

10 P 915 688 / 5246 01:21 011 86-02-700

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# Facsimile Cover Sheet

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

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

**Date: July 30, 1996**

**Pages including this 2**  
**cover page:**

Dear Michael: Re: Washigton 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

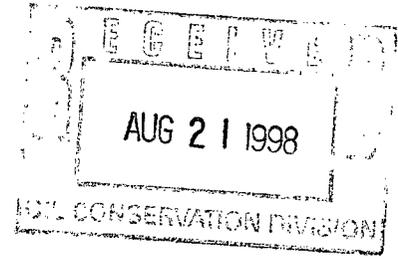


**ARCO Permian**  
 600 North Marienfeld  
 Midland TX 79701-4373  
 Post Office Box 1610  
 Midland TX 79702-1610  
 Telephone 915 688 5570

**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  
 P.O. 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, 1999  
 Instructions on back  
 Submit to Appropriate District Office  
 State Lease - 6 Copies  
 Fee Lease - 5 Copies

AMENDED REPORT

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
<sup>4</sup> Property Code		<sup>3</sup> API Number
22954	<sup>5</sup> Property Name	30-0 15-22415
	WASHINGTON "33" STATE	<sup>6</sup> Well No. 16

<sup>7</sup> Surface Location									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
I	33	17S	28E		1500	SOUTH	700	EAST	EDDY

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

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

<sup>21</sup> 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

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

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.

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

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

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

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0719

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

OIL CONSERVATION DIVISION  
P.O. Box 2088

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

Santa Fe, New Mexico 87504-2088

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-22415	Pool Code	Pool Name Artesia (Glorita - Yeso) or Artesia (O.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.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	33	17 S	28 E		1500	SOUTH	700	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres 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

	OPERATOR CERTIFICATION	
	<p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Elizabeth A. Casbeer</i> Signature ELIZABETH A. CASBEER Printed Name REG/COMP. Title 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 Signature _____ Professional Seal of _____ Professional Surveyor of _____ NEW MEXICO RONALD J. EDISON 3239 98-11-037 5-4-98</p> <p>Certificate No. RONALD J. EDISON 3239 GARY EDISON 12641 RONALD J. EDISON-MCDONALD 12185</p>	

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		<sup>3</sup> API Number
		30-0 15-22821
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE	17

<sup>7</sup> Surface Location									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
J	33	17S	28E		1900	SOUTH	1450	EAST	EDDY

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

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

<sup>21</sup> 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

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

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.

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

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

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

AMENDED REPORT

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

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

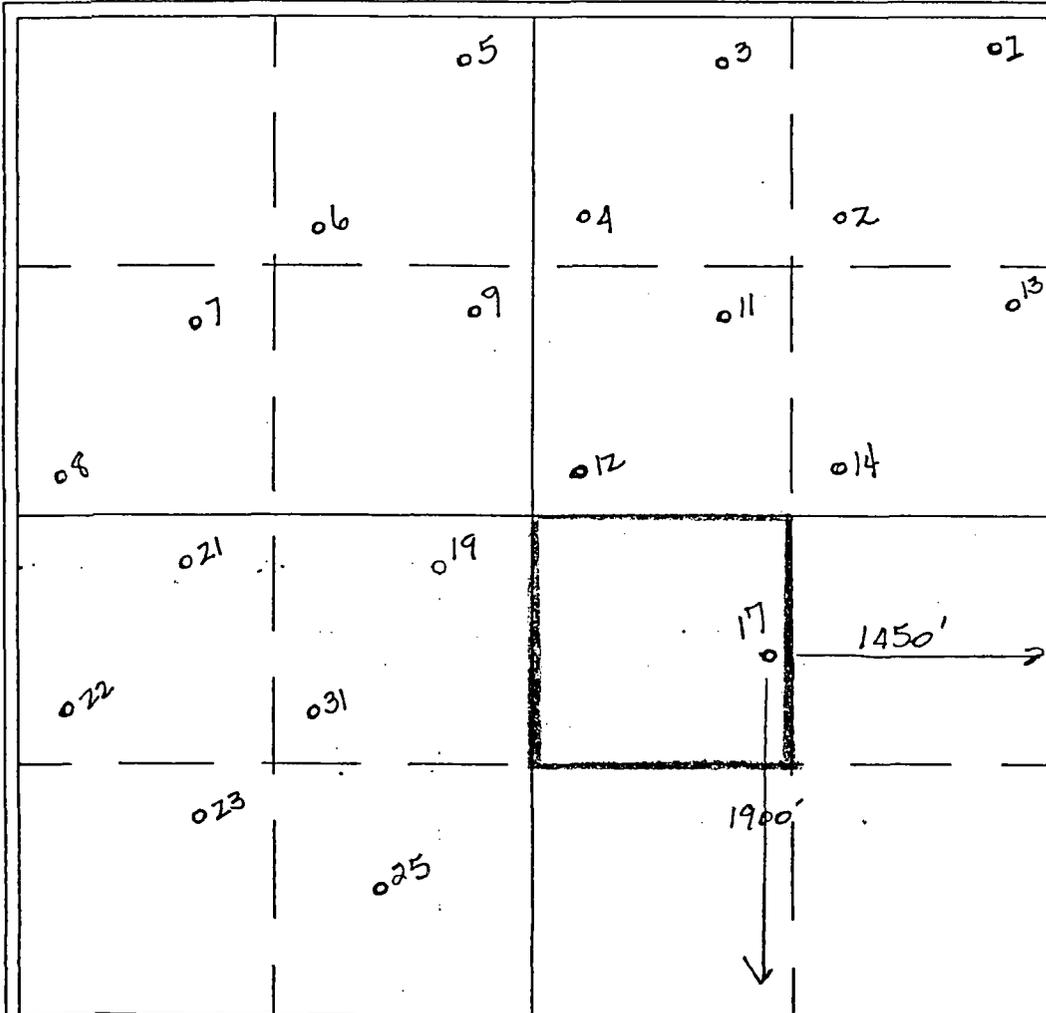
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	33	17 S	28 E		1900	SOUTH	1450	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



**OPERATOR CERTIFICATION**

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 \_\_\_\_\_ DMCC

Signature \_\_\_\_\_  
Professional Seal of RONALD EIDSON  
Professional Surveyor  
3239  
88-11-0378

RONALD EIDSON  
3239  
88-11-0378

Cert. No. RONALD EIDSON 3239  
GARY EDSON 12641  
RONALD McDONALD 12185

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

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 Revised October 18, 1999  
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AMENDED REPORT

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
<sup>4</sup> Property Code		<sup>3</sup> API Number
22954	<sup>5</sup> Property Name	30-0 15-22605
	WASHINGTON "33" STATE	<sup>6</sup> Well No.
		27

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

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

<sup>9</sup> Proposed Pool 1	<sup>10</sup> Proposed Pool 2
ARTESIA (GLORIETA-YESO) 96830	ARTESIA (O-G-SA) 3230

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

<sup>21</sup> 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

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

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.

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

Signature: *Elizabeth A. Casbeer*

Printed name: ELIZABETH A. CASBEER

Title: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0719

### OIL CONSERVATION DIVISION

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

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

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

AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

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

#### Surface Location

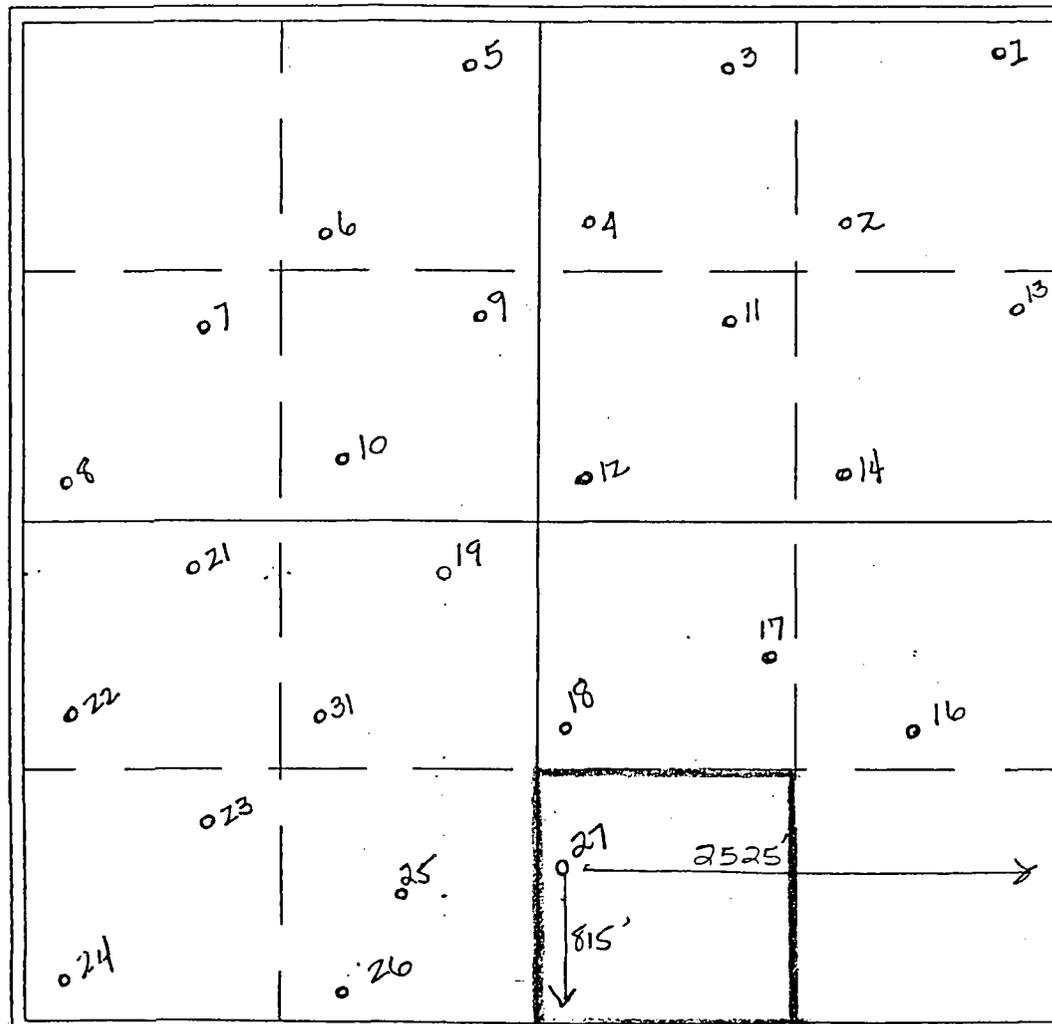
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>0</b>	<b>33</b>	<b>17 S</b>	<b>28 E</b>		<b>815</b>	<b>SOUTH</b>	<b>2525</b>	<b>EAST</b>	<b>EDDY</b>

#### Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
<b>40</b>			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



**OPERATOR CERTIFICATION**

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

*Elizabeth A. Casbeer*  
Signature

**ELIZABETH A. CASBEER**  
Printed Name

**REG/COMP. ANALYST**  
Title

**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 \_\_\_\_\_ DMCC

Signature *Ronald E. Eidson*  
Professional Surveyor  
NEW MEXICO  
3239  
88-11-038  
5-4-98

Cert. No. **RONALD E. EIDSON 3239**  
**GARY EIDSON 12641**  
**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  
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 Submit to Appropriate District O  
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 Fee Lease - 5 Copie

AMENDED REPORT

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		<sup>3</sup> API Number
		30-0 15-22465
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE	30

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<sup>9</sup> Proposed Pool 1					<sup>10</sup> Proposed Pool 2				
ARTESIA (GLORIETA-YESO) 96830					ARTESIA (Q-G-SA) 3230				

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

<sup>21</sup> 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

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

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.

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

OIL CONSERVATION DIVISION  
P.O. Box 2088

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

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 30-015-22465	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

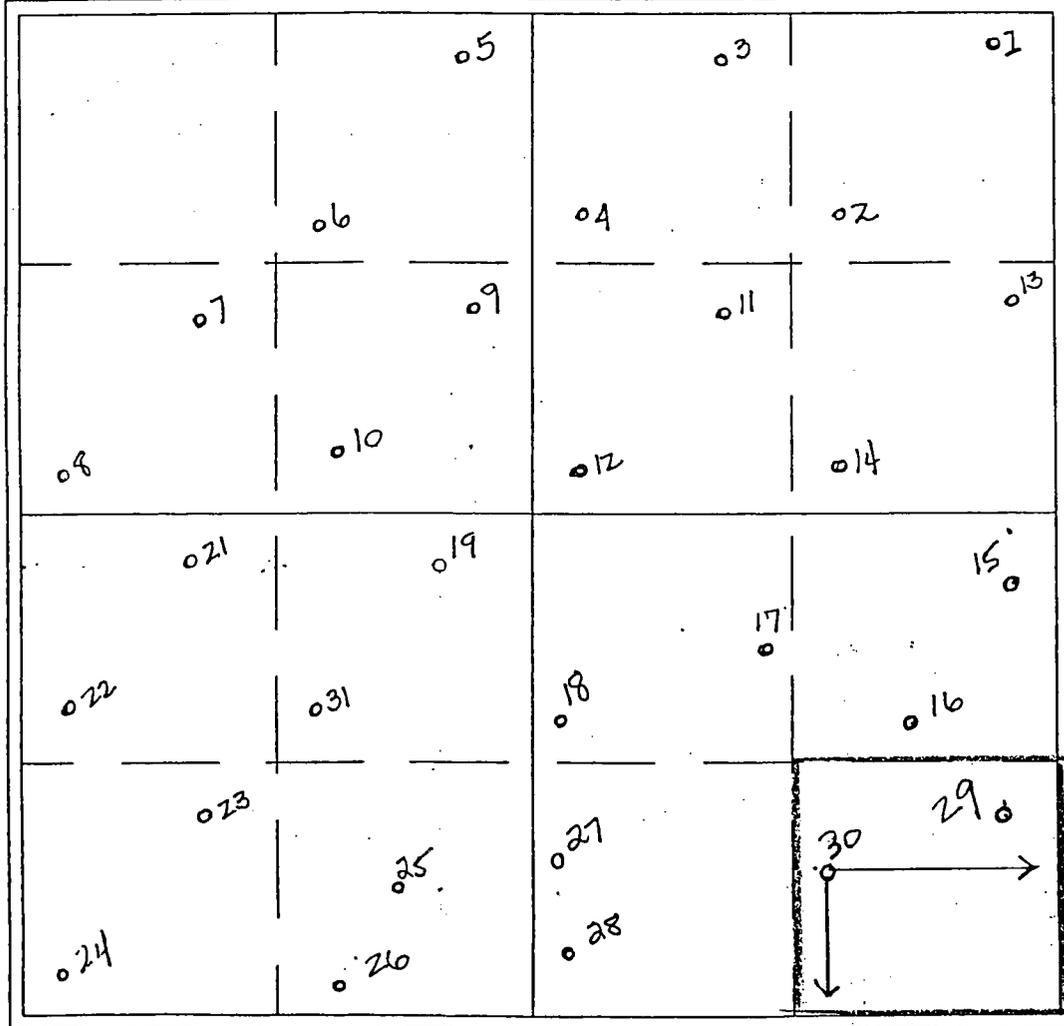
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	33	17 S	28 E		750	SOUTH	1150	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres 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.

