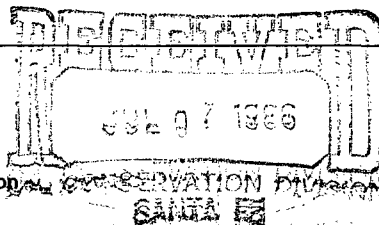




Donald W. Johnson
Division Manager
Production Department
Hobbs Division
North American Production



Conoco Inc.
P.O. Box 460
726 East Michigan
Hobbs, NM 88240
(505) 393-4141

July 1, 1986

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 88501-2088

Attention Mr. Richard L. Stamets, Director

Gentlemen:

Application to Downhole Commingle Lockhart B-13A No. 9, Unit N, Section 13,
T-21S, R-37E, Lea County, New Mexico

Conoco Inc. respectfully requests an amendment to DHC Order No. 453 to include the Tubb Oil producing horizon. This order was rendered February 6, 1984 giving approval to downhole commingle the Wantz Abo and Drinkard Zones. Additional data relative to this commingling is listed below.

1. A lease plat is attached.
2. C-116's are included providing tests for each zone.
3. Decline curves for each horizon are attached.
4. Shut-in bottomhole pressures are 290 psia for the commingled Abo and Drinkard, and 480 psia for the Tubb.
5. Quality of the crude is virtually identical and commingling will not reduce the commercial value. All production is sweet Tier III oil. The value of the crude is as follows:

<u>Zone</u>	<u>Gravity</u>	<u>Value Per Barrel</u>
Wantz Abo	40.4°	\$14.00
Drinkard	38.4°	\$13.96
Tubb Oil	40.1°	\$14.00

6. The following allocation percentages are suggested based upon the ratio of production from each zone:

	<u>Oil</u>	<u>Gas</u>
Wantz Abo	61%	41%
Drinkard	26%	9%
Tubb Oil	13%	50%

Page 2
New Mexico Oil Conservation Division
June 30, 1986

7. By copy of this letter we are notifying the Bureau of Land Management and all offset operators of the proposed commingling (see attached address list).

Yours very truly,

A handwritten signature in cursive script, appearing to read "Harold W. Johnson". The signature is written in dark ink and is positioned below the "Yours very truly," text.

ELK:jr

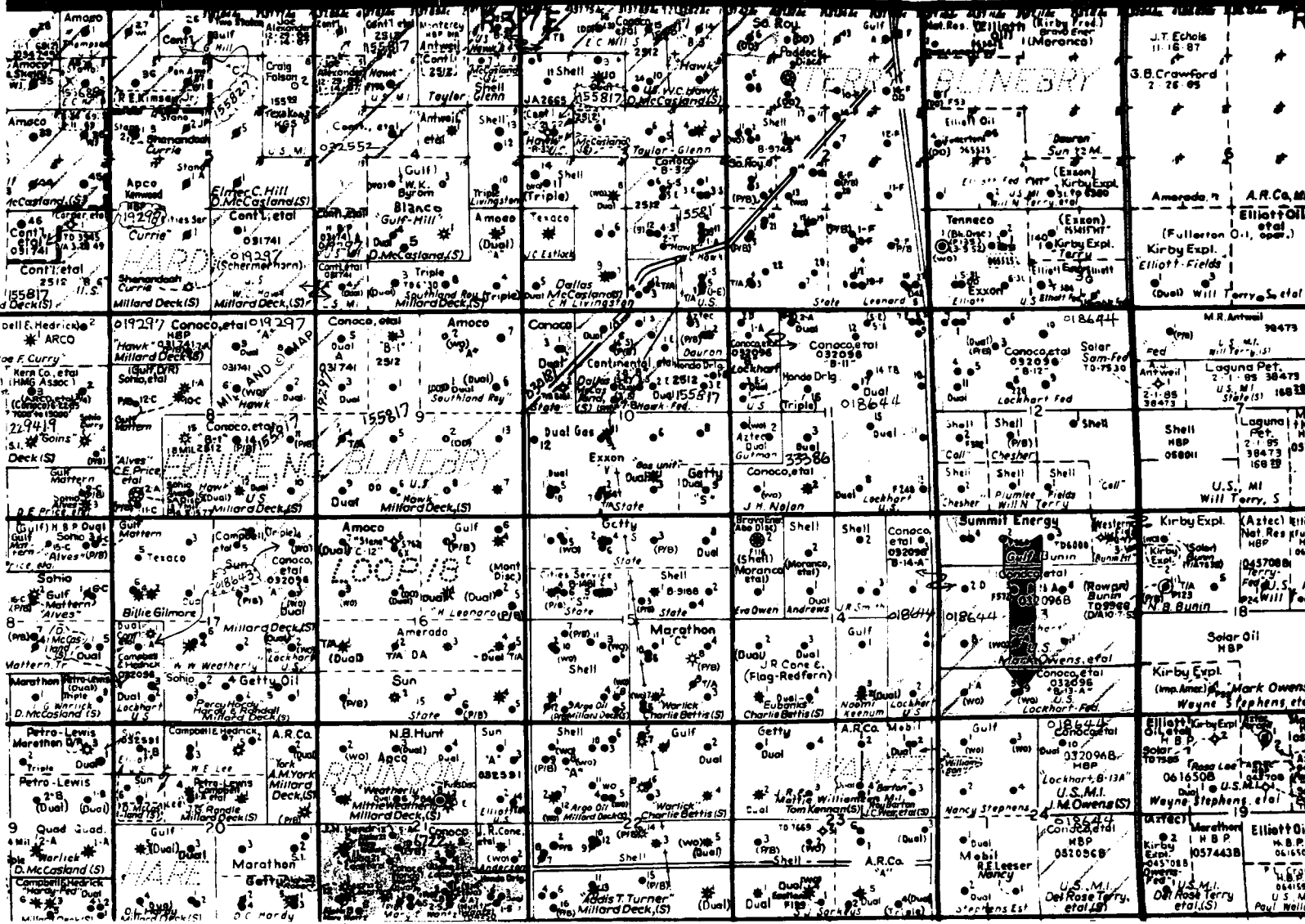
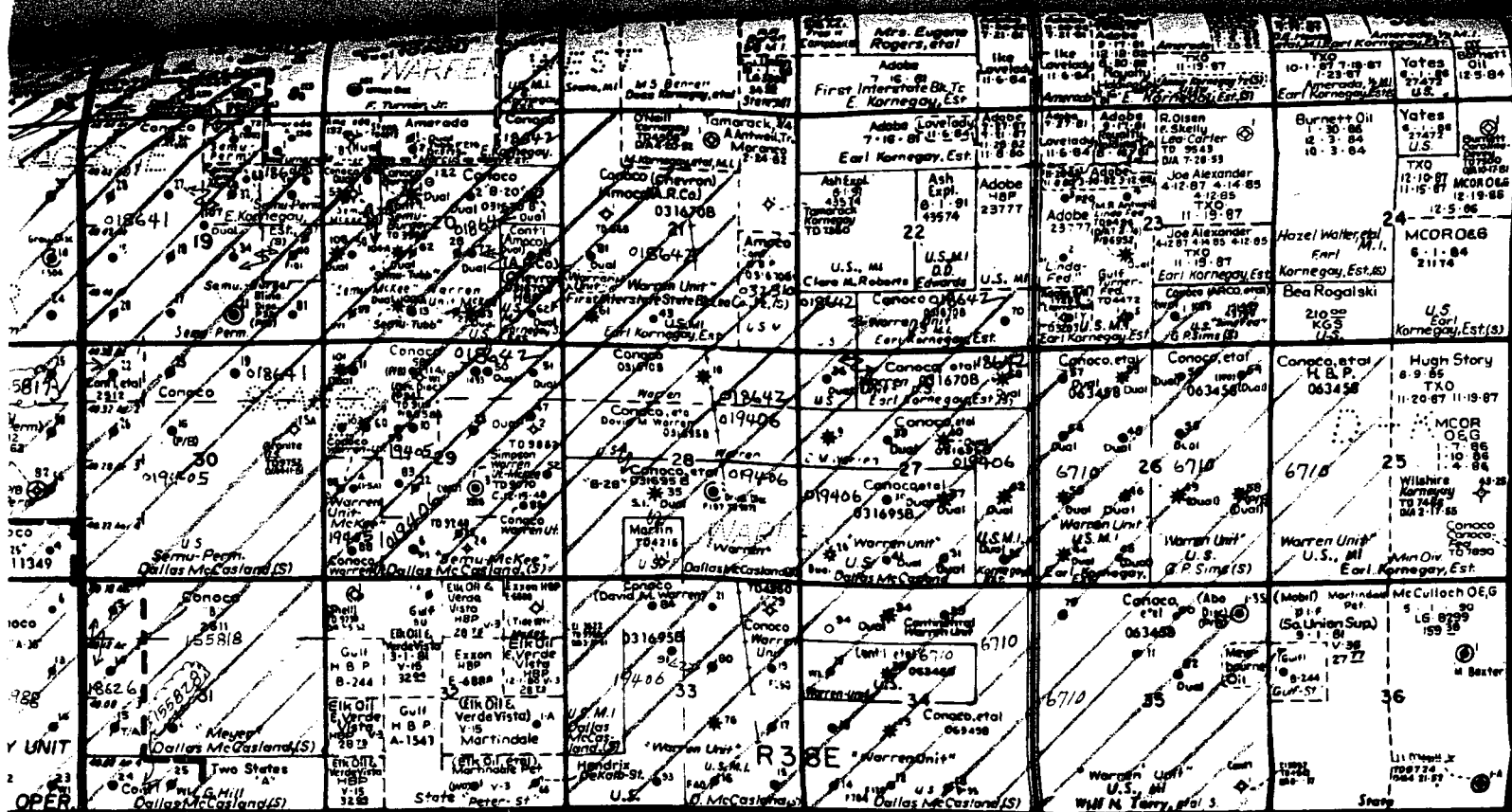
Offset Operator's to Lockhart B-13A No. 9

