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Attorneys at Law

W. Thomas Kellahin
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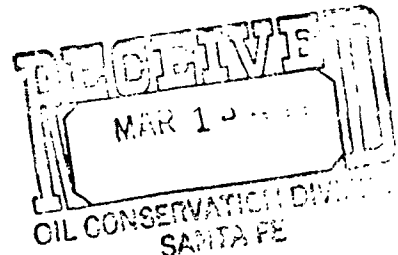
Santa Fe, New Mexico 87504-2265

Telephone 982-4285
Area Code 505

Jason Kellahin
Of Counsel

March 14, 1989

Mr. William J. LeMay
Director
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501



Re: Administrative Approval
Amendment of DHC-138
Stephens Estate No. 1
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 amend Administrative Order DHC-138 to add the Blinebry zone to that order and to downhole commingle production from the Blinebry, Abo and Drinkard zones in the subject well. Permission to simultaneously dedicate the W/2SW/4 to the Stephens Estate Nos. 1 and 2 is also requested.

The Stephens Estate No. 1 well was initially completed in the Abo in 1952, and was dually completed in the Abo and Blinebry in 1958. In 1964 the Abo was temporarily abandoned and the well was dualled in the Blinebry and Drinkard. In September, 1973 the Blinebry was reclassified as gas. In January, 1974 the Blinebry was squeezed off and the well was produced as commingled Abo-Drinkard. 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.

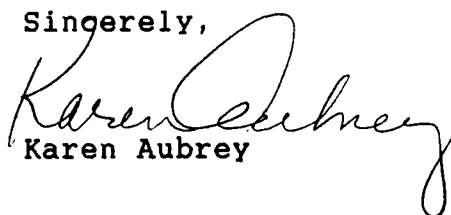
KELLAHIN, KELLAHIN and AUBREY

Mr. William J. LeMay
March 14, 1989
Page 2

6. Production decline curve for the Blinebry from 1968 to 1974 and for the Drinkard and Wantz Abo from 1980 to 1989.
7. Wellbore schematic and completion history.
8. Copy of Administrative Order NSP-940 granting approval of the non-standard unit.
9. Copy of letter from Jerry Sexton, Supervisor, District 1 dated March 8, 1989.
10. Form C-103 dated March 6, 1989.

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.

Singerely,


Karen Aubrey

KA/rs
Encl.

cc: Bruce O. Barthel,
Bison Petroleum
Acoma Oil Corporation
Chevron USA, Inc.
John Hendrix Corporation
Lynx Petroleum
Shell Western E&P Inc.

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. 1 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. 1
1980' FSL and 660' FWL
Section 24, T21S-R37E
Lea County, New Mexico

C. PRODUCING ZONES:

Blinebry Oil & Gas, Drinkard Oil & Gas, Wantz Abo Oil

D. PRODUCTIVITY TEST:

Blinebry gas was squeezed in 1973 after testing at
4 BOPD, 77 MCF/D; 0 BWPD.

Drinkard and Abo produced commingled December 1988
at 3 BOPD, 18.7 Mcf/D; 0.2 BWPD.

E. PRODUCTION DECLINE CURVE:

Attached

F. ESTIMATED BOTTOM-HOLE PRESSURE:

The Drinkard and Abo have been produced by pump for
15 years and their bottom-hole pressures are less
than 100 psi.

The measured Blinebry pressure in the offset Bison
Stephens Estate No. 2 in March 1988 was 48 psi.
Essentially, all three zones are in the stripper
stage of depletion and very near the same low pressure.

BISON PETROLEUM CORPORATION

G. FLUID CHARACTERISTICS:

The Blinebry and Drinkard were surface commingled for nine years and the Drinkard and Abo have been downhole commingled for 15 years, all without any apparent incompatibility. Commingling is fairly common in this area for all three zones with no known problems.

H. COMPUTATION OF COMMINGLED PRODUCTION:

None of the three zones can be economically produced alone and even all three zones together will only result in stripper type production.

