





**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 14, 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 an unorthodox location for its Washington "33" State #3, 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 1550'FEL 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 today's date, 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 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

**OFFSET OPERATORS  
WASHINGTON "33" STATE #3**

**Yates Petroleum Corporation  
105 South 4<sup>th</sup> 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**

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

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

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



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Regulatory/Compliance Analyst

April 14, 1998

**CERTIFIED RETURN RECEIPT MAIL**

Yates Petroleum Corporation  
105 South 4<sup>th</sup> Street  
Artesia, New Mexico 88210

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 #3 under Rule 104.F. (3), due to topographical and geological conditions. The location for this proposed well is 260'FNL and 1550'FEL of Section 33, T17S, R 28E, Eddy County, New Mexico.

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,

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

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April 14, 1998

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

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Regulatory/Compliance Analyst

April 14, 1998

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

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Midland, Texas 79705

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**Elizabeth A. Casbeer**  
Regulatory/Compliance Analyst

April 14, 1998

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

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Regulatory/Compliance Analyst

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**Geological and Engineering Attachment  
Washington "33" State #3**

ARCO Permian requests administrative approval for unorthodox locations for Washington 33 State #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 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 these reservoirs 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.

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

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

<sup>7</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
B	33	17S	28E		260	NORTH	1550	EAST	EDDY

<sup>8</sup> 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

<sup>9</sup> Proposed Pool 1

<sup>10</sup> Proposed Pool 2

ARTESIA (O-G-SA)

<sup>11</sup> Work Type Code	<sup>12</sup> Well Type Code	<sup>13</sup> Cable/Rotary	<sup>14</sup> Lease Type Code	<sup>15</sup> Ground Level Elevation
N	O	R	S	3677'
<sup>16</sup> Multiple	<sup>17</sup> Proposed Depth	<sup>18</sup> Formation	<sup>19</sup> Contractor	<sup>20</sup> Spud Date
NO	3200	SAN ANDRES		5/98

<sup>21</sup> 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#	3200	1200	CIRC. TO SURF.

<sup>22</sup> 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 3200' 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 3200' STRAIGHT HOLE.  
 3000 PSI BOPE WILL BE USED FORM 500' TO TD.

<sup>23</sup> 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: REG./COMP. ANALYST

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

OIL CONSERVATION DIVISION  
P.O. Box 2088

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

Santa Fe, New Mexico 87504-2088

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name <b>ARTESIA (Q-G-SA)</b>
Property Code	Property Name <b>WASHINGTON 33 STATE</b>	Well Number <b>3</b>
OGRID No. <b>000990</b>	Operator Name <b>ARCO PERMIAN</b>	Elevation <b>3677'</b>

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>B</b>	<b>33</b>	<b>17 S</b>	<b>28 E</b>		<b>260</b>	<b>NORTH</b>	<b>1550</b>	<b>EAST</b>	<b>EDDY</b>

