



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

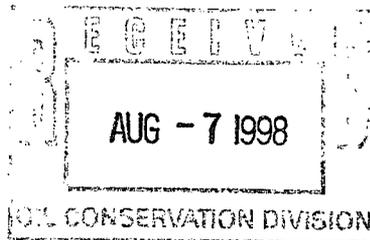
NSL 8/27/98

NSL-4003

August 4, 1998

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

*Change to
 Artesia*



Gentlemen:

Under the provisions of NMOCD Rule 104.F(5), ARCO Permian requests administrative approval for an unorthodox location for its Washington "33" State #12, a new well in the Artesia (Queen-Grayburg-San Andres) Field and the newly defined Empire-Glorieta-Yeso-SW pool, due to topography and geological conditions. The location for this proposed well is 2432'FNL and 2270'FEL of Section 33, T17S, R28E, Eddy County, New Mexico.

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

1. An amended C-101.
2. An amended C-102.
3. Geologic and Engineering Discussion.
4. A sketch plat showing topographical obstructions around the location.
5. NSL-4003 for Washington "33" State #12 dated April 14, 1998.
6. A Glorieta-Yeso type log (Washington "33" State #9).
7. San Andres type log (Washington "33" State #9).
8. Structure Map, Top Glorieta Sand.
9. Structure Map, Top San Andres.
10. Gross Pay, San Andres Dolomite.
11. Plat showing adjoining and diagonal spacing units.
12. List of offset operators.

All adjoining and diagonal spacing units are ARCO owned.

Should you have any questions, please do not hesitate to call me at 915-688-5570 or Dave Percy at 915-688-5355. Thank you for your assistance in this matter.

Sincerely,

Elizabeth A. Casbeer

Elizabeth A. Casbeer
 Regulatory/Compliance Analyst

EAC:lc

cc: NMOCD, Artesia, New Mexico

Enclosures

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

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

AMENDED REPORT

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

¹ Operator name and Address		² OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		³ API Number
		30-0
⁴ Property Code	⁵ Property Name	⁶ Well No.
22954	WASHINGTON "33" STATE	12

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
G	33	17S	28E		2432	NORTH	2270	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	¹⁰ Proposed Pool 2
ARTESIA (GLORIETA-YESO)	ARTESIA (Q-G-SA)

¹¹ Work Type Code	¹² Well Type Code	¹³ Cable/Rotary	¹⁴ Lease Type Code	¹⁵ Ground Level Elevation
N	O	R	S	3666'
¹⁶ Multiple	¹⁷ Proposed Depth	¹⁸ Formation	¹⁹ Contractor	²⁰ Spud Date
NO	4200	YESO		8/98

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 SURE
7-7/8	5-1/2	15.5#	4200'	1200	CIRC TO SURE

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 4200' TD W/SACT GEL
USING PRE-HYDRATED FW GEL SWEEPS. FL +/- 15CC. LOG WELL, RUN & CEMENT
5-1/2" CASING. COMPLETE AND TEST YESO FORMATION.

SUBJECT WELL PLANNED AS A 4200' 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	
	Approved by:	
Signature: <i>Elizabeth A. Casbeer</i>	Title:	
Printed name: ELIZABETH A. CASBEER	Approval Date:	Expiration Date:
Title: REG./COMP. ANALYST		

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

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

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

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 3230	Pool Name ARTESIA (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 12
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3666'

Surface Location

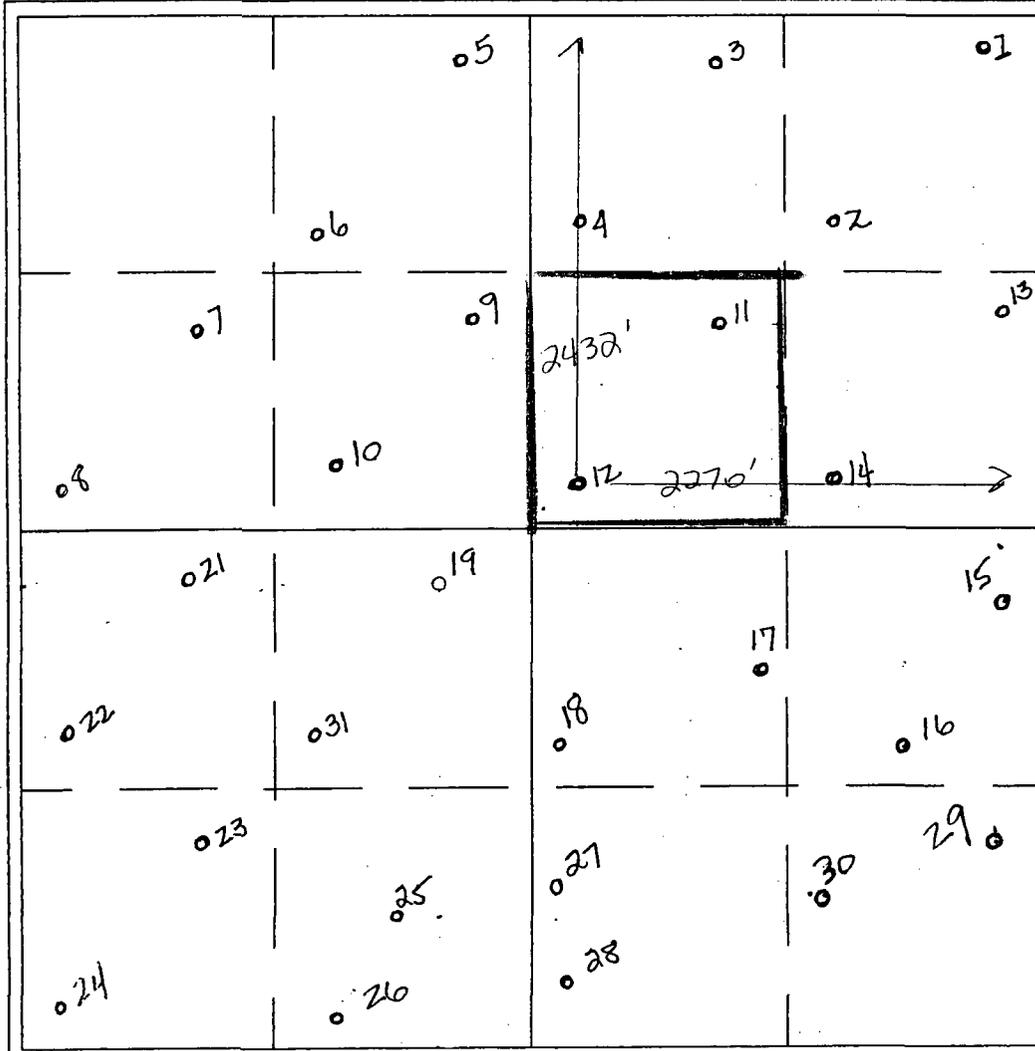
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	33	17 S	28 E		2432	N	2270	E	EDDY

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

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

Elizabeth A. Casbeer
Signature
ELIZABETH A. CASBEER
Printed Name
REG. COMP. ANALYST
Title
8/4/98
Date

SURVEYOR CERTIFICATION

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.

MARCH 3, 1998

Date Surveyed _____ DMCC
Signature & Seal of _____
Professional Surveyor
RONALD J. EDISON
NEW MEXICO
3239
5-4-98
98-11-0371

Certificate No. RONALD J. EDISON 3239
GARY EDISON 12641
JASON McDONALD 12185

DISTRICT I
P.O. Box 1880, Hobbs, NM 88241-1880

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 (GLORIETA-YESO)
Property Code	Property Name	Well Number
22954	WASHINGTON 33 STATE	12
OGRID No.	Operator Name	Elevation
000990	ARCO PERMIAN	3666'

Surface Location

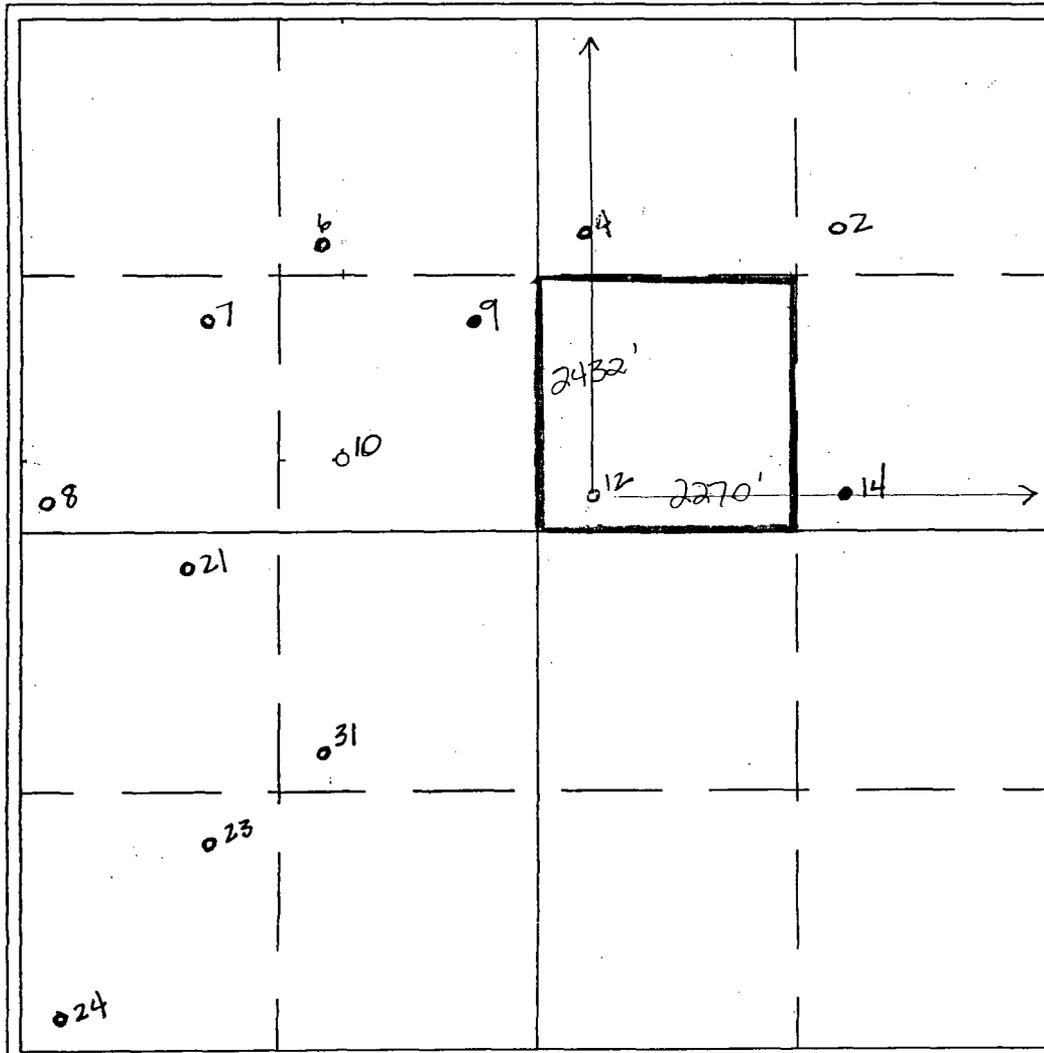
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	33	17 S	28 E		2432	N	2270	E	EDDY

Bottom Hole Location If Different From Surface

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OPERATOR CERTIFICATION

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

Elizabeth A. Casbeer
Signature

ELIZABETH A. CASBEER
Printed Name

REG. COMP. ANALYST
Title

8/5/98
Date

SURVEYOR CERTIFICATION

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.

FEBRUARY 26, 1998

Date Surveyed _____ CDG

Signature & Seal
Professional Surveyor

Ronald E. Edson
RONALD E. EDSON
3239
98-11-0553
3-04-98

Cert. No. _____
RONALD E. EDSON 3239
GARY EDSON 12641

Surface location Problems:

ARCO attempted to obtain an orthodox location for #12 at 2310' FN& EL, but was prevented access by a buried east-west flowline under the location (see engineer's sketch plat). We had to shift the location 122' south (to 2432 FNL, 2270 FEL) to allow adequate and safe setback from the pipeline for the small United rig we will use. Any location on the north side of the pipeline would be too close to #11 to effectively drain in-place oil. The location is unorthodox because of the north measurement. As shown on the attached plat, this unorthodox location is completely surrounded by other ARCO tracts in the same lease, so there will be no impact on any other party.

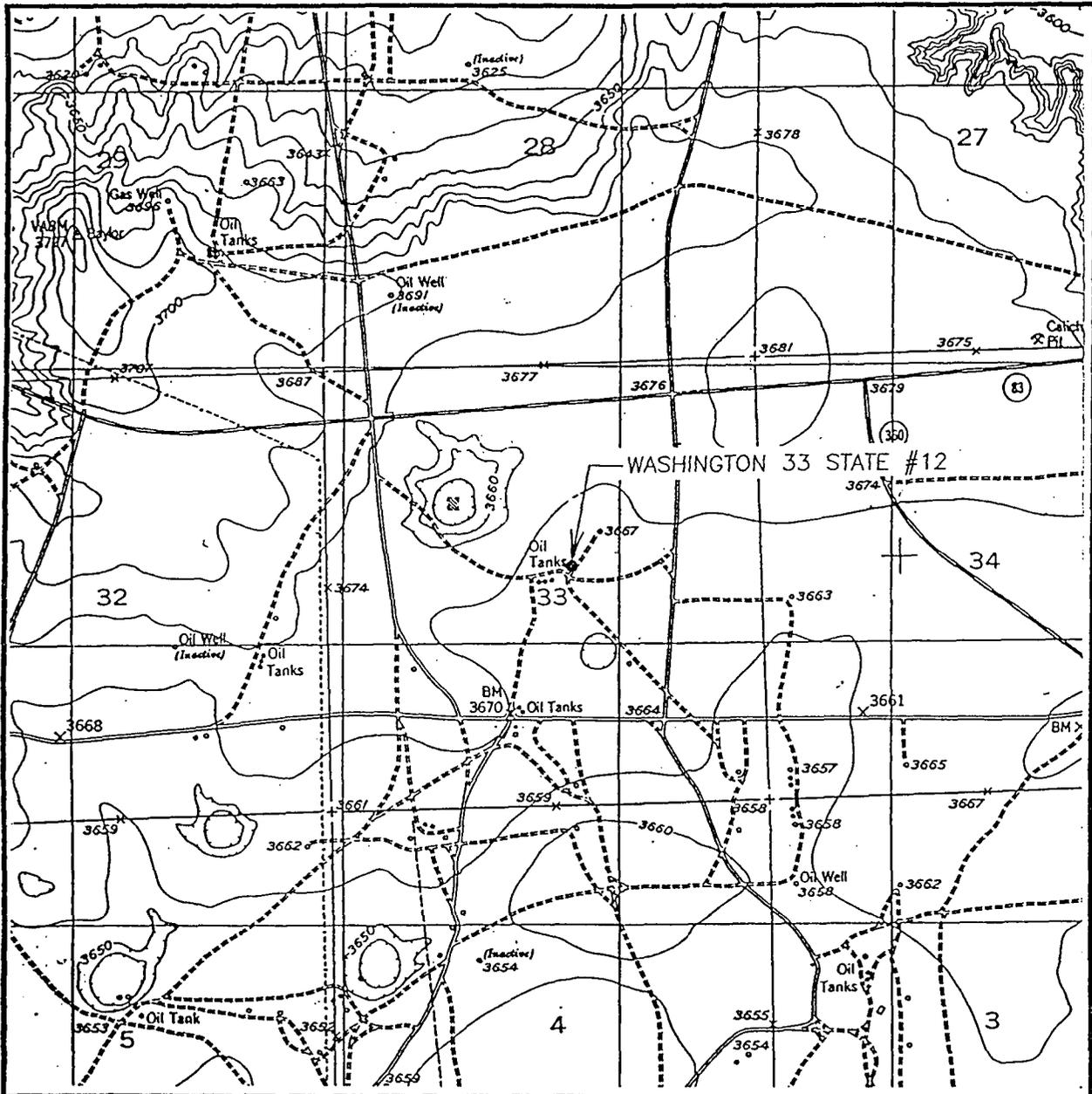
Engineering Justification for Revised NSL Request:

ARCO has already shown the need for 2 strategically spaced wells in each 40-acre tract to recover reserves in the Artesia (Q-G-SA) Field, with 550-600' of gross pay interval. The new Artesia (Glorieta-Yeso) Field, with similar pay type and 220-250' of gross pay, is expected to perform like the San Andres, with low-rate, long-life reserves. Analog San Andres fields indicate we should expect 50 MBO per completion on 20-acre spacing, while other Yeso fields suggest 35 MBO on 20-acre spacing from this deeper pay. Based on other Yeso fields in Eddy County, we expect high variability in pay count and oil rate from one 20-acre Yeso location to the next, and need to retain maximum flexibility to make economic completions. ARCO cannot justify drilling any new well for Yeso reserves alone, nor could we consider directional drilling. ARCO and the State of New Mexico would be best served if all wells were cased to enable Yeso completions.

Production Planning:

In most cases, we expect to complete first in the San Andres dolomite, unless logs or neighboring well performance indicates the Yeso is more prolific. We plan to soon apply to vertically expand the Artesia- Q-G-SA field to include the Yeso, and thus enable co-mingling Yeso with San Andres to keep the wells economic, as was done at Grayburg-Jackson Field by Marbob.

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 2432' FNL & 2270' FEL

ELEVATION 3666'

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



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

April 14, 1998

RECEIVED

APR 23 1998

REGULATORY

ARCO Permian
P. O. Box 1610
Midland, Texas 79702-1610
Attention: Elizabeth A. Casbeer

Administrative Order NSL-4003

Dear Ms. Casbeer:

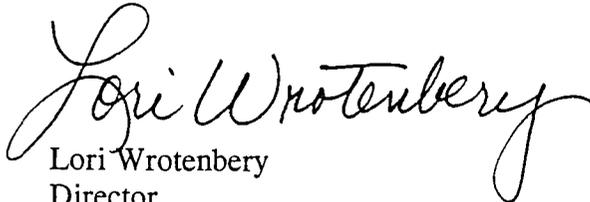
Reference is made to your application dated March 31, 1998 for an unorthodox oil well location in the Artesia Queen-Grayburg-San Andres Pool for the proposed Washington "33" State Well No. 12 to be drilled 2432 feet from the North line and 2270 feet from the East line (Unit G) of Section 33, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. The SW/4 NE/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.

Further, the NE/4, NE/4 NW/4, S/2 NW/4, and S/2 of said Section 33 compose a single State lease (New Mexico State Land Office Lease No. X-00647) in which ARCO Permian ("ARCO") is the leasehold operator; therefore, there are no affected offsets to the subject 40-acre tract within the Grayburg/San Andres interval other than ARCO.

The subject 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

orig: Vaughn - M10 19
cc: D. Pearson - M10 23
Murrish - EUN
Cherry

WELL: Washington '33' State No. 9
 FIELD: Yeso
 COUNTY: Eddy STATE: New Mex

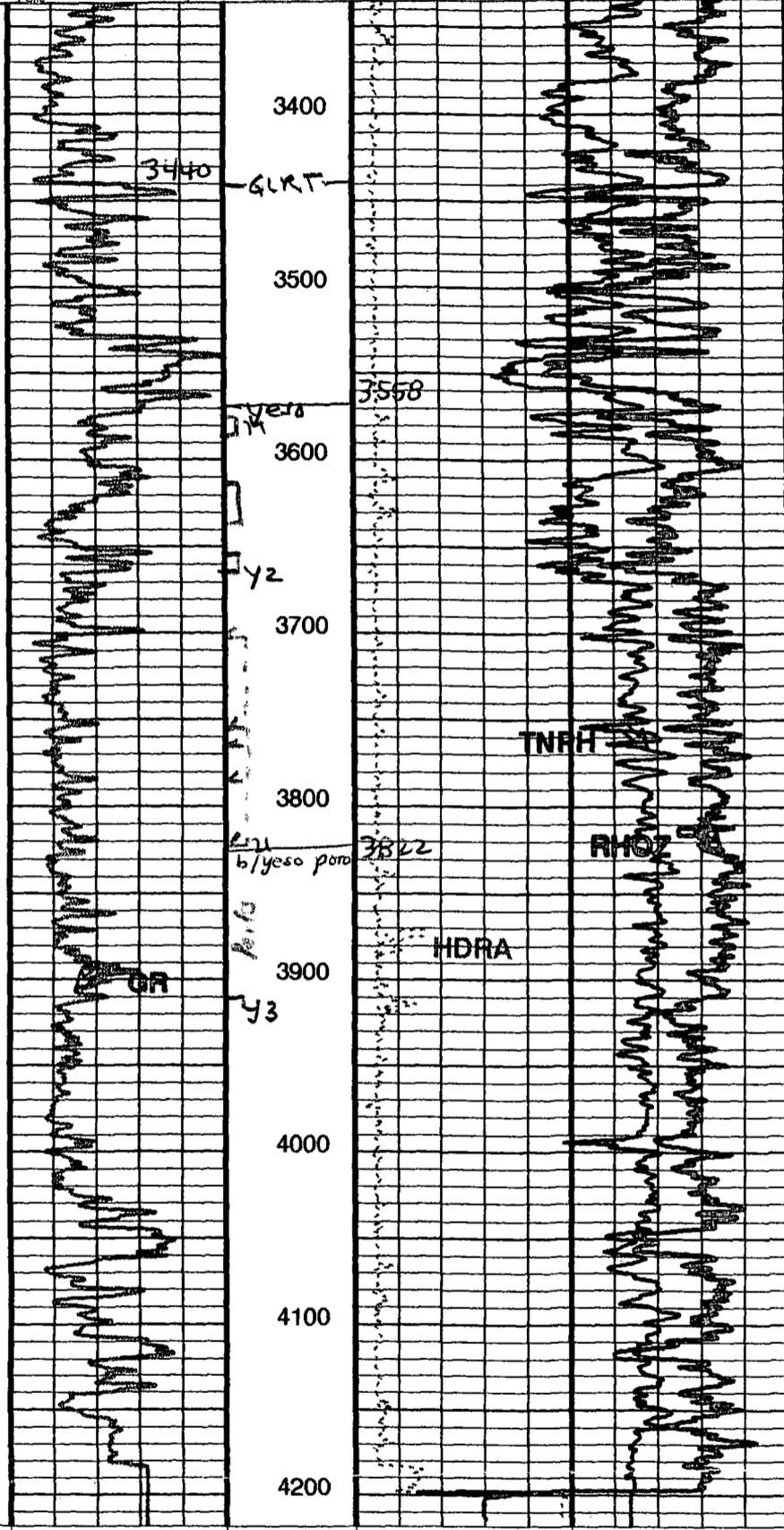
Glorieta-Yeso
 Type Log

Platform Express
 Schlumberger
 Three Detector Density
 Compensated Density

1650 FNL & 2270 FWL Elev.: K.B. 37
 G.L. 27
 D.F. 27

Permanent Datum: Ground Level Elev.: 3672 F
 Log Measured From: Kelly Bushing 7.0 F above P.D.
 Drilling Measured From: Kelly Bushing

API Serial No. 30-015-30191 SECTION 33 TOWNSHIP 17S R28E
 Logging Date 11-MAY-1998
 Run Number 01a



GR (GR)	HRDD Density Correction (HDRA)
0 (GAPI) 100	-0.05 (G/C3) 0.45
Stan Res Formation Density (RHOZ)	
2 (G/C3)	3
TNPH (TNPH)	
0.3 (V/V)	-0.1

PIP SUMMARY

Time Mark Every 60 S

Parameters

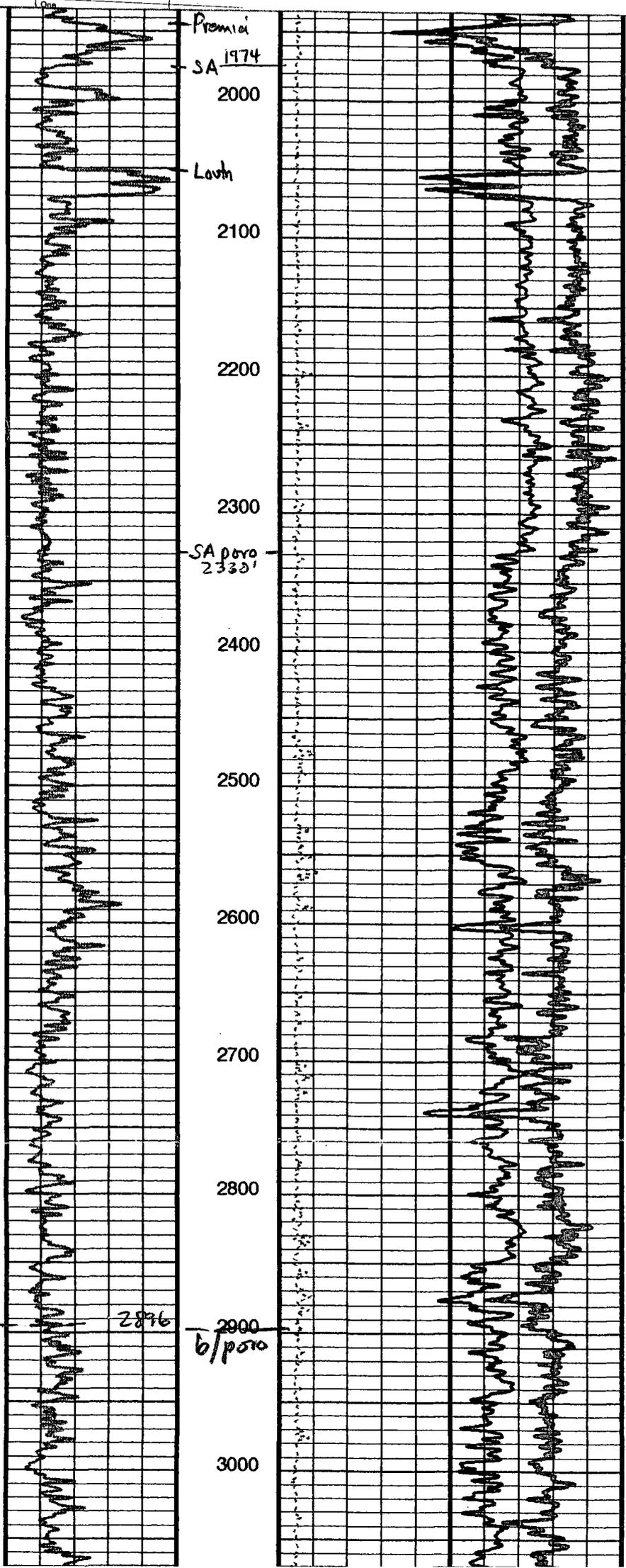
DLIS Name Description

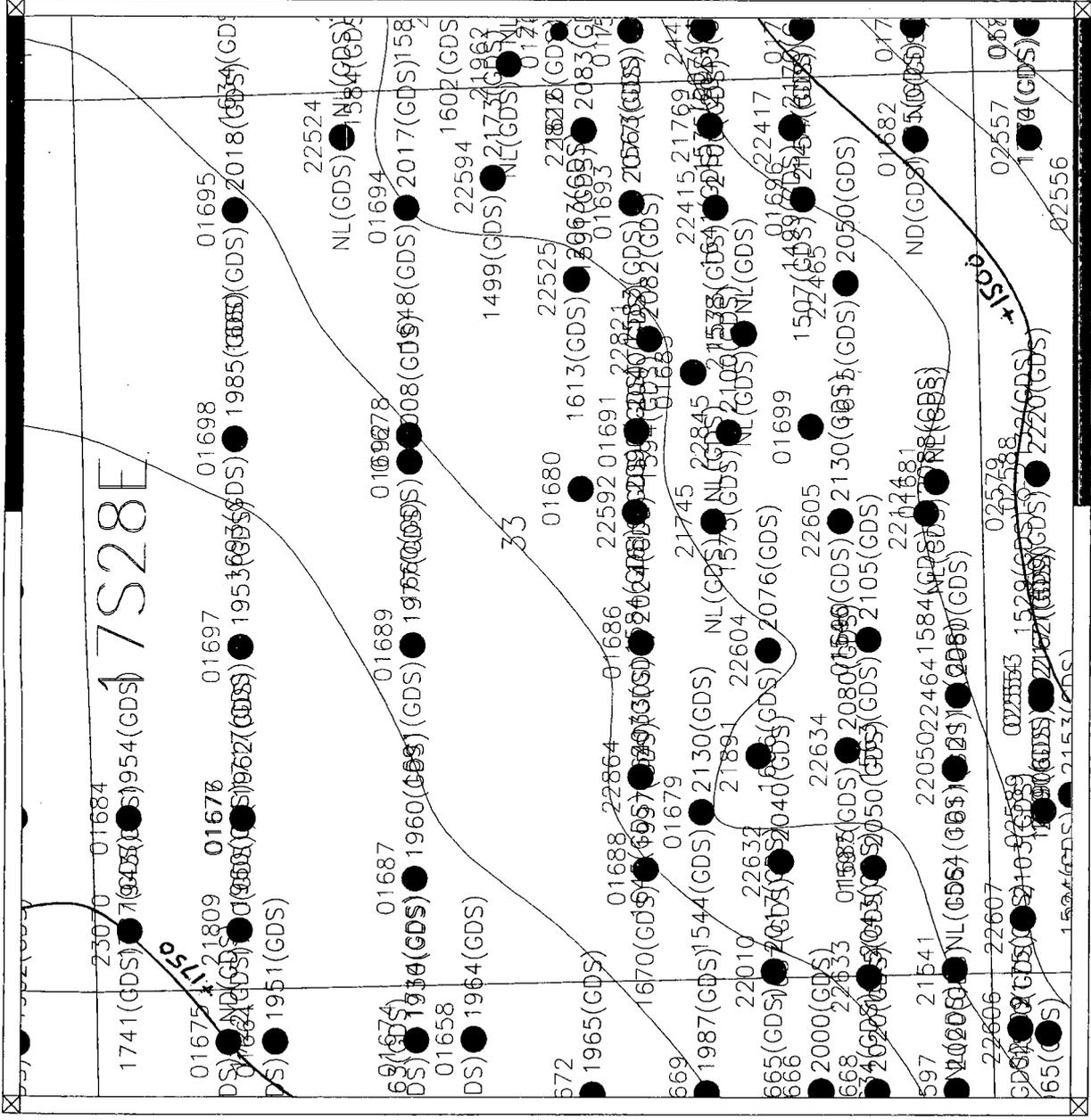
RHEI Residual Fluid Type

COMPANY: ARCO Permian
 WELL: Washington 33 State No. 9
 FIELD: Yeso
 COUNTY: Eddy STATE: New Mex

San Andres
 Type Log

Platform Express
 Schlumberger Three Detector Density Compensated Neutron Log
 1650 FNL & 2270 FWL
 Elev.: K.B. 3
 G.L. 3
 D.F. 3
 Permanent Datum: Ground Level Elev.: 3672 F
 Log Measured From: Kelly Bushing 7.0 F above P
 Drilling Measured From: Kelly Bushing
 API Serial No. 30-015-30191 SECTION 33 TOWNSHIP 17S R 28E
 Logging Date 11-MAY-1998
 Run Number One





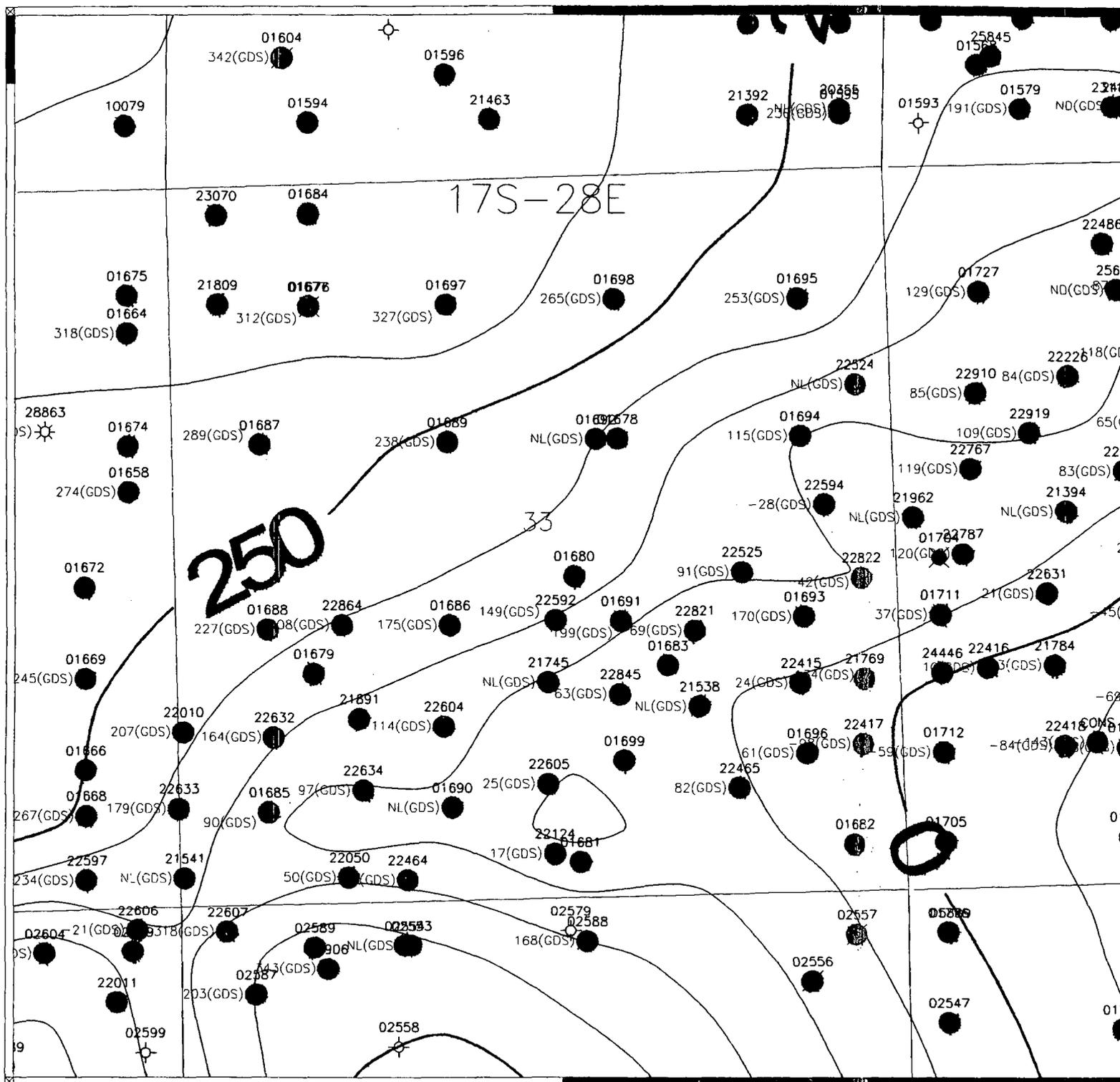
ARCO PERMIAN	
EDDY CO NM EMPIRE ABO SNDR STRUCTURE	
DISPATCH QUINEZ	EDDY CO LU Scale 1:1200 4/28 EMPIRE A

Scale 1:12000.



32.800

32.800



ARCO (Atlantic Richfield Company)

EDDY CO OIL
Empire Abo
Top Subsea GRLT C.I.: 50'

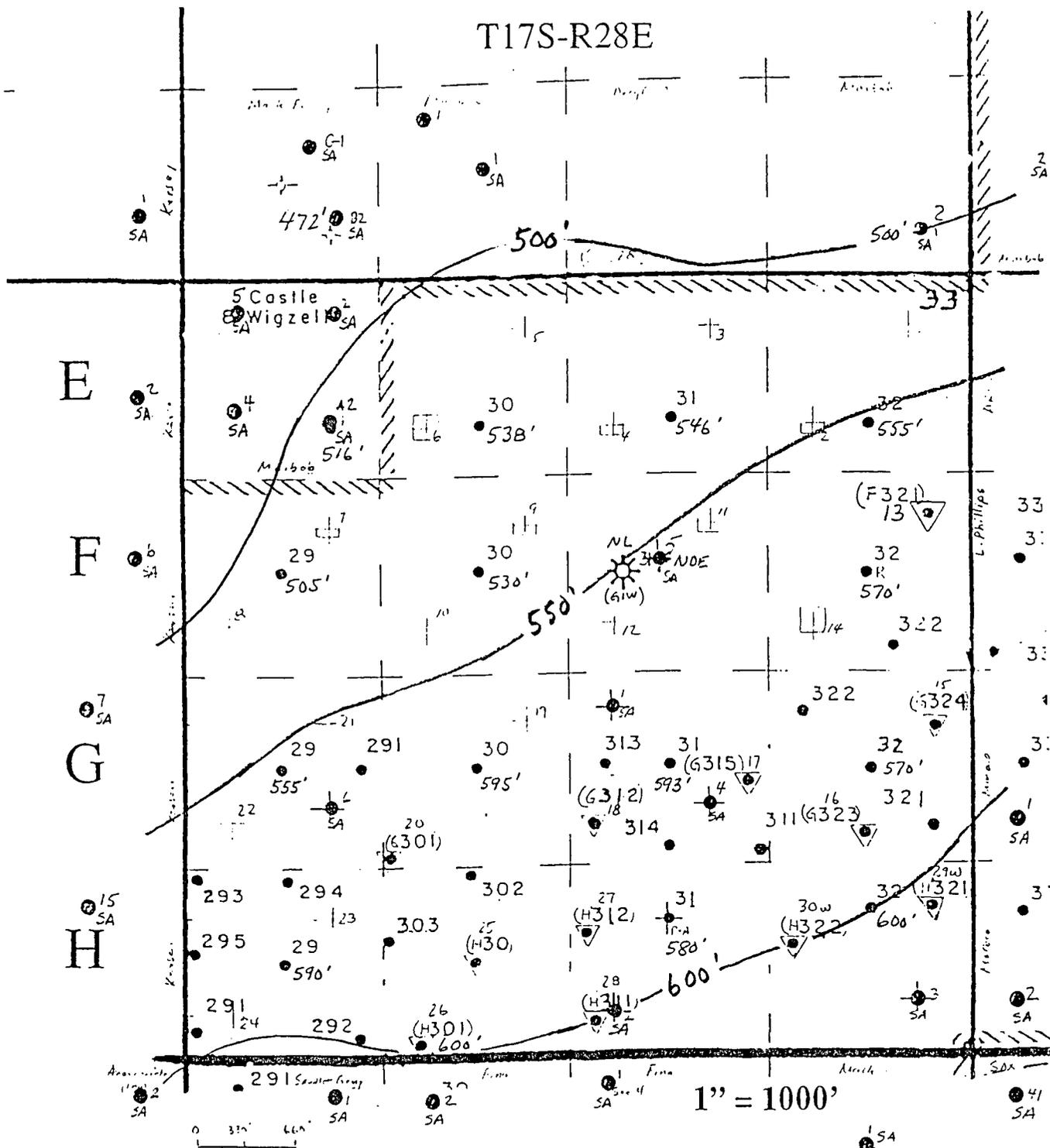
Jimenez Oscar	eddy co oil	8/3/98
DPearcy	Scale 1:12000	Empire's

Scale 1:12000.

0.1 0. 0.1 0.2 0.3 0.4 0.5 miles



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
- ³ Relevant San Andres wells
Showing well #

**OFFSET OPERATORS
WASHINGTON "33" STATE #12**

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