



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

August 18, 1995

Amoco Production Company
P. O. Box 800
Denver, Colorado 80201

Attention: J. W. Hawkins

Administrative Order DD-113

Dear Mr. Hawkins:

Reference is made to Amoco Production Company's application dated July 7, 1995 for authorization to recomplete its existing Riddle "D-LS" Well No. 4-A (API No. 30-045-22488) by side tracking off of the vertical wellbore and directionally drill to a pre-determined bottom-hole location in order to further develop the Blanco-Mesaverde Pool underlying its existing 320-acre standard gas spacing and proration unit ("GPU") comprising the N/2 of Section 22, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico.

The Division Director Finds That:

- (1) The application has been duly filed under the provisions of Rule 111(D) and (E) of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10388, issued by the Oil Conservation Commission in Case 11,274 on June 13, 1995;
- (2) The Riddle "D-LS" Well No. 4-A, located at a standard gas well location 1100 feet from the North line and 810 feet from the West line (Unit D) of said Section 22, was originally drilled and completed as a Blanco-Mesaverde infill well in 1977 to its Riddle "D-LS" Well No. 4 (API No. 30-045-10604), located at a standard gas well location 990 feet from the North and East lines (Unit A) of said Section 22 in the 320-acre GPU comprising the N/2 of said Section 22;
- (3) By Order No. R-8170, as amended, the Division promulgated the "*General Rules For The Prorated Gas Pools of New Mexico/Special Rules and Regulations For The Blanco-Mesaverde Pool*", which includes provisions for 320-acre gas spacing and proration units and well location requirements whereby the initial well drilled on a GPU shall be located be no closer than 790 feet to the outer boundary of the

quarter section on which the well is located and not closer than 130 feet to any quarter-quarter section line or subdivision inner boundary and the infill well drilled on an existing GPU shall be in the quarter section not containing a Mesaverde gas well and shall be located with respect to the restrictions as previously described;

- (4) The applicant/operator proposes to kick-off from vertical at a depth of approximately 4,085 feet in an easterly direction and drill in such a manner as to bottom back into the Blanco-Mesaverde Pool, with total horizontal displacement of said well to be approximately 900 feet;
- (5) The applicable drilling window or "producing area" for said wellbore should include that area within the NW/4 of said Section 22 that is no closer than 790 feet to the quarter section line; and,
- (6) It appearing the applicant has satisfied all of the appropriate requirements prescribed in said Rule 111.D and E, the subject application should be approved and the well should be governed by the provisions contained within this order and all other applicable provisions of Division General Rule 111.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Amoco Production Company, is hereby authorized to recomplete its existing Riddle "D-LS" Well No. 4-A (API No. 30-045-22488), located at a standard gas well location 1100 feet from the North line and 810 feet from the West line (Unit D) of said Section 22, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico, by side tracking off of the vertical wellbore at a depth of approximately 4,085 feet in an easterly direction and drill in such a manner as to bottom back in the Blanco-Mesaverde Pool, within the NW/4 of said Section 22 such that the bottomhole location is no closer than 790 feet to the quarter section line;

PROVIDED HOWEVER THAT prior to commencing directional drilling operations in said wellbore, the applicant shall establish the location of the kick-off point by means of a directional survey acceptable to the Division.

PROVIDED FURTHER THAT during or upon completion of directional drilling operations, the applicant shall conduct an accurate wellbore survey from the kick-off point to total depth in order that the subsurface bottomhole location, as well as the wellbore's true depth and course, may be determined.

(2) The applicant shall notify the supervisor of the Aztec district office of the Division of the date and time said wellbore surveys are to be conducted so that they may be witnessed. The applicant shall further provide a copy of said wellbore surveys to the Santa Fe and Aztec offices of the Division upon completion.

(3) This well shall remain in the existing 320-acre standard gas spacing and proration unit comprising the N/2 of said Section 22.

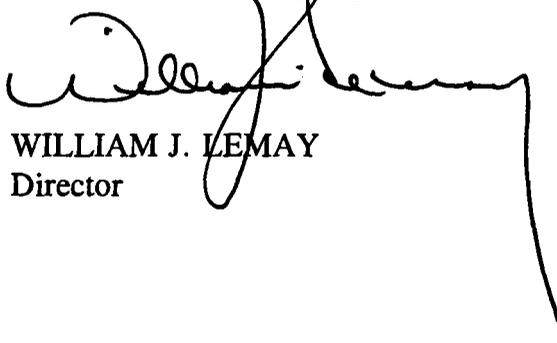
(4) The operator shall comply with all requirements and conditions set forth in Division General Rule 111.E(2) and any applicable requirements in 111.D and F and Order No. R-8170, as amended.

(5) Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths.

(6) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY
Director

S E A L

WJL/MES/kv

cc: Oil Conservation Division - Aztec
U. S. Bureau of Land Management - Farmington
File: Case 11,274

DD-AMOC

Rec. 7/12/95
Suspence Date: 8/11/95
Released: 8/18/95

August 18, 1995

Amoco Production Company
P. O. Box 800
Denver, Colorado 80201

Attention: J. W. Hawkins

Administrative Order DD- 113

Dear Mr. Hawkins:

Reference is made to Amoco Production Company's application dated July 7, 1995 for authorization to recomplete its existing Riddle "D-LS" Well No. 4-A (API No. 30-045-22488) by side tracking off of the vertical wellbore and directionally drill to a pre-determined bottom-hole location in order to further develop the Blanco-Mesaverde Pool underlying its existing 320-acre standard gas spacing and proration unit ("GPU") comprising the N/2 of Section 22, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico.

