

TF-03-006

State of New Mexico

Energy, Minerals, and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

FEB - 3 2003

APPLICATION FOR NGPA WELL CATEGORY DETERMINATION

FOR DIVISION

USE ONLY:

APPROPRIATE FILING FEE ENCLOSED? YES ☒ NO ☐
DATE COMPLETE APPLICATION FILED February 3, 2003
DATE DETERMINATION MADE February 25, 2003
WAS APPLICATION CONTESTED? YES ☐ NO ☒
NAME (S) OF INTERVENOR (S), IF ANY: na

FILING FEE

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-B-3)

- | | |
|---|--|
| 1. Name of Operator:
Dugan Production Corp. | 6. County:
San Juan |
| 2. Address of Operator:
P. O. Box 420
Farmington, NM 87499-0420 | 7. API No: 30-045-26405 |
| 3. Location of Well: Unit Letter <u>F</u>
Footage: 1850' FNL & 1850' FWL | 8. Indicate Type of Lease:
State <input type="checkbox"/> Fee <input checked="" type="checkbox"/> |
| Sec. <u>15</u> Twp. <u>31N</u> Rng. <u>13W</u> | 9. State Oil & Gas Lease No.:
N/A |
| 4. Lease Name:
Emerald City | 10. Unit Agreement Name:
N/A |
| 5. Well No: <u>1</u> | 11. Pool or Formation:
Basin Dakota Gas Pool (#71599) |

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

1. Category sought NGPA Section No. 107 A1 ☐ occluded natural gas from coal seam
A3 ☒ natural gas from a designated tight formation
2. Filing Fee(s) amount enclosed: \$25.00
3. All application must contain:
- a. C-105 Well Completion or Recompletion Report
 - b. Affidavits of Mailing or Delivery

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

John D. Roe, Jr.
NAME OF APPLICANT (Type or Print)

John D. Roe, Jr.
SIGNATURE OF APPLICANT

TITLE: Engineering Manager

DATE: 01-29-03

FOR DIVISION USE ONLY

APPROVED: ☒

DISAPPROVED: ☐

The information contained herein includes all of the information required to be filed by the applicant under
Subpart C of Part 270 of the FERC regulations.

EXAMINER: [Signature]

A. THE NGPA 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. NM14

RECEIVED
BLM
03 JAN 13 PM 2:15
OFF ALBUQUERQUE, N.M.

B. FOR ALL APPLICATIONS FOR DETERMINATION PROVIDE THE FOLLOWING:

1. Well Name and No.* Emerald City #1

2. Completed in (Name of Reservoir) * Dakota

3. Field * Basin Dakota Prorated Gas Pool

4. County * San Juan

5. State * New Mexico

6. API Well No. (14 digits maximum. If not assigned, leave blank.)

30-045-26405

9. Measured Depth of the Completed Interval (in feet)

TOP 6629'

BASE 6717'

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

1. Applicant's Name * Dugan Production Corp.

2. Street * P. O. Box 420

3. City * Farmington

4. State* New Mexico

5. Zip Code 87499-0420

6. Name of Person Responsible * John D. Roe, Jr.

7. Title of Such Person * Engineering Manager

8. Signature *John D. Roe, Jr.* and Phone No. (505) 325 - 1821

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

APPLICATION FOR DETERMINATION

GENERAL INSTRUCTIONS

- 1. Purpose:** This form is to be used to provide basic data on each application for a well category determination that is filed with a Jurisdictional Agency to qualify the natural gas produced from such well as (a) occluded natural gas produced from coal seams, under section 107(c)(3) of the Natural Gas Policy Act of 1978 [15 U.S.C. 3301] (NGPA), (b) natural gas produced from Devonian shale, under section 107(c)(4) of the NGPA, or (c) natural gas produced from a designated tight formation, under section 107(c)(5) of the NGPA, in order to substantiate the eligibility of such natural gas for a tax credit under Section 29 of the Internal Revenue Code. The Commission will use this data, together with the other information contained in the Jurisdictional Agency's notice of determination, to evaluate whether substantial evidence exists to support the determination.
- 2. Who must submit:** Anyone who files an application with a Jurisdictional Agency identified under Section 270.401 of the Commission's Regulations for a well category determination.
- 3. What and where to submit:** The original of this form, and all of the information required by Section 270.302, 270.303, 270.304, or 270.306 of the Commission's Regulations must be filed with the Jurisdictional Agency. The Jurisdictional Agency making a determination must file the original of this form, with all of the other information required under the applicable Commission Regulations, with the **Office of the Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Washington D.C. 20426**. Applicants should retain one copy of each completed form for their files for 4 years.
- 4. These are mandatory filing requirements.**
- 5. The data on this form are not considered confidential and will not be treated as such.**
- 6. Where to send comments on the public reporting burden:** The public reporting burden for this collection of information is estimated to average 0.25 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate, or any aspect of this collection of information, including suggestions for reducing this burden, to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington D.C. 20426 (Attention: Mr. Michael Miller, CI-1) and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington D.C. 20503 (Attention: Desk Officer for the Federal Energy Regulatory Commission). Persons subject to providing this information will not be penalized for failing to respond to these collections of information unless the collection of information displays a valid OMB control number.

Statement by
John D. Roe, Jr.
Application for Section 107 Tight Formation Gas Determination
Dugan Production Corp.'s Emerald City No. 1 (API No. 30-045-26405)
Basin Dakota Prorated Gas Pool
SENW Section 15, T31N, R13W
San Juan County, New Mexico

I make the following statement under oath. Natural gas produced from Dugan's Emerald City No. 1 is being produced from a designated tight formation through a well, the surface drilling of which began after December 31, 1979, but before January 1, 1993. In addition, I have no knowledge of any information which is inconsistent with this application.



John D. Roe, Jr., P. E.
January 9, 2002

STATE OF NEW MEXICO)
) ss.
COUNTY OF SAN JUAN)

The foregoing instrument was acknowledged before me this 9th day of January, 2003 by John D. Roe, Jr., Engineering Manager of Dugan Production Corp., a New Mexico corporation, on behalf of said corporation.



Cynthia Sweetland
Notary Public

My Commission Expires
08/11/04



dugan production corp.

January 9, 2003

Ms. Arlene Salazar
Bureau of Land Management
435 Montano Road, N.E.
Albuquerque, NM 87107-4535

Re: NGPA Category Determination (107TF)
Dugan Production's Emerald City #1 (API No. 30-045-26405)
Basin Dakota Prorated Gas Pool
SENW Sec. 15, T31N, R13W
San Juan County, New Mexico

Dear Ms. Salazar,

Enclosed for your consideration is Dugan's application, requesting a Section 107, tight formation, NGPA category determination for the captioned well.

Enclosed are the following items:

- a. Completed FERC Form 121
- b. Copy of all well completion reports and NMOCD form C-104 dated 6-10-92 reflecting operator change from Jerome P. McHugh to Dugan Production Corp. effective 6-1-92.
- c. Copy of the well location plat (NMOCD Form C-102), which presents the surface location for the Emerald City #1, along with the W/2 320 acre spacing unit for the Basin Dakota completion. This location is within the tight sand area designated by NM14.
- d. Copy of the Dual Induction Log over the Dakota interval.
- e. My statement regarding spud date of the subject well.

Should you have questions or need additional information, please let me know.

Sincerely,

John D. Roe
Engineering Manager

JDR/tmf

Enclosures

03 JAN 13 PM 2:15
BUREAU OF LAND MANAGEMENT
ALBUQUERQUE, N.M.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

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

5a. Indicate Type of Lease	
State <input type="checkbox"/>	Fee <input checked="" type="checkbox"/>
5. State Oil & Gas Lease No.	

1a. TYPE OF WELL		7. Unit Agreement Name	
OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> DRY <input type="checkbox"/> OTHER <input type="checkbox"/>			
b. TYPE OF COMPLETION		8. Farm or Lease Name	
NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER <input type="checkbox"/>		Emerald City	
9. Name of Operator		9. Well No.	
JEROME P. McHUGH		1	
10. Address of Operator		10. Field and Pool, or Willcat	
P O Box 809, Farmington, NM 87499		Basin Dakota	
4. Location of Well			
UNIT LETTER <u>F</u> LOCATED <u>1850</u> FEET FROM THE <u>North</u> LINE AND <u>1850</u> FEET FROM			
THE <u>West</u> LINE OF SEC. <u>15</u> TWP. <u>31N</u> SEC. <u>13W</u>		12. County	
		San Juan	
15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKD, RT, GR, etc.)
6-19-85	6-30-85	7-31-85	5758' GL; 5773' KB
19. Elev. Casinghead	5758' GL		
22. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By
6884' KB	6818' KB	NA	Rotary Tools TD
24. Producing Interval(s), of this completion - Top, Bottom, Name			25. Was Directional Survey Made
6629-6717', Dakota			NO
26. Type Electric and Other Logs Run			27. Was Well Cored
DIL, FDC/CNL; CCL-GR			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#	268' KB	12-1/4"	177 cf class B w/ 2% CaCl ₂	---
4-1/2"	10.5 & 11.5#	6882' KB	7-7/8"	1st stg 834 cf 50/50 Poz	---
w/ 2% gel & 1#/sk Flowseal; 2nd stg 2083 cf 65/35 w/ 12% gel, 6#/sk Gilsonite, 10% salt & 1#/sk Flowseal. TOTAL SLURRY = 2917 cf					
29. LINER RECORD				30. TUBING RECORD	
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	PACKER SET
None				2-3/8	6682'
31. Perforation Record (Interval, size and number)				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
See reverse.				DEPTH INTERVAL	
				6629-6717'	
				AMOUNT AND KIND MATERIAL USED	
				500 gal. 15% HCL, 110,000#	
				20/40 sand, 92,430 gal. fluid	

33. PRODUCTION							
Date First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)				Well Status (Prod. or Shut-in)	
7-30-85**		flowing				SI	
Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
8-20-85	3	.5"		Trace	159	1 est. *	
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)	
197 psi	555 psi		Trace	1,273	8 est. *		
34. Disposition of Gas (Sold, used for fuel, vented, etc.)						Test Witnessed By	
Vented during test; to be sold.						James S. Hazen	
35. List of Attachments							
*Frac water only							
**1st hydrocarbons to well bore							

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 James S. Hazen James S. HazenTITLE Field Supt.DATE 8-21-85

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Northwestern New Mexico

OIL OR GAS SANDS OR ZONES

IMPORTANT WATER SANDS

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation
			<p><u>Item #31 - Perforations</u> 6629, 33, 34, 35, 36, 37, 45, 50, 51, 52, 53, 54, 58, 59, 60, 61, 62, 63, 64, 71, 77, 82, 83, 84, 85, 86, 97, 98, 99; 6700, 01, 02, 03, 13, 14, 15, 16, 17. <u>Total of 38 0.35" holes,</u></p>

MINERAL AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-

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

30. Indicate Type of Lease
State ☐ Fee ☒
31. 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 BACK TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.

1. ON WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	7. Unit Agreement Name
2. Name of Operator JEROME P. McHUGH	8. Farm or Lease Name Emerald City
3. Address of Operator P O Box 809, Farmington, NM 87499	9. Well No. 1
4. Location of Well MONT LETTER <u>F</u> <u>1850</u> FEET FROM THE <u>North</u> LINE AND <u>1850</u> FEET FROM THE <u>West</u> LINE, SECTION <u>15</u> TOWNSHIP <u>31N</u> RANGE <u>13W</u> NMPM.	10. Field and Pool, or WHdcot Basin Dakota
15. Elevation (Show whether DF, RT, GR, etc.) 5758' GL; 5773' RKB	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 OPER. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input checked="" type="checkbox"/> 4 1/2" CSG.	

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 1703.

K-55 ST+C
Ran 22 jts. of 4 1/2", 11.5# casing and 145 jts. of 4 1/2", 10.5# casing. T.E. 6886.04'. Float collar at 6831' KB and Halliburton D.V. tool at 4762' KB. Pumped 1st stage of 600 sx 50/50 poz with 2% gel and 1#/sk Flowseal (834 cf) with full returns throughout job. Plug down at 1:05 AM 7/2/85. Opened D.V. tool at 4762' KB and circulated for 4 hrs. Pumped 2nd stage of 850 sx of 65/35 cement with 12% gel, 6#/sk Gilsonite, 10% salt and 1#/sk Flowseal (2083 cf) with full returns throughout job. Circulated 20 bbls. of cement to surface. Plug down at 5:45 AM 7/2/85. Set slips and cut off casing. Released rig.

Jerome P. McHugh
Farmington, N.M.

JUL 18 1985

RECEIVED
JUL 18 1985
OIL CONSERVATION DIV.

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

SIGNED James S. Hazen TITLE Field Supt. DATE 7/2/85

APPROVED BY [Signature] TITLE SUPERVISOR DISTRICT # 3 DATE JUL 05 1985

CONDITIONS OF APPROVAL, IF ANY:

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

5a. Indicate Type of Lease	
State <input type="checkbox"/>	Fee <input checked="" type="checkbox"/>
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 BACK 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 JEROME P. McHUGH	8. Farm or Lease Name Emerald City
3. Address of Operator P O Box 809, Farmington, NM 87499	9. Well No. 1
4. Location of Well UNIT LETTER <u>F</u> <u>1850</u> FEET FROM THE <u>North</u> LINE AND <u>1850</u> FEET FROM THE <u>West</u> LINE, SECTION <u>15</u> TOWNSHIP <u>31N</u> RANGE <u>13W</u> NMPM.	10. Field and Pool, or WHdcat Basin Dakota
11. Elevation (Show whether DF, RT, GR, etc.) 5758' GL; 5773' RKB	12. County San Juan

16. 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"/>	PLUS 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 checked="" type="checkbox"/>	PLUS AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input 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.

Spudded 12½" hole at 3:00 PM, 6-19-85. Drilled to 268' and ran 6 jts. 9-5/8", 36# casing (250.17' total casing) set at 268' KB and cemented with 150 sx class "B" with 2% CaCl₂ (177 cf). Circulated 7 bbls. cement to surface. Plug down at 4:45 AM, 6-20-85. Waited on cement 11½ hrs. Pressure tested surface casing to 1500 psi for 30 min. Test good.

RECEIVED
JUN 26 1985
OIL CON. DIV
DIST. 2

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

SIGNED James S. Hazen TITLE Field Supt. DATE June 22, 1985
APPROVED BY James P. McHugh TITLE SUPERVISOR DISTRICT #3 DATE JUN 26 1985
CONDITIONS OF APPROVAL, IF ANY: JUL 8 1985

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

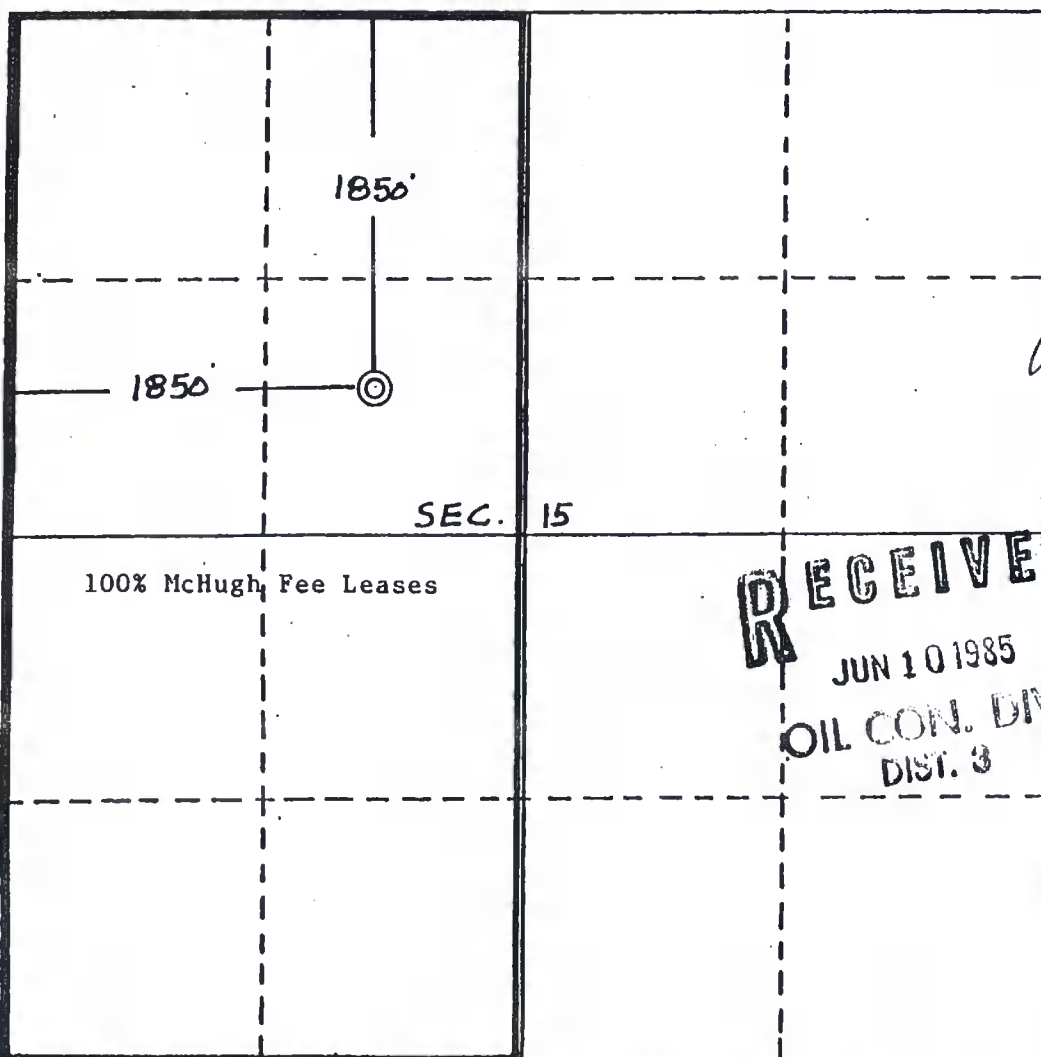
Operator Jerome P. McHugh		Lease Emerald City		Well No. 1
Unit Letter F	Section 15	Township 31 North	Range 13 West	County San Juan
Actual Footage Location of Wells: 1850 feet from the North line and 1850 feet from the West line				
Ground Level Elev. 5758	Producing Formation Dakota	Pool Basin Dakota	Dedicated Acreage: 320.0 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 Declaration of Pooling

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.

Name
James S. Hazen
Position
Field Supt.
Company
Jerome P. McHugh
Date
6-10-85

I hereby certify that the location shown on this plat was determined in field notes of actual measurement made by me or under my supervision, and that the same is true and correct to the best of my knowledge.

Date Surveyed
November 20, 1984
Registered Professional Engineer and/or Land Surveyor
Edgar L. Risenhoover
Certificate No. **5979**
Edgar L. Risenhoover, L.S.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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SANTA FE

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

Form C-104
Revised 10-01-78
Format 06-01-83
Page 1

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FEB 10 1988
OIL CON. DIV.
DIST. 2

REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

operator

EROME P. McHUGH

address

O Box 809, Farmington, NM 87499

reason(s) for filing (Check proper box)

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

Other (Please explain)

Effective 2/1/88

change of ownership give name
 address of previous owner

DESCRIPTION OF WELL AND LEASE

Well Name	Well No.	Pool Name, Including Formation	Kind of Lease	Lease No.
gerald City	1	Basin Dakota	State, Federal or Fee Fee	
Location	Unit Letter	F	1850 Feet From The North Line and 1850 Feet From The West	
Line of Section	15	Township	31N	Range
			13W	NMPM, San Juan
				County

DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
iant Refining, Inc.	P.O. Box 256, Farmington, N.M. 87499
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
erome P. McHugh (No Change)	P.O. Box 809, Farmington, N.M. 87499
well produces oil or liquids, ve location of tanks.	Is gas actually connected? When
Unit	Sec.
F	15
Twp.	31N
Rge.	13W

his 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.

CERTIFICATE OF COMPLIANCE

reby 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
 knowledge and belief.

James S. Hazen
 James S. Hazen
 Field Supt.

(Title)

/8/88

(Date)

OIL CONSERVATION DIVISION

FEB 10 1988

APPROVED _____, 19____
 BY *Ernest J. Shoup*
 SUPERVISION DISTRICT # 5
 TITLE _____

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

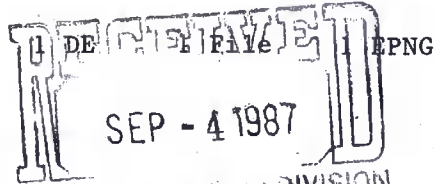
If this is a request for allowable for a newly drilled or deepened
 well, this form must be accompanied by a tabulation of the deviation
 tests taken on the well in accordance with RULE 111.

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

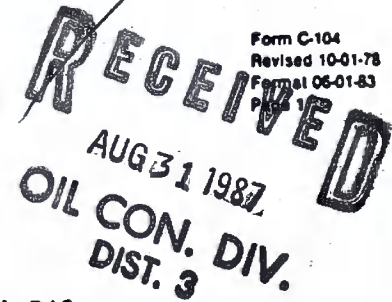
Fill out only Sections I, II, III, and VI for changes of owner,
 well name or number, or transporter, or other such change of condition.

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

5 NMOCD, Aztec



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



STATE OF NEW MEXICO
OIL AND MINERALS DEPARTMENT

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REPORTER	GAS
REPORTER	
REPORTER	
REPORTER	

REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

NAME EROME P. McHUGH	
ADDRESS O Box 809, Farmington, NM 87499	
Reason(s) for filing (Check proper box)	Other (Please explain)
New Well	Change in Transporter of:
Recompletion	<input type="checkbox"/> Oil
Change in Ownership	<input checked="" type="checkbox"/> Dry Gas
	<input type="checkbox"/> Casinghead Gas
	<input type="checkbox"/> Condensate

Range of ownership give name
address of previous owner

DESCRIPTION OF WELL AND LEASE

Well Name Merald City	Well No. 1	Pool Name, including Formation Basin Dakota	Kind of Lease State, Federal or Fee	Lease No. ---
Location Unit Letter <u>F</u> : <u>1850</u> Feet From The <u>North</u> Line and <u>1850</u> Feet From The <u>West</u>				
Line of Section <u>15</u> Township <u>31 N</u> Range <u>13 W</u> , NMPM, <u>San Juan</u> County				

DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
Metrol Source Corp. (No change)	8777 E Via de Ventura, Suite 100, Scottsdale, AZ 85258
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
El Paso Natural Gas Co.	P O Box 4990, Farmington, NM 87499-4990
Well produces oil or liquids, and location of tanks.	Unit Sec. Twp. Rge. Is gas actually connected? When
F 15 31N 13W	Yes

If 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.

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 is true and complete to the best of my knowledge and belief.

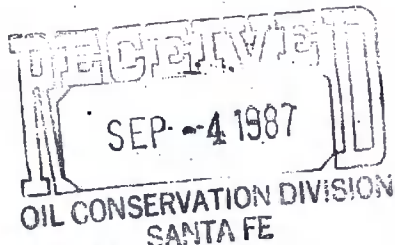
James S. Hazen
Field Supt.
(Signature)
(Title)
/28/87
(Date)

OIL CONSERVATION DIVISION

APPROVED
BY
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 allowable 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.

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



NOTICE OF GAS CONNECTION

DATE August 20, 1987

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

GAS FROM Jerome P. McHugh Emerald City #1
Operator Well Name

92-044-01 12637-51 F 15
Meter Code Site Code Well Unit 44-31-13
S-T-R

Basin Dakota
Pool

EL PASO NATURAL GAS
Name of Purchaser

WAS MADE ON July 21, 1987,
Date

FIRST DELIVERY August 7, 1987
Date

AOF -CHOKE -

EL PASO NATURAL GAS
Purchaser

Sheri Underwood
Representative

Clerk, Technical Support
Title

CC: OPERATOR
OIL CONSERVATION COMMISSION (2)
PRODUCTION CONTROL - El Paso
CONTRACT ADMINISTRATION - El Paso
FILE

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OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-104
Revised 10-01-78
Format 06-01-83
Page 1RECEIVED
JUL 21 1987OIL CON. DIV. 1
DIST. 3REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GASOperator
JEROME P. McHUGH

P O Box 809, Farmington, NM

Reason(s) for filing (Check proper box)

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

Other (Please explain)

change of ownership give name
and address of previous owner

I. DESCRIPTION OF WELL AND LEASE

Lease Name Emerald City	Well No. 1	Pool Name, including Formation Basin Dakota	Kind of Lease State, Federal or Fee Fee	Lease No. ---
Location Unit Letter <u>F</u> : <u>1850</u> Feet From The <u>North</u> Line and <u>1850</u> Feet From The <u>West</u> Line of Section <u>15</u> Township <u>31 N</u> Range <u>13 W</u> , NMPM, San Juan County				

II. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/> Petro Source Corp.	Address (Give address to which approved copy of this form is to be sent) 8777 E Via de Ventura, Suite 100, Scottsdale, AZ 85258	
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/> Jerome P. McHugh	Address (Give address to which approved copy of this form is to be sent) P O Box 809, Farmington, NM, 87499	
If well produces oil or liquids, give location of tanks.	Unit A	Sec. 33
	Twp. 25N	Rge. 8W
	Is gas actually connected?	When 7/9/87

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.

James S. Hazen
Field Supt.

(Signature)

(Title)

7/20/87

(Date)

OIL CONSERVATION DIVISION

APPROVED

BY

TITLE

SUPERVISOR DISTRICT 11

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 allowable 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.

COMPLETION DATA

COMPLETION DATA									
Designate Type of Completion - (X)		Oil Well	Gas Well	New Well	Workover	Deepen	Plug Back	Same Res'v.	Diff. Res'v.
			XX	XX					
Date Spudded		Date Compl. Ready to Prod.		Total Depth			P.B.T.D.		
6-19-85		7-31-85		6884' KB			6818' KB		
Drillations (DF, RKB, RT, GR, etc.)		Name of Producing Formation		Top Oil/Gas Pay			Tubing Depth		
5758' GL		Dakota		6629'			6682'		
Drillations							Depth Casing Shoe		
6629-6717'. 35 holes							6882'		

TUBING, CASING, AND CEMENTING RECORD

HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT
12-1/4"	9-5/8"	268	177 cf
7-7/8"	4-1/2"	6882	2917 cf in 2 stages
	2-3/8"	6682	

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
Initial Prod. During Test	Oil - Bbls.	Water - Bbls.	Gas - MCF

AS WELL

Initial Prod. Test - MCF/D 1,273	Length of Test 3 hrs.	Bble. Condensate/MMCF Trace	Gravity of Condensate 65°
Casing Method (pilot, back pr.) back pressure	Tubing Pressure (Shut-in) 1590 psi	Casing Pressure (Shut-in) 1987 psi	Choke Size .5"

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ENERGY AND MINERALS DEPARTMENT

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OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5a. Indicate Type of Lease	
State <input type="checkbox"/>	Fee <input checked="" type="checkbox"/>
5. State Oil & Gas Lease No.	

TYPE OF WELL

OIL WELL ☐GAS WELL ☒

OR

OTHER

TYPE OF COMPLETION

NEW WELL ☒WORK OVER ☐DEEPEN ☐PLUG BACK ☐DIFF. RESVR. ☐

Name of Operator

JEROME P. McHUGH

Address of Operator

P O Box 809, Farmington, NM 87499

Location of Well

T LETTER F LOCATED 1850 FEET FROM THE North LINE AND 1850 FEET FROMWest LINE OF SEC. 15 TWP. 31N RGE. 13WDate Spudded 6-19-85 16. Date T.D. Reached 6-30-85 17. Date Compl. (Ready to Prod.) 7-31-8518. Elevations (DF, RKB, RT, GR, etc.) 5758' GL; 5773' KB 19. Elev. Casinghead 5758' GL

Total Depth <u>6884' KB</u>	21. Plug Back T.D. <u>6818' KB</u>	22. If Multiple Compl., How Many <u>NA</u>	23. Intervals Drilled By <u>TD</u>	Rotary Tools <u>TD</u>	Cable Tools
-----------------------------	------------------------------------	--	------------------------------------	------------------------	-------------

Producing Interval(s), of this completion - Top, Bottom, Name

6629-6717', Dakota

25. Was Directional Survey Made

NO

Type Electric and Other Logs Run

DIL, FDC/CNL; GCL-GR

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#	268' KB	12-1/4"	177 cf class B w/ 2% CaCl ₂	---
4-1/2"	10.5 & 11.5#	6882' KB	7-7/8"	1st stg 834 cf 50/50 Poz	---
w/ 2% gel & 1#/sk Flowseal; 2nd stg 2083 cf 65/35 w/ 12% gel, 6#/sk Gilsonite, 10% salt & 1#/sk Flowseal. TOTAL SLURRY = 2917 cf					

LINER RECORD

30.

TUBING RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
None					2-3/8	6682'	

Perforation Record (Interval, size and number)

See reverse.

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

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
6629-6717'	500 gal. 15% HCL, 110,000#
	20/40 sand, 92,430 gal. fluid

PRODUCTION

1st Production: 7-30-85**		Production Method (Flowing, gas lift, pumping - Size and type pump) flowing				Well Status (Prod. or Shut-in) SI	
Date of Test 8-20-85	Hours Tested 3	Choke Size .5"	Prod'n. For Test Period → trace	Oil - Bbl. 159	Gas - MCF 1 est. *	Water - Bbl. 1 est. *	Gas - Oil Ratio
Flow Tubing Press. 197 psi	Casing Pressure 555 psi	Calculated 24-Hour Rate → Trace	Oil - Bbl. 1,273	Gas - MCF 8 est. *	Water - Bbl. 8 est. *	Oil Gravity - API (Corr.)	

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

Vented during test; to be sold.

Test Witnessed By

James S. Hazen

List of Attachments

*Frac water only

**1st hydrocarbons to well bore

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.

James S. Hazen

Field Supt.

8-21-85

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS

RECEIVED
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 OIL CON. DIV.
 DIST. 3

Type Test <input checked="" type="checkbox"/> Initial		<input type="checkbox"/> Annual		<input type="checkbox"/> Special		Test Date 8-20-85	
Company JEROME P. McHUGH							
Pool Basin Dakota							
Completion Date 7-31-85		Total Depth 6884' KB		Elevation 5758' GL		Farm or Lease Name Emerald City	
Csg. Size 4 1/2"	Wt. 10.5/11.5	d 4.052	Set At 6882'	Perforations: From 6629 To 6717		Well No. 1	
Thg. Size 2-3/8"	Wt. 4.7#	d 1.995	Set At 6682'	Perforations: From open ended to		Unit Sec. Twp. Rge. F 15 31N 13W	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At		County San Juan	
Producing Thru tubing		Reservoir Temp. °F e		Mean Annual Temp. °F		Baro. Press. - P _a	
L		H		G _g		Taps	
				.65			
FLOW DATA				TUBING DATA		CASING DATA	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Duration of Flow
SI			.5"			68°	
1.						1590	1/2 hr.
2.						690	1 hr.
3.						345	2 hrs.
4.						225	3 hrs.
5.						197	
RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1							
2							
3							
4							1,273
5							
NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.		
1					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.		
2					Specific Gravity Separator Gas _____ XXXXXXXXXX		
3					Specific Gravity Flowing Fluid _____ XXXXXX		
4					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.		
5					Critical Temperature _____ R _____ R		
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$		
1					(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$		
2					AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$		
3							
4							
5							
Absolute Open Flow _____ Mcfd @ 15.025					Angle of Slope @ _____		
Remarks Well shut in 7-31-85 for pressure build-up (20 days)							
Approved By Division		Conducted By: James S. Hazen		Calculated By: James S. Hazen		Checked By:	

RECEIVED
 AUG 27 1985
 OIL CON. DIV.
 DIST. 3

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

Northwestern New Mexico

T. Anhy _____	T. Canyon _____	T. Ojo Alamo _____	T. Penn. "B" _____
T. Salt _____	T. Strawn _____	T. Kirtland-Fruitland 1728 /1787	T. Penn. "C" _____
B. Salt _____	T. Atoka _____	T. Pictured Cliffs _____ 1920	T. Penn. "D" _____
T. Yates _____	T. Miss _____	T. Cliff House _____ * 3600	T. Leadville _____
T. 7 Rivers _____	T. Devonian _____	T. Menefee _____ 3797	T. Madison _____
T. Queen _____	T. Silurian _____	T. Point Lookout _____ 4604	T. Elbert _____
T. Grayburg _____	T. Montoya _____	T. Mancos _____	T. McCracken _____
T. San Andres _____	T. Simpson _____	T. Gallup _____ 5611	T. Ignacio Qtzte _____
T. Glorieta _____	T. McKee _____	Base Greenhorn _____ 6518	T. Granite _____
T. Paddock _____	T. Ellenburger _____	T. Dakota _____ 6585	T. _____
T. Elinebry _____	T. Gr. Wash _____	T. Morrison _____	T. *Lewis 2002'
T. Tubb _____	T. Granite _____	T. Todilto _____	T. _____
T. Drinkard _____	T. Delaware Sand _____	T. Entrada _____	T. _____
T. Abo _____	T. Bone Springs _____	T. Wingate _____	T. _____
T. Wolfcamp _____	T. _____	T. Chinle _____	T. _____
T. Penn. _____	T. _____	T. Permian _____	T. _____
T. Cisco (Bough C) _____	T. _____	T. Penn. "A" _____	T. _____

OIL OR GAS SANDS OR ZONES

No. 1, from _____ to _____ No. 4, from _____ to _____
 No. 2, from _____ to _____ No. 5, from _____ to _____
 No. 3, from _____ to _____ No. 6, from _____ to _____

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

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
			<p><u>Item #31 - Perforations</u> 6629, 33, 34, 35, 36, 37, 45, 50, 51, 52, 53, 54, 58, 59, 60, 61, 62, 63, 64, 71, 77, 82, 83, 84, 85, 86, 97, 98, 99; 6700, 01, 02, 03, 13, 14, 15, 16, 17. <u>Total of 38 0.35" holes,</u></p>

OIL CONSERVATION DIVISION

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

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

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

REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Operator Dugan Production Corp.	Well API No.
Address P.O. Box 420, Farmington, NM 87499	
Reason(s) for Filing (Check proper box) New Well <input type="checkbox"/> Change in Transporter of: <input type="checkbox"/> Other (Please explain) Recompletion <input type="checkbox"/> Oil <input type="checkbox"/> Dry Gas <input checked="" type="checkbox"/> Change of Operator Change in Operator <input checked="" type="checkbox"/> Casinghead Gas <input type="checkbox"/> Condensate <input type="checkbox"/> Effective 6-1-92	
If change of operator give name and address of previous operator Jerome P. McHugh & Assoc., P.O. Box 809, Farmington, NM 87499	

II. DESCRIPTION OF WELL AND LEASE

Lease Name Emerald City	Well No. 1	Pool Name, including Formation Basin Dakota	Kind of Lease State, Federal or Fee	Lease No. ---
Location Unit Letter F : 1850 Feet From The North Line and 1850 Feet From The West Line Section 15 Township 31N Range 13W , NMPM, San Juan 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"/> Giant Refining, Inc.	Address (Give address to which approved copy of this form is to be sent) P.O. Box 256, Farmington, NM 87499					
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/> Dugan Production Corp.	Address (Give address to which approved copy of this form is to be sent) P.O. Box 420, Farmington, NM 87499					
If well produces oil or liquids, give location of tanks.	Unit F	Sec. 15	Twp. 31N	Rge. 13W	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 - Bbls.	Gas - MCF

GAS WELL			
Actual Prod. Test - MCF/D	Length of Test	Bbls. Condensate/MMCF	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
Jim L. Jacobs
Printed Name
6-10-92
Date

Vice-President
Title
325-1821
Telephone No.

OIL CONSERVATION DIVISION

Date Approved JUN 11 1992

By Brian D. Chang
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.

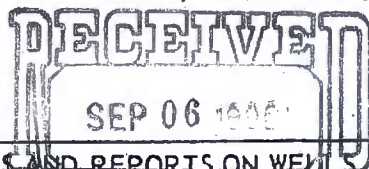
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P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-78

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OPERATOR		



5a. Indicate Type of Lease	
State <input type="checkbox"/>	Fee <input checked="" type="checkbox"/>
5. State Oil & Gas Lease No.	

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO REOPEN AN OLD WELL IN A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT TO DRILL OR REOPEN AN OLD WELL IN A DIFFERENT RESERVOIR.")

SANTA FE

OIL ☐ GAS ☒ OTHER ☐Name of Operator
EROME P. McHUGHAddress of Operator
O Box 809, Farmington, NM 87499

Location of Well

UNIT LETTER F 1850 FEET FROM THE North LINE AND 1850 FEET FROM
THE West LINE, SECTION 15 TOWNSHIP 31N RANGE 13W NMPM.

7. Unit Agreement Name

8. Farm or Lease Name
Emerald City9. Well No.
110. Field and Pool, or Wildcat
Basin Dakota11. Elevation (Show whether DF, RT, GR, etc.)
5758' GL; 5773' RKB12. County
San JuanCheck Appropriate Box To Indicate Nature of Notice, Report or Other Data
NOTICE OF INTENTION TO:REPAIR REMEDIAL WORK ☐
TEMPORARILY ABANDON ☐
REPAIR OR ALTER CASING ☐PLUG AND ABANDON ☐
CHANGE PLANS ☐OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐
COMMENCE DRILLING OPNS. ☐
CASING TEST AND CEMENT JOBS ☐
OTHER ☐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.

Reached TD of 6884' KB on 6-30-85.

Set 4½" casing at 6882' KB. (Casing and cement detail previously reported.)

PBDT = 6818' KB.

AUG 27 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 James S. HazenTITLE Field Supt.DATE 8-22-85APPROVED BY [Signature]TITLE SUPERVISOR DISTRICT #3DATE AUG 27 1985

CONDITIONS OF APPROVAL, IF ANY:

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-78

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LAND OFFICE	
OPERATOR	

5a. Indicate Type of Lease	
State <input type="checkbox"/>	Fee <input checked="" type="checkbox"/>
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 BACK TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)OIL WELL ☐ GAS WELL ☒ OTHER-Name of Operator
JEROME P. McHUGHAddress of Operator
P O Box 809, Farmington, NM 87499

Location of Well

UNIT LETTER F 1850 FEET FROM THE North LINE AND 1850 FEET FROM
THE West LINE, SECTION 15 TOWNSHIP 31N RANGE 13W NMPM.

7. Unit Agreement Name

8. Farm or Lease Name
Emerald City9. Well No.
110. Field and Pool, or Wildcat
Basin Dakota

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

5758' GL; 5773' RKB

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 ☐PLUG AND ABANDON ☐REMEDIAL WORK ☐ALTERING CASING ☐TEMPORARILY ABANDON ☐COMMENCE DRILLING OPNS. ☐PLUG AND ABANDONMENT ☐FULL OR ALTER CASING ☐CHANGE PLANS ☐CASING TEST AND CEMENT JOBS ☒ 4 1/2" CSG.OTHER ☐OTHER ☐

1. 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.

Ran 22 jts. of 4 1/2", 11.5# casing and 145 jts. of 4 1/2", 10.5# casing. T.E. 6886.04'. Float collar at 6831' KB and Halliburton D.V. tool at 4762' KB. Pumped 1st stage of 600 sx 50/50 poz with 2% gel and 1/4#/sk Flowseal (834 cf) with full returns throughout job. Plug down at 1:05 AM 7/2/85. Opened D.V. tool at 4762' KB and circulated for 4 hrs. Pumped 2nd stage of 850 sx of 65/35 cement with 12% gel, 6 1/4#/sk Gilsonite, 10% salt and 1/4#/sk Flowseal (2083 cf) with full returns throughout job. Circulated 20 bbls. of cement to surface. Plug down at 5:45 AM 7/2/85. Set slips and cut off casing. Released rig.

RECEIVED

JUL 05 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.

James S. Hazen

TITLE Field Supt.

DATE 7/2/85

PROVED BY

TITLE SUPERVISOR DISTRICT # 3

DATE

JUL 05 1985

CONDITIONS OF APPROVAL, IF ANY:

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-78

NO. OF COPIES RECEIVED	
DISTRIBUTION	
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FILE	
U.S.O.S.	
LAND OFFICE	
OPERATOR	

5a. Indicate Type of Lease	
State <input type="checkbox"/>	Fee <input checked="" type="checkbox"/>
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 BACK TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

OIL WELL <input type="checkbox"/>	GAS WELL <input checked="" type="checkbox"/>	OTHER-
Name of Operator JEROME P. McHUGH		
Address of Operator P O Box 809, Farmington, NM 87499		
Location of Well UNIT LETTER <u>F</u> <u>1850</u> FEET FROM THE <u>North</u> LINE AND <u>1850</u> FEET FROM THE <u>West</u> LINE, SECTION <u>15</u> TOWNSHIP <u>31N</u> RANGE <u>13W</u> NMPM.		
15. Elevation (Show whether DF, RT, GR, etc.) 5758' GL; 5773' RKB		
12. County San Juan		

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK	<input type="checkbox"/>	PLUG AND ABANDON	<input type="checkbox"/>
TEMPORARILY ABANDON	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>
NULL OR ALTER CASING	<input type="checkbox"/>	OTHER	<input type="checkbox"/>

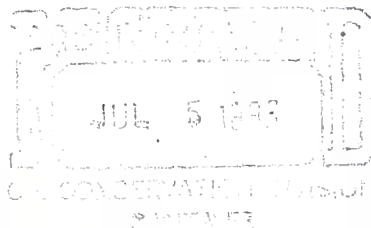
SUBSEQUENT REPORT OF:

REMEDIAL WORK	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
COMMENCE DRILLING OPNS.	<input checked="" type="checkbox"/>	PLUG AND ABANDONMENT	<input type="checkbox"/>
CASING TEST AND CEMENT JOBS	<input type="checkbox"/>	OTHER	<input type="checkbox"/>

1. 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.

Spudded 12 $\frac{1}{4}$ " hole at 3:00 PM, 6-19-85. Drilled to 268' and ran 6 jts. 9-5/8", 36# casing (250.17' total casing) set at 268' KB and cemented with 150 sx class "B" with 2% CaCl₂ (177 cf). Circulated 7 bbls. cement to surface. Plug down at 4:45 AM, 6-20-85. Waited on cement 11 $\frac{1}{2}$ hrs. Pressure tested surface casing to 1500 psi for 30 min. Test good.

RECEIVED
JUN 26 1985
OIL CON. DIV.
DIST. 3



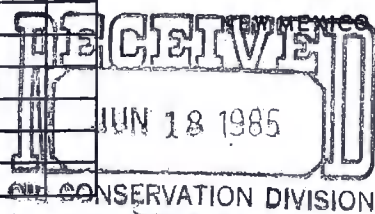
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED <u>James S. Hazen</u>	TITLE <u>Field Supt.</u>	DATE <u>June 22, 1985</u>
PROVED BY <u>[Signature]</u>	TITLE <u>SUPERVISOR DISTRICT #3</u>	DATE <u>JUN 26 1985</u>

CONDITIONS OF APPROVAL, IF ANY:

30-045-26405

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FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

Form C-101
Revised 1-1-65

5A. Indicate Type of Lease
STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
5. State Oil & Gas Lease No.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work		7. Unit Agreement Name	
b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		8. Farm or Lease Name Emerald City	
2. Name of Operator Jerome P. McHugh		9. Well No. 1	
3. Address of Operator P O Box 809, Farmington, NM 87499		10. Field and Pool, or Wildcat Basin Dakota	
4. Location of Well UNIT LETTER F LOCATED 1850 FEET FROM THE North LINE AND 1850 FEET FROM THE West LINE OF SEC. 15 TWP. 31 N RGE. 13 W NMPM		12. County San Juan	
19. Proposed Depth 6700		19A. Formation Dakota	
20. Rotary or C.T. Rotary		21. Elevations (Show whether DF, RT, etc.) 5758' GL' 5773' RKB	
21A. Kind & Status Plug. Bond Statewide		21B. Drilling Contractor LLL Drilling Co.	
22. Approx. Date Work will start 6-1-85			

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"	36#	250'	200 cf circulated to surf.	
7-7/8"	4-1/2"	11.6 & 10.5#	6700'	2290 cf circ. in 2 stages	

Plan to drill with spud mud to set surface casing at 250'. Will then drill with water-mud-gel mixture to test the Dakota formation sufficiently. Plan to run IES, CDL, and CNL logs. If well appears productive, will run 4 1/2" casing, cementing in 2 stages; will selectively perforate, frac, clean out after frac and complete the well using 2-3/8" O.D. tubing.

Gas is not dedicated.

APPROVAL EXPIRES 12-10-85
UNLESS DRILLING IS COMMENCED,
SPUD NOTICE MUST BE SUBMITTED
WITHIN 10 DAYS.

RECEIVED
JUN 10 1985
OIL CON. DIV.
DIST. 3

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

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

Signed James S. Hazen Title Field Supt. Date 6-10-85

(This space for State Use)

APPROVED BY James S. Hazen TITLE SUPERVISOR DISTRICT 3 DATE JUN 10 1985

CONDITIONS OF APPROVAL, IF ANY:

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-102
Revised 10-1-78STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

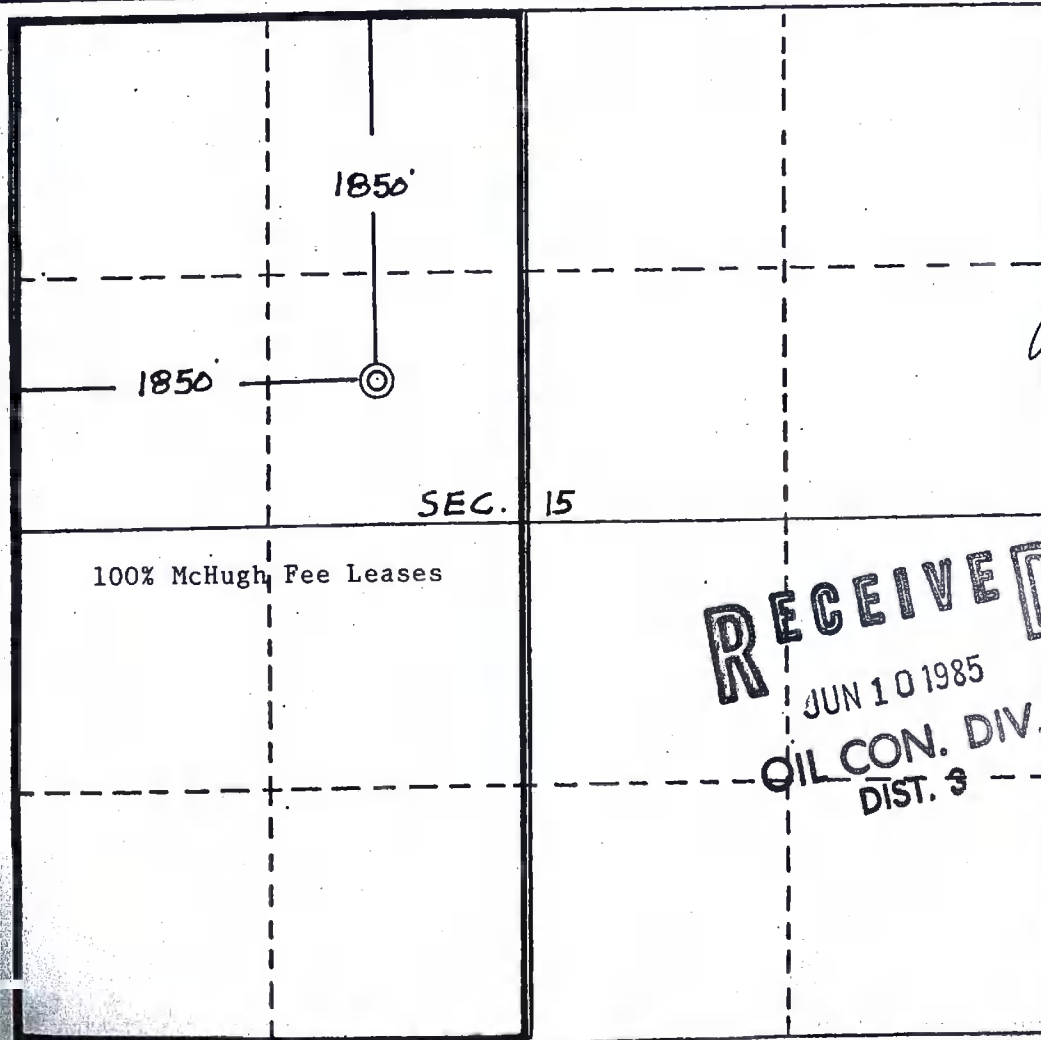
Operator Jerome P. McHugh		Lease Emerald City		Well No. 1-
Unit Letter F	Section 15	Township 31 North	Range 13 West	County San Juan
Actual Footage Location of Well: 1850 feet from the North line and 1850 feet from the West line				
Ground Level Elev. 5758	Producing Formation Dakota	Pool Basin Dakota	Dedicated Acreage: 320.0 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 Declaration of Pooling

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.

Name

James S. Hazen

Position

Field Supt.

Company

Jerome P. McHugh

Date

6-10-85

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

Date Surveyed

November 20, 1984

Registered Professional Engineer
and/or Land Surveyor

Edgar L. Risenhoover
Certificate No. 5979

Edgar L. Risenhoover, L.S.

CMD :
OG5SECT

ONGARD
INQUIRE LAND BY SECTION

01/24/03 14:34:51
OGOMES -TPEB
PAGE NO: 1

Sec : 15 Twp : 31N Rng : 13W Section Type : NORMAL

D 40.00	C 40.00	B 40.00	A 40.00
Fee owned	Fee owned	Fee owned A	Fee owned
E 40.00	F 40.00	G 40.00	H 40.00
Fee owned	Fee owned A	Fee owned	Fee owned

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

01/24/03 14:34:54
OGOMES -TPEB
PAGE NO: 2

Sec : 15 Twp : 31N Rng : 13W Section Type : NORMAL

L 40.00	K 40.00	J 40.00	I 40.00
Fee owned	Fee owned	Fee owned	Fee owned
M 40.00	N 40.00	O 40.00	P 40.00
Fee owned	Fee owned A	Fee owned	Fee owned

PF01 HELP
PF07 BKWD

PF02
PF08 FWD

PF03 EXIT
PF09 PRINT

PF04 GoTo
PF10 SDIV

PF05
PF11

PF06
PF12

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. 7116
Order No. R-6747

APPLICATION OF SOUTHLAND ROYALTY
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 December 30, 1980, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 7th day of August, 1981, 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, pursuant to Section 107 of the Natural Gas Policy Act of 1978, and CFR Section 271.703, applicant Southland Royalty Company requested the designation as a "tight formation" of the Dakota formation underlying the following described lands:

SAN JUAN COUNTY, NEW MEXICO

TOWNSHIP 31 NORTH, RANGE 10 WEST, NMPM
Sections 1 through 36: All

TOWNSHIP 31 NORTH, RANGE 11 WEST, NMPM
Section 1: All
Sections 12 and 13: All
Sections 22 through 27: All
Sections 34 through 36: All

TOWNSHIP 32 NORTH, RANGE 10 WEST, NMPM
Sections 7 through 36: All

TOWNSHIP 32 NORTH, RANGE 11 WEST, NMPM
Sections 7 through 27: All
Sections 34 through 36: All

TOWNSHIP 32 NORTH, RANGE 12 WEST, NMPM
Sections 7 through 33: All

TOWNSHIP 32 NORTH, RANGE 13 WEST, NMPM
Sections 7 through 36: All

containing a total of 93,860.00 acres, more or less.

(3) That at the hearing, applicant requested dismissal of that portion of the application pertaining to Sections 30 and 31, Township 32 North, Range 13 West, NMPM, containing some 989.32 acres, more or less, leaving for consideration some 92,871 acres, more or less.

(4) That said request for dismissal should be approved, and no further consideration given herein to said lands.

(5) That at the hearing, Consolidated Oil and Gas, Incorporated, appeared and requested expansion of the area applied for by applicant Southland Royalty to also include the following described lands for consideration as a "tight formation":

SAN JUAN COUNTY, NEW MEXICO

TOWNSHIP 31 NORTH, RANGE 12 WEST, NMPM
Sections 5 through 8: All
Sections 17 through 20: All
Sections 29 through 32: All

TOWNSHIP 31 NORTH, RANGE 13 WEST, NMPM
Sections 1 through 36: All

containing a total of 29,645 acres, more or less.

(6) That although the aforesaid 29,645 acres, combined with the 92,871 acres remaining in the Southland application, exceeds the 93,860 acres stated in the legal notice for this case as being up for consideration, the 29,645 acres do lie within the area described in said legal notice, it having been advertised that consideration would be given to "the designation of the Dakota formation underlying portions of Townships 31 and 32 North, Ranges 10, 11, 12, and 13 West."

(7) That consideration for designation as a tight formation should be given to the Dakota formation underlying the lands described in Finding No. (5) above, as requested by Consolidated.

(8) That subsequent to the hearing on December 30, 1980, certain parties requested further additions to the lands being considered in this case for designation as a tight formation.

(9) That no evidence appears in the record to support such additional lands and they should not be considered further.

(10) That the lands with which this order will hereinafter be concerned are described as follows:

SAN JUAN COUNTY, NEW MEXICO

TOWNSHIP 31 NORTH, RANGE 10 WEST, NMPM
Sections 1 through 36: All

TOWNSHIP 31 NORTH, RANGE 11 WEST, NMPM
Section 1: All
Sections 12 and 13: All
Sections 22 through 27: All
Sections 34 through 36: All

TOWNSHIP 31 NORTH, RANGE 12 WEST, NMPM
Sections 5 through 8: All
Sections 17 through 20: All
Sections 29 through 32: All

TOWNSHIP 31 NORTH, RANGE 13 WEST, NMPM
Sections 1 through 36: All

TOWNSHIP 32 NORTH, RANGE 10 WEST, NMPM
Sections 7 through 36: All

TOWNSHIP 32 NORTH, RANGE 11 WEST, NMPM
Sections 7 through 27: All
Sections 34 through 36: All

TOWNSHIP 32 NORTH, RANGE 12 WEST, NMPM
Sections 7 through 33: All

TOWNSHIP 32 NORTH, RANGE 13 WEST, NMPM
Sections 7 through 29: All
Sections 32 through 36: All

containing 122,516 acres, more or less, and hereinafter referred to as the "area."

(11) That while the application was for designation of the Dakota formation as a tight formation, the Dakota formation constitutes but a portion of the "Dakota Producing Interval," which, as defined by the Division, comprises the vertical limits of the Basin-Dakota Gas Pool, being from the base of the Greenhorn Limestone to a point 400 feet below the base of said formation and consisting of the Graneros formation, the Dakota formation, and the productive upper limit of the Morrison formation.

(12) That inasmuch as practically all so-called "Dakota" wells drilled in the subject area are, or potentially are, tested in and/or completed in the entire Dakota Producing Interval, and the well data presented at the hearing of this case involves the entire Dakota Producing Interval, the application should be broadened to cover all of said producing interval throughout the area.

(13) That the Dakota Producing Interval, hereinafter referred to as the "Dakota," consists of a near blanket sandstone (probably an almost continuous series of northwest trending barrier beach sandstones composed of fine-grained quartzose sandstones and carbonaceous shales with occasional conglomerates and coals in the basal part).

(14) That from the logs available at the hearing, the top of the Dakota in the area ranges from a depth of 5234 feet to 7220 feet and averages some 6603 feet beneath the surface.

(15) That the only test data for flow holes prior to stimulation for wells within the area indicates that Aztec Pierce Well No. 2 in Section 30, Township 31 North, Range 10 West, NMPM, had a stabilized production rate calculated at atmospheric pressure of 208.1 MCF of gas per day; that other wells in the immediate vicinity of the area but just outside had stabilized production rates calculated at atmospheric pressure prior to stimulation ranging from 21.7 MCF per/day to 224.1 MCF per day.

(16) That none of the stabilized production rates cited above exceeds the maximum stabilized production rate set forth in 18 C.F.R. Section 271.703(c)(2)(i)(B) of 251 MCF per day for wells at the average depth to the top of the formation for this area (6603 feet), and it is not expected that the average well in the area will exceed such rate.

(17) That in situ permeability calculations are available for only four wells in the area, being the Southland Pierce Well No. 2 and Moore No. 8, and the Consolidated Kline No. 1M and Senter No. 1M; that the in situ permeabilities calculated for said wells are .0609 md, .0151 md, .0049 md, and .0146 md, respectively, and average .0239 md.

(18) That the average in situ permeability for all wells in the area is not expected to exceed 0.1 md, the limit set forth in 18 C.F.R. Section 271.703(c)(2)(i)(A).

(19) That prior to stimulation, the average well in the area is expected to produce far less than the maximum five barrels of crude oil per day as set forth in 18 C.F.R. Section 271.703(c)(2)(i)(C).

(20) That 18 C.F.R. Section 271.703(c)(2)(i)(D) provides that "if the formation or any portion thereof was authorized to be developed by infill drilling prior to the date of recommendation and the jurisdictional agency has information which in its judgment indicates that such formation or portion subject to infill drilling can be developed absent the incentive price established in paragraph (a) of this section then the jurisdictional agency shall not include such formation or portion thereof in its recommendation."

(21) That the Division, by its Order No. R-1670-V, dated May 22, 1979, and effective July 1, 1979, approved infill drilling for the Basin-Dakota Gas Pool in San Juan and Rio Arriba Counties, New Mexico, and said pool includes the Dakota Producing Interval in the area under consideration here.

(22) That Southland in this hearing indicated that under current Section 103 prices of the NGPA of 1978, reserves of 350,000 MCF of gas are necessary to provide it with the economics necessary to justify drilling a Dakota well at its current drilling costs, while 150,000 MCF of reserves will justify a well at Section 107(c)(5) prices (tight formations).

(23) That Consolidated in this hearing indicated that under current Section 103 prices of the NGPA of 1978, reserves of 650,000 MCF of gas are necessary to provide it with the economics necessary to justify drilling a Dakota well at its current drilling costs, while 335,000 MCF of reserves will justify a well at Section 107(c)(5) prices (tight formations).

(24) That the wide discrepancy of reserves required to justify drilling according to these two companies' economic analyses probably results primarily from the following three factors:

- (A) Southland is content with a 15 percent rate of return (ROR) on its investment while Consolidated requires a 20 percent ROR.
- (B) Southland estimates that it can drill and complete a Dakota well in the area for approximately \$378,560.00, while Consolidated estimates that it would cost \$475,400.00.
- (C) Southland, in its economic analysis, calculates an 86.5 percent working interest share of well proceeds with 13.5 percent going to royalty, while Consolidated calculates a 75.5 percent working interest share of well proceeds with 24.5 percent going to royalty and overriding royalty.

(25) That while the Consolidated desire for a 20 percent ROR is understandable, the Division believes that the 15 percent ROR sought by Southland is more reasonable.

(26) That it would appear that some items in the Consolidated estimate of well costs are excessive, and that the \$378,560.00 estimate for a completed Dakota well is more realistic than the \$475,400.00 estimate.

(27) That the standard royalty for most leases in the area is 12.5 percent, leaving an 87.5 percent share of well proceeds to the working interest.

(28) That there are an infinite number of overriding royalty arrangements, farm-in arrangements, and other deals by which drilling rights are obtained, and it would be impracticable, if not impossible, for the Division to accommodate each of these carved-out interests when calculating pricing and reserves requirements and determining necessary economic incentives.

(29) That the Southland working interest of 86.5 percent is essentially the same as a standard 87.5 working interest and should be used in this case rather than the Consolidated 75.5 percent working interest.

(30) That the economics as presented by Southland in this case are reasonable, and lands which indicate recoverable reserves of 350,000 MCF or more of gas should be dismissed from further consideration, while lands indicating recoverable reserves of less than 350,000 MCF of gas should be considered for recommendation as a tight formation.

(31) That the Division, in approving infill drilling for the Basin-Dakota Gas Pool, based its approval on the premise that the reservoir was of low permeability and that 320-acre wells were not draining more than the 160-acre tract upon which they were located.

(32) That the remaining reserves under the 160-acre tract upon which the unit well is not located should be similar to, if not equal to, the original reserves under the 160-acre tract upon which the unit well is located.

(33) That cumulative production figures and estimates of ultimate recoverable reserves were presented at the hearing for some of the developed tracts within the area, while cumulative production figures only are available for the remainder of the developed tracts.

(34) That to determine that under certain lands insufficient reserves are available to justify drilling absent the Section 107 incentive price, it is reasonable to make the following assumptions:

- A. No primary drilling, i.e., no drilling on 320-acre spacing is prima facie evidence that the lands are edge lands to the reservoir and drilling has not occurred because of the probable marginal nature of the reserves.
- B. Primary drilling has occurred but the calculated total ultimate reserves or the cumulative production for long-connected wells indicates low ultimate recovery (less than 350,000 MCF of gas).

(35) That to determine that under certain lands sufficient reserves may reasonably be expected to be recovered to justify drilling without the Section 107 incentive price, it is reasonable to make the following assumptions:

- A. Calculated ultimate recoverable reserves are 350,000 MCF or more.
- B. Calculated ultimate recoverable reserves are not available, but cumulative recoveries indicate that 350,000 MCF of gas already has been recovered.

(36) That the assumptions in Findings Nos. (34) B. and (35) A. and B. above may reasonably be based on offsetting wells in a given area.

(37) That primary drilling and some infill drilling has occurred on the following lands, and cumulative recoveries and/or estimates of remaining reserves indicate that more than 350,000 MCF of gas can be recovered by an average well therein, and therefore said lands can be developed absent the incentive price established in 18 C.F.R. Section 271.703(a) and should not be considered for recommendation for designation as a tight formation:

TOWNSHIP 31 NORTH, RANGE 12 WEST, NMPM

Sections 5 through 8: All

Sections 17 through 20: All

Sections 29 through 32: All

TOWNSHIP 31 NORTH, RANGE 13 WEST, NMPM

Sections 12 through 14: All

Sections 22 through 28: All

Sections 33 through 36: All

TOWNSHIP 32 NORTH, RANGE 12 WEST, NMPM

Sections 25 through 27: All

Sections 32 and 33: All

containing 19,602 acres, more or less.

(38) That there are fresh water aquifers underlying the lands being considered, and these aquifers extend to a depth of approximately 1200 feet.

(39) That there is a vertical distance of some 5400 feet between the base of the lowermost of said aquifers and the top of the Dakota, and this distance, combined with the required casing and cementing program for wells in the area, will assure that development of the Dakota will not adversely affect the fresh water aquifers (during both hydraulic fracturing and waste disposal operations) that are or are expected to be used

as a domestic or agricultural water supply.

(40) That the Dakota Producing Interval underlying the following lands meets all of the guidelines set forth in 18 C.F.R. Section 271.703(c)(2)(i), subsections (A), (B), (C), and (D), and should be recommended for designation as a tight formation:

TOWNSHIP 31 NORTH, RANGE 10 WEST, NMPM
Sections 1 through 36: All

TOWNSHIP 31 NORTH, RANGE 11 WEST, NMPM
Section 1: All
Sections 12 and 13: All
Sections 22 through 27: All
Sections 34 through 36: All

TOWNSHIP 31 NORTH, RANGE 13 WEST, NMPM
Sections 1 through 11: All
Sections 15 through 21: All
Sections 29 through 32: All

TOWNSHIP 32 NORTH, RANGE 10 WEST, NMPM
Sections 7 through 36: All

TOWNSHIP 32 NORTH, RANGE 11 WEST, NMPM
Sections 7 through 27: All
Sections 34 through 36: All

TOWNSHIP 32 NORTH, RANGE 12 WEST, NMPM
Sections 7 through 24: All
Sections 28 through 31: All

TOWNSHIP 32 NORTH, RANGE 13 WEST, NMPM
Sections 7 through 29: All
Sections 32 through 36: All

containing some 102,914 acres, more or less, all in San Juan County, New Mexico.

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. Section 271.703, that the Dakota Producing Interval, being from the base of the Greenhorn Limestone to a point 400 feet below the base of said formation and consisting of the Graneros Formation, the Dakota

formation and the productive upper portion of the Morrison formation, underlying the following described lands in San Juan County, New Mexico, be designated as a tight formation:

TOWNSHIP 31 NORTH, RANGE 10 WEST, NMPM
Sections 1 through 36: All

TOWNSHIP 31 NORTH, RANGE 11 WEST, NMPM
Section 1: All
Sections 12 and 13: All
Sections 22 through 27: All
Sections 34 through 36: All

TOWNSHIP 31 NORTH, RANGE 13 WEST, NMPM
Sections 1 through 11: All
Sections 15 through 21: All
Sections 29 through 32: All

TOWNSHIP 32 NORTH, RANGE 10 WEST, NMPM
Sections 7 through 36: All

TOWNSHIP 32 NORTH, RANGE 11 WEST, NMPM
Sections 7 through 27: All
Sections 34 through 36: All

TOWNSHIP 32 NORTH, RANGE 12 WEST, NMPM
Sections 7 through 24: All
Sections 28 through 31: All

TOWNSHIP 32 NORTH, RANGE 13 WEST, NMPM
Sections 7 through 29: All
Sections 32 through 36: All

containing approximately 102,914 acres, more or less.

(2) That no recommendation is made as to those lands described in Finding No. (10) of this order which are not included in Order No. (1) above.

(3) 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/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION COMMISSION

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

CASE NO. 7116 De Novo
Order No. R-6747-A

APPLICATION OF SOUTHLAND ROYALTY
COMPANY FOR DESIGNATION OF A
TIGHT FORMATION, SAN JUAN COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing de novo at 9:00 a.m. on September 29, 1981, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 11th day of March, 1982, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

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

(2) That this case originally came on for hearing on December 30, 1980, before Division Examiner Daniel S. Nutter.

(3) That at the original hearing of this case, Consolidated Oil & Gas, Inc., hereinafter referred to as Consolidated, asked for and was granted permission to intervene in the case, and the area considered for designation as a tight formation was broadened beyond the original lands applied for by Southland Royalty Company, hereinafter referred to as Southland, to include additional lands requested for designation as a tight formation by Consolidated.

(4) That Order No. R-6747 was entered in Case No. 7116 on August 7, 1981, and said order recommended for designation as a tight formation, pursuant to Section 107 of the Natural Gas Policy Act of 1978 and 18 C.F.R. Section 271.703, certain of the lands requested by Southland and certain of the lands requested

by Consolidated, and made no recommendation for designation of the remaining lands requested by Southland and Consolidated.

(5) That on August 24, 1981, Consolidated, pursuant to Section 70-2-13, NMSA 1978 Comp., filed timely application for hearing de novo of Case No. 7116, and the case came on for hearing as noted above, on September 29, 1981.

(6) That Southland, having filed a new and separate application for designation of its area as a tight formation, withdrew from Case No. 7116 at the hearing de novo and asked that the original Southland lands be deleted from the hearing de novo and that that portion of the case relating to such lands be dismissed.

(7) That in accordance with the above, all of those lands covered by the Southland application in the original hearing of this case should be deleted and dismissed from further consideration.

(8) That henceforth in this case, this order shall be concerned with the application of Consolidated Oil & Gas, Inc., for designation of the Dakota formation as a tight formation, underlying the following described lands in San Juan County, New Mexico:

TOWNSHIP 31 SOUTH, RANGE 12 WEST, NMPM

Sections 5 through 8: All

Sections 17 through 20: All

Sections 29 through 32: All

TOWNSHIP 31 NORTH, RANGE 13 WEST, NMPM

Sections 1 through 36: All

containing 29,645 acres, more or less.

(9) That while the application was for designation of the Dakota formation as a tight formation, the Dakota formation constitutes but a portion of the "Dakota Producing Interval," which, as defined by the Division, comprises the vertical limits of the Basin-Dakota Gas Pool, being from the base of the Greenhorn Limestone to a point 400 feet below the base of said formation and consisting of the Graneros formation, the Dakota formation, and the productive upper portion of the Morrison formation.

(10) That inasmuch as practically all so-called "Dakota" wells drilled in the subject area are, or potentially are, tested in and/or completed in the entire Dakota Producing Interval, and the well data presented at the hearing of this

case involves the entire Dakota Producing Interval, the application should be broadened to cover all of said producing interval throughout the area.

(11) That the Dakota Producing Interval, hereinafter referred to as the "Dakota," is comprised of sediments formed during late Cretaceous time. These sediments contain light to dark mottled gray fine to very fine-grained quartz sands in a silt and clay-sized matrix material of very low permeability.

(12) That from the logs available at the hearing, the top of the Dakota in the area ranges from a depth of 6103 feet to 6820 feet and averages some 6544 feet beneath the surface.

(13) That the only test data for calculated stabilized flow rates prior to stimulation for wells within the area indicates that in Township 31 North, Range 13 West, the Consolidated Wilmerding Well No. 1 in the NE/4 NW/4 of Section 10 had a flow rate "too small to measure," the Consolidated Kline Well No. 1 in the NE/4 SE/4 of Section 10 had a flow rate of 12.5 MCF of gas per day, and the Consolidated Senter Well No. 1 in the NE/4 SE/4 of Section 24 had a combined flow rate from two zones of 55 MCF of gas per day. Further, that two Southland wells in the immediate area to the east but just outside the area under consideration, being in Sections 14 and 2, Township 31 North, Range 12 West, had flow rates of 22 and 224 MCF of gas per day, respectively.

(14) That none of the stabilized production rates cited above exceeds the maximum stabilized production rate set forth in 18 C.F.R. Section 271.703(c)(2)(i)(B) of 251 MCF per day for wells at the average depth to the top of the formation for this area (6544 feet), and it is not expected that the average well in the area will exceed such rate.

(15) That the calculated in situ permeability of the Dakota formation in the five wells cited in Finding No. (13) above is as follows: Wilmerding No. 1, less than 0.1 md; Kline No. 1, 0.0049 md; Senter No. 1, 0.0146 md in the Upper Dakota and 0.00068 md in the Lower Dakota; and the two Southland wells in the immediate area to the east, 0.0011 md and 0.0877 md, respectively.

(16) That the average in situ permeability for all wells in the area is not expected to exceed 0.1 md, the limit set forth in 18 C.F.R. Section 271.703(c)(2)(i)(A).

(17) That prior to stimulation, the average well in the area is expected to produce far less than the maximum five

barrels of crude oil per day as set forth in 18 C.F.R. Section 271.703(c)(2)(i)(C).

(18) That 18 C.F.R. Section 271.703(c)(2)(i)(D) provides that "if the formation or any portion thereof was authorized to be developed by infill drilling prior to the date of recommendation and the jurisdictional agency has information which in its judgment indicates that such formation or portion subject to infill drilling can be developed absent the incentive price established in paragraph (a) of this section then the jurisdictional agency shall not include such formation or portion thereof in its recommendation."

(19) That the Division, by its Order No. R-1670-V, dated May 22, 1979, and effective July 1, 1979, approved infill drilling for the Basin-Dakota Gas Pool in San Juan and Rio Arriba Counties, New Mexico, and said pool includes the Dakota Producing Interval in the area under consideration here.

(20) That the Division, in approving infill drilling for the Basin-Dakota Gas Pool, based its approval on the premise that the reservoir was of low permeability and that 320-acre wells were not draining more than the 160-acre tract upon which they were located.

(21) That the remaining reserves under the 160-acre tract upon which the unit well is not located should be similar to, if not equal to, the original reserves under the 160-acre tract upon which the unit well is located.

(22) That according to Consolidated's Exhibit No. 8A, the average cost of a Dakota well completed in the area under consideration, hereinafter referred to as the area, is \$475,400, and according to its Exhibit No. 12, operating costs may be expected to total some \$61,740 during the first 20 years of a well's life and approximately \$3600 per year thereafter.

(23) That according to Consolidated's Exhibit No. 12, under Section 103 prices, a Dakota gas well in the area, with reserves recoverable over a 20-year period as indicated in Column 1 below, may be expected to yield a net income above well costs and operating costs, but before federal income taxes, as shown in Column 2 below and yield a rate of return on investment as shown in Column 3.

<u>COLUMN 1</u> <u>Reserves, MMCF</u>	<u>COLUMN 2</u> <u>Net Income</u>	<u>COLUMN 3</u> <u>Rates of Return</u>
180	\$ 120,297	3.18%
270	\$ 479,860	9.54%
350	\$ 837,754	15.78%
435	\$1,200,854	22.12%
555	\$1,778,604	30.32%

(24) That according to Consolidated's Exhibit No. 12, under Section 107 incentive prices, a Dakota gas well in the area, with 20-year reserves as indicated in Column 1 below may be expected to yield a net income above well costs and operating costs, but before federal income taxes, as shown in Column 2 below and yield a rate of return on investment as shown in Column 3.

<u>COLUMN 1</u> <u>Reserves, MMCF</u>	<u>COLUMN 2</u> <u>Net Income</u>	<u>COLUMN 3</u> <u>Rates of Return</u>
180	\$ 550,345	14.47%
270	\$1,107,833	27.29%
350	\$1,679,273	38.16%
435	\$2,255,196	49.52%
555	\$3,110,619	65.71%

(25) That according to Consolidated's Exhibit No. 13, under Section 103 prices, a Dakota gas well in the area with 20-year reserves as indicated in Column 1 below may be expected to yield a rate of return on investment plus operating expenses and after taxes as shown in Column 2 and obtain a payout as shown in Column 3.

<u>COLUMN 1</u> <u>Reserves, MMCF</u>	<u>COLUMN 2</u> <u>Rate of Return, %</u>	<u>COLUMN 3</u> <u>Payout In Years</u>
180	2.25	17.37
270	6.65	9.33
350	10.47	6.57
435	14.44	5.14
555	19.72	4.09

(26) That according to the aforementioned Exhibit No. 13, under Section 107 incentive prices, a Dakota gas well in the area with 20-year reserves as indicated in Column 1 below may be expected to yield a rate of return on investment plus operating expenses and after taxes as shown in Column 2 and obtain a payout as shown in Column 3.

COLUMN 1 <u>Reserves, MMCF</u>	COLUMN 2 <u>Rate of Return, %</u>	COLUMN 3 <u>Payout In Years</u>
180	9.27	6.69
270	17.41	4.37
350	24.39	3.47
435	31.80	2.89
555	42.13	2.42

(27) That from the data shown in Finding No. (23) above, 20-year recoverable reserves in the range of 435 million cubic feet will yield a rate of return before taxes of 22.12 percent under Section 103 gas prices.

(28) That from the data shown in Finding No. (25) above, 20-year recoverable reserves in the range of 435 million cubic feet may be expected to pay out all drilling and operating costs, after taxes, in approximately 5.14 years under Section 103 gas prices.

(29) That in the judgment of the Commission, lands indicating 435 or more million cubic feet of gas reserves recoverable over a 20-year period can be developed absent the incentive price of Section 107 of the Natural Gas Pricing Act of 1978.

(30) That in the judgment of the Commission, land indicating less than 435 million cubic feet of gas reserves recoverable over a 20-year period are less likely to be developed without the incentive price of Section 107 of the Natural Gas Pricing Act of 1978 and therefore should be recommended for designation as a tight formation eligible for the incentive price.

(31) That Consolidated's Exhibit 1 shows the location of Dakota wells in the area, their 1980 production, and their cumulative production since completion, and the cumulative production (over a period of approximately 20 years or less) ranges from very low obviously non-commercial wells to almost three billion cubic feet of gas.

(32) That in accordance with the Commission's previous findings that the Dakota is of low permeability and the original wells on 320-acre tracts were not draining more than the 160-acre tract upon which they were located, and that the reserves under the 160-acre upon which the original unit well is not located should be similar to, if not equal to, the original reserves under the 160-acre tract upon which the unit well is located, it is reasonable to assume that the infill wells in the area should recover gas reserves similar to, if not equal to, the cumulative reserves indicated on Consolidated's Exhibit 1.

Case No. 7116 De Novo
Order No. R-6747-A

(33) That pursuant to previous Findings Nos. (20) and (21), and to Findings Nos. (31) and (32) above, and to Consolidated's Exhibit 1, it is reasonable to assume that the average infill well drilled in the following described area will encounter recoverable reserves of 435 million or more cubic feet of gas:

TOWNSHIP 31 NORTH, RANGE 12 WEST, NMPM

Sections 5 through 8: All
Sections 17 through 20: All
Sections 29 through 32: All

TOWNSHIP 31 NORTH, RANGE 13 WEST, NMPM

Section 13: All
Sections 22 through 27: All
Sections 33 through 36: All

containing 14,482 acres, more or less.

(34) That it is the judgment of the Commission that the above-described lands can be developed absent the incentive price established in 18 C.F.R. Section 271.703(a) and should not be further considered for recommendation for designation as a tight formation.

(35) That there are fresh water aquifers underlying the lands being considered, and these aquifers extend to a depth of approximately 1000 feet.

(36) That there is a vertical distance of some 5500 feet between the base of the lowermost of said aquifers and the top of the Dakota, and this distance, combined with the required casing and cementing program for wells in the area, will assure that development of the Dakota will not adversely affect the fresh water aquifers (during both hydraulic fracturing and waste disposal operations) that are or are expected to be used as a domestic or agricultural water supply.

(37) That the Dakota Producing Interval underlying the following lands meets all of the guidelines set forth in 18 C.F.R. Section 271.703(c)(2)(i), subsections (A), (B), (C), and (D), and should be recommended for designation as a tight formation:

TOWNSHIP 31 NORTH, RANGE 13 WEST, NMPM

Sections 1 through 12: All
Sections 14 through 21: All
Sections 28 through 32: All

containing some 15,163 acres, more or less, all in San Juan County, New Mexico.

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. Section 271.703, that the Dakota Producing Interval, being from the base of the Greenhorn Limestone to a point 400 feet below the base of said formation and consisting of the Graneros formation, the Dakota formation and the productive upper portion of the Morrison formation, underlying the following described lands in San Juan County, New Mexico, be designated as a tight formation:

TOWNSHIP 31 NORTH, RANGE 13 WEST, NMPM.
Sections 1 through 12: All
Sections 14 through 21: All
Sections 28 through 32: All

containing approximately 15,163 acres, more or less.

(2) That no recommendation is made as to those lands described in Finding No. (8) of this order which are not included in Order No. (1) above.

(3) 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 COMMISSION


EMERY C. ARNOLD, Chairman

ALEX J. ARMIJO, Member


JOE D. RAMEY, Member & Secretary

S E A L

(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 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, NE., Washington, D.C. 20426, on or before June 2, 1982. Each person submitting a comment should indicate that the comment is being submitted in Docket No. RM79-76 (New Mexico-14), 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, NE., 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 that they wish 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 May 18, 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, Chapter I, 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 is revised by adding new paragraph (d)(117) to read as follows:

§ 271.703 Tight formations.

* * * * *

(d) *Designated tight formations.* * * *

(78) through (116) [Reserved]

(117) *Dakota Formation in New Mexico.* RM79-76 (New Mexico-14).

(i) *Delineation of formation.* The Dakota Formation is located in Township 31 North, Range 13 West, Sections 1 through 12, Sections 14 through 21, Sections 28 through 32, NMPM, San Juan County, New Mexico. The formation is within the Basin-Dakota Gas Pool, in the northwestern portion of the San Juan Basin near the Hogback Monocline.

(ii) *Depth.* The Dakota Formation delineates the "Dakota Producing Interval" which includes the Graneros Shale Formation and the productive upper portion of the Morrison Formation as well as the Dakota Formation. The average depth to the top of the Dakota Formation is 6,544 feet. Gross thickness of the formation is approximately 400 feet.

¶ 32,220 High-Cost Gas Produced From Tight Formations (New Mexico-14)

47 F.R. 19719 (May 7, 1982).

18 CFR Part 271

[Docket No. RM 79-76 (New Mexico-14)]

High-Cost Gas Produced From Tight Formations; New Mexico

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 Dakota Formation be designated as a tight formation under § 271.703(d).

DATE: Comments on the proposed rule are due on June 2, 1982.

PUBLIC HEARING: No public hearing is scheduled in this docket as yet. Written requests for a public hearing are due on May 18, 1982.

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

FOR FURTHER INFORMATION CONTACT: Leslie Lawner, (202) 357-8511, or Victor Zabel, (202) 357-8616.

**S U P P L E M E N T A R Y
I N F O R M A T I O N:**

Issued: May 3, 1982.

¶ 32,220

I. Background

On April 19, 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 FR 56034, August 22, 1980), that the 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 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 Dakota Formation is located in San Juan County, New Mexico, in a portion of Township 31 North, Range 13 West, NMPM, in the Basin Dakota Gas Pool, in the northwestern portion of the San Juan Basin near Hogback Monocline. The average depth to the top of the Dakota Formation is 6,544 feet. The gross thickness of the formation is approximately 400 feet.

The recommended area is subject to New Mexico Order No. R-1670-V, issued on May 22, 1979, which authorizes infill drilling in the Basin-Dakota Gas Pool. Accordingly, certain portions within the proposed area may be subject to exclusion pursuant to § 271.703(c)(2)(i)(D) of the 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. 7116 De Novo 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;

SUMMARY: This action establishes the Rangeley, Maine, 700 Foot Transition Area so as to provide protected airspace for aircraft executing a new Nondirectional Radio Beacon Airport (NDB-A) Standard Instrument Approach Procedure (SIAP) to the Rangeley Municipal Airport, Rangeley, Maine.

EFFECTIVE DATE: 0901 GMT, October 23, 1986.

FOR FURTHER INFORMATION CONTACT: Stanley E. Matthews, Manager, Operations, Procedures and Airspace Branch, ANE-530, Federal Aviation Administration, Air Traffic Division, 12 New England Executive Park, Burlington, Massachusetts 01803. Telephone (617) 273-7139.

SUPPLEMENTARY INFORMATION:

History

On May 12, 1986, the FAA proposed to amend § 71.181 of Part 71 of the Federal Aviation Regulations (14 CFR Part 71) to establish the Rangeley, Maine, 700 Foot Transition Area so as to provide protected airspace for aircraft executing a new Nondirectional Radio Beacon Airport (NDB-A) Standard Instrument Approach Procedure (SIAP) to the Rangeley Municipal Airport, Rangeley, Maine. (51 FR 17363).

Interested parties were invited to participate in this Rulemaking Proceeding by submitting written comments on the proposal to the FAA. No comments objecting to the proposal were received. Except for editorial changes, this amendment is the same as that proposed in the Notice. Section 71.181 of Part 71 of the Federal Aviation Regulations was republished in Handbook 7400.8B dated January 2, 1986.

The Rule

This amendment to Part 71 of the Federal Aviation Regulations establishes the Rangeley, Maine, 700 Foot Transition Area so as to provide protected airspace for Instrument Flight Rule aircraft executing a new Nondirectional Radio Beacon Airport (NDB-A) Standard Instrument Approach Procedure (SIAP) to the Rangeley Municipal Airport, Rangeley, Maine.

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore, (1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated

impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 71

Aviation safety, Transition areas.

Adoption of the Amendment

PART 71—(AMENDED)

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration (FAA) amends Part 71 of the FAR (14 CFR Part 71) as follows:

1. The authority citation for Part 71 continues to read as follows:

Authority: 49 U.S.C. 1348(a), 1354(a), 1510; Executive Order 10854; 49 U.S.C. 108(g) (Revised Pub. L. 97-449, January 12, 1983); 14 CFR 11.68.

§ 71.181 (Amended)

2. By amending Section 71.181 as follows:

Rangeley, Maine, Transition Area

That airspace extending upward from 700 feet above the surface within a 6.5 mile radius of the center of the Rangeley Municipal Airport, latitude 44 59'00" N., longitude 70 39'45" W., Rangeley, Maine, and within 3.5 miles each side of the Rangeley NDB, latitude 44 58'02" N., longitude 70 45'03" W., 244 Magnetic (286 True) bearing from the Rangeley NDB, extending from the 6.5 mile radius to 10 miles southwest of the Rangeley NDB.

Issued in Burlington, Massachusetts, on July 21, 1986.

James L. Lucas,

Manager, Air Traffic Division, ANE-500.

[FR Doc. 86-17510 Filed 8-4-86; 8:45 am]

BULLETIN CODE 4910-13-21

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

18 CFR Part 271

(Docket No. RM79-75-115 (New Mexico-14); Order No. 455)

High-Cost Gas Produced From Tight Formations; New Mexico

Issued: July 31, 1986.

AGENCY: Federal Energy Regulatory Commission, DOE.

ACTION: Final rule.

SUMMARY: Section 107(c)(5) of the Natural Gas Policy Act of 1978 authorizes the Federal Energy

Regulatory Commission to designate certain types of 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 rule designating natural gas produced from tight formations as high-cost gas which may receive an incentive price. 18 CFR 271.703 (1986). That rule established procedures for jurisdictional agencies to submit recommendations of areas for designation as tight formations. This order adopts the recommendation of the State of New Mexico Energy and Mineral Department Oil Conservation Division that portions of the Dakota Producing Interval located in the Basin-Dakota Gas Pool, San Juan County, New Mexico, be designated as a tight formation under § 271.703(d) of the Commission's regulations.

EFFECTIVE DATE: This rule is effective September 2, 1986.

FOR FURTHER INFORMATION CONTACT: Mitchell L. Cohen, (202) 357-5491; Victor H. Zabel, (202) 357-5816; or Michael J. Boyle, (202) 357-5689.

SUPPLEMENTARY INFORMATION:

Before Commissioners: Anthony G. Sousa, Acting Chairman; Charles G. Stalon, Charles A. Trebrandt and C.M. Neeve.

Based on the recommendations made by the State of New Mexico Energy and Minerals Department Oil Conservation Division (New Mexico), the Federal Energy Regulatory Commission (Commission) amends its regulations¹ to include a portion of the Dakota Producing Interval in the Basin-Dakota Gas Pool, San Juan County, New Mexico, as a designated tight formation eligible for incentive pricing.

Background

On April 18, 1982, the Commission received a recommendation pursuant to § 271.703(d) of the Commission's regulations² from New Mexico that a specified area of the Dakota Producing Interval located in the Basin-Dakota Gas Pool, San Juan County, New Mexico, be designated as a tight formation. A notice proposing the designation was issued on May 3, 1982.³ Southern California Gas

¹ 18 CFR 271.703(d) (1986).

² *Id.*

³ 47 FR 19719 (May 7, 1982). The Commission received three comments on the proposed rule: one in support of New Mexico's recommendation from Husky Oil Company and two in opposition, one jointly from Southern California Gas Company and Pacific Lighting Gas Supply Company and one from Pacific Gas and Electric Company. No party requested a public hearing.

Company, Pacific Lighting Gas Supply Company (SoCal/PLGS), and Pacific Gas and Electric Company filed comments stating that certain acreage could be subject to exclusion pursuant to § 271.703(c)(2)(i)(D) of the Commission's regulations since, in their view, the area was previously authorized for infill drilling by New Mexico and could be developed without incentive pricing. SoCal/PLGS also claimed that the royalty rate and average well cost data used by Consolidated Oil and Gas, Inc. (Consolidated) to support its original application to New Mexico were not representative and should not be relied upon. They further argue that producers will have little incentive to keep costs down if they know that they can rely on such costs to show the need for incentive pricing.

On June 24, 1982, the Commission requested additional information, specifically the spud dates for the wells drilled into the Dakota Formation within the application area. The Commission received that information on January 23, 1985.

Discussion

The evidence submitted by New Mexico supports the assertion that certain acreage in the Dakota Producing Interval in the Basin-Dakota Gas Pool, San Juan County, New Mexico, meets the guidelines contained in § 271.703(c)(2)(i)(D) of the Commission's regulations, excluded nearly half of the acreage originally applied for by Consolidated because that area could be economically developed without additional incentives. This Commission will not disturb the findings by New Mexico that incentive pricing is necessary for development of the recommended area, since New Mexico's recommendation is supported by evidence in the record which is uncontradicted by opposing commenters. Accordingly, the Commission adopts New Mexico's recommendation.

The original application filed by Consolidated with New Mexico sought tight formation designation only for the Dakota Formation underlying 29,645 acres. New Mexico had sufficient data to consider a larger stratigraphic area and made its recommendation for the Dakota Producing Interval (comprised of the Graneros Shale Formation, the Dakota Formation, and the productive upper portion of the Morrison Formation). Based upon economic data provided by Consolidated, however, New Mexico excluded 14,482 acres from the original application area. New Mexico states that in its judgment the excluded acreage can be developed absent the incentive price established in 18 CFR 271.703(a) (1986). Thus, New Mexico's recommendation to the Commission is for some 15,163 acres of the Dakota Producing Interval in the

Basin-Dakota Gas Pool, San Juan County, New Mexico.

Analysis of the data submitted indicates that the guidelines contained in § 271.703(c)(2)(i) are satisfied.⁴ The average *in situ* gas permeability throughout the Dakota Producing Interval is expected to be 0.0296 millidarcy⁵ which is less than the maximum allowable 0.1 millidarcy. The average observed flow rate prior to stimulation is sixty-three Mcf per day⁶ which is less than the maximum allowable rate of 251 Mcf per day. None of the wells drilled into the Dakota Producing Interval within the recommended area are expected to produce, prior to stimulation, more than five barrels of crude oil per day. Finally, even though the Basin-Dakota Gas Pool in San Juan County is authorized for infill drilling,⁷ the record supports New Mexico's holding that incentive prices are necessary for the development of the recommended area. The assertion by SoCal/PLGS that New Mexico's consideration, are unrepresentative in the area. New Mexico's reliance on the royalty rates provided by Consolidated was unreasonable is unsupported. SoCal/PLGS have provided no evidence that such rates, which are legitimate expenses for New Mexico's reliance on the average well cost data provided by Consolidated also appears reasonable and no contrary information has been provided by opposing commenters. New Mexico, applying the standard set forth in § 271.703(c)(2)(i)(D) of the Commission's regulations, excluded

nearly half of the acreage originally applied for by Consolidated because that area could be economically developed without additional incentives. This Commission will not disturb the findings by New Mexico that incentive pricing is necessary for development of the recommended area, since New Mexico's recommendation is supported by evidence in the record which is uncontradicted by opposing commenters. Accordingly, the Commission adopts New Mexico's recommendation.

The Commission orders

The Commission adopts the

⁴ The analysis included the data from the two wells outside the original application area.

⁵ The average *in situ* gas permeability of those wells within the original application area is 0.0234 millidarcy.

⁶ The average flow rate for those wells within the original application area is twenty-two Mcf per day.

⁷ New Mexico Order No. R-1870-V, effective July 1, 1979.

recommendation made by the State of New Mexico Energy and Minerals Department Oil Conservation Division that a portion of the Dakota Producing Interval within the Basin-Dakota Gas Pool, San Juan County, New Mexico, be designated as a tight formation under § 271.703(d).

This amendment shall become effective September 2, 1986.

List of Subjects in 18 CFR Part 271

Natural gas, Incentive price, Tight formations.

In consideration of the foregoing, Part 271 of Subchapter H, Chapter I, Title 18, Code of Federal Regulations, is amended as set forth below.

By the Commission.

Kenneth F. Plumb,
Secretary.

PART 271—(AMENDED)

1. The authority citation for Part 271 continues to read as follows:

Authority: 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.

2. Section 271.703 is amended by adding paragraph (d) (197) to read as follows:

§ 271.703 Tight formations.

(d) Designated tight formations.

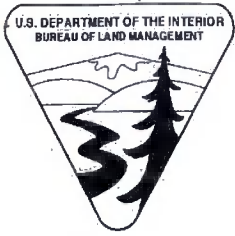
(197) Dakota Producing Interval in New Mexico, RM79-76 (New Mexico-14).

(i) *Delineation of formation.* The Dakota Producing Interval is located in Township 31 North, Range 13 West, Sections 1 through 12, Sections 14 through 21, Sections 28 through 32, NMPM, San Juan County, New Mexico. The interval is within the Basin-Dakota Gas Pool, in the northwestern portion of the San Juan Basin near the Hogback Monocline.

(ii) *Depth.* The Dakota Producing Interval is composed of the Graneros Shale Formation, the Dakota Formation, and the productive upper portion of the Morrison Formation. The average depth to the top of the Dakota Formation is 6,544 feet. Gross thickness of the interval is approximately 400 feet.

[FR Doc. 86-17505 Filed 8-4-86; 8:45 am]

BULLETIN CODE 6717-01-M



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

NGPA Processing Center
435 Montano Road, N.E.
Albuquerque, New Mexico 87107
www.nm.blm.gov

IN REPLY REFER TO:

1/15/02

NMOCD

Attn: Michael Stogner
1220 So. St. Francis Dr.
Santa Fe, NM 87505

Michael,

Enclosed are two NGPA applications from Dugan Production Corp. which are located on state land. Please accept the applications for the Emerald City #1 and Holly #1 wells for consideration.

Mr. John Roe is being notified by copy of this letter that these applications have been forwarded to you. Please call me at 505-761-8772 if you have any questions.

Thank you,

Arlene Salazar
Natural Gas Regulatory Specialist

Enclosures

Copy to Return to
Dugan Prod.



dugan production corp.

January 9, 2003

Ms. Arlene Salazar
Bureau of Land Management
435 Montano Road, N.E.
Albuquerque, NM 87107-4535

Re: NGPA Category Determination (107TF)
Dugan Production's Emerald City #1 (API No. 30-045-26405)
Basin Dakota Prorated Gas Pool
SENW Sec. 15, T31N, R13W
San Juan County, New Mexico

Dear Ms. Salazar,

Enclosed for your consideration is Dugan's application, requesting a Section 107, tight formation, NGPA category determination for the captioned well.

Enclosed are the following items:

- a. Completed FERC Form 121
- b. Copy of all well completion reports and NMOCD form C-104 dated 6-10-92 reflecting operator change from Jerome P. McHugh to Dugan Production Corp. effective 6-1-92.
- c. Copy of the well location plat (NMOCD Form C-102), which presents the surface location for the Emerald City #1, along with the W/2 320 acre spacing unit for the Basin Dakota completion. This location is within the tight sand area designated by NM14.
- d. Copy of the Dual Induction Log over the Dakota interval.
- e. My statement regarding spud date of the subject well.

Should you have questions or need additional information, please let me know.

Sincerely,

John D. Roe

John D. Roe
Engineering Manager

JDR/tmf

Enclosures



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

Bill Richardson
Governor
Joanna Prukop
Cabinet Secretary

January 24, 2003

Lori Wrotenbery
Director
Oil Conservation Division

Dugan Production Corporation
Attention: John D. Roe, Jr.
P. O. Box 420
Farmington, New Mexico 87499-0420

Re: *Applications for Wellhead Category Determination
NGPA Section 107 - Tight Formation*

Dear Mr. Roe:

Last week (Friday, January 17, 2003) Ms. Arlene Salazar, Natural Gas Regulatory Specialist with the U. S. Bureau of Land Management in Albuquerque, New Mexico, forwarded two NGPA Section 107 – Tight Formation filings (see copy of letter attached) that you submitted to her on January 13, 2003 for Dugan Production Corporation's:

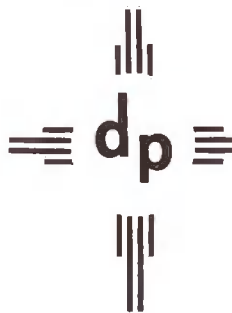
- (1) *Holly Well No. 1 (API No. 30-045-23149), located 1850 feet from the South line and 990 feet from the West line (Unit L) of Section 16, Township 24 North, Range 9 West, NMPM, Basin-Dakota Pool (71599), San Juan County, New Mexico; and*
- (2) *Emerald City Well No. 1 (API No. 30-045-26405), located 1850 feet from the North and West lines (Unit F) of Section 15, Township 31 North, Range 13 West, NMPM, Basin-Dakota Pool (71599), San Juan County, New Mexico.*

The Holly Well No. 1 is on a State lease and the Emerald City Well No. 1 is on a fee lease and in accordance with FERC requirements and procedures [Part 270, Subpart B, Section 270.401 (c) (22)] the New Mexico Oil Conservation Division is the appropriate jurisdictional agency for such initial filings. Subsequent to my review, I find that in order to complete both filings, please submit for each: (i) the required \$25.00 filing fee, as provided under Rule 2 of the Division's "*Special Rules for Applications for Wellhead Price Ceiling Category Determinations*," as promulgated by Division Order No. R-5878-B, as amended (see copy of Division Order attached); and (ii) completed and signed Division Forms C-132 (also attached).

Once received I can submit the completed applications to the FERC in Washington, D.C. for final review. Should you have any questions concerning this matter please contact me in Santa Fe at (505) 476-3465. Thank you.

Sincerely,

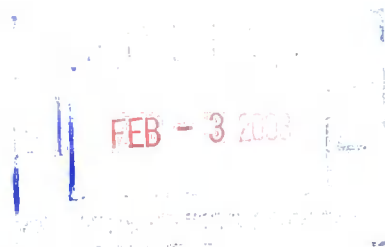
Michael E. Stogner
Chief Hearing Officer/Engineer



dugan production corp.

January 29, 2003

Mr. Michael Stogner
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505



Re: Application for Wellhead Category Determination
NGPA Section 107 Tight Formation
Dugan Production's Emerald City No. 1 (API No. 30-045-26405)
Fee Lease
San Juan County, New Mexico

Dear Mr. Stogner:

Attached are two copies of form C-132 and the \$25.00 filing fee for the subject well. There are no affidavits of mailing or delivery since Dugan Production Corp. holds 100% of the working interest in this well and there are no other parties to our gas purchase agreement.

Please add this to the application dated 1-9-03 and initially mailed to the Bureau of Land Management and subsequently forwarded to you by the BLM. I apologize for not sending directly to you and appreciate your handling of this application.

Should you have questions or need additional information, please let me know.

Sincerely,

John D. Roe

John D. Roe
Engineering Manager

JDR/tmf

enclosures

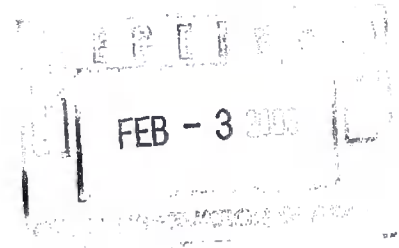
dugan production corp.

P.O. BOX 420 • FARMINGTON, N.M. 87499-0420 • (505) 325-1821

Check Date : 1/29/2003

Check # 79456 jdr/tmf

Inv No	Date	Description	G/L Account	Amount
	1/29/2003	Application fee for Category Determination NGPA Section 107 Tight Formation Emerald City No. 1 (30-045-26405)		\$ 25.00
Check Total: \$				25.00



DUG 102 (5/02)

VERIFY THE AUTHENTICITY OF THIS MULTI-TONE SECURITY DOCUMENT. CHECK BACKGROUND AREA CHANGES COLOR GRADUALLY FROM TOP TO BOTTOM.

 **dugan production corp.**
P.O. BOX 420 • FARMINGTON, N.M. 87499-0420 • (505) 325-1821

WELLS FARGO
Farmington, New Mexico 87401

95-219
1070

079456

1/29/2003

PAY***** Twenty-five dollars & no/100's

\$ 25.00

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87504

TO
THE
ORDER
OF

John A. Lynch

⑈079456⑈ ⑆107002192⑆ 9892010194⑈