

DISTRICT I

Oil & Gas, Energy, Minerals and Natural Resources Department

DISTRICT II

811 South First St. Artesia NM 88201-2835

DISTRICT III

1000 Rio Grande Rd. Aztec NM 87410-1593

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429Form C-107-A
New 3-12-90

APPROVAL PROCESS

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Conoco Inc

10 Desta Dr. Ste 100W, Midland, Tx 79705-4500

Lucky BLS

#8

Section 20, T-28-N, R-9-W, M

San Juan

Lease

Well No

Unit Ltr Sec Twp Rge

County

OGRIG NO 005073

Property Code

22395

API NO

30-045-13254

Spacing Unit Lease Types (check 1 or more)

Federal ☒ State ☐ (and/or) Fee ☐

The following facts are submitted in support of downhole commingling	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Aztec Pictured Cliffs 71280		Blanco Mesaverde 72319
2. Top and Bottom of Pay Section (Perforations)	2040-2082'		4288-4424'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure	a (Current)	a	a
Oil Zones - Artificial Lift	Estimated Current		419
Gas & Oil - Flowing	Measured Current		
All Gas Zones	Estimated Or Measured Original		1222
6. Oil Gravity (°API) or Gas BT Content	1150		1200
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no)	Yes		Yes
8. If Shut-In give date and oil/gas/water rates of last production	Date Rates	Date Rates	Date Rates
Note: For new zones with no production history, applicant should be required to attach production estimates and supporting data.			
9. If Producing, date and oil/gas/water rates of recent test (within 60 days)	Date Rates 8/97 78 MCFD, 0 BOPD, 0 BWPD	Date Rates	Date Rates 8/97 19 MCFD, 0.4 BOPD, 0 BWPD
10. Field Percentage Allocation Formula % for each zone	0 52		100 48

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes ☐ NoIf not, have all working, overriding, and royalty interests been notified by certified mail? ☒ Yes ☐ NoHave all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☐ No11. Will cross-flow occur? ☒ Yes ☐ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☒ Yes ☐ No (If No, attach explanation)12. Are all produced fluids from all commingled zones compatible with each others ☒ Yes ☐ No13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application ☒ Yes ☐ No

15. NMOC Reference Cases for Rule 303(D) Exceptions: ORDER NO(S) Dual Produced Order # DC-418

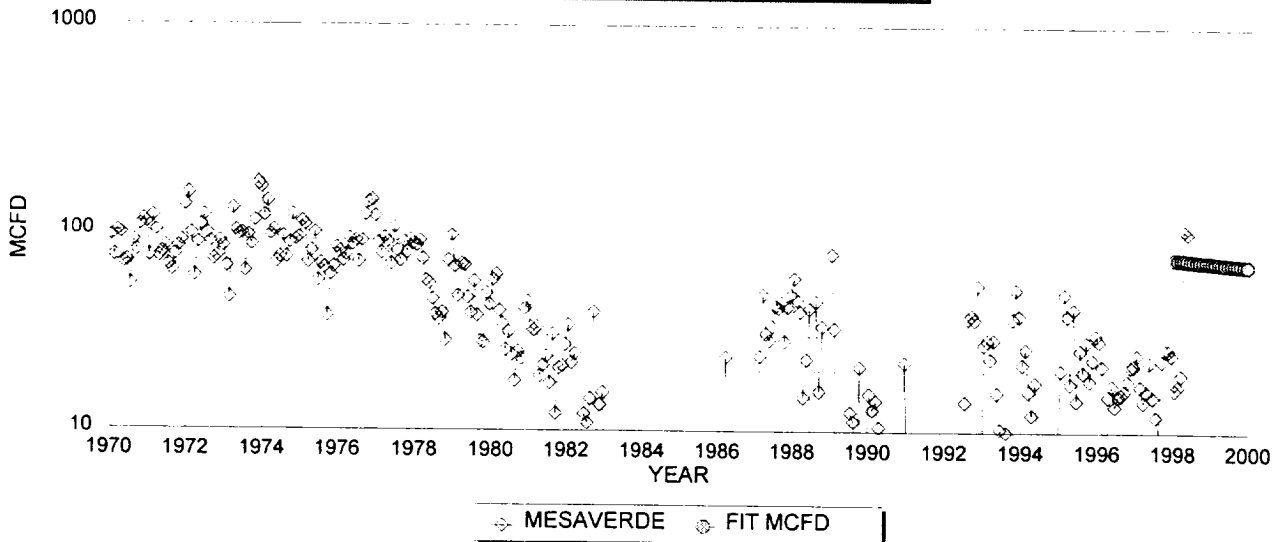
16. ATTACHMENTS

- C-102 for each zone to be commingled showing its spacing unit and acreage dedication
- Production curve for each zone for at least one year. (If not available, attach explanation)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of all offset operators.
- Notification list of working, overriding and royalty interests for uncommon interest cases.
- Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Kay Maddox TITLE Regulatory Agent DATE August 12, 1998TYPE OR PRINT NAME Kay Maddox TELEPHONE NO. (915) 686-5798

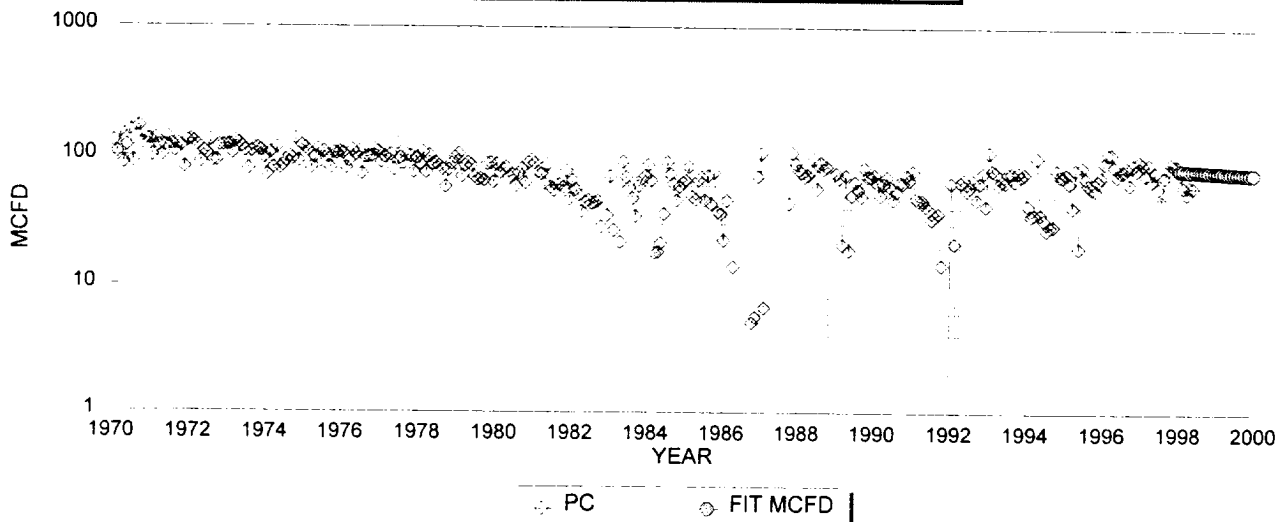
LACKEY B LS 8 MESAVERDE PRODUCTION
SECTION 20M-28N-09W



MESAVERDE HISTORICAL DATA: 1ST PROD: 06/57 MV PROJECTED DATA

OIL CUM:	14.82 MBO	1/1/98 Qi:	75 MCFD	0.98 BOPD
GAS CUM:	1128.9 MMCF	DECLINE RATE:	4.0% (EXPONENTIAL)	
OIL YIELD:	0.0131 BBL/MCF			

LACKEY B LS 8 PICTURED CLIFFS PRODUCTION
SECTION 20M-28N-09W



PC HISTORICAL DATA: 1ST PROD: 06/57 PC PROJECTED DATA

OIL CUM:	0.0 MBO	1/1/98 Qi:	83 MCFD	0.00 BOPD
GAS CUM:	1461.0 MMCF	DECLINE RATE:	4.0% (EXPONENTIAL)	
OIL YIELD:	0.0000 BBL/MCF			

FIXED COMMINGLE ALLOCATION FACTORS:

	GAS	OIL	GAS ALLOCATION BASED ON PROJECTED 1998 RATES
MESAVERDE	48%	100%	OIL ALLOCATION BASED ON WEIGHTED CUM OIL YIELDS
PICT CLIFFS	52%	0%	