Mobil Producing Texas and New Mexico, Inc.
P. O. Box 663
Midland, TX 79702

Chevron USA, Inc.
P. O. Box 670
Hobbs, NM 88240

Kirby Exploration of Texas
P. O. Box 1885
Eunice, NM 88231

Elliott Oil Company
P. O. Box 1355
Roswell, NM 88201



**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
Revised 1-1-65

Operator Conoco Inc.		Pool Wantz Abo		County Lea											
Address P. O. Box 460, Hobbs, NM 88240				TYPE OF TEST - (X) ☒ TEST - (X)											
				Scheduled ☐ Completion ☐ Special ☒											
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	STATUS	CHOKESIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU.FT./BBL
		U	S	T							R	WATER BBLs.	GRAV. OIL	OIL BBLs.	
Lockhart B-13 "A" DHC - 453	9	N	13	21S	37E	12/2/84	P	82% gas 30% oil 100% gas		24	16	40.4	14	2	143
													10	2	
													4	0	
													14	2	
This zone has been shut in since 1-15-85. This is the last test available.															

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

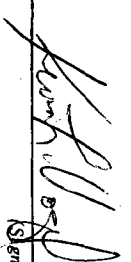
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized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

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


 (Signature)
 Administrative Supervisor
 July 1, 1986
 (Date)

C-116
Revised 1-1-65

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.

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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.

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

Don H. Bell
(Signature)

Administrative Supervisor

June 30, 1986

(Date)

**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
Revised 1-1-65

Operator Conoco Inc.		Pool Drinkard		County Lea								
Address P. O. Box 460, Hobbs, NM 88240				TYPE OF TEST - (X) ☒ TEST - (X)								
LEASE NAME Lockhart B-13 "A" DHC-453				SCHEDULED ☐								
				COMPLETION ☐								
WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	T.B.G. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL.
	U	S	T	R					WATER BBL'S.	GRAV. OIL BBL'S.	GAS M.C.F.	
9	N	13	21S	37E	12/2/84	P		24	16	38.4	14	2
		Drinkard			30% oil	18% gas					4	0
		Wantz Abo			70% oil	82% gas					10	2
					100% oil	100% gas					14	2
This zone has been shut in since 1-15-85. This is the last test available.												

