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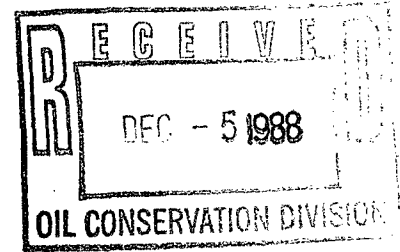
W. Thomas Kellahin
Karen Aubrey

Jason Kellahin
Of Counsel

December 1, 1988

William J. LeMay
Director, Oil Conservation Division
310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87503

Re: Administrative Approval
Downhole Commingling
Stephens Estate No. 2
S24, T21S R37E
Lea County, New Mexico



Dear Mr. LeMay:

This letter is a request by Bison Petroleum Corporation, pursuant to New Mexico Oil Commission Rule 303(C) for permission to downhole commingle production from the Blinebry and Drinkard zones in the subject well.

The Stephens Estate No. 2 well was dually completed in the Blinebry and Drinkard zones in October, 1965. The Drinkard zone was temporarily abandoned in 1982. Bison Petroleum purchased this lease from Mobil on July 1, 1987.

In support of this application, we enclose:

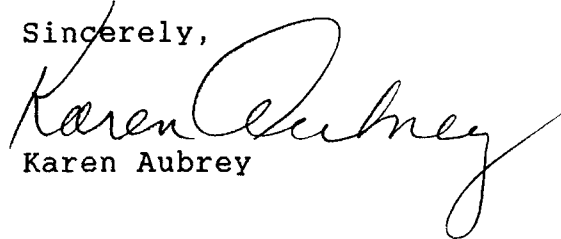
1. List of offset operators.
2. Data sheet which provides the data required by Rule 303(C).
3. Bottomhole pressure calculation.
4. C-116's for each zone.
5. Plat of the area with the spacing unit assigned to this well colored in yellow, and the well marked in red.
6. Production decline curve.
7. Wellbore schematic and completion history.
8. Copy of Administrative Order NSP-940 granting approval of the non-standard unit.

KELLAHIN, KELLAHIN and AUBREY

William J. LeMay
December 1, 1988
Page 2

By copy of this letter and enclosures, pursuant to New Mexico Oil Conservation Commission Rule 1207(a)(6), we are notifying all offset operators of Bison Petroleum's request, and advising them that this request may be granted in within twenty days in the absence of valid objection.

Sincerely,


Karen Aubrey

KA/dm

xc: Bruce O. Barthel
Bison Petroleum Corp.
Acoma Oil Corporation, w/encl.
Chevron USA, Inc., w/encl.
John Hendrix Corporation, w/encl.
Lynx Petroleum, w/encl.
Shell Western E&P, Inc., w/encl.

BISON PETROLEUM CORPORATION

OFFSET OPERATORS

1. Acoma Oil Corporation
Suite 1200
210 W. 6th Street
Fort Worth, TX 76102
2. Chevron USA Inc.
P.O. Box 670
Hobbs, NM 88240
3. John Hendrix Corporation
223 W. Wall
525 Midland Tower Building
Midland, TX 79701
4. Lynx Petroleum
P.O. Box 1666
Hobbs, NM 88241
5. Shell Western E&P Inc.
P.O. Box 576
Houston, TX 77001