The Division Director Finds That:

- (1) The application has been duly filed under the provisions of Rule 111(D) and (E) of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10388, issued by the Oil Conservation Commission in Case 11,274 on June 13, 1995;
- (2) The Riddle "D-LS" Well No. 4-A, located at a standard gas well location 1100 feet from the North line and 810 feet from the West line (Unit D) of said Section 22, was originally drilled and completed as a Blanco-Mesaverde infill well in 1977 to its Riddle "D-LS" Well No. 4 (API No. 30-045-10604), located at a standard gas well location 990 feet from the North and East lines (Unit A) of said Section 22 in the 320-acre GPU comprising the N/2 of said Section 22;
- (3) By Order No. R-8170, as amended, the Division promulgated the "*General Rules For The Prorated Gas Pools of New Mexico/Special Rules and Regulations For The Blanco-Mesaverde Pool*", which includes provisions for 320-acre gas spacing and proration units and well location requirements whereby the initial well drilled on a GPU shall be located be no closer than 790 feet to the outer boundary of the quarter section on which the well is located and not closer than 130 feet to any

quarter-quarter section line or subdivision inner boundary and the infill well drilled on an existing GPU shall be in the quarter section not containing a Mesaverde gas well and shall be located with respect to the restrictions as previously described;

- (4) The applicant/operator proposes to kick-off from vertical at a depth of approximately 4,085 feet in an easterly direction and drill in such a manner as to bottom back into the Blanco-Mesaverde Pool, with total horizontal displacement of said well to be approximately 900 feet;
- (5) The applicable drilling window or "producing area" for said wellbore should include that area within the NW/4 of said Section 22 that is no closer than 790 feet to the quarter section line; and,
- (6) It appearing the applicant has satisfied all of the appropriate requirements prescribed in said Rule 111.D and E, the subject application should be approved and the well should be governed by the provisions contained within this order and all other applicable provisions of Division General Rule 111.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Amoco Production Company, is hereby authorized to recomplete its existing Riddle "D-LS" Well No. 4-A (API No. 30-045-22488), located at a standard gas well location 1100 feet from the North line and 810 feet from the West line (Unit D) of said Section 22, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico, by side tracking off of the vertical wellbore at a depth of approximately 4,085 feet in an easterly direction and drill in such a manner as to bottom back in the Blanco-Mesaverde Pool, within the NW/4 of said Section 22 such that the bottomhole location is no closer than 790 feet to the quarter section line;

PROVIDED HOWEVER THAT prior to commencing directional drilling operations in said wellbore, the applicant shall establish the location of the kick-off point by means of a directional survey acceptable to the Division.

PROVIDED FURTHER THAT during or upon completion of directional drilling operations, the applicant shall conduct an accurate wellbore survey from the kick-off point to total depth in order that the subsurface bottomhole location, as well as the wellbore's true depth and course, may be determined.

(2) The applicant shall notify the supervisor of the Aztec district office of the Division of the date and time said wellbore surveys are to be conducted so that they may be witnessed.

*Administrative Order DD-*****
Amoco Production Company
August 18, 1995
Page No. 3

The applicant shall further provide a copy of said wellbore surveys to the Santa Fe and Aztec offices of the Division upon completion.

(3) This well shall remain in the existing 320-acre standard gas spacing and proration unit comprising the N/2 of said Section 22.

(4) The operator shall comply with all requirements and conditions set forth in Division General Rule 111.E(2) and any applicable requirements in 111.D and F and Order No. R-8170, as amended.

(5) Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths.

(6) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

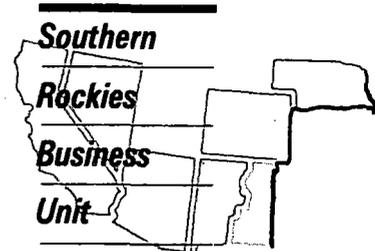
WJL/MES/kv

cc: Oil Conservation Division - Aztec
U. S. Bureau of Land Management - Farmington
File: Case 11,274



July 7, 1995

Mr. William J. LeMay, Director
New Mexico Oil Conservation Division
2040 S. Pacheco Street
P.O. Box 6429
Santa Fe, NM 87505



Application to Drill a Directional Well
Rule 111 as Amended by Order No. R-10388
Riddle D LS 4A Well
1100' FNL, 810' FWL, Section 22-T31N-R9W
Blanco Mesaverde Pool
San Juan County, New Mexico

*Received
7/12/95*

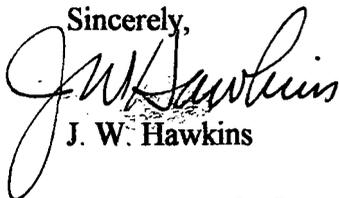
Amoco Production Company hereby requests administrative approval to enter the existing wellbore in the Riddle D LS 4A well referenced above and directionally drill the well as a high angle / horizontal well in the Blanco Mesaverde Pool. The well is currently completed as a producing well in the Blanco Mesaverde Pool, however Amoco believes that directionally drilling the well will provide a better opportunity to encounter the naturally occurring fracture system in the Mesaverde formation which will increase the producing rate and ultimate recovery of gas for this well.

