

**Sun Exploration and
Production Company**
No 24 Smith Road
ClayDesta Plaza
PO Box 1861
Midland TX 79702 9970
915 688 0300

March 27, 1987

Mr. David Catanach
Energy & Mineral Dept.
Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

RE: Request Exception to Rule 303-A
Down-Hole Commingling
Sun Exploration & Production Co.
W. W. Weatherly No. 3, Unit "G",
1980' FNL & 1980' FEL, Sec. 17,
T-21-S, R-37-E, Penrose-Skelly
Grayburg and Drinkard,
Lea County, New Mexico

Dear Mr. Catanach,

Sun Exploration & Production Company requests administrative approval for an exception to Rule 303-A to permit down-hole commingling of production in the subject well from the Penrose-Skelly Grayburg and Drinkard pools.

Sun intends to test the Drinkard interval 6480-6600 in the subject well. This geologically equivalent interval is currently being produced in the offsetting Sun-Weatherly No. 4 and Conoco-Lockhart No. 3 (see Attachment #1). This interval is anticipated to initially produce at ± 20 BOPD and 100 MCFPD.

Currently, the Penrose-Skelly Grayburg is open in the subject well. However, the well was TA'd 12/26/86 following a subsurface failure. This zone last produced 2 BOPD, 1 BWPD, and 18 MCFPD. Income was too low to justify remedial action.

An additional Drinkard interval (perfs 6635-6651, OH 6655-6677) previously produced from this wellbore, but was TA'd 4/09/70 due to uneconomic conditions (2 BOPD, 1 BWPD and 16 MCFPD). It is intended to again produce this interval combined with the new Drinkard interval.

All zones will require artificial lift and the well will be pumped with the SN at $\pm 6645'$. This will eliminate any possibility of fluid thieving by the old Drinkard completion and maximize well production. Total combined production is estimated to be ± 25 BOPD, 4 BWPD, 140 MCFPD.

W.W. Weatherly No. 3
Exception to Rule 303-A
Page Two (2)

Finally, all ownership (W.I., Royalty and ORRI) in the wellbore is the same. Furthermore, commingling will not jeopardize any future secondary recovery operations. Additional information as requested in Section 2 follows below.

Sincerely,



Bruce Goodwin
Production Engineer
(915) 688-0419

BKG/jr

- C) Plat of area attached (Attachment No. 1).
- D) Form C-116 for the Grayburg completion attached (Attachment No. 2).
Form C-116 for the old Drinkard completion (perfs 6635-6651 and OH 6655-6677) attached (Attachment No. 3).
- E) Decline curve for Grayburg completion (perfs 3725-3787) attached (Attachment No. 4). See Item (i) for additional discussion. Also attached is a complete well history for the subject well (Attachment No. 5) and a wellbore diagram showing the proposed wellbore configuration after the well is down-hole commingled (Attachment No. 6).
- F) Estimated BHP each zone:
 - 1. Grayburg - 400 PSIA
 - 2. Old Drinkard completion - 400 PSIA
 - 3. Proposed new Drinkard completion (6480-6600) - 1600 PSIA
- G) Produced fluids are currently being surface commingled at the production battery with no incompatibilities. Surface commingling of Drinkard and Grayburg production was approved per application dated 8/15/85.
- H) Commingled production will not be less than the sum of the values of the individual streams. Production is currently being surface commingled as stated in Item (g) above.

W.W. Weatherly No. 3
Exception to Rule 303-A
Page Three (3)

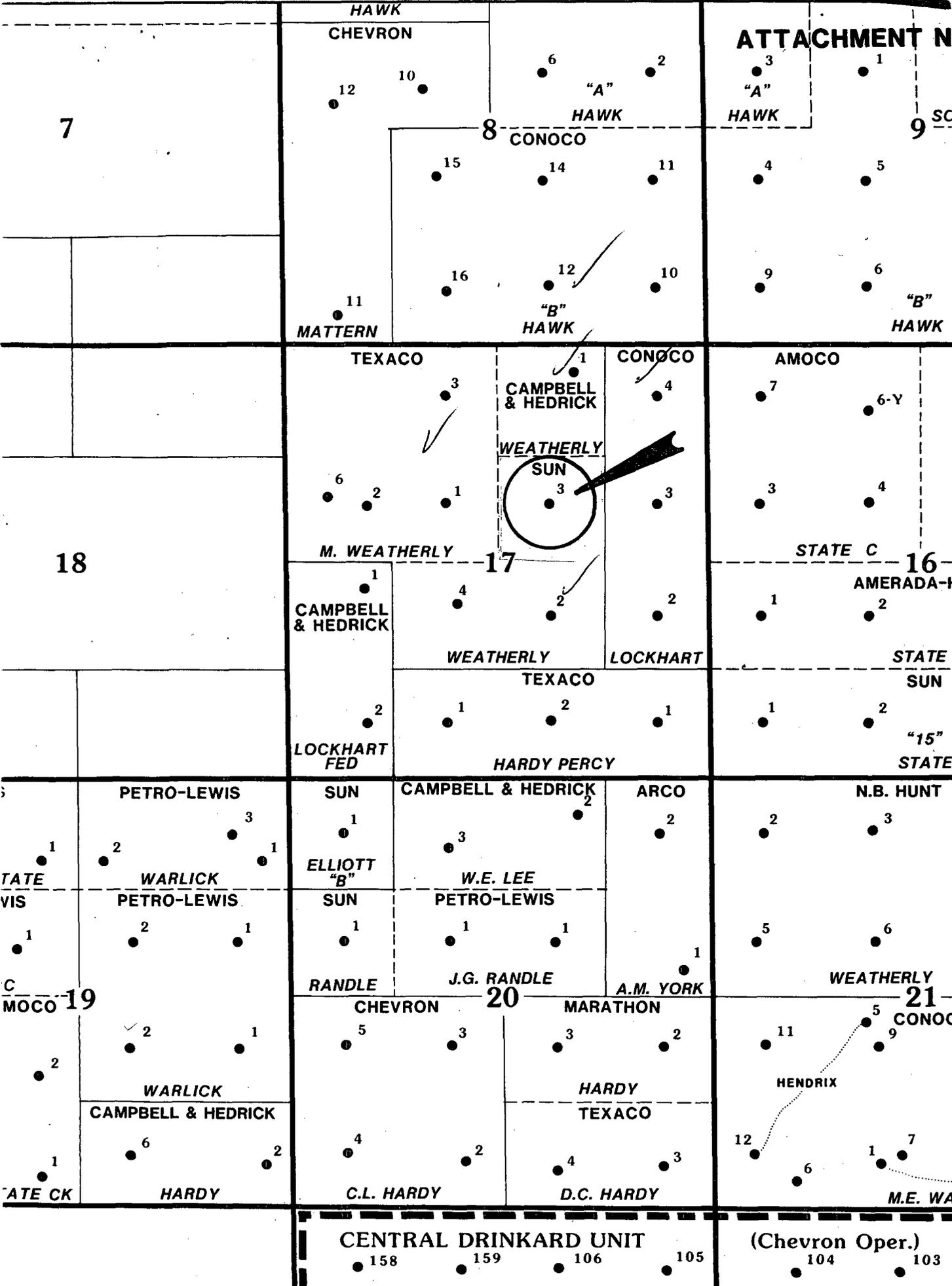
I) Attachment No. 4 shows the individual well decline curve for the W.W. Weatherly No. 3 while producing from the Grayburg (1970-1986). The well was TA'd in December, 1986 due to a well failure with income unable to justify remedial action. Last production prior to TA'ing well is recorded at 2 BOPD, 1 BWPD and 18 MCFPD. As shown on the attachment, production was constant over a 6 year period prior to TA'ing. Thus, after DHC is begun, it is proposed to allocate 2 BOPD, 1 BWPD and 18 MCFPD back to the Grayburg Reservoir with the remaining production being allocated to the Drinkard Reservoir. Adjustments for well down-time during the month will be made accordingly.