BISON PETROLEUM CORPORATION

BISON PETROLEUM CORPORATION
DOWNHOLE COMMINGLING APPLICATION
STEPHENS ESTATE WELL NO. 2
DATA SHEET

- A. OPERATOR:
Bison Petroleum Corporation
5809 S. Western Suite 200
Amarillo, Texas 79110-3607
- B. LEASE, WELL AND LOCATION:
Stephens Estate Well No. 2
660' FSL and 660' FWL
Section 24 T21S - R37E
Lea County, New Mexico
- C. PRODUCING ZONES:
Blinebry gas and Drinkard gas
- D. PRODUCTIVITY TEST:
Blinebry gas (most recent) August 1988
Drinkard - Temporarily Abandoned, last production was March of 1982 when it tested 0 BOPD, 0 BWPD, $\pm$ 5 Mcf/D.
- E. PRODUCTION DECLINE CURVE:
Attached
- F. ESTIMATED BOTTOM-HOLE PRESSURE:
The Blinebry gas is equipped with a pumping unit to pump off a small amount of water ($\pm$ 1/2 BWPD) to keep it flowing. In October 1988, the well ceased flowing due to well problems. The Drinkard has not produced since 1982. A commercial firm was used to get a representative Shut-in wellhead pressure for the scheduled packer leakage test in March, 1988. The calculated mid-perf pressures are as follows:
- | | |
|-------------------|--------|
| Blinebry (@5728') | 48 psi |
| Drinkard (@6546') | 44 psi |
- G. FLUID CHARACTERISTICS:
The Blinebry and Drinkard were surface commingled for many years without any apparent incompatibility. In this area various commingling permits have been approved, most especially the wells in the Shell Northeast Drinkard Unit and the direct offsets, Chevron Nancy Stephens No. 2 and the Lynx Petroleum Nancy Stephens No. 1

BISON PETROLEUM CORPORATION

H. COMPUTATION OF COMMINGLED PRODUCTION:

Neither zone can be economically produced individually.

I. GAS ALLOCATIONS:

	<u>Blinebry</u>	<u>Drinkard</u>
<u>GAS</u>	78%	22%

Decline rates of the gas are expected to be similar and therefore no change in allocation. The well will be pumped to remove any water production and prevent any cross flow.

J. OWNERSHIP:

The ownership in both zones is identical.

K. FUTURE SECONDARY RECOVERY OPERATIONS:

This well is near the productive limits of both zones. It was dropped from consideration before the Northeast Drinkard Unit, offsetting to the West, was formed. The production of this well will not jeopardize any secondary operations.

L. NOTIFICATION:

Served by copy of Bison's request letter to the Director, Oil Conservation Division.

STEPHENS ESTATE NO. 2

BHP CALCULATION

BHP = $P_{\text{Gas}} + P_{\text{Liq}}$ but with no liquid the latter term drops out.

$$\text{Pressure of gas column} = P_{\text{WH}} e^{\frac{0.01875 \times S_g \times D}{S_{\text{avg}} \times T_{\text{avg}}}}$$

(From Craft & Hawkins)

Where: P_{WH} = Static wellhead pressure

S_g = Gas Gravity

D = Mid-perf distance

S_{avg} = Average gas deviation factor

T_{avg} = Average temperature in degrees Rankine

BLINEBRY OIL & GAS POOL CALCULATION

$$\text{BHP} = 42 e^{\frac{(0.01875 \times 0.65 \times 5728)}{(0.99 \times 555)}} = \underline{47.7 \text{ or } 48 \text{ psi}}$$

DRINKARD OIL & GAS POOL CALCULATION

$$\text{BHP} = 38 e^{\frac{(0.01875 \times 0.65 \times 6546)}{(0.99 \times 558)}} = \underline{43.9 \text{ or } 44 \text{ psi}}$$

GAS-OIL RATIO TESTS

Operator		Pool		County		Lea County		Completion		Special			
Bison Petroleum Corporation		Drinkard											
Address		5809 S. Western Suite 200 Amarillo, Texas 79110-3607		TYPE OF TEST - (X)		Scheduled ☒ XK							
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKES SIZE	TBG. PRESS.	DAILY ALLOW. ABLE	LENGTH OF TEST MONTHS	PROD. DURING TEST			GAS R CU.F.
		U	S	T						WATER BBL.S.	GRAV. OIL	OIL BBL.S.	
Stephens Estate	1	L	24	21S	2-29-88								
Stephens Estate	2	M	24	21S									

Stephens Estate

Stephens Estate

2-29-88

37E

37E

Please see enclosed DHC test for Wantz Abo/Drinkard

Well Temporarily Abandoned

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During each well test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned maximum allowable when authorized by the Division.

Oil volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.8.

When casing pressure is less than tubing pressure for any well producing through casing.

Well number and the copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with the applicable rules.