NOTE: ALL PRODUCTION DATA FROM DWIGHTS ENERGYDATA

Calculate BHP and Z-factor from surface shut-in pressure

DESCRIPTION:	Mesaverde Formation - original pressure based on ISIP		
WELL NAME :	Lackey B LS 8 (20M 28N 09W)		
GAS GRAVITY:	0.70	% N2	0.40 %
CONDENSATE (YES=1):	1	% CO2	0.85 %
RESERVOIR TEMP:	150 'F	% H2S	0.00 %
SURFACE TEMP:	60 'F	Pc =	667.68
DEPTH OF ZONE:	4,356 feet	Tc =	381.89

SURFACE PRES	BHP	Z	BHP/Z
psi	psi		psi
1,081	1,222	0.8704	1,404

Calculate BHP and Z-factor from surface shut-in pressure

DESCRIPTION:	Mesaverde Formation - current pressure based on SIP		
WELL NAME :	Lackey B LS 8 (20M 28N 09W)		
GAS GRAVITY:	0.70	% N2	0.40 %
CONDENSATE (YES=1):	1	% CO2	0.85 %
RESERVOIR TEMP:	150 'F	% H2S	0.00 %
SURFACE TEMP:	60 'F	Pc =	667.68
DEPTH OF ZONE:	4,356 feet	Tc =	381.89

SURFACE PRES	BHP	Z	BHP/Z
psi	psi		psi
376	419	0.9511	440

Calculate BHP and Z-factor from surface shut-in pressure

DESCRIPTION:	Pictured Cliffs Formation - original pressure based on ISIP		
WELL NAME :	Lackey B LS 8 (20M 28N 09W)		
GAS GRAVITY:	0.65	% N2	0.25 %
CONDENSATE (YES=1):	0	% CO2	0.80 %
RESERVOIR TEMP:	115 'F	% H2S	0.00 %
SURFACE TEMP:	60 'F	Pc =	673.92
DEPTH OF ZONE:	2,061 feet	Tc =	372.60

SURFACE PRES	BHP	Z	BHP/Z
psi	psi		psi
634	667	0.9137	730

Calculate BHP and Z-factor from surface shut-in pressure

DESCRIPTION:	Pictured Cliffs Formation - current pressure based on SIP		
WELL NAME :	Lackey B LS 8 (20M 28N 09W)		
GAS GRAVITY:	0.65	% N2	0.25 %
CONDENSATE (YES=1):	0	% CO2	0.80 %
RESERVOIR TEMP:	115 'F	% H2S	0.00 %
SURFACE TEMP:	60 'F	Pc =	673.92
DEPTH OF ZONE:	2,061 feet	Tc =	372.60

