

CAMPBELL & HEDRICK

P. O. BOX 401 220 MID-AMERICA BLDG.  
MIDLAND, TEXAS 79701

OIL CONSERVATION DIVISION

RECEIVED

'90 NOV 19 AM 9 38

November 15, 1990

Re: Request for Exception  
to Rule 303-A  
Down-Hole Commingling  
Campbell & Hedrick  
Lockhart No. 2  
Unit M, 660' FSL & 990'  
FWL, Sect. 17, 7-21S-  
37E, Lea County,  
New Mexico  
Blinebry Oil, Tubbs  
Oil & Drinkard Oil.

*915-684-4393  
May Ellen Stone*

Energy & Minerals Department  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Gentlemen:

Campbell & Hedrick, P. O. Box 401, Midland, Texas 79702, request administrative approval for an exception to Rule 303-A to permit the commingling within the well bore of production from the Blinebry Oil zone, the Tubbs Oil zone and the Drinkard zone in captioned well. All three zones are very low marginal.

The Drinkard zone was TA'd November 6, 1978 with a #45A Baker Model C Bridge Plug. The Tubb Oil and the Blinebry Oil zones were perforated, treated and tested. Campbell & Hedrick applied for permission to DHC the Blinebry Oil-Tubbs Oil zones and was authorized to do so in DHC #285. Removing the Bridge Plug which shuts off the Drinkard zone as the well now is completed so as to commingle down-hole the three zones will enhance the economics of this well and permit the recovery of oil and gas that otherwise may not be recovered by this well.

All three zones in this well are classified as oil zones. Since the Drinkard was pumping when it was TA'd and since the Blinebry-Tubbs no longer will flow consistently, it is proposed to put the well to pumping after down-hole commingling is approved. This will eliminate any possibility of fluid thieving into the old Drinkard completion and thereby maximize recovery of oil. Total combined production is estimated to be  $\pm$  10BOPD, 1BWPD and 160Mcfpd.

Ownership of the three zones to be commingled is common as to working interest, royalty and overriding royalty. Other information requested in Section 2 follows:

- (a) Campbell & Hedrick  
P. O. Box 401  
Midland, Texas 79702

- (b) A M Lockhart Well No. 2 (Federal Lse. No. 032096(a) ).  
660' FSL & 990' FWL  
Sect 17, T-21S, R-37E  
Lea County, New Mexico

- (c) Plat of the area Attachment 1.

- (d) Form C-116 for the Blinebry-Tubbs DHC #285.  
Attachment 2.  
No recent test data is available on the Drinkard zone.

- (e) Production decline curves Blinebry-Tubbs DHC #285  
Attachment 3.

Production decline curves Drinkard Attachment 4.

Complete resume of the well's history including description of treating, testing, etc. each zone and prognostication of future production from each zone Attachment 5.

- (f) Estimated BHP each zone

|          |     |
|----------|-----|
| Blinebry | 310 |
| Tubbs    | 310 |
| Drinkard | 275 |

- (g) Crude from all three zones is classified West Texas-New Mexico Intermediate and on other leases in the area surface commingling confirms there are no incompatibilities.

- (h) Value of Blinebry-Tubbs production \$123.50  
Value of Drinkard production 160.32  
Value of combined production 283.82  
Value of commingled production 283.90

- (i) It is requested that production as to oil be allocated

Blinebry 37% Tubbs 8% Drinkard 55%

and that production as to gas be allocated

Blinebry 48% Tubbs 7% Drinkard 45%


- (j) All offset operators have been notified by a copy of this application as has the Bureau of Land Management.

