

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS
GOVERNOR

March 17, 1987

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

BHP Petroleum Company, Inc.
1300 One First City Center
500 West Texas
Midland, Texas 79701

Attention: D.E. Brown
Regional Manager

Re: Administrative Order NFL-157

Dear Mr. Brown:

Reference is made to your application for an Infill Well Finding and Well-Spacing Waiver made pursuant to Section 271.305(b) of the Federal Energy Regulatory Commission Regulations, Natural Gas Policy Act of 1978, and Oil Conservation Division Order No. R-6013 for the following described well:

Lowe State Well No. 2 located 330 feet from the South and West lines (Unit M) of Section 36, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico.

THE DIVISION FINDS THAT:

(1) Section 271.305(b) of the Federal Energy Regulatory Commission Interim Regulations promulgated pursuant to the Natural Gas Policy Act of 1978 provides that, in order for an infill well to qualify as a new onshore production well under Section 103 of said Act, the Division must find, prior to the commencement of drilling, that the well is necessary to effectively and efficiently drain a portion of the reservoir covered by the proration unit which cannot be so drained by any existing well within that unit, and must grant a waiver of existing well-spacing requirements.

(2) By Division Order No. R-6013, dated June 7, 1979, the Division established an administrative procedure whereby the Division Director and the Division Examiners are empowered to act for the Division and find that an infill well is necessary.

(3) The well for which a finding is sought is to be completed in the Indian Basin Upper Pennsylvanian Gas Pool, and the standard spacing unit in said pool is 640 acres.

(4) A standard 640-acre gas proration unit comprising all of said Section 36 is currently dedicated in the Indian Basin Upper Pennsylvanian Gas Pool to the applicants Lowe State Gas Com Well No. 1 located in Unit F of said Section 36.

(5) Said unit is not being effectively and efficiently drained by the existing well on the unit.

(6) The drilling and completion of the well for which a finding is sought should result in the production of an additional 10,200,000 MCF of gas from the proration unit which would not otherwise be recovered.

(7) All the requirements of Division Order No. R-6013 have been complied with, and the well for which a finding is sought is necessary to effectively and efficiently drain a portion of the reservoir covered by said proration unit which cannot be so drained by any existing well within the unit.

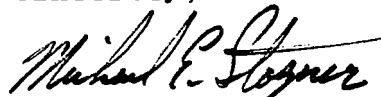
(8) In order to permit effective and efficient drainage of said proration unit, the subject application should be approved as an exception to the standard well spacing requirements for the pool.

IT IS THEREFORE ORDERED THAT:

(1) The applicant is hereby authorized to drill the Lowe State Well No. 2 as described above, as an infill well on the existing 640-acre standard gas proration unit comprising all of Section 36, Township 21 South, Range 23 East, NMPM, Indian Basin Upper Pennsylvanian Gas Pool, Eddy County, New Mexico. The authorization for infill drilling granted by this order is an exception to applicable well spacing requirements and is necessary to permit the drainage of a portion of the reservoir covered by said proration unit which cannot be effectively and efficiently drained by any existing well thereon.

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

Sincerely,

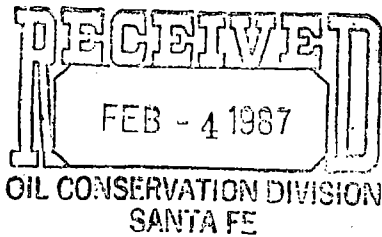


Michael E. Stogner
Examiner

N.M.O.C.D. - Artesia

NFL-BHP

1300 One First City Center
500 West Texas
Midland, Texas 79701
Telephone (915) 683-3306
Dex (915) 682-6544



January 30, 1987

State of New Mexico
Oil Conservation Division
PO Box 2088
State Land Office Bldg.
Santa Fe, New Mexico 87501

Attn: Michael E. Stogner

RE: Infill Well Finding Pursuant to R-6013-A
Lowe State No. 2
Indian Basin (Upper Perm) Field
Eddy County, New Mexico

*Not completed
in the morning*

Mr. Stogner:

The subject well was completed in the Cisco formation 12/5/86. Due to its nonstandard location, the drilling of this well was contested by Amoco. As a result there were two hearings held - the original hearing on November 21, 1985 (Case No. 8758), and the De Novo Appeal held April 9, 1986.

In response to our recent conversation with regard to the subject well, I have provided the following information for an infill well finding as per order No. R-6013-A (Special Rules and Regulations, Natural Gas Policy Act Infill Findings, Administrative Procedure):

- Rule 5. Attached are approved copies of the C-101 and C-102 showing proration unit dedicated.
- Rule 6. This infill well was drilled in the Indian Basin (Upper Perm) Field with a standard spacing of 640 acres.
- Rule 8a. Lowe State No. 1 - location: 1995' FNL, 1712' FWL, Section 36, T-21-S, R-23-E.
 - b. Spud date: 7/12/64
 - c. Completion date: 9/22/64
 - d. No mechanical problems
 - e. Well has watered out
 - f. Well was shut-in May, 1985
 - g. Well No. 1 produced a cumulative of 17 Bcf, 141 KBO. A comparison of the ultimate recovery of this well with volumetric calculations indicates that 13.9 Bcf recoverable reserves remain on this lease. The BHP/Z vs. cumulative plot for Well No. 1 indicates OGIP of 32 Bcf, and at a recovery factor of 85%, this would leave remaining recoverable reserves

January 30, 1987

TO: State of New Mexico
Oil Conservation Division
Attn: Michael E. Stogner
RE: Infill Well Finding Pursuant to R-6013-A
Lowe State No. 2
Indian Basin (Upper Perm) Field
Eddy County, New Mexico

of 10.2 Bcf according to this method. The additional recoverable reserves to be recovered by well No. 2 are in the southwest portion of the lease, above the gas-water contact.

- Rule 9a. Attached is formation structure map
- b. Attached is isopach map and volumetric calculation showing reserves allotted to Well No. 2. Also refer to pages 28 through 34 of Case 8758 for accompanying narrative and additional details.
 - c. Attached is BHP/Z vs. cumulative plot

Rule 11. Marathon, Amoco, and Conoco, the offset operators in this field, have been notified by certified mail that a NGPA filing for this well has been made.

Very truly yours,



D. E. Brown
Regional Manager

HHC/ac

All distances must be from the outer boundaries of the Section.

Operator BHP PETROLEUM COMPANY INC.			Lease LOWE STATE		Well No. # 2
Unit Letter M	Section 36	Township T-21-S	Range R-23-E	County EDDY	
Actual Footage Location of Well: 330 feet from the SOUTH line and 330 feet from the WEST line					
Ground Level Elev. 3851'	Producing Formation Cisco/Morrow		Pool Indian Basin (Cisco and Morrow)		Dedicated Acreage: 640 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation Operating Agreement & Communitization Agreement

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.

BHP ACREAGE	
440 ac.	E-10170
MARALO ACREAGE	
200 ac	K-2806

CERTIFICATION

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

Name

D. E. Brown

Position

Regional Production Manager

Company

BHP Petroleum Company Inc.

Date

September 18, 1986

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 knowledge and belief.

JULY 17, 1986

Date Surveyed

RICHARD B. DUNIVEN

Registered Professional Engineer
and/or Land Surveyor

Certificate No.

4892

0 330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600

NO. OF COPIES RECEIVED	
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LAND OFFICE	
OPERATOR	<input checked="" type="checkbox"/>

NEW MEXICO OIL CONSERVATION COMMISSION

RECEIVED BY

SEP 22 1986

O. C. D.

SEP 25 1986

Form C-101

Revised 1-1-65 30-015-25654

5A. Indicate Type of Lease
STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
5. State Oil & Gas Lease No.
E-10170
7. Unit Agreement Name
8. Farm or Lease Name
LOWE STATE
9. Well No.
#2
10. Field and Pool, or Wildcat
Indian Basin (Upper
Bed & Morrow)
12. County
Eddy
19. Proposed Depth
9800'
19A. Formation
Cisco/Morrow
20. Rotary or C.T.
Rotary
21. Elevations (Show whether DF, RT, etc.)
3851' GL
21A. Kind & Status Plug. Bond
Statewide
21B. Drilling Contractor
N/A
22. Approx. Date Work will start
October 15, 1986

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work	DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>
b. Type of Well	OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>
2. Name of Operator	BHP PETROLEUM COMPANY INC.
3. Address of Operator	1300 One First City Center 500 West Texas Midland, TX 79701
4. Location of Well	UNIT LETTER M LOCATED 330 FEET FROM THE West LINE AND 330 FEET FROM THE South LINE OF SEC. 36 TWP. 21S RGE. 23E NMPM
19. Proposed Depth	9800'
19A. Formation	Cisco/Morrow
20. Rotary or C.T.	Rotary
21. Elevations (Show whether DF, RT, etc.)	3851' GL
21A. Kind & Status Plug. Bond	Statewide
21B. Drilling Contractor	N/A
22. Approx. Date Work will start	October 15, 1986

23.

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17 1/2"	13 3/8"	43# ST&C	350'	500 sx	Circulated
12 7/8"	8 5/8"	24# ST&C	2500' 2000'	1000 sx	Circulated
7 7/8"	5 1/2"	15.5# LT&C	9800'	800 sx	Sufficient to isolate all water, oil & gas zones

Propose to drill to approximately 9800' to test the Cisco and Morrow formations. This non-standard location, along with the dual completion, was approved by the NMOCC on 5/20/86, Order No. R-8162-A.

See attached 'Supplemental Data' for casing program and pressure control details.

If both the Morrow and Cisco are productive, well will be dually completed as shown on attached C-107 and wellbore diagram. If only the Cisco is productive, Morrow will be plugged off, casing will be run to 7450' and cemented. Cisco will be perforated and stimulated, then well will be produced through 2 7/8" tubing and packer.

APPROVAL VALID FOR 180 DAYS
EXPIRES 3-31-87
WORKS BEING UNDERWAY

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

Signed Mike Williams Title Regional Manager Date September 18, 1986

D. P. BROWN
(This space for State Use)

Original Signed By
Mike Williams

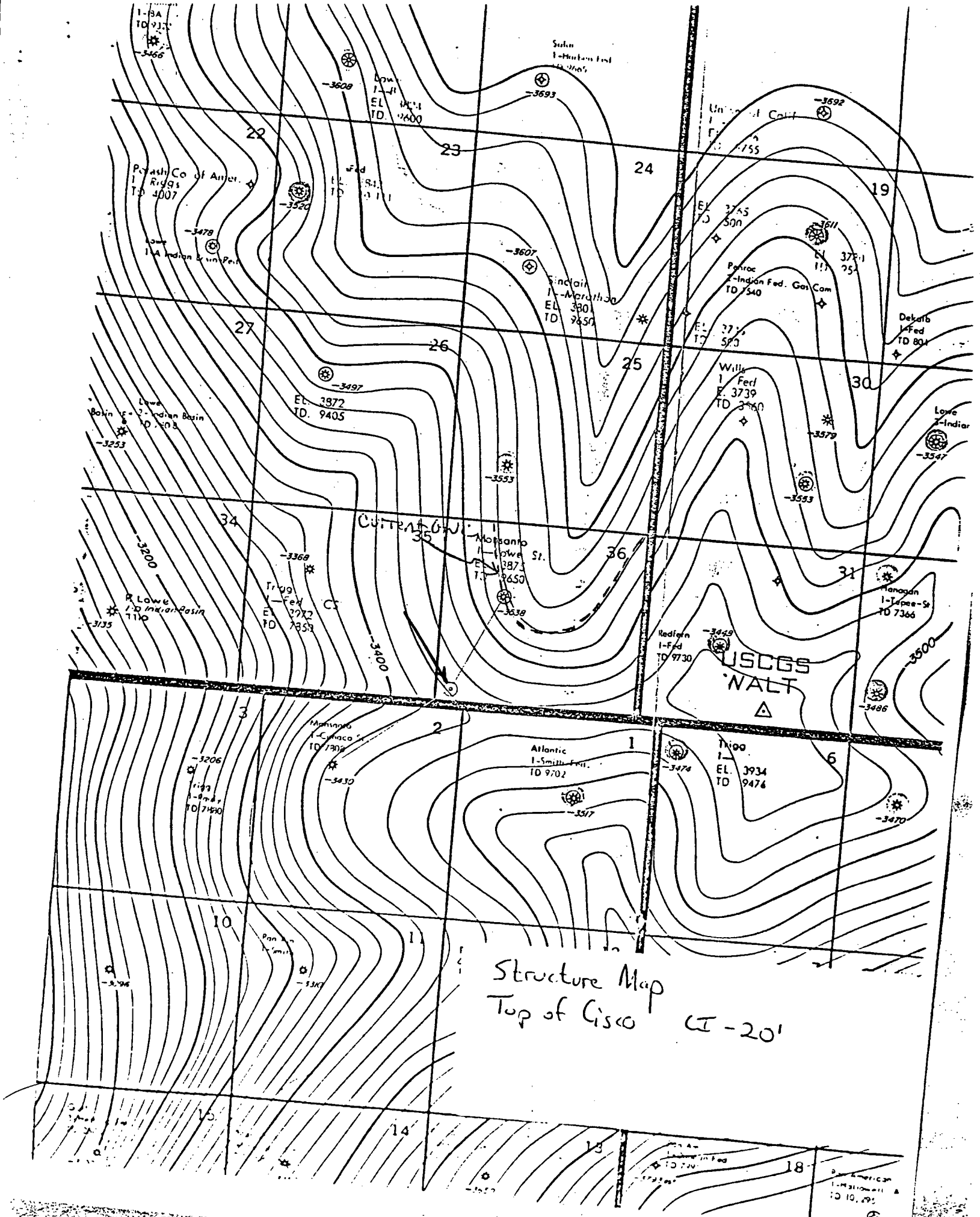
APPROVED BY Oil & Gas Inspector DATE SEP 24 1986

CONDITIONS OF APPROVAL, IF ANY:

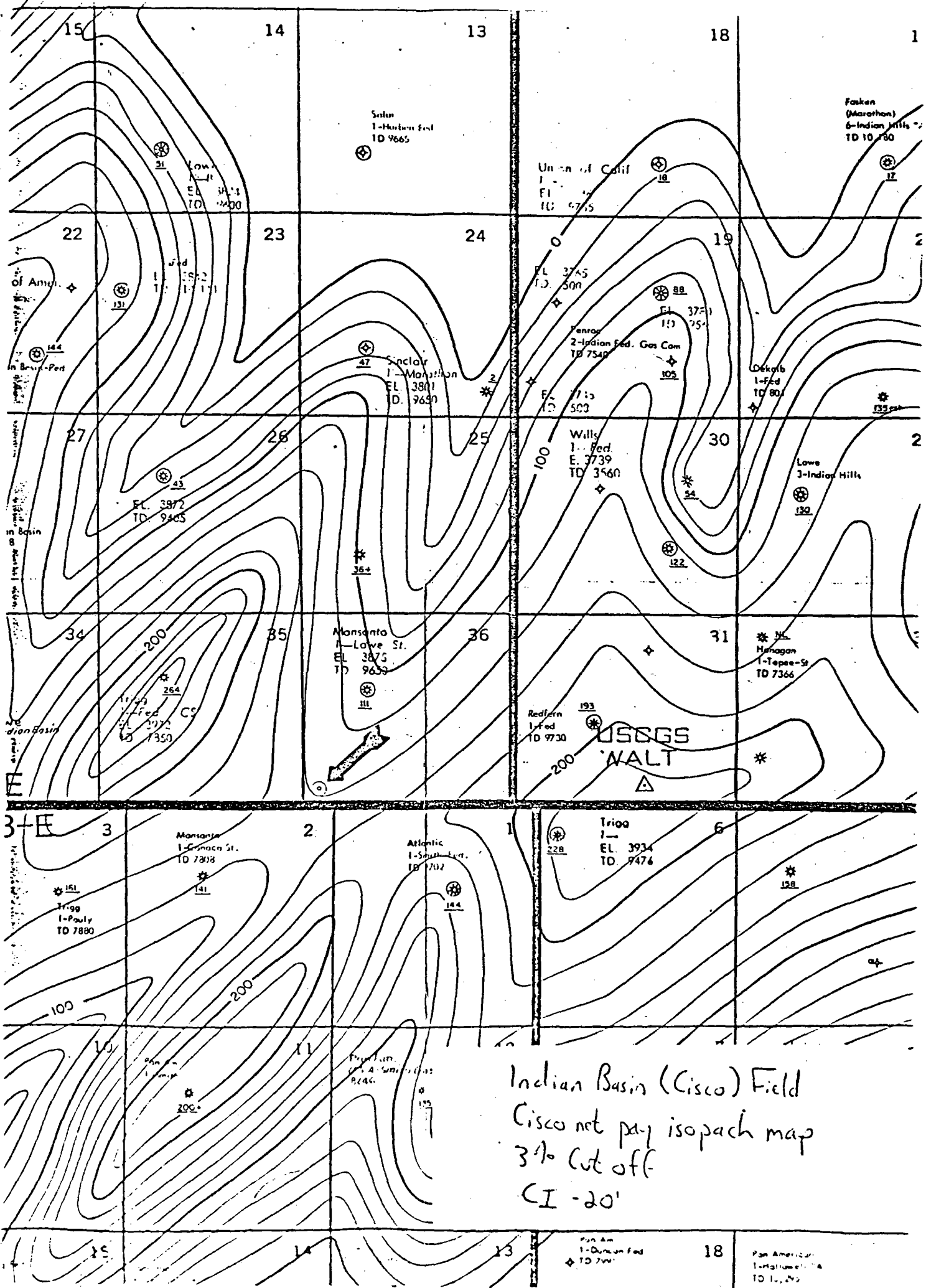
N.M.O.C.C. is in contact

with the witness concerning

the E.S.C. casing



Structure Map
Top of Cisco CI-20'



LOWE STATE LEASE
VOLUMETRICS CALCULATION
CISCO FORMATION

Initial BHP - 2911 psi

Initial BHP/Z - 3580 psi

T = 137° F = 597° R

Z_i = 0.813 Z_a = 0.95

$$B_{gi} = \frac{35.35 \times P_i}{Z_i \times T_i} = \frac{35.35 \times 2911}{0.813 \times 597} = 212.0151 \text{ scf/ft}^3$$

$$B_{ga} = \frac{35.35 \times P_a}{Z_a \times T_a} = \frac{35.35 \times 500}{0.95 \times 597} = 31.1646 \text{ scf/ft}^3$$

Planimetered Reservoir Volume - 76,800 ac-ft (A X h)

$$\begin{aligned} \text{OGIP} &= 43560 \times A \times h \times \phi \times (1 - S_w) \times B_{gi} \\ &= 43560 \times 76800 \times 0.06 \times (1 - 0.15) \times 212.0151 \end{aligned}$$

OGIP = 36.2 Bcf

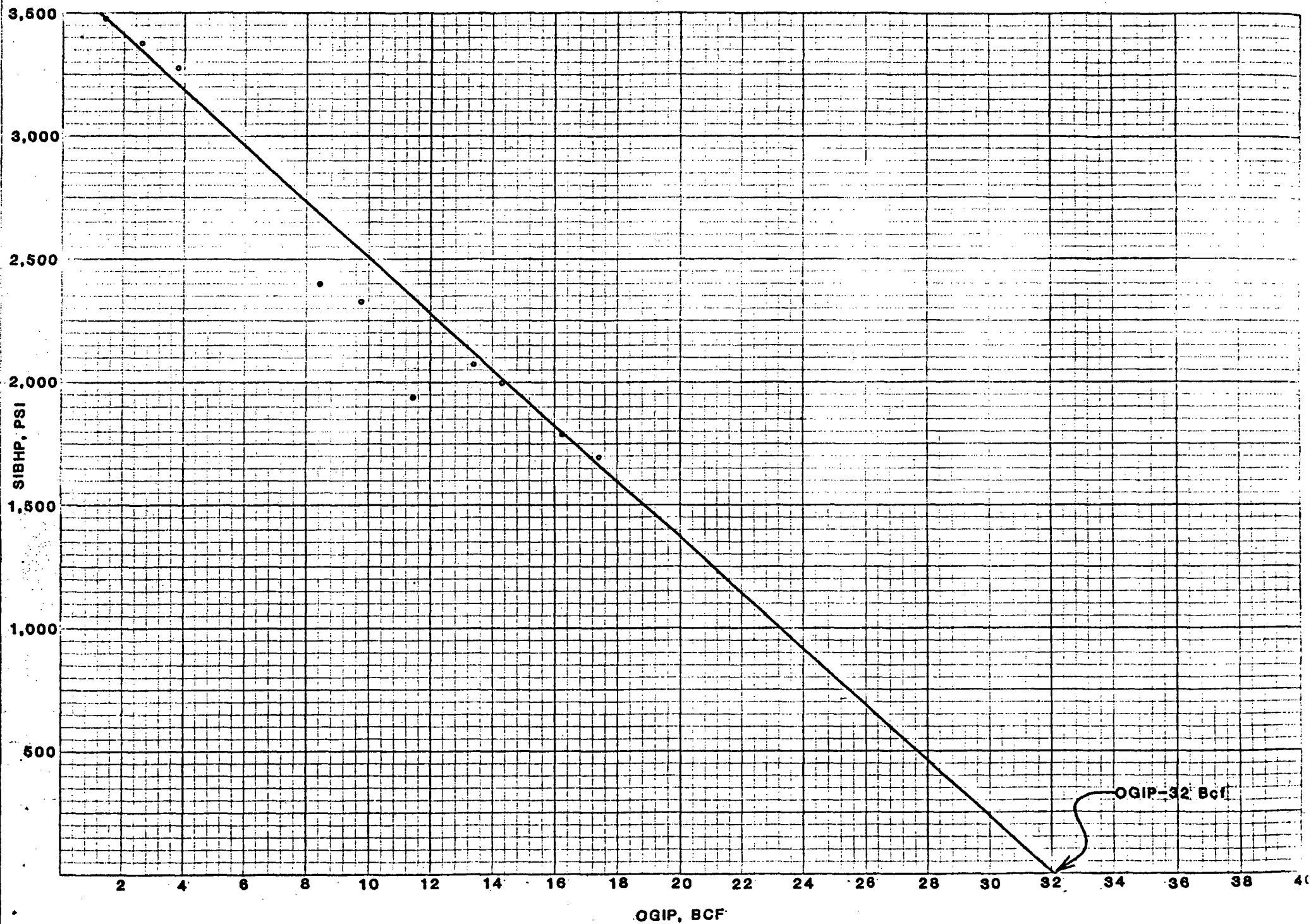
$$\begin{aligned} \text{Recoverable Reserves} &= 43560 \times A \times h \times \phi \times (1 - S_w) \times (B_{gi} - B_{ga}) \\ &= 43560 \times 76800 \times (0.06) \times (1 - 0.15) \times (212.0151 - 31.1646) \end{aligned}$$

Recoverable Reserves - 30.9 Bcf

~~30,900 MCF~~

30,900,000 MCF

LOWE STATE #1
BHP/Z vs Cumulative



All distances must be from the outer boundaries of the Section.

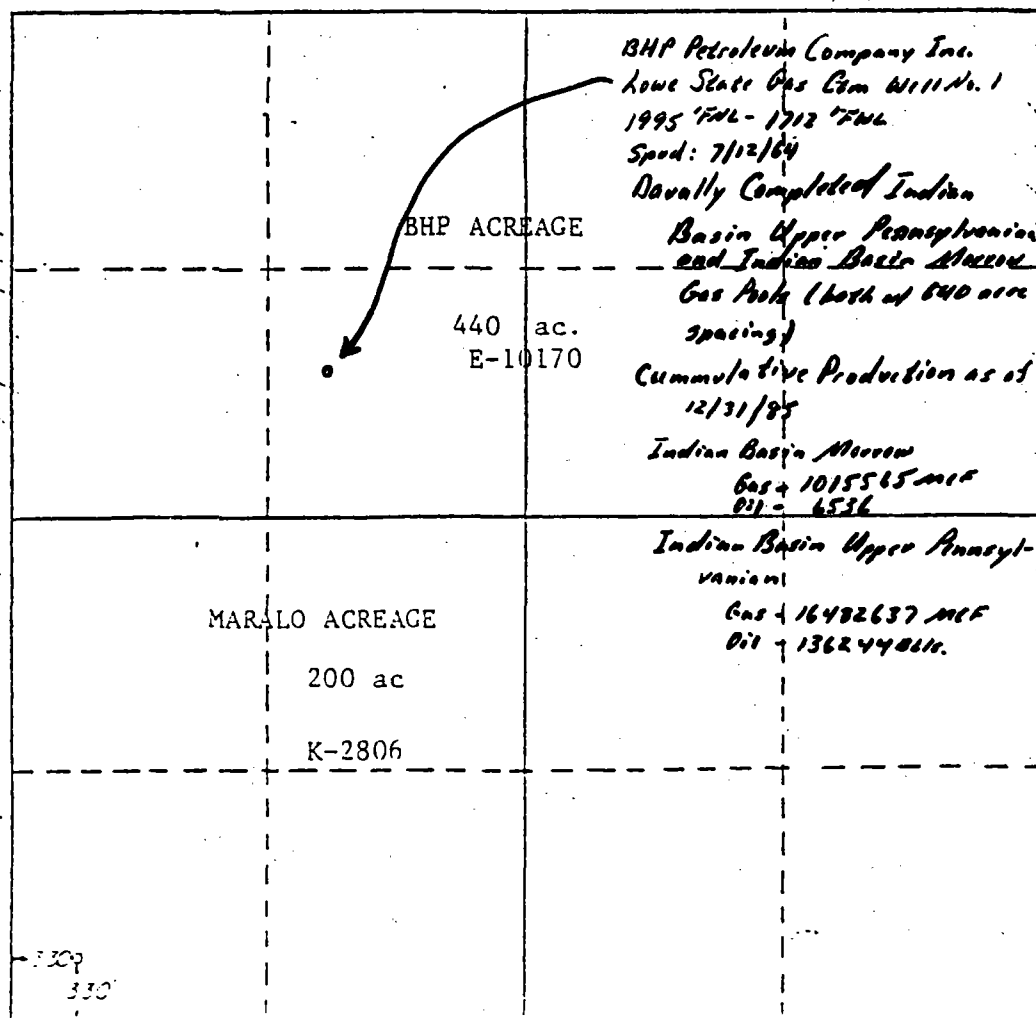
Operator BHP PETROLEUM COMPANY INC.			Lease LOWE STATE		Well No. #2
Unit Letter M	Section 36	Township T-21-S	Range R-23-E	County EDDY	
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2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation Operating Agreement & Communitization Agreement

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.



CERTIFICATION

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

D. E. Brown

Name

D. E. Brown

Position

Regional Production Manager

Company

BHP Petroleum Company Inc.

Date

September 18, 1986

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 knowledge and belief.

JULY 17, 1986

Date Surveyed

RICHARD B. DUNIVEN

Registered Professional Engineer
and/or Land Surveyor

Richard B. Duniven

Certification

4832

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 8758
Order No. R-8162

APPLICATION OF MONSANTO COMPANY
FOR AN UNORTHODOX GAS WELL LOCATION,
DUAL COMPLETION, AND SIMULTANEOUS
DEDICATION, EDDY COUNTY, NEW MEXICO.

See Also Order

No. R-8162-A

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8 a.m. on November 21, 1985, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 21st day of February, 1986, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Monsanto Company, seeks approval of an unorthodox gas well location for a well to be drilled 330 feet from the South and West lines of Section 36, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico, to be dually completed in the Indian Basin-Upper Pennsylvanian and Indian Basin-Morrow Gas Pools, all of said Section 36 to be simultaneously dedicated in both zones to the well and to the existing Lowe State Gas Com Well No. 1 located 1995 feet from the North line and 1712 feet from the West line of said Section.

(3) Both the Indian Basin-Upper Pennsylvanian Gas Pool and the Indian Basin-Morrow Gas Pool are governed by Special Pool Rules which provide for 640-acre gas well spacing with wells located no closer than 1650 feet from the outer boundary of the section and no closer than 330 feet to any governmental quarter-quarter section line or inner boundary.

(4) The Lowe State Well No. 1 is no longer capable of commercial production from either zone and has been shut-in since May 1985.

(5) The proposed well would be the only producing well on the 640-acre spacing unit in both zones, and that portion of the application which seeks simultaneous dedication of wells in this unit is unnecessary and therefore should be dismissed.

(6) A well on said unorthodox gas well location will better enable applicant to produce the gas underlying the proration unit in both zones.

(7) At the time of the hearing Amoco Production Company, owner and operator of a well in Section 35, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico, immediately offsetting this unit to the west appeared and objected to the proposed unorthodox location.

(8) A well at the proposed location is 1320 feet or 80 percent closer to the southern and western boundaries of the subject unit than a well at the closest standard location.

(9) Assuming 640-acre radial drainage, the subject well has a drainage area of approximately 210 acres outside its permitted drainage area more than a well located at the most southwesternly standard location (1650 feet from the South and West lines of said Section 35) within the unit, an amount of acreage equivalent to 33 percent of a standard proration unit in both pools.

(10) To offset the advantage gained over the protesting offset operator, production from the well at the proposed unorthodox location should be limited from both pools.

(11) Such limitation should be based upon the variation of the location from a standard location and the 210 net acre encroachment; this may be accomplished by assigning a well at the proposed location an allowable limitation factor calculated as being equal to 0.20 for East/West factor plus 0.20 North/South factor plus 0.67 net acre factor, divided by 3, which equals 0.36 or 36 percent.

(12) The aforesaid production limitation factor should be applied against the well's monthly allowable as set by the Division for both the Indian Basin-Upper Pennsylvanian Gas Pool and the Indian Basin-Morrow Gas Pool (this may be accomplished by assigning said well an acreage factor of 0.360).

(13) The applicant did not provide sufficient evidence on the method to be used to dually complete this well and that portion of this application for dual completion should be denied.

(14) Approval of the subject application subject to the above provisions and limitations will afford the applicant the opportunity to produce its just and equitable share of the gas in the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The application of Monsanto Oil Company for an unorthodox gas well location for the Upper Pennsylvanian and Morrow formations is hereby approved to be located at a point 330 feet from the South and West lines of Section 36, Township 21 South, Range 23 East, NMPM, Indian Basin-Upper Pennsylvanian and Indian Basin-Morrow Gas Pools, Eddy County, New Mexico.

(2) All of said Section 36 shall be dedicated to the above-described well.

(3) Said well is hereby assigned a production limitation factor of 0.36 in both of the aforementioned pools to be applied as set out in Finding No. 12 of this order.

(4) The aforesaid production limitation factor shall be applied against the well's monthly allowable as set by the Division in the Indian Basin-Upper Pennsylvanian Gas Pool and the Indian Basin-Morrow Gas Pool.

(5) The portion of this application for dual completion is hereby denied.

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

Case No. 8758
Order No. R-8162

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

R. L. Stamets
R. L. STAMETS,
Director

S E A L

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING CALLED BY
THE OIL CONSERVATION COMMISSION OF NEW
MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE NO. 8758 DE NOVO
Order No. R-8162-A

APPLICATION OF MONSANTO COMPANY FOR
AN UNORTHODOX GAS WELL LOCATION AND
DUAL COMPLETION, EDDY COUNTY, NEW
MEXICO.

See Also Order No.

R-8162

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 9, 1986, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 20th day of May, 1986, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Monsanto Company, seeks approval of an unorthodox gas well location for a well to be drilled 330 feet from the South and West lines of Section 36, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico, to be dually completed in the Indian Basin-Upper Pennsylvanian and Indian Basin-Morrow Gas Pools, all of said Section 36 to be dedicated in both zones to said well.

(3) This matter came on for hearing at 8 a.m. on November 21, 1985, at Santa Fe, New Mexico, before Oil Conservation Division Examiner, Michael E. Stogner and, pursuant to his hearing, Order No. R-8162 was issued on February 21, 1986, which granted Monsanto's application but imposed a 67 percent penalty factor to offset the advantage gained over offset operators as a result of the unorthodox location.

(4) On March 13, 1986, application for Hearing De Novo was made by Monsanto and the matter was set for hearing before the Commission.

(5) The matter came on for hearing de novo on April 9, 1986.

(6) Both the Indian Basin-Upper Pennsylvanian Gas Pool and the Indian Basin-Morrow Gas Pool are governed by Special Pool Rules which provide for 640-acre gas well spacing with wells to be located no closer than 1650 feet from the outer boundary of the section and no closer than 330 feet to any governmental quarter-quarter section line or inner boundary.

(7) Both of said pools are prorated gas pools with acreage being the only factor used in determining the allocation of allowable to non-marginal wells.

(8) The proposed well is to be drilled on the same 640-acre proration unit currently dedicated to applicant's Lowe State Gas Com Well No. 1 located 1995 feet from the North line and 1712 feet from the West line of said Section 36.

(9) The Lowe State Well No. 1 has "watered out" in the upper Pennsylvanian Zone, is no longer capable of commercial production from either zone, and has been shut-in since May 1985.

(10) At the time of the hearing, Amoco Production Company, owner and operator of a well in Section 35, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico, immediately offsetting this unit to the west, appeared and objected to the proposed unorthodox location.

(11) The State Land Office is the owner of royalty under said Section 36 and, as such, intervened on behalf of the applicant in this case.

(12) Both the applicant and the Land Office presented testimony relative to the original gas in place under said Section 36 and various of the surrounding proration units.

(13) Both the applicant and the Land Office proposed that the new well in Section 36 be permitted to produce a volume of gas equal to an amount derived by subtracting the production from the Lowe State Well No. 1 from the calculated original gas in place under such Section without restriction.

(14) Such proposal would result in the imposition of two allowable formulas in the same pool, one based on acreage and one based on calculated original gas in place.

(15) No party presented evidence as to the actual volumes of gas now remaining under said Section 36 and nearby proration units or the pool as a whole nor the impact of implementing a second proration formula in this pool at this time and such proposal should therefore be rejected.

(16) The geological evidence presented in the case establishes that while a portion of the proration unit dedicated to said Lowe State Well No. 1 has watered out in the Upper Pennsylvanian Zone, a substantial number of productive acres remain in the southern and western portions of the unit.

(17) The applicant presented geologic testimony which, when examined, indicates that there remain 378 productive acres in the Upper Pennsylvanian Zone under said Section 36.

(18) Amoco presented engineering testimony designed to show that no more than 233 acres remain productive within said interval in said Section.

(19) The expert testimony presented on this issue by either party did not conclusively establish the exact number of productive acres in the interval in question but did establish both upper and lower limits to such number.

(20) In the absence of conclusive evidence, the Commission should use a figure for the productive acres remaining in said section half way between the limits testified to or 306 productive acres.

(21) The nature of the Indian Basin-Upper Pennsylvanian reservoir, including its structure and water encroachment from the north and east in the vicinity of Section 36, is such that if the proposed well is assigned a 306-acre allowable (a 0.48 acreage factor) in that pool, such well can be produced, even at its extreme unorthodox location, without violation of correlative rights.

(22) A well at said unorthodox location is necessary in order for the owners of interests in said Section 36 within the Indian Basin-Upper Pennsylvanian interval to recover their share of the gas from said pool, thereby protecting their correlative rights.

(23) No evidence was presented at the hearing which would show the nature or extent of any Morrow gas zones which might be encountered by the well at the proposed unorthodox location.

(24) In the absence of such evidence and to offset the advantage gained over offset operators as a result of the unorthodox location in the Indian Basin-Morrow Gas Pool, a production limitation factor should be determined for the Morrow Zone production as set out in Findings Nos. (8), (9), (11) and (12) in Order No. R-8162 (See also Findings Nos. (12) through (23) of Order No. R-8025-A), and the resultant well should be assigned an acreage factor of 0.36 in such pool.

(25) Nothing herein should be considered to prohibit the applicant from seeking an amendment of this factor based upon presentation of data derived from drilling, completion, or production of this well in the Morrow formation.

(26) The proposed method of dual completion is appropriate and adequate and should be approved.

(27) Approval of the subject application subject to the above provisions and limitations will afford the applicant the opportunity to produce its just and equitable share of the gas in the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The application of Monsanto Oil Company for an unorthodox gas well location for the Upper Pennsylvanian and Morrow formations is hereby approved to be located at a point 330 feet from the South and West lines of Section 36, Township 21 South, Range 23 East, NMPM, Indian Basin-Upper Pennsylvanian and Indian Basin-Morrow Gas Pools, Eddy County, New Mexico.

(2) All of said Section 36 shall be dedicated to the above-described well.

(3) The above described well is hereby assigned acreage factors of 0.48 and 0.36 in the Upper Pennsylvanian and Morrow formations respectively.

(4) The aforesaid acreage factors shall be used in calculating the well's monthly allowable in the Indian Basin-Upper Pennsylvanian Gas Pool and the Indian Basin-Morrow Gas Pool.


(5) The applicant is further authorized to complete said well as a dual completion from said pools with production through parallel strings of tubing with separation of the intervals by means of packers set at approximately 7280 feet and 9170 feet.


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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JIM BACA, Member


ED KELLEY, Member


R. L. STAMETS,
Chairman and Secretary

S E A L

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

March 3, 1987



GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

BHP Petroleum Company, Inc.
1300 One First City Center
500 West Texas
Midland, Texas 79701

Attn: D. E. Brown
Regional Manager

Re: Infill Well Finding pursuant to
R-6013-A Lowe State Well No. 2,
M-36-T21S-R23E, Indian Basin-Upper
Pennsylvanian and Indian Basin
Morrow Gas Pools, Eddy County,
New Mexico

Dear Mr. Brown,

The Lowe State Wells Nos. 1 and 2 are both completed in two separate pools, the Indian Basin-Upper Pennsylvanian and Indian Basin Morrow Gas Pools. Both the NGPA filing and the Infill Well Finding on this well will be issued for both pools. Please provide me with expected gas volumes from the subject well for both pools separately, this information should satisfy the requirements of Rule 9.b. of R-6013-A.'

Sincerely,

A handwritten signature in dark ink, appearing to read "Michael E. Stogner", written over a horizontal line.

Michael E. Stogner
Engineer

MES/et

*Talk over w/ Hal Cant
3/10/87
H. Cant
Cant Only.*

915-6581313

**SPECIAL RULES AND REGULATIONS
NATURAL GAS POLICY ACT INFILL FINDINGS
ADMINISTRATIVE PROCEDURE
(amended February 4, 1980)**

A. DEFINITIONS

RULE 1. For purposes of this administrative procedure only, the following definitions are adopted:

a. **infill well:** An additional well which has been drilled for production on an established production unit.

B. APPLICABILITY

RULE 2. These special rules and regulations shall apply to effective and efficient drainage findings for completed infill wells pursuant to section 171.105 of the Natural Gas Policy Act of 1978. (These special rules and regulations do not apply to infill wells drilled in the Blanco Mesaverde or Bakken Dakota Pools. Infill wells in these two pools are covered by Rule 15 of the "Special Rules for Applications for Wellhead Price Ceiling Category Determinations" promulgated by Division Order No. M-5878 as amended by Order No. M-5878-A.)

C. JUSTIFICATION FOR FINDINGS

RULE 3. The Division Director or a Division Examiner may find that an infill well is necessary:

a. upon a showing by the operator that an additional well is needed to effectively and efficiently drain a portion of the reservoir covered by the production unit which cannot be so drained by any existing well within that unit; and

b. upon receipt of waivers from all offset operators, or if no offset operator has entered an objection to the infill finding within 20 days after receipt of the application by the Director.

RULE 4. The Director may set any application for hearing at the discretion or at the request of an applicant.

Exhibit A
Order M-6013-A

D. FILING REQUIREMENTS

RULE 5. Each applicant shall submit a copy of the approved Form C-101 for the infill well and Form C-102 showing the production unit dedicated.

RULE 6. Applicant shall give the name of the pool in which the infill well has been drilled and the standard spacing unit size therefor.

RULE 7. If applicable, the applicant shall give the number of the Division order approving the non-standard production unit dedicated to the well.

RULE 8. The applicant shall submit a description of all wells drilled on the production unit (including the completed infill well) which are or have been completed in the same pool or reservoir as the proposed infill well showing:

a. lease name and well locations;

b. spud dates;

c. completion dates;

d. a description of any mechanical problems experienced along with a summary of remedial action(s) taken and the results obtained;

e. the current rate of production; and

f. date of plug and abandonment, if any;

g. a clear and concise statement indicating why the existing well(s) on the production cannot effectively and efficiently drain the portion of the reservoir covered by the production unit.

RULE 9. The applicant shall submit geological and engineering information sufficient to support a finding as to the necessity for an infill well including:

a. formation structure map;

b. the volume of increased ultimate recovery expected to be obtained and a narrative describing how the increase was determined;

c. any other supporting data which the applicant deems to be relevant which may include:

(1) porosity and permeability factors

(2) production/pressure decline curves

(3) effects of secondary recovery or pressure maintenance operations.

RULE 10. Applications for infill findings shall be filed in duplicate with the Santa Fe office of the Division.

RULE 11. All operators of production or spacing units offsetting the unit for which an infill finding is sought shall be notified of the application by certified or registered mail, and the application shall state that such notification has been given.