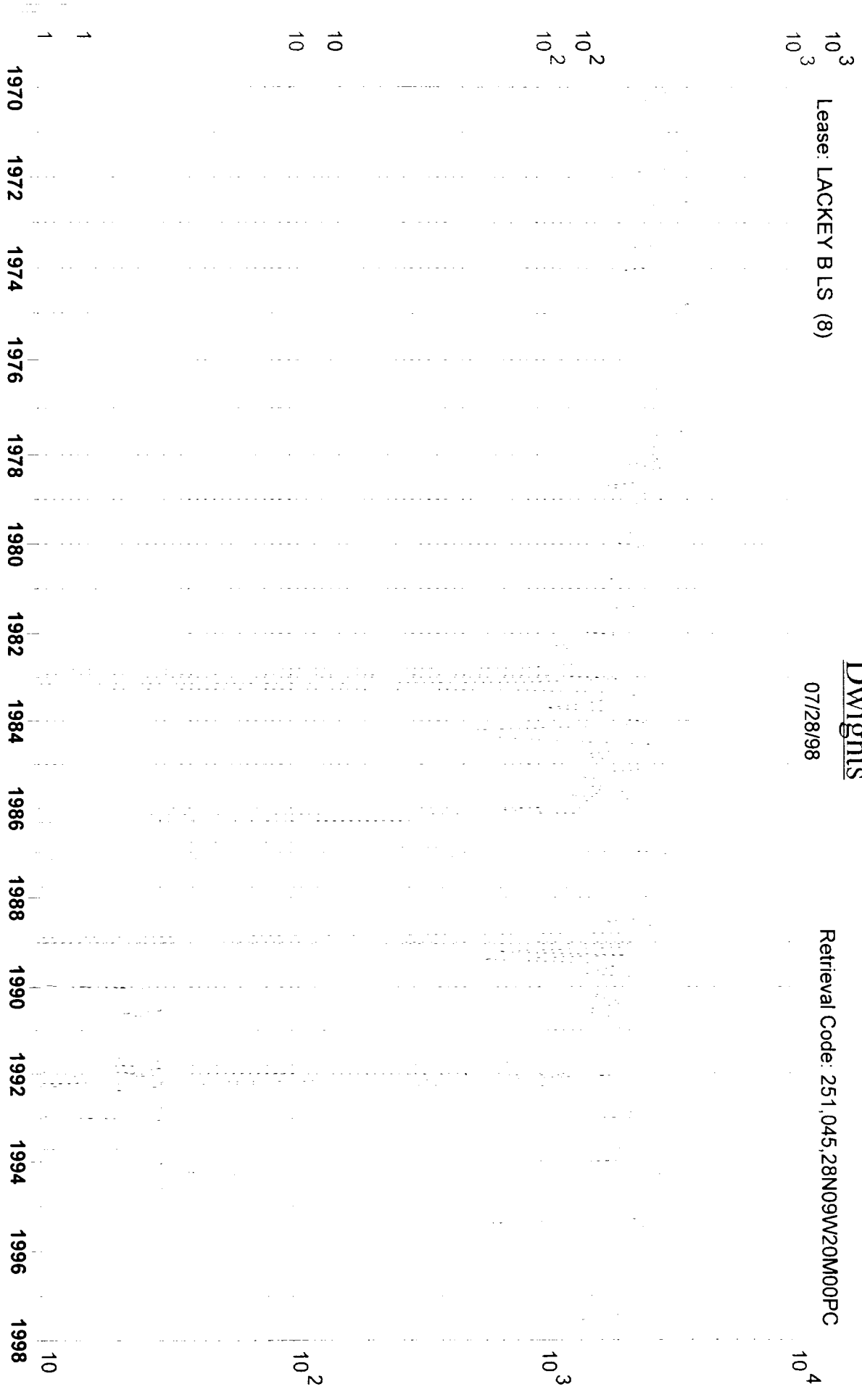
SURFACE PRES	BHP	Z	BHP/Z
psi	psi		psi
211	221	0.9705	228

Dwights

Lease: LACKEY B LS (8)

07/28/98

Retrieval Code: 251,045,28N09W20M00PC



Oil (bbl/mo)

County: SAN JUAN, NM

F.P. Date: 06/57

Gas (mcf/mo)

Water (bbl/mo)

