



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

January 27, 1997

Marbob Energy Corporation
P. O. Box 227
Artesia, New Mexico 88211-0217
Attention: Mike Hanagan

Administrative Order DD-163(H)(SD)
High Angle/Horizontal

Dear Mr. Hanagan:

Reference is made to Marbob Energy Corporation's ("Marbob") application dated January 6, 1997 for authorization to initiate a high angle/horizontal directionally drilling project within the Chisum-Devonian Pool underlying the 80 acres comprising the E/2 NW/4 of Section 12, Township 11 South, Range 27 East, NMPM, Chaves County, New Mexico.

The Division Director Finds That:

- (1) The subject 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 Chisum-Devonian currently comprises the W/2 of Section 12 and all of Section 13, Township 11 South, Range 27 East, NMPM, and the W/2 equivalent of Section 18, Township 11 South, Range 28 East, NMPM, all in Chaves County, New Mexico;
- (3) Said pool is subject to the statewide rules and regulations, as promulgated by Rule 104.C(1)(a), which provides for 40-acre oil spacing and proration units, or drilling units, and requires that wells be located no closer than 330 feet to the outer boundary of a single 40-acre oil spacing and proration unit;
- (4) The "project area" proposed by Marbob would consist of an over-sized spacing unit comprising 80 acres (two standard 40-acre tracts) underlying the E/2 NW/4 of said Section 12;
- (5) Marbob is currently developing the Chisum-Devonian Pool within the subject 80-

acre project area with its State "CF" Well No. 10 (API No. 30-005-63068), located within a standard 40-acre oil spacing and proration unit comprising the NE/4 NW/4 of said Section 12 at a standard oil well location 847 feet from the North line and 1765 feet from the West line (Unit C) of said Section 12;

- (6) It is Marbob's intent to place its State "CF" Well No. 11 (API No. 30-005-63111) at a standard oil well location 1650 feet from the North and West lines (Unit F) of said Section 12, drill vertically to an approximate depth of 6425 feet, kick-off in a northerly direction with a short radius wellbore (71 degrees/100 feet), and drill horizontally a lateral distance of approximately 1,320 feet through the Devonian formation;
- (7) The applicable drilling window or "producing area" for said wellbore should include that area within the subject 80-acre non-standard oil spacing and proration unit comprising the E/2 NW/4 of said Section 12 that is no closer than 330 feet to the outer boundary of said proration unit; and,
- (8) It appears 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) Marbob Energy Corporation ("Marbob") is hereby authorized to initiate a high angle/horizontal directional drilling project within a non-standard 80-acre oil spacing and proration unit comprising the E/2 NW/4 of Section 12, Township 11 South, Range 27 East, NMPM, Chisum-Devonian Pool, Chaves County, New Mexico, by drilling its State "CF" Well No. 11 (API No. 30-005-63111) at a standard oil well location 1650 feet from the North and West lines (Unit F) of said Section 12, drill vertically to an approximate depth of 6425 feet, kick-off in a northerly direction with a short radius wellbore (71 degrees/100 feet), and drill horizontally a lateral distance of approximately 1,320 feet through the Devonian formation;

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 said 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 Artesia 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 Artesia offices of the Division upon completion.

(3) The "project area" for said horizontal well shall consist of an oversized 80-acre non-standard oil spacing and proration unit for said pool comprising the E/2 NW/4 of said Section 12, whereby both the subject well and Marbob's State "CF" Well No. 10 (API No. 30-005-63068), located at a standard oil well location 847 feet from the North line and 1765 feet from the West line (Unit C) of said Section 12, are both to be simultaneously dedicated.

(4) The applicable drilling window or "producing area" for said wellbore shall include that area within this 80-acre non-standard oil spacing and proration unit that is no closer than 330 feet to the outer boundary of said unit.

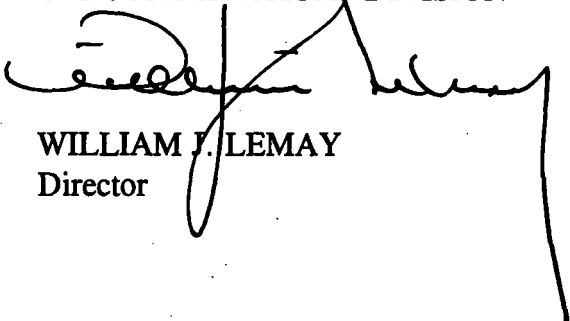
(5) The operator shall comply with all requirements and conditions set forth in Division General Rule 111.E(2) and any applicable requirements in 111.D and F.

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

(7) 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

cc: Oil Conservation Division - Artesia
New Mexico State Land Office - Santa Fe

DD-MAR.H

Rec: 1-8-97
Susp: 1-28-97
Winters Received
Released 1-27-97

January 27, 1997

Marbob Energy Corporation
P. O. Box 227
Artesia, New Mexico 88211-0217

Attention: Mike Hanagan

163
Administrative Order DD-***¹⁶³(H)(SD)
High Angle/Horizontal

Dear Mr. Hanagan:

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- (2) The Chisum-Devonian currently comprises the W/2 of Section 12 and all of Section 13, Township 11 South, Range 27 East, NMPM, and the W/2 equivalent of Section 18, Township 11 South, Range 28 East, NMPM, all in Chaves County, New Mexico;
- (3) Said pool is subject to the statewide rules and regulations, as promulgated by Rule 104.C(1)(a), which provides for 40-acre oil spacing and proration units, or drilling units, and requires that wells be located no closer than 330 feet to the outer boundary of a single 40-acre oil spacing and proration unit;
- (4) The "project area" proposed by Marbob would consist of an over-sized spacing unit comprising 80 acres (two standard 40-acre tracts) underlying the E/2 NW/4 of said Section 12;
- (5) Marbob is currently developing the Chisum-Devonian Pool within the subject 80-

acre project area with its State "CF" Well No. 10 (API No. 30-005-63068), located within a standard 40-acre oil spacing and proration unit comprising the NE/4 NW/4 of said Section 12 at a standard oil well location 847 feet from the North line and 1765 feet from the West line (Unit C) of said Section 12;

- (6) It is Marbob's intent to place its State "CF" Well No. 11 (API No. 30-005-63111) at a standard oil well location 1650 feet from the North and West lines (Unit F) of said Section 12, drill vertically to an approximate depth of 6425 feet, kick-off in a northerly direction with a short radius wellbore (71 degrees/100 feet), and drill horizontally a lateral distance of approximately 1,320 feet through the Devonian formation;
- (7) The applicable drilling window or "producing area" for said wellbore should include that area within the subject 80-acre non-standard oil spacing and proration unit comprising the E/2 NW/4 of said Section 12 that is no closer than 330 feet to the outer boundary of said proration unit; and,
- (8) It appears 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) Marbob Energy Corporation ("Marbob") is hereby authorized to initiate a high angle/horizontal directional drilling project within a non-standard 80-acre oil spacing and proration unit comprising the E/2 NW/4 of Section 12, Township 11 South, Range 27 East, NMPM, Chisum-Devonian Pool, Chaves County, New Mexico, by drilling its State "CF" Well No. 11 (API No. 30-005-63111) at a standard oil well location 1650 feet from the North and West lines (Unit F) of said Section 12, drill vertically to an approximate depth of 6425 feet, kick-off in a northerly direction with a short radius wellbore (71 degrees/100 feet), and drill horizontally a lateral distance of approximately 1,320 feet through the Devonian formation;

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 said 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 Artesia 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 Artesia offices of the Division upon completion.

(3) The "project area" for said horizontal well shall consist of an oversized 80-acre non-standard oil spacing and proration unit for said pool comprising the E/2 NW/4 of said Section 12, whereby both the subject well and Marbob's State "CF" Well No. 10 (API No. 30-005-63068), located at a standard oil well location 847 feet from the North line and 1765 feet from the West line (Unit C) of said Section 12, are both to be simultaneously dedicated.

(4) The applicable drilling window or "producing area" for said wellbore shall include that area within this 80-acre non-standard oil spacing and proration unit that is no closer than 330 feet to the outer boundary of said unit.

(5) 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.

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

(7) 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

cc: Oil Conservation Division - Artesia
New Mexico State Land Office - Santa Fe

DD

1/28/97



marbob
energy corporation

OIL CONSERVATION DIVISION
RECEIVED

'97 JAN 8 AM 8:52

January 6, 1997

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

1-8-97

Attention: Michael Stogner

RE: State CF #11
1650' FNL and 1650' FWL
Section 12-IIS-27E
Chaves County, New Mexico

Dear Mr. Stogner:

Please find attached two (2) originals of our Application for Administrative Approval of the above referenced well.

As I mentioned last week, we have set up the drilling equipment to move in January 13, 1997. I have received verbal waivers from both offset operators (Amoco Production Company and Yates Petroleum Corporation), and expect to have the executed waivers this week.

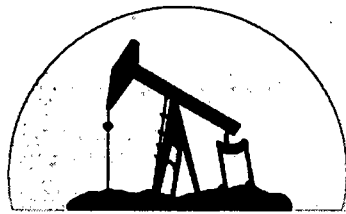
We would sure appreciate at least a verbal approval from the OCD (after we provide you with executed waivers) to begin the actual drilling operations on this well.

Should you have any questions regarding this matter, please give me a call at 505/623-5053.

Sincerely,

Mike Hanagan
Geologist

MH/mm
Enclosures



marbob
energy corporation

January 6, 1997

New Mexico Department of Energy, Minerals and Natural Resources
Oil Conservation Division
2040 North Pacheco
Santa Fe, New Mexico 87505

Attention: Mr. Mike Stogner

RE: APPLICATION FOR ADMINISTRATIVE APPROVAL
FOR A DIRECTIONAL WELLBORE

Marbob Energy Corporation

#11 State "CF"

Surface Location: 1650' FNL & 1650' FWL

Section 12-T11S-R27E

Chaves County, New Mexico

Dear Mr. Stogner:

Marbob Energy Corporation (Marbob) hereby makes application pursuant to Oil Conservation Division Rule 111.D for administrative approval to directionally drill the above referenced #11 State "CF" well in the Devonian formation. This application is designed to address each requirement of OCD Rules 111.D. and 111.E..

OCD Rule 111.D.(1)

- (a) The "drilling unit" for the well will consist of two (2) contiguous 40 acre spacing units being the NE/4 NW/4 and the SE/4 NW/4 of section 12-T11S-R27E
- (b) The "producing interval" of the well bore shall be confined within a standard "producing area" as defined in Rule 111.A.(8). The proposed lateral will begin at a legal location in the SE/4 NW/4 of 1650' FNL and 1650' FWL and will end at a legal location in the NE/4 NW/4 of 330' FNL and 1650' FWL of section 12-T11S-R27E. At no point will the wellbore be closer than 990' to any offset operators outer boundary.
- (c) The "project area" will be the E/2 NW/4 of section 12-T11S-R27E.
- (d) The "project well" will be a single horizontal lateral 1320' (max) in length.

Application For Directional Wellbore

OCD Rule 111.D.(2)

(a) Marbob desires to directionally and horizontally drill the #11 State CF well in order to more effectively and efficiently drain a Siluro-Devonian age structure that has been imaged by 3D seismic information and was confirmed by the Marbob #10 State CF well which was drilled in June, 1995. Production from the #10 well stabilized at a rate of 60-70 BOPD which is unusually low for normal Siluro-Devonian producers. In November, 1996 Marbob drilled the #11 State CF to a depth of 6550' (Siluro-Devonian) and set 5.5" production casing at 6415'. Marbob left the 135' of open hole interval so that if production rates at the #11 were similar to the #10 we could drill horizontally across the top of the structure so as to better drain the feature. In December, 1996 the #11 had stabilized production rates of 50-60 BOPD with no water.

Based on the production results from both the #10 and #11 wells it is Marbob's opinion that this feature exhibits lower than normal permeability for Siluro-Devonian reservoirs and that the productive area of the feature may not be effectively drained by the existing conventional vertical wellbores.

Marbob believes that by drilling horizontally across the top of this structure we will increase the ultimate oil recovery from the structure, perhaps substantially, and will do so in a more cost effective manner than by producing from two separate vertical wellbores.

The estimated productive area of this feature (as defined by 3D seismic and subsurface information) is approximately 75 acres. The entire estimated productive area of this feature should be within the boundaries of the proposed drilling unit. Recoverable oil reserves from this feature are estimated to be between 250,000 BO and 450,000 BO.

(b) Exh. #1 is a plat showing the project area, the surface location, the proposed final bottomhole location, the producing area, existing wells in the project area, and all offset drilling units and their associated operator.

The well is within the boundaries of the Chisum Devonian field which has standard 40 acre spacing units. Therefore the project area will consist of two spacing units, being the E/2 NW/4 of section 12-T11S-R27E. Once again, please note that the wellbore will not ever be closer than 990' from the nearest offset operators lease line.

(c) Exh. #2 is a cross-sectional view of the proposed well which shows the true vertical depth of the top of the pay zone at 6538', a build angle of 71 deg/100', the true vertical/measured depth of the kickoff point being at 6425', the angle at the end of build being 90 degrees, the point of penetration into the Siluro-Devonian being at a point 80'-100' due north at a true vertical depth of 6545', and a lateral length in the pay zone of 1220' (1320' total lateral length).

(d) Exh. #3 is a plan view of the proposed well which shows the spacing units and drilling unit, the producing area, the azimuth of true north, and the maximum lateral length which will not exceed 1320'.

(e) Exh. #4 is a type log from the Amoco Production Company #5 State CF well which is located a little over 1 mile south of the proposal. This well was used as the type log since it penetrated far enough into the Siluro-Devonian to see the

Application For Directional Wellbore

formation on logs. Normal completion procedures in this formation usually only include drilling 5'-15' into the formation which does not allow us to see the pay zone on logs. Rule 111D.2.e requests that the bottom of the subject pool be shown on the type log. This is difficult in this area as the entire interval from the top of the Siluro-Devonian down to Pre-Cambrian basement consists almost entirely of dolomite with only minor lithologic differences. This makes differentiation of the Siluro-Devonian, Fusselman, Montoya and Ellenburger sections quite difficult. However, the normal gross oil column thickness' for Siluro-Devonian fields in this area range from 10'-50' with 30' being the most common pay thickness in the area.

(f) Exh. #5 is statement showing the names and addresses of all operators of offset spacing units to the proposed well. Each offset operator has been sent a copy of this application by certified mail-return receipt requested along with notification that any objection to this application must be filed within 20 days of the date that the notice was sent.

OCD Rule 111.D.(3)

It appears that the allowable for the entire drilling unit/spacing unit for the E/2 NW/4 of section 12 will be 284 BOPD (2 standard 40 acre spacing unit allowable in the 6,000'-6,999' allowable range). As the Marbob State CF #10 is within the producing area production from the #10 (if produced) would be included in the 284 BOPD allowable.

OCD Rule 111.E.(1)

Marbob requests administrative approval of this proposal upon expiration of the 20 day objection period (provided that there are no objections) unless Marbob can obtain waivers prior to the expiration of the 20 day period from the offset operators, in which case Marbob would request immediate approval as provided by OCD Rule 111.E.(1).

OCD Rule 111.E.(2)

- (a) Marbob shall conduct a directional survey on the wellbore after termination of the drilling operations that will determine the direction and extent of the lateral.
- (b) Marbob will notify the NMOCD Artesia office in time to witness directional surveys. Marbob will supply NMOCD with copies of any directional surveys of the wellbore.

As this proposal appears to meet the requirements and conditions of OCD Rule 111.D. & E., Marbob respectfully requests consideration by the Division Director for administrative approval as provided for in OCD Rule 111.D & E.

Thank you for your time and for your consideration of this application. Should you have any questions, please feel free to give me a call at 623-5053 or 622-6182.

Respectfully Submitted,
MARBOB ENERGY CORPORATION

By: 

Mike Hanagan, Geologist

R 27 E 1

Marbob Energy

**VA-951
7/1/98**

Amoco

**B8385-2
HBP**

State of NM

State of NM

T 11 S

1650' FWL

Project Area

1650' FWL

Producing Area

BHL

CF #10

1320' Lateral

CF #11

330'

330'

Marbob

**B8385-2
HBP**

State of NM

Yates Pet.

**VA-582
4/1/97**

State of NM

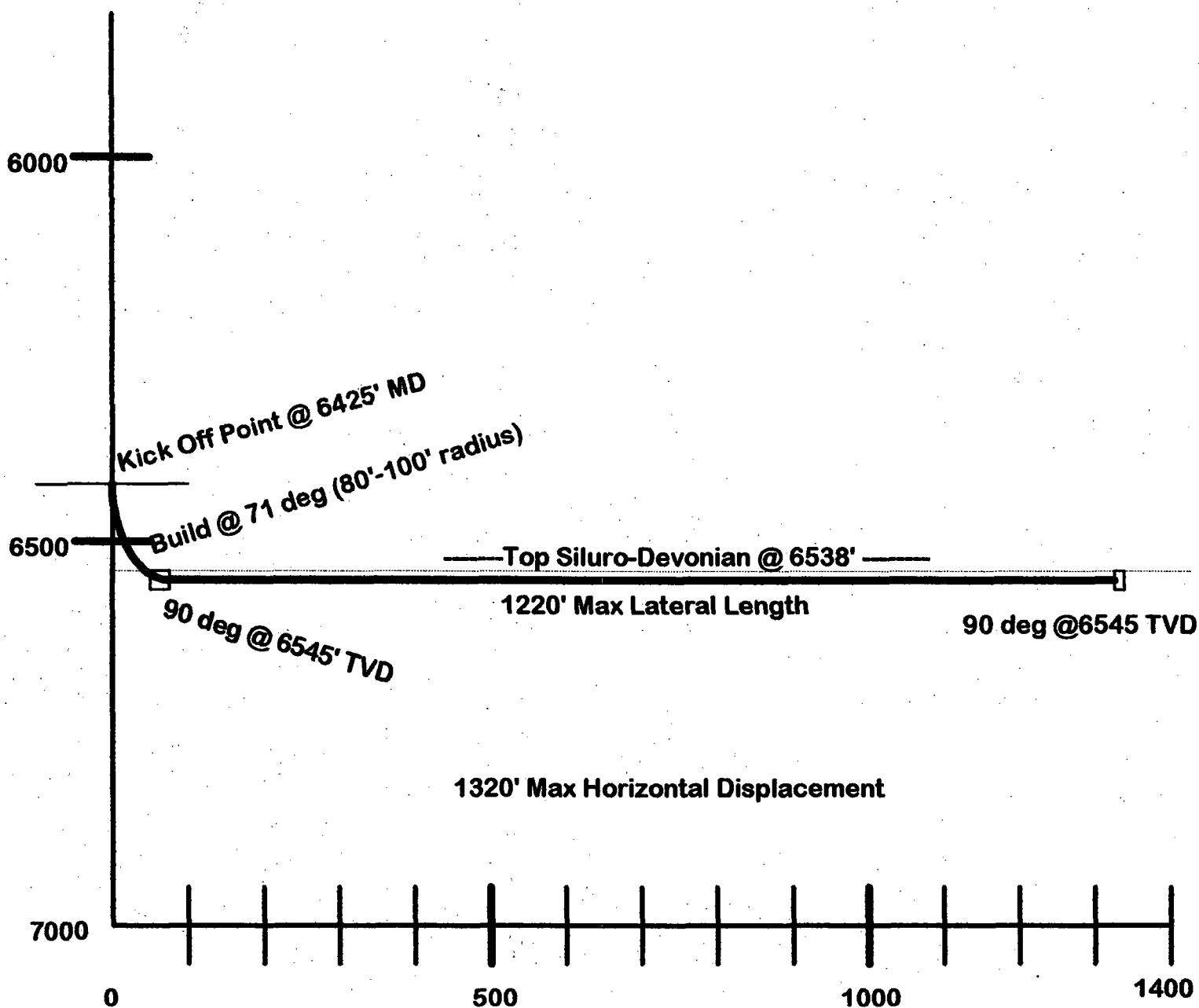
12

Offset 40 Ac Drilling Units

Marbob Energy Corporation
Application For Administrative Approval
For Directional Wellbore
State "CF" #11

Scale: 8" = 1 mile / 1"=660'

Exhibit #1



Marbob Energy Corporation
#11 State "CF"
Application For Administrative Approval
For Directional Wellbore

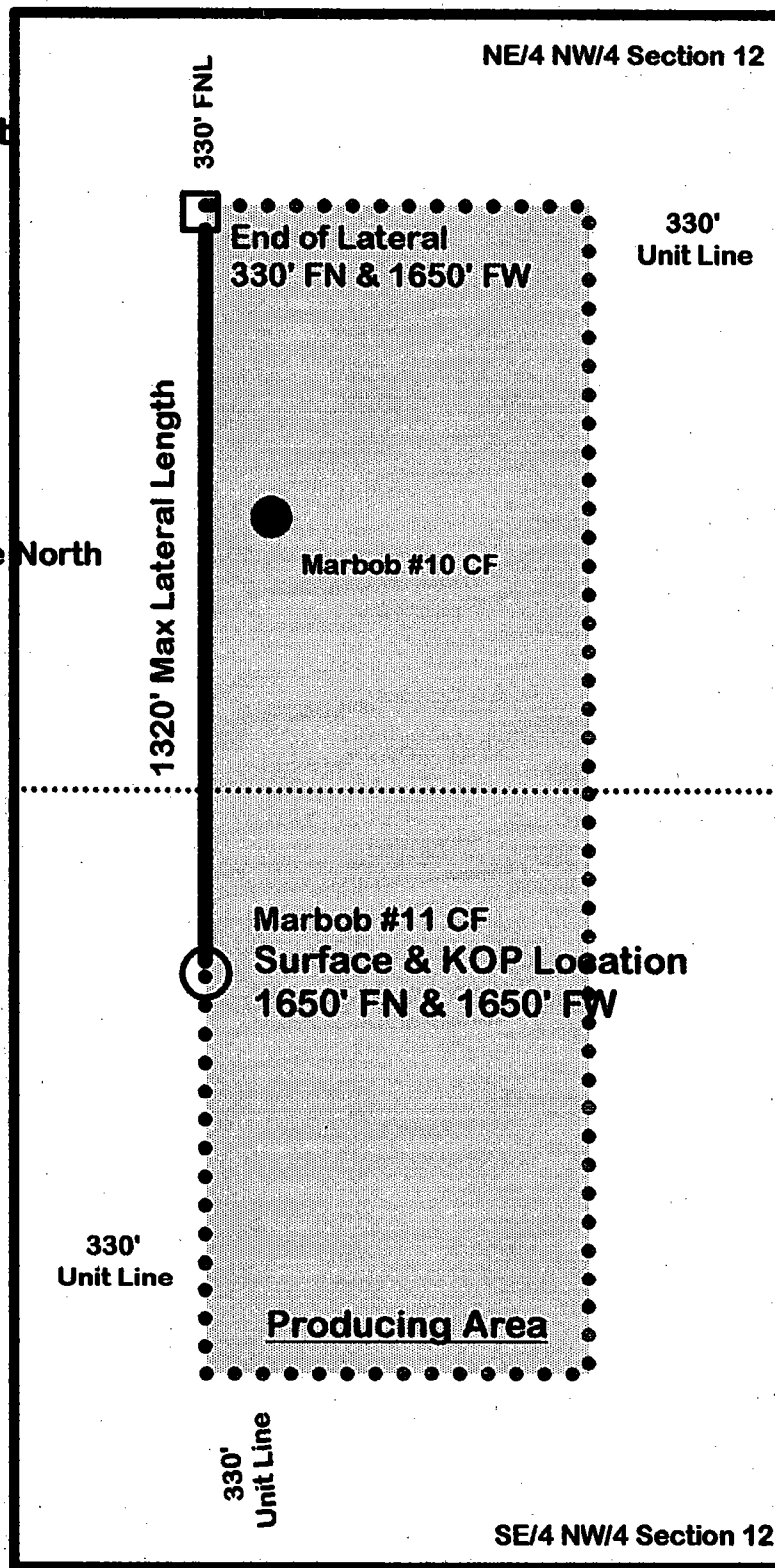
Cross Section View of Well Plan

Vertical Scale: 1"=200'
 Horizontal Scale: 1" = 200'

Exhibit #2

80 acre Drilling Unit

Azimuth: Due North



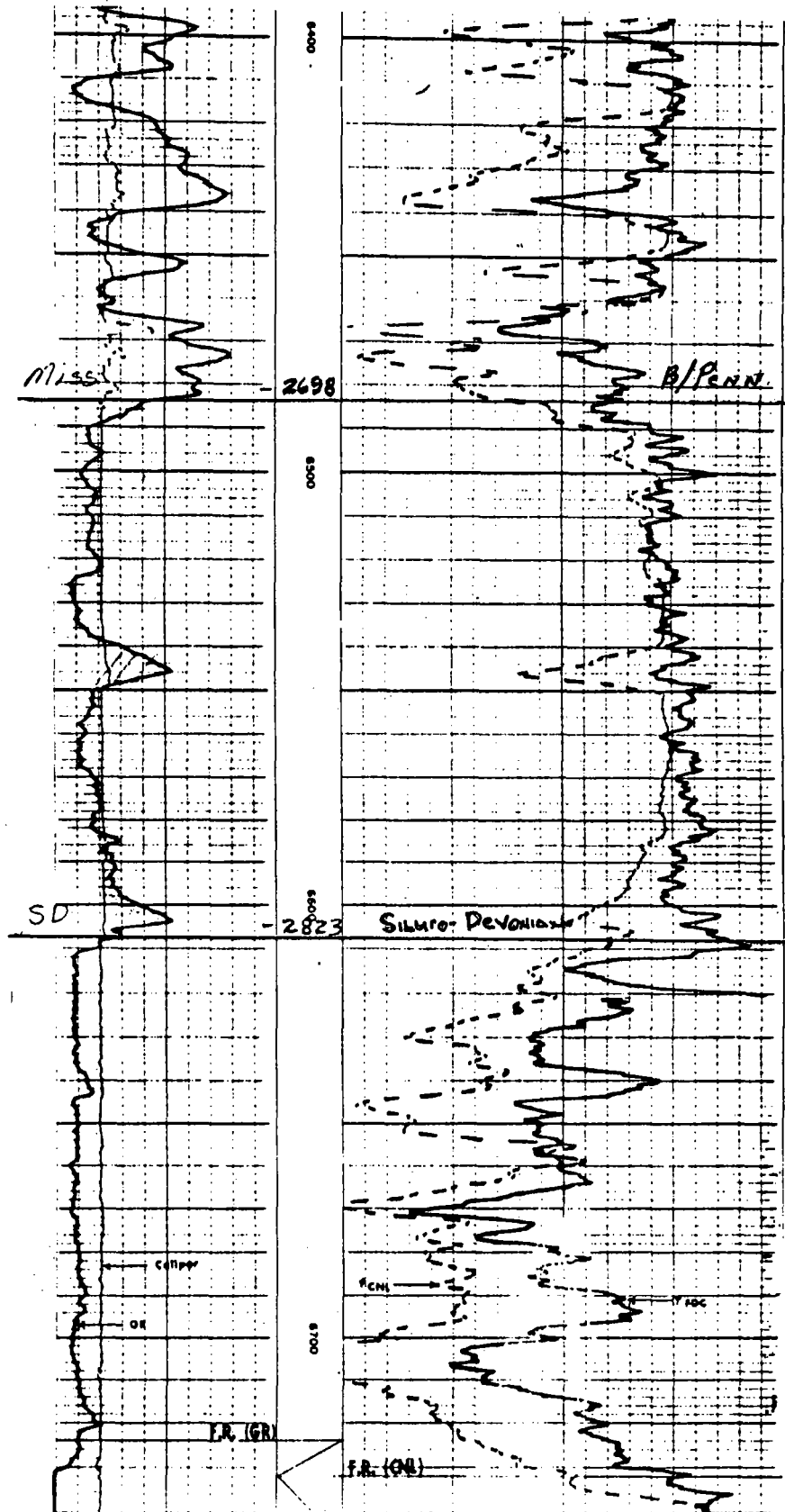
Marbob Energy Corporation
State CF #11

Application For Administrative Approval For Directional Wellbore
Horizontal Plan View For Wellbore

Scale: 1"=330'

Exhibit #3

TYPE LOG
AMOCO PROD. STATE CF #5



**Marbob Energy Corporation
State CF #11**

**Application For Administrative Approval
For Directional Wellbore**

**OFFSET OPERATORS AND ADDRESSES
EXHIBIT #5**

There are only two offset operators to the proposed directional wellbore. The proposed wellbore will not be closer than 990' to either offset operator. Each operator has been supplied a copy of this application by certified mail-return receipt mail.

Yates Petroleum Corporation is the offset operator of 80 acres on the east side of the proposed drilling unit (W/2 NE/4 section 12). Both of the 40 acre spacing units are under the same lease and there is no producing well on the 80 acres.

Amoco Production Company is the offset operator of the 40 acres tract diagonally adjacent to the northeast of the proposed drilling unit. There are no wells on the Amoco tract.

Addresses for each of these operators are given below. In addition, marbob will attempt to contact each of these operators about the proposed directional wellbore.

YATES PETROLEUM CORPORATION
105 South Fourth Street
Artesia, New Mexico 88210

AMOCO PRODUCTION COMPANY
501 Westlake Park Blvd.
Houston, Texas 77079



January 6, 1997

Yates Petroleum Corporation
105 South Fourth Street
Artesia, New Mexico 88210

RE: Directional Wellbore

Gentlemen:

Enclosed please find an application for a proposed Directional Wellbore located in Section 12, Township 11 South, Range 27 East, Chaves County, New Mexico. If you have any questions regarding this application, please contact me at 505/622-6182.

If you have no objections to the proposed Directional Wellbore, please sign below and return one copy of this letter to Marbob Energy Corporation.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Hanagan". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Mike Hanagan
Geologist

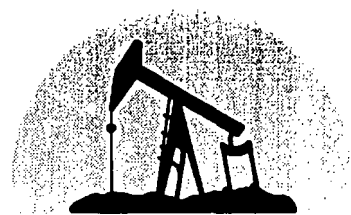
MH/mm
Enclosures

YATES PETROLEUM CORPORATION has no
objections to the proposed Directional Wellbore:

By: _____

Title: _____

Date: _____



marbob
energy corporation

January 6, 1997

Amoco Production Company
Post Office Box 3092
Houston, Texas 77253

RE: Directional Wellbore

Gentlemen:

Enclosed please find an application for a proposed Directional Wellbore located in Section 12, Township 11 South, Range 27 East, Chaves County, New Mexico. If you have any questions regarding this application, please contact me at 505/622-6182.

If you have no objections to the proposed Directional Wellbore, please sign below and return one copy of this letter to Marbob Energy Corporation.

Sincerely,

Mike Hanagan
Geologist

MH/mm
Enclosures

AMOCO PRODUCTION COMPANY has no
objections to the proposed Directional Wellbore:

By: _____

Title: _____

Date: _____

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

PO Box 2088
Santa Fe, NM 87504-2088

Form C-101

Revised February 10, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 6 Copies

Fee Lease - 5 Copies

NOV 14 1996 AMENDED REPORT

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

Operator Name and Address: MARBOB ENERGY CORPORATION P. O. BOX 227 ARTESIA, NM 88210		OGRID Number 14049
		API Number 30-005-63111
Property Code 6542	Property Name STATE CF	Well No. 11

Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
F	12	11S	27E	SENW	1650	N	1650	W	CHAVES

Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
C	12	11S	27E	NENW	330'	N	1650'	W	Chaves

Proposed Pool 1 CHISUM; DEVONIAN	Proposed Pool 2 12160
-------------------------------------	--------------------------

Work Type Code N	Well Type Code O	Cable/Rotary R	Lease Type Code S	Ground Level Elevation 3739
Multiple	Proposed Depth 6650'	Formation DEVONIAN	Contractor	Spud Date 01/13/97

Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4"	8 5/8"	24#	1465'	650 SX	CIRC
7 7/8"	5 1/2"	17#	6650	300 SX	6000'

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.

PROPOSE TO KICK OFF WELL @ 6425' AND DRILL HORIZONTAL WELLBORE DUE NORTH TO A POINT NOT CLOSER THAN 330' FROM THE NORTH LINE.

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

Signature: Rhonda Nelson

Printed name:
RHONDA NELSON

Title:
PRODUCTION CLERK

Date: 11/5/96

Phone:
748-3303

OIL CONSERVATION DIVISION

Approved by:
SUPERVISOR, DISTRICT II

Title:

Approval Date: 11-12-96

Expiration Date: 11-12-97

Conditions of Approval:
Attached ☐

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

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

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

DISTRICT IV
P.O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

NOV 07 1996

Form C-102
Revised February 10, 1984
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

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

NOV 14 1996 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-005-63111	Pool Code 12160	Pool Name CHISUM DEVONIAN
Property Code 6542	Property Name STATE CF	Well Number 11
OGRD No. 14049	Operator Name MARBOB ENERGY CORPORATION	Elevation 3739

Surface Location

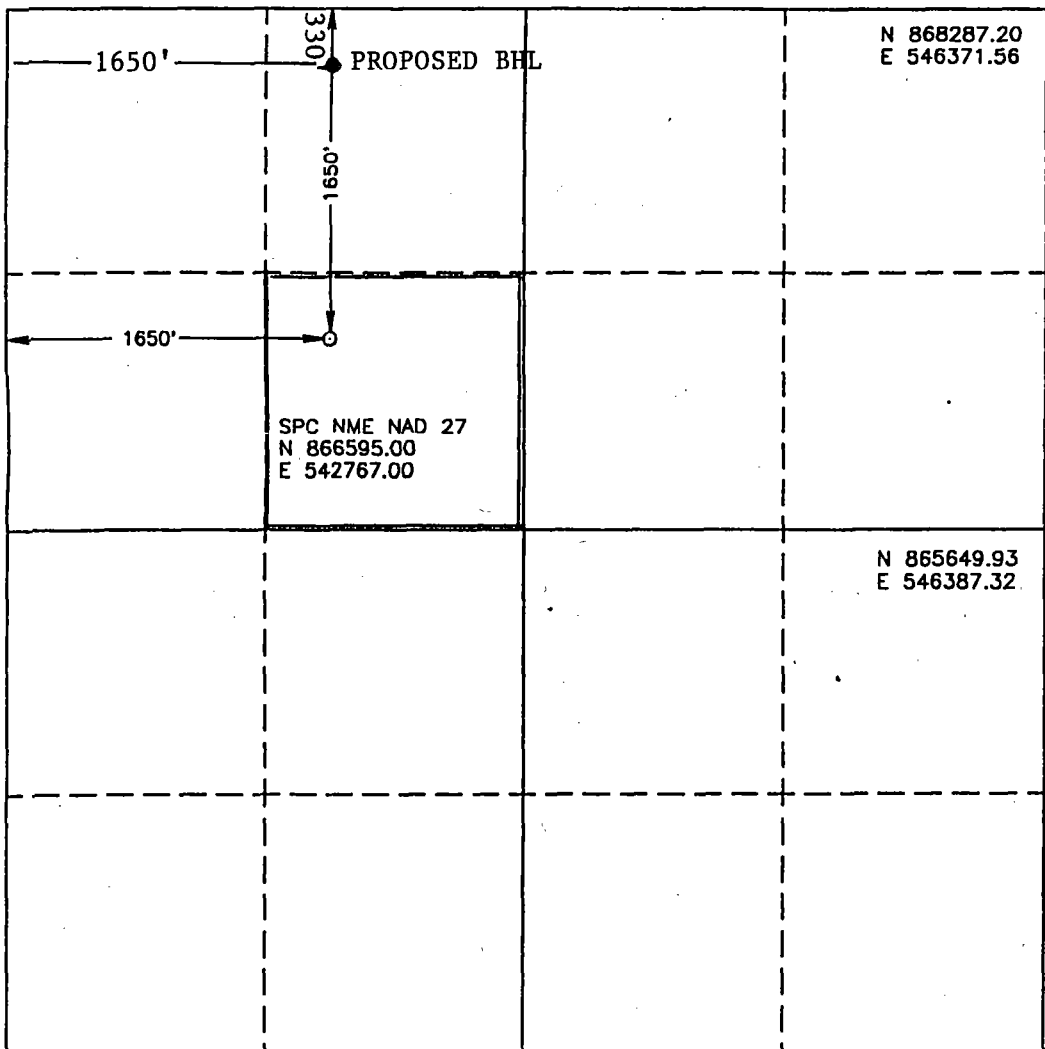
UL or lot No. F	Section 12	Township 11 S	Range 27 E	Lot Idn	Feet from the 1650	North/South line NORTH	Feet from the 1650	East/West line WEST	County CHAVES
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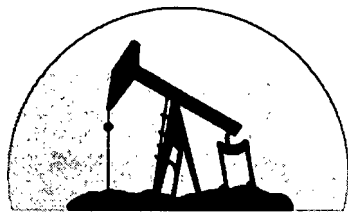
Bottom Hole Location If Different From Surface

UL or lot No. C	Section 12	Township 11S	Range 27E	Lot Idn	Feet from the 330'	North/South line N	Feet from the 1650'	East/West line W	County CHAVES
--------------------	---------------	-----------------	--------------	---------	-----------------------	-----------------------	------------------------	---------------------	------------------

Dedicated Acres 80	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>N 868287.20 E 546371.56</p> <p>PROPOSED BHL</p> <p>330'</p> <p>1650'</p> <p>1650'</p> <p>SPC NME NAD 27 N 866595.00 E 542767.00</p> <p>N 865649.93 E 546387.32</p>	<h4>OPERATOR CERTIFICATION</h4> <p>I hereby certify the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Rhonda Nelson</i> Signature</p> <p>RHONDA NELSON Printed Name</p> <p>PRODUCTION CLERK Title</p> <p>11/8/96 Date</p> <h4>SURVEYOR CERTIFICATION</h4> <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>NOVEMBER 5, 1996 Date Surveyed</p> <p>JLP</p> <p>Signature of Professional Surveyor Professional Surveyor</p> <p>3239 W.O. Num. 96-18-1441</p> <p>Certificate No. JOHN W. WEST, 678 RONALD J. EIDSON, 3239 GARY G. EIDSON, 12841</p>
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marbob
energy corporation

January 6, 1997

New Mexico Department of Energy, Minerals and Natural Resources
Oil Conservation Division
2040 North Pacheco
Santa Fe, New Mexico 87505

Attention: Mr. Mike Stogner

RE: APPLICATION FOR ADMINISTRATIVE APPROVAL
FOR A DIRECTIONAL WELLBORE

Marbob Energy Corporation

#11 State "CF"

Surface Location: 1650' FNL & 1650' FWL

Section 12-T11S-R27E

Chaves County, New Mexico

Dear Mr. Stogner:

Marbob Energy Corporation (Marbob) hereby makes application pursuant to Oil Conservation Division Rule 111.D for administrative approval to directionally drill the above referenced #11 State "CF" well in the Devonian formation. This application is designed to address each requirement of OCD Rules 111.D. and 111.E..

OCD Rule 111.D.(1)

- (a) The "drilling unit" for the well will consist of two (2) contiguous 40 acre spacing units being the NE/4 NW/4 and the SE/4 NW/4 of section 12-T11S-R27E
- (b) The "producing interval" of the well bore shall be confined within a standard "producing area" as defined in Rule 111.A.(8). The proposed lateral will begin at a legal location in the SE/4 NW/4 of 1650' FNL and 1650' FWL and will end at a legal location in the NE/4 NW/4 of 330' FNL and 1650' FWL of section 12-T11S-R27E. At no point will the wellbore be closer than 990' to any offset operators outer boundary.
- (c) The "project area" will be the E/2 NW/4 of section 12-T11S-R27E.
- (d) The "project well" will be a single horizontal lateral 1320' (max) in length.

Application For Directional Wellbore

OCD Rule 111.D.(2)

(a) Marbob desires to directionally and horizontally drill the #11 State CF well in order to more effectively and efficiently drain a Siluro-Devonian age structure that has been imaged by 3D seismic information and was confirmed by the Marbob #10 State CF well which was drilled in June, 1995. Production from the #10 well stabilized at a rate of 60-70 BOPD which is unusually low for normal Siluro-Devonian producers. In November, 1996 Marbob drilled the #11 State CF to a depth of 6550' (Siluro-Devonian) and set 5.5" production casing at 6415'. Marbob left the 135' of open hole interval so that if production rates at the #11 were similar to the #10 we could drill horizontally across the top of the structure so as to better drain the feature. In December, 1996 the #11 had stabilized production rates of 50-60 BOPD with no water.

Based on the production results from both the #10 and #11 wells it is Marbob's opinion that this feature exhibits lower than normal permeability for Siluro-Devonian reservoirs and that the productive area of the feature may not be effectively drained by the existing conventional vertical wellbores.

Marbob believes that by drilling horizontally across the top of this structure we will increase the ultimate oil recovery from the structure, perhaps substantially, and will do so in a more cost effective manner than by producing from two separate vertical wellbores.

The estimated productive area of this feature (as defined by 3D seismic and subsurface information) is approximately 75 acres. The entire estimated productive area of this feature should be within the boundaries of the proposed drilling unit.

Recoverable oil reserves from this feature are estimated to be between 250,000 BO and 450,000 BO.

(b) Exh. #1 is a plat showing the project area, the surface location, the proposed final bottomhole location, the producing area, existing wells in the project area, and all offset drilling units and their associated operator.

The well is within the boundaries of the Chisum Devonian field which has standard 40 acre spacing units. Therefore the project area will consist of two spacing units, being the E/2 NW/4 of section 12-T11S-R27E. Once again, please note that the wellbore will not ever be closer than 990' from the nearest offset operators lease line.

(c) Exh. #2 is a cross-sectional view of the proposed well which shows the true vertical depth of the top of the pay zone at 6538', a build angle of 71 deg/100', the true vertical/measured depth of the kickoff point being at 6425', the angle at the end of build being 90 degrees, the point of penetration into the Siluro-Devonian being at a point 80'-100' due north at a true vertical depth of 6545', and a lateral length in the pay zone of 1220' (1320' total lateral length).

(d) Exh. #3 is a plan view of the proposed well which shows the spacing units and drilling unit, the producing area, the azimuth of true north, and the maximum lateral length which will not exceed 1320'.

(e) Exh. #4 is a type log from the Amoco Production Company #5 State CF well which is located a little over 1 mile south of the proposal. This well was used as the type log since it penetrated far enough into the Siluro-Devonian to see the

Application For Directional Wellbore

formation on logs. Normal completion procedures in this formation usually only include drilling 5'-15' into the formation which does not allow us to see the pay zone on logs. Rule 111D.2.e requests that the bottom of the subject pool be shown on the type log. This is difficult in this area as the entire interval from the top of the Siluro-Devonian down to Pre-Cambrian basement consists almost entirely of dolomite with only minor lithologic differences. This makes differentiation of the Siluro-Devonian, Fusselman, Montoya and Ellenburger sections quite difficult. However, the normal gross oil column thickness' for Siluro-Devonian fields in this area range from 10'-50' with 30' being the most common pay thickness in the area.

(f) Exh. #5 is statement showing the names and addresses of all operators of offset spacing units to the proposed well. Each offset operator has been sent a copy of this application by certified mail-return receipt requested along with notification that any objection to this application must be filed within 20 days of the date that the notice was sent.

OCD Rule 111.D.(3)

It appears that the allowable for the entire drilling unit/spacing unit for the E/2 NW/4 of section 12 will be 284 BOPD (2 standard 40 acre spacing unit allowable in the 6,000'-6,999' allowable range). As the Marbob State CF #10 is within the producing area production from this well (if produced) would be included in the 284 BOPD allowable.

OCD Rule 111.E.(1)

Marbob requests administrative approval of this proposal upon expiration of the 20 day objection period (provided that there are no objections) unless Marbob can obtain waivers prior to the expiration of the 20 day period from the offset operators, in which case Marbob would request immediate approval as provided by OCD Rule 111.E.(1).

OCD Rule 111.E.(2)

(a) Marbob shall conduct a directional survey on the wellbore after termination of the drilling operations that will determine the direction and extent of the lateral.

(b) Marbob will notify the NMOCD Artesia office in time to witness directional surveys. Marbob will supply NMOCD with copies of any directional surveys of the wellbore.

As this proposal appears to meet the requirements and conditions of OCD Rule 111.D. & E., Marbob respectfully requests consideration by the Division Director for administrative approval as provided for in OCD Rule 111.D & E.

Thank you for your time and for your consideration of this application. Should you have any questions, please feel free to give me a call at 623-5053 or 622-6182.

Respectfully Submitted,
MARBOB ENERGY CORPORATION

By: 

Mike Hanagan, Geologist

R 27 E 1

Marbob Energy

**VA-951
7/1/98**

**Amoco
B8385-2
HBP**

State of NM

State of NM

T 11 S

1650' FWL

Project Area

BHL

CF #10

1320' Lateral

1650' FWL

CF #11

Producing Area

**Yates Pet.
VA-582
4/1/97**

State of NM

Marbob

**B8385-2
HBP**

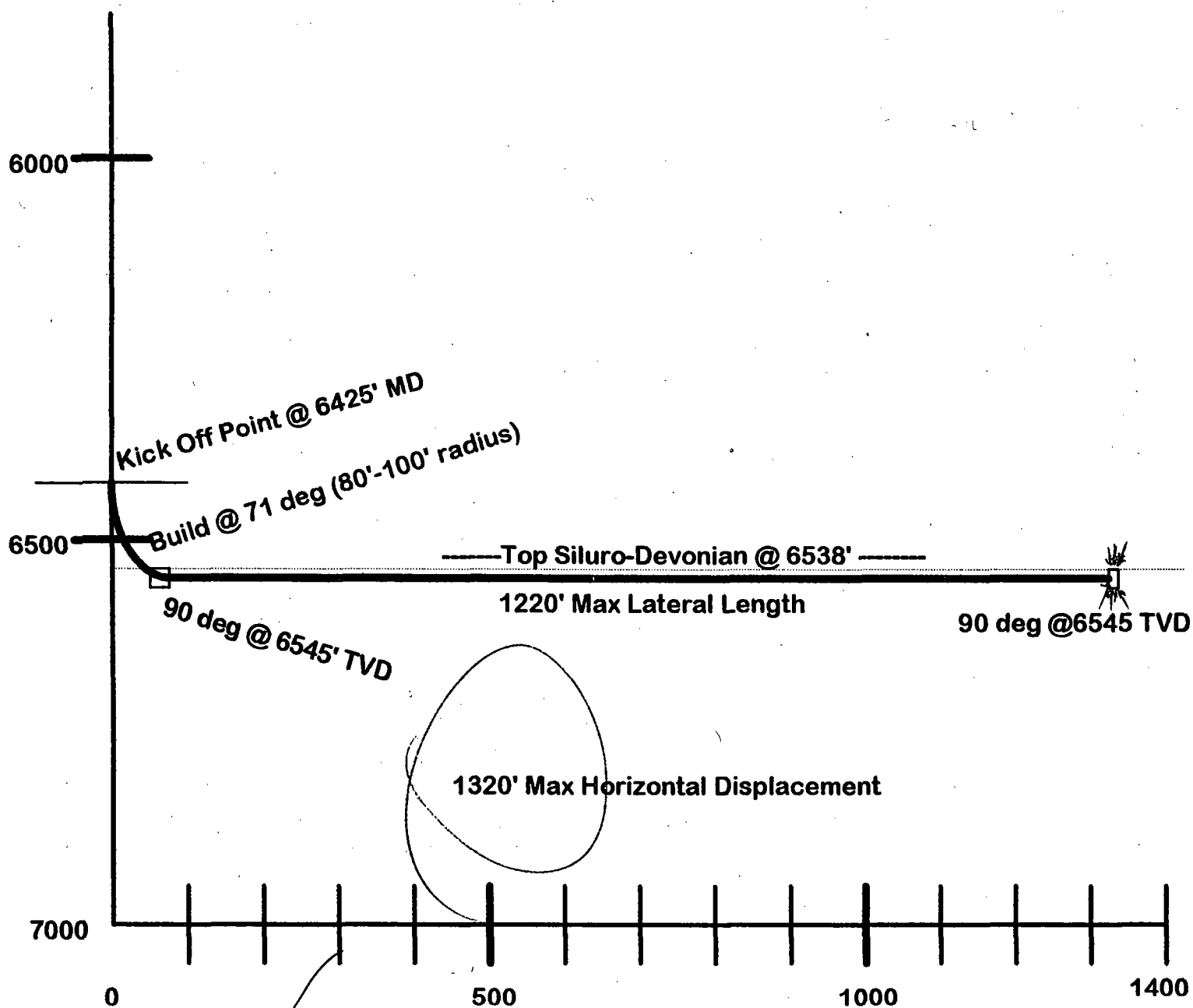
State of NM

Offset 40 Ac Drilling Units

**Marbob Energy Corporation
Application For Administrative Approval
For Directional Wellbore
State "CF" #11**

Scale: 8" = 1 mile / 1"=660'

Exhibit #1



Marbob Energy Corporation
#11 State "CF"
Application For Administrative Approval
For Directional Wellbore

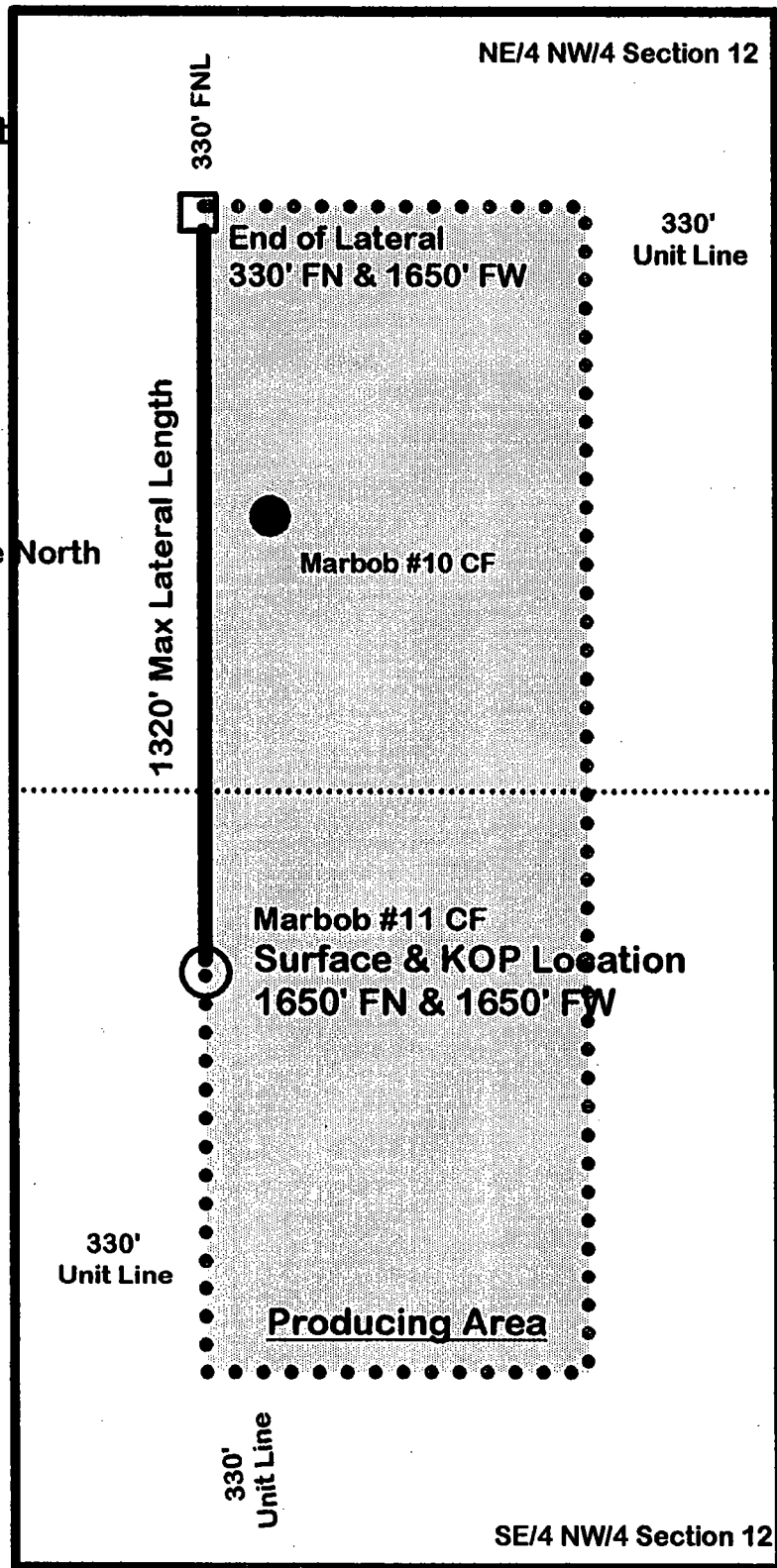
Cross Section View of Well Plan

Vertical Scale: 1"=200'
Horizontal Scale: 1" = 200'

Exhibit #2

80 acre Drilling Unit

Azimuth: Due North



Marbob Energy Corporation
State CF #11

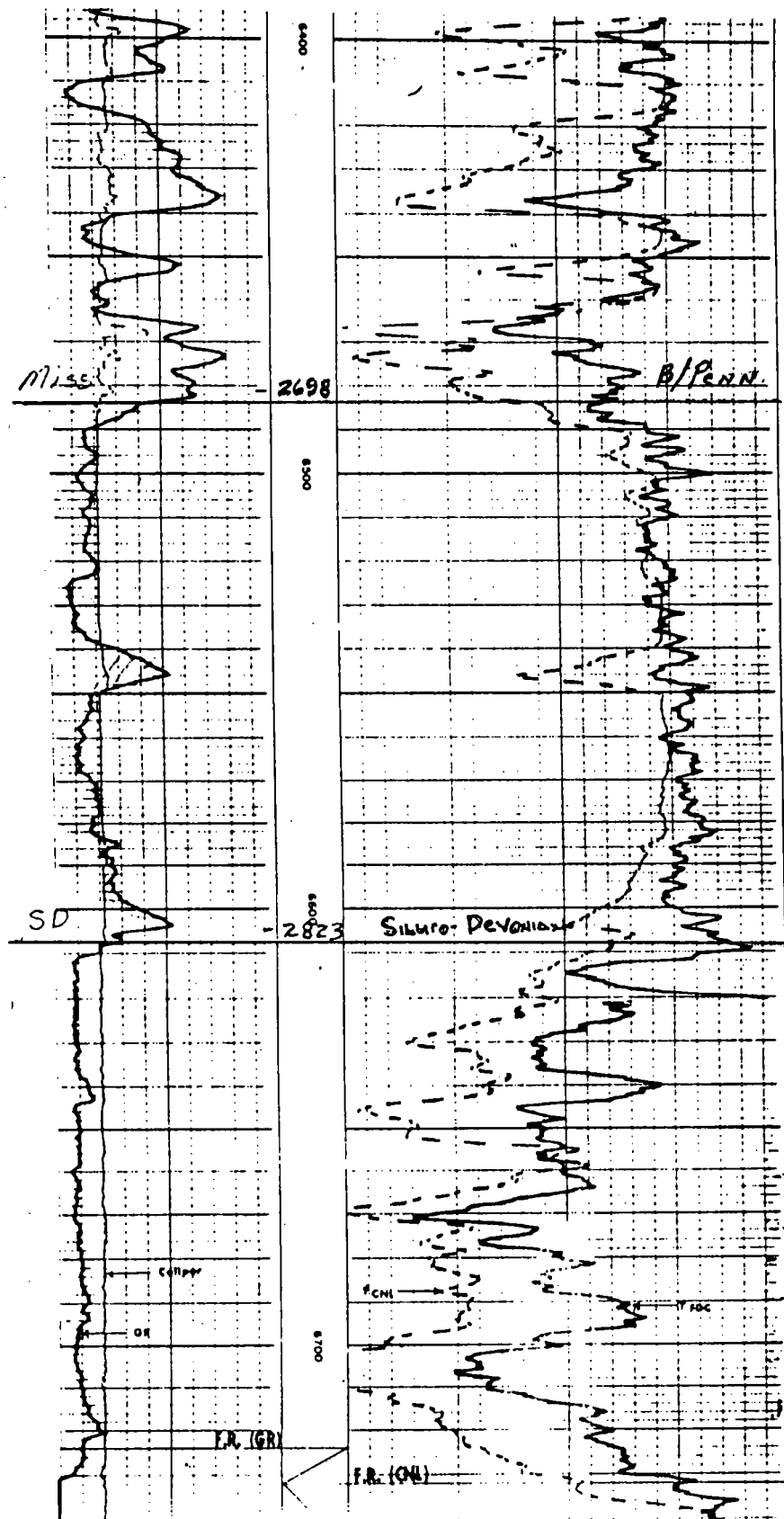
Application For Administrative Approval For Directional Wellbore

Horizontal Plan View For Wellbore

Scale: 1'=330'

Exhibit #3

TYPE LOG AMOCO PROD. STATE CF #5



**Marbob Energy Corporation
State CF #11**

**Application For Administrative Approval
For Directional Wellbore**

**OFFSET OPERATORS AND ADDRESSES
EXHIBIT #5**

There are only two offset operators to the proposed directional wellbore. The proposed wellbore will not be closer than 990' to either offset operator. Each operator has been supplied a copy of this application by certified mail-return receipt mail.

Yates Petroleum Corporation is the offset operator of 80 acres on the east side of the proposed drilling unit (W/2 NE/4 section 12). Both of the 40 acre spacing units are under the same lease and there is no producing well on the 80 acres.

Amoco Production Company is the offset operator of the 40 acres tract diagonally adjacent to the northeast of the proposed drilling unit. There are no wells on the Amoco tract.

Addresses for each of these operators are given below. In addition, marbob will attempt to contact each of these operators about the proposed directional wellbore.

YATES PETROLEUM CORPORATION
105 South Fourth Street
Artesia, New Mexico 88210

AMOCO PRODUCTION COMPANY
501 Westlake Park Blvd.
Houston, Texas 77079



marbob
energy corporation

January 6, 1997

Yates Petroleum Corporation
105 South Fourth Street
Artesia, New Mexico 88210

RE: Directional Wellbore

Gentlemen:

Enclosed please find an application for a proposed Directional Wellbore located in Section 12, Township 11 South, Range 27 East, Chaves County, New Mexico. If you have any questions regarding this application, please contact me at 505/622-6182.

If you have no objections to the proposed Directional Wellbore, please sign below and return one copy of this letter to Marbob Energy Corporation.

Sincerely,

Mike Hanagan
Geologist

MH/mm
Enclosures

YATES PETROLEUM CORPORATION has no
objections to the proposed Directional Wellbore:

By: _____

Title: _____

Date: _____



January 6, 1997

Amoco Production Company
Post Office Box 3092
Houston, Texas 77253

RE: Directional Wellbore

Gentlemen:

Enclosed please find an application for a proposed Directional Wellbore located in Section 12, Township II South, Range 27 East, Chaves County, New Mexico. If you have any questions regarding this application, please contact me at 505/622-6182.

If you have no objections to the proposed Directional Wellbore, please sign below and return one copy of this letter to Marbob Energy Corporation.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Hanagan". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Mike Hanagan
Geologist

MH/mm
Enclosures

AMOCO PRODUCTION COMPANY has no
objections to the proposed Directional Wellbore:

By: _____

Title: _____

Date: _____

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

RECEIVED

Form C-101
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

NOV - 5 1995

NOV 14 1996 AMENDED REPORT

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

Operator Name and Address: MARBOB ENERGY CORPORATION P. O. BOX 227 ARTESIA, NM 88210		OGRID Number 14049
		API Number 30-005-6311
Property Code 6542	Property Name STATE CF	Well No. 11

7 Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
F	12	11S	27E	SENW	1650	N	1650	W	CHAVES

8 Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
C	12	11S	27E	NENW	330'	N	1650'	W	Chaves

Proposed Pool 1 CHISUM; DEVONIAN 12160	Proposed Pool 2
---	-----------------

Work Type Code N	Well Type Code O	Cable/Rotary R	Lease Type Code S	Ground Level Elevation 3739
Multiple	Proposed Depth 6650'	Formation DEVONIAN	Contractor	Spud Date 01/13/97

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4"	8 5/8"	24#	1465'	650 SX	CIRC
7 7/8"	5 1/2"	17#	6650	300 SX	6000'

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.

PROPOSE TO KICK OFF WELL @ 6425' AND DRILL HORIZONTAL WELLBORE DUE NORTH TO A POINT NOT CLOSER THAN 330' FROM THE NORTH LINE.

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

Signature:

Printed name:

RHONDA NELSON

Title:

PRODUCTION CLERK

Date:

11/5/96

Phone:

748-3303

OIL CONSERVATION DIVISION

Approved by:

SUPERVISOR, DISTRICT II

Title:

Approval Date:

11-12-96

Expiration Date:

11-12-97

Conditions of Approval:

Attached ☐

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

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

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

DISTRICT IV
P.O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

NOV 07 1996

Form C-102
Revised February 10, 1984
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

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

NOV 14 1996 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-005-63111	Pool Code 12160	Pool Name CHISUM DEVONIAN
Property Code 6542	Property Name STATE CF	Well Number 11
OGRID No. 14049	Operator Name MARBOB ENERGY CORPORATION	Elevation 3739

Surface Location

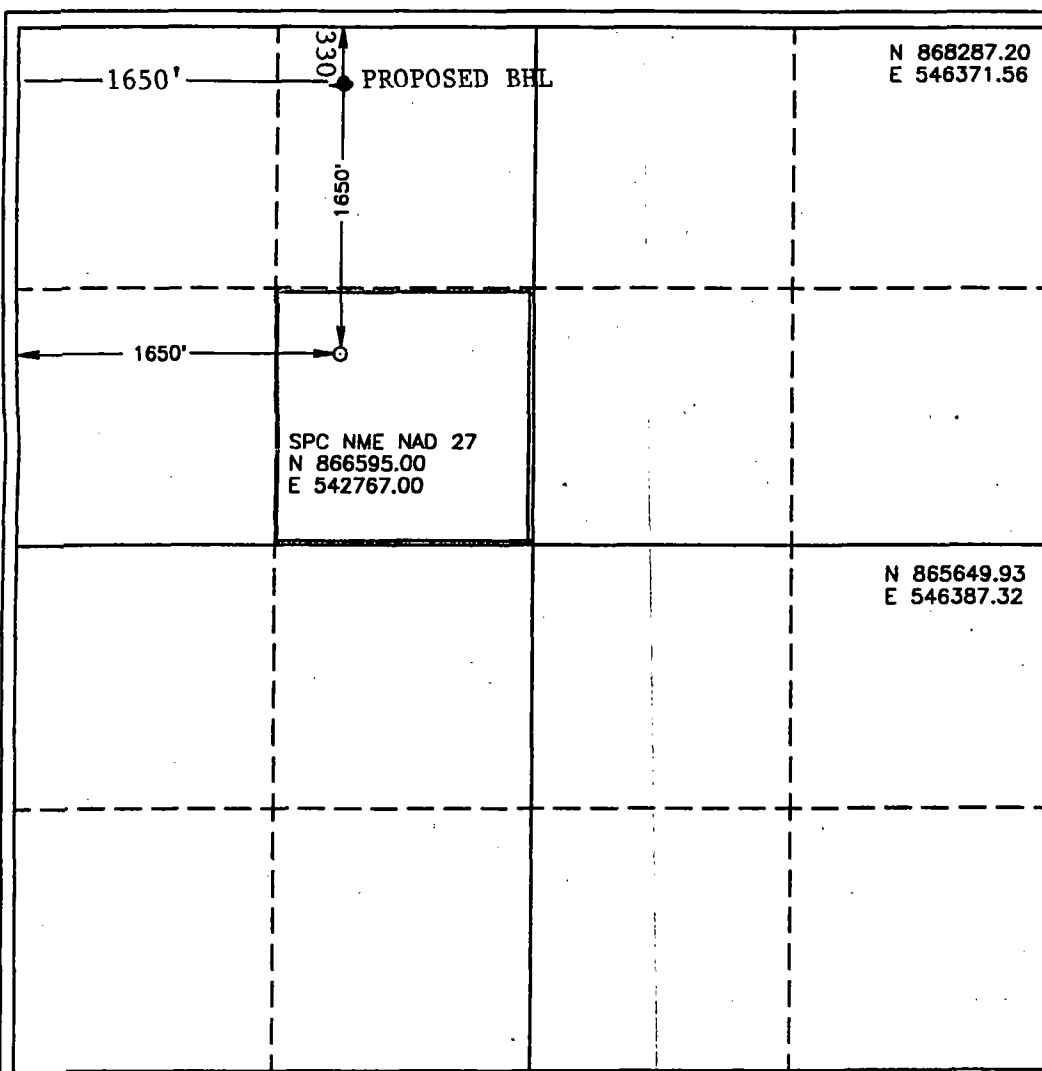
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	12	11 S	27 E		1650	NORTH	1650	WEST	CHAVES

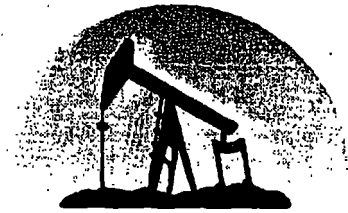
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	12	11S	27E		330'	N	1650'	W	CHAVES

Dedicated Acres 80	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>N 868287.20 E 546371.56</p> <p>PROPOSED BHL</p> <p>330'</p> <p>1650'</p> <p>1650'</p> <p>SPC NME NAD 27 N 866595.00 E 542767.00</p>	<h4>OPERATOR CERTIFICATION</h4> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Rhonda Nelson</i> Signature</p> <p>RHONDA NELSON Printed Name</p> <p>PRODUCTION CLERK Title</p> <p>11/8/96 Date</p> <h4>SURVEYOR CERTIFICATION</h4> <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>NOVEMBER 5, 1996 Date Surveyed</p> <p>JLP Signature of Professional Surveyor</p> <p>3239 P.O. Num. 96-14-1441</p> <p>Certificate No. 678 JAN. W. WEST, 678 ROBERT J. EIDSON, 3239 GARY G. EIDSON, 12841</p>
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marbob
energy corporation

FAX TRANSMITTAL SHEET

DATE: Jan 6, 1997
TO: Michael Stogner
FAX #: 827-8177
FROM: Misti McLurg

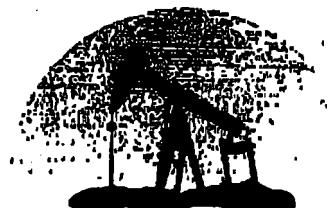
COMMENTS:

TOTAL # OF PAGES (including cover sheet): 2

If you have any trouble receiving this fax, please contact me.

Phone # 505/748-3303

Fax # 505/746-2523



marbob
energy corporation

January 6, 1997

Amoco Production Company
Post Office Box 3092
Houston, Texas 77253

RE: Directional Wellbore

Gentlemen:

Enclosed please find an application for a proposed Directional Wellbore located in Section 12, Township 11 South, Range 27 East, Chaves County, New Mexico. If you have any questions regarding this application, please contact me at 505/622-6182.

If you have no objections to the proposed Directional Wellbore, please sign below and return one copy of this letter to Marbob Energy Corporation.

Sincerely,

Mike Hanagan
Geologist

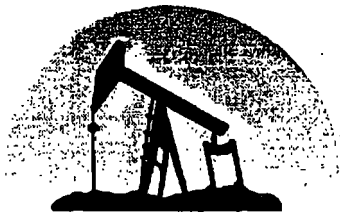
MH/mm
Enclosures

AMOCO PRODUCTION COMPANY has no
objections to the proposed Directional Wellbore:

By: M. Hanagan

Title: Petroleum Engineer SA

Date: 1997-1-6



marbob
energy corporation

FAX TRANSMITTAL SHEET

DATE: Jan. 8, 1997
TO: Michael Stogner
FAX #: 827-8177
FROM: Misti McLurg

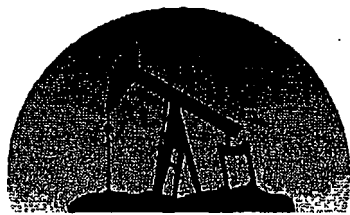
COMMENTS: _____

TOTAL # OF PAGES (including cover sheet): 2

If you have any trouble receiving this fax, please contact me.

Phone # 505/748-3303

Fax # 505/746-2523



marbob
energy corporation

January 6, 1997

Yates Petroleum Corporation
105 South Fourth Street
Artesia, New Mexico 88210

RE: Directional Wellbore

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Sincerely,

Mike Hanagan
Geologist

MH/mm
Enclosures

YATES PETROLEUM CORPORATION has no
objections to the proposed Directional Wellbore:

By: _____

Title: _____

Date: _____

John Yates
Vice-President

January 8, 1997

This waiver is subject to Marbob's agreement that they will not oppose YPC on a like test conducted on the off-set acreage.

CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

01/27/97 13:07:40
OGOMES -EMFC
PAGE NO: 1

Sec : 12 Twp : 11S Rng : 27E Section Type : NORMAL

D 40.00 TWR B08385 3 11/49 AMOCO PRODUCTION	C 40.00 TWR B08385 3 11/49 AMOCO PRODUCTION A	B 40.00 TWR VA0582 04/97 YATES PETROLEUM C	A 40.00 TWR VA0582 04/97 YATES PETROLEUM C
E 40.00 TWR B08385 3 11/49 AMOCO PRODUCTION	F 40.00 TWR B08385 3 11/49 AMOCO PRODUCTION A	G 40.00 TWR VA0582 04/97 YATES PETROLEUM C	H 40.00 TWR VA0582 04/97 YATES PETROLEUM C

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07 BKWD	PF08 FWD	PF09 PRINT	PF10 SDIV	PF11	PF12

(Dev.)

NMPPM

A 36x36 grid with numbers 1-36 along the top and left edges. A 3x3 subgrid is highlighted in the top right corner, with its top row numbered 1-3 and its left column numbered 10-12.

Description: All Sec. 13.

Ext: w/2 Sec. 12 (R-10420, 7-17-95)

COUNTY *Chaves*POOL *Chisum**(Devonian)*TOWNSHIP *11-South*RANGE *28-East*

NMPM

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Description: 1/4 Sec. 18.

COUNTY *Chaves*POOL *Chisum**(Devonian)*TOWNSHIP *11-South*RANGE *28-East*

NMPM

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Description: 1/2 Sec. 18.

COUNTY *Chaves*

POOL

Chisum

(Dev.)

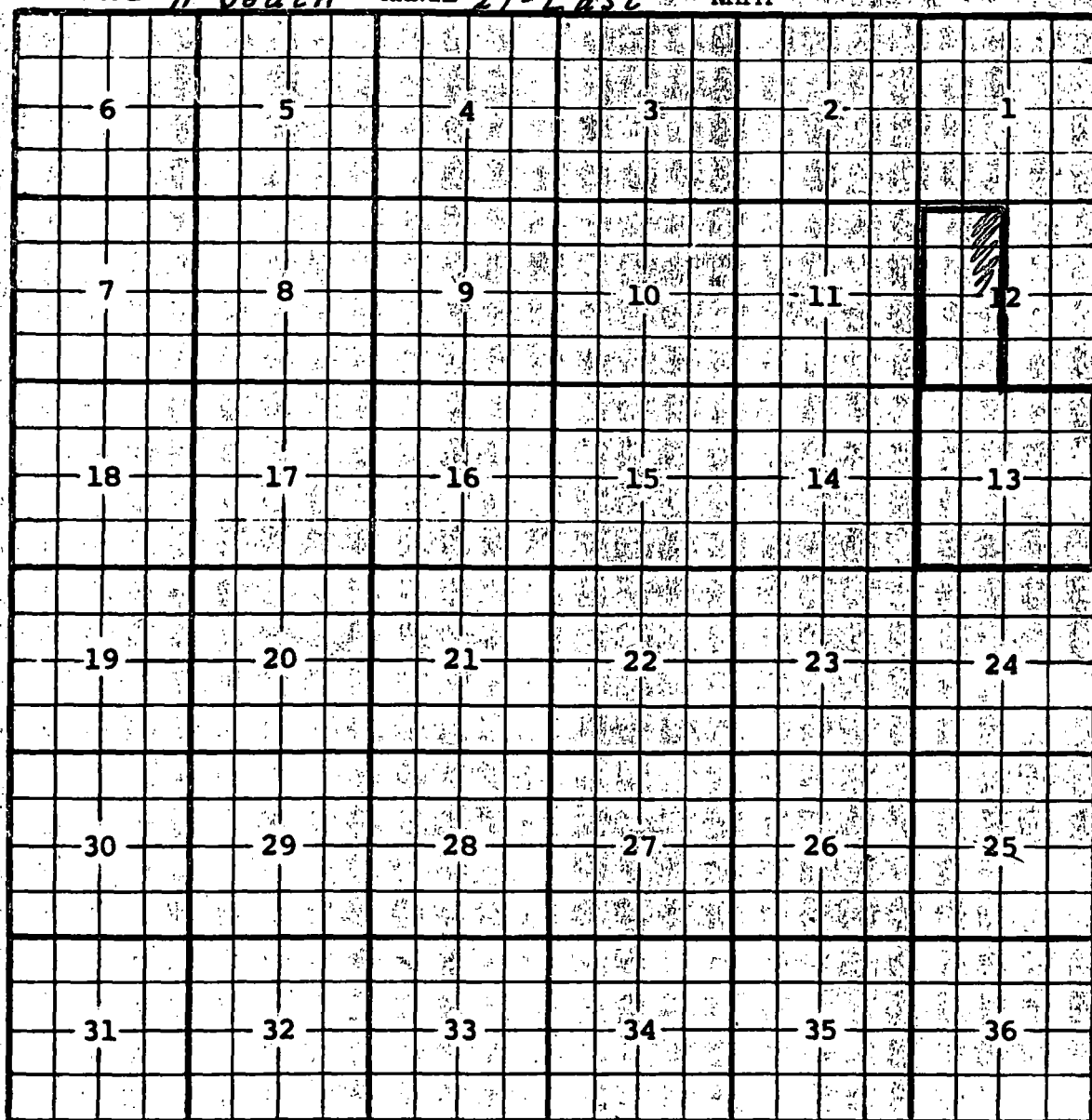
TOWNSHIP

11-South

RANGE

27-East

NMPM

Description: All Sec. 13.Ext: $\frac{1}{2}$ Sec. 12 (R-10420, 7-17-95)