



## PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762  
4001 PENBROOK

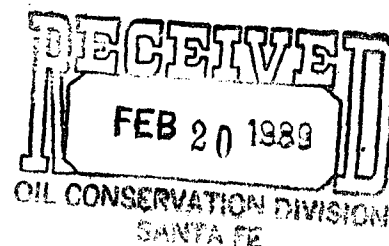
EXPLORATION AND PRODUCTION GROUP  
Permian Basin Region

February 17, 1989

Application for Exception to  
Statewide Rule No. 303-C to  
Downhole Commingle Production

State of New Mexico  
Energy and Minerals Department  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87504-2088

Attn: William J. LeMay  
Director



Gentlemen:

Phillips Petroleum Company respectfully requests administrative approval to downhole commingle gas production in our Lusk Deep Unit A, Well No. 5 as provided for in Statewide Rule 303-C3. Pertinent well information and data are included herein:

- (a) Name and address of operator:  
Phillips Petroleum Company  
4001 Penbrook Street  
Odessa, Texas 79762
- (b) Lusk Deep Unit A Lease, Well No. 5  
1980 feet FSL and 1980 feet FEL, Section 19, T-19-S, R-32-E  
Lea County, New Mexico  
  
Pools to be commingled:  
Lusk Morrow (Gas)  
Lusk Atoka (Gas)
- (c) A plat is attached showing acreage dedicated to the well and the ownership of all offsetting leases.
- (d) Current productivity tests on each zone:  
The Morrow zone currently produces less than 200 MCF/Month and 10 BO/Month. Due to the amount of liquid the Morrow produces, this zone was swabbed to determine true productivity. Based on swab results, the estimated zone productivity is 200 MCFPD and 1 BOPD. The Atoka zone potential is estimated at 600 MCFPD or 18,000 MCF/Month and no condensate.
- (e) Allocation of commingled production based on present production:  
Production decline curve for the Morrow zone is attached. Allocated gas production will be based upon the current Morrow gas productivity and all condensate production will be allocated to this zone. The Atoka zone will not be allocated any condensate and allocated gas production will be based on the combined zones' stabilized gas flowrate, i.e., total minus Morrow equals Atoka.

Well completion history - wellbore sketch attached:

Well was drilled and originally completed as a dual well in the Strawn and Morrow formations in June, 1963. In June, 1983, the Strawn formation was squeezed off after producing 1,953 MMCF and 403 MBO. The Morrow has a current monthly production of less than 200 MCF after having produced 2,700 MMCF and 21.3 MBO. Production continues to decline due to the lack of adequate gas productivity which is allowing the liquid level in the wellbore to rise, restricting production.

Prediction of future production:

The proposed commingled completion will allow both the Atoka and Morrow to be produced at their maximum rates.

Initial gas production from the Atoka is anticipated at 600 MCFD declining hyperbolically at a 75% rate. Unrestricted production from the Morrow is estimated at 200 MCFD declining exponentially at a 40% annual rate.

- (f) Bottom hole pressure for each zone:  
The bottom hole pressure of the Morrow was measured at 1960 psi on August 2, 1988. The bottom hole pressure of the Atoka is expected to be 3000 psi.
- (g) Fluid characteristics:  
Only the Morrow zone produces condensate. It is anticipated that the Atoka will produce only gas. No fluid incompatibilities will exist in the wellbore.
- (h) Computation of value of commingled production vs. individual production streams:

Individual streams:

Lusk Morrow

This zone needs to be abandoned due to its depleted nature.

$(0.33 \text{ BOPD}) \times \$15.80/\text{Bbl} = \$ 5.21/\text{day}$

$+ (5.1 \text{ MCFD}) \times \$ 0.95/\text{Mcf} = \$ 4.85/\text{day}$

Total Morrow = \$10.06/day

Lusk Atoka

$(600 \text{ MCFD}) \times \$0.95/\text{Mcf} = \$570.00/\text{day}$

Total Individual Streams = \$570.00/day

Commingled Streams:

Because the bottom hole flowing pressure will be maintained at a minimum (i.e., no fluid accumulation in wellbore), both the Atoka and the Morrow will produce at their maximum rates.

$(1 \text{ BOPD}) \times \$15.80/\text{Bbl} = \$ 15.80/\text{day}$

$+ (800 \text{ MCFD}) \times \$ 0.95/\text{Bbl} = \$760.00/\text{day}$

Total Commingled Production = \$775.80/day

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(i) Formula for allocation of production:

Morrow: 100% gas condensate, gas production will be based on stabilized test percentage prior to commingling of the total gas stream.

Monthly Oil (Morrow) = (Total BOPM) X 1.0

Monthly Gas (Morrow) = (Total MCFPM) X (Morrow  
Test)/(Commingled test)

Atoka: 0% condensate production, 100% of total gas production less gas allocated to Morrow as above.

Monthly Oil (Atoka) = (Total BOPM) X 0

Monthly Gas (Atoka) = (Total MCFPM) - (Monthly Gas Morrow)

\*Where Total BOPM, Total MCFPM in the above formulas refer to the total monthly commingled well production of oil and gas.

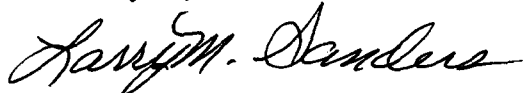
All parties of interest indicated on the attached list were notified by copy of this application sent February 17, 1989.

The Morrow produces gas and oil and is currently marginal to operate. Commingling both zones will permit the Morrow to be produced economically. The well will be produced such that bottom hole flowing pressure in the wellbore will be at a minimum; therefore, there will be no opportunity for crossflow between commingled zones. The bottom hole pressure of the Atoka is estimated to be 3000 psi which is slightly greater than the bottom hole pressure of the Morrow.

The ownership (including working interest, royalty, and overriding royalty) of the Morrow and the Atoka is common to both zones.

Your consideration and approval will be appreciated. Direct any questions to the attention of Mike Decker, telephone (915) 368-1557, or to me.

Thank you,



Larry M. Sanders, Supervisor  
Regulation and Proration

LMS:AP:sdb  
REGPRO:APINC:rule303c

Attachments

cc: NMOCD, Hobbs Office  
Offset Operators

# WELLBORE SCHEMATIC

NKB @ 3566'

GL @ 3550'

Yates @ 2480'

Bone Springs  
@ 7030'

Strawn @ 11090'

Morrow @ 11760'

Strawn Perfs  
11207'-11240'  
(Squeezed in 83')

Morrow Perfs  
12203'-12270'

12400'-12412'

TOC @ 9800'

Pkr @ 11300'

Atoka Perfs (Proposed)  
11656'-11663'

5-1/2" OD @ 12554'  
TD @ 12560'  
PBD @ 12413'

