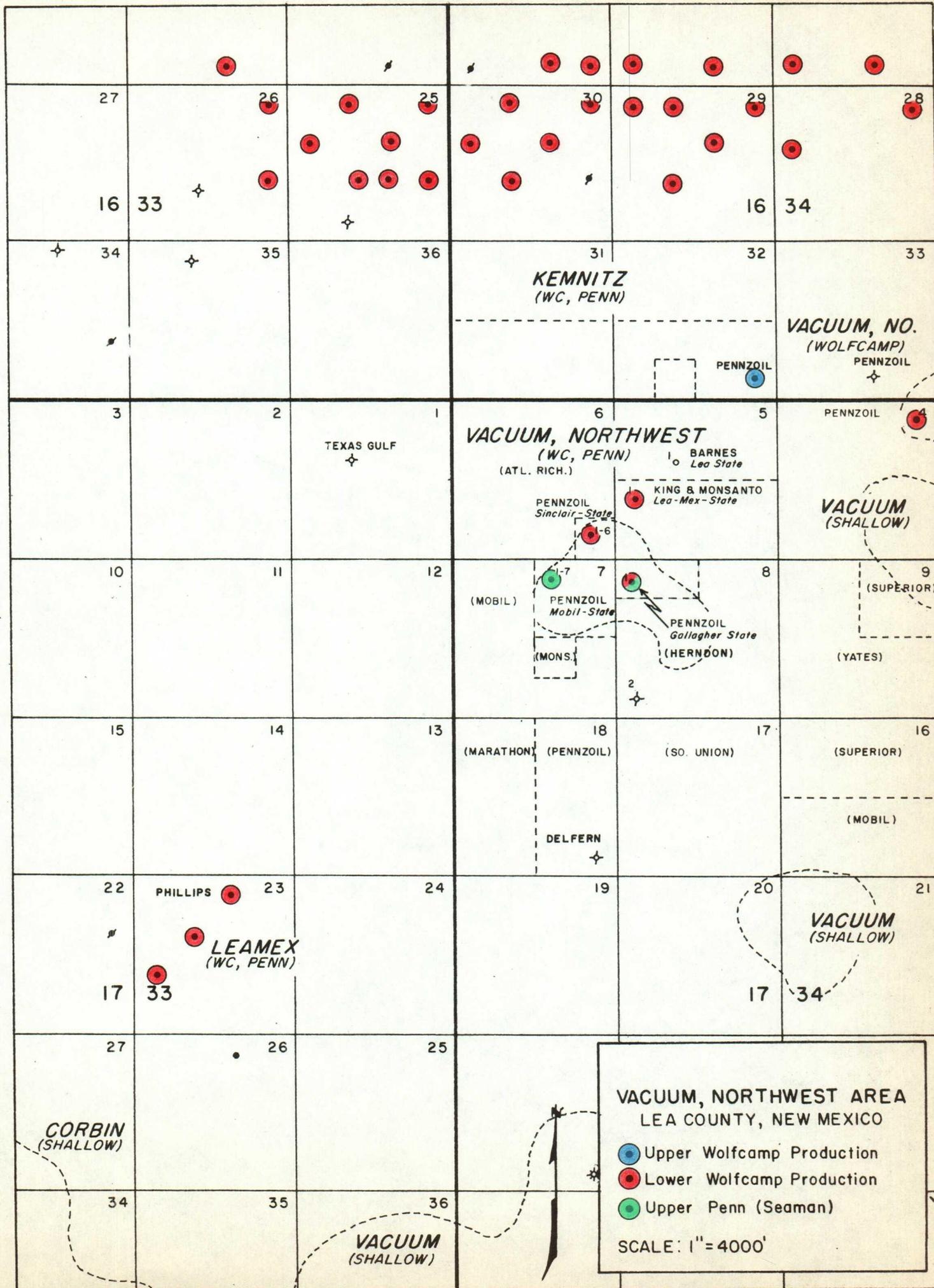
cc:

By Frank Whitfield

DIVISION CHEMIST

NOTICE

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KEMNITZ
(WC, PENN)

VACUUM, NO.
(WOLFCAMP)
PENNZOIL

PENNZOIL

3

2

1

6

5

PENNZOIL

4

TEXAS GULF
✦

VACUUM, NORTHWEST
(WC, PENN)
(ATL. RICH.)

BARNES
Lea State

KING & MONSANTO
Lea-Mex-State

VACUUM
(SHALLOW)

PENNZOIL
Sinclair-State

6

10

11

12

7

8

9

(MOBIL)

PENNZOIL
Mobil-State

PENNZOIL
Gallagher State

(SUPERIOR)

(MONS.)

