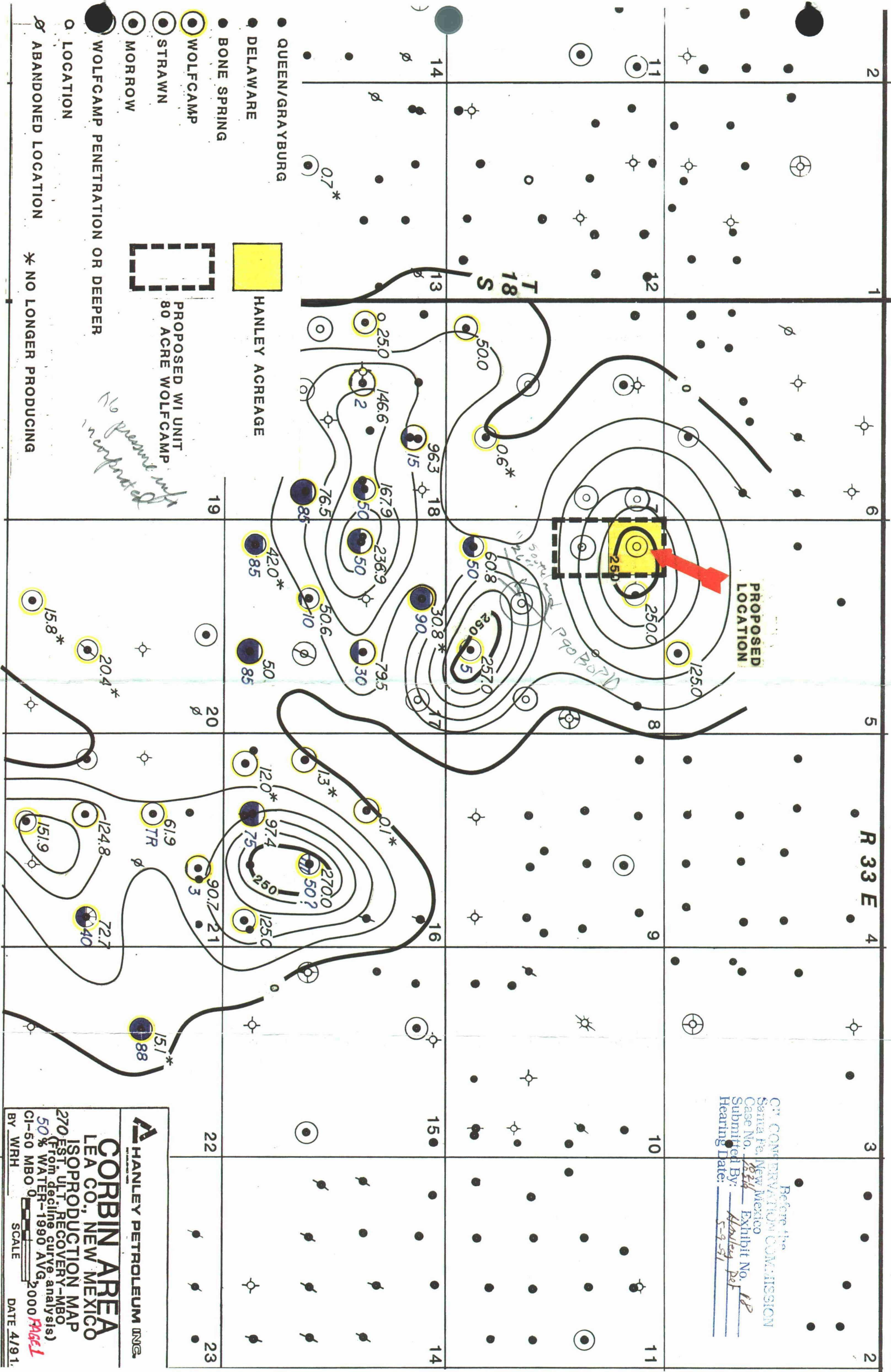
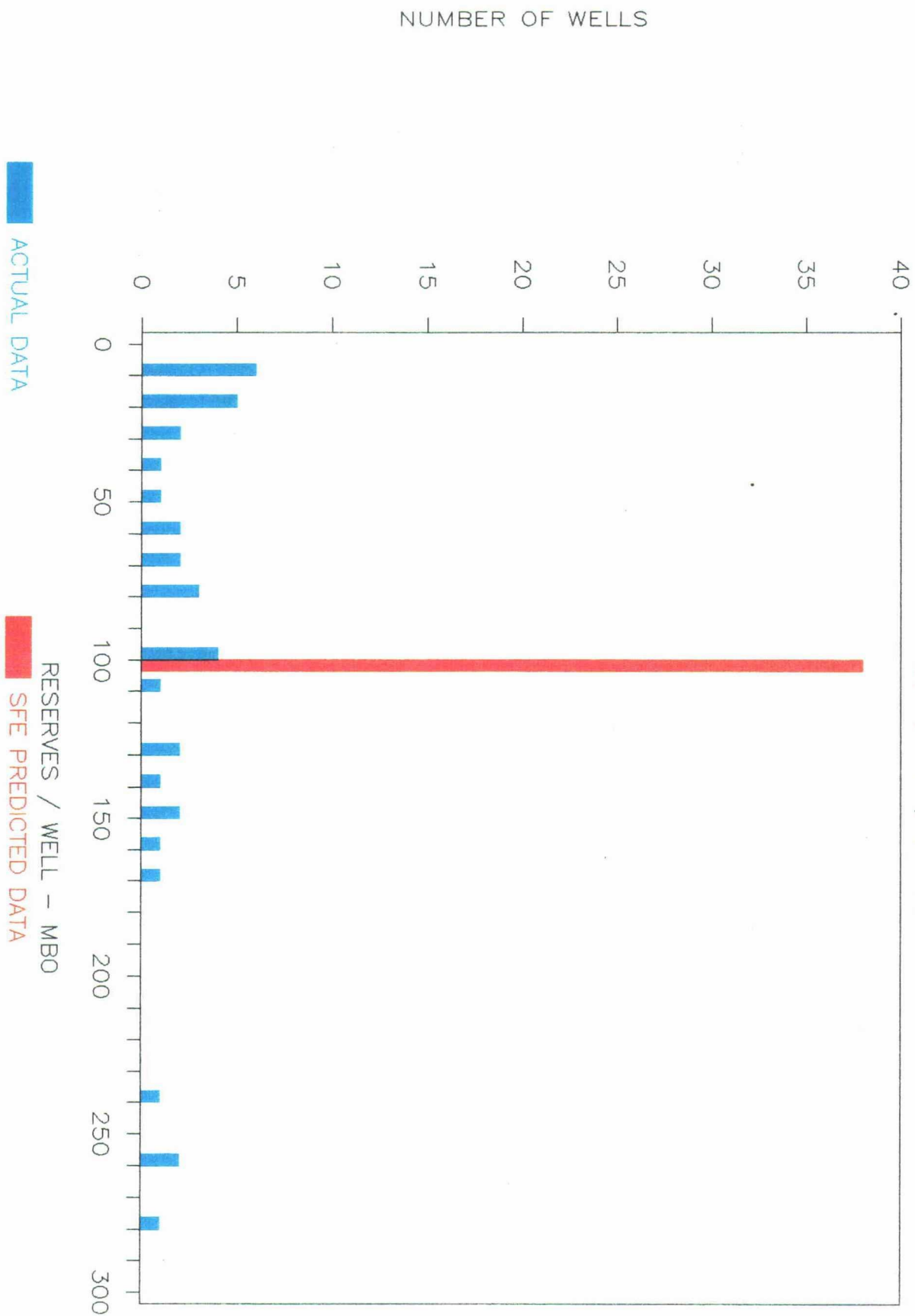


Before the
CITY CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 1824 Exhibit No. 18
Submitted By: Amelia Del
Hearing Date: 5-9-51



S. CORBIN (WOLFCAMP) FIELD LEA COUNTY, NEW MEXICO



S. CORBIN (WOLFCAMP) FIELD
FREQUENCY DISTRIBUTION DATA

ESTIMATED ULTIMATE RECOVERY	NUMBER OF SAMPLES	PERCENTAGE OF FREQUENCY	CUMULATIVE SAMPLE	CUMULATIVE FREQUENCY
0-10	6	15.79%	6	15.79%
10-20	5	13.16%	11	28.95%
20-30	2	5.26%	13	34.21%
30-40	1	2.63%	14	36.84%
40-50	1	2.63%	15	39.47%
50-60	2	5.26%	17	44.74%
60-70	2	5.26%	19	50.00%
70-80	3	7.89%	22	57.89%
80-90	0	0.00%	22	57.89%
90-100	4	10.53%	26	68.42%
100-110	1	2.63%	27	71.05%
110-120	0	0.00%	27	71.05%
120-130	2	5.26%	29	76.32%
130-140	1	2.63%	30	78.95%
140-150	2	5.26%	32	84.21%
150-160	1	2.63%	33	86.84%
160-170	1	2.63%	34	89.47%
170-180	0	0.00%	34	89.47%
180-190	0	0.00%	34	89.47%
190-200	0	0.00%	34	89.47%
200-210	0	0.00%	34	89.47%
210-220	0	0.00%	34	89.47%
220-230	0	0.00%	34	89.47%
230-240	1	2.63%	35	92.11%
240-250	0	0.00%	35	92.11%
250-260	2	5.26%	37	97.37%
260-270	0	0.00%	37	97.37%
270-280	1	2.63%	38	100.00%
280-290	0	0.00%	38	100.00%
290-300	0	0.00%	38	100.00%
TOTAL	38	100.00%		

ULTIMATE RECOVERY PER WELL

GREATER THAN	PROBABILITY OF OCCURRENCE
10,000.00 BO	76%
25,000.00 BO	68%
50,000.00 BO	58%
75,000.00 BO	43%
100,000.00 BO	30%
200,000.00 BO	7%
250,000.00 BO	4%

SOUTH CORBIN (WOLFCAMP) PRODUCTION HISTORIES

1. The following 18 pages represent production histories for those wells in the South Corbin (Wolfcamp) field with enough data to establish a history.

Monthly oil production is shown by the solid black line while monthly water production is shown in blue. The dashed lines represent projected future production rates used to determine each well estimated ultimate recovery.

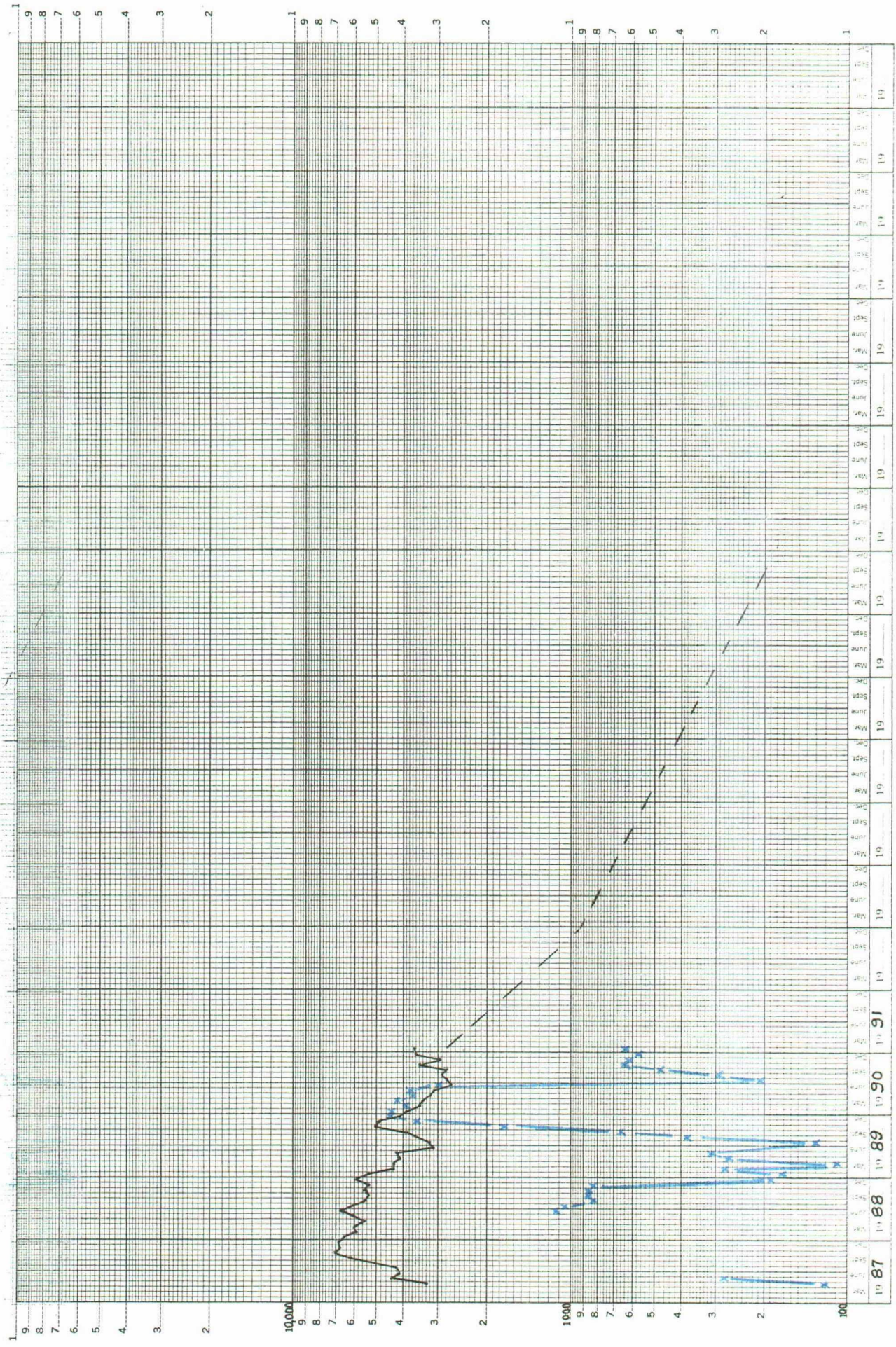
2. Most wells exhibit a steep initial decline ($\pm$ 69% annually) for 15-20 months then, slow to a 23% decline over the rest of a 12 year life. Drive mechanism appears to be primarily solution gas expansion.
3. Of the 18 wells shown here, 14 produce a certain amount of water. This amount of water varies from a trace to 85% of the well stream. In some cases the well produces at a more or less constant water cut through out its life. While in other cases, must notify the West Corbin Federal #5-E in Section 17 and the State 16 #2-N 10 Section 16, the well produces at a low water water cut for a number of months then suddenly floods with water; the oil rate drops as the water increases, clearly a water column is present near these completion intervals or has been pulled to the productive stratas.

FACING PAGE

MERIDAN OIL State "16" #1-J

Completed 4-1-87 Flowing 168 RO + 180 MCFGPD

Water cut has increased from less than 10% to 46% in 1990.



Oil
Water

Monthly Production - Bbl

47 6840

K&E 20 YEARS BY MONTHS X 3 LOG CYCLES
KEUFFEL & ESSER CO. MADE IN USA

Meridian - State 16 #1-J
Sec. 16, T-18S, R-33E

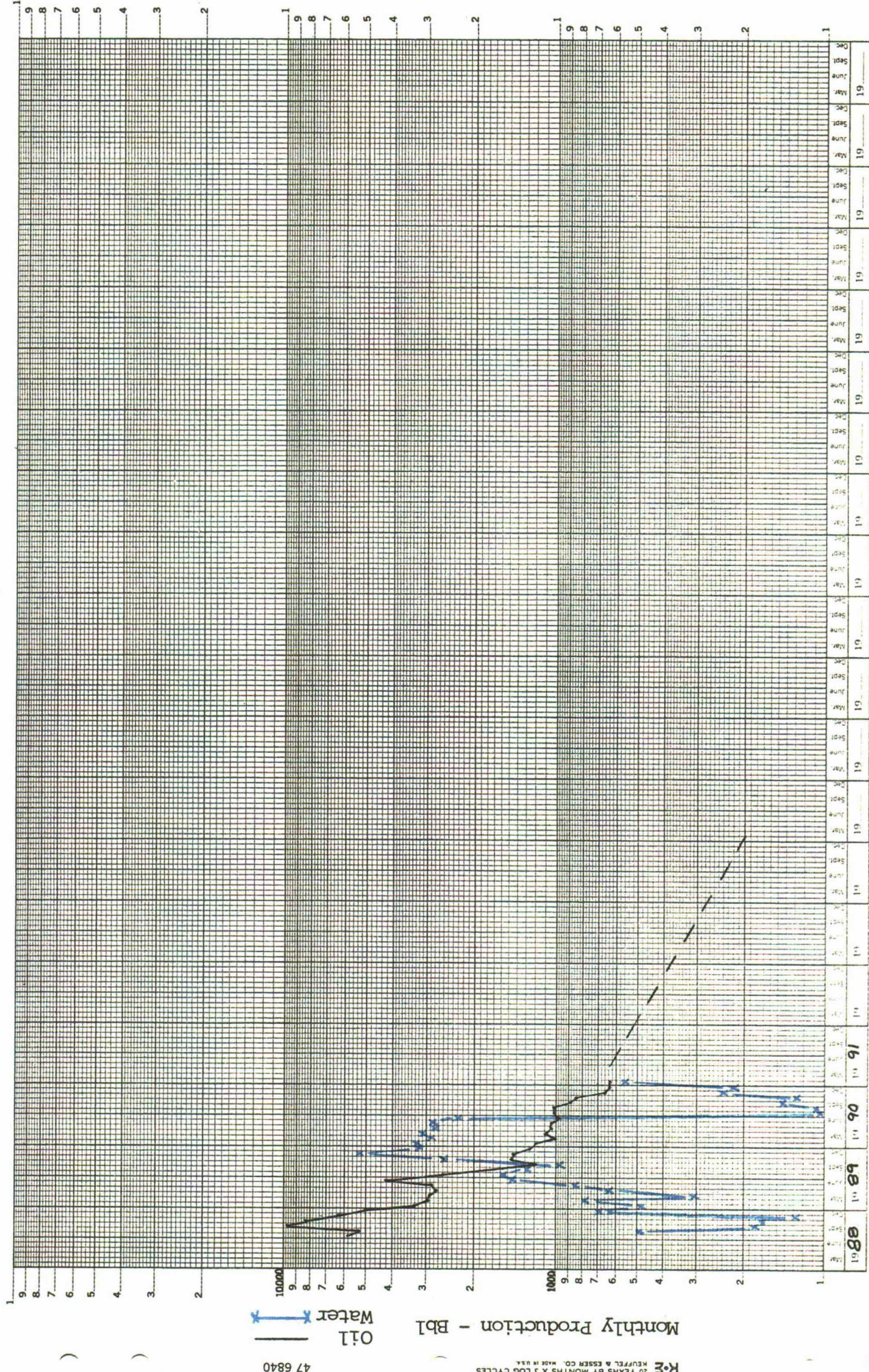
FACING PAGE

MERIDAN OIL State "16" #2-N

Completed 7-1-88 Flowing 344 BO + 180 MCF/GPD.

Water cut has increased dramatically (from + 20% to 75% in July 1988).

Oil Production dropped from 100 BPD to 35 BPD.



K-E 20 YEARS BY MONTHS X 3 LOG CYCLES
HEUFFEL & ESSEN CO. MADE IN U.S.A.

47 6840

Oil
Water

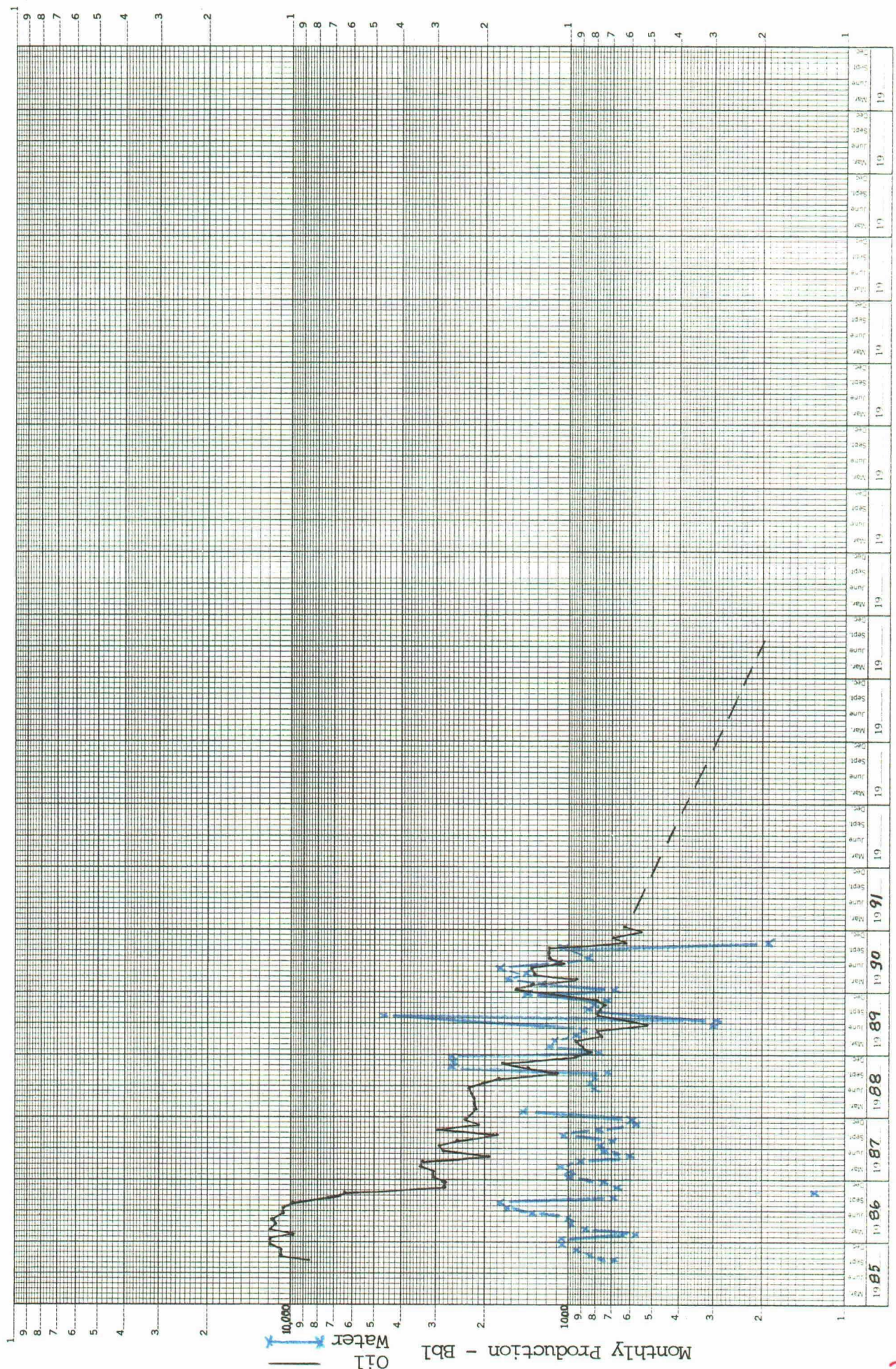
Monthly Production - Bbl

FACING PAGE

Southland Royalty - West Corbin Federal #5-E

Completed 9-1-85 Flowing 380 BO + 165 RWPD.

Water cut increased dramatically from 10% to 20% in August 1986 and oil rate fell from + 300 RPD to 100 RPD.

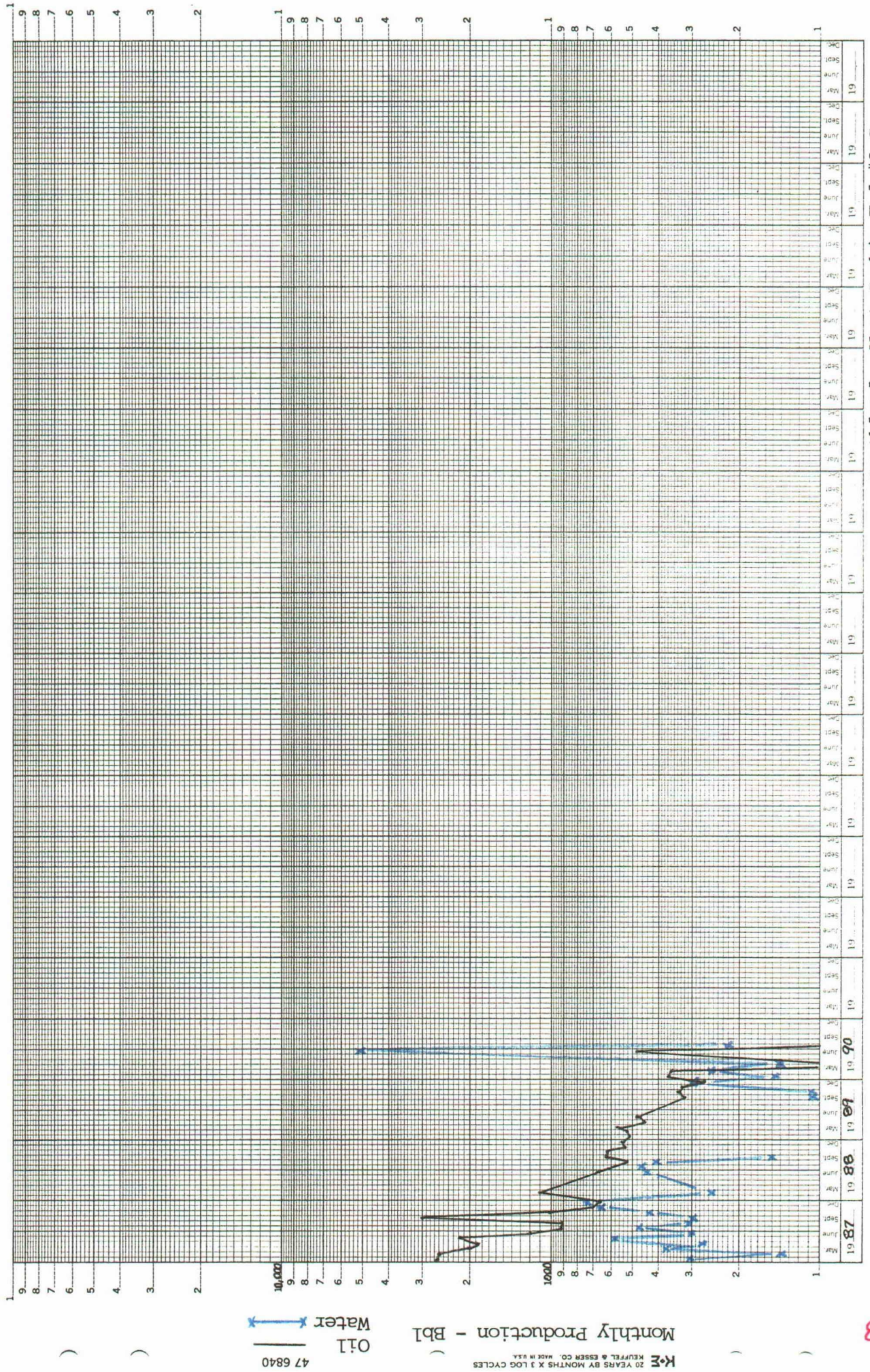


47 6840

K&E 20 YEARS BY MONTHS X 3 LOG CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.

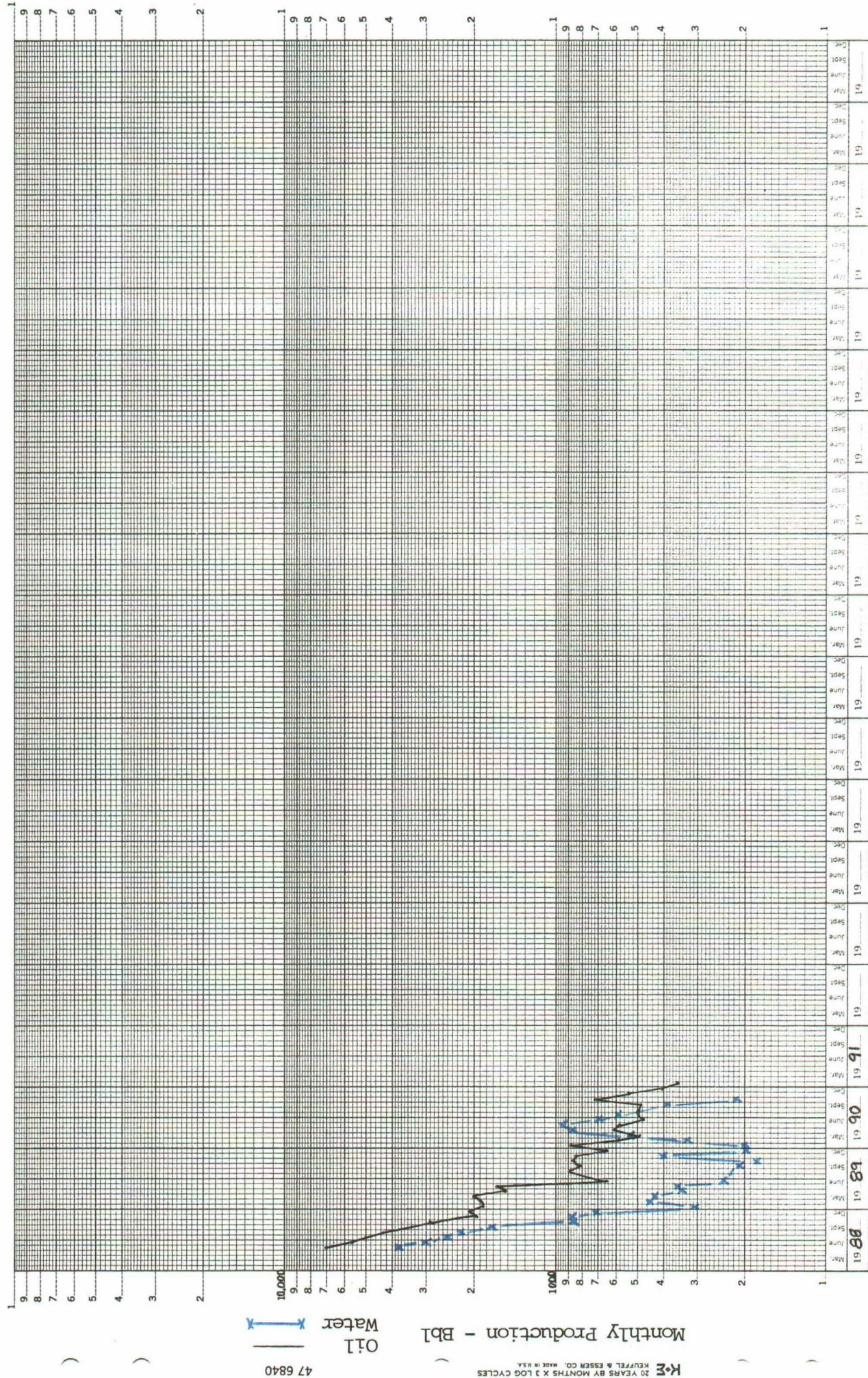
Southland - West Corbin Fed. #5-E
Sec 17, T-18S, R-33E

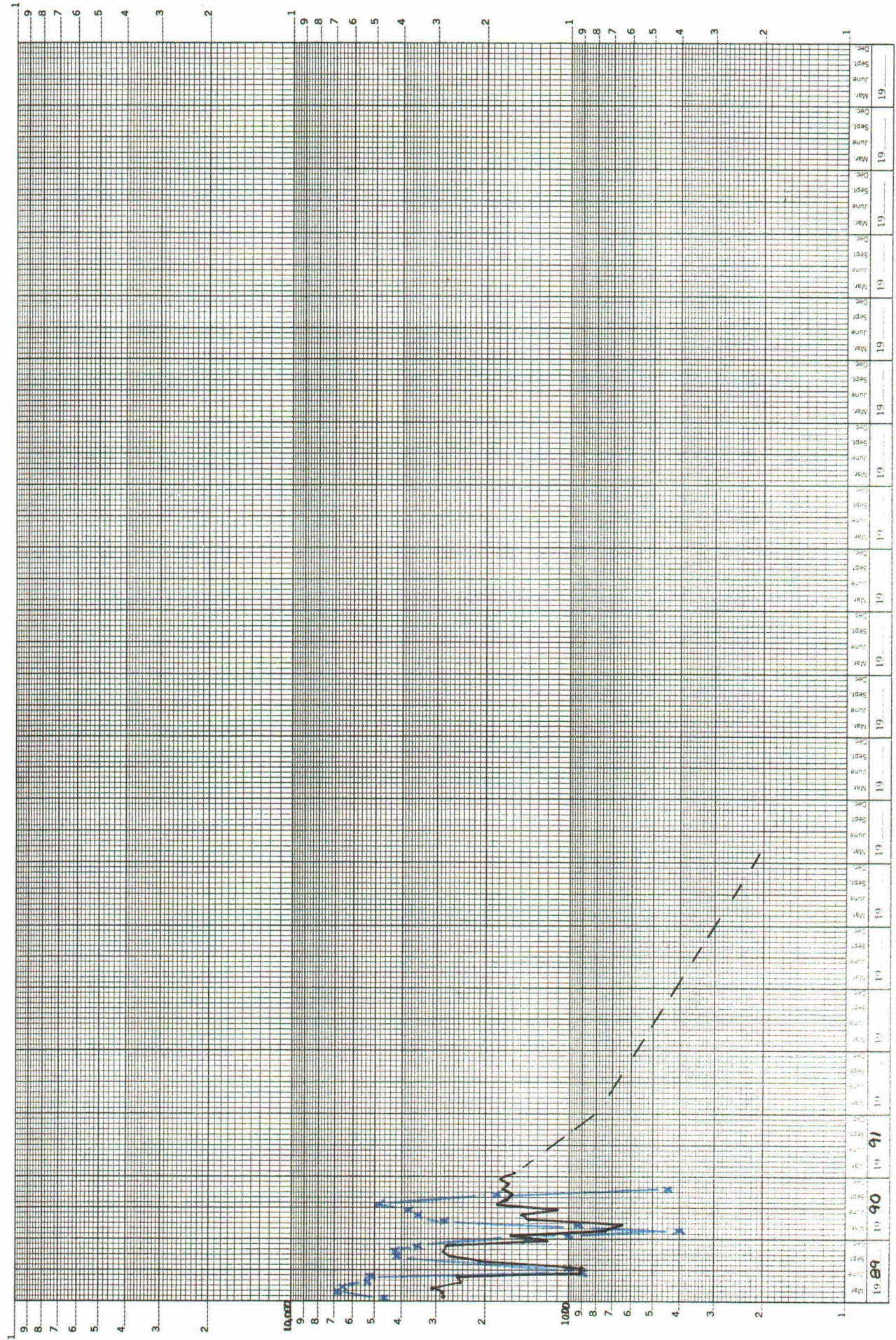
7



Southland - West Corbin Fed #8-C
 Sec. 17, T-18S, R-33E

Southland - West Corbin Fed #9-M
 Sec. 8, T-18S, R-33E



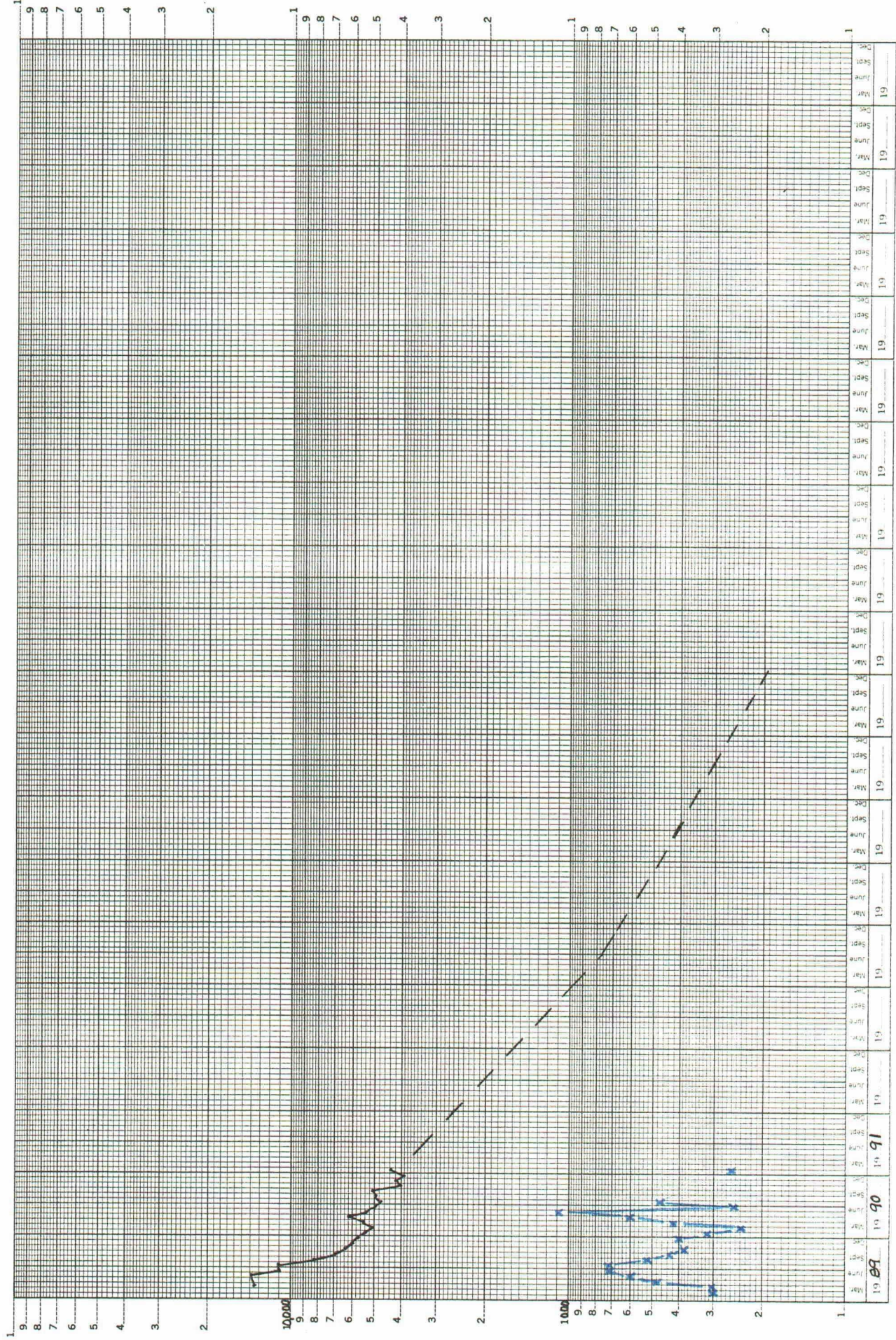


Water
Oil
47 6840

Monthly Production - Bbl
K&E
20 YEARS BY MONTHS X 1106 CYCLES
REPUBLIC & LESTER CO. MADE IN USA

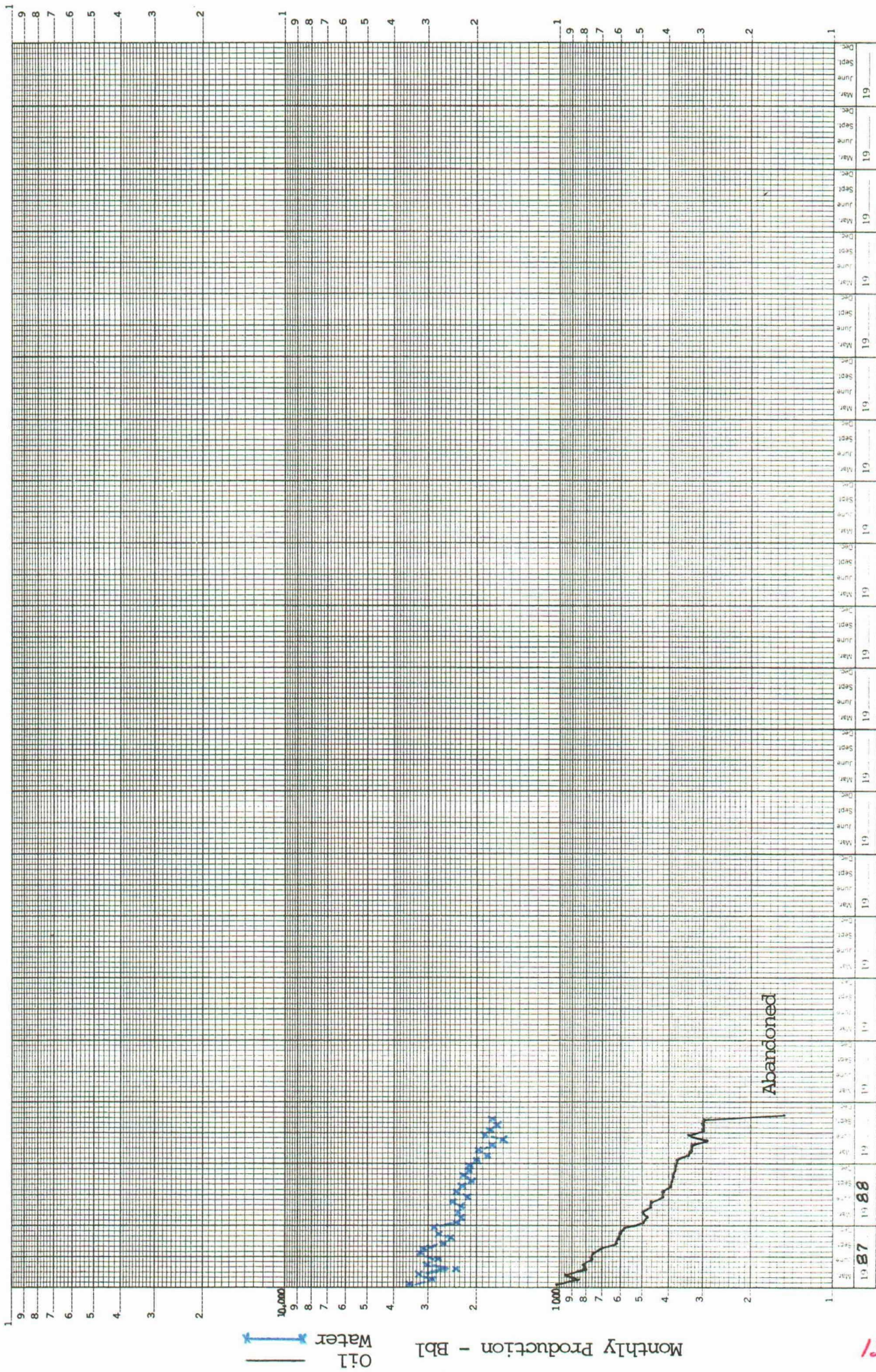
Monthly Production - Bbl

Oil
Water



Southland - West Corbin Fed #11-O
Sec. 8, T-18S, R-33E



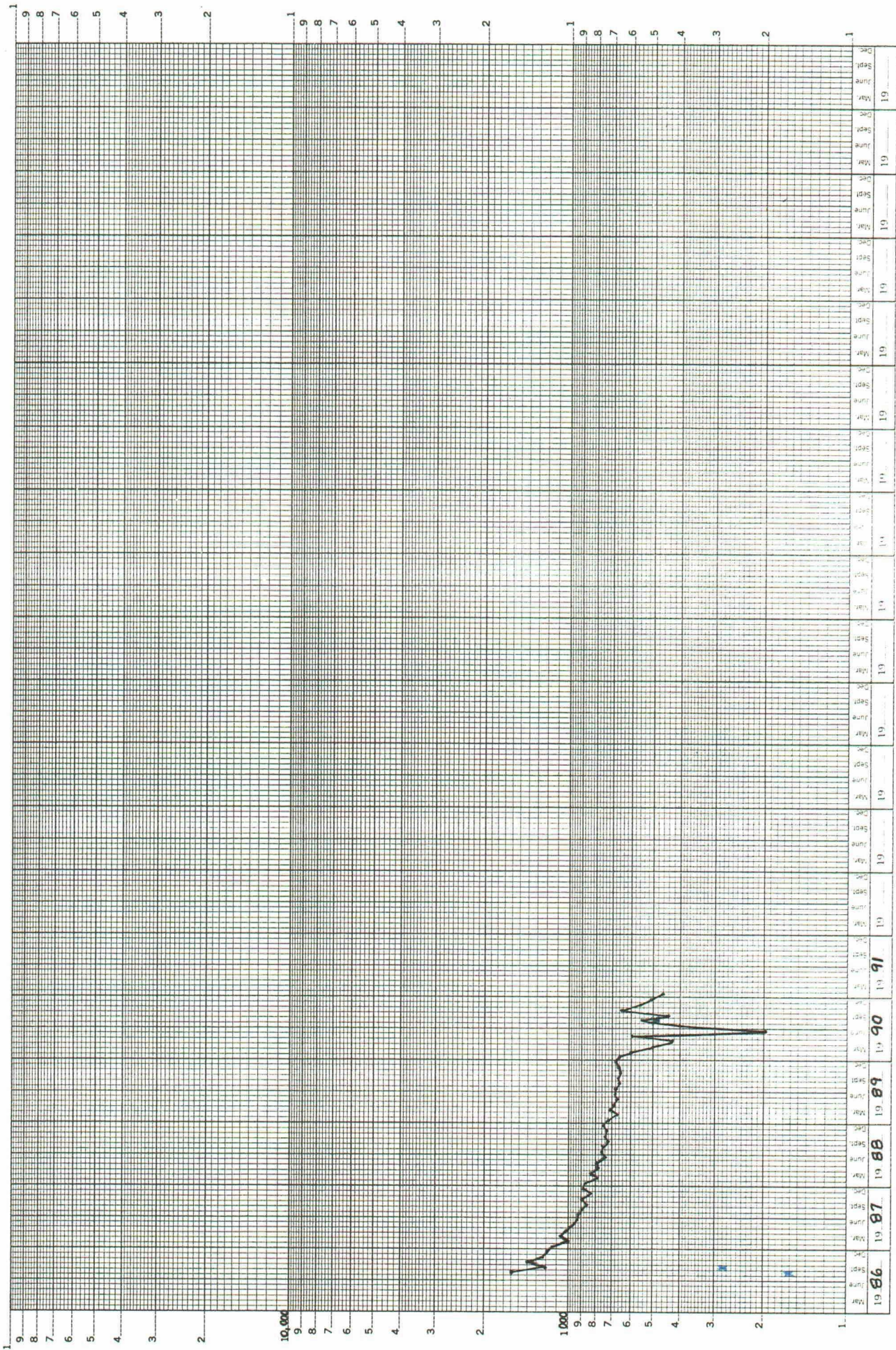


Southland - Huber 17 #1-M
Sec. 17, T-18S, R-33E

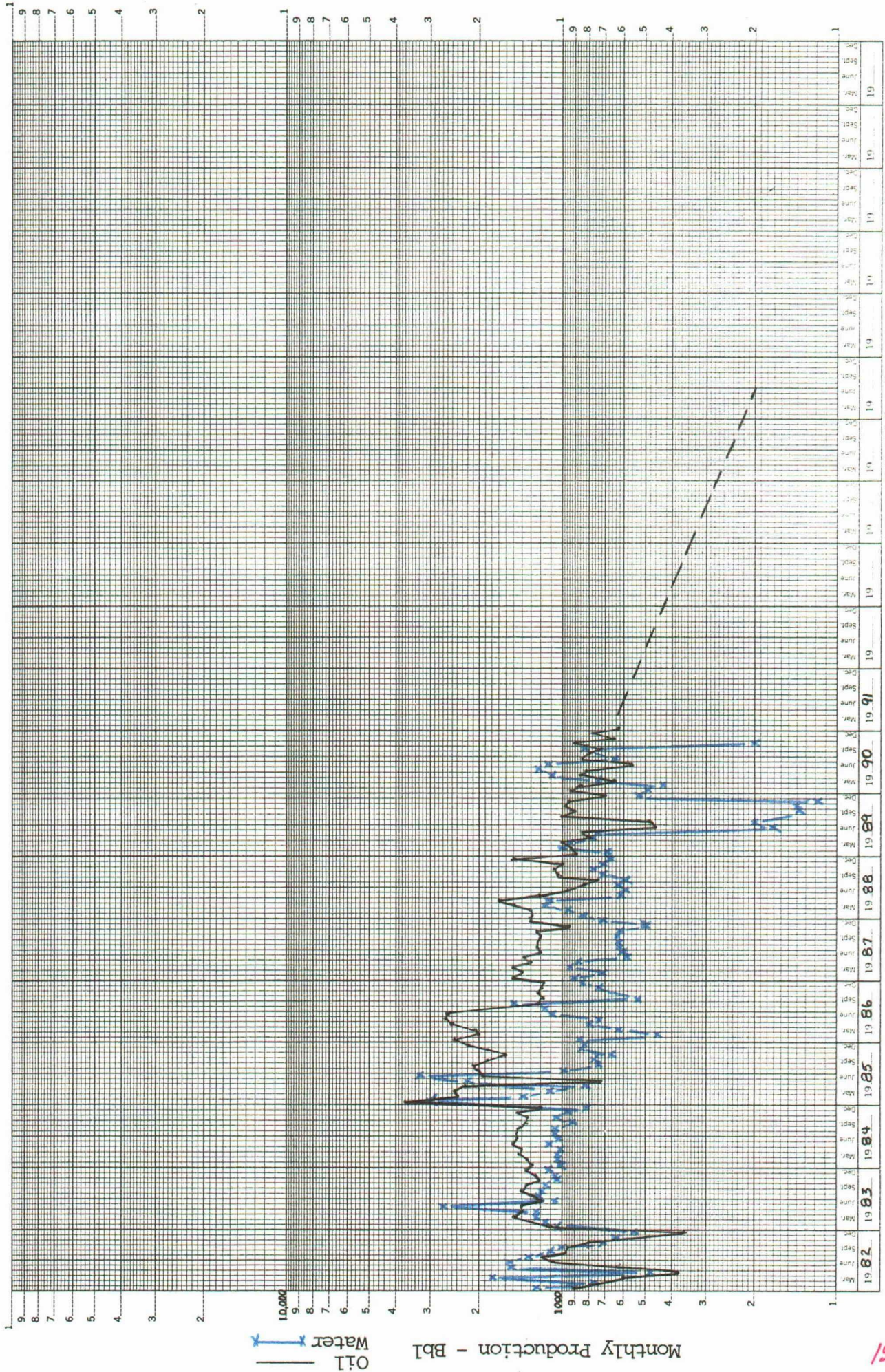
Monthly Production - Bbl

Oil

Water



Southland - Huber 17 #2-K
Sec 17, T-18S, R-33E



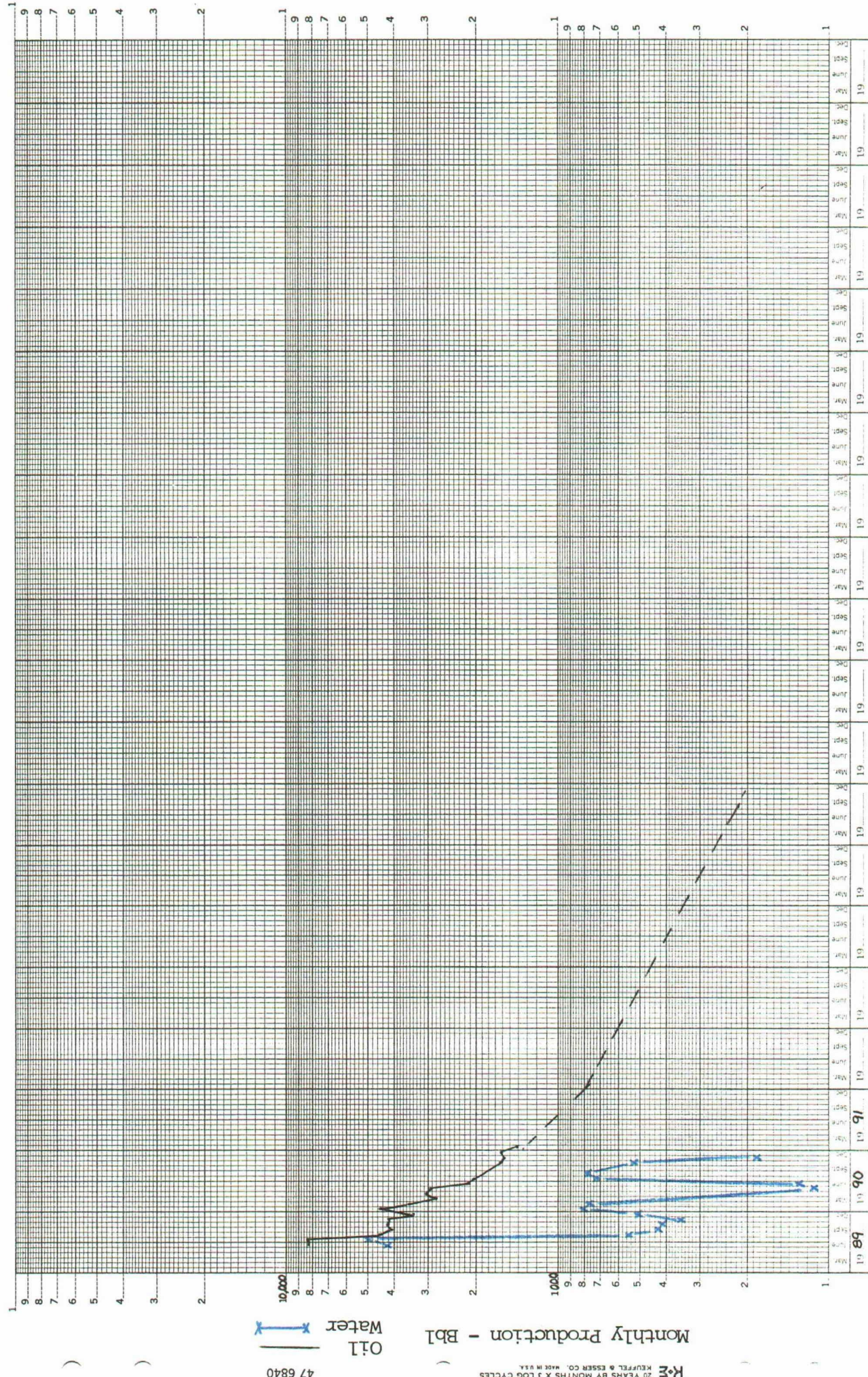
Monthly Production - Bbl

Oil

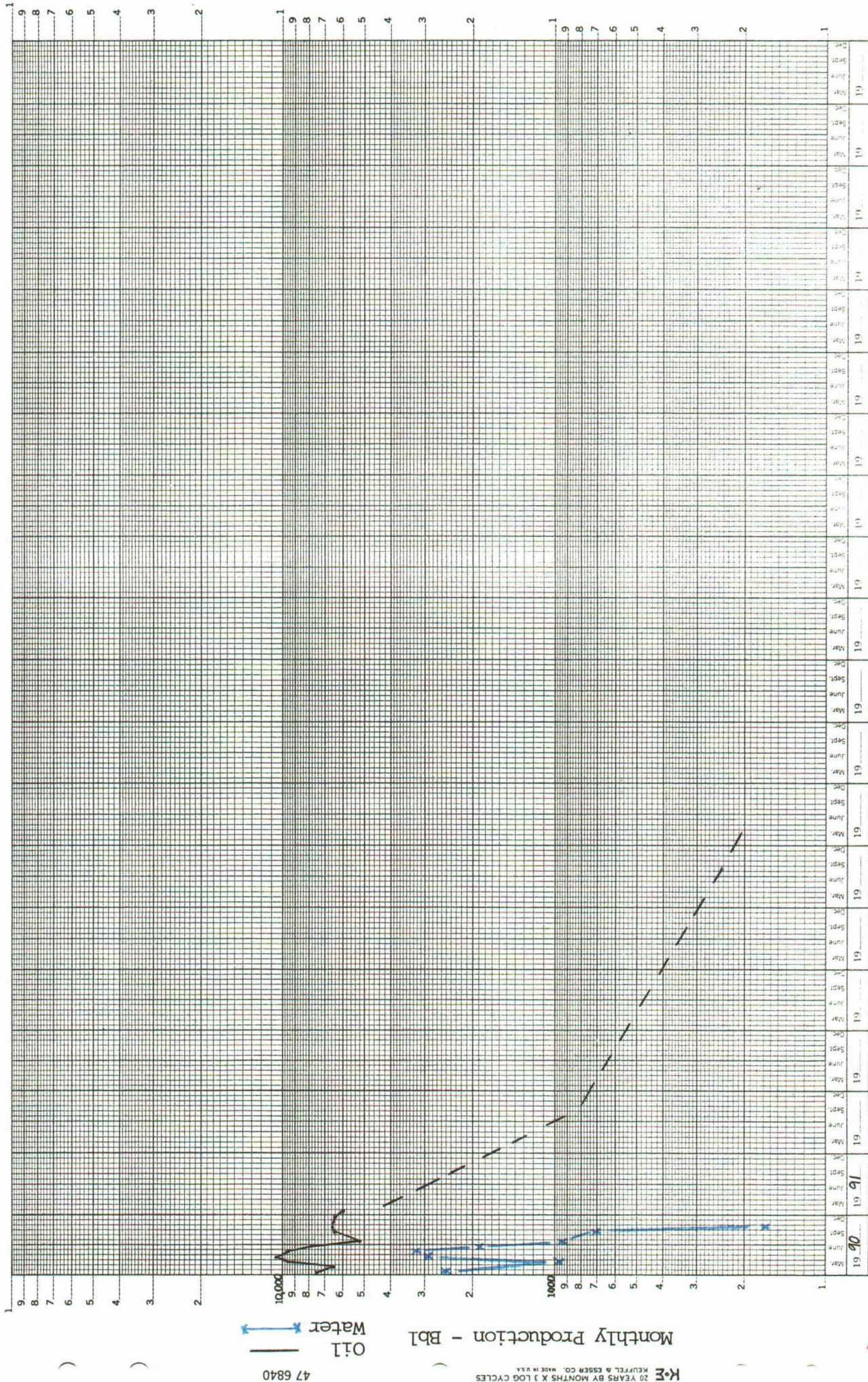
Water

Southland - West Corbin #1-H
Sec. 18, T-18S, R-33E

51



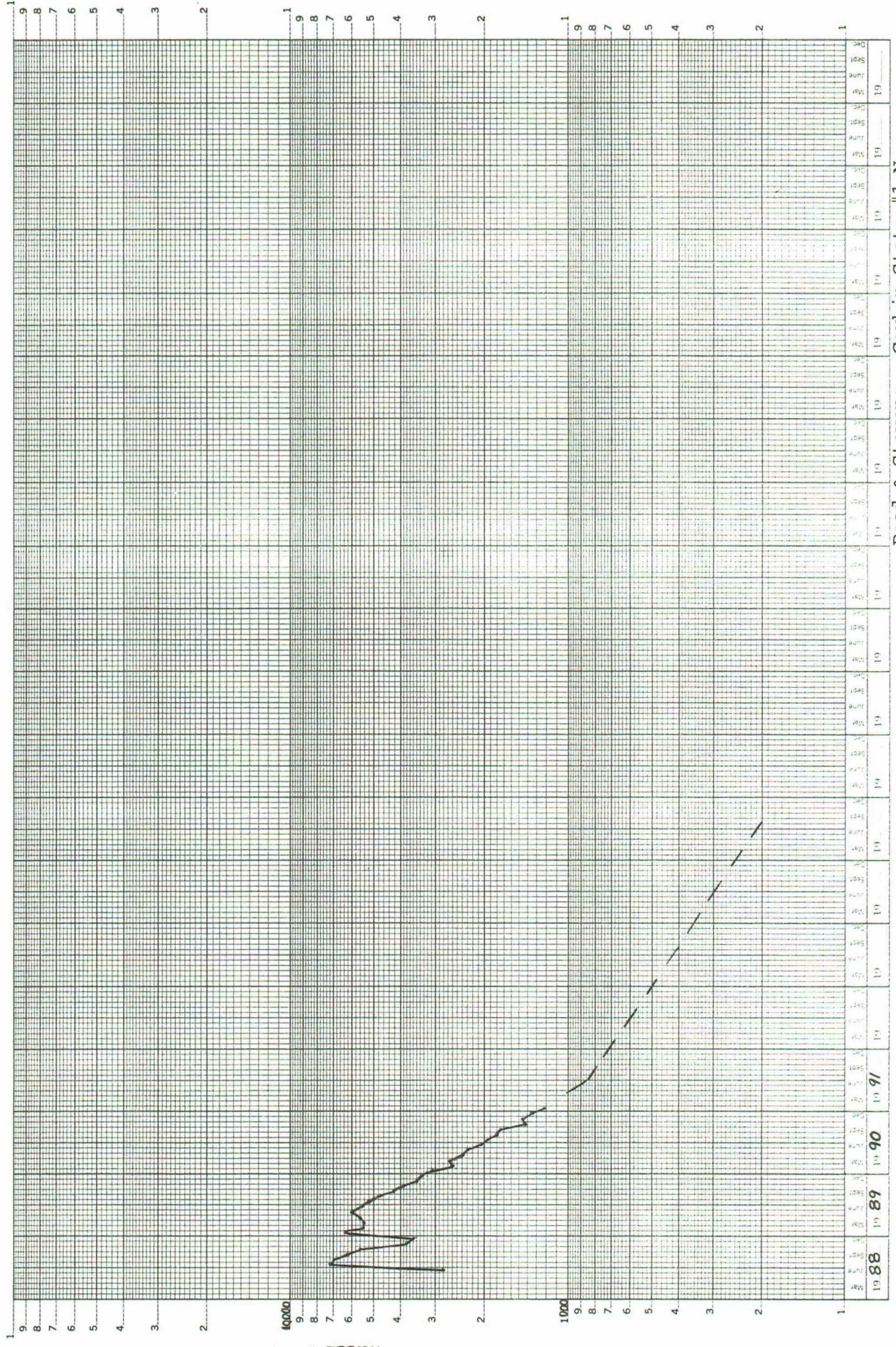
Southland - West Corbin #12-B
 Sec. 18, T-18S, R-33E



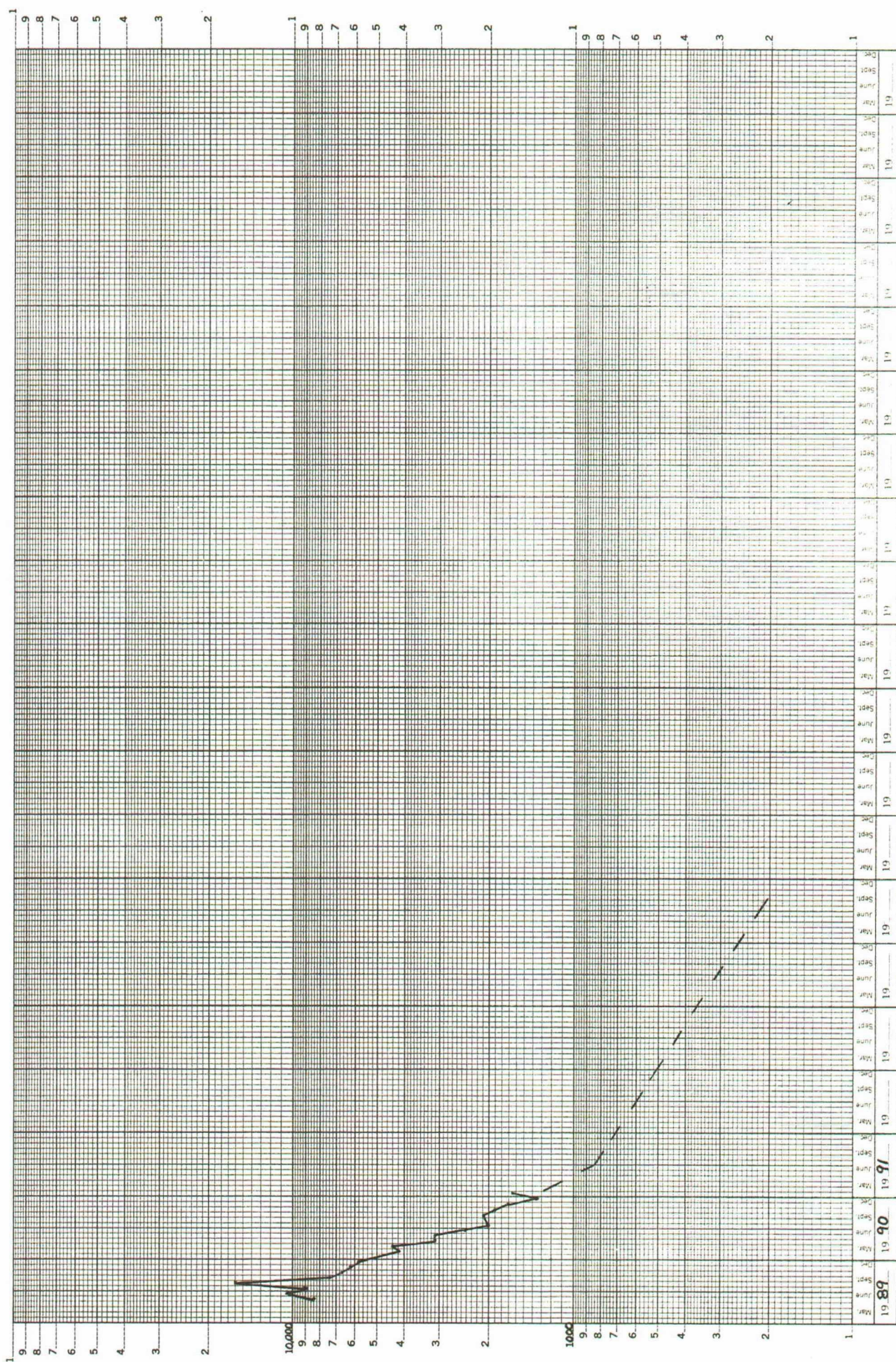
Southland - West Corbin Fed #18-F
 Sec. 18, T-18S, R-33E

Oil
Water

Monthly Production - Bbl

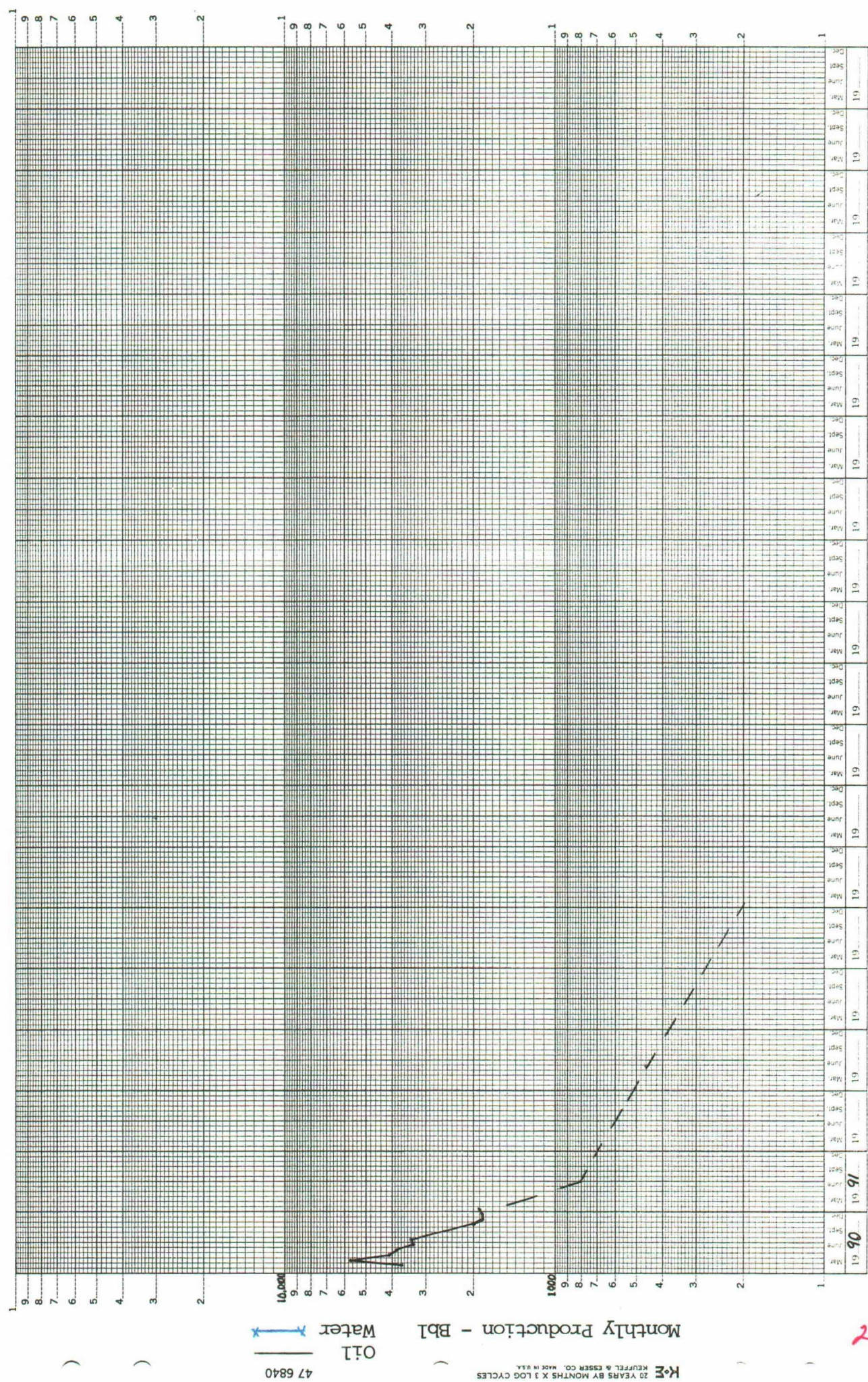


Read & Stevens - Corbin State #1-N
Sec. 21, T-18S, R-33E

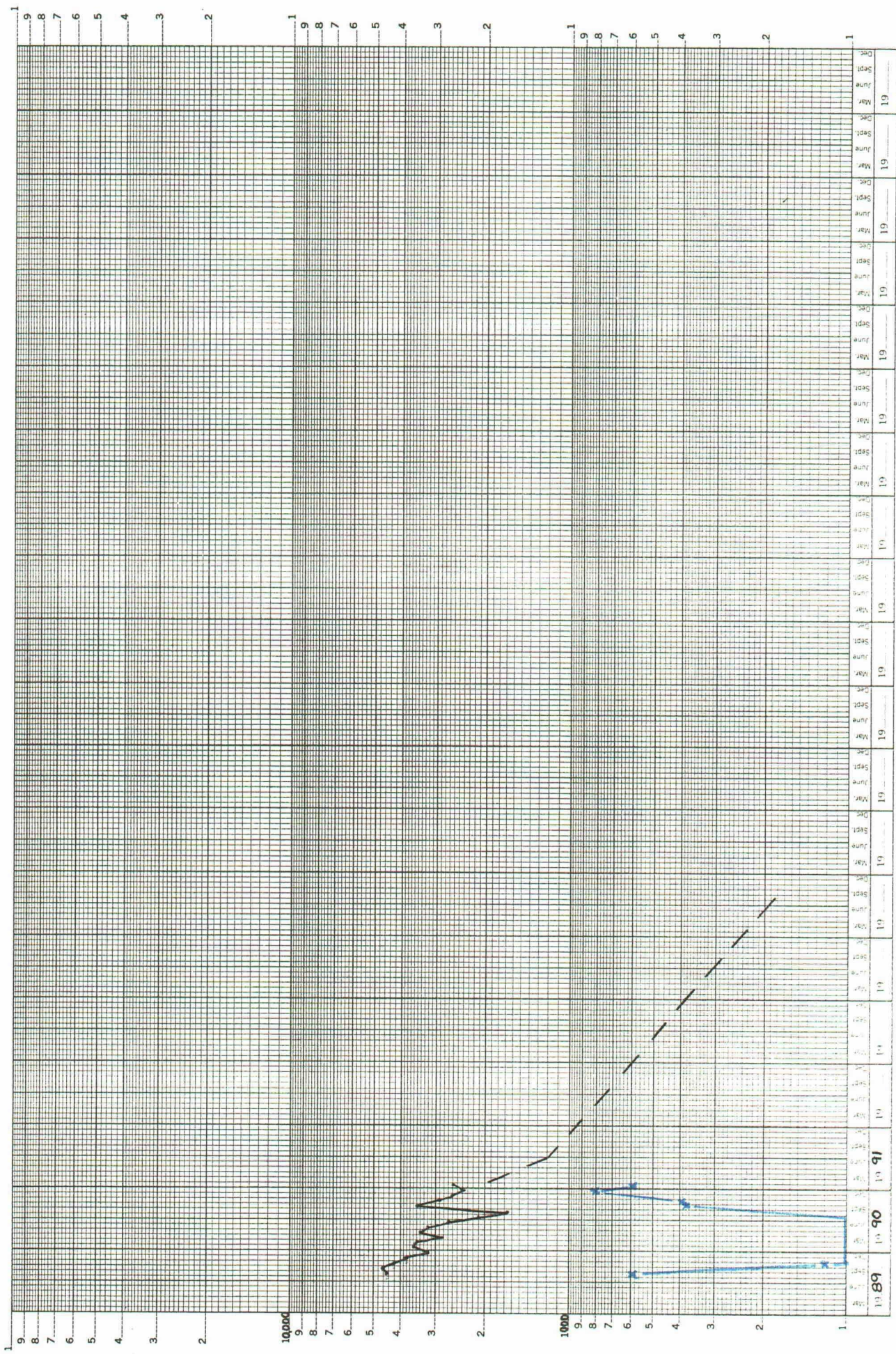


47 6840
 Oil
 Water
 Monthly Production - Bbl

Southland - Federal 21 #2-K
 Sec 21, T-18S, R-33E



47 6840
 K&E 20 YEARS BY MONTHS X 3 LOG CYCLES
 KEUFFEL & ESSER CO. MADE IN U.S.A.

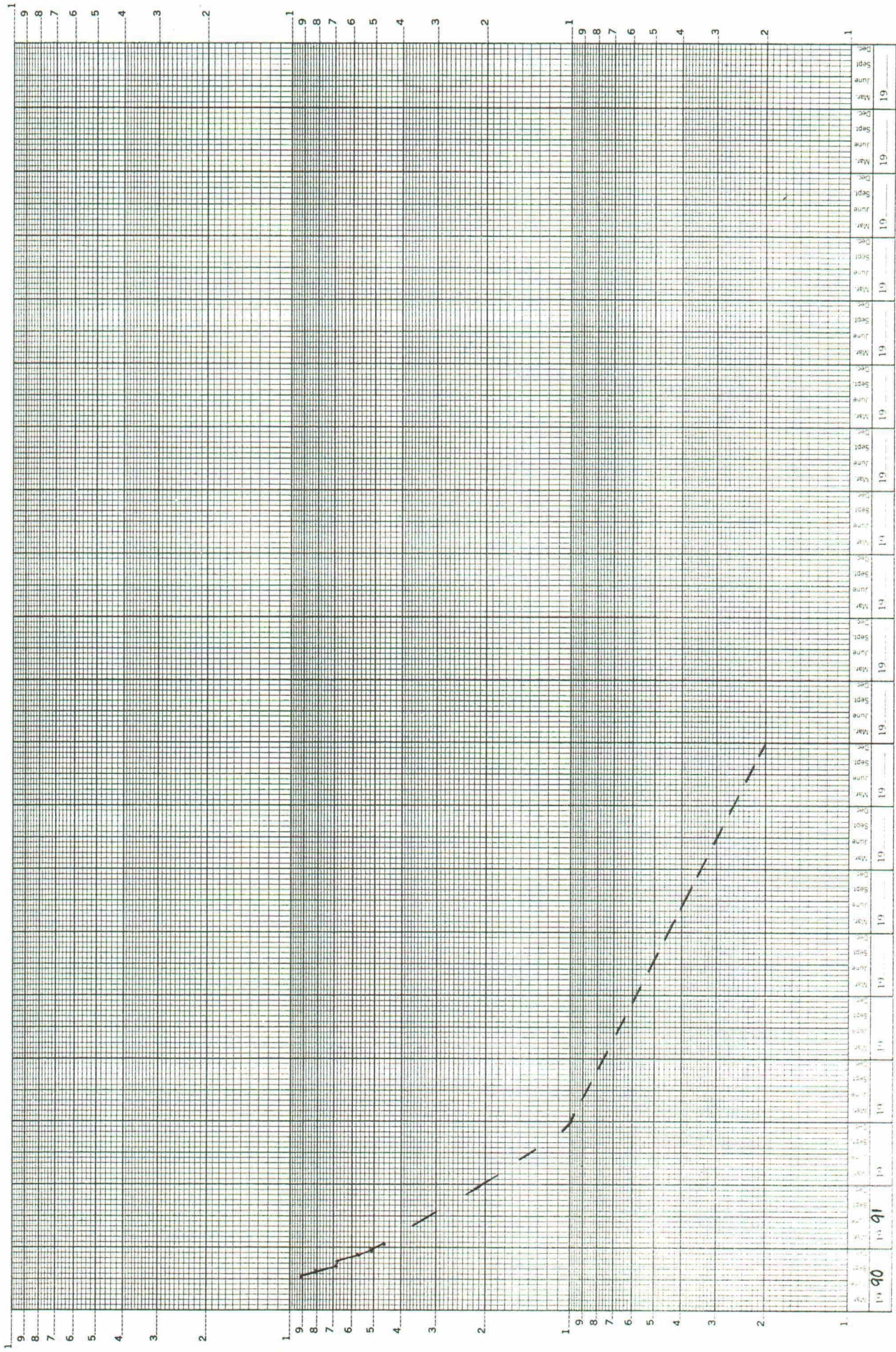


Southland - Federal MA #4-B
 Sec. 21, T-18S, R-33E

47 6840
 Oil
 Water
 Monthly Production - Bbl
 K-E 20 YEARS BY MONTHS X 3 LOG CYCLES
 KEUFFEL & ESSER CO. MADE IN U.S.A.

Oil
Water

Monthly Production - Bbl



Southland - Uncle Federal Com #3-G
Sec. 28, T-18S, R-33E

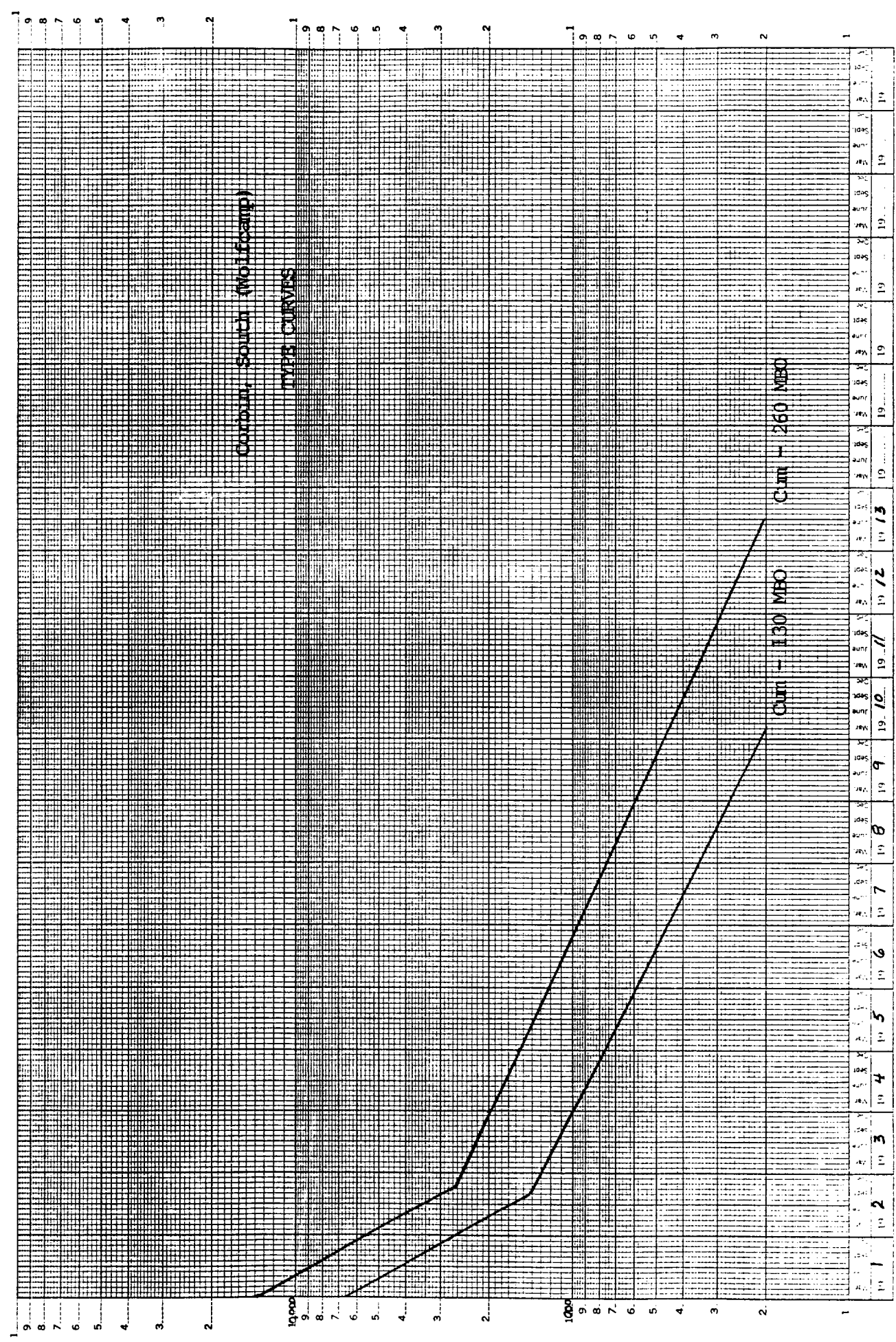
COMPARISON OF
RESERVES AND ECONOMICS
Hanley 8 Federal No. 1
(Wolfcamp)

18" 201661

LOCATION	NW/4 NW/4, Sec. 8	SW/4 NW/4, Sec. 8
ULTIMATE RECOVERY (Gross Barrels)	260,000	130,000
HPI - NET INVESTMENT	\$ 333,500	\$ 333,500
PAYOUT - Months Barrels	4 ±46,000	8 ±44,000
HPI-CUM PRETAX CASH FLOW (Net of Investment)	\$ 1,576,360	\$ 598,804
HPI-NET PRESENT VALUE (Discounted 10%)	\$ 1,235,230	\$ 457,750
ROYALTY INTEREST: CUM PRETAX CASH FLOW	\$ 514,913	\$ 222,092
NET PRESENT VALUE	\$ 432,162	\$ 185,508

5/3/91

Monthly Production - Bbl



PROPOSED ALLOCATION OF COSTS
Shallow Formations to base of Bone Spring
vs. 11,500' Wolfcamp Test

In the event the subject well is plugged back for a completion attempt in the Bone Spring, or any other zone in which the ownership differs from that which has been force-pooled as a result of this hearing;

1. Hanley Petroleum Inc. proposes that the cost of drilling and completing the subject well should be allocated between the Bone Spring and Wolfcamp formations in accordance with The Council of Petroleum Accountants Societies' Bulletin No.2, dated September, 1965, entitled Determination of Values for Well Cost Adjustments Joint Operations as follows:

Section A: DETERMINATION OF INTANGIBLE COSTS

Actual Historical Cost - amortized using straight-line method in subsection 3.

Section B: ALLOCATION OF INTANGIBLE COSTS

Subsections 1a and 2, with the drilling day ratio equaling the number of days required to drill to 100' below the shallow producing horizon divided by the total number of days from spud to rig-released. The cost of any operations known to be zone-specific, such as DST's, coring, squeezing, etc., should be withheld from the total cost, and the corresponding days deducted prior to determining the day ratio.

2nd

Section A: DETERMINATION OF TANGIBLE COSTS

Base price as in subsection 1a, depreciated according to subsection 2b, except that a life of seven years be substituted in the denominator.

2nd

Section B: ALLOCATION OF TANGIBLE COSTS

Subsection 1, 2, and 3.

2. Hanley further proposes that, for the purposes of these calculations, the operator of the subject well furnish all working interest owners an accounting of the actual well costs within 60 days of completion of drilling and completion operations.

EXAMPLE COST ALLOCATION

9000' Bone Spring
vs.
11,500' Wolfcamp

- Costs shown are from Hanley Petroleum Inc. AFE furnished 1-7-91.
- Drilling day ratio is based on the drilling curve of the Santa Fe - Kachina 8 Federal No. 1.

$$\text{Ratio} = \frac{\text{Drilling days to 9000' (incl. logs, run csq.)}}{\text{Drilling days to 11,500' " " " "}}$$

$$= \frac{17}{30} = .5666$$

<u>DRY HOLE</u>	<u>WOLFCAMP</u>	<u>BONE SPRING</u>	<u>BONE SPRING</u>
<u>TANGIBLE</u>		<u>Wolfcamp dry</u>	<u>Wolfcamp Productive</u>
Casing & Tubingheads	\$14,500	\$14,500	½ of the greater of depreciated or salvaged value.
Surface casing	9,800	9,800	" " "
Intermediate casing	30,820	30,820	" " "
<u>INTANGIBLE</u>			
Drilling Contractor	221,400	125,445	Amortized cost x .5666
Road/Location/Damages	16,000	9,066	" " "
Mud/Cemicals/Water	18,000	10,198	" " "
Mud Logging	8,750	4,957	" " "
Electric Logs	33,500	18,981	" " "
Cementing surface & Intermed.	23,500	23,500	" " "
Supervision	11,200	6,346	" " "
DST's	22,000	-0-	-0-

SOUTH CORBIN (WOLFCAMP) FIELD

COMPARISON OF PREDICTED VS. ACTUAL WELL PERFORMANCE

<u>WELL</u>	<u>LOCATION</u> Unit - Sect.	<u>Meridian's testimony (10 - 87)</u>		<u>Updated analysis (1 - 91)</u>		<u>1-91 AVG. RCPD</u>
		<u>EUR from decline curves</u>	<u>DRAINAGE AREA acres</u>	<u>EUR decline curves</u>	<u>DRAINAGE AREA acres</u>	
West Corbin #1	H - 18	233.3 MBO	102.4	167.9 MBO	73.7*	20
West Corbin Fed #5	E - 17	303.7	98.9	236.9	77.1*	20
West Corbin Fed #8	C - 17	81.2	63.6	30.8**	24.1	0
Huber 17 #1	M - 17	71.6	65.5	42.0**	38.4	0
Huber 17 #2	K - 17	72.5	77.3	50.6	53.9	15
State 16 #1	J - 16	170.1	85.5	270.0	135.7	120

*these two wells are direct 40 - acre offsets to each other.

**these wells have ceased production from the Wolfcamp

WELL SPACING
for
WOLFCAMP FIELDS IN WESTERN LEA COUNTY, NEW MEXICO

<u>FIELD NAME</u>	<u>SPACING</u>
Airstrip	Statewide (40)
Airstrip, N	"
Scharb	"
Scharb, SE	"
Young, N	" (80 acres rescinded)
EK	"
Lusk	"
Lusk, E	" (80 acres rescinded)
Corbin, S	80 acres

WRH
5-3-91

AUTHORITY FOR EXPENDITURE

HANLEY PETROLEUM INC.

vs

SANTA FE ENERGY

LEASE: HANLEY 8 FEDERAL #1 APPROXIMATE TOTAL DEPTH 11,500'

LOCATION: 660' FN&WL, Section 8, T-18-S, R-33-E

Lea County, New Mexico

DRILLING CONTRACTOR:

DRILLING COST:

		Hanley	Santa Fe
Contractor's Footage Fee	11,500' @ 18.00/ft.	\$ 207,000.00	\$193,200
Day Work -	3 days @ \$4800/day	14,400.00	13,500
Roads, Location & Damages -	(Fence)	16,000.00	16,000
Mud, Chemicals & Water -		18,000.00	20,000
Mud Logging Unit -	25 days @ \$350/day	8,750.00	11,000
Electrical Logs		33,500.00	33,500
Transportation -		2,500.00	3,000
Cement & Cementing & Equipment	(Inspection)	23,500.00	21,640
Miscellaneous Supplies -	(Supervision)	2,500.00	12,250
Surface Casing -	400' 13-3/8" 48# H-40 @ \$24.50/ft.	9,800.00	3,000
I	2200' 8-5/8" 24# J-55 @ \$9.10/ft.	*	9,000
	(\$20,020) 900' 8-5/8" 32# J-55 @ \$12.00/ft. (\$10,800)	30,820.00	2,000
Drill Stem Test -	(Abandonment)	22,000.00	36,804
	Overhead	**	10,000
	TOTAL.....	\$ 388,770.00	22,000
	10% Contingencies.....	\$ 38,877.00	416,904
	TOTAL DRILLING COSTS.....	\$ 427,647.00	36,505
	(W/O Abndmt & Ovrhd)		\$453,199
			\$438,599

COMPLETION COST:

Tanks -	[2] 436 bbl steel @ \$5,000 ea., [1] 210 bbl fiberglass	15,000.00	35,000 0
Treater -	(Labor)	5,500.00	5,000
Flow Lines -	(Fence)	2,000.00	3,200
Other Miscellaneous Supplies -	(Packer)	7,500.00	3,000
C	530' 5-1/2" 17# C-95 @ \$9.00/ft. (\$4,770)	90,885.00	3,500
	10,970' 5-1/2" 17# N-80 @ \$7.85/ft. (\$86,115)		1,000
Perforating and logging -		7,800.00	95,763
Acidizing, fracturing, tank rental & packer -		5,000.00	6,000
Cement & Cementing -		24,000.00	5,000
Tubing -	11,500' 2-7/8" 6.5# N-80 @ \$4.065/ft.	46,750.00	3,200
Pumping Unit, Engine & Base -			3,000
Sucker Rods, Pump, Polished Rod, Etc. -			3,500
Casinghead, etc. -	(Trucking)	14,500.00	1,000
Completion Contractor's Fee -		10,000.00	95,763
ig Site Supervision -	(Overhead)	11,200.00	6,000
	(Contingencies)	*	7,380
	TOTAL DEVELOPMENT COSTS.....	\$ 240,135.00	279,383
	TOTAL COST OF WELL.....	\$ 667,782.00	\$721,942
			756,942
. No.:	GRAND TOTAL.....	\$ 667,782.00	\$712,742
	* -included elsewhere		(W/O Ovrhd)
D BY TROY V. COMPTON	** -unnecessary		

BY:

L.D. Robbins
President

Troy V. Compton
Vice President Production

AUTHORITY FOR EXPENDITURE

HANLEY PETROLEUM INC

LEASE: Hanley 24 Federal #1 APPROXIMATE TOTAL DEPTH: 8700

LOCATION:

DRILLING CONTRACTOR:

DRILLING COST:

			PROJECTED	ACTUAL	
Contractor's Footage Fee	8700 @	\$16.00	156,600.00	157,438.03	Taxes were not included
Day Work	No. Days	1 @ \$4,800.00	4,800.00	5,750.10	28 3/4 hours
Roads & Location.....			16,200.00	14,270.79	
Damages.....			2,000.00		
Mud & Chemicals.....			3,000.00		
Water.....			6,000.00	14,642.74	
Consultant.....			6,000.00	10,215.61	
Electric Logs.....			10,891.00	16,204.27	
Transportation.....			2,500.00	1,305.25	
Cementing & Cementing Equipment.....			23,534.00	17,432.15	
Miscellaneous Supplies.....			2,500.00	42.35	
Surf. Csg.:	400 ft. 13 3/8	54.5# J-55 @ \$24.50	9,800.00	11,351.64	
Inter. Csg.:	2200 ft. 8 5/8	24# J-55 @ \$9.10	20,020.00	19,290.15	
	600 ft. 8 5/8	32# J-55 @ \$12.00	9,600.00	6,441.13	
Rental Equipment.....				1797.95	
Welding charges on casing.....				593.60	
BOP test.....				738.50	
Pipe inspections.....				948.54	
TOTAL.....\$			277,445.00	278,463.00	
10% Contingencies.....\$			27,744.50	8,431.61	8 5/8 csg. damaged
TOTAL DRILLING COSTS....\$			305,189.50	286,894.61	

COMPLETION COST:

Tanks.....			11,375.00	12,810.77	Prices did not include transport
Treater.....			4,500.00	5,121.76	
Flow Lines.....			2,000.00	1,697.25	
Battery construction.....				2967.93	
Other Miscellaneous Supplies.....			7,500.00	947.77	
Casing:	1000 ft. 4 1/2	11.60# N-60 @ \$5.27	5,270.00	6,337.70	
	7700 ft. 4 1/2	11.60# J-55 @ \$3.95	30,415.00	29,947.19	
Perforating and Logging.....			4,700.00	6,459.34	
Acidizing, Fracturing, Tank Rental, & Packer.....			58,500.00	72,537.59	
Cement & Cementing Equipment.....			24,288.00	23,019.33	
Tubing	6600 ft. 2 3/8	4.7# J-55 @ \$2.19	16,834.00	19,165.56	
Pumping Unit & Base.....			29,700.00	33,193.01	
Prime Mover.....			6,500.00	8,533.68	
Sucker Rods, Pump, & Wellhead Hookup.....			12,000.00	11,116.00	
Casinghead.....			5,700.00	5,677.29	
Completion Contractors Fee.....			7,500.00	10,541.63	
Rental Equipment.....			2,500.00	716.40	
Location clean up and completion.....				4,372.20	
TOTAL DEVELOPMENT COSTS.\$			231,282.00	255,162.60	
TOTAL COST OF WELL.....\$			536,471.50	542,077.41	

\$5,605.91 OVER PROJECTED COST