I. GAS & OIL ALLOCATIONS:

	<u>BLINEBRY</u>	<u>DRINKARD</u>	<u>ABO</u>
Gas	70%	1%	29%
Oil	10%	23%	67%

Future declines are expected to be similar and no changes in percentages will be required.

J. OWNERSHIP:

All interests are identical in all three zones.

K. FUTURE SECONDARY RECOVERY OPERATIONS:

This well is near the productive limits of all three 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

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

*NOTE: These calculations are from Well No. 2 which is a direct south offset to the subject Well No. 1. There are no other calculations available.

GAS-OIL RATIO TESTS

Operator **Bison Petroleum Corporation** Pool **Wantz Abo - Drinkard** County **Lea County, NM**

5809 S. Western Suite 200 Amarillo, TX 79110-3607 TYPE OF TEST - (X) Scheduled ☒ Completion ☐ Special ☐

LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS R/ CU.F
		U	S	T	R							WATER BBLs.	GRAV. OIL	OIL BBLs.	GAS H.C.F.	
Stephens Estate	1	L	24	21S	37E	2-29-88	P	n/a	15		24	1/2	41	5	19	380
												26% Drinkard Oil 1.3 bbl 74% Wantz Abo Oil 3.7 bbl				
												4% Drinkard gas 8 mcf 96% Wantz Abo gas 18.2 mcf				

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

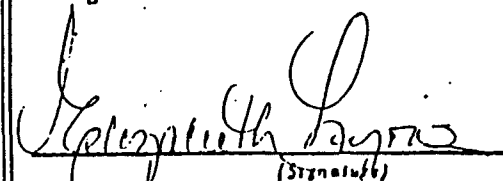
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized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

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

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

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


(Signature)

Administrative Secretary

(Title)
3-7-88

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2000
SANTA FE, NEW MEXICO 87501

Form C-116
Revised 10-1-78

GAS-OIL RATIO TESTS

Operator Bison Petroleum Corporation	Pool Blinebry	County Lea County, New Mexico
Address 5809 S. Western Suite 200 Amarillo, Texas 79110-3607		TYPE OF TEST - (X) Scheduled <input checked="" type="checkbox"/> Completion <input type="checkbox"/> Special <input type="checkbox"/>

LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKE SIZE	T.B.G. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS R. CU.F.
		U	S	T	R							WATER BBLs.	GRAV. OIL	OIL BBLs.	GAS M.C.F.	
Stephens Estate	2	M	24	21	37	8-5-88	P	open	25		24	0	n/a	0	16	Inf