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

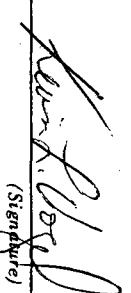
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized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

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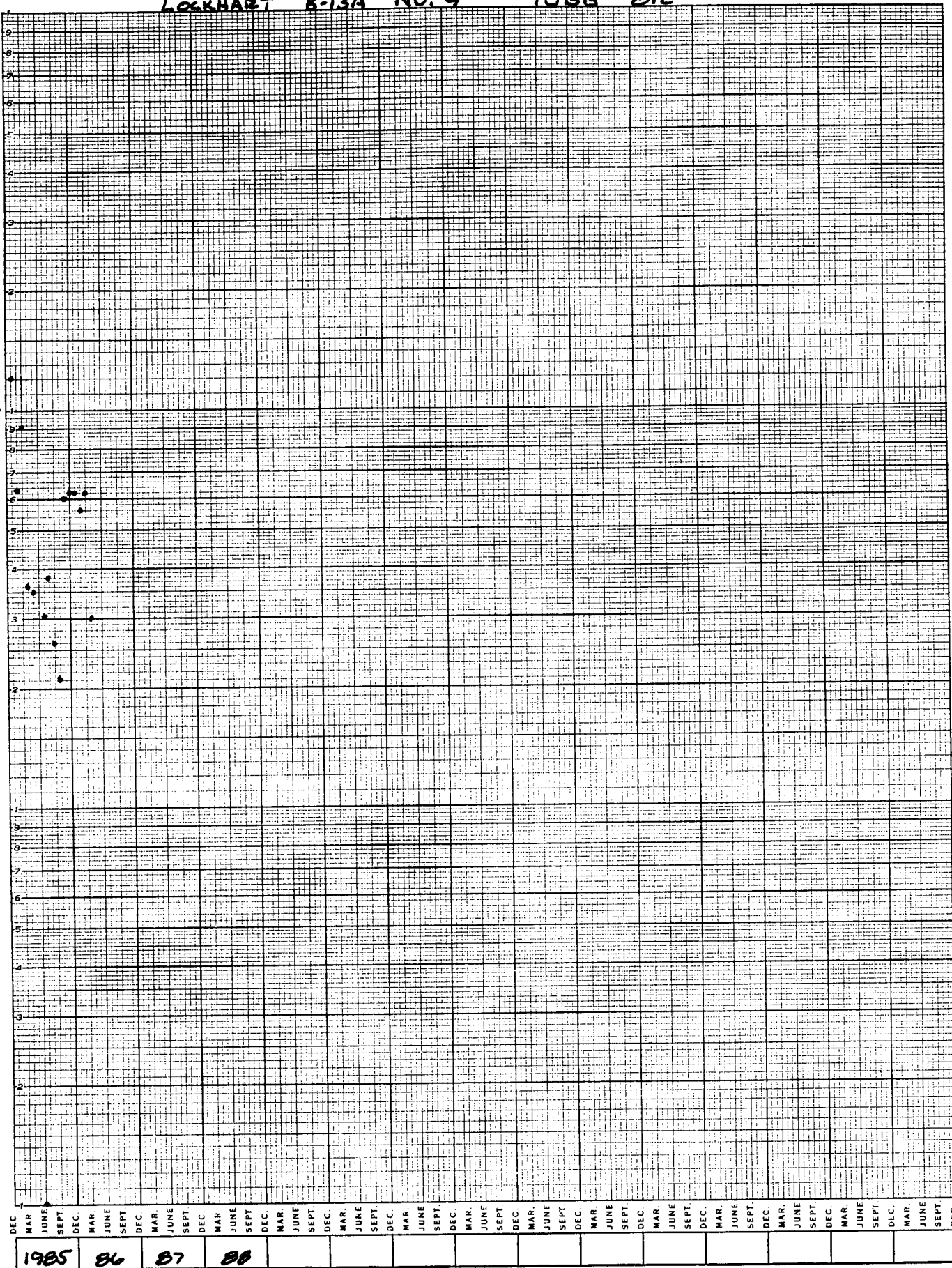
I hereby certify that the above information is true and complete to the best of my knowledge and belief.


 (Signature)
Administrative Supervisor
 (Title)
 June 30, 1986
 (Date)