*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: RONALD E. EDISON  
Professional Surveyor  
NEW MEXICO  
2239 Edison  
5-4-98  
88-11-03

DMCC

State No. RONALD E. EDISON 3239  
Certified Professional Surveyor GARY McDONALD 12641  
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 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 Blinebry, 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

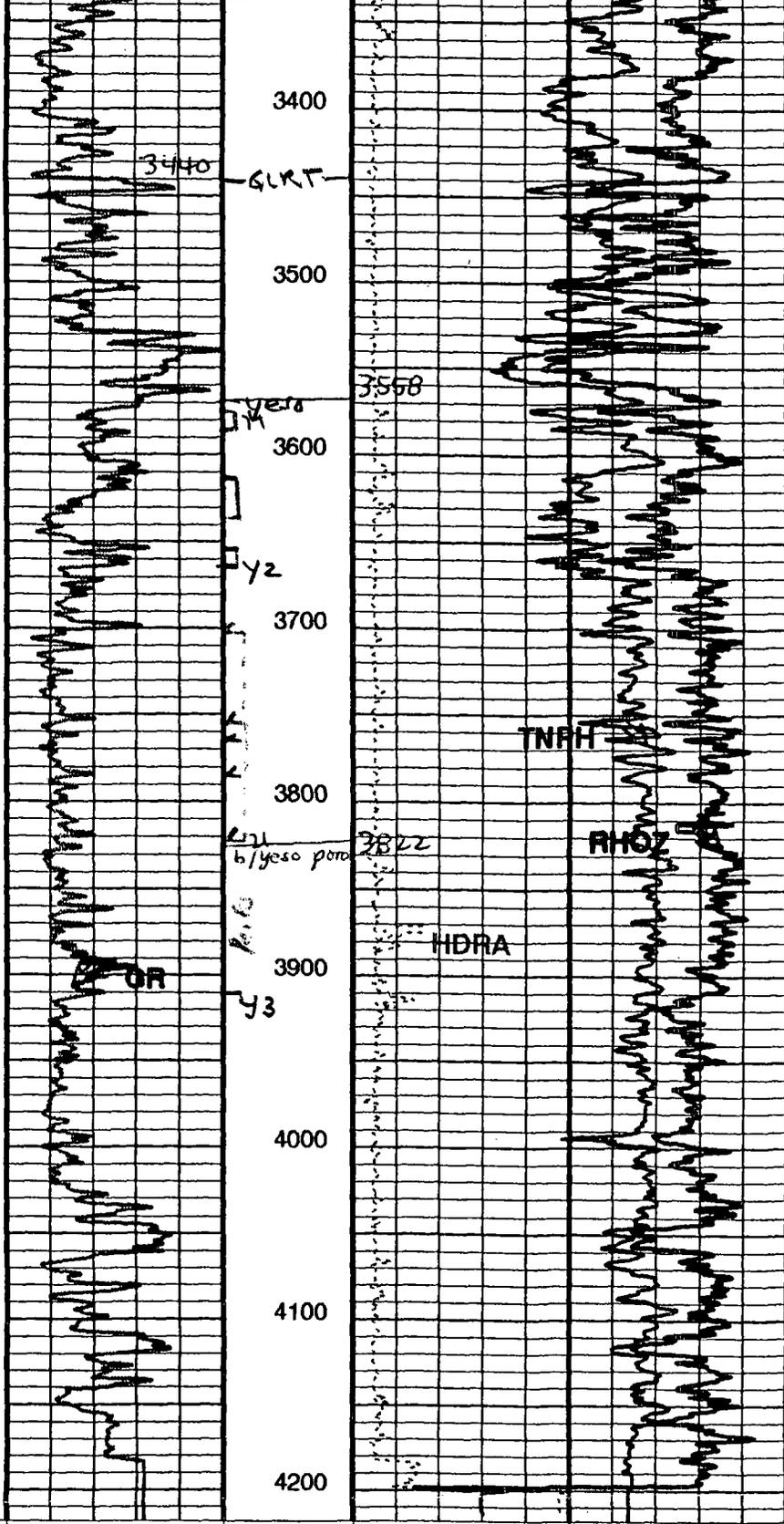
ARCO respectfully requests approval to recomplete these four wells to the Glorieta-Yeso pay as soon as possible. All wells cited in NSL-4060 are at least 330' from the outside boundary of the lease, and no offset owner notification is required.

WasRCyeso

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

Glorieta-Yeso  
 Type Log

Platform Express  
 Three Detector Den:  
 Compensated Neutr:  
 Schlumberger  
 1650 FNL & 2270 FWL  
 Elev.: K.B. 3  
 G.L. 3  
 O.F. 3  
 Permanent Datum: Ground Level  
 Log Measured From: Kelly Bushing Elev.: 3672 F  
 Drilling Measured From: Kelly Bushing 7.0 F above P.  
 API Serial No. 30-015-30181 SECTION 33 TOWNSHIP 17S R28E  
 Logging Date 11-MAY-1968  
 Run Number One



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

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description
-----------	-------------

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

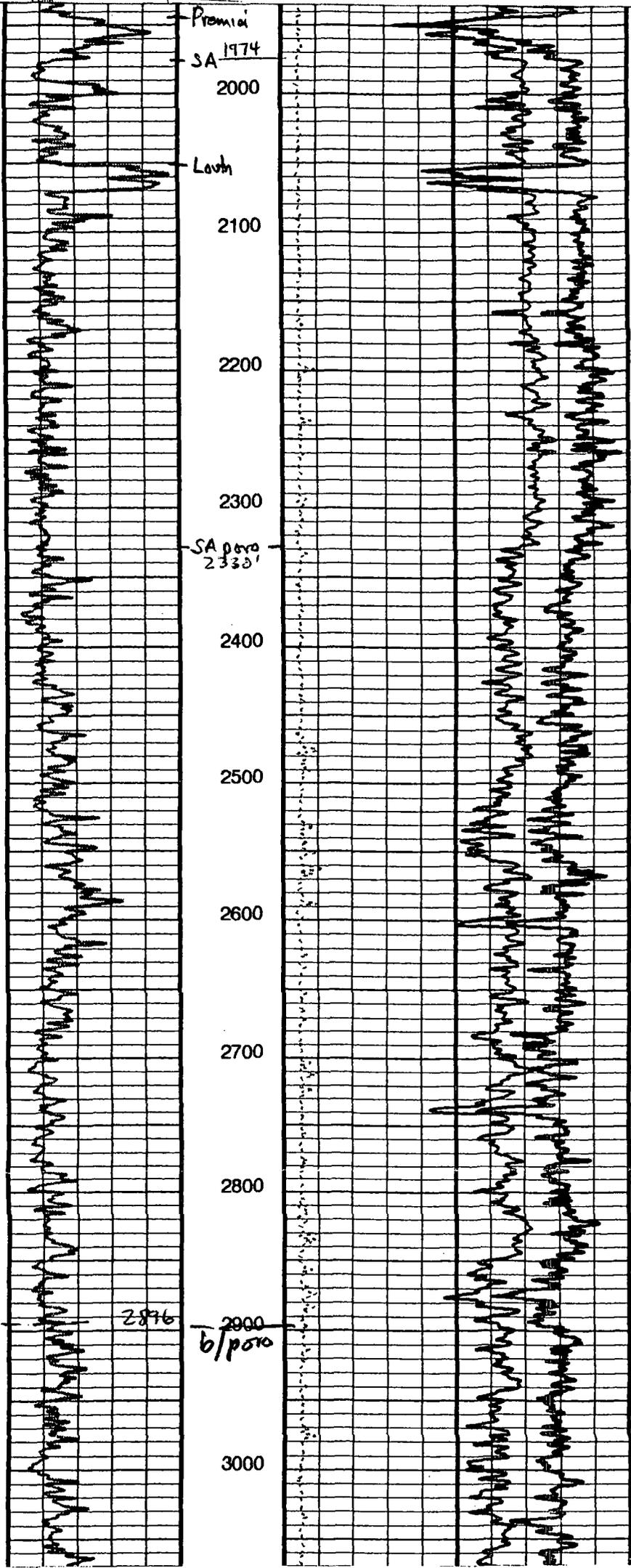
San Andres  
 Type Log

Platform Express  
 Schlumberger  
 Three Detector Neutr  
 Compensated Neutr

1650 FNL & 2270 FWL  
 Elev.: K.B. 3  
 G.L. 3  
 D.F. 3

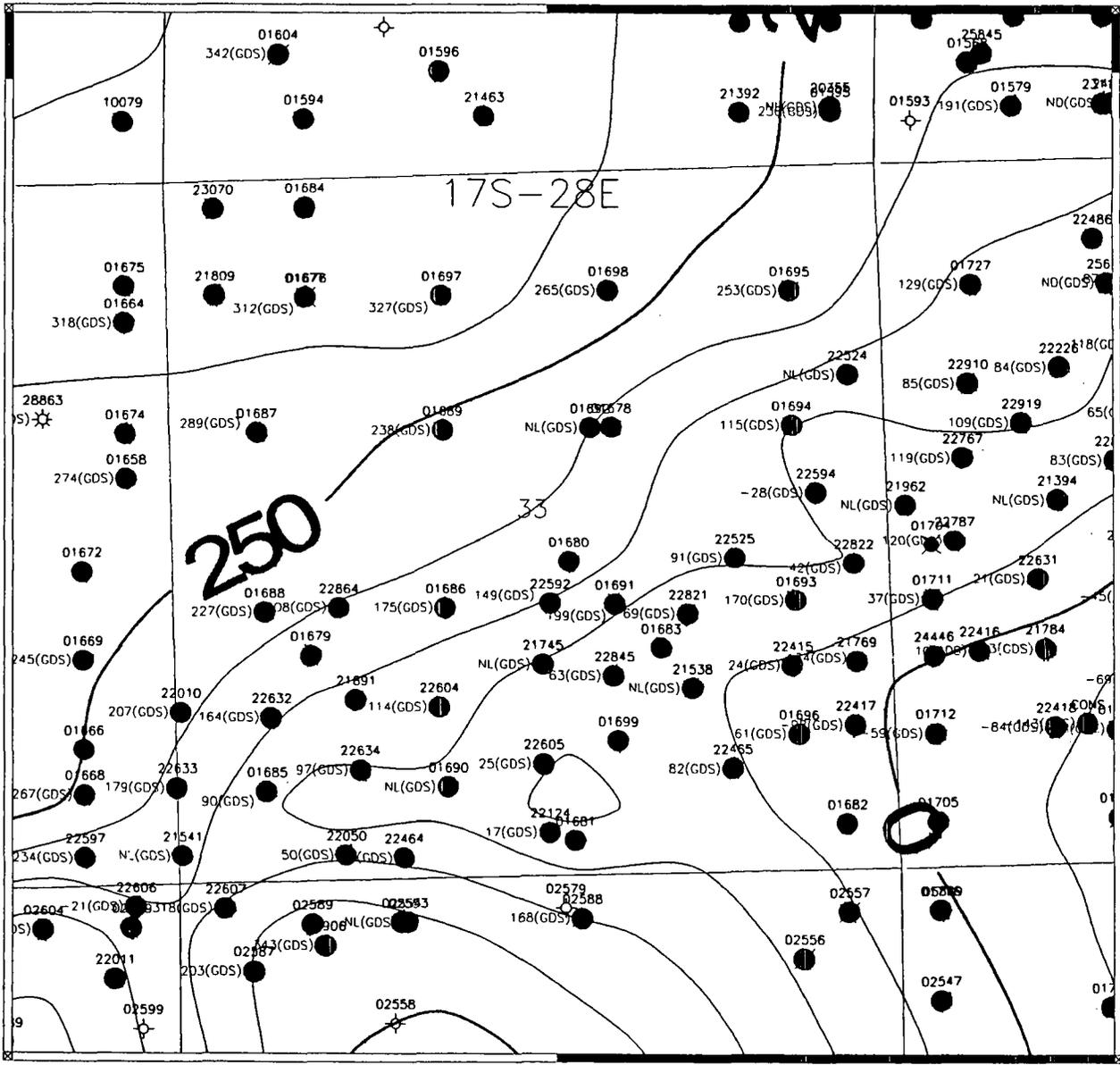
Permanent Datum: Ground Level Elev.: 3872 F  
 Log Measured From: Kelly Bushing 7.0 F above P  
 Drilling Measured From: Kelly Bushing

API Serial No. 30-015-30191 SECTION 33 TOWNSHIP 17S R 28E  
 Logging Date 11-MAY-1998  
 Run Number One



32.800

32.800

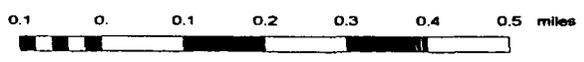


ARCO (Atlantic Richfield Company)

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

Operator	eddy co oil	9398
Company	Scale 1:12000	Empire

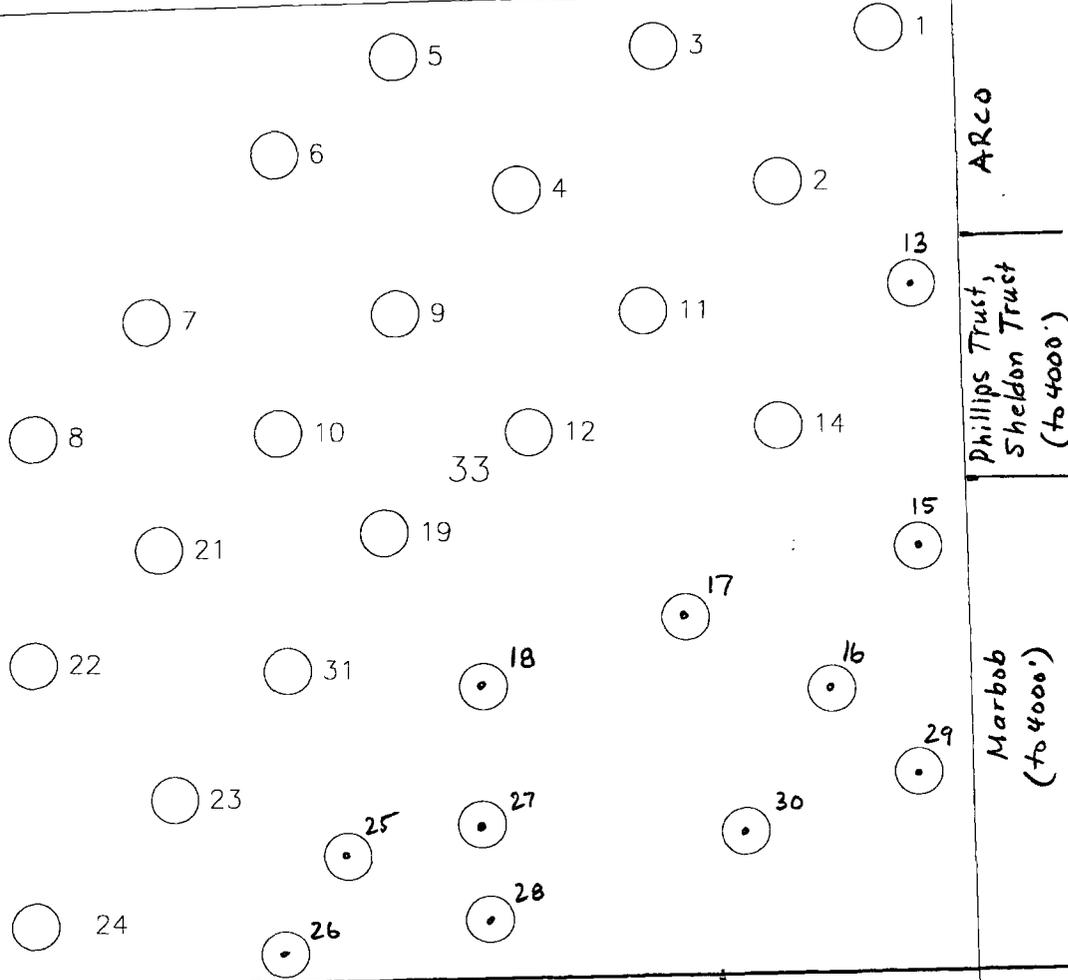
Scale 1:12000.