13-3/8" OD @ 850'  
Cement Circulated

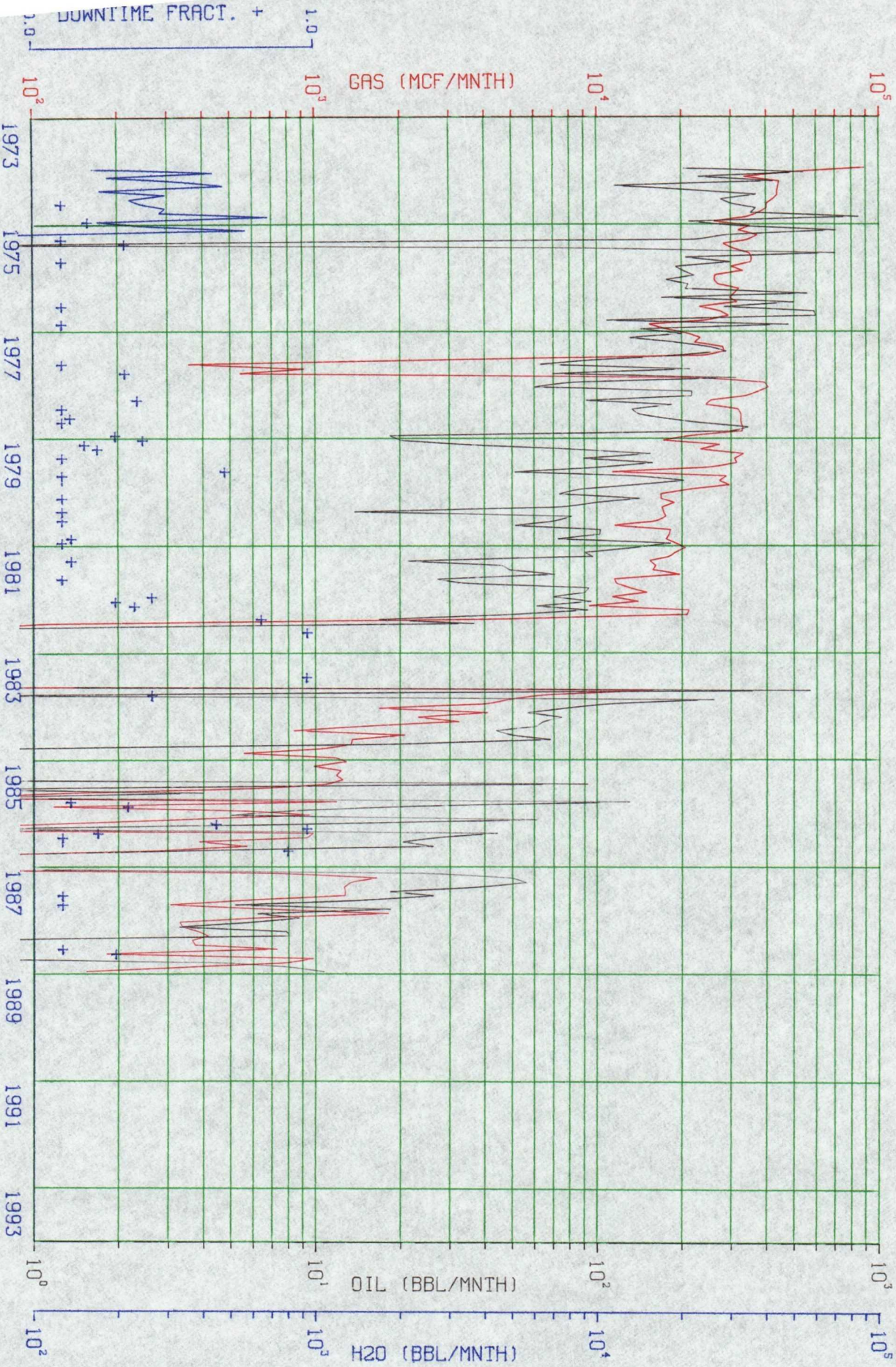
8-5/8" OD @ 4506'  
Cement Circulated

NO.	REVISION	BY	DATE	CHKD	APP'D
FOR BIDS		PHILLIPS PETROLEUM COMPANY		JA NO.	FILE CODE
FOR APPR		BARTLESVILLE, OKLAHOMA		AFE NO.	SCALE <i>None</i>
FOR CONST		Lusk Deep Unit A No. 5		DWG NO.	
DRAWN <i>6/10/83</i>	<i>M&amp;D</i>	1980' FSL & 1980' FEL, Section 19, T-19-S, R-32-E		SH NO.	
CHECKED		Lea County, New Mexico			
APP'D					

RC - ORIGINAL

FORM 1779-S 7-84





PSE- 600137 : LUSK DEEP UNIT  
 W- 186 : MORROW  
 L- 00005

PPROD  
 SINGLE WELL 600137 186 00005  
 NM 45, CL- NC, PM- NF, CT- DL



[illegible]

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

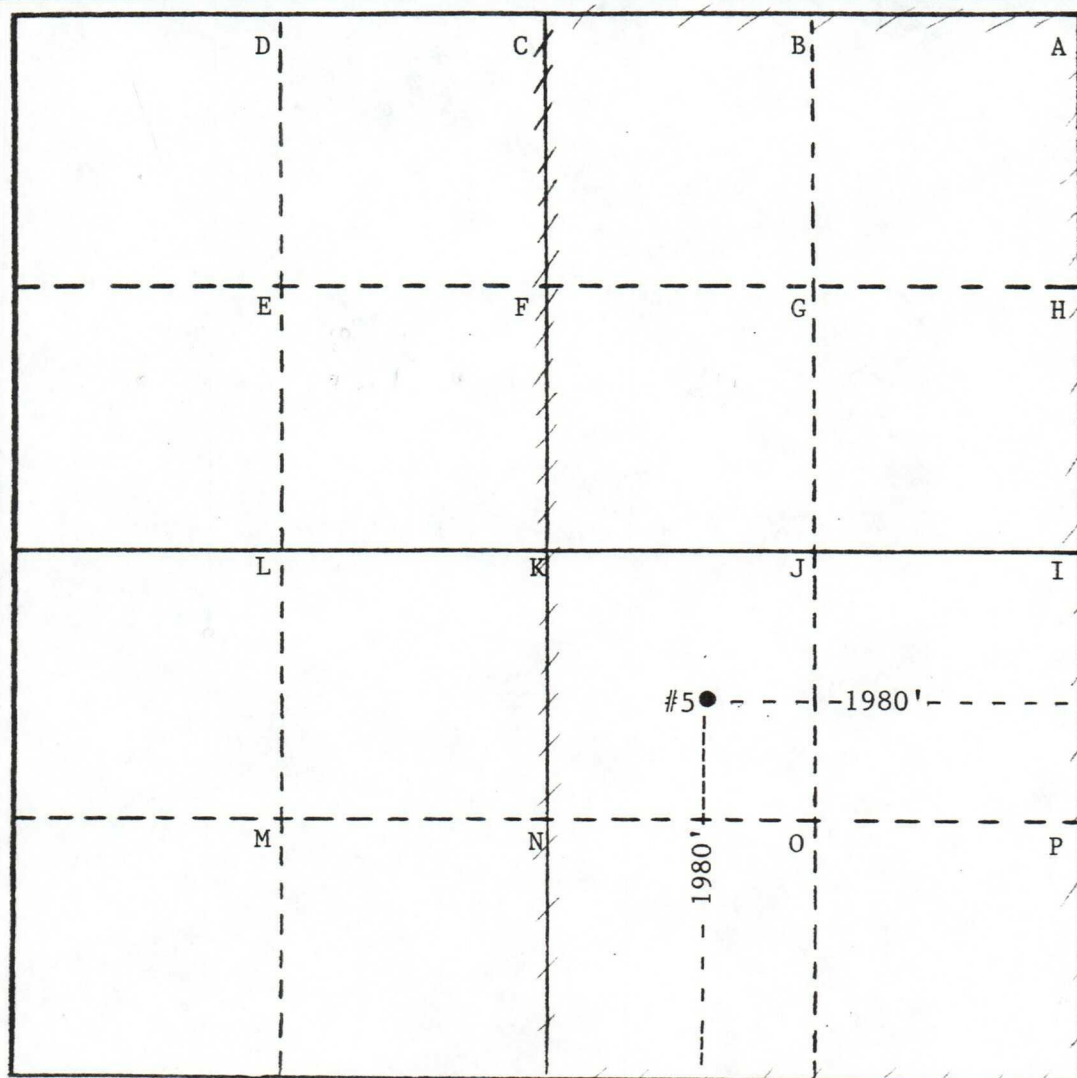
Operator Phillips Petroleum Company		Lease Lusk Deep Unit A		Well No. 5
Unit Letter J	Section 19	Township 19 South	Range 32 East	County Lea
Actual Footage Location of Well: 1980 feet from the south line and 1980 feet from the east line				
Ground Level Elev. 3550'	Producing Formation Atoka	Pool Lusk Atoka Gas	Dedicated Acreage: 320 Acres	

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

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

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 Commission.



## CERTIFICATION

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

*N. E. Porter*

Name

N. E. Porter

Position

Gas Reservoir  
Engineering Supervisor

Company

Phillips Petroleum Company

Date

October 7, 1986

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

Date Surveyed

4-5-63

Registered Professional Engineer  
and/or Land Surveyor

Certificate No.

2126

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

• Phillips Petroleum Company  
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Downhole Commingle Production  
Lusk Deep Unit A, Well No. 5  
Sec 19, T-19-S, R-32-E, Lea Co. NM

Surface Land Owner:

United States Department of the Interior  
Bureau of Land Management  
Carlsbad Resource Area Headquarters  
P. O. Box 1778  
Carlsbad, New Mexico 88220

Offset Operators:

Amoco Production Company  
P. O. Box 3092  
Houston, Texas 77210

Damson Oil Corporation  
Damson Oil Tower  
396 W. Greens Rd.  
Houston, Texas 77067

Glen Plemons  
Box 965  
Wolfforth, Texas 79382

Jack Plemons  
Box 385  
Artesia, New Mexico 88210

Tenneco Oil Company  
Box 2511  
Houston, Texas 77001

Texaco Producing Inc.  
Box 3109  
Midland, Texas 79702

Yates Drilling Company  
110 S. Fourth Street  
Artesia, New Mexico 88210





STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE

GARREY CARRUTHERS  
GOVERNOR

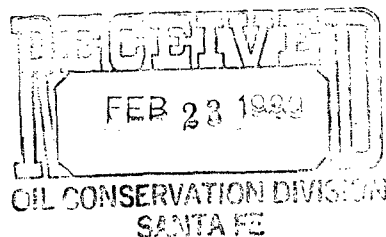
2-20-89

POST OFFICE BOX 1980  
HOBBS, NEW MEXICO 88241-1980  
(505) 393-6161

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

RE: Proposed:

MC \_\_\_\_\_  
DHC X \_\_\_\_\_  
NSL \_\_\_\_\_  
NSP \_\_\_\_\_  
SWD \_\_\_\_\_  
WFX \_\_\_\_\_  
PMX \_\_\_\_\_



Gentlemen:

I have examined the application for the:

Phillips Pet Co. Lusk Deep at A #5-J. 19-19-32.  
Operator \_\_\_\_\_ Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton  
Jerry Sexton  
Supervisor, District 1

/ed