

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: July 30, 1996

Pages including this 2
cover page:

Dear Michael: Re: Washington 33 NSLs

ARCO will be requesting a revision of NSL-4060 (that you had kindly obtained for us for San Andres drilling) to enable us to drill and case Washington #19 to the 4200' Yeso. We are preparing a package similar to the one we submitted for the Artesia (Q-G-SA) applications, and ask for your comments if the attached Geologic Discussion for #19 would be adequate. If it is, we will do similar packages for the other two unorthodox wells, #12 (NSL-4003) and #23 (NSL-4060). Fortunately, the nine other new wells we plan to drill deeper are orthodox.

We will also plan to resubmit: ammended C-102
Structure map, Top Glorieta
Type log, Glorieta and Yeso.

Are there any other exhibits required? If you will need unchanged exhibits we sent for the earlier NSL (the topo map, engineers field sketch, and plat showing adjoining spacing units), please advise. I will be in the office today, Thursday, until 5 pm, but out Friday, 7/31. Will be back next week every day. How is your schedule to discuss this?

Thank you.
Dave

Draft

NSL-4060

**Geologic and Engineering Discussion for Amended Washington 33 State #19
(NSL-4060), Unit K of Section 33, T17s, R 28E, Eddy Co, NM**

ARCO Permian requests administrative approval for an unorthodox location for Washington 33 State # 19, a new well we now propose to drill to the Undesignated-Artesia (Yeso) Pool. This well is required for geologic reasons, and may be simultaneously dedicated to either San Andres or Yeso production along with Washington #31 (Yeso orthodox location being applied for) in Unit Letter K of Section 33. ARCO had been granted NSL-4060 approval for #19 for the Queen-Grayburg-San Andres pool, but modest new Yeso completions at Washington #9 and #14 now demonstrate that all remaining new wells in this section should be cased through the Yeso to allow for a low-cost completion in this deeper zone.

ARCO attempted to obtain an orthodox location for #19 at 2310 FS & WL, but was prevented access by a major Empire Abo tank battery and numerous flowlines. We have shifted the location for #19 to the NW (to 2360 FSL, 2165 FWL) to allow adequate and setback for the small United rig we will use.

ARCO will require 2 strategically spaced wells in each 40-acre tract to recover reserves in the Artesia (Q-G-SA) and Undesignated Artesia (Yeso) pools. Analog Yeso fields in Eddy County indicate high variability in pay count and oil rate from one 20-acre location to the next. ARCO and the State of New Mexico would be best served if all wells were cased to enable a Yeso completion. 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. As San Andres producing rates decline, we would plan to apply to co-mingle Yeso (expected reserves 50 MB per well) to keep the wells economic. At some later date, we anticipate the San Andres would be isolated and waterflooded.

The Artesia District Office is expected to approve our revised application for Yeso TD at an orthodox location for # 31 in the SW corner of Unit K. No orthodox location for #19 is available in this area due to topographical obstructions. Any shift south would place #19 too close to other wells to effectively drain the in-place oil. Directional drilling of these wells is untenable, since this would add approximately \$100,000 to the cost, and would not be economically justified with the modest reserves.

Since this unorthodox location is completely surrounded by other ARCO tracts in the same lease, there will be no impact on any other party.

Was19yeso

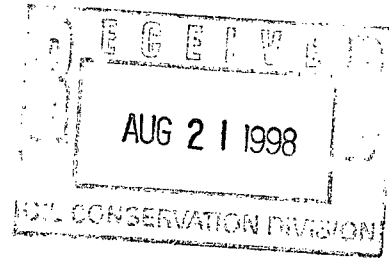


ARCO Permian
600 North Marienfeld
Midland TX 79701-4373
Post Office Box 1610
Midland TX 79702-1610
Telephone 915 688 5570

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

NSL 9/10/98

NSL-4060



August 20, 1998

Oil Conservation Division
Attn: Michael Stogner
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 locations for its Washington "33" State #16, 17, 27, and 30, recompletions of previously drilled wells in the Empire Abo Unit, to the Artesia (Glorieta-Yeso) or Artesia (Queen-Grayburg-San Andres) Pools. All wells are located in Section 33, T17S, R28E, Eddy County, New Mexico. We requests an amendment to Administrative Order NSL-4060 dated 6/19/98, to include Artesia (Glorieta-Yeso) Pool.

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

1. Amended C-101s
2. Amended C-102s
3. Geologic and Engineering Discussion
4. A Glorieta-Yeso type log (Washington "33" State #9).
5. San Andres type log (Washington "33" State #9)
6. Structure Map, Top Glorieta Sand.
7. Structure Map, Top San Andres.
8. Gross Pay, San Andres Dolomite.
9. Plat showing adjoining and diagonal spacing units.

All wells are 330' or more from the outside boundary of the lease, therefore ARCO Permian deemed the offset operators as unaffected parties and no offset owners were notified.

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

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, 199
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☒ 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 15-22415
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 16

⁷ Surface Location									
UL or lot no. I	Section 33	Township 17S	Range 28E	Lot. Idn	Feet from the 1500	North/South Line SOUTH	Feet from the 700	East/West line EAST	County 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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3664'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 7/98

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	600'	300	SURE
7-7/8	5-1/2	15.5	6197'	1225	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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT G-323 IN 1978. TD @ 6219'.
PRODUCED ABO IN OPEN HOLE 6197' - 6219' UNTIL 1991. TESTED ABO PERF 5866' - 5880' 2-4-98.
SET CIBP W/2 SXS CEMENT ON TOP 2-11-98. IT IS PROPOSED TO TEST THE GLORIETA-YESO OR THE QUEEN-GRAYBURG-SAN ANDRES. RUN CNL-GAMMA RAY CCL AND PERF AS INDICATED BY LOG.
TEST AND FRAC AS NEEDED.

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: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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Revised February 10, 1994
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OIL CONSERVATION DIVISION

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-22415	Pool Code	Pool Name Artesia (Glorita - Yeso) or Artesia (Q.G.S.A)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 16
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3664'

Surface Location

UL or lot No. I	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 1500	North/South line SOUTH	Feet from the 700	East/West line EAST	County EDDY
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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	Order No.						

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

05	03	01
06	04	02
07	09	013
08	012	014
021	019	17
022	031	16 700'
023	035	1500'
024	026	

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.
Title
5/20/98
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
Signature & Seal of Professional Surveyor
RONALD J. EDISON
Professional Surveyor
3239
5-4-98
98-11-037

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

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

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Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
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Santa Fe, NM 87505

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☒ 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 15-22821
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 17

⁷ Surface Location									
UL or lot no. J	Section 33	Township 17S	Range 28E	Lot. Idn	Feet from the 1900	North/South Line SOUTH	Feet from the 1450	East/West line EAST	County 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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3663'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 7/98

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	751'	400	SURF
7-7/8	5-1/2	15.5	6370	1900	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

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT G-315 IN 1979. TD @ 6370'. TESTED ABO 5794'-6280'. PROPOSED TO ABANDON THE ABO AND TEST THE GLORIETA-YESO OR THE QUEEN-GRAYBURG-SAN ANDRES. SET CIBP @ 5750' W/35' CEMENT ON TOP. RUN CNL GAMMA FAY-CCL AND PERF AS INDICATED BY LOG. TEST AND FRAC AS NEEDED.

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

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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 30-015-22921	Pool Code	Pool Name Artesia (Glorieta-Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 17
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3663

Surface Location

UL or lot No. J	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 1900	North/South line SOUTH	Feet from the 1450	East/West line EAST	County EDDY
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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	Order No.						

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

05	03	01
06	04	02
07	09	011
08	012	014
021	019	17
022	031	1450'
023	025	1900'

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
RES./COMP.
Title
5/20/98
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
Signature
Professional Surveyor
RONALD J. EDSON
3239
5-4-98
58-11-0378

DMCC

Cert. No. RONALD J. EDSON 3239
GARY EDSON 12641
PROFESSIONAL SURVEYOR-MCDONALD 12185

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

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Santa Fe, NM 87505

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☒ 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 15-22605
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 27

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
0	33	17S	28E		815	SOUTH	2525	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 (GLORIETA-YESO) 96830

¹⁰ Proposed Pool 2

ARTESIA (Q-G-SA) 3230

¹¹ Work Type Code P	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3668'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 8/98

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	778	550	SURF
7-7/8	5-1/2	15.5	6405	1555	550' CBL

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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT H-312 IN 1978. TD @ 6405'. TESTED ABO @ 6058'-6281'. TA'D W/CIBP @ 6042' 6/20/91. PROPOSED TO DUMP 35' CEMENT ON CIBP @ 6042'. RUN CNL-GAMMA RAY-CCL AND PERF GLORIETA-YESO OR QUEEN-GRAYBURG-SAN ANDRES AS INDICATED ON LOG. TEST AND FRAC AS NEEDED.

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: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410DISTRICT 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 30-015-22605	Pool Code	Pool Name Artesia (Glorieta Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 27
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3665'

Surface Location

UL or lot No. 0	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 815	North/South line SOUTH	Feet from the 2525	East/West line EAST	County EDDY
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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
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Dedicated Acres 40	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

05	03	01
06	04	02
07	09	011
08	010	012
021	019	017
022	031	018
023	025	016
024	026	027

2525'

815'

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

6/3/98
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

Signature of Surveyor

Professional Surveyor of

NEW MEXICO

3239

5-4-98

68-11-038

Cert. No. RONALD S. EDISON 3239

GARY EDISON 12641

PROFESSIONAL SURVEYOR McDONALD 12185

District I
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District II
811 S. 1st Street, Artesia, NM 88210-2834
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¹ Operator name and Address ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		² OGRID Number 000990
		³ API Number 30-0 15-22465
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 30

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
P	33	17S	28E		750	SOUTH	1150	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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3662
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 3-28-78


²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	600	300	SURE
7-7/8	5-1/2	15.5	6262	1275	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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT H-322 IN 1978.
TD @ 6290' OH. TESTED ABO @ 6262-6290' OH & 6150-6230' PERFS. TA'D W/
CIBP @ 6147' ON 6-19-91. PROPOSE TO DUM 35' CEMENT ON CIBP @ 6147'. RUN
CNL-GAMMA RAY-CCL AND PERF THE GLORIETA-YESO OR Q-G-SA AS INDICATED ON LOG.
TEST AND FRAC AS NEEDED.

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

Signature: 	OIL CONSERVATION DIVISION	
Printed name: ELIZABETH A. CASBEER	Approved by:	
Title: REG./COMP. ANALYST	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
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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 30-015-22465	Pool Code	Pool Name Artesia (Glorieta-Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 30
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3662

Surface Location

UL or lot No. P	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 750	North/South line SOUTH	Feet from the 1150	East/West line EAST	County EDDY
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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	Order No.						

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

	05	03	01
	06	04	02
07	09	11	13
08	10	12	14
21	19	17	15
22	31	18	16
23	25	27	29
24	26	28	30

OPERATOR CERTIFICATION

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

Laurie Cherry
Signature
LAURIE CHERRY
Printed Name
REG COMP. ASST.
Title
6/16/98
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
Signature
Professional Seal
NEW MEXICO
RONALD E. McDONALD
5-4-98
2339
12641
12185

State No. RONALD E. McDONALD
Certified Professional Surveyor

**Geologic Discussion for Amended NSL-4060 at Artesia (Glorieta-Yeso) Field
(ARCO's Washington "33" State #16, 17, 27, and 30)
Section 33, T17S, R 28E, Eddy Co, NM**

Summary:

ARCO Permian requests an amendment of NSL-4060 to allow recompletion of four unorthodox Washington 33 State wells into the Artesia (Glorieta-Yeso) Pool. We now plan to recomplete these wells first in the Artesia (Glorieta-Yeso) Pool, rather than the Artesia (Q-G-SA) Pool as authorized by the current NSL. These unorthodox recompletions are required for geologic and engineering reasons. All interests on this 600-acre State Land Office Lease No. X-00647 lease are common, and ARCO holds 100% of all rights down to the top of Abo shale.

Background of ARCO NSL Requests in the area:

ARCO was granted blanket NSL-4060 on June 19, 1998 for completing these wells (and three additional ones) to the Artesia (Queen-Grayburg-San Andres) Pool. Division Administrative Orders NSL-915-A, NSL 915-B, NSL 809-A, NSL 999-A, NSL-4003, NSL-4007, NSL-4035, and NSL-4036 have also been granted for other unorthodox Artesia (Queen-Grayburg-San Andres) locations on the same lease. Recent testing (documented below) now indicates that recompletion of the Glorieta-Yeso zone FIRST would be more economically feasible than completing first in the San Andres and adding the deeper Yeso later. We are therefore requesting an amended NSL-4060 to enable us to complete in the Yeso in any unorthodox well that is no closer than 330' to the outer boundary of the lease. We also request that three other unorthodox wells cited in NSL-4060 (#18, 19 and 23) also be approved for Glorieta-Yeso completion under the "blanket" provisions of an amended NSL-4060.

Washington #9 and #14 Results:

In June 1998, ARCO completed Washington #9 in unit letter F of Section 33 for 28 BOPD, 65 MCFD and 716 BWPD, but the well has declined to about 10 BOPD. A copy of this log showing the Yeso dolomite pay is attached. Washington #14 in Unit letter H was also completed in June from the Yeso, and potential for 9 BOPD, 25 MCFD, and 863 BWPD, and now pumping around 40 BOPD. This new field has been designated the Artesia (Glorieta-Yeso) Pool. These wells also have uphole San Andres pay, as shown on the second attached log.

Geology:

The Yeso (the upper part of which is sometimes called the Paddock Formation) is a fine-crystalline, anhydritic, slightly vuggy dolomite that lies under the Glorieta sand. The lower Yeso (which we are not producing from) is sometimes called the Blinbry, Tubbs, and Drinkard in Lea County. A structure map of the top Glorieta sand, which is a better geologic marker than the Yeso, has been provided. This map shows up to 5-degree dip to the SE in Section 33, with the "crest" of the structure plunging due east, one mile north of us in Section 28. The gross 250' of Yeso pay we produce from is the same dolomite interval as found at Atoka (Glorieta/Yeso) Field, East Empire (Yeso) Field, and is the deeper Grayburg-Jackson (4000' San Andres) pay. This dolomite rarely produces without a major frac job.

The San Andres dolomite is an established pay from offset wells adjacent to our Washington lease, and maps showing top San Andres Structure and Gross Pay are included. The San Andres structure dips SE and is similar to the Glorieta structure. Gross San Andres pay interval across Section 33 ranges from 500 to 600'.

Engineering Justification for Revised NSL Request:

ARCO will need 2 strategically spaced wells in each 40-acre tract to recover 50 MBO per well in the Artesia (Q-G-SA) Field. The Glorieta-Yeso pay, with about 35 MBO per 20-acre location, is marginally economic, but only if completion cost is minimized. Completing and fracking first in the Glorieta-Yeso, and later in the San Andres will save us approximately \$30,000 compared to completing the Yeso after the San Andres. We will also avoid the substantial risk of sticking a packer with San Andres perforations open, if we fracture-treat the lower (Yeso) zone first. ARCO and the State of New Mexico would be best served if recompletions in the Glorieta-Yeso were authorized and performed first.

Production Planning:

Since the Glorieta-Yeso appears productive over most of the lease, we now expect to complete first in this interval, unless logs or neighboring well performance indicates the Yeso is not prospective. 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.

Conclusion

ARCO respectfully requests approval to recomplete these four wells to the Glorieta-Yeso pay as soon as possible. All wells cited in NSL-4060 are at least 330' from the outside boundary of the lease, and no offset owner notification is required.