17S - 28E



Brewer (to 5000') | Alura / ARCO (to 5000')

Bulldog (to 5000')

Chase (to 5000')

SDX

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/ADDONW

Scale 1:12000.





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

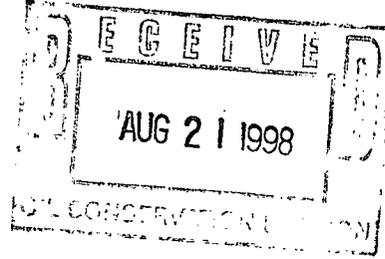
**Elizabeth A. Casbeer**  
 Regulatory/Compliance Analyst

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 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

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number	
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990	
		<sup>3</sup> API Number	
		30-0 15-22415	
<sup>4</sup> Property Code	<sup>5</sup> Property Name		<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE		16

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

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

<sup>9</sup> Proposed Pool 1

ARTESIA (GLORIETA-YESO) 96830

<sup>10</sup> Proposed Pool 2

ARTESIA (Q-G-SA) 3230

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

<sup>21</sup> 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

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

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.

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

Signature: *Elizabeth A. Casbeer*

Printed name: ELIZABETH A. CASBEER

Title: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

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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 - 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.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	33	17 S	28 E		1500	SOUTH	700	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 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>REG/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 &amp; Seal of _____ Professional Surveyor of _____</p> <p><i>Ronald S. Edson</i> RONALD S. EDSON 3239 88-11-0378 5-4-98</p>	
	<p>Certificate No. RONALD S. EDSON 3239 GARY EDSON 12641 RONALD S. McDONALD 12185</p>	
	<p>Professional Surveyor of _____</p>	

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

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AMENDED REPORT

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		<sup>3</sup> API Number
		30-0 15-22821
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE	17

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<sup>9</sup> Proposed Pool 1					<sup>10</sup> Proposed Pool 2				
ARTESIA (GLORIETA-YESO) 96830					ARTESIA (Q-G-SA) 3230				

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

<sup>21</sup> 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

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

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.

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.	OIL CONSERVATION DIVISION	
Signature: <i>Elizabeth A. Casbeer</i>	Approved by:	
Printed name: ELIZABETH A. CASBEER	Title:	
Title: REG./COMP. ANALYST	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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OIL CONSERVATION DIVISION  
P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

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

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 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.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	33	17 S	28 E		1900	SOUTH	1450	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres 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 8-11-0378 5-4-98</p> <p>Cert. No. RONALD J. EDSON 3239 GARY EDSON 12641 RONALD J. EDSON-MCDONALD 12185</p>	

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  
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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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>3</sup> API Number
22954	WASHINGTON "33" STATE	30-0 15-22605
		<sup>6</sup> Well No.
		27

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

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

<sup>9</sup> Proposed Pool 1

<sup>10</sup> Proposed Pool 2

ARTESIA (GLORIETA-YESO) 96830

ARTESIA (Q-G-SA) 3230

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

<sup>21</sup> 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

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

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.

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

Signature:

*Elizabeth A. Casbeer*

Printed name: ELIZABETH A. CASBEER

Title: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

DISTRICT 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 (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.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	33	17 S	28 E		815	SOUTH	2525	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres 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.		
	<i>Elizabeth A. Casbeer</i> 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: <i>Ronald J. Edson</i> Professional Surveyor RONALD J. EDSON 1239 88-11-037 5-4-98		
State No. RONALD J. EDSON 3239 GARRETTSON 12641 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

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

Instructions on bac  
Submit to Appropriate District O  
State Lease - 6 Copie  
Fee Lease - 5 Copie

AMENDED REPORT

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

<sup>1</sup> Operator name and Address ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		<sup>2</sup> OGRID Number 000990
		<sup>3</sup> API Number 30-0 15-22465
<sup>4</sup> Property Code 22954	<sup>5</sup> Property Name WASHINGTON "33" STATE	<sup>6</sup> Well No. 30

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

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

<sup>9</sup> Proposed Pool 1 ARTESIA (GLORIETA-YESO) 96830	<sup>10</sup> Proposed Pool 2 ARTESIA (Q-G-SA) 3230
---	--

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

<sup>21</sup> 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

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

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.

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.	OIL CONSERVATION DIVISION	
Signature: <i>Elizabeth A. Casbeer</i>	Approved by:	
Printed name: ELIZABETH A. CASBEER	Title:	
Title: REG./COMP. ANALYST	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 (O-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.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	33	17 S	28 E		750	SOUTH	1150	EAST	EDDY

Bottom Hole Location If Different From Surface

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

<table border="1"> <tr> <td></td> <td>05</td> <td>03</td> <td>01</td> </tr> <tr> <td></td> <td>06</td> <td>04</td> <td>02</td> </tr> <tr> <td>07</td> <td>09</td> <td>11</td> <td>13</td> </tr> <tr> <td>08</td> <td>10</td> <td>12</td> <td>14</td> </tr> <tr> <td>021</td> <td>19</td> <td>17</td> <td>15</td> </tr> <tr> <td>022</td> <td>31</td> <td>18</td> <td>16</td> </tr> <tr> <td>023</td> <td>25</td> <td>27</td> <td>29</td> </tr> <tr> <td>024</td> <td>26</td> <td>28</td> <td>30</td> </tr> </table>		05	03	01		06	04	02	07	09	11	13	08	10	12	14	021	19	17	15	022	31	18	16	023	25	27	29	024	26	28	30	<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>Laurie Cherry</i> Signature</p> <p>LAURIE CHERRY Printed Name</p> <p>REG COMP. ASST. Title</p> <p>6/16/98 Date</p>		
		05	03	01																															
		06	04	02																															
07	09	11	13																																
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021	19	17	15																																
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<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 &amp; Seal of Professional Surveyor <i>Ronald J. Edson</i> Professional Surveyor</p> <p>3239 88-11-0315 5-4-98</p>																																			
<p>Cert. No. RONALD J. EDSON 3239 GARY EDSON 12641 PROFESSIONAL SURVEYOR - McDONALD 12185</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 Blinebry, 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

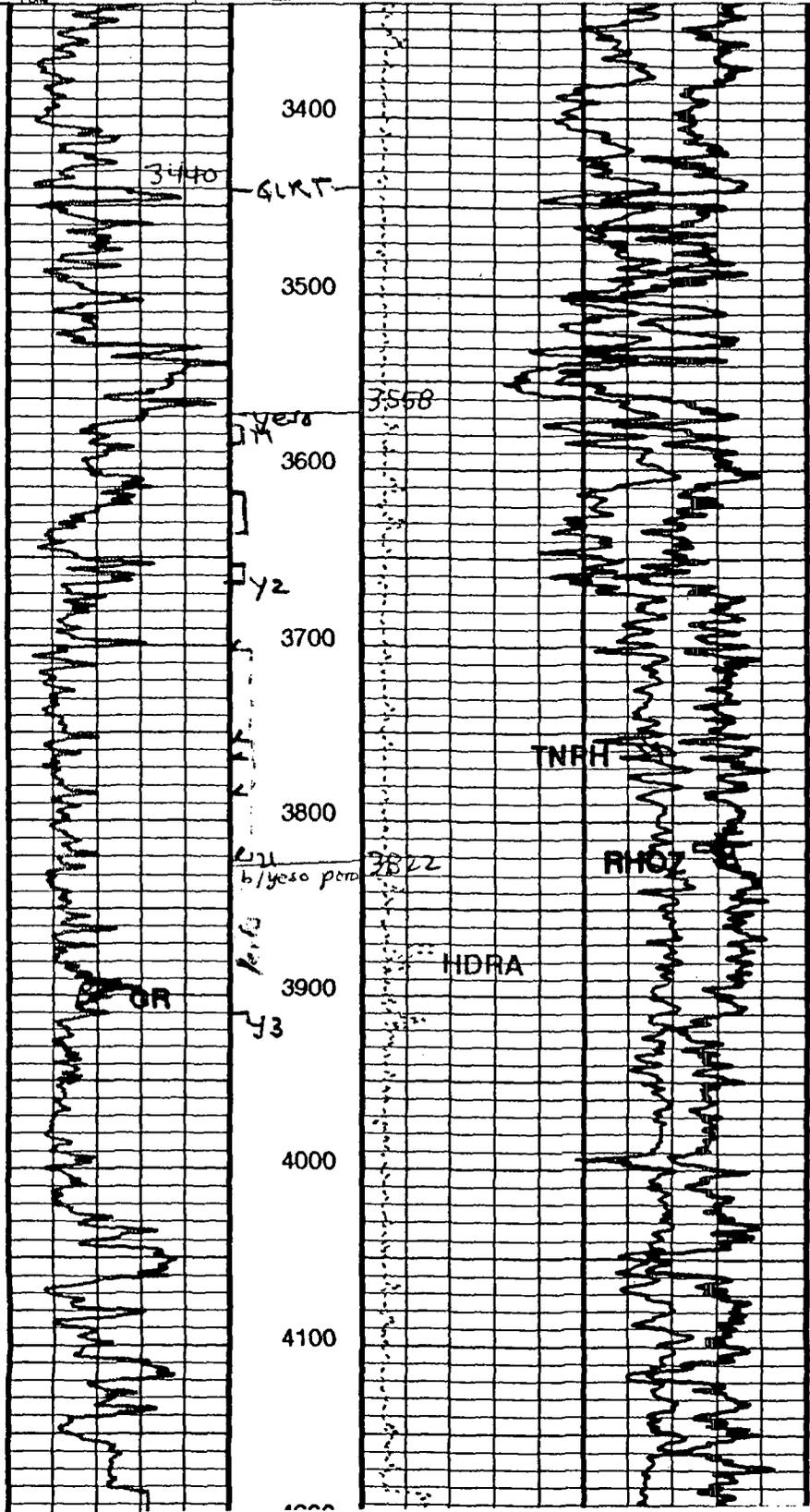
Glorieta-Yeso  
 Type Log

Platform Express  
 Schlumberger  
 Three Detector Den:  
 Compensated Neutr.

1650 FNL & 2270 FNL  
 Elev.: K.B. 3  
 G.L. 3  
 D.F. 3

Permanent Datum: Ground Level Elev.: 3072 F  
 Log Measured From: Kelly Bushing 7.0 F above Pr  
 Drilling Measured From: Kelly Bushing

