

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  Re-enter    DEEPEN     PLUG BACK

b. TYPE OF WELL  
 OIL WELL     GAS WELL     OTHER   
 SINGLE ZONE     MULTIPLE ZONE

2. NAME OF OPERATOR  
 Southern Union Exploration Company

3. ADDRESS OF OPERATOR  
 Suite 400, Texas Savings Bldg., 1217 Main St. Dallas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
 At surface  
 1840 FSL and 1840 FEL  
 At proposed prod. zone  
 Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE  
 3 1/2 miles to Counselors, N.M.

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
 1840'

16. NO. OF ACRES IN LEASE  
 521.28

17. NO. OF ACRES ASSIGNED TO THIS WELL  
 40

18. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
 5623 PBDT

19. PROPOSED DEPTH  
 5623 PBDT

20. ROTARY OR CABLE TOOLS  
 Completion Rig

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 6778 GL.

22. APPROX. DATE WORK WILL START\*  
 5-20-81

5. LEASE DESIGNATION AND SERIAL NO.  
 N.M. 28733

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
 Yarborough-Federal

9. WELL NO.  
 1

10. FIELD AND POOL, OR WILDCAT  
 Wildcat Gallup

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 J 3- 23N-6W

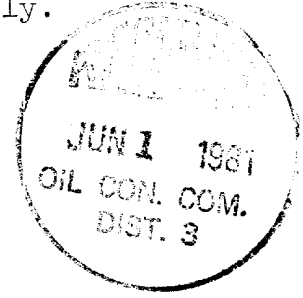
12. COUNTY OR PARISH  
 Rio Arriba

13. STATE  
 N.M.

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/4"	13 3/8"	48#	308'	300 sx- circulated
12 1/4"	8 5/8"	--	4318'	1750 sx- top @ 400'
8 3/4"	5 1/2"	15/5#	6674'	625 sx-top @ 4780'

This well was plugged and abandoned December 31, 1962. Southern Union Exploration Co. intends to re-enter well with a completion rig, drill out the cement plugs, test the Gallup formation, and return well to production if economical.  
 A blow out preventer will be used and checked daily.



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. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED J. F. Ellidge TITLE Agent DATE 5-5-81  
 (This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
 APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_  
 CONDITIONS OF APPROVAL, IF ANY:

23-

APPROVED  
 AS ATTENDED  
 MAY 28 1981  
 Dean Elliott  
 For JAMES F. SIMS  
 DISTRICT ENGINEER

# OIL CONSERVATION DIVISION

STATE OF NEW MEXICO  
 OIL AND MINERALS DEPARTMENT

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-107  
 Revised 10-1-78

All distances must be from the outer boundaries of the Section.