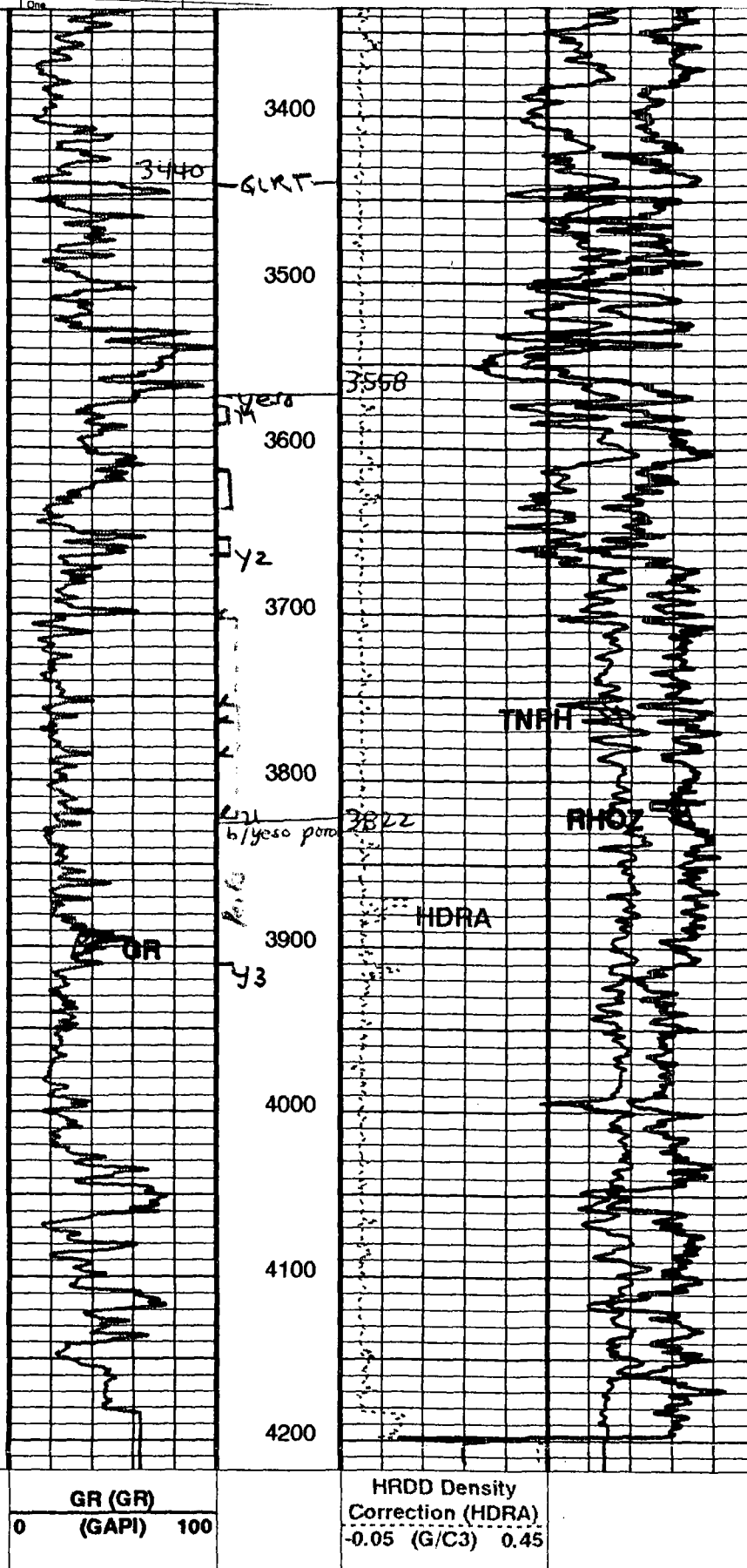
WasRCyeso

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

Glorieta- Yeso
Type Log

Platform Express
Three Detector Denr
Compensated Neutr.
1650 FNL & 2270 FNL
Elev.: K.B. 3
G.L. 3
D.F. 3
Permanent Datum: Ground Level
Log Measured From: Kelly Bushing
Drilling Measured From: Kelly Bushing
Elev.: 3672 F
7.0 F above P.
API Serial No. 30-015-30101
SECTION 33 TOWNSHIP 17S
Logging Date 11-MAY-1968
Run Number One

R28E



PIP SUMMARY

Time Mark Every 60 S

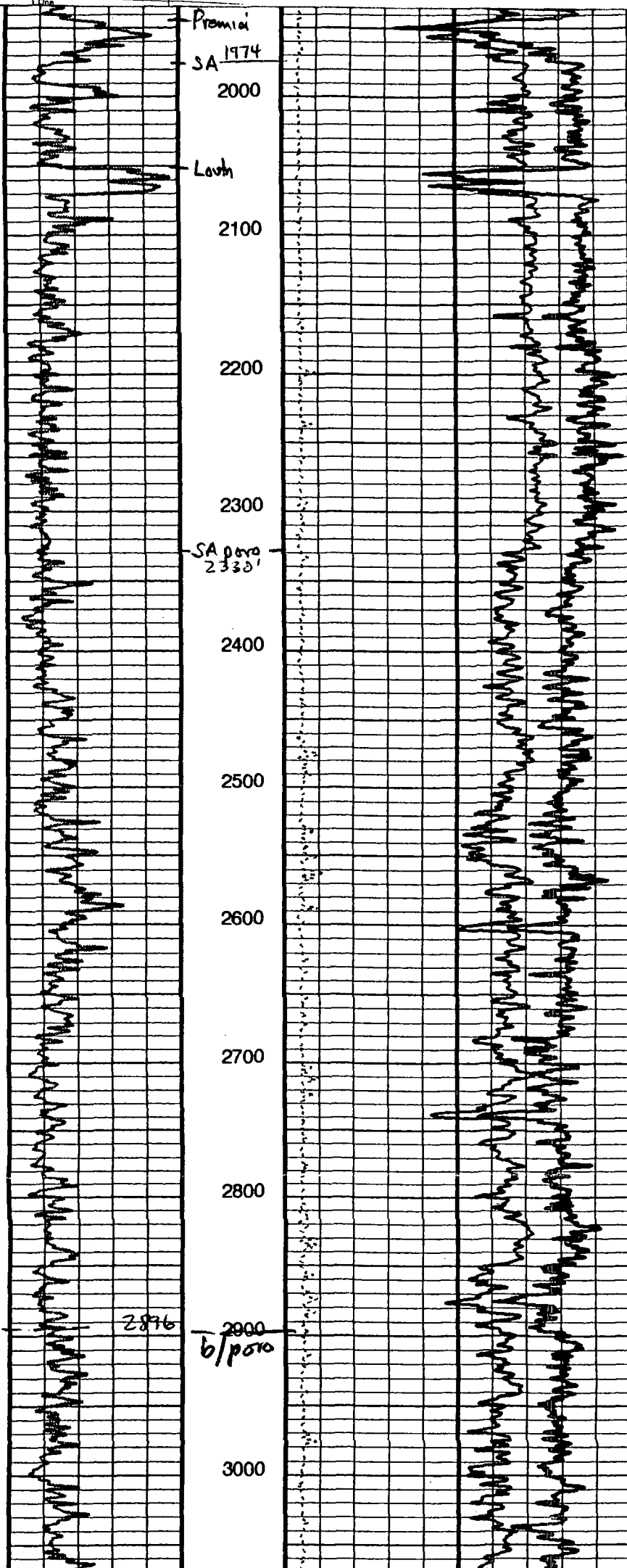
Parameters

DLIS Name Description

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

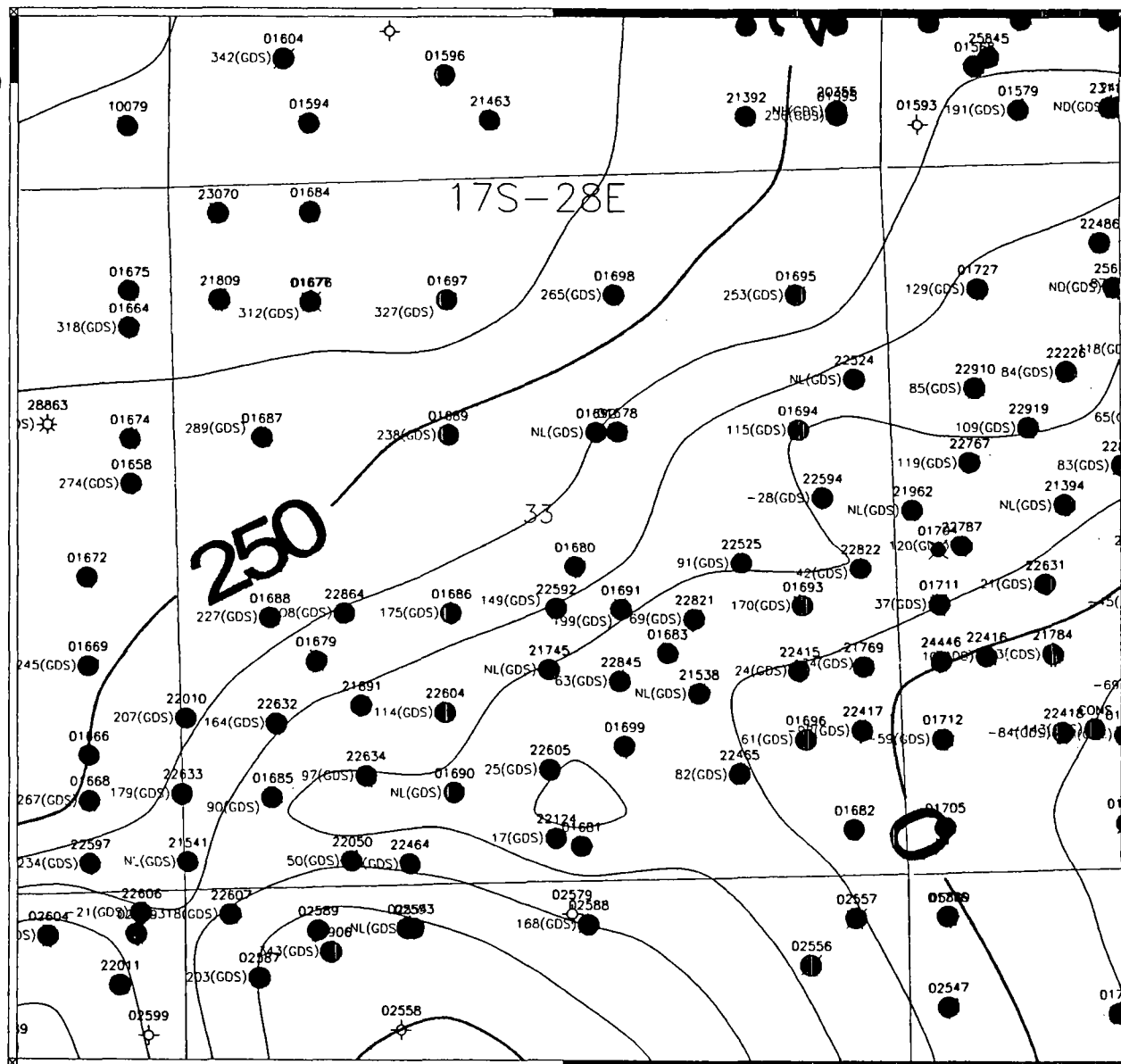
San Andres
 Type Log

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



32.800

32.800

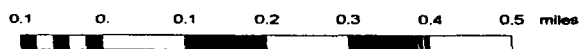


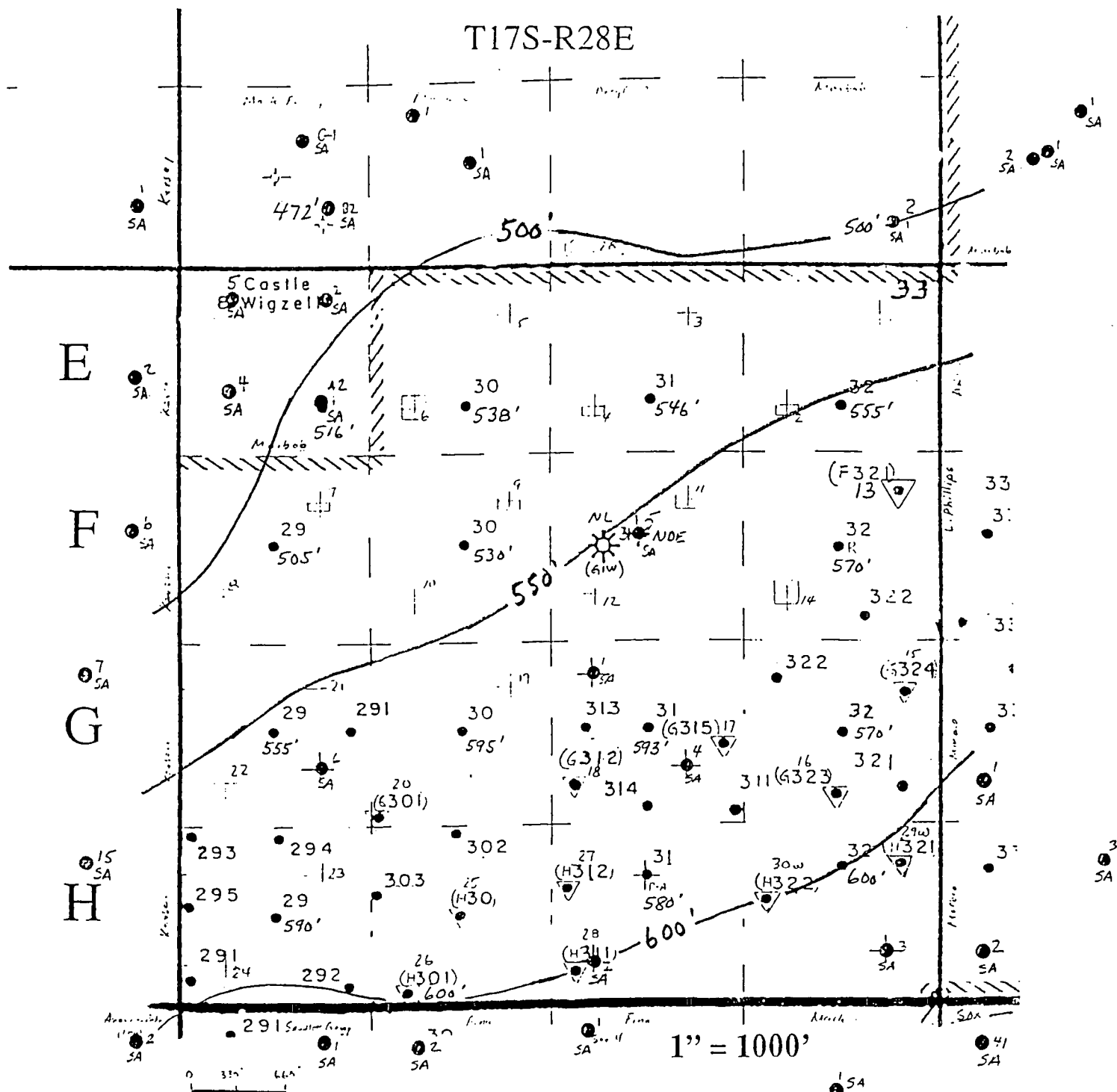
ARCO (Atlantic Richfield Company)

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

Operator	eddy co olj	8/9/88
Company	Scale 1:12000	Empire Abo

Scale 1:12000.





ARCO Permian

GROSS PAY, SAN ANDRES DOLA.

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



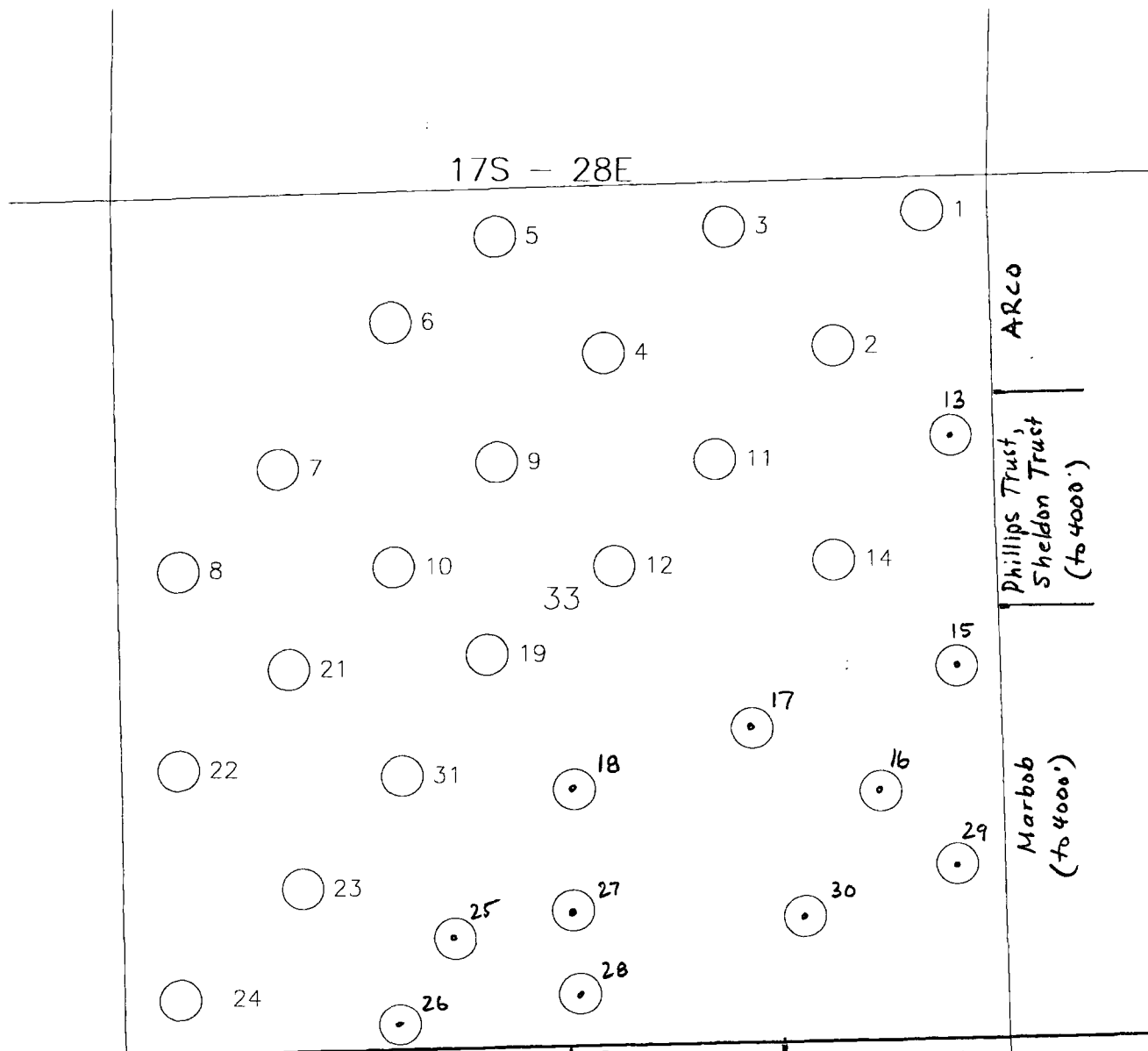
Recomplete alternate in Yeso



Possible/contingent Yeso TD



Relevant San Andres wells
Showing well #



ARCO (Atlantic Richfield Company)		
EDDY CO OILJ WASHINGTON DRILLING PROGRAM SECTION 33 T17S - R28E		
Jimenez Oscar	EDDY CO OILJ	8/18/88
DPEARCY	Scale 1:12000.	DPLAND/ADDONWV



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

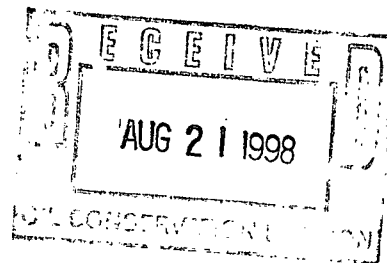
Elizabeth A. Casbeer
Regulatory/Compliance Analyst

NSL 9/10/98

NSL-4060

August 20, 1998

Oil Conservation Division
Attn: Michael Stogner
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 locations for its Washington "33" State #16, 17, 27, and 30, recompletions of previously drilled wells in the Empire Abo Unit, to the Artesia (Glorieta-Yeso) or Artesia (Queen-Grayburg-San Andres) Pools. All wells are located in Section 33, T17S, R28E, Eddy County, New Mexico. We requests an amendment to Administrative Order NSL-4060 dated 6/19/98, to include Artesia (Glorieta-Yeso) Pool.