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

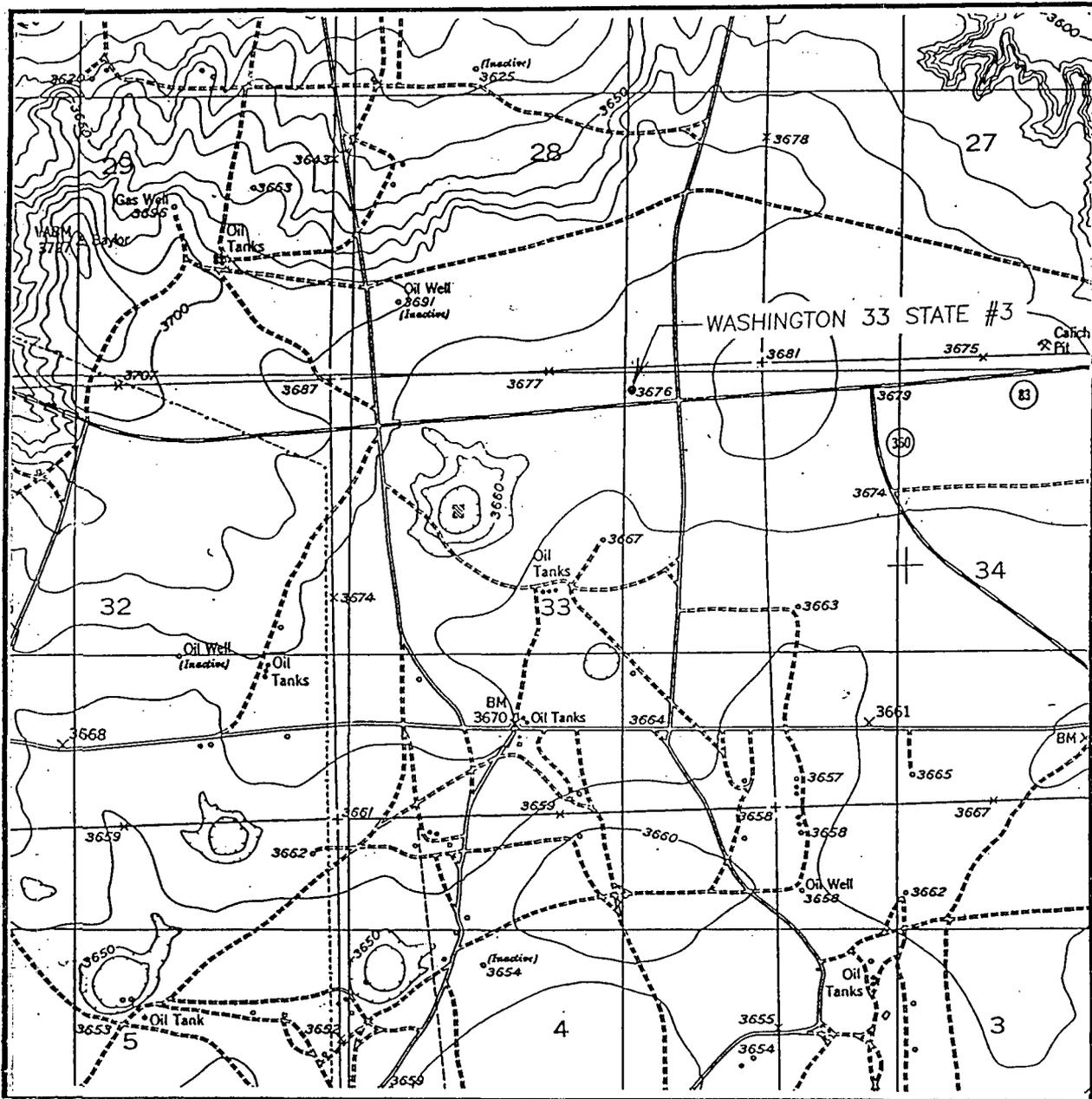
Dedicated Acres <b>40</b>	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Elizabeth A. Casbee</i> Signature</p> <p><b>ELIZABETH A. CASBEE</b> Printed Name</p> <p><b>REG/COMP.</b> Title</p> <p><b>4/14/98</b> Date</p>	
	<p><b>SURVEYOR CERTIFICATION</b></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><b>FEBRUARY 25, 1998</b> Date Surveyed</p> <p><b>CDG</b></p>	
	<p>Signature &amp; Seal of Professional Surveyor</p> <p><i>Ronald E. Edson</i> Professional Surveyor</p> <p><b>3-04-98</b> Date</p> <p><b>98-11-0548</b> Certificate No.</p>	
	<p><b>ROMALD E. EDSON</b> Professional Surveyor</p> <p>3239 12641</p>	



# 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 260' FNL & 1550' FEL

ELEVATION 3677'

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

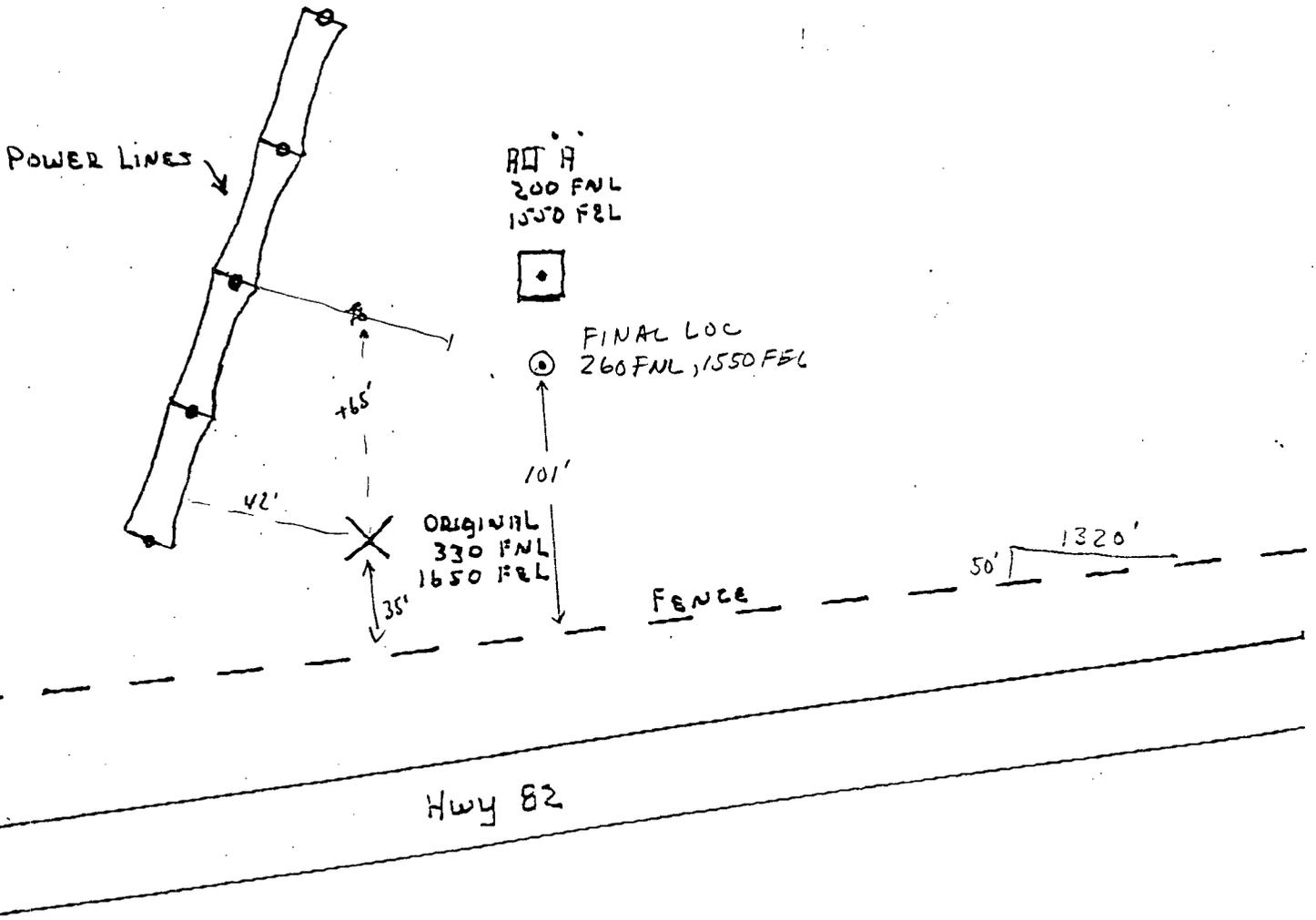
General Purpose Worksheet

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

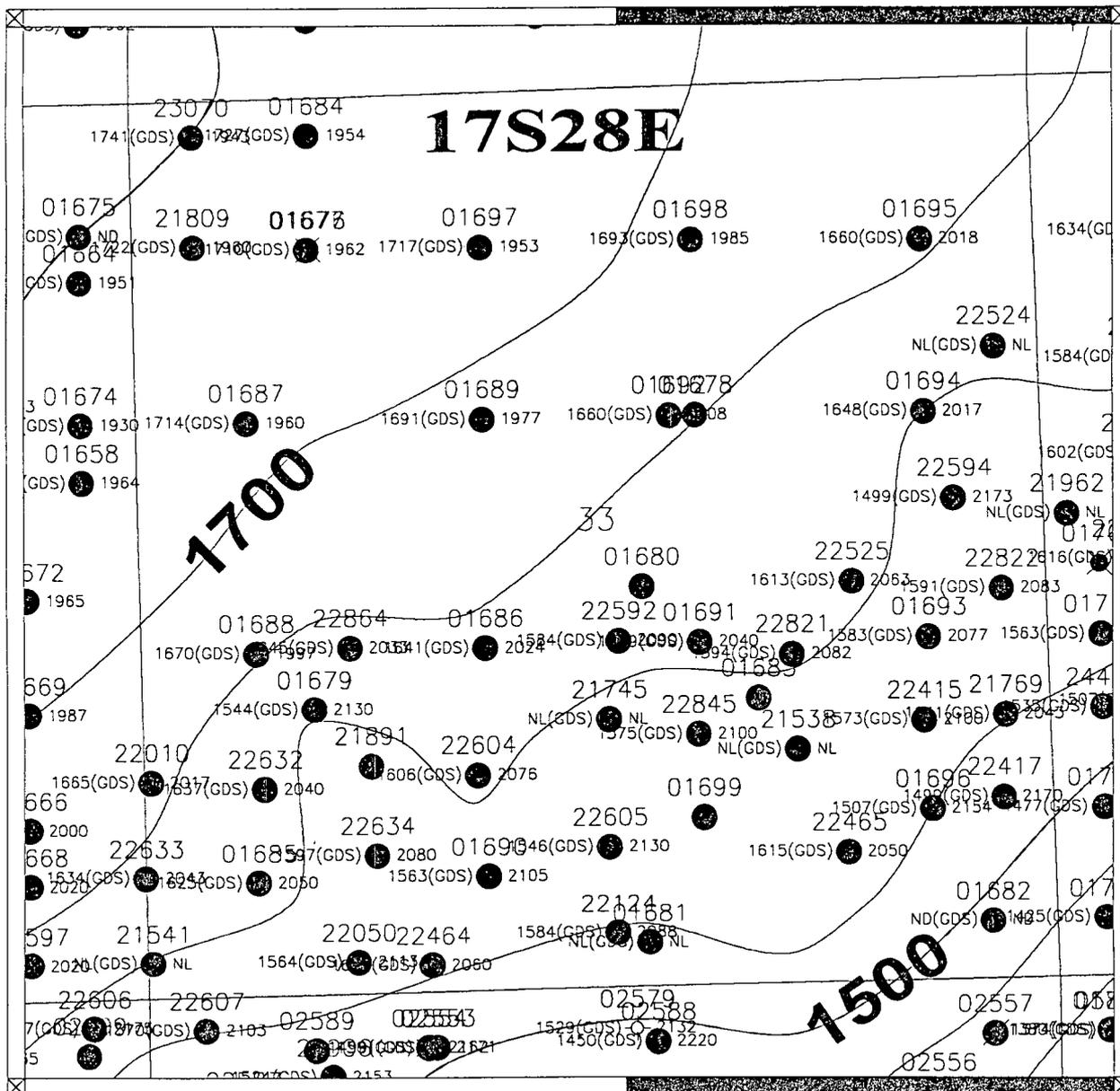


OLD LEASE ROAD

ORIGINAL FELL 35' NORTH of FENCE LINE  
 & 42' EAST of POWER LINES  
 STAKED ALT 'A' 130' NORTH & 100' EAST  
 of ORIGINAL  
 PITS ON N/E CORNER - ROAD ON N/W CORNER



Not to scale

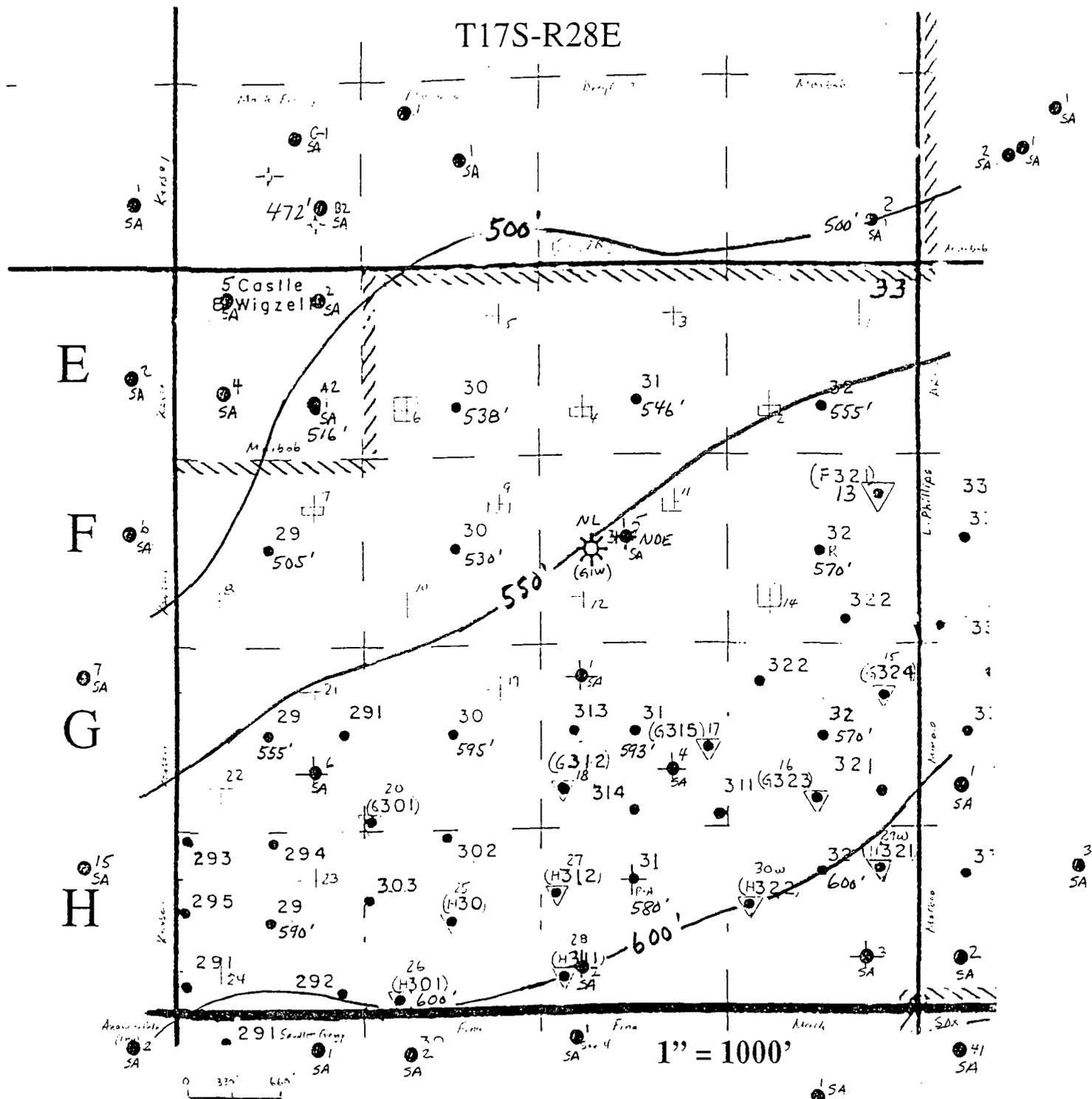


ARCO PERMIAN		
EDDY CO NM		
EMPIRE ABO		
SNDR STRUCTURE C.I.: 50'		
DPEARCY	EDDY CO OILJ	AZBB
OLMENEZ	Scale 1:12000	EMPIRE1A

Scale 1:12000.



# 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
- R Recomplete alternate in Yeso
- ⊞ Possible / contingent Yeso TD
- <sup>3</sup> Relevant San Andres wells  
 Showing well #  
 SA

●<sup>42</sup>  
 SA

3001501689

PAN GEO ATLAS CORP

**Gamma Ray Neutron  
Laterolog Survey**

FILE NO. \_\_\_\_\_

COMPANY SINCLAIR OIL & GAS COMPANY

WELL M. YATES B. ARC # 5

FIELD EMPIRE ABO

COUNTY EDDY STATE NEW MEXICO

LOCATION: 1980' FN & W LINE Other Services NONE

SEC 33 TWP 17S RGE 28-E