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

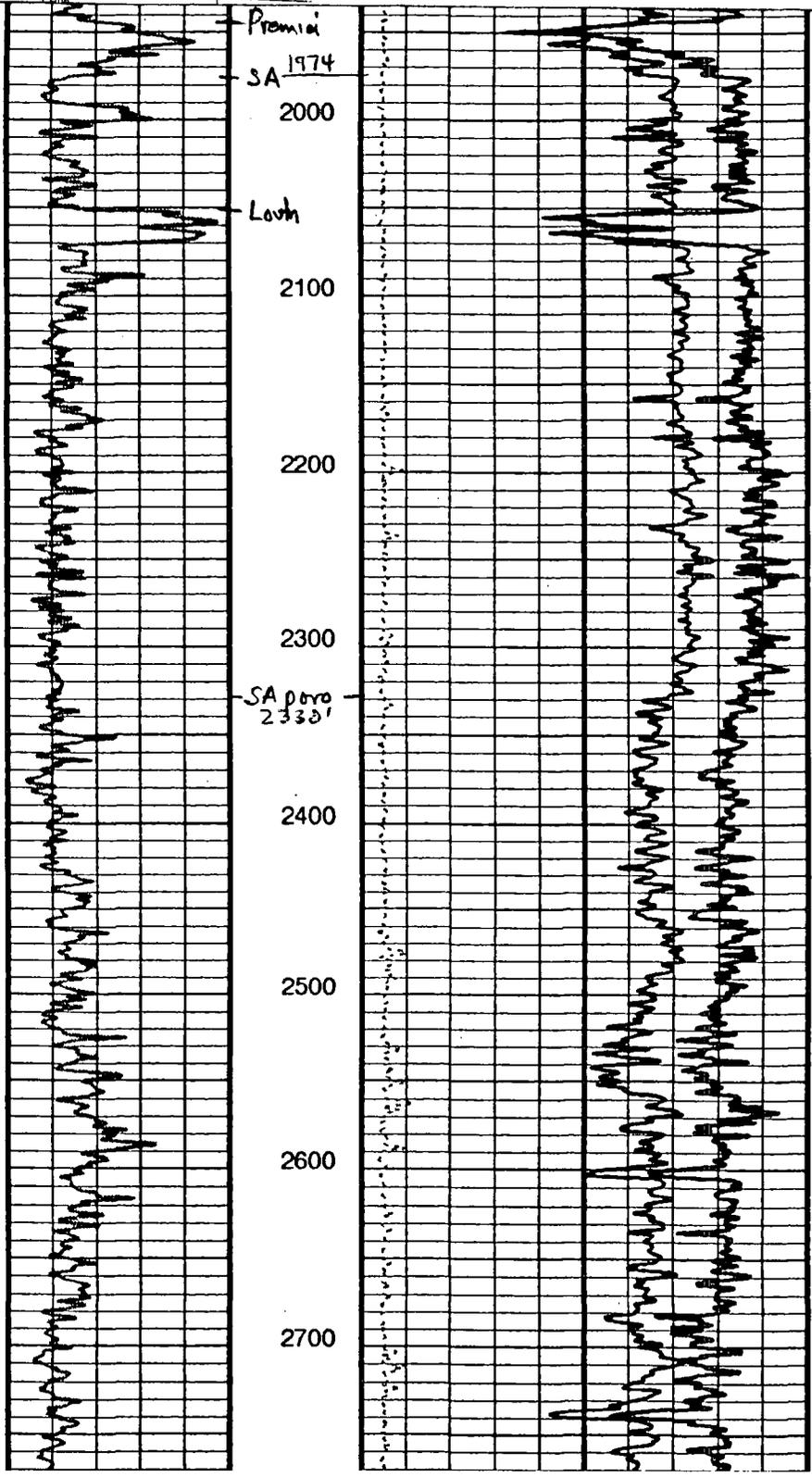
San Andres  
 Type Log

Platform Express  
 Schlumberger  
 Three Detector Dens  
 Compensated Neutr

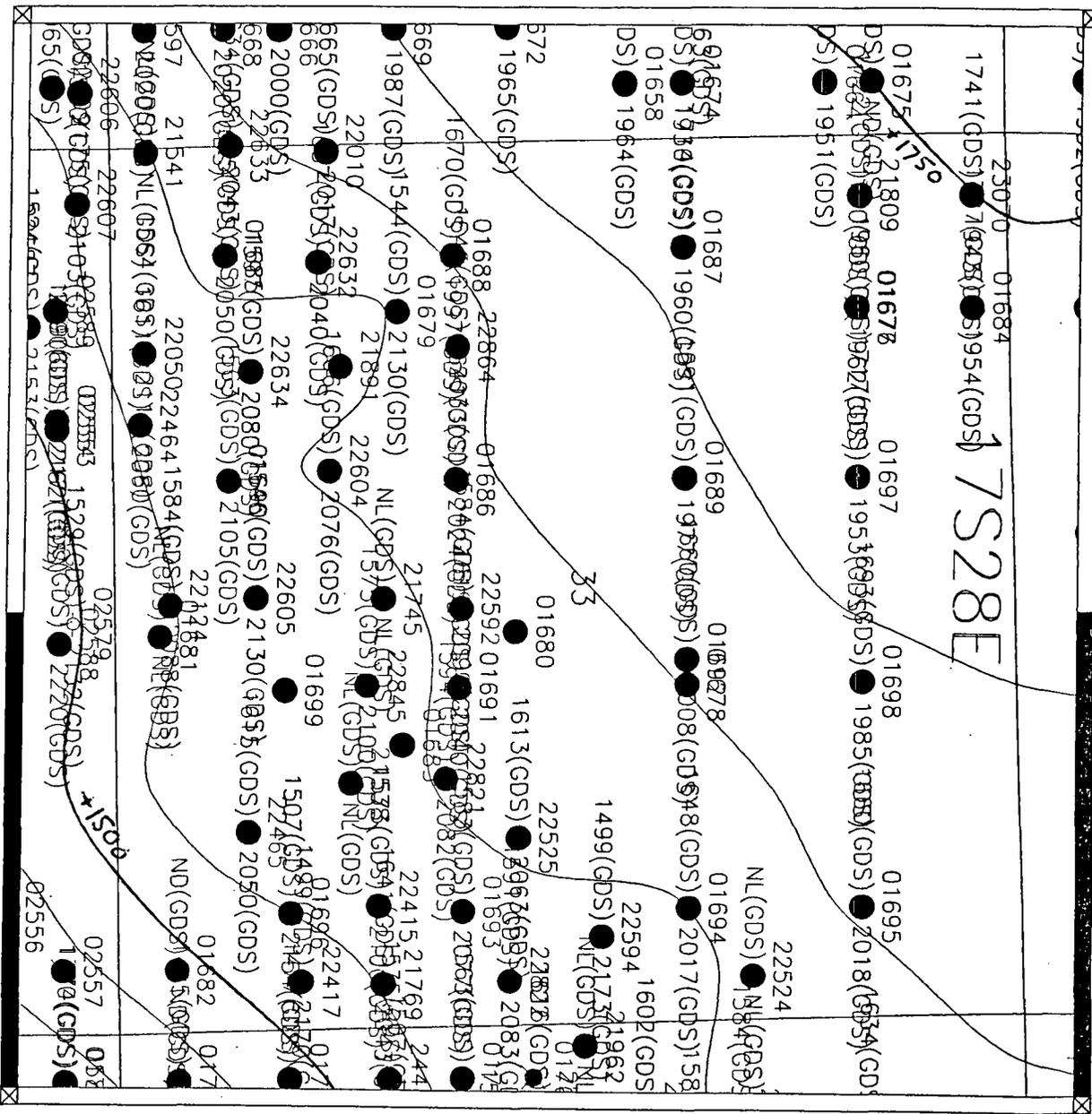
1850 FNL & 2270 FNL  
 Elev.: K.B. 3  
 G.L. 3  
 D.F. 3

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 R 28E  
 Logging Date 11-MAY-1998  
 Run Number 01







ARCO PERMIAN

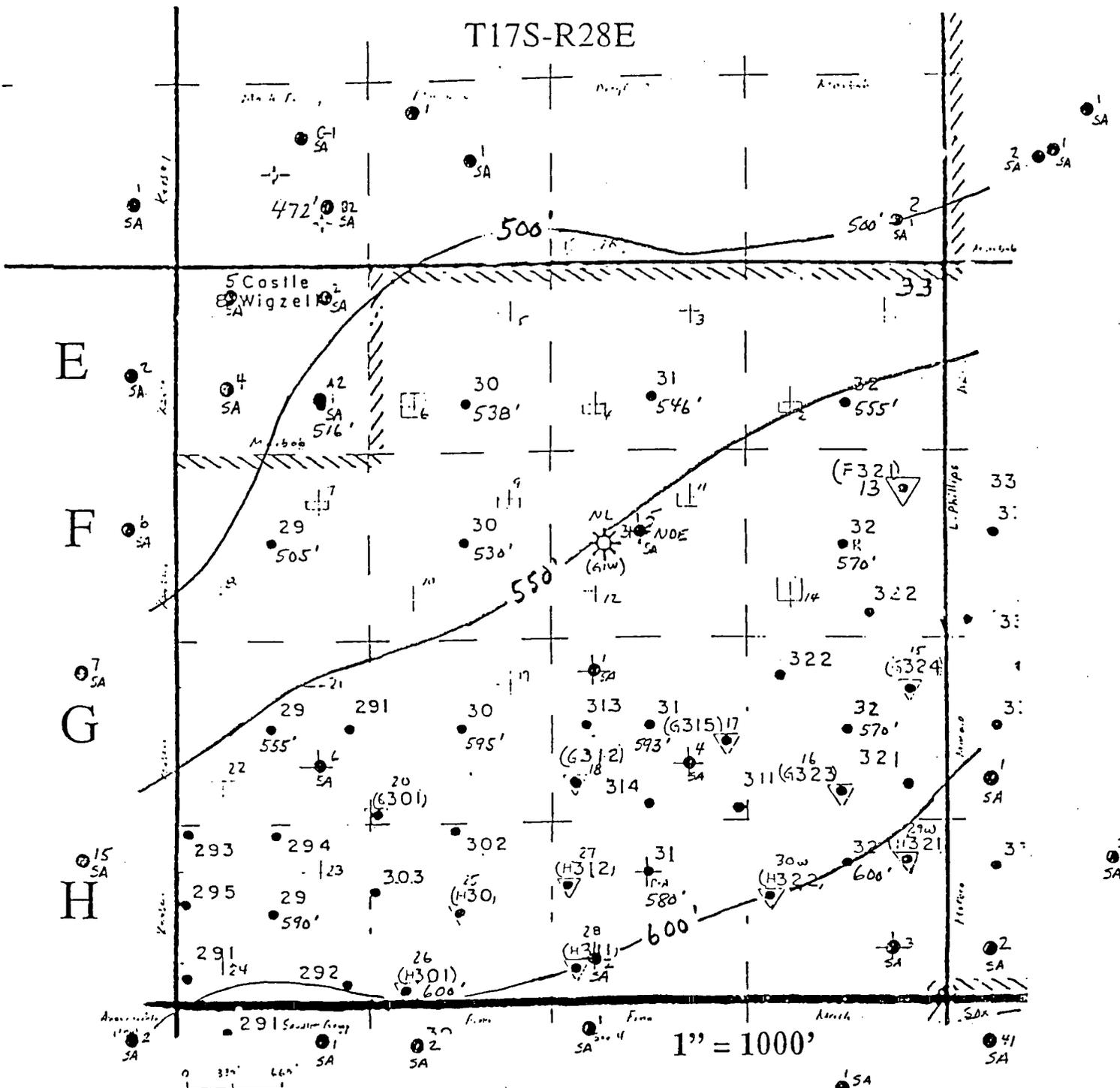
EDDY CO NM  
EMPIRE ABO  
SNDR STRUCTURE

PROJECT	EDDY CO NM	DATE
UNITED	EMPIRE ABO	GENERAL
DATE	NOV 11 1988	

Scale 1:12000.



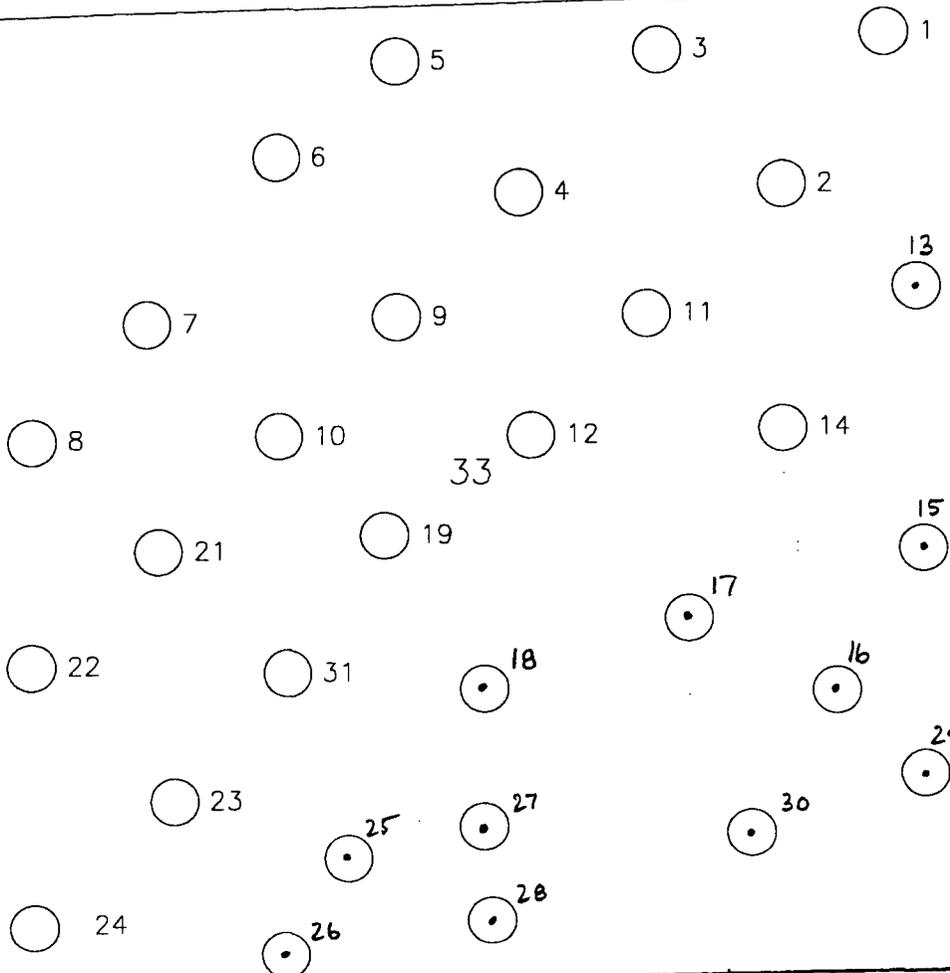
T17S-R28E



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

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

17S - 28E



ARCO

Phillips Trust,  
Sheldon Trust  
(to 4000')

Marbob  
(to 4000')

Brewer to 5000' | Altura / ARCO (to 5000')

Bulldog (to 5000')

Chase

SDX

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/ADDONW

Scale 1:12000.





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

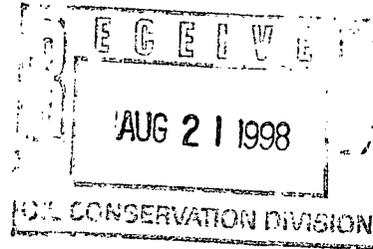
**Elizabeth A. Casbeer**  
Regulatory/Compliance Analyst

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  
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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  
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AMENDED REPORT

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		<sup>3</sup> API Number
		30-0 15-22415
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22954	WASHINGTON "33" STATE	16

<sup>7</sup> Surface Location									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
I	33	17S	28E		1500	SOUTH	700	EAST	EDDY

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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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ARTESIA (GLORIETA-YESO) 96830					ARTESIA (Q-G-SA) 3230				

<sup>11</sup> Work Type Code	<sup>12</sup> Well Type Code	<sup>13</sup> Cable/Rotary	<sup>14</sup> Lease Type Code	<sup>15</sup> Ground Level Elevation
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<sup>21</sup> Proposed Casing and Cement Program					
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<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary

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.

<sup>23</sup> 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 I  
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals and Natural Resources Department

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

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0719

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AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-22415	Pool Code	Pool Name Artesia (Glorita - Yeso) or Artesia (Q.G.SA)
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.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	33	17 S	28 E		1500	SOUTH	700	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres 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>REG/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 &amp; Seal of Professional Surveyor <i>Ronald J. Edson</i> RONALD J. EDSON 3239 88-11-0378 5-4-98</p> <p>Certificate No. RONALD J. EDSON 3239 GARY EDSON 12641 RONALD J. EDSON-McDONALD 12185</p>	

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 bac  
Submit to Appropriate District O  
State Lease - 6 Copie  
Fee Lease - 5 Copie

AMENDED REPORT

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		<sup>3</sup> API Number
		30-0 15-22821
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE	17

<sup>7</sup> Surface Location									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
J	33	17S	28E		1900	SOUTH	1450	EAST	EDDY

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

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

<sup>21</sup> 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

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

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.