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

1. Amended C-101s
2. Amended C-102s
3. Geologic and Engineering Discussion
4. A Glorieta-Yeso type log (Washington "33" State #9).
5. San Andres type log (Washington "33" State #9)
6. Structure Map, Top Glorieta Sand.
7. Structure Map, Top San Andres.
8. Gross Pay, San Andres Dolomite.
9. Plat showing adjoining and diagonal spacing units.

All wells are 330' or more from the outside boundary of the lease, therefore ARCO Permian deemed the offset operators as unaffected parties and no offset owners were notified.

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
Regulatory/Compliance Analyst

EAC:lc

cc: NMOCD, Artesia, New Mexico

Enclosures

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-101
Revised October 18, 199

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

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		² OGRID Number	
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990	
⁴ Property Code		³ API Number	
22954	⁵ Property Name		30-0 15-22415
WASHINGTON "33" STATE		⁶ Well No.	
		16	

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
I	33	17S	28E		1500	SOUTH	700	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) 96830					ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code	¹² Well Type Code	¹³ Cable/Rotary	¹⁴ Lease Type Code	¹⁵ Ground Level Elevation
P	0	R	S	3664'
¹⁶ Multiple	¹⁷ Proposed Depth	¹⁸ Formation	¹⁹ Contractor	²⁰ Spud Date
NO	4200	YESO		7/98


²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	600'	300	SURE
7-7/8	5-1/2	15.5	6197'	1225	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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT G-323 IN 1978. TD @ 6219'.
PRODUCED ABO IN OPEN HOLE 6197'-6219' UNTIL 1991. TESTED ABO PERF 5866'-5880' 2-4-98.
SET CIBP W/2 SXS CEMENT ON TOP 2-11-98. IT IS PROPOSED TO TEST THE GLORIETA-YESO OR THE QUEEN-GRAYBURG-SAN ANDRES. RUN CNL-GAMMA RAY CCL AND PERF AS INDICATED BY LOG.
TEST AND FRAC AS NEEDED.

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

Signature: 	OIL CONSERVATION DIVISION	
Printed name: ELIZABETH A. CASBEER	Approved by:	
Title: REG./COMP. ANALYST	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
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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 30-015-22415	Pool Code	Pool Name Artesia (Glorita - Yaso) or Artesia (Q.G.S.A)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 16
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3664'

Surface Location

UL or lot No. I	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 1500	North/South line SOUTH	Feet from the 700	East/West line EAST	County EDDY
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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	Order No.						

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

		05	03	01
		06	04	02
07		09	11	13
08			12	14
21		19	17	
22		20	18	16 700'
23		25		1500'
		26		

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.
Title
5/20/98
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
Signature & Seal of Professional Surveyor
RONALD S. EDISON
Professional Surveyor
3239
5-4-98
88-11-0378

Certificate No. **RONALD S. EDISON 3239**
GARY EDISON 12641
RONALD S. McDONALD 12185

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, 199
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Fee Lease - 5 Copie

☒ 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 15-22821
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 17

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
J	33	17S	28E		1900	SOUTH	1450	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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3663'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 7/98

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	751'	400	SURF
7-7/8	5-1/2	15.5	6370	1900	SURF

²²Describe 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

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT G-315 IN 1979. TD @ 6370'. TESTED ABO 5794'-6280'. PROPOSED TO ABANDON THE ABO AND TEST THE GLORIETA-YESO OR THE QUEEN-GRAYBURG-SAN ANDRES. SET CIBP @ 5750' W/35' CEMENT ON TOP. RUN CNL GAMMA FAY-CCL AND PERF AS INDICATED BY LOG. TEST AND FRAC AS NEEDED.

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

Signature:

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

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Revised February 10, 1994
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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 30-015-22821	Pool Code	Pool Name Artesia (Glorieta Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 17
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3663

Surface Location

UL or lot No. J	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 1900	North/South line SOUTH	Feet from the 1450	East/West line EAST	County 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	Order No.						

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

05	03	01
06	04	02
07	09	011
08	012	014
021	019	17
022	031	1450'
023	025	1900'

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

RES. / COMP.
Title

5/20/98
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
Signature
Professional Surveyor
RONALD J. McDONALD
NEW MEXICO
5-4-98
1239
12641
12185

DMCC

Cert. No. RONALD J. McDONALD 3239
12641
12185

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, 199
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☒ 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 15-22605
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 27

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
0	33	17S	28E		815	SOUTH	2525	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 (GLORIETA-YESO) 96830

¹⁰ Proposed Pool 2

ARTESIA (Q-G-SA) 3230

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3668'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 8/98

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	778	550	SURE
7-7/8	5-1/2	15.5	6405	1555	550' CBL

²²Describe 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

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT H-312 IN 1978. TD @ 6405'. TESTED ABO @ 6058'-6281'. TA'D W/CIBP @ 6042' 6/20/91. PROPOSED TO DUMP 35' CEMENT ON CIBP @ 6042'. RUN CNL-GAMMA-CCL AND PERF GLORIETA-YESO OR QUEEN-GRAYBURG-SAN ANDRES AS INDICATED ON LOG. TEST AND FRAC AS NEEDED.

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

Signature:

Printed name: ELIZABETH A. CASBEER

Title: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

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 30-015-22605	Pool Code	Pool Name Artesia (Glorista Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 27
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3665'

Surface Location

UL or lot No. 0	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 815	North/South line SOUTH	Feet from the 2525	East/West line EAST	County EDDY
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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	Order No.
-----------------------	-----------------	--------------------	-----------

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. Signature ELIZABETH A. CASBEER Printed Name REG/COMP. ANALYST Title 6/3/98 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 Signature Professional Surveyor RONALD E. McDONALD NEW MEXICO 3239 5-4-98 88-11-037 Cert. No. RONALD E. McDONALD 3239 GARY McDONALD 12641 PROFESSIONAL SURVEYOR 12185					

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

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Revised October 18, 199
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☒ 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 15-22465
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 30

⁷ Surface Location									
UL or lot no. P	Section 33	Township 17S	Range 28E	Lot. Idn	Feet from the 750	North/South Line SOUTH	Feet from the 1150	East/West line EAST	County 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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3662
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 3-28-78

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	600	300	SURF
7-7/8	5-1/2	15.5	6262	1275	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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT H-322 IN 1978.
TD @ 6290' OH. TESTED ABO @ 6262-6290' OH & 6150-6230' PERFS. TA'D W/
CIBP @ 6147' ON 6-19-91. PROPOSE TO DUM 35' CEMENT ON CIBP @ 6147', RUN
CNL-GAMMA RAY-CCL AND PERF THE GLORIETA-YESO OR Q-G-SA AS INDICATED ON LOG.
TEST AND FRAC AS NEEDED.

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

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 30-015-22465	Pool Code	Pool Name Artesia (Glorieta-Yiso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 30
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3662

Surface Location

UL or lot No. P	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 750	North/South line SOUTH	Feet from the 1150	East/West line EAST	County EDDY
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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	Order No.						

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>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><u>Laurie Cherry</u> Signature</p> <p><u>LAURIE CHERRY</u> Printed Name</p> <p><u>REG COMP. ASST.</u> Title</p> <p><u>6/16/98</u> Date</p>	
<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>MARCH 3, 1998</p> <p>Date Surveyed _____ DMCC</p> <p>Signature _____ Professional Surveyor</p> <p><u>Ronald J. Edson</u> Professional Surveyor</p> <p><u>3239</u> No. _____</p> <p><u>5-4-98</u> Date _____</p> <p><u>3239</u> No. _____</p> <p><u>12641</u> No. _____</p> <p><u>12185</u> No. _____</p>					

**Geologic Discussion for Amended NSL-4060 at Artesia (Glorieta-Yeso) Field
(ARCO's Washington "33" State #16, 17, 27, and 30)
Section 33, T17S, R 28E, Eddy Co, NM**

Summary:

ARCO Permian requests an amendment of NSL-4060 to allow recompletion of four unorthodox Washington 33 State wells into the Artesia (Glorieta-Yeso) Pool. We now plan to recomplete these wells first in the Artesia (Glorieta-Yeso) Pool, rather than the Artesia (Q-G-SA) Pool as authorized by the current NSL. These unorthodox recompletions are required for geologic and engineering reasons. All interests on this 600-acre State Land Office Lease No. X-00647 lease are common, and ARCO holds 100% of all rights down to the top of Abo shale.

Background of ARCO NSL Requests in the area:

ARCO was granted blanket NSL-4060 on June 19, 1998 for completing these wells (and three additional ones) to the Artesia (Queen-Grayburg-San Andres) Pool. Division Administrative Orders NSL-915-A, NSL 915-B, NSL 809-A, NSL 999-A, NSL-4003, NSL-4007, NSL-4035, and NSL-4036 have also been granted for other unorthodox Artesia (Queen-Grayburg-San Andres) locations on the same lease. Recent testing (documented below) now indicates that recompletion of the Glorieta-Yeso zone FIRST would be more economically feasible than completing first in the San Andres and adding the deeper Yeso later. We are therefore requesting an amended NSL-4060 to enable us to complete in the Yeso in any unorthodox well that is no closer than 330' to the outer boundary of the lease. We also request that three other unorthodox wells cited in NSL-4060 (#18, 19 and 23) also be approved for Glorieta-Yeso completion under the "blanket" provisions of an amended NSL-4060.

Washington #9 and #14 Results:

In June 1998, ARCO completed Washington #9 in unit letter F of Section 33 for 28 BOPD, 65 MCFD and 716 BWPD, but the well has declined to about 10 BOPD. A copy of this log showing the Yeso dolomite pay is attached. Washington #14 in Unit letter H was also completed in June from the Yeso, and potential for 9 BOPD, 25 MCFD, and 863 BWPD, and now pumping around 40 BOPD. This new field has been designated the Artesia (Glorieta-Yeso) Pool. These wells also have uphole San Andres pay, as shown on the second attached log.

Geology:

The Yeso (the upper part of which is sometimes called the Paddock Formation) is a fine-crystalline, anhydritic, slightly vuggy dolomite that lies under the Glorieta sand. The lower Yeso (which we are not producing from) is sometimes called the Blinbry, Tubb, and Drinkard in Lea County. A structure map of the top Glorieta sand, which is a better geologic marker than the Yeso, has been provided. This map shows up to 5-degree dip to the SE in Section 33, with the "crest" of the structure plunging due east, one mile north of us in Section 28. The gross 250' of Yeso pay we produce from is the same dolomite interval as found at Atoka (Glorieta/Yeso) Field, East Empire (Yeso) Field, and is the deeper Grayburg-Jackson (4000' San Andres) pay. This dolomite rarely produces without a major frac job.

The San Andres dolomite is an established pay from offset wells adjacent to our Washington lease, and maps showing top San Andres Structure and Gross Pay are included. The San Andres structure dips SE and is similar to the Glorieta structure. Gross San Andres pay interval across Section 33 ranges from 500 to 600'.

Engineering Justification for Revised NSL Request:

ARCO will need 2 strategically spaced wells in each 40-acre tract to recover 50 MBO per well in the Artesia (Q-G-SA) Field. The Glorieta-Yeso pay, with about 35 MBO per 20-acre location, is marginally economic, but only if completion cost is minimized. Completing and fracking first in the Glorieta-Yeso, and later in the San Andres will save us approximately \$30,000 compared to completing the Yeso after the San Andres. We will also avoid the substantial risk of sticking a packer with San Andres perforations open, if we fracture-treat the lower (Yeso) zone first. ARCO and the State of New Mexico would be best served if recompletions in the Glorieta-Yeso were authorized and performed first.

Production Planning:

Since the Glorieta-Yeso appears productive over most of the lease, we now expect to complete first in this interval, unless logs or neighboring well performance indicates the Yeso is not prospective. 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.

Conclusion

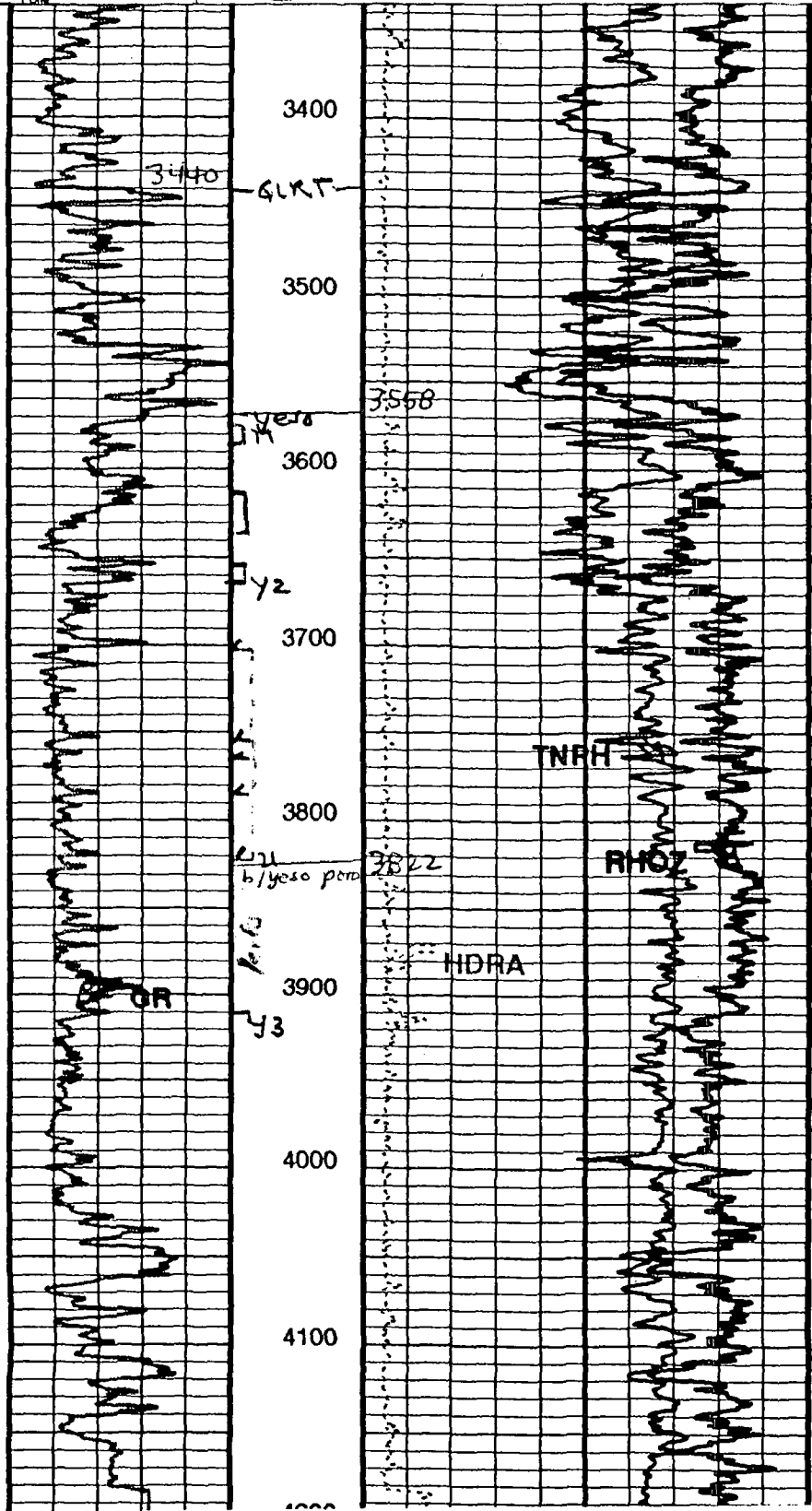
ARCO respectfully requests approval to recomplete these four wells to the Glorieta-Yeso pay as soon as possible. All wells cited in NSL-4060 are at least 330' from the outside boundary of the lease, and no offset owner notification is required.

