OPEN FILE 84-5

ESTIMATED OIL AND GAS RESERVES FOR ADAMS COUNTY, COLORADO

Compiled by
A. H. Scanlon

Funded by the Colorado Oil and Gas Conservation Commission
and the Department of Local Affairs--
Division of Commerce and Development

Colorado Geological Survey
Department of Natural Resources
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Acknowledgments

I would like to thank the staff of the Colorado Oil & Gas Conservation Commission (C.O.G.C.C.) who provided considerable assistance during the course of this compilation, and the staff of the Colorado Geological Survey, who assisted in the manuscript preparation.

However, I assume full responsibility for any errors or omissions in these tabulations. Users of this OPEN-FILE REPORT could provide a significant service if they would inform the Colorado Geological Survey of any misinformation or omissions.

This project was completed by the staff of the Colorado Geological Survey as part of a grant from the C.O.G.C.C. and the Department of Local Affairs - Division of Commerce and Development.

A. H. Scanlon
Senior Geologist

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ESTIMATED OIL AND GAS RESERVES FOR ADAMS COUNTY, COLORADO

Introduction

This report is the third* in a series of oil and gas reserve investigations undertaken for those counties in which oil and/or gas is currently being produced.

This study involves Adams County, located in northeastern Colorado, just northeast of Denver, within the central portion of the Denver Basin. Adams county covers 1,232 square miles. In this county, oil and/or gas are produced from, in descending order of age, the Sussex Sandstone, Timpas limestone, Niobrara limestone, Codell sandstone, D sand and J sand.

There are 93 fields considered active producers as of December 31, 1982. Of these, 69 are classified as oil fields (based on cumulative gas-oil ratio (GOR) of <15:1), and 24 are classified as gas fields (based on cumulative GOR > 15:1).

Three of the 69 oil fields are currently undergoing secondary recovery by injected fluids. These projects are listed in Table I, which includes the amount of injected fluid for 1982 and the cumulative amount injected through 1982.

* Refer to:
OPEN-FILE REPORT 84-3: Estimated Oil and Gas Reserves for Washington County, Colorado; and
OPEN-FILE REPORT 84-4: Estimated Oil and Gas Reserves for Rio Blanco County, Colorado.

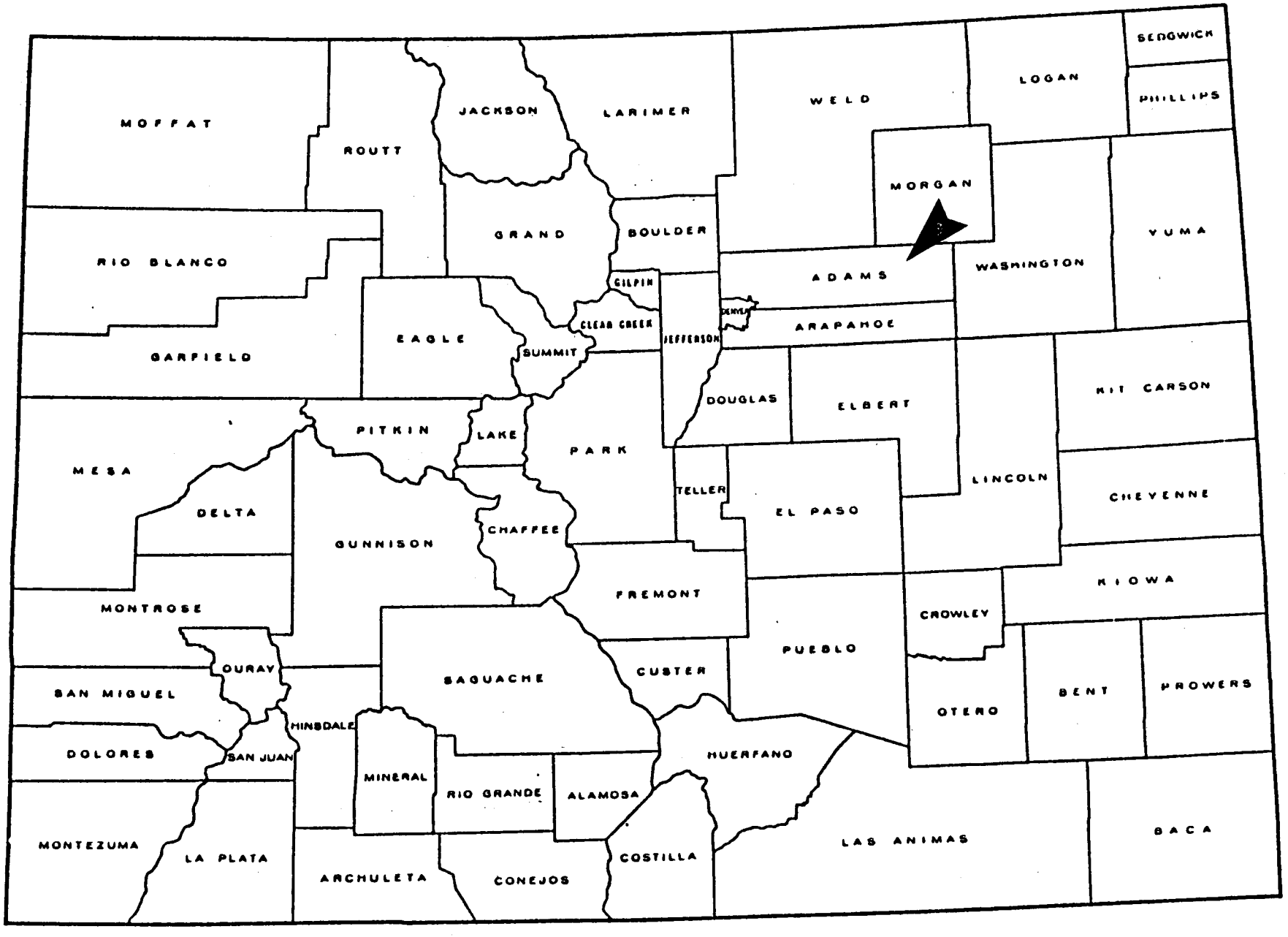

Figure 1. County Location Map

TABLE I

Summary of Secondary Recovery Projects
by Injected Fluids
for Adams County

Field Name/ Horizon	Operator	Initial Inj. Date	Injected Water (bbls) 1982	Cumulative through 1982
Badger Creek/ D Sand	ARCO	3-18-58	113,422	19,551,827
Middlemist/ J Sand	Rex Monahan	2-03-64	192,180	7,840,476
Moccasin/ J Sand	Phillips Pet.	12-1-67	310,210	4,536,221

Little Beaver no longer produces in Adams county but does produce in Washington County where a secondary recovery project is in progress.

Method of Approach

Production decline curves are plotted for each currently producing horizon within each field, hereafter referred to as a field-horizon. There are 130 production decline curves plotted, one for each field-horizon. Production data were obtained from the C.O.G.C.C. annual production books. These books contain records of yearly production data, dating back to 1952. All production decline curves are plotted as rate (annual production in barrels of oil or MCF of gas) versus time (in years). The rate scale was adjusted to accommodate each field-horizon.

Oil Reserve Calculations

There are 94 oil field-horizons. Production histories have allowed for decline rates to be calculated for 57 of these. The remaining 37 oil field-horizons have not produced for a long enough time (less than 4 years) to determine a reliable decline rate. For the previously mentioned 57 fields, decline rates were determined based on actual past production and recorded, see Table II. These decline rates were then applied to the equation:

$$Rr = \frac{q1 - qf}{-\ln (1-dy)}$$

where: Rr = remaining reserves
q1 = current annual production
qf = final economic production rate (see note below.)
-ln = negative natural log
dy = yearly decline rate (in percent)

The ultimate recoverable was then determined by adding the estimated reserves to the cumulative production. These values are listed in Table II.

Note: the final economic production rate used was one barrel of oil per day per well, for one year; therefore 365 barrels, multiplied by the number of wells needed to keep field production economic. In most cases this was one well. The number of wells used was determined at the discretion of the author.

For associated gas production, estimated reserves were calculated in the same manner as that described in the Gas Reserve Calculations section.

No adjustments were necessary for the three fields undergoing water injection. They have all had a substantial amount of time to level off since injection began, therefore not affecting the current decline rates calculated.

Gas Reserve Calculations

There are 36 gas field-horizons. Production histories have allowed for decline rates to be calculated for 20 of these. The remaining 16 field-horizons have not produced for a long enough time (less than 4 years) to determine a reliable decline rate. Decline rates were determined for the 20 previously mentioned gas field-horizons (see Table II) and applied to the equation:

$$S = \frac{a(1-r^n)}{1-r}$$

Where: S = gas reserves
a = current annual gas production
r = (1-dy) where dy = annual decline rate
n = number of years -- 20 years was used in all cases except where noted in the remarks column of Table II.

Results can be found in Table II.

For the associated oil production, where this production was significant, the same method to determine estimated oil reserves was used, as discussed in the previous section. Whether oil production was considered significant or not was determined by the author. In all cases, if oil production indicated any kind of trend, reserves were calculated. A few cases arose where oil production, though a trend was indicated, did not exceed the economic limit (as discussed previously) of one barrel of oil per day per year, and therefore no reserve estimate was calculated, or an economic limit of zero was used.

Results

The following figures are for those field-horizons for which reserves could be calculated. Estimated oil reserves for Adams County totaled 20,601,448 barrels. Estimated gas reserves for Adams County totaled 93,363,657 MCF. Note that the gas reserve calculations are based on a 20-year projection, therefore they do not account for gas production after the year 2002.

These figures also do not account for production increases due to secondary and/or tertiary recovery not already in progress, or account for undiscovered reserves, nor do they reflect changes in economics or demand.

In seven to eight years, roughly half of the estimated oil reserves in Adams County will have been produced. Roughly one half of the estimated gas reserves for the next 20-year period are expected to be produced in five to six years.

In this county there are two classes of field-horizons: I) those with a long enough production history to calculate reserves with confidence, and II) those new field-horizons with essentially no production history, or for other reasons, reserves cannot be calculated.

To be able to calculate total county oil and gas reserves, it was necessary to apply the overall decline rates (7.88 percent per year for oil and 12.1 percent per year for gas) obtained from class I field-horizons to the current production from Class II field-horizons.

Using this approach on current production from Class II field-horizons (1,569,555 Bbls. of oil and 6,994,109 MCF of gas) additional reserves of 18,678,000 Bbls. of oil and 53,420,027 MCF of gas were obtained. This gives total county reserves (Class I and II) of 39,279,448 Bbls. of oil and 146,783,684 MCF of gas.

To insure that the reserve figures calculated for Class II are reasonable using this method, a comparison was made between the sources (producing horizons) of the Class I and Class II field-horizons. It was determined that there were no significant differences in the sources of production for the two groups. Therefore, it is concluded that the overall decline rates can be applied with confidence.

LIST OF ABBREVIATIONS USED IN TABLE OF RESERVE DATA

'a'	annual gas production
ABD.	abandoned
Approx.	approximate, approximately
Avg.	average, averaged
Bbls.	barrels
B.W.E.	Bottom Water Encrochment
calc.	calculate, calculated
Co.(s)	county (counties)
cond.	condensate
ck.	Creek
Cum.	cumulative
Dak.	Dakota Sandstone
Deplet.	Depletion
dy	annual decline rate
Econ.	Economic
Est.	Estimated
Exp.	Expansion
g	gas
Gas Exp.	Gas Expansion
G.C.E.	Gas Cap Expansion
G.E.	Gas Expansion
GOR	Gas-Oil Ratio
Inc.	Increase, increasing, increased
Inj.	Injection, injected
Lmtd.	Limited
MCF	Thousand cubic feet
Miss.	Mississippian
Mos.	Months
Mtn.	Mountain
N	North
N.P.	New Production or less than five years production, therefore, no reliable annual decline rate could be calculated to apply to the equations to calculate reserves.
No.	number, numbers, North
o	oil
P and A	Plug (ged) and Abandon (ed)
Poss.	Possible
Prod.	Production, produced
Proj.	Projection, projected
q	current annual production of oil
qf	final economic production of oil
react.	reactivated
Rr	Remaining reserves-oil
S	Remaining reserves-gas
S.G.D.	Solution Gas Drive
S.I.(SI)	Shut-in
So	South
W	West
W.D.	Water Drive
Yr or Yrs	Year or years

TABLE II
OPEN-FILE REPORT 84-5
RESERVE DATA FOR ADAMS COUNTY

FIELD NAME/ PROD. HORIZON	GENERAL LOCATION	DATE OF DISCOVER	TYPE OF DRIVE	dy (in %)	CUMULATIVE PRODUCTION 12/31/82 OIL(bbls) ()Condensate (Bbls.)	CUMULATIVE PRODUCTION 12/31/82 GAS(MCF)	ESTIMATED RESERVES OIL(bbls)	ESTIMATED RESERVES GAS(MCF)	ULTIMATE RECOVERABLE OIL(bbls) ()Condensate (Bbls.)	ULTIMATE RECOVERABLE GAS(MCF)	REMARKS * *See Last Page of TABLE II for Definition of ϕ Code
1.Ambush/J	2S-65W	1973	Combination G.C.E. & S.G.D.	7.5-o 6.6-g	262,469 (24,816)	3,636,532	101,437	1,589,744	363,906 (24,816)	5,226,276	
2.Apollo/J	2S-57W	1964			21,471	1,114					P&A 3/65, React.'80-'82 N. P. Also Prod. in Washington County
3.Arroyo/J	3S-58W	1980	Gas Exp.		724,874	575,389					N. P.
4.Badger Ck/D	2S-57W	1953	Water Inj.	6.0-o 5.8-g	4,925,538	1,974,398	58,084	12,888	4,983,622	1,987,286	Inj. Began 3/58
5.Badger Ck/J	2S-57W	1953	S. G. D.	6.6-o 3.9-g	1,438,243	587,835	360,097	37,790	1,798,340	625,625	Econ. Limit-2 wells
6.BadgerCk.W./J	2S-57W	1953		7.5-o 15.5-g	537,112	260,196	35,171	1,495	572,283	261,691	
7.Banner/J	2S-66W	1974		4.3-g	(1,204)	42,843		20,788	(1,204)	63,631	Estimated '83-'91 Prod.
8.BannerLakes/D	1S-64W	1981	S. G. D.		101,873	302,757					Also Prod. in Weld Co. N. P.
9.Baseline/D	1S-64W	1980	S. G. D.		622,453	2,479,118					Also Prod. in Weld Co. N. P.
10.Baseline/J	1S-64W	1982	S. G. D.		412	29,136					8 Mo. Prod. N.P.
11.Beacon/D	1S-57W	1955	S. G. D.	6.7-o 4.0-g	1,262,090	4,254,829	120,389	512,400	1,382,479	4,767,229	
12.Beacon/D&J	1S-57W	1980			1,450						N. P.
13.Bear Gulch/D	2S-64W	1974		16.0-o 25.0-g	55,697	175,936	151,636	686,420	207,333	862,356	
14.Bear Gulch/J	2S-64W	1974		6.0-o 8.0-g	181,434 (1,607)	2,213,102	98,837	446,365	280,271	2,659,467	Estimated 4 Yrs. Production
15.Bennet'A'/D	3S-64W	1970		15.7-o 15.5-g	240,861 (1,665)	1,731,176	3,858	183,599	244,719 (1,665)	1,914,775	
16.Bennet'A'/J	3S-64W	1970			989 (5,655)	213,090					Prod. '71,'81,'82 N. P.
17.Beryl/D	2S-57W	1960		8.5-o	152,892	85,848	11,933		164,825	85,848	Gas SI Since 1977
18.Big Bend/D	3S-61W	1975		8.5-o 9.2-g	50,861	204,901	45,570	10,237	96,431	215,138	
19.Bootjack/J	2S-58W	1973			8,807	3,620					Prod.'73-'76 P&A '76, Prod.'80,'82 N. P.
20.Box Elder Creek/J	3S-65W	1974		9.0-o 11.9-g	2,243 (12,310)	227,359	2,194	462,014	4,437 (12,310)	689,373	Estimated '83, '84 Prod.
21.Britannia/J	3S-61W	1980			4,353 (170)	29,716					N. P.
22.Bromley/D	1S-63W	1980			20,557	2,144					N. P.
23.Bromley/D&J	1S-63W	1982			645						N. P.
24.Buckhorn/J	3S-64W	1980			(195)	15,961					N. P.
25.Buckskin/J	2S-60W	1960		12.0-g	19,010 (6,376)	3,197,825		975,790	19,010 (6,376)	4,173,615	

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26.Bugle/D	2S-66W	1974	Gas Drive	9.0-o 5.0-g	366,938	993,291	107,040	416,109	473,978	1,409,400	
27.Busy Bee/D	3S-60W	1955	S. G. D.	3.0-o 8.2-g	301,942	415,843	126,136	1,469	428,078	417,312	
28.Cabin Ck./D	3S-59W	1955			2,065	21,590					N. P.
29.Cannon/J	3S-61W	1976		8.5-o	16,113	3,400	21,333		37,446	3,400	
30.Chieftan/J	2S-63W	1973	Depletion(G.E.)	8.1-o 12.5-g	125,597 (90,155)	6,697,723	276,047	3,212,362	401,644 (90,155)	9,910,085	
31.Chieftan/D&J	2S-63W	1979			2,099	48,173					'79-'82 Prod., N.P.
32.Cougar/D&J	1S-62&63W	1982			1,250						N. P.
33.Cougar/J	1S-62&63W	1970		8.2-g	108 (5,353)	778,153		702,767	108 (5,353)	1,480,920	
34.Dance/J	1S-60W	1969		7.5-o 5.7-g	49,709	438,026	14,097	79,406	63,806	517,432	
35.Dance So./D	2S-60W	1977			21,338	846,132					'77-'82 Prod., N. P.
36.DeerTrail/J	2S-60W	1960	Depletion		289,766 (19,241)	8,863,014					P&A 1/79, React. 5/82
37.Doherty/J	2S-65W	1957		9.0-g	36,607 (41,310)	2,659,939		271,389	36,607 (41,310)	2,931,328	
38.Double Eagle/D	2S-63W	1973		8.3-o 9.8-g	88,921	143,175	64,249	91,709	153,170	234,884	
39.Egret/D	1S-61W	1982			554 (2,229)	42,672					Only '82 Prod. N. P.
40.Fence Post/D	1S-64W	1980	S. G. D.		81,272	233,155					N. P.
41.Fence Post/D&J	1S-64W	1982			1,101	5,707					N. P.
41a.FireCreek/J	1S-63W	1982			1,799	38,828					N. P.
42.First Ck./ Sussex	2S-67W	1972		13.0-o 18.0-g	35,268	18,166	18,447	28,910	53,715	47,076	
43.Full House/D	1S-63W	1981			1,854	1,545					N. P.
44.Gambler/D	1S-63W	1981			(3,326)	26,603					N. P.
45.Gambrel/J	3S-63W	1981			(298)	25,405					Also Prod. in Arapahoe County Prod. began 11/82 N. P.
46.Guidon/D	3S-63W	1982			1,009	4,886					N. P.
47.Guidon/J	3S-63W	1974		23.5-g	181 (7,550)	878,642		602,238	181 (7,550)	1,480,880	
48.Hawkeye/D	2S-63W	1981			509	40,389					N. P.
49.Hawkeye/J	2S-63W	1971	Depletion(G.E.)	20.0-o 28.0-g	76,039 (14,810)	1,488,378	114,781	3,289,418	190,820 (14,810)	4,777,796	Econ. Limit-3 wells
50.Hoffman Ck/D	1S-58W	1982			6,662						N. P.
51.Holster/D	2S-66W	1972	Gas Drive	6.5-o 7.0-g	131,223	334,097	162,751	588,087	293,974	922,184	Estimated prod. for '83-'85
52.Holster/D&J	2S-66W	1972	Gas Drive	13.5-o 3.2-g	298,225	2,207,709	38,869	1,269,761	337,094	3,479,470	

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53.Holster/J	2S-66W	1972	Gas Drive		5,539	277,227		119,839	5,539	397,066	
				22.0-g	(1,167)				(1,167)		
54.Hombre/J	4S-61W	1970	W. D.	13.0-o	944,732	2,472,888	47,680	115,010	992,412	2,587,898	Also Prod. in Arapahoe County
				17.0-g	(8,509)				(8,509)		
55.Homestead/D	1S-59W	1972		6.2-o	46,441	69,324	46,871	11,297	93,319	80,621	
				6.7-g							
56.Intrepid/J	3S-61W	1981			15,614	1,066					N. P.
57.Irondale/D	2S-61W	1972	S. G. D.	9.5-o	1,225,893	4,697,202	322,640	2,316,907	1,558,533	7,014,109	
				6.3-g							
58.Irondale/J	2S-61W	1972	S. G. D.	9.1-o	166,757	906,737	87,915	314,025	254,672	1,220,762	
				16.5-g	(4,307)				(4,307)		
59.Irondale/D&J	2S-61W	1972	S. G. D.	5.3-o	49,381	528,796	10,596	58,121	59,977	586,917	
				12.0-g							
60.Jamboree/D	1S-64W	1970	S. G. D.	15.5-o	251,555	1,265,104	358,511	2,091,875	610,066	3,356,979	Used 40%dy for oil for '83,'84;then 15.5 for '85 & later;Econ.Lim.4 wells
				17.7-g	(1,267)				(1,267)		
61.Jamboree/D&J	1S-64W	1970		12.7-o	69,315	605,226	41,467	744,745	110,782	1,349,971	
				12.6-g	(2,220)				(2,220)		
62.Jamboree/J	1S-64W	1970	Pressure Deplet.	17.9-o	226,848	7,537,274	156,014	3,679,495	382,862	11,216,769	Econ. Limit-4 wells
				19.4-g	(50,750)				(50,750)		
63.Katie/J	2S-63W	1979			9,256	41,321					N. P.
64.Keystone/D	2S-57W	1968		6.0-o	10,604		1,907		12,511		
65.Kettle/D	1S-62W	1982			1,076						N. P.
65a.Kitty/D	3S-62W	1972			2,136	8,052					N. P.
66.Kitty/D&J	3S-62W	1972			7,568						N. P.
67.Krauthead/D	1S-64W	1980	S. G. D.		493,817	2,439,733					Also Prod. in Weld Co.
											N. P.
68.Lido/J	1S-60W	1973				447,897		268,395		716,292	
				9.5-g	(3,223)				(3,223)		
69.Lonetree/J2	3&4S-59W	1974	W. D. in Channel	4.0-o	1,770,666	2,465,685	1,994,366	1,109,407	3,765,032	3,575,092	Also Prod. in Arapahoe County
			S. G. D. in Splay	9.6-g							
70.Longbranch/D	2S-62W	1972		12.7-o	174,235	869,920	7,333	406,756	181,568	1,276,676	
				16.8-g	(5,071)				(5,071)		
71.Longbranch/J	2S-62W	1972	Gas Expansion		51,947	19,108,787		2,940,530	51,947	22,049,317	Cond. has 21% dy Rr=18,920 Bbls.
				8.0-g	(350,051)				(350,051)		
72.Manila/D	3S-64W	1981			1,297	65,631					N. P.
73.Manila/J	3S-64W	1972			5,489	55,331					SI-'76-'80 N. P.
74.Maria/D	2S-64W	1973		14.6-o	46,834	289,008	40,171	447,964	87,005	736,972	
				16.0-g							
75.Middlemist/J	2S-57W	1952	S. G. D.	8.7-o	2,152,383	1,249,872	31,158		2,183,541	1,249,872	Inj. Began 2/64; Gas SI Since 1972
76.Moccasin/J	1&2S-57W	1964	Fluid Exp.	5.8-o	1,082,935	1,055,165	213,908	370,517	1,296,843	1,425,682	Inj. Began 12/67
				6.8-g	(3,746)				(3,746)		
77.MountainView East/D	1S-57W	1980			8,581	8,026					N. P.

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78.Muddy Ck/D&J	1S-59W	1955	S. G. D. (D-Sand)	18.0-o 38.0-g	51,732	228,296	8,309	4,476	60,041	232,772	
79.Musket/J	3S-57W	1972		13.2-o	51,988		12,842		64,830		
80.Nile/D	1S-60W	1969		5.0-o 8.3-g	2,473,442	3,470,350	1,379,050	195,197	3,852,492	3,665,547	
81.Nile/J	1S-60W	1969			216	44,063					SI Indefinitely since 1974
82.Niobus/D	3S-63W	1980			6,987	10,629					N. P.
83.Noonen Ranch/J /J	3S-59W	1951	W. D.	8.0-o 11.0-g	374,645	281,796	174,895	62,053	549,540	343,849	Econ. Limit-2 wells
84.Noonen Ranch South/J	3S-59W	1982			28,721	29,682					N. P.
85.Pheasant/J	3S-62W	1980		16.8-g	3,071	140,651		168,856	3,071	309,507	
86.PoisonSpg./D	3S-58W	1959		5.3-o 5.0-g	197,192	56,289	133,796	2,463	330,988	58,752	
87.Poncho/J	3&4S-59W	1971	Fluid Exp. & S. G. D.	8.5-o 13.2-g	732,699	1,140,011	634,068	120,506	1,366,767	1,260,517	Inj. Began 4/81; Also Prod. in Arapahoe Co.
88.Pony/J	3S-59W	1973		6.0-o 7.0-g	17,389	33,086	7,493	28,818	24,882	61,904	Estimated '83,'84 Prod.
89.Porter/J	2S-63W	1980			2,779 (9,141)	1,109,338					N. P.
90.Pronto/D	1S-61W	1975		3.4-o	62,558 (320)	64,639	186,607		249,165 (320)	64,639	
91.Quail/J	2S-63W	1979	W. D., S. G. D.	8.0-o 20.0-g	184,762 (82,305)	5,733,729	192,003	4,426,273	376,765 (82,305)	10,160,002	Dy for oil-20% from '83-'87,used 8.0% from '87 on; Econ. Limit 3 wells
92.Quarry/J	3S-61W	1979		6.0-o 8.0-g	15,804 (4,852)	573,199	10,828	184,572	26,632 (4,852)	757,771	
93.Radar/D	2S-64W	1976	S. G. D.		287,942 (11,145)	1,031,792					N. P.
94.Radar/J	2S-64W	1976	S. G. D.		255,885 (38,815)	1,426,650					N. P.
95.Radar/D&J	2S-64W	1976	S. G. D.	25.0-o 11.0-g	253,418	1,098,113	528,483	2,950,298	781,901	4,048,411	Used 25% dy Gas'82-'88 11% '88 and beyond
96.Rimrock/J	2S-60W	1969		22.5-g	(11,534)	1,427,783		421,754	(11,534)	1,849,537	
97.Rosan Nose/J	3S-58W	1967	G. G. D., Fluid Exp. & possible B. W. E.	4.0-o 4.4-g	456,932	159,139	513,988	89,528	970,920	248,667	Also Prod. in Arapahoe County
98.Rosener/D	1S-59W	1954	S. G. D.	5.8-o	303,774	532,689	4,870		308,644	532,689	
99.Second Ck /J&D&J	3S-65W	1956		6.0-o	95,733	101,898	38,384		134,117	101,898	Gas Prod. Very Erratic

TABLE II
OPEN-FILE REPORT 84-5
RESERVE DATA FOR ADAMS COUNTY

FIELD NAME/ PROD. HORIZON	GENERAL LOCATION	DATE OF DISCOVERY	TYPE OF DRIVE	dy (in %)	CUMULATIVE PRODUCTION 12/31/82 OIL(bbls) ()Condensate (Bbls.)	CUMULATIVE PRODUCTION 12/31/82 GAS(MCF)	ESTIMATED RESERVES OIL(bbls)	ESTIMATED RESERVES GAS(MCF)	ULTIMATE RECOVERABLE OIL(bbls) ()Condensate (Bbls.)	ULTIMATE RECOVERABLE GAS(MCF)	REMARKS * *See Last Page of TABLE II for Definition of # Code
100.Sonar/D	3S-64W	1981			12,939	129,054					N. P.
101.Sonar/D&J	3S-64W	1981			11,012	78,779					N. P.
102.Sonar/J	3S-64W	1982			38,374	153,742					N. P.
103.Spindle/ Dakota	2N-67W	1972			494	6,485					Adams Co. Prod.'79,'81, '82 only, N. P. See Weld & Boulder Cos.
104.Spindle/ Sussex	2N-67W	1972		4.7-o 6.0-g	392,544	699,525	8,002,513	8,276,474	8,395,057	8,975,999	Econ. limit-20 wells
105.Spindle/ Niob-Sussex-Timpas/Coddel	2N-67W	1972			160,123	287,306					Prod. in '76,'82-in Adams County N. P.
106.Strasburg/D	3S-62W	1976		6.0-o 18.5-g	78,651	359,615	72,468	106,721	151,119	466,336	
107.Sun/D	2S-61W	1969		10.4-o 15.7-g	320,720 (14,545)	1,564,193	323,508	1,501,309	644,228 (14,545)	3,065,502	Estimated '83-'85 - Gas; '83-'84 - Oil
108.Sun/D&J	2S-61W	1980			(4,533)	355,142					N. P.
109.Sun/J	2S-61W	1978			371 (37,530)	721,640					N. P.
110.Third Ck./J	2S-65&66W	1971		5.0-o 8.0-g	3,764,477 (38,606)	25,045,876	1,646,005	11,373,597	5,410,482 (38,606)	36,419,473	Econ. Limit-8 wells
111.Totem/D	2S-62W	1971		25.0-g	57,020	149,807		10,909	57,020	160,716	No Oil or Gas Prod. Reported in 1982
112.Totem/J	2S-62W	1971	W. D./Gas Exp.	9.0-o 12.0-g	19,040 (175,445)	7,907,702	64,086	810,984	83,126 (175,445)	8,718,686	
113.Totem/D&J	2S-62W	1971		18.0-g	(1,841)	75,297		106,764	(1,841)	182,061	
114.Trapper/D	1&2S-64&6W	1971	S. G. D.	13.7-o 12.0-g	1,028,869 (5,852)	4,951,632	166,947	1,791,827	1.195,816 (5,852)	6,743,459	
115.Trapper/J	1&2S-64&6W	1971		15.5-o 10.0-g	150,687 (23,517)	1.961,436	128,008	3,202,588	278,695 (23,517)	5,163,969	Econ. Limit-3 wells
116.Trigger/D	2S-61W	1971		6.1-o 12.0-g	271,554	692,516	165,825	362,264	437,379	1,054,780	
117.Trigger/J	2S-61W	1971		7.3-o 6.7-g	24,170	73,674	15,079	64,325	39,249	137,999	
118.Unicorn/D		1982			449	2,368					N. P.
119.Warlock/D	2S-62W	1,973		10.5-o 4.7-g	(461)	17,227					Prod. Began 3/82 N. P.
120.Warlock/J	2S-62W	1973		10.5-o 4.7-g	135,615 (17,219)	1,583,804	45,776	2,081,480	181,391 (17,219)	3,665,284	
121.Watkins/J	3S-64W	1981			546	6869					N. P.
122.Wattenberg/ Codell	1N-67W	1970		15.0-o	22,732		16,041		38,773		
123.Wattenberg/D	1N-67W	1970		6.3-o	5,380	470	4,564		9,944	470	Also Prod. in Weld & Boulder Cos.

TABLE II
OPEN-FILE REPORT 84-5
RESERVE DATA FOR ADAMS COUNTY

FIELD NAME/ PROD. HORIZON	GENERAL LOCATION	DATE OF DISCOVERY	TYPE OF DRIVE	dy (in Z)	CUMULATIVE PRODUCTION 12/31/82 OIL(bbls) ()Condensate (Bbls.)	CUMULATIVE PRODUCTION 12/31/82 GAS(MCF)	ESTIMATED RESERVES OIL(bbls)	ESTIMATED RESERVES GAS(MCF)	ULTIMATE RECOVERABLE OIL(bbls) ()Condensate (Bbls.)	ULTIMATE RECOVERABLE GAS(MCF)	REMARKS * *See Last Page of TABLE II for Definition of # Code
124.Wattenberg/ D+(D&J)	1N-67W	1970		25.0-g	10,750 (4,248)	129,021	570	11,479	11,320 (4,248)	140,500	Prior to'82,Production was from D&J Sands,co-aingled.Reserves are on D&J Production
125.Wattenberg/J	1N-67W	1970		12.8-o 10.7-g	9,148 (989,768)	44,419,640	402,429	24,501,943	411,577 (989,768)	68,921,583	Used 1981 Production for ql rather than 1982 production which was unusually low
126.Wigwam/D	1N-62W	1974			3,317	1,545					Prod.'74,'80-'82 N. P., Also Prod. in Weld Co.
127.WindyHill/J	3S-57W	1954		4.2-o	461,423	124,453	56,960		518,383	124,453	
128.WoodrowWest/D	1S-57W	1953		6.4-o 13.3-g	361,493	287,050	371,561	18,161	733,058	305,211	
129.Zenith/D	3S-62W	1979	S. G. D.		419,516 (190)	1,951,820					N. P.
130.Zenith/J	3S-62W	1979	S. G. D.		110,523 (9,559)	808,871					N. P.
COUNTY TOTAL OF ESTIMATED RESERVES						20,601,448 93,363,657	Bbls. MCF				

Reference List

Colorado Oil and Gas Conservation Commission Production Records and Injected Fluids - Water and/or Gas-File.

Crouch, M.C., III, editor, 1982 Oil and Gas Fields of Colorado, Nebraska and Adjacent Areas: Rocky Mountain Association of Geologists, vols. I and II, 791 pp.

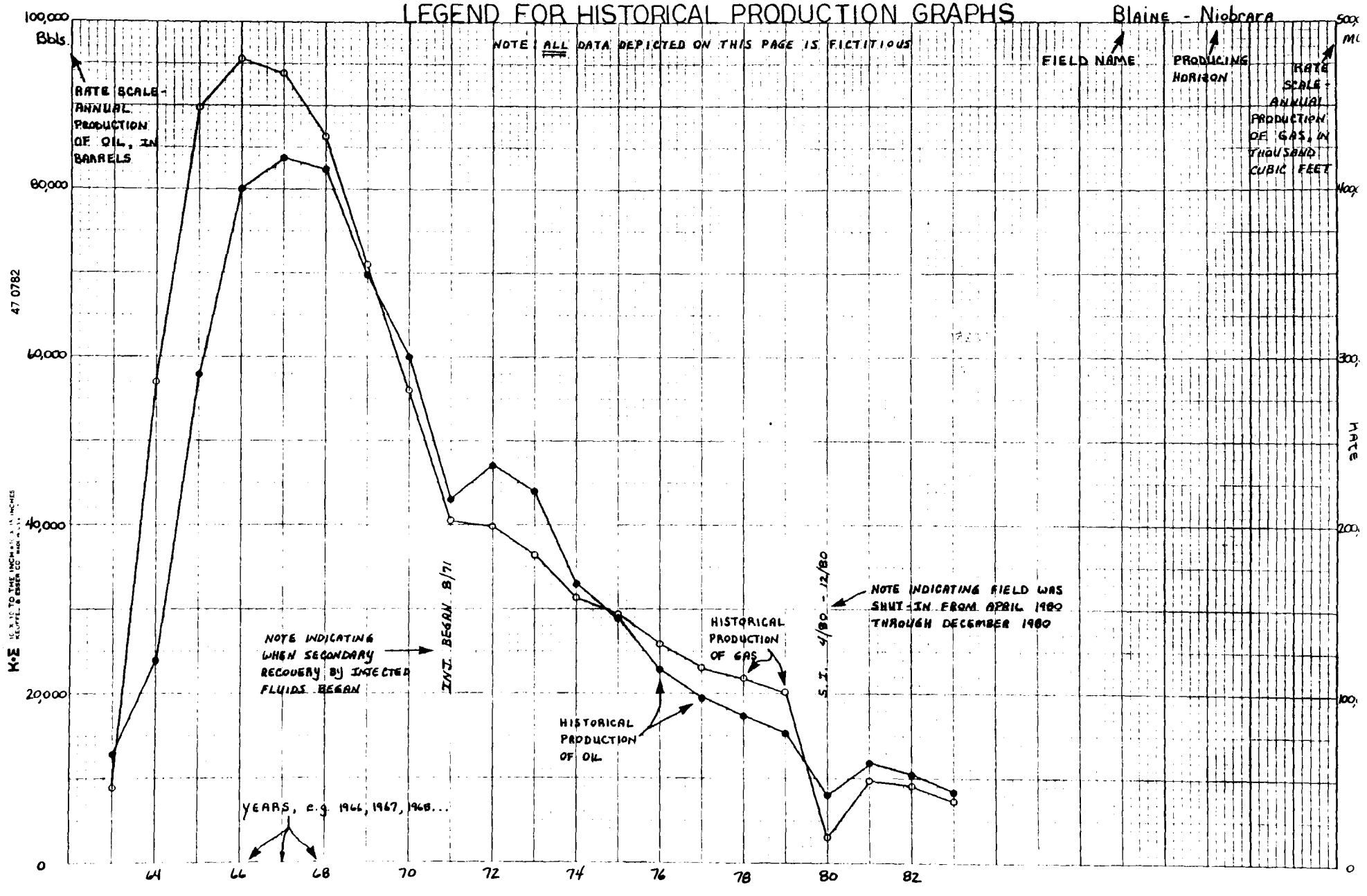
Haun, J.D., Cardwell, A.L., Herrod, W.H. and Cronoble, J.M., 1976. Oil and Gas Reserves of Colorado in Colorado School of Mines Research Institute, Mineral Industries Bulletin, v. 19, #5.

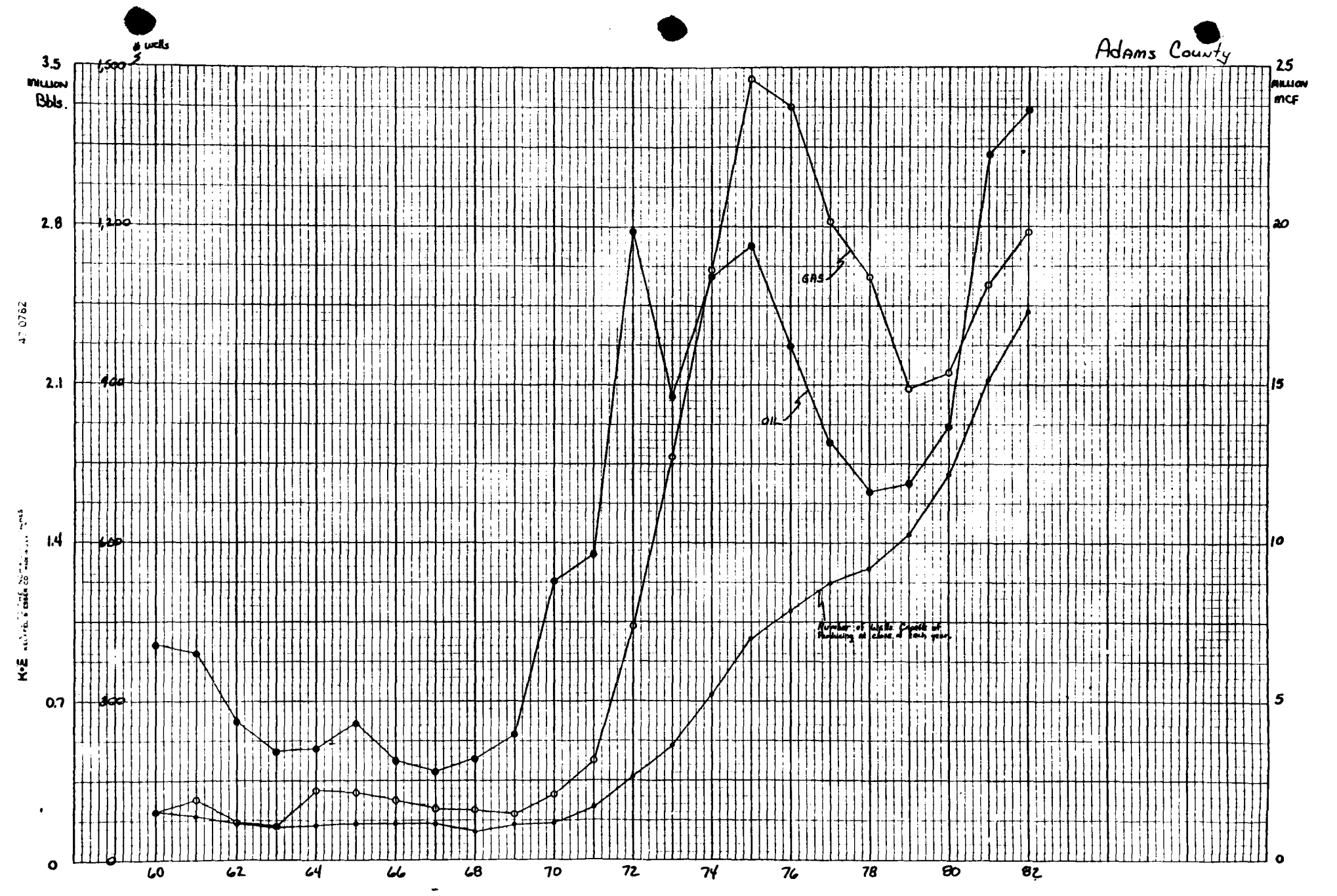
Parker, J.M., editor, 1961 Oil and Gas Field volume: Colorado-Nebraska: Rocky Mountain Association of Geologists, 389 pp.

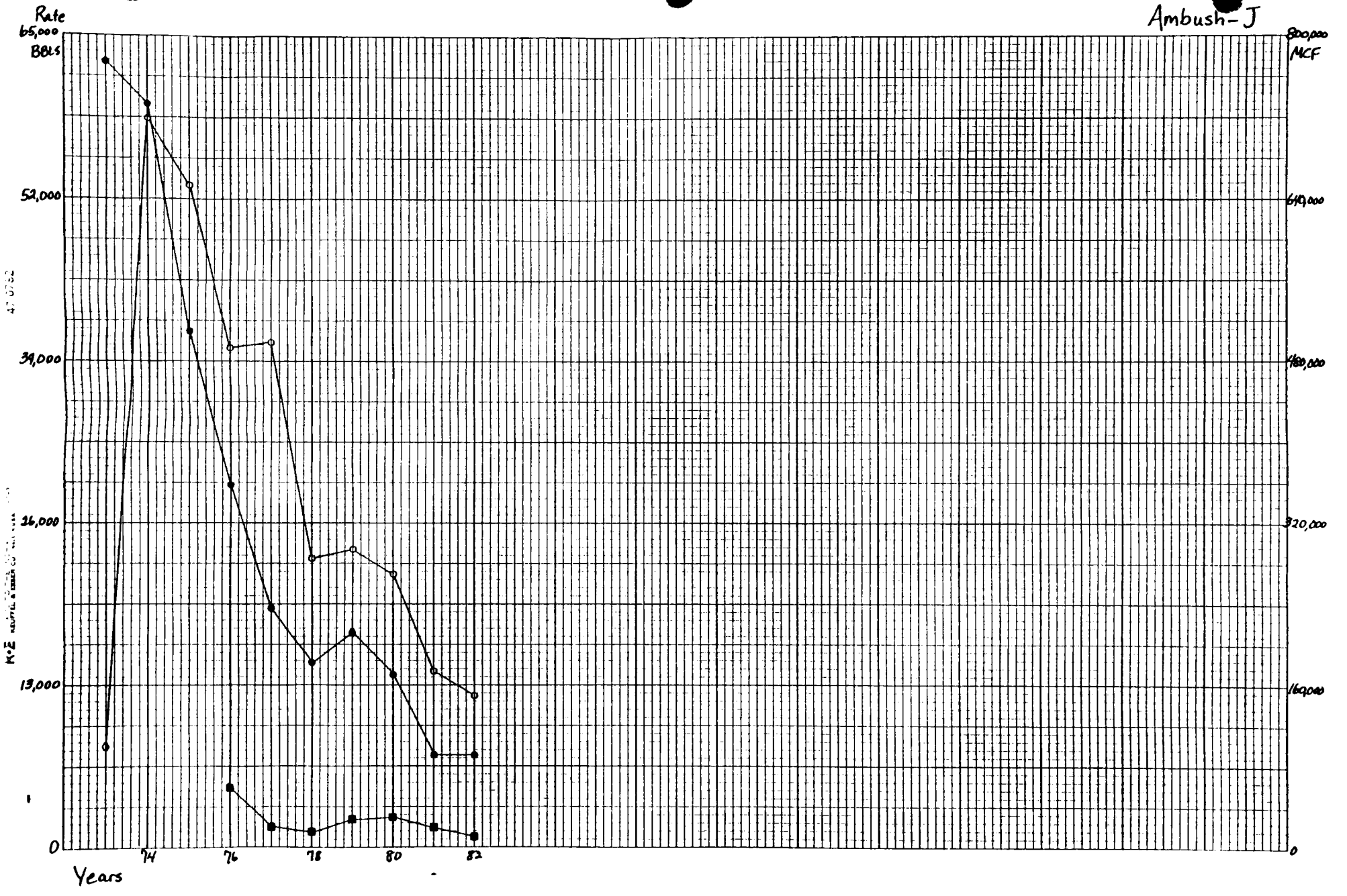
Appendix I

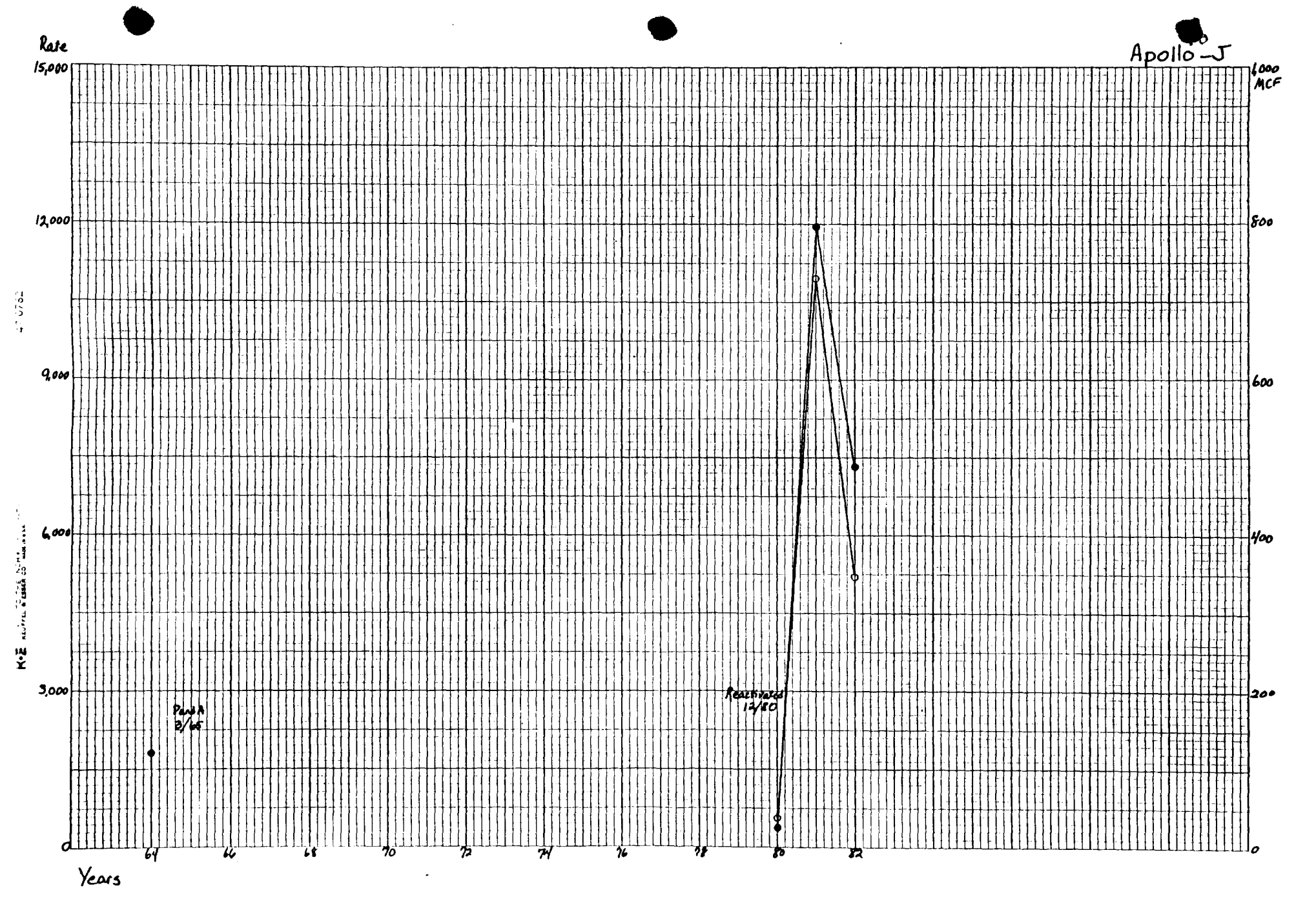
Historical production decline curve graphs for Adams County. These graphs are presented in alphabetical order by Field name and then by producing horizons within each field.

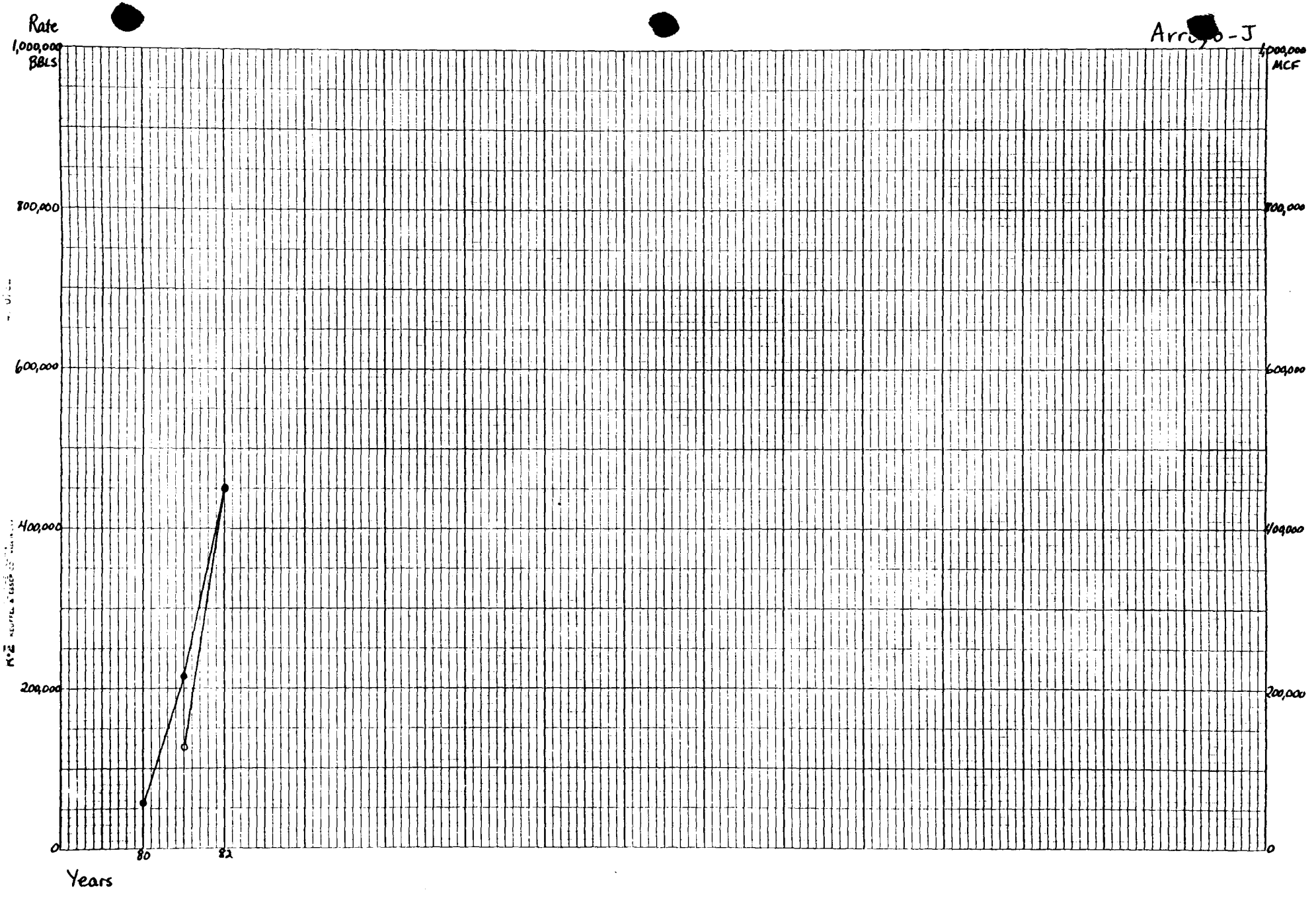
Note that only those fields actively producing as of 12-31-82 are included. Abandoned fields or field-horizons are not included.

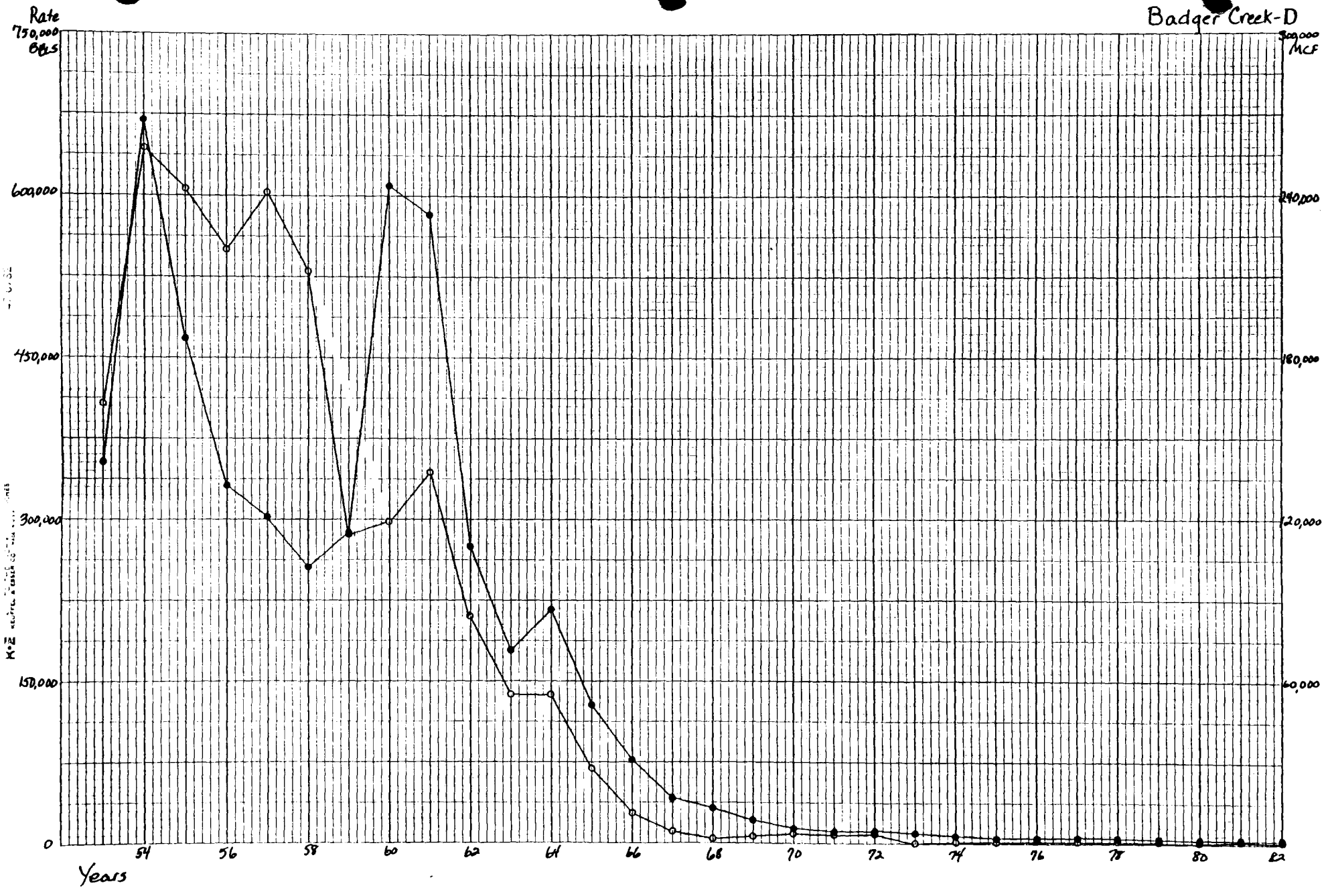

LEGEND FOR HISTORICAL PRODUCTION GRAPHS
Blaine - Niobrara
NOTE: ALL DATA DEPICTED ON THIS PAGE IS FICTITIOUS
FIELD NAME
PRODUCING HORIZON
RATE SCALE - ANNUAL PRODUCTION OF OIL, IN BARRELS
RATE SCALE - ANNUAL PRODUCTION OF GAS, IN THOUSAND CUBIC FEET
100,000 Bbls.
80,000
60,000
40,000
20,000
0
500 MC
400
300
200
100
0
RATE
47 0782
K&E
NOTE INDICATING WHEN SECONDARY RECOVERY BY INJECTED FLUIDS BEGAN
INJ. BEGAN 8/71
HISTORICAL PRODUCTION OF GAS
S.I. 4/80 - 12/80
NOTE INDICATING FIELD WAS SHUT-IN FROM APRIL 1980 THROUGH DECEMBER 1980
HISTORICAL PRODUCTION OF OIL
YEARS, e.g. 1966, 1967, 1968...
64
66
68
70
72
74
76
78
80
82

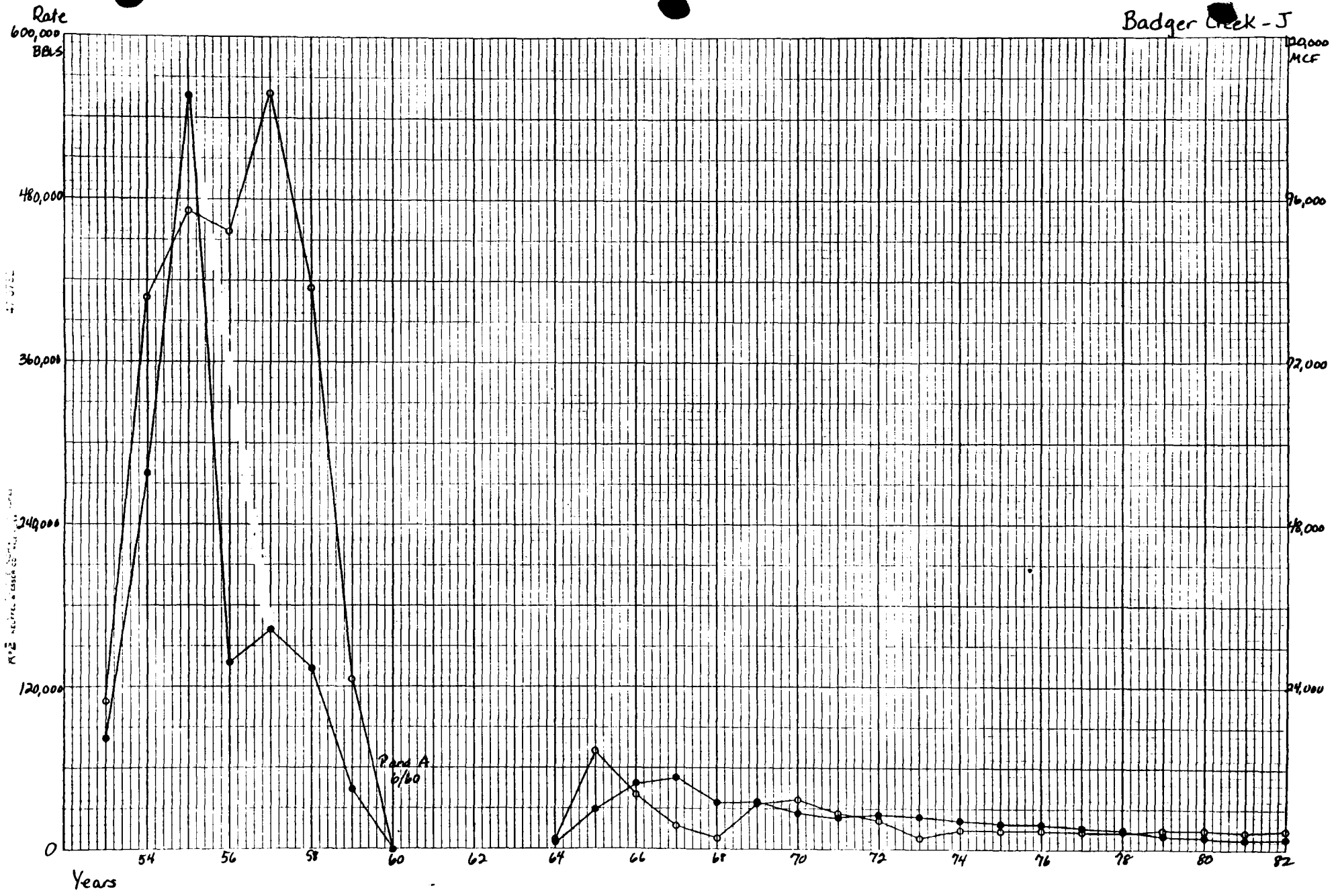

wells
Adams County
3.5
MILLION
Bbls.
2.8
2.1
1.4
0.7
0
1,500
1,200
900
600
300
0
25
MILLION
MCF
20
15
10
5
0
GAS
OIL
60
62
64
66
68
70
72
74
76
78
80
82

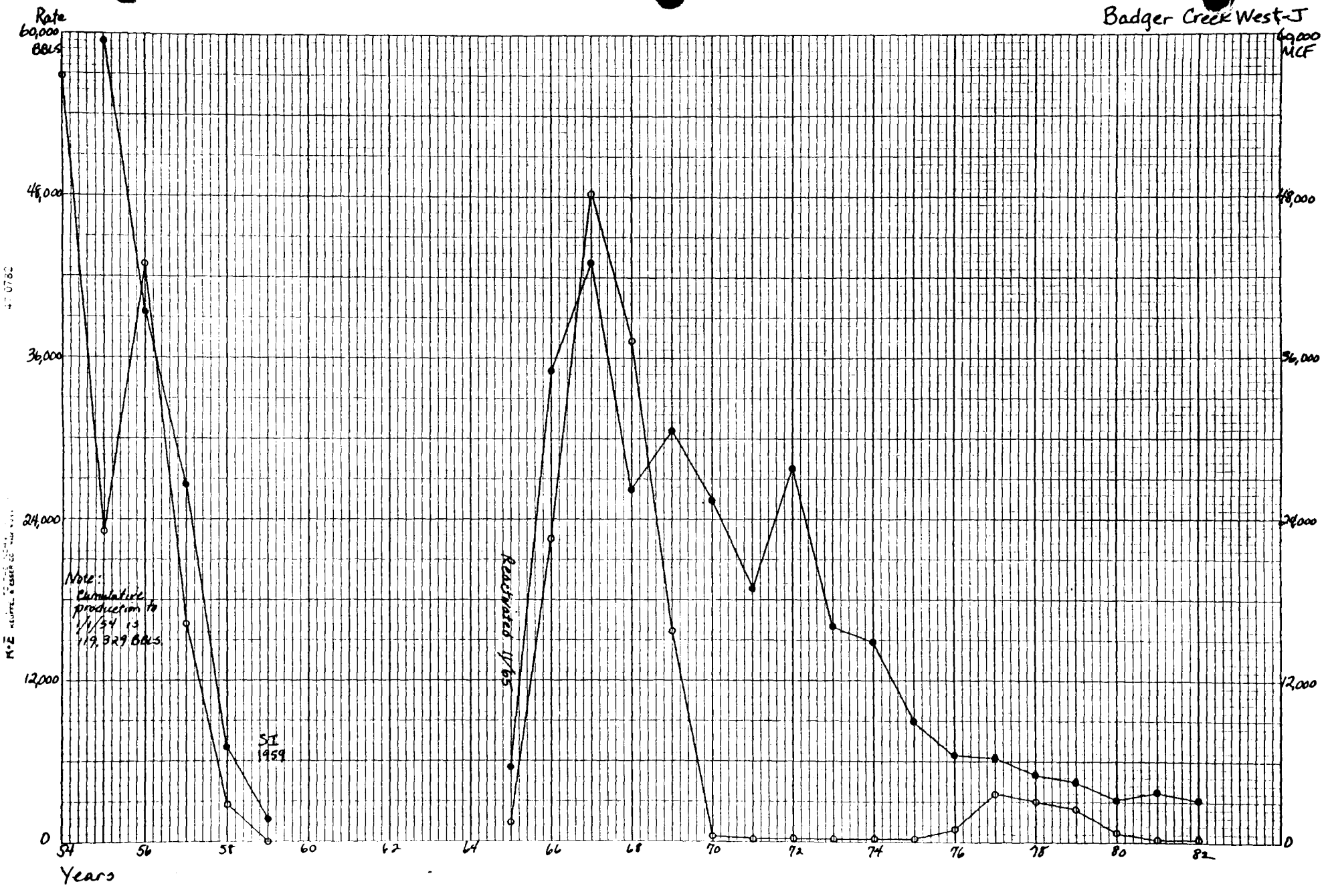

Rate
65,000
BBLS
52,000
39,000
26,000
13,000
0
74
76
78
80
82
Years
Ambush-J
800,000
MCF
640,000
480,000
320,000
160,000
0

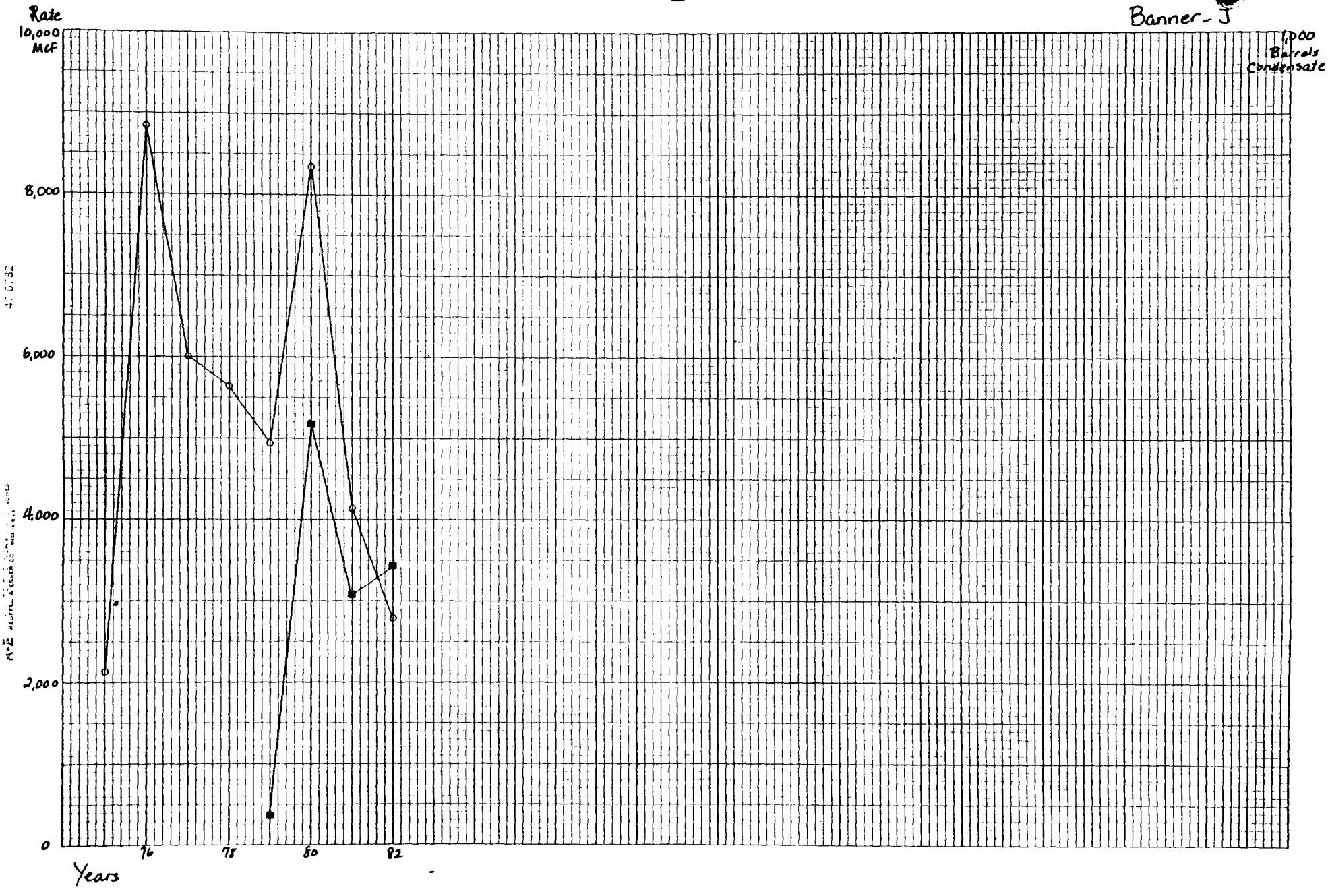

Rate
Apollo-J
15,000
12,000
9,000
6,000
3,000
0
4,000 MCF
800
600
400
200
0
Pan A 3/65
Reactivated 12/80
64
66
68
70
72
74
76
78
80
82
Years

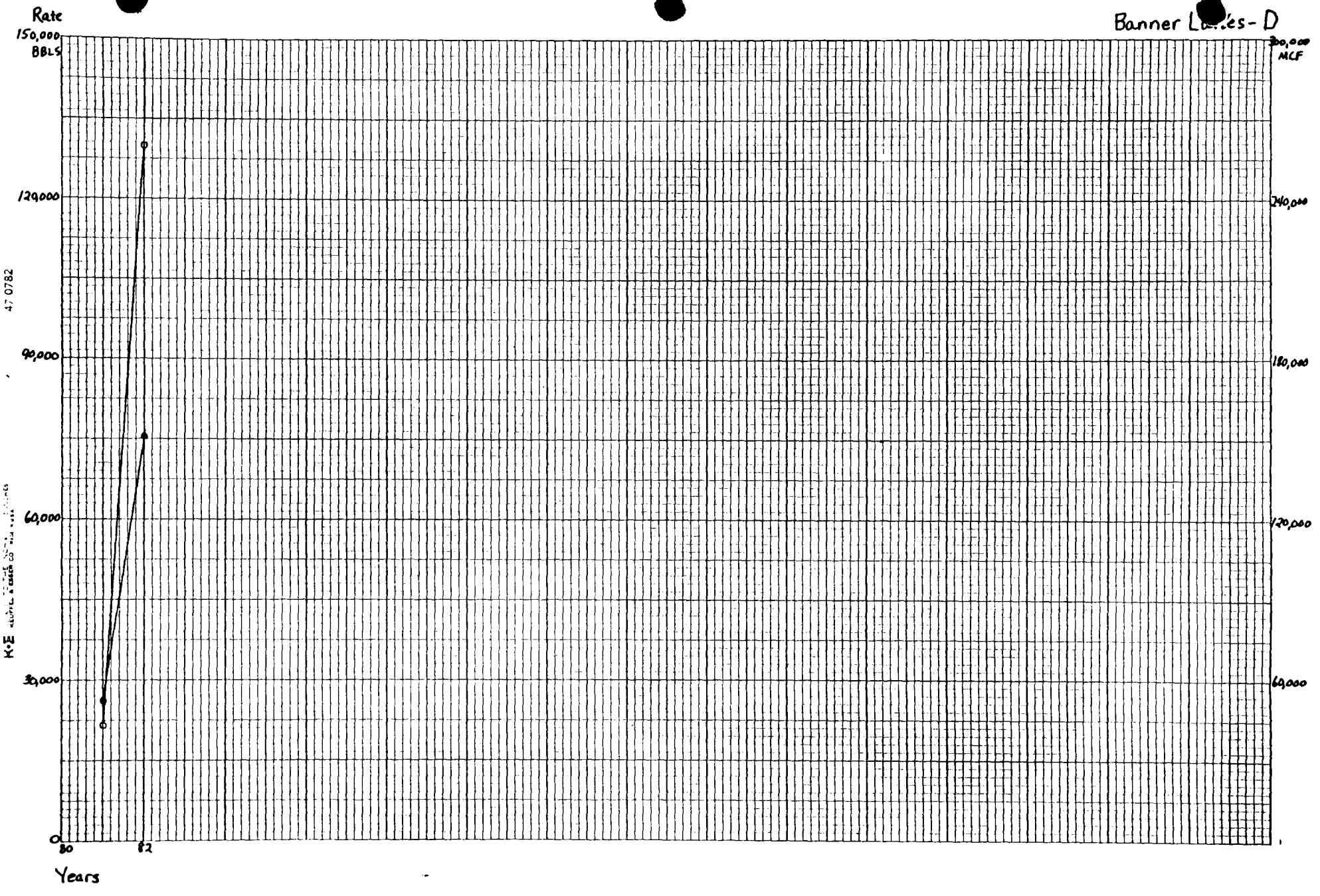

Rate
Arr[redacted]-J
1,000,000
BBLS
800,000
600,000
400,000
200,000
0
5,000,000
MCF
4,000,000
3,000,000
2,000,000
1,000,000
0
80
82
Years

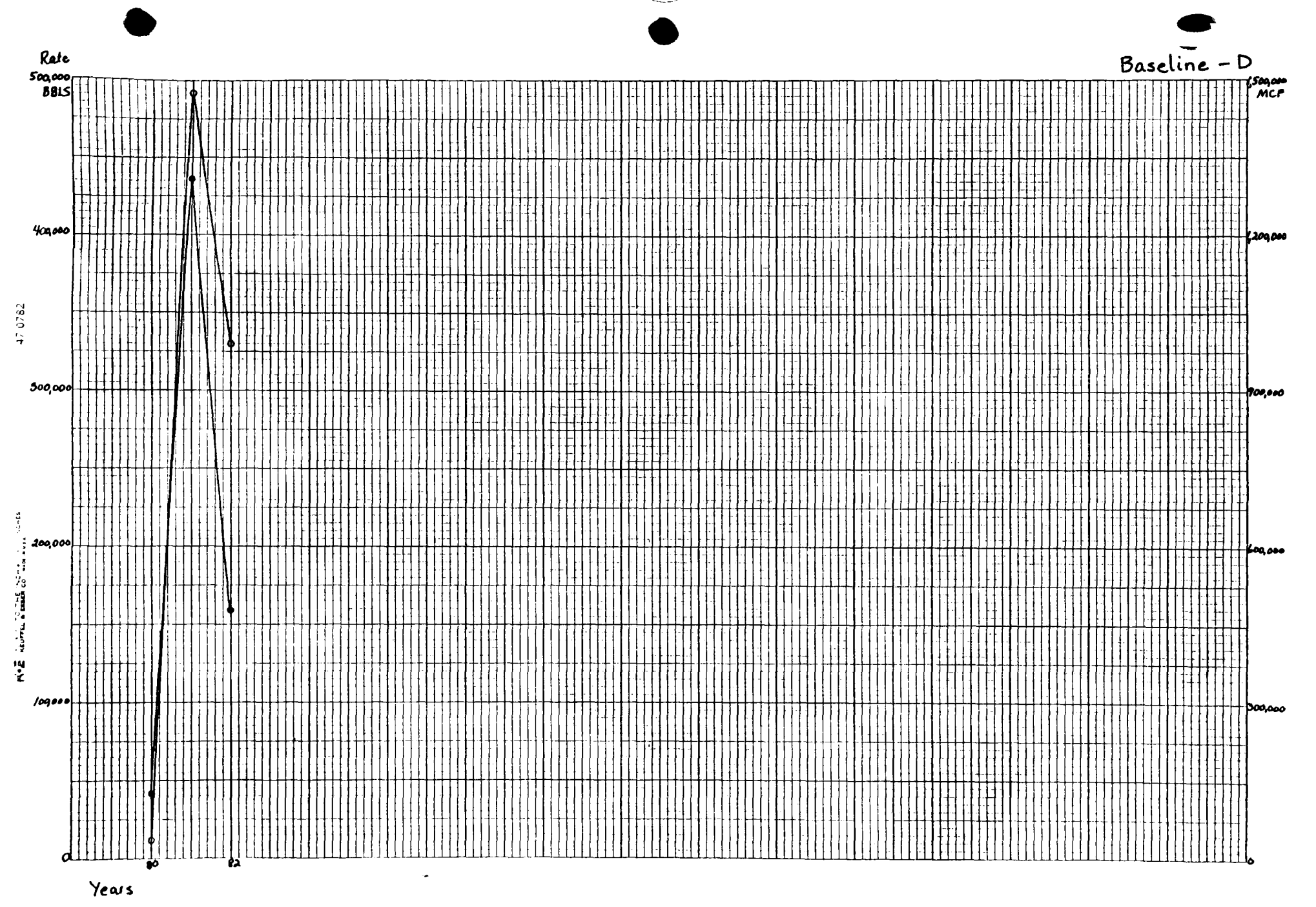

Rate
750,000
Bbls
600,000
450,000
300,000
150,000
0
Badger Creek-D
300,000
MCF
240,000
180,000
120,000
60,000
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

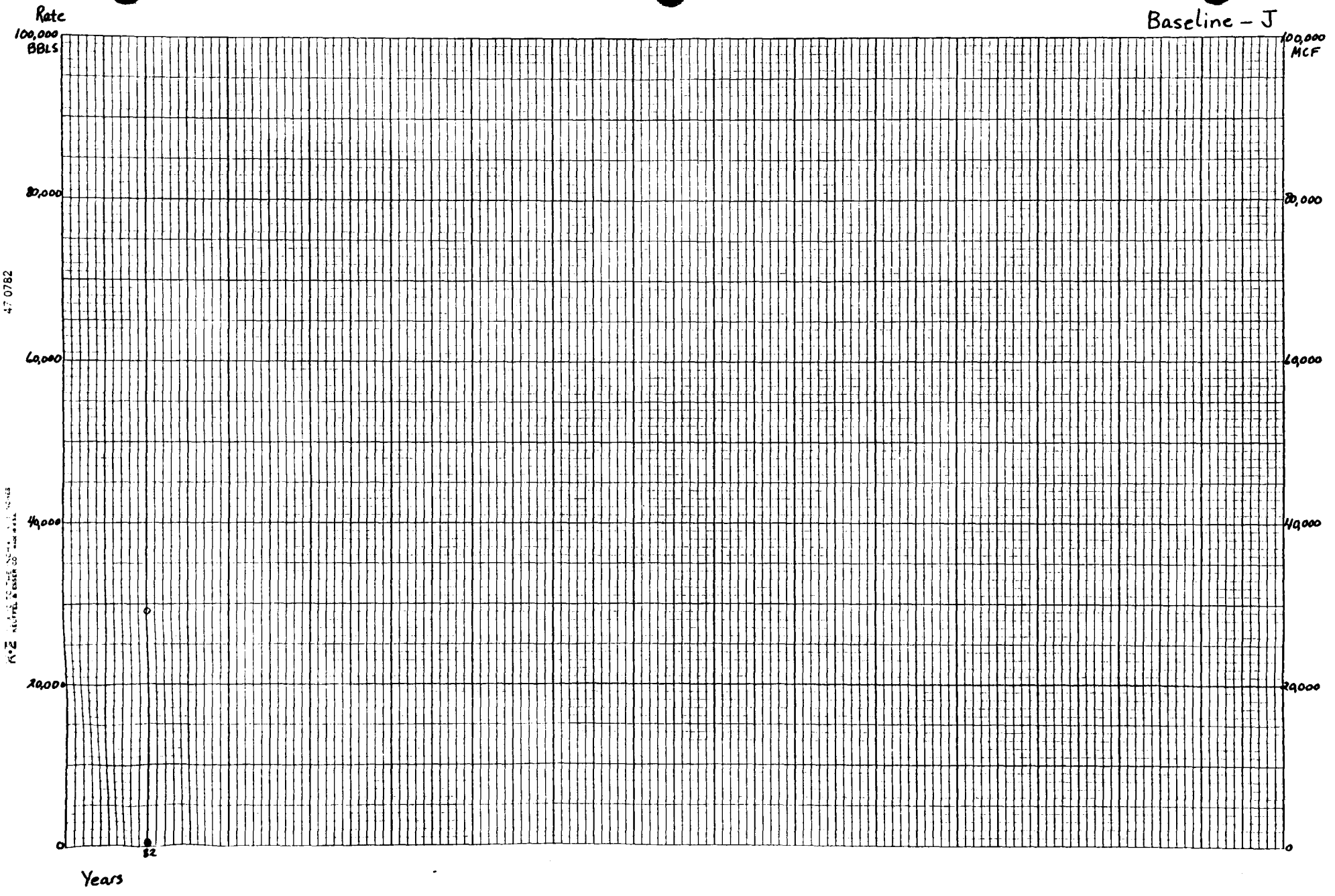

Rate
600,000
BBLS
480,000
360,000
240,000
120,000
0
Badger Creek - J
120,000
MCF
96,000
72,000
48,000
24,000
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years
P and A
6/60

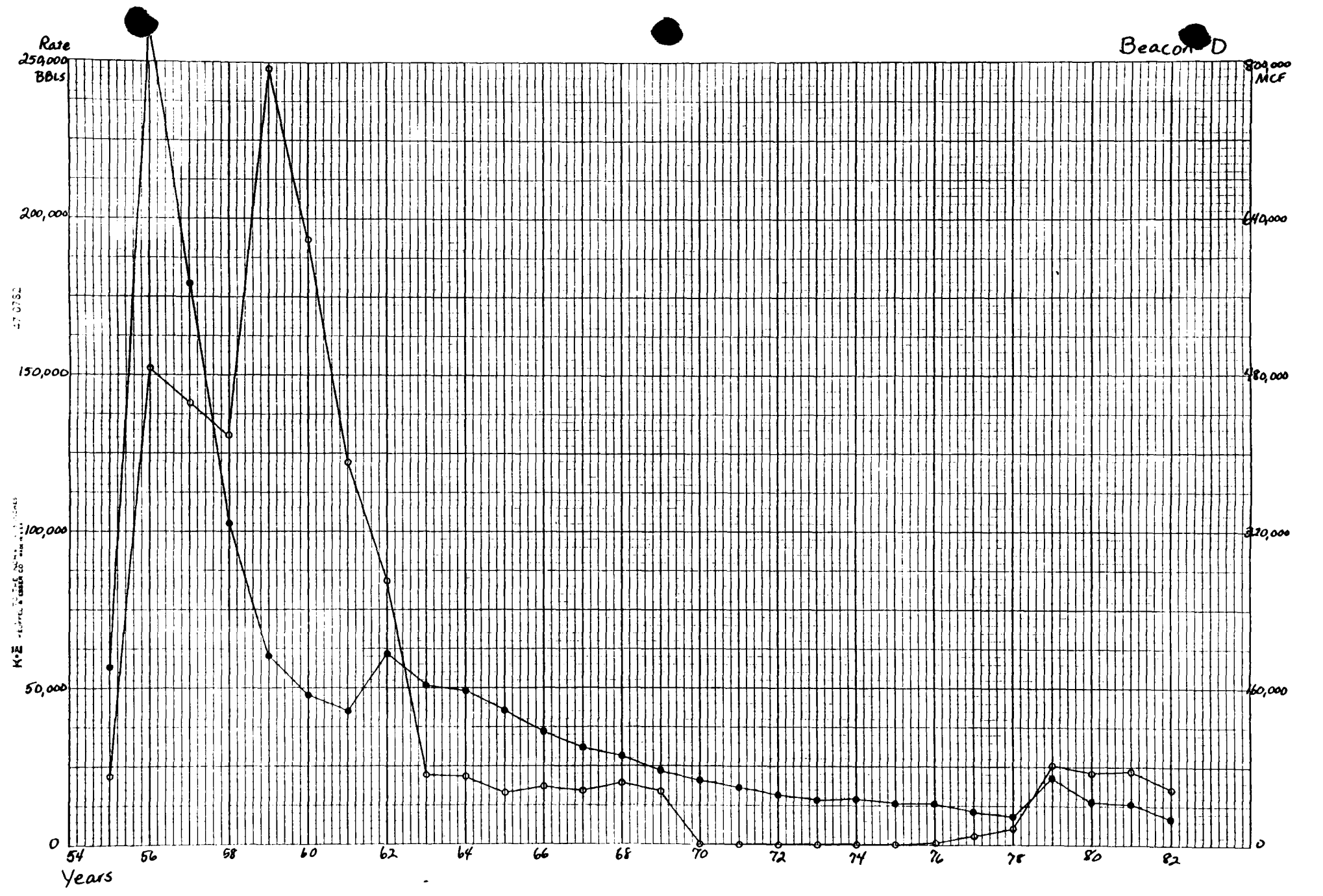

Rate
60,000 BBLS
48,000
36,000
24,000
12,000
0
MCF
48,000
36,000
24,000
12,000
0
Badger Creek West-J
Note:
Cumulative production to 1/1/34 is 119,329 BBLS.
SI 1959
Reactivated 1/65
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

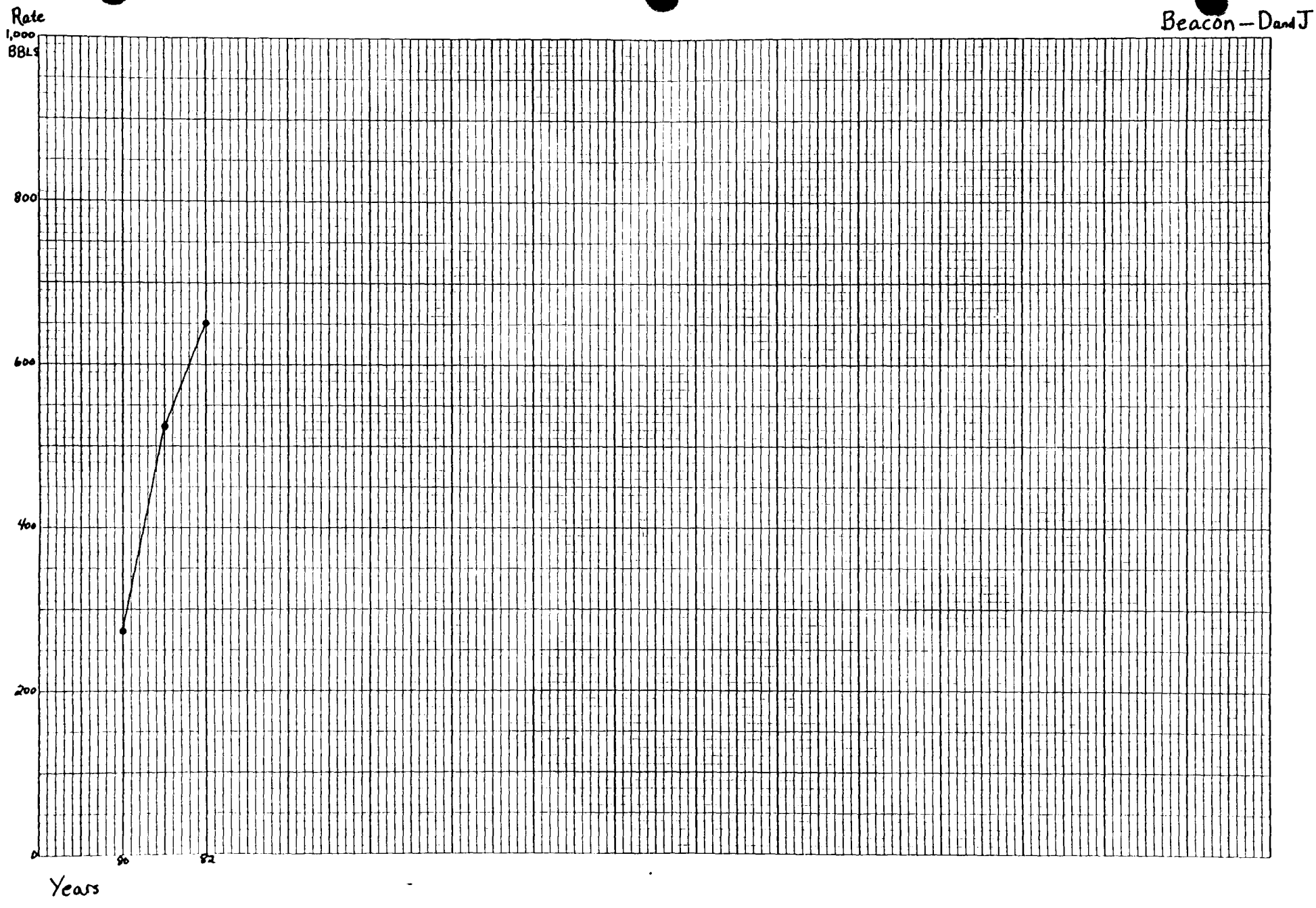

Rate
10,000 MCF
8,000
6,000
4,000
2,000
0
76
78
80
82
Years
Banner-J
1,000 Barrels Condensate

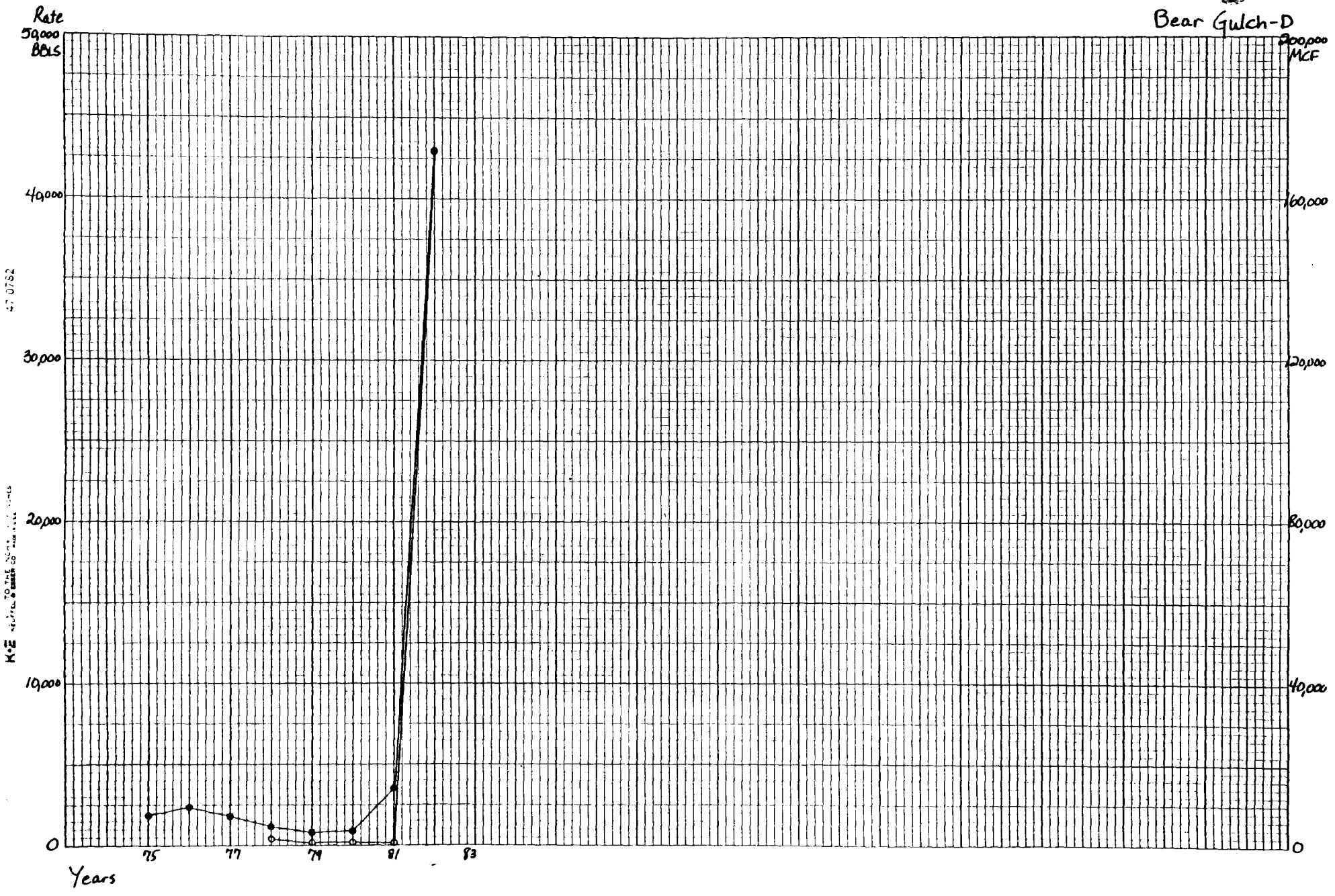

Rate
150,000 BBLS
120,000
90,000
60,000
30,000
0
80
82
Years
Banner Lewis - D
300,000 MCF
240,000
180,000
120,000
60,000
47 0782
K·E

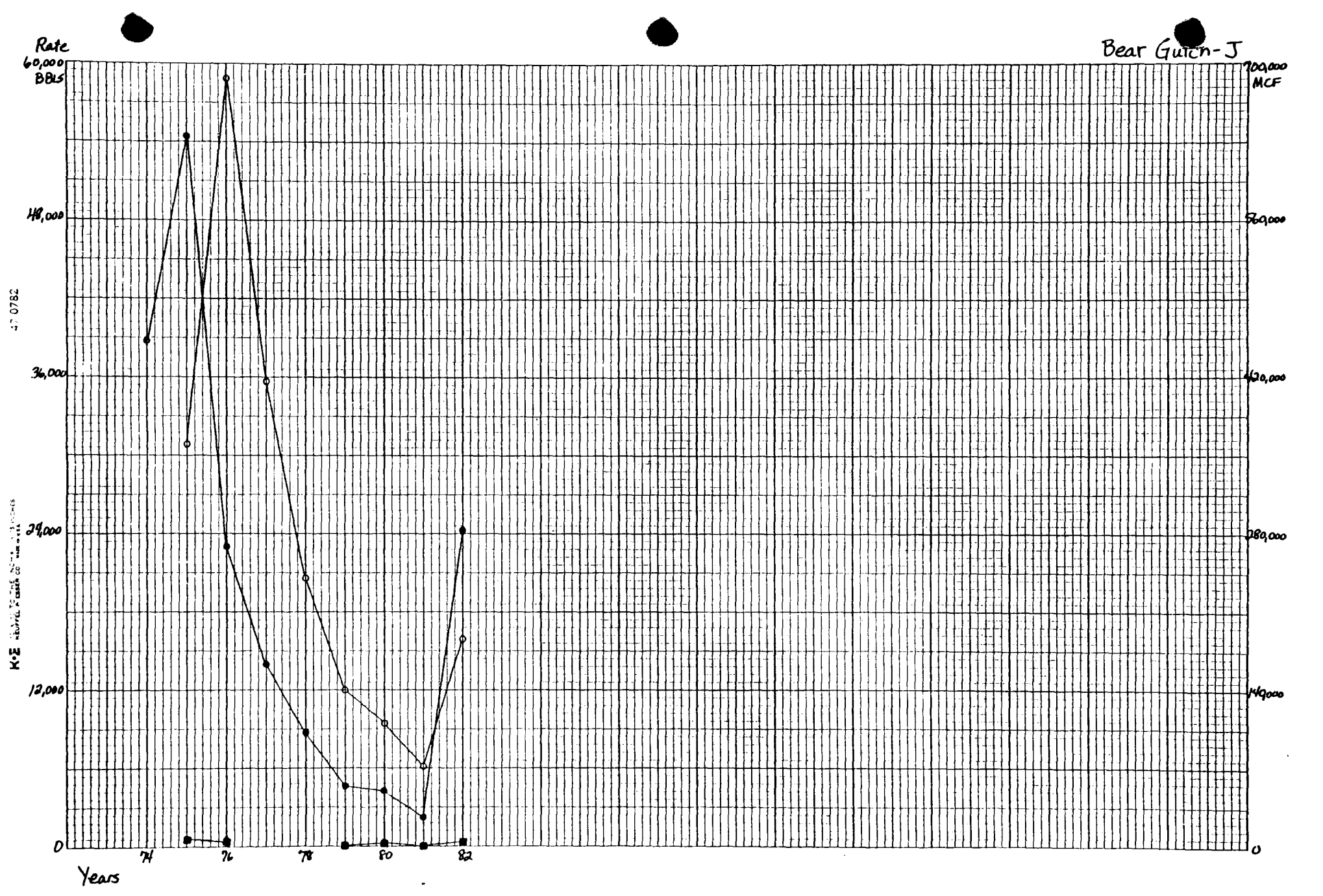

Rate
500,000 BBLS
400,000
300,000
200,000
100,000
0
1,500,000 MCF
1,200,000
900,000
600,000
300,000
0
80
82
Years
Baseline - D
47 0782

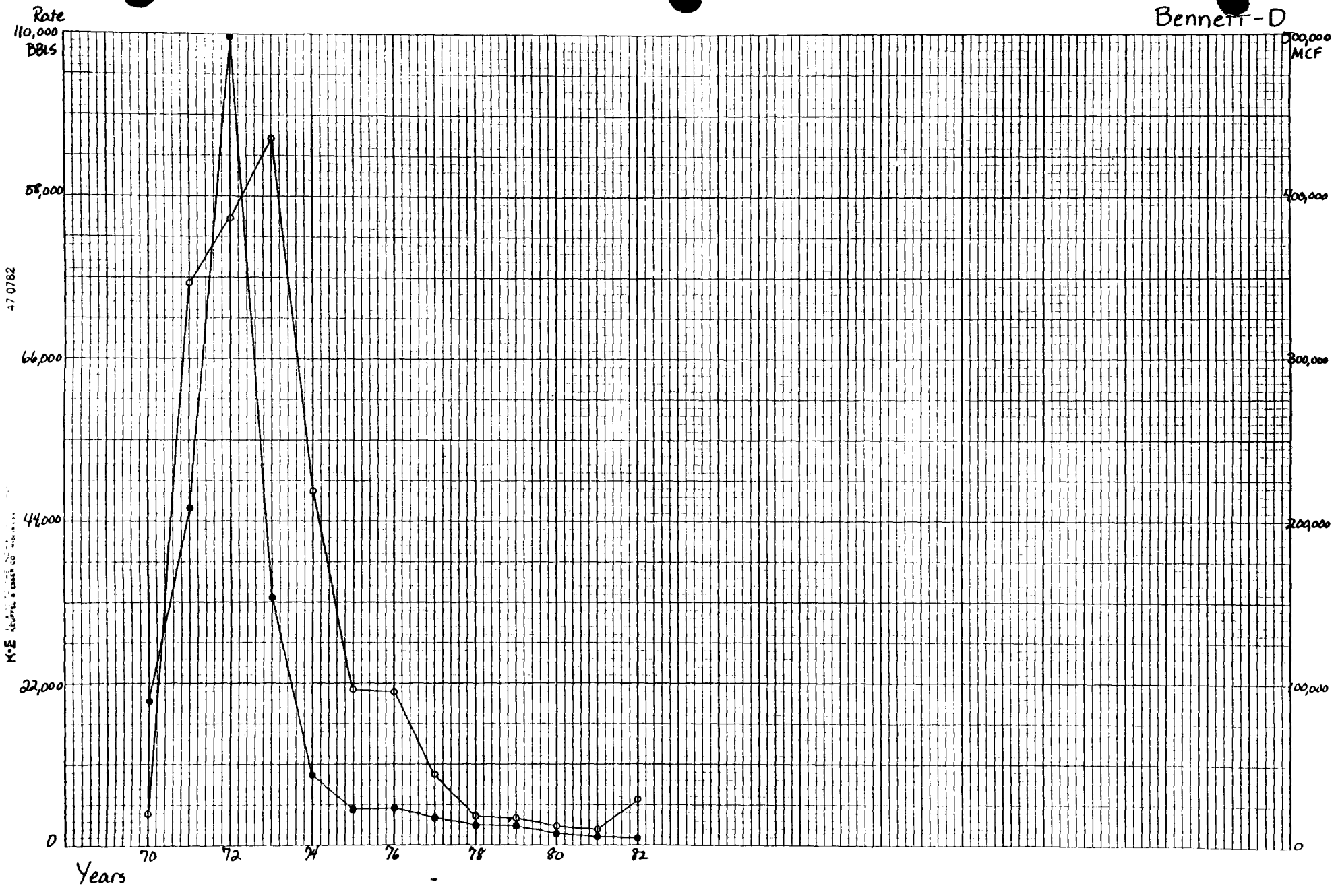

Rate
100,000 BBLS
80,000
60,000
40,000
20,000
0
100,000 MCF
80,000
60,000
40,000
20,000
0
Baseline – J
82
Years

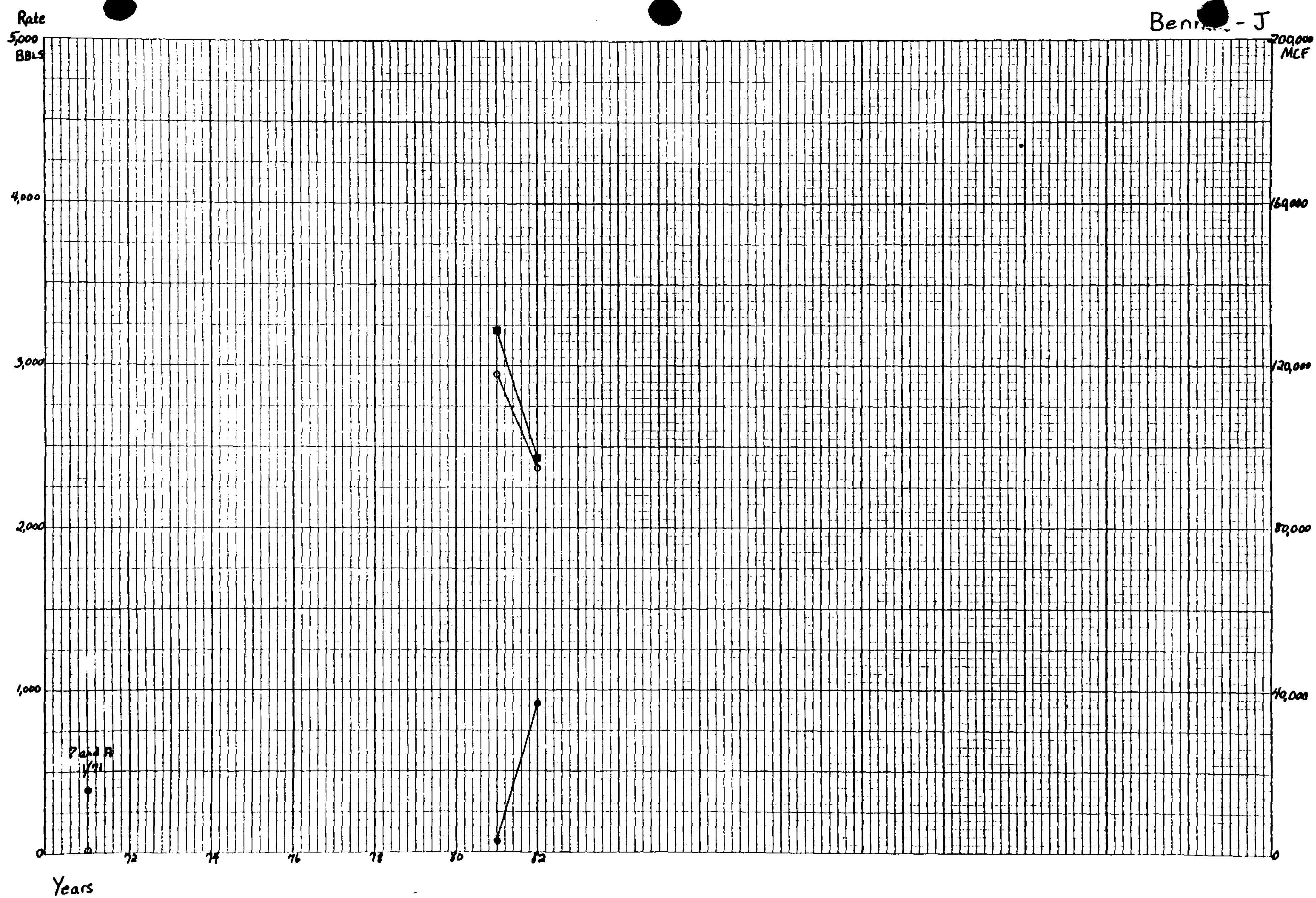

Rate
250,000
BBLS
200,000
150,000
100,000
50,000
0
Beacon D
800,000
MCF
640,000
480,000
320,000
160,000
0
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years


Rate
1,000
BBLS
800
600
400
200
0
80
82
Years
Beacon – D and J

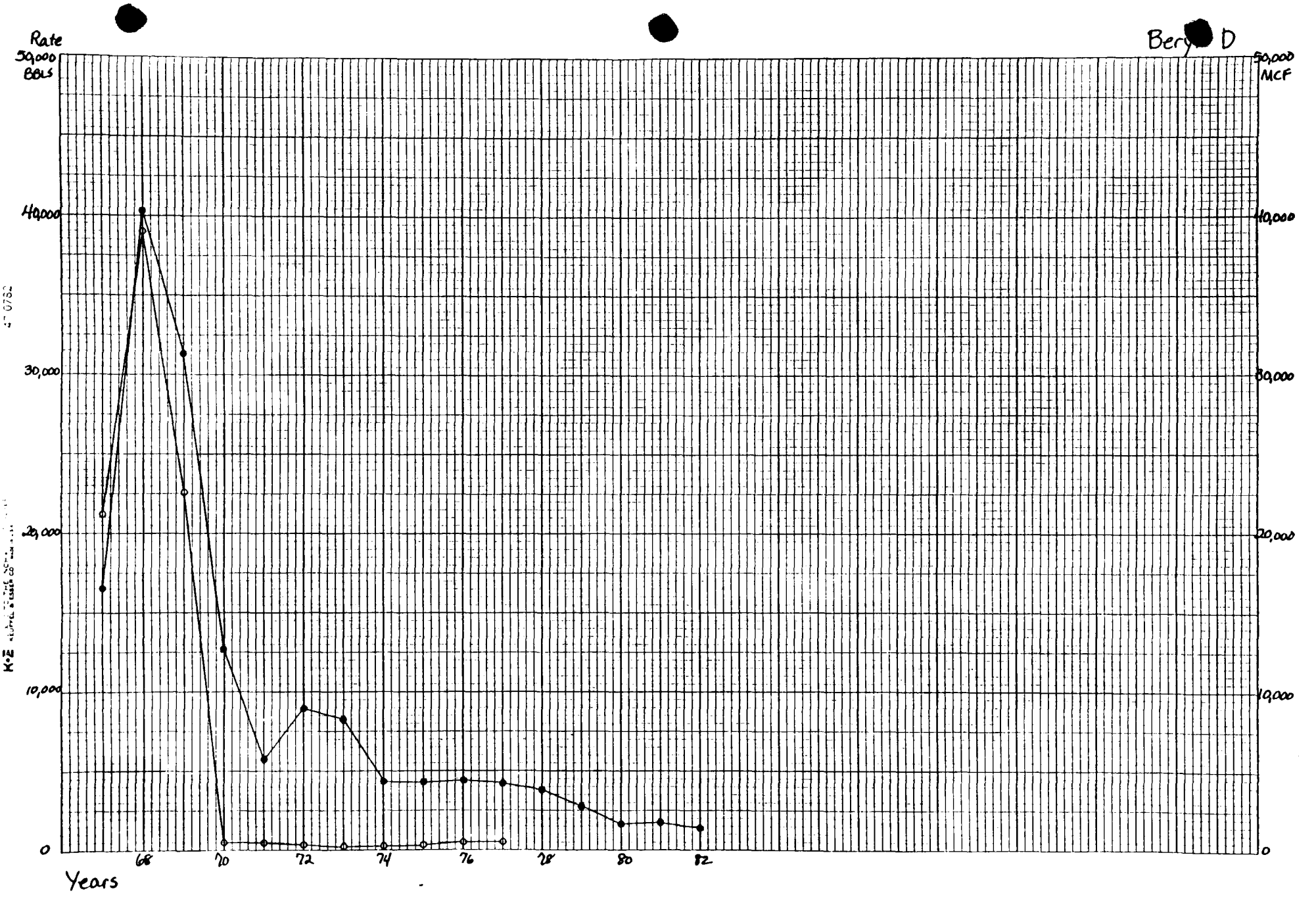

Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
Bear Gulch-D
200,000
MCF
160,000
120,000
80,000
40,000
0
75
77
79
81
83
Years

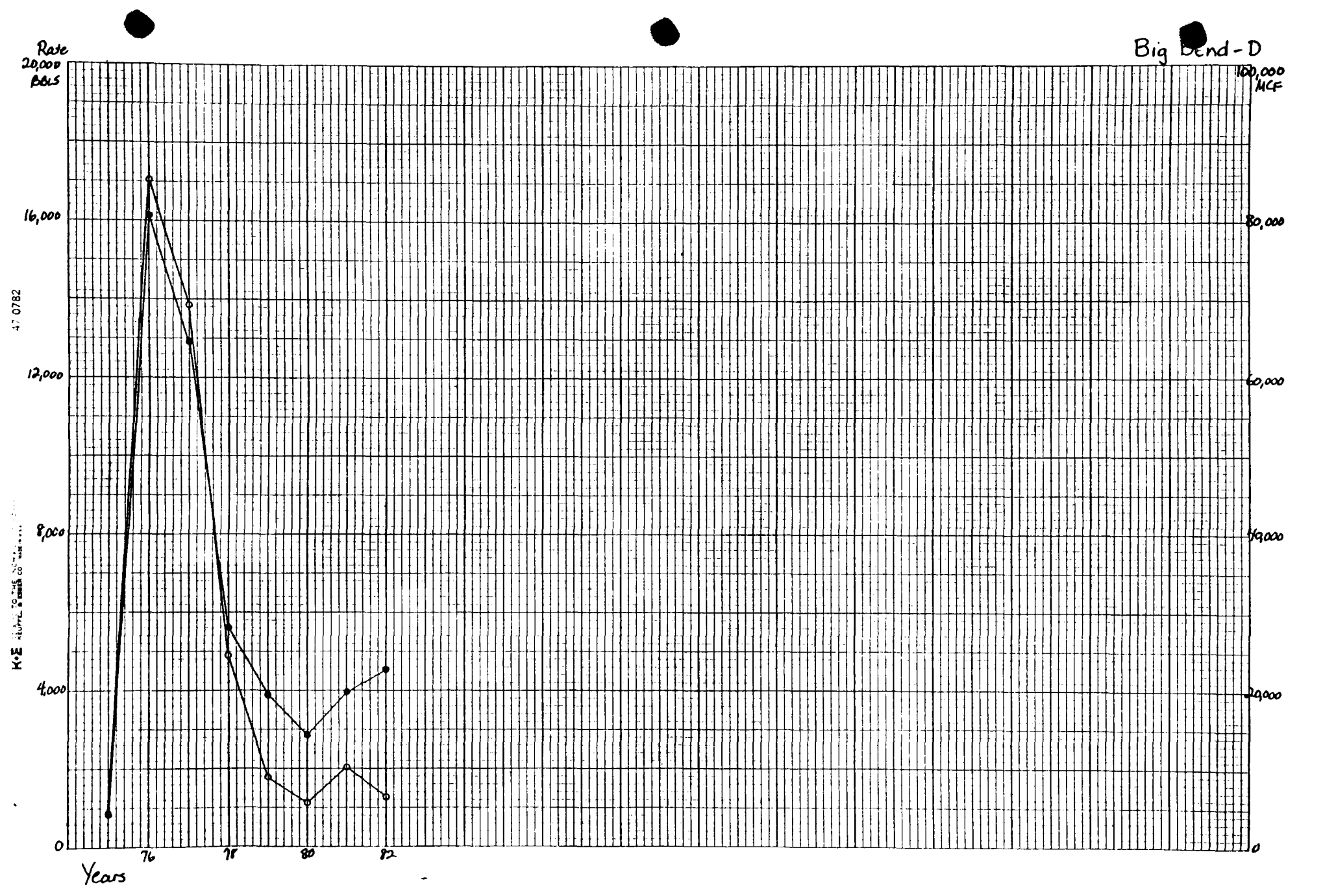

Rate
60,000 BBLS
48,000
36,000
24,000
12,000
0
Bear Gulch-J
700,000 MCF
560,000
420,000
280,000
140,000
0
74
76
78
80
82
Years

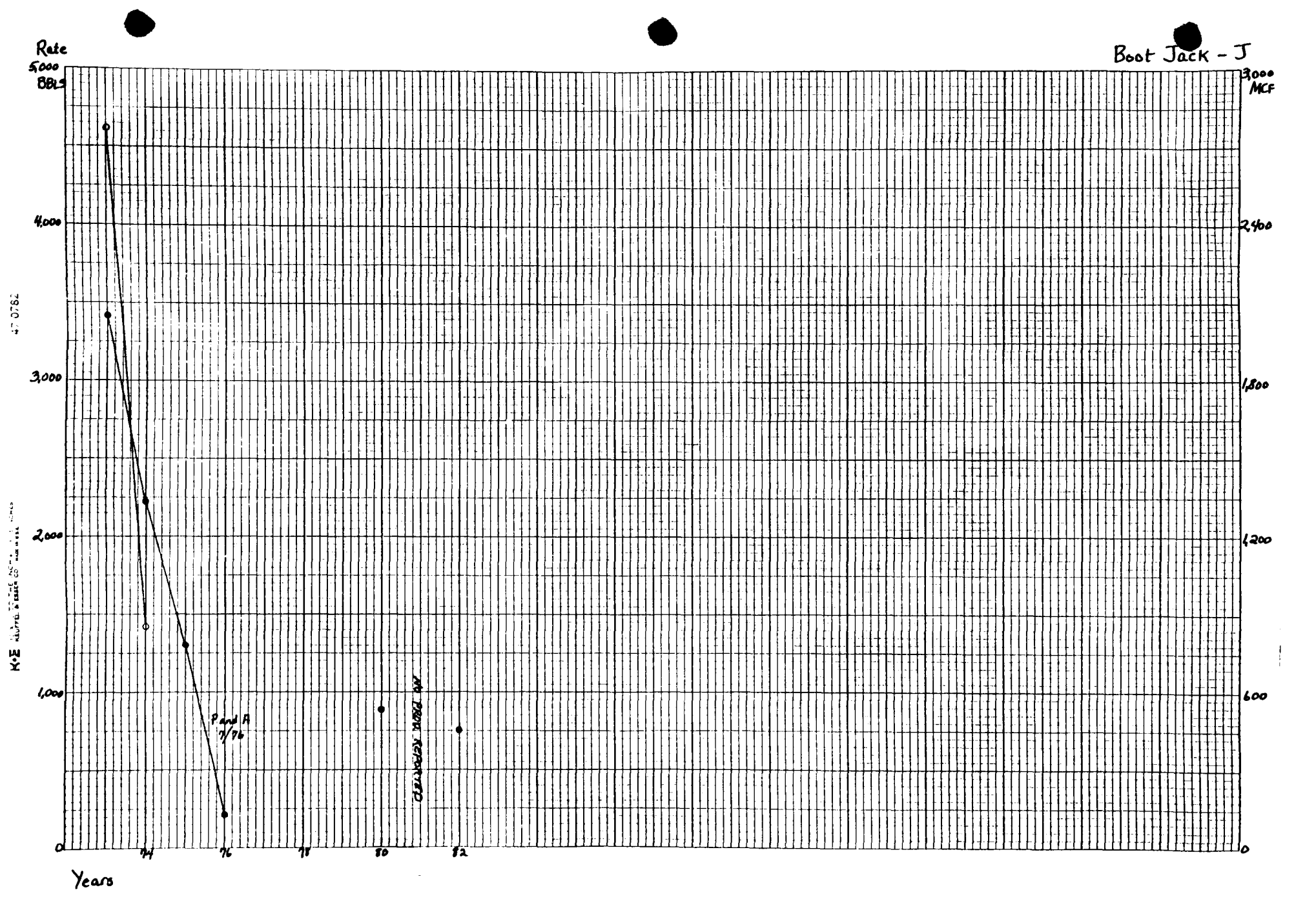

Rate
110,000
BBLS
88,000
66,000
44,000
22,000
0
Bennett-D
500,000
MCF
400,000
300,000
200,000
100,000
0
70
72
74
76
78
80
82
Years
47 0782
K&E

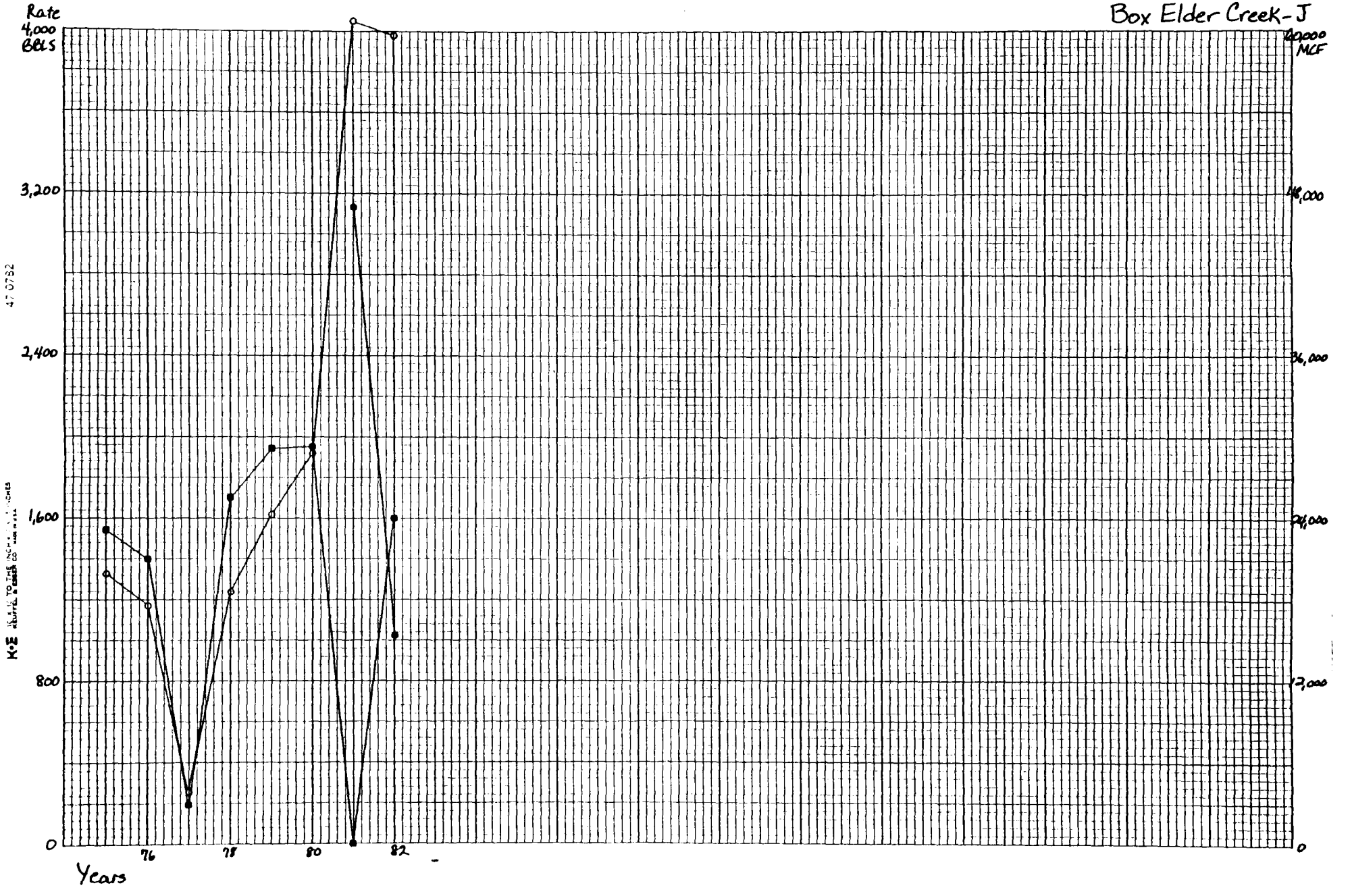


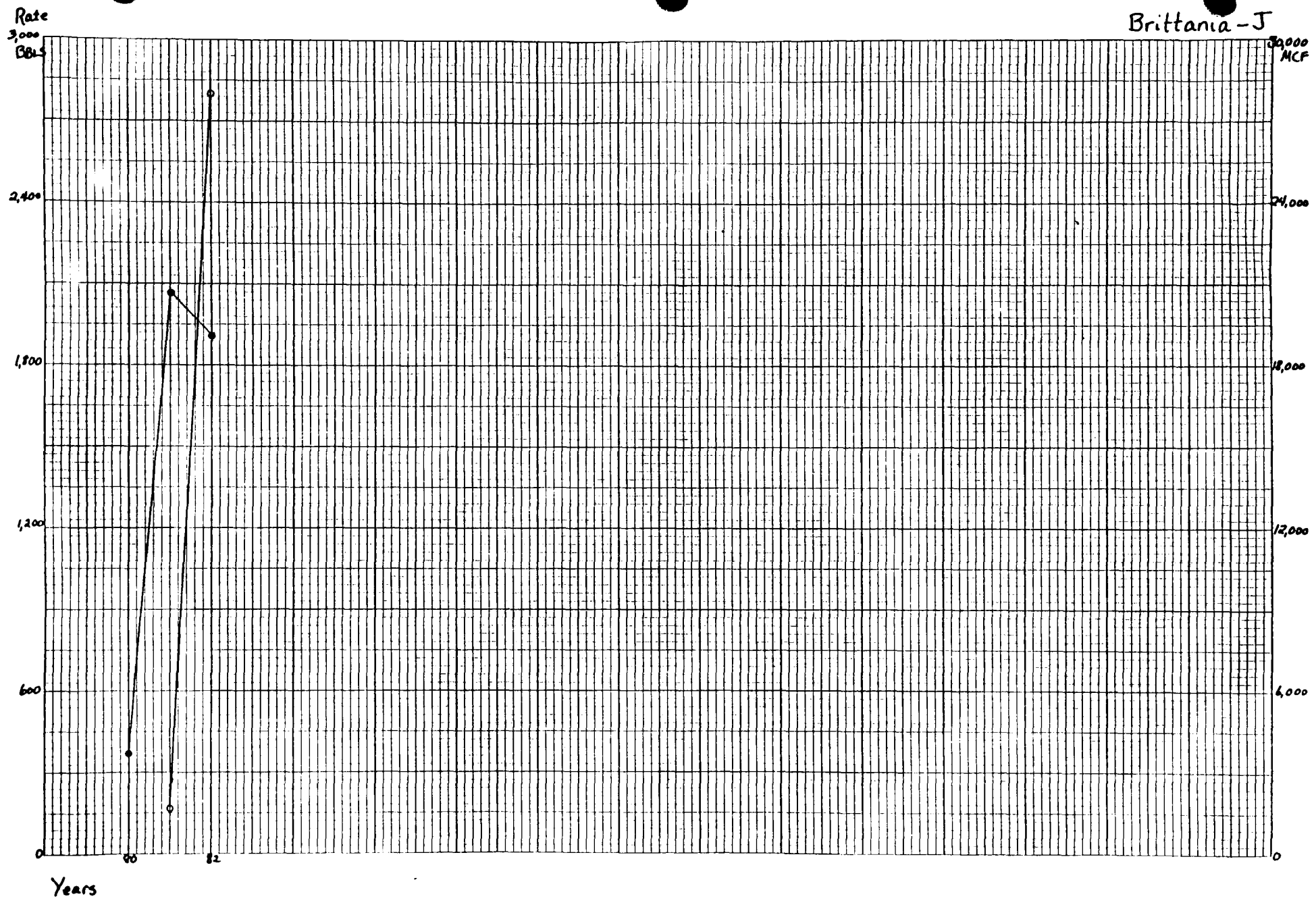
Benn - J
Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
200,000 MCF
160,000
120,000
80,000
40,000
0
72
74
76
78
80
82
Years
P and A 1/71

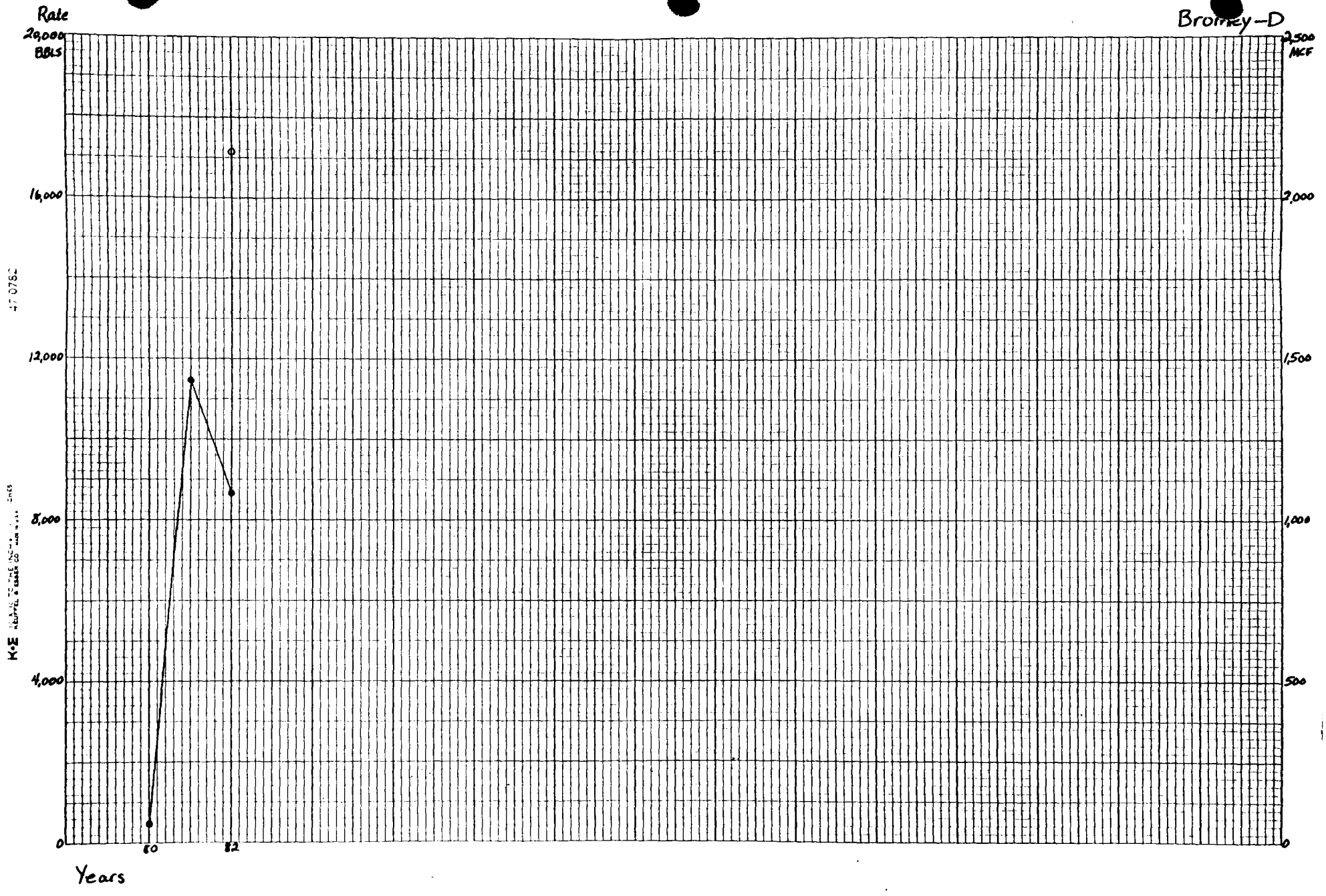

Rate
50,000 BBLS
40,000
30,000
20,000
10,000
0
Beryl D
50,000 MCF
40,000
30,000
20,000
10,000
0
68
70
72
74
76
78
80
82
Years

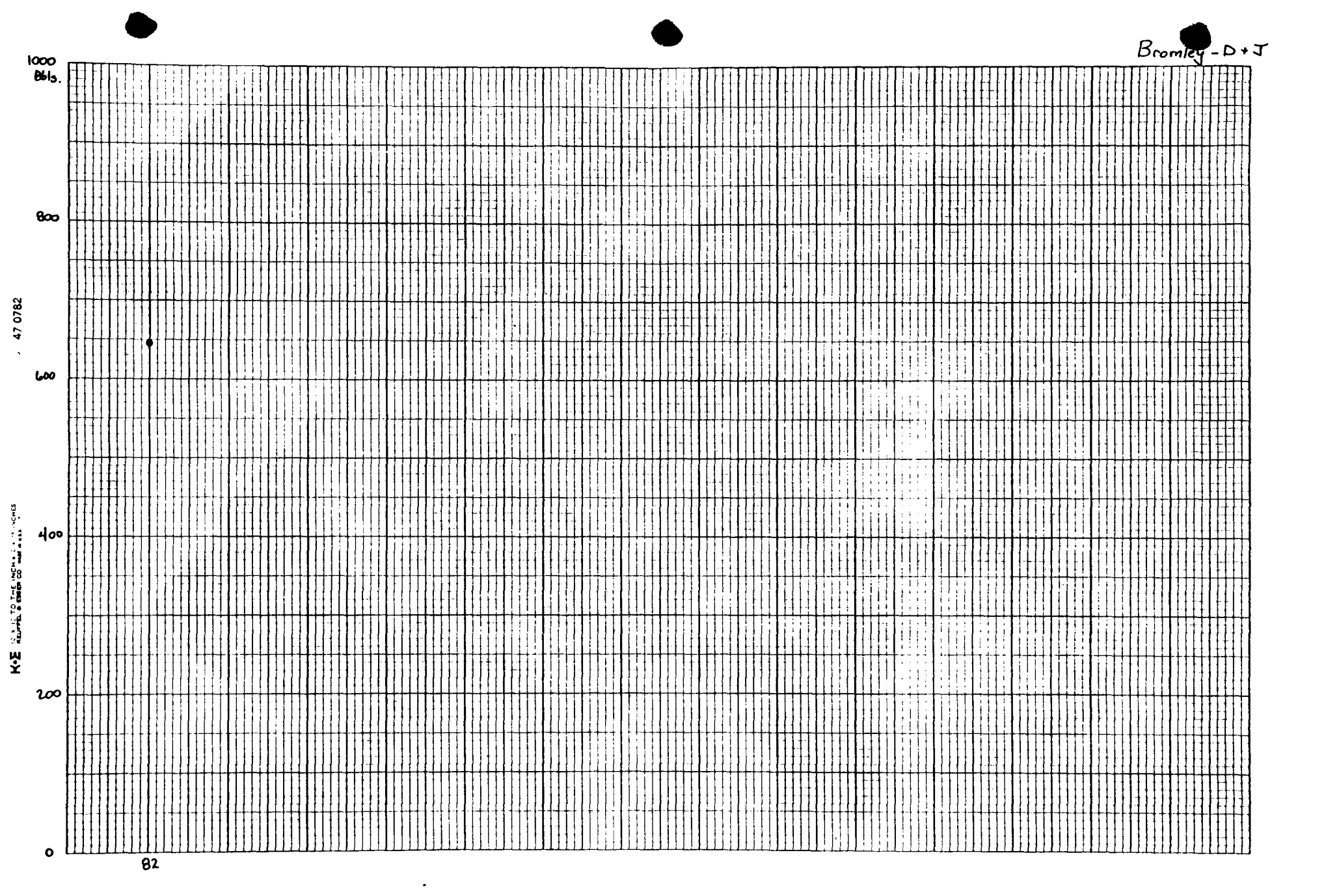

Rate
20,000 Bbls
16,000
12,000
8,000
4,000
0
160,000 MCF
80,000
60,000
40,000
20,000
0
76
78
80
82
Years
Big Bend - D
47 0782

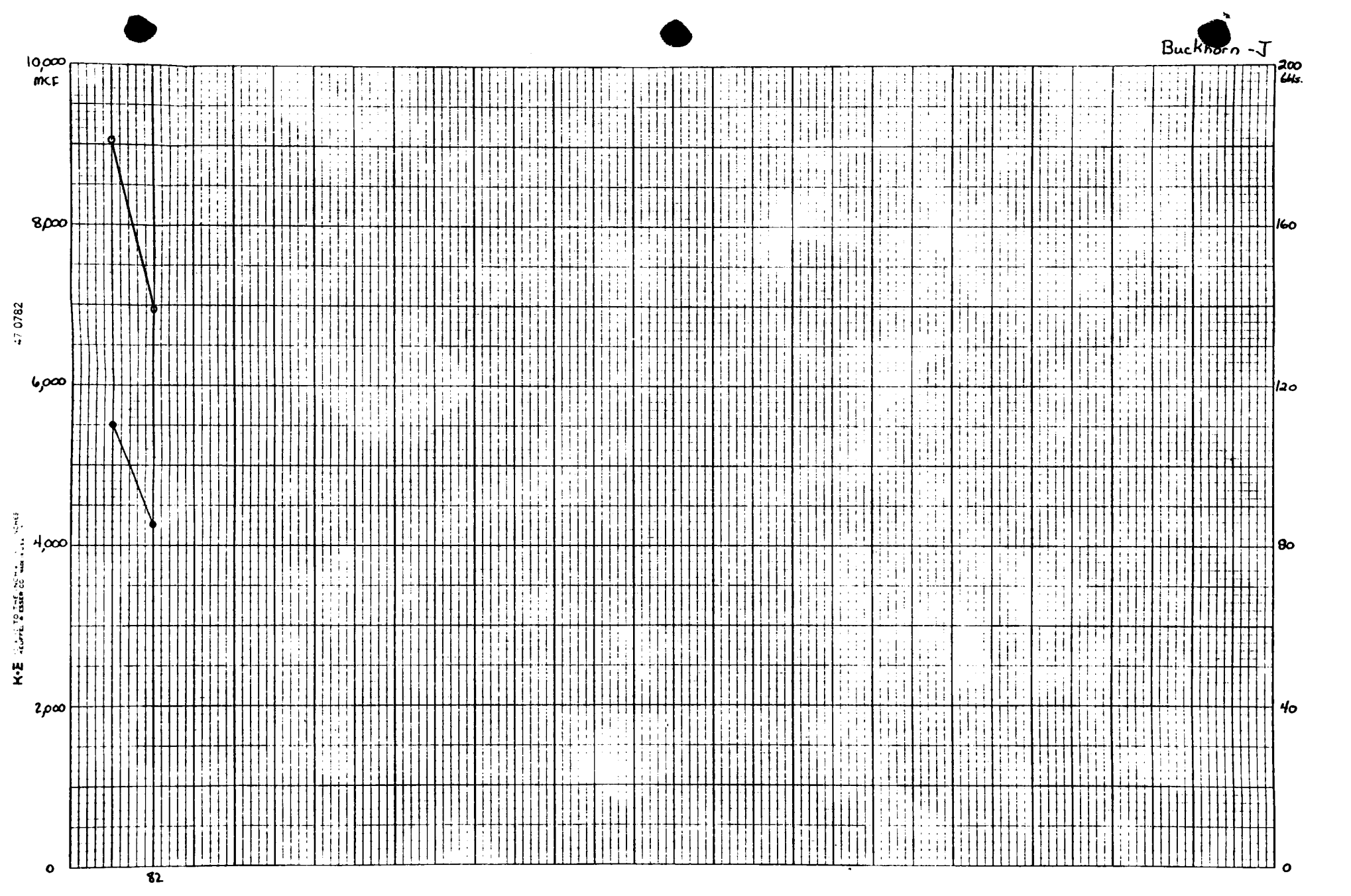

Rate
5000
BBLS
4,000
3,000
2,000
1,000
0
3000
MCF
2400
1800
1200
600
0
Boot Jack - J
P and A
7/76
NO PROD REPORTED
74
76
78
80
82
Years