Field: AZTEC (PICTURED CLIFFS) PC

Oil Cum: 0 bbl

Reservoir: PICTURED CLIFFS

Gas Cum: 1451 mmcf

Operator: CONOCO INC

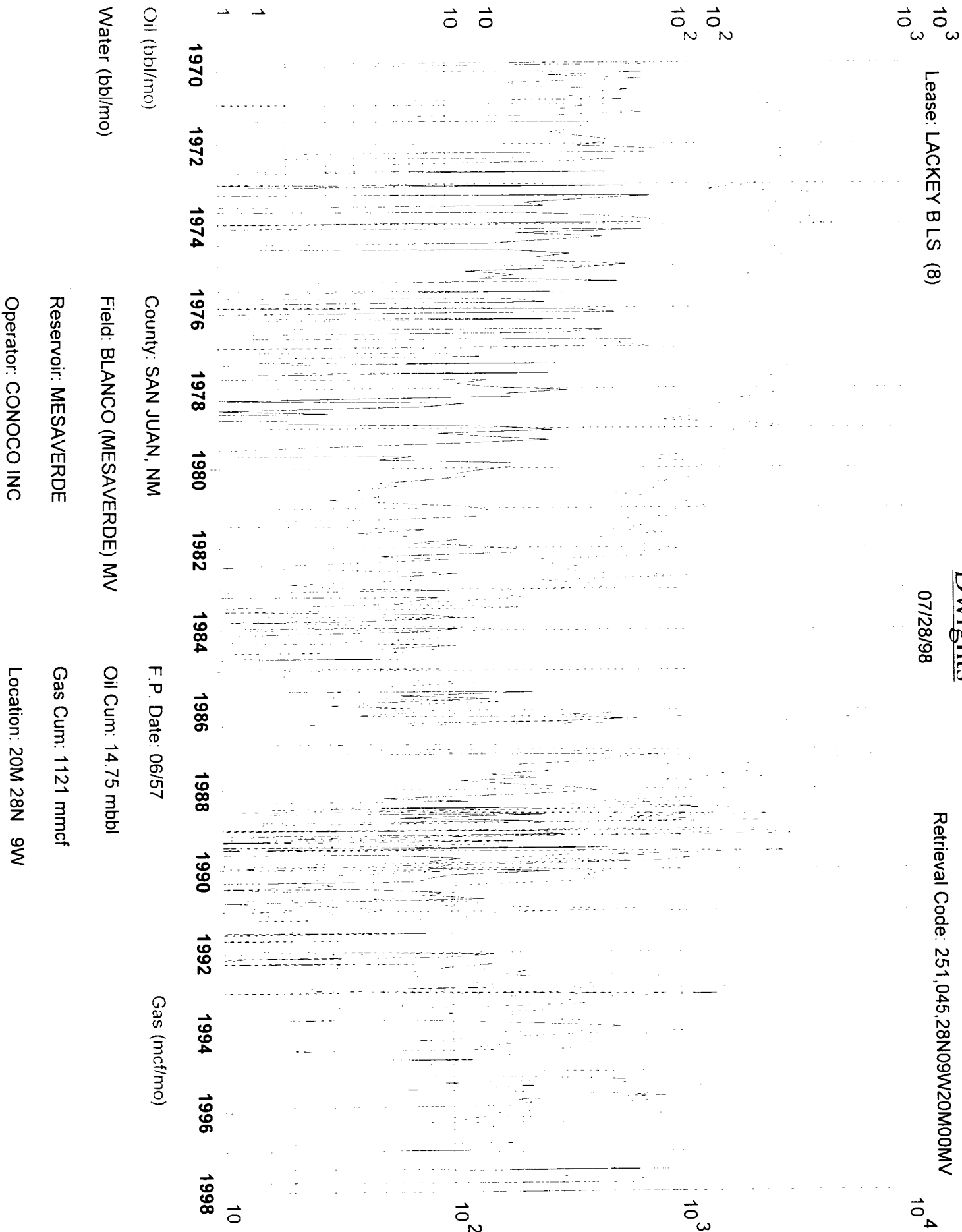
Location: 20M 28N 9W

Dwights

Lease: LACKEY B LS (8)

07/28/98

Retrieval Code: 251,045,28N09W20M00MV



NEW MEXICO
OIL CONSERVATION COMMISSION

WELL LOCATION AND DE GAS SEPARATION PLAT

JANUARY 7, 1957

EL PASO NATURAL GAS COMPANY

LACKEY "B"

SF 077106

8 (PM)