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.	OIL CONSERVATION DIVISION	
Signature: <i>Elizabeth A. Casbeer</i>	Approved by:	
Printed name: ELIZABETH A. CASBEER	Title:	
Title: REG./COMP. ANALYST	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 30-015-22921	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

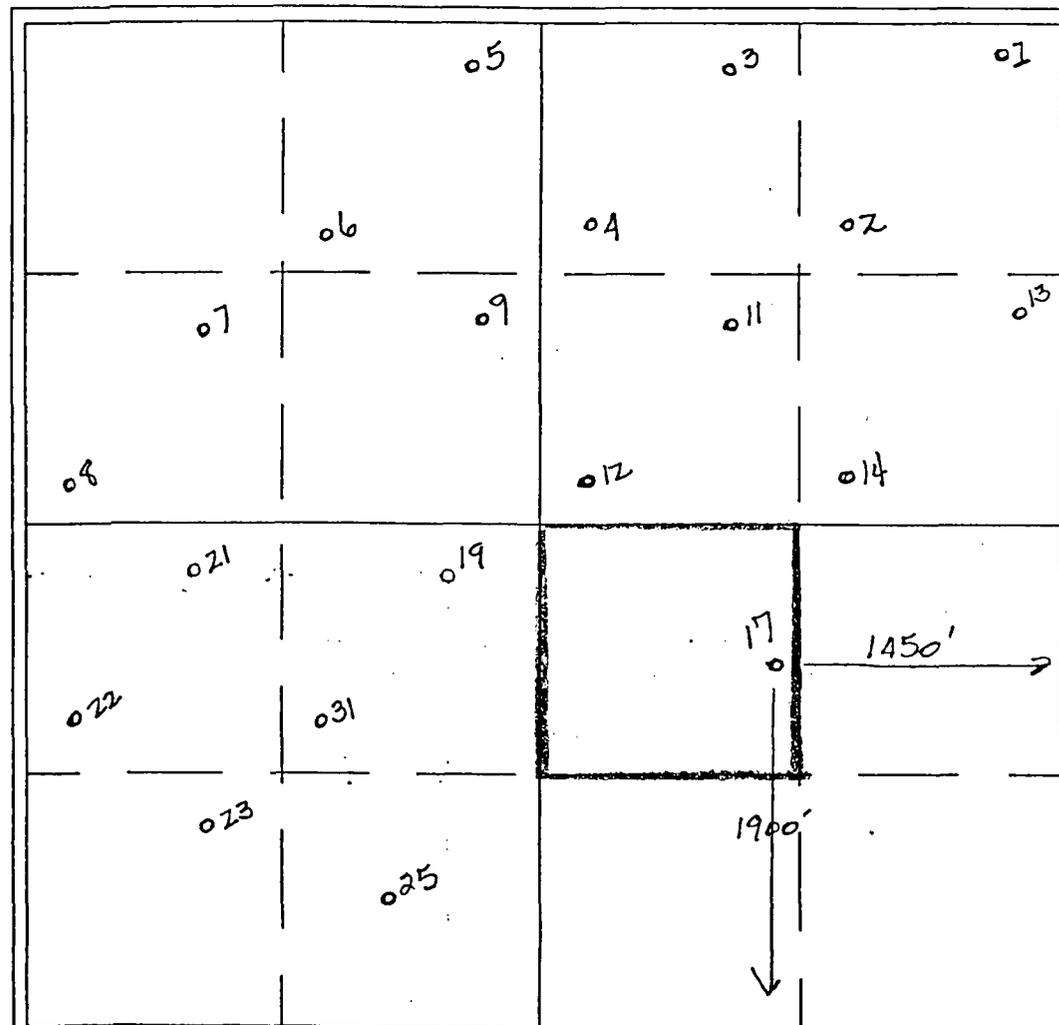
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	33	17 S	28 E		1900	SOUTH	1450	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



**OPERATOR CERTIFICATION**

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

*Elizabeth A. Casbeer*  
Signature

ELIZABETH A. CASBEER  
Printed Name

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 \_\_\_\_\_ DMCC

Signature: *Ronald J. Edson*  
Professional Surveyor  
NEW MEXICO  
3239  
8-11-0378  
5-4-98

Certificate No. RONALD J. EDSON 3239  
GARY EDSON 12641  
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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AMENDED REPORT

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		<sup>3</sup> API Number
		30-0 15-22605
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE	27

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<sup>9</sup> Proposed Pool 1					<sup>10</sup> Proposed Pool 2				
ARTESIA (GLORIETA-YESO) 96830					ARTESIA (Q-G-SA) 3230				

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

<sup>21</sup> 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

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

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.

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

Signature: *Elizabeth A. Casbeer*  
 Printed name: ELIZABETH A. CASBEER

Title: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

DISTRICT 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

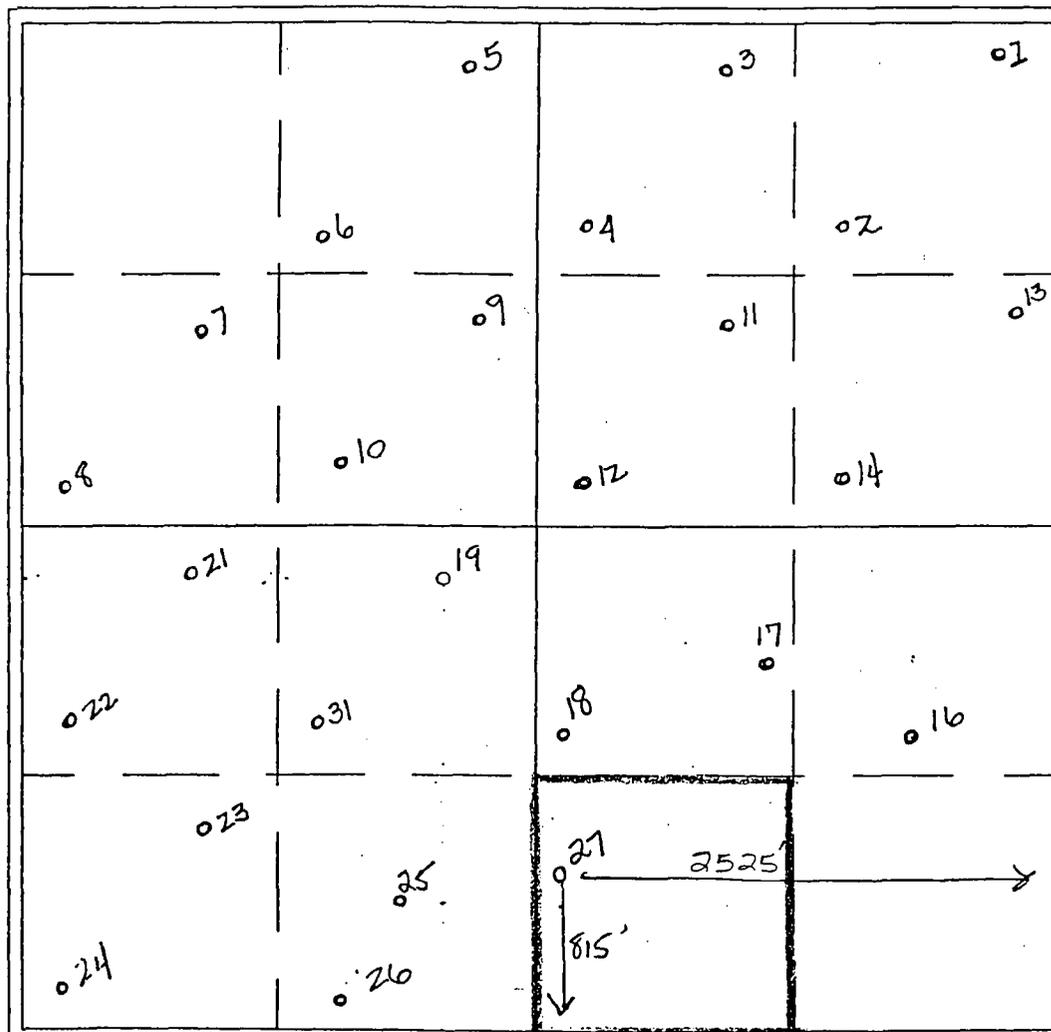
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	33	17 S	28 E		815	SOUTH	2525	EAST	EDDY

#### Bottom Hole Location If Different From Surface

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

Dedicated Acres 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. 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 \_\_\_\_\_ DMCC

Signature \_\_\_\_\_  
Professional Surveyor

RONALD EDSON  
5-4-98  
88-11-0378

State No. RONALD EDSON 3239  
GARY EDSON 12641  
DONALD 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  
 Instructions on bac  
 Submit to Appropriate District O  
 State Lease - 6 Copie  
 Fee Lease - 5 Copie

AMENDED REPORT

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		<sup>3</sup> API Number
		30-0 15-22465
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE	30

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<sup>9</sup> Proposed Pool 1					<sup>10</sup> Proposed Pool 2				
ARTESIA (GLORIETA-YESO) 96830					ARTESIA (Q-G-SA) 3230				

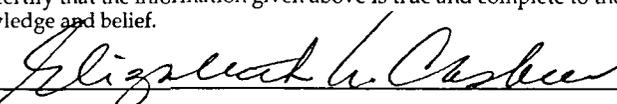
<sup>11</sup> Work Type Code	<sup>12</sup> Well Type Code	<sup>13</sup> Cable/Rotary	<sup>14</sup> Lease Type Code	<sup>15</sup> Ground Level Elevation
P	0	R	S	3662
<sup>16</sup> Multiple	<sup>17</sup> Proposed Depth	<sup>18</sup> Formation	<sup>19</sup> Contractor	<sup>20</sup> Spud Date
NO	4200	YESO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

<sup>21</sup> 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

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

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.

<sup>23</sup> 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 88211-0719

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-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

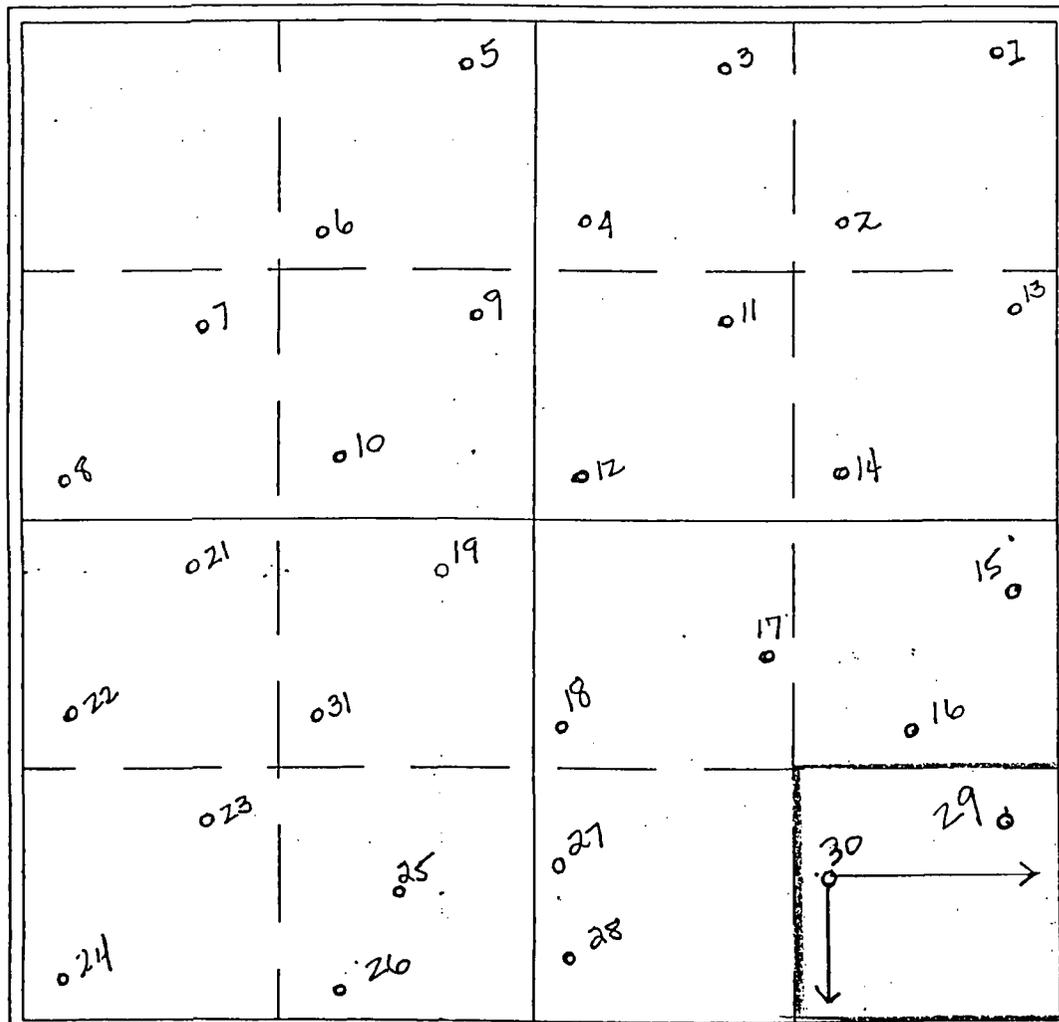
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	33	17 S	28 E		1750	SOUTH	1150	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres 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 that 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 \_\_\_\_\_ DMCC

Signature *Ronald J. Edson*  
Professional Surveyor

*Ronald J. Edson*  
3239  
48-11-0375  
5-4-98

Cert. No. RONALD J. EDSON 3239  
GARY EDSON 12641  
RONALD J. 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 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 Blinebry, 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 FWL

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

Permanent Datum: Ground Level Elev.: 3872 F  
Log Measured From: Kelly Bushing 7.0 F above P.V.  
Drilling Measured From: Kelly Bushing

API Serial No.  
30-015-30191

SECTION  
33

TOWNSHIP  
17B

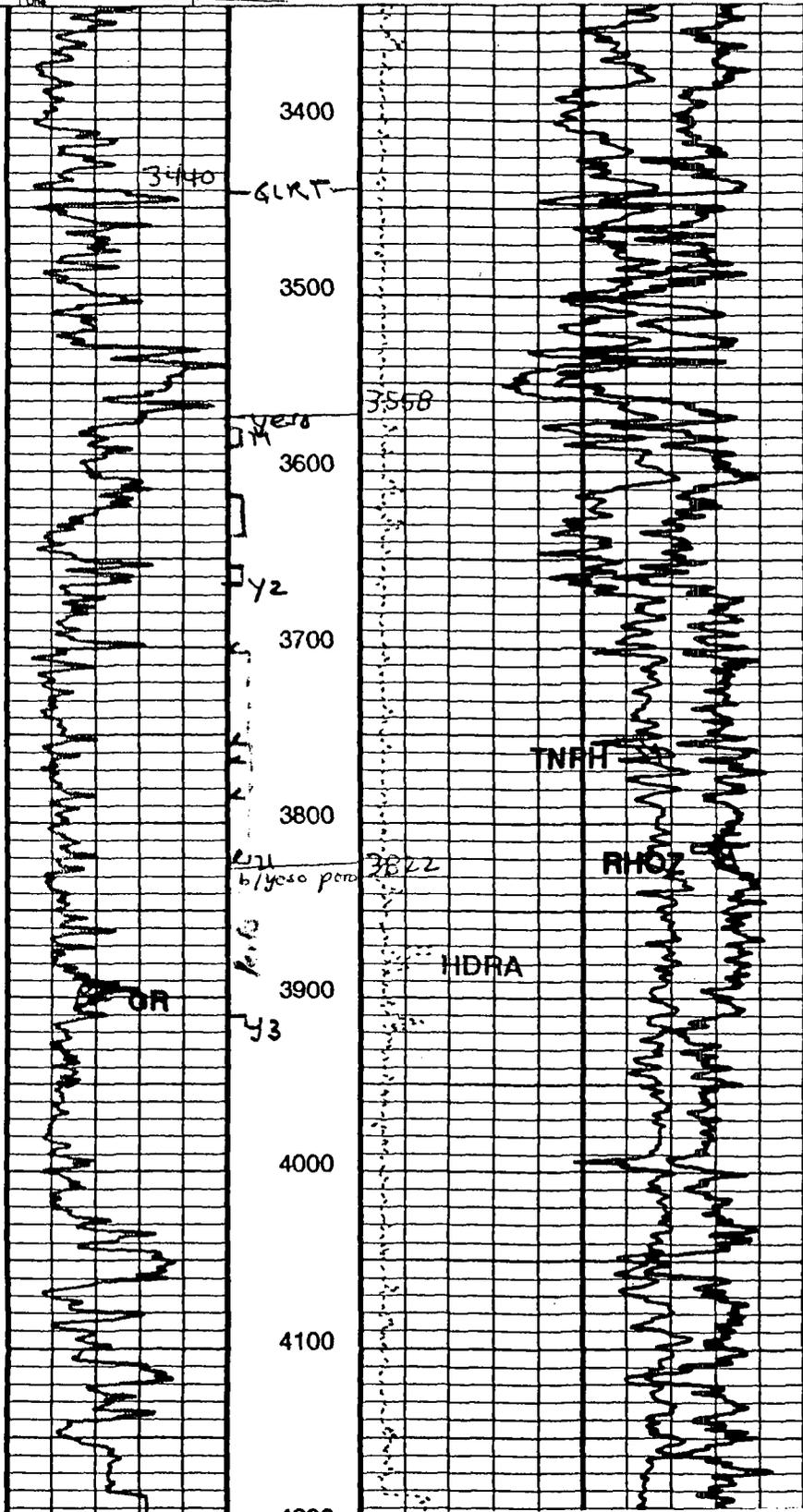
R28E

Logging Date

11-MAY-1998

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

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 IV  
Drilling Measured From: Kelly Bushing