J) All offset operators have been notified by a copy of this application. Companies notified are as follows:

Campbell & Hendrick
P.O. Box 401
Midland, TX 79702

Conoco
P.O. Box 1959
Midland, TX 79702-1959

Texaco
P.O. Box 3109
Midland, TX 79702-3109



GAS - OIL RATIO TESTS

Operator		Pool		County												
SUN EXPLORATION & PRODUCTION COMPANY		PENROSE-SKELLY GRAYBURG		LEA												
Address		TYPE OF TEST - (X)		Completion		Special										
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU. FT./BBL.			
		U	S	T						R	WATER BBL.S.	GRAV. OIL		OIL BBL.S.	GAS M.C.F.	
W. W. WEATHERLY	3	G	17	21S	37E	12/01/86	P	---	3	24	1	34.5	2	18	9000	-1
NOTE: Last test of Grayburg completion prior to TA (12/26/86).																

ATTACHMENT No. 2

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

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 Commission.
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 Commission in accordance with Rule 301 and appropriate pool rules.

Bruce Goodwin (Signature)
Production Engineer - Hobbs

March 27, 1987

(Date)

GAS-OIL RATIO TESTS

Operator		Pool		County		Completion		Special						
SUN EXPLORATION & PRODUCTION COMPANY		DRINKARD		LEA		<input type="checkbox"/>		<input checked="" type="checkbox"/>						
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL.	
		U	S	T						R	WATER BBL.S.	GRAV. OIL		OIL BBL.S.
W. W. WEATHERLY NOTE: Last test of Drinkard completion prior to TA on 4/09/70. Interval to be produced again during proposed workover.	3	G	17	21S	37E	P	---	3	24	1	34.5	2	16	8000 -1
	ATTACHMENT No. 3													

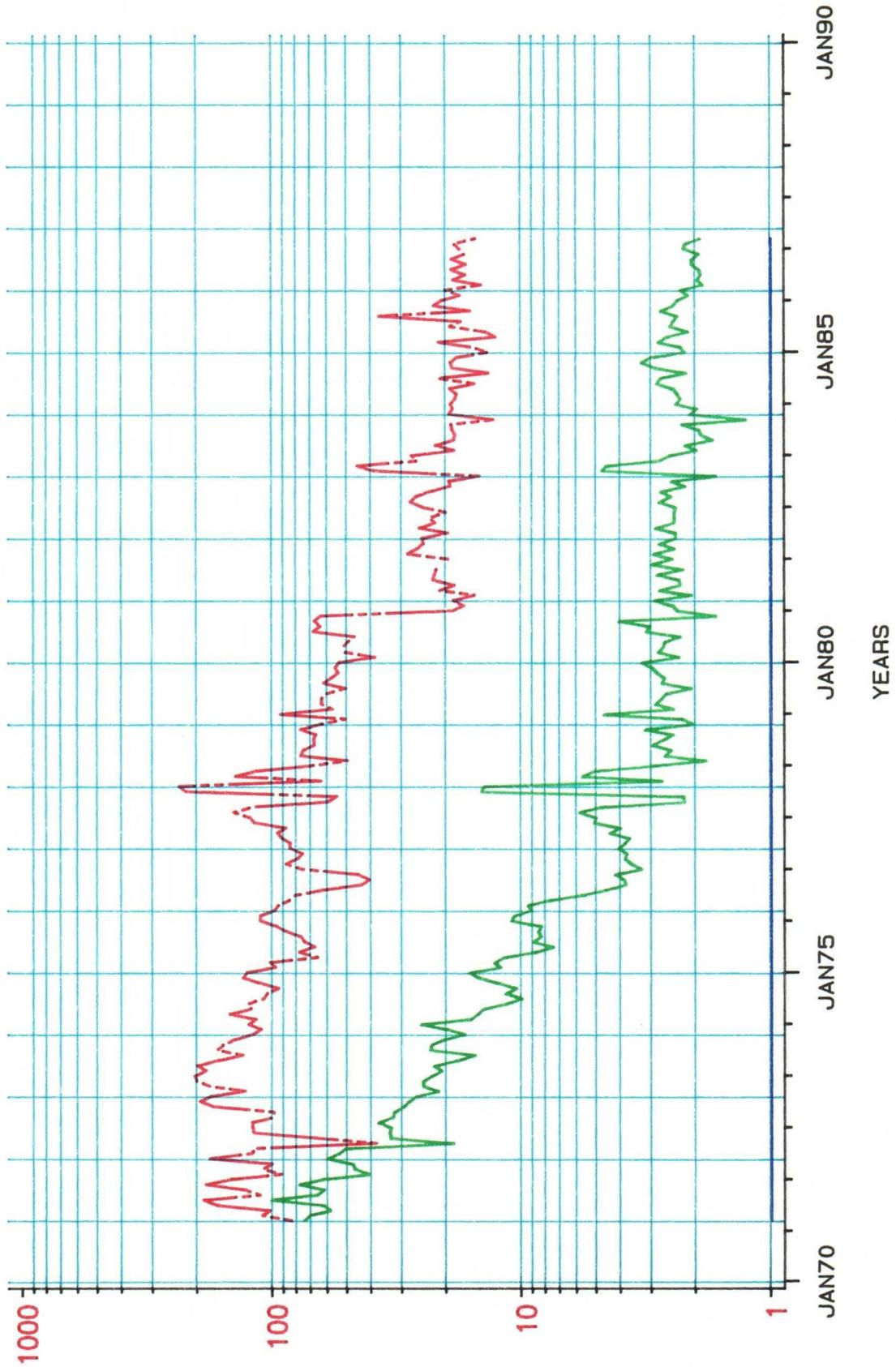
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I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Bruce Goodwin (Signature)
 Production Engineer - Hobbs (Title)
 March 27, 1987 (Date)