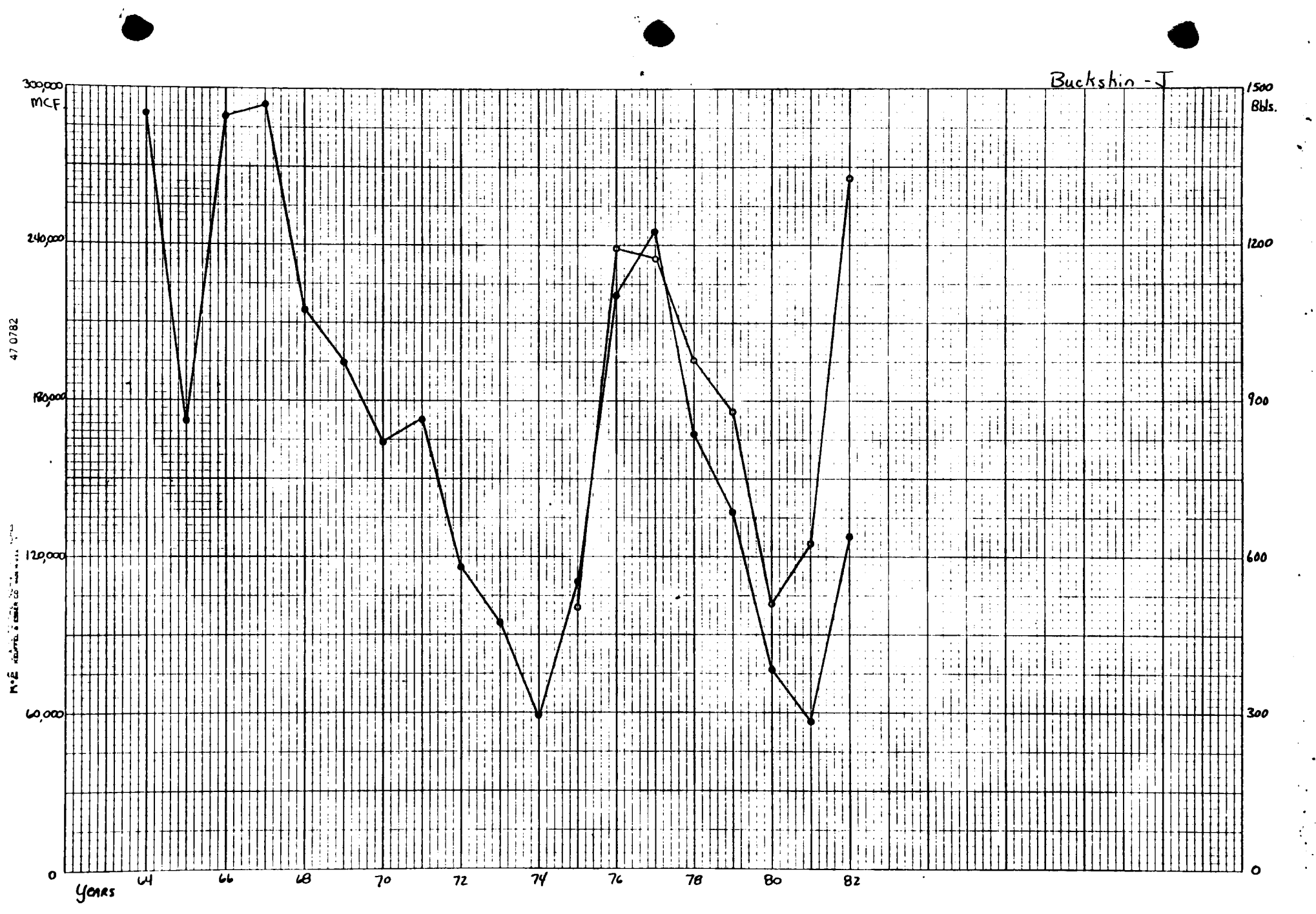

Box Elder Creek-J
Rate
4,000 BBLS
3,200
2,400
1,600
800
0
48,000
36,000
24,000
12,000
0 MCF
76
78
80
82
Years

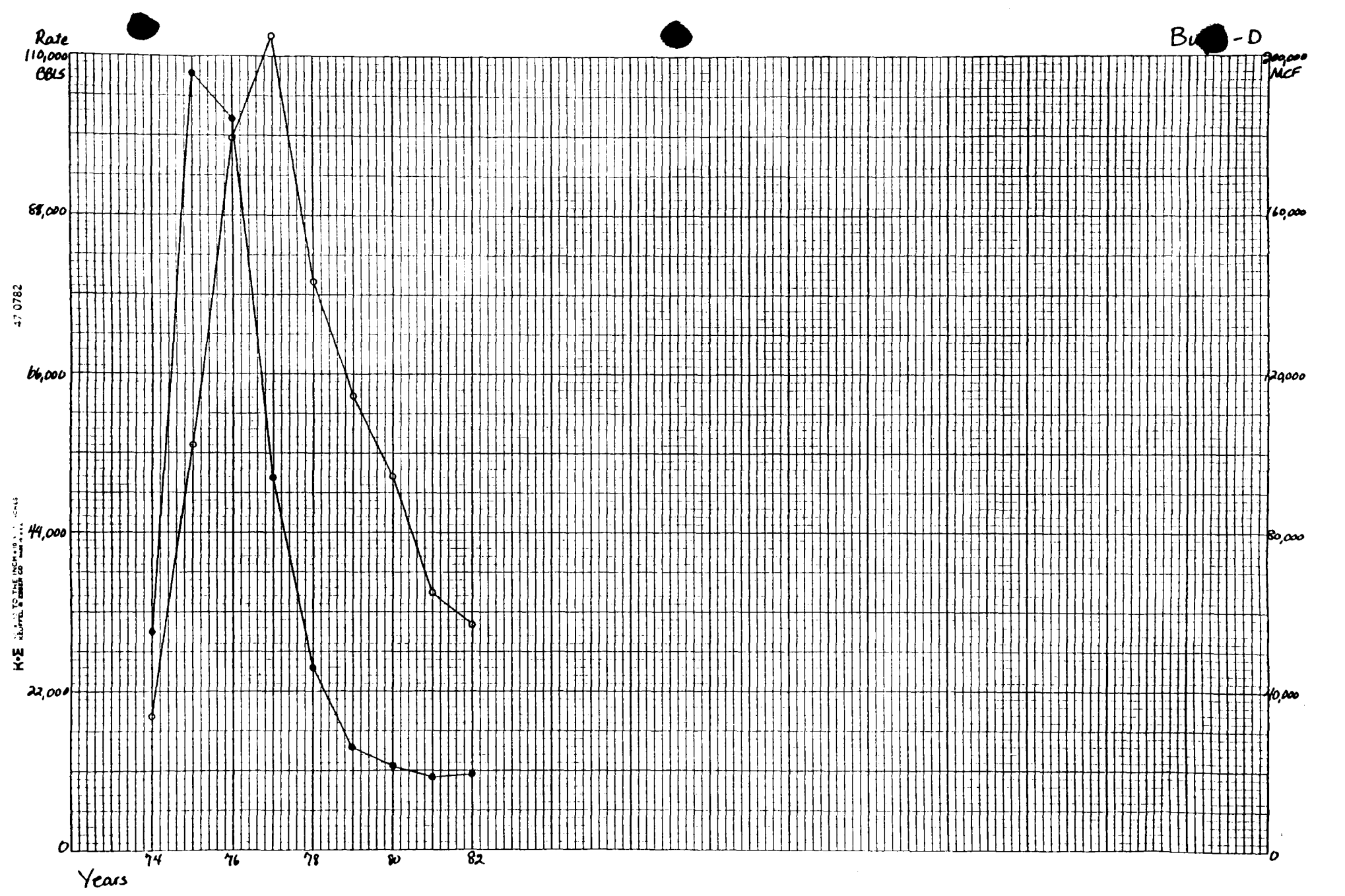

Rate
3,000
BBLS
2,400
1,800
1,200
600
0
30,000
MCF
24,000
18,000
12,000
6,000
0
80
82
Years
Brittania - J

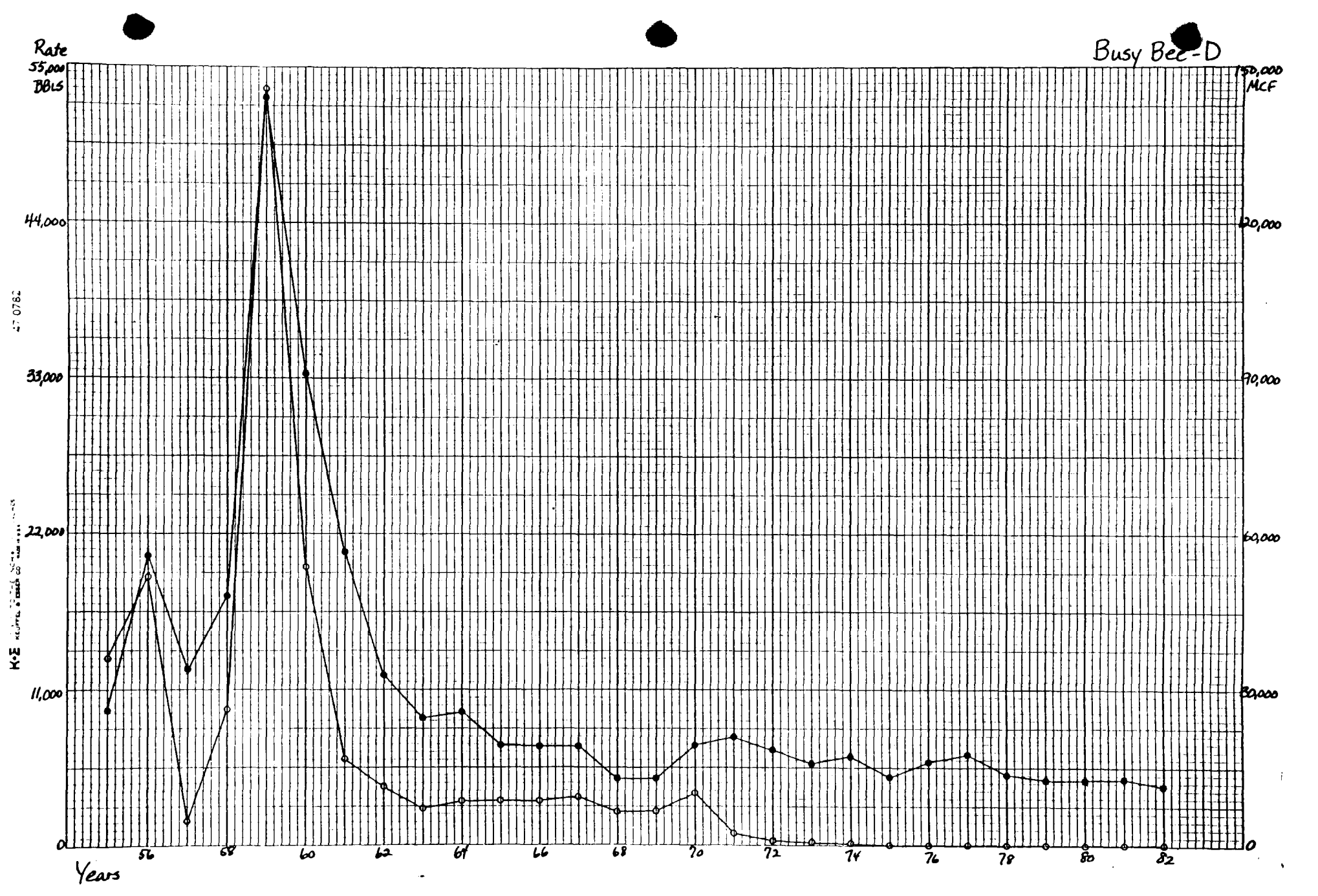

Rate
Bromley-D
20,000 BBLS
16,000
12,000
8,000
4,000
0
2,500 MCF
2,000
1,500
1,000
500
0
60
82
Years

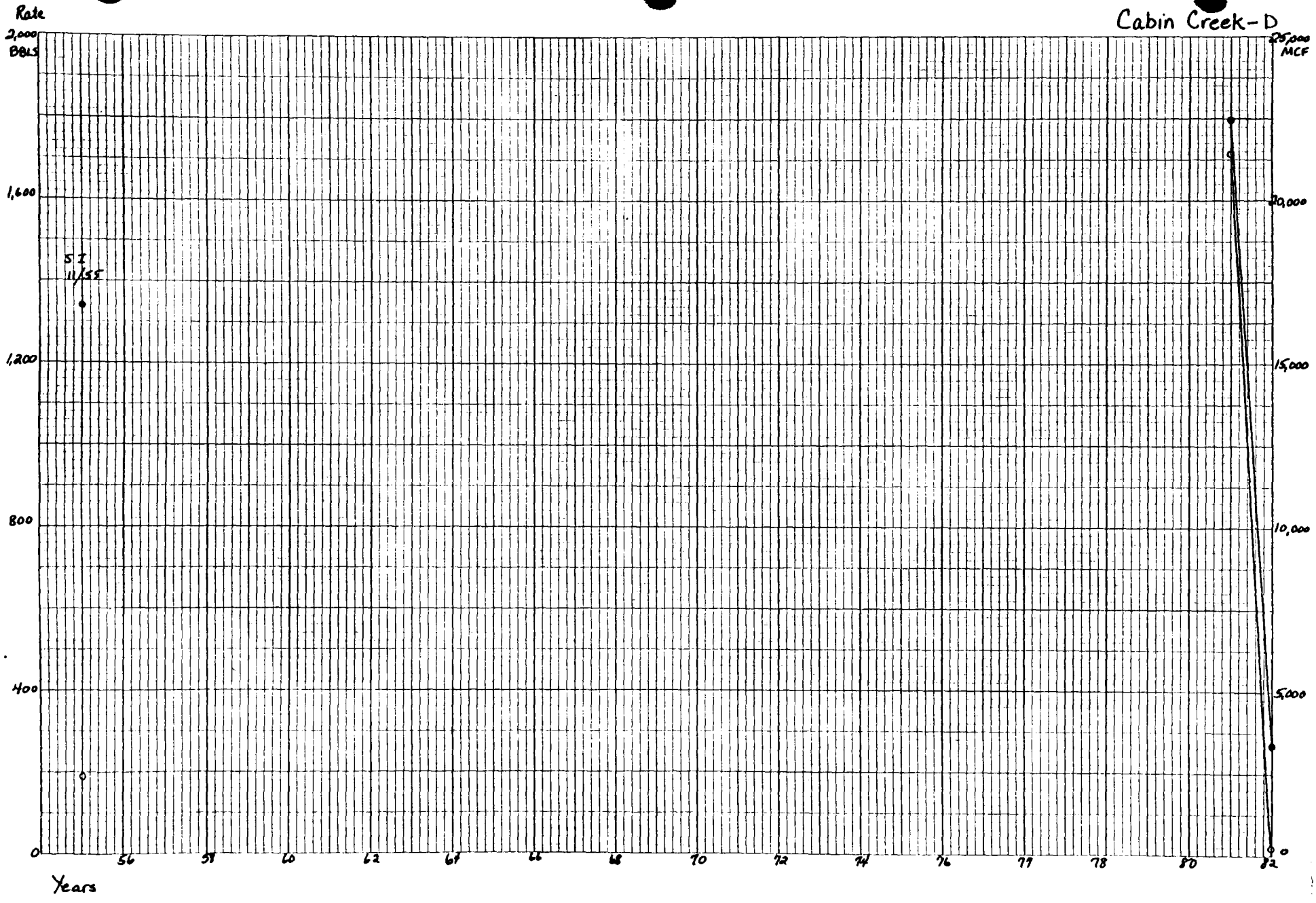

Bromley - D + J
1000
Bbls.
800
600
400
200
0
82
47 0782
K·E

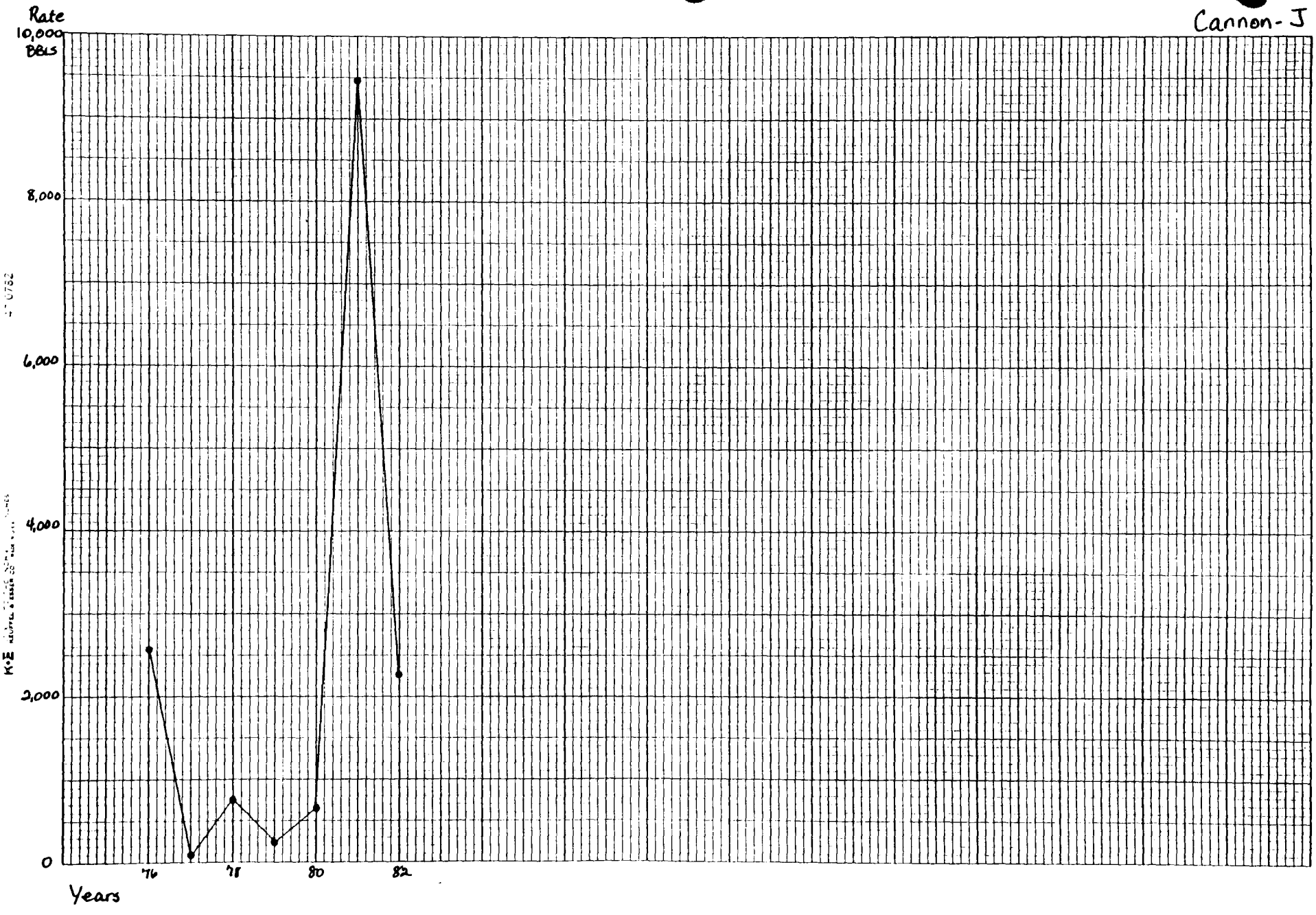

Buckhorn -J
10,000
MCF
8,000
6,000
4,000
2,000
0
200
Hrs.
160
120
80
40
0
82
47 0782
K·E

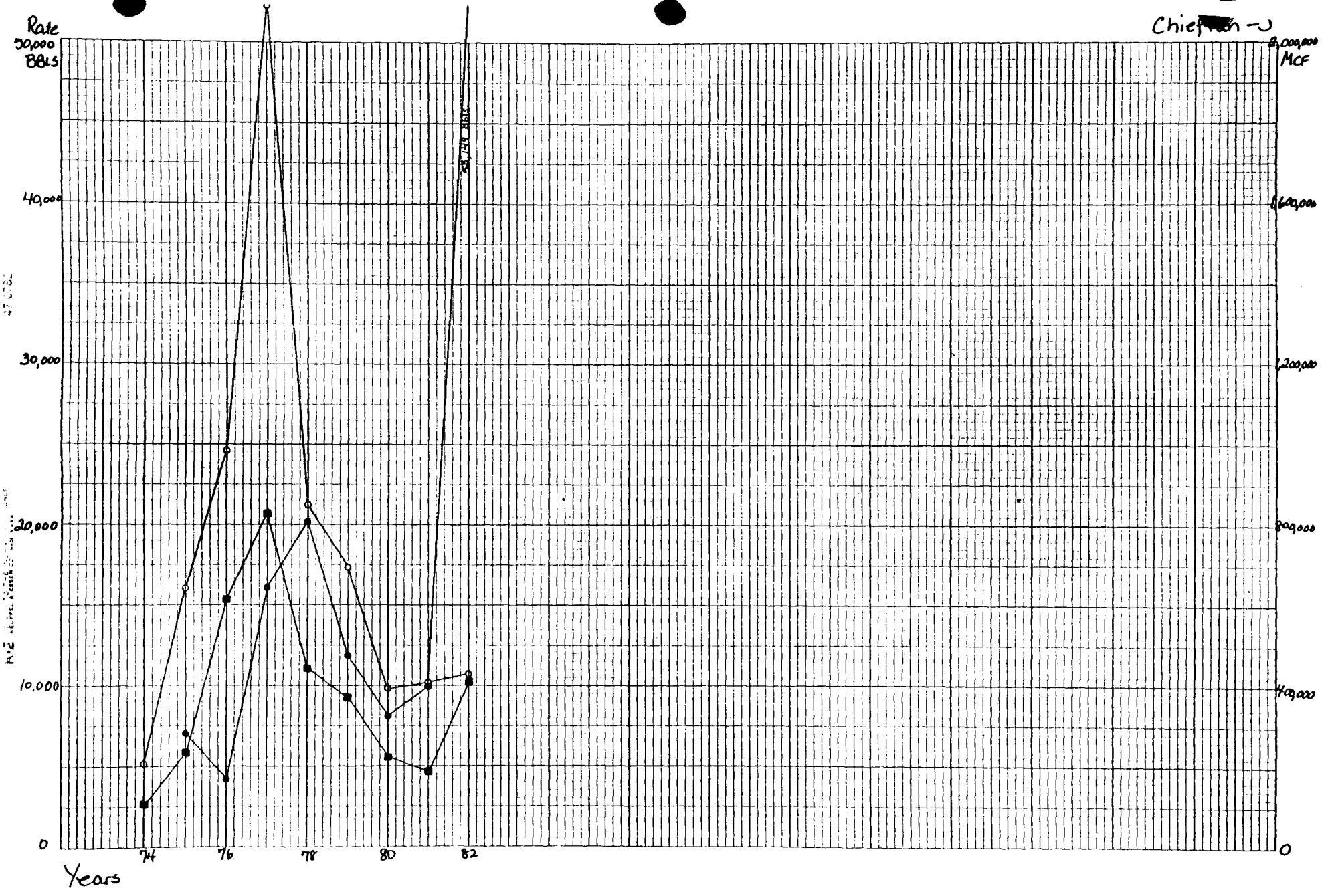

Buckskin - J
300,000
MCF
240,000
180,000
120,000
60,000
0
1500
Bbls.
1200
900
600
300
0
Years
64
66
68
70
72
74
76
78
80
82
47 0782

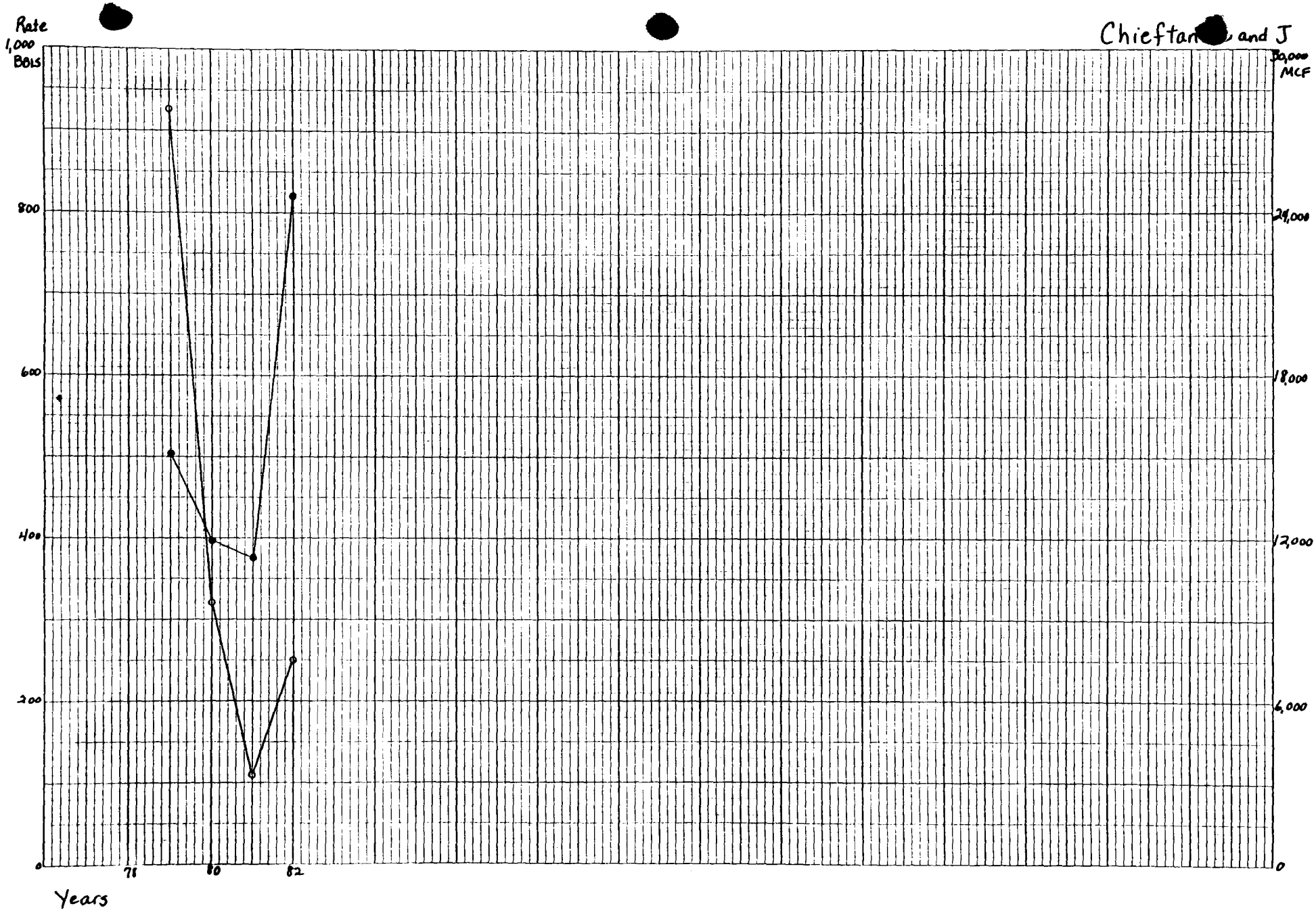

Rate
110,000
BBLS
68,000
44,000
22,000
0
74
76
78
80
82
Years
200,000
MCF
160,000
120,000
80,000
40,000
0
47 0782
K·E

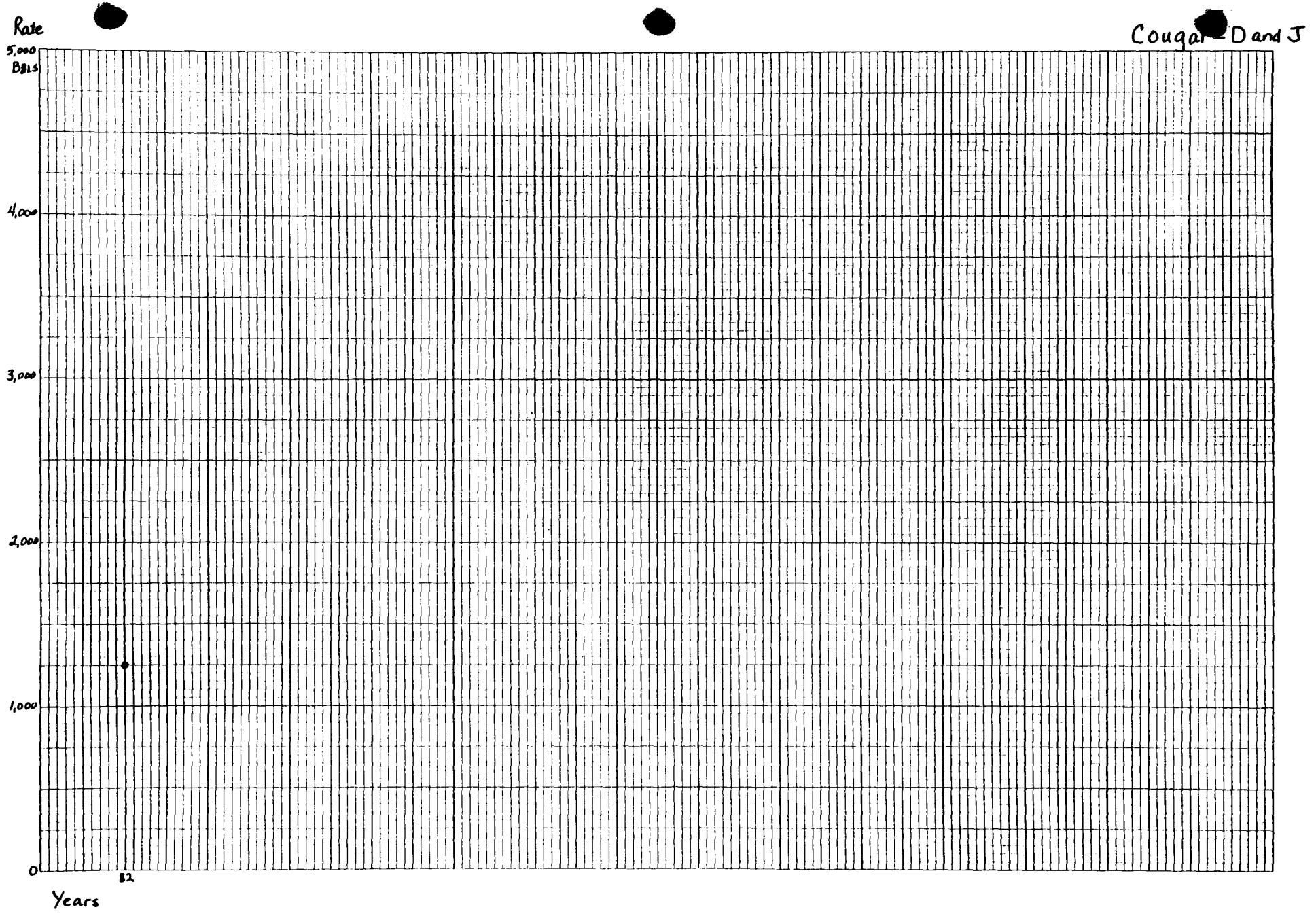

Rate
55,000
BBLS
44,000
33,000
22,000
11,000
0
150,000
MCF
120,000
90,000
60,000
30,000
0
Busy Bee-D
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

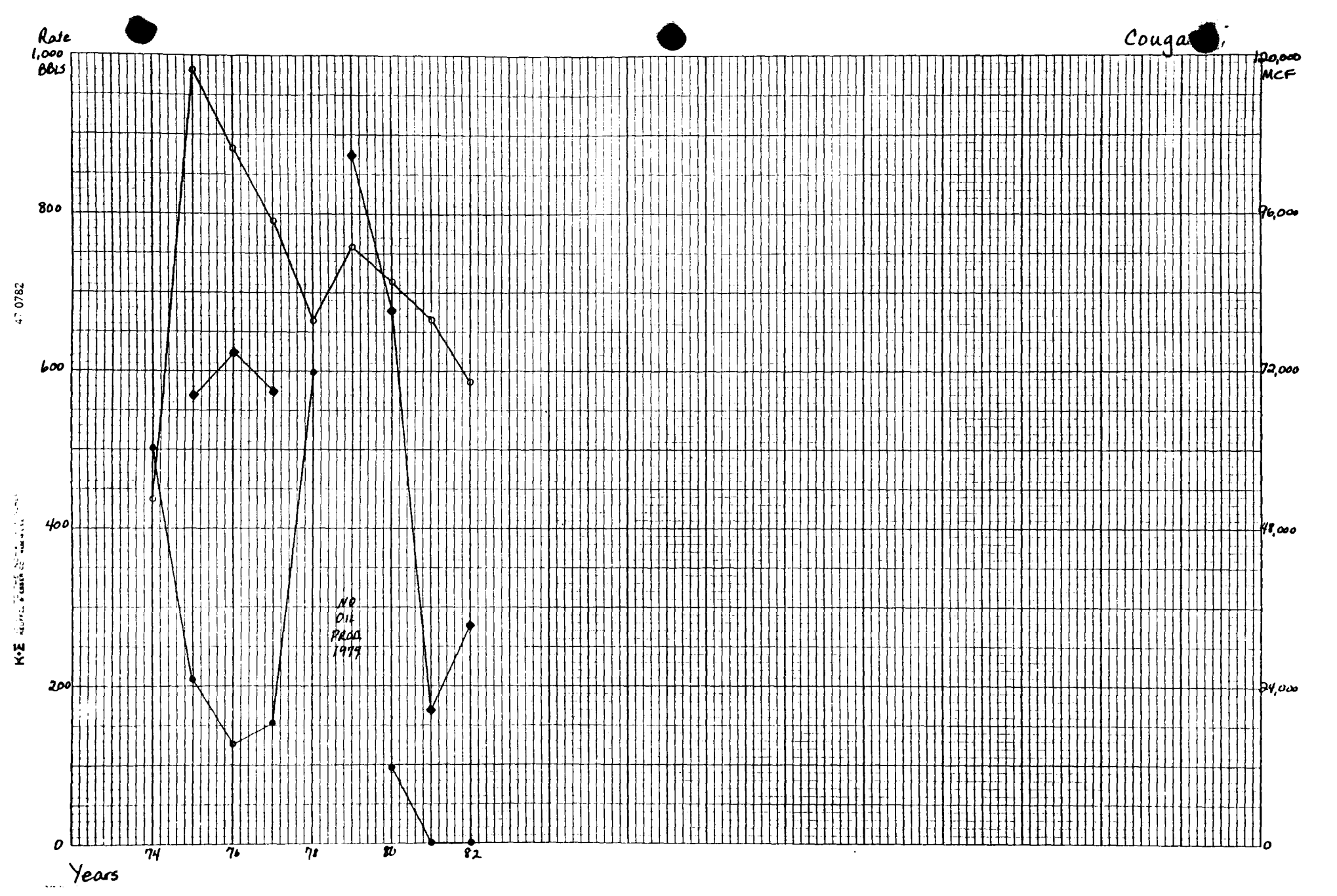

Rate
Cabin Creek-D
2,000
BBLS
1,600
1,200
800
400
0
25,000
MCF
20,000
15,000
10,000
5,000
0
S I
11/55
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

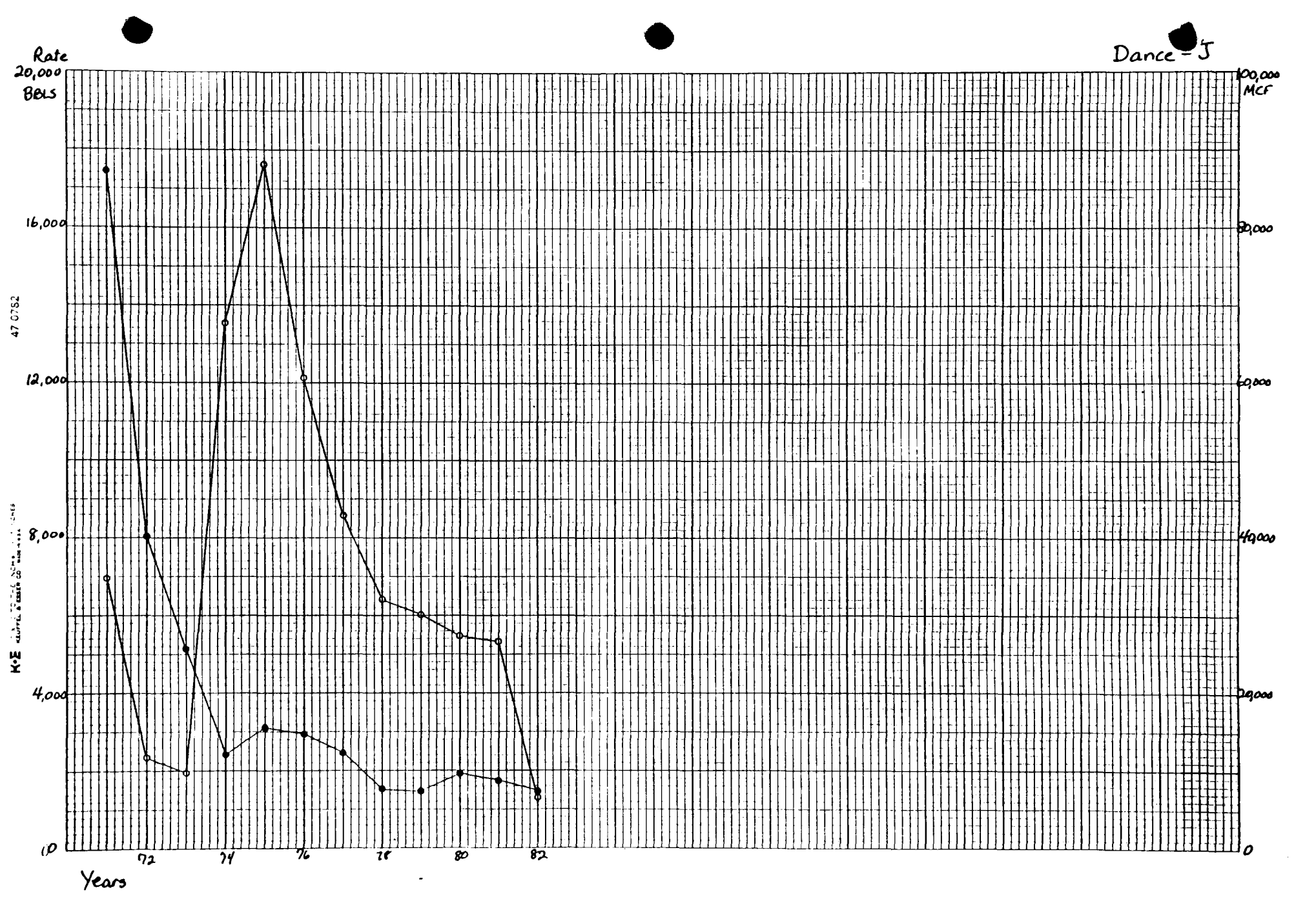

Rate
10,000 BBLS
8,000
6,000
4,000
2,000
0
'76
'78
'80
'82
Years
Cannon-J

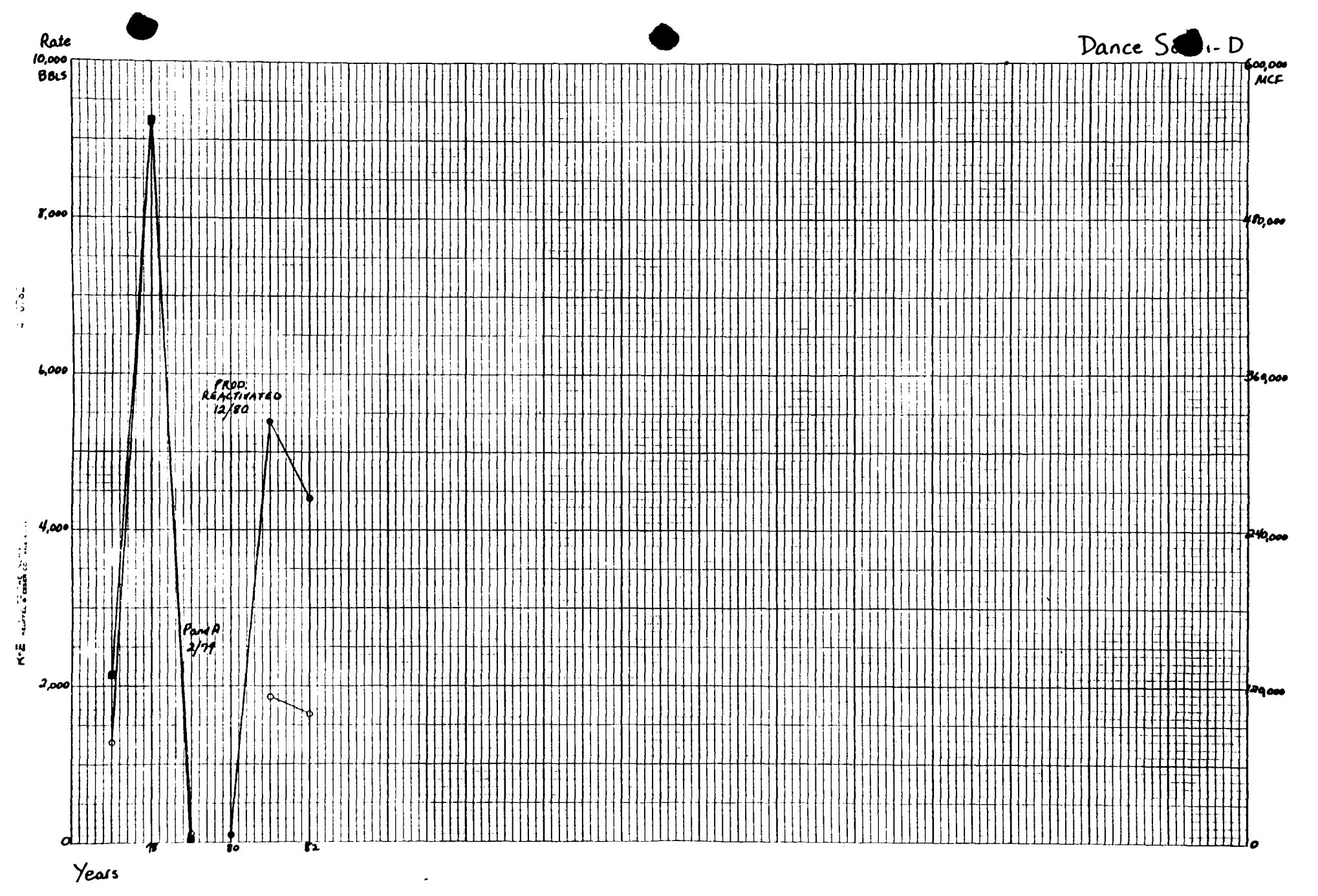

Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
74
76
78
80
82
Years
MCF
1,600,000
1,200,000
800,000
400,000
0

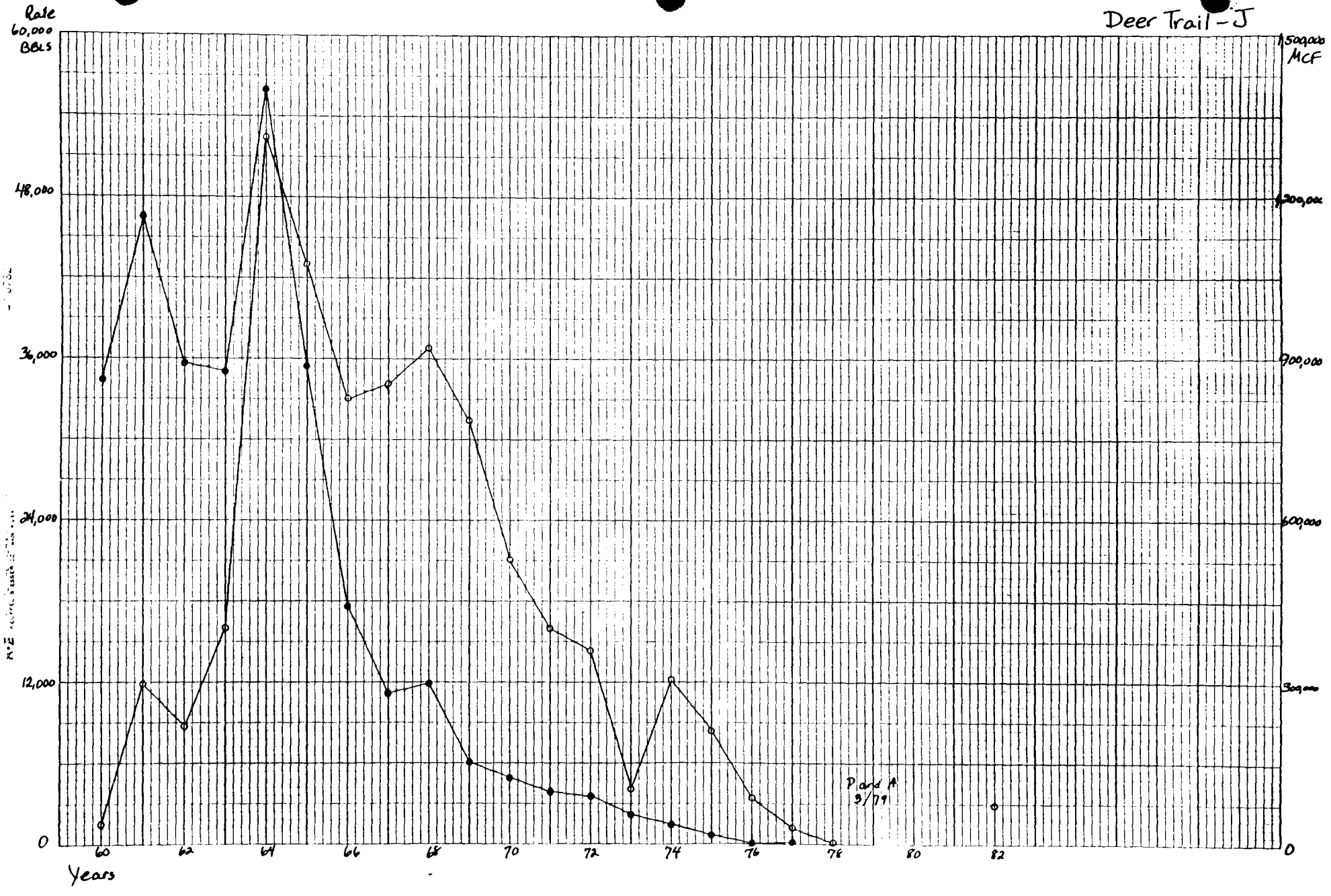

Rate
1,000
BBLS
800
600
400
200
0
78
80
82
Years
Chieftan and J
30,000
MCF
24,000
18,000
12,000
6,000
0

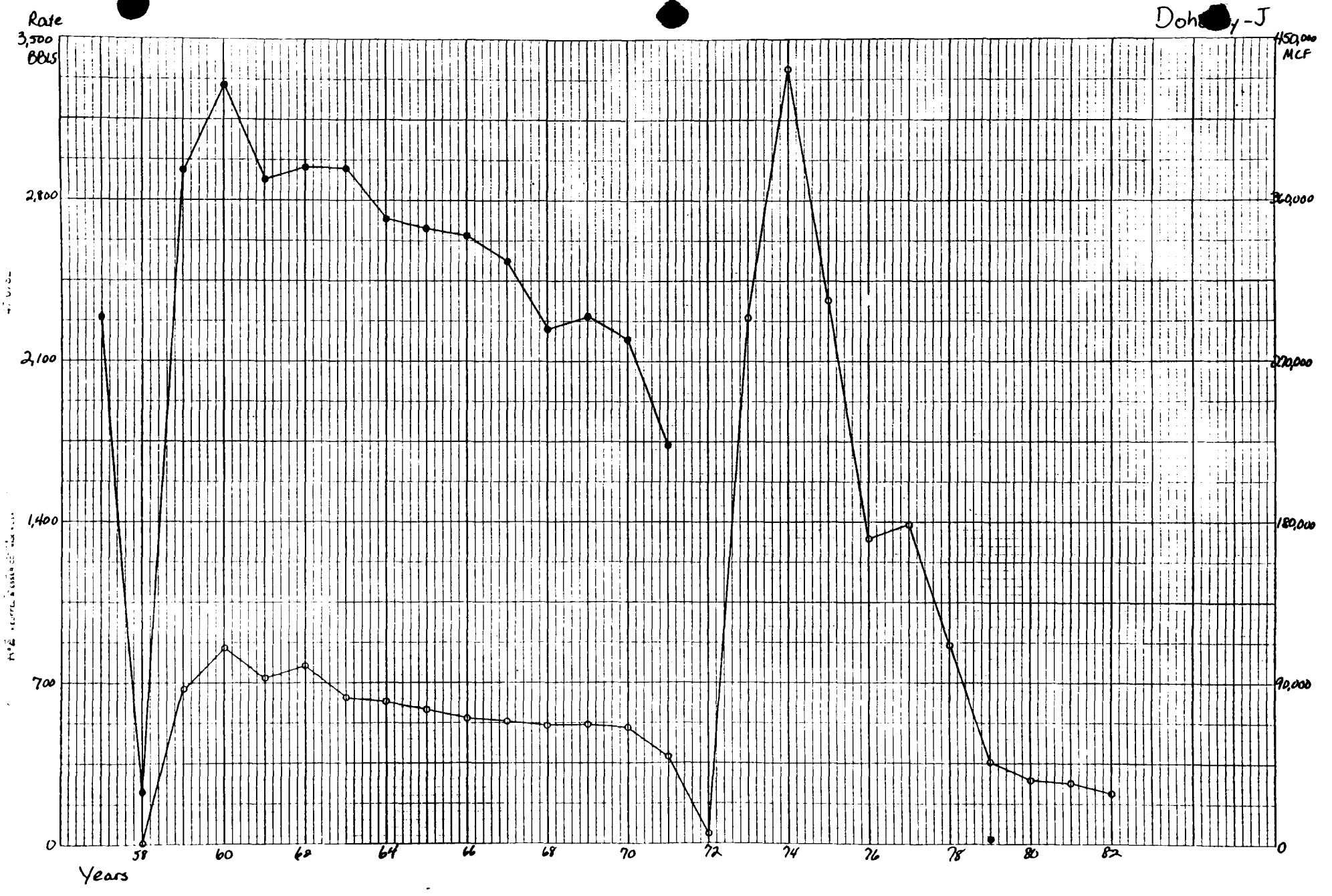

Rate
Cougar D and J
5,000
BBLS
4,000
3,000
2,000
1,000
0
82
Years

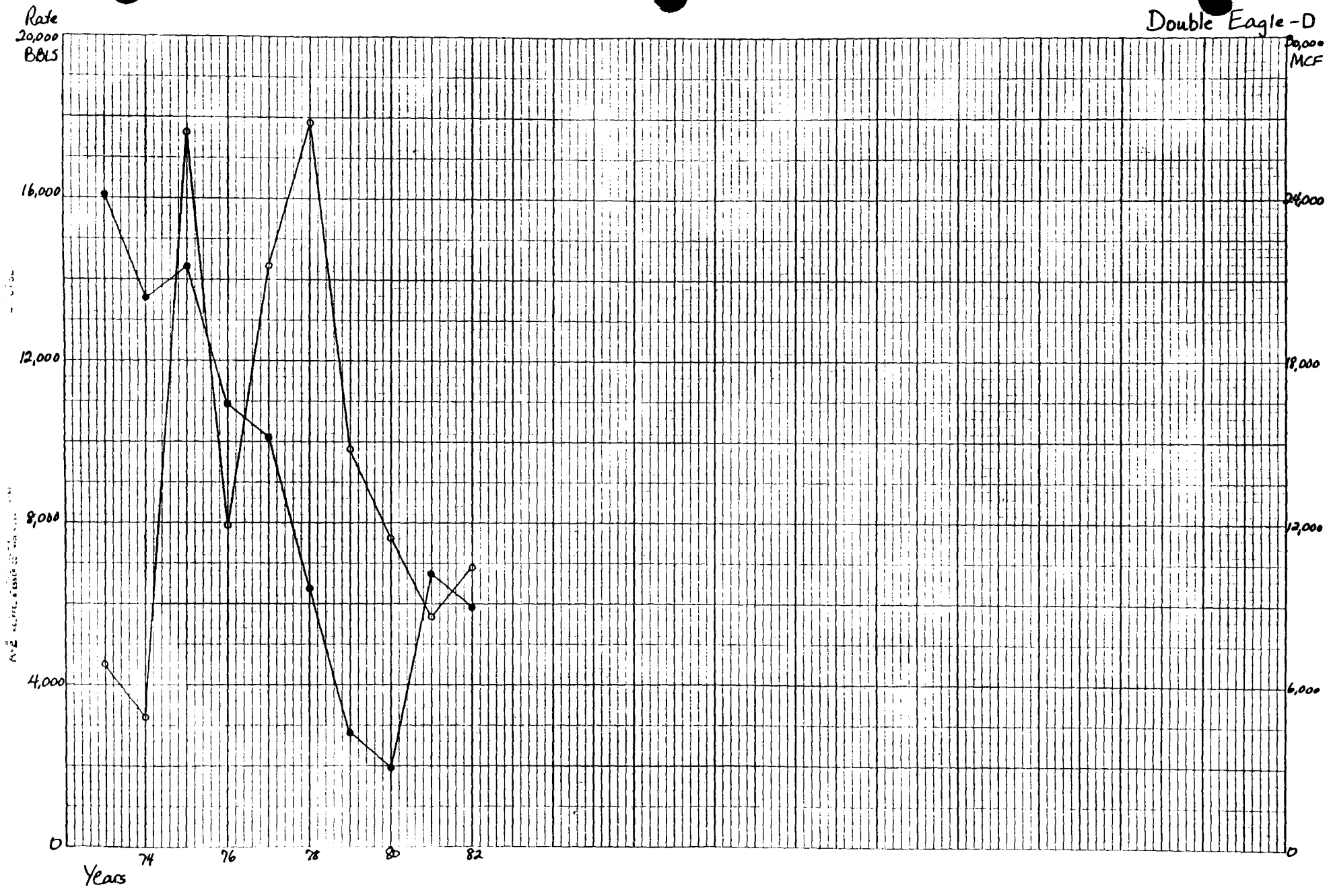

Rate
1,000
BBLS
800
600
400
200
0
120,000
MCF
96,000
72,000
48,000
24,000
0
74
76
78
80
82
Years
NO
OIL
PROD
1979
K+E

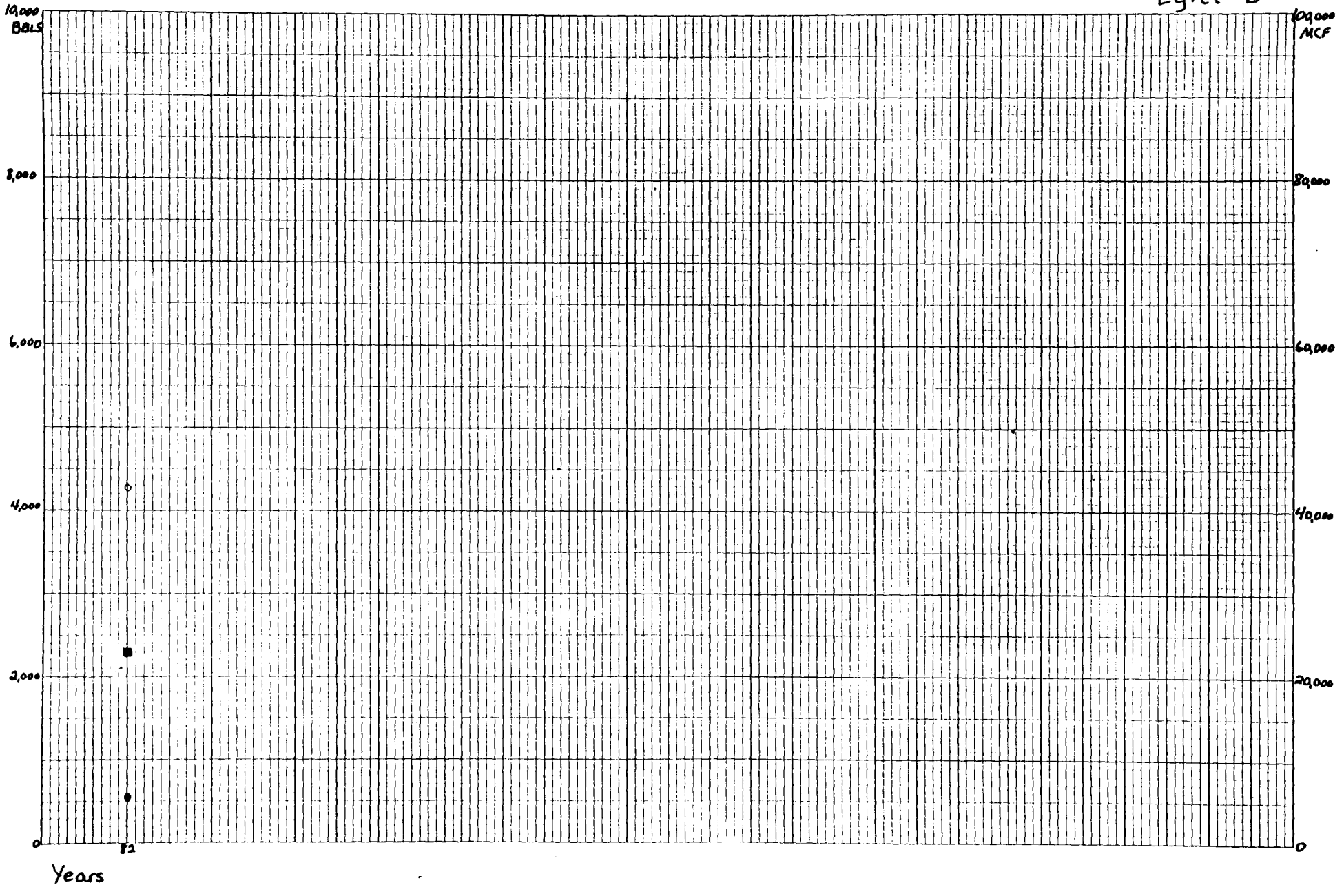

Rate
20,000
BBLS
16,000
12,000
8,000
4,000
0
100,000
MCF
80,000
60,000
40,000
20,000
0
72
74
76
78
80
82
Years
Dance - J
47 0782
K&E

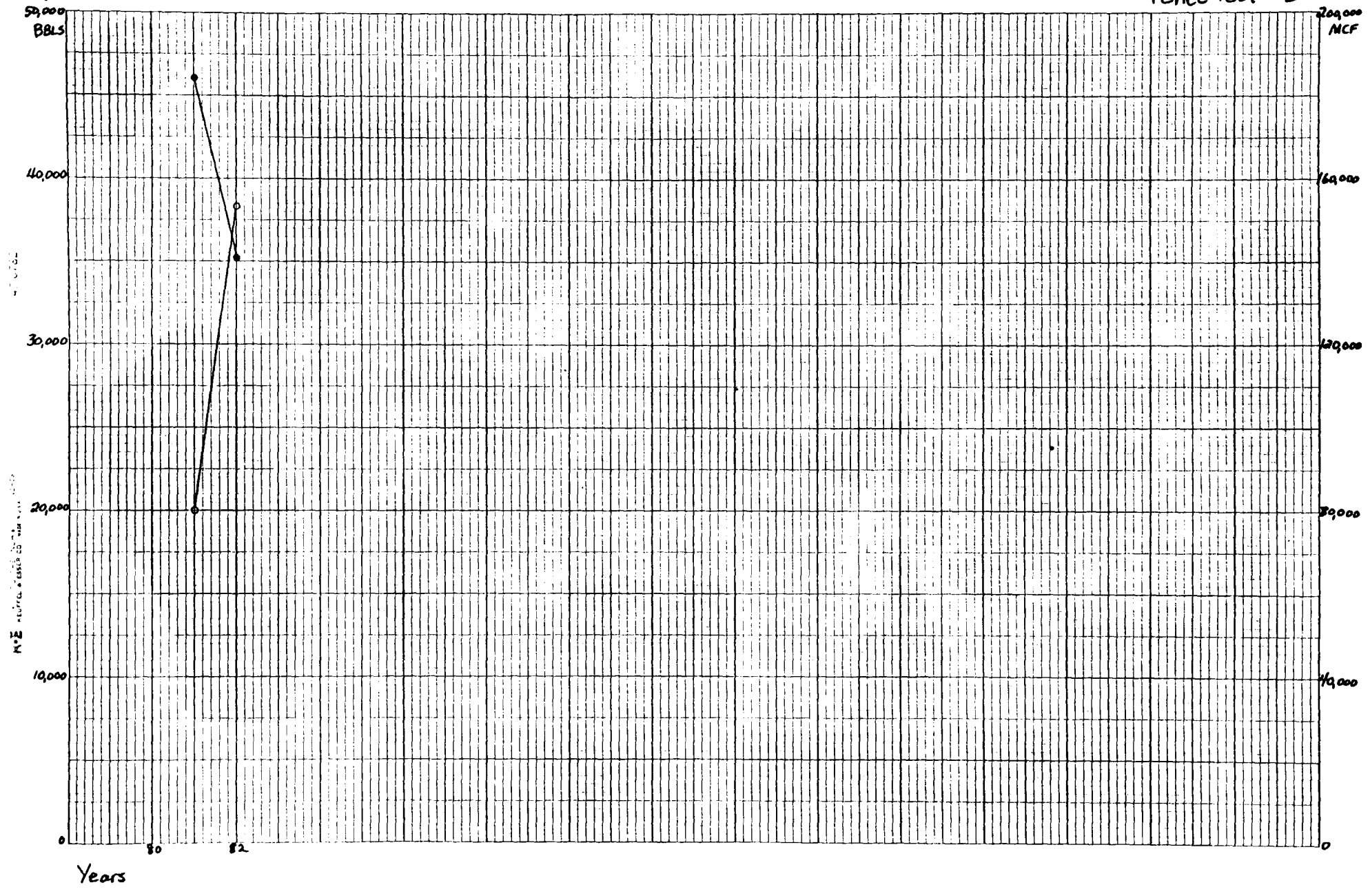

Rate
10,000 BBLS
8,000
6,000
4,000
2,000
0
600,000 MCF
480,000
360,000
240,000
120,000
0
PROD. REACTIVATED 12/80
Pond A 2/79
Years


Rate
60,000 BBLS
48,000
36,000
24,000
12,000
0
1,500,000 MCF
1,200,000
900,000
600,000
300,000
0
60
62
64
66
68
70
72
74
76
78
80
82
Years
Deer Trail - J
P and A 9/79


Rate
Doh[redacted]y-J
3,500 BBLS
2,800
2,100
1,400
700
0
450,000 MCF
360,000
270,000
180,000
90,000
0
58
60
62
64
66
68
70
72
74
76
78
80
82
Years


Rate
20,000
BBLS
16,000
12,000
8,000
4,000
0
74
76
78
80
82
Years
Double Eagle-D
MCF
24,000
18,000
12,000
6,000
0


Rate
Egret-D
10,000
BBLS
8,000
6,000
4,000
2,000
0
100,000
MCF
80,000
60,000
40,000
20,000
0
82
Years


Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
80
82
Years
Fence Post - D

Rate

Fence Post-D and J

10,000 BBLS

8,000

6,000

4,000

2,000

0

30,000 MCF

24,000

18,000

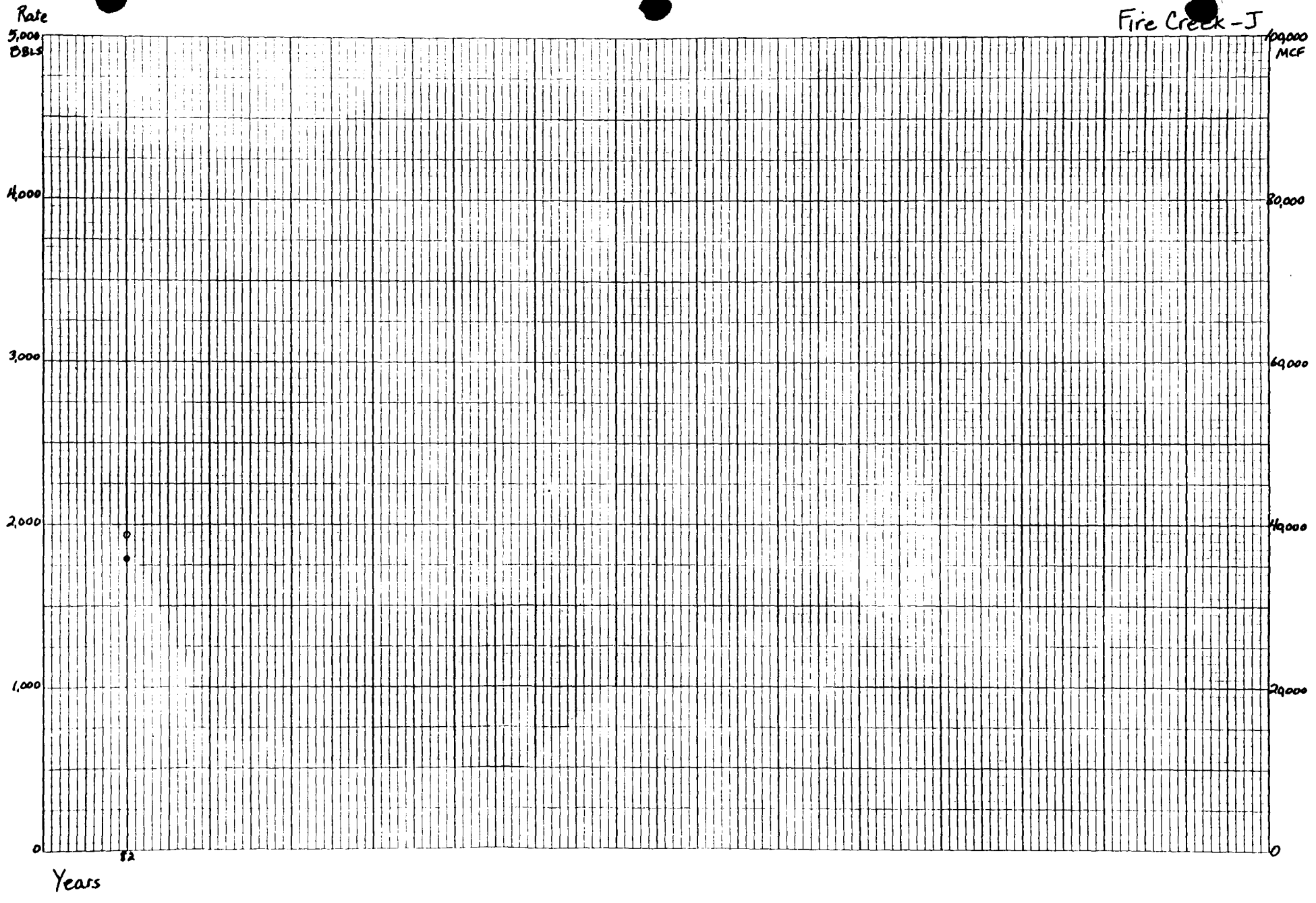
12,000

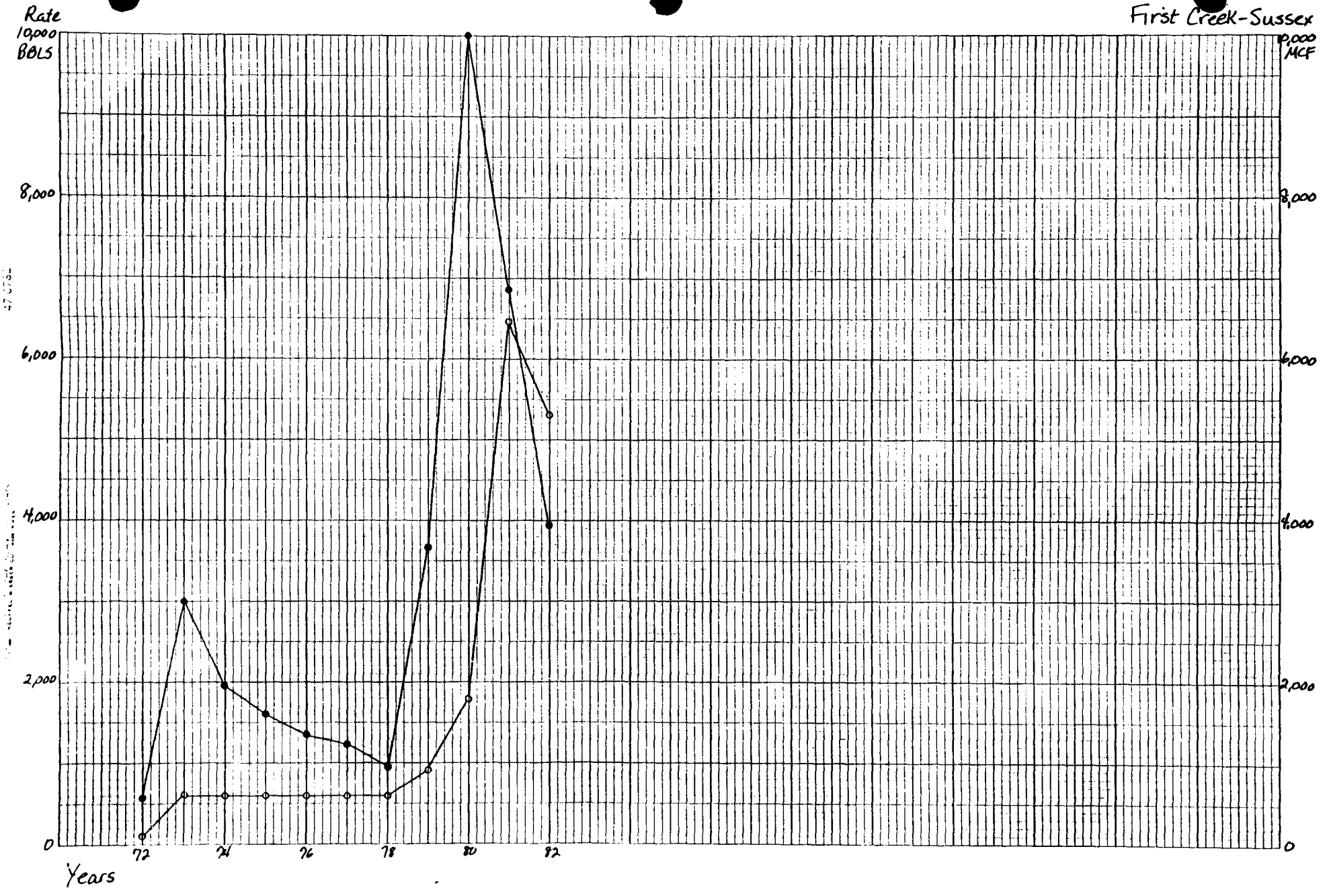
6,000

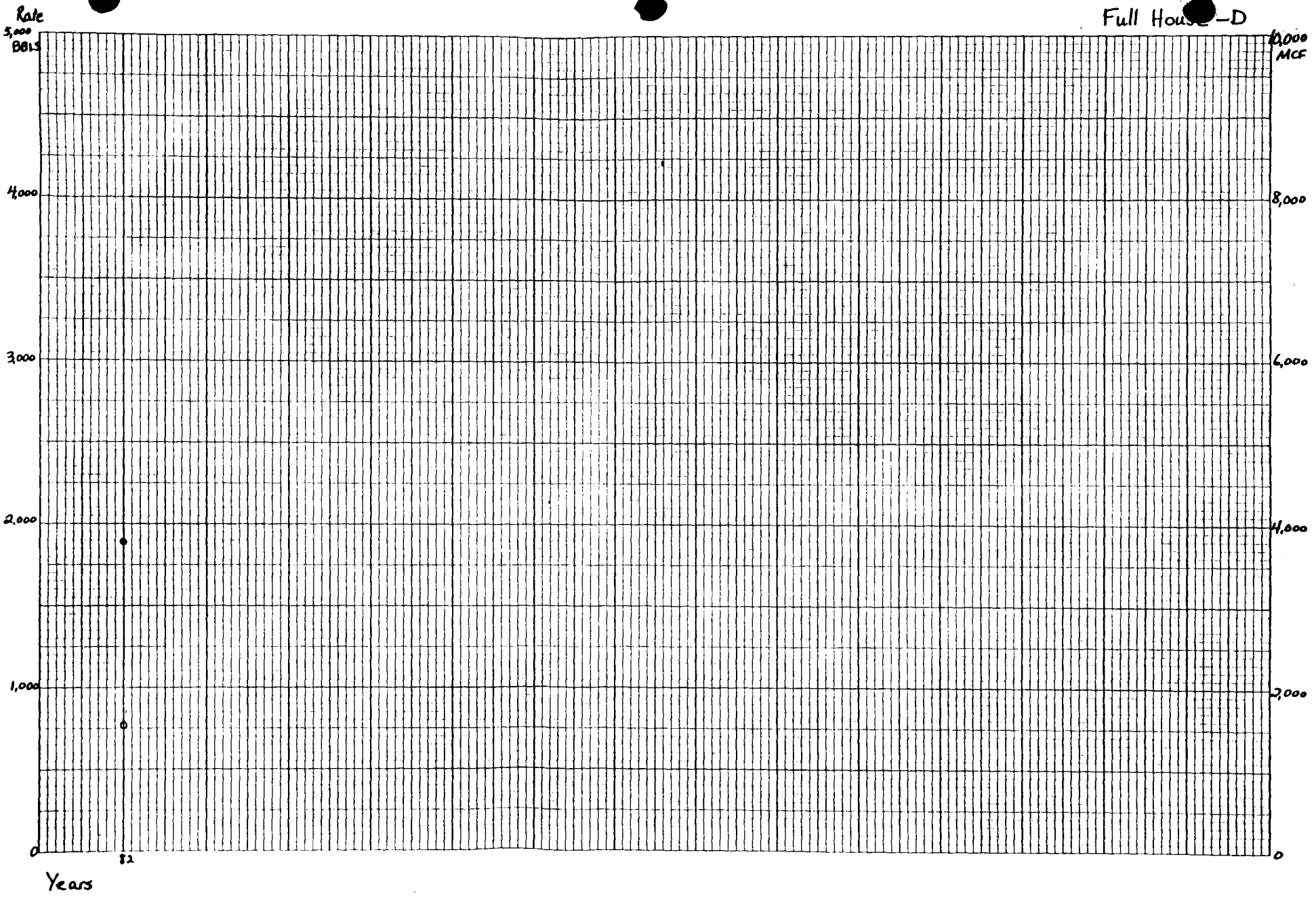
0

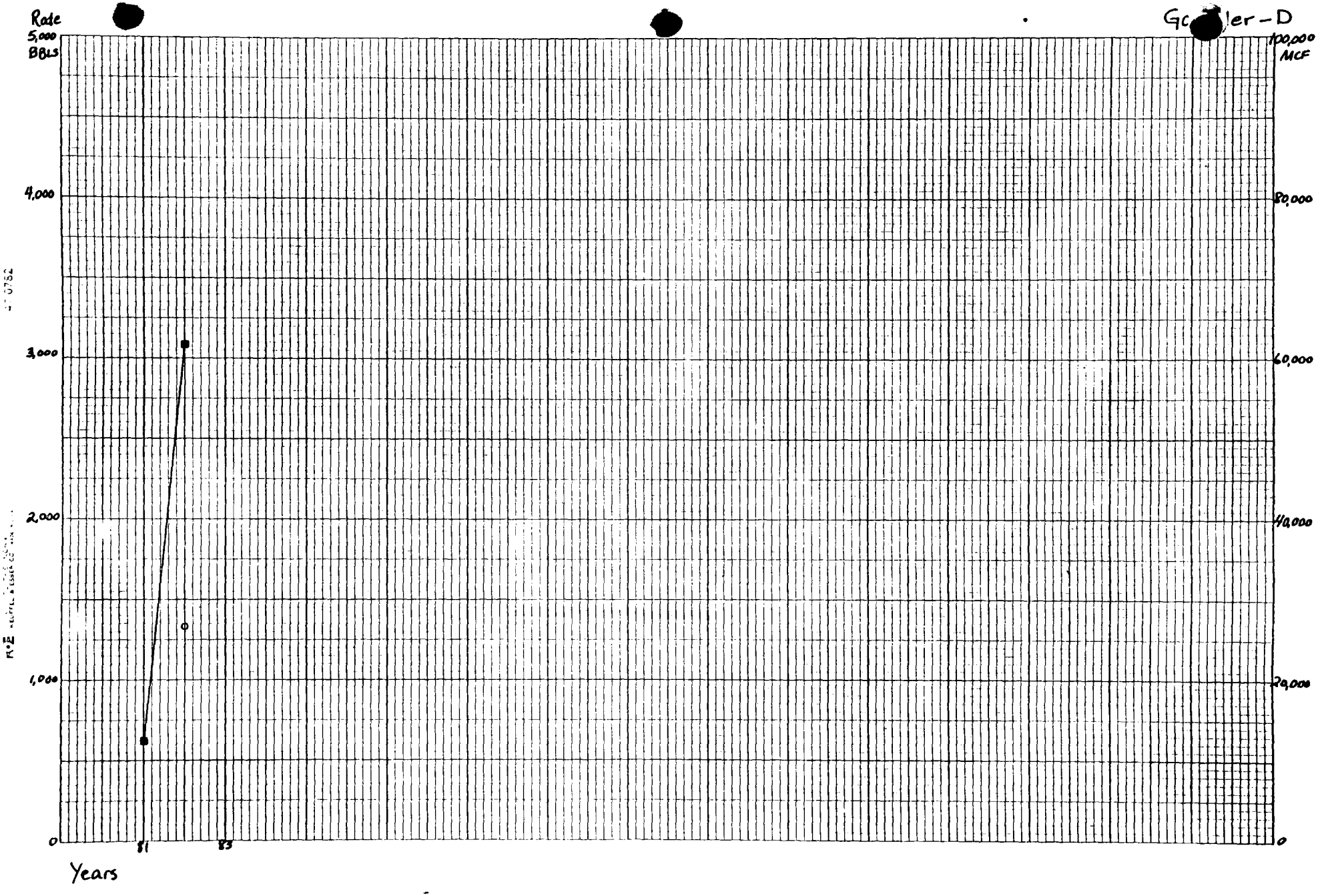
82

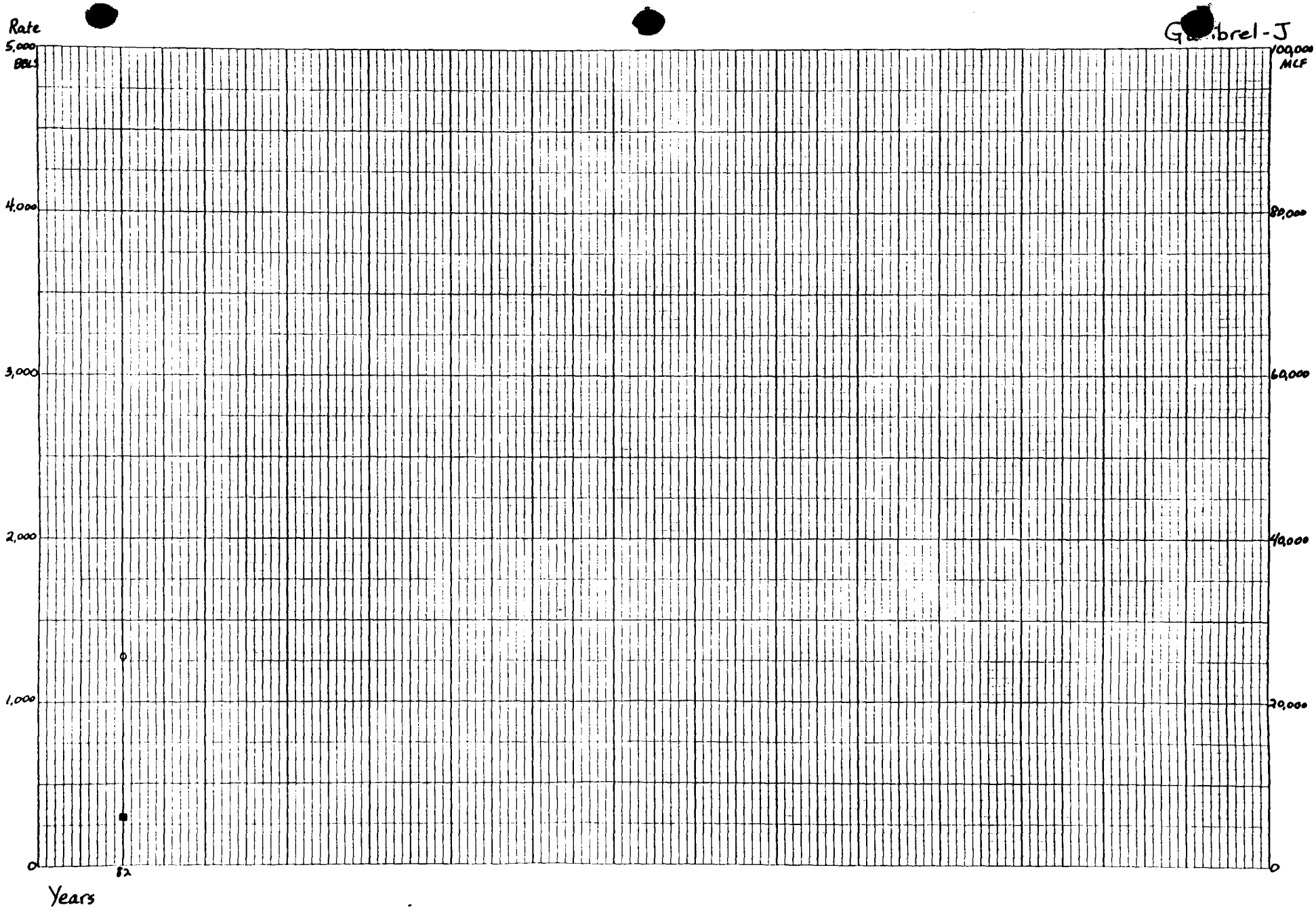
Years

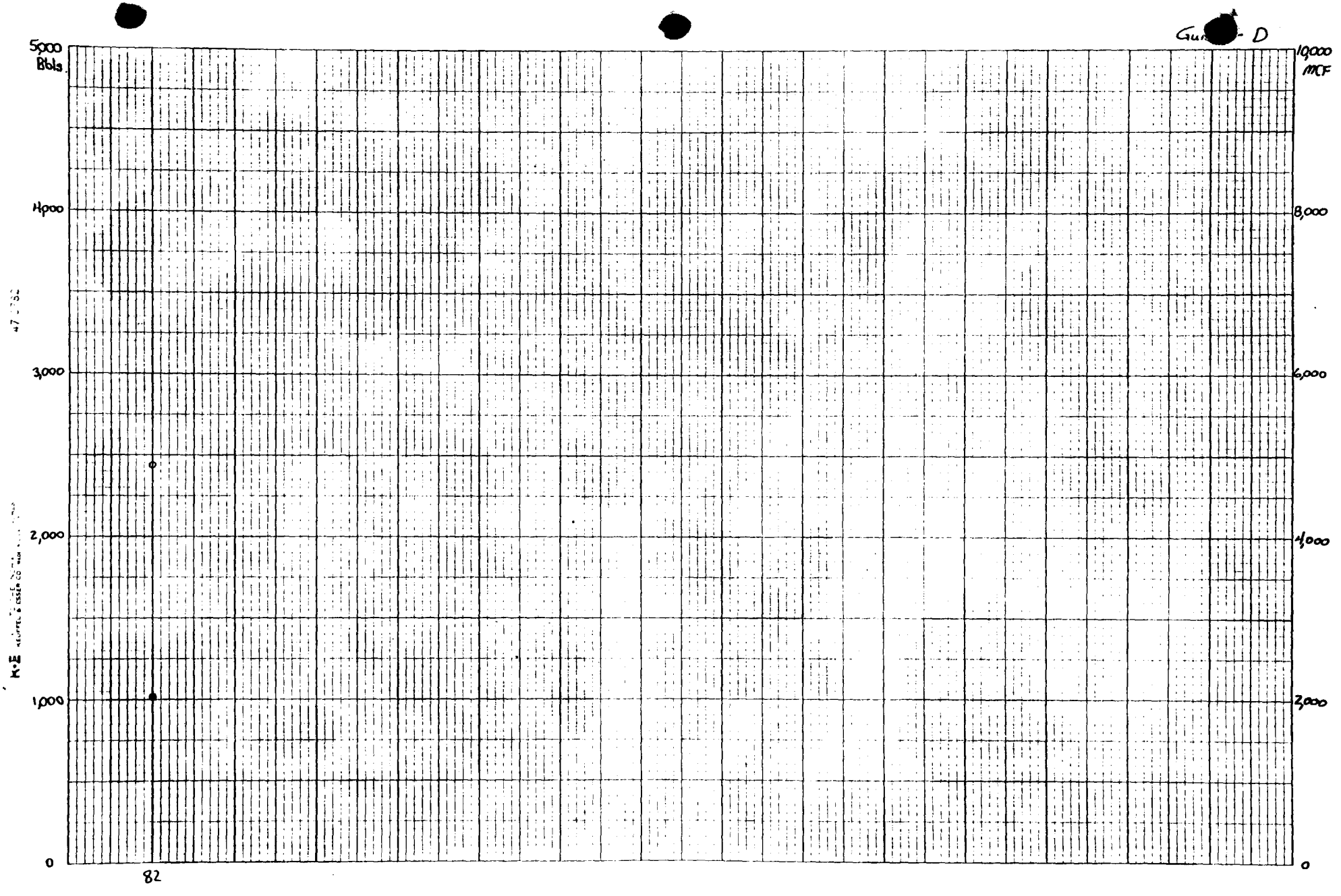

Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
100,000 MCF
80,000
60,000
40,000
20,000
0
Fire Creek - J
82
Years

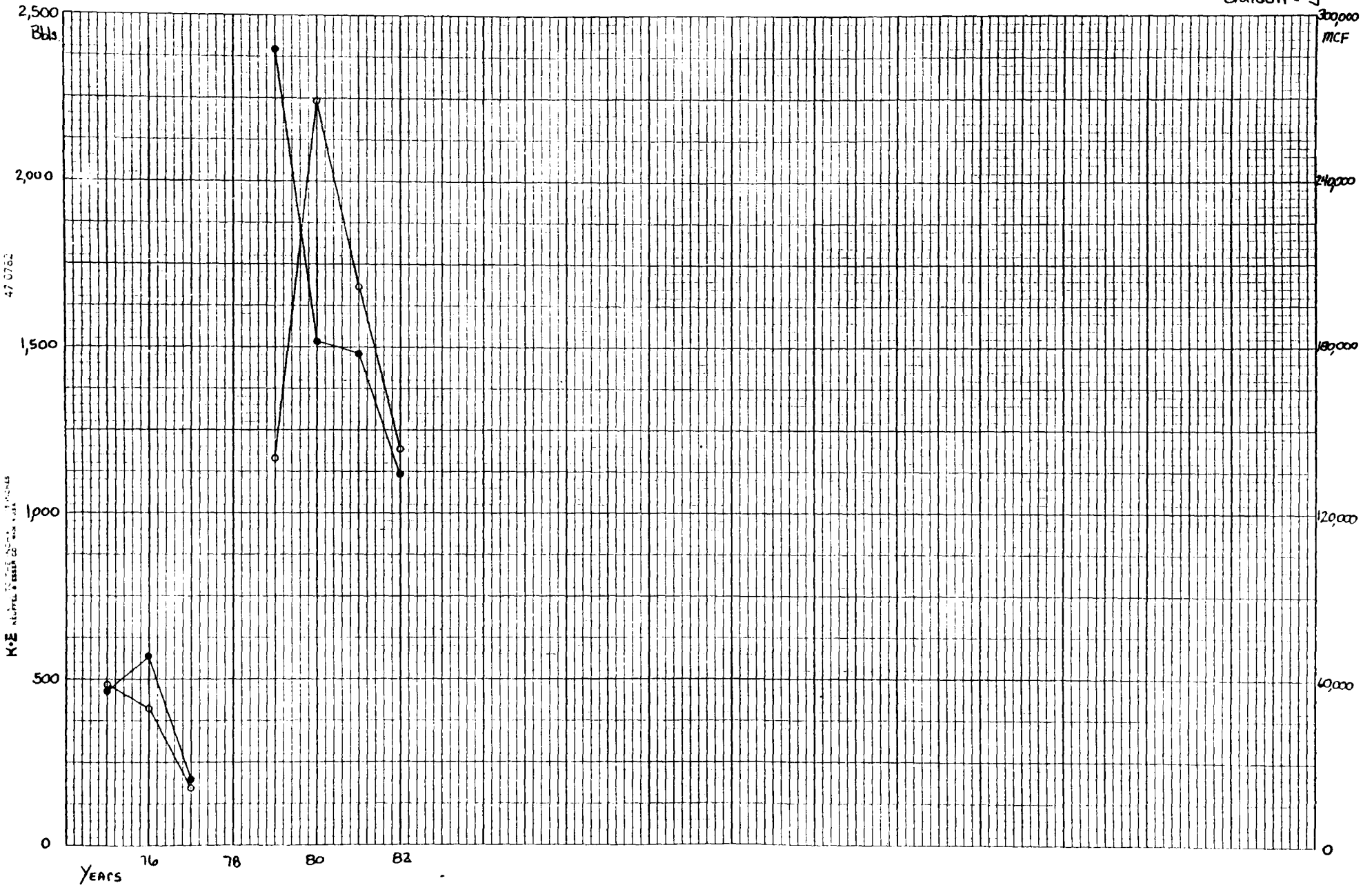

Rate
10,000
BBLS
8,000
6,000
4,000
2,000
0
10,000
MCF
8,000
6,000
4,000
2,000
0
72
74
76
78
80
82
Years
First Creek-Sussex

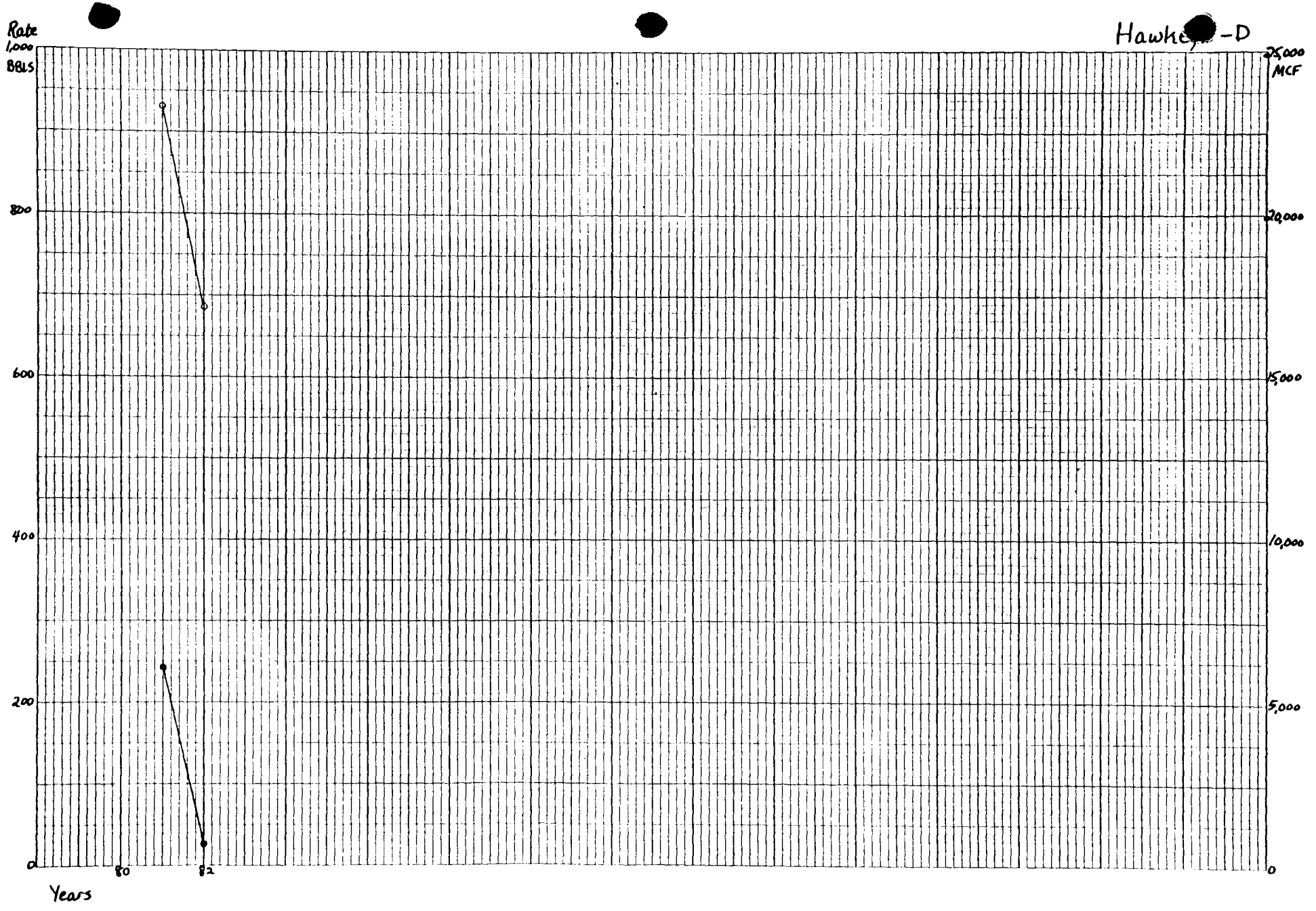

Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
82
Years
Full House -D
10,000
MCF
8,000
6,000
4,000
2,000
0

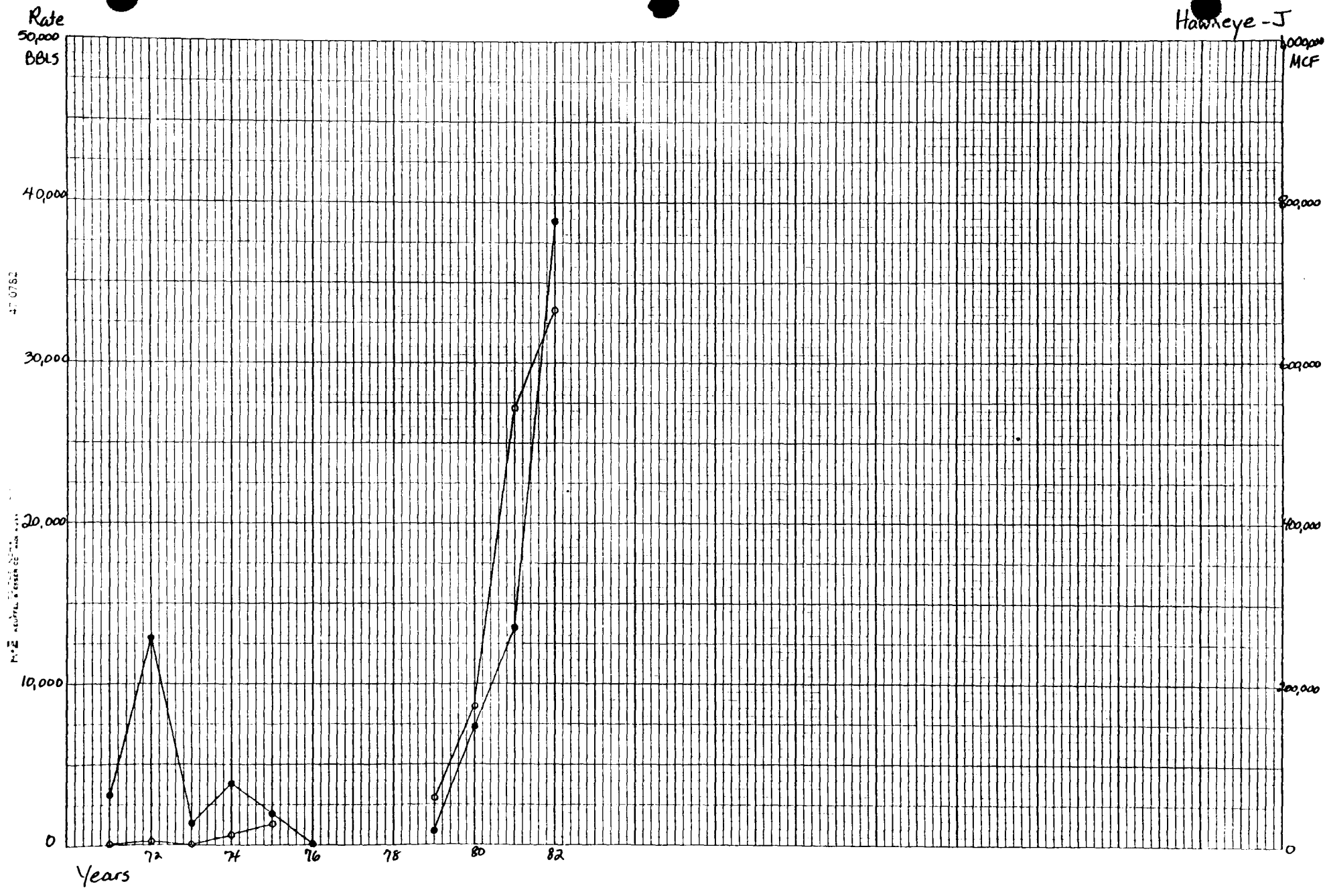

Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
100,000
MCF
80,000
60,000
40,000
20,000
0
81
83
Years

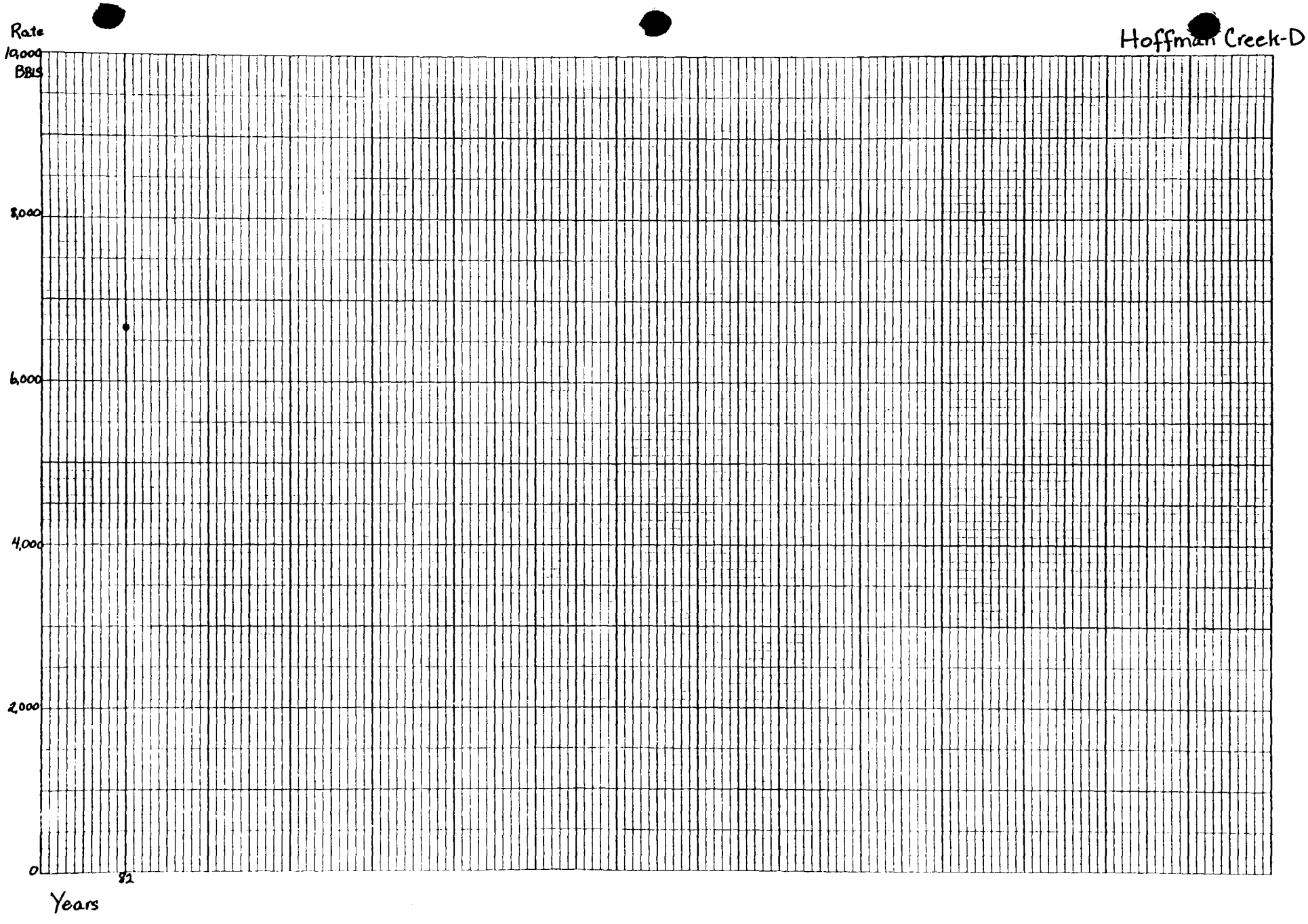

Rate
5,000
Bbls
4,000
3,000
2,000
1,000
0
100,000
MCF
80,000
60,000
40,000
20,000
0
82
Years

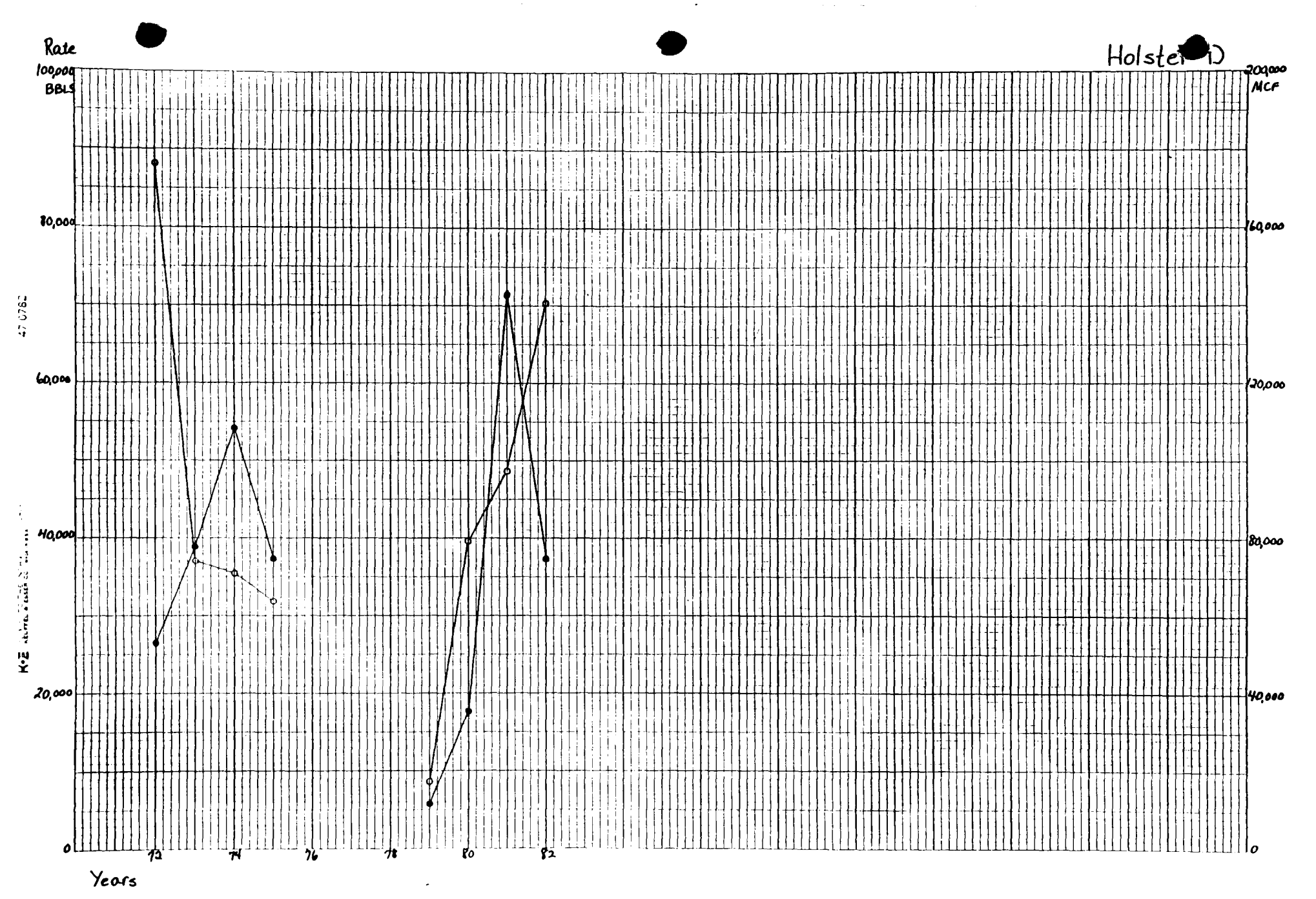

Gun - D
5,000 Bbls
4,000
3,000
2,000
1,000
0
10,000 MCF
8,000
6,000
4,000
2,000
0
82

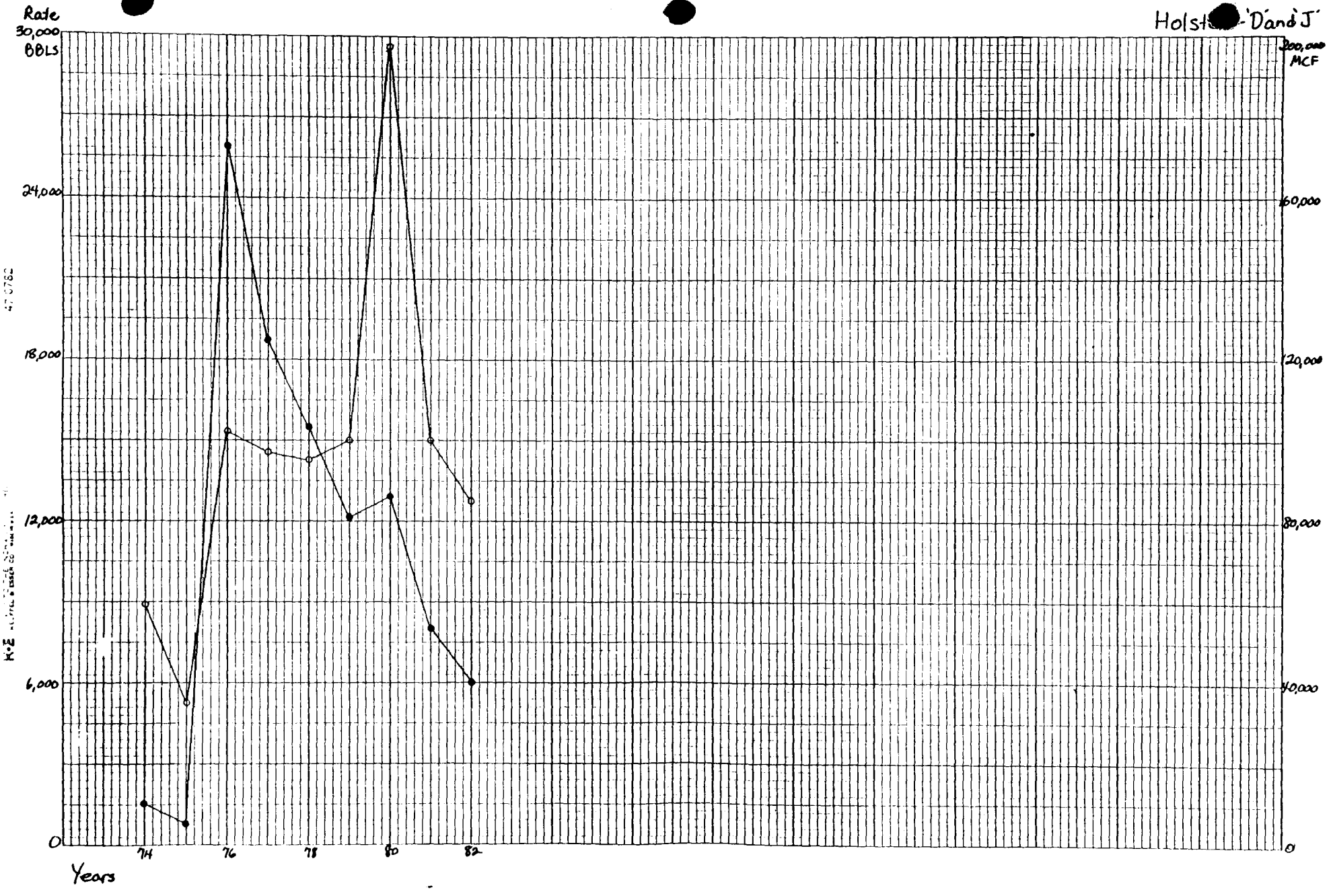

Gulden - J
2,500
Bbls
2,000
1,500
1,000
500
0
300,000
MCF
240,000
180,000
120,000
60,000
0
76
78
80
82
YEARS

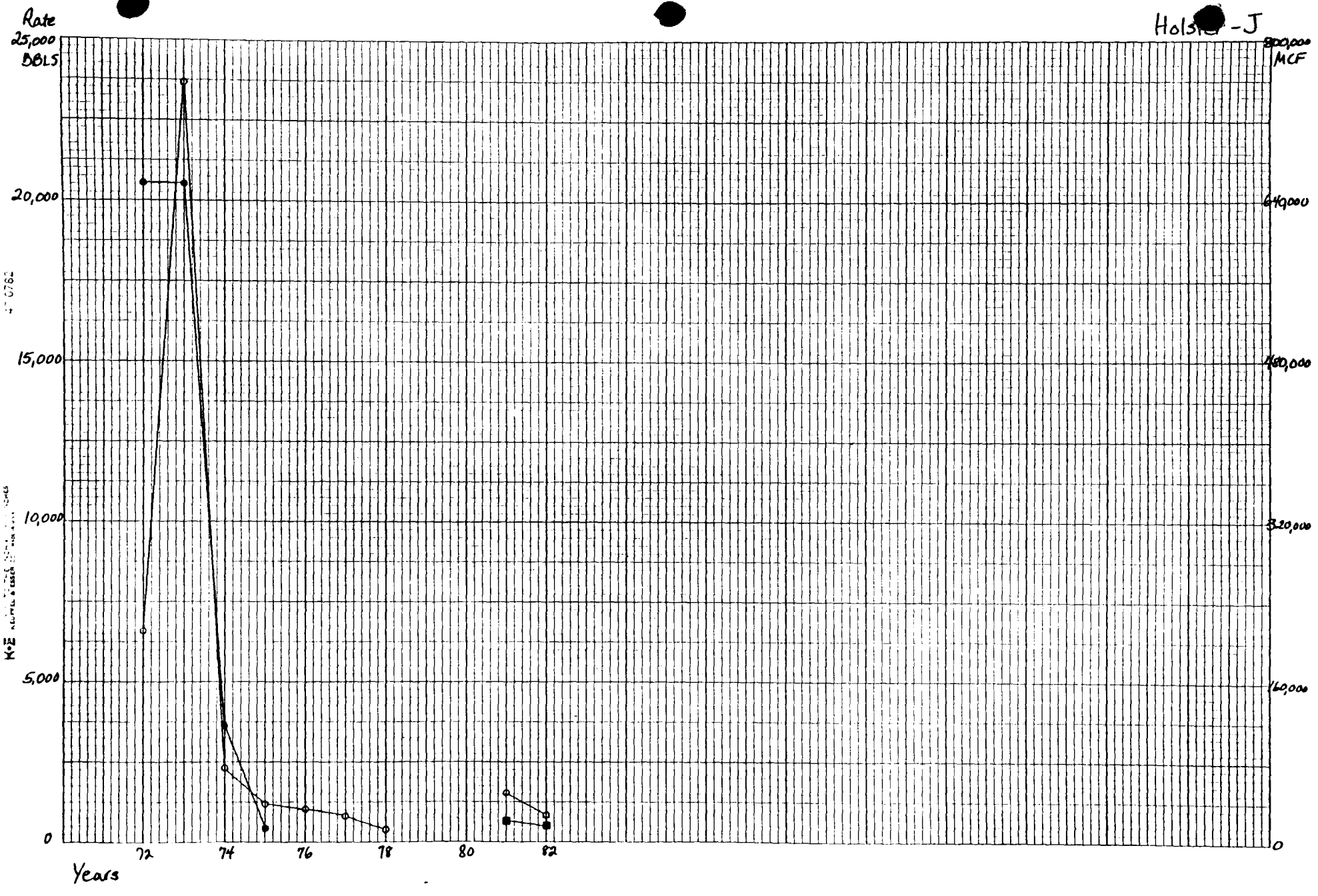

Rate
1,000
BBLS
800
600
400
200
0
25,000
MCF
20,000
15,000
10,000
5,000
0
80
82
Years

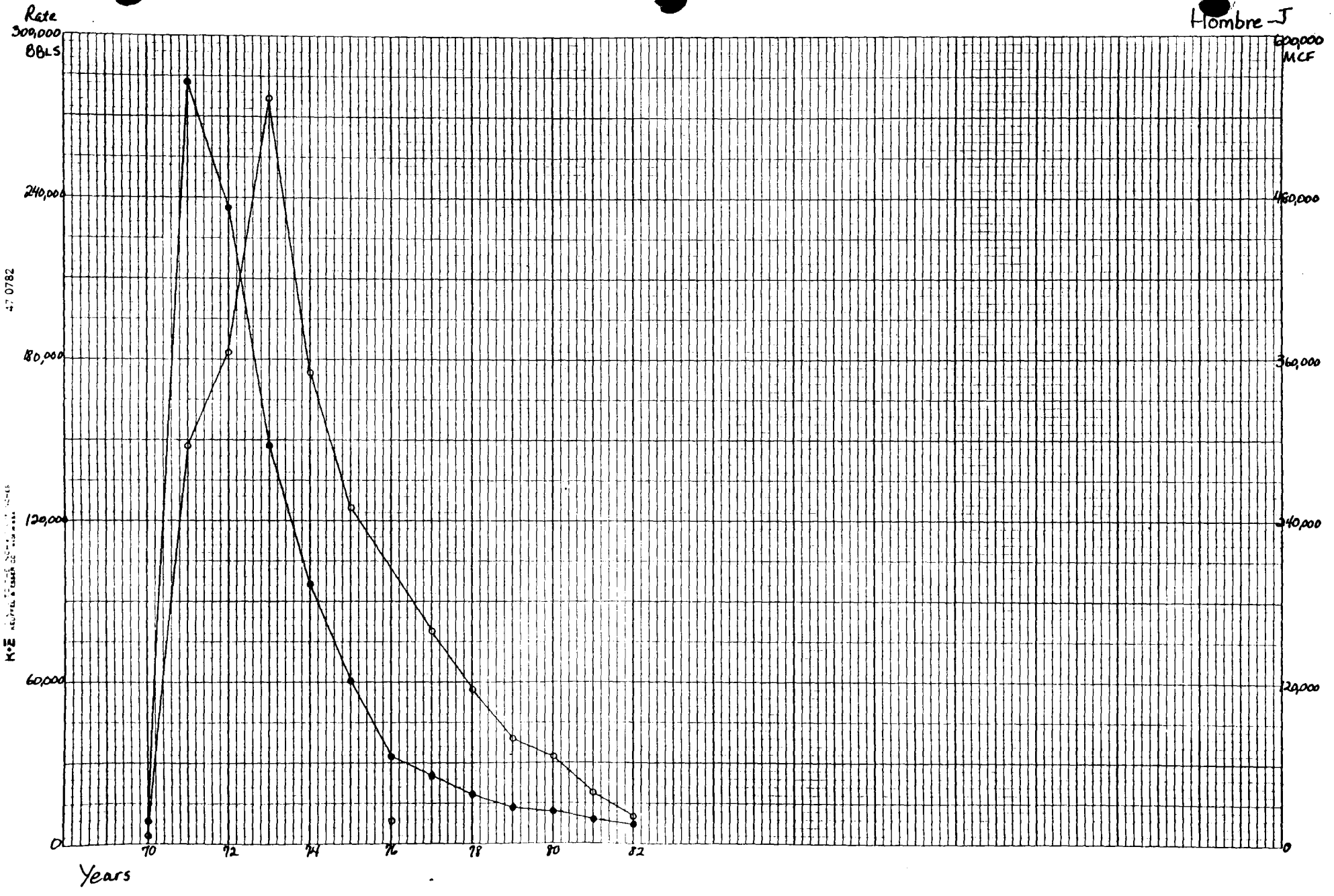

Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
Hawkeye - J
1,000,000
MCF
800,000
600,000
400,000
200,000
0
72
74
76
78
80
82
Years

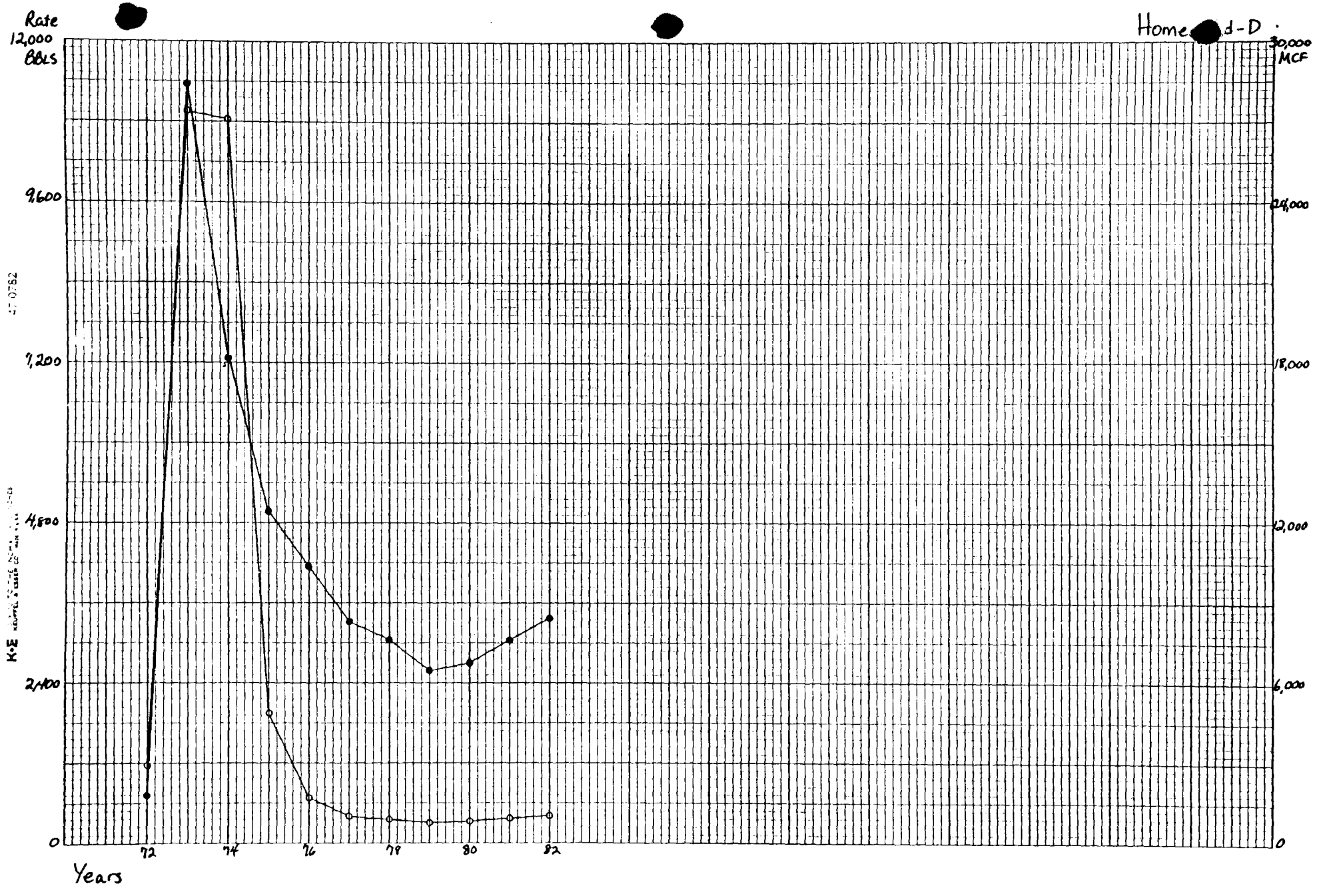

Rate
10,000
BBLS
8,000
6,000
4,000
2,000
0
82
Years
Hoffman Creek-D

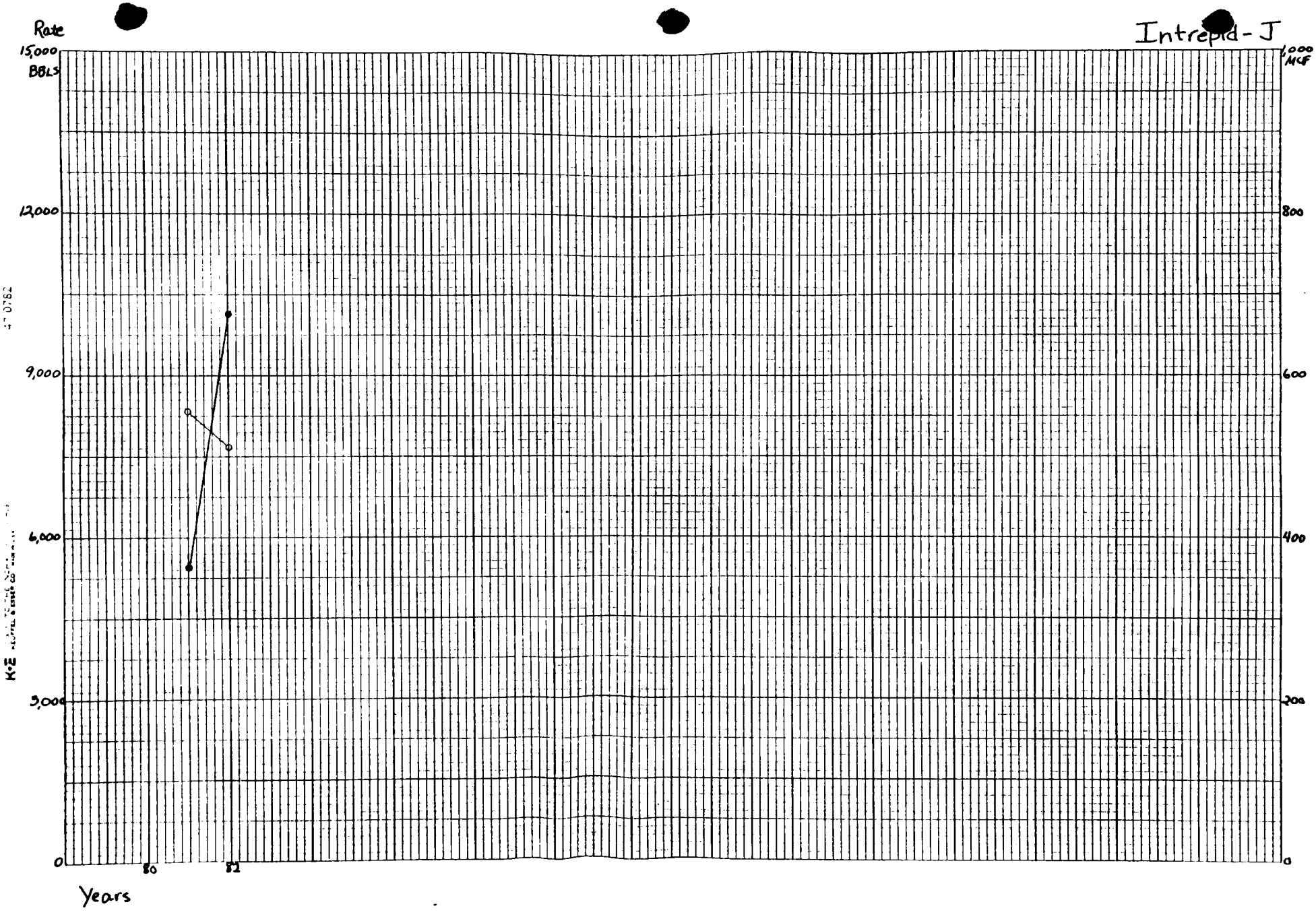

Rate
Holstead
100,000
BBLS
80,000
60,000
40,000
20,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
72
74
76
78
80
82
Years

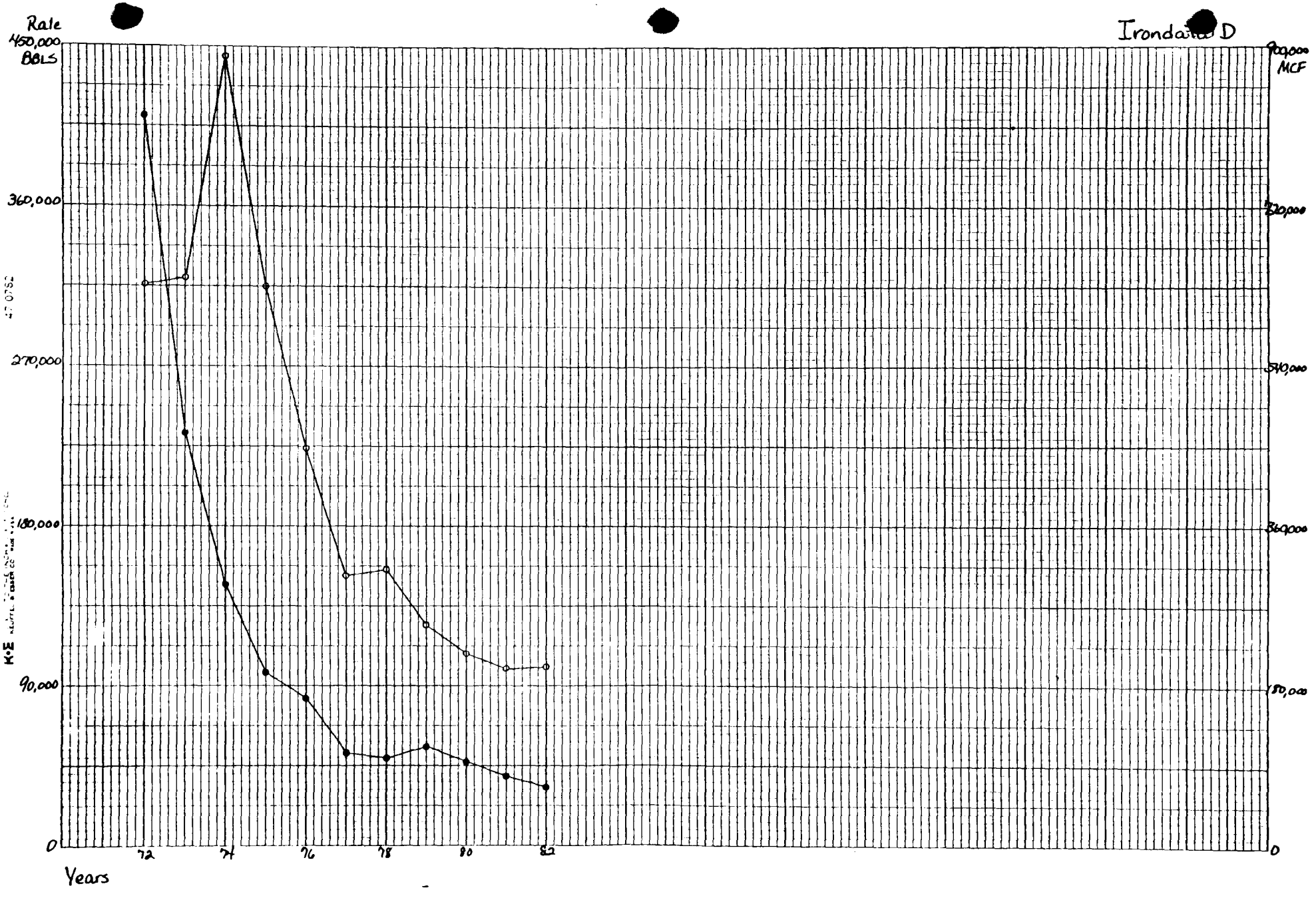

Rate
30,000
BBLS
24,000
18,000
12,000
6,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
74
76
78
80
82
Years
Holst[redacted]-'D and J'

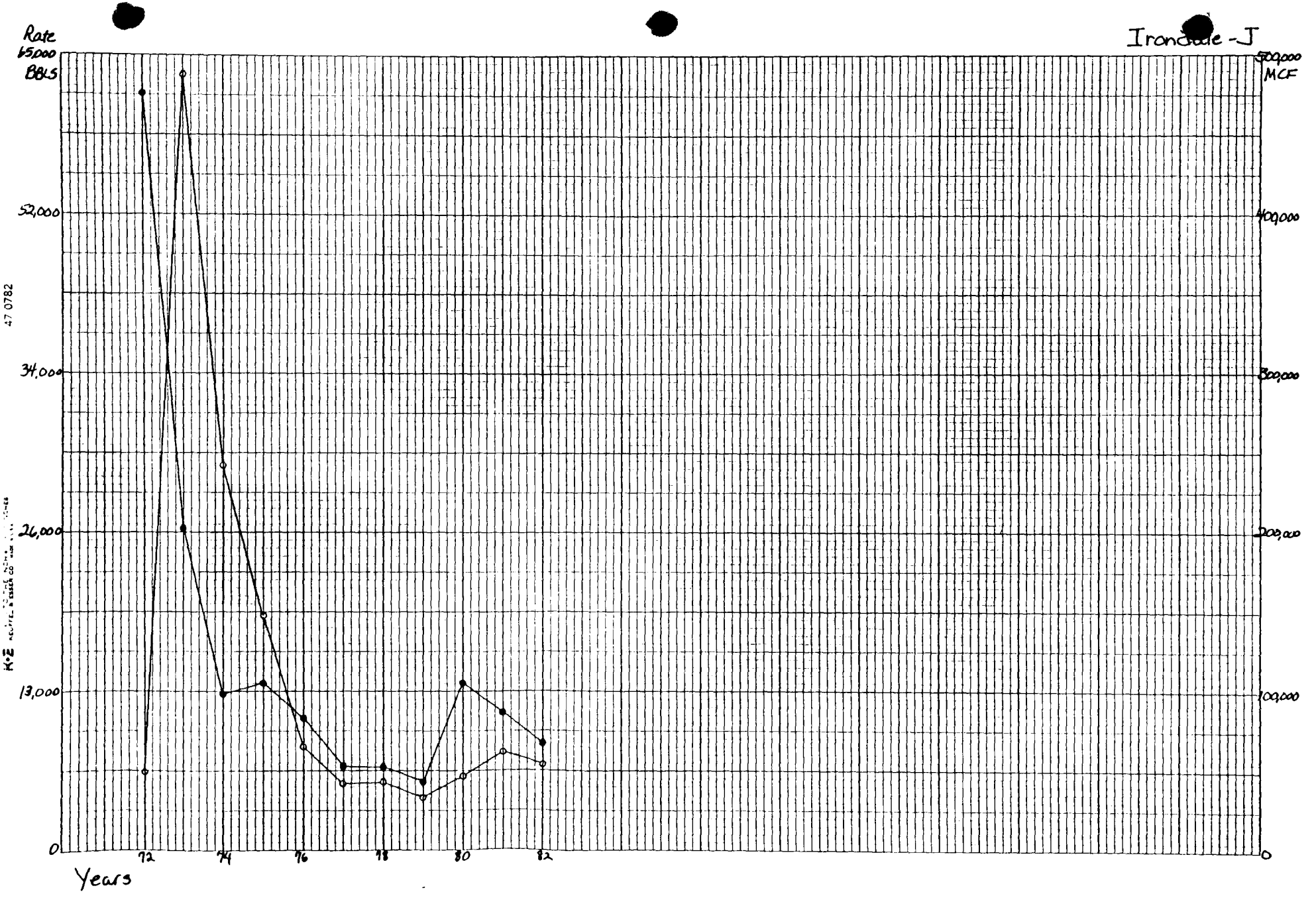

Rate
25,000
BBLS
20,000
15,000
10,000
5,000
0
800,000
MCF
640,000
480,000
320,000
160,000
0
72
74
76
78
80
82
Years

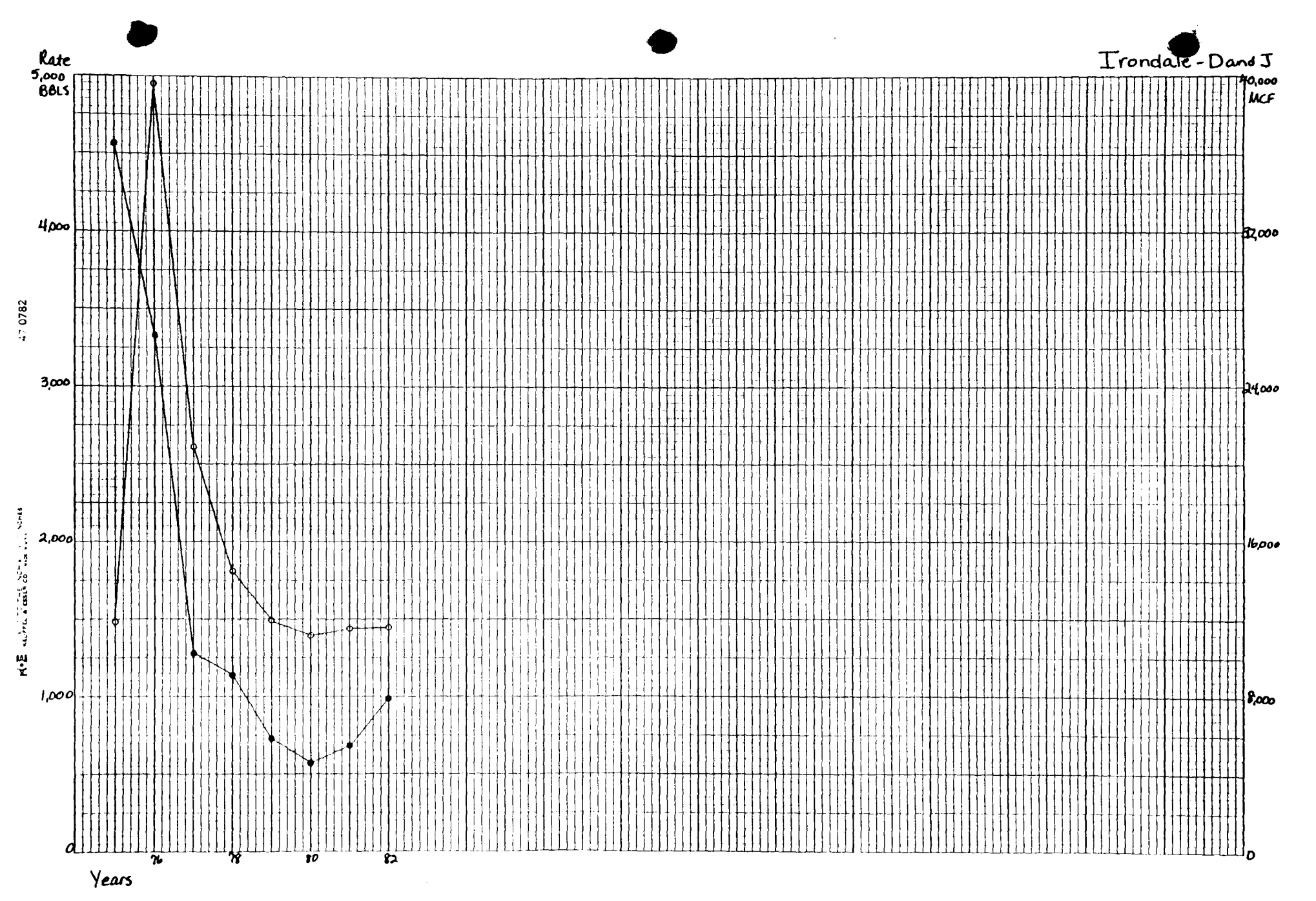

Rate
300,000
BBLS
240,000
180,000
120,000
60,000
0
Hombre-J
600,000
MCF
480,000
360,000
240,000
120,000
0
70
72
74
76
78
80
82
Years


Rate
12,000
BBLS
9,600
7,200
4,800
2,400
0
30,000
MCF
24,000
18,000
12,000
6,000
0
72
74
76
78
80
82
Years
Home
d-D


Rate
Intrepid - J
15,000
BBLS
12,000
9,000
6,000
3,000
0
1,000
MCF
800
600
400
200
0
80
81
Years


Rate
450,000 BBLS
360,000
270,000
180,000
90,000
0
Irondale D
900,000 MCF
720,000
540,000
360,000
180,000
0
72
74
76
78
80
82
Years

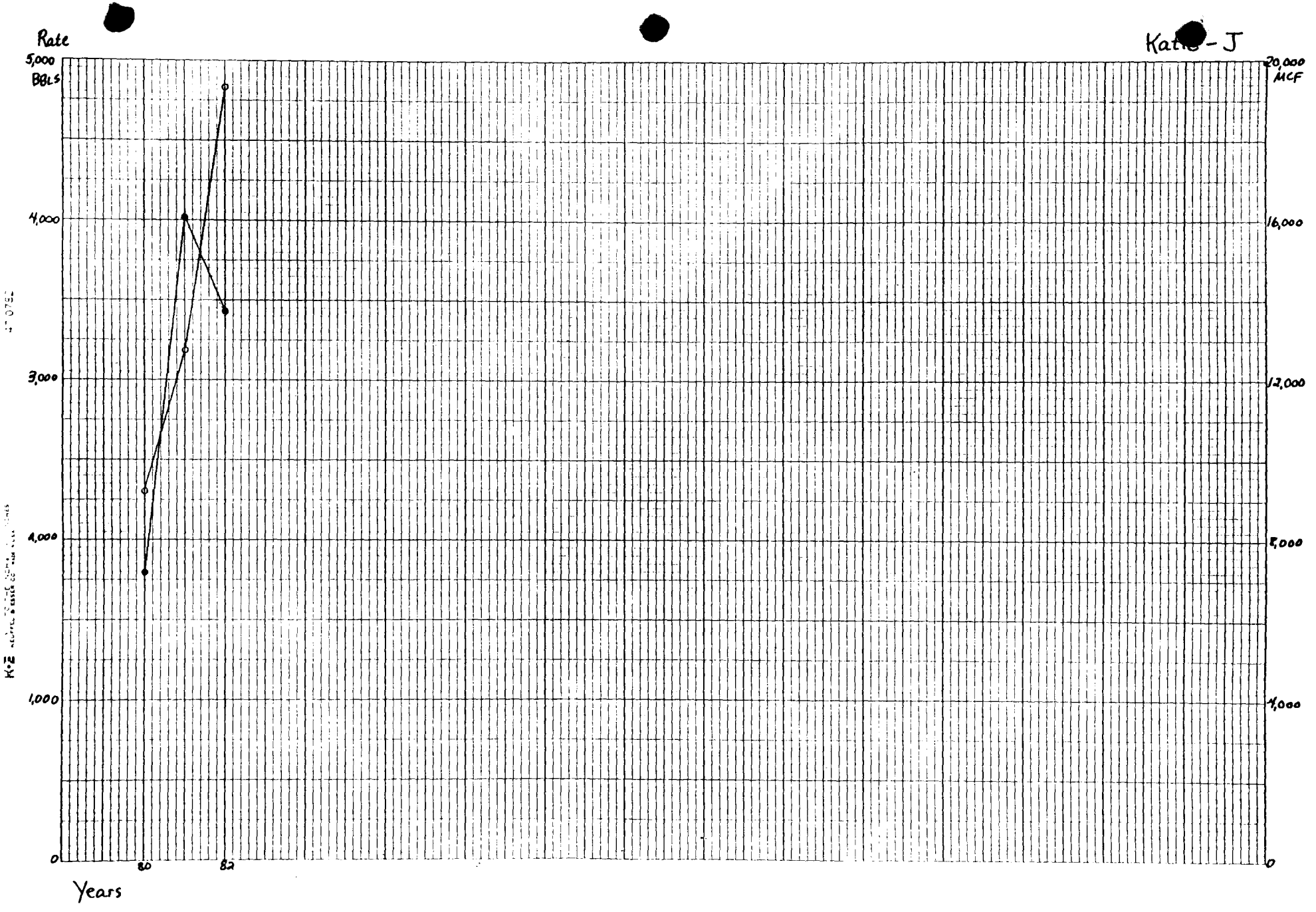

Rate
65,000
BBLS
52,000
34,000
26,000
13,000
0
500,000
MCF
400,000
300,000
200,000
100,000
0
72
74
76
78
80
82
Years
Ironsdale - J
47 0782

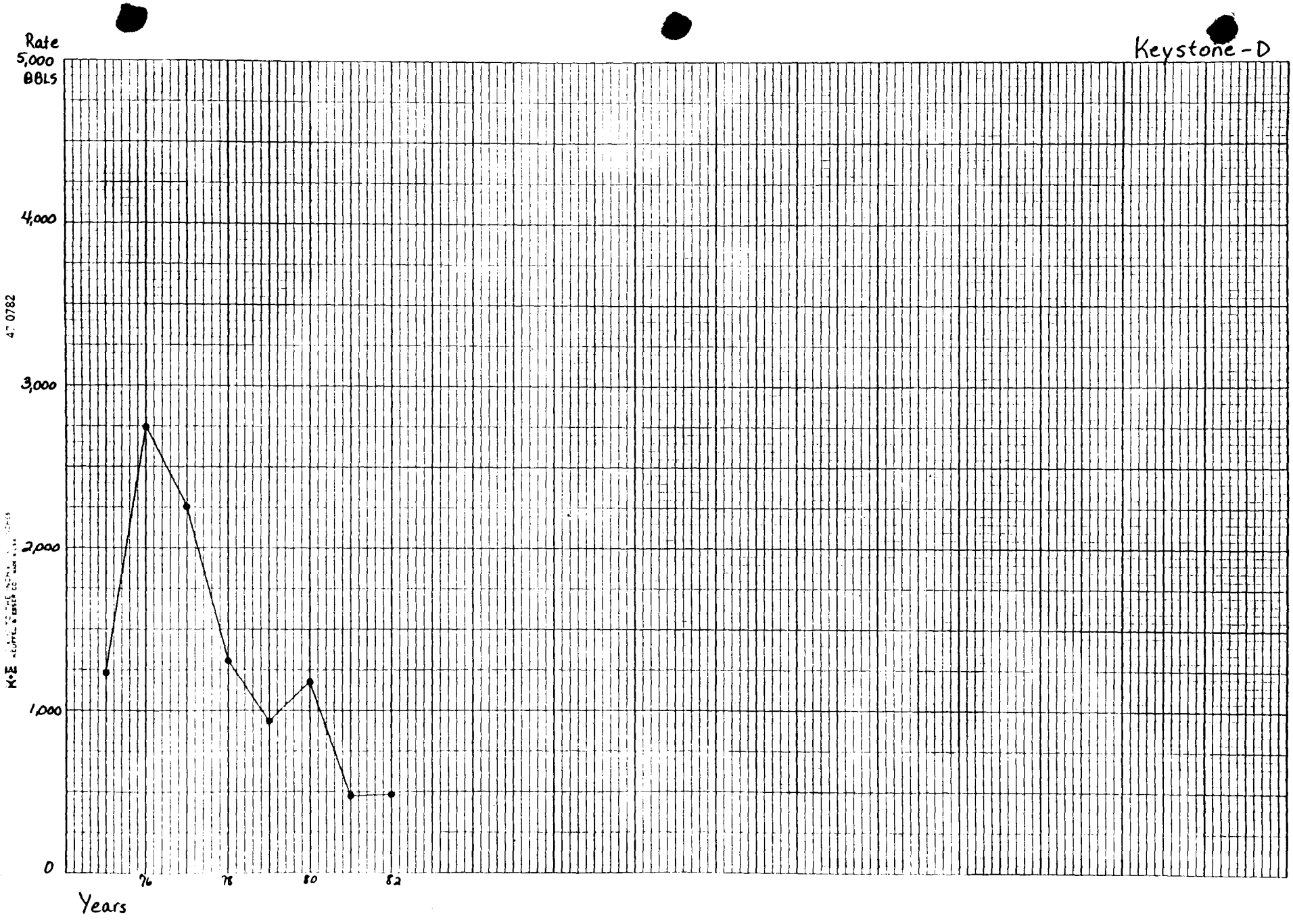

Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
40,000
MCF
32,000
24,000
16,000
8,000
0
76
78
80
82
Years
Irondale - D and J
47 0782

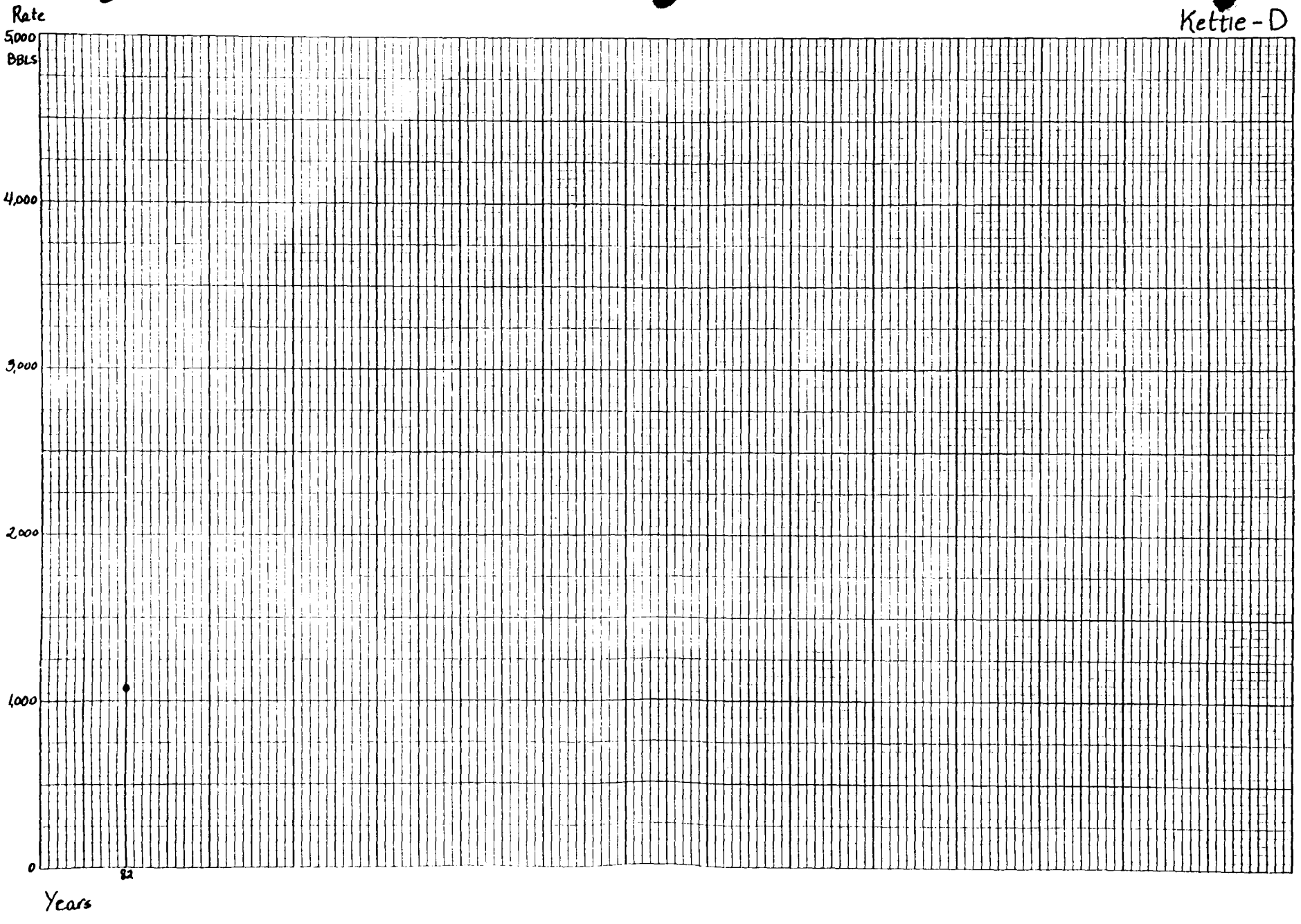

Rate
55,000
BBLS
41,000
33,000
22,000
11,000
0
400,000
MCF
320,000
240,000
160,000
80,000
0
70
72
74
76
78
80
82
Years
Jambalee-D

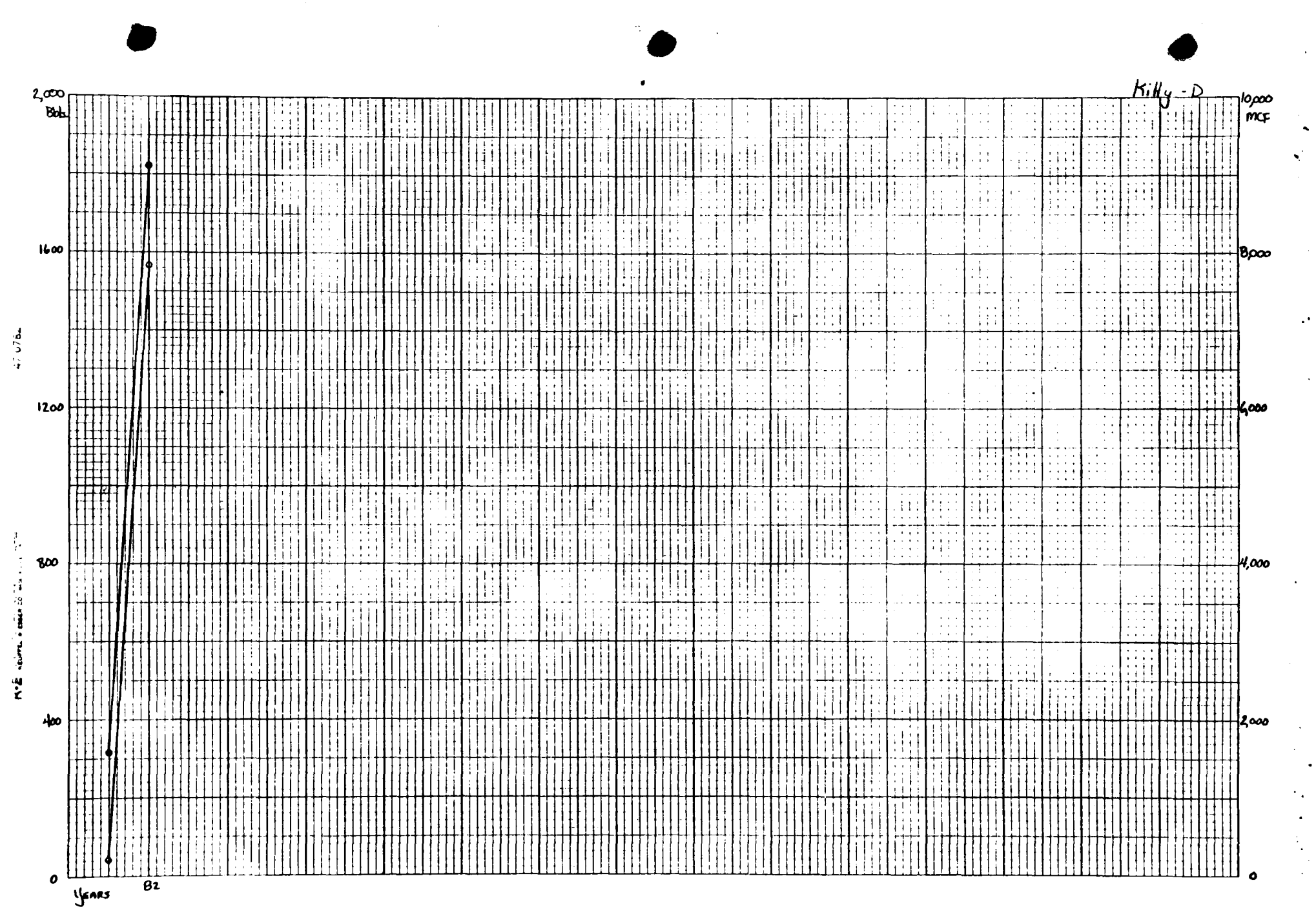

Rate
12,000
BBLS
9,600
7,200
4,800
2,400
0
Jambo e-Jand D
100,000
MCF
80,000
60,000
40,000
20,000
0
76
78
80
82
Years

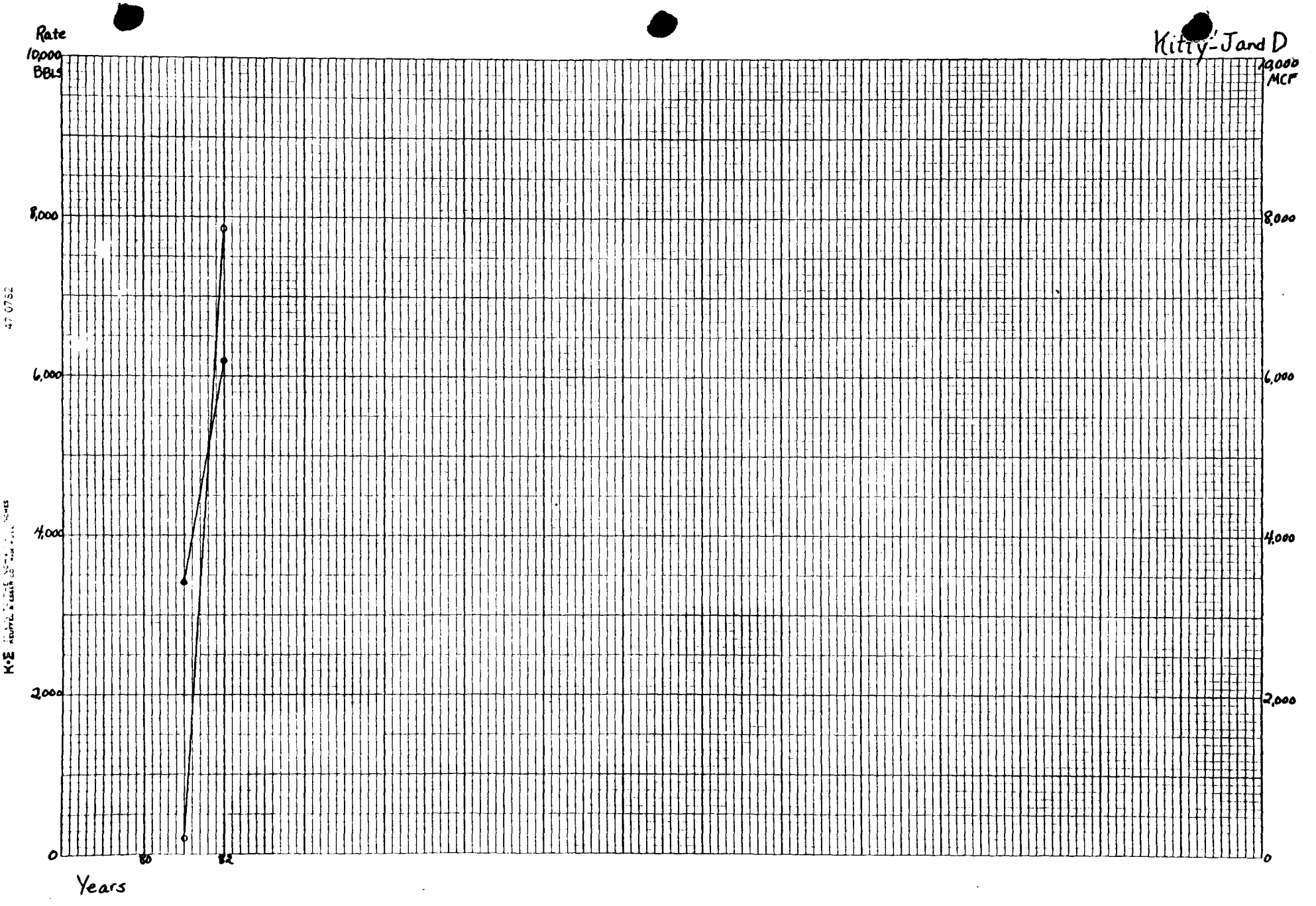

Rate
40,000
BBLS
32,000
24,000
16,000
8,000
0
MCF
1,600,000
1,200,000
800,000
400,000
0
70
72
74
76
78
80
82
Years
Jamboree-J
47 0782
K•E

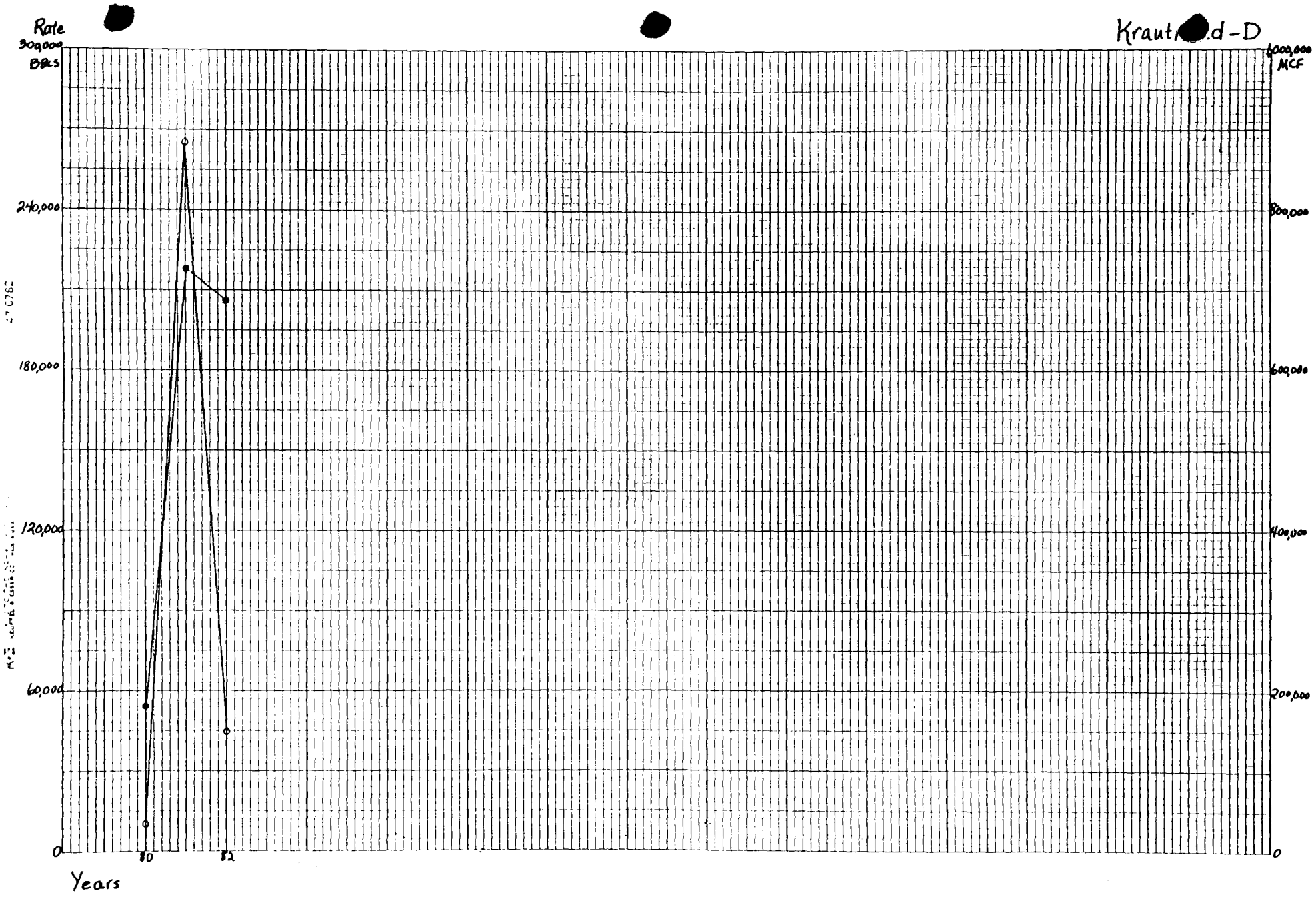

Rate
Katie - J
5,000
BBLS
4,000
3,000
2,000
1,000
0
20,000
MCF
16,000
12,000
8,000
4,000
0
80
82
Years

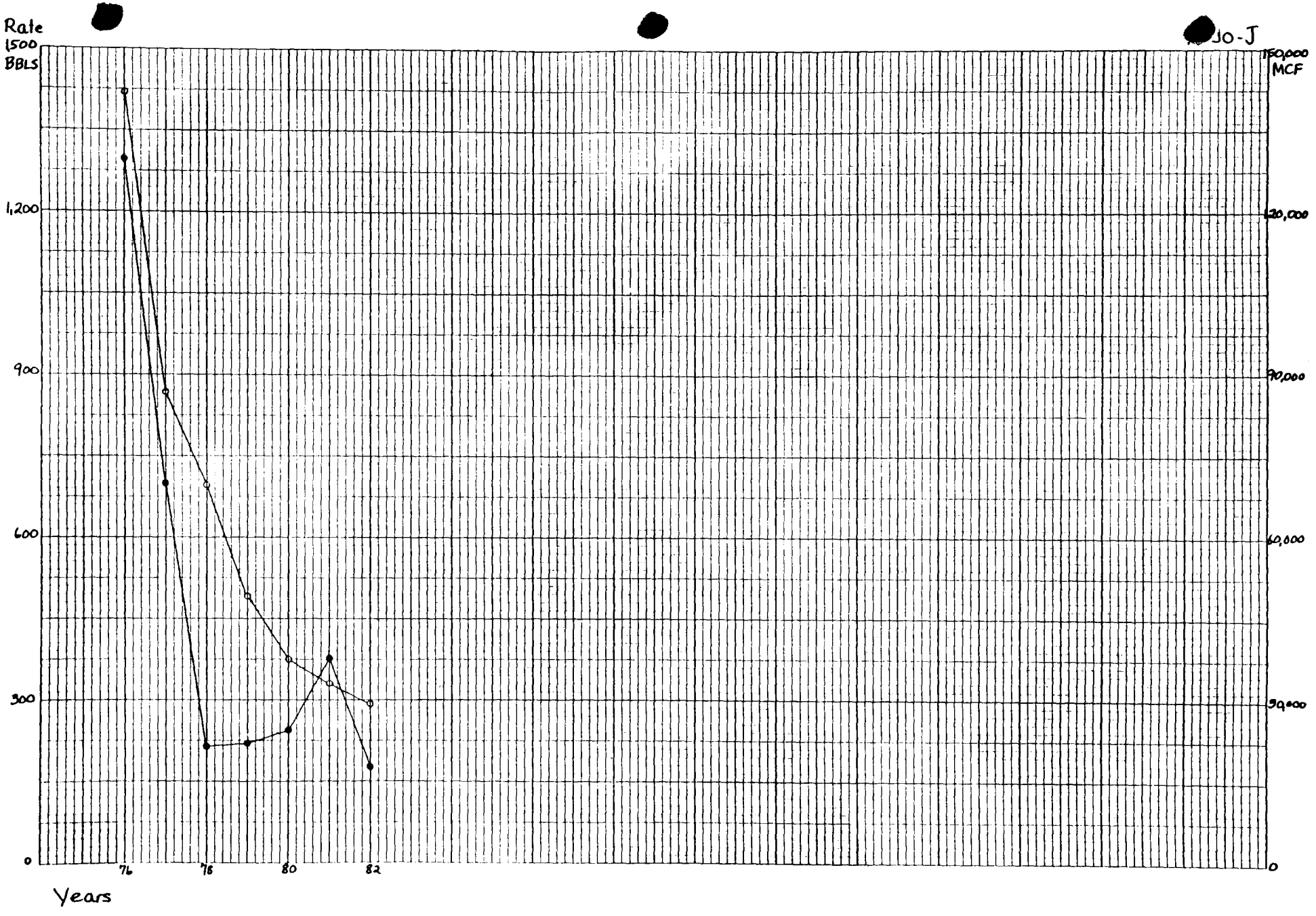

Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
Keystone-D
47 0782
K·E
76
78
80
82
Years

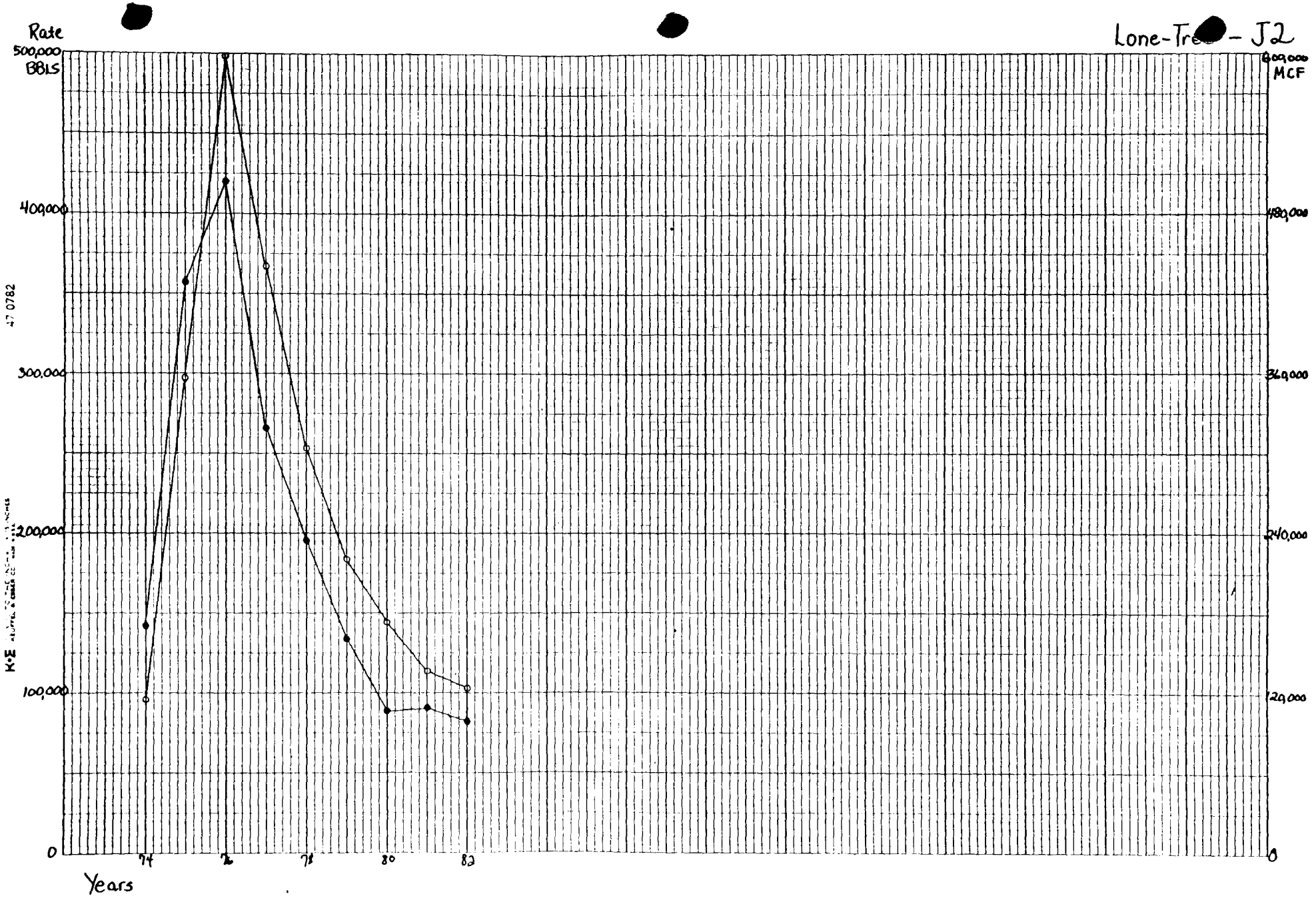

Rate
Kettie - D
5000
BBLS
4,000
3,000
2,000
1,000
0
82
Years

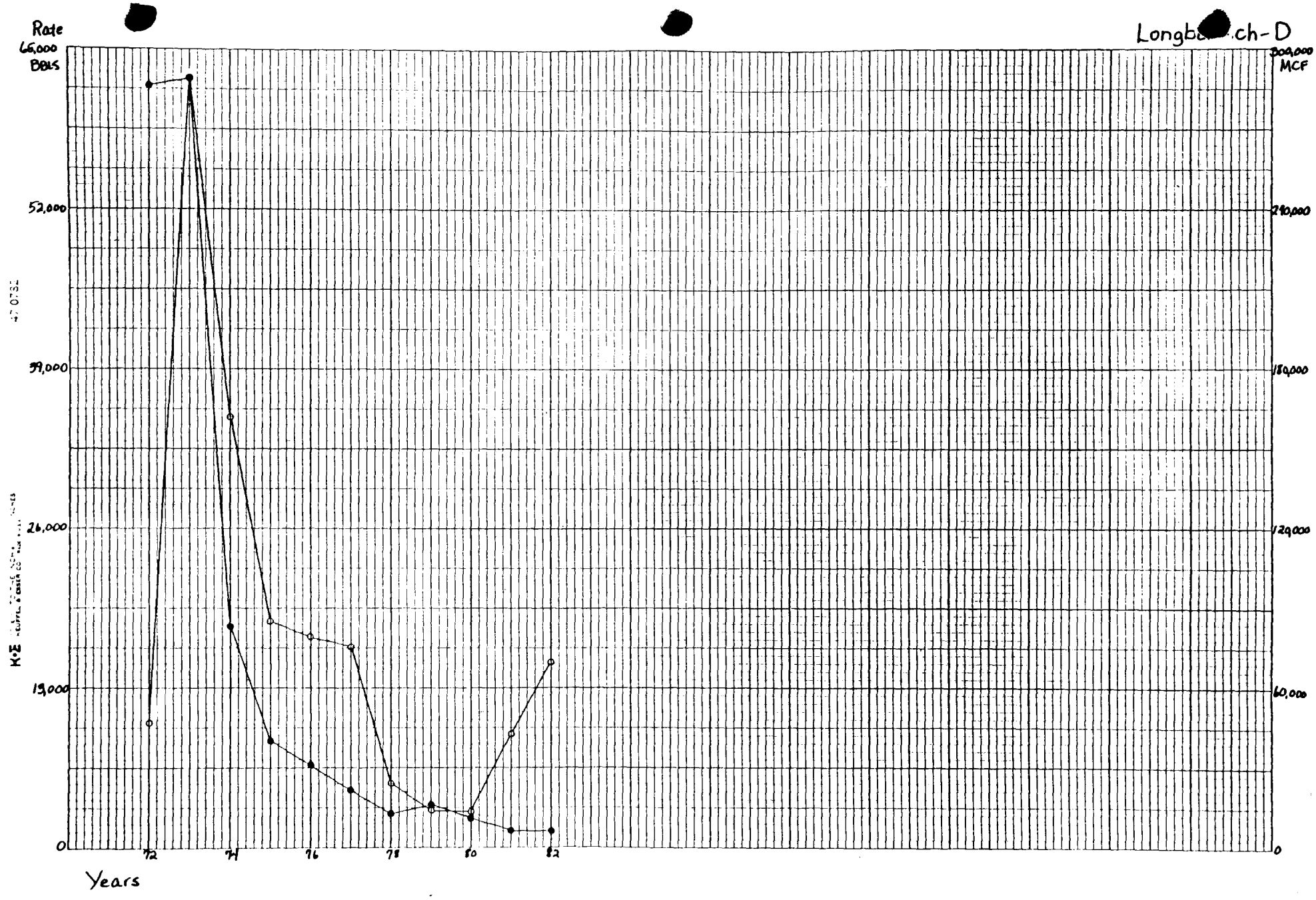

Killy - D
2,000 Bbls
1600
1200
800
400
0
10,000 MCF
8,000
6,000
4,000
2,000
0
Years
82

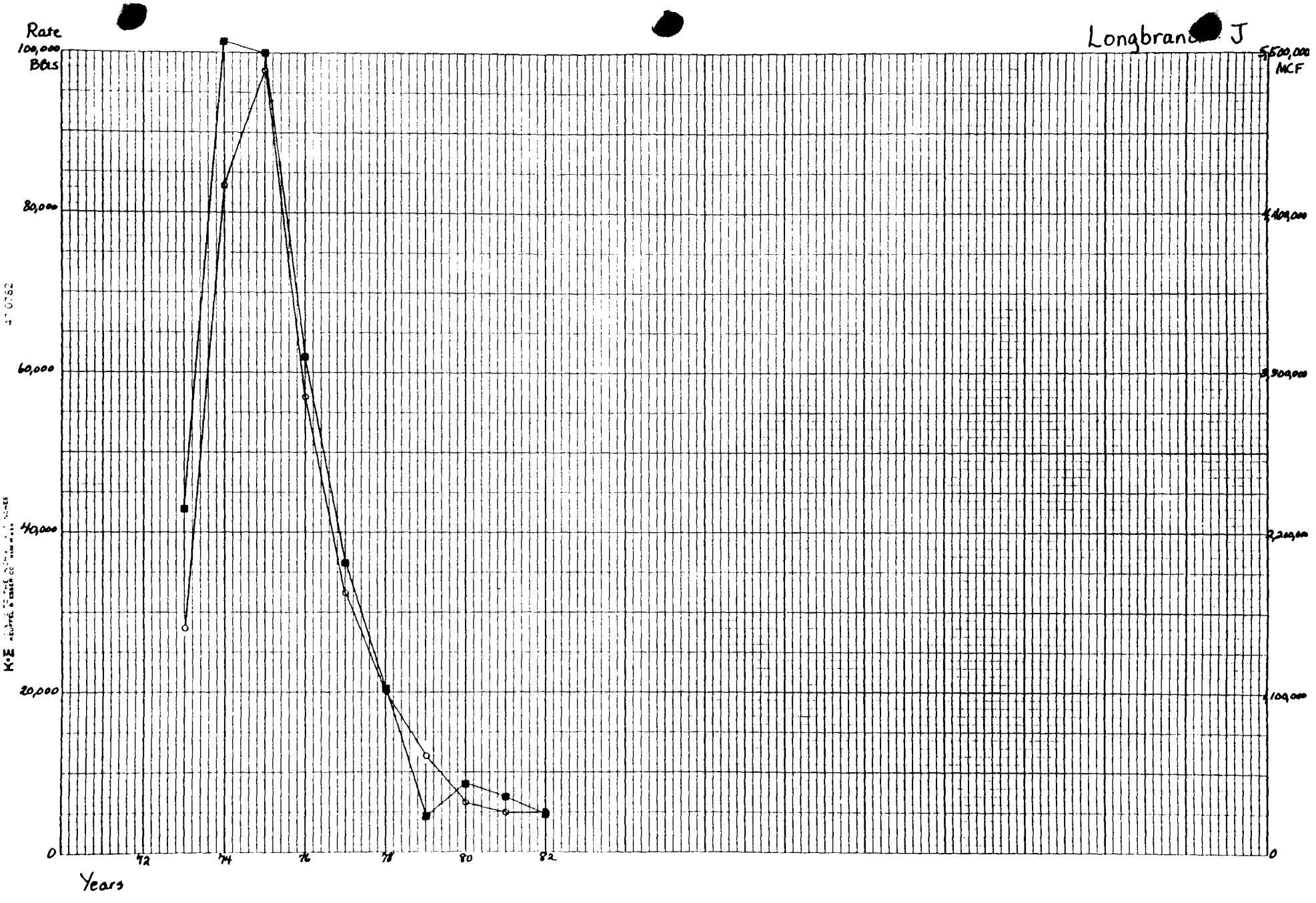

Rate
10,000 BBLS
8,000
6,000
4,000
2000
0
10,000 MCF
8,000
6,000
4,000
2,000
0
Kitty-J and D
80
82
Years

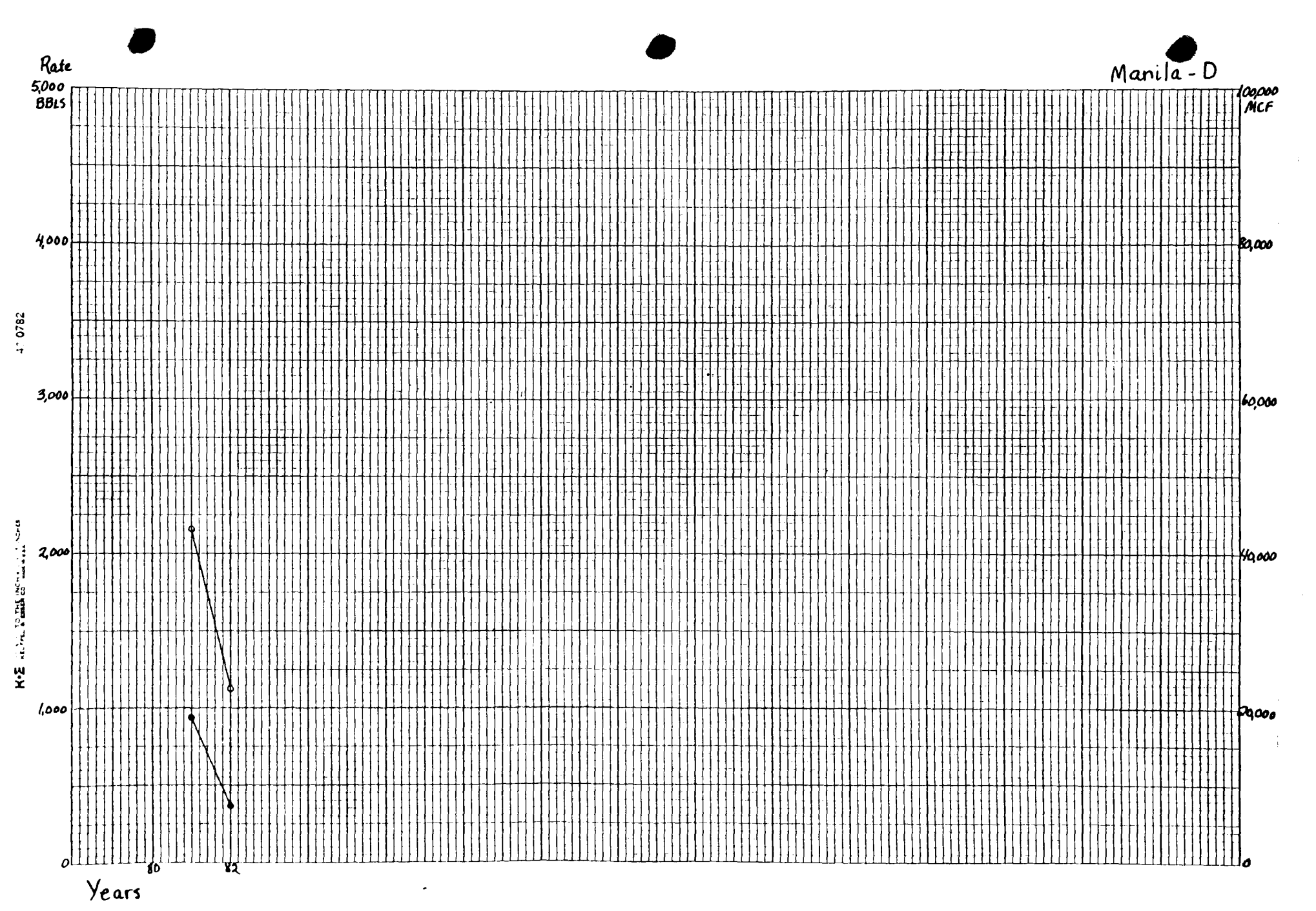

Rate
300,000
BBLS
240,000
180,000
120,000
60,000
0
6,000,000
MCF
4,800,000
3,600,000
2,400,000
1,200,000
0
80
81
Years

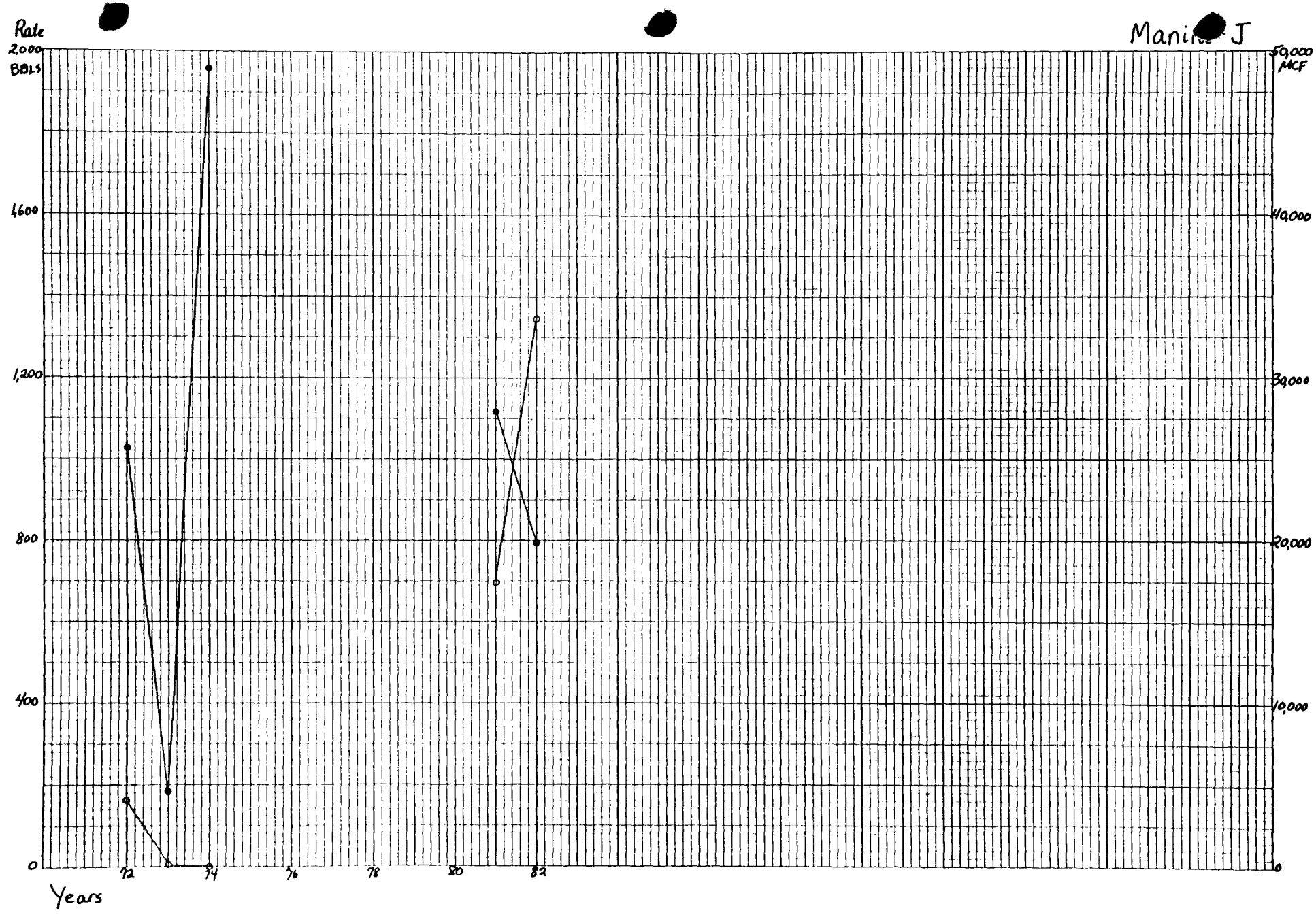

Rate
1500
BBLS
1,200
900
600
300
0
150,000
MCF
120,000
90,000
60,000
30,000
0
76
78
80
82
Years
JO-J

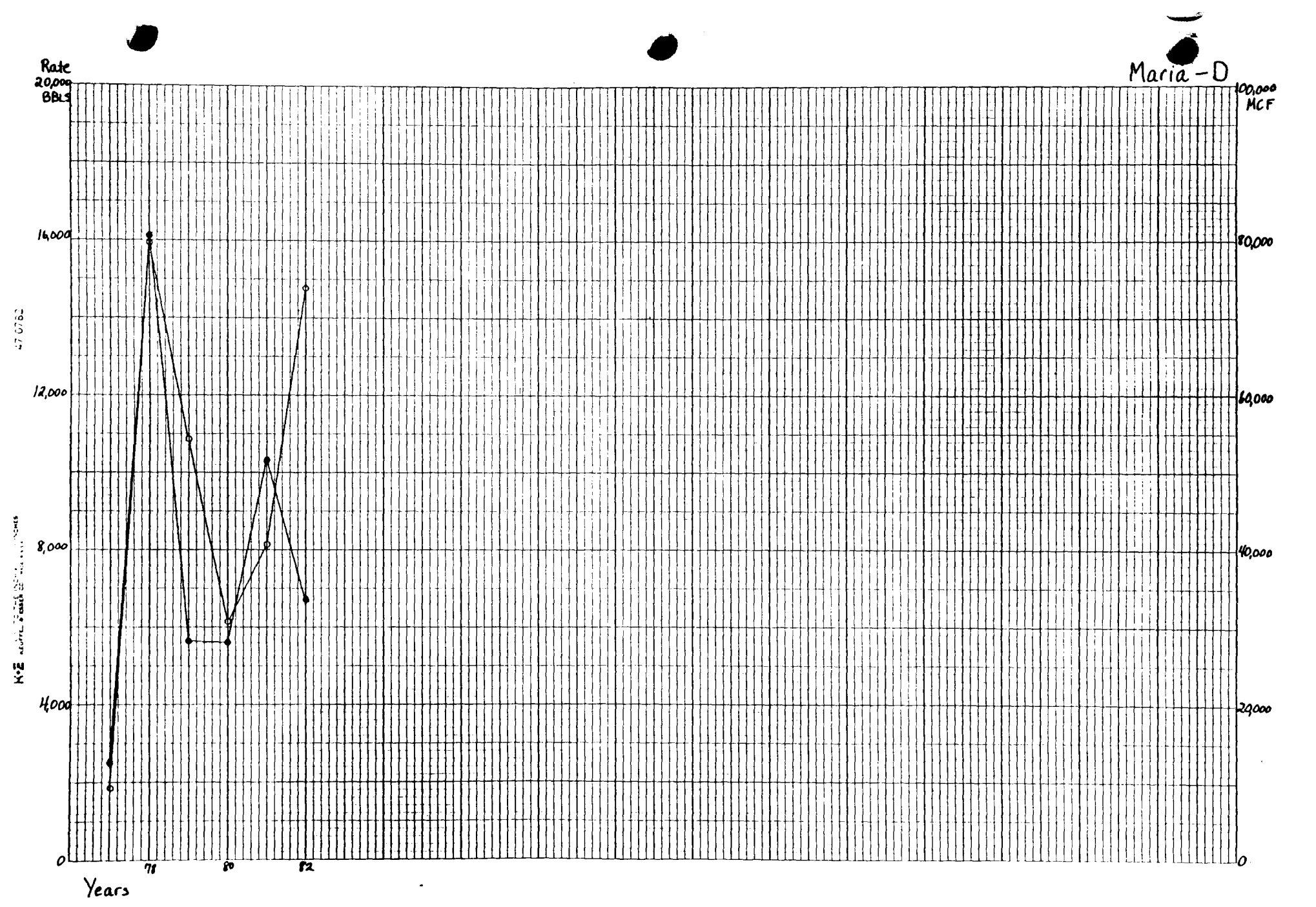

Rate
500,000
BBLS
400,000
300,000
200,000
100,000
0
600,000
MCF
480,000
360,000
240,000
120,000
0
74
75
76
77
78
79
80
81
82
83
Years
Lone-Tree - J2
47 0782
K+E


Rate
66,000
BBLS
52,000
39,000
26,000
13,000
0
300,000
MCF
240,000
180,000
120,000
60,000
0
72
74
76
78
80
82
Years
Longb ch-D

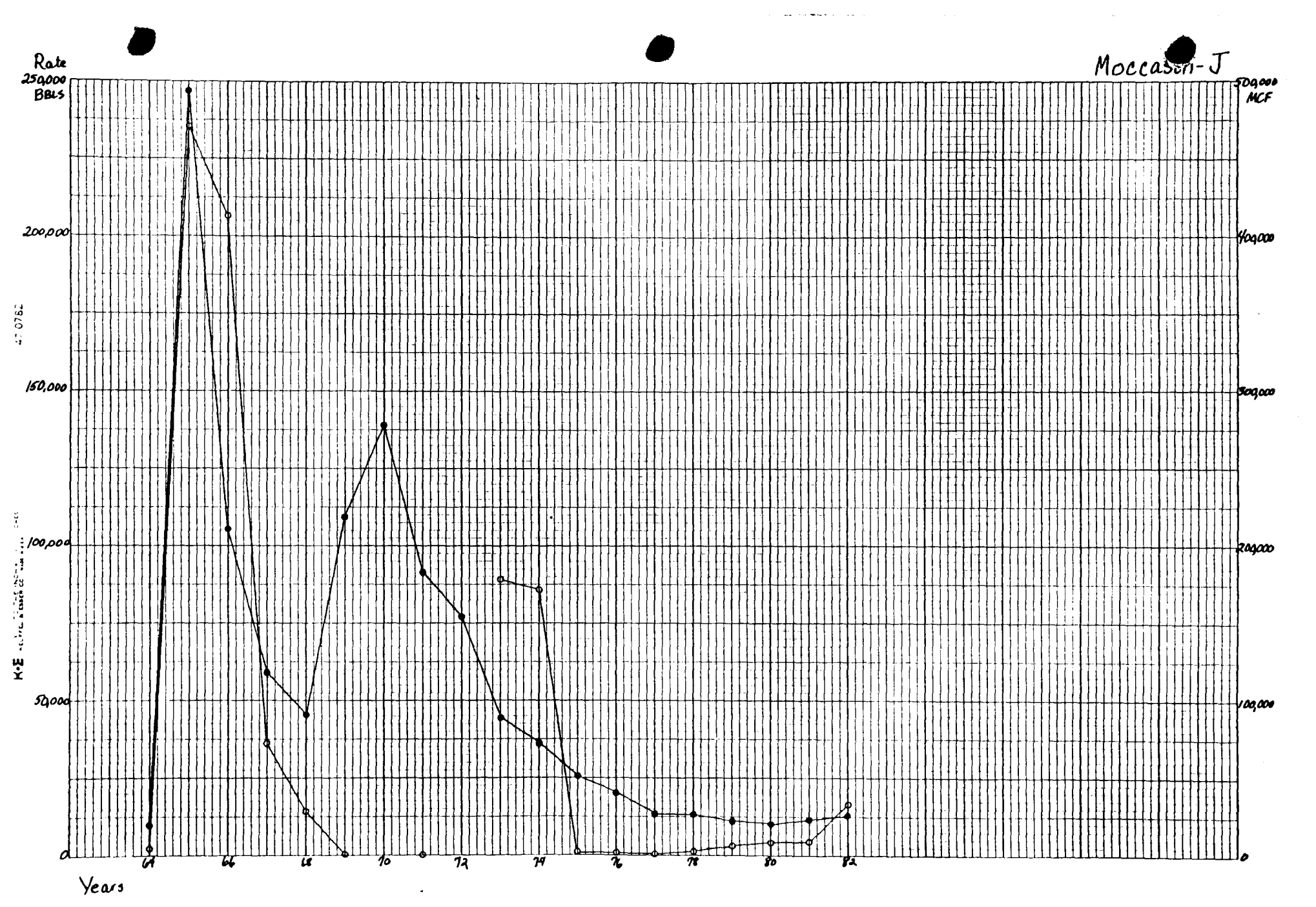

Rate
100,000 Bbls
80,000
60,000
40,000
20,000
0
5,500,000 MCF
4,400,000
3,300,000
2,200,000
1,100,000
0
72
74
76
78
80
82
Years
Longbran J

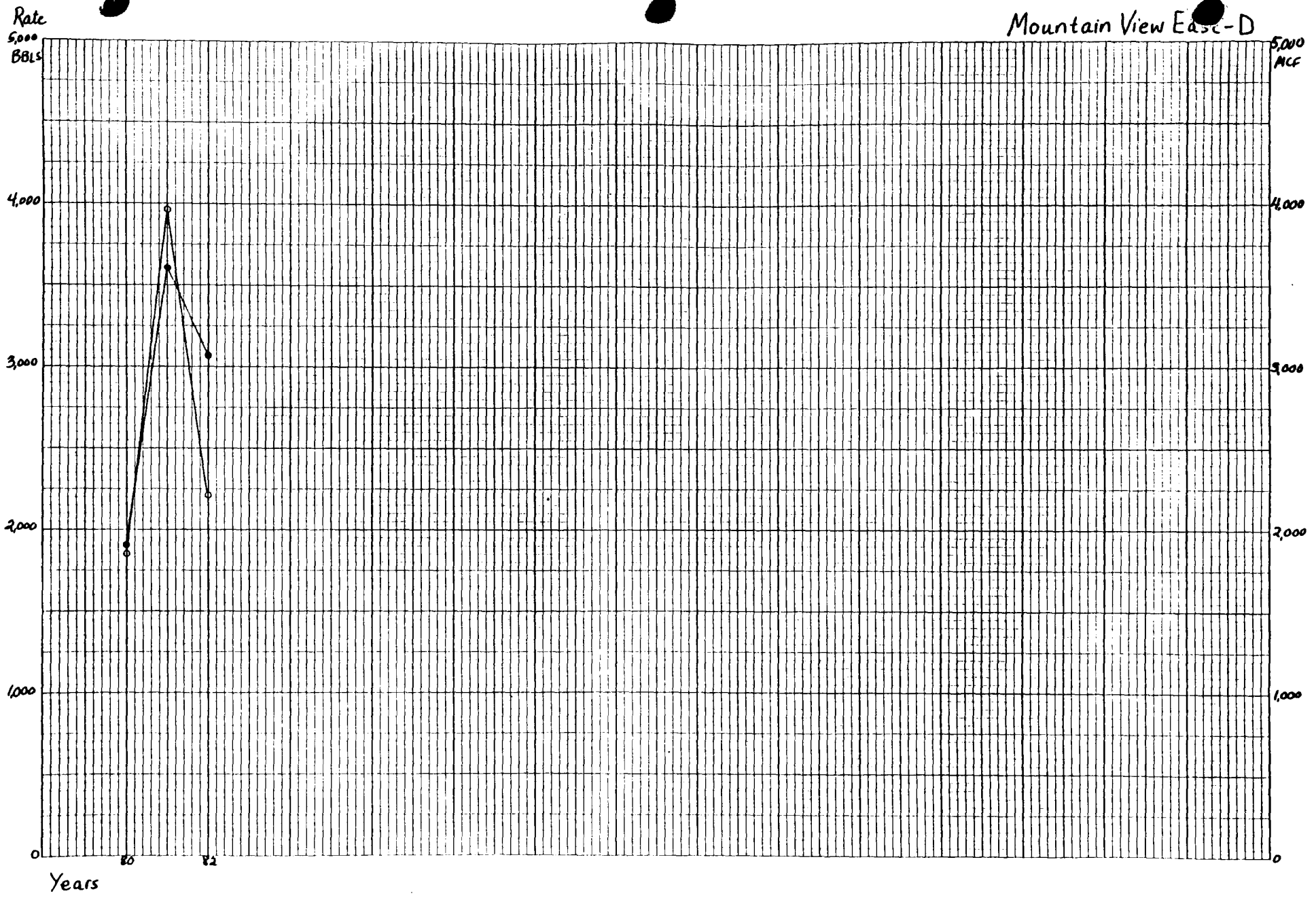

Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
100,000 MCF
80,000
60,000
40,000
20,000
0
80
82
Years
Manila - D

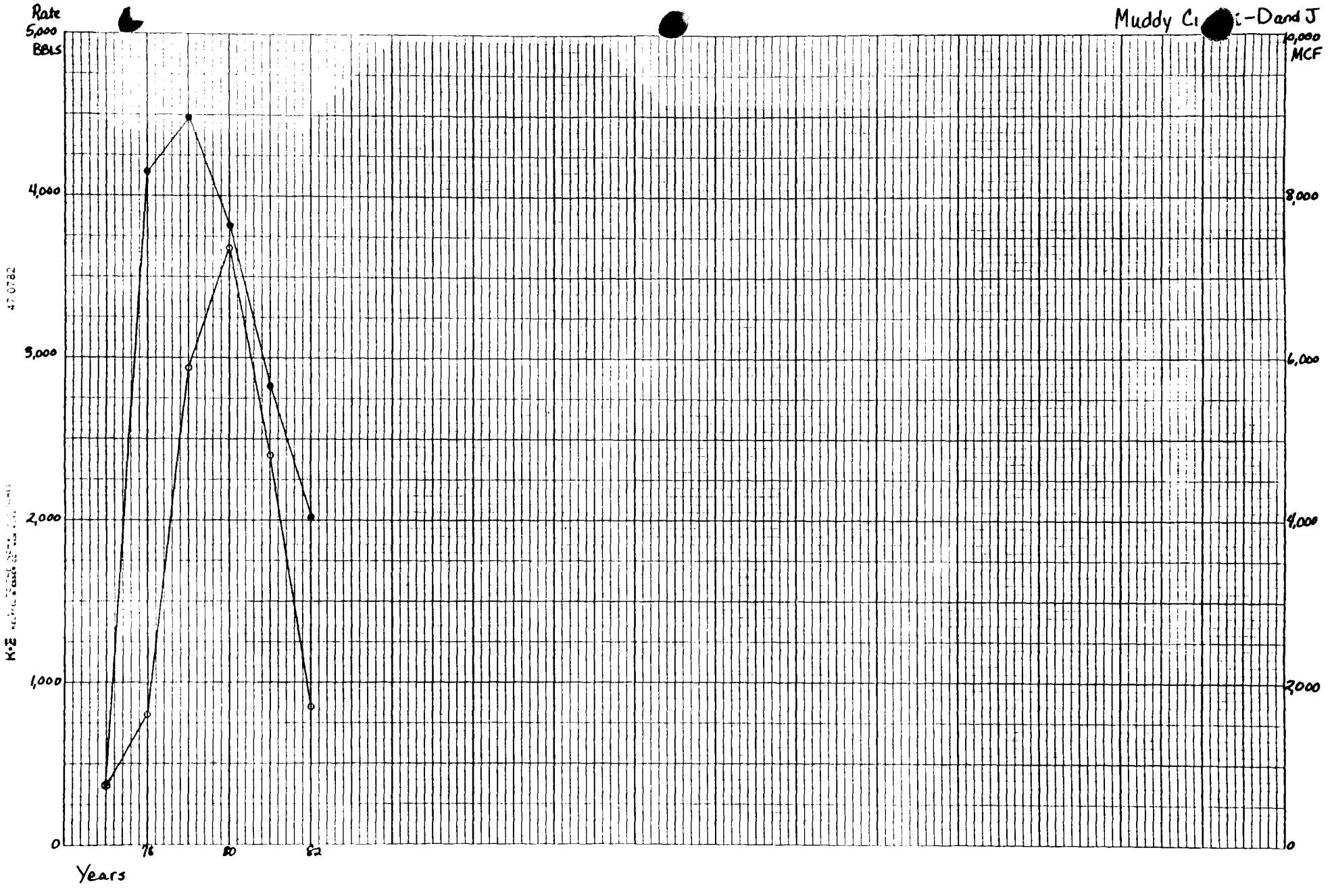

Rate
2,000
BBLS
1600
1,200
800
400
0
50,000
MCF
40,000
30,000
20,000
10,000
0
72
74
76
78
80
82
Years