WasRCyeso

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

Glorieta- Yeso
 Type Log

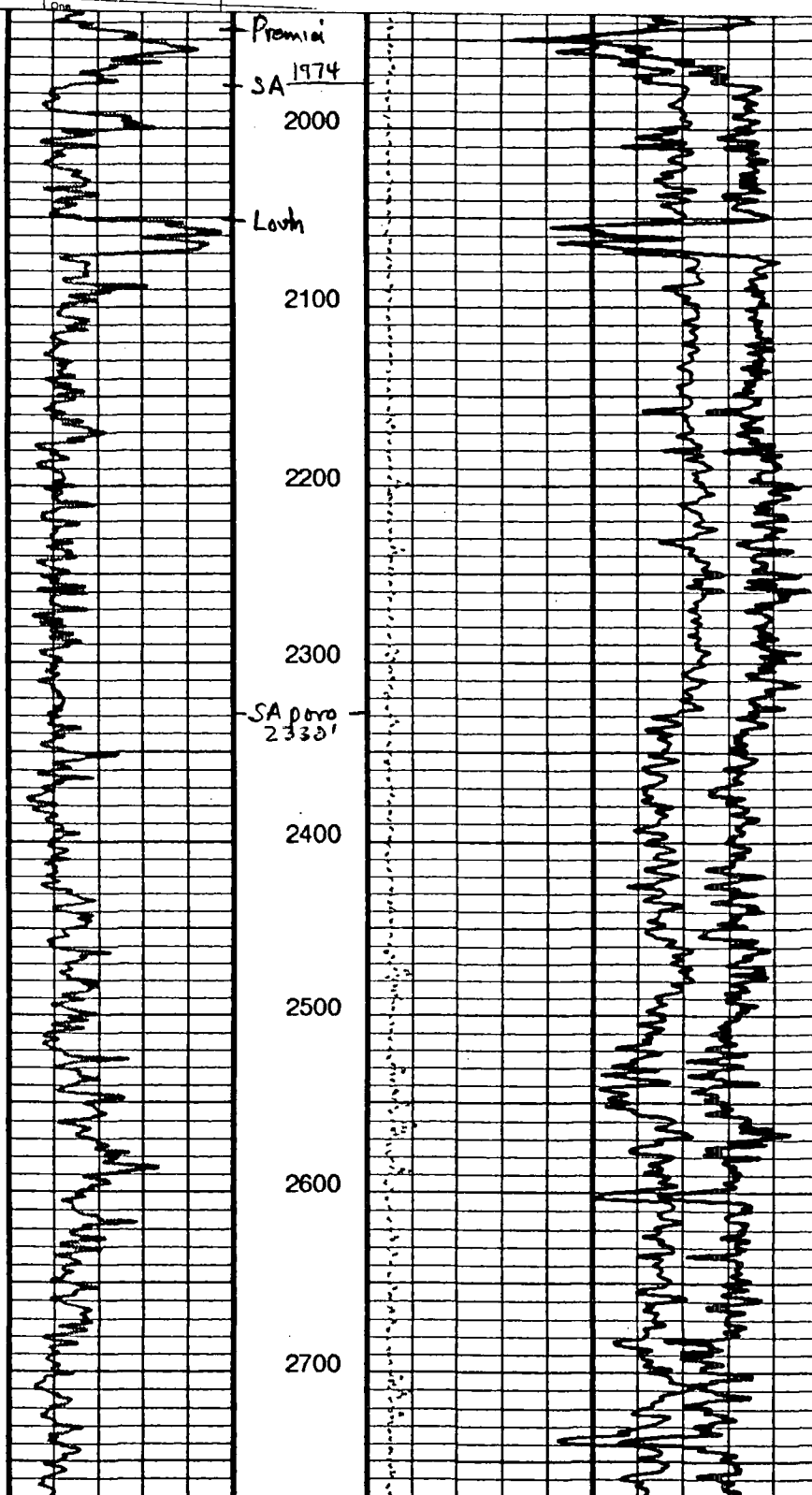
COUNTY: Eddy FIELD: Yeso LOCATION: 1650 FNL & 2270 FNL WELL: Washington '33' State No. 9 COMPANY: ARCO Permian	Schlumberger Platform Express Three Detector Denr Compensated Neutr.	
	1650 FNL & 2270 FNL	Elev.: K.B. 3
	Permanent Datum: _____	Elev.: G.L. 3
	Log Measured From: _____	Elev.: D.F. 3
	Drilling Measured From: _____	Elev.: 3072 F
API Serial No. 30-015-30181 SECTION 33 TOWNSHIP 17S		R28E
Logging Date 11-MAY-1968 Run Number One		



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

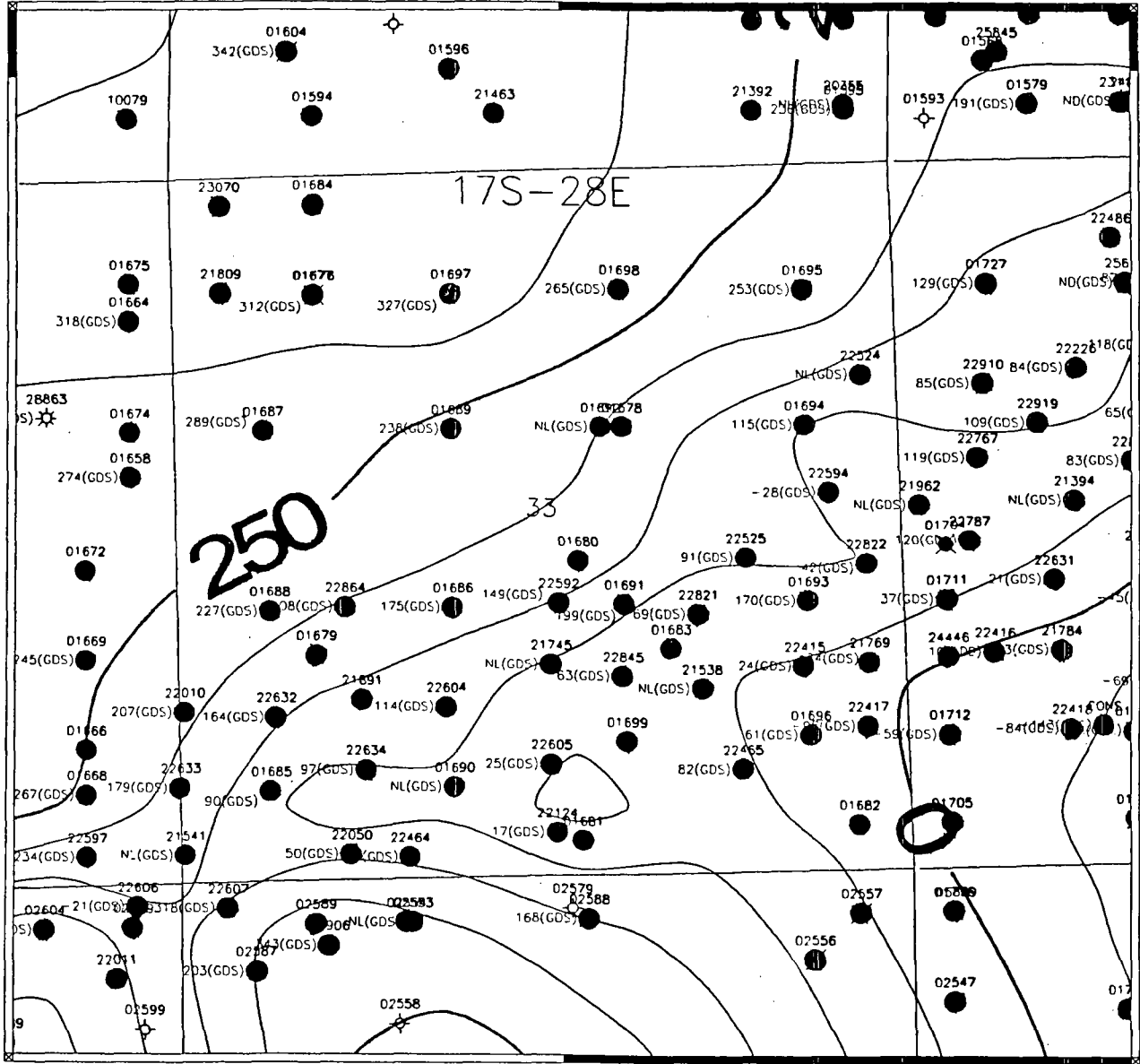
San Andres
 Type Log

COUNTY: Eddy Field: Yeso Location: 1850 FNL & 2270 FNL Well: Washington '33' State No. 9 Company: ARCO Permian	Schlumberger Platform Express Three Detector Density Compensated Neutron	
	1850 FNL & 2270 FNL	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. 30-015-30181	SECTION 33	TOWNSHIP 17S
Logging Date Run Number	11-MAY-1998	R 28E



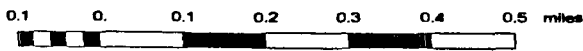
32.800

32.800



ARCO (Atlantic Richfield Company)		
EDDY CO OLJ		
Empire Abo		
Top Subsea GRLT C.I.: 50'		
Job No.	EDDY CO OLJ	9548
Drawn by	Scale 1:12000	Empire

Scale 1:12000.

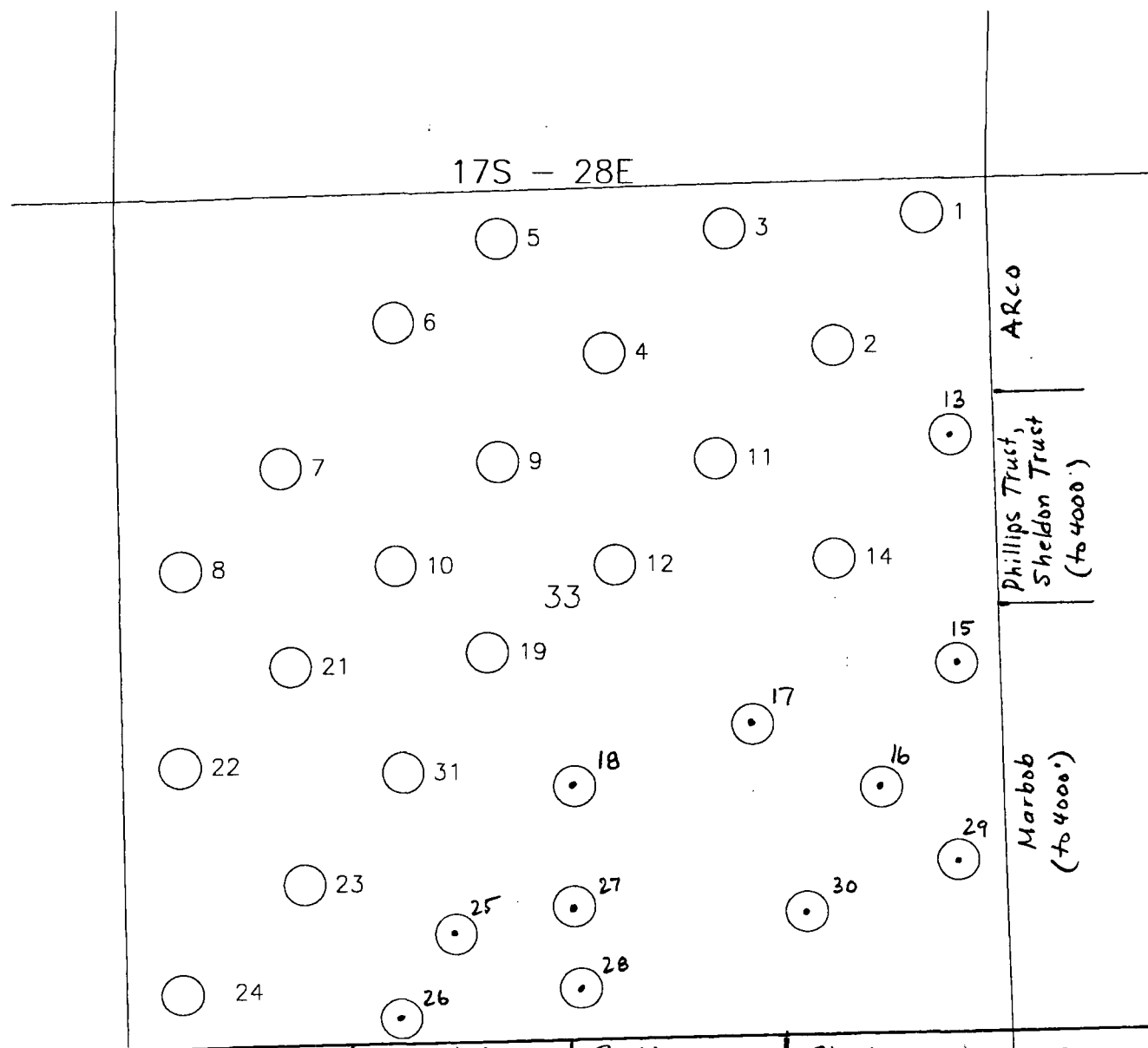




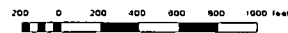
ARCO PERMIAN

EDDY CO NM
EMPIRE ABO
SNDR STRUCTURE

COMPANY	ELON CO. INC.	4025
DATE RECD	SEPT 11 1990	EMERYVA



ARCO (Atlantic Richfield Company)		
EDDY CO OIL WASHINGTON DRILLING PROGRAM SECTION 33 T17S - R28E		
Jimenez Oscar	EDDY CO OIL	8/18/88
DPEARCY	Scale 1:12000.	DPLAND/ADDONW





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

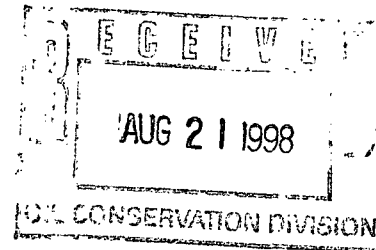
Elizabeth A. Casbeer
Regulatory/Compliance Analyst

NSL 9/10/98

NSL-4060

August 20, 1998

Oil Conservation Division
Attn: Michael Stogner
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 locations for its Washington "33" State #16, 17, 27, and 30, recompletions of previously drilled wells in the Empire Abo Unit, to the Artesia (Glorieta-Yeso) or Artesia (Queen-Grayburg-San Andres) Pools. All wells are located in Section 33, T17S, R28E, Eddy County, New Mexico. We requests an amendment to Administrative Order NSL-4060 dated 6/19/98, to include Artesia (Glorieta-Yeso) Pool.

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

1. Amended C-101s
2. Amended C-102s
3. Geologic and Engineering Discussion
4. A Glorieta-Yeso type log (Washington "33" State #9).
5. San Andres type log (Washington "33" State #9)
6. Structure Map, Top Glorieta Sand.
7. Structure Map, Top San Andres.
8. Gross Pay, San Andres Dolomite.
9. Plat showing adjoining and diagonal spacing units.

All wells are 330' or more from the outside boundary of the lease, therefore ARCO Permian deemed the offset operators as unaffected parties and no offset owners were notified.

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
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

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

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☒ 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 15-22415
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 16

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
I	33	17S	28E		1500	SOUTH	700	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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3664'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 7/98

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	600'	300	SURF
7-7/8	5-1/2	15.5	6197'	1225	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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT G-323 IN 1978. TD @ 6219'.
PRODUCED ABO IN OPEN HOLE 6197'-6219' UNTIL 1991. TESTED ABO PERF 5866'-5880' 2-4-98.
SET CIBP W/2 SXS CEMENT ON TOP 2-11-98. IT IS PROPOSED TO TEST THE GLORIETA-YESO OR THE QUEEN-GRAYBURG-SAN ANDRES. RUN CNL-GAMMA RAY CCL AND PERF AS INDICATED BY LOG.
TEST AND FRAC AS NEEDED.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Elizabeth A. Casbeer</i>	OIL CONSERVATION DIVISION	
Printed name: ELIZABETH A. CASBEER	Approved by:	
Title: REG./COMP. ANALYST	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
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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 30-015-22415	Pool Code	Pool Name Artesia (Glorita - Yesso) or Artesia (Q.G.S.A)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 16
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3664'

Surface Location

UL or lot No. I	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 1500	North/South line SOUTH	Feet from the 700	East/West line EAST	County EDDY
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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	Order No.						