Bureau of Land Management, P.O. Box 1778, Carlsbad, N.M. 88220  
Texaco, P. O. Box 3109, Midland, Texas 79702-3109  
Oryx, P.O.Box 1861, Midland, Texas 79702-1861

Campbell & Hedrick  
Page 3

Graham Energy, P.O. Box 62731, New Orleans, Louisiana 70162  
Chevron, P.O. Box 1150, Midland, Texas 79702-1150

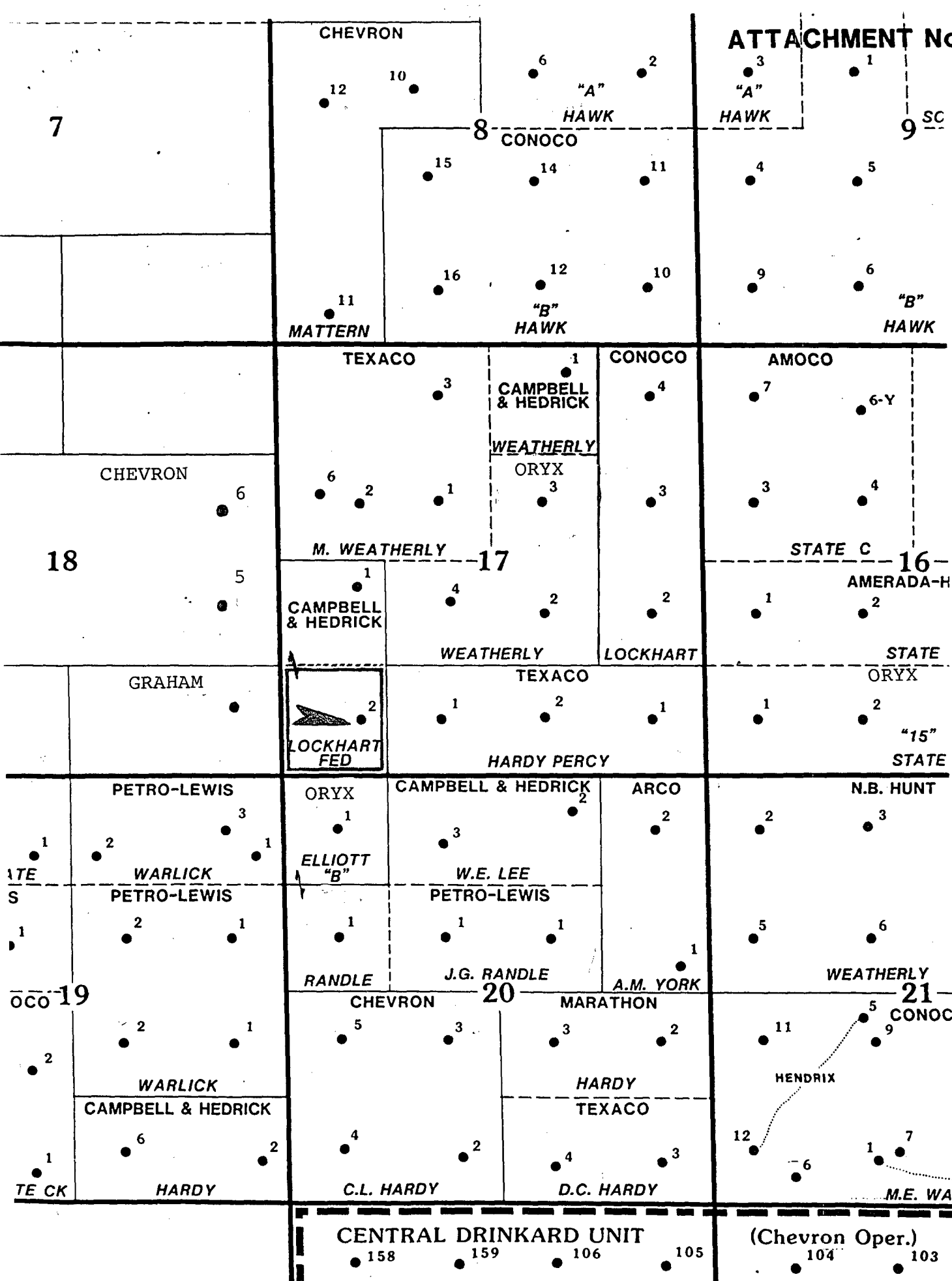
Very truly yours,

A handwritten signature in dark ink, appearing to read "O. F. Hedrick". The signature is written in a cursive, slightly stylized font.

O. F. Hedrick,  
Partner

OFH:mes

**ATTACHMENT No. 1**



Campbell & Hedrick Lockhart #2  
Well Sketch  
Blinebry/Tubbs/Drinkard Fields

10 3/4" Surface csg set  
at 304' with 200 sax neat  
cement. circulated cement.

7 5/8 24lb H-40 csg set at  
2788'. Cemented with 1150  
sax 3% Gel and 100 sax neat.  
circulated cement.

Blinebry Perfs  
5670-5735 with 3 1/8'  
WJM, 20 holes

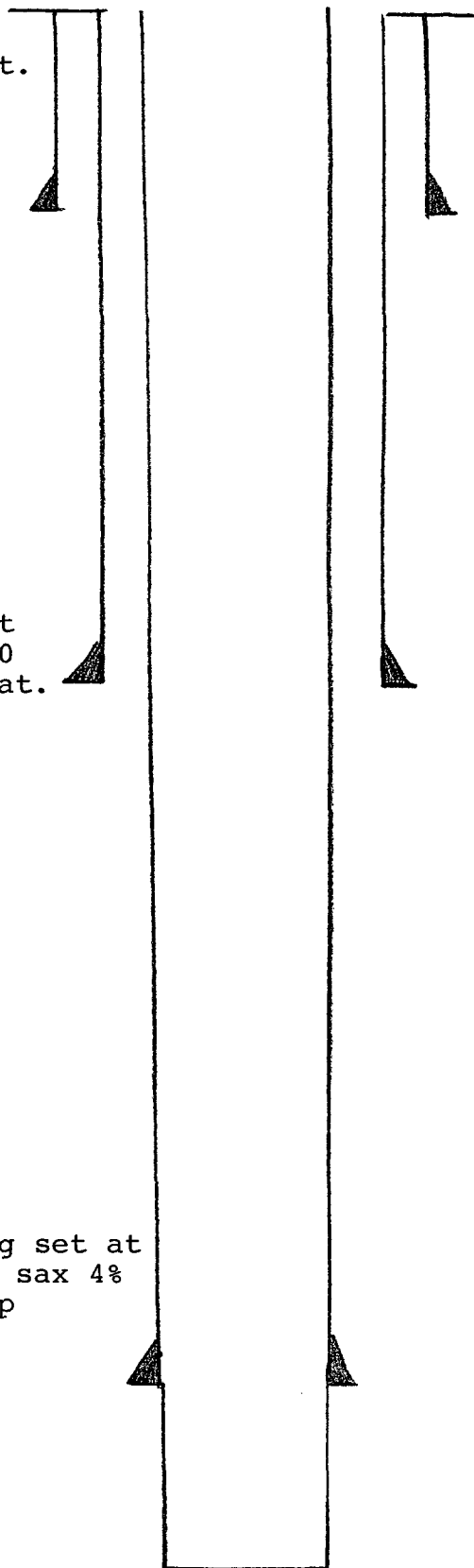
Tubbs Perfs 2 shots  
per foot 6542, 6547,  
6532, 6517, 6406, 6373,  
6347, 6309, 6291, 6270,  
6241, 6212

5 1/2" 15.50 and 14lb J55 csg set at  
6600'. cemented with 200 sax 4%  
Gel and 100 sax neat. Top  
cement 3450'.

6585 Baker Retrievable  
B.P.

Drinkard Open hole  
6600 to 6690.

TD 6690'



**Form C-116**  
**Revised 1/1/89**

**P.O. Box 2088**

**Santa Fe, New Mexico 87504-2088**

Submit 2 copies to Appropriate District Office.

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

**DISTRICT II**  
P.O. Drawer DD, Artesia, NM 86210

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

# GAS - OIL RATIO TEST

| Operator  |  | Pool                                |  | County   |  |
|---|--|-------------------------------------|--|--|--|
| CAMPBELL & HEDRICK  |  | BLINEBRY OIL TUBBS OIL              |  | LEA  |  |
| Address   |  | P. O. BOX 401, MIDLAND, TEXAS 79702 |  | Type of Test - (X)   |  |
| LEASE NAME  |  | WELL NO.                            |  | Scheduled <input type="checkbox"/> Special <input checked="" type="checkbox"/> |  |
| LOCKHART  |  | 2                                   |  |  |  |
| M   |  | U                                   |  |  |  |
| 11/8/90   |  | S                                   |  |  |  |
| 215   |  | T                                   |  |  |  |
| 37E   |  | R                                   |  |  |  |
| DATE OF TEST  |  | 11/8/90                             |  |  |  |
| CHOKE SIZE  |  | 24/64                               |  |  |  |
| TBG. PRESS.   |  | 25/20                               |  |  |  |
| DAILY ALLOW-ABLE  |  | #M 33                               |  |  |  |
| LENGTH OF TEST HOURS  |  | 24                                  |  |  |  |
| WATER BRLS.   |  | Tr                                  |  |  |  |
| PROD. DURING TEST   |  | 34.0                                |  |  |  |
| OIL GRAV. OIL BRLS.   |  | 1.6484.0                            |  |  |  |
| GAS M.C.F.  |  | 51219                               |  |  |  |
| GAS - OIL RATIO CU/FT/BRL   |  |                                     |  |  |  |
| <p>Downhole Commingling<br/>Permit No. <u>DHC #285</u></p> <p>Oil Percentages - Zones Involved:<br/> 83% - Blinebry Oil &amp; Gas - <b>1.36</b><br/> 17% - Tubbs Oil &amp; Gas - <b>.28</b><br/> 100% - Total <b>1.64</b> Total Prod: all zones</p> |  |                                     |  |  |  |

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

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.**

**Signature**

**O. F. HEDRICK, JR. PARTNER**  
Printed name and title

11/15/90

915-684-4393

Date \_\_\_\_\_

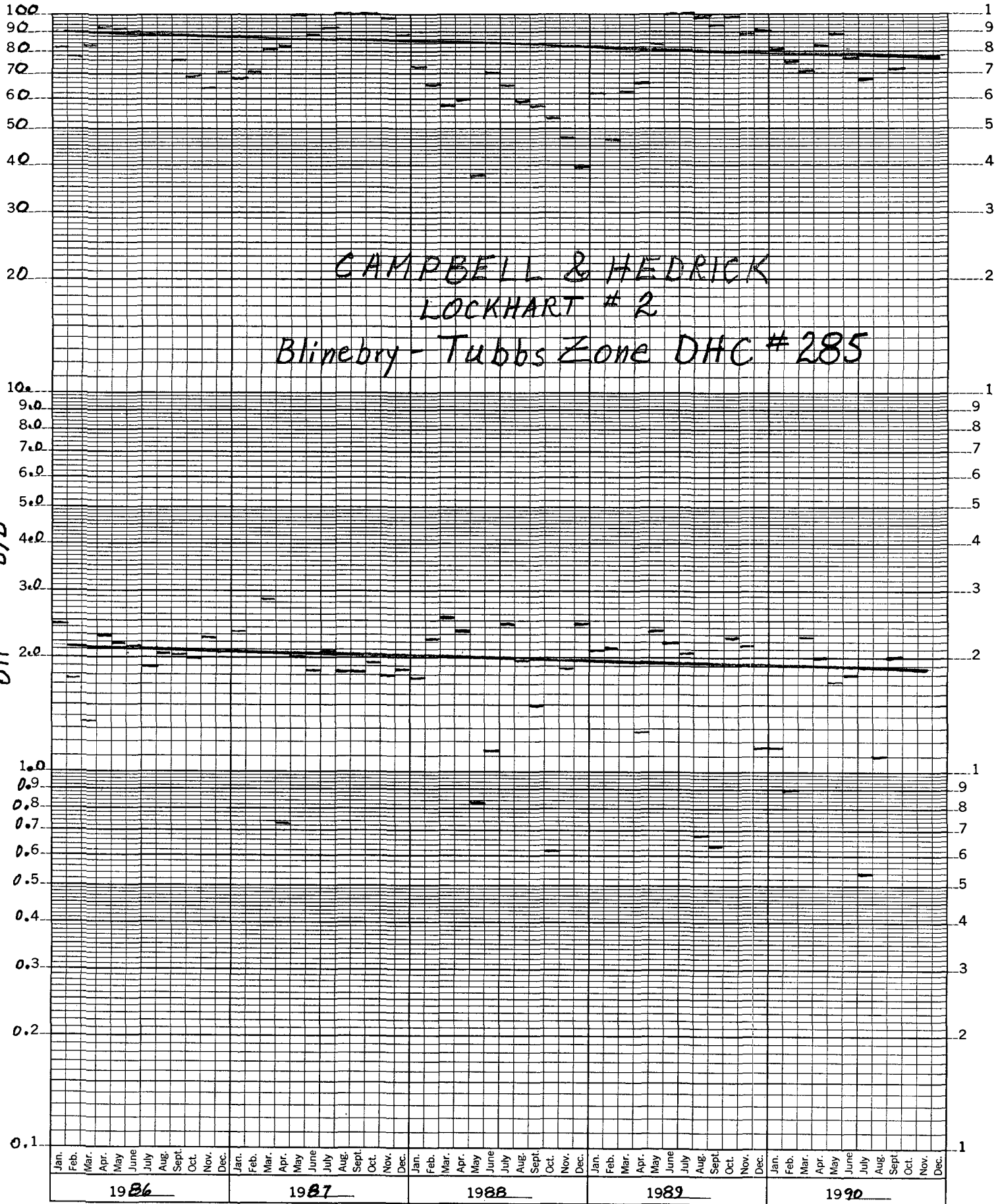
Telephone No. \_\_\_\_\_

5 YEARS BY MONTHS x 3 LOG CYCLES  
KEUFFEL & ESSER CO. MADE IN U.S.A.

46 6690

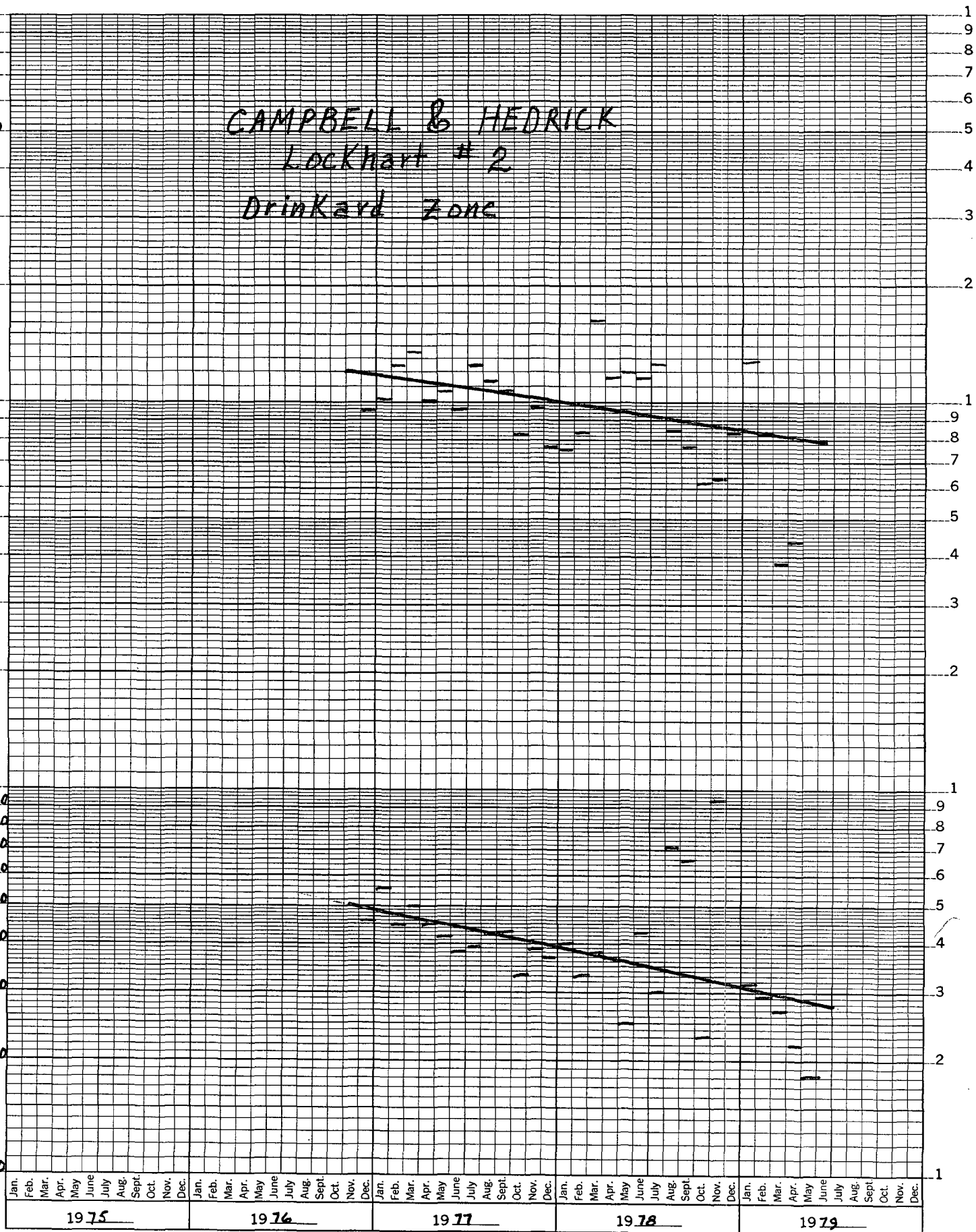
B/D

oil



46 6690  
Gas MCF/DK&E 5 YEARS BY MONTHS x 3 LOG CYCLES  
KEUFFEL & ESSER CO. MADE IN U.S.A.

Oil B/D

CAMPBELL & HEDRICK  
Lockhart # 2  
Drinkard Zone



- Blinebry zone:** Perforate interval 5670-5735 with 3 1/8" WJM, 20 holes. Run Baker RTBP and Baker Full Bore on 2 7/8" OD frac tubing. Tested Tubing to 5000#psi and casing to 1500#. Set RTBP at 5781 spot 750 gal 15% DS-30 acid and treat with 15000 gal gelled 9lb. brine and 11,250 lbs. 20/40 sand. Max treat pressure 5600psi, min 4000psi, ave inj rate 21 BPM. Swab and flow back load. Flow at rate of 9.7BOPD 8bbbl treating fluid and 15lmcf gas per day. GOR 15,567.
- Tubb zone:** Ran perf log and perforated 5 1/2" csg. w/2 shots per foot, 6562', 6547', 6532', 6517', 6406', 6373', 6347', 6309', 6291', 6270', 6241', and 6212'. Acidized above perfs with 3000 gal 15% acid and sand-fractured w/35000gal gelled 9.2 brine with 45,000lb. 20/40 sd using 2 7/8" tubing. Ave inj rate 23BPM, Pressure 5350psi. Well tested 2 BOPD, GOR 10,000. Blinebry and Tubbs zones were commingled under DHC #285 in July 1979.
- Drinkard zone:** Drinkard production is from open hole, 6600 to 6690'. 12/27/1951 acidize with 1000 gal 15% LT acid. Max pressure 1800psi. ave rate 1.6 BPM. 1/10/1952 acidize with 5000 gal LTXR special. Max pressure 1650psi ave rate 2.4 BPM. 12/8/1956 Frac open hole with 20000 gal refined oil and 40000lb 20/40 sd. Max pressure 2600psi ave rate 25 BPM. Well flowed 80 BOPD. GOR 1861. March 1979 production 2 BOPD and 43Mcf gas per day November 6, 1978 set Baker #45A Model C Ret Bridge Plug at 6585.

Down hole commingling will protect correlative rights, permit the recovery of additional oil from the Drinkard Oil zone and extend the economic life of the well, which will result in additional oil being recovered from the Blinebry and Tubbs zones as well.



OIL CONSERVATION DIVISION  
RECEIVED  
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STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE

12-11-90

GARREY CARRUTHERS  
GOVERNOR

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 | <u>X</u> _____ |
| NSL | _____          |
| NSP | _____          |
| SWD | _____          |
| WFX | _____          |
| PMX | _____          |

Gentlemen:

I have examined the application for the:

|                               |                  |             |                 |
|-------------------------------|------------------|-------------|-----------------|
| <u>Campbell &amp; Hedrick</u> | <u>Lockhart</u>  | <u>#2-m</u> | <u>17-21-37</u> |
| 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

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RECEIVED  
DIVISION

'91 JAN 30 AM 9 27

JAN 29 1991

3162 (067)  
LC-032096-A

*FILE - DHC-285*

Campbell & Hedrick  
Attn.: Mr. Joe H. Campbell  
220 Mid America Bldg. - P. O. Box 401  
Midland, TX 79701

RE: LC-032096-A  
Lockhart Federal Well No. 2  
SW $\frac{1}{4}$ , Sec. 17, T21S, R37E  
Lea County, New Mexico

Gentlemen:

Your request to downhole commingle production from the Blinebry, Tubbs, and Drinkard zones in the wellbore of your Lockhart Federal Well No. 2 on the above referenced lease is hereby approved.

As stated in your application, the interest owners of this lease are identical for the productive horizons. Allocation back to the contributing sources will be made based on well tests. Your request is made in the interest of conservation and will not result in reservoir damage or in reduced royalty.

Please contact Shannon Shaw or Adam Salameh at (505) 887-6544 or at the letterhead address if any further information is required.

Sincerely,

Orig. Signed by Richard L. Manus

Richard L. Manus  
Area Manager

cc: NM (065, B. Lopez)  
NM (067, S. Shaw; E. Inman)  
NM (067A, K. Haston)

NMOCD - Attn.: Mr. D. R. Catanach  
P. O. Box 2088  
Santa Fe, NM 87504

# Memo

From  
DAVID CATANACH  
Petroleum Engineer

To  
Current Prod  
As per C-116

1.64 BOPD

84.0 MCF/D

Orl

Blumery - 83% = 1.36 BOPD

Tubb - 17% = .28 BOPD

600

88% = 73.9 MCF

12% = 10.1 MCF

Drinkand last prod.

2 BOPD

43 MCF/D

Total

3.64 BOPD

127 MCF/D

$$B. - \frac{1.36}{3.64} = 37\%$$

$$T - \frac{.28}{3.64} = 8\%$$

$$D - \frac{2.0}{3.64} = 55\%$$

$$B - \frac{73.9}{127} = 58\%$$

$$T - \frac{10.1}{127} = 8\%$$

$$D - \frac{43}{127} = 34\%$$