20

28 N

9 W

890

SOUTH

990

WEST

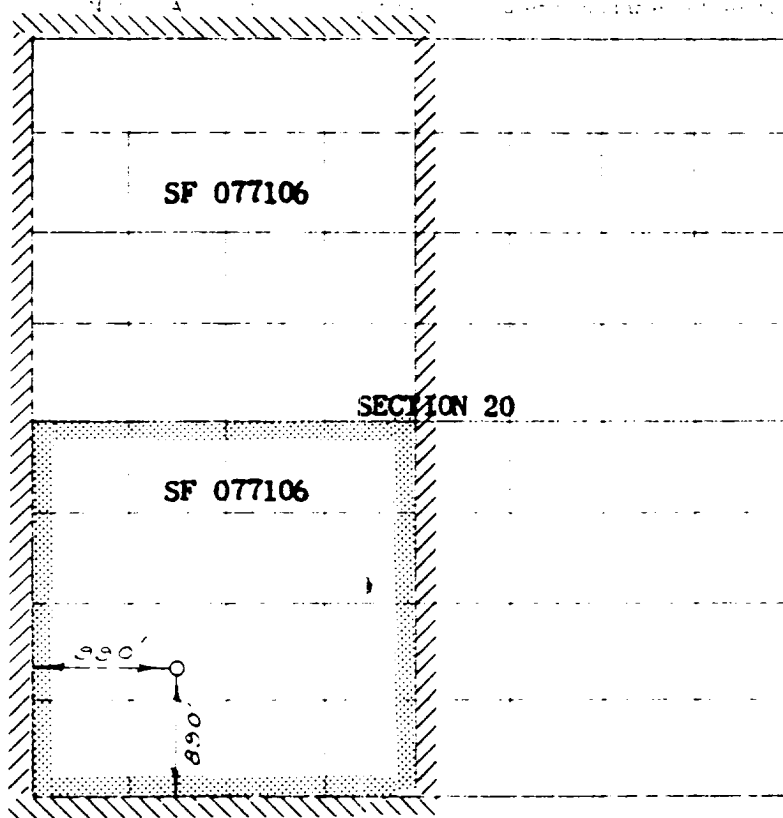
SAN JUAN

5861

PICTURED CLIFF
& MESA VERDE

AZTEC P.C.
BLANCO M.V.

160 AC. PC
320 AC. MV
(1919 PLAT)



NOTE

1. This plat is subject to the provisions of the Oil and Gas Conservation Act of 1937, as amended, and to the rules and regulations of the Oil and Gas Conservation Commission of the State of New Mexico.



This plat certifies that the above plat was prepared in accordance with the provisions of the Oil and Gas Conservation Act of 1937, as amended, and to the rules and regulations of the Oil and Gas Conservation Commission of the State of New Mexico.

Dated and signed this DECEMBER 17, 1956

E. C. Walker

Registered Professional Engineer and Oil and Gas Surveyor

Is this plat correct?

Yes ☒ No ☐

Is this plat correct?

Yes ☒ No ☐

Is this plat correct?

Yes ☒ No ☐

Is this plat correct?

Yes ☒ No ☐

Original Signed E. S. OBERLY

Petroleum Engineer

Representing El Paso Natural Gas Co.

Address Box 997, Farmington, N.M.

Lackey B LS #8
API # 30-045-13254
Section 20, T-28-N, R-9-W, M
San Juan County, NM

RE; Downhole Commingle Application C-107 A

OFFSET OPERATORS:

Burlington Resources
PO Box 4289
Farmington, NM 87499

Amoco
PO Box 800
Denver, CO 80201

A copy of the C-107A Application was sent to the above listed parties for notification of Conoco's intent to downhole commingle the Mesaverde and Pictured Cliffs. This well is currently being produced as a dual well.

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

(Form C-104)
(Revised 7/1/52)

REQUEST FOR (OIL) - (GAS) ALLOWABLE

New Well
~~Recompletion~~

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas well. Form C-104 is to be submitted in QUADRUPLICATE to the same District Office to which Form C-101 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when oil is delivered into the stock tanks. Gas must be reported on 15.025 psia at 60° Fahrenheit.

Farmington, N.M.

April 8, 1957

(Place)

(Date)

WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS:

El Paso Natural Gas Co.

Lacey

Well No. 5-B (FM), in SW 1/4 SW 1/4

Company or Operator

(Lease)

M

Sec. 20

T. 28N

R. 9W

NMPM,

Blanco

Pool

Unit Letter

San Juan

County. Date Spudded 1-15-57

Date Completed 2-21-57

Please indicate location:

D	C	B	A
E	F	G	H
L	K	J	I
M	N	O	P

8905, 990W

Casing and Cementing Record

Size Feet Sax

10-3/4"	162'	150
7"	3110'	300
5-1/2"	740'	120
2"	2113'	
1-1/4"	2085'	

Elevation 5861 Total Depth 4483, B.C.O. 4440'

Top oil/gas pay 4288' (Perf) Name of Prod. Form. M.V.

Casing Perforations: 4288-4300; 4322-4332; 4360-4366; 4414-4424 or

Depth to Casing shoe of Prod. String: 3732-4400 (Liner)

Natural Prod. Test BOPD

based on bbls. Oil in Hrs. Mins.

Test after acid or shot BOPD

Based on bbls. Oil in Hrs. Mins.

Gas Well Potential: ACP = 5006 MCF/D; Ch. Volume = 3842 MCF/D

Size choke in inches 3/4"

Date first oil run to tanks or gas to Transmission system: W/O Pipeline

Transporter taking Oil or Gas: El Paso Natural Gas Company

Remarks: Perf. nipple (3.12') set at 4394'; Baker EGJ packer set at 3766;
Garrett perf. Sleeve at 2103'.

OIL CON. COM.
DIST. 3

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

Approved APR 11 1957, 19

El Paso Natural Gas Company
(Company or Operator)

By:

(Signature)

Title:

Petroleum Engineer

Send Communications regarding well to:

Name:

E. J. Coal

Address:

Box 997 - Farmington, New Mexico

OIL CONSERVATION COMMISSION

By: Original Signed Emery C. Arnold

Title: Oil and Gas Inspector Dist. #3

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

(Form C-104)
(Revised 7/1/52)

REQUEST FOR (OIL) - (GAS) ALLOWABLE

New Well
~~RENEWABLE~~

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas well. Form C-104 is to be submitted in QUADRUPLICATE to the same District Office to which Form C-101 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when oil is delivered into the stock tanks. Gas must be reported on 15.025 psia at 60° Fahrenheit.

Farmington, N.M.

April 8, 1957

(Place)

(Date)

WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS:

El Paso Natural Gas Co.

Lackey

Well No. 6-B (FM)

in SW

1/4

SW

Company or Operator

(Lease)

M

Sec. 20

T. 2N

R2W

NMPM, Artec P.C.

Pool

Unit Letter

San Juan

County. Date Spudded

1-15-57

Date Completed

2-21-57

Please indicate location:

D	C	B	A
E	F	G	H
L	K	J	I
M X	N	O	P

Elevation 5061

Total Depth 4483

~~max~~ C.O. 4440'

Top oil/gas pay 2040' (Perf)

Name of Prod. Form P.C.

Casing Perforations: 2040-2056; 2060-2062

or

Depth to Casing shoe of Prod. String

3012

Natural Prod. Test

BOPD

based on _____ bbls. Oil in

Hrs.

Mins.

Test after acid or shot

BOPD

Based on _____ bbls. Oil in

Hrs.

Mins.

Gas Well Potential A.C.F. = 4041 MCF/D; Ch. Volume = 3450 MCF/D

Size choke in inches

3/4"

Date first oil run to tanks or gas to Transmission system: W/O Pipeline

Transporter taking Oil or Gas: El Paso Natural Gas Company

Casing and Cementing Record

Size Feet Sals

10-3/4"	162'	150
7"	3810'	300
5-1/2"	1483' 1483'	130
2-1/4"	4419'	---
1-1/4"	2083'	---

Remarks: Perf. nipple (3-20') set at 4394'; Baker SGJ packer set at 3706';
Marrett perf. sleeve at 2103'.

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

Approved _____, 19____

El Paso Natural Gas Company

Company or Operator

OIL CONSERVATION COMMISSION

By: Original Signed Emery C. Arnold

Title: Oil and Gas Inspector Dist. #3

By: Emery C. Arnold

(Signature)

Title:

Petroleum Engineer

Send Communications regarding well to:

Name:

E. J. Coal

Address:

Box 997 - Farmington, New Mexico

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

New Mexico

OIL CONSERVATION COMMISSION

LAND COMMISSIONER, MURRAY E. MORGAN
MEMBER

STATE GEOLOGIST, A. L. PORTER JR.
SECRETARY DIRECTOR



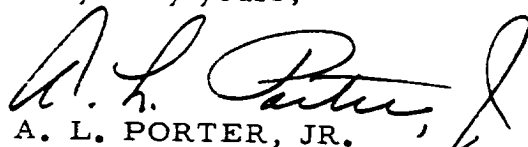
P. O. BOX 871
SANTA FE, NEW MEXICO
April 16, 1957

El Paso Natural Gas Company
P. O. Box 997
Farmington, New Mexico

Gentlemen:

Enclosed please find Administrative Order No. DC-418 for your Lackey Well No. 8-B (PM), located 890 feet from the South line and 980 feet from the West line of Section 20, Township 28 North, Range 9 West, NMPM, San Juan County, New Mexico, in the Aztec-Pictured Cliffs Gas Pool and in the Mesaverde Formation within one mile of the Blanco Mesaverde Gas Pool.

Very truly yours,


A. L. PORTER, JR.
Secretary-Director

/dea
Enclosure

SUBJECT: DUAL COMPLETION (GAS-GAS)

April 8, 1957

ORDER NO. DC-418

THE APPLICATION OF EL PASO NATURAL GAS COMPANY FOR PERMISSION TO EFFECT DUAL COMPLETION OF ITS LACKEY WELL NO. 8-B (PM) LOCATED 890 FEET FROM THE SOUTH LINE AND 980 FEET FROM THE WEST LINE OF SECTION 20 TOWNSHIP 28 NORTH, RANGE 9 WEST, NMPM, SAN JUAN COUNTY, NEW MEXICO, IN THE AZTEC-PICTURED CLIFFS GAS POOL AND IN THE MESA-VERDE FORMATION WITHIN ONE MILE OF THE BLANCO MESAVERDE GAS POOL.

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION COMMISSION

Under the provisions of Rule 112-A (c) El Paso Natural Gas Company made application to the New Mexico Oil Conservation Commission on April 8, 1957, for permission to dually complete its Lackey Well No. 8-B (PM), located 890 feet from the South line and 980 feet from the West line of Section 20, Township 28 North, Range 9 West, NMPM, San Juan County, New Mexico, in the Aztec-Pictured Cliffs Gas Pool and in the Mesaverde Formation within one mile of the Blanco Mesaverde Gas Pool.

The Secretary-Director Finds:

- (1) That application has been duly filed under the provisions of Sub-section 'c' of Rule 112-A of the Commission's Rules and Regulations;
- (2) That satisfactory information has been provided that all operators of offset acreage have been duly notified; and
- (3) That waivers of objection from all affected offset operators have been received.

IT IS THEREFORE ORDERED:

That the applicant, herein, El Paso Natural Gas Company be and it hereby is authorized to dually complete its Lackey Well No. 8-B (PM), located 890 feet from the South line and 980 feet from the West line of Section 20, Township 28 North, Range 9 West, NMPM, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Aztec-Pictured Cliffs Pool through proper perforation of the casing and through the casing-tubing annulus and the production of gas from the Mesaverde Formation through proper perforation of the liner and through the tubing, and the installation of a suitable packer and with the installation of adequate surface equipment to maintain complete separation of the two zones of production.

PROVIDED HOWEVER, That subject well shall be completed and thereafter produced in such a manner that there will be no commingling within the well-bore, either within or outside the casing of gas, oil and gas, or oil produced from either or both of the separate strata,

PROVIDED HOWEVER, That prior to the actual dual completion the operator shall make pressure tests of the casing to prove that no casing leaks have developed since the well was originally completed. In the event a casing leak is apparent the operator shall take appropriate steps to adequately repair the leak. The results of these tests shall be reported to the Commission on Form C-103.

PROVIDED FURTHER, That upon the actual dual completion of such subject well applicant shall submit to the appropriate District Office of the Commission, copies of Oil Conservation Commission Form C-104, Form C-110, and Form C-122, outlining the information required on those forms by existing Rules and Regulations, and two copies of the electric log of the well.

PROVIDED FURTHER, That said subject well for dual completion and production shall be equipped in such a way that reservoir pressures may be determined separately for each of the two specified strata, and further, be equipped with all necessary connections required to permit recording meters to be installed and used, at any time, as may be required by the Commission or its representatives, in order that natural gas, oil, or oil and gas from each separate stratum may be accurately measured and the gas-oil ratio thereof determined, and

PROVIDED FURTHER, That the operator-applicant shall make any and all tests, including segregation tests and packer leakage tests upon completion and annually thereafter during the deliverability test period for the Aztec-Pictured Cliffs Pool, but not excluding other tests and/or determinations at any convenient time and in such manner as deemed necessary by the Commission; the original and all subsequent tests shall be witnessed by representatives of the Commission and by representatives of offset operators, if any there be, at their election, and the results of each test properly attested to by the applicant herein and all witnesses, and shall be filed with the Commission within fifteen (15) days after completion of such test, and further that operator shall submit a packer setting affidavit within fifteen (15) days of completion and after remedial work whenever the packer is disturbed, and

PROVIDED FURTHER, That upon the actual dual completion of such subject well, applicant shall submit to the Commission a diagrammatic sketch of the mechanical installation which was actually used to complete and produce the seal between the strata, and a special report of production, gas-oil ratio and reservoir pressure determination of each producing zone or stratum immediately following completion.

IT IS FURTHER ORDERED, That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

APPROVED at Santa Fe, New Mexico, on this 8th day of April, 1957.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


A. L. PORTER, JR.
Secretary-Director

S E A L