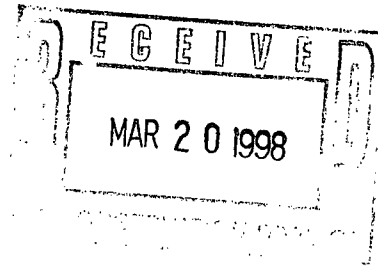




ARCO Permian
600 North Mariefeld
Midland TX 79701-4373
Post Office Box 1610
Midland TX 79702-1610
Telephone 915 688 5570

Elizabeth A. Casbeer
Regulatory/Compliance Analyst



March 10, 1998

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

Gentlemen:

Under the provisions of NMOCD Rule 104.F(d), ARCO Permian requests administrative approval for unorthodox location for its Washington "33" State #1. U. S. Highway 82 and powerlines has caused us to drill this well 200' FNL and 380' FEL of Section 33, T17S, R28E, Eddy County, New Mexico.

As required, we are submitting a plat showing the subject 40-acre spacing unit with the unorthodox location, a map identifying the adjoining and diagonal encroached-upon leases and wells, and a list of affected parties.

Should you have any questions, please do not hesitate to call me at 915-688-5570 or Dave Pearcy 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

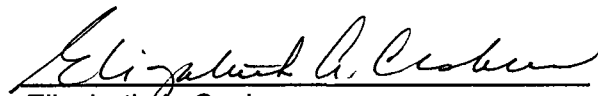
Enclosures

STATE OF TEXAS

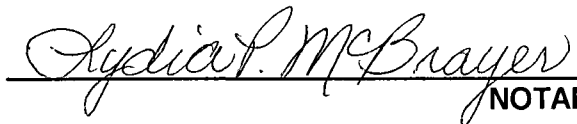
COUNTY OF MIDLAND

BEFORE ME, the undersigned authority on this day personally appeared Elizabeth A. Casbeer, a Regulatory Compliance Analyst with ARCO Permian, who being by me duly sworn, deposes and states that the persons listed on the foregoing attached list has been sent a copy on March 10, 1998, Oil Conservation Division Form C-101 (and supporting documentation) entitled, "Application For Permit to Drill or Deepen" for the Washington "33" State #1.

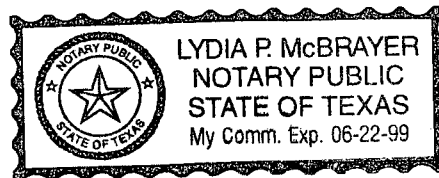
ARCO Permian


Elizabeth A. Casbeer

SUBSCRIBED AND SWORN TO before me on March 5, 1998, to certify which witness my hand and seal of office.



NOTARY PUBLIC, STATE OF TEXAS



**OFFSET OPERATORS
WASHINGTON "33" STATE #1**

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

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

**Lauretta Phillips Estate
Leahy & Shelton Estate
P. O. Box 539
Los Olivos, California 93411**

**Yates Petroleum Corporation
105 South Fourth 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**

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]

[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.

Elizabeth A. Casbeer
 Print or Type Name

Elizabeth A. Casbeer
 Signature

REGULATORY/Compliance Analyst
 Title

3/10/98
 Date

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
		³ API Number 30-0
⁴ Property Code	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 1

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
A	33	17S	28E		200	NORTH	380	EAST	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				
--	--	--	--	--	-------------------------------	--	--	--	--

¹¹ Work Type Code N	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3680'
¹⁶ Multiple NO	¹⁷ Proposed Depth 3100	¹⁸ Formation SAN ANDRES	¹⁹ Contractor	²⁰ Spud Date 4/98

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 +/- 15CC. 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 FORM 500' TO TD.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Elizabeth A. Casbeer*

Printed name: ELIZABETH A. CASBEER

Title: 3/10/98

OIL CONSERVATION DIVISION

Approved by:

Title:

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 88211-0719

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

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

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
		ARTESIA (Q-G-SA)
Property Code	Property Name	Well Number
	WASHINGTON 33 STATE	1
OGRID No.	Operator Name	Elevation
000990	ARCO PERMIAN	3680'

Surface Location

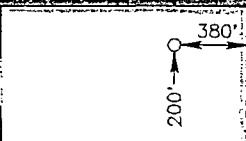
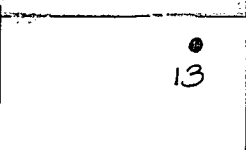
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	33	17 S	28 E		200	NORTH	380	EAST	EDDY

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	Joint or Infill	Consolidation Code	Order No.
40			

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

				OPERATOR CERTIFICATION	
				<p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Elizabeth A. Casbeer</i> Signature ELIZABETH A. CASBEER Printed Name REG. COMP. ANALYST Title 3-10-98 Date</p>	
				SURVEYOR CERTIFICATION	
				<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 25, 1998</p> <p>Date Surveyed Signature and Seal of Professional Surveyor RONALD J. EDSON 3-03-98 198-11-0344</p>	
				Certificate No. RONALD J. EDSON 3239 12641	

Section 33 (below)

T17S R28E

27

29
KERSEY
CO.

MACK CHASE

CONOCO
FINA

ARCO

MARBOB
Pen-ro

Not relevant in this case

MARBOB To 3500'
ALTURA

KERSEY
E

32

F

G

KERSEY

H

Castle
& Wigwag

Marbob

ARCO 34

LAURETTA
(PHILLIPS)

MARBOB

291 Sandbar Ferry

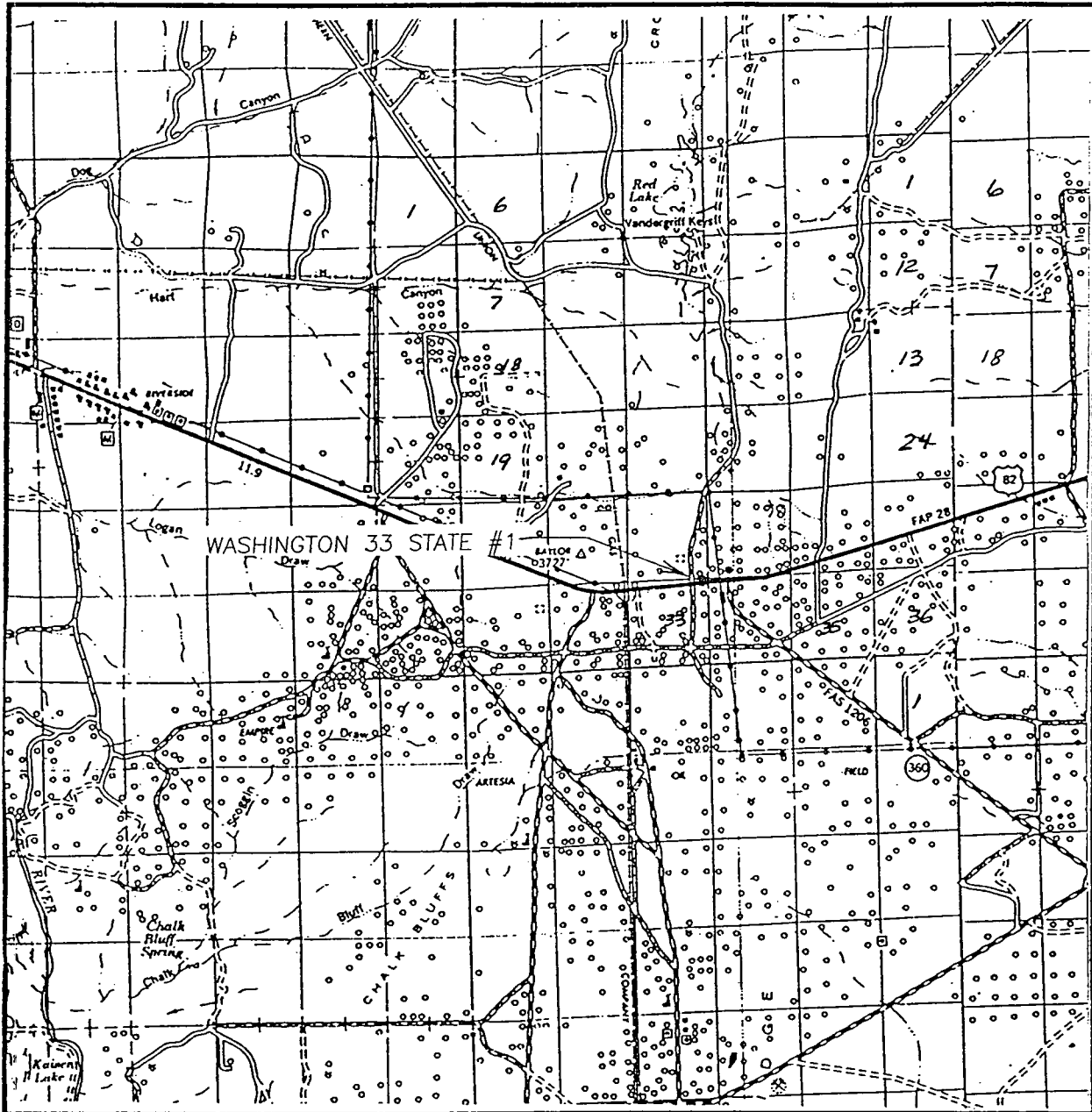
0 320' 660'

1" = 1000'
660

- ▽ San Andres incomplete coordinates
- + San Andres Landmark
- Primary Vessel Location
- R Re-incomplete alternative in Vessel
- Possible / Contingent Vessel

20P 2/9/73

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 33 TWP. 17-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 200' FNL & 380' FEL

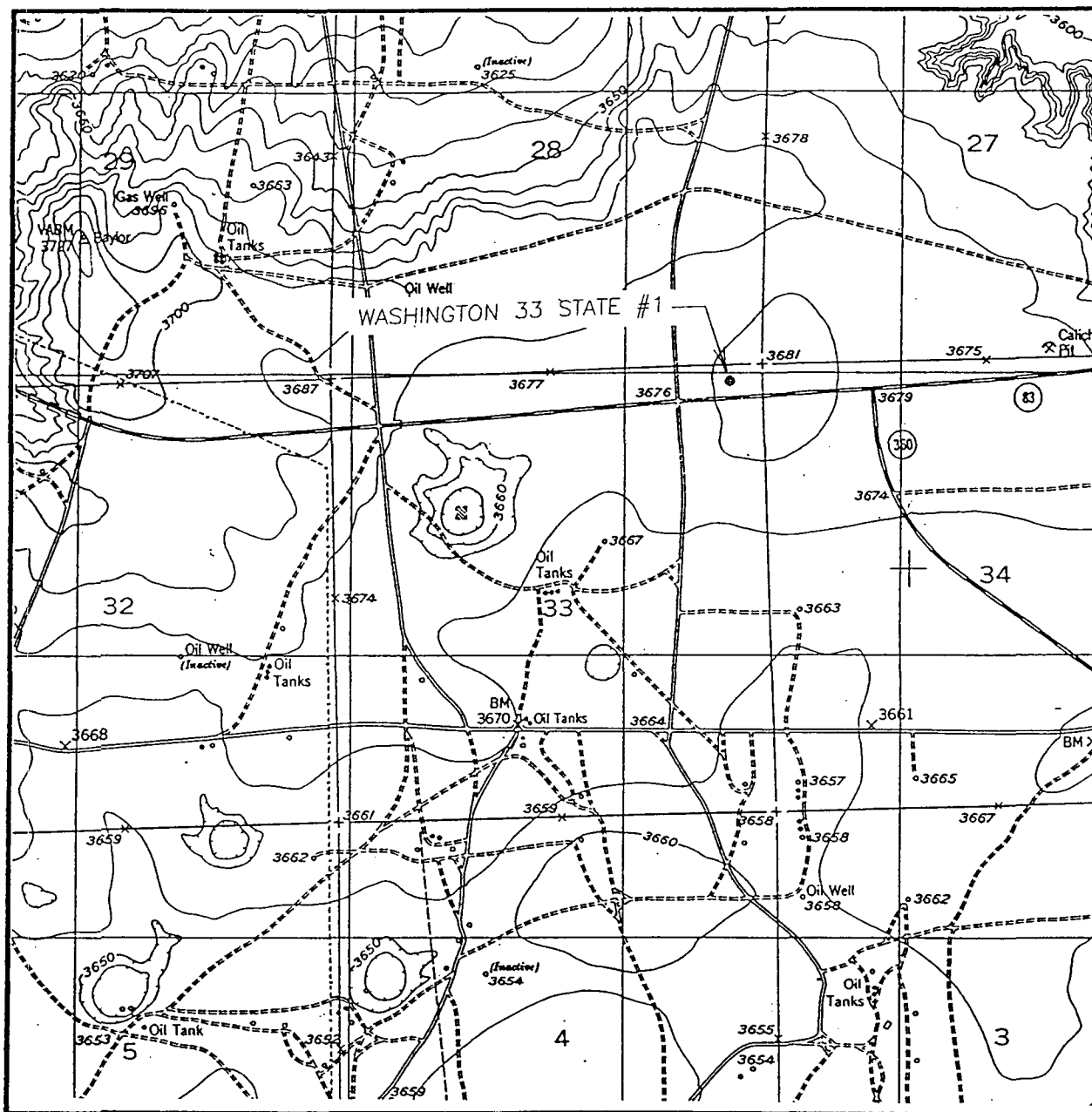
ELEVATION 3680'