API Serial No.  
30-015-30191

SECTION  
33

TOWNSHIP  
17S

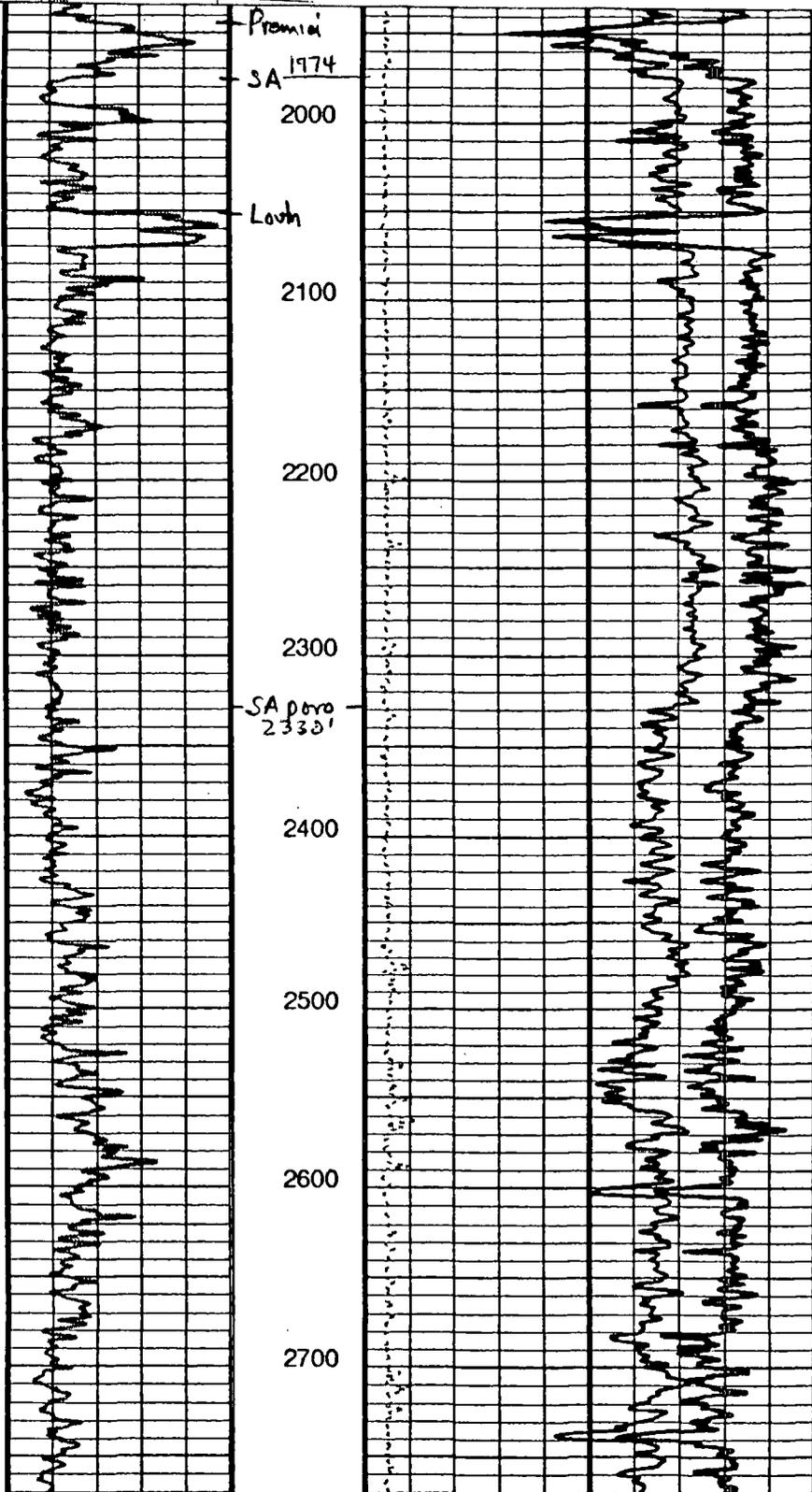
R 28E

COUNTY: Eddy  
Field: Yeso  
Location: 1850 FNL & 2270 FNL  
Well: Washington '33' State No. 9  
Company: ARCO Permian

LOCATION

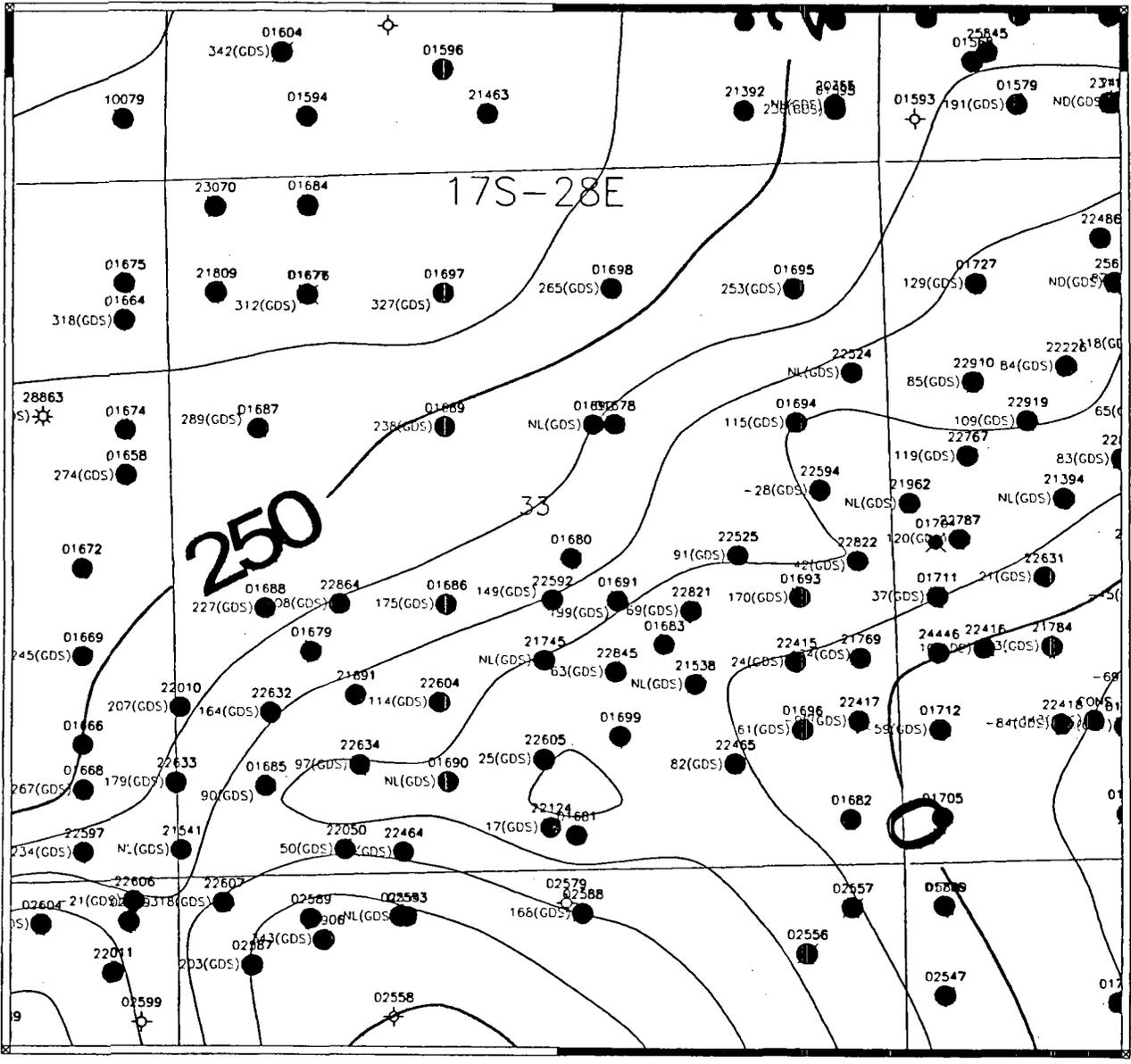
Logging Date  
Run Number

11-MAY-1998



32.800

32.800

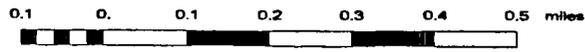


ARCO (Atlantic Richfield Company)

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

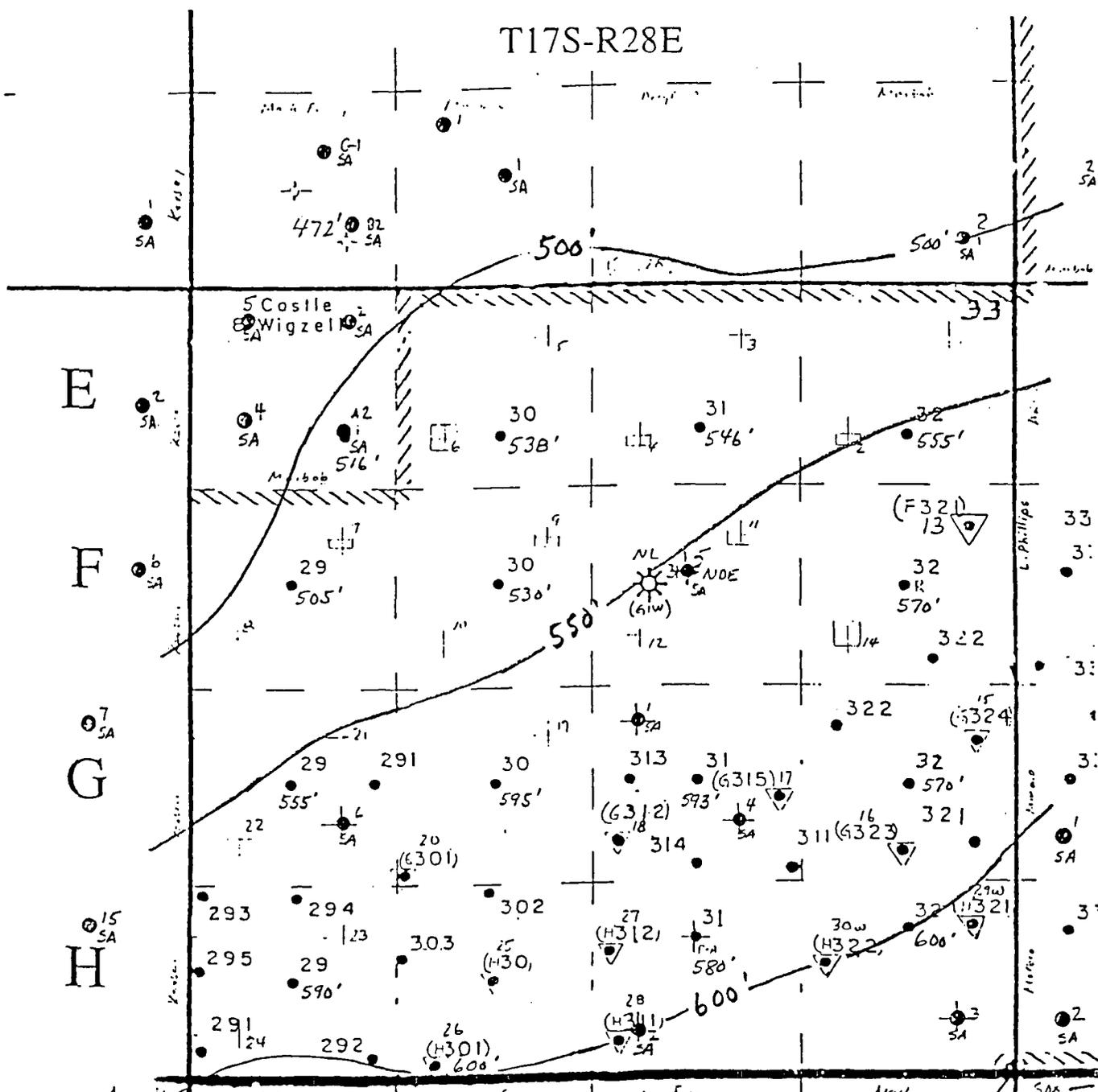
James Oscar	ally ca 01	0308
D'Arcy	Scale 1:12000	Empire

Scale 1:12000.





T17S-R28E

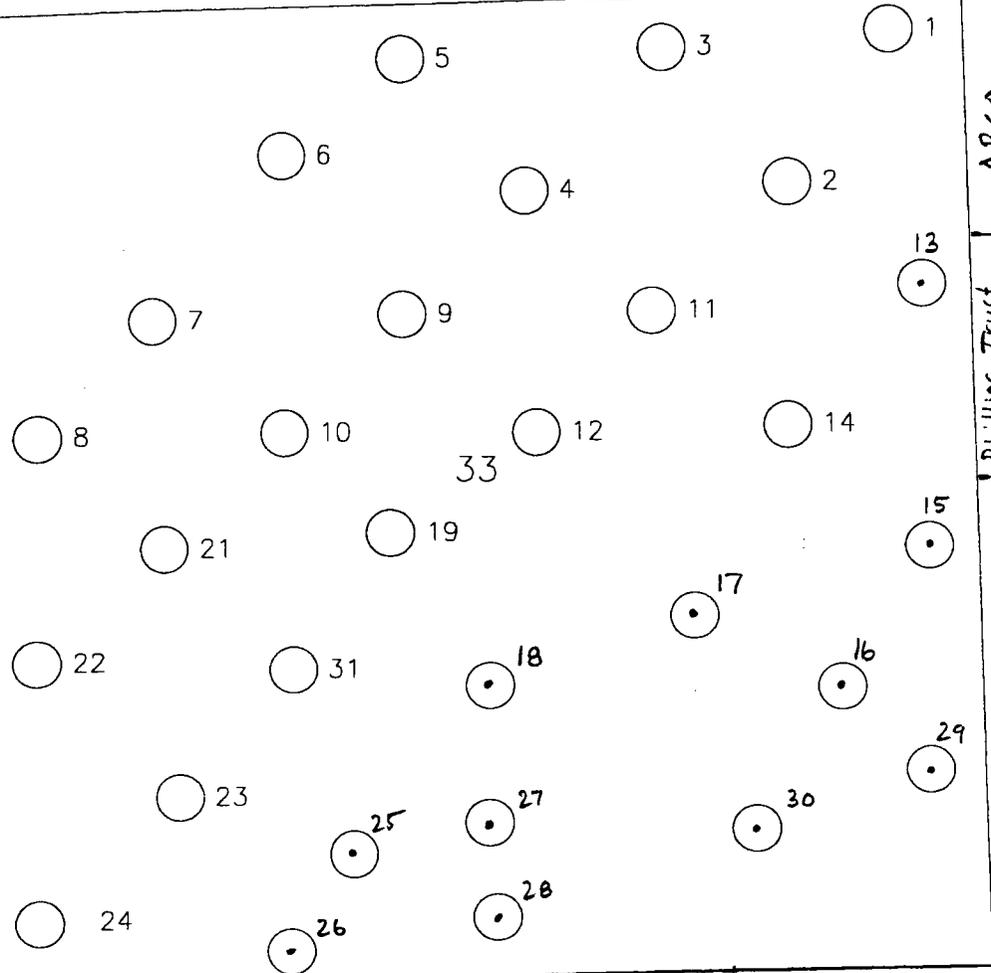


1" = 1000'

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

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

17S - 28E



ARCO

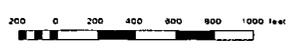
Phillips Trust,  
Sheldon Trust  
(to 4000')

Marbob  
(to 4000')

Brewer to 5000' | Altura / ARCO (to 5000') | Bulldog (to 5000') | Chase | SDX

ARCO (Atlantic Richfield Company)		
EDDY CO OILJ WASHINGTON DRILLING PROGRAM SECTION 33 T17S - R28E		
Jimenez Oscar	EDDY CO OILJ	8/18/98
DPEARCY	Scale 1:12000.	DPLAND/ADDONMW

Bulldog (to 5000')  
Scale 1:12000.