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

		05	03	01	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. <i>Elizabeth A. Casbeer</i> Signature ELIZABETH A. CASBEER Printed Name REG/COMP. Title 5/20/98 Date
		06	04	02	
07		09	011	013	
08			012	014	
021		019			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 Signature & Seal of Professional Surveyor RONALD J. EDSON Professional Surveyor 3239 Certificate No. 5-4-98 Date DMCC 12641 12185
022		031	017		
023			018		
		025			
		020			

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 S. 1st Street, Artesia, NM 88210-2834
District III
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2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
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Santa Fe, NM 87505

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☒ 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 15-22821
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 17

⁷ Surface Location									
UL or lot no. J	Section 33	Township 17S	Range 28E	Lot. Idn	Feet from the 1900	North/South Line SOUTH	Feet from the 1450	East/West line EAST	County 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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3663'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 7/98

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	751'	400	SURE
7-7/8	5-1/2	15.5	6370	1900	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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT G-315 IN 1979. TD @ 6370'. TESTED ABO 5794'-6280'. PROPOSED TO ABANDON THE ABO AND TEST THE GLORIETA-YESO OR THE QUEEN-GRAYBURG-SAN ANDRES. SET CIBP @ 5750' W/35' CEMENT ON TOP. RUN CNL GAMMA FAY-CCL AND PERF AS INDICATED BY LOG. TEST AND FRAC AS NEEDED.

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

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-22921	Pool Code	Pool Name Artesia (Glorieta Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 17
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3663

Surface Location

UL or lot No. J	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 1900	North/South line SOUTH	Feet from the 1450	East/West line EAST	County EDDY
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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	Order No.						

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>OPERATOR CERTIFICATION</p> <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</p> <p>ELIZABETH A. CASBEER Printed Name</p> <p>RES. / COMP. Title</p> <p>5/20/98 Date</p>
<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>MARCH 3, 1998</p> <p>Date Surveyed _____ DMCC</p> <p>Signature <i>Ronald J. Edson</i> Professional Surveyor RONALD J. EDSON NEW MEXICO 3239 12641 12185</p> <p>5-4-98</p> <p>Certificate No. RONALD J. EDSON 3239 GARY EDSON 12641 McDONALD 12185</p>				

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 S. 1st Street, Artesia, NM 88210-2834
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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, 199
Instructions on bac
Submit to Appropriate District O
State Lease - 6 Copie
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☒ 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 15-22605
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 27

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
0	33	17S	28E		815	SOUTH	2525	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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3668'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 8/98

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	778	550	SURF
7-7/8	5-1/2	15.5	6405	1555	550' CBI

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

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT H-312 IN 1978. TD @ 6405'. TESTED ABO @ 6058'-6281'. TA'D W/CIBP @ 6042' 6/20/91. PROPOSED TO DUMP 35' CEMENT ON CIBP @ 6042', RUN CNL-GAMMA RAY-CCL AND PERF GLORIETA-YESO OR QUEEN-GRAYBURG-SAN ANDRES AS INDICATED ON LOG. TEST AND FRAC AS NEEDED.

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

Signature:

Printed name: ELIZABETH A. CASBEER

Title: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

DISTRICT II

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

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 30-015-22605	Pool Code	Pool Name Artesia (Glorieta Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 27
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3465'

Surface Location

UL or lot No. 0	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 815	North/South line SOUTH	Feet from the 2525	East/West line EAST	County EDDY
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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	Order No.
-----------------------	-----------------	--------------------	-----------

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

05	03	01
06	04	02
07	09	08
08	10	12
014		
021	019	17
022	031	18
016		
023	025	27
024	26	815'
2525'		

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
6/3/98
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
Signature
Professional Surveyor
RONALD E. McDONALD
NEW MEXICO
3239
5-4-98
88-11-0378

Cert. No. RONALD E. McDONALD 3239
12641
12185

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

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☒ 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 15-22465
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 30

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
P	33	17S	28E		750	SOUTH	1150	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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3662
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 3-28-78

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	600	300	SURE
7-7/8	5-1/2	15.5	6262	1275	SURE

²²Describe 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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT H-322 IN 1978.
TD @ 6290' OH. TESTED ABO @ 6262-6290' OH & 6150-6230' PERFS. TA'D W/
CIBP @ 6147' ON 6-19-91. PROPOSE TO DUM 35' CEMENT ON CIBP @ 6147', RUN
CNL-GAMMA RAY-CCL AND PERF THE GLORIETA-YESO OR Q-G-SA AS INDICATED ON LOG.
TEST AND FRAC AS NEEDED.

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

Signature:

Printed name: ELIZABETH A. CASBEER

Title: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

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 30-015-22465	Pool Code	Pool Name Artesia (Glorieta-Yaso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 30
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3662

Surface Location

UL or lot No. P	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 750	North/South line SOUTH	Feet from the 1150	East/West line EAST	County 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	Order No.						

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

		05		03		01	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. Laurie Cherry Signature LAURIE CHERRY Printed Name REG COMP. ASST. Title 6/16/98 Date
		06		04		02	
01		09		011		013	
08		010		012		014	
021		019				15	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 Signature Professional Surveyor RONALD EIDSON 5-4-98 2339 12641 12185
022		031		018		016	
023		025		027		029	
024		020		028		030	

**Geologic Discussion for Amended NSL-4060 at Artesia (Glorieta-Yeso) Field
(ARCO's Washington "33" State #16, 17, 27, and 30)
Section 33, T17S, R 28E, Eddy Co, NM**

Summary:

ARCO Permian requests an amendment of NSL-4060 to allow recompletion of four unorthodox Washington 33 State wells into the Artesia (Glorieta-Yeso) Pool. We now plan to recomplete these wells first in the Artesia (Glorieta-Yeso) Pool, rather than the Artesia (Q-G-SA) Pool as authorized by the current NSL. These unorthodox recompletions are required for geologic and engineering reasons. All interests on this 600-acre State Land Office Lease No. X-00647 lease are common, and ARCO holds 100% of all rights down to the top of Abo shale.

Background of ARCO NSL Requests in the area:

ARCO was granted blanket NSL-4060 on June 19, 1998 for completing these wells (and three additional ones) to the Artesia (Queen-Grayburg-San Andres) Pool. Division Administrative Orders NSL-915-A, NSL 915-B, NSL 809-A, NSL 999-A, NSL-4003, NSL-4007, NSL-4035, and NSL-4036 have also been granted for other unorthodox Artesia (Queen-Grayburg-San Andres) locations on the same lease. Recent testing (documented below) now indicates that recompletion of the Glorieta-Yeso zone FIRST would be more economically feasible than completing first in the San Andres and adding the deeper Yeso later. We are therefore requesting an amended NSL-4060 to enable us to complete in the Yeso in any unorthodox well that is no closer than 330' to the outer boundary of the lease. We also request that three other unorthodox wells cited in NSL-4060 (#18, 19 and 23) also be approved for Glorieta-Yeso completion under the "blanket" provisions of an amended NSL-4060.

Washington #9 and #14 Results:

In June 1998, ARCO completed Washington #9 in unit letter F of Section 33 for 28 BOPD, 65 MCFD and 716 BHPD, but the well has declined to about 10 BOPD. A copy of this log showing the Yeso dolomite pay is attached. Washington #14 in Unit letter H was also completed in June from the Yeso, and potential for 9 BOPD, 25 MCFD, and 863 BHPD, and now pumping around 40 BOPD. This new field has been designated the Artesia (Glorieta-Yeso) Pool. These wells also have uphole San Andres pay, as shown on the second attached log.

Geology:

The Yeso (the upper part of which is sometimes called the Paddock Formation) is a fine-crystalline, anhydritic, slightly vuggy dolomite that lies under the Glorieta sand. The lower Yeso (which we are not producing from) is sometimes called the Blinbry, Tubb, and Drinkard in Lea County. A structure map of the top Glorieta sand, which is a better geologic marker than the Yeso, has been provided. This map shows up to 5-degree dip to the SE in Section 33, with the "crest" of the structure plunging due east, one mile north of us in Section 28. The gross 250' of Yeso pay we produce from is the same dolomite interval as found at Atoka (Glorieta/Yeso) Field, East Empire (Yeso) Field, and is the deeper Grayburg-Jackson (4000' San Andres) pay. This dolomite rarely produces without a major frac job.

The San Andres dolomite is an established pay from offset wells adjacent to our Washington lease, and maps showing top San Andres Structure and Gross Pay are included. The San Andres structure dips SE and is similar to the Glorieta structure. Gross San Andres pay interval across Section 33 ranges from 500 to 600'.

Engineering Justification for Revised NSL Request:

ARCO will need 2 strategically spaced wells in each 40-acre tract to recover 50 MBO per well in the Artesia (Q-G-SA) Field. The Glorieta-Yeso pay, with about 35 MBO per 20-acre location, is marginally economic, but only if completion cost is minimized. Completing and fracking first in the Glorieta-Yeso, and later in the San Andres will save us approximately \$30,000 compared to completing the Yeso after the San Andres. We will also avoid the substantial risk of sticking a packer with San Andres perforations open, if we fracture-treat the lower (Yeso) zone first. ARCO and the State of New Mexico would be best served if recompletions in the Glorieta-Yeso were authorized and performed first.

Production Planning:

Since the Glorieta-Yeso appears productive over most of the lease, we now expect to complete first in this interval, unless logs or neighboring well performance indicates the Yeso is not prospective. 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.

Conclusion

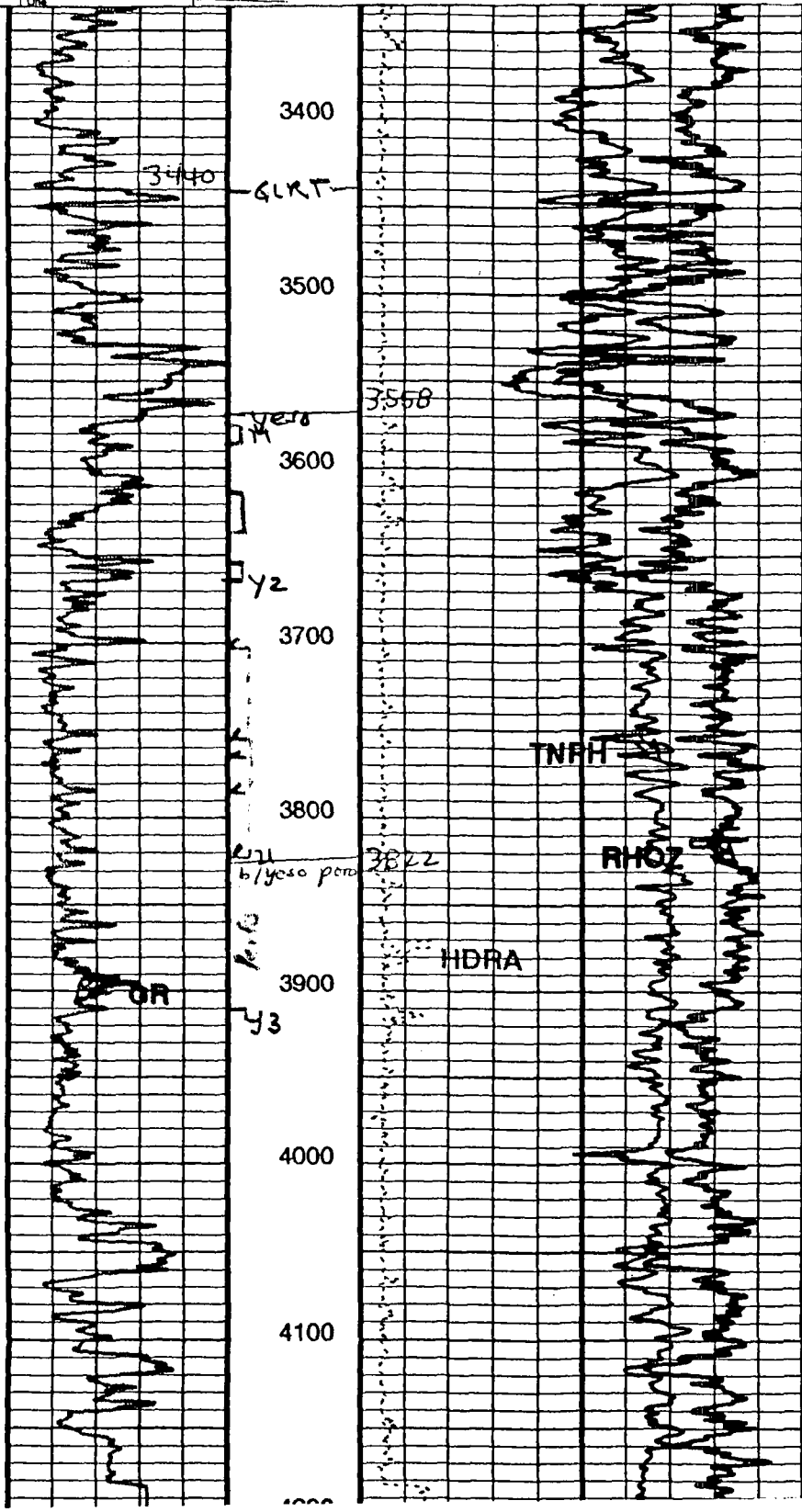
ARCO respectfully requests approval to recomplete these four wells to the Glorieta-Yeso pay as soon as possible. All wells cited in NSL-4060 are at least 330' from the outside boundary of the lease, and no offset owner notification is required.

WasRCyeso

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

Glorieta- Yeso Type Log

COUNTY: Eddy Field: Yeso Location: 1650 FNL & 2270 FNL Well: Washington '33' State No. 9 Company: WOCO Permian	Schlumberger Platform Express Three Detector Density Compensated Neutr.	
	1650 FNL & 2270 FNL	Elev.: K.B. 3'
	Permanent Datum: _____	Elev.: G.L. 2'
	Log Measured From: _____	Elev.: D.F. 2'
	Drilling Measured From: _____	Elev.: 3872 F
API Serial No. 30-015-30181	SECTION 33	TOWNSHIP 17S
Logging Date 11-MAY-1998	R28E	