OPERATOR ARCO PERMIAN

LEASE WASHINGTON 33 STATE

JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL - 10'

SEC. 33 TWP. 17-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 200' FNL & 380' FEL

ELEVATION 3680'

OPERATOR ARCO PERMIAN

LEASE WASHINGTON 33 STATE

U.S.G.S. TOPOGRAPHIC MAP

RED LAKE, NM

**JOHN WEST ENGINEERING
HOBBS, NEW MEXICO**

(505) 393-3117



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

March 10, 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 NMOCDD for an unorthodox location for Washington "33" State #1 under Rule 104.F. (3), due to topographical conditions. U. S. Highway 82 and powerlines has caused us to drill this well 200' FNL and 380' FEL of Section 33. The final permitted location falls a minimum 115' north of the Highway fence line, and 100' west of an electric powerline.

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

Enclosures



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

March 10, 1998

CERTIFIED RETURN RECEIPT MAIL

**Lauretta Phillips Estate
Leahy & Sheldon Trust
P. O. Box 539
Los Olivos, CA 93441**

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 #1 under Rule 104.F. (3), due to topographical conditions. U. S. Highway 82 and powerlines has caused us to drill this well 200'FNL and 380'FEL of Section 33. The final permitted location falls a minimum 115' north of the Highway fence line, and 100' west of an electric powerline.

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

Enclosures



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

March 10, 1998

CERTIFIED RETURN RECEIPT MAIL

Yates Petroleum Corporation
105 South Fourth Street
Artesia, New Mexico 88210

Ladies and Gentlemen:

This letter will serve as notice that ARCO Permian has requested administrative approval from the NMOCDD for an unorthodox location for Washington "33" State #1 under Rule 104.F. (3), due to topographical conditions. U. S. Highway 82 and powerlines has caused us to drill this well 200' FNL and 380' FEL of Section 33. The final permitted location falls a minimum 115' north of the Highway fence line, and 100' west of an electric powerline.

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Sincerely,

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc

Enclosures



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

March 10, 1998

CERTIFIED RETURN RECEIPT MAIL

Louis Dreyfus Gas Holdings
14000 Quail Springs Parkway, Suite 600
Oklahoma City, OK 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 #1 under Rule 104.F. (3), due to topographical conditions. U. S. Highway 82 and powerlines has caused us to drill this well 200' FNL and 380' FEL of Section 33. The final permitted location falls a minimum 115' north of the Highway fence line, and 100' west of an electric powerline.

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

Enclosures



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

March 10, 1998

CERTIFIED RETURN RECEIPT MAIL

Marathon Oil Company
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 #1 under Rule 104.F. (3), due to topographical conditions. U. S. Highway 82 and powerlines has caused us to drill this well 200'FNL and 380'FEL of Section 33. The final permitted location falls a minimum 115' north of the Highway fence line, and 100' west of an electric powerline.

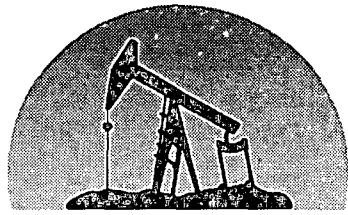
Should your company have any objection, it must be filed in writing within twenty (20) days from the date of this notice. The Division Director may approve the unorthodox location if no objection to the unorthodox location has been made within 20 days after the application has been received.

Sincerely,

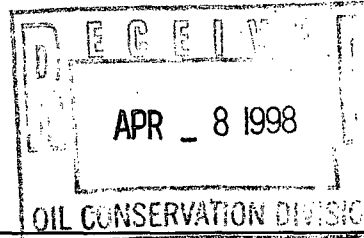
Elizabeth A. Casbeer
Regulatory/Compliance Analyst

EAC:lc

Enclosures



marbob
energy corporation



March 26, 1998

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

RE: Unorthodox Well Application
Washington "33" State #1
200' FNL and 380' FEL
Section 33-17S-28E, N.M.P.M.
Eddy County, New Mexico

Gentlemen:

In regards to the Application described above, which has been submitted by Arco Permian, we do not object to the unorthodox location as long as the actual total depth does not exceed the depth shown in the Application.

If you have any questions regarding this, please contact me.

Sincerely,

Raye Miller

Raye Miller
Land Department

RM/mm

cc: Ms. Elizabeth A. Casbeer
Arco Permian
P. O. Box 1610
Midland, Texas 79702-1610

Facsimile Cover Sheet

To: Michael Stogner
Company: NMOCD, Santa Fe
Phone: 505-827-8185
Fax: 505-827-1389

From: Dave Pearcy
Company: ARCO Permian
Phone: 915-688-5355
Fax: 915-688-5246

Date: 4/16/98

Pages including this 5
cover page:

Re: Washington 33 wells

Attached is the additional documentation you requested for #1. The Geologic and Engineering discussion identifies our problems with US Highway 82, and the need for 2 wellspots in Unit A. Our #2 location, 990 FNL and FEL, has already been approved in Artesia.

The engineer's sketchplat shows how the orthodox spot we wanted for #1 fell on the highway ROW, and how we moved the minimum distance north to fit in the rig. Doug Stewart at the Highway Dept in Roswell said we should not disturb the fenceline.

A map of the gross San Andres Dolomite Pay and a type log are also provided for further clarification of our main objective. We expect to add "Sand" pays in the Queen-Grayburg interval after 1-2 yrs.

Thank you for notification of approval on our #12. Please advise if this will suffice for admin approval on #1.

Thank you, Dave

**Geologic and Engineering Discussion for Washington 33 State #1 and 3
Units A, and B of Section 33, T17s, R 28E, Eddy Co, NM**

ARCO Permian requests administrative approval for unorthodox locations for Washington 33 State # 1 and #3 in the Artesia (Q-G-SA) Field.

As shown on the engineer's sketch plat, ARCO attempted to obtain an orthodox location for each well at 330' FNL, but was prevented access by the US Highway 82 right-of-way. 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 highway as much as possible to minimize unorthodoxy.

ARCO will require 2 strategically-spaced wellspots in each 40-acre tract to recover reserves in the Artesia pool. One San Andres test has already been permitted in the SW corner of Drilling Units A and B, 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 these unorthodox locations.

was33nux

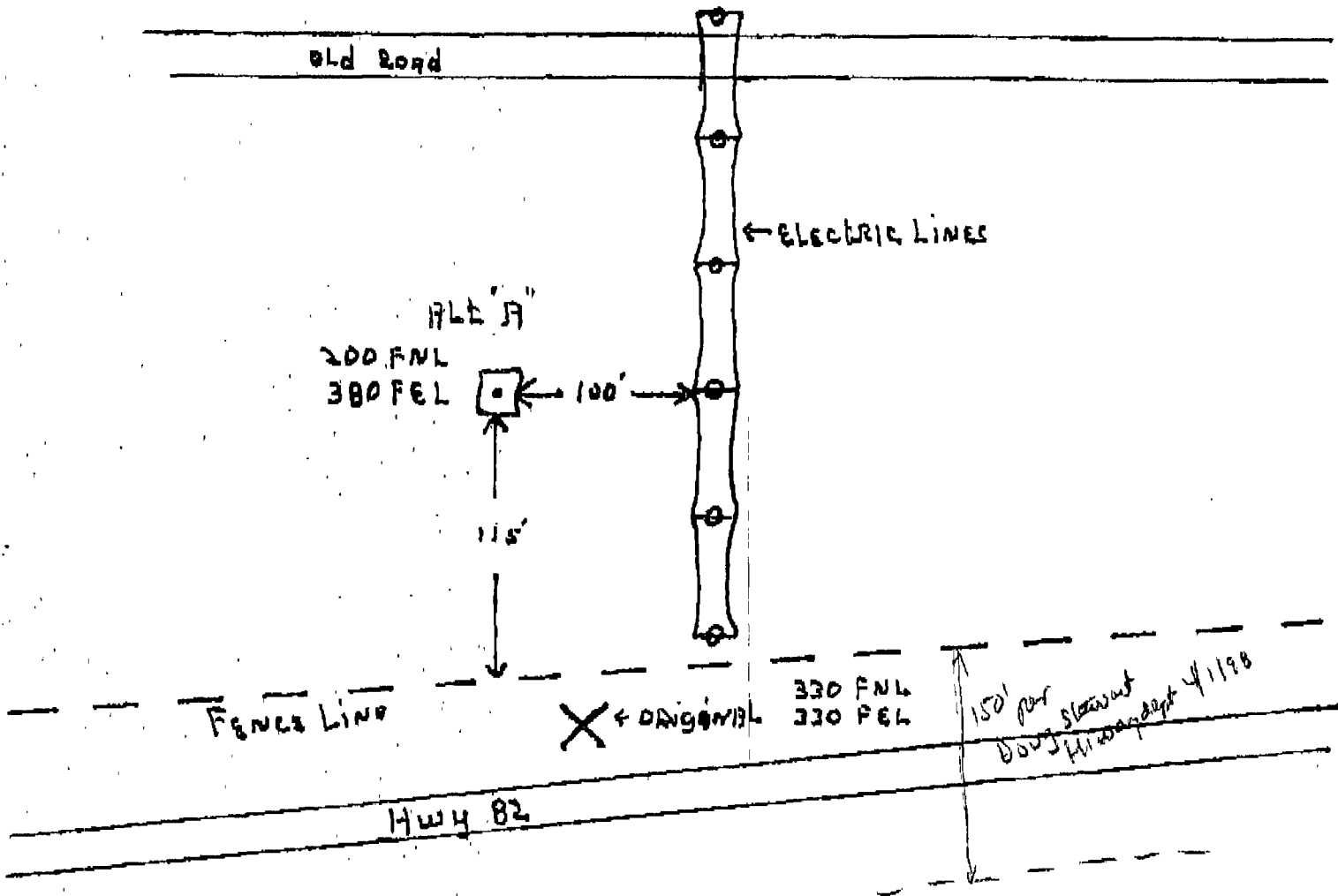
1,3

ARCO Permian

General Purpose Worksheet

Subject: <u>Idapl Washington #1</u>	Page No. <u>01</u>
File	Date <u>3/5/98</u>

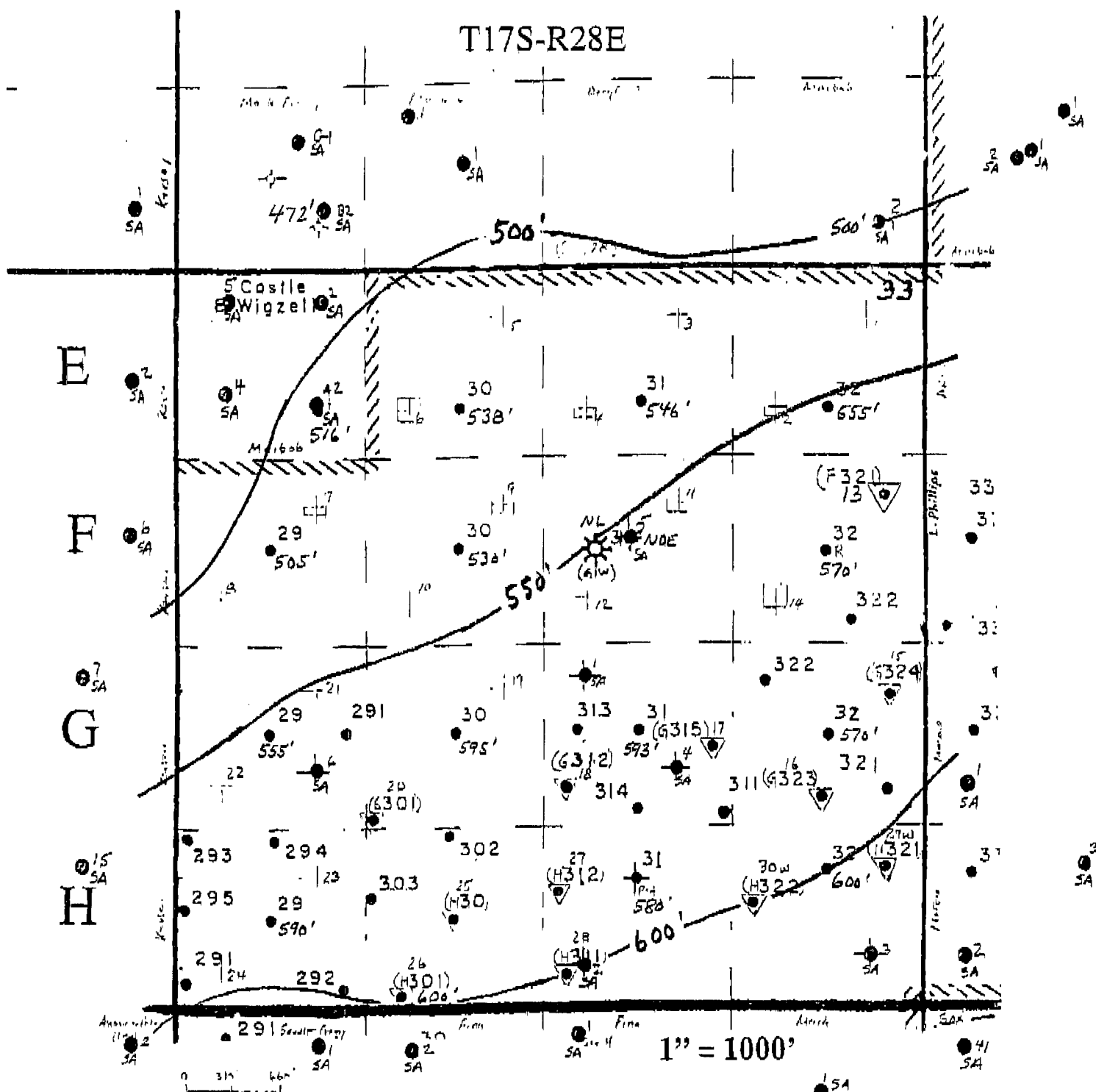
↑
N



ORIGINAL Loc. FELL 15' south of FENCE Line & 30' From Hwy 82 & 50' West of POWER LINES. Staked PILE 'A' 130' North & 50' West of ORIGINAL.

BRING ROAD in to North East corner of Loc. & put Pits on Southwest corner

T17S-R28E



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



Recomplete alternate in Yeso



Possible / contingent Yeso TD



SA

Relevant San Andres wells
Showing well #