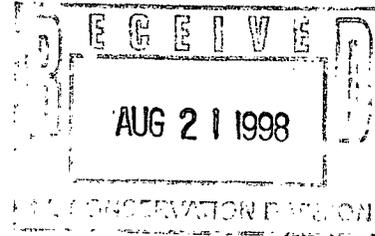


**ARCO Permian**  
600 North Marienfeld  
Midland TX 79701-4373  
Post Office Box 1610  
Midland TX 79702-1610  
Telephone 915 688 5570

**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

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number	
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990	
		<sup>3</sup> API Number	
		30-0 15-22415	
<sup>4</sup> Property Code	<sup>5</sup> Property Name		<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE		16

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<sup>9</sup> Proposed Pool 1					<sup>10</sup> Proposed Pool 2				
ARTESIA (GLORIETA-YESO) 96830					ARTESIA (Q-G-SA) 3230				

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

<sup>21</sup> 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

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

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.

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

Signature: *Elizabeth A. Casbeer*

Printed name: ELIZABETH A. CASBEER

Title: REG./COMP. ANALYST

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

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 - 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.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	33	17 S	28 E		1500	SOUTH	700	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres 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	
	<p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p>	
	<p><i>Elizabeth A. Casbeer</i> Signature ELIZABETH A. CASBEER Printed Name REG/COMP. Title 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 Signature and Seal of _____ Professional Surveyor RONALD B. EDISON NEW MEXICO 3239 88-11-0375 5-4-98</p> <p>State No. RONALD B. EDISON 3239 CERNICARD GARNEDISON 12641 PROFESSIONAL SURVEYOR McDONALD 12185</p>	

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  
 Instructions on bac  
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AMENDED REPORT

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		<sup>3</sup> API Number
		30-0 15-22821
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE	17

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<sup>9</sup> Proposed Pool 1					<sup>10</sup> Proposed Pool 2				
ARTESIA (GLORIETA-YESO) 96830					ARTESIA (Q-G-SA) 3230				

<sup>11</sup> Work Type Code	<sup>12</sup> Well Type Code	<sup>13</sup> Cable/Rotary	<sup>14</sup> Lease Type Code	<sup>15</sup> Ground Level Elevation
P	0	R	S	3663'
<sup>16</sup> Multiple	<sup>17</sup> Proposed Depth	<sup>18</sup> Formation	<sup>19</sup> Contractor	<sup>20</sup> Spud Date
NO	4200	YES0		7/98

<sup>21</sup> 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

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

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.

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

DISTRICT I  
P.O. Box 1880, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals and Natural Resources Department

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

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0719

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

OIL CONSERVATION DIVISION  
P.O. Box 2088  
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

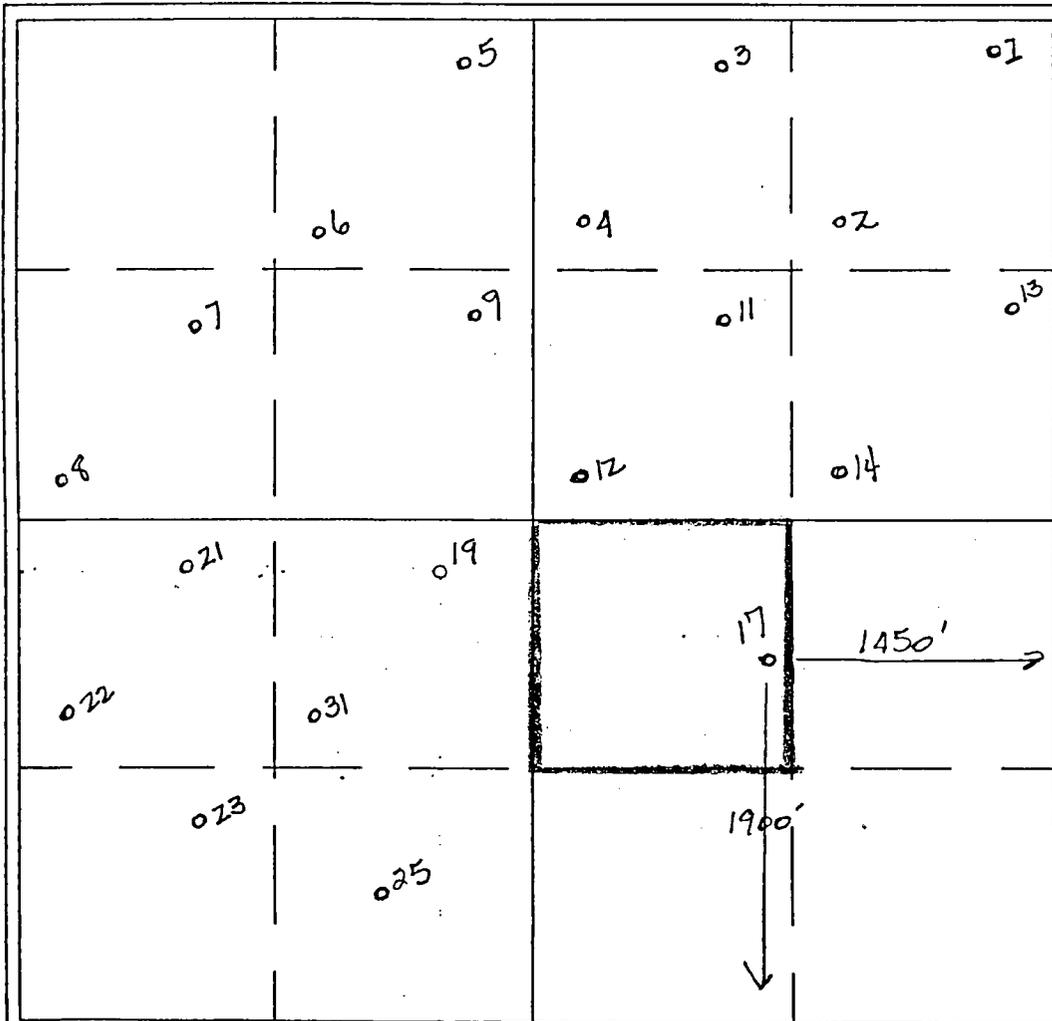
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	33	17 S	28 E		1900	SOUTH	1450	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

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

*Elizabeth A. Casbeer*  
Signature  
ELIZABETH A. CASBEER  
Printed Name  
REG. / COMP.  
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 \_\_\_\_\_ DMCC

Signature \_\_\_\_\_  
Professional Surveyor

*Ronald J. Edson*  
Professional Surveyor  
3239  
8-11-0378  
5-4-98

Cert. No. RONALD J. EDSON 3239  
GARY EDSON 12641  
REGISTERED 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

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		<sup>3</sup> API Number
		30-0 15-22605
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE	27

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<sup>9</sup> Proposed Pool 1					<sup>10</sup> Proposed Pool 2				
ARTESIA (GLORIETA-YESO) 96830					ARTESIA (Q-G-SA) 3230				

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

<sup>21</sup> 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

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

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.

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.	OIL CONSERVATION DIVISION	
Signature: <i>Elizabeth A. Casbeer</i>	Approved by:	
Printed name: ELIZABETH A. CASBEER	Title:	
Title: REG./COMP. ANALYST	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 (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.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	33	17 S	28 E		815	SOUTH	2525	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres 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	
	<p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p>	
	<p><i>Elizabeth A. Casbeer</i>                  Signature                  Elizabeth A. CASBEER                  Printed Name                  REG/COMP. ANALYST                  Title                  6/3/98                  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 &amp; Seal of Professional Surveyor                  RONALD S. EDISON                  3239                  88-11-037                  5-4-98</p> <p>Certification No. RONALD S. EDISON 3239                  GARY EDISON 12641                  SHARON McDONALD 12185</p>	

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

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Fee Lease - 5 Copie

AMENDED REPORT

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

<sup>1</sup> Operator name and Address		<sup>2</sup> OGRID Number
ARCO PERMIAN P.O. BOX 1610 MIDLAND, TX 79702		000990
		<sup>3</sup> API Number
		30-0 15-22465
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well No.
22954	WASHINGTON "33" STATE	30

<sup>7</sup> Surface Location

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

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<sup>9</sup> Proposed Pool 1					<sup>10</sup> Proposed Pool 2				
ARTESIA (GLORIETA-YESO) 96830					ARTESIA (Q-G-SA) 3230				

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

<sup>21</sup> 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

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

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.

<sup>23</sup> 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 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-Yeso) or Artesia (O-G-SA)
Property Code 22954	Property Name WASHINGTON 33 STATE	Well Number 30
OGRID No. 000990	Operator Name ARCO PERMIAN	Elevation 366.2

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	17 S	28 E		1750	SOUTH	1150	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres 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	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Laurie Cherry</i> Signature</p> <p>LAURIE CHERRY Printed Name</p> <p>REG/COMP. ASST. Title</p> <p>6/16/98 Date</p>
06	04	02	
07	09	013	
08	10	012	014
021	019	15	<p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>MARCH 3, 1998</p> <p>Date Surveyed _____ DMCC</p> <p>Signature _____ Professional Surveyor</p> <p><i>Ronald J. Edson</i> RONALD J. EDSON 3239 48-11-0378 5-4-98</p> <p>Certificate No. RONALD J. EDSON 3239 GARY EDSON 12641 EDSON-MCDONALD 12185</p>
022	031	018	
023	025	017	
024	020	027	028
		30	29

**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 Blinebry, 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 FWL & 2270 FWL

Elev.: KB 3  
GL 3  
DF 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

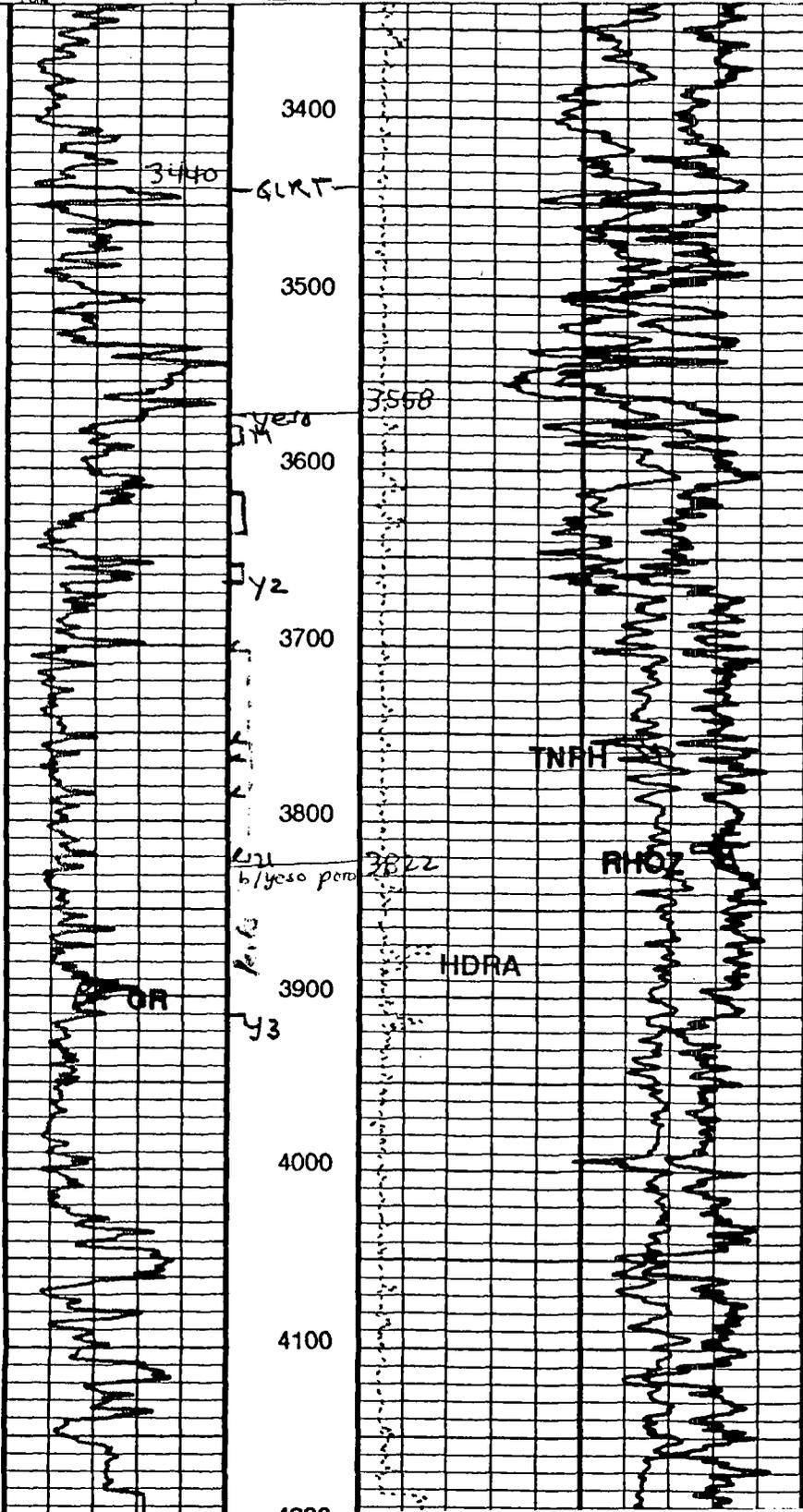
R28E

Logging Date

11-MAY-1998

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 Den:  
Compensated Neutr:

1650 FNL & 2270 FNL

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

Permanent Datum: Ground Level Elev.: 3872 F  
Log Measured From: Kelly Bushing Elev.: 7.0 F above P  
Drilling Measured From: Kelly Bushing

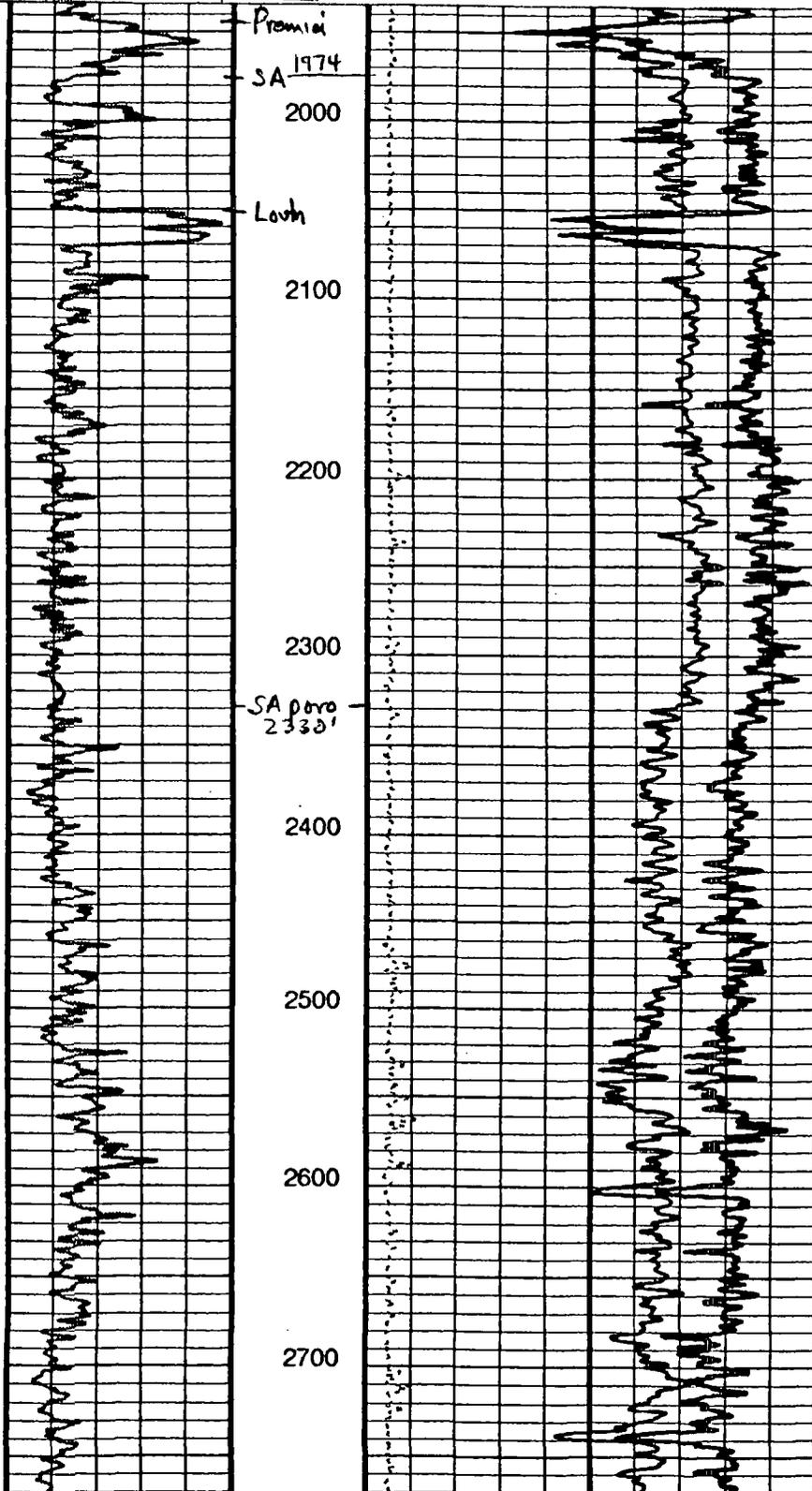
API Serial No.  
30-015-30181

SECTION  
33

TOWNSHIP  
17S

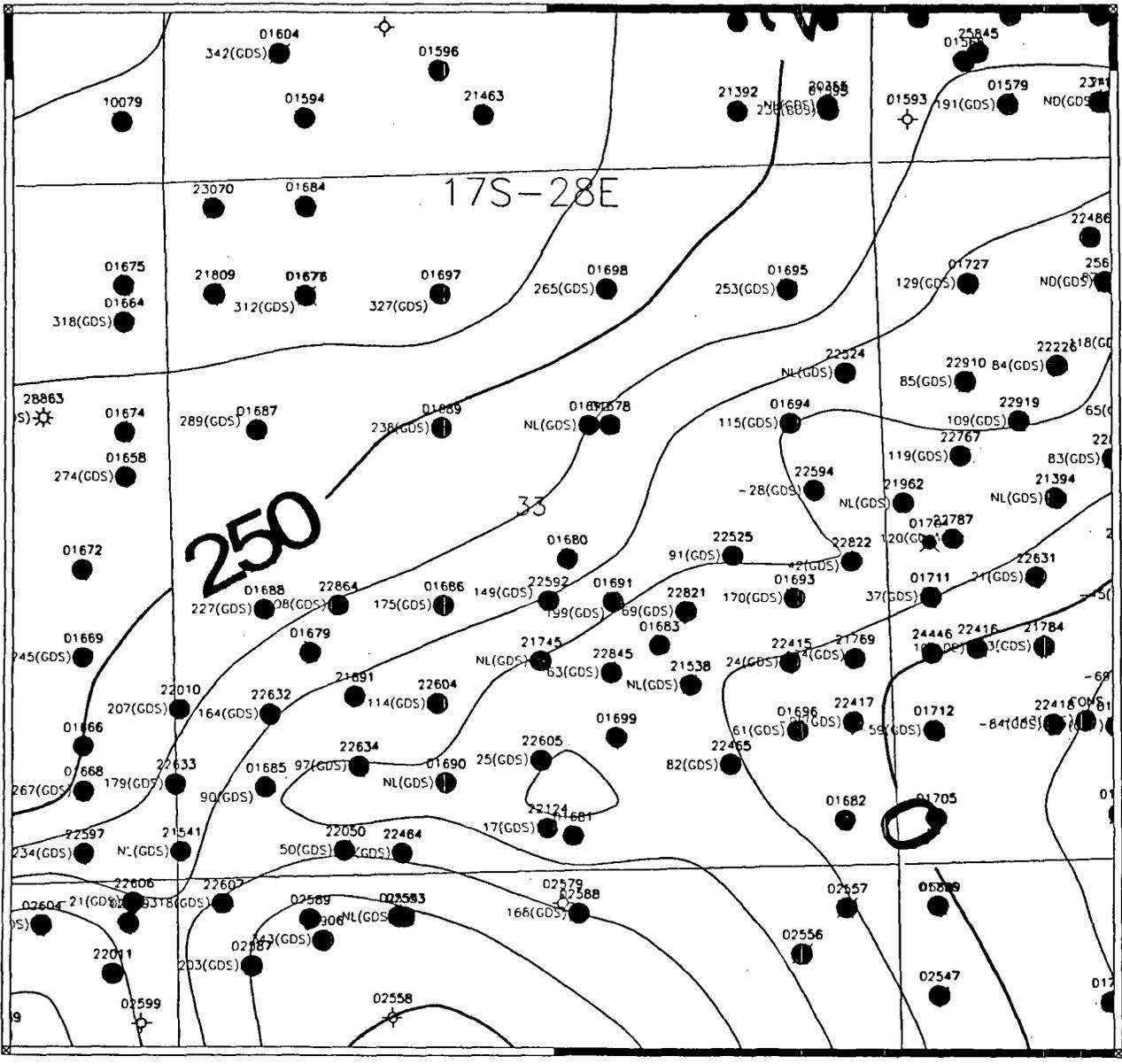
R 28 E

Logging Date 11-MAY-1968  
Run Number One



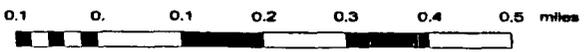
32.800

32.800



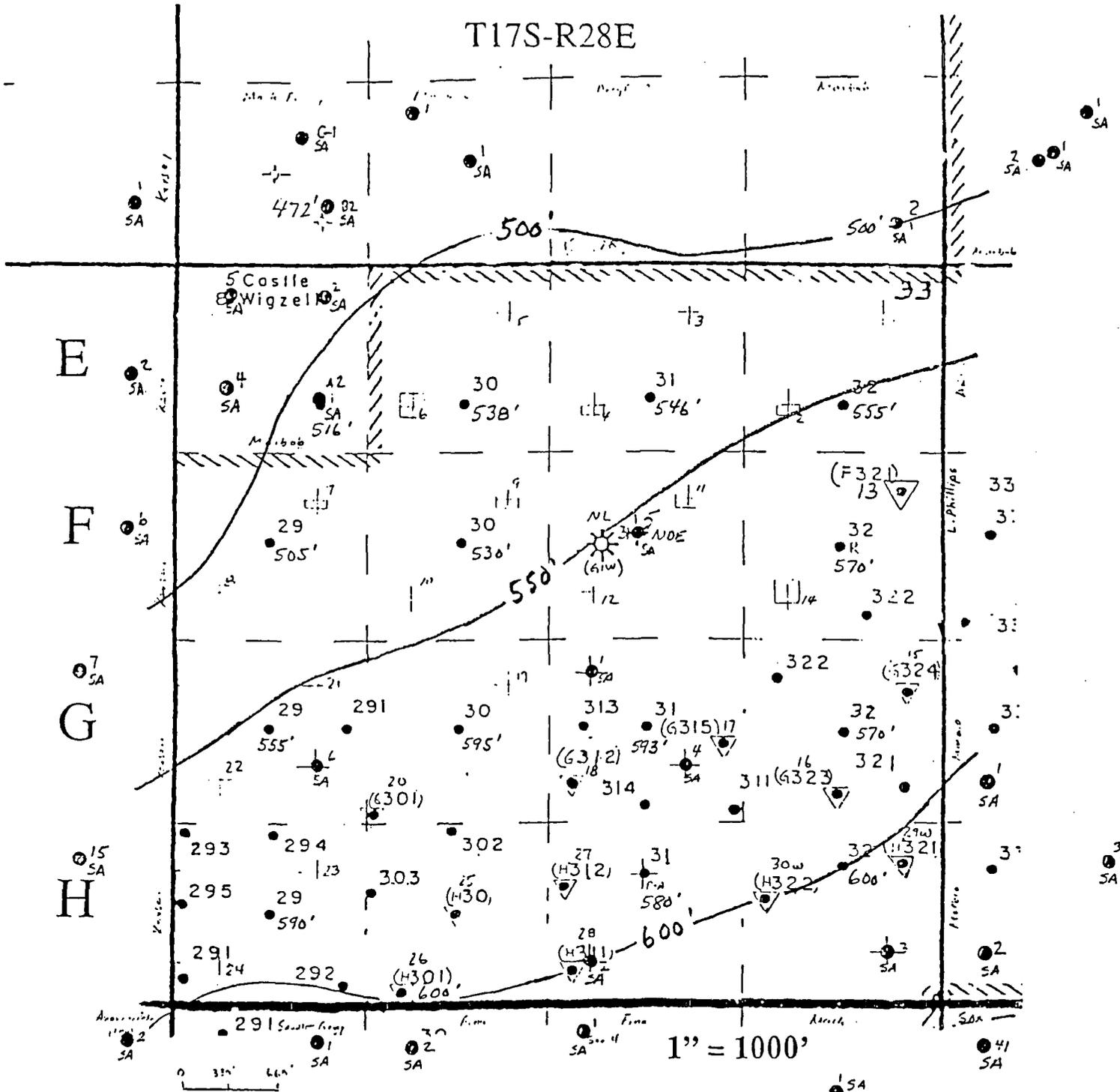
ARCO (Atlantic Richfield Company)		
EDDY CO OIL		
Empire Abo		
Top Subsea GRLT C.I.: 50'		
James Oscar	eddy co oil	03/88
Phancy	Scale 1:12000	Empire

Scale 1:12000.





T17S-R28E



▽ San Andres recomplete Candidates

+ San Andres Locations

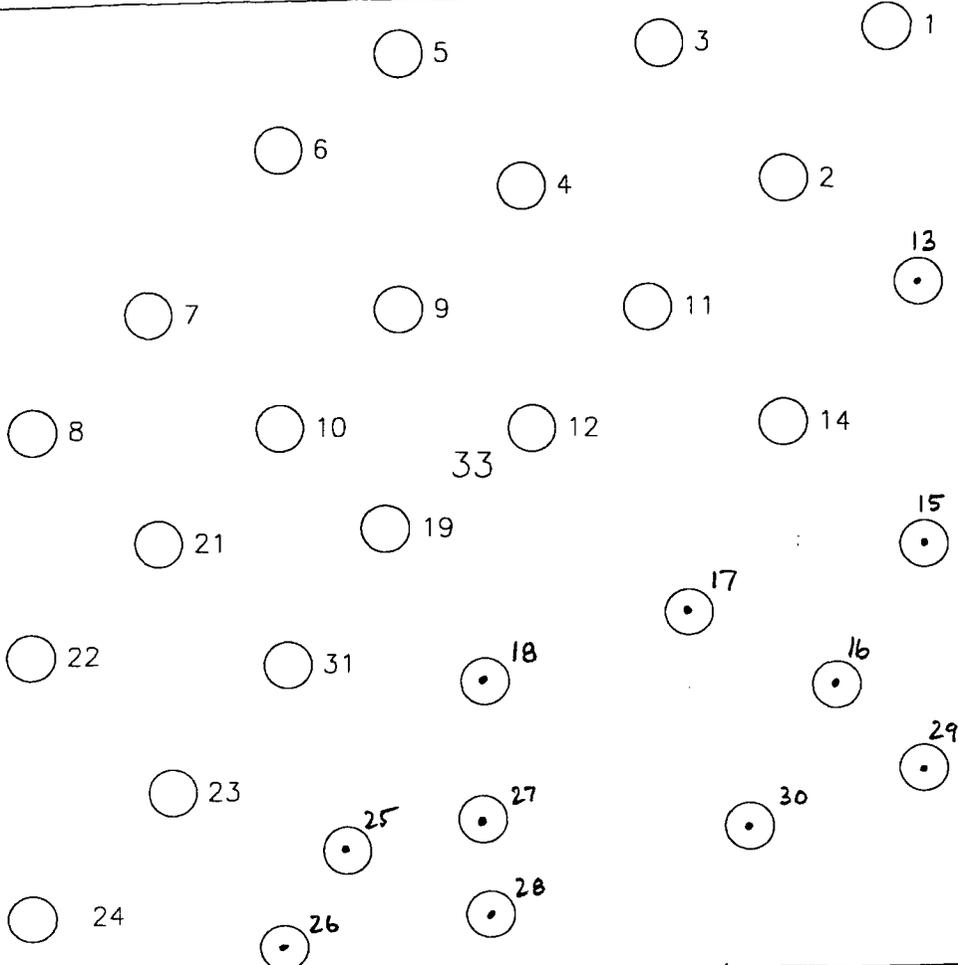
⊠ Primary Yeso Locations

R Recomplete alternate in Yeso

⊠ Possible / contingent Yeso TD

● Relevant San Andres wells  
 Clustering well #

17S - 28E



ARCO

Phillips Trust,  
Sheldon Trust  
(to 4000')

Marbob  
(to 4000')

Brewer to 5000' | Alura / ARCO (to 5000') | Bulldog (to 5000') | Chase | SDX

ARCO (Atlantic Richfield Company)

EDDY CO OILJ  
WASHINGTON DRILLING PROGRAM  
SECTION 33 T17S - R28E

Jimenez Oscar	EDDY CO OILJ	8/18/98
DPEARCY	Scale 1:12000.	DPLAND/ADO0MW

Scale 1:12000.