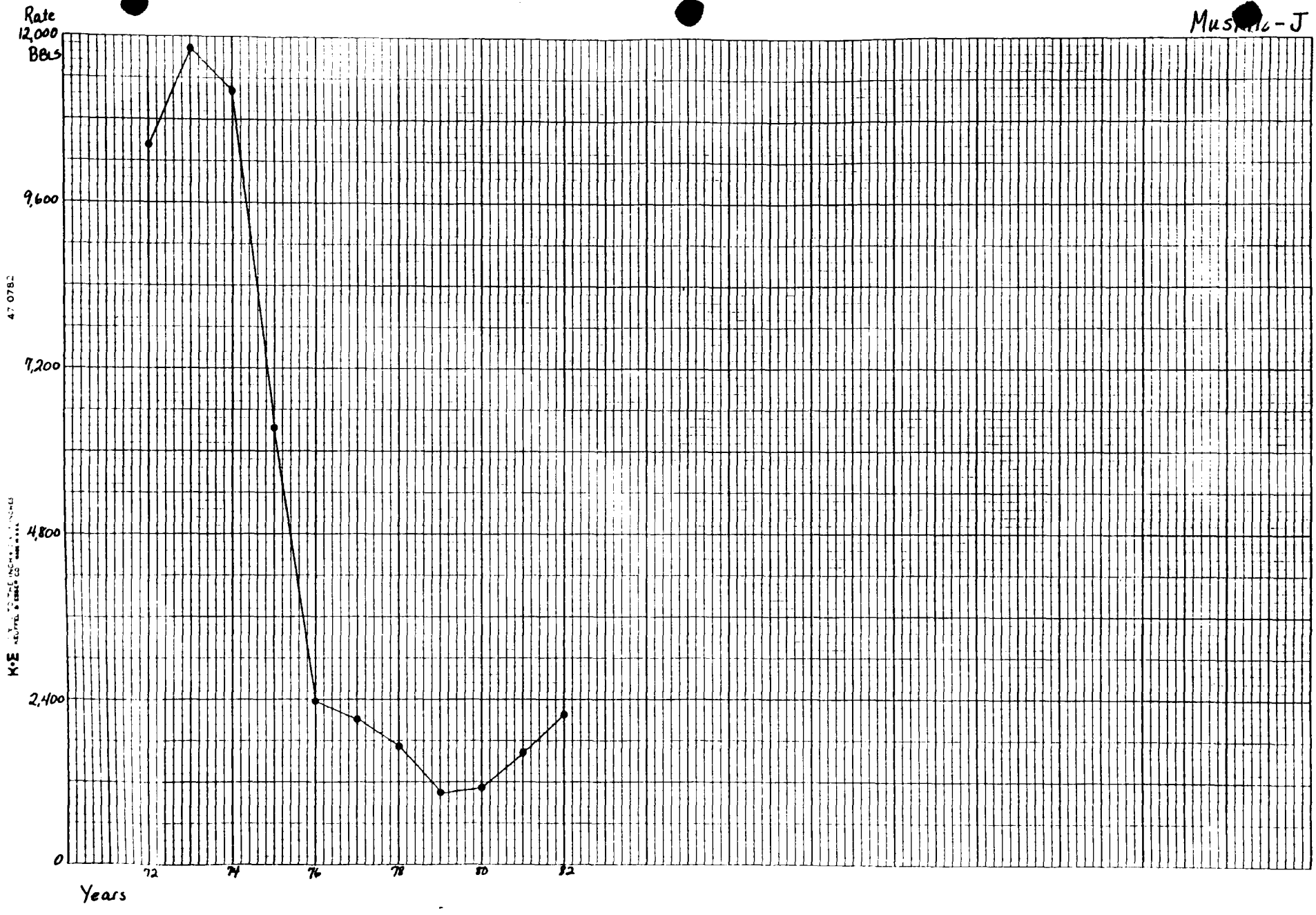

Rate
20,000 BBLS
16,000
12,000
8,000
4,000
0
100,000 MCF
80,000
60,000
40,000
20,000
0
78
80
82
Years
Maria - D

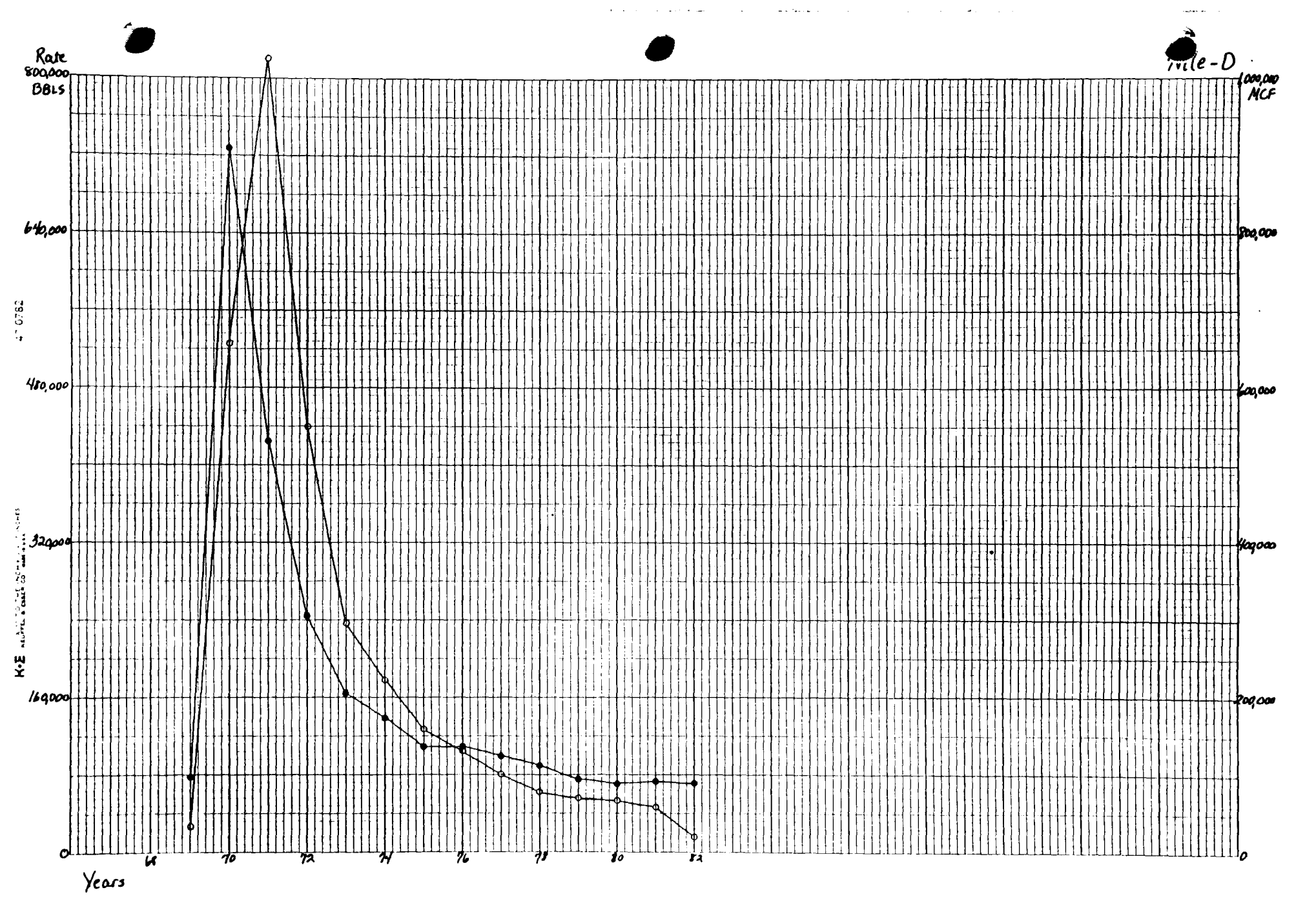

Rate
220,000
BBLS
176,000
132,000
88,000
44,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years
Middlem - J

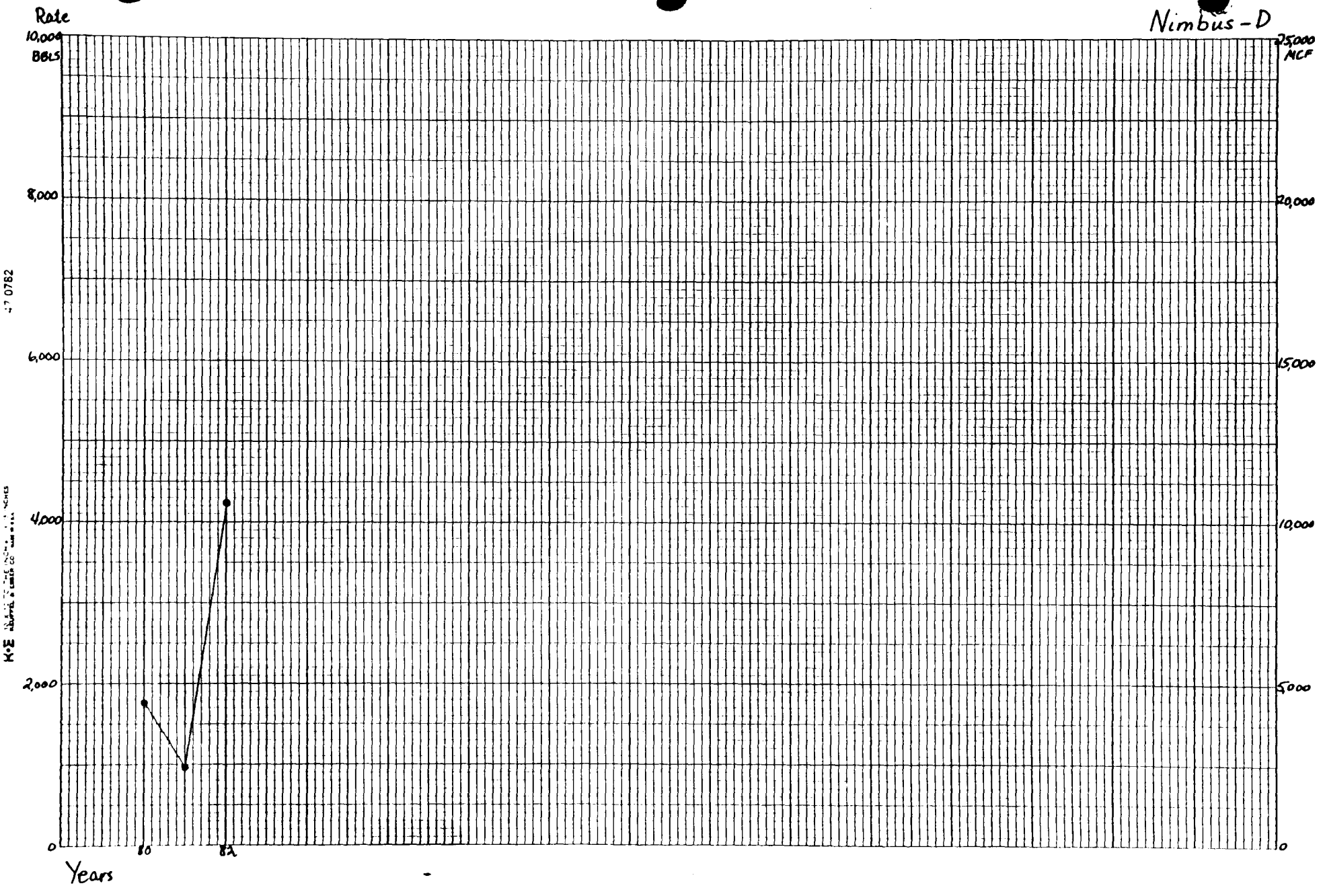

Rate
250,000 BBLS
200,000
150,000
100,000
50,000
0
500,000 MCF
400,000
300,000
200,000
100,000
0
64
66
68
70
72
74
76
78
80
82
Years
Moccasin-J

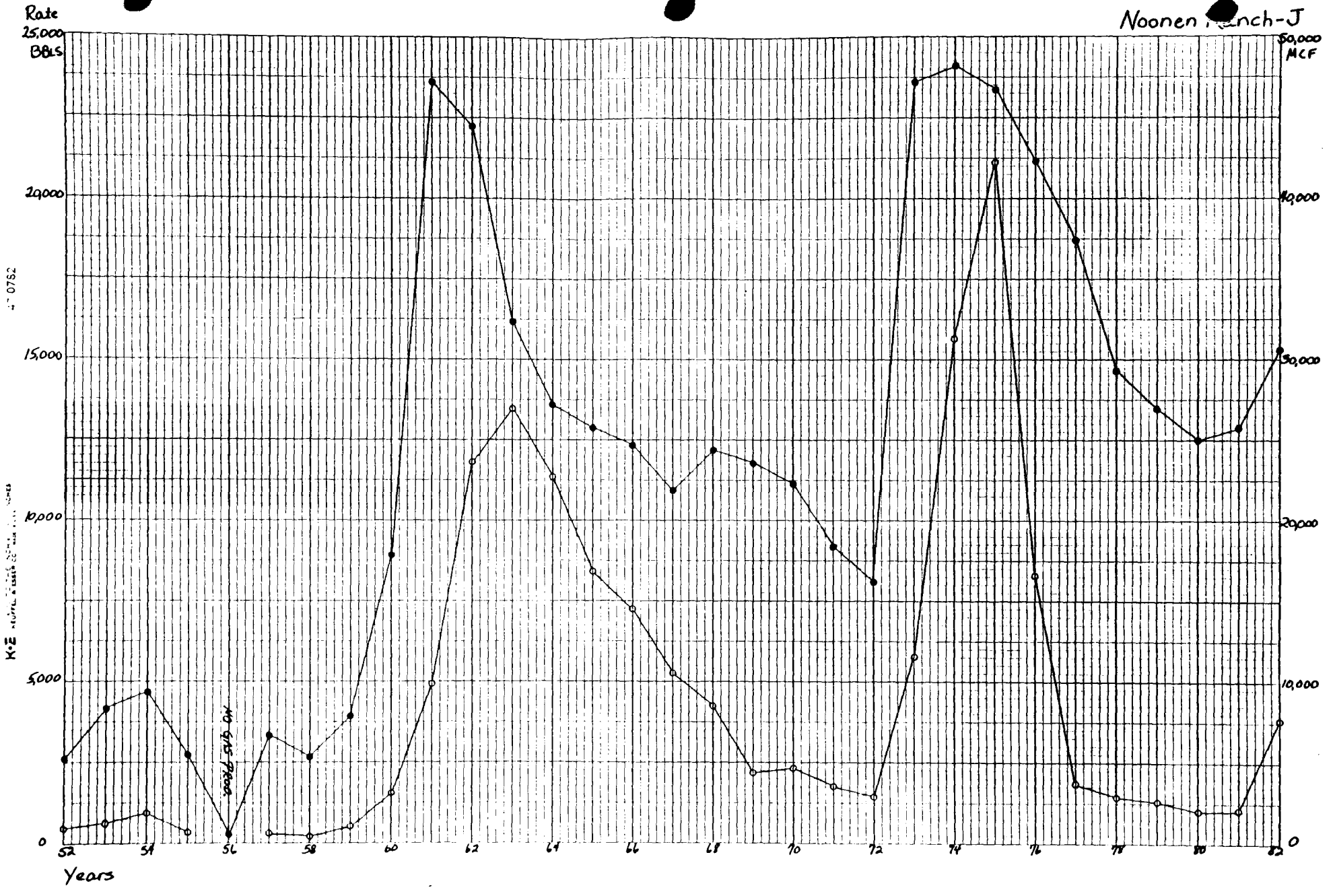

Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
t0
t1
Years
Mountain View East-D
5,000
MCF
4,000
3,000
2,000
1,000
0

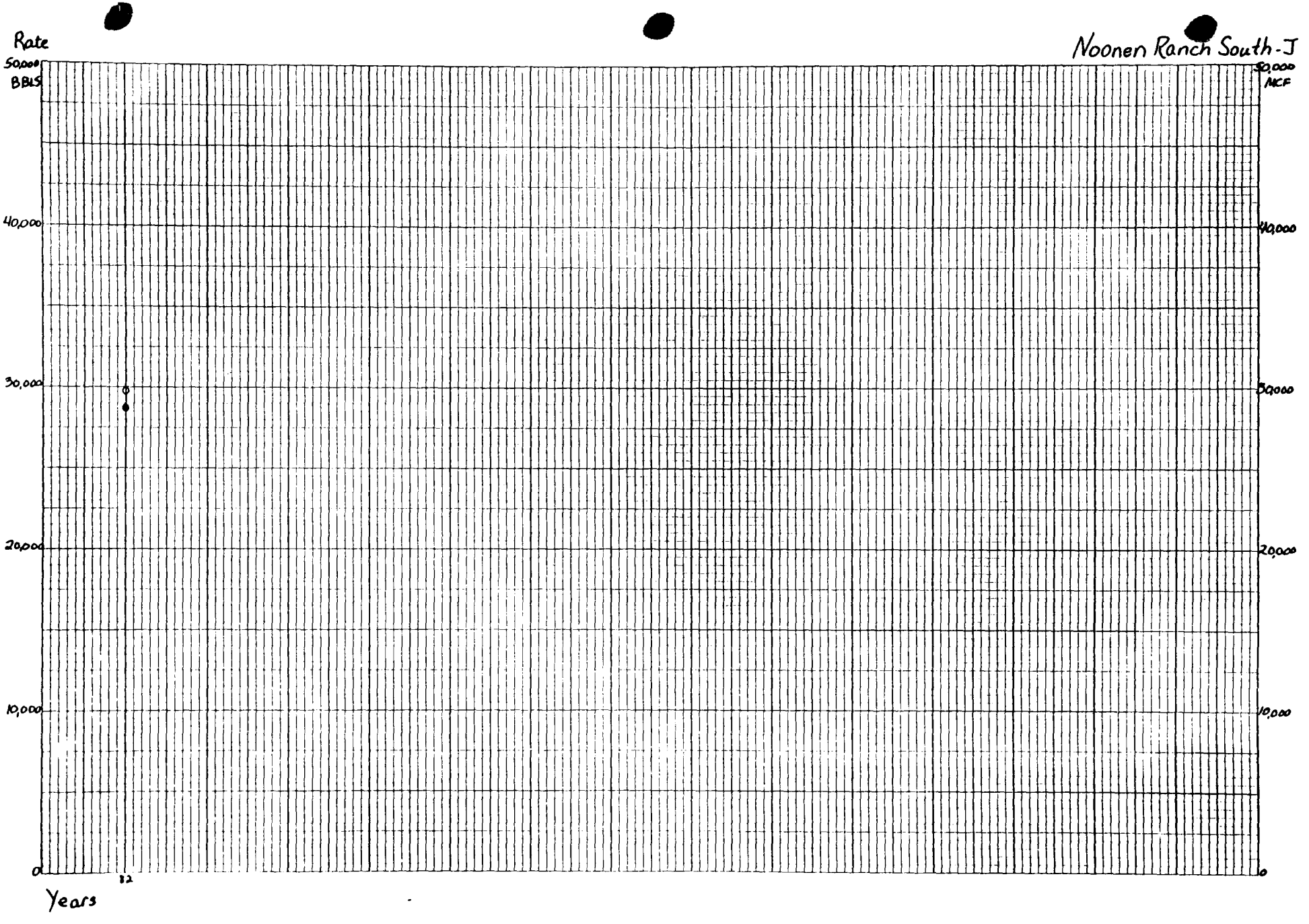

Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
10,000
MCF
8,000
6,000
4,000
2,000
0
78
80
82
Years
Muddy C
i-D and J
47 0782
K·E

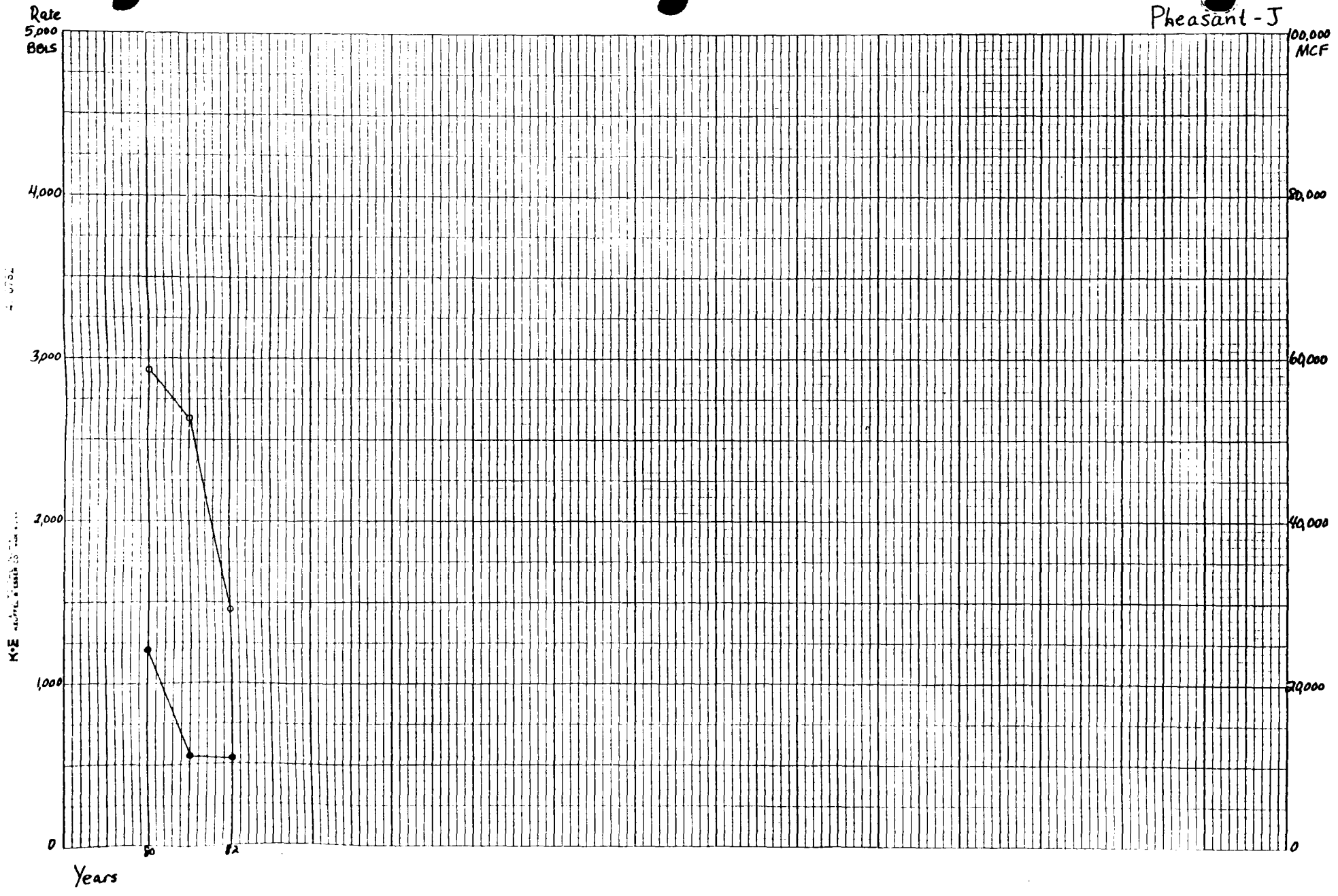

Rate
12,000
BBLS
9,600
7,200
4,800
2,400
0
72
74
76
78
80
82
Years
Mus
J

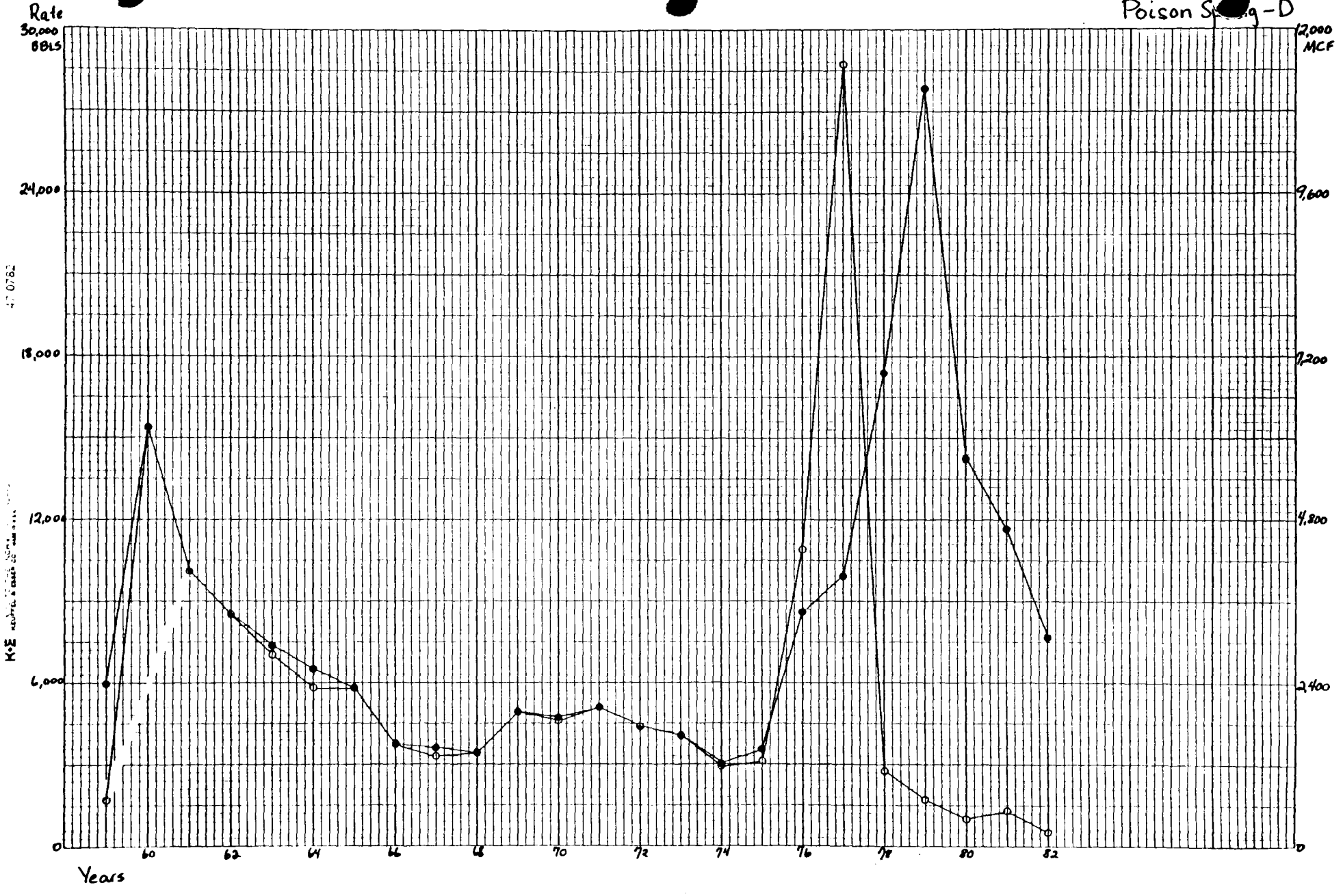

Rate
800,000
BBLS
640,000
480,000
320000
160,000
0
1,000,000
MCF
800,000
600,000
400,000
200,000
0
66
70
72
74
76
78
80
82
Years
Mule-D

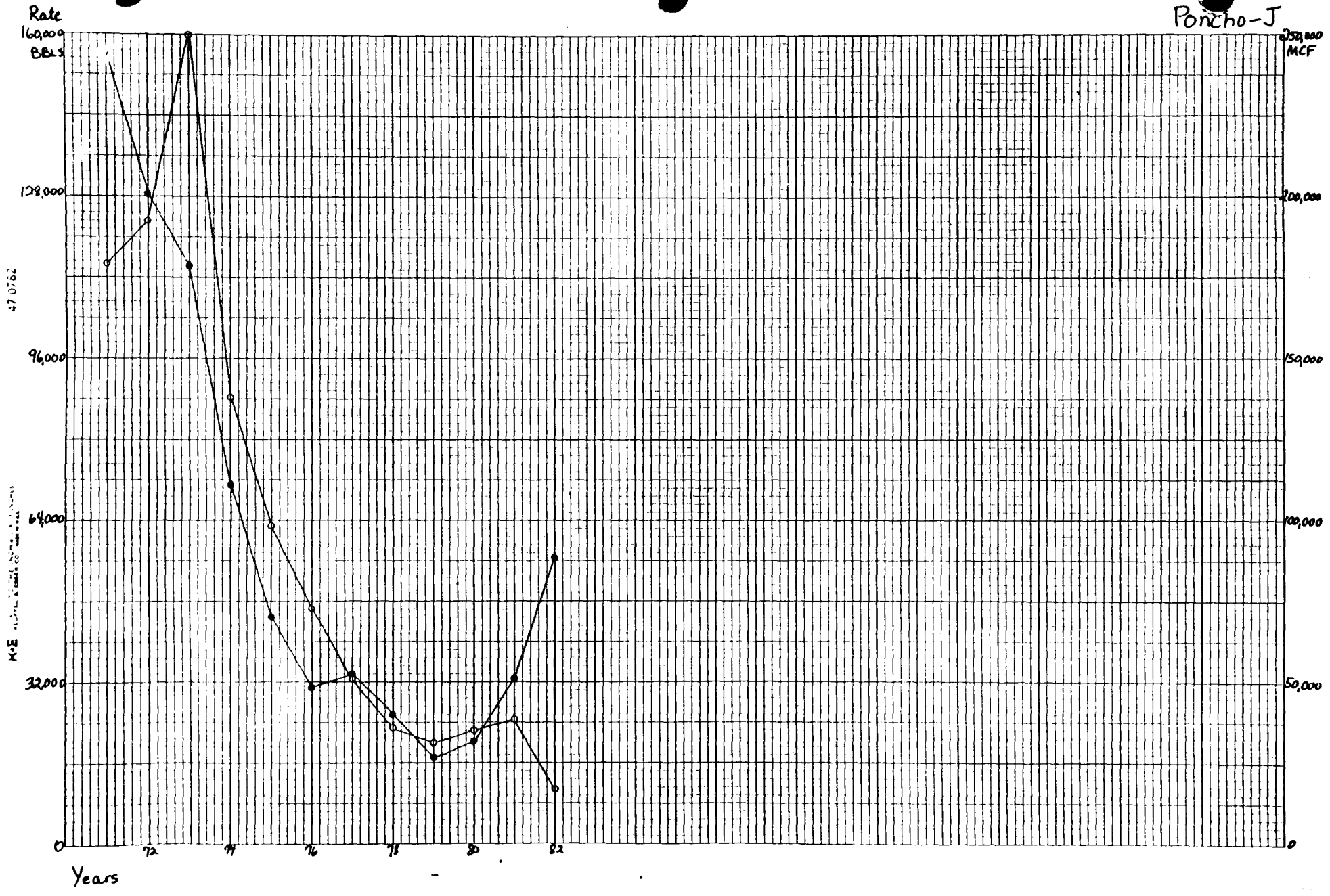

Rate
Nimbus - D
10,000
BBLS
8,000
6,000
4,000
2,000
0
25,000
MCF
20,000
15,000
10,000
5,000
0
80
82
Years

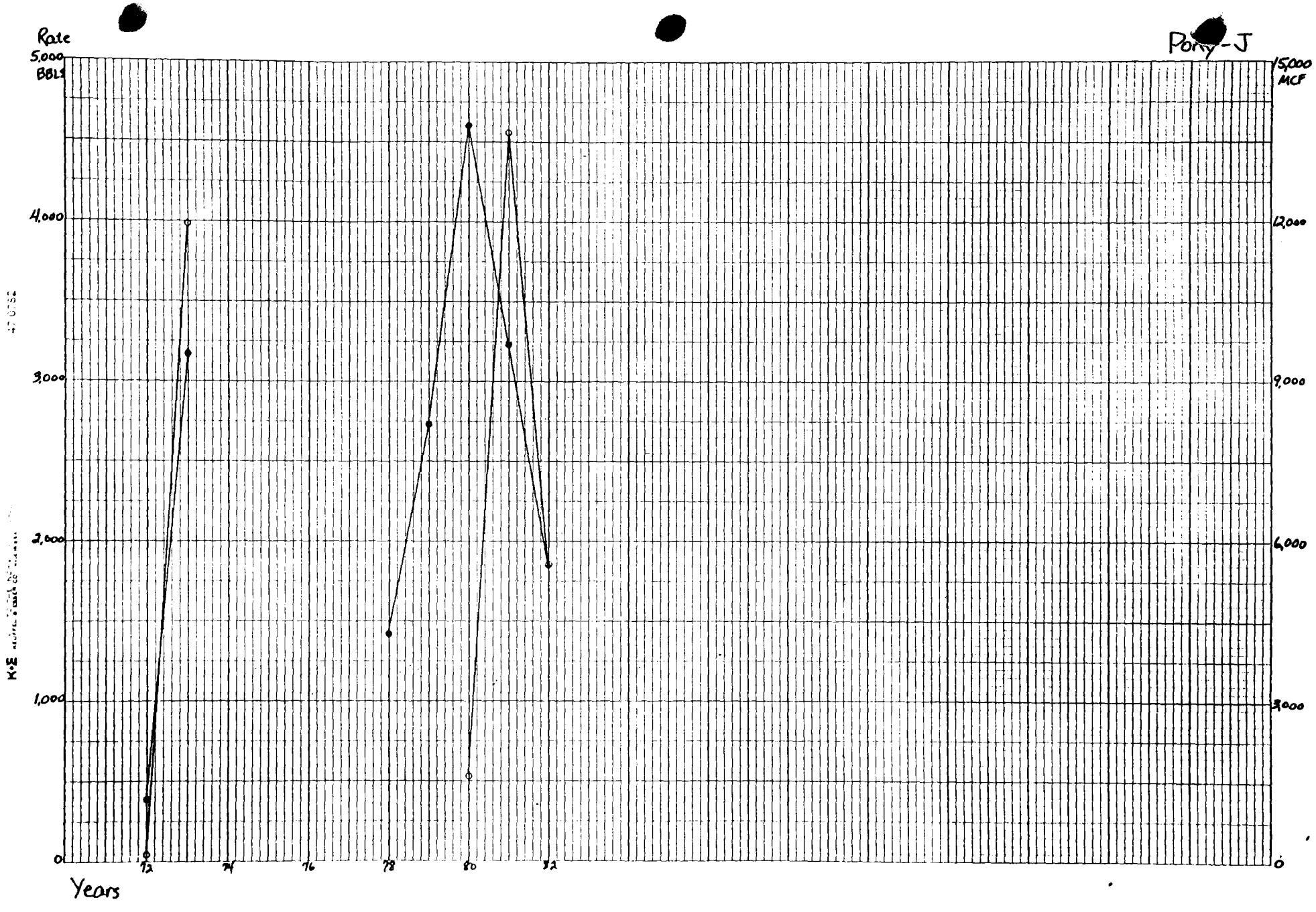

Rate
25,000
BBLS
20,000
15,000
10,000
5,000
0
50,000
MCF
40,000
30,000
20,000
10,000
0
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years
Gas Prod.

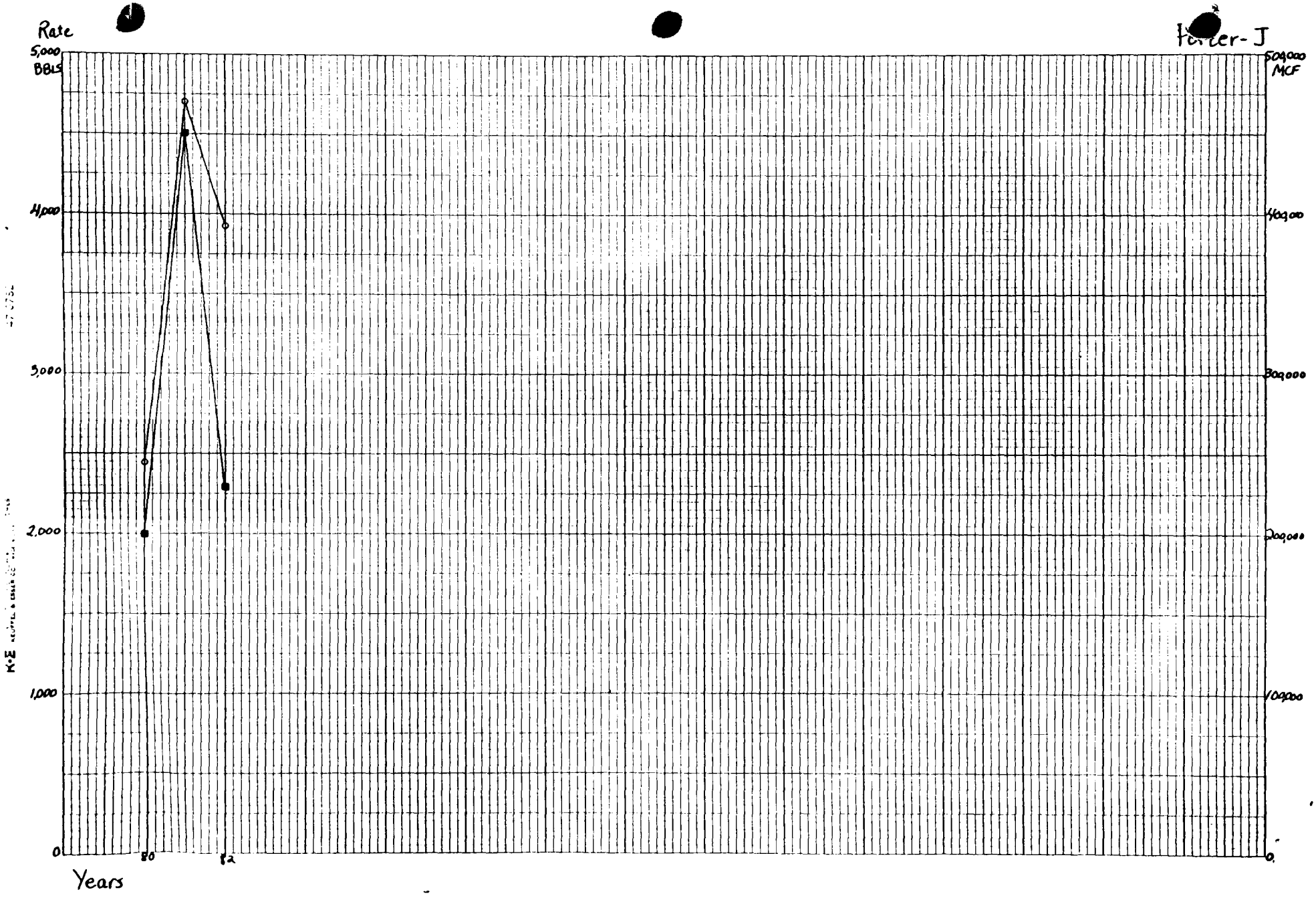

Rate
Noonen Ranch South-J
50,000 BBLS
40,000
30,000
20,000
10,000
0
50,000 MCF
40,000
30,000
20,000
10,000
0
12
Years

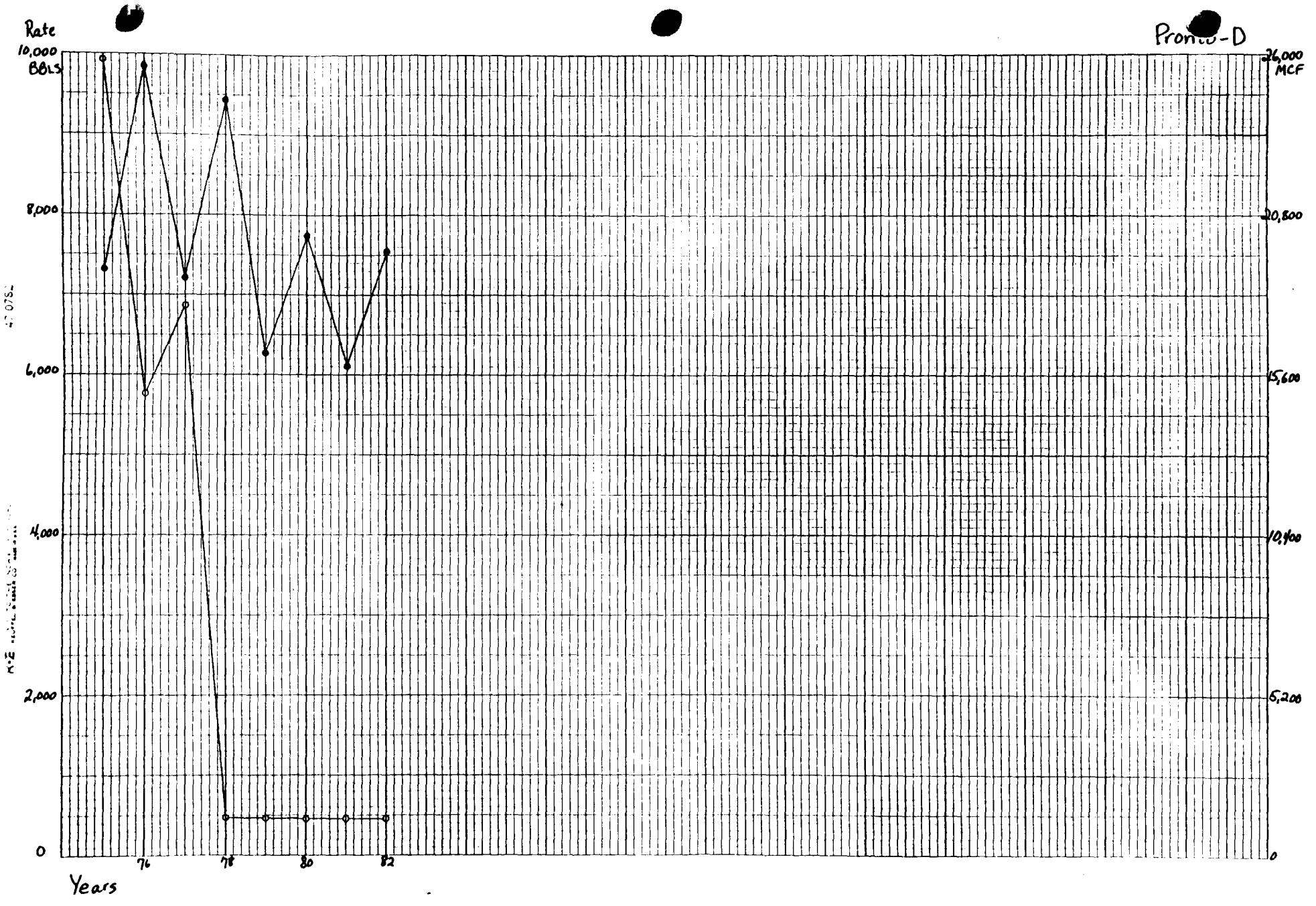

Rate
5,000
BOLS
4,000
3,000
2,000
1,000
0
100,000
MCF
80,000
60,000
40,000
20,000
0
Pheasant - J
Years

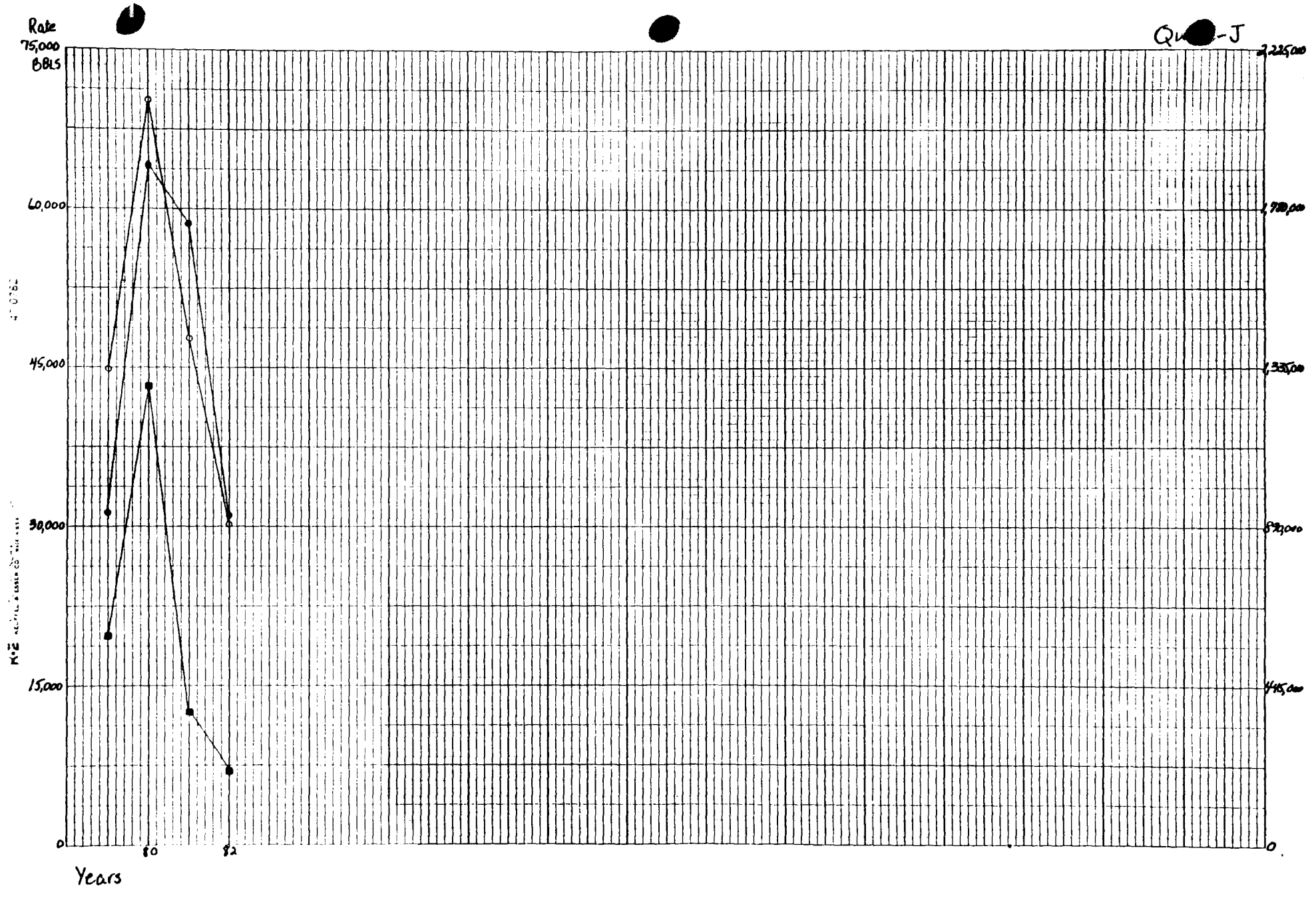

Rate
30,000 BBLS
24,000
18,000
12,000
6,000
0
12,000 MCF
9,600
7,200
4,800
2,400
0
60
62
64
66
68
70
72
74
76
78
80
82
Years

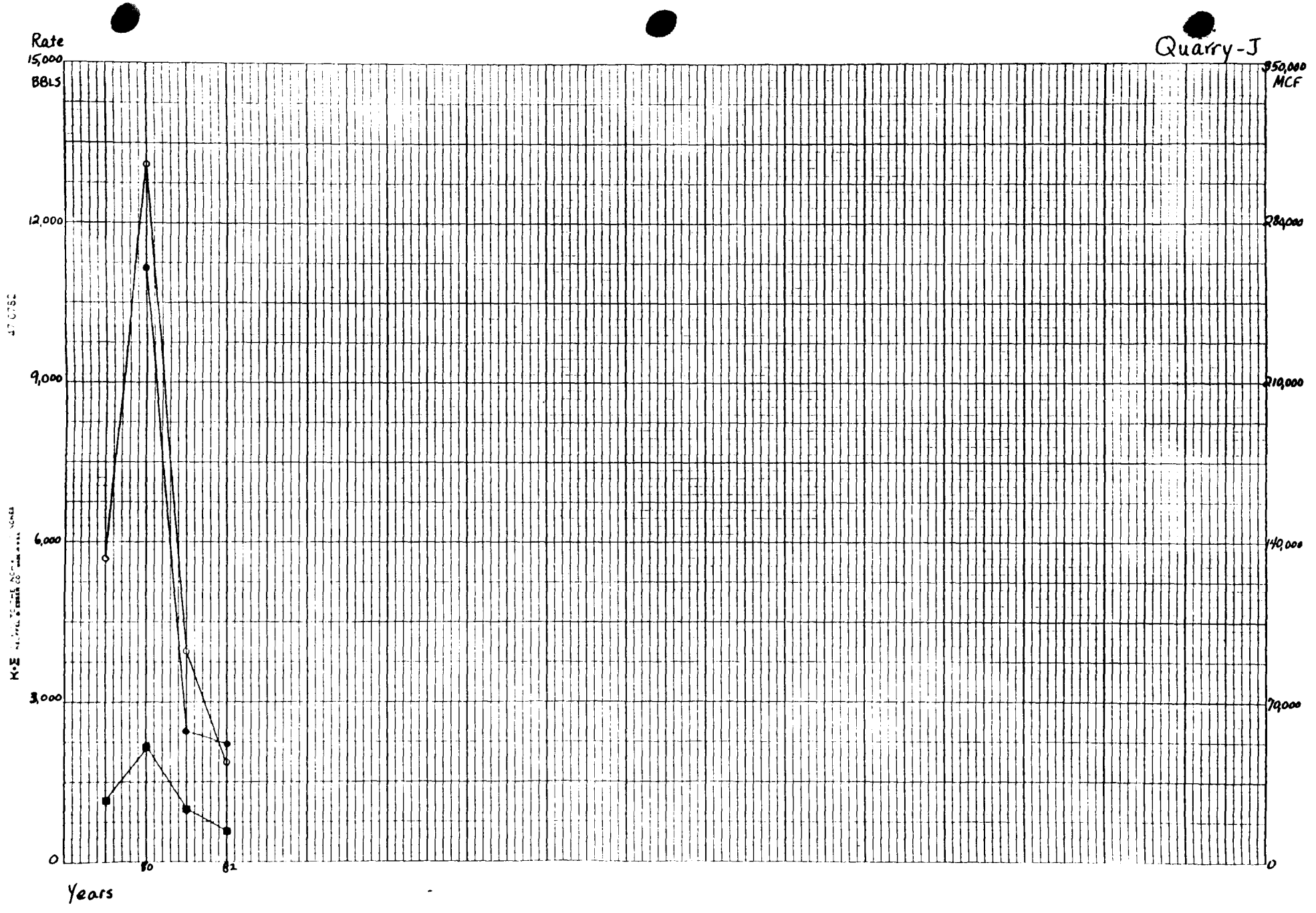

Rate
160,000
BBLS
128,000
96,000
64,000
32,000
0
250,000
MCF
200,000
150,000
100,000
50,000
0
72
74
76
78
80
82
Years
Poncho-J
47 0782
K+E

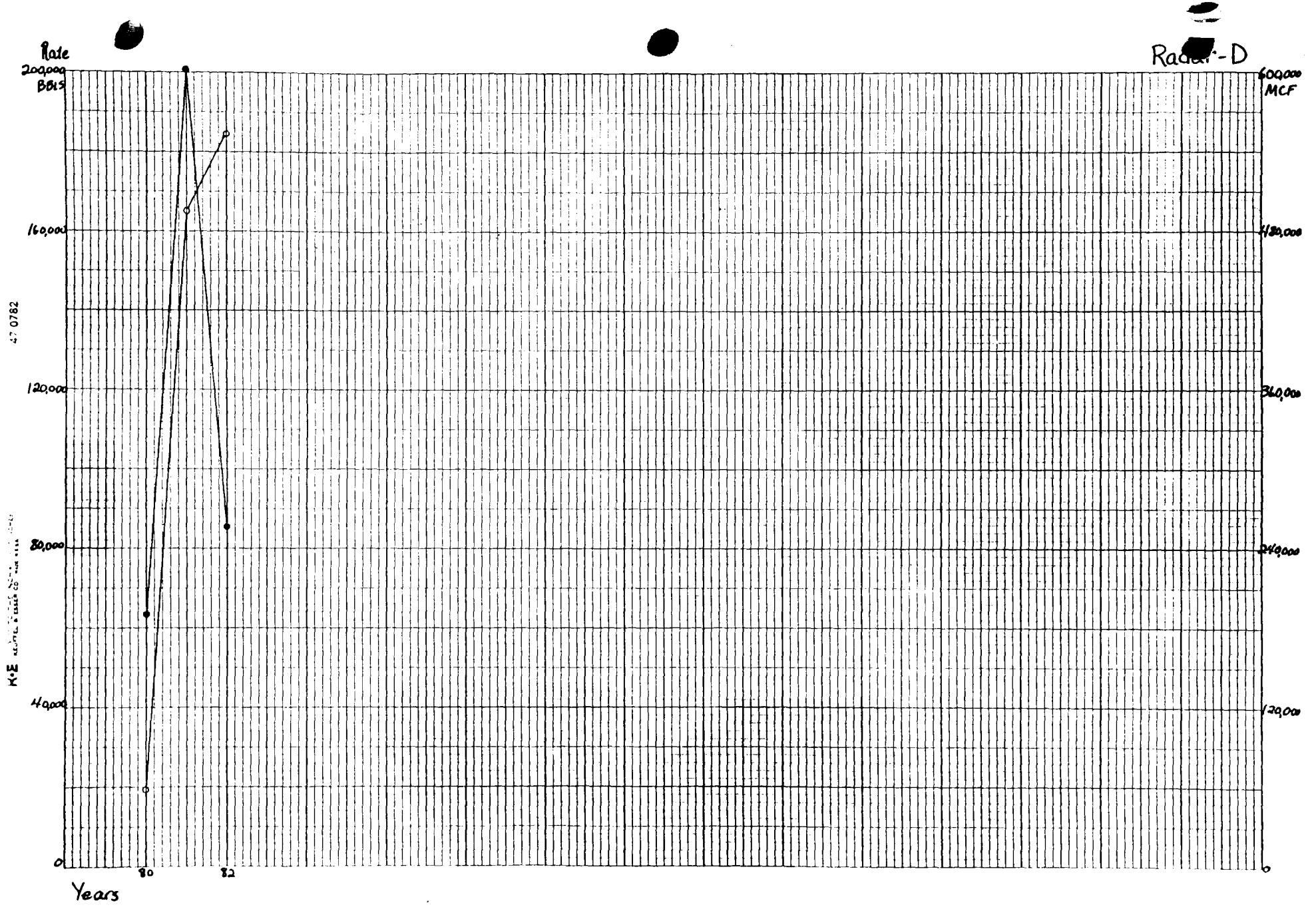

Rate
Pony-J
5,000 BBLS
4,000
3,000
2,000
1,000
0
15,000 MCF
12,000
9,000
6,000
3,000
0
72
74
76
78
80
82
Years

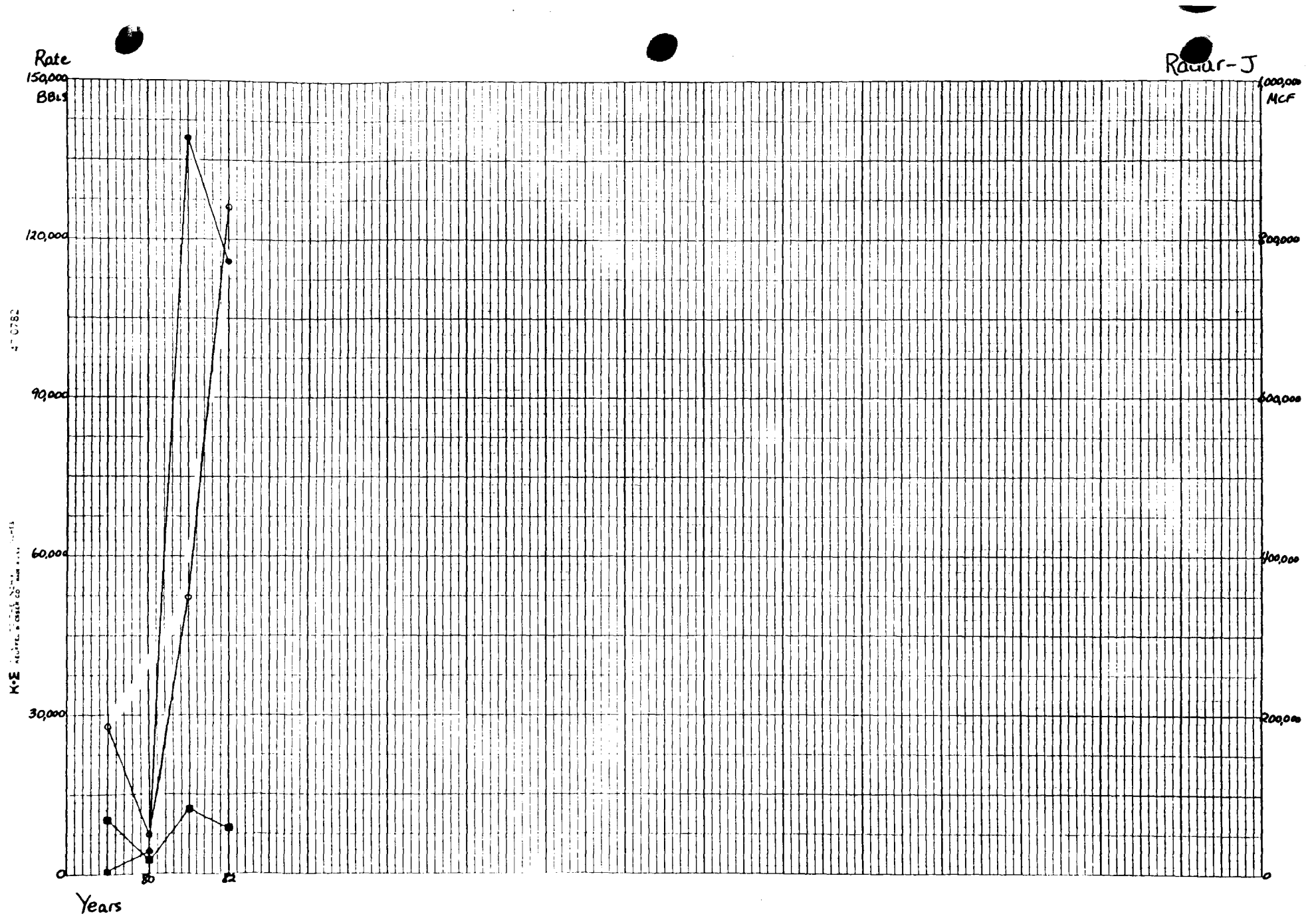

Rate
Porter-J
5,000
BBLS
4,000
3,000
2,000
1,000
0
500,000
MCF
400,000
300,000
200,000
100,000
0
80
82
Years

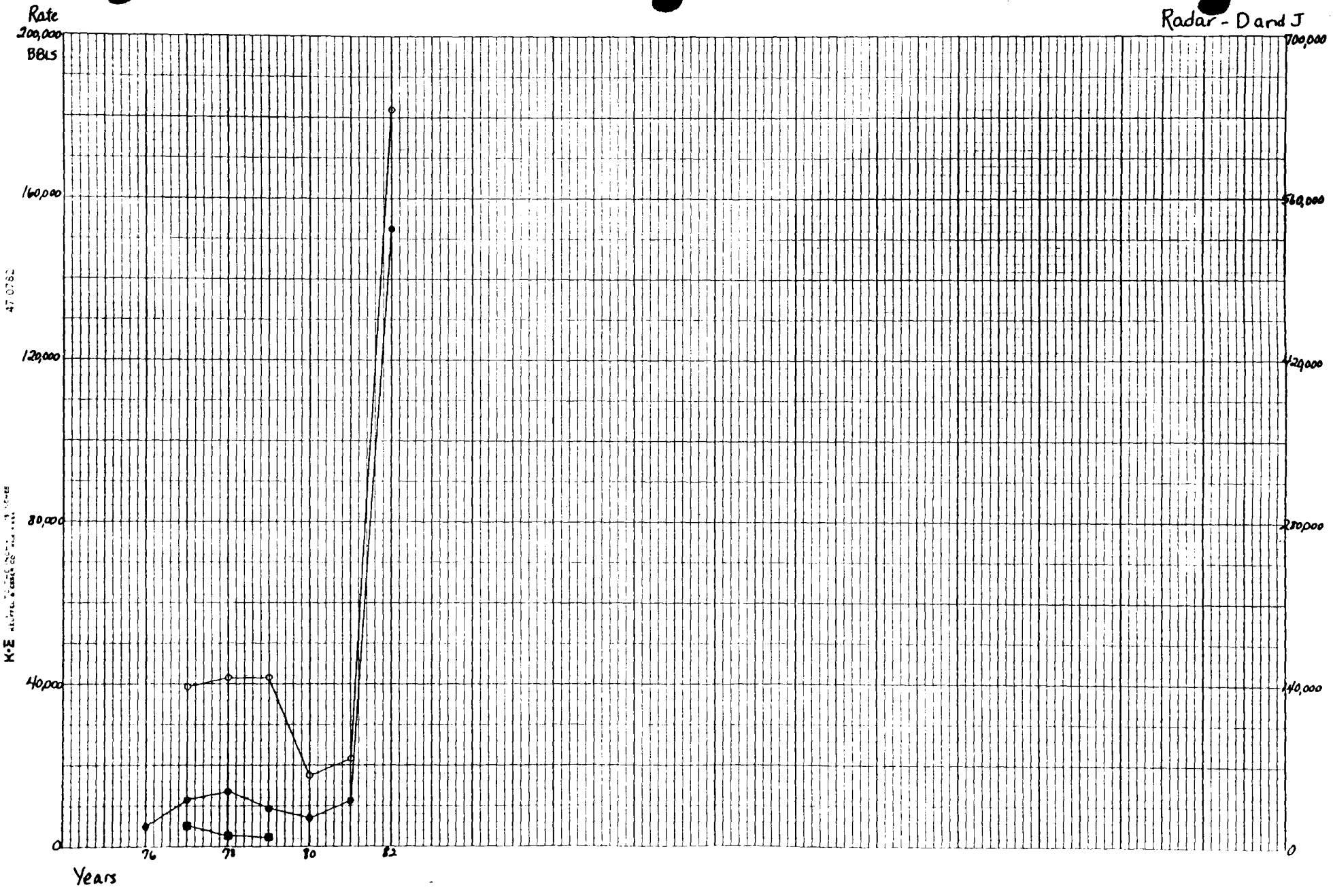

Rate
10,000 BBLS
8,000
6,000
4,000
2,000
0
26,000 MCF
20,800
15,600
10,400
5,200
0
76
78
80
82
Years

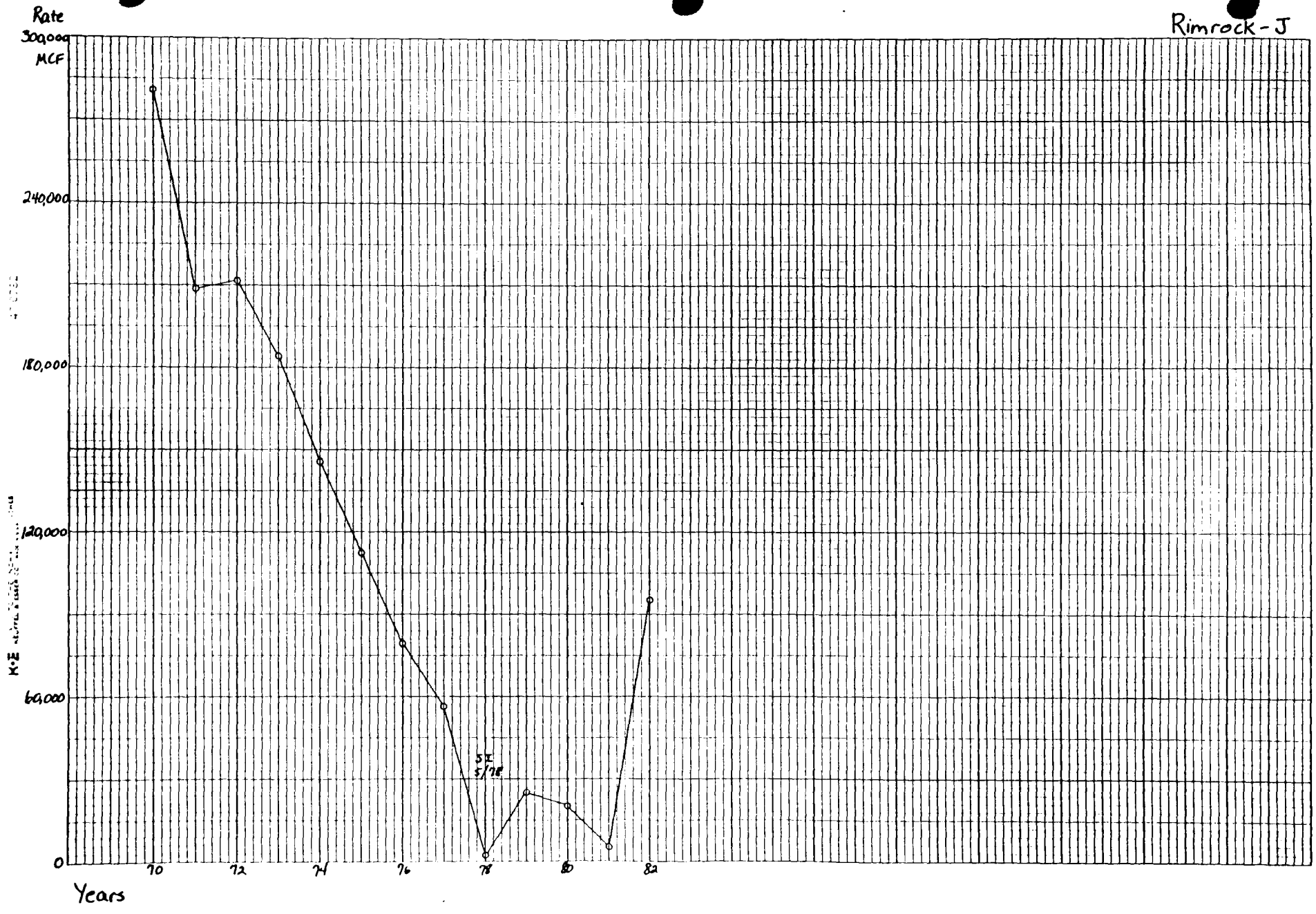

Rate
75,000
BBLS
60,000
45,000
30,000
15,000
0
80
82
Years
2,225,000
1,780,000
1,335,000
890,000
445,000
0

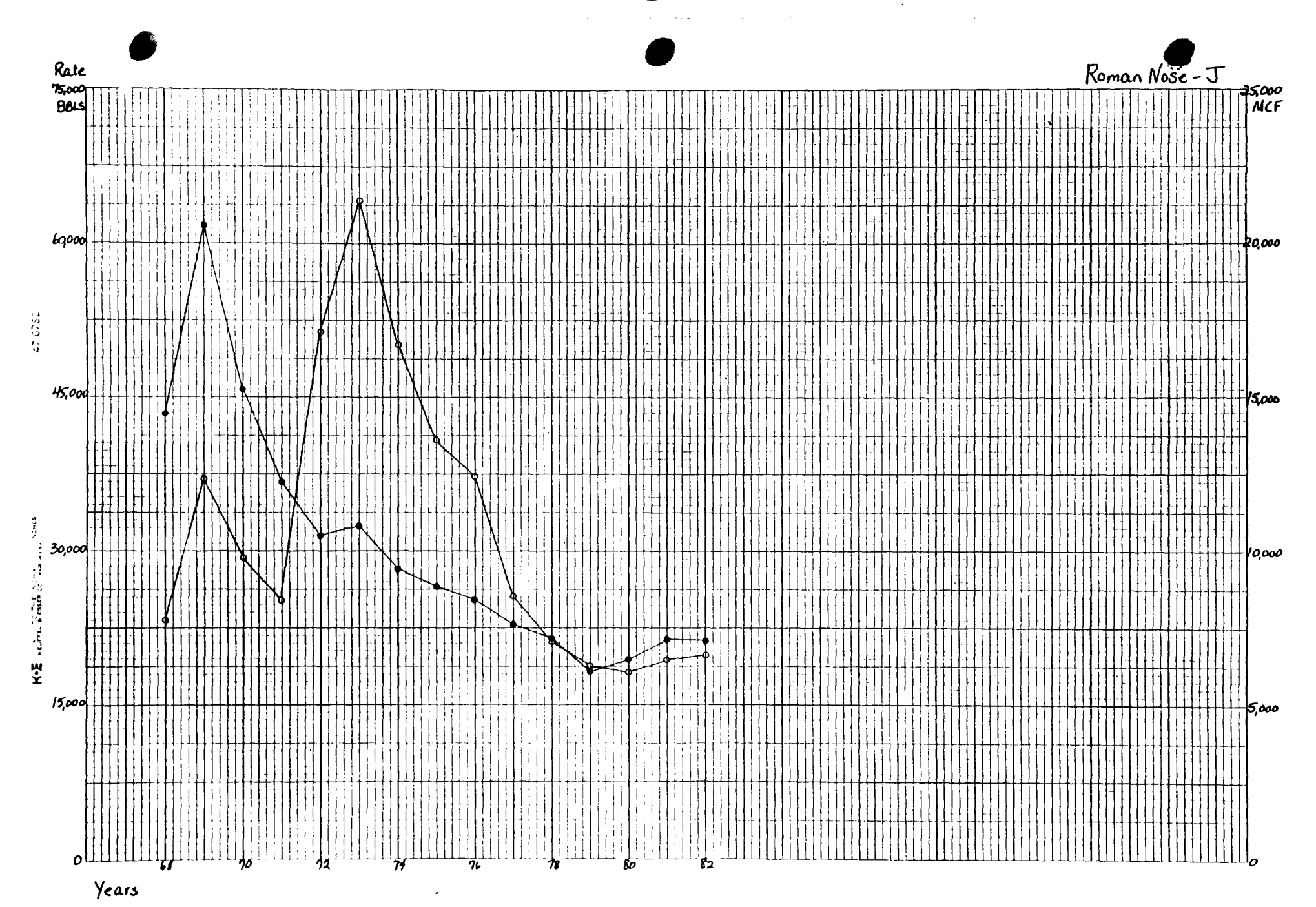

Rate
15,000
BBLS
12,000
9,000
6,000
3,000
0
350,000
MCF
280,000
210,000
140,000
70,000
0
Quarry-J
80
82
Years

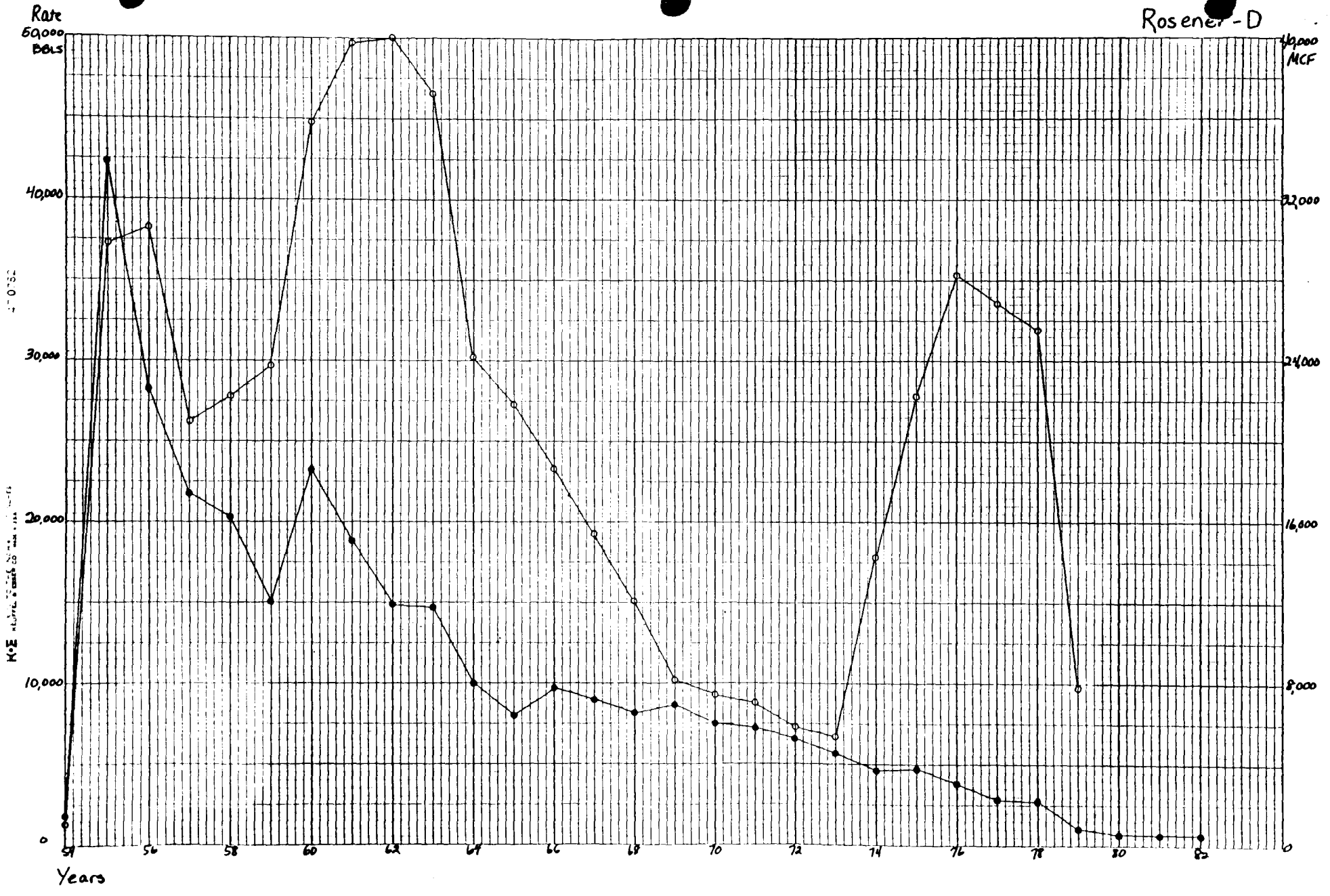

Rate
200,000
BBLS
160,000
120,000
80,000
40,000
0
600,000
MCF
480,000
360,000
240,000
120,000
0
80
82
Years
47 0782


Rate
Radar-J
150,000
BBLS
120,000
90,000
60,000
30,000
0
1,000,000
MCF
800,000
600,000
400,000
200,000
0
80
82
Years

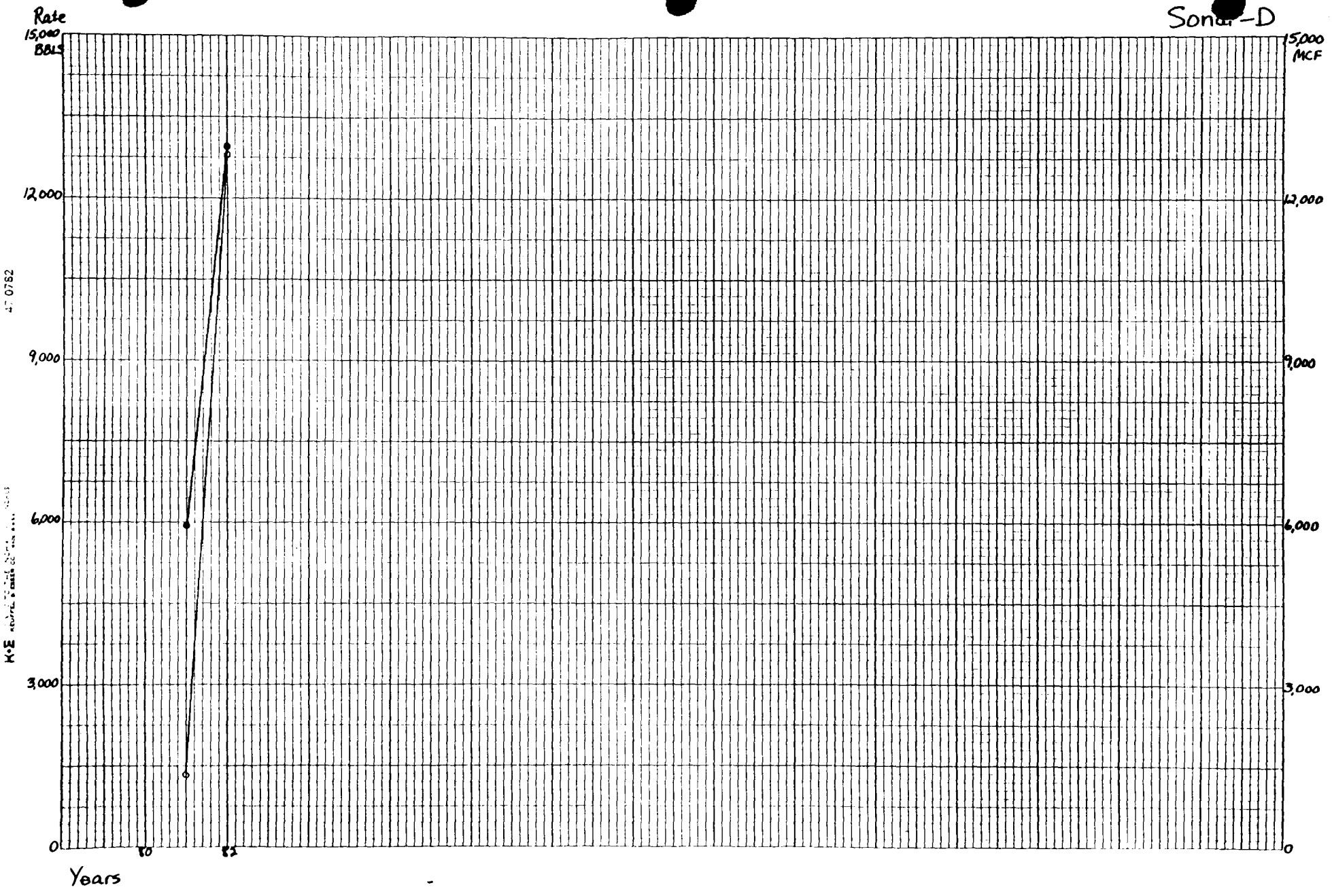

Rate
200,000
BBLS
160,000
120,000
80,000
40,000
0
Radar - D and J
700,000
560,000
420,000
280,000
140,000
0
76
78
80
82
Years

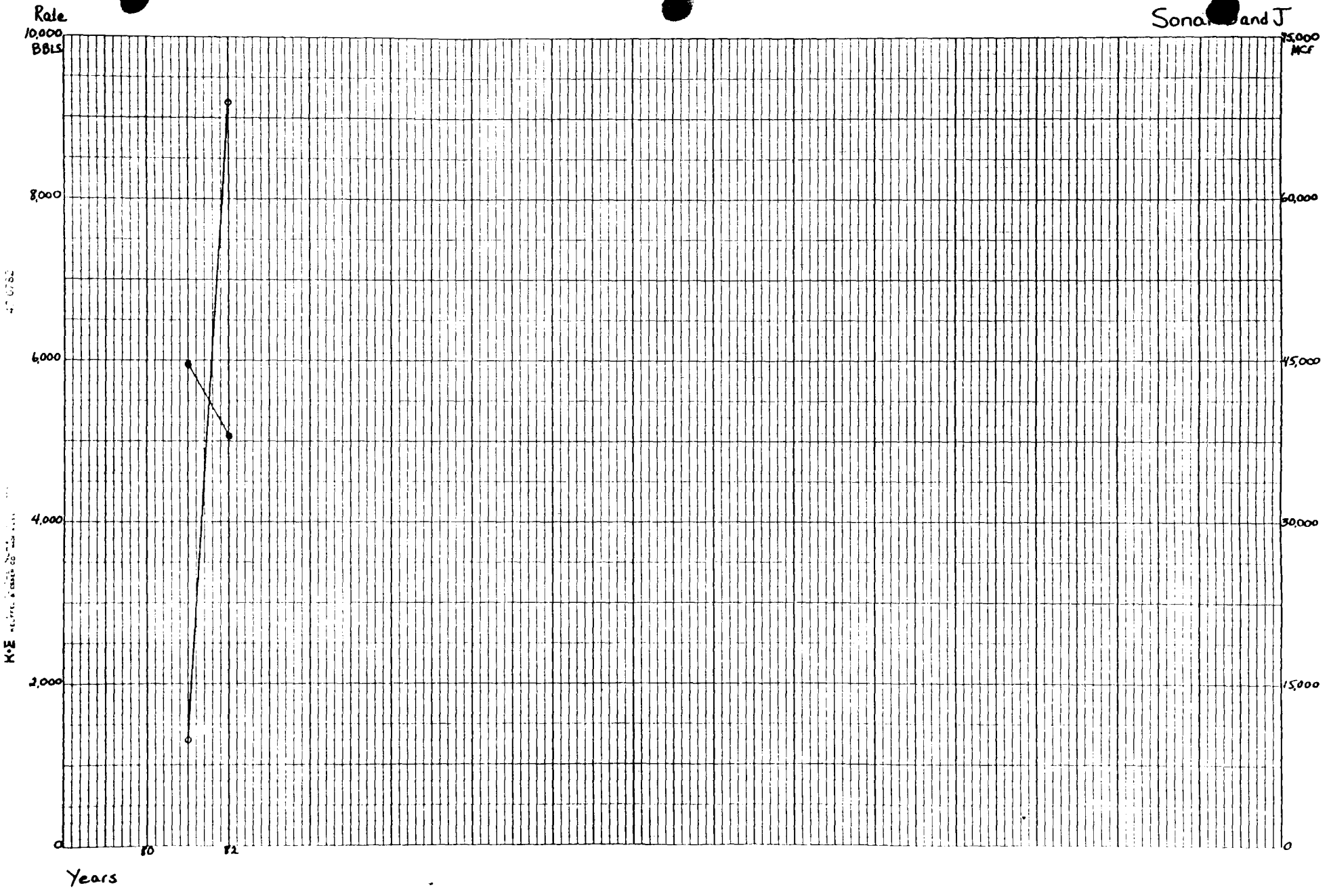

Rate
300,000
MCF
240,000
180,000
120,000
60,000
0
Rimrock-J
SI
5/78
70
72
74
76
78
80
82
Years

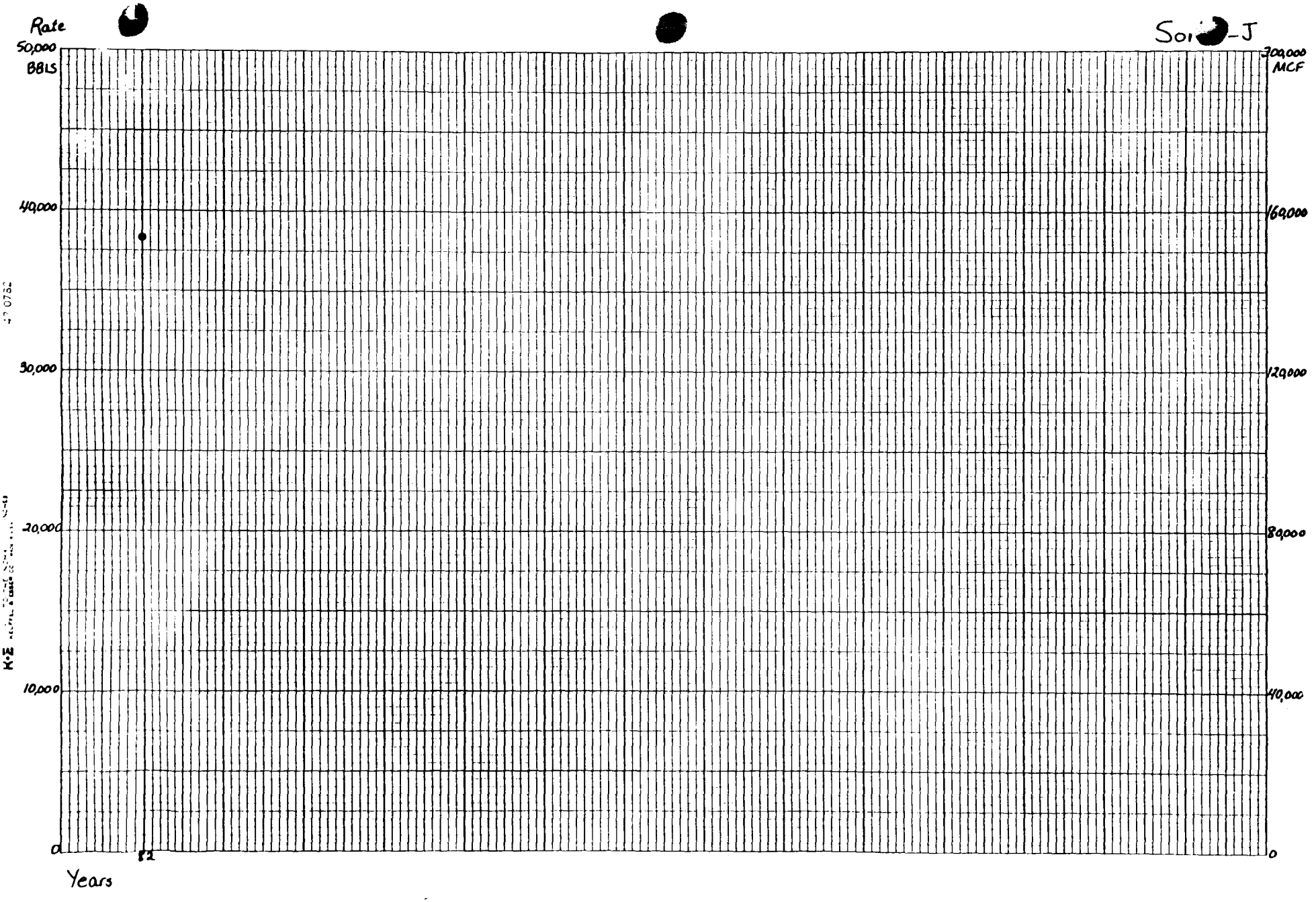

Rate
Roman Nose - J
75,000
BBLS
60,000
45,000
30,000
15,000
0
35,000
MCF
20,000
15,000
10,000
5,000
0
68
70
72
74
76
78
80
82
Years

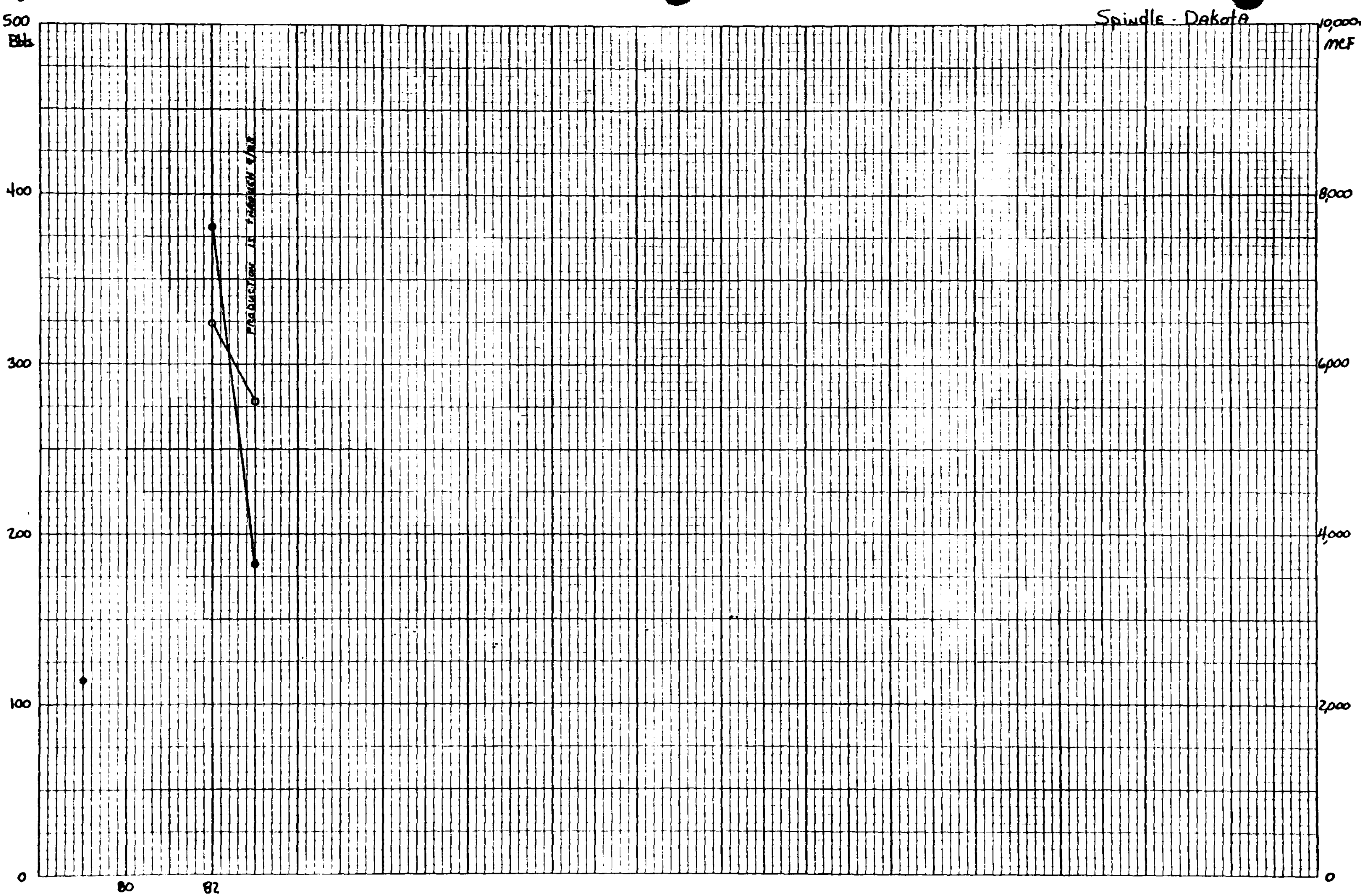

Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
48,000
MCF
32,000
24,000
16,000
8,000
0
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years


Rate
15,000
BBLS
12,000
9,000
6,000
3,000
0
Second Creek - J+D
40,000
MCF
32,000
24,000
16,000
8,000
0
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years


Rate
15,000 BBLS
12,000
9,000
6,000
3,000
0
15,000 MCF
12,000
9,000
6,000
3,000
0
t0
t1
Years

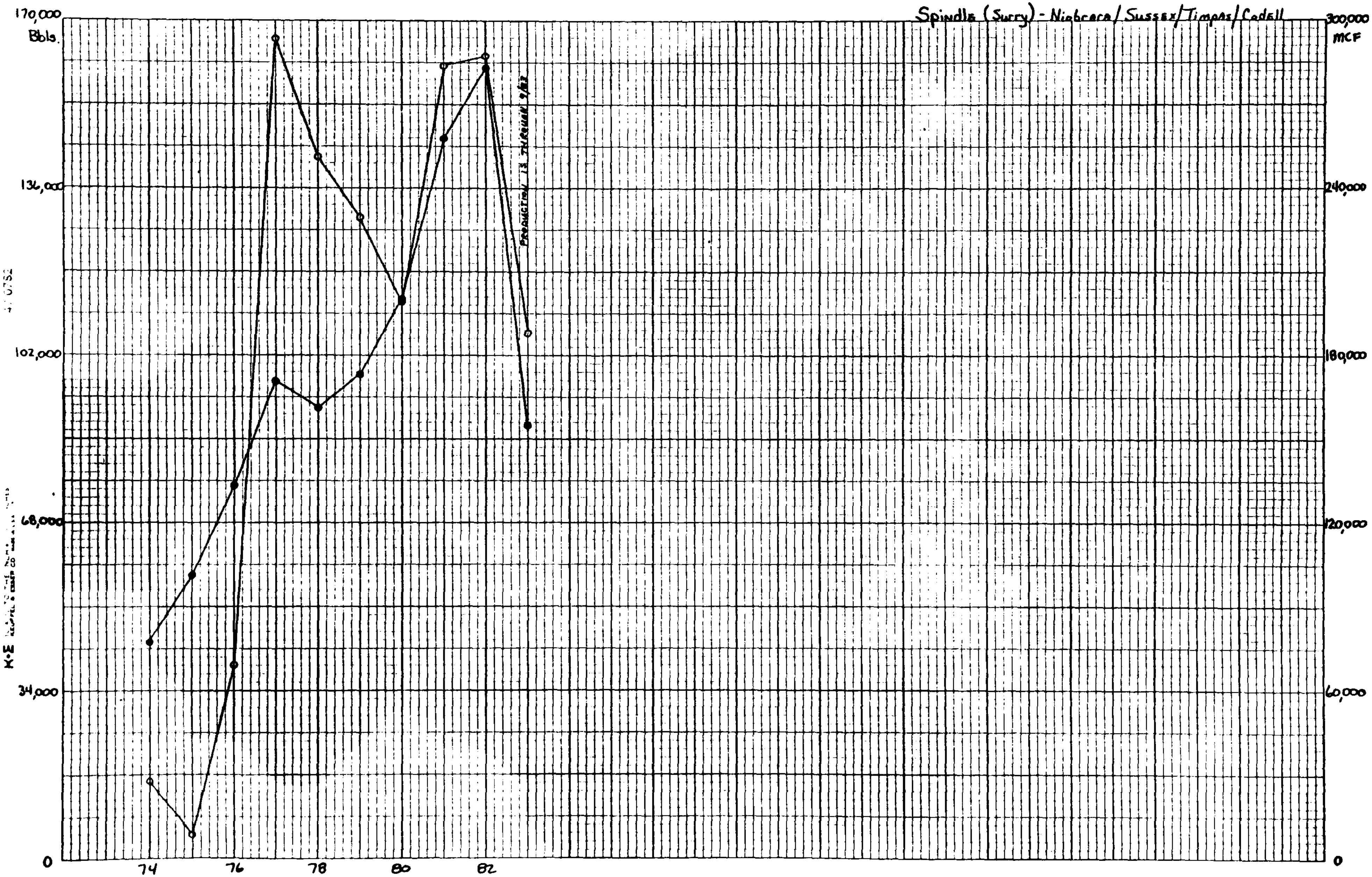

Rate
10,000 BBLS
8,000
6,000
4,000
2,000
0
75,000 MCF
60,000
45,000
30,000
15,000
0
80
82
Years


Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
Years
Soi -J
300,000
MCF
160,000
120,000
80,000
40,000
0

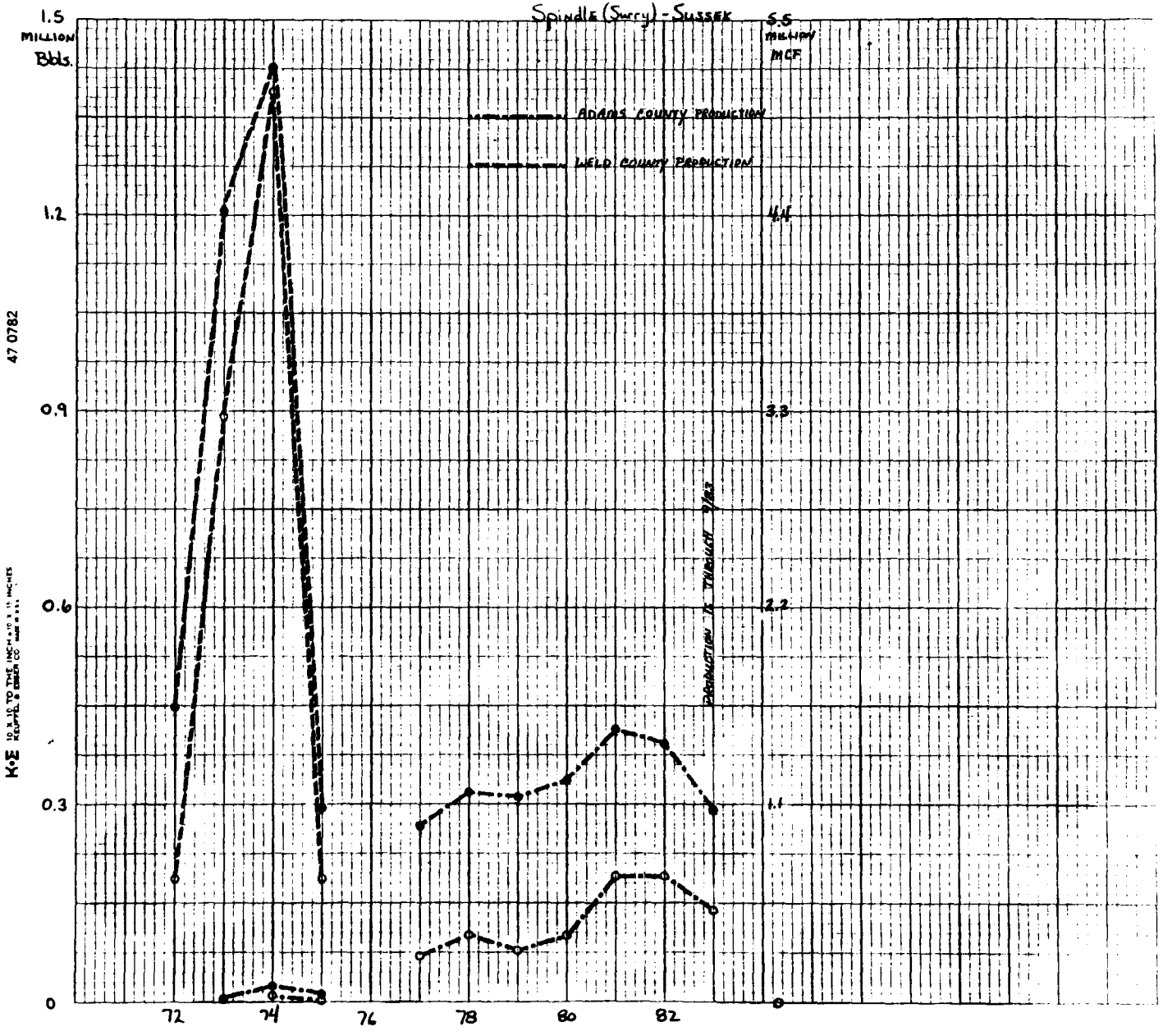


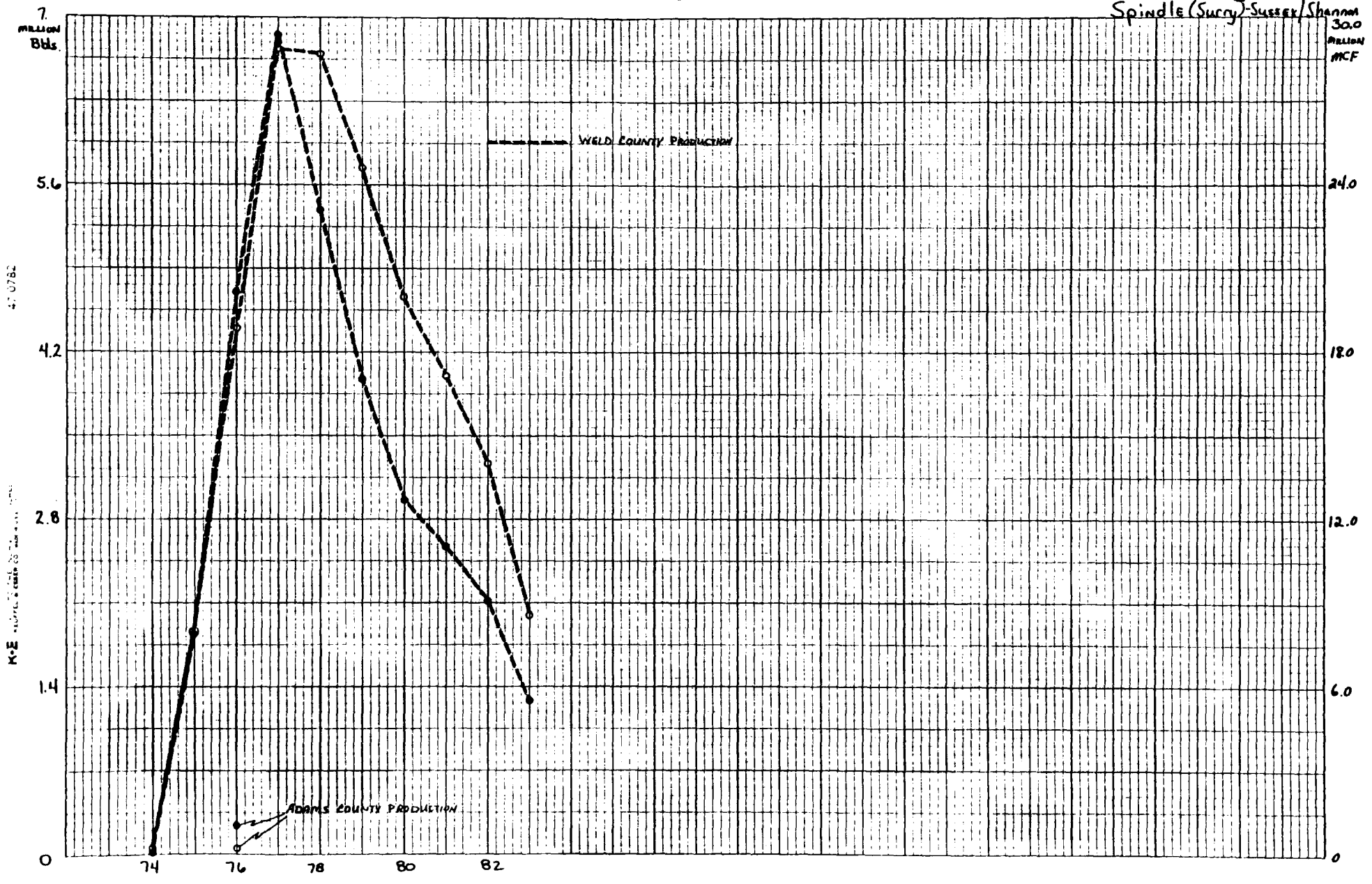
47 0782

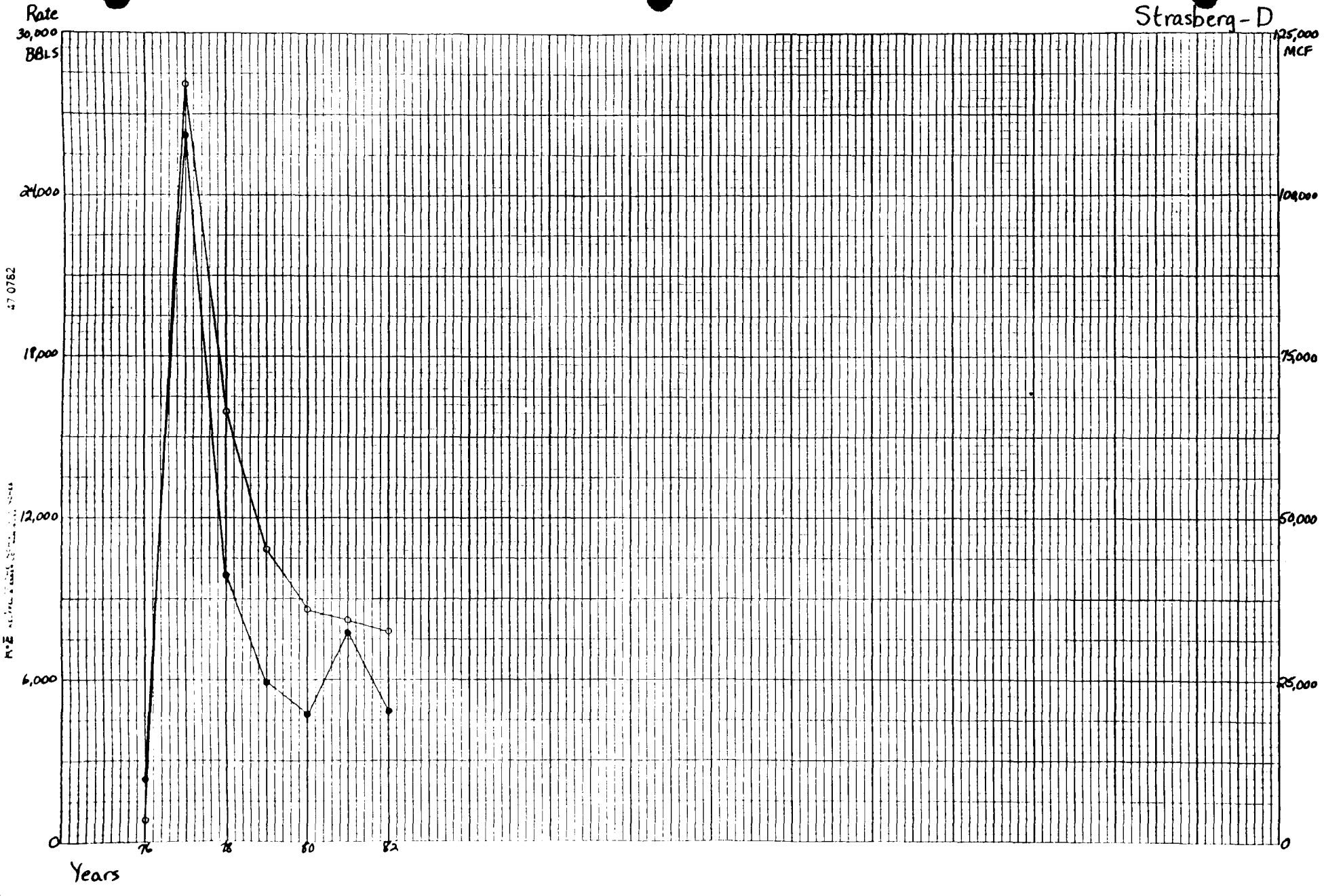
K•E KEUFFEL & ESSER CO.

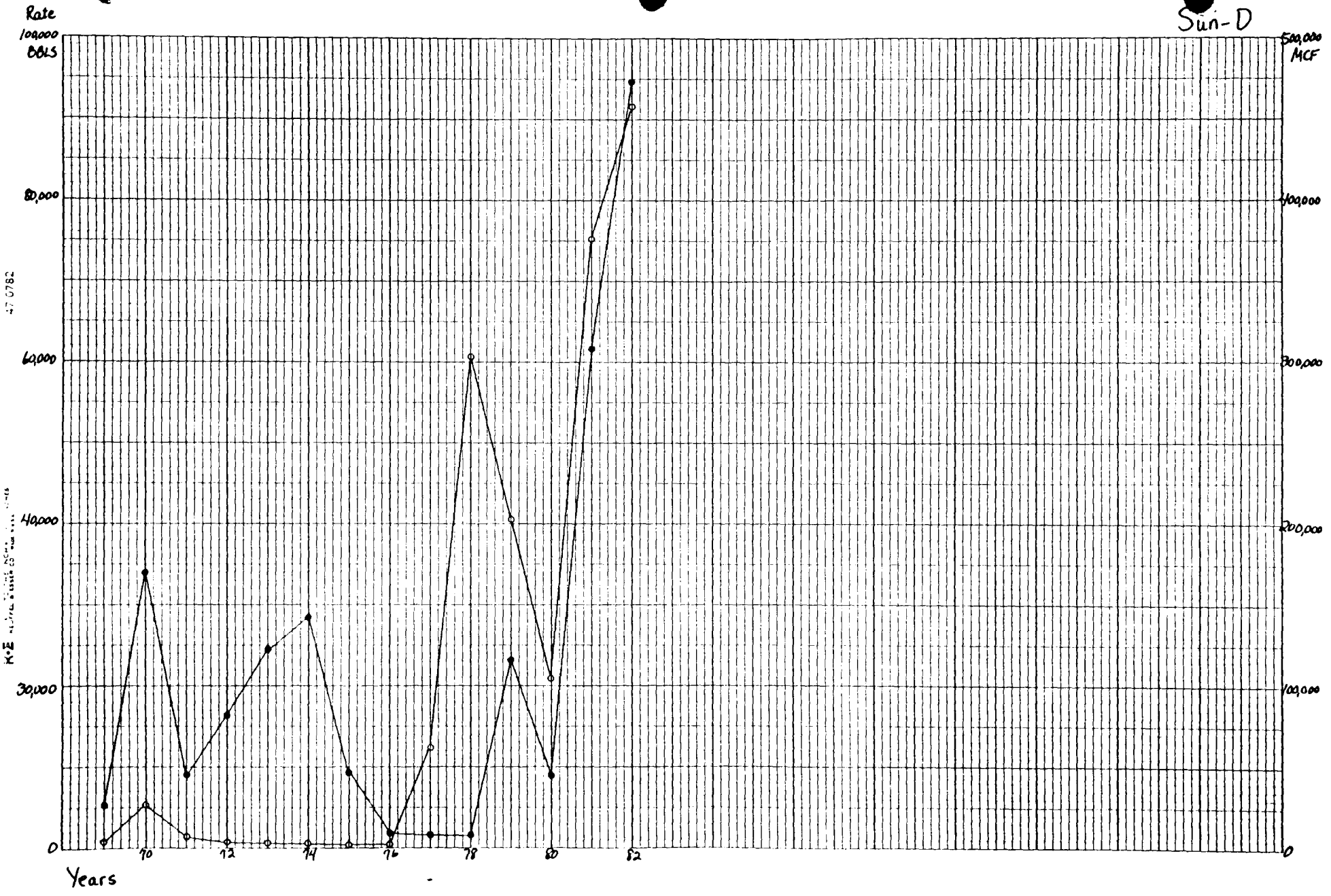


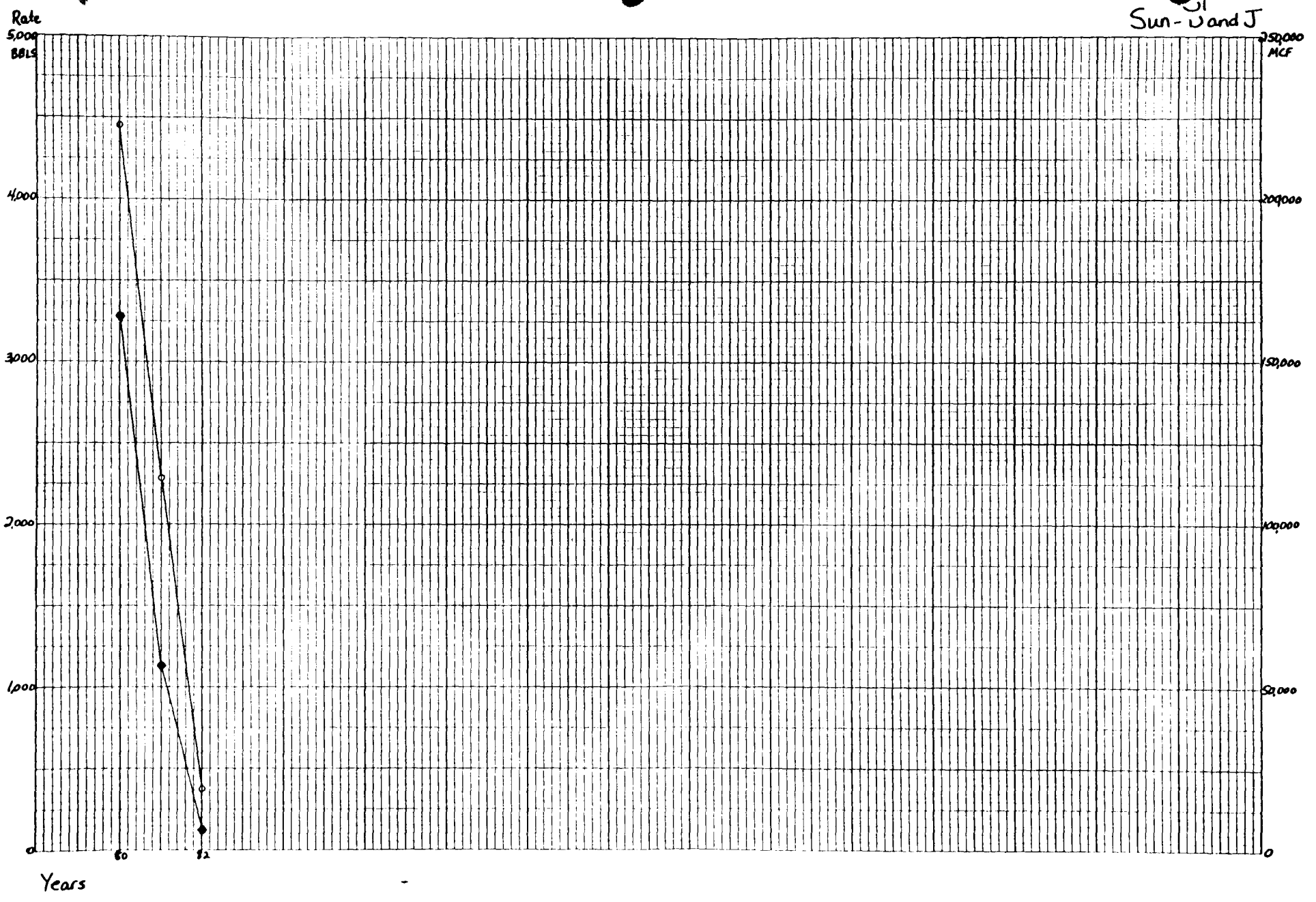
Spindle (Surry) - Niobrara/Sussex/Timpas/Codell
170,000
Bbls.
136,000
102,000
68,000
34,000
0
300,000
MCF
240,000
180,000
120,000
60,000
0
74
76
78
80
82
PRODUCTION IS THROUGH 9/83

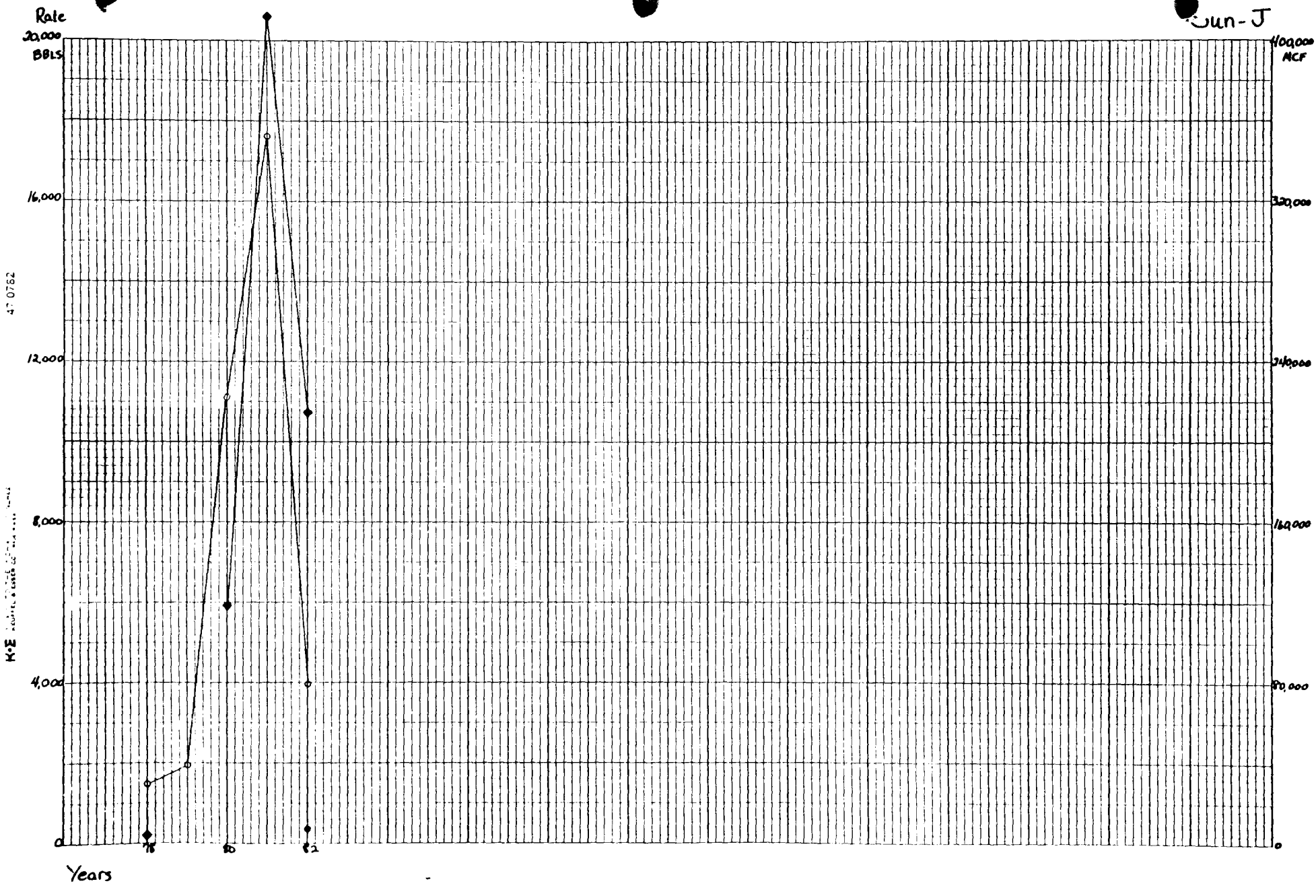

Spindle (Surry) - Sussex
1.5
MILLION
Bbls.
1.2
0.9
0.6
0.3
0
5.5
MILLION
MCF
4.4
3.3
2.2
1.1
0
ADAMS COUNTY PRODUCTION
WELD COUNTY PRODUCTION
PRODUCTION IN THOUSAND B/D
72
74
76
78
80
82
47 0782
K·E

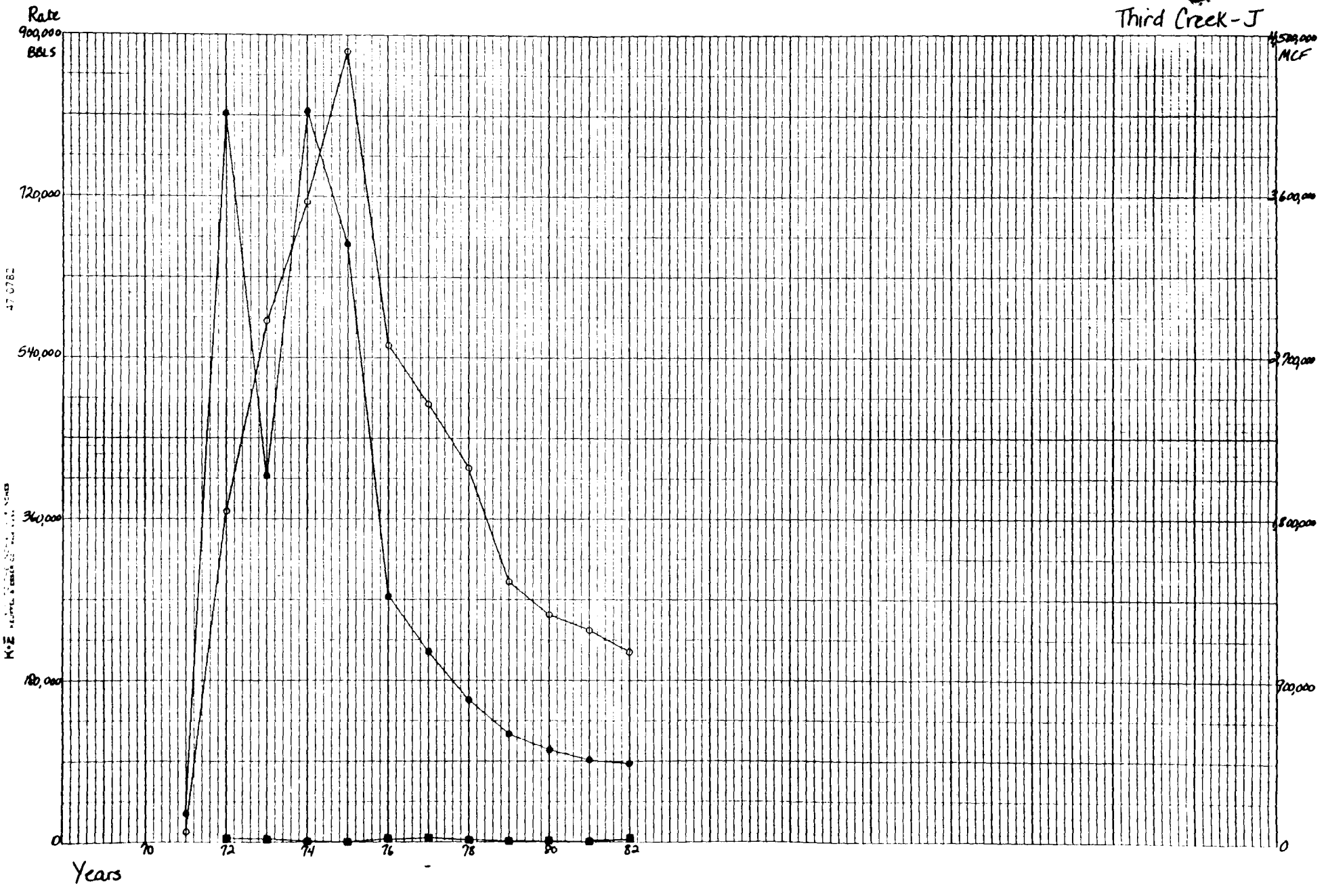

Spindle (Surry)-Sussex/Shannon
7.
MILLION
Bbls.
5.6
4.2
2.8
1.4
0
30.0
MILLION
MCF
24.0
18.0
12.0
6.0
0
WELD COUNTY PRODUCTION
ADAMS COUNTY PRODUCTION
74
76
78
80
82


Rate
Strasberg - D
30,000
BBLS
24,000
18,000
12,000
6,000
0
125,000
MCF
100,000
75,000
50,000
25,000
0
76
78
80
82
Years

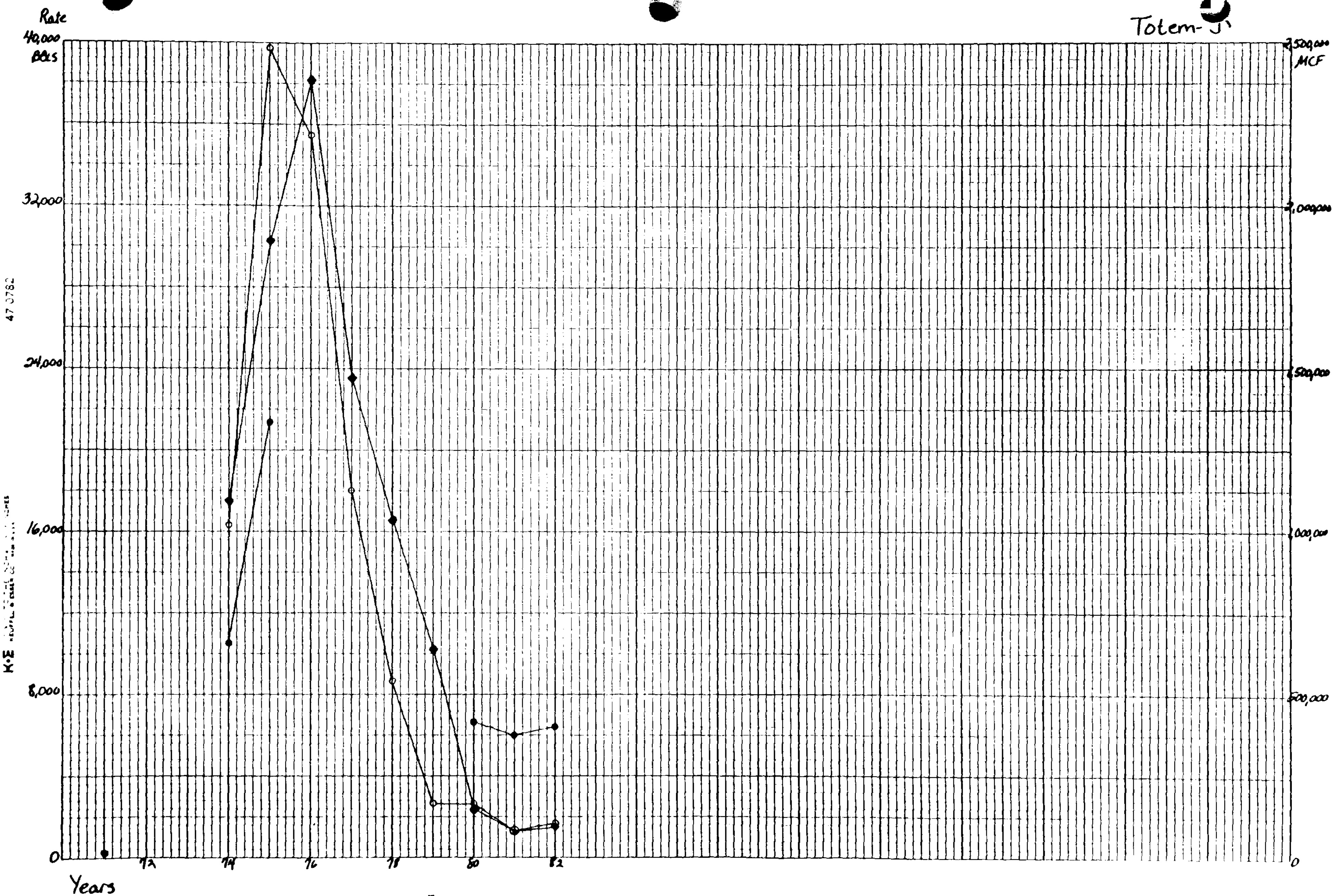

Rate
100,000
BBLS
80,000
60,000
40,000
30,000
0
500,000
MCF
400,000
300,000
200,000
100,000
0
70
72
74
76
78
80
82
Years
Sun-D


Rate
5,000 BBLS
4,000
3000
2,000
1,000
0
250,000 MCF
200,000
150,000
100,000
50,000
0
60
72
Years
Sun-J and J

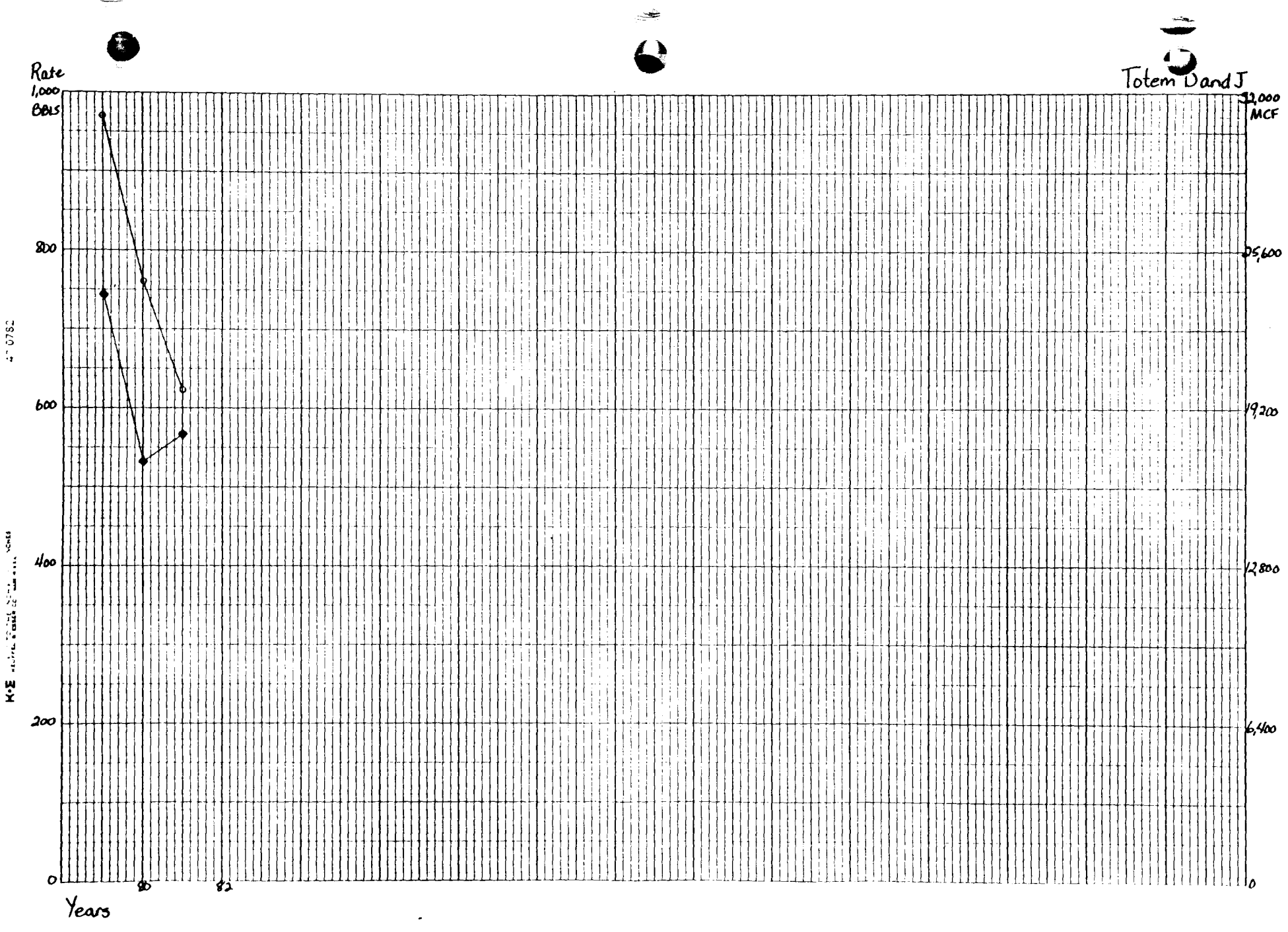

Rate
20,000
BBLS
16,000
12,000
8,000
4,000
0
400,000
MCF
320,000
240,000
160,000
80,000
0
Years
Sun-J

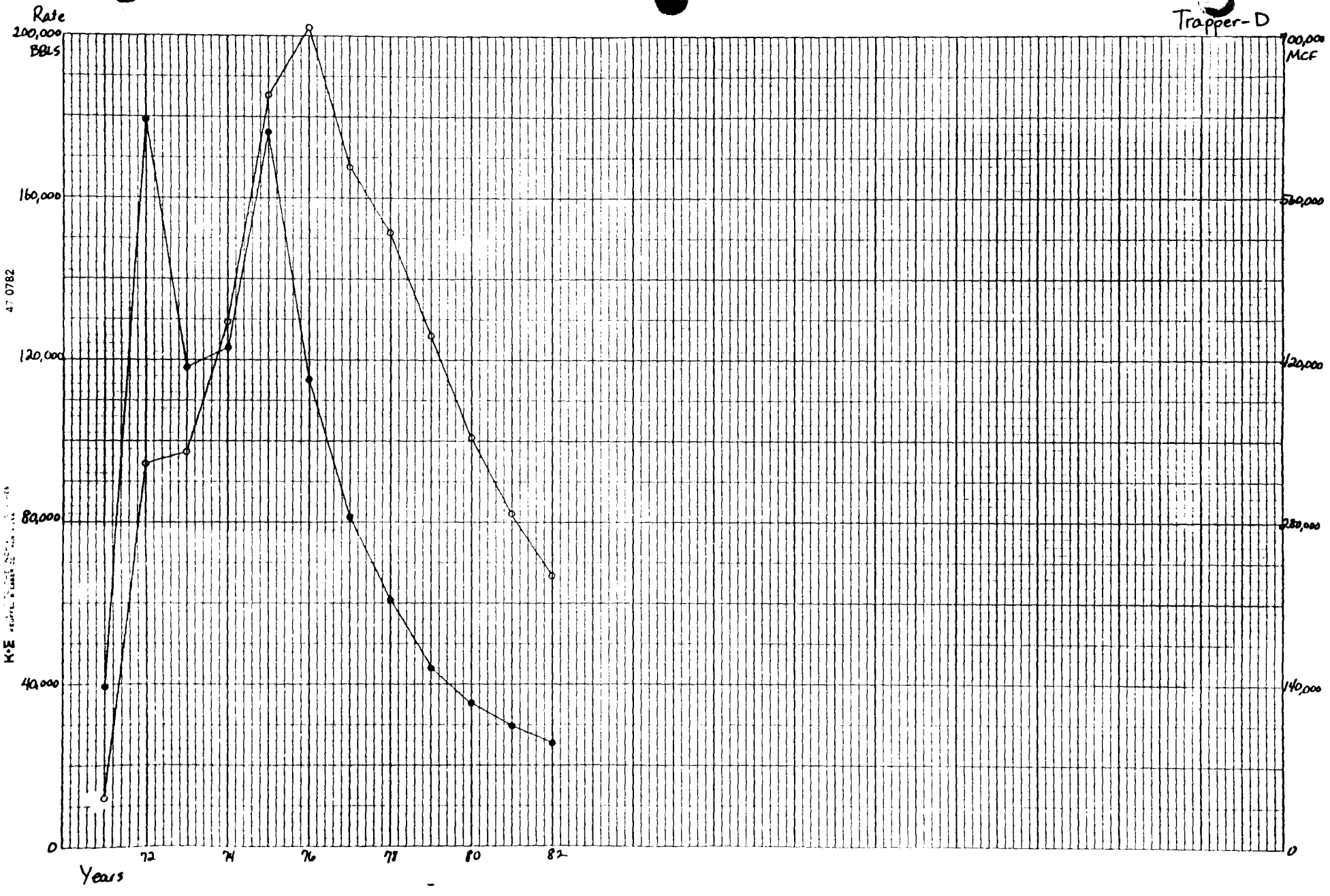

Rate
900,000
BBLS
720,000
540,000
360,000
180,000
0
4,500,000
MCF
3,600,000
2,700,000
1,800,000
900,000
0
70
72
74
76
78
80
82
Years
Third Creek-J

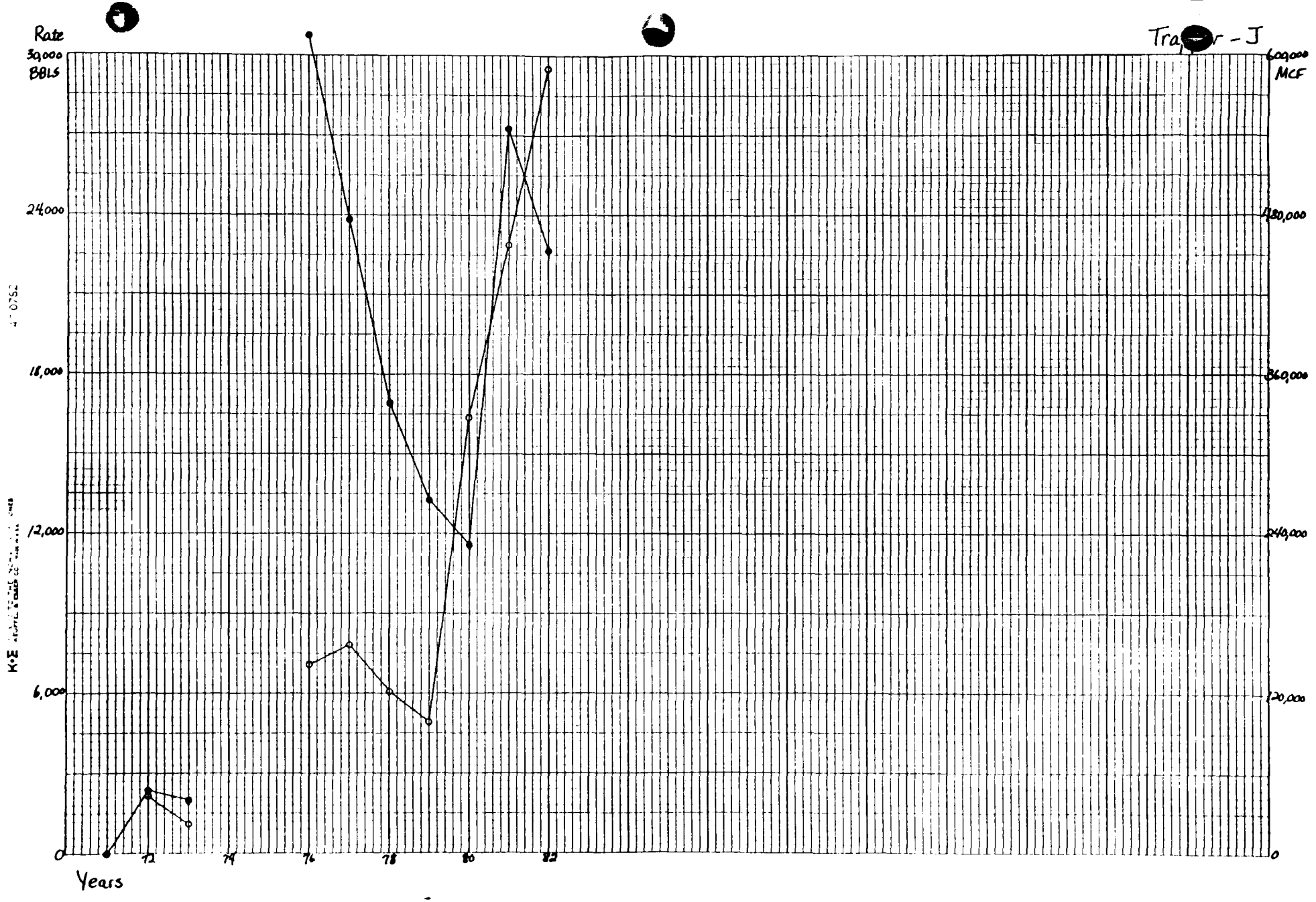

Rate
25,000
BBLS
20,000
15,000
10,000
5,000
0
Totem-D
90,000
MCF
60,000
45,000
30,000
15,000
0
NO PRODUCTION RECORDED
72
74
76
78
80
82
Years

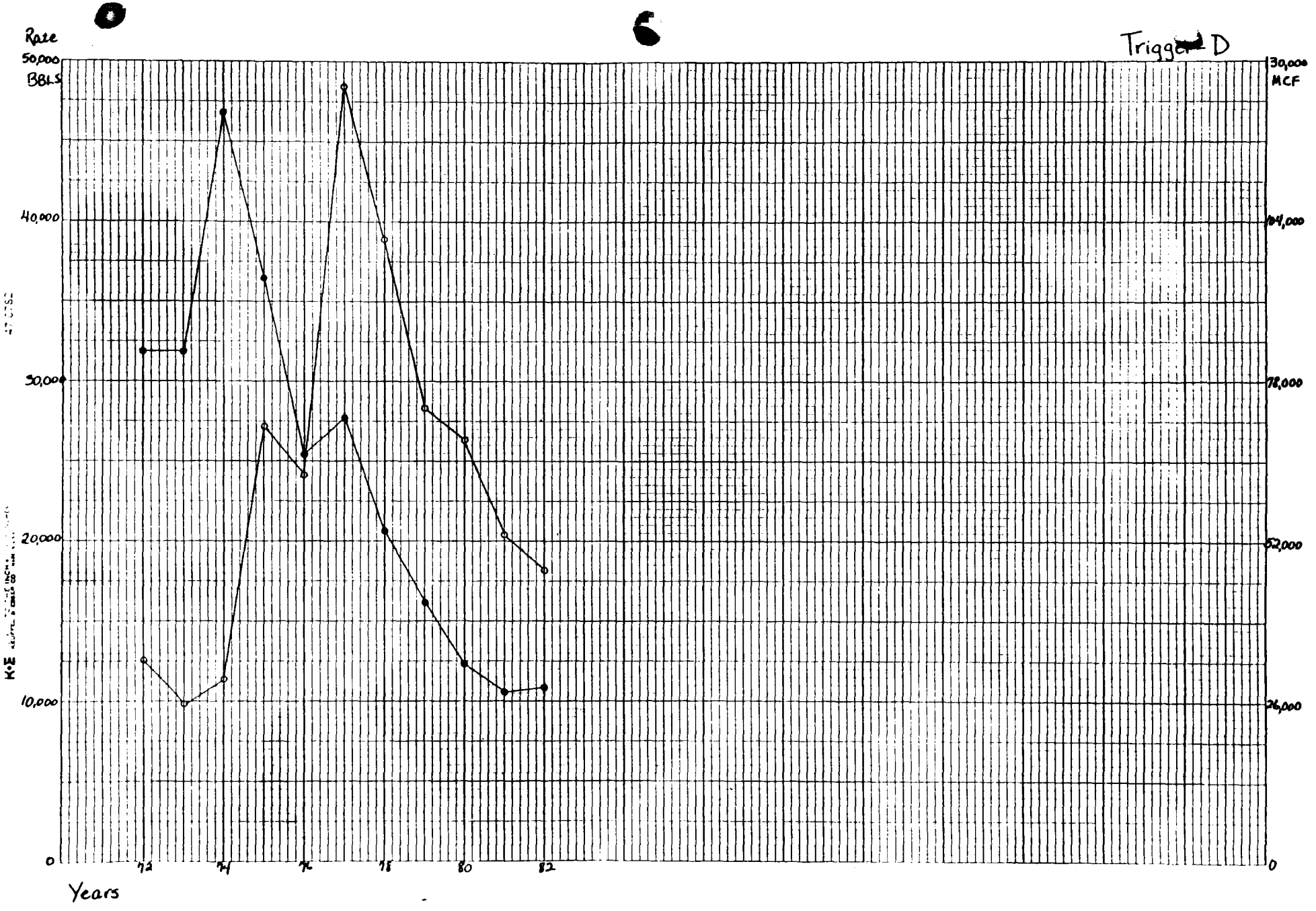


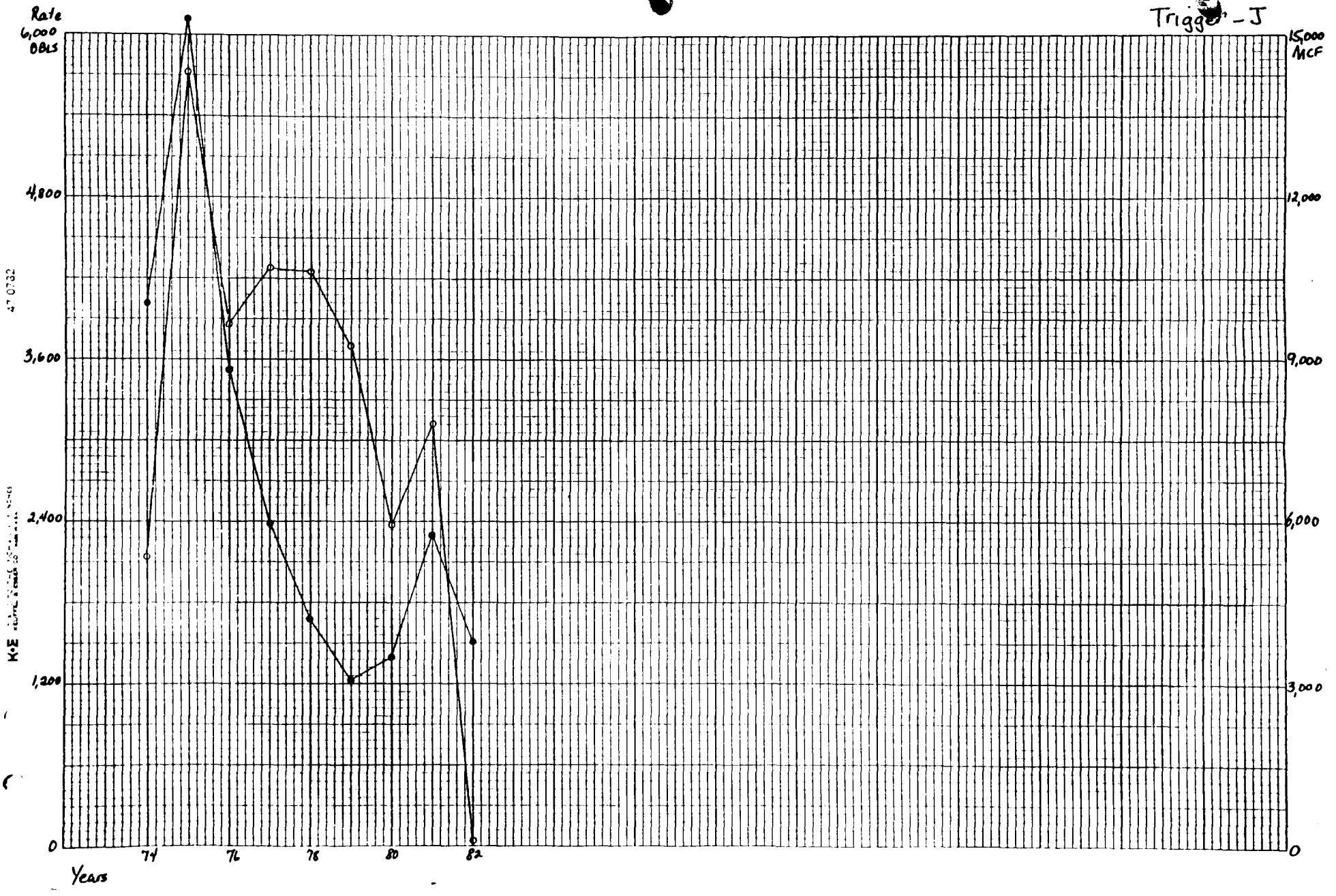
Totem-J'
Rate
40,000
BBLS
32,000
24,000
16,000
8,000
0
2,500,000
MCF
2,000,000
1,500,000
1,000,000
500,000
0
72
74
76
78
80
82
Years
K•E
47 0782

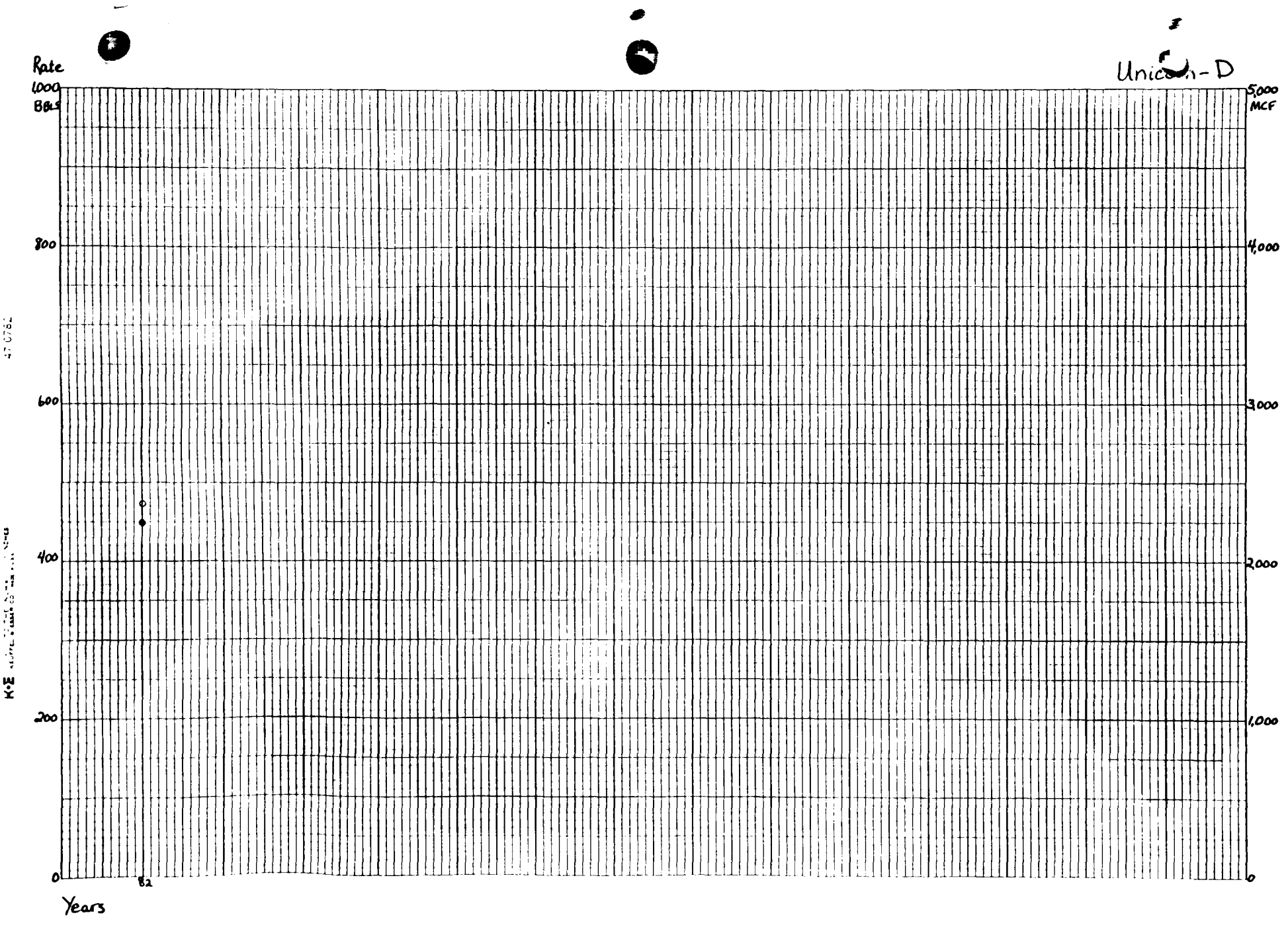

Totem D and J
Rate
1,000
BBLS
800
600
400
200
0
12,000
MCF
9,600
7,200
4,800
2,400
0
80
82
Years

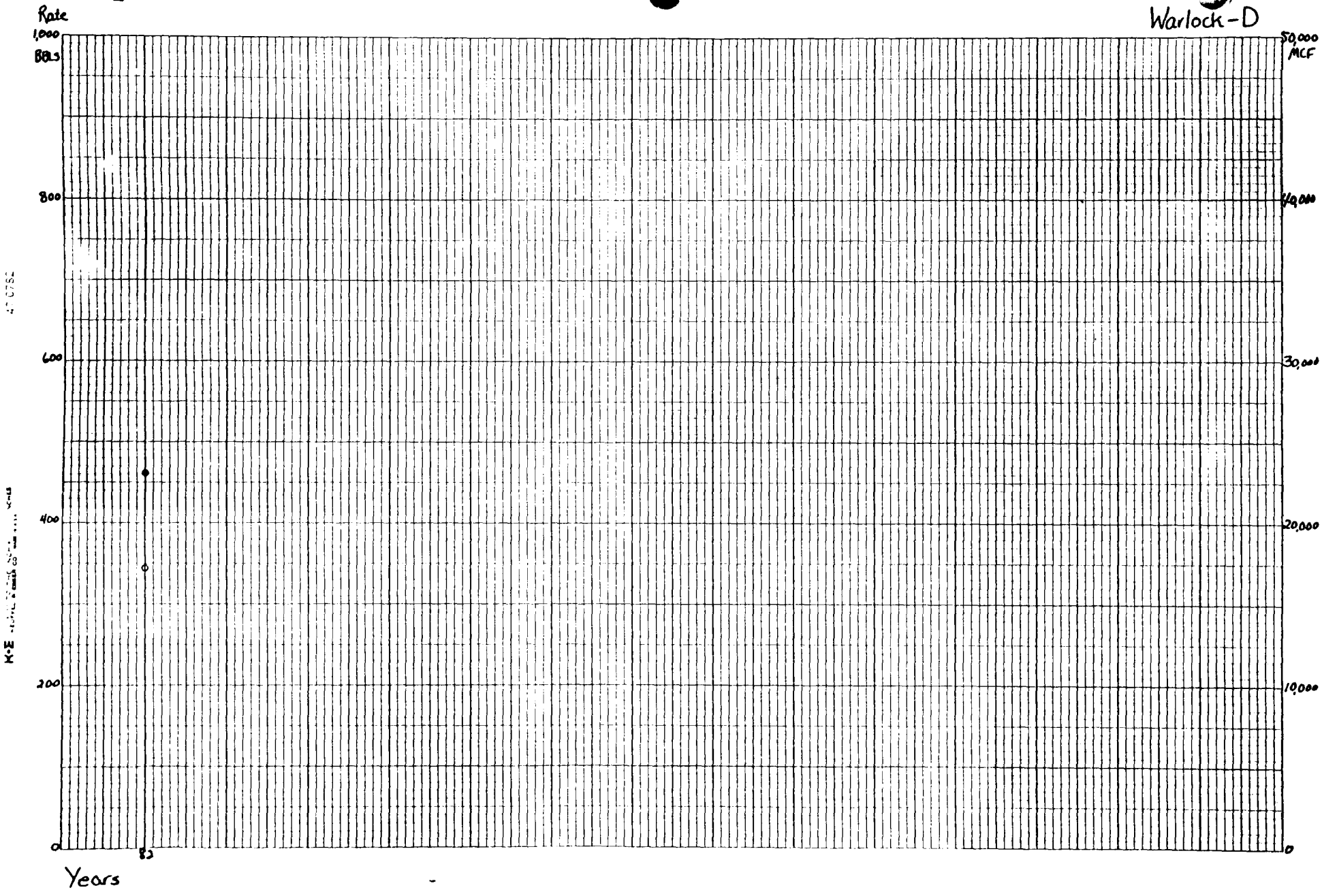

Rate
200,000
BBLS
160,000
120,000
80,000
40,000
0
700,000
MCF
560,000
420,000
280,000
140,000
0
Trapper-D
72
74
76
78
80
82
Years
47 0782
K+E

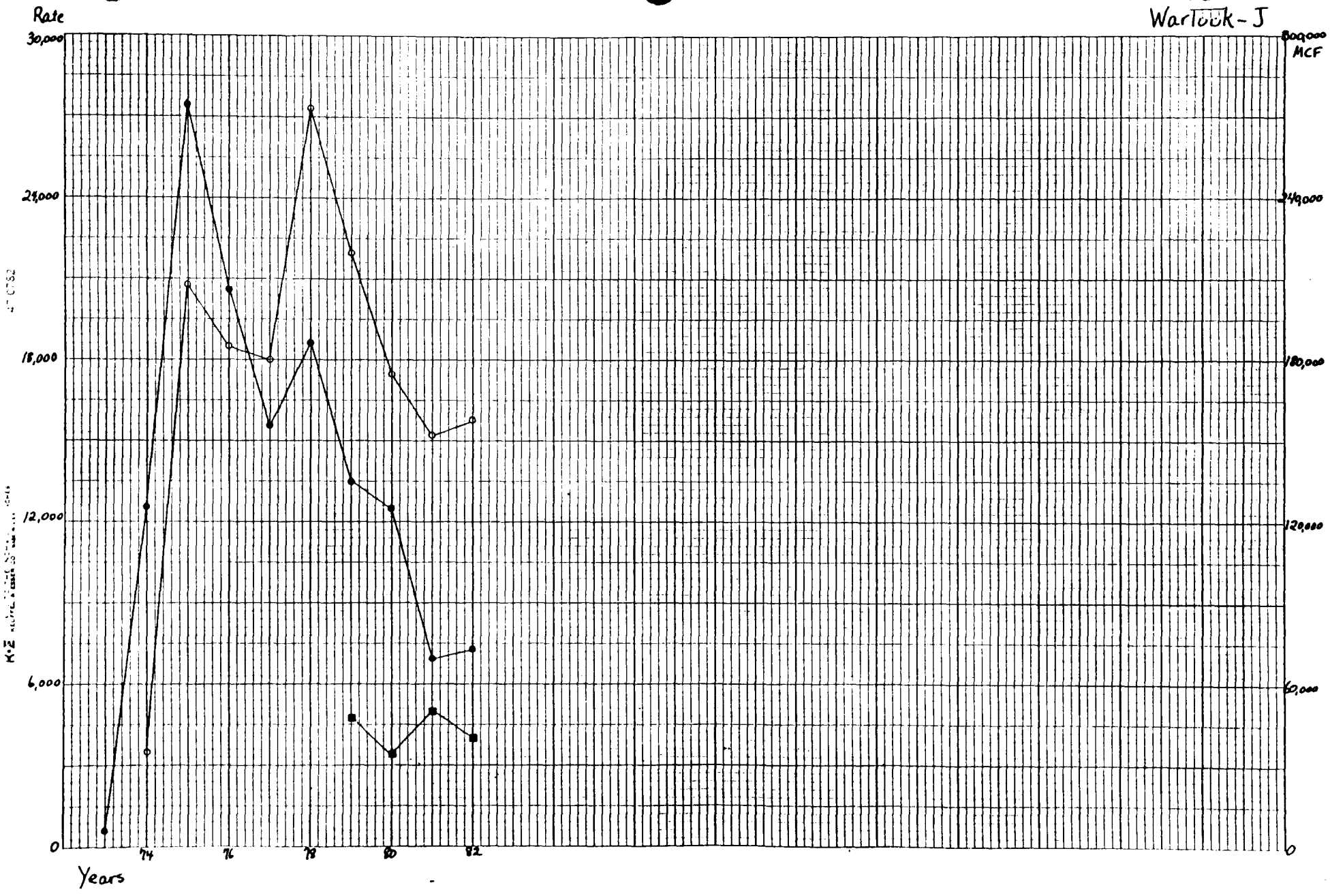

Rate
30,000
BBLS
24,000
18,000
12,000
6,000
0
600,000
MCF
480,000
360,000
240,000
120,000
0
72
74
76
78
80
82
Years

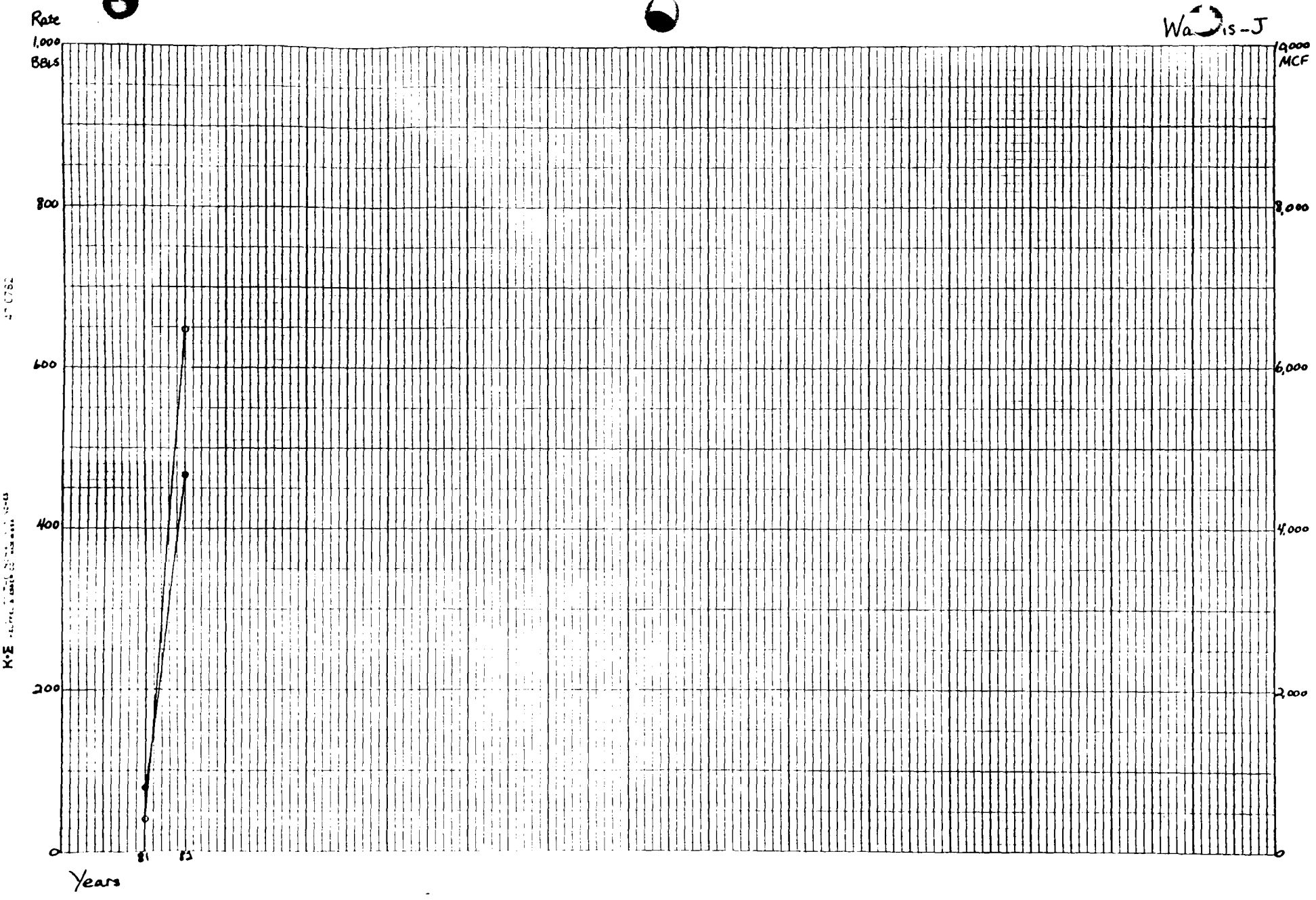

Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
30,000
MCF
104,000
78,000
52,000
26,000
0
72
74
76
78
80
82
Years
Trigger D

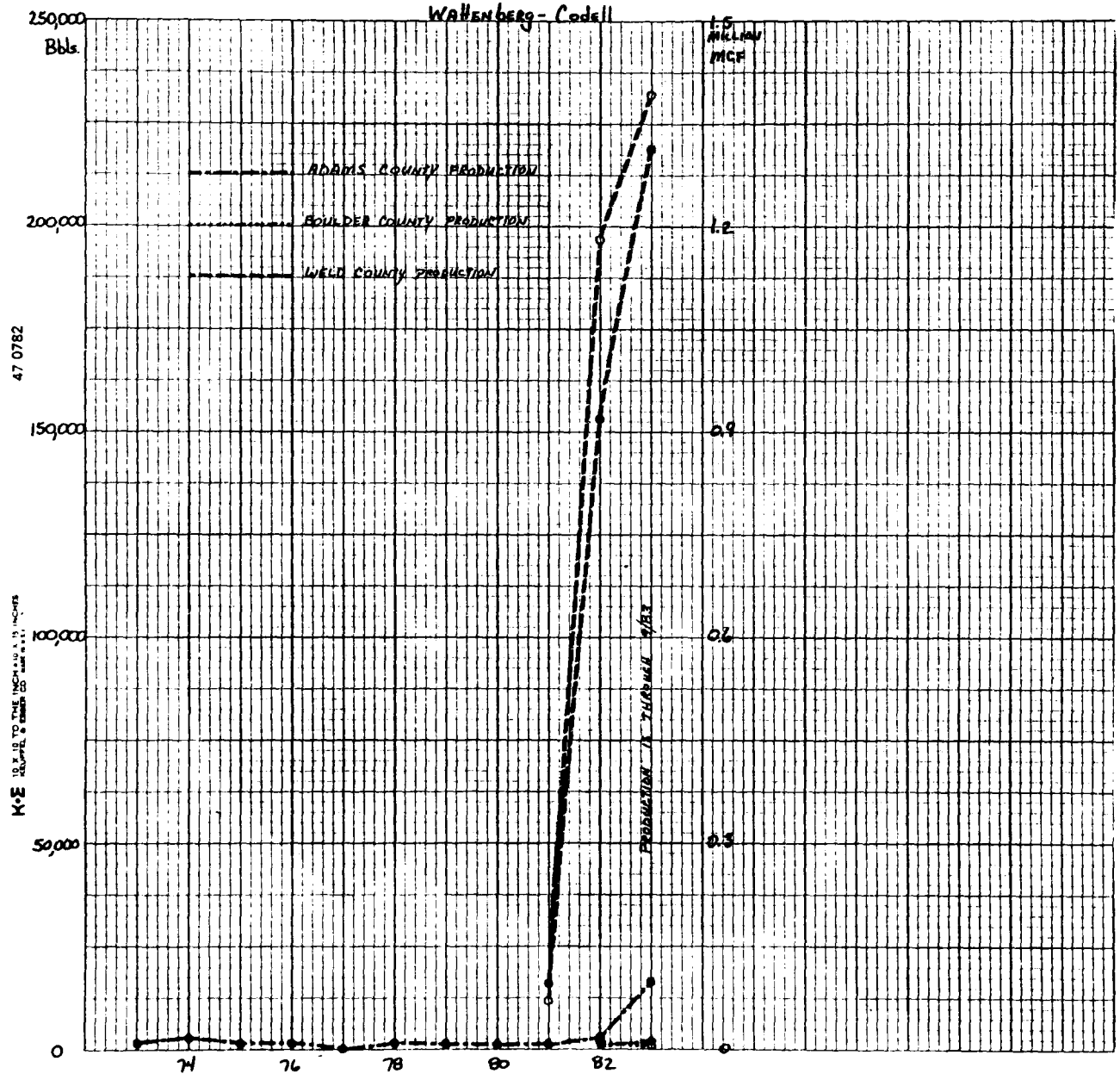

Rate
6,000 BBLS
4,800
3,600
2,400
1,200
0
15,000 MCF
12,000
9,000
6,000
3,000
0
74
76
78
80
82
Years
Trigg - J

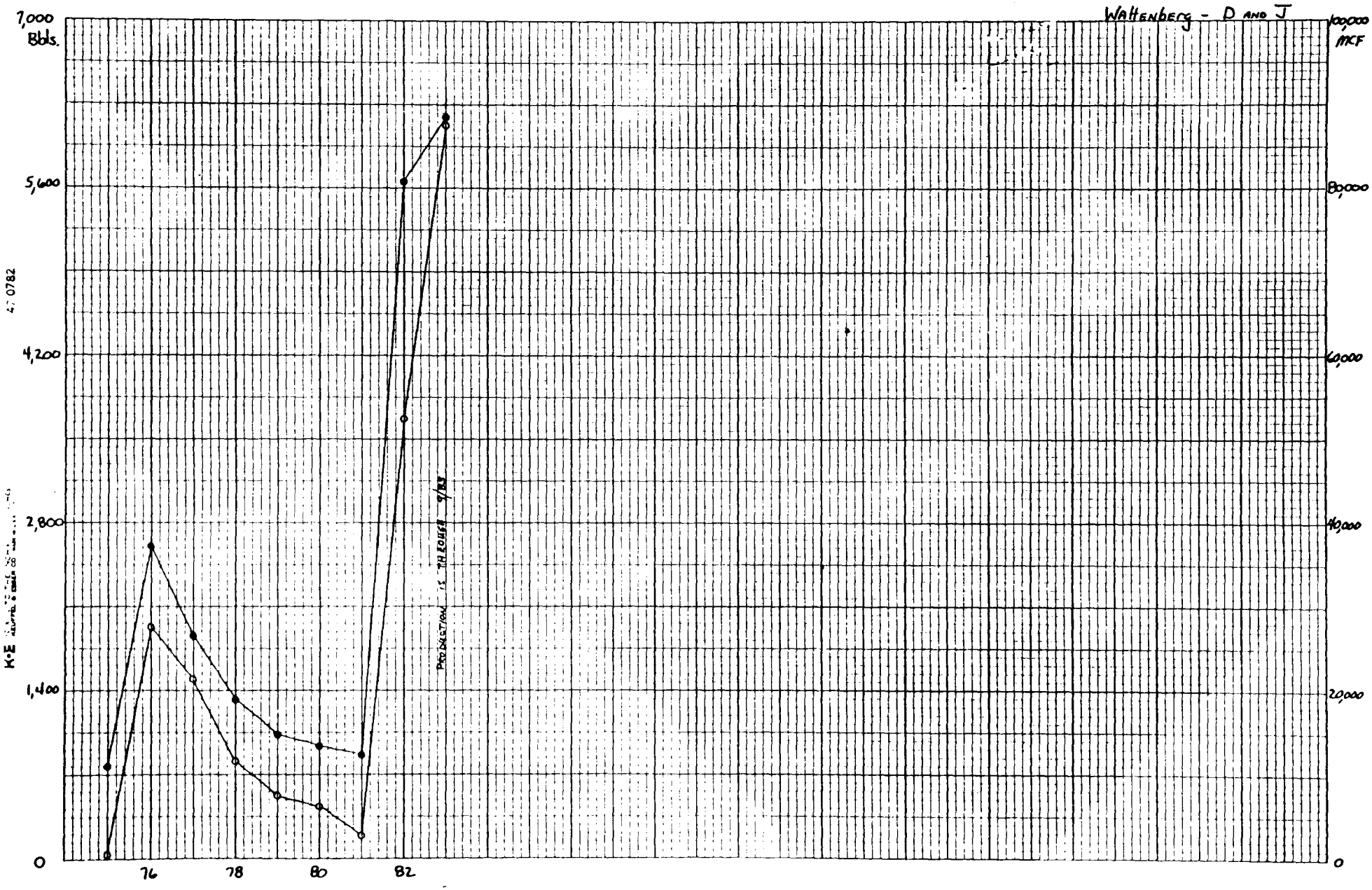

Rate
1000
BBLS
800
600
400
200
0
5,000
MCF
4,000
3,000
2,000
1,000
0
Years

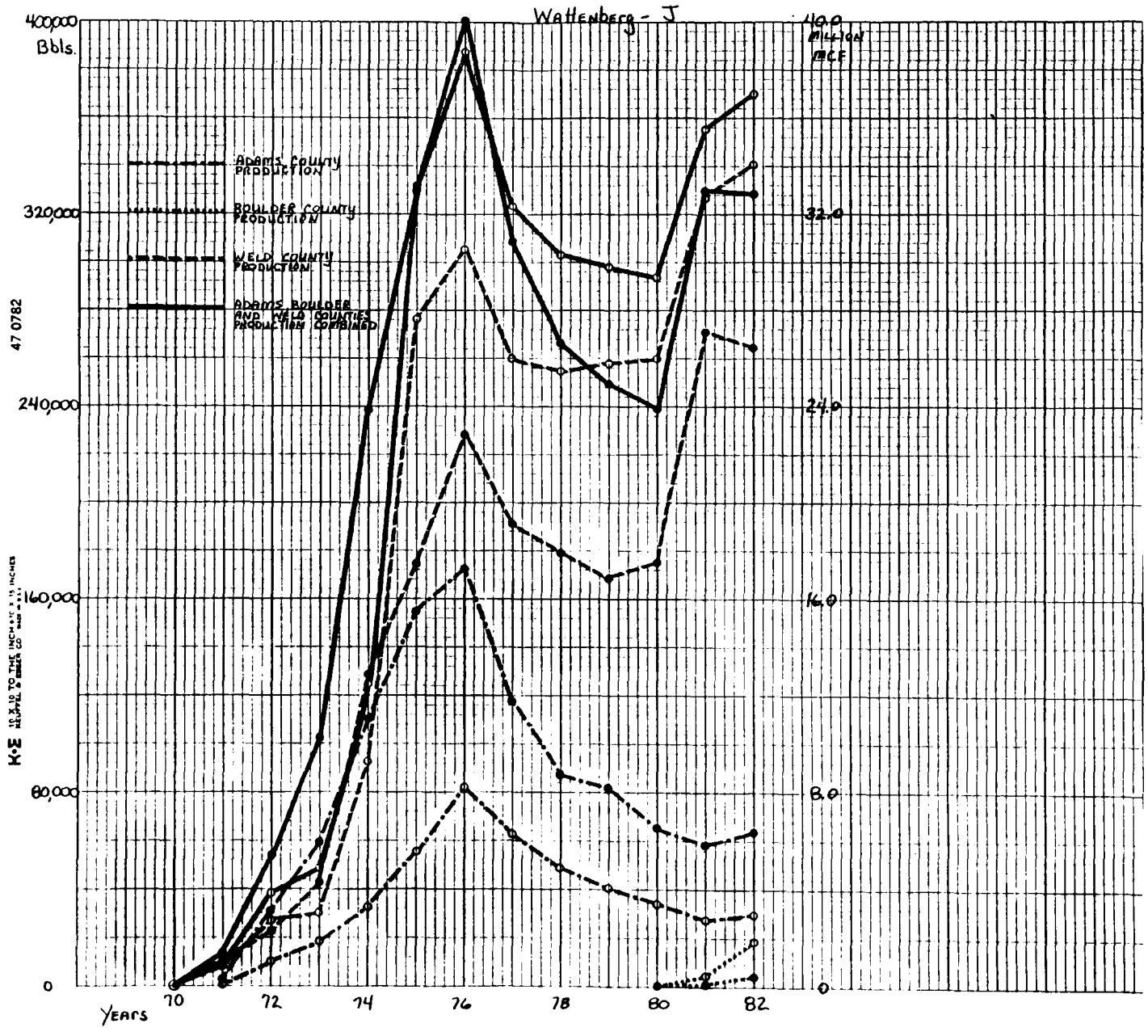

Rate
1,000
BBLS
800
600
400
200
0
50,000
MCF
40,000
30,000
20,000
10,000
0
Warlock-D
Years

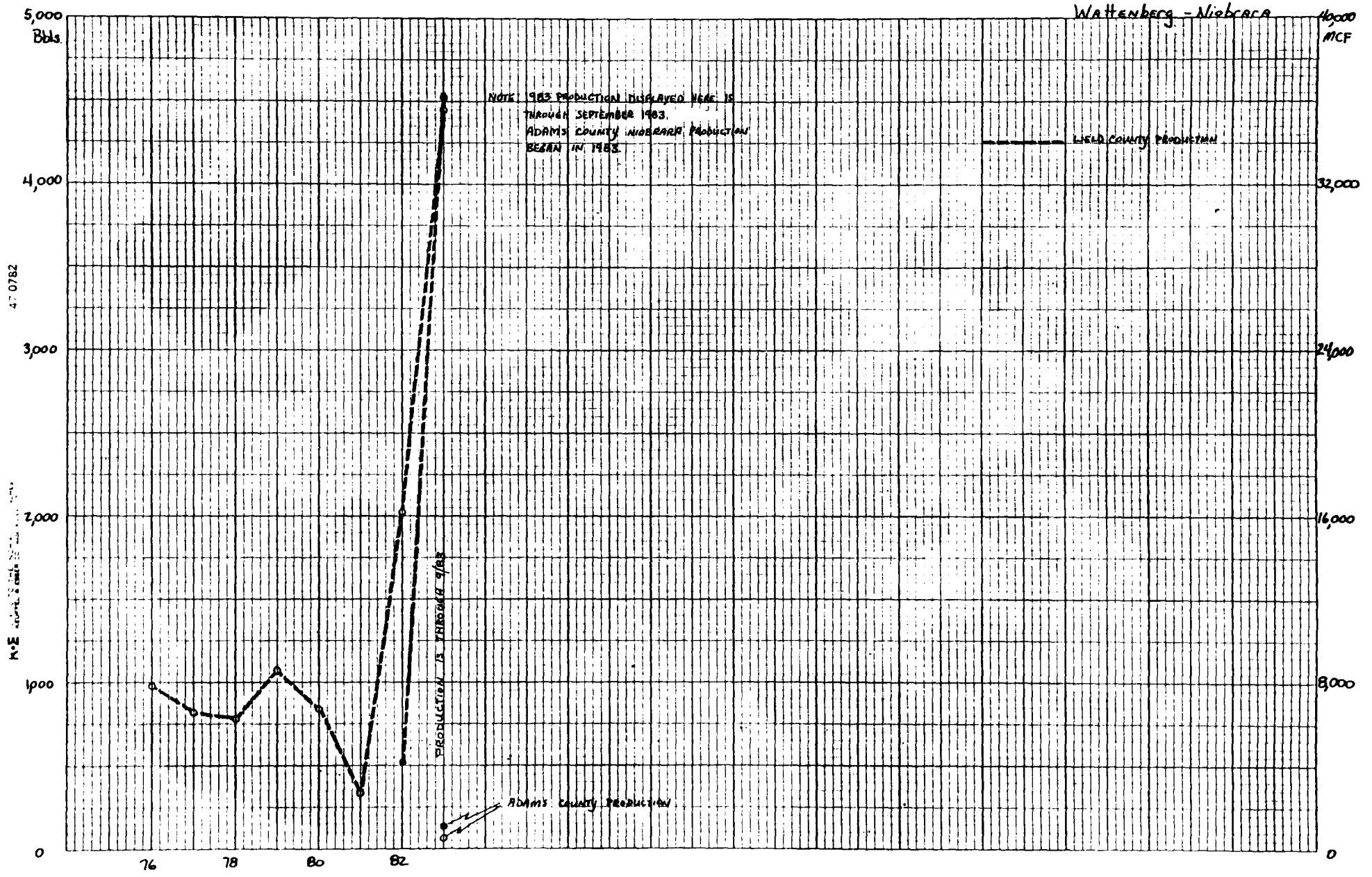

Rate
Warlock-J
30,000
24,000
18,000
12,000
6,000
0
300,000
MCF
240,000
180,000
120,000
60,000
0
74
76
78
80
82
Years

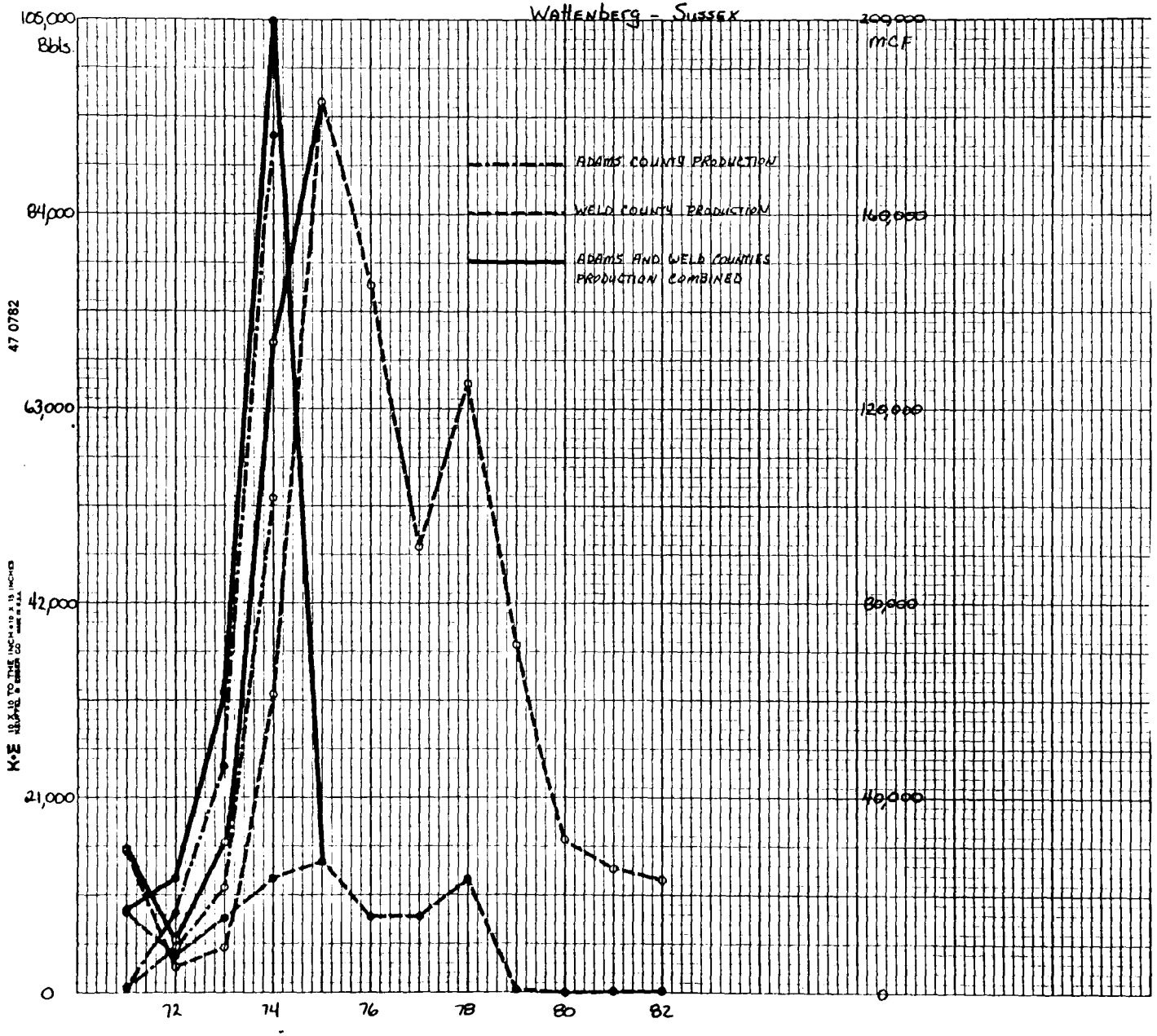

Rate
1,000
BBLS
800
600
400
200
0
9,000
MCF
8,000
6,000
4,000
2,000
0
81
Years

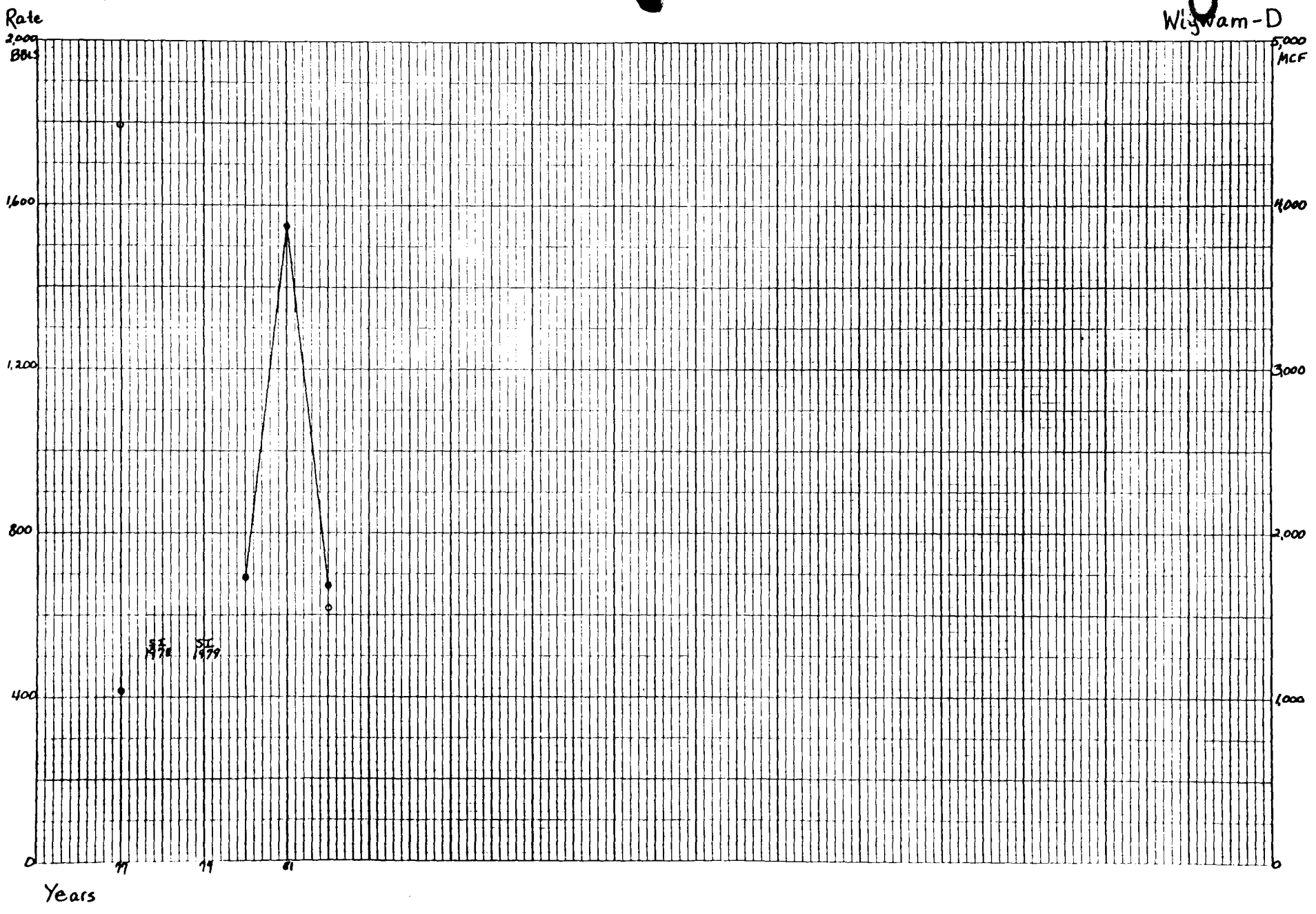

WATTENBERG - Cods II
250,000
Bbls.
200,000
150,000
100,000
50,000
0
1.5
MILLION
MCF
1.2
0.9
0.6
0.3
0
ADAMS COUNTY PRODUCTION
BOULDER COUNTY PRODUCTION
WELD COUNTY PRODUCTION
PRODUCTION IN THOUSANDS 9/83
74
76
78
80
82
47 0782
K+E

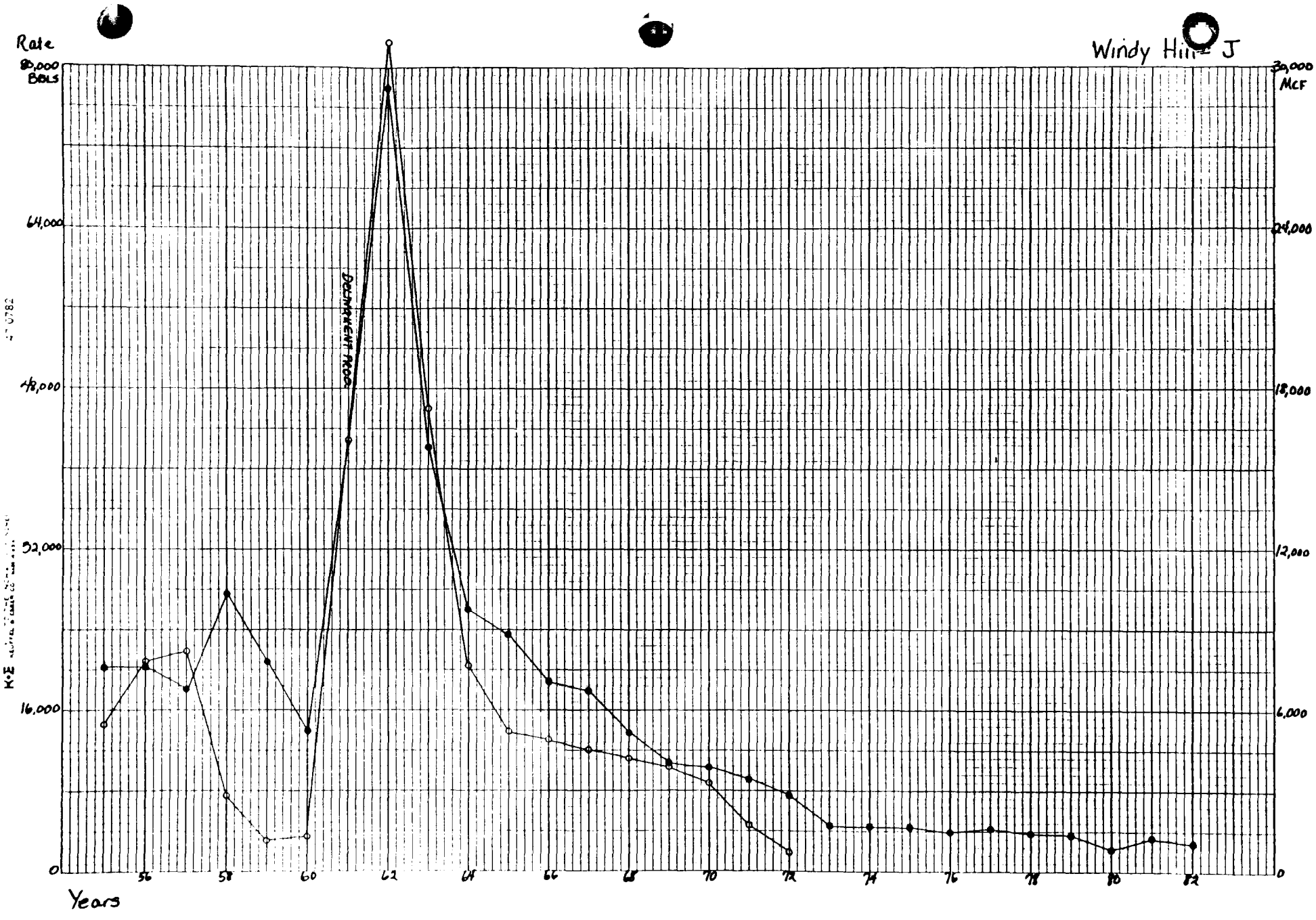

WALTENBERG - D AND J
7,000 Bbls.
5,600
4,200
2,800
1,400
0
100,000 MCF
80,000
60,000
40,000
20,000
0
76
78
80
82
PRODUCTION IS THROUGH 9/82
K·E
47 0782


Wattenberg - J
400,000 Bbls.
320,000
240,000
160,000
80,000
0
40.0 MILLION MCF
32.0
24.0
16.0
8.0
0
ADAMS COUNTY PRODUCTION
BOULDER COUNTY PRODUCTION
WELD COUNTY PRODUCTION
ADAMS, BOULDER AND WELD COUNTIES PRODUCTION COMBINED
70
72
74
76
78
80
82
YEARS
47 0782
K+E

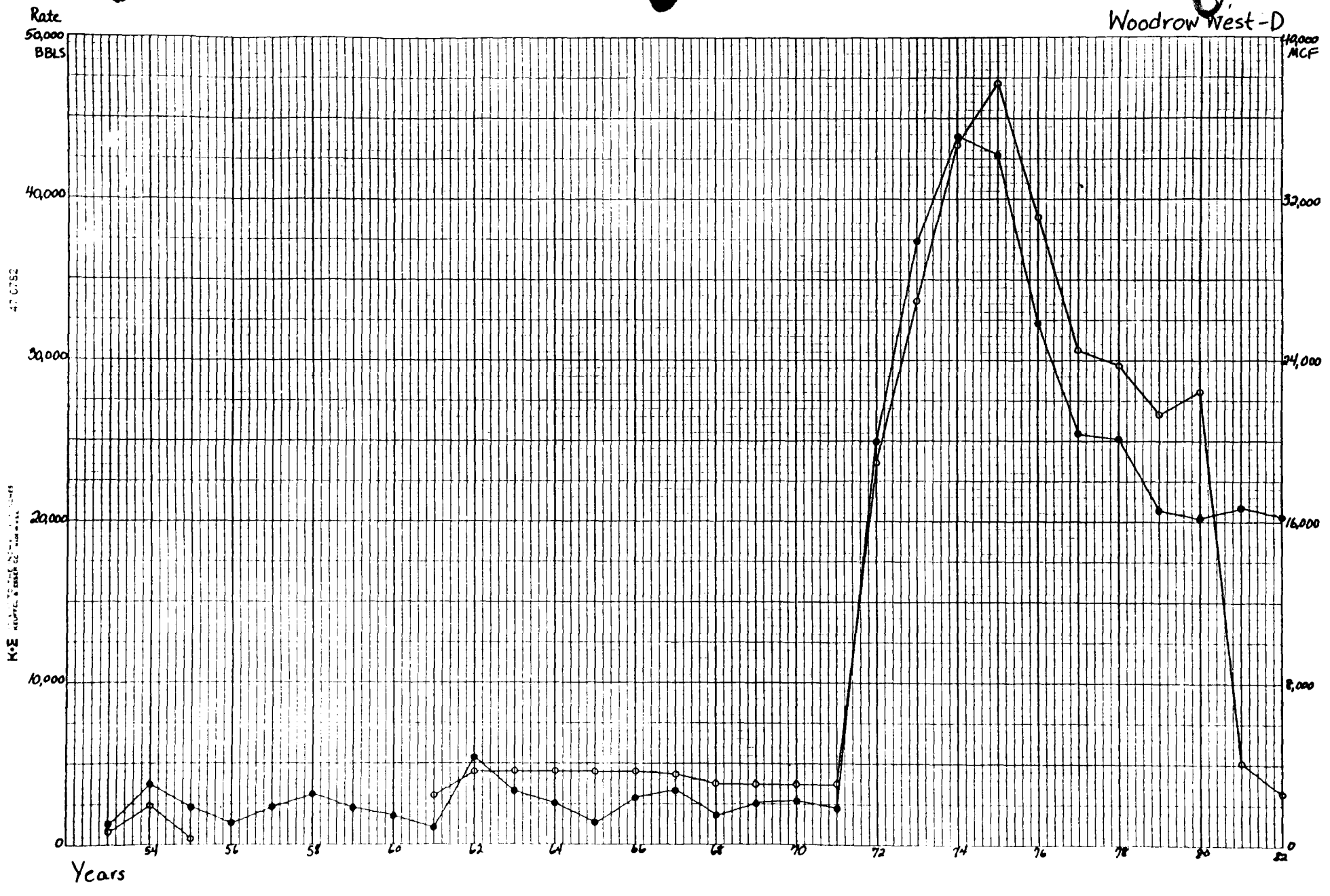

Wattenberg - Niobrara
5,000
Bbls
4,000
3,000
2,000
1000
0
40,000
MCF
32,000
24,000
16,000
8,000
0
NOTE: 1983 PRODUCTION DISPLAYED HERE IS THROUGH SEPTEMBER 1983.
ADAMS COUNTY NIOBRARA PRODUCTION BEGAN IN 1983.
FIELD COUNTY PRODUCTION
PRODUCTION IS THROUGH 9/83
ADAMS COUNTY PRODUCTION
76
78
80
82
47 0782

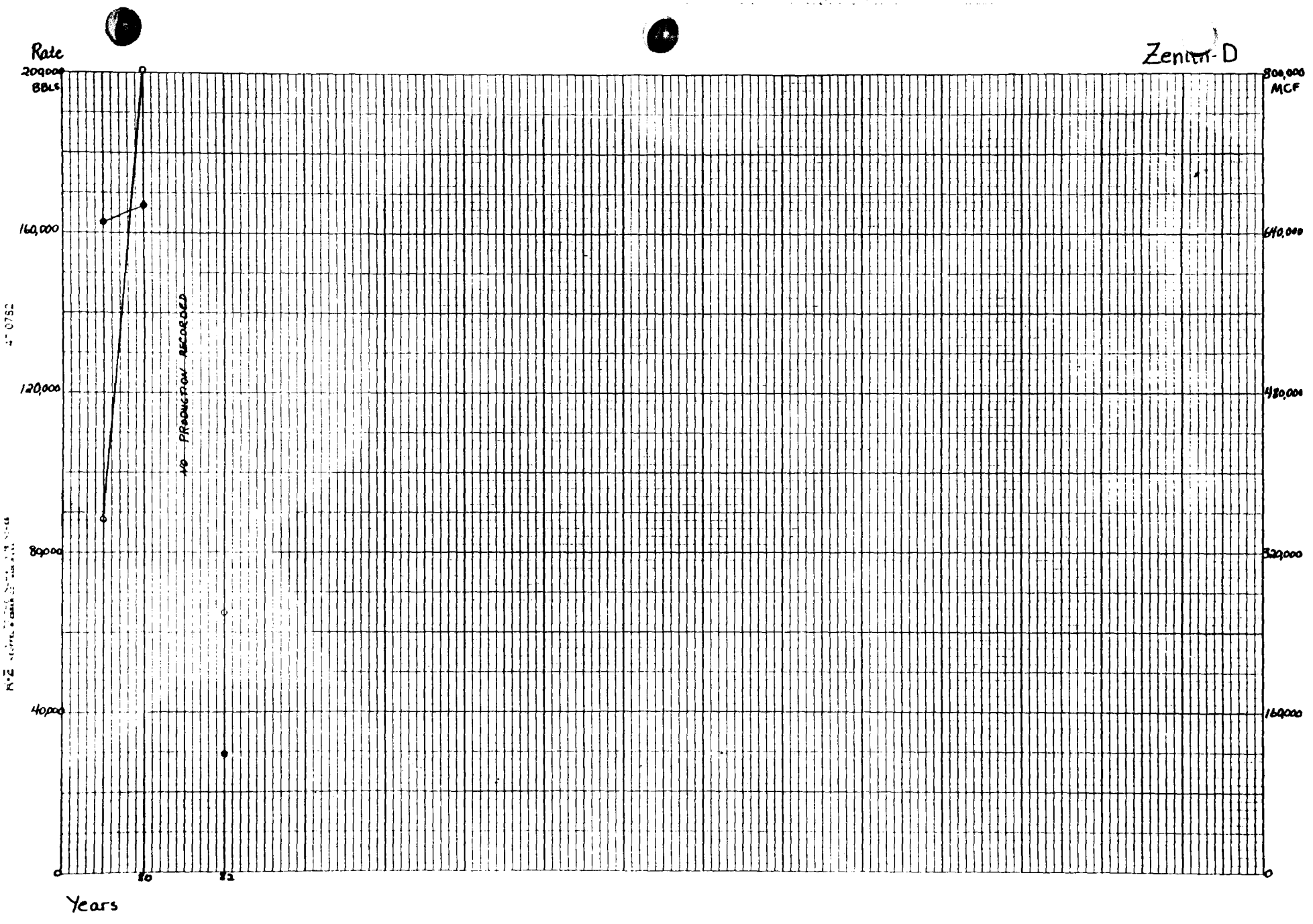

WATTENBERG - SUSSEX
105,000
Bbls.
84,000
63,000
42,000
21,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
ADAMS COUNTY PRODUCTION
WELD COUNTY PRODUCTION
ADAMS AND WELD COUNTIES PRODUCTION COMBINED
72
74
76
78
80
82
47 0782
K·E

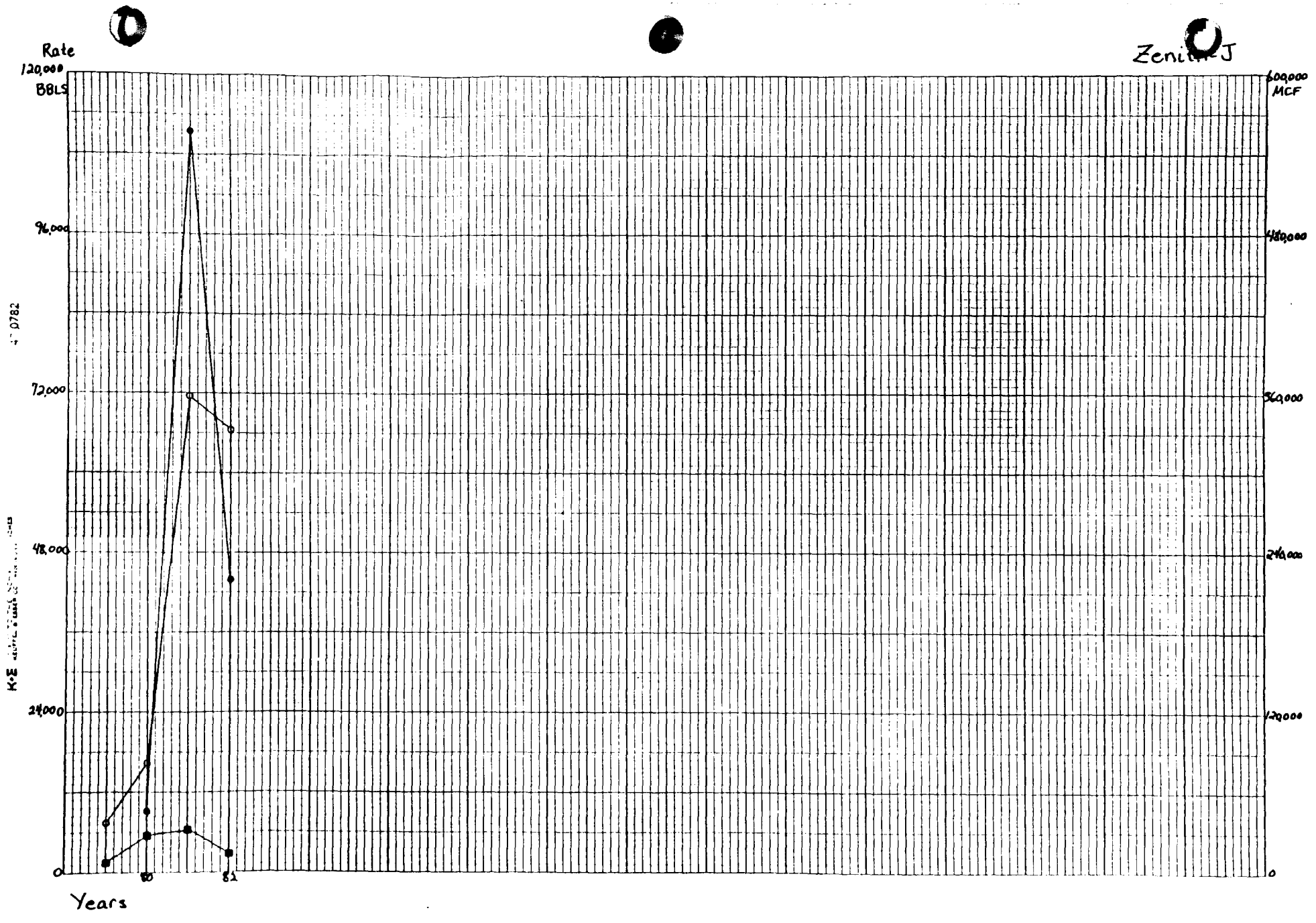

Rate
Wigwam-D
2,000
Bbls
1,600
1,200
800
400
0
5,000
MCF
4,000
3,000
2,000
1,000
0
77
79
81
Years
1978
1979


Rate
80,000 BBLS
64,000
48,000
32,000
16,000
0
30,000 MCF
24,000
18,000
12,000
6,000
0
DECLINE RATE
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

Windy Hill J


Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
49,000
MCF
32,000
24,000
16,000
8,000
0
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years
Woodrow West-D


Rate
Zenith-D
200,000
BBLS
160,000
120,000
80,000
40,000
800,000
MCF
640,000
480,000
320,000
160,000
NO PRODUCTION RECORDED
80
82
Years


Rate
120,000
BBLS
96,000
72,000
48,000
24,000
0
600,000
MCF
480,000
360,000
240,000
120,000
0
00
51
Years

Other Publications

INFORMATION SERIES 18--Oil and Gas Fields of Colorado: Statistical Data through 1981.
MAP SERIES 22--Oil and Gas Fields Map of Colorado. 1983. (1:500,000).
OPEN-FILE REPORT 84-3: Estimated Oil and Gas Reserves for Washington County, Colorado;
OPEN-FILE REPORT 84-4: Estimated Oil and Gas Reserves for Rio Blanco County, Colorado.
OPEN-FILE REPORT 84-5: Estimated Oil and Gas Reserves for Adams County, Colorado;
OPEN-FILE REPORT 83-6: Estimated Oil and Gas Reserves for Weld County, Colorado;
OPEN-FILE REPORT 84-7: Estimated Oil and Gas Reserves for Arapahoe County, Colorado;
OPEN-FILE REPORT 84-8: Estimated Oil and Gas Reserves for Baca County, Colorado.
OPEN-FILE REPORT 84-9: Estimated Oil and Gas Reserves for Cheyenne County, Colorado.
OPEN-FILE REPORT 84-10: Estimated Oil and Gas Reserves for Garfield County, Colorado;
OPEN-FILE REPORT 84-11: Estimated Oil and Gas Reserves for La Plata County, Colorado;
OPEN-FILE REPORT 84-12: Estimated Oil and Gas Reserves for Moffat County, Colorado;
OPEN-FILE REPORT 84-13: Estimated Oil and Gas Reserves for Elbert County, Colorado;
OPEN-FILE REPORT 84-14: Estimated Oil and Gas Reserves for Mesa County, Colorado;
OPEN-FILE REPORT 84-15: Estimated Oil and Gas Reserves for Routt County, Colorado;
OPEN-FILE REPORT 84-16: Estimated Oil and Gas Reserves for Yuma County, Colorado.

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