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

[Signature]
(Signature)

Administrative Secretary

Oilfield

GAS-OIL RATIO TESTS

LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW. ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			SPECIAL	
		U	S	T						A	WATER BBL.S.	OIL BBL.S.		GAS M.C.F.
Bison Petroleum Corporation 5809 S. Western Suite 200 Amarillo, Texas 79110-3607														
Stephens Estate	2	M	24	21	37	8-5-88	P	open	25	24	0	n/a	16	infin

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-well ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.

Gas volumes must be reported in MCF measured at a pressure base of 15.023 psia and a temperature of 60° F. Specific gravity base will be 0.60.

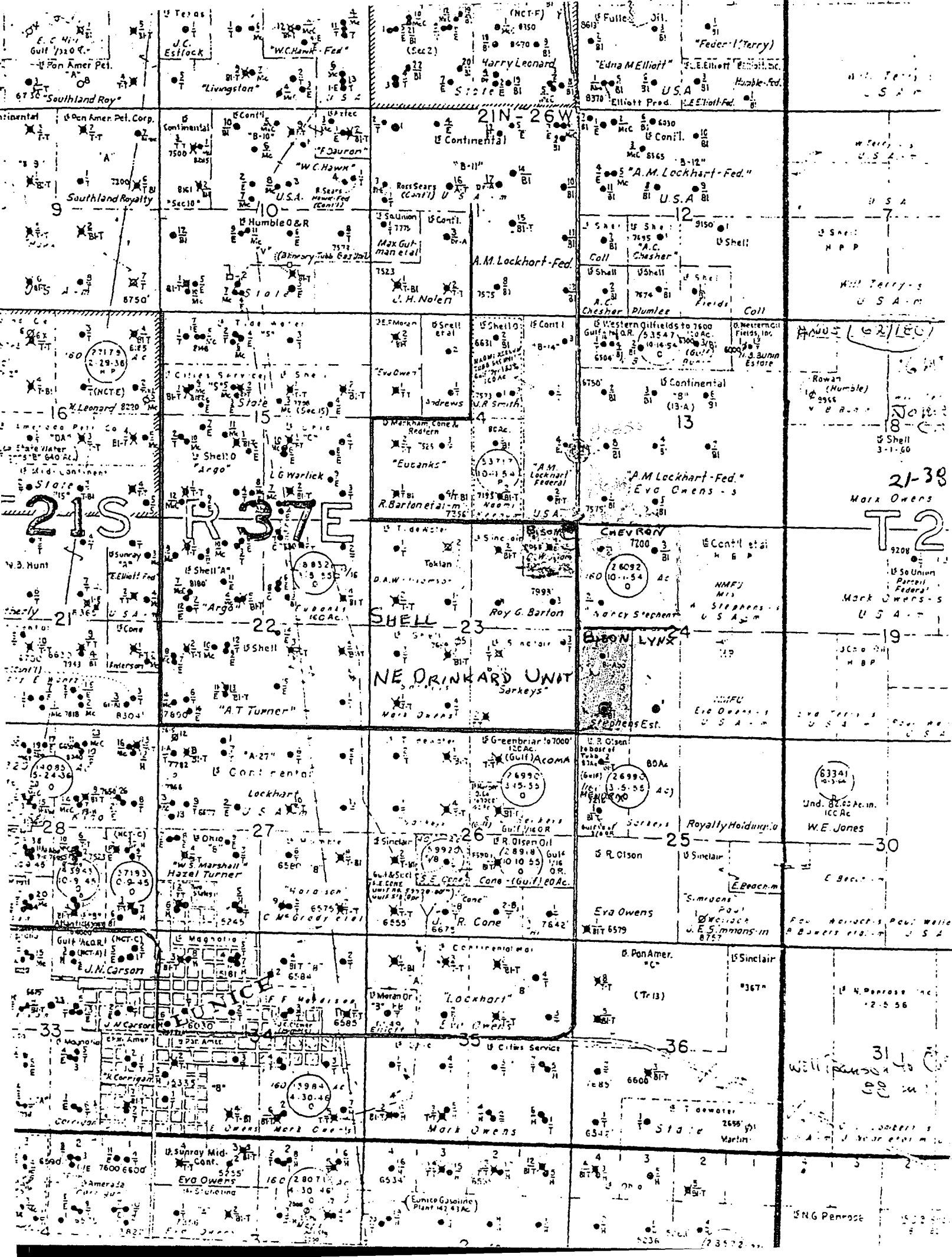
Report casing pressure in flow of tubing pressure for any well producing through casing.

