

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

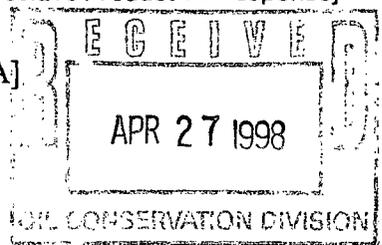
Application Acronyms:

- [NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
- [DD-Directional Drilling] [SD-Simultaneous Dedication]
- [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
- [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
- [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
- [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
- [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

N40

[1] **TYPE OF APPLICATION - Check Those Which Apply for [A]**

- [A] Location - Spacing Unit - Directional Drilling
 NSL NSP DD SD



Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR

[] **NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply**

- [A] Working, Royalty or Overriding Royalty Interest Owners
- [B] Offset Operators, Leaseholders or Surface Owner
- [C] Application is One Which Requires Published Legal Notice
- [D] Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] Waivers are Attached

[3] **INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding**

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Laurie Cherry
Print or Type Name

Laurie Cherry
Signature

Reg/Comp. Asst
Title

4/23/98
Date



ARCO Permian
600 North Marienfeld
Midland TX 79701-4373
Post Office Box 1610
Midland TX 79702-1610
Telephone 915 688 5570

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

April 22, 1998

Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Gentlemen:

Under the provisions of NMOCD Rule 104.F (3), ARCO Permian requests administrative approval for unorthodox location for its Washington "33" State #5, a new well in the Artesia (Queen-Grayburg-San Andres) Field, due to topography and geological conditions. The location for this proposed well is 260 FNL and 2270'FWL of Section 33, T17S, R28E, Eddy County, New Mexico

The following exhibits are submitted to support our request for administrative approval:

1. A C-102 plat showing the subject 40-acre spacing unit with the unorthodox location.
2. A topographic map from John West Engineering.
3. A sketch plat showing topographical obstructions around the location.
4. A Structure map.
5. A gross isopach map of the San Andres porosity interval.
6. A type log for the Washington lease.
7. A geologic and engineering discussion of the necessity for an unorthodox location.
8. A plat showing adjoining and diagonal spacing units.
9. A list of affected parties.

On April 23, 1998, we sent copies of this APD and a copy of the surveyor's plat to the affected offset operators by certified mail. We advised them if they have an objection, it must be filed in writing within 20 days from the date this notice was sent.

Should you have any questions, please call Dave Percy at 915-688-5355. Thank you for your assistance in this matter.

Sincerely,

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc

cc: NMOCD, Artesia, New Mexico

Enclosures



ARCO Permian
600 North Marienfeld
Midland TX 79701-4373
Post Office Box 1610
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Elizabeth A. Casbeer
Regulatory/Compliance Analyst

April 22, 1998

CERTIFIED RETURN RECEIPT MAIL

Marbob Energy Corporation
P. O. Box 227
Artesia, New Mexico 88211

Ladies and Gentlemen:

This letter will serve as notice that ARCO Permian has requested administrative approval from the NMOCD for an unorthodox location for Washington "33" State #5 under Rule 104.F. (3), due to topographical and geographical conditions.

Should your company have any objection, it must be filed in writing within twenty (20) days from the date of this notice. The Division Director may approve the unorthodox location if no objection to the unorthodox location has been made within 20 days after the application has been received.

Sincerely,

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc



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Elizabeth A. Casbeer
Regulatory/Compliance Analyst

April 22, 1998

CERTIFIED RETURN RECEIPT MAIL

Mr. Mack Chase
P. O. Box 1767
Artesia, New Mexico 88211

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Sincerely,

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc



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Telephone 915 688 5570

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

April 22, 1998

CERTIFIED RETURN RECEIPT MAIL

Conoco, Inc.
10 Desta Drive
Midland, Texas 79705

Ladies and Gentlemen:

This letter will serve as notice that ARCO Permian has requested administrative approval from the NMOCD for an unorthodox location for Washington "33" State #5 under Rule 104.F. (3), due to topographical and geographical conditions.

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Sincerely,

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc



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Midland TX 79702-1610
Telephone 915 688 5570

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

April 22, 1998

CERTIFIED RETURN RECEIPT MAIL

Fina Oil & Chemical Co.
P. O. Box 62102
Houston, Texas 77205

Ladies and Gentlemen:

This letter will serve as notice that ARCO Permian has requested administrative approval from the NMOCD for an unorthodox location for Washington "33" State #5 under Rule 104.F. (3), due to topographical and geographical conditions.

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Sincerely,

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc



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Midland TX 79701-4373
Post Office Box 1610
Midland TX 79702-1610
Telephone 915 688 5570

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

April 22, 1998

CERTIFIED RETURN RECEIPT MAIL

Yates Petroleum Corp.
105 S. 4th Street
Artesia, New Mexico 88210

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Sincerely,

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc



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Post Office Box 1610
Midland TX 79702-1610
Telephone 915 688 5570

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

April 22, 1998

CERTIFIED RETURN RECEIPT MAIL

Louis Dreyfus Gas Holdings
14000 Quail Springs Parkway, Suite 600
Oklahoma City, Oklahoma 73134

Ladies and Gentlemen:

This letter will serve as notice that ARCO Permian has requested administrative approval from the NMOCD for an unorthodox location for Washington "33" State #5 under Rule 104.F. (3), due to topographical and geographical conditions.

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Sincerely,

Elizabeth A. Casbeer

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc



ARCO Permian
600 North Marientfeld
Midland TX 79701-4373
Post Office Box 1610
Midland TX 79702-1610
Telephone 915 688 5570

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

April 22, 1998

CERTIFIED RETURN RECEIPT MAIL

Marathon Oil Co.
P. O. Box 552
Midland, Texas 79702

Ladies and Gentlemen:

This letter will serve as notice that ARCO Permian has requested administrative approval from the NMOCD for an unorthodox location for Washington "33" State #5 under Rule 104.F. (3), due to topographical and geographical conditions.

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Sincerely,

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc

**OFFSET OPERATORS
WASHINGTON "33" STATE #5**

**ARCO Permian
P. O. Box 1610
Midland, Texas 79702**

**Marbob Energy Corp.
P. O. Box 227
Artesia, New Mexico 88211**

**Mack Chase, Trustee of Mack C. & Marilyn Y. Chase Trust-Operator d/b/a Mack Energy Corp.
P. O. Box 1767
Artesia, New Mexico 88211**

**Conoco, Inc.
10 Desta Drive
Midland, Texas 79705**

**Fina Oil & Chemical Company
P. O. Box 62102
Houston, Texas 77205**

**Yates Petroleum Corp.
105 S. 4th Street
Artesia, New Mexico 88210**

**Louis Dreyfus Gas Holdings
14000 Quail Springs Parkway, Suite 600
Oklahoma City, Oklahoma 73134**

**Marathon Oil Company
P. O. Box 552
Midland, Texas 79702**

**Geological and Engineering Attachment
Washington "33" State #5**

ARCO Permian requests administrative approval for unorthodox location for Washington 33 State #5 in the Artesia (Q-G-SA) Field.

As shown on the engineer's sketch plat, ARCO attempted to obtain an orthodox location for this well at 330' FNL, but was prevented access by the US Highway 82 bar ditch. We have shifted the location north the minimum distance to give us a 100-115' setback required for the small United rig we will use. The attached topo map further verifies the position of the highway, and shows how we have "crowded" the north side of the ditch as much as possible to minimize unorthodoxy.

ARCO will require 2 strategically-spaced wellspots in each 40-acre tract of recover reserves in the Artesia pool. One San Andres test has already been permitted in the SW corner of Drilling Unit C, but we need a location in the NE corner of each unit to fully exploit these pays. Any well on the south side of US Highway 82 would be too close to our other locations to effectively recover updip oil, and would leave undrained a significant portion of our reserves. Directional drilling of these low producing-rate wells cannot be economically justified, since this would add approximately \$100,000 to our cost for only 50 MBO reserves.

At a future date, we anticipate a waterflood could be initiated to effectively sweep both dolomite and sand reservoirs. Optimum results can only be achieved with good spacing of the primary wells. Core results show the Queen-Grayburg-San Andres "sand" pays should yield 130 MBO per 40 acres, but the modest 35 MBO recovered from "sand" wells on and surrounding our lease indicates that 10-20 acre drainage for these pays is reasonable.

We have therefore determined that two wells per 40 acres, with 700 ft between wells wherever possible, would effectively drain this reservoir and protect correlative rights. Where inexpensive recompletions are available, 550 ft between wells will avoid wasteful drilling. "Ten-acre" locations in the same half of any 40-acre unit should be avoided until waterflood startup. With current technology, the drainage radius for these San Andres wells is probably 10 acres, so we do not expect to be affecting any offset owner's correlative rights with this unorthodox location.

District I
 PO Box 1980, Hobbs, NM 88241-1980
 District II
 811 S. 1st Street, Artesia, NM 88210-2834
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
 2040 South Pacheco
 Santa Fe, NM 87505

Form C-101
 Revised October 18, 1994
 Instructions on back
 Submit to Appropriate District Office
 State Lease - 6 Copies
 Fee Lease - 5 Copies

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator name and Address ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		² OGRID Number 000990
⁴ Property Code		³ API Number 30-0
⁵ Property Name WASHINGTON "33" STATE		⁶ Well No. 5

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
C	33	17S	28E		260	NORTH	2270	WEST	EDDY

⁸ Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
⁹ Proposed Pool 1 ARTESIA (Q-G-SA)					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA)				

¹¹ Work Type Code N	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3675'
¹⁶ Multiple NO	¹⁷ Proposed Depth 3100	¹⁸ Formation SAN ANDRES	¹⁹ Contractor	²⁰ Spud Date 6-98

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12-1/4	8-5/8	24#	500	450	CIRC. TO SURF.
7-7/8	5-1/2	15.5#	3100	1200	CIRC. TO SURF.

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary

DRILL SURFACE HOLE W/FRESH WATER TO 500'. SET. & CEMENT 8-5/8" CASING.
 DRILL 7-7/8" HOLE TO 2000; W/SATURATED BRINE. DRILL 3100' TD W/SACT GEL
 USING PRE-HYDRATED FW GEL SWEEPS, FL +/- 15 CC. LOG WELL, RUN & CEMENT 5-1/2"
 CASING. COMPLETE AND TEST SAN ANDRES FORMATION.

SUBJECT WELL PLANNED AS A 3100' STRAIGHT HOLE.
 3000 PSI BOPE WILL BE USED FROM 500' TO TD.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.	OIL CONSERVATION DIVISION	
Signature: <i>Elizabeth A. Casbeer</i>	Approved by:	
Printed name: ELIZABETH A. CASBEER	Title:	
Title: REG./COMPLIANCE	Approval Date:	Expiration Date:

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, NM 86211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name ARTESIA (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 5
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3675'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	33	17 S	28 E		260	NORTH	2270	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres 40	Joint or Infill	Consolidation Code 0	Order No.
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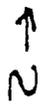
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	03	10	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><u>Elizabeth A. Casbeer</u> Signature</p> <p>ELIZABETH A. CASBEER Printed Name</p> <p><u>REG/COMP.</u> Title</p> <p><u>4/22/98</u> Date</p>		
	04	02			
	07	09		011	013
	08	012		014	
	021				
022			<p>SURVEYOR CERTIFICATION</p> <p>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 belief.</p> <p>FEBRUARY 26, 1998</p> <p>Date Surveyed _____ CDG</p> <p>Signature _____ Professional Surveyor</p> <p>RONALD EDSON 3239 88-11-0348</p> <p>Certificate No. RONALD EDSON 3239 12641</p>		

ARCO Permian

General Purpose Worksheet

Subject IDEAL WASHINGTON #5	Page No. _____ of _____
File _____	Date 3/5/98



OLD LEASE Rd

ORIGINAL Well 40' north of
what appears to be a drainage
ditch

Staked ALT 'A' 100' north of
ORIGINAL

Pits on S/W CORNER

Rd on N/E CORNER

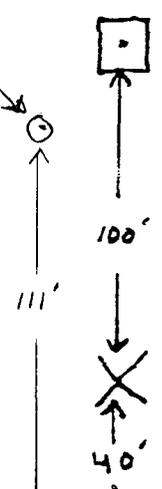
APPROX 300' of NEW Rd
OLD Rd needs top'd

COUNTY Rd

FINAL Loc
260 FNL
2270 FWL

ALT 'A'
230 FNL
2310 FWL

ORIGINAL
330 FNL
2310 FWL



Ditch 15' wide! 5' DEEP

FENCE

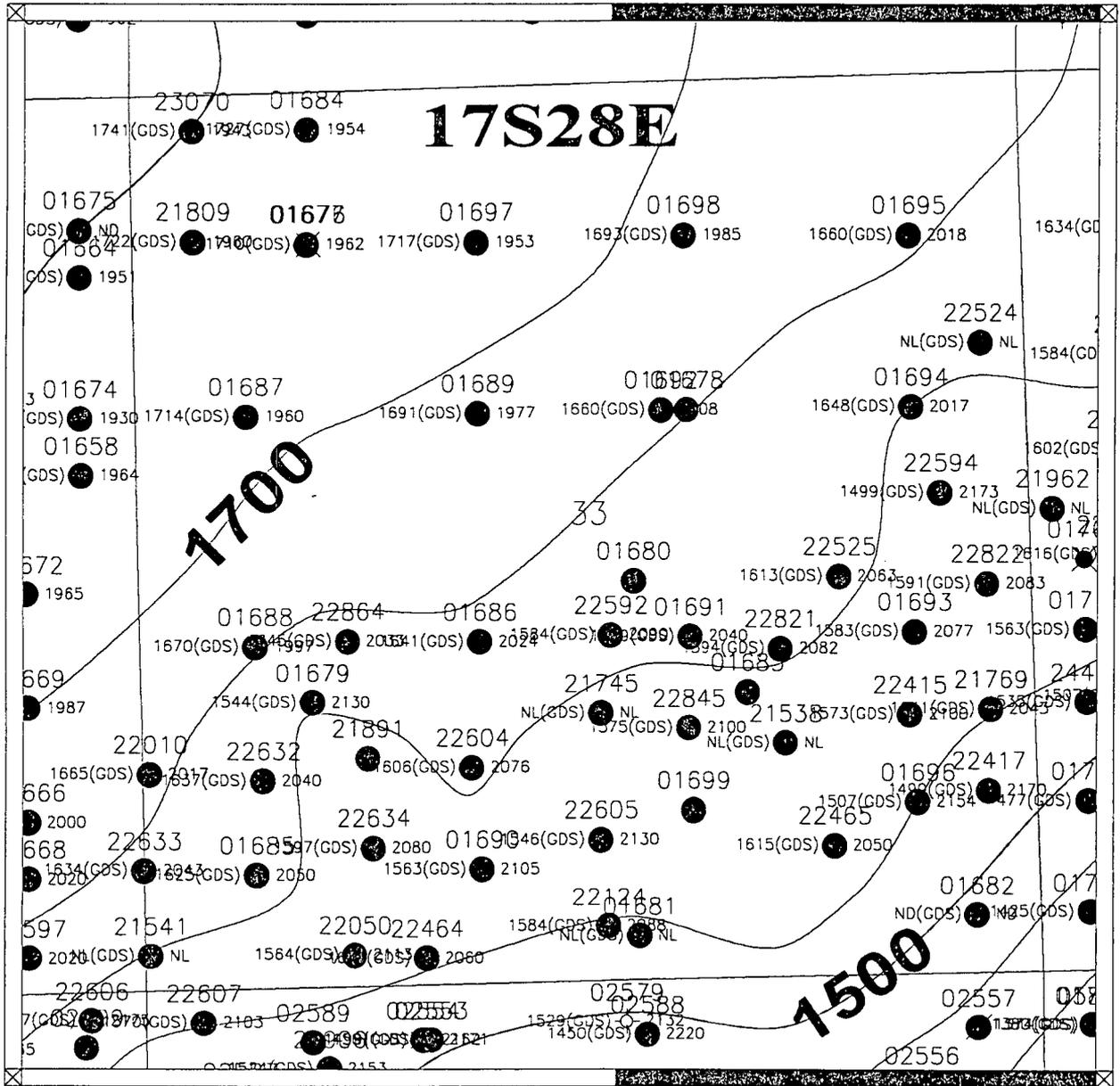
50'

1320'

CG

Hwy 82

NOT TO SCALE

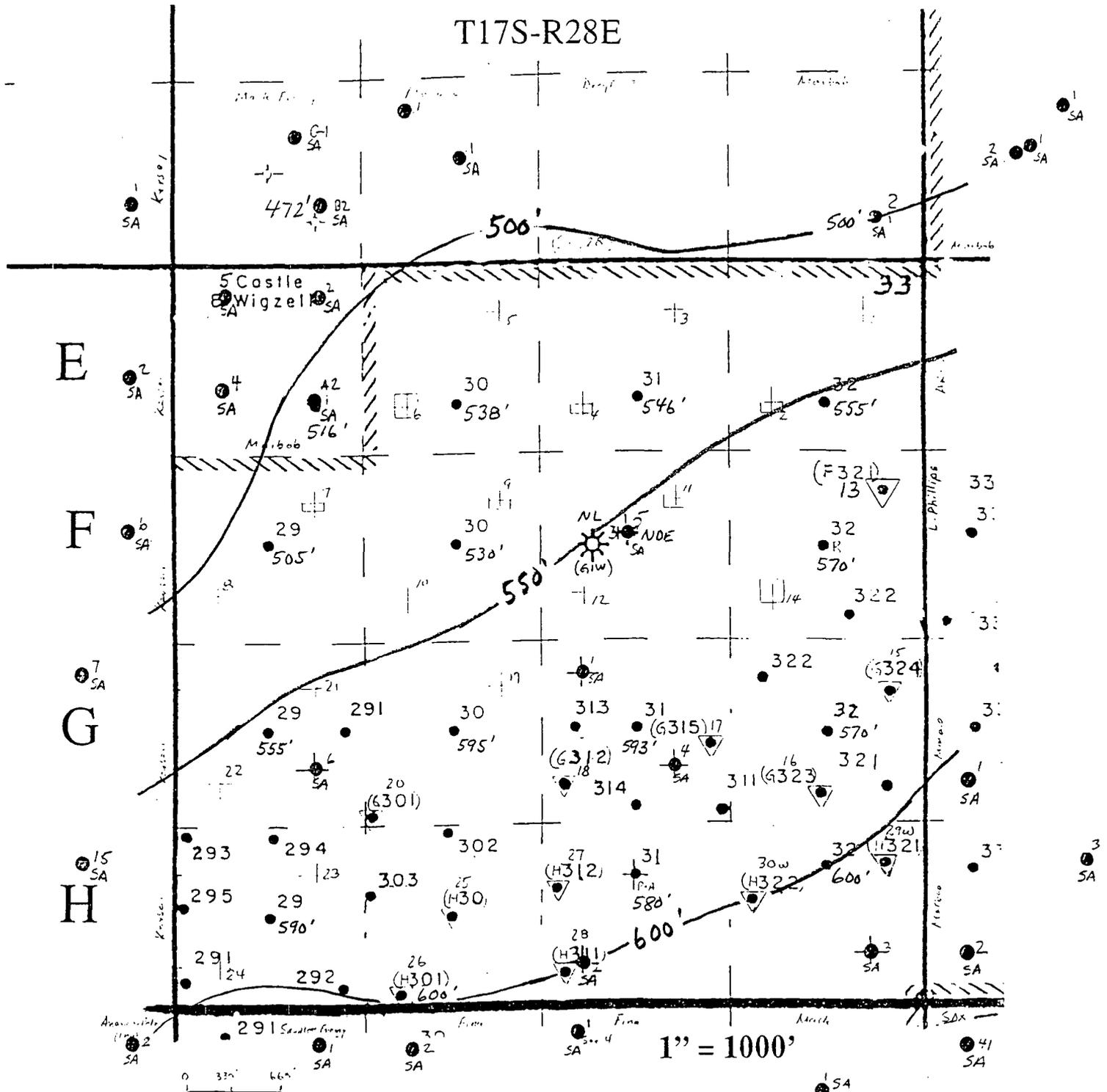


ARCO PERMIAN		
EDDY CO NM EMPIRE ABO SNDR STRUCTURE C.I.: 50'		
DPEARCY	EDDY CO OJ	4288
OLMENEZ	Scale 1:12000	EMPIREIA

Scale 1:12000.



T17S-R28E



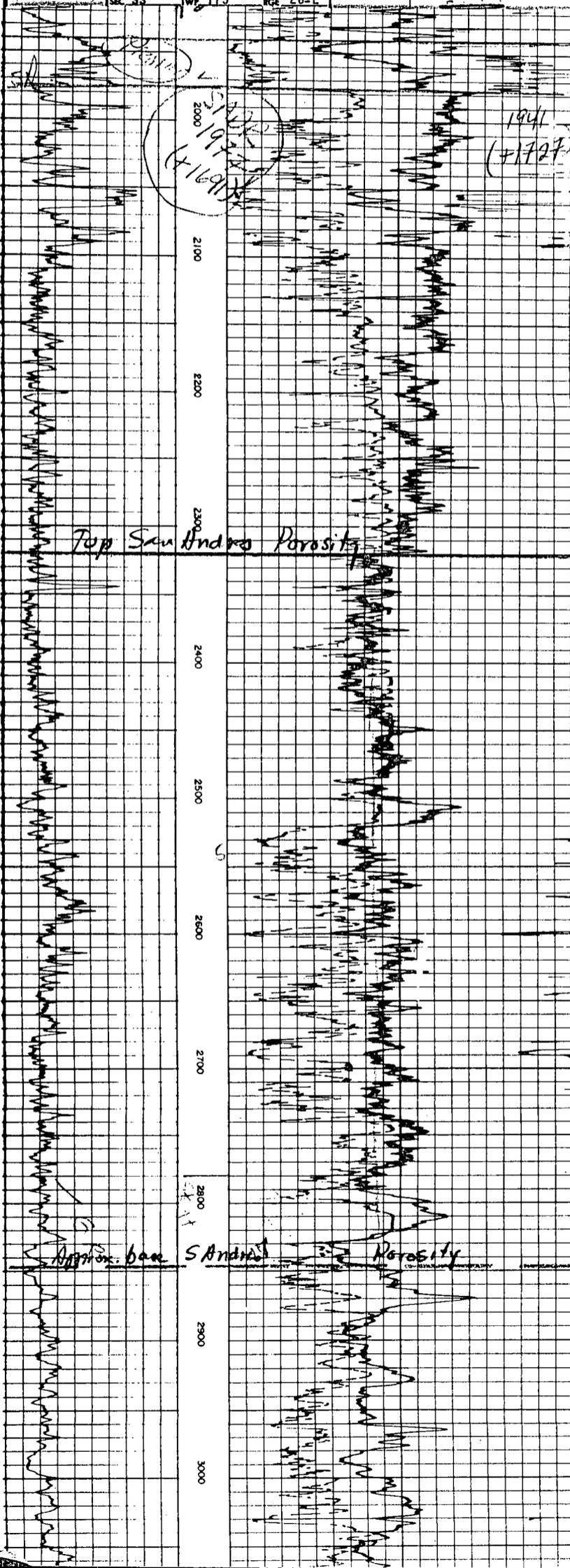
1" = 1000'

ARCO Permian
 GROSS PAY, SAN ANDRES DOLO.
 Washington 33 Lease
 Sec. 33 T17S-R28E
 Eddy Co. NM
 Abo And San Andres Well Locations
 DBP 3/98

- ▽ San Andres recomplete Candidates
- + San Andres Locations
- ⊞ Primary Yeso Locations
- R Recomplete alternate in Yeso
- ⊞ Possible / contingent Yeso TD
- ³ Relevant San Andres wells Showing well #
- SA

3001501689

P A N G E O A T L A S C O R P	
Gamma Ray Neutron Laterolog Survey	
FILE NO.	COMPANY SINGLAIR OIL & GAS COMPANY
	WELL M. YATES B. ARC # 5
	FIELD EMPIRE ABO
	COUNTY EDDY STATE NEW MEXICO
LOCATION:	Other Services
1980' FN & W LINE	NONE
SEC 33 TWP 17S RGE 28-E	



NSL-DIL 1140

May 4, 1998

Rec: 4-27-98

Susp: 5-18-98

Released 5-18-98

ARCO Permian
P. O. Box 1610
Midland, Texas 79702-1610

Attention: Elizabeth A. Casbeer

4036

Administrative Order NSL-*****

Dear Ms. Casbeer:

Reference is made to your application dated April ²²14, 1998, which ~~was received by the Division in Santa Fe on April 27, 1998,~~ for an unorthodox oil well location in the Artesia-Queen-Grayburg-San Andres Pool for your proposed Washington "33" State Well No. 5 to be drilled 260 feet from the North line and 2270 feet from the West line (Unit C) of Section 33, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. The NE/4 NW/4 of said Section 33 is to be dedicated to said well in order to form a standard 40-acre oil spacing and proration unit for said pool.

The application has been duly filed under the provisions of Rule 104.F of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division").

By the authority granted me under the provisions of Division General Rule 104.F(2), the above-described unorthodox oil well location is hereby approved.

Sincerely,

Lori Wrotenbery
Director

LW/MES/kv

cc: New Mexico Oil Conservation Division - Artesia
New Mexico State Land Office - Santa Fe

5-18