In accordance with Rule 111-D.(2), attached to aid in your review are:

- 1) a plat showing the well location, project area and producing area for the project well and the offset spacing units, their wells and operators;
- 2) a vertically oriented plan view for the project well showing top and bottom of the pool, degree of angle to be built, kickoff point, penetration point and lateral length;
- 3) a horizontal plan view for the project well showing the project area, producing area, estimated azimuth and maximum length of the lateral;
- 4) a type log section identifying the top and bottom of the pool.

As notification, a copy of this application will be sent by certified mail return receipt requested to the offset operators shown on the attached list advising them that if they have any objection, it must be filed in writing within twenty (20) days of the date notice was sent.

Sincerely,


J. W. Hawkins

cc: Jack St. John
Gail Jefferson

Frank Chavez, Supervisor
NMOCD District III
1000 Rio Brazos Road
Aztec, NM 87410

Offset Operator List
Riddle D LS 4A Well

Texaco E&P Inc.
PO Box 2100
Denver CO 80201
Attn: Peggy Berube-Land

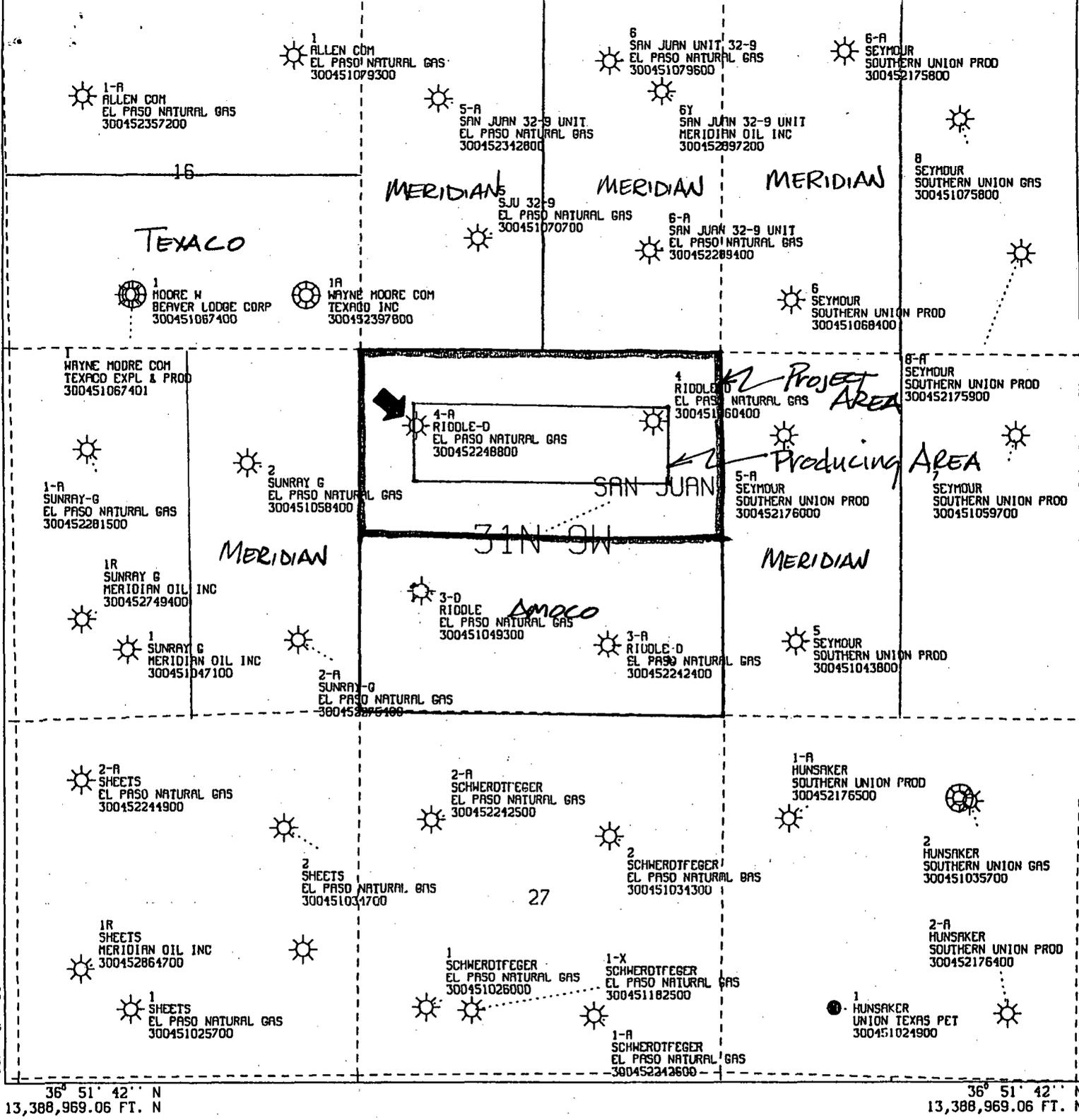
Meridian Oil Inc.
PO Box 4289
Farmington NM 87499
Attn: Alan Alexander

992,147.59 FT. E
107° 47' 38" W

992,143.10 FT. E
107° 47' 38" W

107° 44' 25" E
1,007,856.00 FT. N

107° 44' 25" E
1,007,856.00 FT. N



36° 51' 42" N
13,388,969.06 FT. N

36° 51' 42" N
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All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

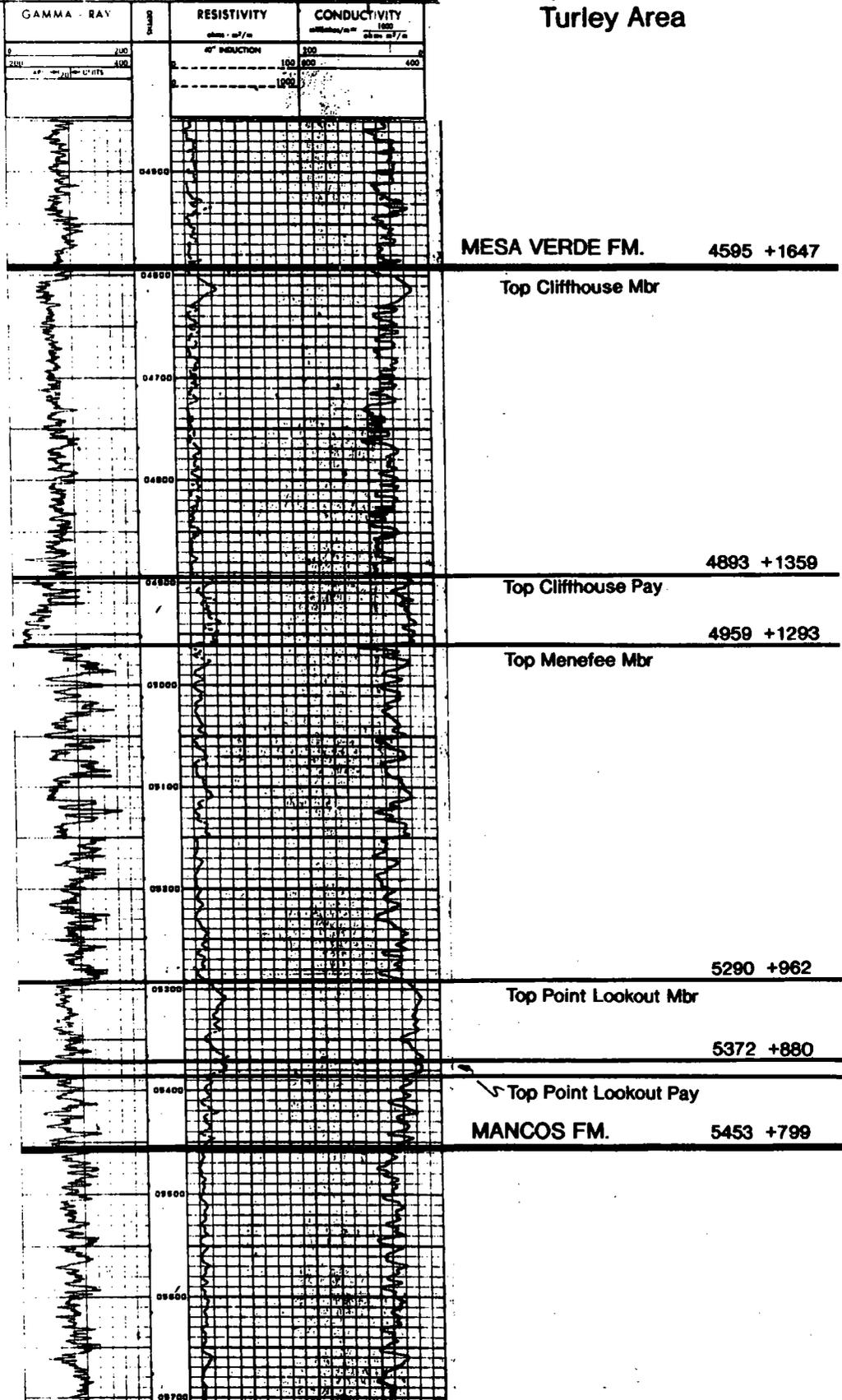
AMOCO PRODUCTION COMPANY
 PLAT MAP
 Riddle D LS 4A
 Offset Mesaverde Wells Only
 SCALE 1 IN. = 2,000 FT. JUL 5, 1995

POLYCONIC CENTRAL MERIDIAN - 107° 46' 2" W LON
SPHEROID - 6

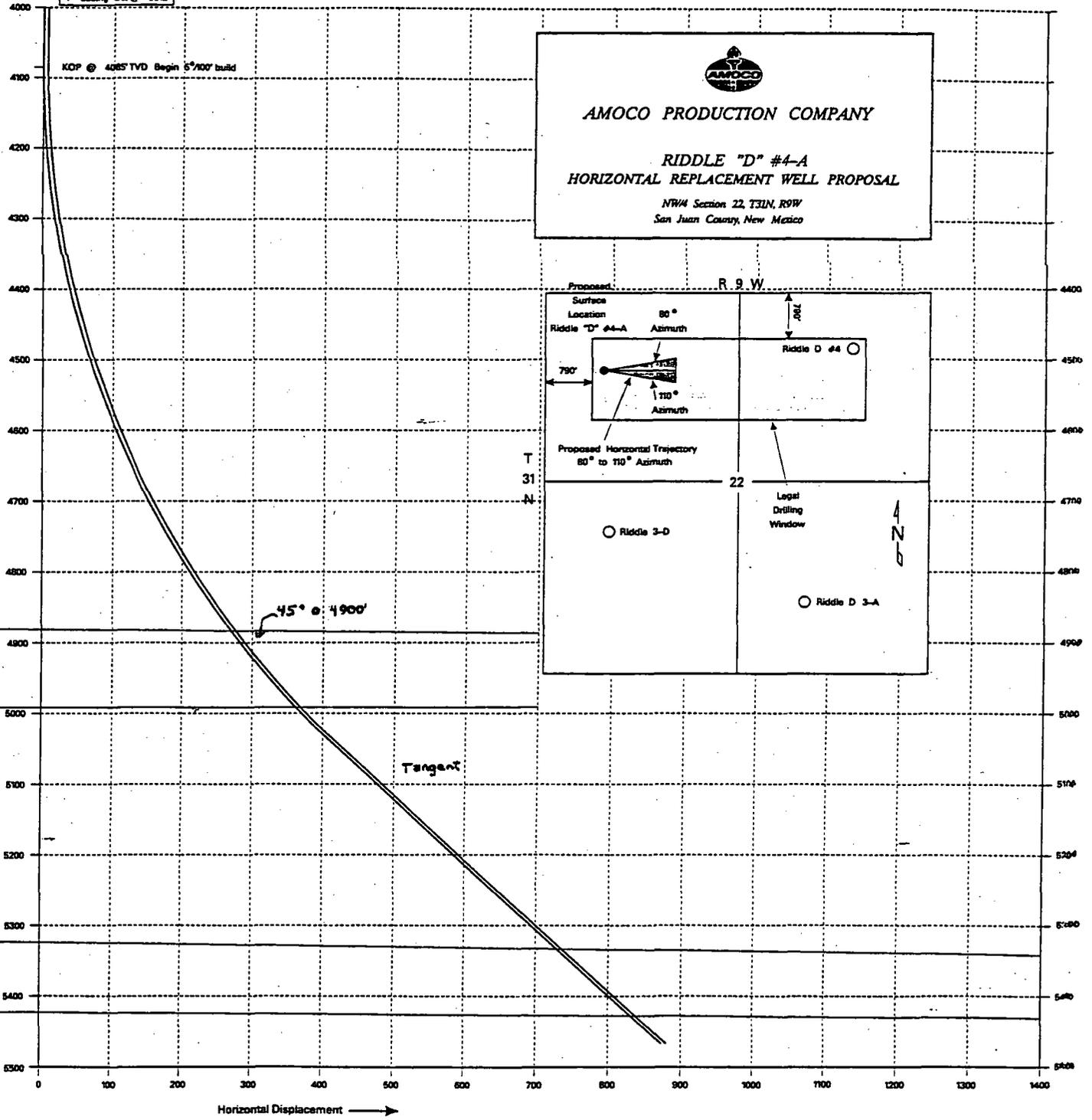
COMPANY: ... FIELD: ... COUNTY: ... SURVEY: ...		DATE: ... TIME: ... LOCATION: ...
COMMENTS: ...		
OPERATOR: ...		
INSTRUMENTS: ...		
CORRECTIONS: ...		
OTHER DATA: ...		

TYPE LOG

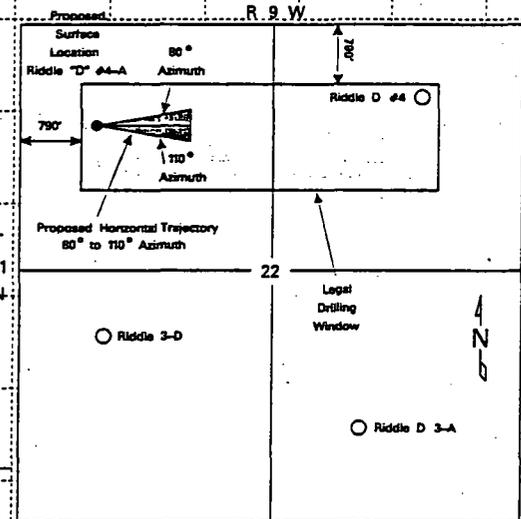
RIDDLE DLS #4A NW, 22-31N-9W Turley Area



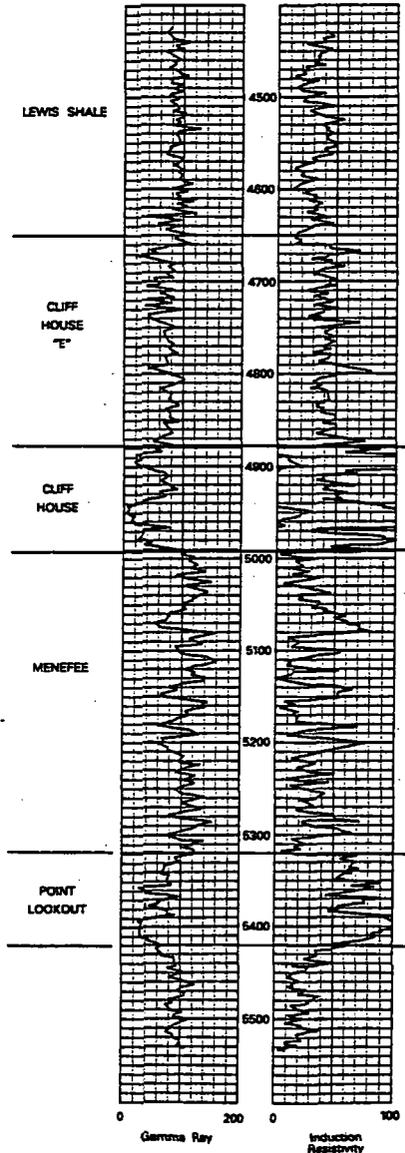
Whipstock @ 3250'
7" Casing Set @ 3512'

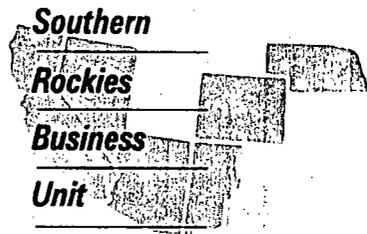



AMOCO PRODUCTION COMPANY
RIDDLE "D" #4-A
HORIZONTAL REPLACEMENT WELL PROPOSAL
NW¼ Section 22, T31N, R9W
San Juan County, New Mexico



Typical M.V. Log
T32N, R10W
San Juan County, New Mexico





July 7, 1995

Mr. William J. LeMay, Director
New Mexico Oil Conservation Division
2040 S. Pacheco Street
P.O. Box 6429
Santa Fe, NM 87505

**Application to Drill a Directional Well
Rule 111 as Amended by Order No. R-10388
Riddle D LS 4A Well
1100' FNL, 810' FWL, Section 22-T31N-R9W
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San Juan County, New Mexico**

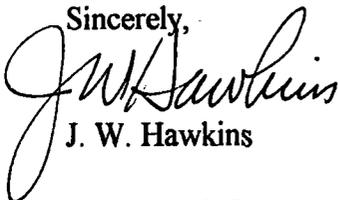
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Gail Jefferson

Frank Chavez, Supervisor
NMOCD District III
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Riddle D LS 4A Well

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Denver CO 80201
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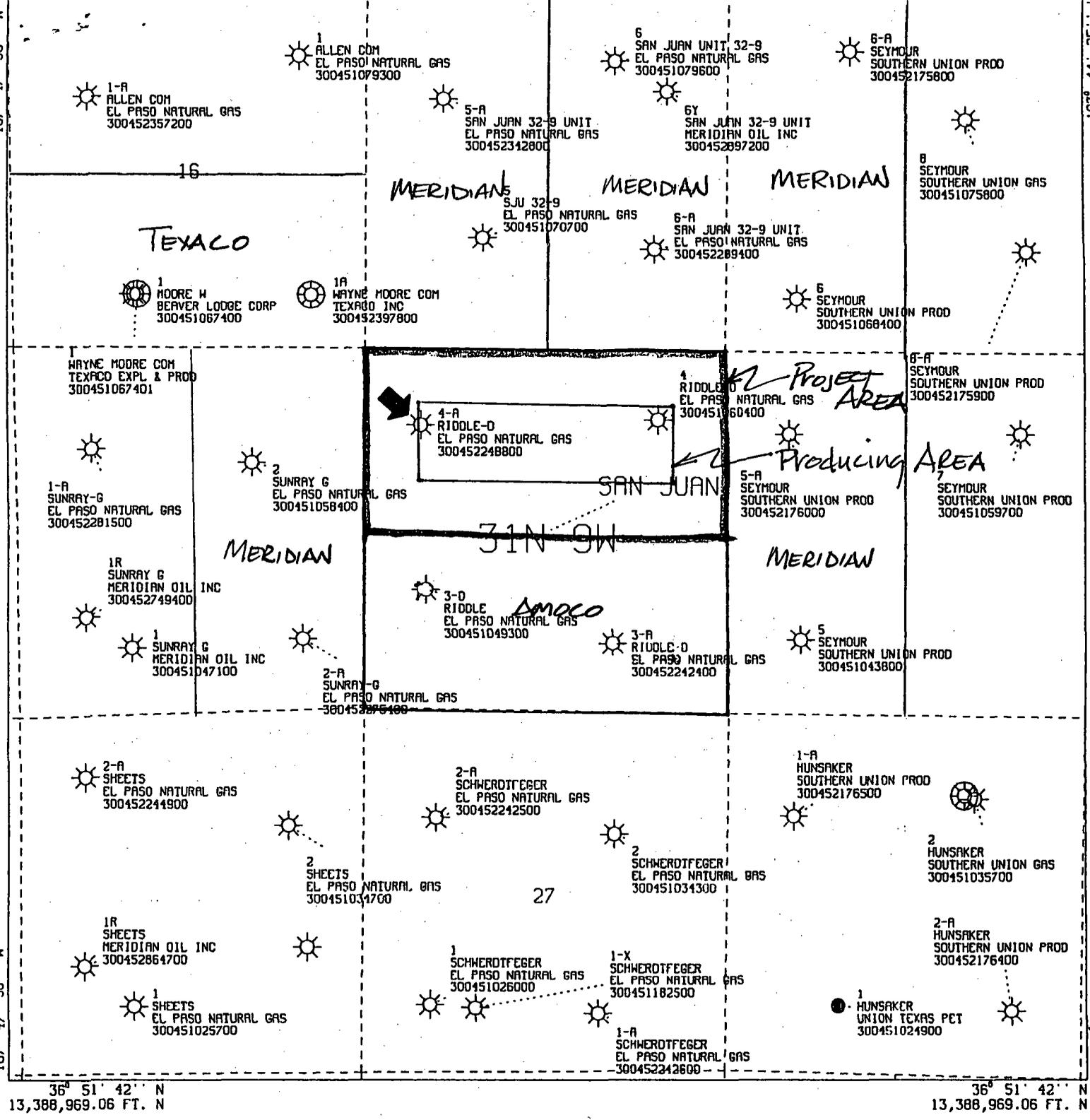
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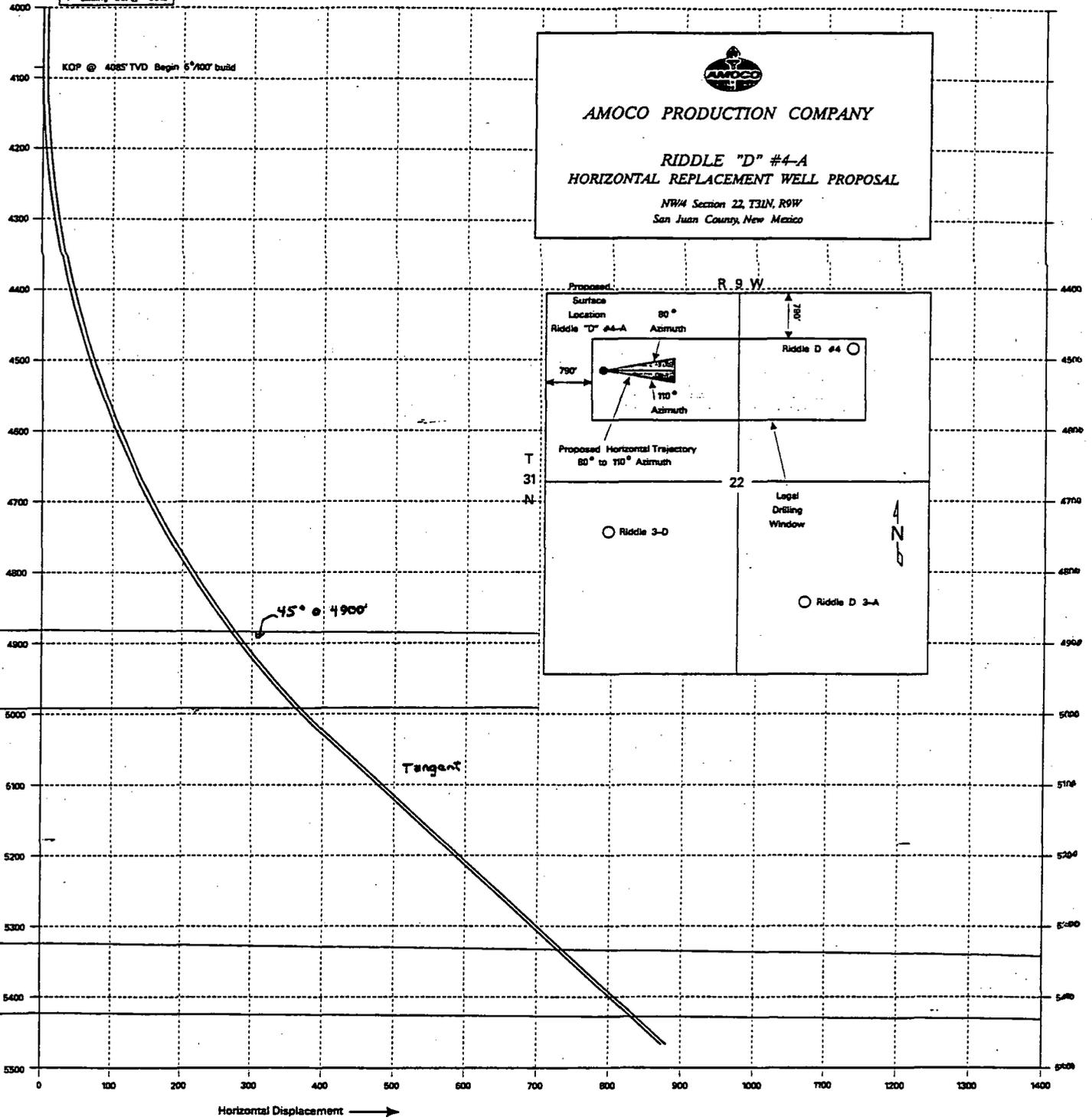


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AMOCO PRODUCTION COMPANY
PLAT MAP
 Riddle D LS 4A
 Offset Mesaverde Wells Only
 SCALE 1 IN. = 2,000 FT. JUL 5, 1995

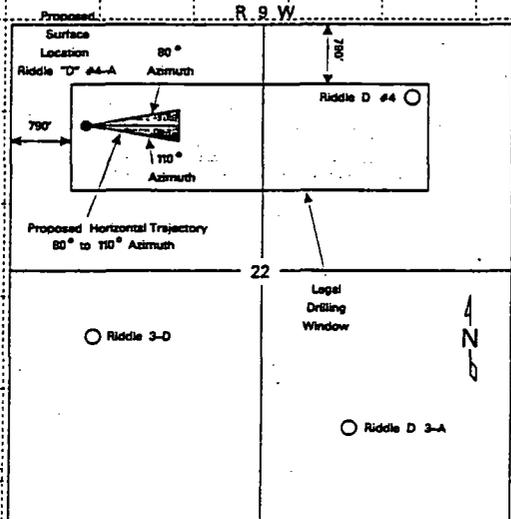
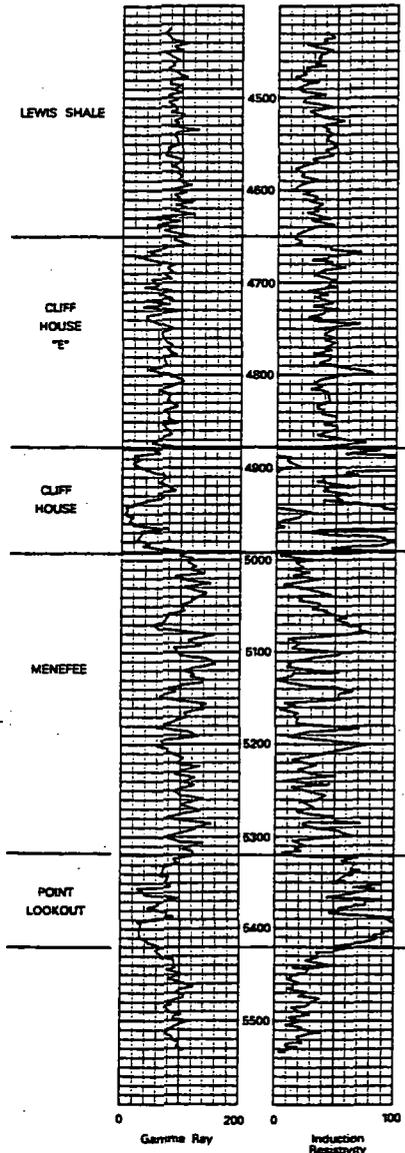
POLYCONIC CENTRAL MERIDIAN - 107° 46' 2" W LON
SPHEROID - 6

Whipstock @ 3250'
7" Casing Set @ 3512'




AMOCO PRODUCTION COMPANY
RIDDLE "D" #4-A
HORIZONTAL REPLACEMENT WELL PROPOSAL
 NW/4 Section 22, T31N, R9W
 San Juan County, New Mexico

Typical M.V. Log
T32N, R10W
San Juan County, New Mexico



T
31
N

R. 9. W.

4
0
N

Tangent

Vertical
Depth
↓

Horizontal Displacement →

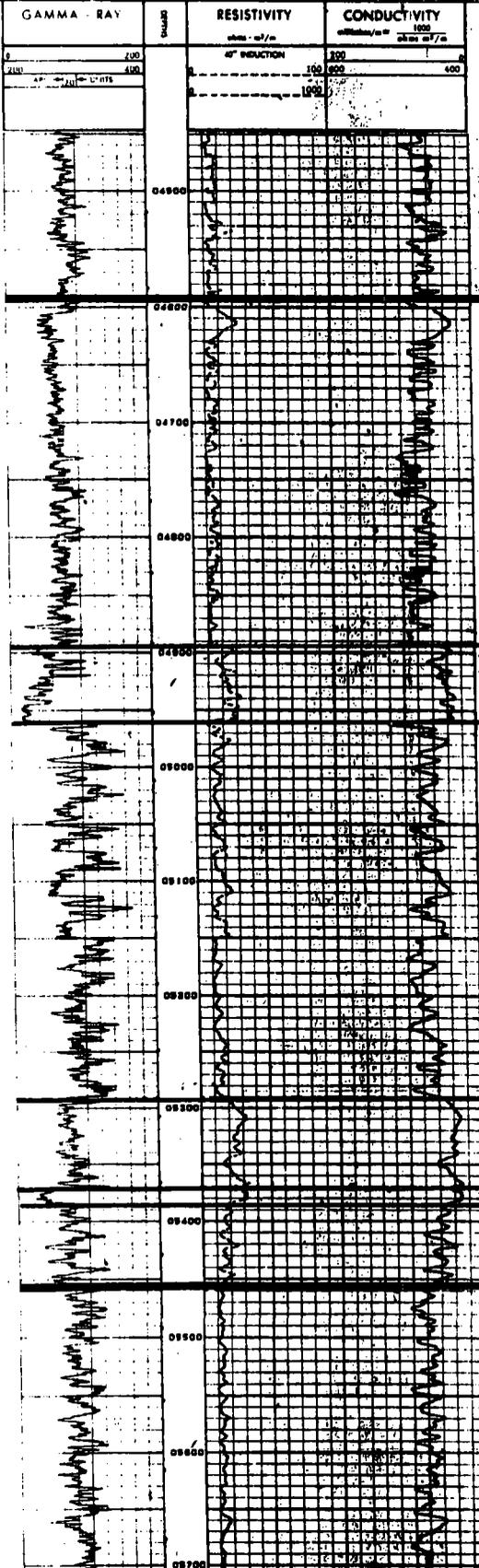
COMPANY - IN. 22ND NATURAL GAS COMPANY FIELD - MESA VERDE NAT. GAS FIELD COUNTY - SAN JUAN COUNTY, NEW MEXICO LOCATION - 11 MILES N. & 8 W. OF 4	
WELL NO. 22-31N-9W-100 DATE 11/13/59 LOG NO. 100	WELL DEPTH 100' LOG INTERVAL 0-100' LOG TYPE 100'

TYPE LOG

RIDDLE DLS #4A

NW, 22-31N-9W

Turley Area



MESA VERDE FM. 4595 +1647

Top Cliffhouse Mbr

4893 +1359

Top Cliffhouse Pay

4959 +1293

Top Menefee Mbr

5290 +962

Top Point Lookout Mbr

5372 +880

Top Point Lookout Pay

MANCOS FM. 5453 +799