All original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

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

John Philip Dwyer
Administrative Secretary

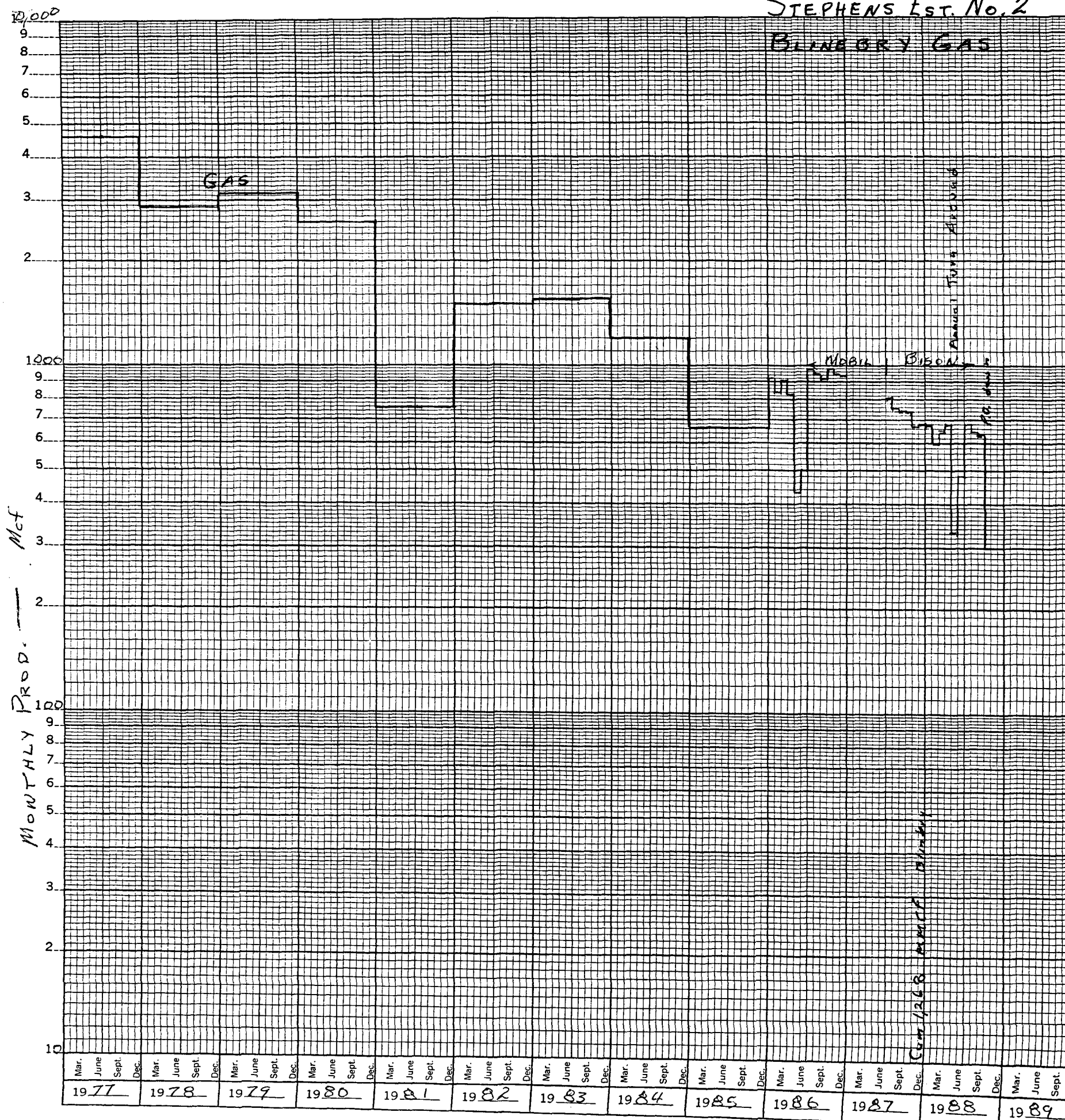
8-9-88
(Tide)



STEPHENS ESTATE NO. 2
LEA COUNTY, NEW MEXICO

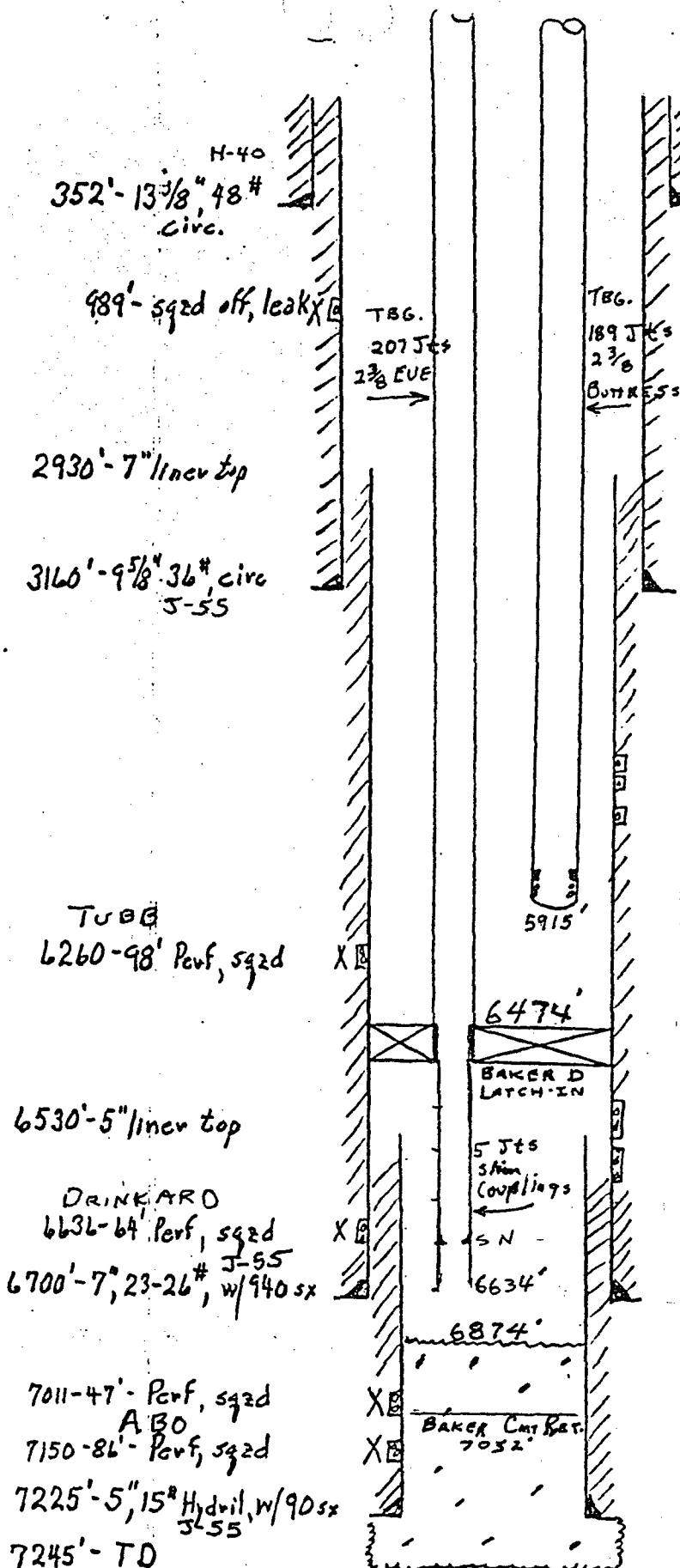
Initial	<u>1958</u>	Drilled to 6700' and set 7" liner.
Tubb		Perf'd 6260-98' Acidize 1500 gal; 3000 gal, 10,000 gal SOF w/20 x 13.3 Squeeze w/100 sx.
Drinkard		Perf'd 6636-64 Acidize 2000 gal, 5000 gal, 10,000 gal SOF 20 x 20 Squeeze w/125 sx. Drilled to 7225' and set 5" liner
Abo		Perf'd 7011-47 Acidize 3000 gal, 6000 gal Squeeze w/75 sx
Abo		Perf'd 7150-86 Acidize 2000 gal Squeeze w/75 sx Pushed cmt ret to 7052' and put cmt cap to 6977'
Hole		989' Squeeze 160 sx, 250 sx, 300 sx (pkr leaked), 300 sx 500, gals sealment
Blinebry		Perf'd 5681-5774 Acidize w/3000 gal IPF 97 BO 6 BW 94 MCF
	<u>June 1960</u>	Replaced tubing
Make Dual Blinebry Drinkard	<u>Oct 1965</u>	Perf'd 6493-6598' Left PBTD @ 6874' Acidize w/3000 gal SOF 30 x 30 IPF 72 BO/6 hrs 53 Mcf GOR 727
Swabbing	<u>1966</u>	Drinkard & Blinebry not performing well
Bad tbg	<u>Feb 1968</u>	Replaced 14 jts Drinkard tbg.
Drinkard PU	<u>Dec 1969</u>	Drinkard would not flow on plunger lift.
R/C to Gas	<u>Sept 1973</u>	Blinebry R/C to gas, both # 1 & 2
Pkr leak-B1 PU	<u>Apr 1975</u>	Replaced pkr & installed PU on Blinebry
TA Drinkard	<u>Apr 1982</u>	Pulled pump & Rods. Moved PU.

BLINEGRY GAS



Stephens Est. #2
 Blinbry & Drinkard Pools
 Unit M, Sec. 24, T-21S, R-37E
 Lea County, New Mexico

G.L. Elev 3404
 K.B. 3416



Blinbry Perfs (5681-97, 5702-12, 5745'-74)
 220 holes

Drinkard Perfs (6493-6598)

NOTE: The SN on long s-g is reportedly @ top of first jt.

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

March 13, 1974

Q.D.T. 3-15-74
I. R. TRUJILLO
CHAIRMAN
LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER
STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

Mobil Oil Corporation
P. O. Box 633
Midland, Texas 79701

Attention: L. A. Davis

RECEIVED OPERS. ENGINEERING			
MAR 15 1974			
OE	PROR.	✓	CIRC.
DE			XO'S
FE			FILE

Administrative Order NSP-940

Gentlemen:

Reference is made to your application for an 80-acre non-standard gas proration unit in the Blinebry Gas Pool consisting of the following acreage:

LEA COUNTY, NEW MEXICO
TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM
Section 24: W/2 SW/4

It is understood that this unit is to be dedicated to your Stephens Estate Well No. 2 located 660 feet from the South line and 660 feet from the west line of said Section 24. ✓

By authority granted me under the provisions of Rule 104 D II, you are hereby authorized to operate the above-described acreage as a non-standard gas proration unit.

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/dr

cc: Oil Conservation Commission - Hobbs
Oil & Gas Engineering Committee - Hobbs
Proration Department, OCC - Santa Fe

*Dist: A. J. Albett
R. H. Cummin
E. O. Tucker
Proration*



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

12-5-88

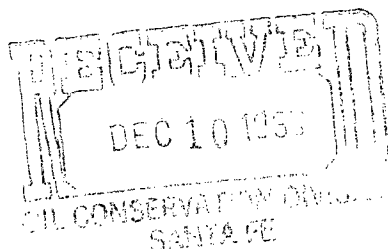
GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 1990
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

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

RE: Proposed:

MC	_____
DHC	<u>X</u> _____
NSL	_____
NSP	_____
SWD	_____
WFX	_____
PMX	_____



Gentlemen:

I have examined the application for the:

Bison Pet. Corp. Stephens Estate #2-M 24-21-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK JS

Yours very truly,

Jerry Sexton
Jerry Sexton
Supervisor, District 1

/ed