W. W. WEATHERLY NO. 3

PENROSE-SKELLY GRAYBURG



B O P D O R M C F P D

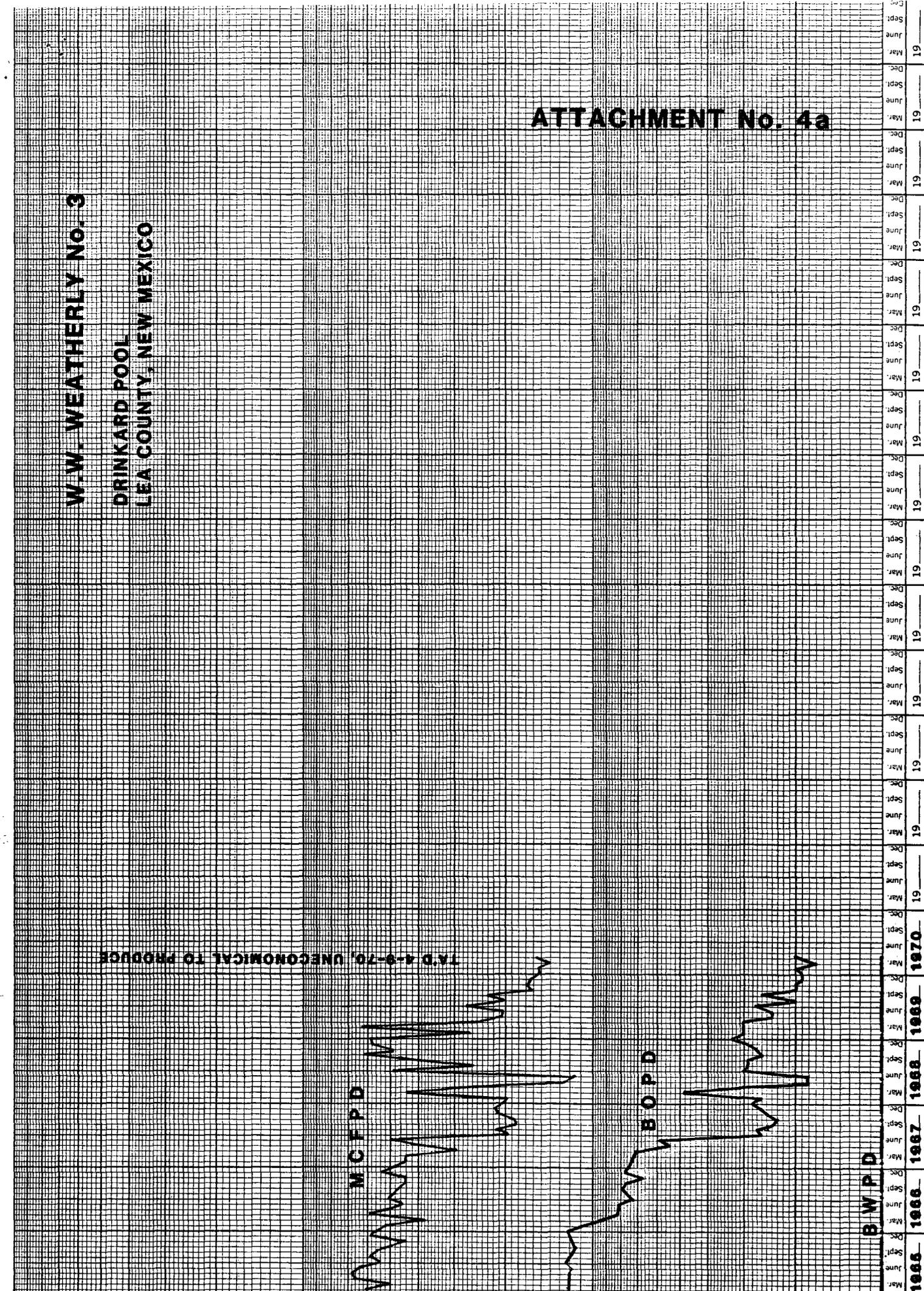
OIL GAS WELL COUNT

ATTACHMENT No. 4a

W.W. WEATHERLY No. 3
 DRINKARD POOL
 LEA COUNTY, NEW MEXICO

TAD 4-9-70, UNECONOMICAL TO PRODUCE

1000
9
8
7
6
5
4
3
2
100
9
8
7
6
5
4
3
2
10
9
8
7
6
5
4
3
2
1
1965 1966 1967 1968 1969 1970



BWP D

MCFPD

BOPD

Mar. 1965, Jun. 1965, Sept. 1965, Dec. 1965, Mar. 1966, Jun. 1966, Sept. 1966, Dec. 1966, Mar. 1967, Jun. 1967, Sept. 1967, Dec. 1967, Mar. 1968, Jun. 1968, Sept. 1968, Dec. 1968, Mar. 1969, Jun. 1969, Sept. 1969, Dec. 1969, Mar. 1970, Jun. 1970, Sept. 1970, Dec. 1970

ATTACHMENT No. 5

WELL HISTORY

W. W. WEATHERLY #3

LOCATION: UNIT G, 1980' FNL & 1980' FEL, SEC 17, T-21-S, R-37-E,
LEA COUNTY, NEW MEXICO

FIELD: DRINKARD

ELEVATION: GL: 3475'

DEPTHS: TD: 6677' PBDT: 3890' BP

SPUD DATE: 10/13/47 COMPLETED: 11/20/47

CSG DATA: 10-3/4" 40.5# H-40 SET @ 363'. CMTD W/ 300 SX, CIRC.
7-5/8" 26.4# J-55 SET @ 2873'. CMTD W/ 2000 SX, CIRC.
5-1/2" 15.5# J-55 SET @ 6655'. CMTD W/ 550 SX, TOC @ 2500' (SURVEY).

COMPLETION:
11/20/47 PERF DRINKARD 6635-6651' (8 SPF, 1/2" HOLES). ACDZ W/ 2000 GALS
15% NE ACID. TP 1900, FP 2000. SWABBED WELL CLN, F / 4-1/2 BOPH
+ 0 BW, 17/64".

11/22/47 ACDZ DRINKARD W/ 5000 GALS 15% NE ACID. TP 800, FP 2000. SWAB CLN,
F / 6.6 BPH + 0 BW, 15/64".

WELLWORK:
2/25/50 DEEPEN WELL 6655-6677'. F/ 11 BO, 24 HRS, 5/8 x 1/4 CHK.
ACDZ W/ 3000 GALS 15% NE ACID, PKR GAVE WAY AFTER 1596 GALS.
RAN RODS & PUMP.
TEST BEFORE: P 11 BOPD, 1 BWPD
TEST AFTER: P 24 HRS 28 BO, 1 BW

5/28/51 RE-ACDZD OH 6655-6677' W/ 3000 GALS 15% NE HCL USING JELITE TO
BLOCK OFF UPPER SECTION. SPOTTED 4' JELITE BLANKET ON BOTTOM.
BDP 975, FP 1400.
TEST BEFORE: 24 HRS P 18 BO, 2 BW
TEST AFTER: 24 HRS P 37 BO w/ 1% BS&W

4/23/57 HOWCO FRAC PERFS 6635-50 & OH 6655-6677 DOWN 5-1/2" CSG W/ 20,000
GALS REF OIL & 22,700# SD. BDP W/ OIL 2200 PSI, MIX. TBG PRESS
3500 MIN, TREATING PRESS 2500, AIR 11.6 BPM (MAX 21 BPM). FLUSHED
W/ 260 BBLs LSE OIL.
TEST BEFORE: 24 HRS 8 BO, 0 BW, 58 MCFG, GOR 6676/1
TEST AFTER: 24 HRS, 54 BO, 0 BW, 130 MCFG, GOR 2417/1

4/09/70 WELL TA'D AT FAILURE DUE TO UNECONOMICAL OPERATING COSTS.

RECOMPLETION:

12/30/70 SET BAKER 5-1/2" CIBP @ 6585' W/ 2 SX CMT ON TOP. RAN GR-N LOG.
PERF GRAYBURG 3725, 27, 29, 37, 39, 41, 43, 45, 47, 52, 55, 61, 63, 65,
76, 78, 80, 82, 84 & 3787 (20 HOLES). ACDZ 3725-3787 W/ 1500 GALS 15%
NE HCL. BDP 1600, MAX P 3000, ISIP 1300. BALLED OFF W/ 23 of 25 BALLS.
SWAB TEST - NO REPORT. FRAC DOWN CSG W/ 20,000 GALS GEL BRINE & 40,000#
20/40 SD. PUMPED PAD @ 28 BPM, 3000 PSI. STARTED SD @ 2 PPG. PUT
AWAY 1600# SD IN 8000 GALS @ 3000 PSI. DROPPED 7 RCN BS, PRESS TO 3300
WHEN BALLS HIT, SHUT DOWN. COULD NOT PUMP AWAY - HAD 7500# SD IN CSG.
RVRS OUT SD, RVRS CIRC HOLE. PUMP INTO @ 4.5 BPM & 2800 PSI, 7 BPM &
3000 PSI. SPOT ACID ACROSS PERFS & FIN FRAC THRU TBG. AIR 10 BPM,
MAX P 4500, ISIP 2700. TOTAL FLUID INJCT'D THIS PART 10,290 GALS &
9300# SD. PUT WELL ON PUMP & TEST.

1/13/71 TEST: IPP / 24 HRS, 190 BO, 30 BW, 234 MCFG

8/03/71 CSG LEAK ISOLATED 4263-4267'. SWABBED 97 BBLS SULPHUR WATER, LOADED
HEAVILY W/ IRON SULPHIDE WHICH BECAME TOO HEAVY TO SWAB. CIRC'D HOLE,
MILL SQZD W/ 12 GAL ACTIVATOR, 5 GAL DIESEL OIL FOLLOWED BY 6 BBLS
FLUID W/ 1000# MILL SQZ - DID NOT SQZ. SECOND STG 600# MILL SQZ - DID
NOT SQZ. SET BAKER MDL "N" BP @ 3890'. PUT WELL ON PUMP.
TEST BEFORE (w/leak): P 2 BOPD, 80 BWPD
TEST AFTER: P 94 BOPD, 16 BWPD

8/04/72 ACDZ 3724-3787 W/ 500 GALS 15% NE HCL & FLUSH W/ 70 BBLS FRSH WTR
FOR SCALE CLN UP.
REPRESENTATIVE TEST BEFORE: 71 BOPD, 5 BWPD
TEST JUST PRIOR: 48 BOPD, 3 BWPD
TEST AFTER: NOT REPORTED

12/20/86 SI AT FAILURE; MARGINAL ECONOMICS.

CUMULATIVE PRODUCTION (10/31/86):

DRINKARD	127,258 BO	GRAYBURG	52,733 BO
	7,290 BW		11,064 BW
	721,850 MCF		389,497 MCF

WELL COMPLETION SKETCHES SUN-5036-4-A

WELL W.W.WEATHERLY No. 3	FIELD PENROSE-SKELLY/DRINKARD	DATE MARCH 27, 1987
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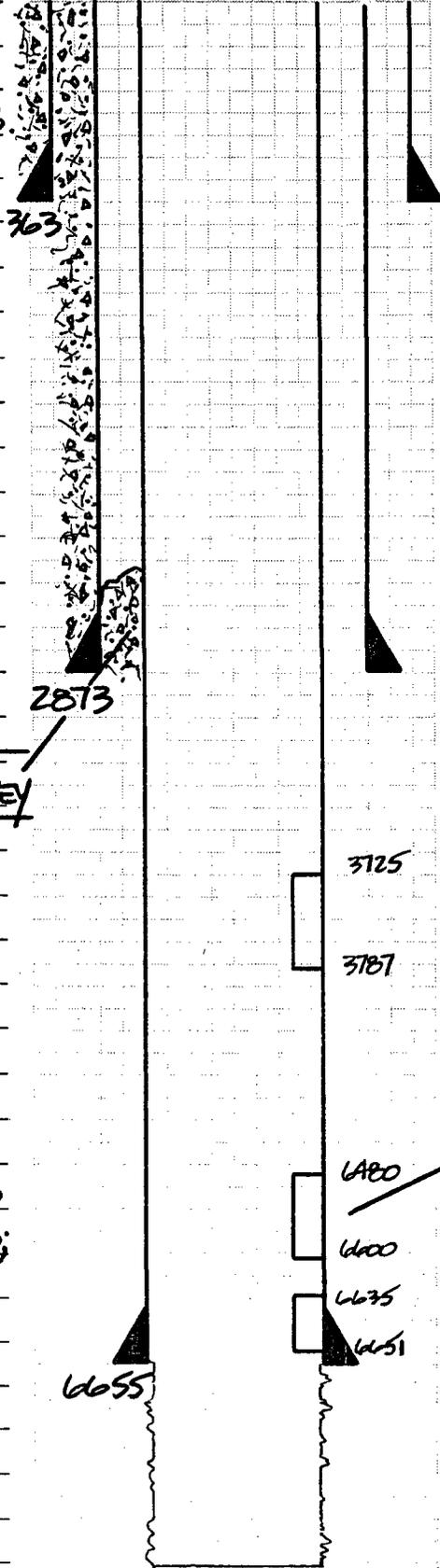
PRESENT COMPLETION SUGGESTED COMPLETION

PERMANENT WELL BORE DATA

DATA ON THIS COMPLETION

10 3/4", 40.5#, H-40
SURFACE CSG. CS ± 363.
CMT'D W/ 300 SKS. CIRC
CMT TO SURFACE.

KB: 3483
GL: 3475



7 5/8", 26.4#, J-55
INTERMEDIATE CSG.
CS ± 2873. CMT'D W/
2000 SKS. CIRC CMT
TO SURFACE.

TOC ± 2500 VIA TEMP SURVEY

GRAYBURG PERFS
3125 - 3187

5/2", 15.5#, J-55
PRODUCTION CSG. CMT'D
W/ 550 SKS. TOC ± 2500;
VIA TEMP SURVEY.
CS ± 6655.

PROPOSED DRINKARD PERFS
6680 - 6600.

OLD DRINKARD PERFS
6635 - 6651.

4 3/4" OH 6655 - 6677
PBTD: 6677

OLD DRINKARD OH
6655 - 6677



GARREY CARRUTHERS
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBBS DISTRICT OFFICE
APR - 6 1987
OIL CONSERVATION DIVISION
SANTA FE April 3, 1987

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

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

RE: Proposed:

MC _____
DHC XX _____
NSL _____
NSP _____
SWD _____
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

Sun Expl & Prod Co. W.W. Weatherly #3-G 17-21-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK -- Jerry Sexton

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed