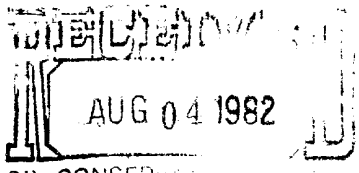
Sun Production Division
Southwestern District



Sun Exploration and Production Company
901 W Wall
Post Office Box 1861
Midland Texas 79702
915 685 0300

July 29, 1982

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

Attn: Michael E. Stogner

Re: Application for approval of downhole commingling of production in the Linam Hardy #1, Unit A, Sect. 29, T-21-S, R-37-E, Lea County, New Mexico

Dear Mr. Stogner:

Sun's Linam Hardy Com. #1 is a dually completed Blinebry gas and Tubb gas well. (Note: the Blinebry completion was named the V. Linam #3 until recently when it was renamed the Linam Hardy Com. #1 and reclassified as a gas well.) The two zones were produced separately thru two strings of 2-1/16" tubing. (See attached wellbore sketch). The upper Blinebry zone was on rod pump while the lower Tubb zone flowed. The most recent tests were as follows:

Blinebry:	2 BOPD X 1 BWPD X 130 MCFGPD (5-26-82)
Tubb:	0 BOPD X 0 BWPD X 56 MCFGPD (5-28-82)

A recent problem that occurred has prompted Sun to seek permission for downhole commingling at this time.

Approximately four weeks ago, the wellhead on the subject well subsided about 10 inches. Upon closer inspection after digging down 5 feet around the wellhead, it was discovered that the 9-5/8" intermediate casing string had developed circumferential corrosion causing the casing to collapse. Downhole equipment including rods, pump, tubing, and packers were subsequently pulled from the well. The well is now secured and the casing has been repaired. It is Sun's intent to return the well to production. However, it is proposed to run only a single string of tubing and downhole commingle production from the Blinebry and Tubb pools. This production method should simplify our operations and ultimately reduce costs. Without downhole commingling, the Tubb zone cannot be produced economically. Also production may be increased when the hydrostatic head on the Tubb zone is reduced. No recent BHP's are available. Since the tubing and packer had to be pulled from the well, it is not possible to obtain a BHP now. (See attached data sheet for SIP's).

Administrative approval to downhole commingle is requested. The additional information concerning this application is attached for your consideration.

Sincerely yours,

Coby Osborne

Coby Osborne
Production Engineer

CO/nc
cc: Tom Golden
Fritz Brandes
Julian McLean
Deann Demp
Well File

INFORMATION AS OUTLINED IN RULE 303-C

1. Commingling is necessary to permit the Tubb Zone to be produced which would not otherwise be economically producible.

2. There will be no crossflow between zones to be commingled.

3. Neither zone is producing from fluid-sensitive sands, thus there will be no damage from water or other produced liquids.

4. Production from the Tubb Zone is dry gas. Therefore, no problem exists concerning compatibility of fluids of the zones to be commingled.

5. Ownership of the zones to be commingled is common.

6. Recent bottom hole pressures are not available, refer to letter.

A. OPERATOR:
Sun Exploration and Production
Sun Production Division
P. O. Box 1861
Midland, Texas 79702

B. LEASE:
Linam Hardy Com #1
Unit A, Sec. 29, T-21-S, R-37-E
Lea County, New Mexico

C. Well is completed in the Blinebry and Tubb as a dual completion as per Order No. DC-411.

D. The most recent productivity tests of the Blinebry and Tubb Zones are referenced in the letter.

E. Production decline curves for both the Blinebry and Tubb Zones are attached.

F. BOTTOM HOLE PRESSURE DATA:
No recent BHP's are available, only surface SIP's
Blinebry: SIP 675 psi (5-26-80)
Tubb: SIP 465 psi (5-26-80)

G. FLUID CHARACTERISTICS:
There is no evidence of fluid incompatibility. The Blinebry Zone produces oil and gas whereas the Tubb Zone produces only dry gas.