(HERNDON)

(YATES)

2
✦

15

14

13

18

17

16

(MARATHON)

(PENNZOIL)

(SO. UNION)

(SUPERIOR)

DELFFERN
✦

(MOBIL)

22

PHILLIPS

23

24

19

20

21

LEAMEX
(WC, PENN)

VACUUM
(SHALLOW)

17

33

17

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CORBIN
(SHALLOW)

34

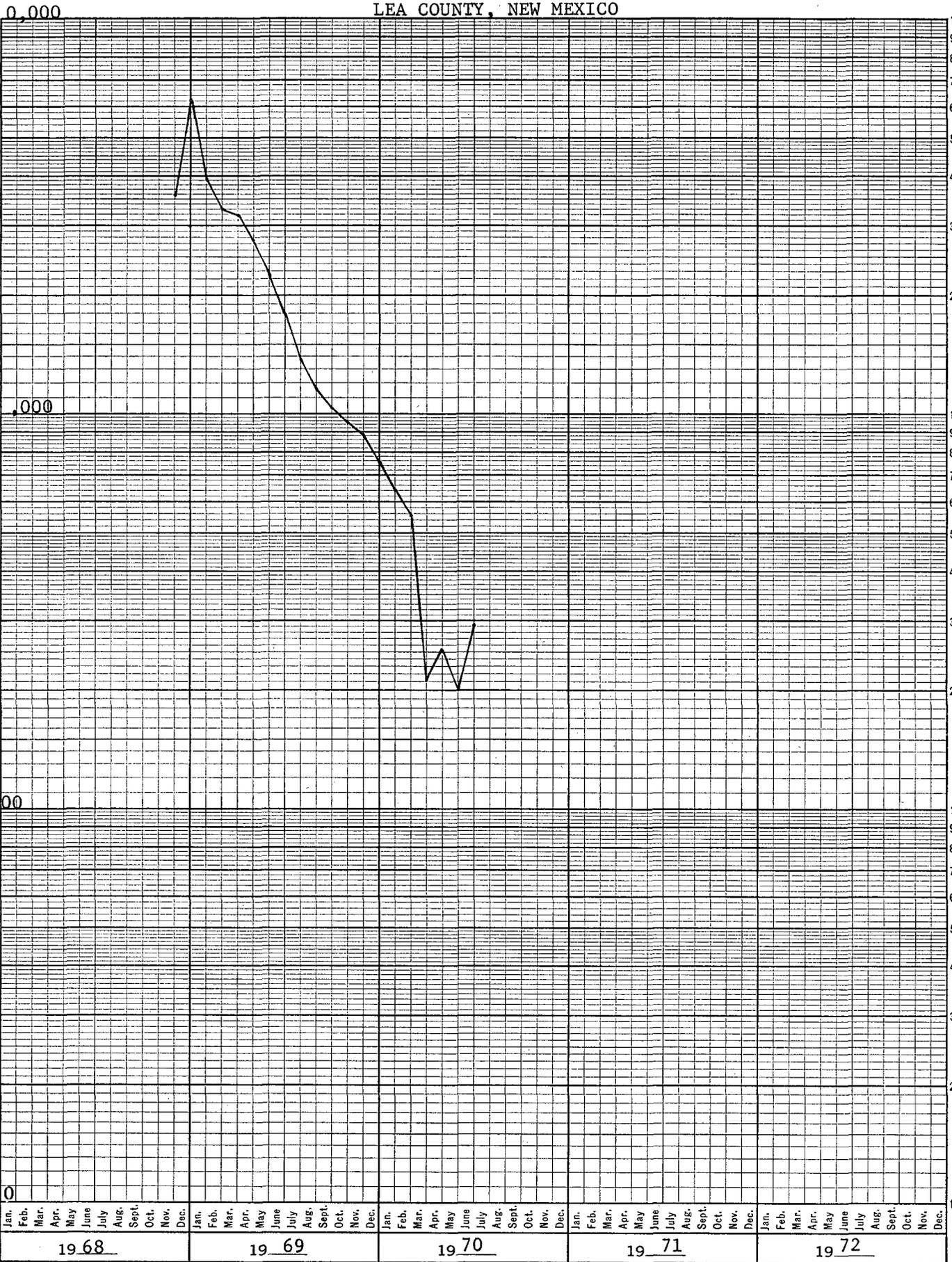
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VACUUM
(SHALLOW)

GALLAGHER "8" STATE NO. 1
 VACUUM NORTHWEST PENN FIELD

LEA COUNTY, NEW MEXICO



5 YEARS BY MONTHS
 X 3 LOG CYCLES
 KEUFFEL & ESSER CO.

46 6690
 MADE IN U.S.A.
 MONTHLY OIL PRODUCTION - BBLs.