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

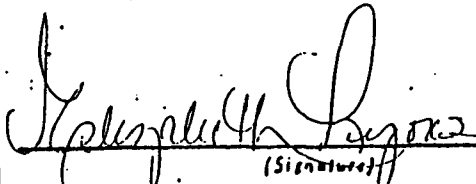
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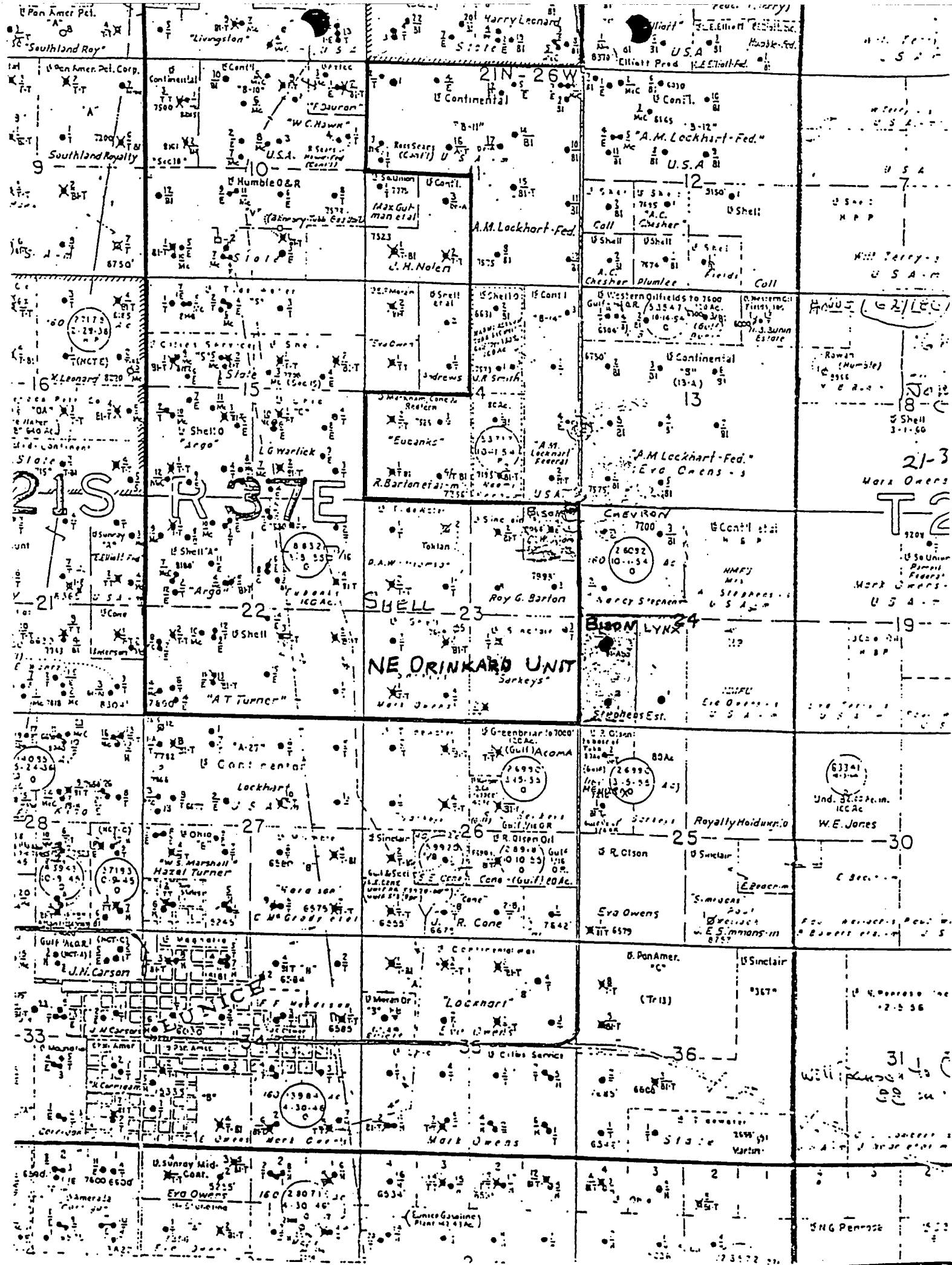
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I hereby certify that the above info is true and complete to the best of my knowledge and belief.

