

## State of New Mexico

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

3040 Pacheco St.

1220 S. St. Francis Dr. Santa Fe, NM 87505-5472

TF-03-009

FOR DIVISION USE ONLY:		1220 S. St. Francis Dr. Santa Fe, NM 87505-5472		5A. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>	
APPROPRIATE FILING FEE(S) ENCLOSED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		APPLICATION FOR WELLHEAD PRICE CEILING CATEGORY DETERMINATION		5. State Oil & Gas Lease No.	
DATE COMPLETE APPLICATION FILED <u>March 10, 2003</u>		- FILING FEE(S) - Effective October 1, 1986, a non-refundable filing fee of \$25.00 per category for each application is mandatory. (Rule 2, Order No. R-5878-8-3)			
DATE DETERMINATION MADE <u>April 28, 2003</u>					
WAS APPLICATION CONTESTED? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>				7. Unit Agreement Name	
NAME(S) OF INTERVENORS(S), IF ANY: <u>na</u>				8. Farm or Lease Name <u>Lopez Gas Com</u>	
2. Name of Operator <u>BP America Production Company</u>				9. Well No. <u>1E</u>	
3. Address of Operator <u>P.O. Box 3092 Houston, TX 77253</u>				10. Field and Pool, or Wildcat <u>Basin Dakota</u>	
4. Location of Well UNIT LETTER <u>A</u> LOCATED <u>1050</u> FEET FROM THE <u>North</u> LINE AND <u>1020</u> FEET FROM THE <u>East</u> LINE OF SEC. <u>02</u> TWS. <u>29N</u> RGE. <u>09W</u> NMPM				12. County <u>San Juan</u>	
11. Name and Address of Purchaser(s) <u>El Paso Field Services</u>					

Check appropriate box for category sought and information submitted. Enter required information on lines 1 and 2, below.

1. Category(ies) sought (By NGPA Section No.)

2. Filing Fee(s) Amount Enclosed: \$ 25.00

3. All applications must contain:

- a. C-101 APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK
- b. C-105 WELL COMPLETION OR RECOMPLETION REPORT
- c. DIRECTIONAL DRILLING SURVEY, IF REQUIRED UNDER RULE 111
- d. AFFIDAVITS OF MAILING OR DELIVERY

4. In addition to the above, all applications must contain the items required by the applicable rule of the Division's "Special Rules of Applications for Wellhead Price Ceiling Category Determinations" as follows:

- A. NEW NATURAL GAS UNDER SEC. 102 (c) (1) (B) (using 2.5 Mile or 1000 Feet Deeper Test)
  - ☐ All items required by Rule 14 (1) and/or Rule 14 (2)
- B. NEW NATURAL GAS UNDER SEC. 102 (c) (1) (C) (new onshore reservoir)
  - ☐ All items required by Rule 15
- C. NEW ONSHORE PRODUCTION WELL UNDER SEC. 103
  - ☐ All items required by Rule 16a OR Rule 16B
- D. SEC. 107 HIGH COST NATURAL GAS (TIGHT FORMATION, DEEP, COAL SEAM, AND PRODUCTION ENHANCEMENT) UNDER SEC. 103
  - ☒ All items required by Rule 17 (1), Rule 17 (2), Rule 17 (4), or Rule 17 (5)
- E. STRIPPER WELL NATURAL GAS UNDER SEC. 108
  - ☐ All items required by Rule 18

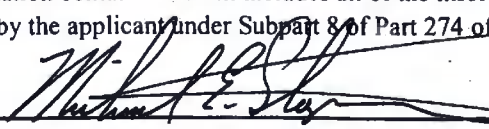
I, HEREBY CERTIFY THAT THE INFORMATION CONTAINED  
HEREIN IS TRUE AND COMPLETE TO THE BEST OF MY  
KNOWLEDGE AND BELIEF.

Mary Corley

NAME OF APPLICANT (TYPE OR PRINT)

SIGNATURE OF APPLICANT

Title Senior Regulatory AnalystDate February 13, 2003

FOR DIVISION USE ONLY	
<input checked="" type="checkbox"/> Approved	The information contained herein includes all of the information required to be filed by the applicant under Subpart 8 of Part 274 of the FERC regulation
<input type="checkbox"/> Disapproved	
 EXAMINER	

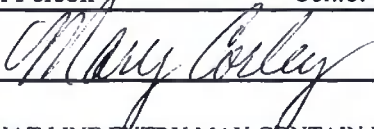
**A. THE NPGA WELL CATEGORY DETERMINATION IS BEING SOUGHT FOR A WELL PRODUCING:**

- A1 ☐ occluded natural gas from coal seams.  
A2 ☐ natural gas from Devonian shale.  
A3 ☒ natural gas from a designated tight formation.

**B. FOR ALL APPLICATIONS FOR DETERMINATION PROVIDE THE FOLLOWING:**

1. Well Name and No.\* **Lopez Gas Com # 1E**
2. Completed in (Name of Reservoir) \* **Dakota**
3. Field \* **Basin Dakota**
4. County \* **San Juan**
5. State \* **New Mexico**
6. API Well No. (14 digits maximum. If not assigned, leave blank.) **30-045-26195**
9. Measured Depth of the Completed Interval (in feet)  
TOP **6680'** BASE **6966'**

**C. APPLICANT'S MAILING ADDRESS AND THE IDENTITY OF THE PERSON WHO IS RESPONSIBLE FOR APPLICATION:**

1. Applicant's Name \* **BP America Production Company**
2. Street \* **501 Westlake Park BLVD**
3. City \* **Houston**
4. State\* **Texas** 5. Zip Code **77079**
6. Name of Person Responsible \* **Mary Corley**
7. Title of Such Person \* **Senior Regulatory Analyst**
8. Signature  and Phone No. ( 281 ) 366 - 4491

\* SIGNIFIES THAT LINE ENTRY MAY CONTAIN UP TO 35 LETTERS AND/OR NUMBERS.

APPLICATION FOR WELL CATEGORY DETERMINATION  
PUSUANT TO SECTION 270 OF  
THE FEDERAL ENERGY REGULATORY COMMISSION'S  
REGULATIONS IMPLEMENTING  
THE NATURAL GAS POLICY ACT OF 1978 (NGPA)

AFFIDAVIT  
TIGHT FORMATION GAS

STATE OF TEXAS  
COUNTY OF HARRIS


BEFORE ME, the undersigned authority, duly commissioned and qualified within and for the State and County aforesaid, personally came and appeared Mary Corley, who being by me first duly sworn, deposed and said:

That she is the Senior Regulatory Analyst for BP America Production Company, the applicant for the well hereinafter described, and that capacity, she is requesting the appropriate Authorized Officer to make a determine that this well is producing from a tight formation pursuant to the rules and regulations of the Bureau of Land Management and the Federal Energy Regulatory Commission (FERC), as such rules relate to NGPA.


That production from the Lopez Gas Com well # 1E, API No. 30-045-26195 is natural gas produced from a FERC designated tight formation, assigned State No. NM - ~~34~~ <sup>18</sup> through:

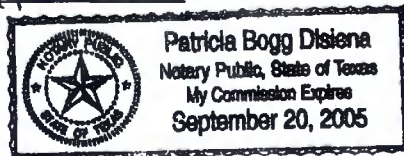
- X   a well the surface drilling of which began after December 31, 1979, but before January 1, 1993;
- a recompletion commenced after January 1, 1993, the surface drilling of which began after December 31, 1979, but before January 1, 1993; or
- a recompletion commenced after December 31, 1979 but before January 1, 1993, where such gas could not have been produced from any completion location in existence in the well bore before January 1, 1980; and

Said applicant has no knowledge of any information not described in the application that is inconsistent with her conclusion.

  
\_\_\_\_\_  
Mary Corley  
Senior Regulatory Analyst

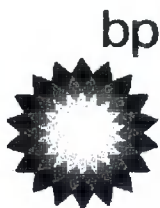
Subscribed in my presence and duly sworn to before me, this 13 day of February, 2003.

  
\_\_\_\_\_  
Notary Public



My Commission Expires:

BLM Affidavit



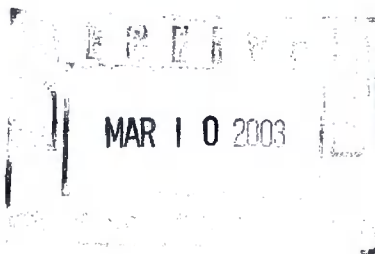
San Juan Performance Unit

Mary Corley  
WL1-19.171  
281-366-4491 (direct)  
281-366-0700 (FAX)  
[corleym1@bp.com](mailto:corleym1@bp.com)

P. O. Box 3092  
Houston, Texas 77253-3092  
501 Westlake Park Boulevard  
Houston, Texas 77079

February 12, 2003

State of New Mexico  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505



**Application For Well Category Determination**  
**NGPA Section 107 - Dakota**  
**Lopez Gas Com Well No. 1E**  
**San Juan County, New Mexico**

*API - 30-045-26195*

BP America Production Company is enclosing, for review and approval by the Oil Conservation Division, the original and one copy of an Application for Well Category Determination for the referenced well. Please hold the information in the filing confidential to the maximum extent allowed by law.

A copy of this letter and the FERC Form 121 has been mailed to each working interest owner entitled to receive Notice of this Application.

Please indicate receipt of this filing by date stamping the attached copy of this letter and returning the copy for our records.

Very truly yours,

*Mary Corley*  
Mary Corley  
Sr. Regulatory Analyst

Enclosures

Cc: Working Interest Owners



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

FARMINGTON DISTRICT

NOV 7 1985

Form C-105  
Revised 10-1-78

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

RJB
DDL
DBB
GOM
TWE
BDS
SMH
BJW
DET
CON.
DIV.

3a. Indicate Type of Lease  
State ☒ Fee ☐

3b. State Oil & Gas Lease No.

1c. TYPE OF WELL  
OIL WELL ☐ GAS WELL ☒ DRY ☐

b. TYPE OF COMPLETION  
NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ OTHER ☐

2. Name of Operator  
Amoco Production Co.

3. Address of Operator  
501 Airport Drive, Farmington, N M 87401

7. Unit Agreement Name

8. Farm or Lease Name  
Lopez Gas Com

4. Location of Well

9. Well No.  
1E

UNIT LETTER A LOCATED 1050 FEET FROM THE North LINE AND 1020 FEET FROM

THE East LINE OF SEC. 2 TWP. 29N RGE. 9W NMPM

10. Field and Pool, or Willcat  
Basin Dakota

11. County  
San Juan

13. Date Spudded  
7-27-85

16. Date T.D. Reached  
8-30-85

17. Date Compl. (Ready to Prod.)  
9-26-85

18. Elevations (DF, RKB, RT, GR, etc.)  
5724' KB

19. Elev. Casinghead  
5709' GR

20. Total Depth  
7069'

21. Plug Back T.D.  
7027'

22. If Multiple Compl., How Many  
Single

23. Intervals Drilled By  
Rotary Tools  
0-TD

Cable Tools  
No

24. Producing Interval(s), of this completion - Top, Bottom, Name  
6680'-6806' Dakota

25. Was Directional Survey Made  
Yes

26. Type Electric and Other Logs Run  
DIL-IL-GR-SP; CDL-CNL-GR-CAL

27. Was Well Cored  
No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9 5/8"	36# K-55	365'	12 1/4"	307 c.f. Class B Woodco	
7"	20# J-55	2795'	8 3/4"	295 c.f. Class B Howco, 118 c.f. Class B Howco, 160 c.f. Class B Howco	
4 1/2"	11.6# K-55	7069'	6 1/4"	183 c.f. Class B, Portland (cont.)	

29. LINER RECORD				30. TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET
						2 3/8"
						PACKER SET
						6985'

31. Perforation Record (Interval, size and number)  
6680'-6710', 6794'-6806', 4 jspf, .37", 168 holes  
6846'-6852', 6876'-6886', 6896'-6902', 6954'-6966', 4 jspf, .37", 136 holes.

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
6680'-6806'	65,000 gal 70 qual foam & 95,000# 20-40 mesh bradv s
6846'-6966'	75,000 gal 30# Xlink gel & 95,000# 20-40 mesh bradv s

33. PRODUCTION

Date First Production  
10-2-85

Production Method (Flowing, gas lift, pumping - Size and type pump)  
Flowing

Well Status (Prod. or Shut-in)  
Shut-In

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
10-3-85	3 hrs	.75"			341		

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)
220 psig	770 psig			2728		

34. Disposition of Gas (Sold, used for fuel, vented, etc.)  
To Be Sold

Test Witnessed By  
Bryan Services

35. List of Attachments  
None

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED BDS Shaw TITLE Adm. Supervisor DATE 10-17-85

CMD : ONGARD 04/28/03 09:30:58  
OG6IWCM INQUIRE WELL COMPLETIONS OGOMES -TP8P

API Well No : 30 45 26195 Eff Date : 01-01-1986 WC Status : A  
Pool Idn : 71599 BASIN DAKOTA (PRORATED GAS)  
OGRID Idn : 778 BP AMERICA PRODUCTION COMPANY  
Prop Idn : 810 LOPEZ GAS COM

Well No : 001E  
GL Elevation: 5709

	U/L	Sec	Township	Range	North/South	East/West	Prop/Act (P/A)
	---	---	-----	-----	-----	-----	-----
B.H. Locn	: 1	2	29N	09W	FTG 1050 F N	FTG 1020 F E	P
Lot Identifier:							
Dedicated Acre:							
Lease Type							
Type of consolidation (Comm, Unit, Forced Pooling - C/U/F/O)							

E6317: No more recs. for this api well no.

PF01 HELP PF02 PF03 EXIT PF04 GoTo PF05 PF06  
PF07 PF08 PF09 PF10 NEXT-WC PF11 HISTORY PF12 NXTREC

CMD : ONGARD 04/28/03 09:31:45  
OG6ACRE C102-DEDICATE ACREAGE OGOMES -TP8P  
Page No : 1

API Well No : 30 45 26195 Eff Date : 04-30-1991  
Pool Idn : 71599 BASIN DAKOTA (PRORATED GAS)  
Prop Idn : 810 LOPEZ GAS COM Well No : 001E  
Spacing Unit : 32728 OCD Order : Simultaneous Dedication:  
Sect/Twp/Rng : 2 29N 09W Acreage : 324.00 Revised C102? (Y/N) :  
Dedicated Land:

S	Base	U/L	Sec	Twp	Rng	Acreage	L/W	Ownership	Lot	Idn
	E		2	29N	09W	40.00	N	FE		
	F		2	29N	09W	40.00	N	FE		
	G		2	29N	09W	40.00	N	FE		
	H		2	29N	09W	40.00	N	ST		
A	1		2	29N	09W	39.95	N	ST		
B	2		2	29N	09W	40.65	N	FE		
C	3		2	29N	09W	41.35	N	FE		
D	4		2	29N	09W	42.05	N	FE		

E0005: Enter data to modify or PF keys to scroll

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06 CONFIRM
PF07 BKWD	PF08 FWD	PF09	PF10 LAND	PF11 NXTSEC	PF12 RECONF

CMD :  
OG5SECT

ONGARD  
INQUIRE LAND BY SECTION

04/28/03 09:30:46  
OGOMES -TP8P  
PAGE NO: 1

Sec : 02 Twp : 29N Rng : 09W Section Type : NORMAL

4 42.05  Fee owned C A	3 41.35  Fee owned C A	2 40.65  Fee owned C	1 39.95 CS B10889 0032 EL PASO PRODUCTIO C 12/22/53 A
E 40.00  Fee owned C A	F 40.00  Fee owned C	G 40.00  Fee owned C A	H 40.00 CS E02940 0000 BP AMERICA PRODUC C 09/10/59 A A

PF01 HELP  
PF07 BKWD

PF02  
PF08 FWD

PF03 EXIT  
PF09 PRINT

PF04 GoTo  
PF10 SDIV

PF05  
PF11

PF06  
PF12



CMD :  
OG5SECT

ONGARD  
INQUIRE LAND BY SECTION

04/28/03 09:31:13  
OGOMES -TP8P  
PAGE NO: 2

Sec : 02 Twp : 29N Rng : 09W Section Type : NORMAL

L 40.00 CS E01203 0011 EL PASO PRODUCTIO C 02/10/57 A A	K 40.00 CS E01203 0011 EL PASO PRODUCTIO C 02/10/57 A	J 40.00 CS E05314 0001 BP AMERICA PRODUC C 06/11/61 C	I 40.00 CS E00053 0024 CONOCO INC C 01/10/55
M 40.00 CS B10889 0033 BP AMERICA PROD & C 12/22/53	N 40.00  Federal owned C	O 40.00 CS E05314 0001 BP AMERICA PRODUC C 06/11/61 A	P 40.00 CS B10889 0032 EL PASO PRODUCTIO C 12/22/53 A

PF01 HELP  
PF07 BKWD

PF02  
PF08 FWD

PF03 EXIT  
PF09 PRINT

PF04 GoTo  
PF10 SDIV

PF05  
PF11

PF06  
PF12

Submit 5 Copies  
Appropriate District Office  
DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-104  
Revised 1-1-89  
See Instructions  
at Bottom of Page

OIL CONSERVATION DIVISION  
RECEIVED

REQUEST FOR ALLOWABLE AND AUTHORIZATION  
TO TRANSPORT OIL AND NATURAL GAS

30 AUG 22 PM 1 02

I. Operator AMOCO PRODUCTION COMPANY Well API No. 300452619500  
Address P.O. BOX 800, DENVER, COLORADO 80201  
Reason(s) for Filing (Check proper box) ☐ Other (Please explain)  
New Well ☐ Change in Transporter of:  
Recompletion ☐ Oil ☐ Dry Gas ☐  
Change in Operator ☐ Casinghead Gas ☐ Condensate ☒  
If change of operator give name and address of previous operator

II. DESCRIPTION OF WELL AND LEASE

Lease Name LOPEZ GAS COM Well No. 1E Pool Name, including Formation BASIN DAKOTA (PROGRATED GAS) Kind of Lease State, Federal or Fee Lease No.  
Location Unit Letter A : 1050 Feet From The FNL Line and 1020 Feet From The FEL Line  
Section 31 Township 28N Range 14W, NMPM, SAN JUAN County

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil MERIDIAN OIL INC. or Condensate ☒  
Address (Give address to which approved copy of this form is to be sent) 3535 EAST 30TH STREET, FARMINGTON, CO 87401  
Name of Authorized Transporter of Casinghead Gas EL PASO NATURAL GAS COMPANY or Dry Gas ☒  
Address (Give address to which approved copy of this form is to be sent) P.O. BOX 1492, EL PASO, TX 79978  
If well produces oil or liquids, give location of tanks. Unit Soc. Twp. Rge. Is gas actually connected? When ?

If this production is commingled with that from any other lease or pool, give commingling order number.

IV. COMPLETION DATA

Designate Type of Completion - (X) Oil Well Gas Well New Well Workover Deepen Plug Back Same Res'v Diff Res'v  
Date Spudded Date Compl. Ready to Prod. Total Depth P.B.T.D.  
Elevations (DF, RKB, RT, GR, etc.) Name of Producing Formation Top Oil/Gas Pay Tubing Depth  
Perforations Depth Casing Shoe  
TUBING, CASING AND CEMENTING RECORD  
HOLE SIZE CASING & TUBING SIZE DEPTH SET SACKS CEMENT

V. TEST DATA AND REQUEST FOR ALLOWABLE

OIL WELL (Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours.)  
Date First New Oil Run To Tank Date of Test Producing Method (Flow, pump, gas lift, etc.)  
Length of Test Tubing Pressure Casing Pressure Choke Size  
Actual Prod. During Test Oil - Bbls. Water MCF

GAS WELL

Actual Prod. Test - MCF/D Length of Test Bbls. Condensate/MCF Gravity of Condensate  
Testing Method (pilot, back pr.) Tubing Pressure (Shut-in) Casing Pressure (Shut-in) Choke Size

VI. OPERATOR CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.  
Signature Doug W. Whaley, Staff Admin. Supervisor  
Printed Name Title  
July 5, 1990 303-830-4280  
Date Telephone No.

OIL CONSERVATION DIVISION

Date Approved JUL 11 1990  
By SUPERVISOR DISTRICT #3  
Title

INSTRUCTIONS: This form is to be filed in compliance with Rule 1104  
1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.  
2) All sections of this form must be filled out for allowable on new and recompleted wells.  
3) Fill out only Sections I, II, III, and VI for changes of operator, well name or number, transporter, or other such changes.  
4) Separate Form C-104 must be filed for each pool in multiply completed wells.

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

NO. OF COPIES REQUIRED	
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LAND OFFICE	
TRANSPORTER	OIL
	GAS
OPERATION	
PRODUCTION OFFICE	

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SEP 18 1987  
OIL CONSERVATION DIVISION  
P. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

Form C-104  
Revised 10-01-78  
Format 05-01-83  
Page 1

REQUEST FOR ALLOWABLE  
AND  
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Operator  
Amoco Production Co.  
Address  
501 Airport Drive, Farmington, N M 87401

Reason(s) for filing (Check proper box)

☒ New Well  
☐ Recompletion  
☐ Change in Ownership  
Change in Transporter of:  
☐ Oil  
☐ Gas  
☐ Condensate

Other (Please explain)

RECEIVED  
OCT 30 1985  
OIL CON. DIV.  
DIST. 3

If change of ownership give name  
and address of previous owner

II. DESCRIPTION OF WELL AND LEASE

Lease Name Lopez Gas Com	Well No. 1 E	Pool Name, including Formation Basin Dakota	Kind of Lease State, Federal or Fee	State	Lease No.
Location Unit Letter <u>A</u> : <u>1050</u> Feet From The <u>North</u> Line and <u>1020</u> Feet From The <u>East</u> Line of Section <u>2</u> Township <u>29N</u> Range <u>9W</u> , NMPLA, <u>San Juan</u> County					

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/> Permian Corporation Permian (Eff. 9/1/87)	Address (Give address to which approved copy of this form is to be sent) P.O. Box 1702, Farmington, NM 87499
Name of Authorized Transporter of Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/> El Paso Natural Gas Co.	Address (Give address to which approved copy of this form is to be sent) P.O. Box 990, Farmington, NM 87499
If well produces oil or liquids, give location of tanks.	Unit Sec. Twp. Rge. A 2 29N 9W Is gas actually connected? When No

If this production is commingled with that from any other lease or pool, give commingling order number:

NOTE: Complete Parts IV and V on reverse side if necessary.

IV. CERTIFICATE OF COMPLIANCE

herby certify that the rules and regulations of the Oil Conservation Division have  
been complied with and that the information given is true and complete to the best of  
my knowledge and belief.

BDS Shaw  
(Signature)

Adm. Supervisor

(Title)

October 17, 1985

(Date)

OIL CONSERVATION DIVISION

APPROVED OCT 30 1985

BY Original Signed by FRANK T. CHAVEZ

TITLE SUPERVISOR DISTRICT # 3

This form is to be filed in compliance with RULE 1104.

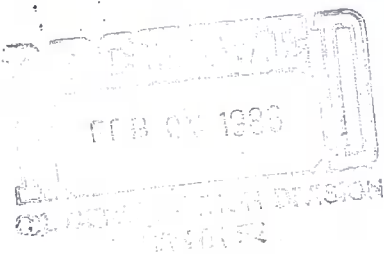
If this is a request for allowable for a newly drilled or deepened  
well, this form must be accompanied by a tabulation of the deviate  
tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allow-  
able on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner,  
well name or number, or transporter, or other such change of condition.

Separate Forms C-104 must be filled for each pool in multiple  
completed wells.

EL PASO NATURAL GAS COMPANY  
POST OFFICE BOX 990  
FARMINGTON, NEW MEXICO



NOTICE OF GAS CONNECTION

DATE January 22, 1986

THIS IS TO NOTIFY THE OIL CONSERVATION COMMISSION THAT CONNECTION FOR PURCHASE OF

GAS FROM Amoco Prod. Lopez Gas Com #1E  
Operator Well Name  
95-650-01 10940-51 A 2-29-9  
Meter Code Site Code Well Unit S-T-R  
Basin - Dakota El Paso Natural Gas Co.  
Pool Name of Purchaser

WAS MADE ON 12-18-85  
Date

FIRST DELIVERY 1-9-86  
Date

AOF 3200

CHOKE 2728

El Paso Natural Gas Co.  
Purchaser  
Gerry Story  
Representative  
C. A. B.  
Title

cc: OPERATOR  
OIL CONSERVATION COMMISSION (2)  
PRODUCTION CONTROL - El Paso  
LEASE DEVELOPMENT - El Paso  
CONTRACT ADMINISTRATION - El Paso  
File

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DIST. 3

5  
045-  
PER



✓  
EL PASO NATURAL GAS COMPANY  
POST OFFICE BOX 990  
FARMINGTON, NEW MEXICO

NOTICE OF GAS CONNECTION

DATE January 22, 1986

THIS IS TO NOTIFY THE OIL CONSERVATION COMMISSION THAT CONNECTION FOR PURCHASE OF

GAS FROM Amoco Prod.  
Operator

Lopez Gas Com #1E  
Well Name

95-650-01 10940-51  
Meter Code Site Code

A 2-29-9  
Well Unit S-T-R

Basin - Dakota  
Pool

El Paso Natural Gas Co.  
Name of Purchaser

WAS MADE ON 12-18-85,  
Date

FIRST DELIVERY 1-9-86  
Date

AOF 3200

CHOKE 2728

El Paso Natural Gas Co.  
Purchaser

Gerry Storga  
Representative

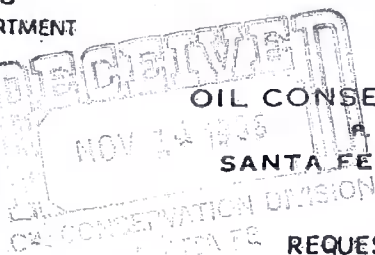
C. Lusk  
Title

cc: OPERATOR  
OIL CONSERVATION COMMISSION (2)  
PRODUCTION CONTROL - El Paso  
LEASE DEVELOPMENT - El Paso  
CONTRACT ADMINISTRATION - El Paso  
File

Amoco

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

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	GAS
OPERATION	
PRODUCTION OFFICE	



OIL CONSERVATION DIVISION

P.O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-104  
Revised 10-01-78  
Format 05-01-83  
Page 1

REQUEST FOR ALLOWABLE  
AND  
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

I. Operator Amoco Production Co.	
Address 501 Airport Drive, Farmington, N M 87401	
Reason(s) for filing (Check proper box)	Other (Please explain)
<input checked="" type="checkbox"/> New Well	Change in Transporter of:
<input type="checkbox"/> Recompletion	<input type="checkbox"/> Oil <input type="checkbox"/> Dry Gas
<input type="checkbox"/> Change in Ownership	<input type="checkbox"/> Casinghead Gas <input type="checkbox"/> Condensate

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OIL CON. DIV. 1  
DIST. 3

If change of ownership give name  
and address of previous owner \_\_\_\_\_

II. DESCRIPTION OF WELL AND LEASE

Lease Name Lopez Gas Com	Well No. 1 E	Pool Name, including Formation Basin Dakota	Kind of Lease State, Federal or Fee	State State	Lease No.
Location					
Unit Letter <u>A</u> ; <u>1050</u> Feet From The <u>North</u> Line and <u>1020</u> Feet From The <u>East</u>					
Line of Section <u>2</u> Township <u>29N</u> Range <u>9W</u> , NMPM, <u>San Juan</u> County					

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/> Permian Corporation	Address (Give address to which approved copy of this form is to be sent) P.O. Box 1702, Farmington, NM 87499					
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/> El Paso Natural Gas Co.	Address (Give address to which approved copy of this form is to be sent) P.O. Box 990, Farmington, NM 87499					
If well produces oil or liquids, give location of tanks.	Unit <u>A</u>	Sec. <u>2</u>	Twp. <u>29N</u>	Rge. <u>9W</u>	Is gas actually connected? <u>No</u>	When

If this production is commingled with that from any other lease or pool, give commingling order number: \_\_\_\_\_

NOTE: Complete Parts IV and V on reverse side if necessary.

VI. CERTIFICATE OF COMPLIANCE

hereby certify that the rules and regulations of the Oil Conservation Division have  
been complied with and that the information given is true and complete to the best of  
my knowledge and belief.

B D Shaw  
(Signature)

Adm. Supervisor

(Title)

October 17, 1985

(Date)

10-30-85 OIL CONSERVATION DIVISION  
OCT 30 1985

APPROVED \_\_\_\_\_, 19\_\_\_\_  
BY [Signature]  
TITLE \_\_\_\_\_ SUPERVISOR DISTRICT 3

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened  
well, this form must be accompanied by a tabulation of the deviation  
tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allow-  
able on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner,  
well name or number, or transporter, or other such change of condition.

Separate Forms C-104 must be filed for each pool in multiply  
completed wells.



## V. COMPLETION DATA

Designate Type of Completion - (X)		Oil Well	Gas Well	New Well	Workover	Deepen	Plug Back	Same Res'v.	Diff. Res'v.
			X	X					
Date Spudded 7-27-85	Date Compl. Ready to Prod. 9-26-85		Total Depth 7069'			P.B.T.D. 7027'			
Elevations (DF, RKB, RT, GR, etc.) 5709' GR	Name of Producing Formation Dakota		Top Oil/Gas Pay 6680'			Tubing Depth 6985'			
Perforations 6680'-6710', 6794'-6806', 6846'-6852', 6876'-6886', 6896'-6902', 6954'-6966'						Depth Casing Shoe			

### TUBING, CASING, AND CEMENTING RECORD

HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT
12 1/4"	9 5/8" 36# K-55	365'	307 cu. ft.
8 3/4"	7" 20# J-55	2795'	573 cu. ft.
6 1/4"	4 1/2" 11.6# K-55	7069'	521 cu. ft.
	2 3/8"	6985'	

### TEST DATA AND REQUEST FOR ALLOWABLE (Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours)

Date First New Oil Run To Tanks	Date of Test	Producing Method (Flow, pump, gas lift, etc.)	
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
Actual Prod. During Test	Oil - Bbls.	Water - Bbls.	Gas - MCF

### AS WELL

Actual Prod. Test - MCF/D 2728	Length of Test 3 hrs	Bbls. Condensate/MMCF	Gravity of Condensate
Flowing Method (pilot, back pr.) Flowing	Tubing Pressure (Shut-in) 1520 psig	Casing Pressure (Shut-in) 1775 psig	Choke Size .75"

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

Form C-105  
Revised 10-1-78

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SANTA FE NEW MEXICO 87501

5a. Indicate Type of Lease  
State ☒ Fee ☐  
5. State Oil & Gas Lease No.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

TYPE OF WELL  
OIL WELL ☐ GAS WELL ☒ DRY ☐ OTHER ☐  
TYPE OF COMPLETION  
NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ OTHER ☐

7. Unit Agreement Name

8. Farm or Lease Name  
Lopez Gas Com

9. Well No.  
1E

Name of Operator  
Amoco Production Co.

Address of Operator  
501 Airport Drive, Farmington, N M 87401

10. Field and Pool, or Wildcat  
Basin Dakota

Location of Well

T. LETTER A LOCATED 1050 FEET FROM THE North LINE AND 1020 FEET FROM

12. County  
San Juan

East LINE OF SEC. 2 TWP. 29N RGE. 9W NMPM

Date Spudded 7-27-85 16. Date T.D. Reached 8-30-85 17. Date Compl. (Ready to Prod.) 9-26-85 18. Elevations (DF, RKB, RT, GR, etc.) 5724' KB 19. Elev. Casinghead 5709' GR

Total Depth 7069' 21. Plug Back T.D. 7027' 22. If Multiple Compl., How Many Single 23. Intervals Drilled By 0-TD Rotary Tools Cable Tools No

Producing Interval(s), of this completion - Top, Bottom, Name 6680'-6806' Dakota 25. Was Directional Survey Made Yes

Type Electric and Other Logs Run DIL-IL-GR-SP; CDL-CNL-GR-CAL 27. Was Well Cored No

CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9 5/8"	36# K-55	365'	12 1/4"	307 c.f. Class B Woodco	
7"	20# J-55	2795'	8 3/4"	295 c.f. Class B Howco	118 c.f.
				Class B Howco, 160 c.f. Class B Howco	
4 1/2"	11.6# K-55	7069'	6 1/4"	183 c.f. Class B, Portland (cont.)	

LINER RECORD				30. TUBING RECORD			
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
						2 3/8"	6985'

Perforation Record (Interval, size and number)  
6680'-6710', 6794'-6806', 4 jspf, .37", 168 holes 6846'-6852', 6876'-6886', 6896'-6902', 6954'-6966', 4 jspf, .37", 136 holes.

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.  
DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED  
6680'-6806' 65,000 gal 70 qual foam &  
95,000# 20-40 mesh brady sand  
6846'-6966' 75,000 gal 30# Xlink gel &  
95,000# 20-40 mesh brady sand

PRODUCTION  
First Production 10-2-85 Production Method (Flowing, gas lift, pumping - Size and type pump) Flowing Well Status (Prod. or Shut-in) Shut-In  
Date of Test 10-3-85 Hours Tested 3 hrs Choke Size .75" Prod'n. For Test Period Gas - Bbl. 341 Gas - MCF 2728 Water - Bbl. Oil Gravity - API (Corr.)  
Down Tubing Press. 220 psig Casing Pressure 770 psig Calculated 24-Hour Rate  
Disposition of Gas (Sold, used for fuel, vented, etc.) To Be Sold Test Witnessed By Bryan Services

List of Attachments  
None

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED BDS Shaw TITLE Adm. Supervisor DATE 10-17-85

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

### Northwestern New Mexico

OIL OR GAS SANDS OR ZONES

## IMPORTANT WATER SANDS

No. 1, from \_\_\_\_\_ to \_\_\_\_\_ feet \_\_\_\_\_

No. 2, from \_\_\_\_\_ to \_\_\_\_\_ feet \_\_\_\_\_

No. 3, from \_\_\_\_\_ to \_\_\_\_\_ feet \_\_\_\_\_

No. 4, from \_\_\_\_\_ to \_\_\_\_\_ feet \_\_\_\_\_

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122  
Revised 9-1-65

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input checked="" type="checkbox"/> Special		Test Date 10-3-85		OCT 24 1985	
Company Amoco Production Co.		Connection El Paso Natural Gas Co.		OIL CON. DIV.	
Pool Basin		Formation Dakota		Unit DIST. 3	
Completion Date 9-26-85		Total Depth 7070		Plug Back TD 7027	
Elevation 5709 GL		Farm or Lease Name Lopez Gas Com			
Csg. Size 4.500	Wt. 11.6	d 4.00	Set At 7070	Perforations: From 6680 To 6966	
Well No. 1E					
Tbg. Size 2.375	Wt. 4.7	d 1.995	Set At 6985	Perforations: From open To ended	
Unit A	Sec. 2	Twp. 29	Rge. 9		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single			Packer Set At None		County San Juan
Producing Thru Tubing		Reservoir Temp. °F @		Mean Annual Temp. °F	
Baro. Press. - P <sub>a</sub>		State New Mexico			
L	H	G <sub>g</sub>	% CO <sub>2</sub>	% N <sub>2</sub>	% H <sub>2</sub> S
Prover		Meter Run		Taps	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
SI	7 days						1520		1775	
1.	2.375		.750				220		7.70	
2.										
3.										
4.										
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mcfd
1	12.365		232	1.000	.9528	1.027	2728
2.							
3.							
4.							
5.							

NO.	P <sub>t</sub>	Temp. °R	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ X X X X X X X X
3.					Specific Gravity Flowing Fluid _____ X X X X X
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ R _____ R

P <sub>c</sub> 1787    P <sub>c</sub> <sup>2</sup> 319.3369				
NO	P <sub>t</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>
1		782	611524	2581845
2				
3				
4				
5				

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.2369$$

$$(2) \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.1728$$

$$AOF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3200$$

Absolute Open Flow	3200	Mcfd @ 15.025	Angle of Slope $\theta$	Slope, n 75
--------------------	------	---------------	-------------------------	-------------

Remarks: Flared, Lite Condensate, Lite H<sub>2</sub>O

Approved By Commission:	Conducted By: Bryan Services	Calculated By: J. J. Barnett	Checked By:
-------------------------	---------------------------------	---------------------------------	-------------



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ENERGY AND MINERALS DEPARTMENT

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OIL CONSERVATION DIVISION  
SANTA FE, NEW MEXICO 87501

Form C-103  
Revised 10-1-78

3a. Indicate Type of Lease  
State ☒ Fee ☐  
5. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG SALS TO A DIFFERENT RESERVOIR.  
USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.

1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER-	7. Unit Agreement Name
2. Name of Operator Amoco Production Co.	8. Farm or Lease Name Lopez Gas Com
3. Address of Operator 501 Airport Drive, Farmington, N M 87401	9. Well No. 1E
4. Location of Well UNIT LETTER <u>A</u> <u>1050</u> FEET FROM THE <u>North</u> LINE AND <u>1020</u> FEET FROM THE <u>East</u> LINE, SECTION <u>2</u> TOWNSHIP <u>29N</u> RANGE <u>9W</u> N.M.P.M.	10. Field and Pool, or Wildcat Basin Dakota
11. Elevation (Show whether DF, RT, GR, etc.) 5709' GR	12. County San Juan

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOBS <input type="checkbox"/>	COMPLETION <input checked="" type="checkbox"/>

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Moved in and rigged up service unit on 9-4-85. Total depth of the well is 7069' and plugback depth is 7027'. Pressure tested production casing to 4000 psi for 30 minutes. Perforated the following intervals: 6846'-6852', 6876'-6886', 6896'-6902', 6954'-6966', 4 jspf, .37" in diameter, for a total of 136 holes. Fraced interval (6846'-6966') with 75,000 gal 30# crosslinked gel and 95,000# 20-40 mesh brady sand. Circulated hole clean with 2% KCL water. Set retrievable bridgeplug at 6830' and pressure tested it to 3000 psi. Perforated the following intervals: 6680'-6710', 6794'-6806', 4 jspf, .37" in diameter, for a total of 168 holes. Fraced interval 6680'-6806' with 65,000 gal 70 quality foam and 95,000# 20-40 mesh brady sand. Retrieved bridgeplug set at 6830'. Cleaned out sand fills with nitrogen foam. Landed 2-3/8" tubing at 6985' and released the rig on 9-25-85.

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OCT 10 1985

OIL CON. DIV.  
DIST. 3

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

SIGNED Steve G. Hunsaker TITLE Adm. Supervisor DATE 10-7-85

SUPERVISOR DISTRICT 3

APPROVED BY Steve G. Hunsaker TITLE Adm. Supervisor DATE OCT 10 1985

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OIL CONSERVATION DIVISION  
P.O. BOX 2088  
SANTA FE, NEW MEXICO 87501

Form C-193  
Revised 10-1-76

SEP 25 1985

3a. Indicate Type of Lease
State <input checked="" type="checkbox"/> Fee <input type="checkbox"/>
3. State Oil & Gas Lease No.
7. Unit Agreement Name
8. Farm or Lease Name
Lopez Gas Com
9. Well No.
1E
10. Field and Pool, or Wildcat
Basin Dakota
12. County
San Juan

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OIL CON. DIV.  
DIST. 3

100 NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG OR ABANDON A WELL. USE APPLICATION FOR PERMIT (Form C-101) FOR SUCH PURPOSES.

1. ☐ OIL WELL ☒ GAS WELL ☐ OTHER

2. Name of Operator  
Amoco Production Co.

3. Address of Operator  
501 Airport Drive, Farmington, N M 87401

4. Location of Well  
UNIT LETTER A 1050 FEET FROM THE North LINE AND 1020 FEET FROM THE East LINE, SECTION 2 TOWNSHIP 29N RANGE 9W B.M.P.M.

15. Elevation (Show whether DF, RT, CR, etc.)  
5709' GR

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data  
NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐  
TEMPORARILY ABANDON ☐  
PULL OR ALTER CASING ☐  
OTHER ☐

PLUG AND ABANDON ☐  
CHANGE PLANS ☐  
OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIATION WORK ☐  
COMMENCE DRILLING OPER. ☐  
CASING TEST AND CEMENT JOBS ☐  
OTHER Spud and Set Casing ☒

ALTERING CASING ☐  
PLUG AND ABANDONMENT ☐

Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Spud a 12-1/4" hole on 7-27-85 at 1800 hrs. Drilled to 365'. Set 9-5/8", 36#, K55 casing at 365' and cemented with 307 cu. ft. Class B Woodco. Circulated cement to surface. Pressure tested casing to 1000 psi for 30 minutes. Drilled an 8-3/4" hole to a 2795' on 7-29-85. Set 7", 20#, J55 casing at 2795'. Stage 1: cemented with 295 cu. ft. Class B Howco and tailed in with 118 cu. ft. Class B Howco. Stage 2: cemented with 160 cu. ft. Class B Howco. Squeezed bradenhead with 160 cu. ft. Thixotropic. Drilled a 6-1/4" hole to approximately 5407', the rig caught fire and was released on 8-8-85. Moved in and rigged up second drilling rig on 8-17-85. Had trouble with circulation and squeezed with 106 cu. ft. Class B and tailed in with 59 cu. ft. Class B. Squeezed again with 177 cu. ft. Class B and tailed in with 59 cu. ft. Class B. Tagged cement at 3410' and drilled cement from 3410'-4243'. Cleared out hole to 5399'. Drilled a 6-1/4" hole to a TD of 7069'. Set 4-1/2", 11.6#, K55 casing at 7069'. Stage 1: cemented with 183 cu. ft. Class B Portland and tailed in with 85 cu. ft. Class B Portland. Stage 2: cemented with 253 cu. ft. Class B Portland. Ran a temperature survey (attached) which indicated the cement top to be at 2000'. The DV tool was set at 3516' and the rig was released on 8-31-85.

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

Adm. Supervisor

8-31-85

SUPERVISOR DISTRICT # 3

SEP 12 1985



OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-103  
Revised 10-1-78

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AUG 03 1985

5a. Indicate Type of Lease	
State <input checked="" type="checkbox"/>	Fee <input type="checkbox"/>
5. State Oil & Gas Lease No.	
7. Unit Agreement Name	
8. Farm or Lease Name	
Lopez Gas Com	
9. Well No.	
1E	
10. Field and Pool, or Wildcat	
Basin Dakota	
12. County	
San Juan	

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

OIL WELL ☐ GAS WELL ☒ OTHER ☐

Name of Operator

Amoco Production Company

Address of Operator

501 Airport Drive, Farmington, NM 87401

Location of Well

UNIT LETTER A 1050 FEET FROM THE North LINE AND 1020 FEET FROM THE East LINE, SECTION 2 TOWNSHIP 29N RANGE 9W N.M.P.M.

15. Elevation (Show whether DF, RT, GR, etc.)

-5709' GR

12. County

San Juan

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data  
NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPERATIONS <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
ILL OR ALTER CASING <input type="checkbox"/>	OTHER <u>Extension of APD</u> <input checked="" type="checkbox"/>	CASING TEST AND CEMENT JOBS <input type="checkbox"/>	OTHER <input type="checkbox"/>

Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1703.

Amoco Production Company requests approval to extend the Application for Permit to Drill on the subject well.

*Extension Expires 1-18-86*

**RECEIVED**

JUL 26 1985

OIL CON. DIV.  
DIST. 3

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

BY B.D. Shaw

TITLE Adm. Supervisor

DATE 7-19-85

APPROVED BY [Signature]

TITLE SUPERVISOR DISTRICT 3

DATE JUL 26 1985

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## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

a. Type of Work

DRILL ☒DEEPEN ☐

b. Type of Well

OIL WELL ☐GAS WELL ☒OTHER ☐SINGLE ZONE ☒MULTIPLE ZONE ☐

c. Name of Operator

Amoco Production Company

d. Address of Operator

501 Airport Drive, Farmington, New Mexico 87401

e. Location of Well

UNIT LETTER A LOCATED 1050 FEET FROM THE North LINE

AND

1020

FEET FROM THE EastLINE OF SEC. 2TWP. 29NR&F. 9W

N142PM

5A. Indicate Type of Lease

STATE ☒FEE ☐

5B. State Oil &amp; Gas Lease No.

6. Well Agreement Name

7. Firm or Lessee Name

Lopez Gas Com

9. Well No.

1E

10. Field and Pool, or Wildcat

Basin Dakota

12. County

San Juan

11. Elevations (Show whether DF, RT, etc.)

5709' GR

21A. Kind &amp; Status Plug. Bond

Statewide

21B. Drilling Contractor

Unknown

19A. Formation

Dakota

20. Rotary or C.T.

Rotary

22. Approx. Date Work will start  
As soon as permitted

23.

## PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12-1/4"	9-5/8"	32.3#, H-40	300'	354 cu. ft.	Class B
8-3/4"	7"	20#, K-55	2575'	450 cu. ft.	Class B
6-1/4"	4-1/2"	10.5#, K-55	6930'	1070 cu. ft.	Class B

Amoco proposes to drill the above well to further develop the Basin Dakota reservoir. The well will be drilled to the surface casing point using native mud. The well will then be drilled to TD with a low solids nondispersed mud system. Completion design will be based on open hole logs. Copy of all logs will be filed upon completion. Amoco's standard blowout prevention will be employed; see attached drawing for blow-out preventer design. Upon completion the well site will be cleaned and the reserve pit filled and leveled. The gas from this well is undedicated at this time.

APPROVAL EXPIRES 7-18-85  
UNLESS DRILLING IS COMMENCED.  
SPUD NOTICE MUST BE SUBMITTED  
WITHIN 10 DAYS.

RECEIVED  
JAN 18 1985

OIL CON. DIV.  
DIST. 3

4 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.

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

Signed DD Lawson Title Dist. Adm. Supervisor Date 1-15-85

(This space for State Use)

APPROVED BY Frank J. Lang TITLE SUPERVISOR DISTRICT # 3 DATE JAN 18 1985

CONDITIONS OF APPROVAL, IF ANY:

## OIL CONSERVATION DIVISION

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088  
SANTA FE, NEW MEXICO 87501Form C-102  
Revised 10-1-78

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

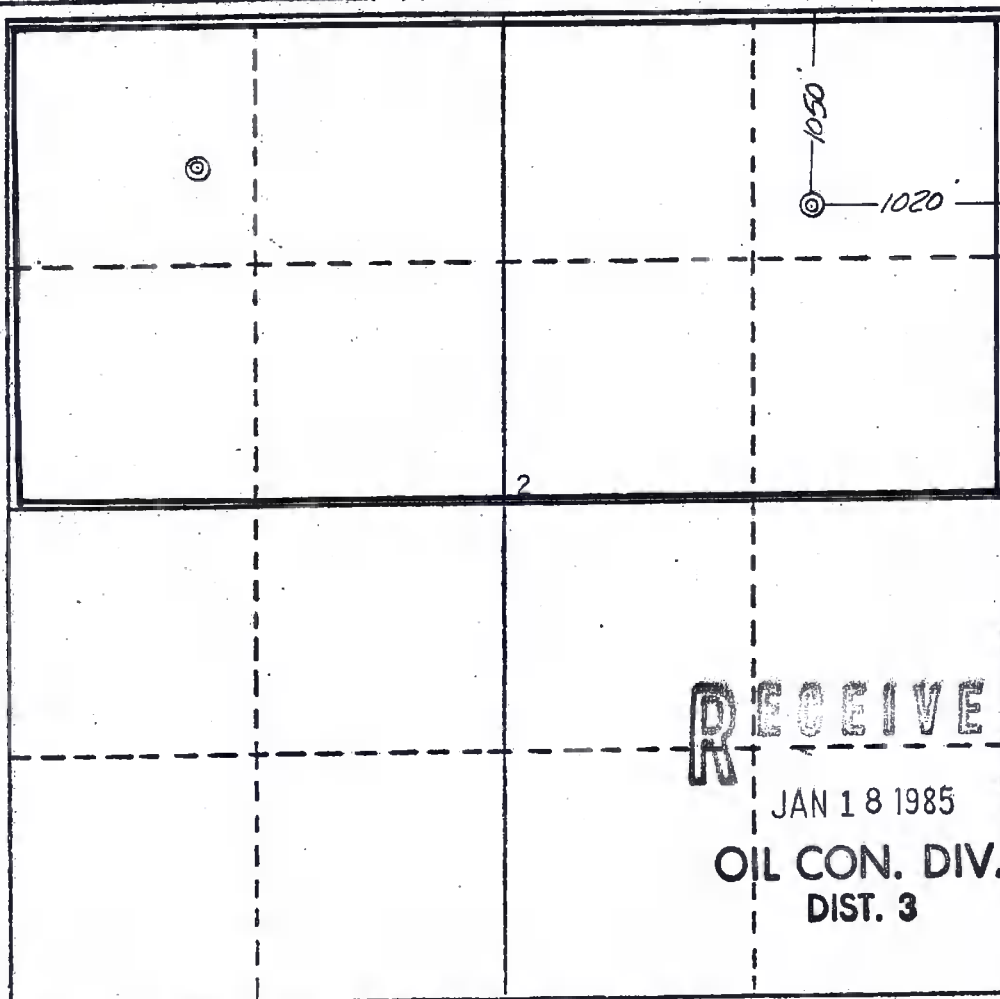
Operator <b>AMOCO PRODUCTION COMPANY</b>			Lease <b>LOPEZ GAS COM</b>			Well No. <b>1E</b>		
Unit Letter <b>A</b>	Section <b>2</b>	Township <b>29 N</b>	Range <b>9 W</b>	County <b>San Juan</b>				
Actual Footage Location of Wells: <b>1050</b> feet from the <b>NORTH</b> line and <b>1020</b> feet from the <b>EAST</b> line								
Ground Level Elev. <b>5709</b>	Producing Formation <b>Dakota</b>		Pool <b>Basin Dakota</b>		Dedicated Acreage <b>320 324</b> Acres			

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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 Communitized

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.D. Lawson*

Name  
D.D. Lawson

Position  
Dist. Adm. Supervisor

Company  
Amoco Production Company

Date  
1-15-85

I hereby certify that the well location shown on this plat was plotted from field notes collected by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

*Gary D. Vann*

Date Surveyed  
December 28, 1984

Registered Professional Engineer  
and/or Land Surveyor

Gary D. Vann

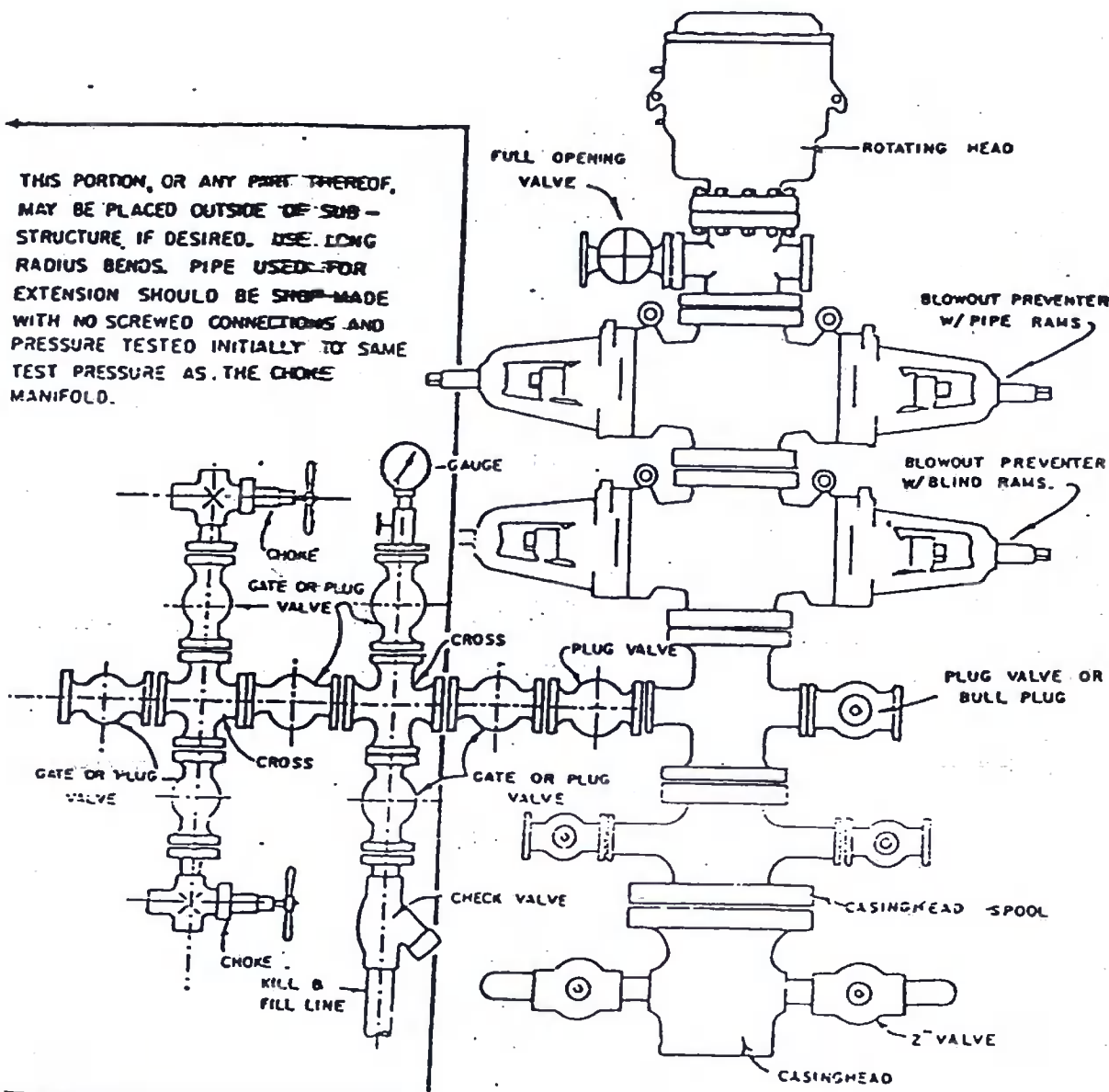
Certificate No.  
7016

RECEIVED

JAN 18 1985

OIL CON. DIV.  
DIST. 3

1. Blowout Preventers and Master Valve to be fluid operated, and all fittings must be in good condition.
2. Equipment through which bit must pass shall be as large as the inside diameter of the casing that is being drilled through.
3. Nipple above Blowout Preventer shall be same size or larger than BOP being drilled through.
4. All fittings to be flanged.
5. Omsco or comparable safety valve must be available on rig floor at all times with proper connection or sub. The I.D. of safety valve should be as great as I.D. of tool joints of drill pipe, or at least as great as I.D. of drill collars.



## BLOWOUT PREVENTER HOOKUP

API Series # 900

EXHIBIT D-4

OCTOBER 16, 1955

Operation of BOP by closing both pipe and blind rams will be tested each trip or, on long bit runs, pipe rams will be closed once each 24 hours.





San Juan Performance Unit

Mary Corley  
WL1-19.171  
281-366-4491 (direct)  
281-366-0700 (FAX)  
[corleymf@bp.com](mailto:corleymf@bp.com)

P. O. Box 3092  
Houston, Texas 77253-3092  
501 Westlake Park Boulevard  
Houston, Texas 77079

February 12, 2003

State of New Mexico  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Application For Well Category Determination  
NGPA Section 107  
San Juan County, New Mexico**

Attached please find a check in the amount of \$125.00 payable to the State of New Mexico for NGPA Section 107 Well Category Determinations for the below listed BP America Production Company wells.

Lopez Gas Com 1E	Dakota Pool	<del>NM - 34</del> NM-18
Schneider Gas Com C 1	Dakota Pool	NM - 09
Jacquez Gas Com F 1	Dakota Pool	NM - 09
Sullivan Gas Com 1A	Mesaverde	NM - 48
Hubbard A 1E	Mesaverde	NM - 48

Also enclosed, for review and approval by the Oil Conservation Division, are the original and one copy of an Application for Well Category Determination for each of the referenced wells.

Very truly yours,

Mary Corley  
Sr. Regulatory Analyst

Enclosures



BP America Production Company  
509 South Boston  
Tulsa, OK 74103

62-20  
311

No. 0800552148

02/19/03

PAY TO THE  
ORDER OF

STATE OF NEW MEXICO  
2040 PACHEO ST  
SANTA FE NM 87505

\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$125.00

NOT VALID AFTER 6 MONTHS

One Hundred Twenty Five and 00/100 Dollars

TRACE NO.: 2000040813

CITIBANK DELAWARE. A SUBSIDIARY OF CITICORP  
ONE PENN'S WAY, NEW CASTLE, DE 19720

  
AUTHORIZED SIGNATURE

⑈0800552148⑈ ⑆031100209⑆

39116481⑈



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. 7608  
Order No. R-7047

APPLICATION OF TENNECO OIL  
COMPANY FOR DESIGNATION OF  
A TIGHT FORMATION, SAN JUAN  
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 9, 1982, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 9th day of August, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Tenneco Oil Company, requests that the Division in accordance with Section 107 of the Natural Gas Policy Act of 1978 and 18 C.F.R. §271.701-703 recommend to the Federal Energy Regulatory Commission (FERC) that the Basin-Dakota formation underlying certain lands in San Juan County, New Mexico, as described on Exhibit "A" attached to this order, hereinafter referred to as the Basin-Dakota formation, be designated as a tight formation in the Federal Energy Regulatory Commission's regulations.

(3) That the area proposed for tight formation designation lies within the horizontal limits of the Basin-Dakota Pool, which is a very large area previously defined and described by the Oil Conservation Division in San Juan County, New Mexico.

(4) That within the Basin-Dakota Pool are large areas of extensive development and large areas of very limited development.

(5) That the Dakota formation has been approved for infill drilling which permits the subject area to be developed with one Dakota well on each quarter section or 160-acre tract.

(6) That the area for which tight formation designation is herein sought is comprised of standard sections and a large number of irregularly shaped sections.

(7) That the total potential number of wells required to fully develop said area with an original well and an infill well on each proration unit (standard or non-standard size) is approximately 952.

(8) That at the time of the hearing a total of 111 wells had been drilled in the area, 87 of which were producers or 12 percent and 9 percent, respectively, of the potential drillable wells.

(9) That no proration unit within the proposed area contains an infill well.

(10) That the area proposed for tight formation designation is a largely undeveloped area.

(11) That the application excluded from consideration three small areas or windows consisting of the following described sections:

Area No. 1

TOWNSHIP 30 NORTH, RANGE 8 WEST, NMPM  
Sections 3, 4, and 5: All

TOWNSHIP 31 NORTH, RANGE 8 WEST, NMPM  
Section 32: All

Area No. 2

TOWNSHIP 31 NORTH, RANGE 9 WEST, NMPM  
Sections 27 and 28: All

Area No. 3

TOWNSHIP 30 NORTH, RANGE 8 WEST, NMPM  
Section 35: All

(12) That there was no evidence available as to the in situ gas permeability or unstimulated gas well production within said areas.

(13) That these areas were excluded from consideration by the applicant solely due to anomolous production considered to be of limited extent and unexplainable by ordinary engineering and geological examination.

(14) That the Basin-Dakota formation underlies all of the lands described in Exhibit "A"; that the formation consists of transgressive sands which exhibit poor grain sorting and high silt and clay content due to the processes of the depositional environments; that the top of the formation is found at an average depth of 7575 feet below the surface; and that the gross thickness of productive sand is approximately 250-300 feet.

(15) That the type section for the Basin-Dakota formation is described as that 400 foot interval found below a depth of 7251 feet as found on the Induction-Electrical and Gamma Ray log from the El Paso Natural Gas Gartner Well No. 9 located in the NE/4 of Section 33, Township 30 North, Range 8 West, San Juan County, New Mexico.

(16) That the technical evidence presented in this case demonstrated that no well formerly or currently completed in the Basin-Dakota formation within the proposed area exhibited permeability, gas productivity, or crude oil productivity in excess of the following parameters:

- (a) average in situ gas permeability throughout the pay section of 0.1 millidarcy; and
- (b) stabilized gas production rate, without stimulation, against atmospheric pressure, of 336 MCFPD, the FERC maximum allowable gas production rate for an average formation depth of 7575 feet; and
- (c) crude oil production rate of 5 barrels per day.

(17) That the technical evidence presented in this case demonstrated that the predominant percentage of wells which may be completed in the Dakota formation within the proposed tight formation area may reasonably be presumed to exhibit permeability, gas productivity, or crude oil productivity not in excess of the above described parameters.

(18) That within the proposed area there is a recognized aquifer being the Ojo Alamo, found at depths of 5000 to 6000 feet above the Dakota formation.

(19) That existing State of New Mexico and Federal Regulations relating to casing and cementing of wells will assure that development of the Dakota formation will not adversely affect any overlying aquifers.

(20) That the area described on Exhibit "A" to this order should be recommended to the Federal Energy Regulatory Commission for designation as a tight formation.

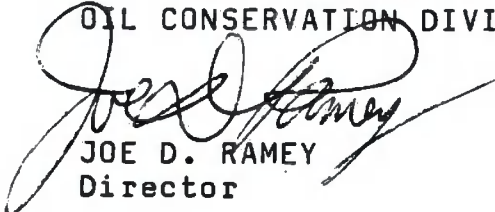
IT IS THEREFORE ORDERED:

(1) That it be and hereby is recommended to the Federal Energy Regulatory Commission pursuant to Section 107 of the Natural Gas Policy Act of 1978, and 18 C.F.R. §271.703 of the regulations that the Dakota formation underlying those lands in San Juan County, New Mexico, described on Exhibit "A" to this order, be designated as a tight formation.

(2) That 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



JOE D. RAMEY  
Director

S E A L

fd/

TOWNSHIP 32 NORTH, RANGE 7 WEST, NMPM

Sections 7 through 9: All

Sections 16 through 21: All

Sections 25 through 36: All

TOWNSHIP 32 NORTH, RANGE 8 WEST, NMPM

Sections 7 through 36: All

TOWNSHIP 32 NORTH, RANGE 9 WEST, NMPM

Sections 7 through 36: All

TOWNSHIP 31 NORTH, RANGE 8 WEST, NMPM

Sections 1 through 31: All

Sections 33 through 36: All

TOWNSHIP 31 NORTH, RANGE 9 WEST, NMPM

Sections 1 through 26: All

Sections 29 through 36: All

TOWNSHIP 30 NORTH, RANGE 8 WEST, NMPM

Sections 1 and 2: All

Sections 6 through 34: All

Section 36: All

TOWNSHIP 30 NORTH, RANGE 9 WEST, NMPM

Sections 1 through 30: All

Sections 35 and 36: All

TOWNSHIP 30 NORTH, RANGE 10 WEST, NMPM

Sections 1 through 18: All

Section 24: All

TOWNSHIP 29 NORTH, RANGE 8 WEST, NMPM

Sections 1 through 6: All

TOWNSHIP 29 NORTH, RANGE 9 WEST, NMPM

Sections 1 and 2: All

Containing a total of 149,760 acres, more or less.

EXHIBIT "A"  
Case No. 7608  
Order No. R-7047

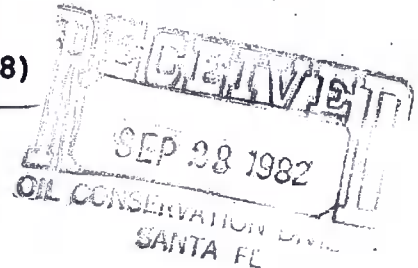


UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

18 C.F.R. Part 271

High-Cost Gas Produced from Tight Formations; Notice of Proposed Rulemaking

Docket No. RM79-76-139 (New Mexico-18)



AGENCY : Federal Energy Regulatory Commission

ACTION : Notice of Proposed Rulemaking

SUMMARY : The Federal Energy Regulatory Commission is authorized by section 107(c)(5) of the Natural Gas Policy Act of 1978 to designate certain types of natural gas as high-cost gas where the Commission determines that the gas is produced under conditions which present extraordinary risks or costs. Under section 107(c)(5), the Commission issued a final regulation designating natural gas produced from tight formations as high-cost gas which may receive an incentive price (18 C.F.R. § 271.703). This rule established procedures for jurisdictional agencies to submit to the Commission recommendations of areas for designation as tight formations. This Notice of Proposed Rulemaking by the Director of the Office of Pipeline and Producer Regulation contains the recommendation of the State of New Mexico that the Basin-Dakota Formation be designated as a tight formation under § 271.703(d).

DATE : Comments on the proposed rule are due on November 8, 1982.

Public

Hearing : No public hearing is scheduled in this docket as yet. Written requests for a public hearing are due on October 7, 1982.

ADDRESS : Comments and requests for hearing must be filed with the Office of the Secretary, 825 North Capitol Street, N. E., Washington, D.C. 20426.

FOR FURTHER INFORMATION CONTACT :

Leslie Lawner, (202) 357-8511, or Victor Zabel, (202) 357-8616



UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

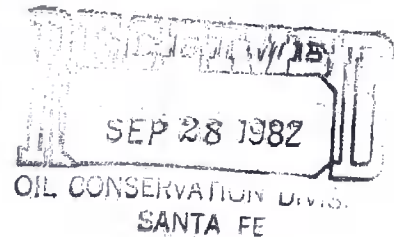
High-Cost Gas  
Produced from  
Tight Formations

)  
)  
)

Docket No. RM79-76-139  
(New Mexico-18)

NOTICE OF PROPOSED RULEMAKING  
BY DIRECTOR, OPFR

(Issued September 22, 1982)



I. BACKGROUND

On August 26, 1982, the State of New Mexico Energy and Minerals Department, Oil Conservation Division (New Mexico) submitted to the Commission a recommendation, in accordance with § 271.703 of the Commission's regulations (45 Fed. Reg. 56034, August 22, 1980), that the Basin-Dakota Formation located in San Juan County, New Mexico, be designated as a tight formation. Pursuant to § 271.703(c)(4) of the regulations, this Notice of Proposed Rulemaking is hereby issued to determine whether New Mexico's recommendation that the Basin-Dakota Formation be designated a tight formation should be adopted. The United States Department of the Interior, Minerals Management Service (formerly the U.S. Geological Survey) concurs with New Mexico's recommendation. New Mexico's recommendation and supporting data are on file with the Commission and are available for public inspection.

II. DESCRIPTION OF RECOMMENDATION

The Basin-Dakota Formation is defined as that interval including the Graneros, Dakota, and Morrison Formations found below a depth of 7,251 feet as indicated on the Induction-Electrical and Gamma Ray log from the El Paso Natural Gas Gartner No. 9 well. The average depth to the top of the Basin-Dakota is 7,575 feet. The gross thickness of the formation varies from 250 to 300 feet.

New Mexico Order No. R-1670-V, issued on May 22, 1979, authorized infill drilling in the Basin-Dakota Gas Pool. Accordingly, certain portions of the recommended area may be subject to exclusion pursuant to § 271.703(c)(2)(i)(D) of the Commission's regulations.

### III. DISCUSSION OF RECOMMENDATION

New Mexico claims in its submission that evidence gathered through information and testimony presented at a public hearing in Case No. 7608 convened by New Mexico on this matter demonstrates that:

- (1) The average in situ gas permeability throughout the pay section of the proposed area is not expected to exceed 0.1 millidarcy;
- (2) The stabilized production rate, against atmospheric pressure, of wells completed for production from the recommended formation, without stimulation, is not expected to exceed the maximum allowable production rate set out in § 271.703(c)(2)(i)(B); and
- (3) No well drilled into the recommended formation is expected to produce more than five (5) barrels of oil per day.

New Mexico further asserts that existing State and Federal Regulations assure that development of this formation will not adversely affect any fresh water aquifers.

Accordingly, pursuant to the authority delegated to the Director of the Office of Pipeline and Producer Regulation by Commission Order No. 97, issued in Docket No. RM80-68 (45 Fed. Reg. 53456, August 12, 1980), notice is hereby

given of the proposal submitted by New Mexico that the Basin-Dakota Formation, as described and delineated in New Mexico's recommendation as filed with the Commission, be designated as a tight formation pursuant to § 271.703.

#### IV. PUBLIC COMMENT PROCEDURES

Interested persons may comment on this proposed rulemaking by submitting written data, views or arguments to the Office of the Secretary, Federal Energy Regulatory Commission, 825 North Capitol Street, N. E., Washington, D.C. 20426, on or before November 8, 1982. Each person submitting a comment should indicate that the comment is being submitted in Docket No. RM79-76-139 (New Mexico-18), and should give reasons including supporting data for any recommendations. Comments should include the name, title, mailing address, and telephone number of one person to whom communications concerning the proposal may be addressed. An original and 14 conformed copies should be filed with the Secretary of the Commission. Written comments will be available for public inspection at the Commission's Division of Public Information, Room 1000, 825 North Capitol Street, N. E., Washington, D.C., during business hours.

Any person wishing to present testimony, views, data, or otherwise participate at a public hearing should notify the Commission in writing of the desire to make an oral presentation and therefore request a public hearing. Such request shall specify the amount of time requested at the hearing. Requests should be filed with the Secretary of the Commission no later than October 7, 1982.

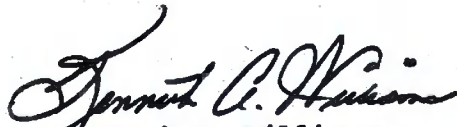
List of Subjects in 18 C.F.R. Part 271:

Natural gas, Incentive price, Tight formations.

(Natural Gas Policy Act of 1978, 15 U.S.C. §§ 3301 - 3432.)

Accordingly, the Commission proposes to amend the regulations in Part 271, Subchapter H, Chapter I, Title 18, Code of Federal Regulations, as set forth below, in the event New Mexico's recommendation is adopted.

(S E A L)

  
Kenneth A. Williams  
Director, Office of Pipeline  
and Producer Regulation

Section 271.703(d) is revised by adding new subparagraph (139) to read as follows:

§ 271.703 Tight formations.

\* \* \* \* \*

(d) Designated tight formations.

\* \* \*

(109) through (138) [RESERVED]

(139) Basin-Dakota Formation in New Mexico. RM79-76-139 (New Mexico-18).

(i) Delineation of formation. The Basin-Dakota Formation is located in San Juan County, New Mexico, in Township 32 North, Range 7 West, Sections 7, 8, 9, 16 through 21, and 25 through 36; Township 32 North, Range 8 West, Sections 7 through 36; Township 32 North, Range 9 West, Sections 7 through 36; Township 31 North, Range 8 West, Sections 1 through 31, and 33 through 36; Township 31 North, Range 9 West, Sections 1 through 26, and 29 through 36; Township 30 North, Range 8 West, Sections 1, 2, 6 through 34, and 36; Township 30 North, Range 9 West, Sections 1 through 30, 35 and 36; Township 30 North, Range 10 West, Sections 1 through 18 and 24; Township 29 North, Range 8 West, Sections 1 through 6; Township 29 North, Range 9 West, Sections 1 and 2, NMPM.

(ii) Depth. The Basin-Dakota Formation is defined as that interval including the Graneros, Dakota, and Morrison Formations found below a depth of 7,251 feet as indicated on the Induction-Electrical and Gamma Ray log from the El Paso Natural Gas Gartner No. 9 well. The average depth to the top of the Basin-Dakota Formation is 7,575 feet. Gross thickness of the Basin-Dakota Formation ranges from 250 to 300 feet.



## ¶ 32,250 High-Cost Gas Produced From Tight Formations (New Mexico-18)

47 F.R. 42583 (September 28, 1982).

### 18 CFR Part 271

#### High-Cost Gas Produced From Tight Formations; Notice of Proposed Rulemaking

**AGENCY:** Federal Energy Regulatory Commission, DOE.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** The Federal Energy Regulatory Commission is authorized by section 107(c)(5) of the Natural Gas Policy Act of 1978 to designate certain types of natural gas as high-cost gas where the Commission determines that the gas is produced under conditions which present extraordinary risks or costs. Under section 107(c)(5), the Commission issued a final regulation designating natural gas produced from tight formations as high-cost gas which may receive an incentive price (18 CFR 271.703). This rule established procedures for jurisdictional agencies to submit to the Commission recommendations of areas for designation as tight formations. This Notice of Proposed Rulemaking by the Director of the Office of Pipeline and Producer Regulation contains the recommendation of the State of New Mexico that the Basin-Dakota Formation be designated as a tight formation under § 271.703(d).

**DATE:** Comments on the proposed rule are due on November 8, 1982.

**PUBLIC HEARING:** No public hearing is scheduled in this docket as yet. Written requests for a public hearing are due on October 7, 1982.

**ADDRESS:** Comments and requests for hearing must be filed with the Office of the Secretary, 825 North Capitol Street, N.E., Washington, D.C. 20426.

#### FOR FURTHER INFORMATION CONTACT:

Leslie Lawner, (202) 357-8511, or Victor Zabel, (202) 357-8616.

Issued: September 22, 1982.

#### I. Background

On August 26, 1982, the State of New Mexico Energy and Minerals Department, Oil Conservation Division (New Mexico) submitted to the Commis-

sion a recommendation, in accordance with § 271.703 of the Commission's regulations (45 FR 56034, August 22, 1980), that the Basin-Dakota Formation located in San Juan County, New Mexico, be designated as a tight formation. Pursuant to § 271.703(c)(4) of the regulations, this Notice of Proposed Rulemaking is hereby issued to determine whether New Mexico's recommendation that the Basin-Dakota Formation be designated a tight formation should be adopted. The United States Department of the Interior, Minerals Management Service (formerly the U.S. Geological Survey) concurs with New Mexico's recommendation. New Mexico's recommendation and supporting data are on file with the Commission and are available for public inspection.

#### II. Description of Recommendation

The Basin-Dakota Formation is defined as that interval including the Graneros, Dakota, and Morrison Formations found below a depth of 7,251 feet as indicated on the Induction-Electrical and Gamma Ray log from the El Paso Natural Gas Gartner No. 9 well. The average depth to the top of the Basin-Dakota is 7,575 feet. The gross thickness of the formation varies from 250 to 300 feet.

New Mexico Order No. R-1670-V, issued on May 22, 1979, authorized infill drilling in the Basin-Dakota Gas Pool. Accordingly, certain portions of the recommended area may be subject to exclusion pursuant to § 271.703(c)(2)(i)(D) of the Commission's regulations.

#### III. Discussion of Recommendation

New Mexico claims in its submission that evidence gathered through information and testimony presented at a public hearing in Case No. 7608 convened by New Mexico on this matter demonstrates that:

(1) The average *in situ* gas permeability throughout the pay section of the proposed area is not expected to exceed 0.1 millidarcy;

(2) The stabilized production rate, against atmospheric pressure, of wells completed for production from the recommended formation, without

stimulation, is not expected to exceed the maximum allowable production rate set out in § 271.703(c)(2)(i)(B); and

(3) No well drilled into the recommended formation is expected to produce more than five (5) barrels of oil per day.

New Mexico further asserts that existing State and Federal Regulations assure that development of this formation will not adversely affect any fresh water aquifers.

Accordingly, pursuant to the authority delegated to the Director of the Office of Pipeline and Producer Regulation by Commission Order No. 97, issued in Docket No. RM80-68 (45 FR 53456, August 12, 1980), notice is hereby given of the proposal submitted by New Mexico that the Basin-Dakota Formation, as described and delineated in New Mexico's recommendation as filed with the Commission, be designated as a tight formation pursuant to § 271.703.

#### IV. Public Comment Procedures

Interested persons may comment on this proposed rulemaking by submitting written data, views or arguments to the Office of the Secretary, Federal Energy Regulatory Commission, 825 North Capitol Street, N.E., Washington D.C. 20426, on or before November 8, 1982. Each person submitting a comment should indicate that the comment is being submitted in Docket No. RM79-76-139 (New Mexico-18), and should give reasons including supporting data for any recommendations. Comments should include the name, title, mailing address, and telephone number of one person to whom communications concerning the proposal may be addressed. An original and 14 conformed copies should be filed with the Secretary of the Commission. Written comments will be available for public inspection at the Commission's Division of Public Information, Room 1000, 825 North Capitol Street, N.E., Washington, D.C., during business hours.

Any person wishing to present testimony, views, data, or otherwise participate at a public hearing should notify the Commission in writing of the desire to make an oral presentation and therefore request a public hearing. Such request shall specify the amount of time requested at the hearing. Requests should

be filed with the Secretary of the Commission no later than October 7, 1982.

#### List of Subjects in 18 CFR Part 271

Natural gas, Incentive price, Tight formations.

(Natural Gas Policy Act of 1978, 15 U.S.C. 3301-3432)

Accordingly, the Commission proposes to amend the regulations in Part 271, Subchapter H, Title 18, Code of Federal Regulations, as set forth below, in the event New Mexico's recommendation is adopted.

**Kenneth A. Williams,**

*Director, Office of Pipeline and Producer Regulation.*

#### PART 271—CEILING PRICES

Section 271.703(d) is revised by adding new subparagraph (139) to read as follows:

##### § 271.703 Tight formations.

\*\*\*\*\*

(d) *Designated tight formations.*

\*\*\*\*\*

(109) through (138) [Reserved]

(139) *Basin-Dakota Formation in New Mexico.* RM79-76-139 (New Mexico-18).

(i) *Delineation of formation.* The Basin-Dakota Formation is located in San Juan County, New Mexico, in Township 32 North, Range 7 West, Sections 7, 8, 9, 16 through 21, and 25 through 36; Township 32 North, Range 8 West, Sections 7 through 36; Township 32 North, Range 9 West, Sections 7 through 36; Township 31 North, Range 8 West, Sections 1 through 31, and 33 through 36; Township 31 North, Range 9 West, Sections 1 through 26, and 29 through 36; Township 30 North, Range 8 West, Sections 1, 2, 6 through 34, and 36; Township 30 North, Range 9 West, Sections 1 through 30, 35 and 36; Township 30 North, Range 10 West, Sections 1 through 18 and 24; Township 29 North, Range 8 West, Sections 1 through 6; Township 29 North, Range 9 West, Sections 1 and 2, NMPM.

(ii) *Depth.* The Basin-Dakota Formation is defined as that interval including the Graneros, Dakota, and Morrison Formations found below a depth of 7,251 feet as indicated on the Induction-Electrical and Gamma Ray log

**32,290**

**Proposed Regulations**

93 10-5-82

from the El Paso Natural Gas Gartner No. 9 well. The average depth to the top of the Basin-Dakota Formation is 7,575

feet. Gross thickness of the Basin Dakota Formation ranges from 250 to 300 feet.

¶ **32,250**

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

18 C.F.R. Part 271

High-Cost Gas Produced from Tight Formations; Final Rule

Docket No. RM79-76-139 (New Mexico - 18)

ORDER NO. 283

(Issued February 22, 1983)

AGENCY : Federal Energy Regulatory Commission

ACTION : Final rule

SUMMARY : The Federal Regulatory Energy Commission is authorized by section 107(c)(5) of the Natural Gas Policy Act of 1978 to designate certain types of natural gas as high-cost gas where the Commission determines that the gas is produced under conditions which present extraordinary risks or costs. Under section 107(c)(5), the Commission issued a final regulation designating natural gas produced from tight formations as high-cost gas which may receive an incentive price (18 C.F.R. § 271.703). This rule established procedures for jurisdictional agencies to submit to the Commission recommendations of areas for designation as tight formations. This final order adopts the recommendation of the State of New Mexico Energy and Minerals Department, Oil Conservation Division that a portion of the Basin-Dakota Formation located in San Juan County, New Mexico be designated as a tight formation under § 271.703(d).

EFFECTIVE DATE : This rule is effective February 22, 1983.

FOR FURTHER INFORMATION CONTACT : Jane Oliver, (202) 357-8316 or Victor Zabel, (202) 357-8616.

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSIONBefore Commissioners: C. M. Rutler III, Chairman;  
J. David Hughes, A. G. Sousa  
and Oliver G. Richard III.High-Cost Gas Produced ) Docket No. RM79-76-139  
from Tight Formations ) (New Mexico - 18)

ORDER NO. 283

FINAL RULE

(Issued February 22, 1983)

The Commission hereby amends § 271.703(d) of its regulations to include a portion of the Basin-Dakota Formation located in San Juan County, New Mexico, as a designated tight formation eligible for incentive pricing under § 271.703. The amendment was proposed in a Notice of Proposed Rulemaking by the Director, Office of Pipeline and Producer Regulation, issued September 22, 1982 (47 Fed. Reg. 42583, September 28, 1982), 1/ based on a recommendation by the State of New Mexico Energy and Minerals Department, Oil Conservation Division (New Mexico) in accordance with § 271.703, that certain areas of the Basin-Dakota Formation be designated as a tight formation.

1/ The notice established a 45-day period for submission of written comments. One comment in support of the recommendation was received. The United States Department of Interior, Minerals Management Service (formerly the U.S. Geological Survey) concurs with New Mexico's recommendation.

DC-C-73

Docket No. RM79-76-139 - 2 -

The recommended area is subject to New Mexico Order No. R-1670-V which authorizes infill drilling in the Basin-Dakota gas pool. 2/ Section 271.703(c)(2)(i)(D) of the Commission's regulations requires an exclusion from the designation of tight formations where:

the formation or any portion thereof was authorized to be developed by infill drilling prior to the date of recommendation and the jurisdictional agency (New Mexico) has information which in its judgment indicates that such information or portion subject to infill drilling can be developed absent the incentive price established ....

Infill drilling is defined in § 271.703(b)(6) as any drilling in a substantially developed formation (or a portion thereof) subject to well spacing or proration unit requirements which were amended by the jurisdictional agency after the formation (or portion thereof) was substantially developed, and which were adopted for the purpose of more effective and efficient drainage of the reservoirs in such formation. Thus, if the formation was substantially developed at the time that New Mexico Order No. R-1670-V was issued on May 22, 1979, and if information exists which indicates that the area can be developed absent the incentive price, then the entire recommended area or portions thereof should be excluded from the tight formation designation.

2/ Order No. R-1670-V permitted the drilling of an additional well in each 320-acre unit in the Basin-Dakota pool. Prior to this order only one gas well could produce from every 320-acre unit.

Docket No. RM79-76-139 - 3 -

There were 952 available drilling units in the recommended area at the time the infill order was issued on May 22, 1979. Only 45 of the 952 units were developed at that time; that is, only 4.8 percent of the recommended formation was developed according to the 320-acre proration units in existence prior to the infill order. The Commission finds that this does not constitute "substantial development" as it appears in the definition of infill drilling in § 271.703(b)(6). Accordingly, no areas need be excluded from New Mexico's recommendation under § 271.703(c)(2)(i)(D).

Evidence submitted by New Mexico supports the assertion that portions of the Basin-Dakota Formation meet the guidelines contained in § 271.703(c)(2). 3/ The Commission adopts the New Mexico recommendation.

This amendment shall become effective immediately. The Commission has found that the public interest dictates that new natural gas supplies be developed on an expedited basis, and,

3/ In its recommendation, New Mexico excluded three areas within the geological borders of the recommended area. New Mexico noted that there was "no evidence available as to the in situ gas permeability or unstimulated gas well production within said areas...", and "that these areas were excluded from consideration by the application solely due to anomalous production considered to be of limited extent and unexplainable by ordinary engineering and geological examination." Accordingly, the Commission is not considering those areas which New Mexico excluded in its recommendation.



therefore, incentive prices should be made available as soon as possible. The need to make incentive prices immediately available establishes good cause to waive the thirty-day publication period.

List of Subjects in 18 C.F.R. Part 271:

Natural gas, Incentive price, Tight formations.

(Department of Energy Organization Act, 42 U.S.C. §§ 7101 et seq.; Natural Gas Policy Act of 1978, 15 U.S.C. §§ 3301-3432; Administrative Procedure Act, 5 U.S.C. § 553.)

In consideration of the foregoing, Part 271 of Subchapter W, Chapter I, Code of Federal Regulations, is amended as set forth below, effective February 22, 1983.

By the Commission.

( S E A L )

*Kenneth F. Plumb*

Kenneth F. Plumb,  
Secretary.

Section 271.703(d) is amended by adding subparagraph (120) to read as follows:

§ 271.703 Tight formations.

(d) Designated tight formations.

(120) Basin-Dakota Formation in New Mexico. RM79-76-139 (New Mexico - 18).

(i) Delineation of formation. The Basin-Dakota Formation is located in San Juan County, New Mexico, in Township 32 North, Range 7 West, Sections 7, 8, 9, 16 through 21, and 25 through 36; Township 32 North, Range 8 West, Sections 7 through 36; Township 32 North, Range 9 West, Sections 7 through 36; Township 31 North, Range 8 West, Sections 1 through 31, and 33 through 36; Township 31 North, Range 9 West, Sections 1 through 26, and 29 through 36; Township 30 North, Range 8 West, Sections 1, 2, 6 through 34, and 36; Township 30 North, Range 9 West, Sections 1 through 30, 35 and 36; Township 30 North, Range 10 West, Sections 1 through 18 and 24; Township 29 North, Range 8 West, Sections 1 through 6; Township 29 North, Range 9 West, Sections 1 and 2, NMPM.

(ii) Depth. The Basin-Dakota Formation is defined as that interval including the Graneros, Dakota, and Morrison Formations, and is found below a depth of 7,251 feet as indicated on the Induction-Electrical and Gamma Ray log from the El Paso Natural Gas Gartner No. 9 Well. The average depth to the top of the Basin-Dakota Formation is 7,575 feet. Gross thickness of the Basin-Dakota Formation ranges from 250 to 300 feet.



enhanced surveillance from those firms which may require closer scrutiny.

The Division also wishes to emphasize that it views the role of the NFA, especially with respect to the financial surveillance of FCMs which are not members of any commodity exchange, as a necessary supplement to the Division's own regulatory efforts and oversight function. The Division believes that it is important to work closely with NFA in order to reach common goals, such as in the area of financial surveillance. The Division further believes that the written notification from NFA described above will allow NFA to continue its present membership approval policy and also allow the Division to determine that an FCM applicant has demonstrated affirmatively its compliance with minimum financial requirements when such an FCM applicant is not a member of a commodity exchange but has at least \$50,000 of adjusted net capital and will become an NFA member immediately upon the granting of registration by the Commission.

Accordingly, the Division has determined that, in the case of an applicant for registration as an FCM which is not a member of a commodity exchange but which has an application for membership pending with NFA, such applicant will be deemed to have demonstrated affirmatively its compliance with the minimum financial requirement for FCMs under the following conditions:

1. The applicant has minimum adjusted net capital of at least \$50,000, and

2. NFA submits a written notification to the Division stating that the FCM applicant has been cleared for NFA membership and will become an FCM member of NFA concurrently with notification by the Division that such FCM applicant has been granted registration by the Division as an FCM.

Of course, the Division will not grant registration to any FCM applicant until all other Commission requirements for FCM registration are satisfied.

By the Division of Trading and Markets.  
Dated: February 23, 1983.

Andrea M. Corcoran,

Director, Division of Trading and Markets.

[FR Doc. 83-5150 Filed 2-28-83; 8:45 am]

BILLING CODE 6351-01-M

## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

#### 18 CFR Part 271

[Docket No. RM79-75-139 (New Mexico-18); Order No. 283]

#### High-Cost Gas Produced From Tight Formations; New Mexico

Issued: February 22, 1983.

AGENCY: Federal Energy Regulatory Commission, DOE.

ACTION: Final rule.

**SUMMARY:** The Federal Regulatory Energy Commission is authorized by section 107(c)(5) of the Natural Gas Policy Act of 1978 to designate certain types of natural gas as high-cost gas where the Commission determines that the gas is produced under conditions which present extraordinary risks or costs. Under section 107(c)(5), the Commission issued a final regulation designating natural gas produced from tight formations as high-cost gas which may receive an incentive price (18 CFR 271.703). This rule established procedures for jurisdictional agencies to submit to the Commission recommendations of areas for designation as tight formations. This final order adopts the recommendation of the State of New Mexico Energy and Minerals Department, Oil Conservation Division that a portion of the Basin-Dakota Formation located in San Juan County, New Mexico be designated as a tight formation under § 271.703(d).

**EFFECTIVE DATE:** This rule is effective February 22, 1983.

**FOR FURTHER INFORMATION CONTACT:** Jane Oliver, (202) 357-8318 or Victor Zabel, (202) 357-8818.

#### SUPPLEMENTARY INFORMATION:

The Commission hereby amends § 271.703(d) of its regulations to include a portion of the Basin-Dakota Formation located in San Juan County, New Mexico, as a designated tight formation eligible for incentive pricing under § 271.703. The amendment was proposed in a Notice of Proposed Rulemaking by the Director, Office of Pipeline and Producer Regulation, issued September 22, 1982 (47 FR 42583, September 28, 1982),<sup>1</sup> based on a recommendation by

<sup>1</sup> The notice established a 45-day period for submission of written comments. One comment in support of the recommendation was received. The United States Department of Interior, Minerals Management Service (formerly the U.S. Geological Survey), concurs with New Mexico's recommendation.

the State of New Mexico Energy and Minerals Department, Oil Conservation Division (New Mexico) in accordance with § 271.703, that certain areas of the Basin-Dakota Formation be designated as a tight formation.

The recommended area is subject to New Mexico Order No. R-1670-V which authorizes infill drilling in the Basin-Dakota gas pool.<sup>2</sup> Section 271.703(c)(2)(i)(D) of the Commission's regulations requires an exclusion from the designation of tight formations where:

the formation or any portion thereof was authorized to be developed by infill drilling prior to the date of recommendation and the jurisdictional agency (New Mexico) has information which in its judgment indicates that such information or portion subject to infill drilling can be developed absent the incentive price established . . . .

Infill drilling is defined in § 271.703(b)(6) as any drilling in a substantially developed formation (or a portion thereof) subject to well spacing or proration unit requirements which were amended by the jurisdictional agency after the formation (or portion thereof) was substantially developed, and which were adopted for the purpose of more effective and efficient drainage of the reservoirs in such formation. Thus, if the formation was substantially developed at the time that New Mexico Order No. R-1670-V was issued on May 22, 1979, and if information exists which indicates that the area can be developed absent the incentive price, then the entire recommended area or portions thereof should be excluded from the tight formation designation.

There were 952 available drilling units in the recommended area at the time the infill order was issued on May 22, 1979. Only 45 of the 952 units were developed at that time; that is, only 4.8 percent of the recommended formation was developed according to the 320-acre proration units in existence prior to the infill order. The Commission finds that this does not constitute "substantial development" as it appears in the definition of infill drilling in § 271.703(b)(6). Accordingly, no areas need be excluded from New Mexico's recommendation under § 271.703(c)(2)(i)(D).

Evidence submitted by New Mexico supports the assertion that portions of the Basin-Dakota Formation meet the guidelines contained in § 271.703(c)(2).<sup>3</sup>

<sup>2</sup> Order No. R-1670-V permitted the drilling of an additional well in each 320-acre unit in the Basin-Dakota pool. Prior to this order only one gas well could produce from every 320-acre unit.

<sup>3</sup> In its recommendation, New Mexico excluded three areas within the geological borders of the

Township 18 North, Range 1 East; Township 18 North, Range 1 West through 5 West.

(ii) *Depth.* The Gray Sand in the Smackover Formation is defined as that formation occurring between the measured depths of 11,000 and 11,570 feet on the induction electric log of the Sun Oil Company—Northcott No. 2 Well, located in Section 29, Township 22 North, Range 11 West, Bossier Parish.

(118) *Medina Group and Queenston Shale in New York.* RM79-76-118 (New York—2).

(i) *Delineation of formation.* The Medina Group and Queenston Shale are found in Erie, Genesee, Wyoming, Allegany, Livingston, Ontario, Yates, Seneca, Cayuga, and Tompkins Counties, New York. Excluded from the delineated Medina-Queenston interval are any Medina gas storage areas, including buffer zones, or any areas within Medina or Queenston "existing fields" (as defined in Title 6, New York Code of Rules and Regulations, Section 350.3(q)). The Medina Group (also known as the Albion Group) is of Early Silurian age and overlies the Upper Ordovician Queenston Shale (called the "red shale" by some drillers). The Medina Group is bounded above by the base of the Thorold Formation or the time equivalent Kodak Sandstone. The Medina Group consists of (from base to top) the Whirlpool Sandstone (called "white Medina" by drillers), the Power Glen Shale (also known as the Cabot Head Shale), and the Grimsby Sandstone (called "red Medina" by drillers). The Queenston Shale has a gradational contact with the underlying Oswego Sandstone.

(ii) *Depth.* The depth to the top of the Medina Group varies from less than 1,000 feet in the northwestern portion of the designated area to as much as 5,500 feet in the southeastern portion. The Medina Group ranges in thickness from approximately 60 to 120 feet. The thickness of the Queenston Shale is indefinite due to the transitional nature of its contact with the underlying Oswego Sandstone, but the Queenston-Oswego sequence ranges in a thickness from approximately 1,000 feet in Western New York to more than 1,300 feet in southern and central New York.

(119) *Dakota Formation in Utah.* RM79-76-074 (Utah—3). (i) *Delineation of formation.* The Dakota Formation is found in the Book Cliffs area of Grand and Uintah Counties, Utah, and is in the general area of Townships 15 South through 20 South and Ranges 16 East through 24 East.

(ii) *Depth.* The average depth to the top of the Dakota Formation is 6,034 feet. The Dakota Formation is defined as the interval from the top of the Dakota Silt down to the top of the Morrison Formation, a thickness of approximately 250 feet.

(120) *Basin-Dakota Formation in New Mexico.* RM79-76-139 (New Mexico-18). (i) *Delineation of formation.* The Basin-Dakota Formation is located in San Juan County, New Mexico, in Township 32 North, Range 7 West, Sections 7, 8, 9, 16 through 21, and 25 through 36; Township 32 North, Range 8 West, Sections 7 through 36; Township 32 North, Range 9 West, Sections 7 through 36; Township 31 North, Range 8 West, Sections 1 through 31, and 33 through 36; Township 31 North, Range 9 West, Sections 1 through

26, and 29 through 36; Township 30 North, Range 8 West, Sections 1, 2, 6 through 34, and 36; Township 30 North, Range 9 West, Sections 1 through 30, 35 and 36; Township 30 North, Range 10 West, Sections 1 through 18 and 24; Township 29 North, Range 8 West, Sections 1 through 6; **Township 29 North, Range 9 West, Sections 1 and 2, NMPM.**

(ii) *Depth.* The Basin-Dakota Formation is defined as that interval including the Graneros, Dakota, and Morrison Formations, and is found below a depth of 7,251 feet as indicated on the Induction-Electrical and Gamma Ray log from the El Paso Natural Gas Gartner No. 9 Well. The average depth to the top of the Basin-Dakota Formation is 7,575 feet. Gross thickness of the Basin-Dakota Formation ranges from 250 to 300 feet.

(121) *Atoka Formation in Oklahoma.* RM79-76-131 (Oklahoma—4).—(i) *Delineation of formation.* The Atoka Formation of Pennsylvanian age is located in Washita County, Oklahoma, in Sections 6 and 7, Township 9 North, Range 19 West and Sections 1, 2, 3, 10, 11, and 12, Township 9 North, Range 20 West. It is bounded above by the base of the Pennsylvanian Des Moines Series, called "Cherokee Group" by drillers and below by the top of the Pennsylvanian Morrow Series, called "Morrow Shale" by drillers.

(ii) *Depth.* The depth to the top of the designated interval varies from approximately 10,850 to 12,150 feet below mean sea level. Its thickness ranges from 2,200 to 2,800 feet.

(122) *Garza Sand in Texas.* RM79-76-141 (Texas—24).

(i) *Delineation of Formation.* The Garza Sand is found in Duval County, Texas. The designated area is located approximately 3 miles west of the city of Concepcion, Texas, in Railroad Commission District 4 and includes portions of the following surveys: Andres Garcia Heirs Survey, Abstract 657; Santos Flores Survey, Abstract 475; R. Ramirez Survey, Abstract 475; and Marcello Ynojosa Survey, Abstract 628.

(ii) *Depth.* The top of the Garza Sand ranges from a measured depth of -6,700 feet to approximately -7,400 feet subsea.

(123) *Anacacho formation in Texas.* RM79-76-145 (Texas—26).

(i) *Delineation of formation.* The Anacacho formation is located in the northwestern part of Atascosa County, Texas. Railroad Commission District 1 and is comprised of the following surveys: F. Brockinzen A-90, Abram Cole A-158 and A-159, W.J. Viser A-873 and A-874, Craner Ford A-247 and A-248, John C. Held A-368, John Sharp A-761, Robert C. Rogers A-721, J.S. Joline A-500, H.P. Benningfield A-97, Wm. H. Morris A-899, and Nepomucino Flores A-244.

(ii) *Depth.* The Anacacho Formation in the Benton City Area is encountered at measured depths ranging from 1,600 feet to 2,100 feet.

(124) *Mancos "B" Formation in Utah.* RM79-76-155 (Utah—7).—(i) *Delineation of formation.* The Manco "B" Formation is located in Carbon County, Utah and comprises all of Township 12 South, Range 13 East, SLM.

(ii) *Depth.* The Mancos "B" Formation is a distinct lithologic unit of the Mancos Shale, occurring 200 and 300 feet below the top of the Mancos