H. VALUE OF COMMINGLED FLUIDS:
There will be no loss in value of the produced fluids due to commingling.

I. ALLOCATION FORMULAS:

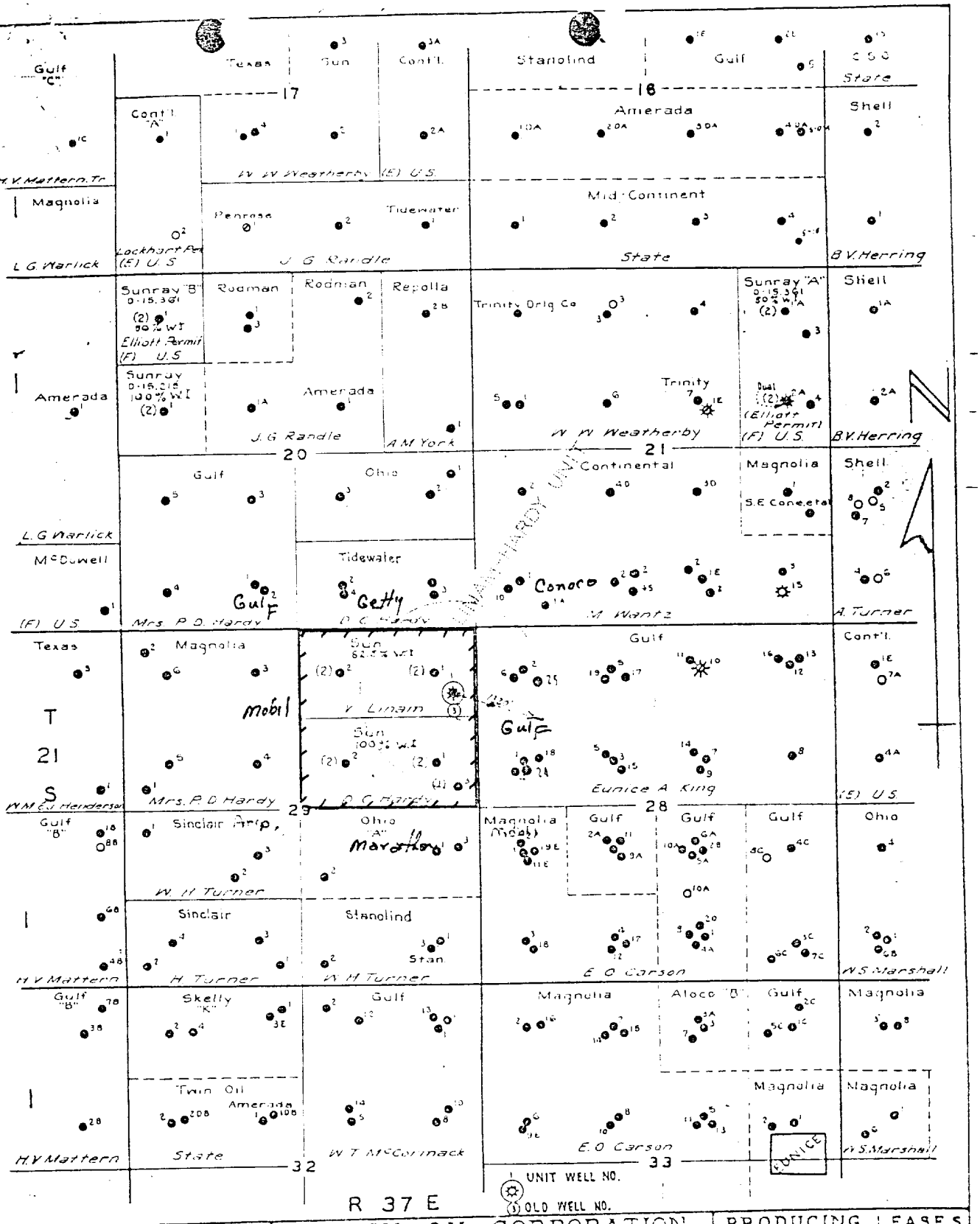
$$X = \frac{Y}{Z}(100)$$

Where X = percent allocation of commingled production to desired zone
Y = Latest daily gas rate of desired zone, MCFPD
Z = Total combined Blinebry and Tubb daily gas rate, MCFPD

Blinebry: $X = \frac{130}{(130 + 56)}(100) = 69.9\%$

Tubb: $X = \frac{56}{(130 + 56)}(100) = 30.1\%$

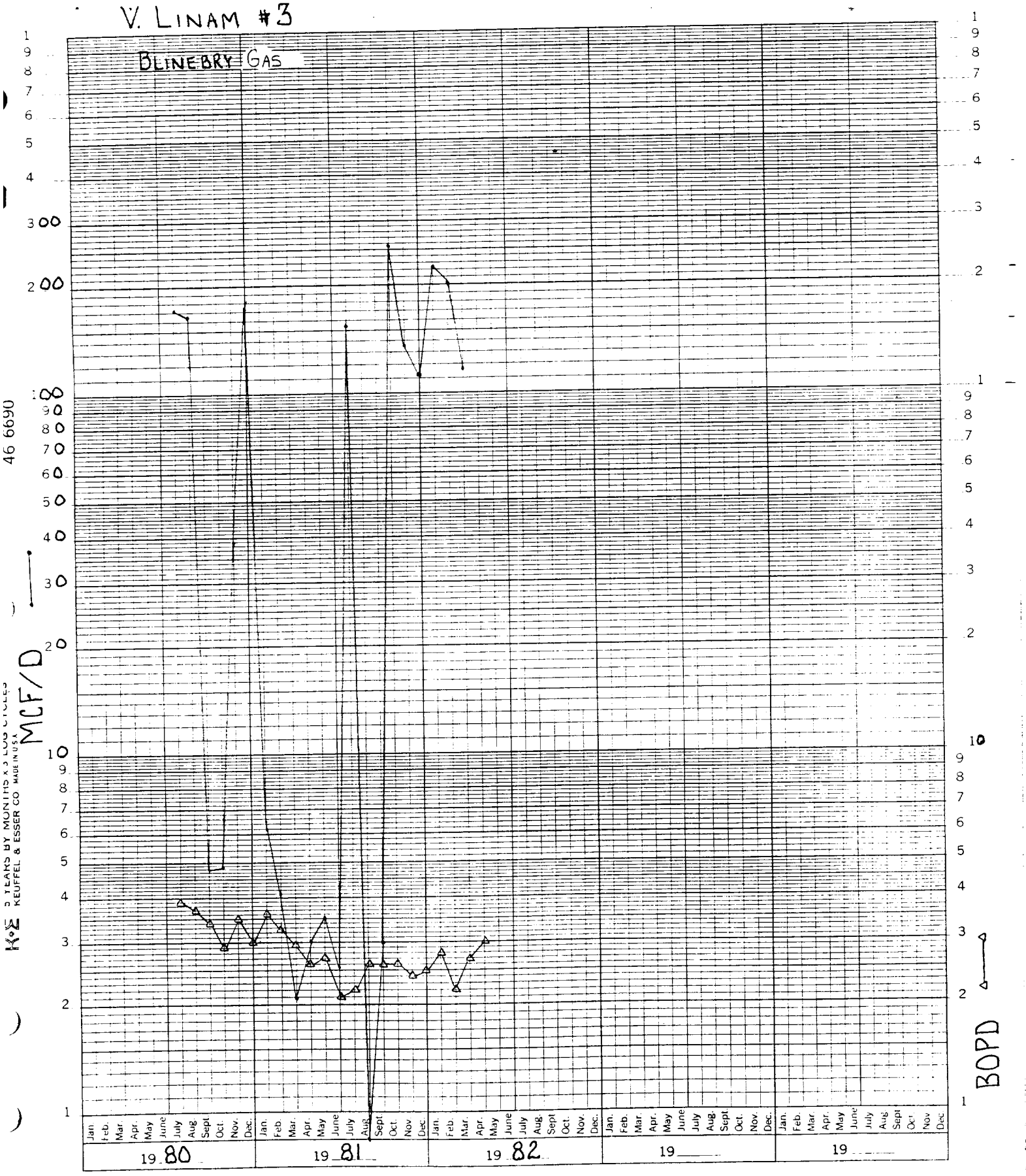
J. All offset operators have been notified by a copy of this application.
1) Arco Oil and Gas Company
P. O. Box 1610
Midland, Texas 79702
2) Conoco, Inc.
P. O. Box 460
Hobbs, New Mexico 88240
3) Getty Oil Company
P. O. Box 1231
Midland, Texas 79701
4) Gulf Oil Exploration and Production Co.
P. O. Box 670
Hobbs, New Mexico 88240
5) Marathon Oil Company
P. O. Box 552
Midland, Texas 79701
6) Mobil Producing Company
P. O. Box 633
Midland, Texas 79701