100

BOPD

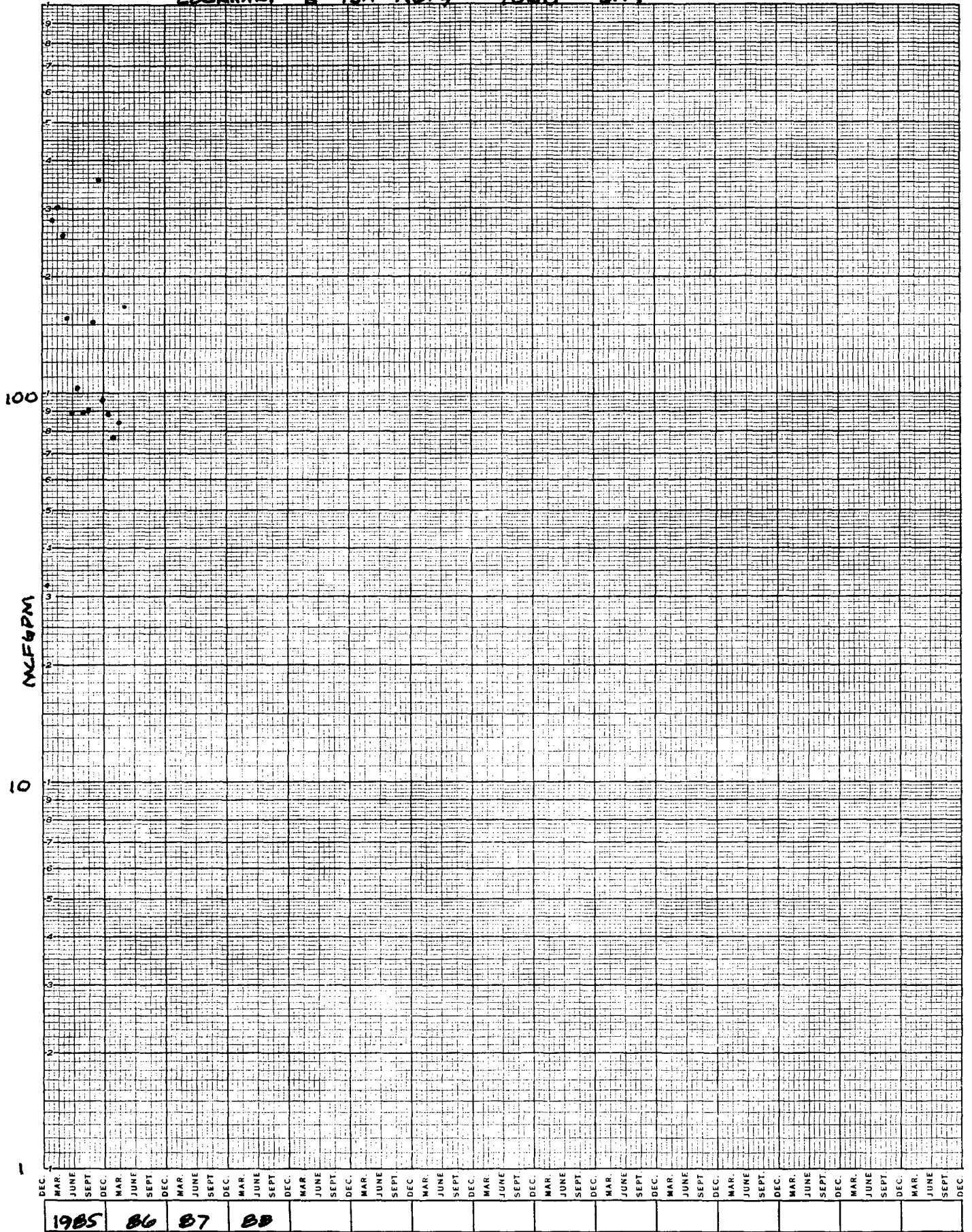
10



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LOCKHART B-134 NO. 9 TUBS 645

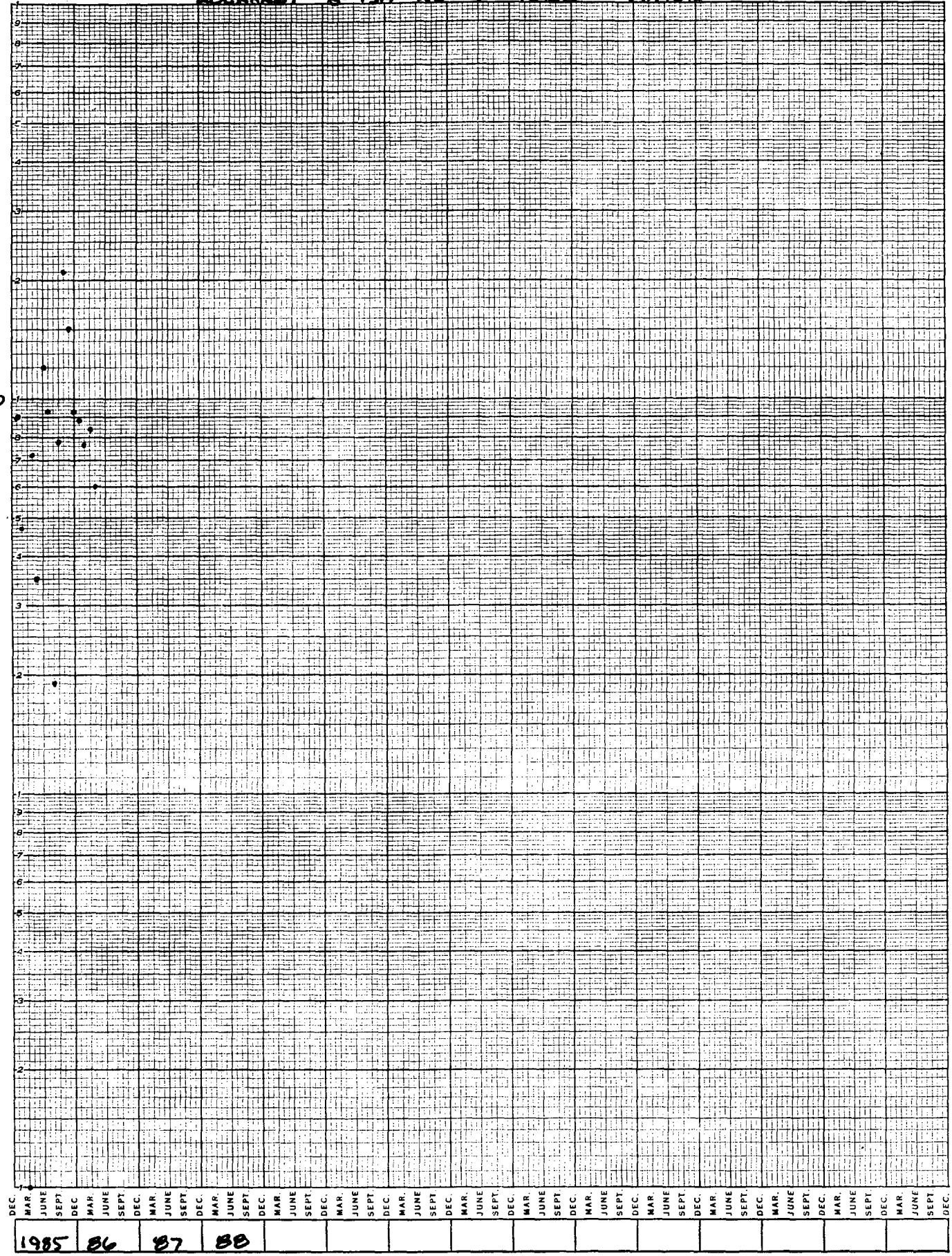


LOCKHART B-134 NO. 9 TURB3 WATER

100

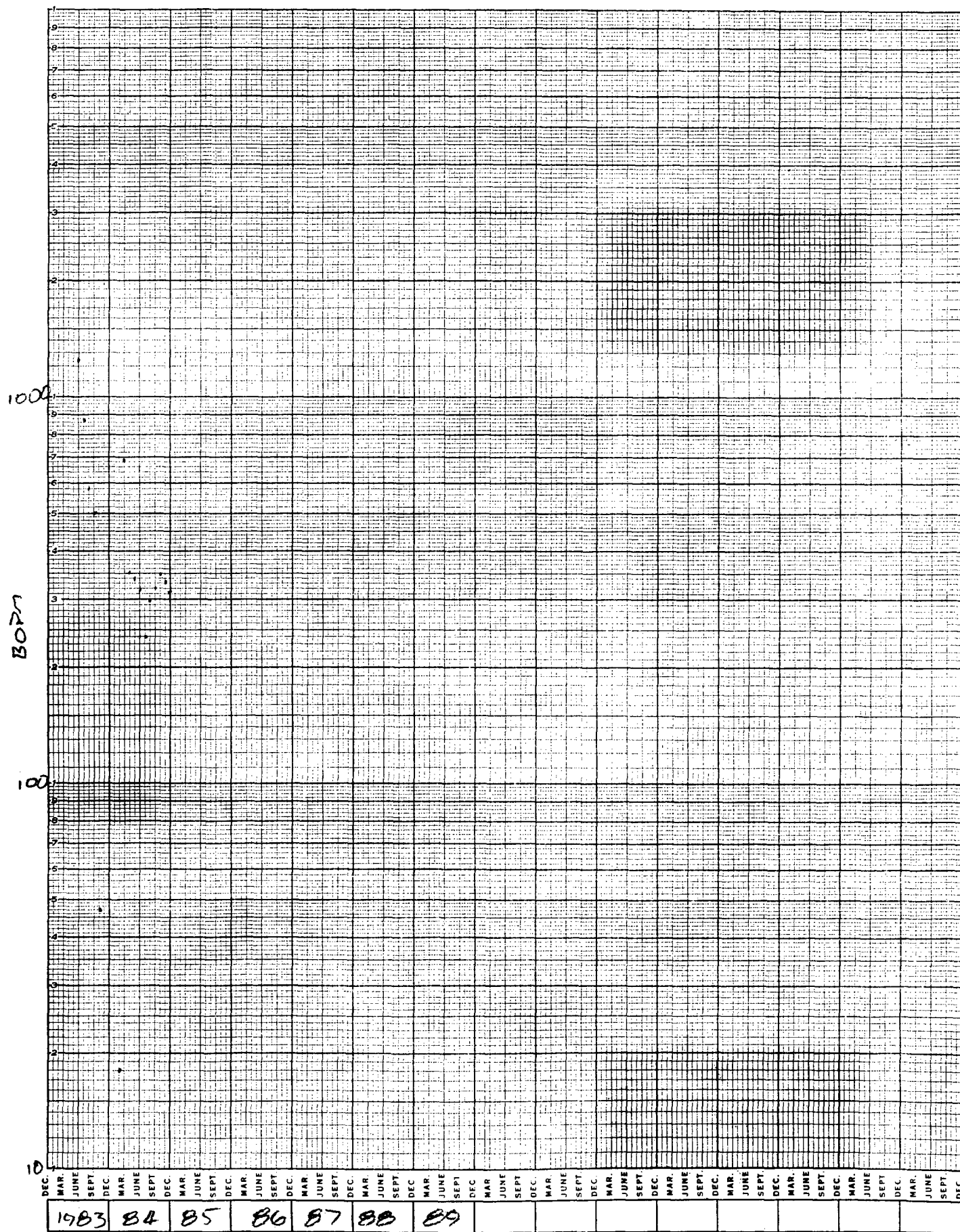
BW DM

10



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LOCKHART B-13A NO. 9 ABO GAS

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Graph Paper

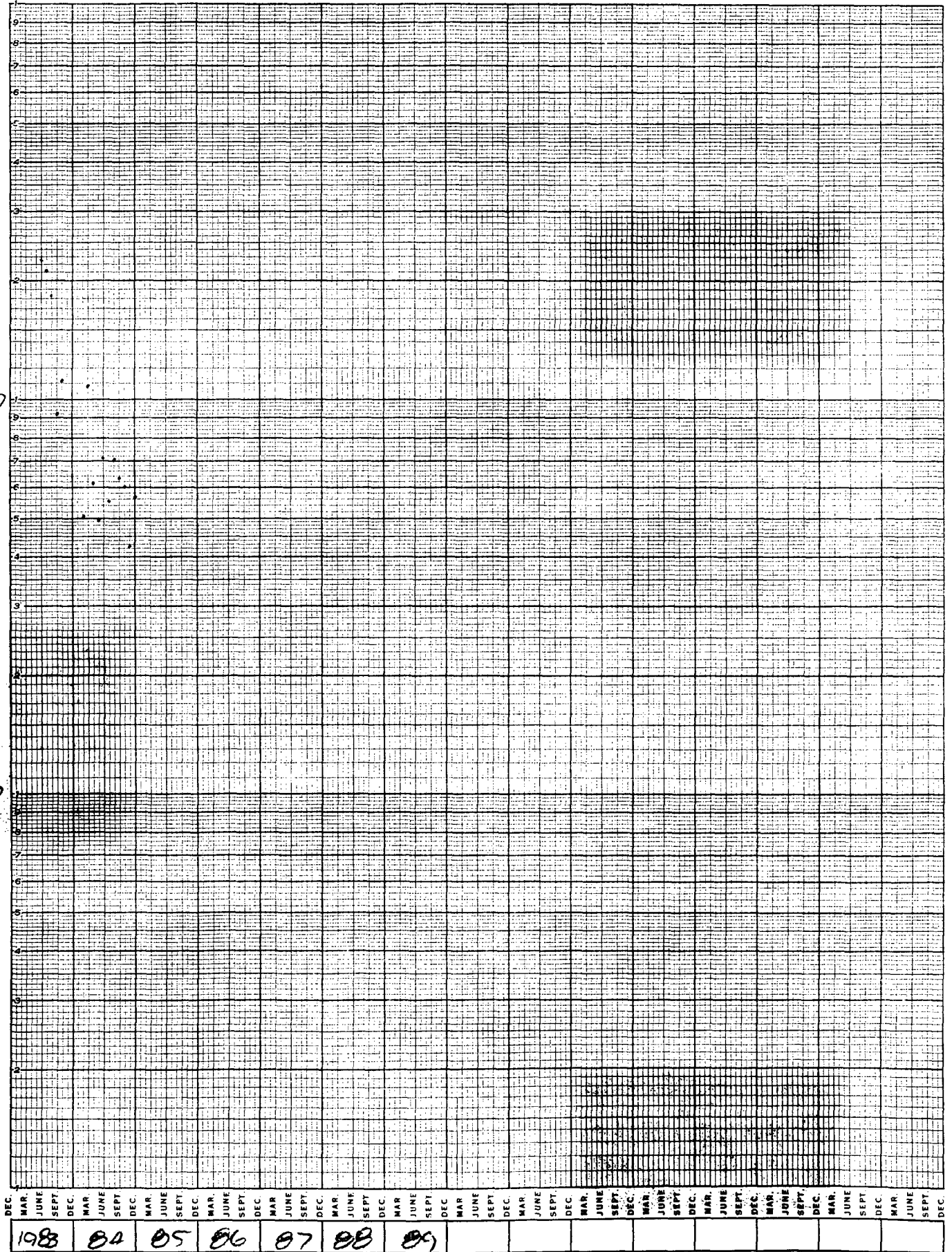
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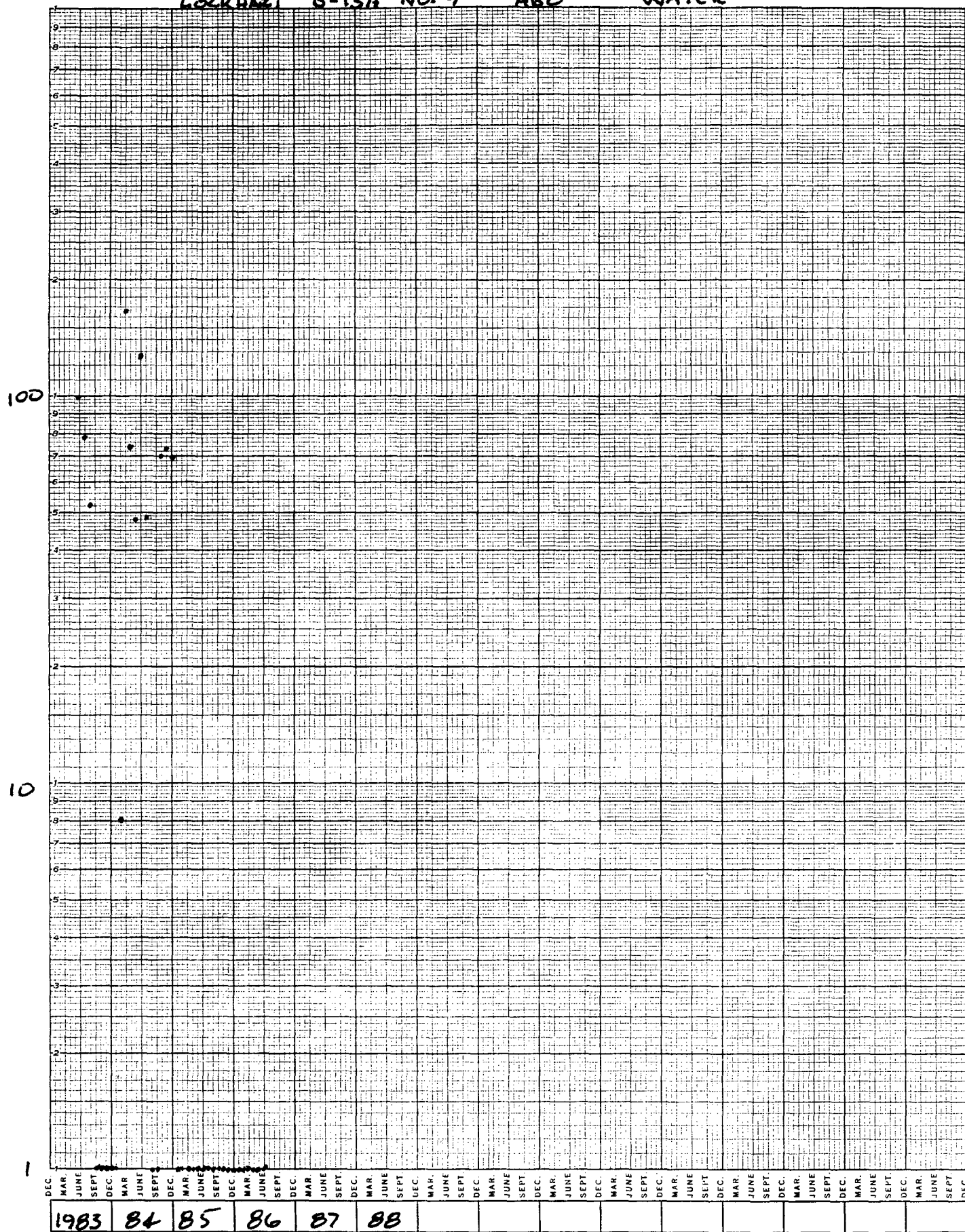
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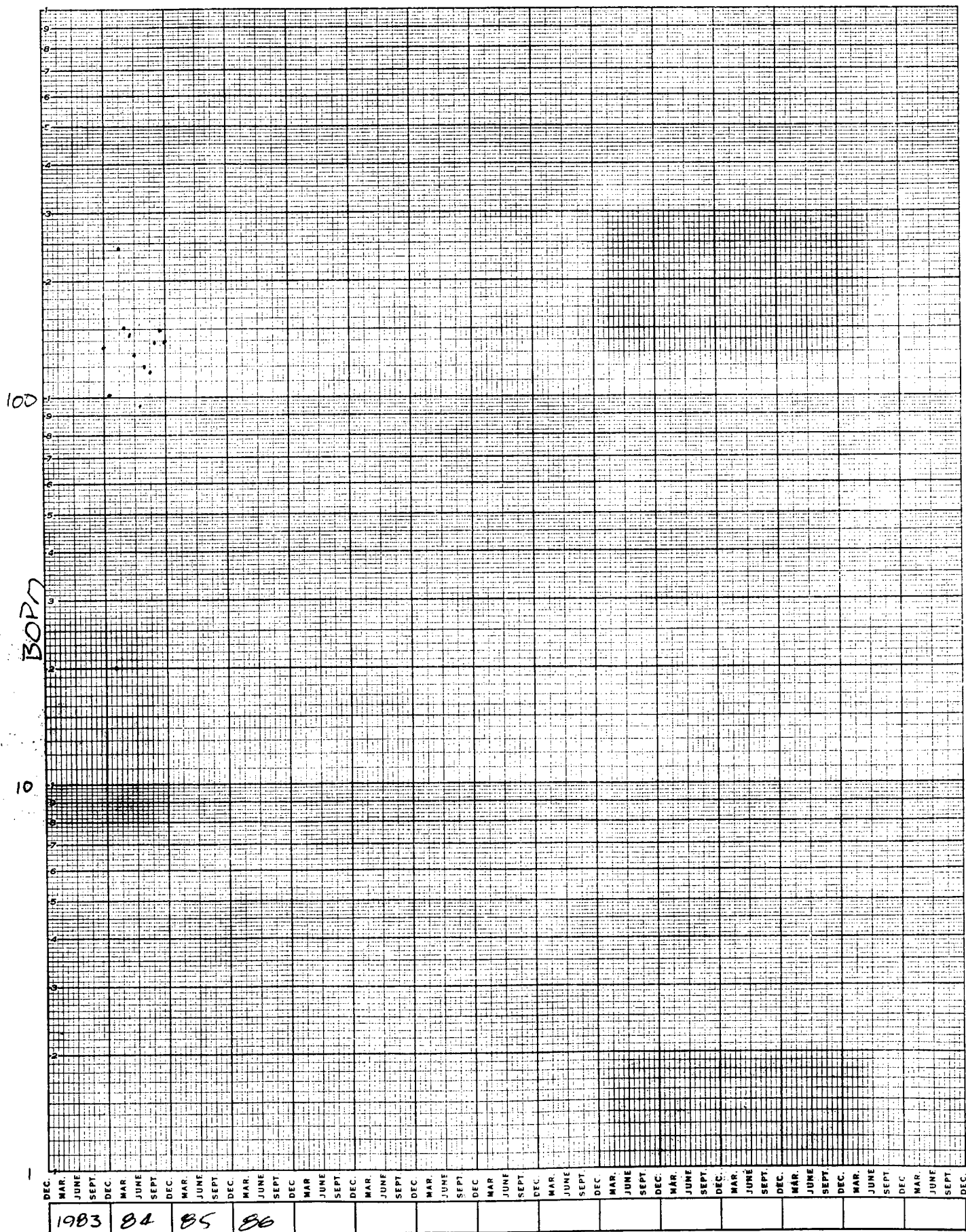


LOCKHART B-13A NO. 9 ABQ WATER



LOCKHAFT B-13A NO. 9 DRINKABLE OIL

Graph Paper

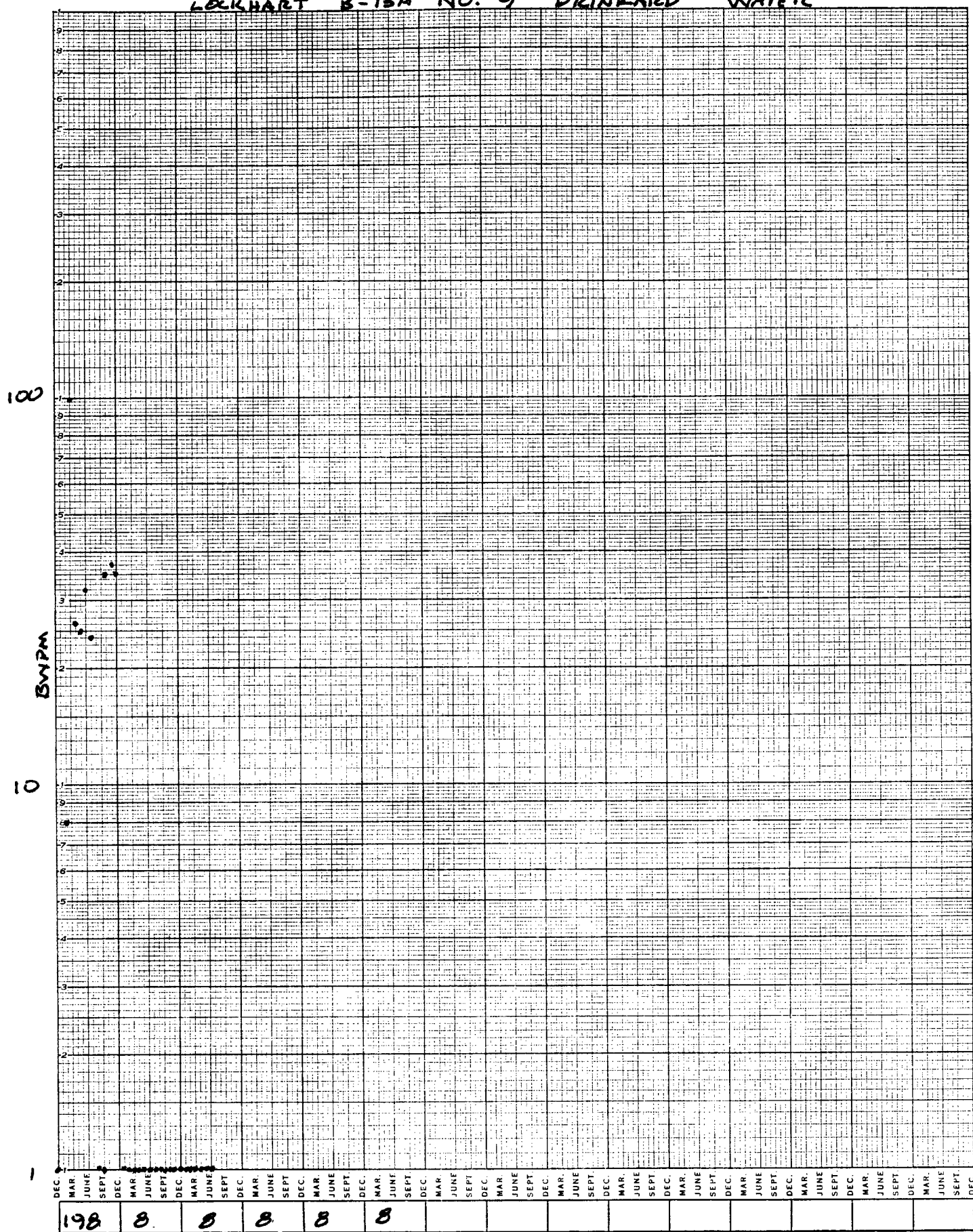


6A

Graph Paper



LOCKHART B-13A NO. 9 DRINKARD WATER



LOGSHEET B-13A NO. 9

ABO / DRINKARD DHC

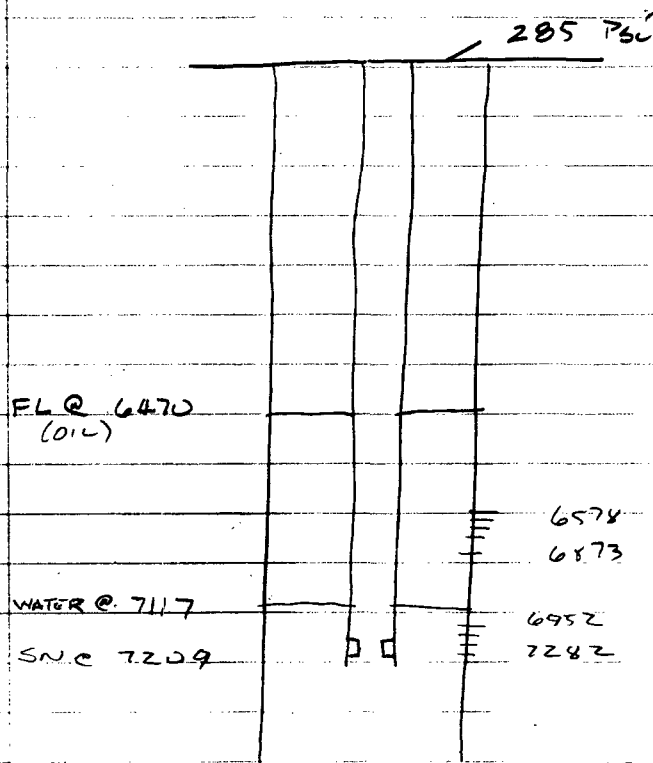
11-19-84 30 PSI CASING 0' SUBMERGENCE

11-20-84 285 PSI CASING 739' SUBMERGENCE

12-2-84 14 BO 2 BW 16 MCF SNR 7209

1-14-85 TA ABO / DRINKARD

$$14 \text{ BO} = \frac{14}{16} = 87\frac{1}{2} \% \text{ OF INFLOW STREAM}$$



$$\text{GAS GRAVITY} = 0.81 = 0.0102 \frac{\text{LB}}{\text{GAL}} = 0.000528 \frac{\text{PSI}}{\text{FT}}$$

OIL GRAVITY = 0.85 ASSUMED

WATER GRAVITY = 1.08 ASSUMED

MID POINT OF PERFS = 6930

$$\begin{aligned} P_{6930} &= 285 \text{ PSI} + 14.7 \text{ PSIA} + 0.000528 \frac{\text{PSI}}{\text{FT}} (6470 \text{ FT}) \\ &\quad + 0.85 (0.433 \frac{\text{PSI}}{\text{FT}}) (6930 - 6470 \text{ FT}) \\ &= 503 \text{ PSIA} \end{aligned}$$

$$P_{6351} = 503 - 0.85 (0.433) (6930 - 6351) = 290 \text{ PSIA}$$

LOCKHART B-13A NO. 9

TUBS

SHTUT INZ 8-17-85

8-26-85 200 PSI CASING 1069' SUBMERGENCE

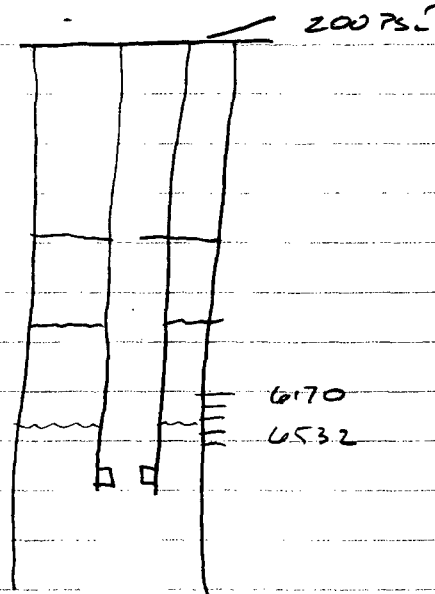
8-4-85 2 BU 1 BW 4 MCF S.N. Q 6909

$\frac{2}{3} = 66.6\%$ OF INFLOW STREAM

FL @ 5840'
(OIL)

Water @ 6553

SN @ 6909



GAS GRAVITY = 0.01 = 0.000528 PSC/FT

OIL GRAVITY = 0.85 ASSUMED

WATER GRAVITY = 1.08 ASSUMED

MID POINT OF PERFS = 6351

13005

213.1

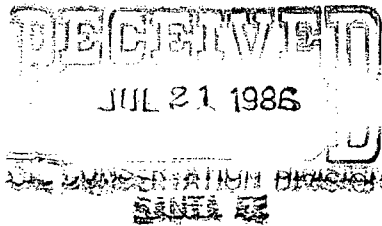
240

$$P_{6351} = 214.7 + 5284(0.000528) + 0.85(.433)(6553-5840) = 480 \text{ PSIA}$$



Donald W. Johnson
Division Manager
Production Department
Hobbs Division
North American Production

Conoco Inc.
P.O. Box 460
726 East Michigan
Hobbs, NM 88240
(505) 393-4141



July 17, 1986

(Address List Attached)

Dear Offset Operator:

Enclosed for your information is a copy of Conoco's application to downhole commingle the Tubb zone with the existing downhole commingled Abo and Drinkard Zones in the Lockhart B-13A No. 9.

Yours very truly,

ELK:jr

cc: David Catanach, NMOCD, Santa Fe

OFFSET OPERATOR'S TO LOCKHART B-13A NO. 9

Mobil Producing Texas and New Mexico, Inc.
P. O. Box 663
Midland, TX 79702

Chevron USA, Inc.
P. O. Box 670
Hobbs, NM 88240

Kirby Exploration of Texas
P. O. Box 1885
Eunice, NM 88231

Elliott Oil Company
P. O. Box 1355
Roswell, NM 88201