COMPANY: ARCO Permian

WELL: Washington '33' State No. 9

FIELD: Yeso

COUNTY: Eddy

STATE: New Mex

San Andres
Type Log

Schlumberger

Platform Express
Three Detector Dens
Compensated Neutr

1850 FNL & 2270 FNL

Elev.: K.B. 3
G.L. 3
D.F. 3

Permanent Datum: Ground Level

Log Measured From: Kelly Bushing

Drilling Measured From: Kelly Bushing

Elev.: 3672 F
7.0 F above IV

API Serial No.
30-015-30191

SECTION
33

TOWNSHIP
17S

R 28E

COUNTY: Eddy

Field: Yeso

Location: 1850 FNL & 2270 FNL

Well: Washington '33' State No. 9

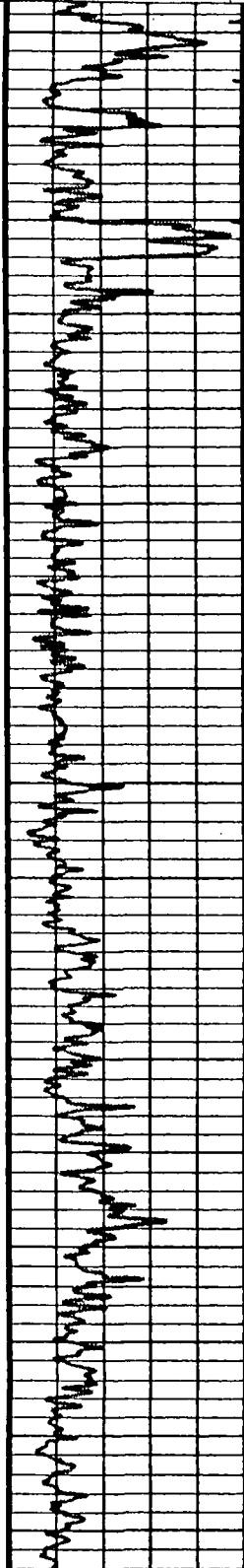
Company: ARCO Permian

LOGGING

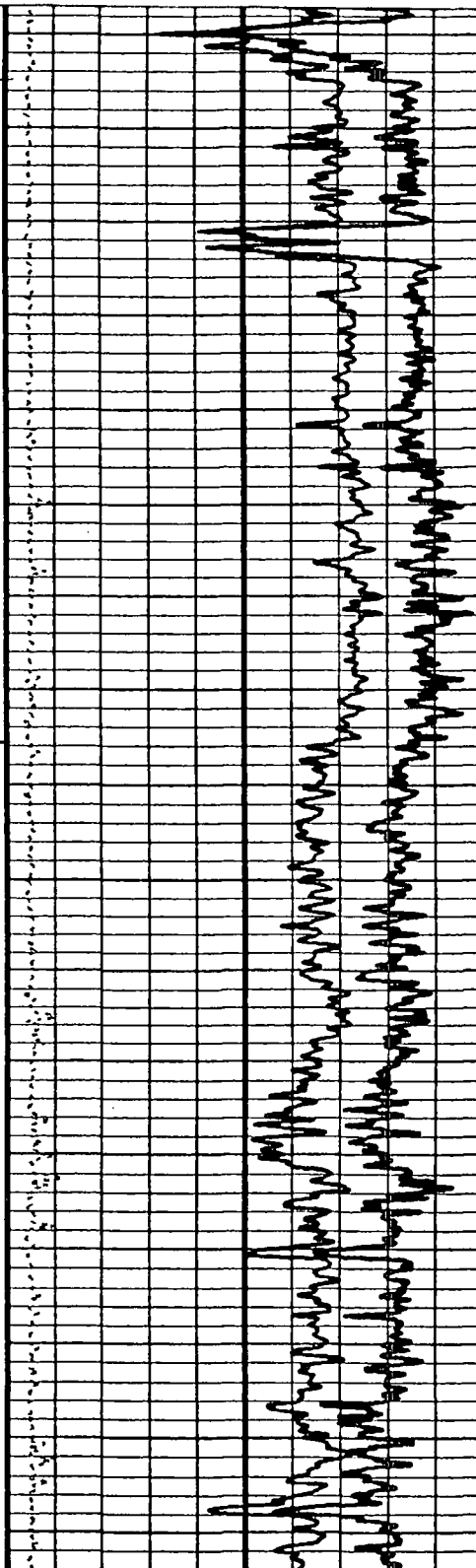
Logging Date

Run Number

11-MAY-1998

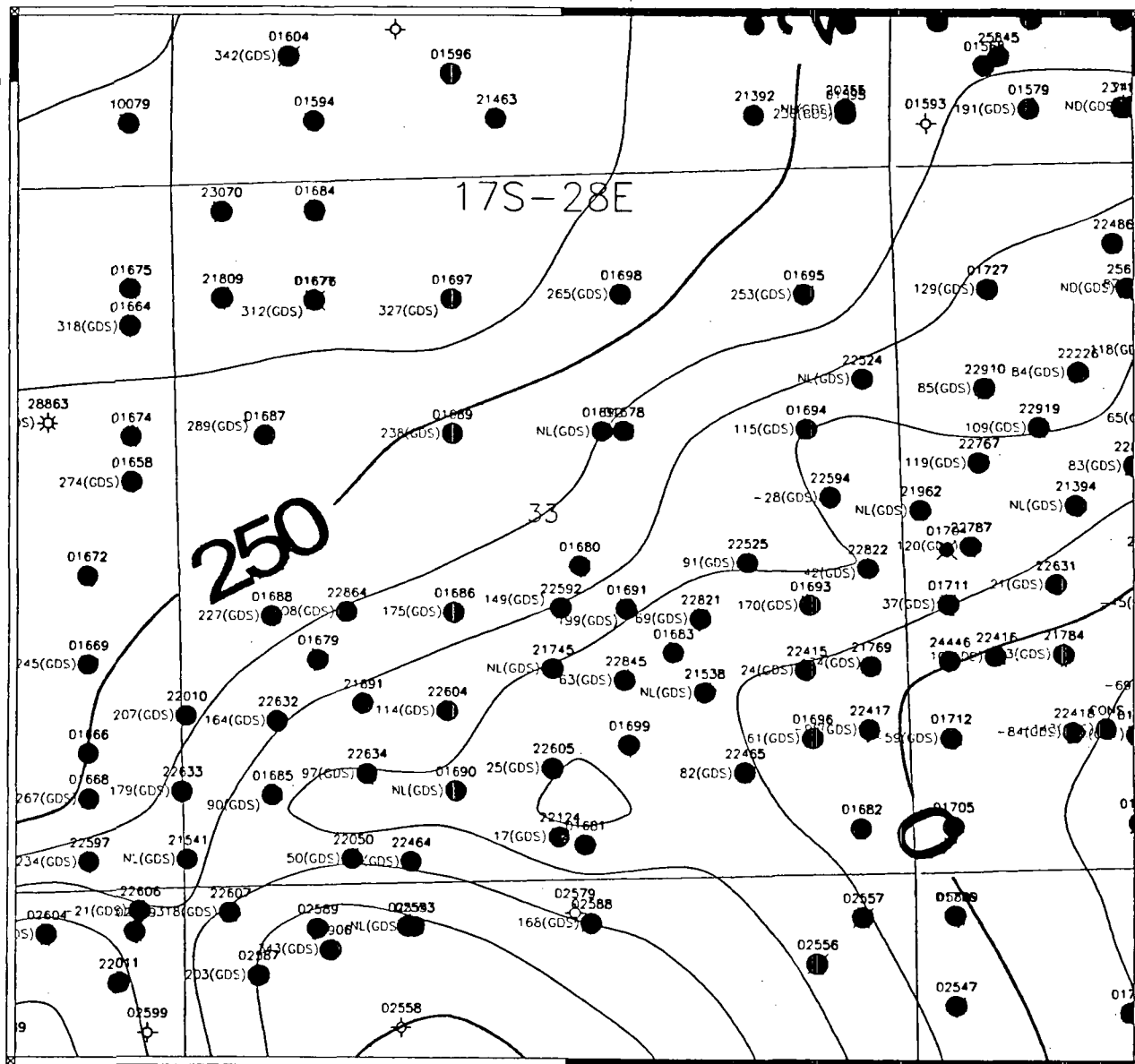


Premia
SA 1974
2000
Loth
2100
2200
2300
SA poro 2330'
2400
2500
2600
2700



32.800

32.800



ARCO (Atlantic Richfield Company)

Scale 1:12000.

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

0.1 0. 0.1 0.2 0.3 0.4 0.5 miles



James Oscar	ally as of	1958
OParty	Scale 1:12000.	Empire Abo



Scale 1:12000.

DEFACRY	ELDT CO. U.I	4255
QUARREZ	Scars 11/2000.	EMERITA

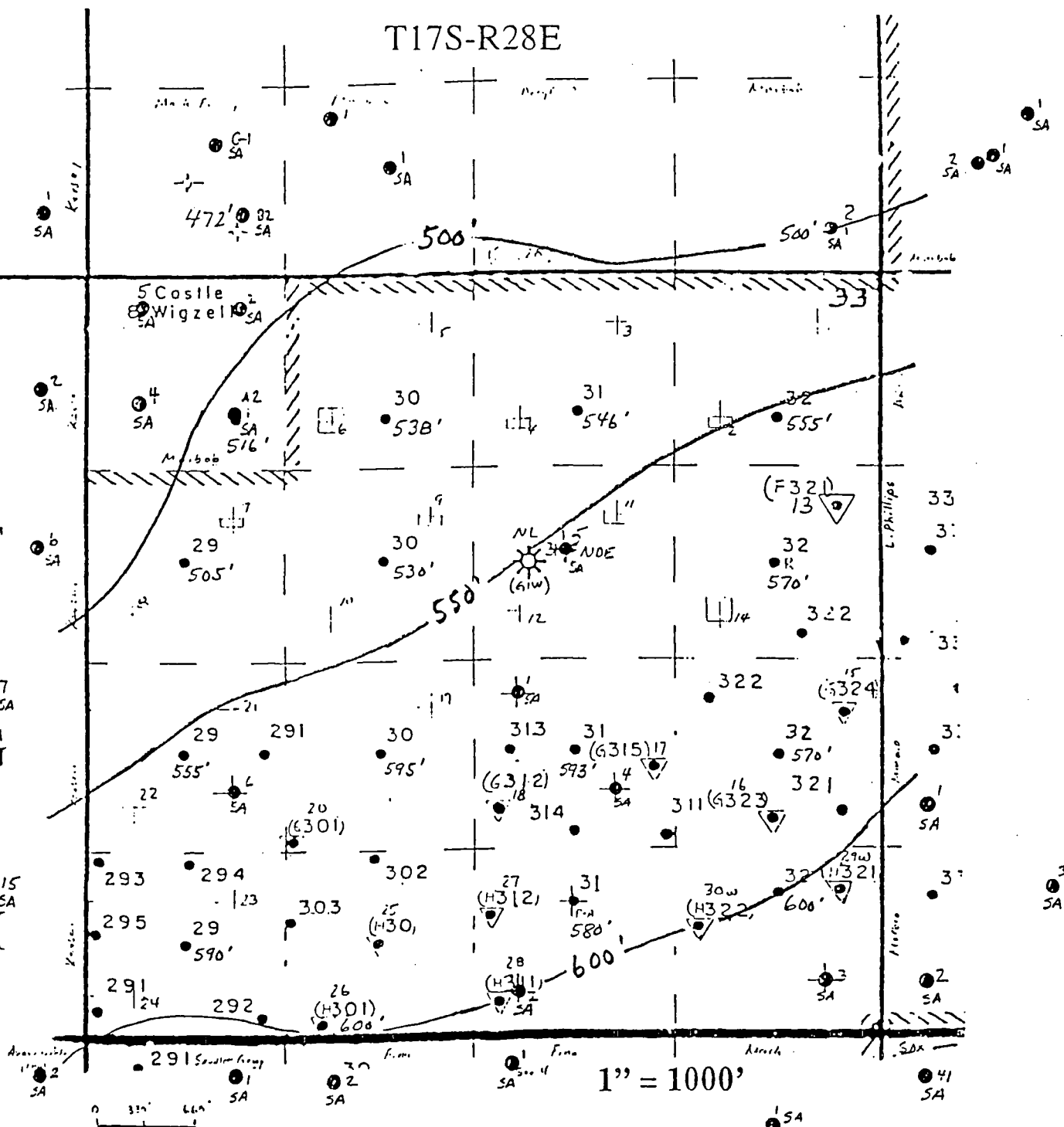
T17S-R28E

E

F

G

H



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



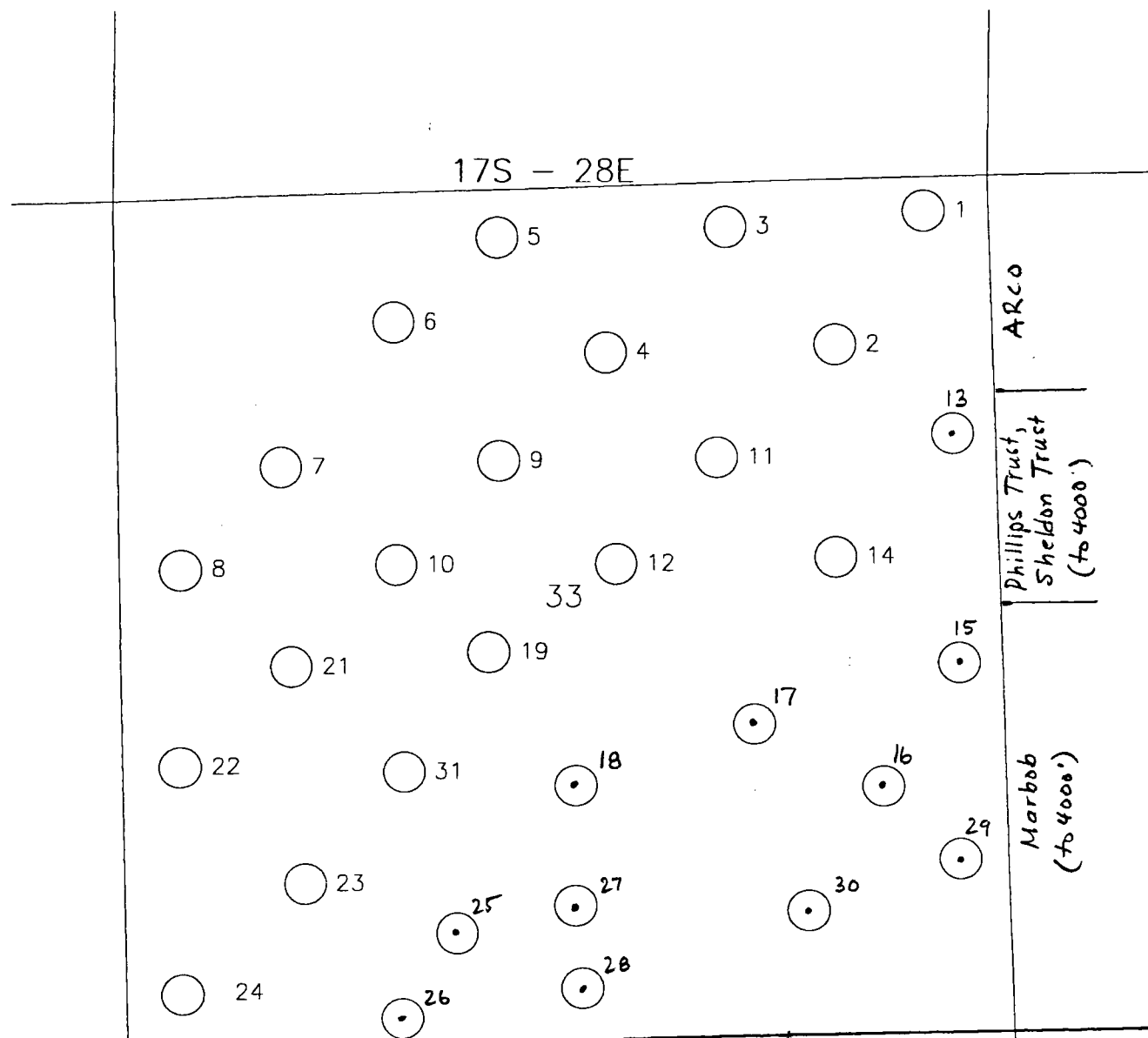
Recomplete alternate in Yeso



Possible / contingent Yeso TD



Relevant San Andres wells



Brewer to 5000' Arthur / ARCO (to 5000')		
ARCO (Atlantic Richfield Company)		
EDDY CO OILJ WASHINGTON DRILLING PROGRAM SECTION 33 T17S - R28E		
Jimenez Oscar	EDDY CO OILJ	8/18/88
DPEARCY	Scale 1:12000.	DPLAND/ADDONWV

Bulldog (to 5000') | Chase
Scale 1:12000.





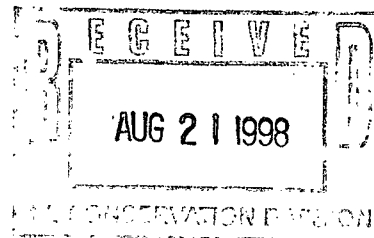
ARCO Permian
600 North Marienfeld
Midland TX 79701-4373
Post Office Box 1610
Midland TX 79702-1610
Telephone 915 688 5570

Elizabeth A. Casbeer
Regulatory/Compliance Analyst

NSL 9/10/98

NSL-4060

August 20, 1998



Oil Conservation Division
Attn: Michael Stogner
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 locations for its Washington "33" State #16, 17, 27, and 30, recompletions of previously drilled wells in the Empire Abo Unit, to the Artesia (Glorieta-Yeso) or Artesia (Queen-Grayburg-San Andres) Pools. All wells are located in Section 33, T17S, R28E, Eddy County, New Mexico. We requests an amendment to Administrative Order NSL-4060 dated 6/19/98, to include Artesia (Glorieta-Yeso) Pool.

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

1. Amended C-101s
2. Amended C-102s
3. Geologic and Engineering Discussion
4. A Glorieta-Yeso type log (Washington "33" State #9).
5. San Andres type log (Washington "33" State #9)
6. Structure Map, Top Glorieta Sand.
7. Structure Map, Top San Andres.
8. Gross Pay, San Andres Dolomite.
9. Plat showing adjoining and diagonal spacing units.

All wells are 330' or more from the outside boundary of the lease, therefore ARCO Permian deemed the offset operators as unaffected parties and no offset owners were notified.

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
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

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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 15-22415
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	
		⁶ Well No. 16

⁷ Surface Location									
UL or lot no. I	Section 33	Township 17S	Range 28E	Lot. Idn	Feet from the 1500	North/South Line SOUTH	Feet from the 700	East/West line EAST	County 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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3664'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 7/98

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	600'	300	SURE
7-7/8	5-1/2	15.5	6197'	1225	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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT G-323 IN 1978. TD @ 6219'.
PRODUCED ABO IN OPEN HOLE 6197'-6219' UNTIL 1991. TESTED ABO PERF 5866'-5880' 2-4-98.
SET CIBP W/2 SXS CEMENT ON TOP 2-11-98. IT IS PROPOSED TO TEST THE GLORIETA-YESO OR THE QUEEN-GRAYBURG-SAN ANDRES. RUN CNL-GAMMA RAY CCL AND PERF AS INDICATED BY LOG.
TEST AND FRAC AS NEEDED.

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: 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

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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 30-015-22415	Pool Code	Pool Name Artesia (Glorieta - Yesso) or Artesia (Q.G.S.A)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 16
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3664'

Surface Location

UL or lot No. I	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 1500	North/South line SOUTH	Feet from the 700	East/West line EAST	County EDDY
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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	Order No.						

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

	05	03	01
	06	04	02
07	09	011	013
08	012	014	
021	019	017	
022	031	018	16 700'
023	025		1500'
	026		

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.
Title
5/20/98
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
Signature
Professional Surveyor
RONALD J. EDSON
NEW MEXICO
5-4-98
58-11-0375

Certificate No. RONALD J. EDSON 3239
GARY EDSON 12641
PROFESSIONAL McDONALD 12185

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, 199
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Fee Lease - 5 Copie

☒ 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 15-22821
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 17

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
J	33	17S	28E		1900	SOUTH	1450	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 (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3663'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 7/98

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	751'	400	SURE
7-7/8	5-1/2	15.5	6370	1900	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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT G-315 IN 1979. TD @ 6370'. TESTED ABO 5794' - 6280'. PROPOSED TO ABANDON THE ABO AND TEST THE GLORIETA-YESO OR THE QUEEN-GRAYBURG-SAN ANDRES. SET CIBP @ 5750' W/35' CEMENT ON TOP. RUN CNL GAMMA FAY-CCL AND PERF AS INDICATED BY LOG. TEST AND FRAC AS NEEDED.

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: 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

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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 30-015-22921	Pool Code	Pool Name Artesia (Glorieta Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 17
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3663

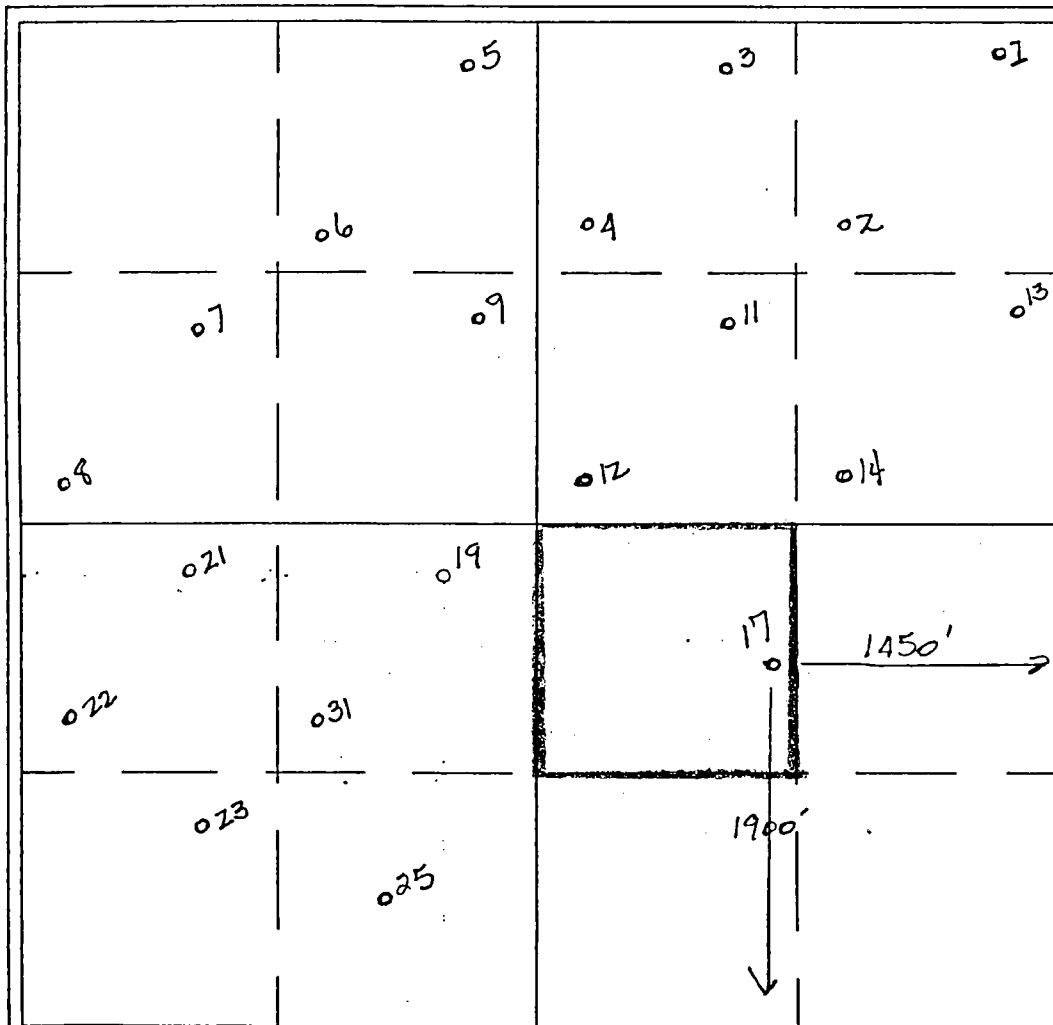
Surface Location

UL or lot No. J	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 1900	North/South line South	Feet from the 1450	East/West line East	County EDDY
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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	Order No.						

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.
Title
5/20/98
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
Signature
Professional Surveyor
RONALD J. McDONALD
3239
5-4-98
12641
12185
Cert. No. RONALD J. McDONALD
REGISTERED PROFESSIONAL SURVEYOR

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

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☒ 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 15-22605
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 27

⁷ Surface Location									
UL or lot no. 0	Section 33	Township 17S	Range 28E	Lot. Idn	Feet from the 815	North/South Line SOUTH	Feet from the 2525	East/West line EAST	County EDDY

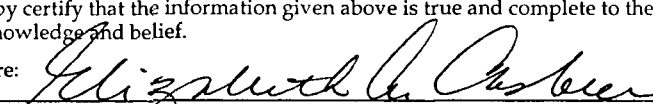
⁸ Proposed Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
⁹ Proposed Pool 1 ARTESIA (GLORIETA-YESO) 96830					¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230				

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3668'
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YESO	¹⁹ Contractor	²⁰ Spud Date 8/98

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	778	550	SURF
7-7/8	5-1/2	15.5	6405	1555	550' CBL

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.

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT H-312 IN 1978. TD @ 6405'. TESTED ABO @ 6058'-6281'. TA'D W/CIBP @ 6042' 6/20/91. PROPOSED TO DUMP 35' CEMENT ON CIBP @ 6042'. RUN CNL-GAMMA RAY-CCL AND PERF GLORIETA-YESO OR QUEEN-GRAYBURG-SAN ANDRES AS INDICATED ON LOG. TEST AND FRAC AS NEEDED.

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: 		Approved by:	
Printed name: ELIZABETH A. CASBEER		Title:	
Title: REG./COMP. ANALYST		Approval Date:	Expiration Date:

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410DISTRICT 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 30-015-22605	Pool Code	Pool Name Artesia (Glorista Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 27
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3465'

Surface Location

UL or lot No. 0	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 815	North/South line SOUTH	Feet from the 2525	East/West line EAST	County EDDY
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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
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Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
-----------------------	-----------------	--------------------	-----------

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

05	03	01
06	04	02
07	09	013
08	010	012
014		
021	019	17
022	031	018
016		
023	025	027
024	026	815'
		2525'

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
6/3/98
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
Signature
Professional Surveyor
NEW MEXICO
3239
5-4-98
88-11-037
Cert. No. RONALD EIDSON 3239
GARY EIDSON 12641
PROFESSIONAL SURVEYOR McDONALD 12185

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
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State of New Mexico
Energy, Minerals & Natural Resources Department

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Santa Fe, NM 87505

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☒ 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 15-22465
⁴ Property Code 22954	⁵ Property Name WASHINGTON "33" STATE	⁶ Well No. 30

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
P	33	17S	28E		750	SOUTH	1150	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 (GLORIETA-YESO) 96830	¹⁰ Proposed Pool 2 ARTESIA (Q-G-SA) 3230
---	--

¹¹ Work Type Code P	¹² Well Type Code 0	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3662
¹⁶ Multiple NO	¹⁷ Proposed Depth 4200	¹⁸ Formation YES0	¹⁹ Contractor	²⁰ Spud Date 3-28-78


²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11	8-5/8	24#	600	300	SURF
7-7/8	5-1/2	15.5	6262	1275	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

ORIGINALLY DRILLED AND COMPLETED AS THE EMPIRE ABO UNIT H-322 IN 1978.
TD @ 6290' OH. TESTED ABO @ 6262-6290' OH & 6150-6230' PERFS. TA'D W/
CIBP @ 6147' ON 6-19-91. PROPOSE TO DUM 35' CEMENT ON CIBP @ 6147', RUN
CNL-GAMMA RAY-CCL AND PERF THE GLORIETA-YESO OR Q-G-SA AS INDICATED ON LOG.
TEST AND FRAC AS NEEDED.

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

Signature: 	OIL CONSERVATION DIVISION	
Printed name: ELIZABETH A. CASBEER	Approved by:	
Title: REG./COMP. ANALYST	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
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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 30-015-22465	Pool Code	Pool Name Artesia (Glorieta-Yeso) or Artesia (Q-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 30
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 3662

Surface Location

UL or lot No. P	Section 33	Township 17 S	Range 28 E	Lot Idn	Feet from the 750	North/South line SOUTH	Feet from the 1150	East/West line EAST	County EDDY
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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
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Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
------------------------------	-----------------	--------------------	-----------

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

		05	03	01
	06		04	02
07		09	011	013
08	010		012	014
021		019		15
022	031		018	016
023		025	027	29
024	020		028	30

OPERATOR CERTIFICATION

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

Laurie Cherry
Signature
LAURIE CHERY
Printed Name
REG/COMP. ASST.
Title
6/16/98
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
Signature
Professional Surveyor
RONALD J. EDISON
Professional Seal
5-4-98
Date
2339
Certificate No.
12641
Surveyor's Name
EDISON-MCDONALD
12185

**Geologic Discussion for Amended NSL-4060 at Artesia (Glorieta-Yeso) Field
(ARCO's Washington "33" State #16, 17, 27, and 30)
Section 33, T17S, R 28E, Eddy Co, NM**

Summary:

ARCO Permian requests an amendment of NSL-4060 to allow recompletion of four unorthodox Washington 33 State wells into the Artesia (Glorieta-Yeso) Pool. We now plan to recomplete these wells first in the Artesia (Glorieta-Yeso) Pool, rather than the Artesia (Q-G-SA) Pool as authorized by the current NSL. These unorthodox recompletions are required for geologic and engineering reasons. All interests on this 600-acre State Land Office Lease No. X-00647 lease are common, and ARCO holds 100% of all rights down to the top of Abo shale.

Background of ARCO NSL Requests in the area:

ARCO was granted blanket NSL-4060 on June 19, 1998 for completing these wells (and three additional ones) to the Artesia (Queen-Grayburg-San Andres) Pool. Division Administrative Orders NSL-915-A, NSL 915-B, NSL 809-A, NSL 999-A, NSL-4003, NSL-4007, NSL-4035, and NSL-4036 have also been granted for other unorthodox Artesia (Queen-Grayburg-San Andres) locations on the same lease. Recent testing (documented below) now indicates that recompletion of the Glorieta-Yeso zone FIRST would be more economically feasible than completing first in the San Andres and adding the deeper Yeso later. We are therefore requesting an amended NSL-4060 to enable us to complete in the Yeso in any unorthodox well that is no closer than 330' to the outer boundary of the lease. We also request that three other unorthodox wells cited in NSL-4060 (#18, 19 and 23) also be approved for Glorieta-Yeso completion under the "blanket" provisions of an amended NSL-4060.

Washington #9 and #14 Results:

In June 1998, ARCO completed Washington #9 in unit letter F of Section 33 for 28 BOPD, 65 MCFD and 716 BHPD, but the well has declined to about 10 BOPD. A copy of this log showing the Yeso dolomite pay is attached. Washington #14 in Unit letter H was also completed in June from the Yeso, and potential for 9 BOPD, 25 MCFD, and 863 BHPD, and now pumping around 40 BOPD. This new field has been designated the Artesia (Glorieta-Yeso) Pool. These wells also have uphole San Andres pay, as shown on the second attached log.

Geology:

The Yeso (the upper part of which is sometimes called the Paddock Formation) is a fine-crystalline, anhydritic, slightly vuggy dolomite that lies under the Glorieta sand. The lower Yeso (which we are not producing from) is sometimes called the Blinbry, Tubb, and Drinkard in Lea County. A structure map of the top Glorieta sand, which is a better geologic marker than the Yeso, has been provided. This map shows up to 5-degree dip to the SE in Section 33, with the "crest" of the structure plunging due east, one mile north of us in Section 28. The gross 250' of Yeso pay we produce from is the same dolomite interval as found at Atoka (Glorieta/Yeso) Field, East Empire (Yeso) Field, and is the deeper Grayburg-Jackson (4000' San Andres) pay. This dolomite rarely produces without a major frac job.

The San Andres dolomite is an established pay from offset wells adjacent to our Washington lease, and maps showing top San Andres Structure and Gross Pay are included. The San Andres structure dips SE and is similar to the Glorieta structure. Gross San Andres pay interval across Section 33 ranges from 500 to 600'.

Engineering Justification for Revised NSL Request:

ARCO will need 2 strategically spaced wells in each 40-acre tract to recover 50 MBO per well in the Artesia (Q-G-SA) Field. The Glorieta-Yeso pay, with about 35 MBO per 20-acre location, is marginally economic, but only if completion cost is minimized. Completing and fracking first in the Glorieta-Yeso, and later in the San Andres will save us approximately \$30,000 compared to completing the Yeso after the San Andres. We will also avoid the substantial risk of sticking a packer with San Andres perforations open, if we fracture-treat the lower (Yeso) zone first. ARCO and the State of New Mexico would be best served if recompletions in the Glorieta-Yeso were authorized and performed first.

Production Planning:

Since the Glorieta-Yeso appears productive over most of the lease, we now expect to complete first in this interval, unless logs or neighboring well performance indicates the Yeso is not prospective. 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.

Conclusion

ARCO respectfully requests approval to recomplete these four wells to the Glorieta-Yeso pay as soon as possible. All wells cited in NSL-4060 are at least 330' from the outside boundary of the lease, and no offset owner notification is required.

WasRCyeso

WELL: Washington '33' State No. 9

FIELD: Yeso

COUNTY: Eddy

STATE: New Mex

Glorieta- Yeso
Type Log

Schlumberger

Platform Express

Three Detector Denr

Compensated Neutr.

1850 FNL & 2270 FNL

Elev.: K.B. 3

G.L. 2

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

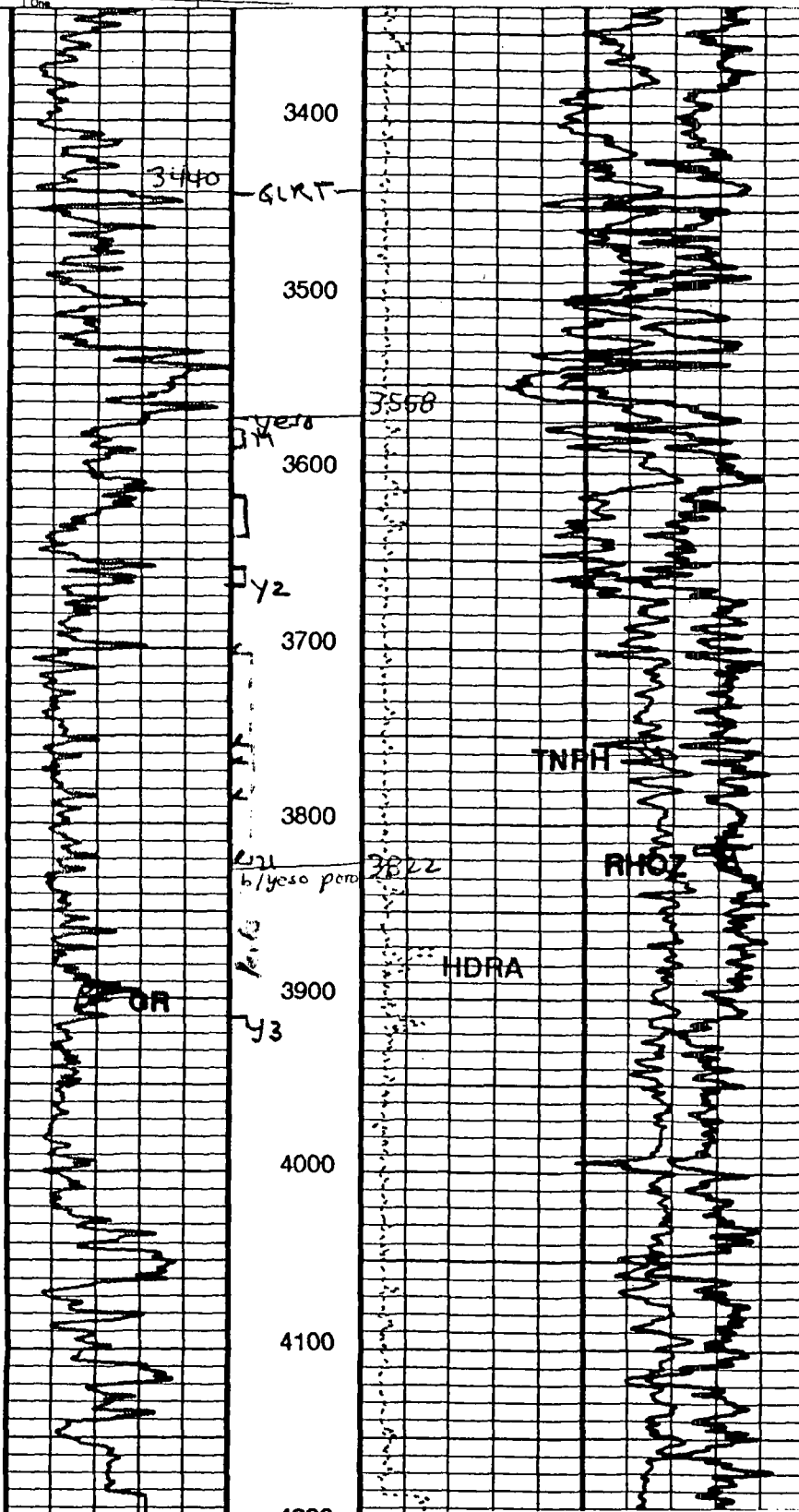
R28E

Logging Date

11-MAY-1968

Run Number

One



COMPANY: ARCO Permian

WELL: Washington '33' State No. 9

FIELD: Yeso

COUNTY: Eddy

STATE: New Mex

San Andres

Type Log

Schlumberger

Platform Express

Three Detector Dens

Compensated Neutr

1650 FNL & 2270 FNL

Elev.: K.B. 3
G.L. 2
D.F. 3

Permanent Datum: Ground Level

Elev.: 3072 F

Log Measured From: Kelly Bushing

7.0 F above P.

Drilling Measured From: Kelly Bushing

API Serial No.

30-015-30181

SECTION

33

TOWNSHIP

17S

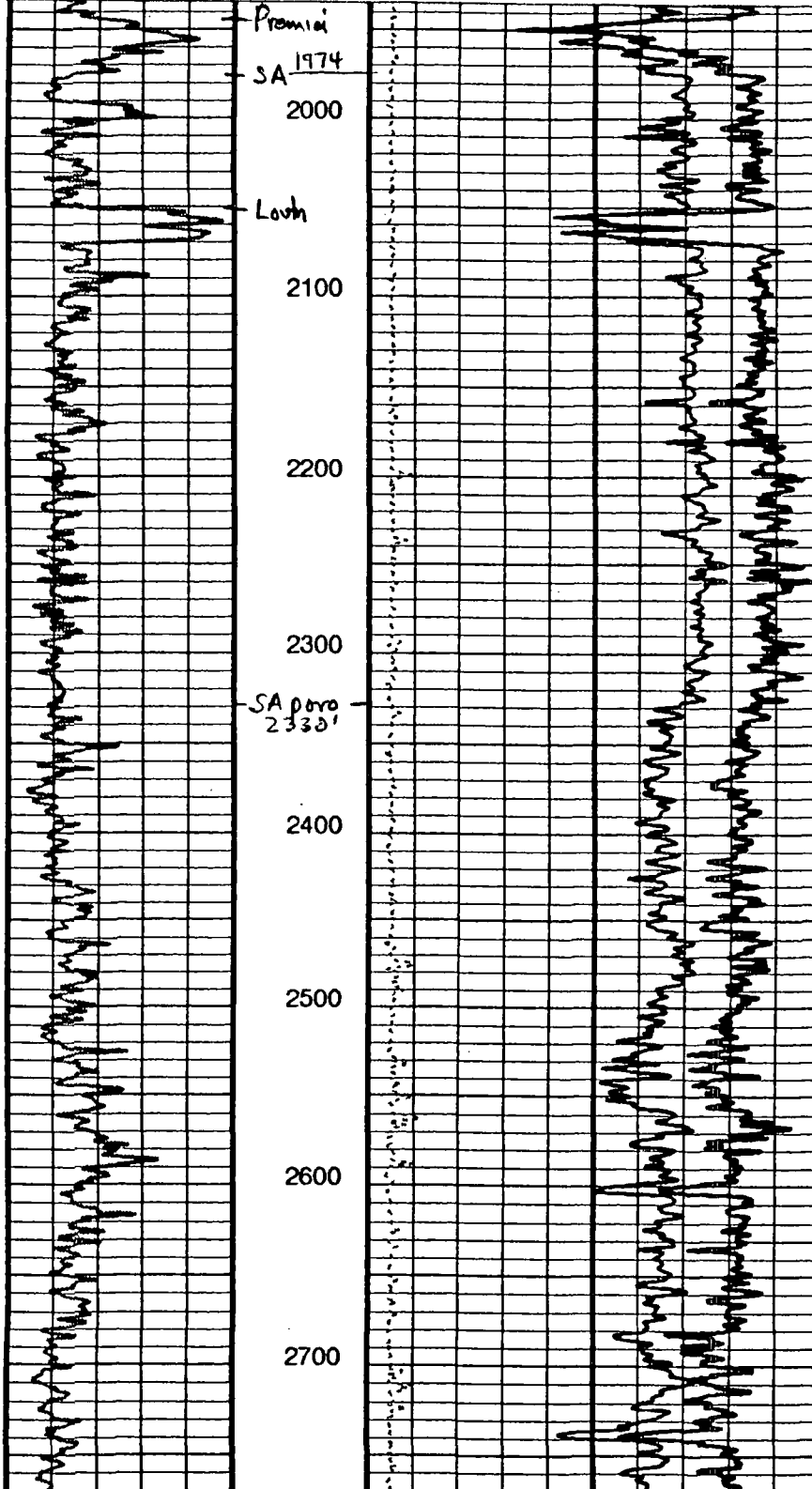
R 28 E

Logging Date

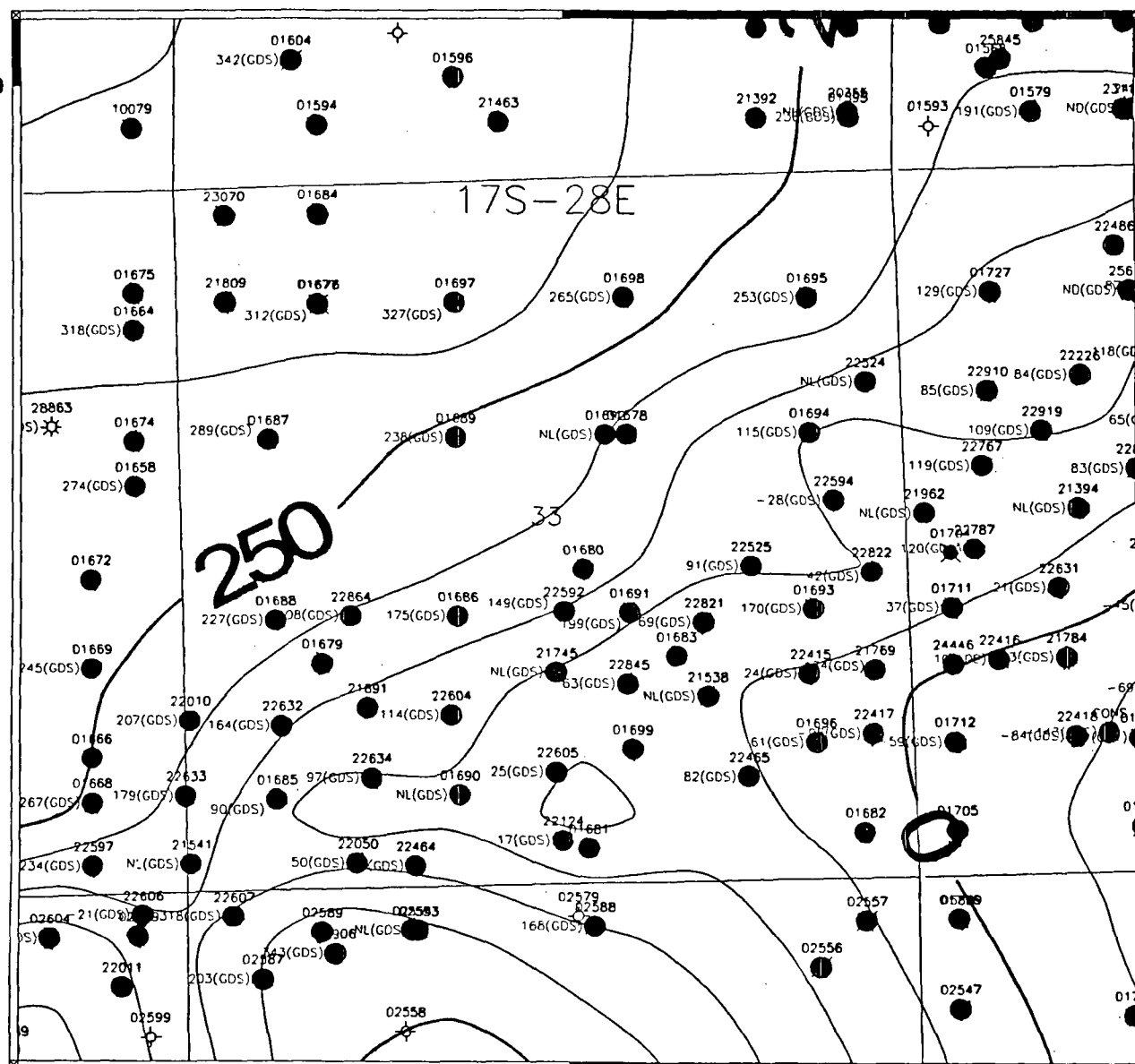
Run Number

11-MAY-1968

One

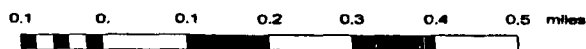


32.800



Scale 1:12000.

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



Jewett Oscar	eddy co st	6/3/88
DPerry	Scale 1:12000.	Errollels



Scale 1:12000.

DEFECT	EDOT CO. U.S.	4028
QUANTITY	Series 117000	EMERITIA

T17S-R28E

E

F

G

H

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

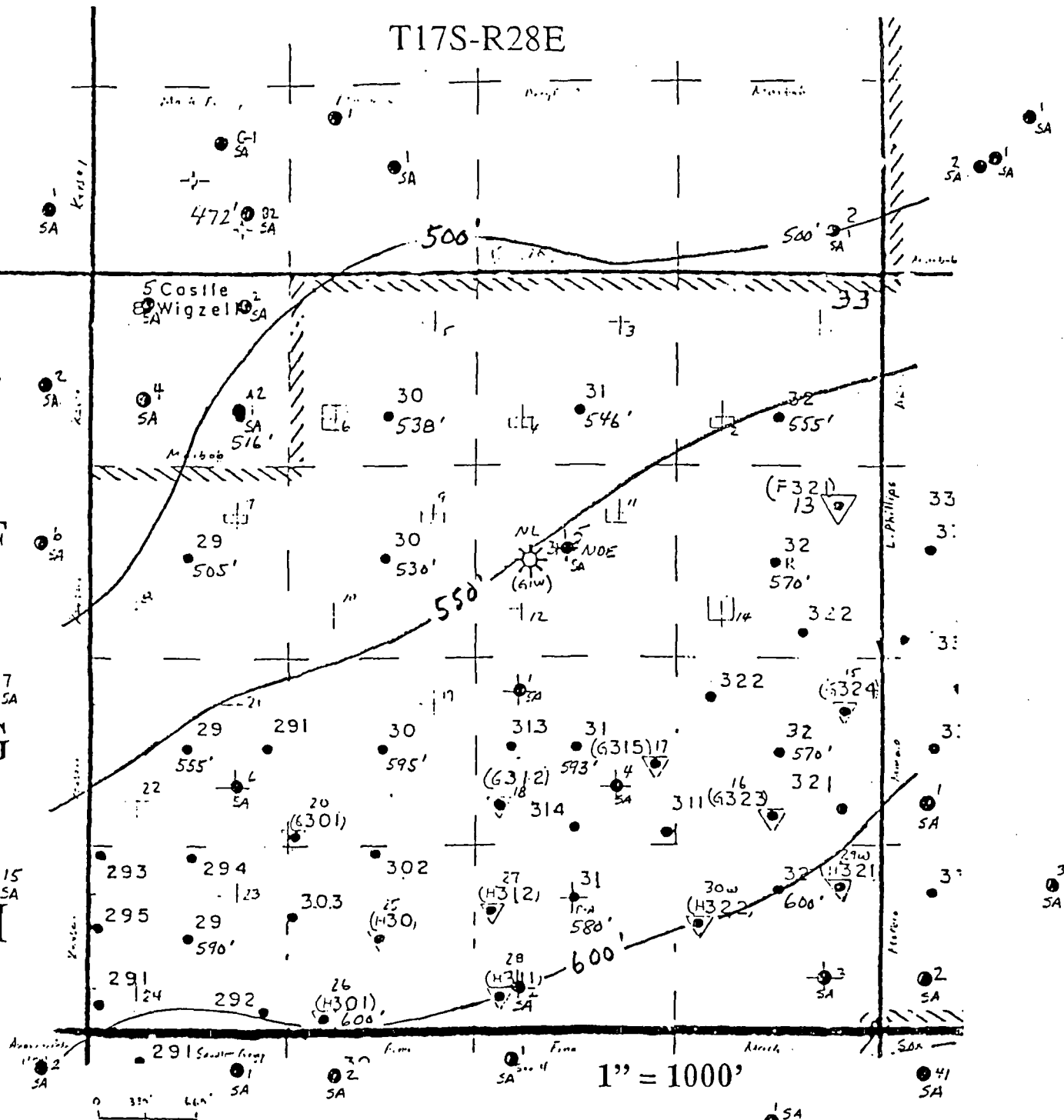


Possible / contingent Yeso TD

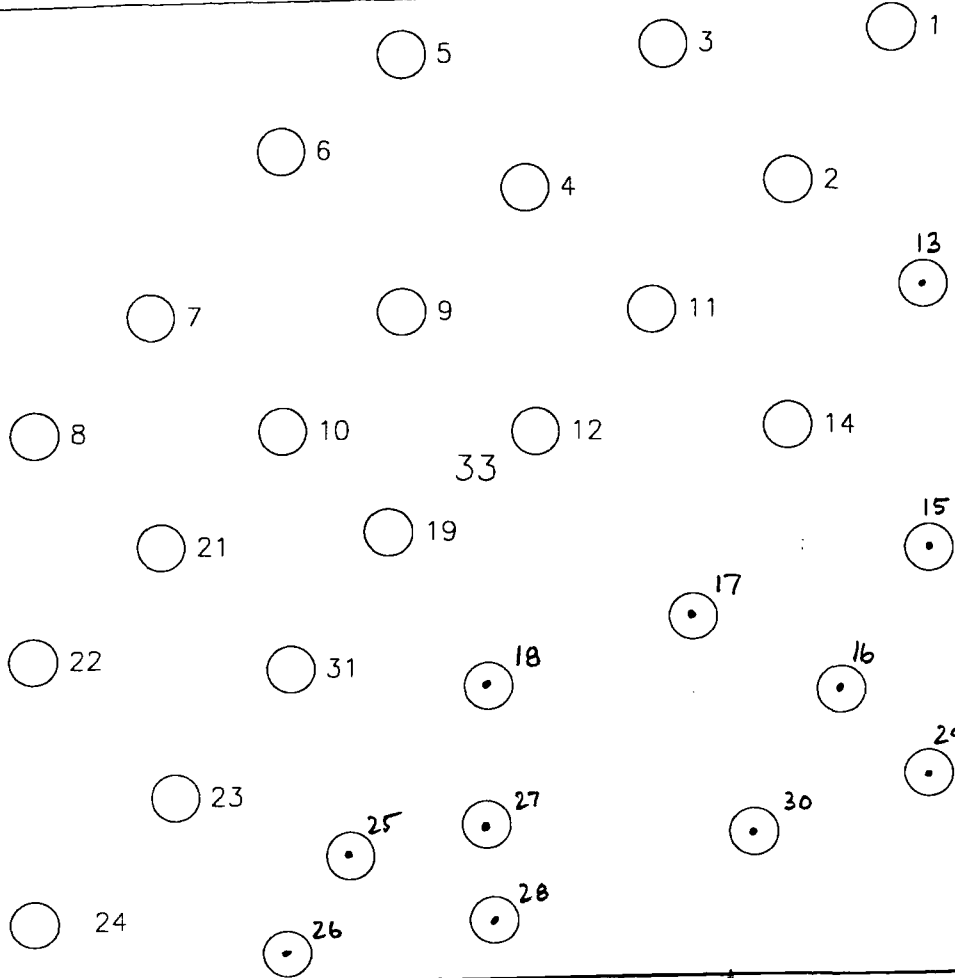


Relevant San Andres wells
Showing well #

1" = 1000'



17S - 28E



ARCO

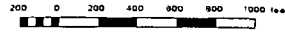
Phillips Trust,
Sheldon Trust
(to 4000')

Marbob
(to 4000')

Brewer to 5000' Altura / ARCO (to 5000')		
ARCO (Atlantic Richfield Company)		
EDDY CO OILJ WASHINGTON DRILLING PROGRAM SECTION 33 T17S - R28E		
Jimenez Oscar	EDDY CO OILJ	8/18/88
DPEARCY	Scale 1:12000.	DPLAND/ADDOHVV

Bulldog
(to 5000')

Scale 1:12000.



Chase

SDX