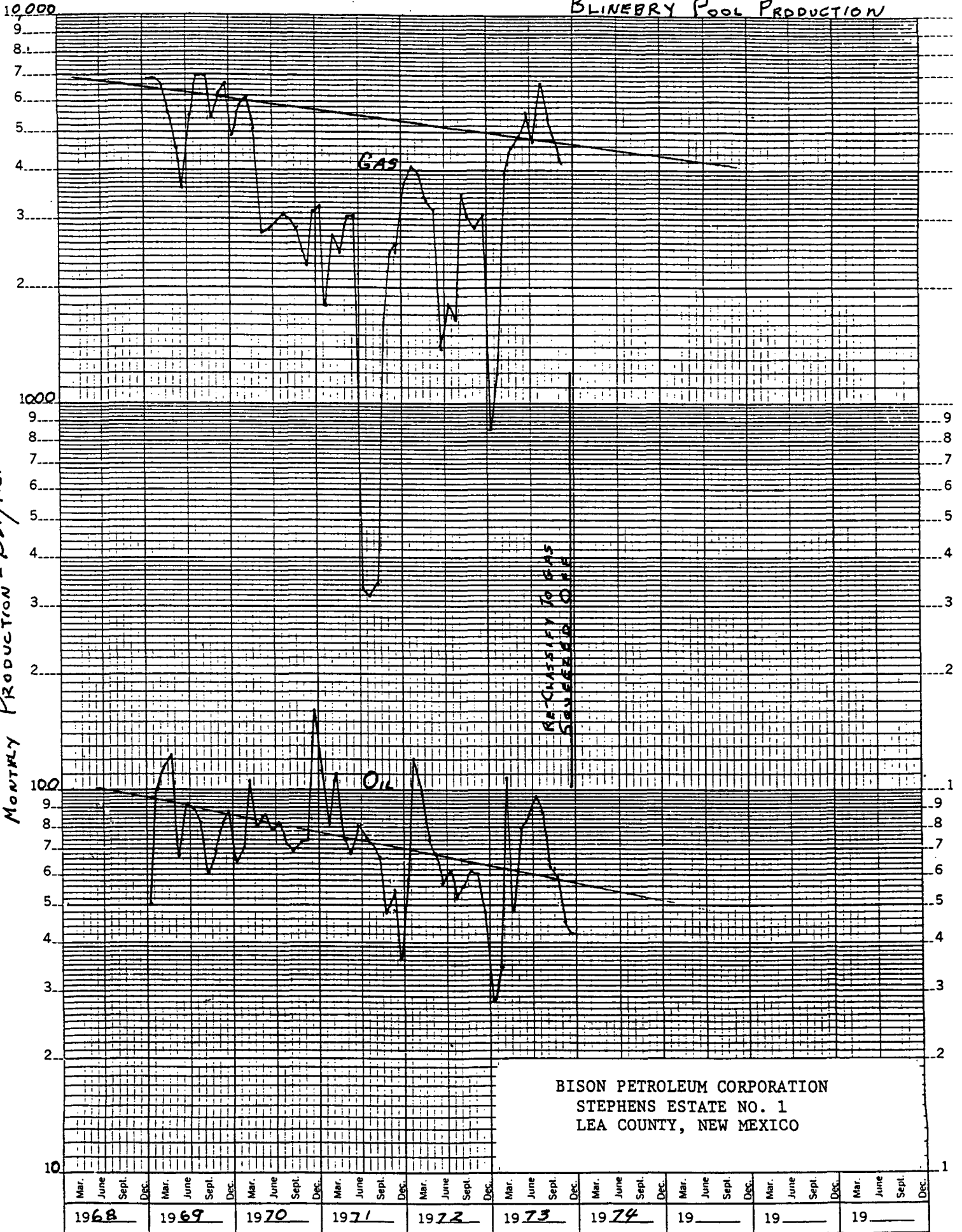

(Signature)
Administrative Secretary

R-O-RR (Title)