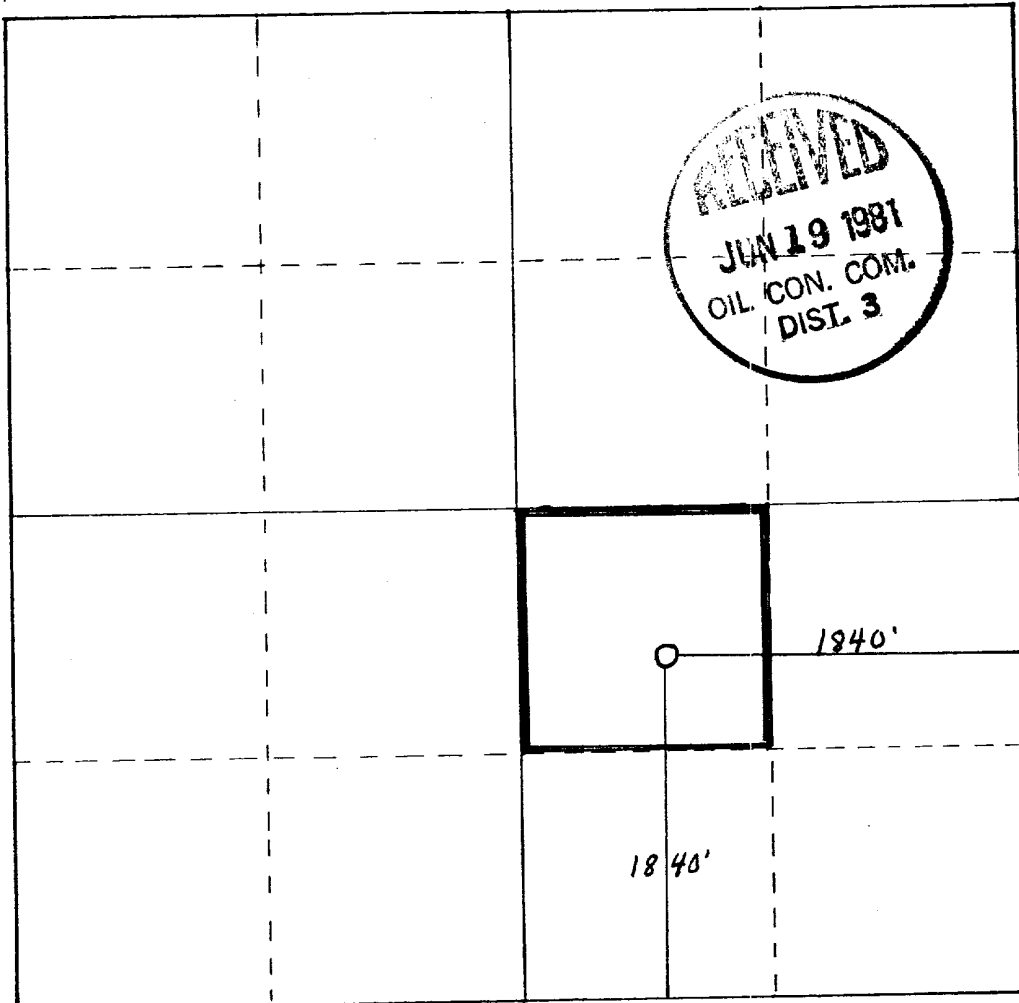
Operator <b>Southern Union Exploration Co.</b>			Lease <b>Yarborough-Federal</b>			Well No. <b>1</b>		
Unit Letter <b>J</b>	Section <b>3</b>	Township <b>23N</b>	Range <b>6W</b>	County <b>Rio Arriba</b>				
Actual Footage Location of Well: <b>1840</b> feet from the <b>South</b> line and <b>1840</b> feet from the <b>East</b> line								
Ground Level Elev: <b>6778</b>	Producing Formation <b>Gallup</b>		Pool <b>Wildcat</b>			Dedicated Acreage: <b>40</b> Acres		

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

Yes     No    If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



### CERTIFICATION

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

Name	<i>J. F. Elledge</i>
Position	Agent
Company	So. Union Exploration Co.
Date	6-16-81

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed	
Registered Professional Engineer and Land Surveyor	<i>Fred B. Kerr Jr.</i>
Certificate No.	3950

Scale: 1"=1000'

NEW MEXICO OIL CONSERVATION COMMISSION  
Well Location and Acreage Dedication Plat

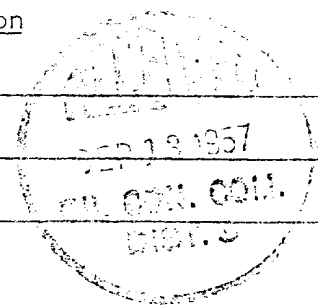
Section A.

Date September 10, 1957

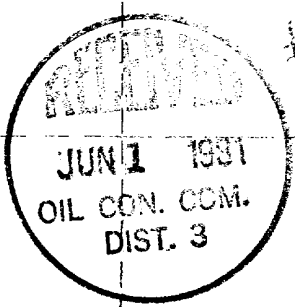
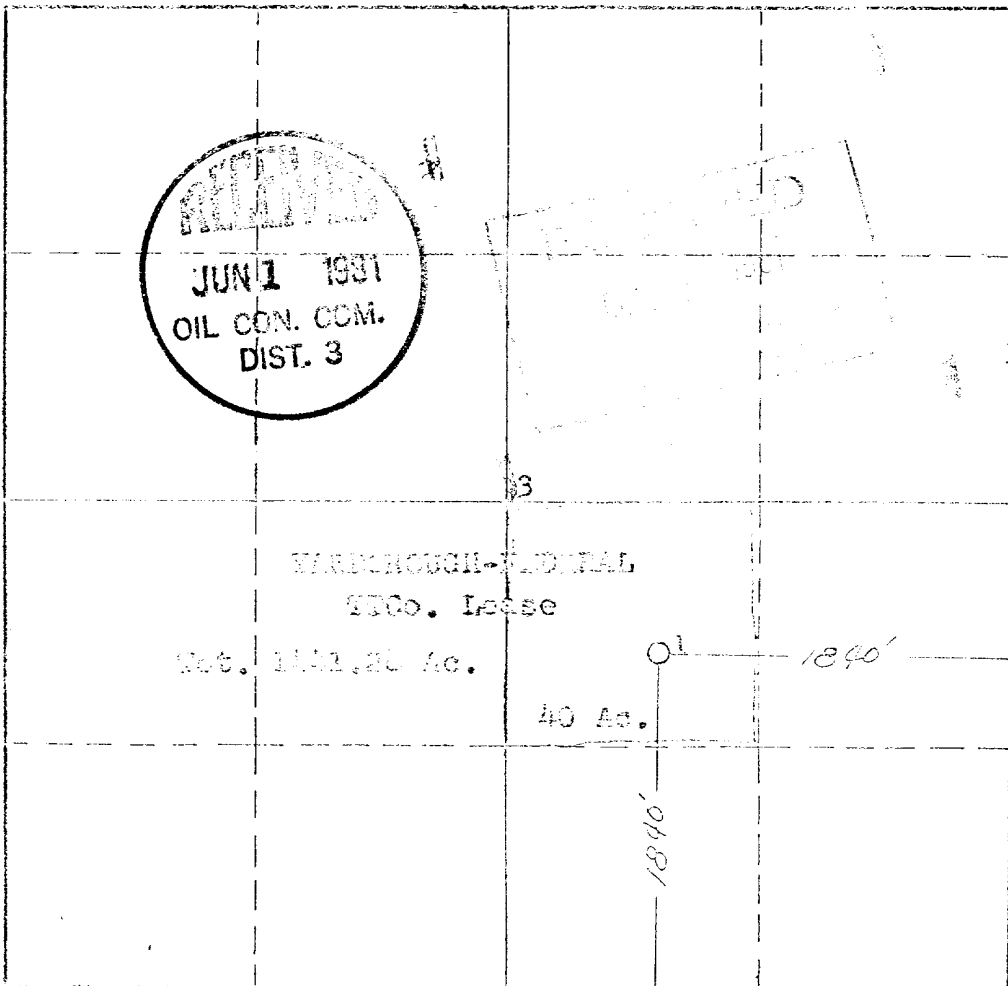
Operator THE TEXAS COMPANY Lease YARBOROUGH - FEDERAL  
Well No. 1 Unit letter J Section 3 Township 23 NORTH Range 6 WES. N.M.P.M.  
Located 1840 Feet From the SOUTH Line, 1840 Feet From the EAST Line  
County RIO ARriba G. L. Elevation 6778.0 Dedicated Acreage 40 Acres  
Name of Producing Formation Dakota Pool Wildcat

1. Is the Operator the only owner\* in the dedicated acreage outlined on the plat below?  
Yes y No \_\_\_\_\_.
2. If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? Yes \_\_\_\_\_ No \_\_\_\_\_. If answer is "yes," Type of Consolidation \_\_\_\_\_
3. If the answer to question two is "no," list all the owners and their respective interests below:  
Ref: GLO Plat dated 4 November 1952

<u>Owner</u>	<u>Land Description</u>



Section B



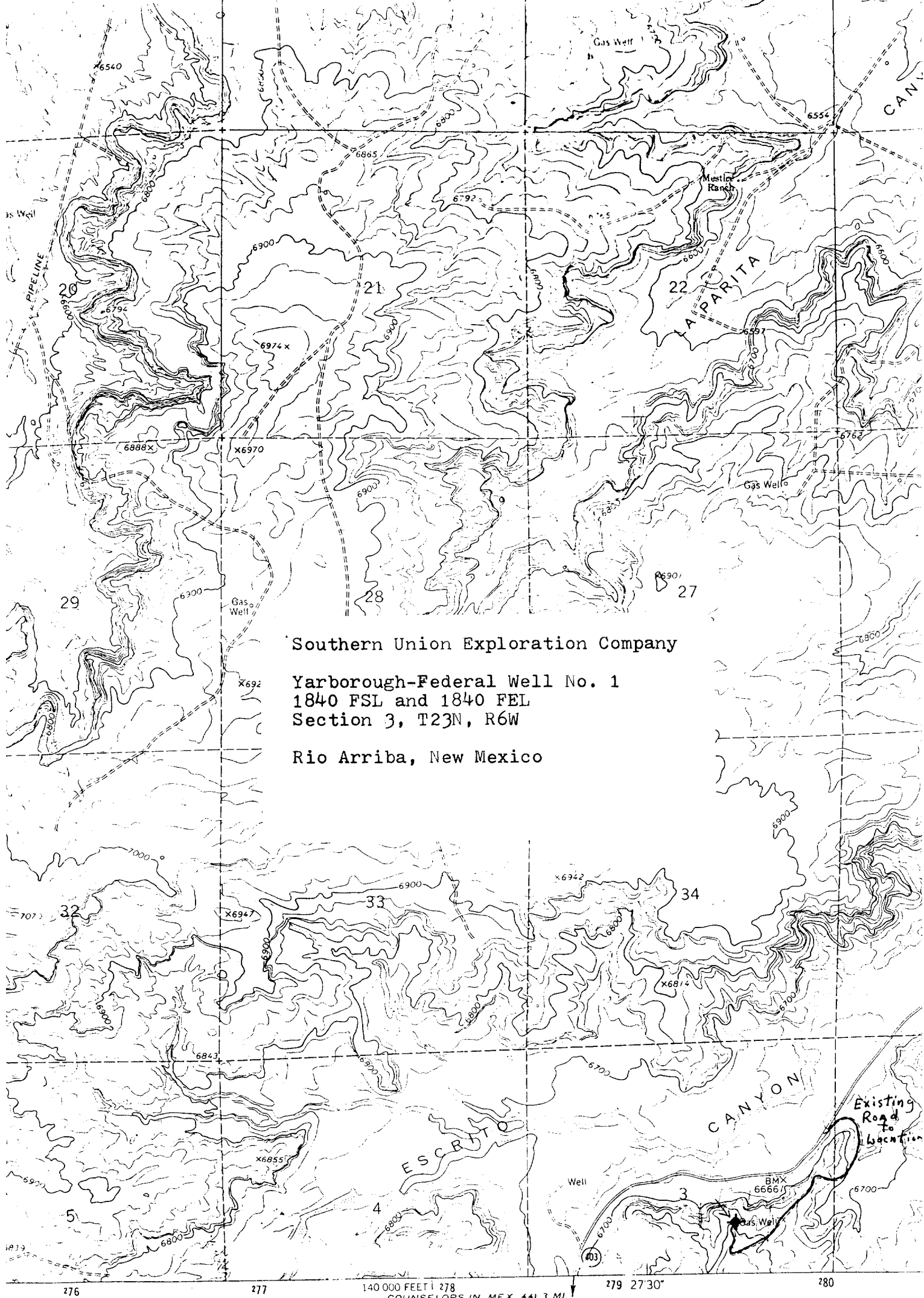
This is to certify that the information in Section A above is true and complete to the best of my knowledge and belief.

The Texas Company  
(Operator)  
Division Civil Engineer  
(Representative)

P.O. Box 1720, Fort Worth, Texas  
Address

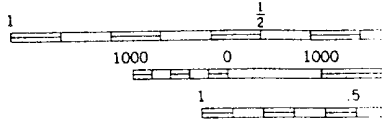
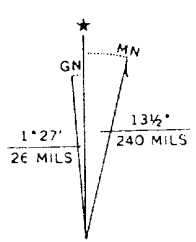
This is to certify that the well location shown on the plat in Section B was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my knowledge and belief.  
Date Surveyed 6 SEPTEMBER 1957

James P. Lease  
Registered Professional  
Engineer and/or Land Surveyor.  
James P. Lease



Southern Union Exploration Company  
 Yarborough-Federal Well No. 1  
 1840 FSL and 1840 FEL  
 Section 3, T23N, R6W  
 Rio Arriba, New Mexico

edited, and published by the Geological Survey  
 SGS and USC&GS  
 by photogrammetric methods from aerial  
 taken 1955, 1958, and 1962 Field checked 1963  
 projection 1927 North American datum  
 grid based on New Mexico coordinate system, central zone  
 Universal Transverse Mercator grid ticks,  
 shown in blue  
 within the San Juan Basin gas field



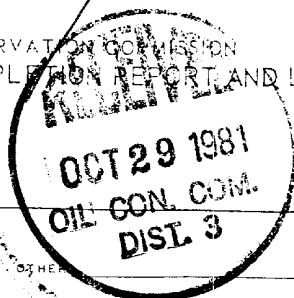
UTM GRID AND 1963 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

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THIS MAP COMPLIES WITH THE REQUIREMENTS FOR SALE BY U. S. GEOLOGICAL SURVEY AS A FOLDER DESCRIBING TOPOGRAPHY

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LAND OFFICE	
OPERATOR	

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



State  Fee   
 Well No. NM 28733

19. TYPE OF WELL  
 a. TYPE OF COMPLETION  
 OIL WELL  GAS WELL  DRY  OTHER   
 b. TYPE OF COMPLETION  
 NEW WELL  WORK OVER  DEEPEN  PLUG BACK  DIFF. RESVR.  OTHER  Re-entry

2. Name of Operator: Southern Union Expl. Co. of TX.  
 3. Address of Operator: Suite 400, Texas Fed. Savings Bldg., 1217 Main St., Dallas, Texas 75202  
 4. Location of Well: UNIT LETTER J LOCATED 1840 FEET FROM THE South LINE AND 1840 FEET FROM

5. THE East LINE OF SEC. 3 TWP. 23N RGE. 6W NMFN  
 15. Date Spudded: 10/30/57  
 16. Date T.D. Reached: 12/24/57  
 17. Date Compl. (Ready to Prod.): 7/26/81  
 18. Elevations (DF, RKB, RT, GR, etc.): 6778' GL  
 19. Elev. Casinghead: 6781'

20. Total Depth: 6885'  
 21. Plug Back T.D.: 5622'  
 22. If Multiple Compl., How Many: Many  
 23. Intervals Drilled By: Rotary Tools  Cable Tools

24. Producing Interval(s), of this completion - Top, Bottom, Name: 5304' - 5618' Gallop  
 25. Was Directional Survey Made: Yes

26. Type Electric and Other Logs Run: Correlation, Spectra Logs and GR/CBL/CNL/CCL  
 27. Was Well Cored: Yes

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#	308'	17 1/2"	360sx - circulated	
9 5/8"	36 & 40#	4319'	12 1/2"	1750sx - Top @ 400'	
5 1/2"	15.5#	6674'	8 3/4"	625sx - Top @ 4780'	

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 3/8"	5599'	-

31. Perforation Record (Interval, size and number)  
 Previous Perfs: 5540' - 5585' (4SPF)  
 New Perfs: 5304', 05', 5400', 02', 04', 06', 08', 10', 14', 5417', 19', 21', 23', 25', 27', 34', 36', 38', 40' (1SPF)  
 5501', 03', 05', 31', 32', 33', 44', 46', 48', 50', 52', 54', 56', 58', 60'; 5616', 18' (1SPF)

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

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
5540' - 85'	500gals. - 10% acetic acid
5501' - 5618'	Frac w/37,000# of 20/40 sand & 31,812 gal. of foam
5304' - 5440'	500gals. - 10% acetic acid

33. PRODUCTION (SEE ATTACHED)

Date First Production: 7/29/81  
 Production Method: Flowing  
 Well Status: Shut-in

Date of Test: 8/28/81  
 Hours Tested: 24  
 Choke Size: 3/4"  
 Fr. Pts. For Test Period: 38  
 Oil - Bbl.: 38  
 Gas - MCF: 70  
 Water - Bbl.: 20  
 Gas - Oil Ratio: 1842

Flow Tubing Press.: 0  
 Casing Pressure: 440  
 Calculated 24-Hour Rate: 38  
 Oil - Bbl.: 38  
 Gas - MCF: 70  
 Water - Bbl.: 20  
 Oil Gravity - API (Corr.): 38.4°

34. Disposition of Gas (Sold, used for fuel, vented, etc.): Vented  
 Test Witnessed By: Conrad Appledorn

35. List of Attachments: (SEE ATTACHED)

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: Pat G. Howell  
 TITLE: Drilling & Production Eng.  
 DATE: October 13, 1981

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 radioactivity logs run on the well and a summary of all geologic tests conducted, including well stem tests. All depths reported shall be measured in this. 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 quadruplicate except in 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 <u>2152'</u>	T. Penn. "D" _____
T. Yates _____	T. Miss _____	T. Cliff House <u>3624'</u>	T. Leadville _____
T. 7 Rivers _____	T. Devonian _____	T. Menefee _____	T. Madison _____
T. Queen _____	T. Silurian _____	T. Point Lookout <u>4290'</u>	T. Elbert _____
T. Grayburg _____	T. Montoya _____	T. Mancos _____	T. McCracken _____
T. San Andres _____	T. Simpson _____	T. Gallup <u>5530'</u>	T. Ignacio Qtzte _____
T. Glorieta _____	T. McKee _____	Base Greenhorn <u>6510'</u>	T. Granite _____
T. Paddock _____	T. Ellenburger _____	T. Dakota <u>6517'</u>	T. _____
T. Blinebry _____	T. Gr. Wash _____	T. Morrison _____	T. _____
T. Tubb _____	T. Granite _____	T. Todilto _____	T. _____
T. Drinkard _____	T. Delaware Sand _____	T. Entrada _____	T. _____
T. Abo _____	T. Bone Springs _____	T. Wingate _____	T. _____
T. Wolfcamp _____	T. _____	T. Chinle _____	T. _____
T. Penn. _____	T. _____	T. Permian _____	T. _____
T. Cisco (Bough C) _____	T. _____	T. Penn. "A" _____	T. _____

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
2152'	3624'	1472'	Pictured Cliffs				
3624'	4290'	666'	Cliff House				
4290'	5530'	1240'	Point Lookout				
5530'	6288'	758'	Gallop				
6288'	6517'	229'	Greenhorn				
6517'	6885'	368'	Dakota				

Attachment to Form C-105:

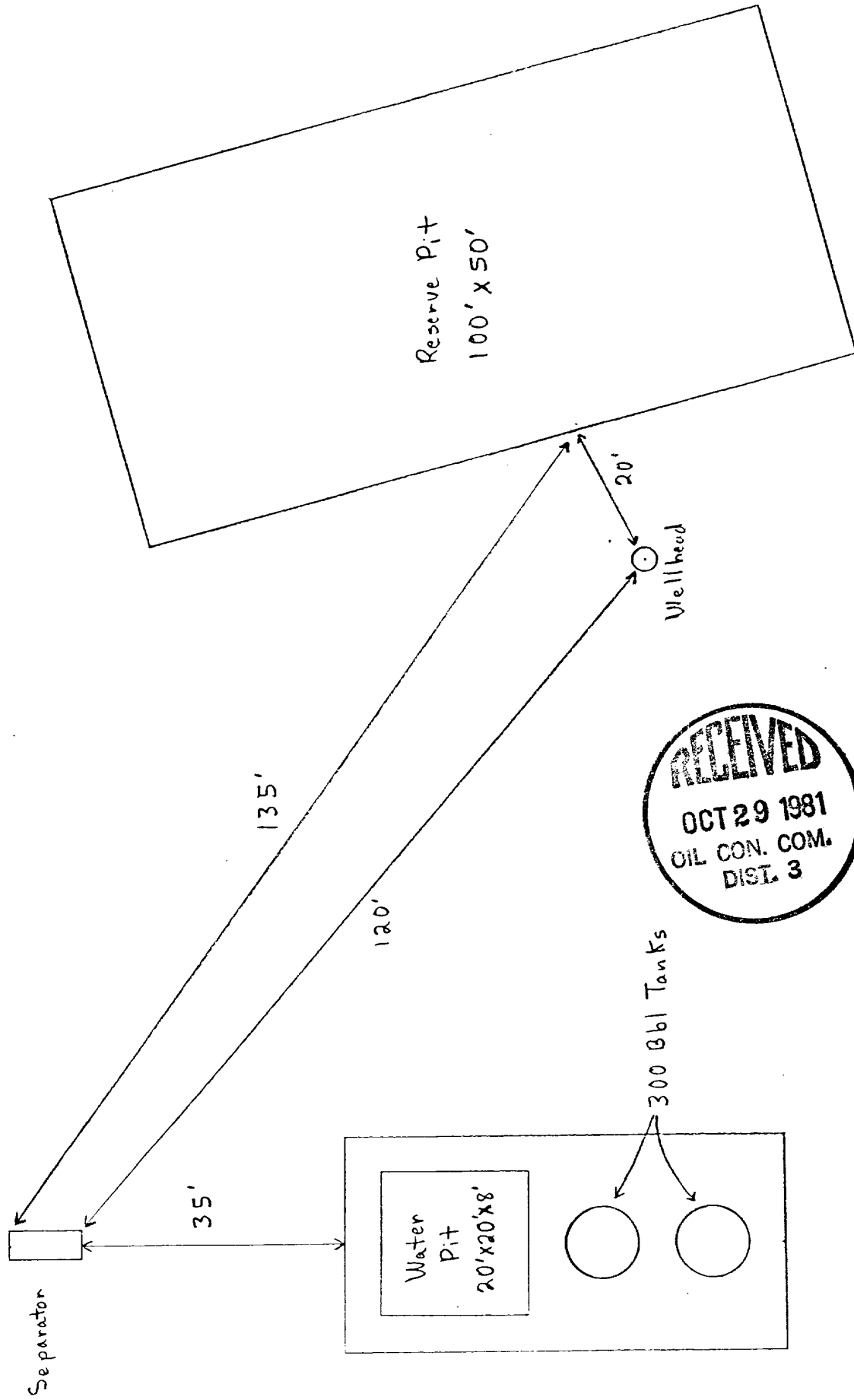
NOTE: This well was drilled in 1957 by the Texas Company to a depth of 6685'. It was tested from perfs @ 6516'-6530' and produced from perfs @ 5540'-5585'. The well was plugged and abandoned on December 31, 1962. Southern Union Exploration Company of Texas has re-entered the well, drilled out the cement plugs and recompleted in the Gallop formation.

32. Acid, Shot, Fracture, Cement, Squeeze, etc. - continued

Depth Interval	Amount & Kind of Material Used
5304' - 5440'	Frac w/27,500# of 20/40 sand, 6000# of 10/20 sand and 21,086 gal. of foam



Varborough Federal #1



Wellhead Location:

Unit Letter J, 1840' FSL + 1840' FEL, Sec. 3, T23N, R6W

State Oil Lease NM 28733 Rio Arriba County, New Mexico

Scale: 1" = 20' N ↑ R