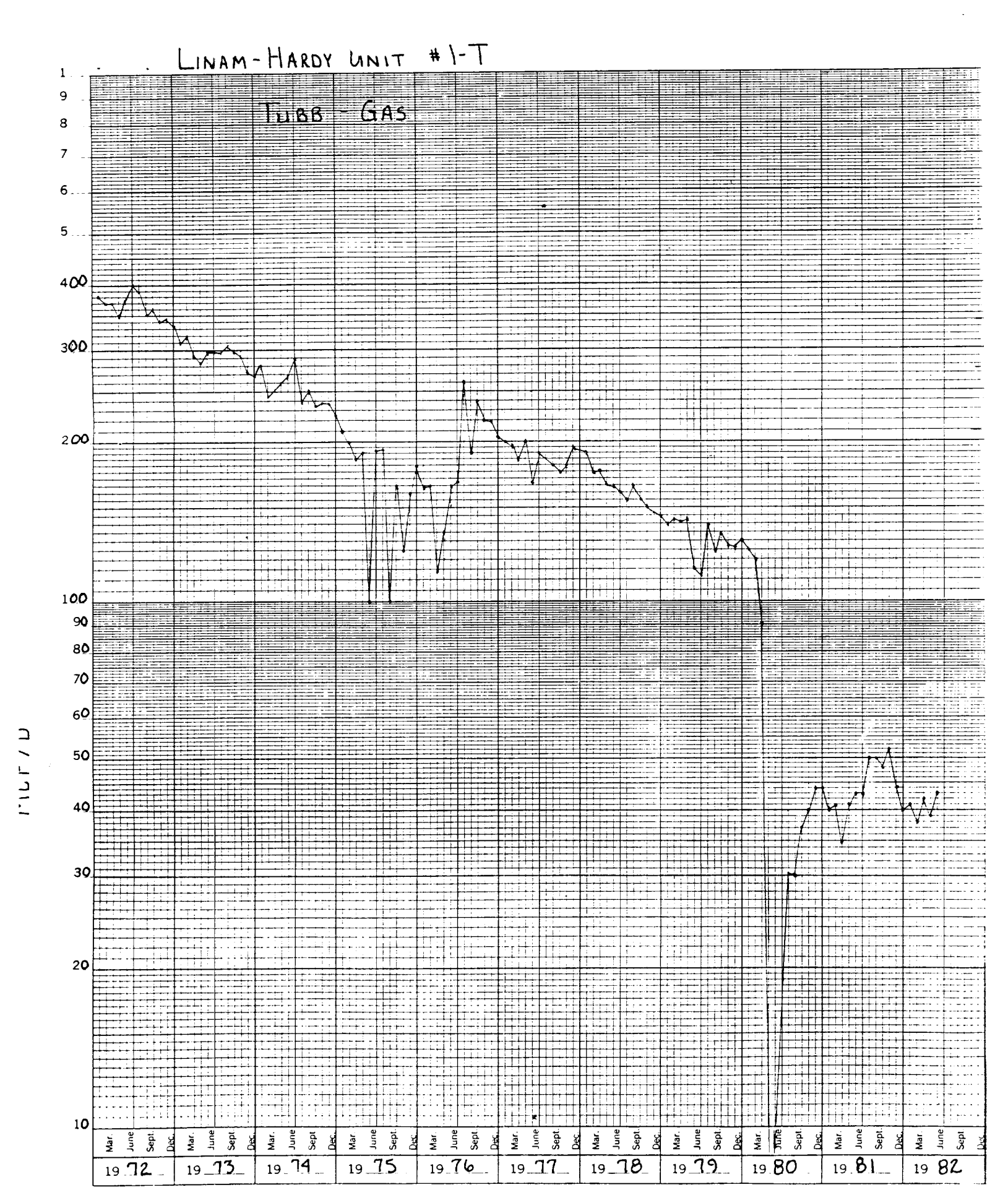


PRODUCING FORMATION	SUNRAY OIL CORPORATION	PRODUCING LEASES
NAME — AVERAGE DEPTH	FIELD: DRINKARD	ELLIOTT B
TUBBS SAND 6200.	DISTRICT: N&W TEXAS GROUP: EUNICE	J.G. RANDLE
(1) LOWER MCKEE 7855	COUNTY: LEA STATE: N. MEX.	LINAM-HARDY GAS UNIT
(2.) CLEARFORK SECTION, PERMIAN LIME 6595, DRINKARD	SCALE 2000 1000 0 1000 2000 4000 FEET	ELLIOTT A
		V. LINAM
		D.C. HARDY

E.R.S. - B.J.F. 8-22-50

FORM 194


V. LINAM #3
BLINEBRY GAS
MCF/D
BOPD
46 6690
KEUFFEL & ESSER CO. MADE IN U.S.A.
Jan. Feb. Mar. Apr. May June July Aug. Sept Oct Nov Dec.
19 80
19 81
19 82
19 ____
19 ____


LINAM-HARDY UNIT #1-T
TUBB - GAS
MCF/D
1
9
8
7
6
5
400
300
200
100
90
80
70
60
50
40
30
20
10
Mar. June Sept. Dec.
19 72
19 73
19 74
19 75
19 76
19 77
19 78
19 79
19 80
19 81
19 82

WELL COMPLETION SKETCHES
SUN-6641 A

V. LINAM #3 / LINAM HARDY UNIT #1 — WELL
FIELD
7-6-78 — DATE
SAG

EL: 3488 - KB
3487 - DF
3471 - GL

☒ PRESENT COMPLETION
☐ SUGGESTED COMPLETION

☐ ORIGINAL COMP.
WELL CLASS

PERMANENT WELL BORE DATA

17½" hole
13⅜", 72#, N-80 @ 315' w/300 sx cmt
12" hole
5½" CUT OFF + CSG BOWL TIE-BACK @ 387'

9⅝", 32#, H-40 @ 2850' w/2000 sx cmt
7⅞" hole

TOC: 5½ hole 3350' BY T.S.

BLINEBRY PERFS: 3 SPF
5600'-50'
5656, 62, 69, 5701, 04, 07, 10
57 85 5818, 42, 43, 58, 77
79, 5902, 15, 36, 57

TUBB PERFS: 4 SPF
6150-75, 6193-6230; 248 holes

PBTD 6965'
CIBP @ 6975' w/10' cmt on top

WANTZ-TBD PERFS:
7210-58, 6 SPF, 288 holes

PBTD - 7338'
5½", 15.5 & 17#, J-55 @ 7382' w/500 sx

PBTD - 7725' (50 sx plug 7725-7940)
TD - 7941'

DATA ON THIS COMPLETION

LONG STRING: LHGU #1
SHORT STRING: V. LINAM #3

UT & LT: 2⅛" STRINGS

→ PARALLEL ANCHOR 6008'
→ 1 JT (34') 2⅛" tbg
→ OSTSD
→ Otis PERMALACH pkr @ 6052'