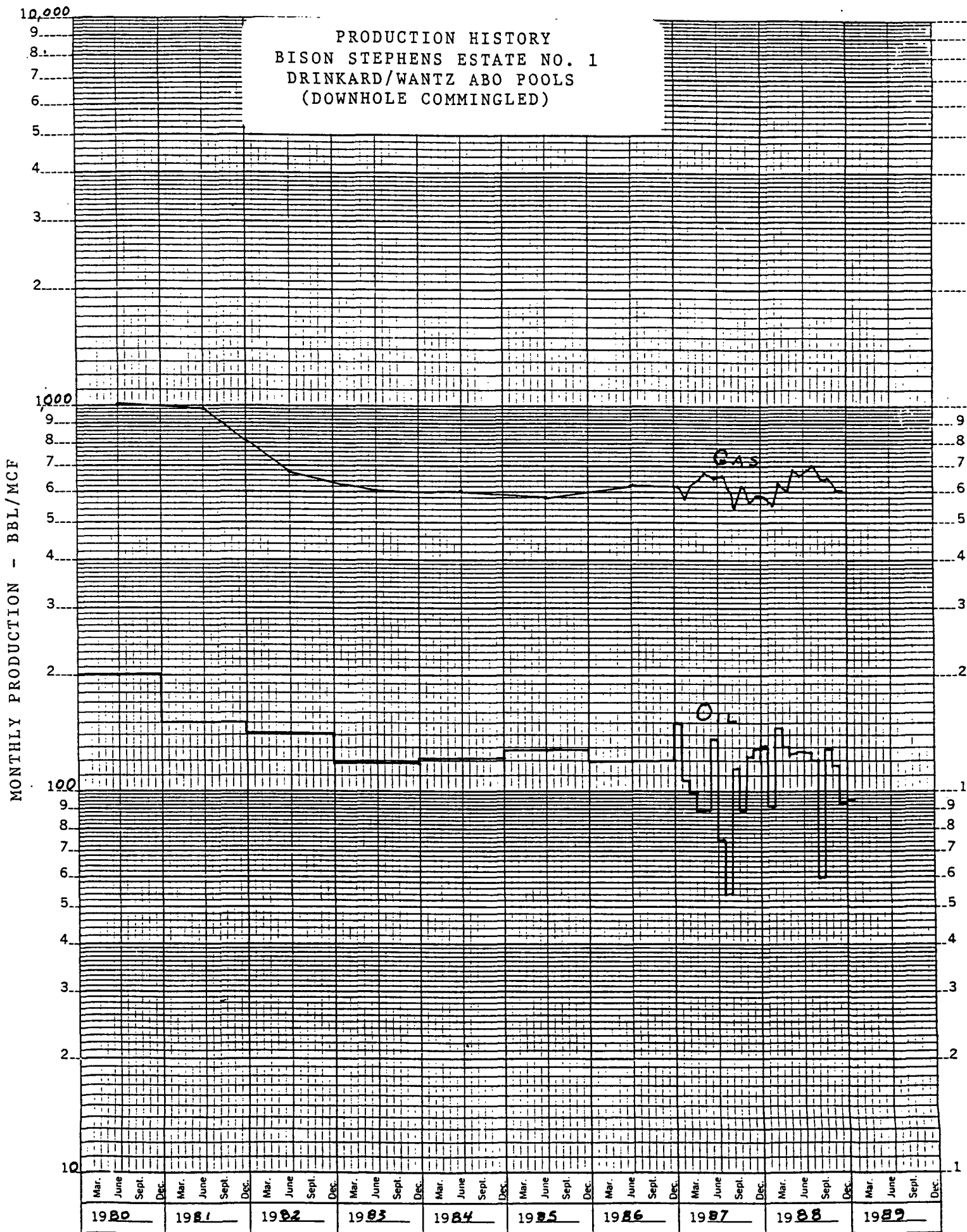
BLINEBRY POOL PRODUCTION

MONTHLY PRODUCTION - Bbl/Mcf



BISON PETROLEUM CORPORATION
STEPHENS ESTATE NO. 1
LEA COUNTY, NEW MEXICO

PRODUCTION HISTORY
 BISON STEPHENS ESTATE NO. 1
 DRINKARD/WANTZ ABO POOLS
 (DOWNHOLE COMMINGLED)



COMPLETION HISTORY

STEPHENS NO. 1
LEA COUNTY, NEW MEXICO

<u>Initial Abo</u>	1952	Initially perf 7168-98'. Treated tite. Set CIBP 7154' and cmt to 7149' PBDT. Perf'd 7035-69 three different times. Treated several times a total of 38,000 gal acid in several treatments. IPP 123 BO.
<u>stim Abo</u>	Jan 1958	Perf 7085-91' and 7102'-10'. Tried to acidize. Commingle. Then acidize 7035'-7110' OA w/10,000 gal w/55 ball sealers. Before 14 BOPD 14 MCF/D 0 BWPD Cum 42 MB After Pot. 51 BO 27 BW (load?)
<u>Make Dual Abo-Blinebry</u>	Nov 1958	Made dual Abo-Blinebry by perf 5684-5897'. 4 SPF. Acidize Blinebry w/9000 gal. SOF 10,000 x 5750. Set Baker Model D @ 7000'. Abo + 42 BOPD GOR 930 Blinebry 31 BWO 1 BLW + 335 Mcf/D GOR 10,850.
<u>Pkr leak</u>	May 1960	They must have had a pkr leak and could not kill either zone. They had to pump jellite and leather to control zones. Abo pumped 17 BNO. Blinebry flowed + 22 BNO.
<u>TA Abo</u> <u>Make Dual</u> <u>Blinebry-</u> <u>Drinkard</u>	Apr 1964	Abo produced 13 BOPD. Cum 75 MB. Blinebry produced 9 BOPD, Cum 66 MB.. To TA Abo and make dual Blinebry-Drinkard. Run DR plug in pkr @ 7066' w/1 sx sd on top. Perf Drinkard 6514-6644' SOF 30 x 90. Drinkard flowing 251 BNO Gor 976 Blinebry flowing 20 BO +
<u>Reclassify Blinebry</u>	Sep 1973	Blinebry in St. #1 & 2 both reclassified to gas 9-73.
<u>Sqz Blinebry</u> <u>Make comm.</u> <u>dual</u> <u>Abo-Drink</u>	Jan 1974	To plug Blinebry and make commingled Abo-Drinkard. Squeeze Blinebry. Drilled out fish, pkr and CIBP (7154'). CO to 7325' in 12 days. Abo - perforated 6919-7190 and acidize w/2500 gal. Drinkard Perforated 6677 - 6733' then acidize 6514-6733' w/ 500 gal. TA @ 6855' w/MA @ 7236'. Pot: Pump 33 BNO 56 BLW.

OIL CONSERVATION COMMISSION

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

March 13, 1974

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.
PE			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, CCC - Santa Fe

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

MAR - 9 1989



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

March 8, 1989

GARREY CARRUTHERS
GOVERNOR

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

Bison Petroleum Corporation
5809 South Western, Suite 200
Amarillo, TX 79110-3607

Attn: Mr. Bruce O. Barthel

Re: Stephens Estate #1-L
Section 24, T21S, R37E

Gentlemen:

Your C-103 requesting approval to reopen the Blinebry zone and downhole commingle with the Abo and Drinkard zones in the above-referenced well has been received.

It appears since you already have approval for an 80-acre non-standard gas proration unit authorized by NSP-940 for your #2 well, all that will be necessary is that you obtain approval to simultaneously dedicate this acreage to well #1 and #2 along with authorization to downhole commingle Blinebry, Drinkard, and Abo production in well #1.

As soon as approval to simultaneously dedicate this 80 acre proration unit to #1 and #2 and to downhole commingle the three zones in well #1 has been obtained from our Santa Fe office we will approve your intention to do the work.

The above proposal would require that you file a revised acreage dedication plat for the Blinebry for both #1 and #2 showing both wells on the 80-acre proration unit.

If you have further questions concerning this, please contact Evelyn Downs at (505) 393-6161.

Very truly yours,

OIL CONSERVATION DIVISION

A handwritten signature in dark ink, appearing to read "Jerry Sexton", written over the typed name.

Jerry Sexton
Supervisor, District I

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Bison Petroleum Corporation			Lease Stephens Estate		Well No. 1 & 2
Unit Letter L & M	Section 24	Township 21S	Range 37E	County NMPM	Lea
Actual Footage Location of Well: No. 1 1980 South 660 West No. 2 660 feet from the South line and 660 feet from the West line					
Ground level Elev. #1 3436DF		Producing Formation Blinebry		Pool Blinebry Gas	Dedicated Acreage: 80 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 interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

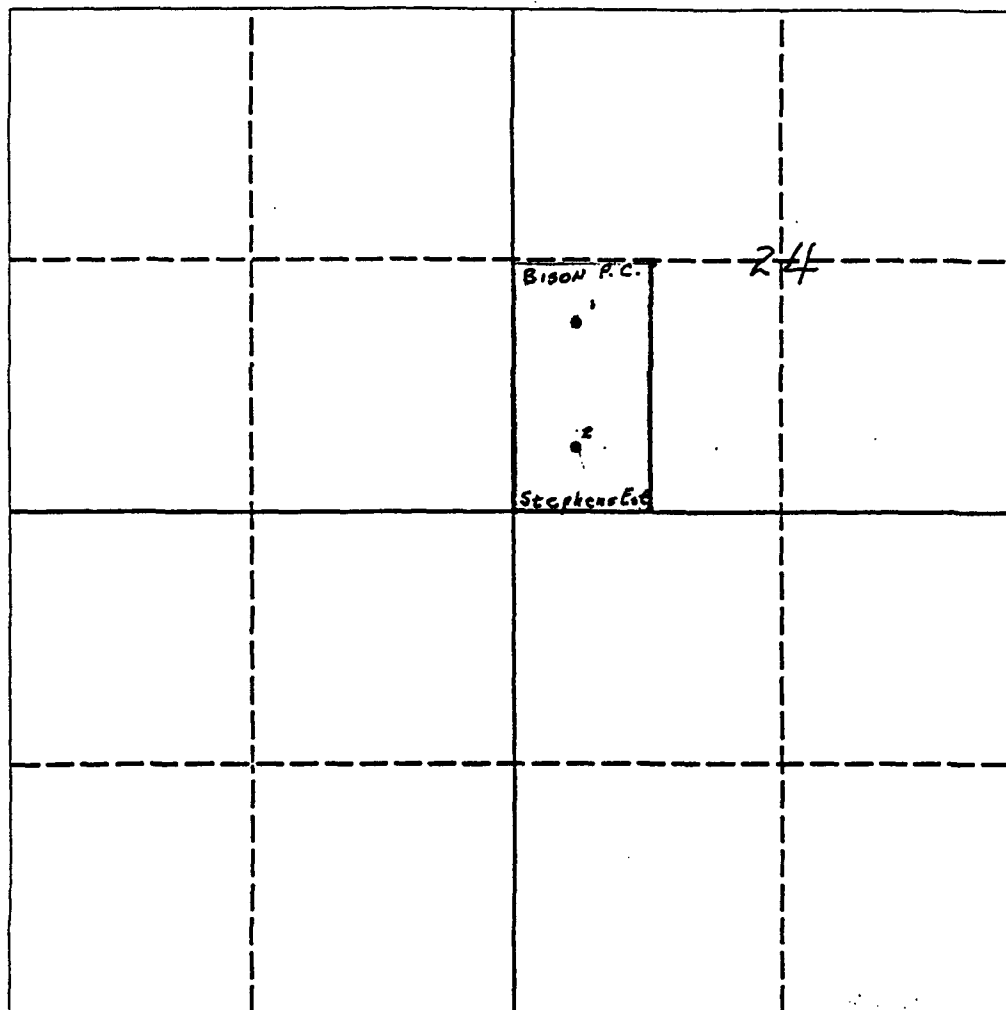
☐ Yes

☐ 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 interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Signature

Bruce O. Barthel

Printed Name

Bruce O. Barthel

Position

President

Company

Bison Petroleum Corporation

Date

3-9-89

SURVEYOR CERTIFICATION

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

Signature & Seal of
Professional Surveyor

Certificate No.

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

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

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

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

WELL API NO.
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
6. 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. Type of Well:
OIL WELL ☒ GAS WELL ☐ OTHER ☐

2. Name of Operator
Bison Petroleum Corporation

3. Address of Operator
5809 S. Western Suite 200 Amarillo, TX 79110-3607

4. Well Location
Unit Letter L : 1980 Feet From The FSL Line and 660 Feet From The FWL Line

Section 24 Township 21S Range 37E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)
3426

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data			
NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>		CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER: <u>Re-Completion</u> <input checked="" type="checkbox"/>		OTHER: <u></u> <input type="checkbox"/>	

12. 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.

1. Kill Drinkard & Abo Zones.
2. Set retrievable bridge plug above Drinkard.
3. Perforate Blinebry 5684-5897 OA and breakdown with acid.
4. Kill well and recover bridge plug.
5. Run tubing, rods and pump to bottom.
6. Put on pump.

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

SIGNATURE Bruce O. Barthel TITLE President DATE 3-6-89

TYPE OR PRINT NAME Bruce O. Barthel TELEPHONE NO. 806/ 358-0181

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY: