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
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Denver, Colorado
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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.

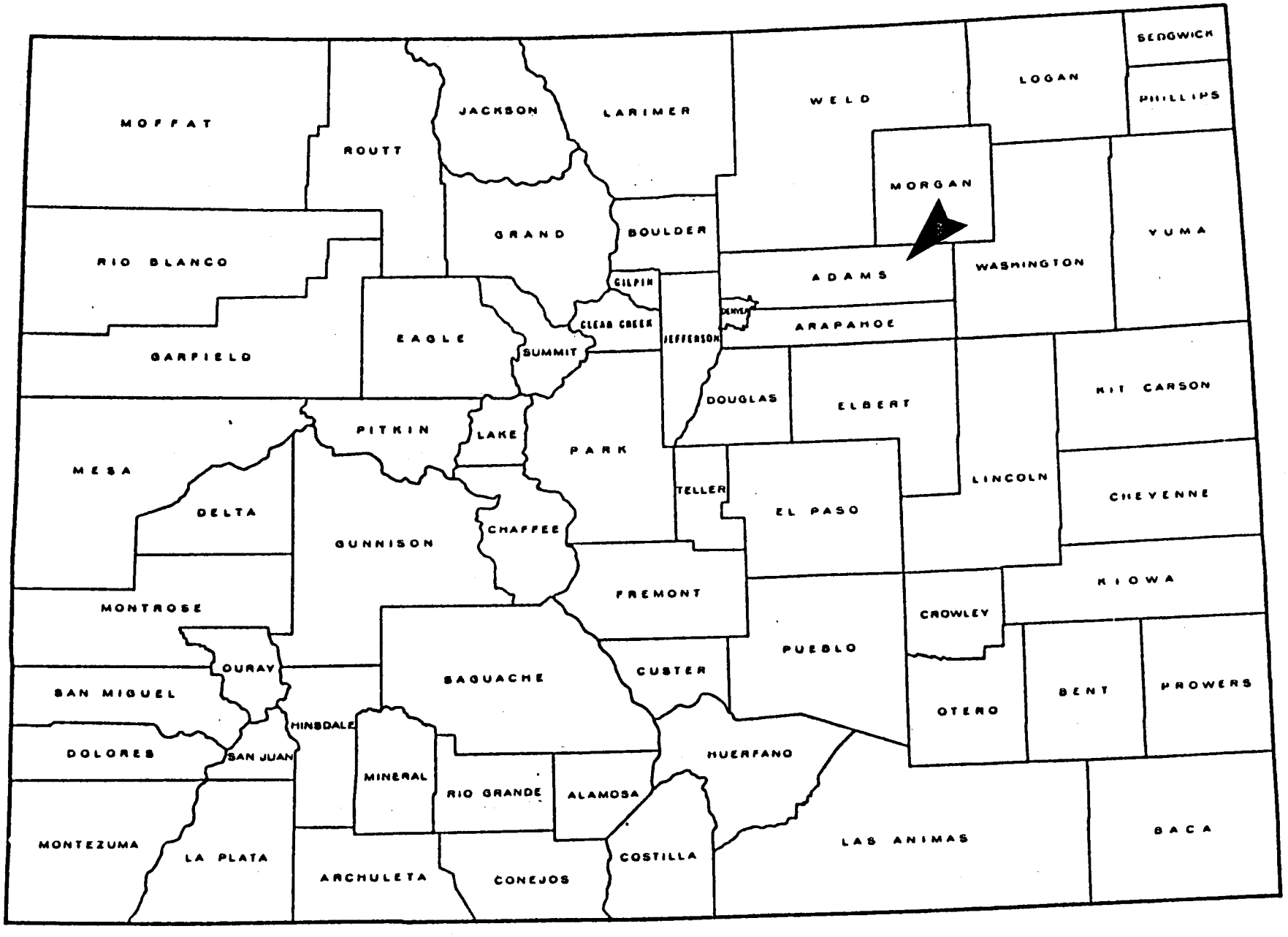


Figure 1. County Location Map

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 * Code |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.Ambush/J | 2S-65W | 1973 | Combination G.C.E. & S.G.D. | 7.5-o<br>6.6-g | 262,469<br>(24,816) | 3,636,532 | 101,437 | 1,589,744 | 363,906<br>(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<br>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<br>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<br>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<br>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<br>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<br>8.0-g | 181,434<br>(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<br>15.5-g | 240,861<br>(1,665) | 1,731,176 | 3,858 | 183,599 | 244,719<br>(1,665) | 1,914,775 | |
| 16.Bennet'A'/J | 3S-64W | 1970 | | | 989<br>(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<br>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<br>11.9-g | 2,243<br>(12,310) | 227,359 | 2,194 | 462,014 | 4,437<br>(12,310) | 689,373 | Estimated '83, '84 Prod. |
| 21.Britannia/J | 3S-61W | 1980 | | | 4,353<br>(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<br>(6,376) | 3,197,825 | | 975,790 | 19,010<br>(6,376) | 4,173,615 | |

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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 # Code |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26.Bugle/D | 2S-66W | 1974 | Gas Drive | 9.0-o<br>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<br>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<br>12.5-g | 125,597<br>(90,155) | 6,697,723 | 276,047 | 3,212,362 | 401,644<br>(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<br>(5,353) | 778,153 | | 702,767 | 108<br>(5,353) | 1,480,920 | |
| 34.Dance/J | 1S-60W | 1969 | | 7.5-o<br>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<br>(19,241) | 8,863,014 | | | | | P&A 1/79, React. 5/82 |
| 37.Doherty/J | 2S-65W | 1957 | | 9.0-g | 36,607<br>(41,310) | 2,659,939 | | 271,389 | 36,607<br>(41,310) | 2,931,328 | |
| 38.Double Eagle/D | 2S-63W | 1973 | | 8.3-o<br>9.8-g | 88,921 | 143,175 | 64,249 | 91,709 | 153,170 | 234,884 | |
| 39.Egret/D | 1S-61W | 1982 | | | 554<br>(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<br>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 |
| 46.Guidon/D | 3S-63W | 1982 | | | 1,009 | 4,886 | | | | | Prod. began 11/82 N. P. |
| 47.Guidon/J | 3S-63W | 1974 | | 23.5-g | 181<br>(7,550) | 878,642 | | 602,238 | 181<br>(7,550) | 1,480,880 | N. P. |
| 48.Hawkeye/D | 2S-63W | 1981 | | | 509 | 40,389 | | | | | N. P. |
| 49.Hawkeye/J | 2S-63W | 1971 | Depletion(G.E.) | 20.0-o<br>28.0-g | 76,039<br>(14,810) | 1,488,378 | 114,781 | 3,289,418 | 190,820<br>(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<br>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<br>3.2-g | 298,225 | 2,207,709 | 38,869 | 1,269,761 | 337,094 | 3,479,470 | |

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OPEN-FILE REPORT 84-5
RESERVE DATA FOR ADAMS COUNTY
CUMULATIVE PRODUCTION 12/31/82

| FIELD NAME/ PROD. HORIZON | GENERAL LOCATION | DATE OF DISCOVER | TYPE OF DRIVE | dy (in %) | OIL(bbls) ()Condensate (Bbls.) | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | N. P. |
| 56.Intrepid/J | 3S-61W | 1981 | | | 15,614 | 1,066 | | | | | |
| 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 | | | | | | Also Prod. in Weld Co. |
| 67.Krauthead/D | 1S-64W | 1980 | S. G. D. | | 493,817 | 2,439,733 | | | | | 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 S. G. D. in Splay | 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 |
| | | | | 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. |

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 78.Muddy Ck/D&J | 1S-59W | 1955 | S. G. D. (D-Sand) | 18.0-o<br>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<br>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<br>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<br>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<br>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<br>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<br>(9,141) | 1,109,338 | | | | | N. P. |
| 90.Pronto/D | 1S-61W | 1975 | | 3.4-o | 62,558<br>(320) | 64,639 | 186,607 | | 249,165<br>(320) | 64,639 | |
| 91.Quail/J | 2S-63W | 1979 | W. D., S. G. D. | 8.0-o<br>20.0-g | 184,762<br>(82,305) | 5,733,729 | 192,003 | 4,426,273 | 376,765<br>(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<br>8.0-g | 15,804<br>(4,852) | 573,199 | 10,828 | 184,572 | 26,632<br>(4,852) | 757,771 | |
| 93.Radar/D | 2S-64W | 1976 | S. G. D. | | 287,942<br>(11,145) | 1,031,792 | | | | | N. P. |
| 94.Radar/J | 2S-64W | 1976 | S. G. D. | | 255,885<br>(38,815) | 1,426,650 | | | | | N. P. |
| 95.Radar/D&J | 2S-64W | 1976 | S. G. D. | 25.0-o<br>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.Rierock/J | 2S-60W | 1969 | | 22.5-g | (11,534) | 1,427,783 | | 421,754 | (11,534) | 1,849,537 | |
| 97.Roman Nose/J | 3S-58W | 1967 | S. G. D., Fluid Exp. & possible B. W. E. | 4.0-o<br>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/Caddel | 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&66W | 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&66W | 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 %) | 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-mingled.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 Prod.'74,'80-'82 N. P., Also Prod. in Weld Co. |
| 126.Wigwam/D | 1N-62W | 1974 | | | 3,317 | 1,545 | | | | | |
| 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 Bbls. 93,363,657 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.

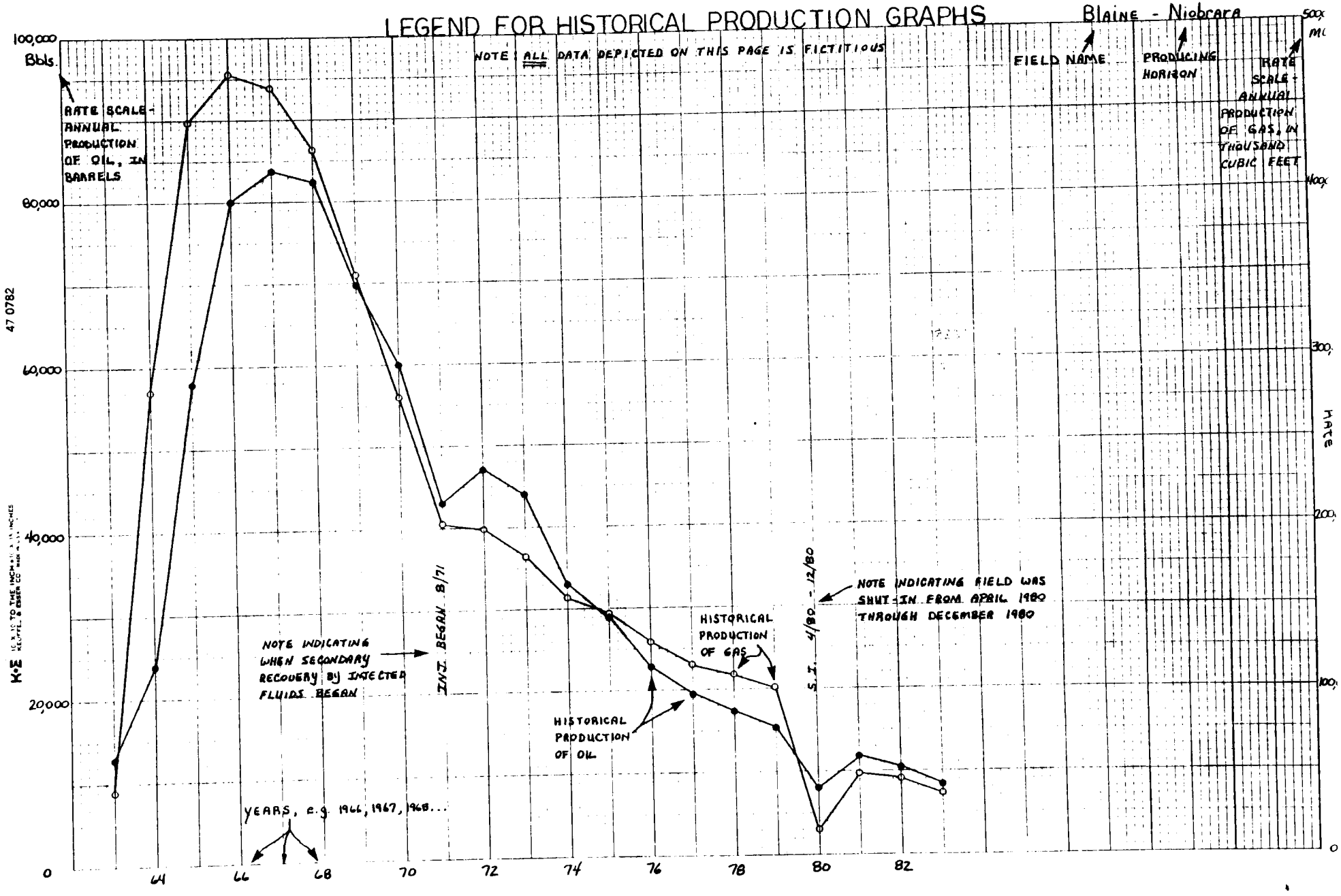
Haun, J.D., Cardwell, A.L., Herrod, W.H. and Cronoble, J.M., 1976. Oil and Gas Reserves of Colorado in Colorado School of Mines Research Institute, Mineral Industries Bulletin, v. 19, #5.

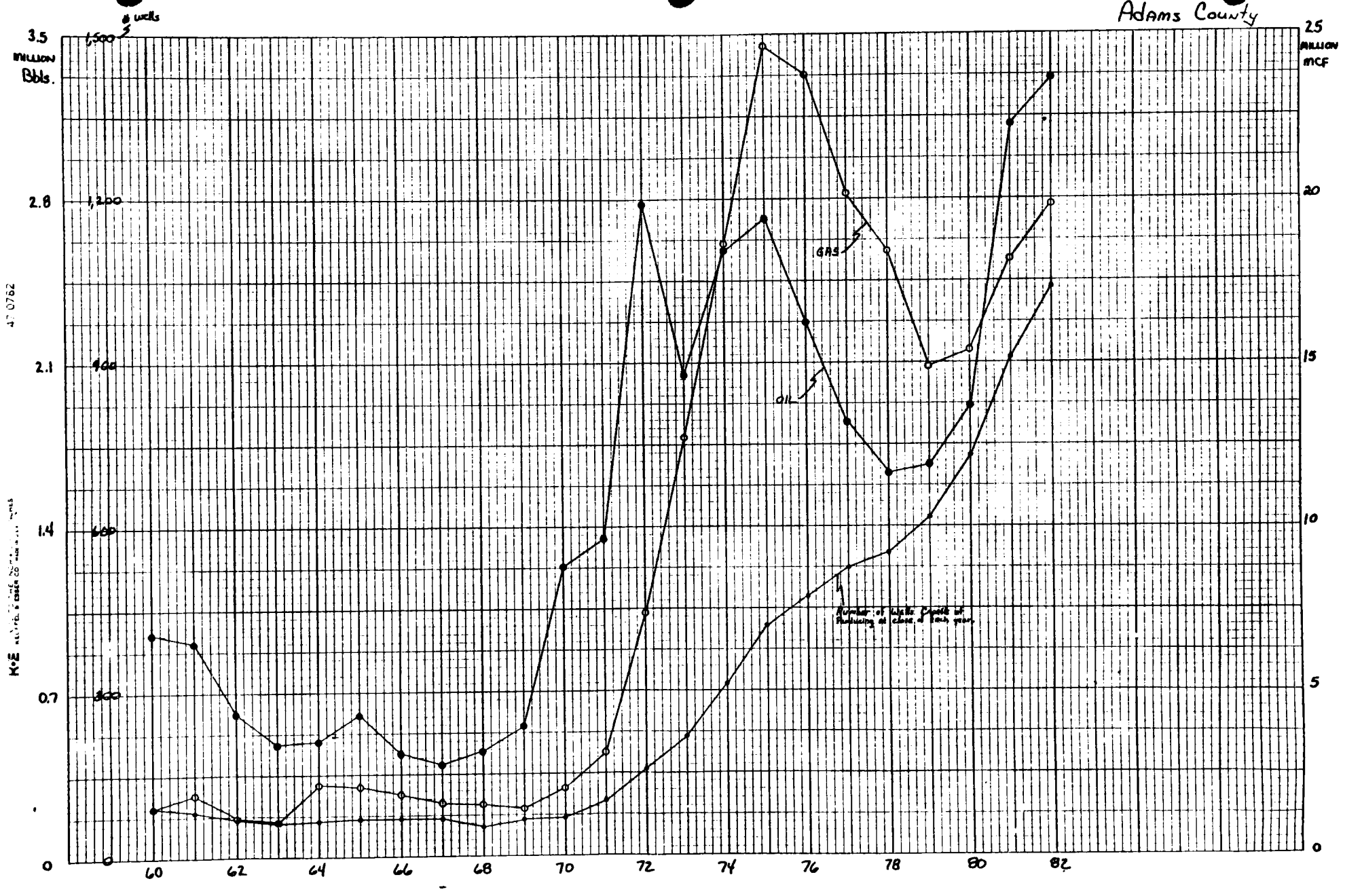
Parker, J.M., editor, 1961 Oil and Gas Field volume: Colorado-Nebraska: Rocky Mountain Association of Geologists, 389 pp.

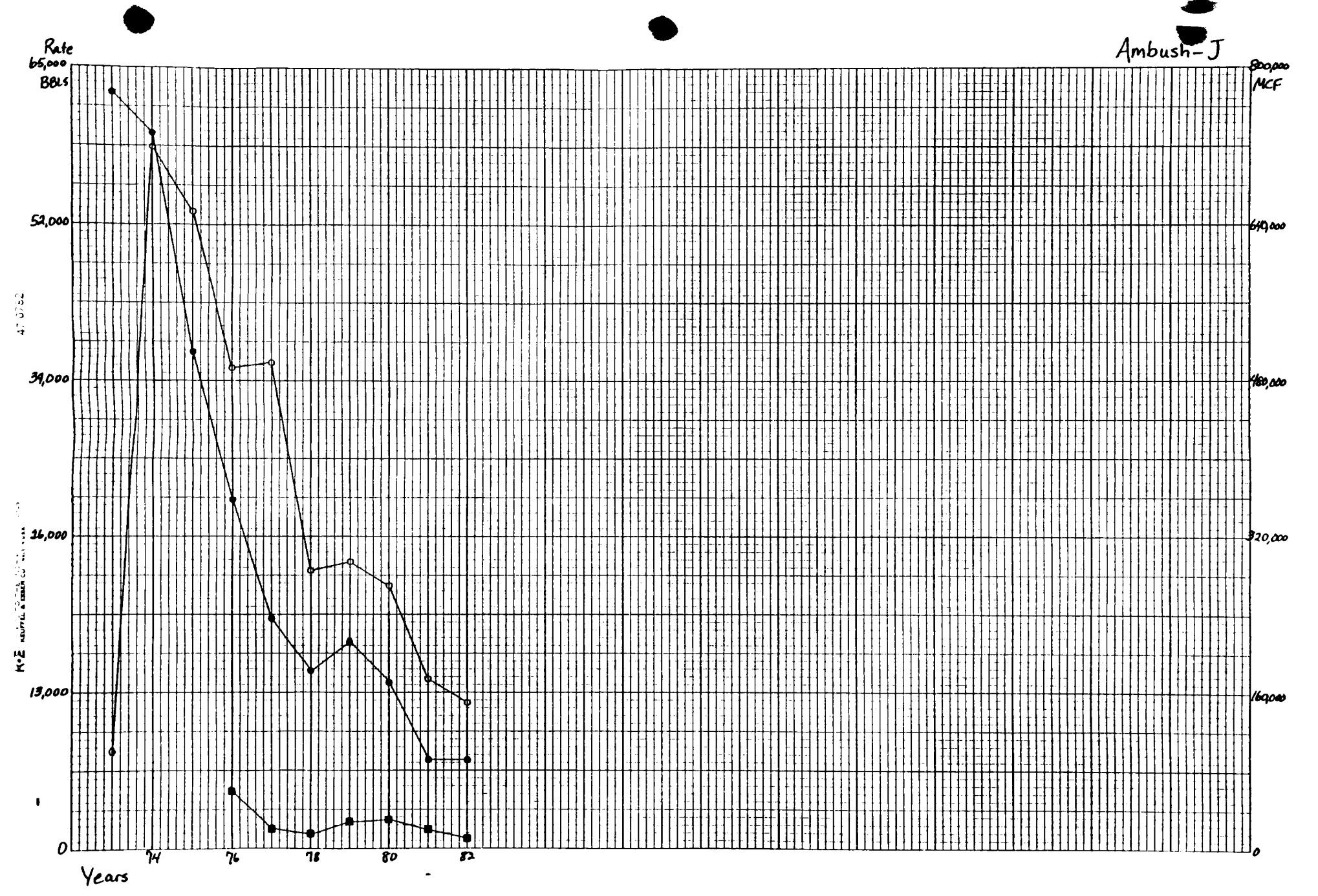
## Appendix I

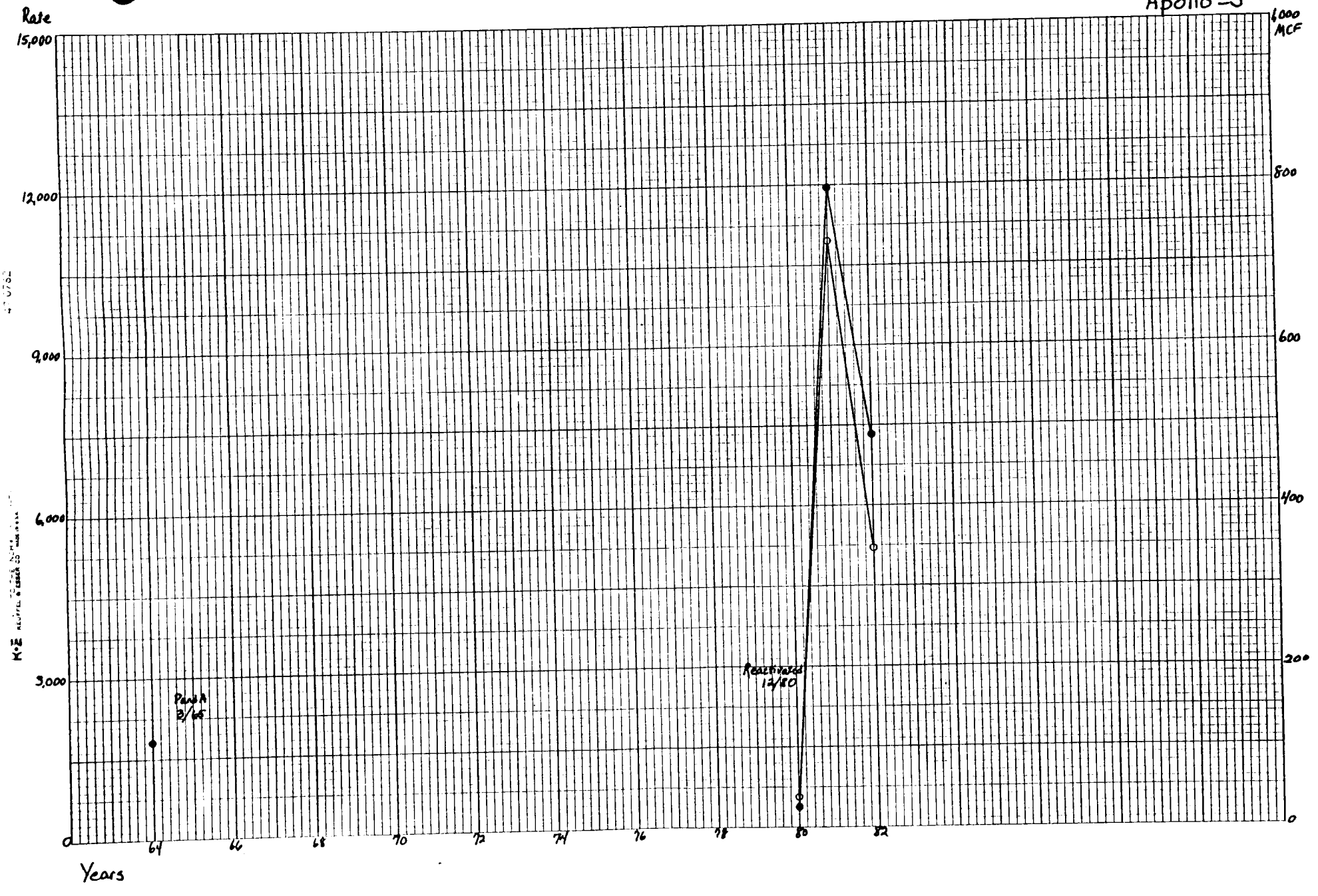
Historical production decline curve graphs for Adams County. These graphs are presented in alphabetical order by Field name and then by producing horizons within each field.

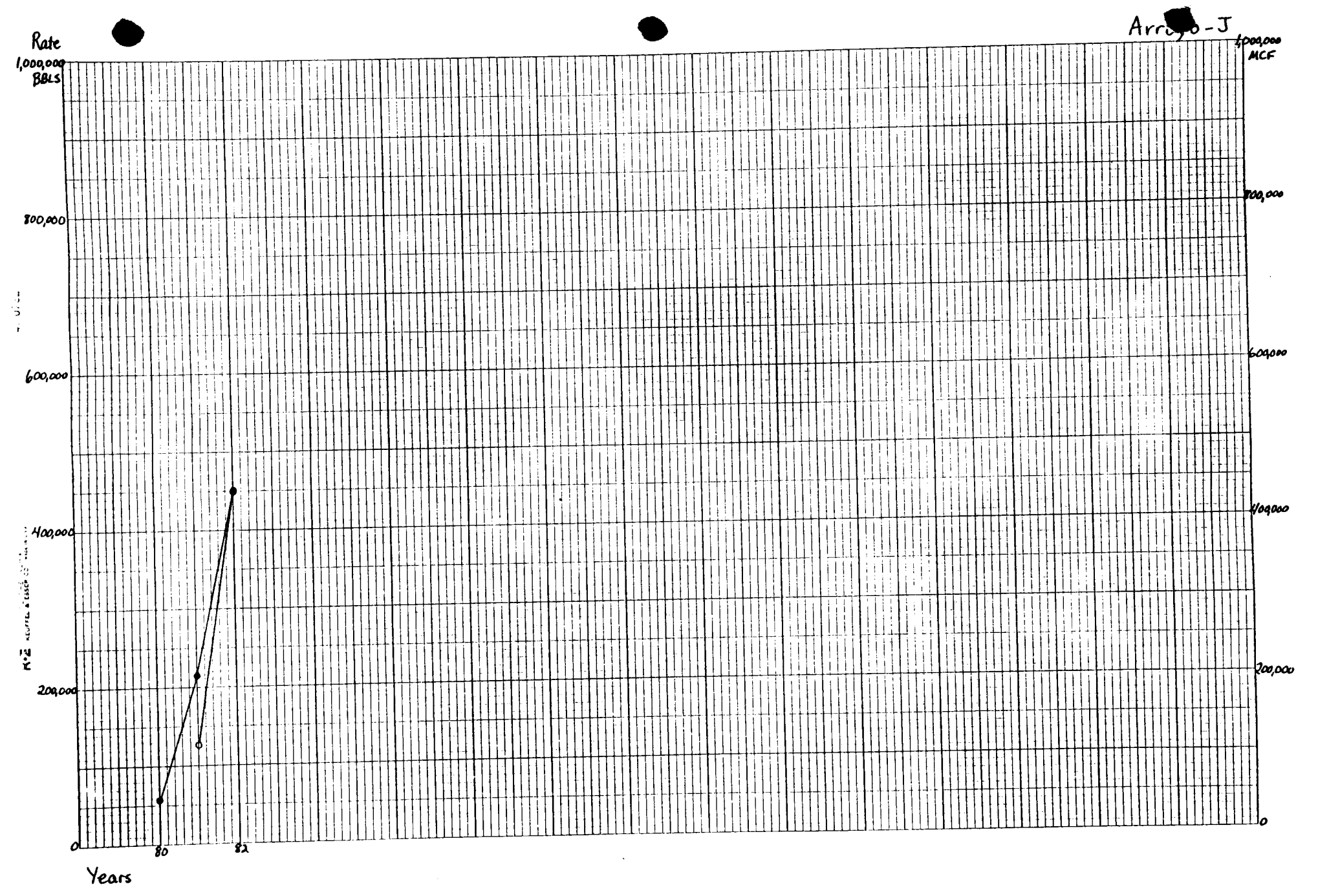
Note that only those fields actively producing as of 12-31-82 are included. Abandoned fields or field-horizons are not included.

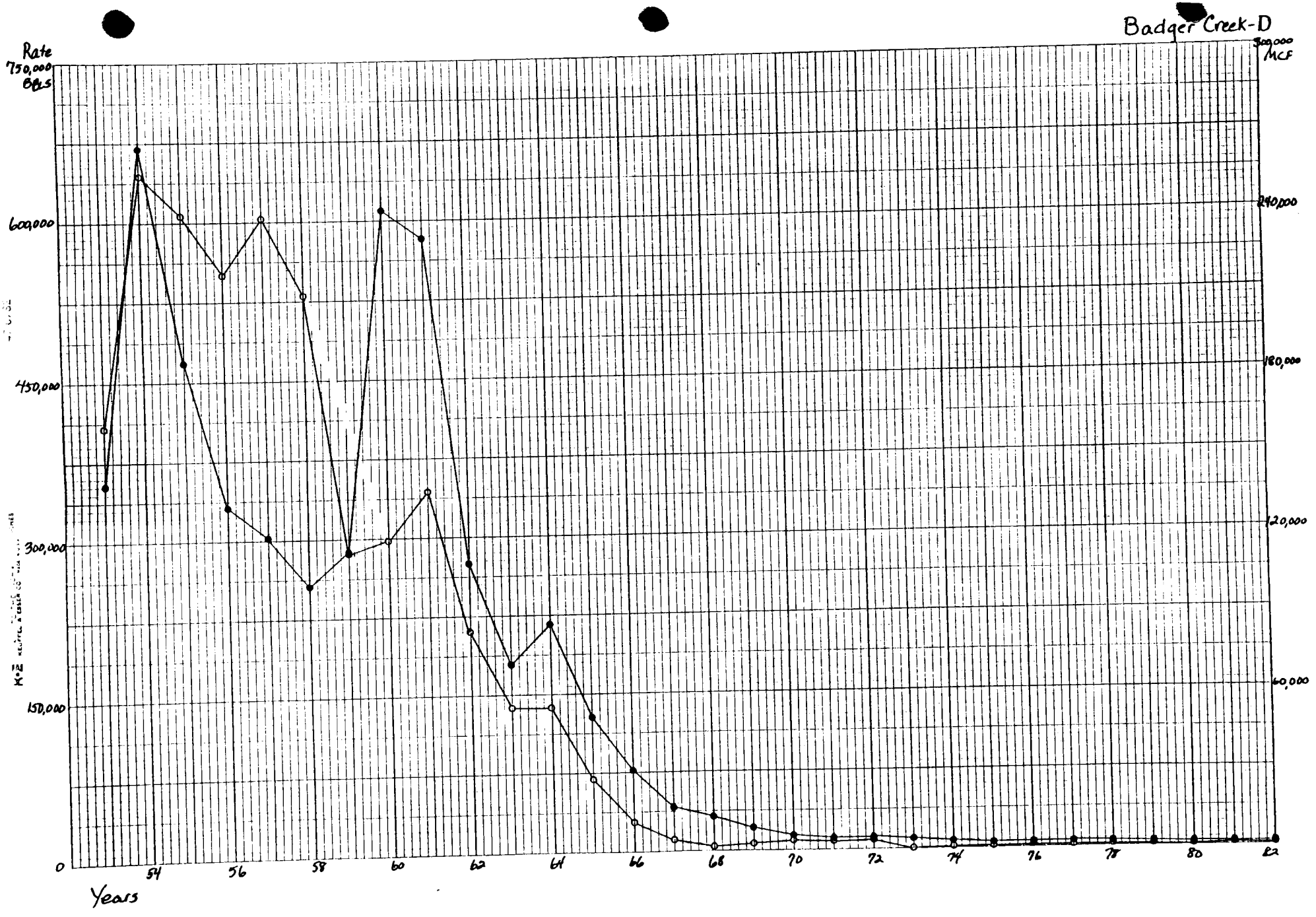

LEGEND FOR HISTORICAL PRODUCTION GRAPHS
Blaine - Niobrara
NOTE: ALL DATA DEPICTED ON THIS PAGE IS FICTITIOUS
FIELD NAME
PRODUCING HORIZON
RATE SCALE - ANNUAL PRODUCTION OF GAS, IN THOUSAND CUBIC FEET
RATE SCALE - ANNUAL PRODUCTION OF OIL, IN BARRELS
100,000 Bbls.
80,000
60,000
40,000
20,000
0
500 M
400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

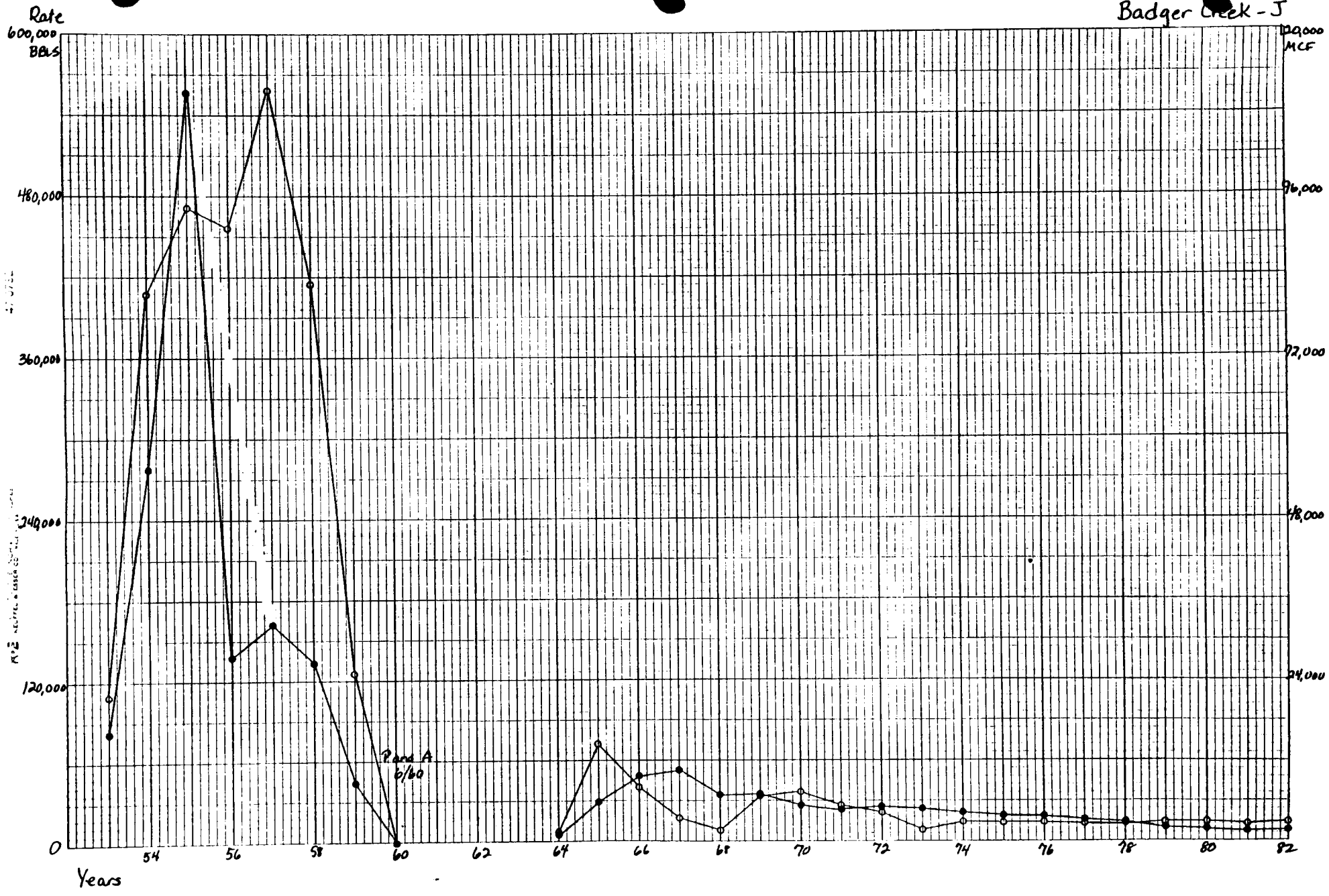

Adams County
# wells
3.5
MILLION
Bbls.
2.8
2.1
1.4
0.7
0
1,500
1,200
900
600
300
0
2.5
MILLION
MCF
20
15
10
5
0
GAS
OIL
Number of wells Capable of Producing at close of each year.
60
62
64
66
68
70
72
74
76
78
80
82

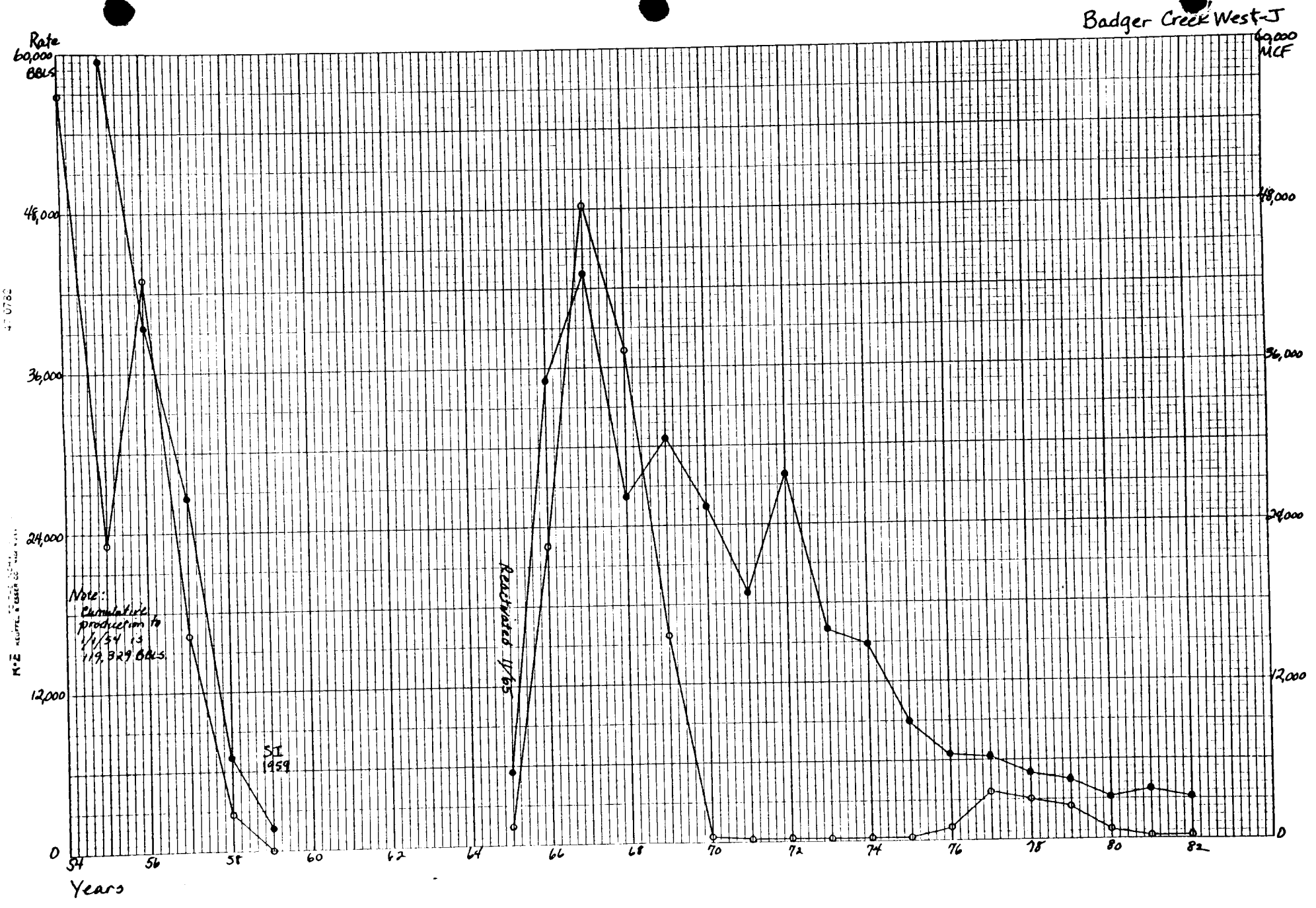

Rate
65,000
BBLS
52,000
39,000
26,000
13,000
0
800,000
MCF
640,000
480,000
320,000
160,000
0
74
76
78
80
82
Years
Ambush-J


Apollo-J
Rate
15,000
12,000
9,000
6,000
3,000
0
1000 MCF
800
600
400
200
0
64
66
68
70
72
74
76
78
80
82
Years
Pan A 2/66
Reactivated 12/80

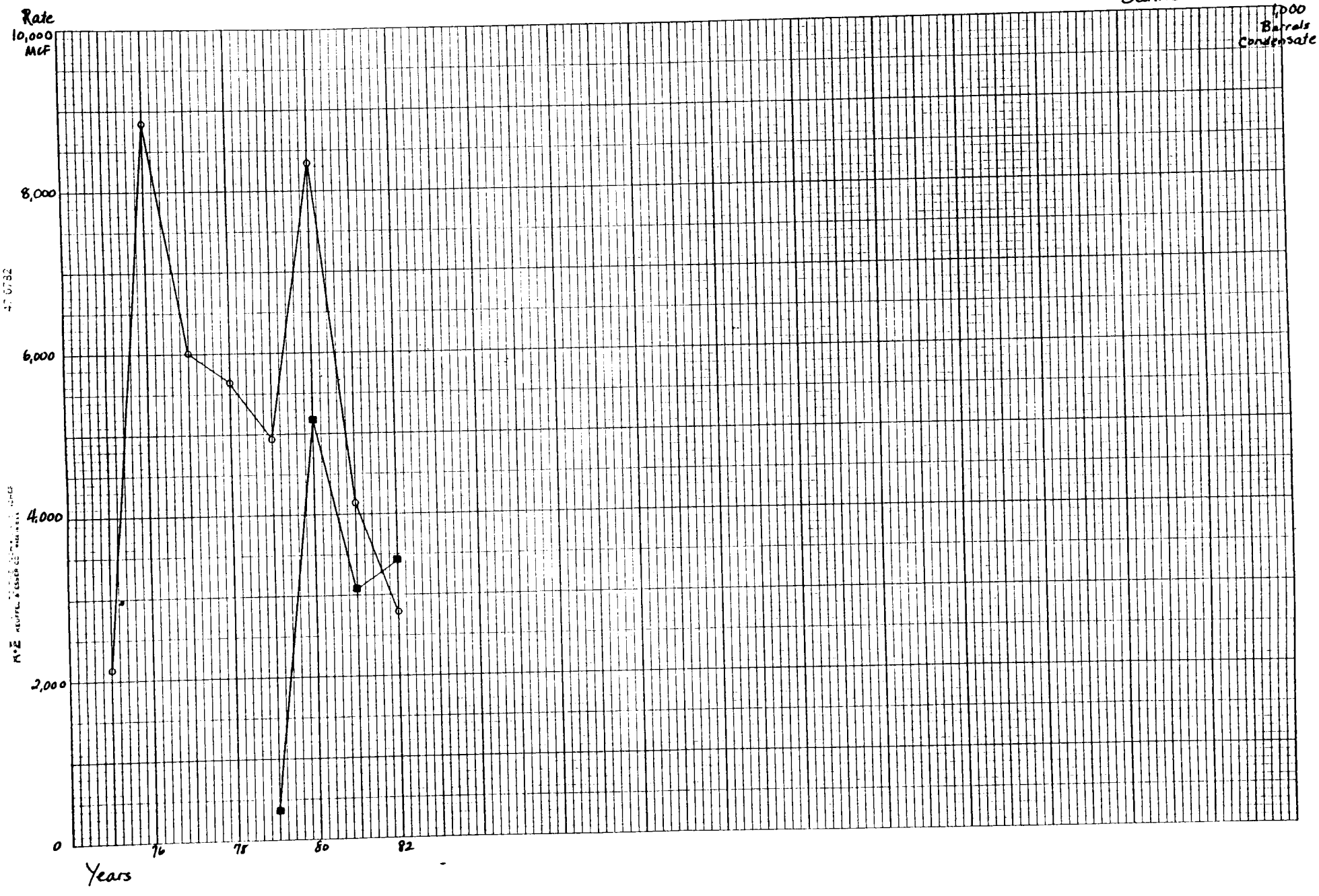

Rate
1,000,000 BBLS
800,000
600,000
400,000
200,000
0
4,000,000 MCF
3,000,000
2,000,000
1,000,000
0
80
82
Years

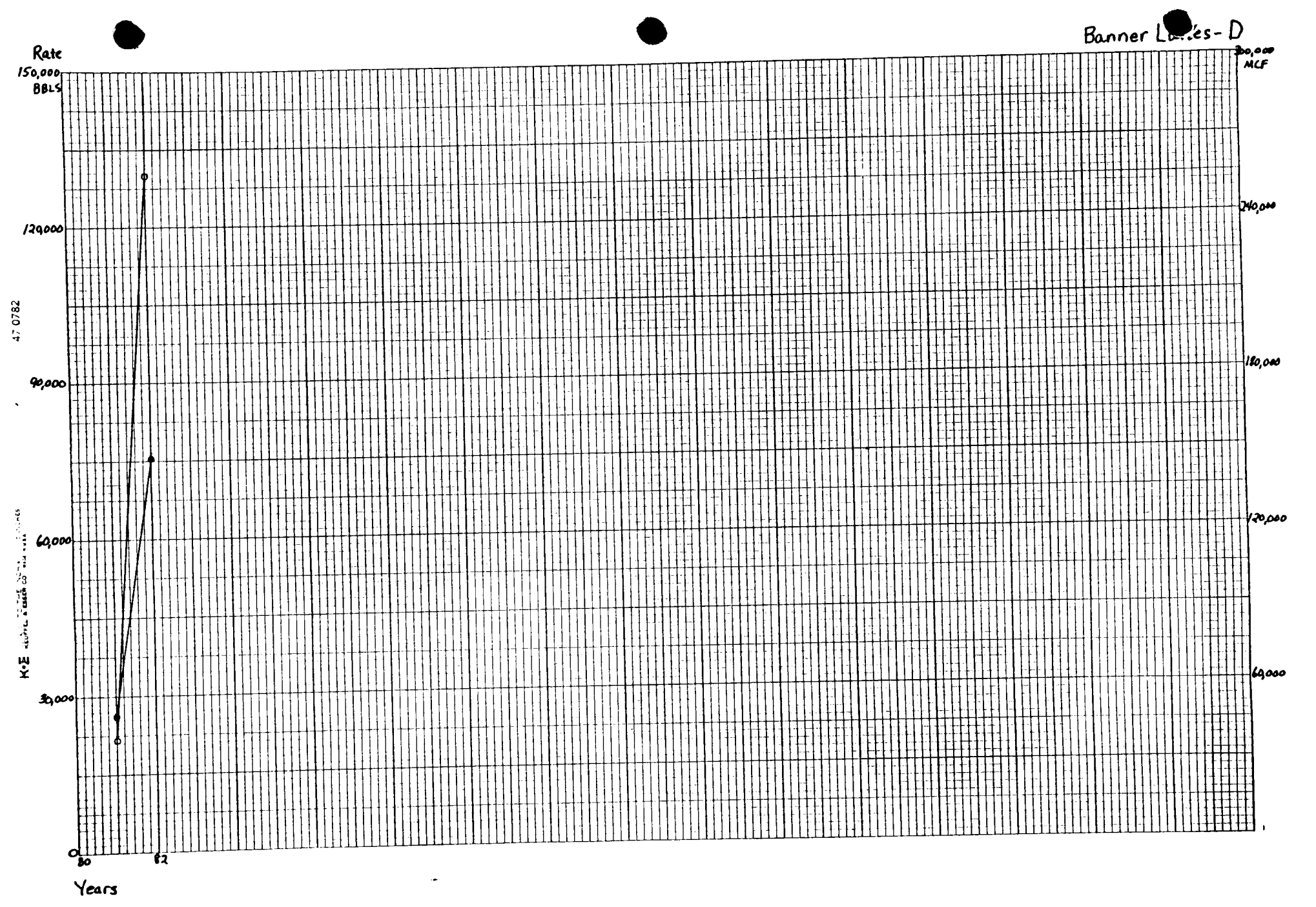

Badger Creek-D
Rate
750,000 Bbls
600,000
450,000
300,000
150,000
0
300,000 MCF
240,000
180,000
120,000
60,000
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years


Rate
600,000
BBLS
480,000
360,000
240,000
120,000
0
144,000
MCF
96,000
72,000
48,000
24,000
Badger Creek - J
Rand A
6/60
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

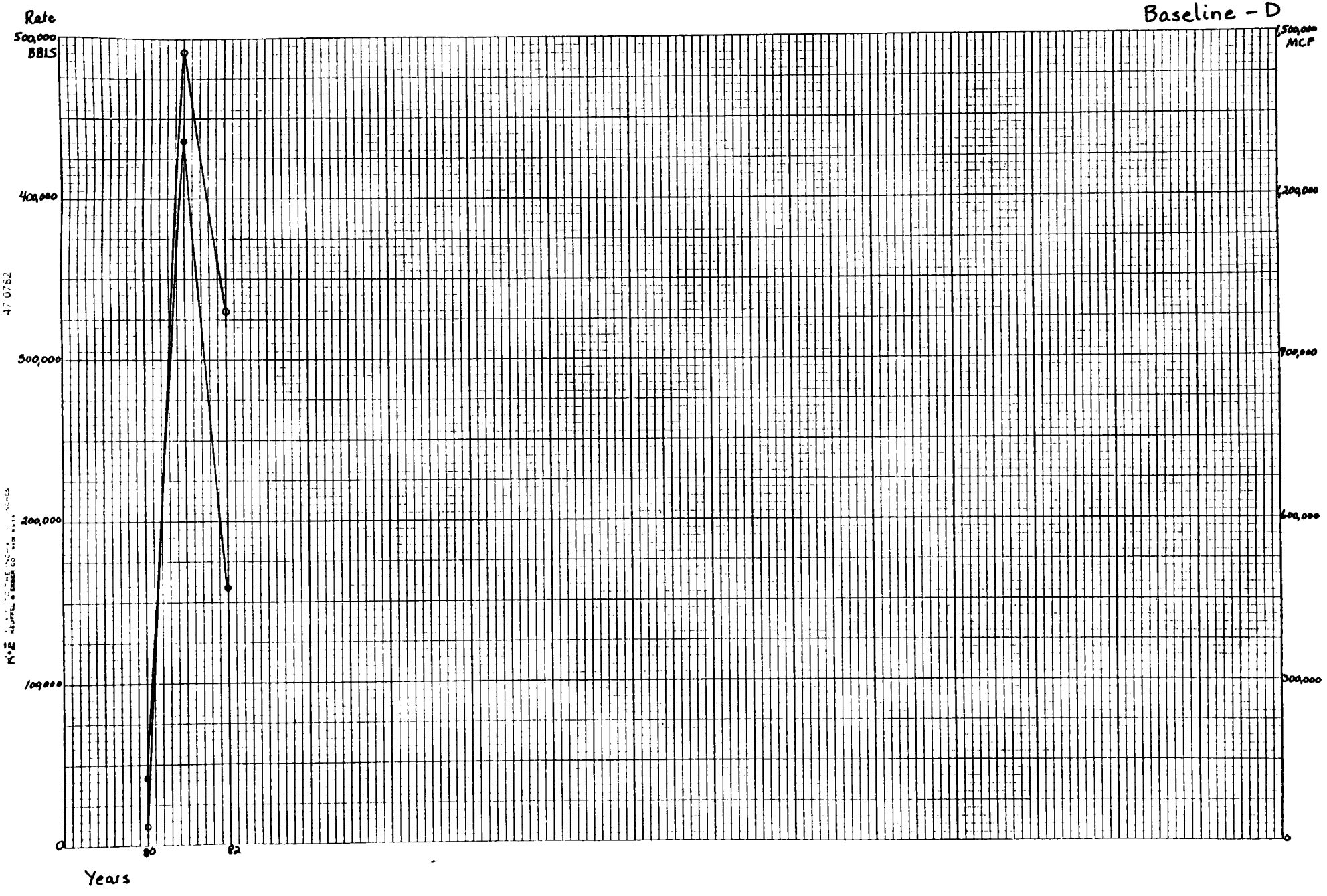

Badger Creek West-J
Rate
60,000 BBLS
48,000
36,000
24,000
12,000
0
60,000 MCF
48,000
36,000
24,000
12,000
0
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years
Note: Cumulative production to 1/1/54 is 119,829 BBLS.
SI 1959
Reactivated 11/65

Banner-J

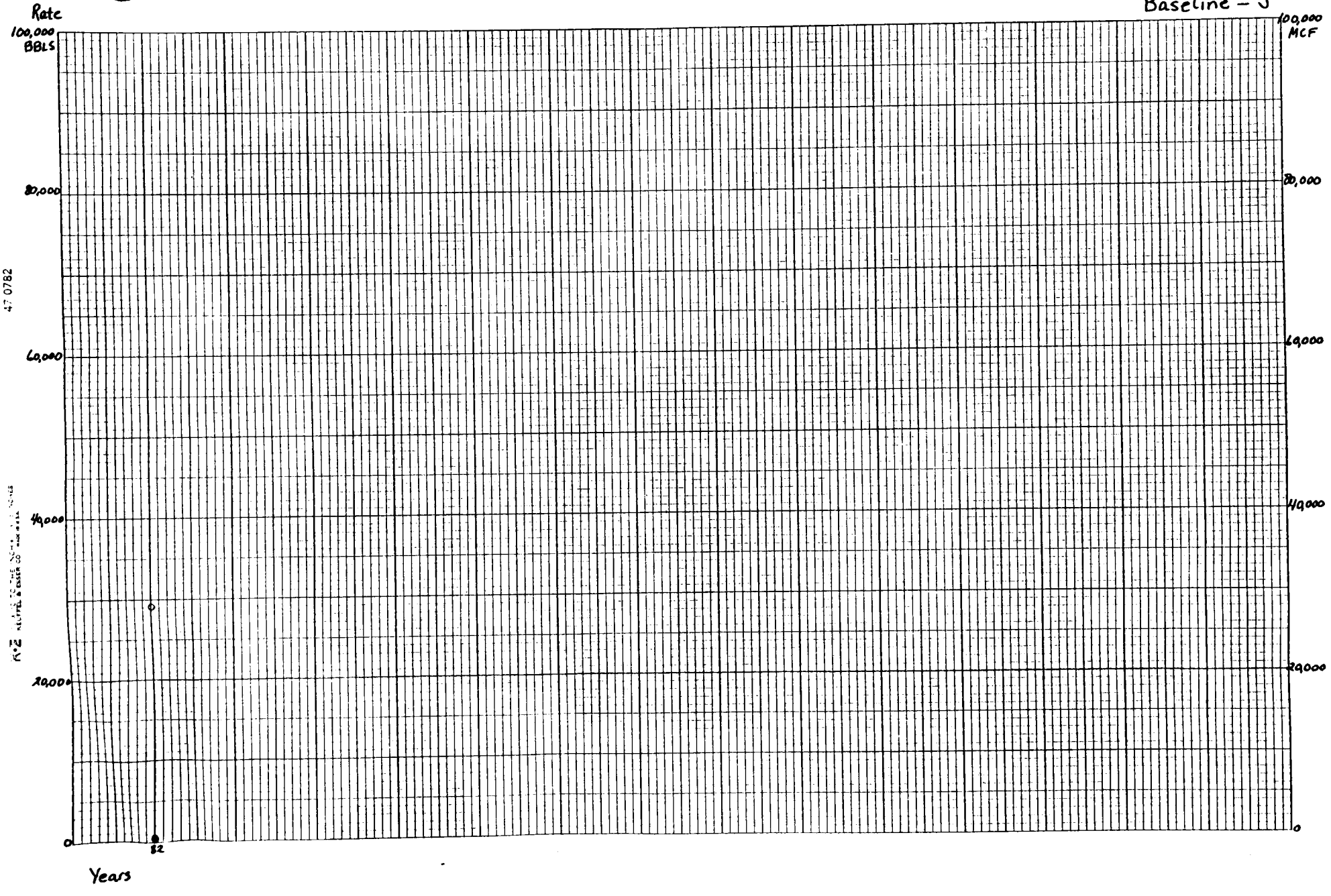

Rate
10,000 MCF
8,000
6,000
4,000
2,000
0
1000 Barrels Condensate
76
78
80
82
Years

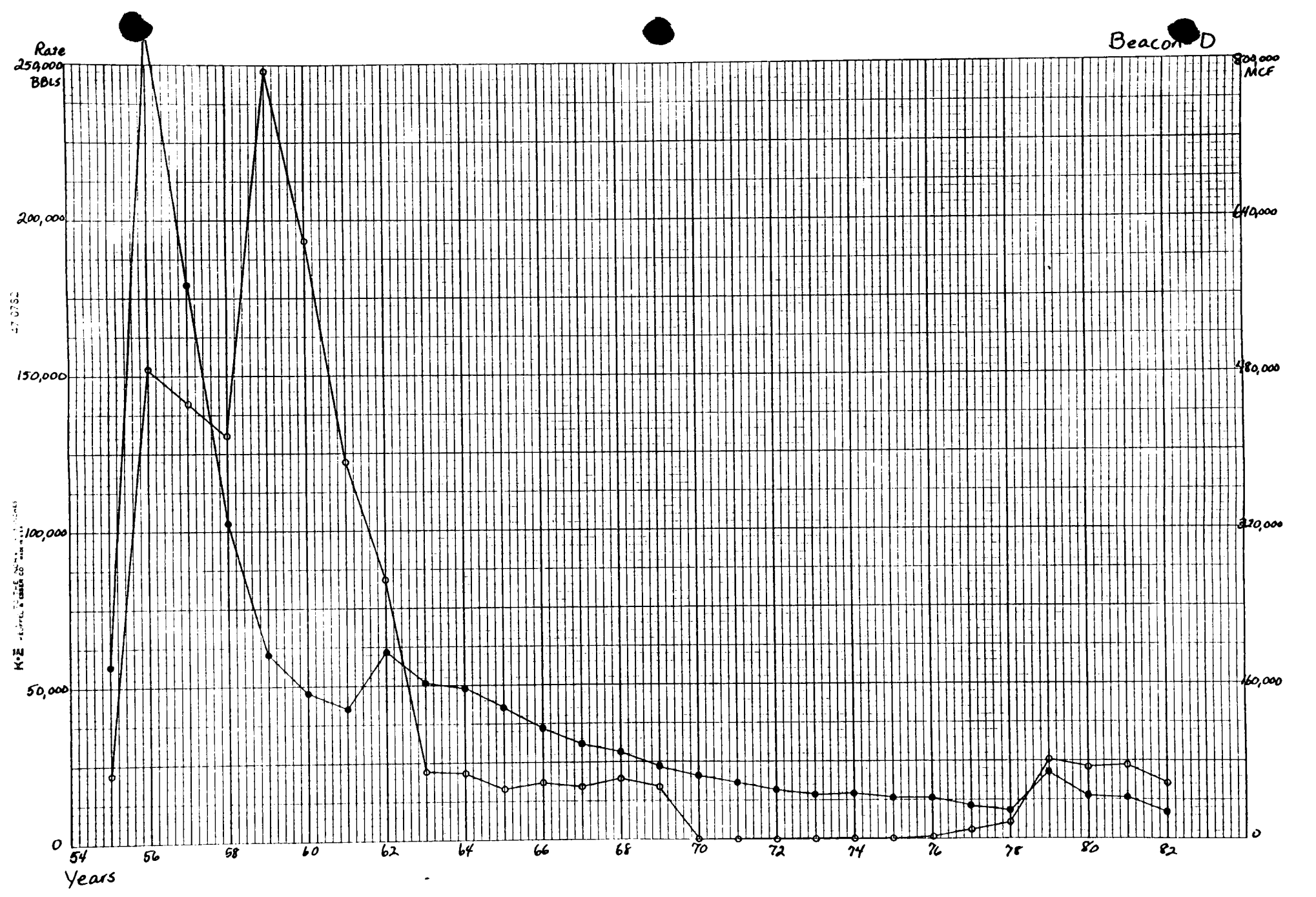

Banner L...es - D
Rate
150,000 BBLS
120,000
90,000
60,000
30,000
0
300,000 MCF
240,000
180,000
120,000
60,000
80
82
Years
47 0782
K+E

Baseline - D

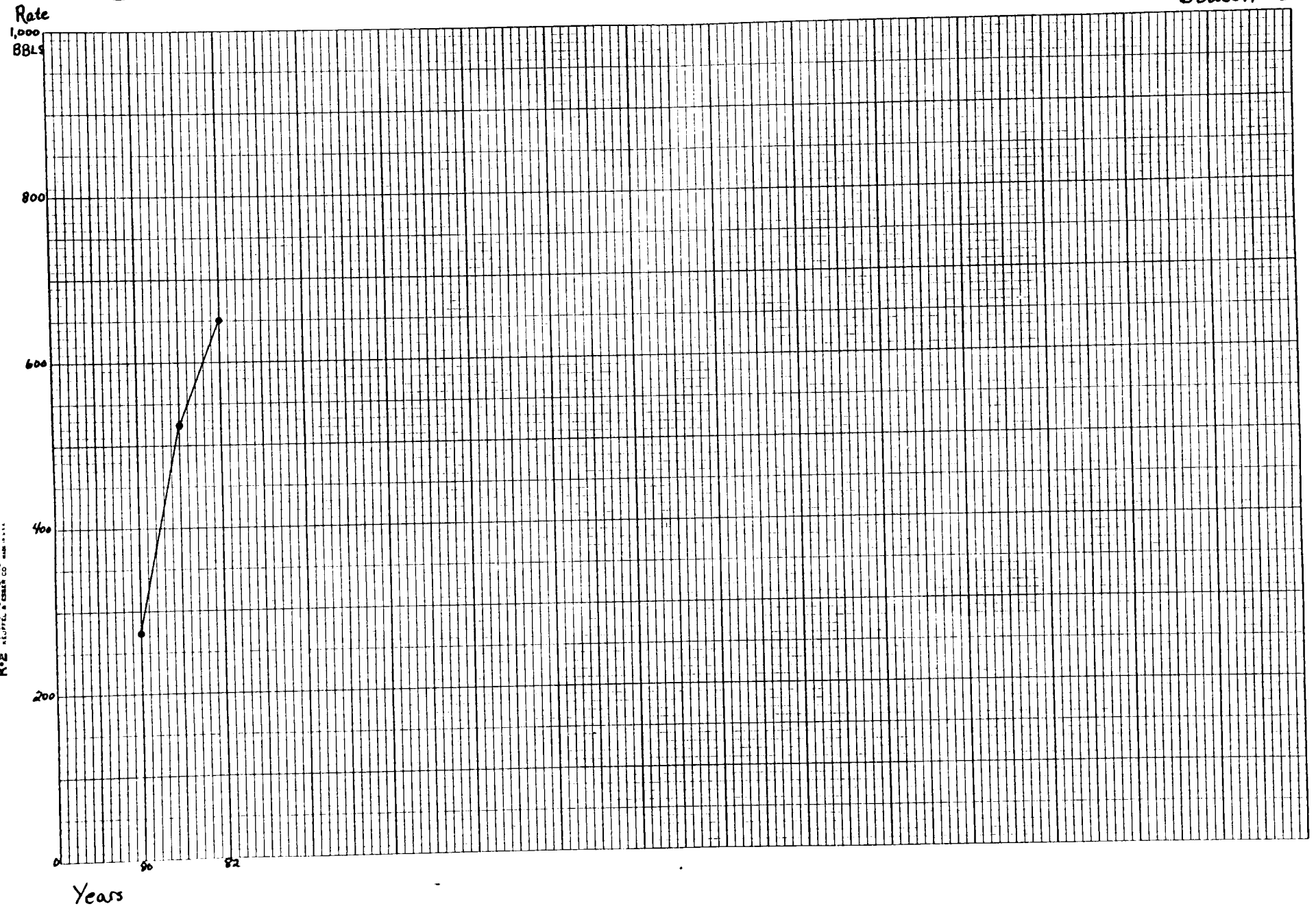



47 0782


Baseline – J
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
82
Years
47 0782

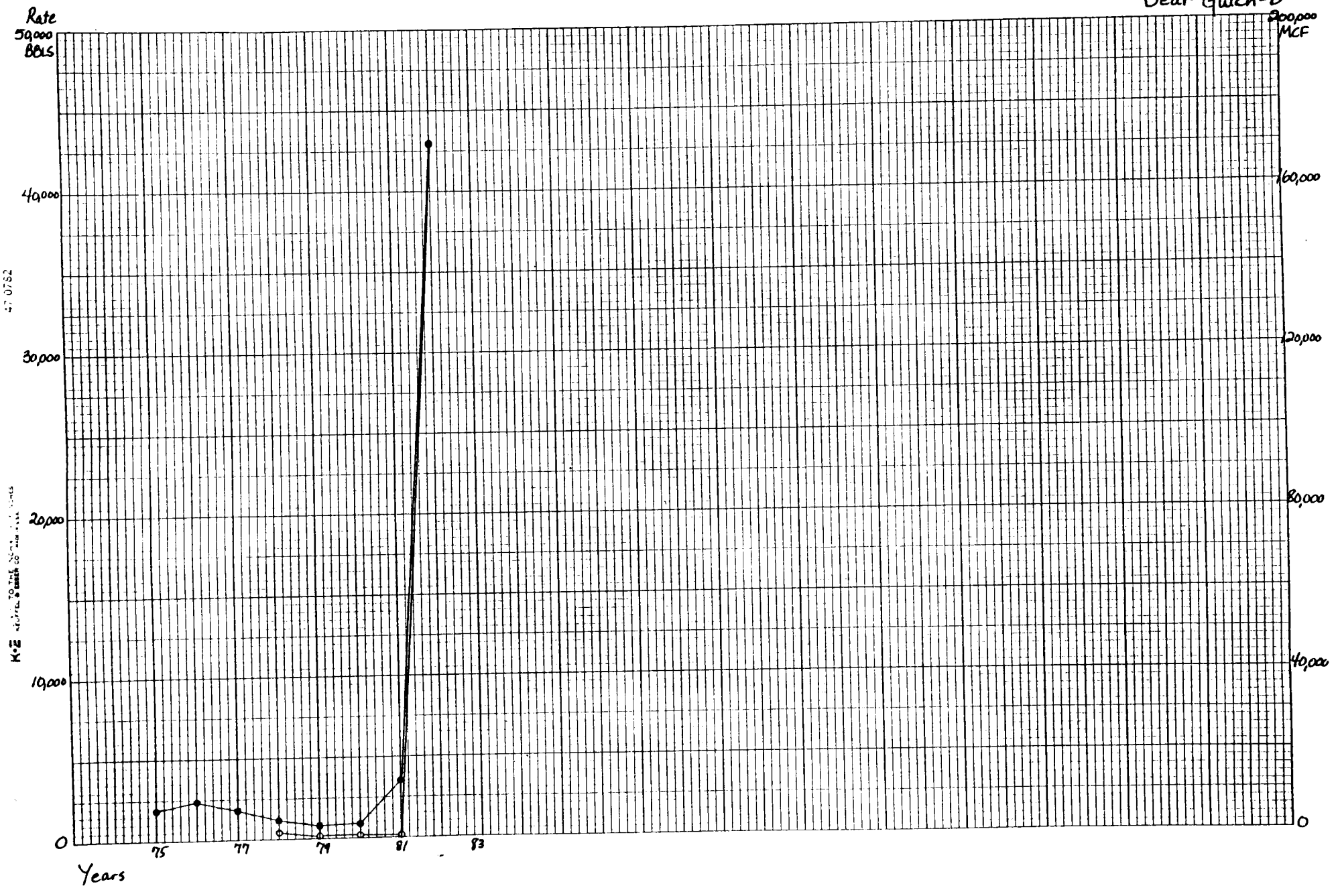

Beacon D
Rate
250,000 BBLS
200,000
150,000
100,000
50,000
0
800,000 MCF
640,000
480,000
320,000
160,000
0
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

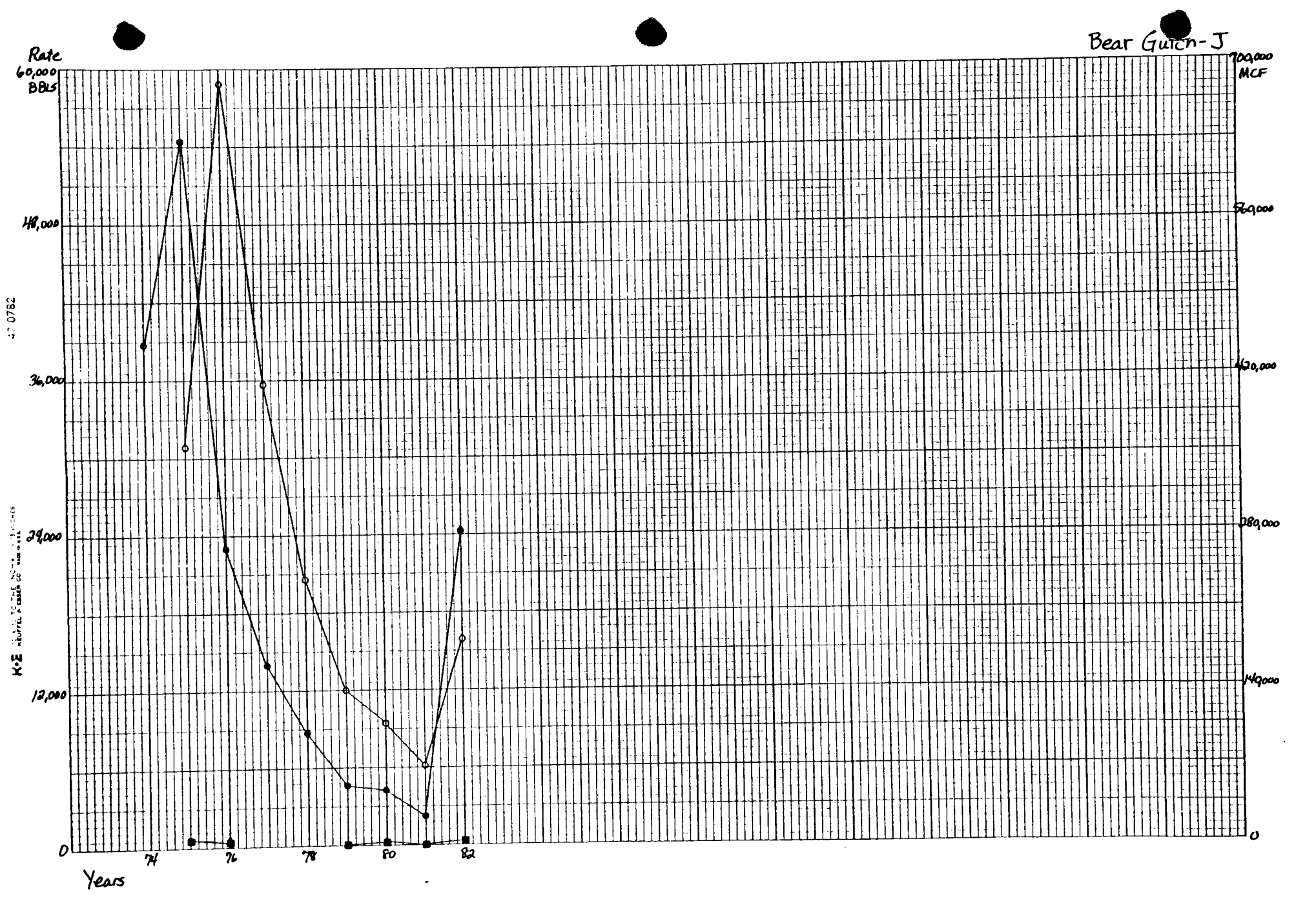
Beacon – Dand J

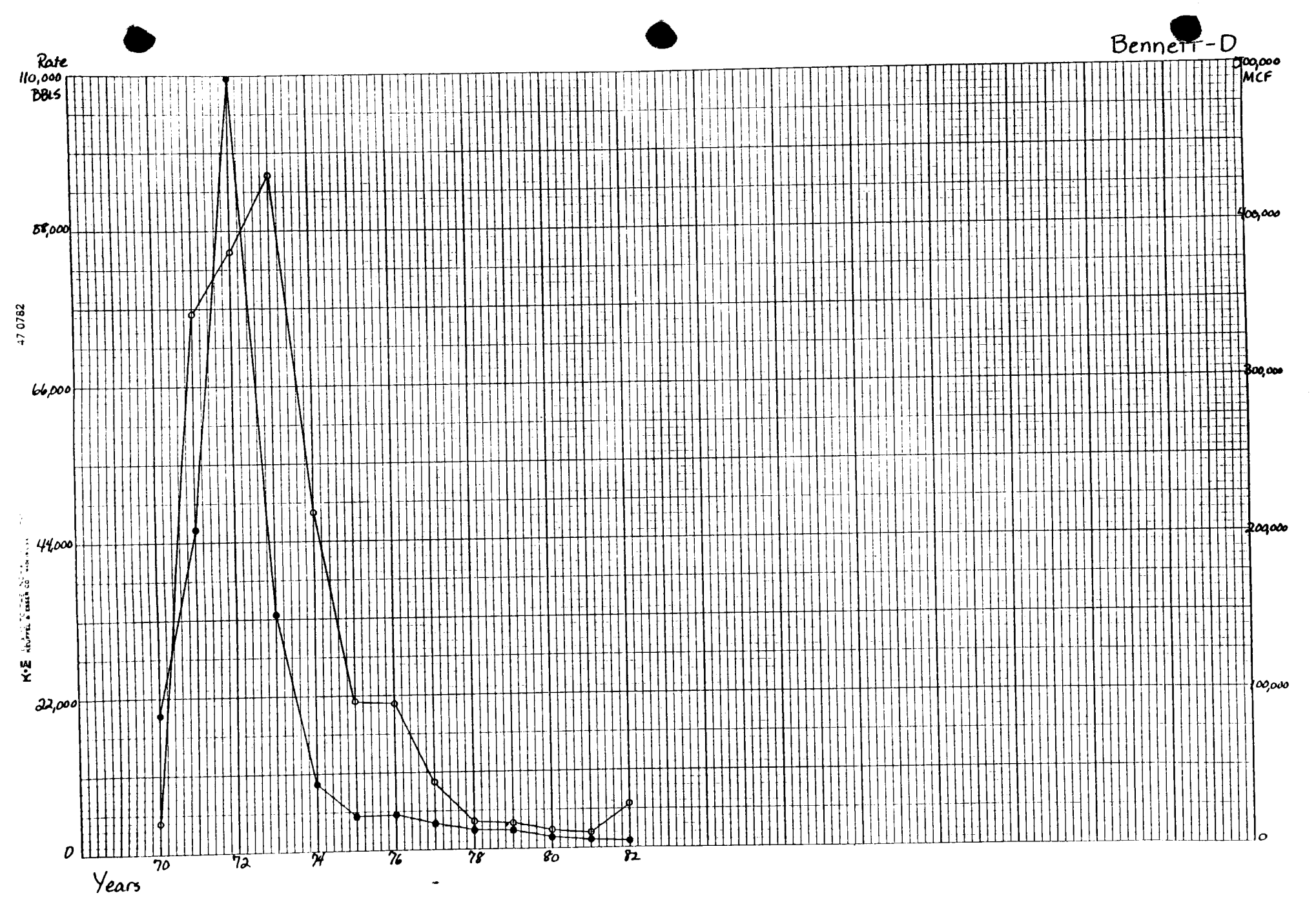


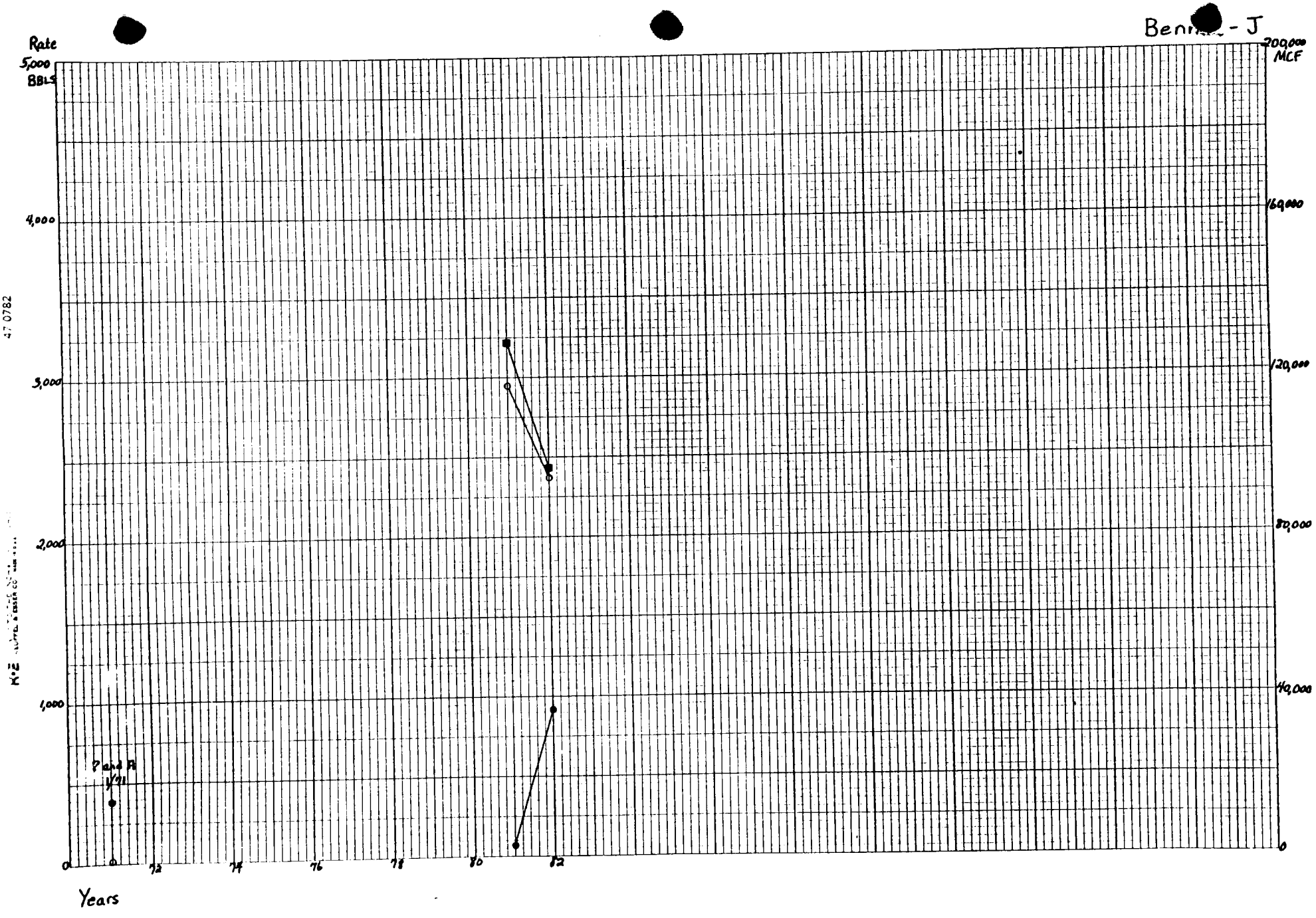

47 0782

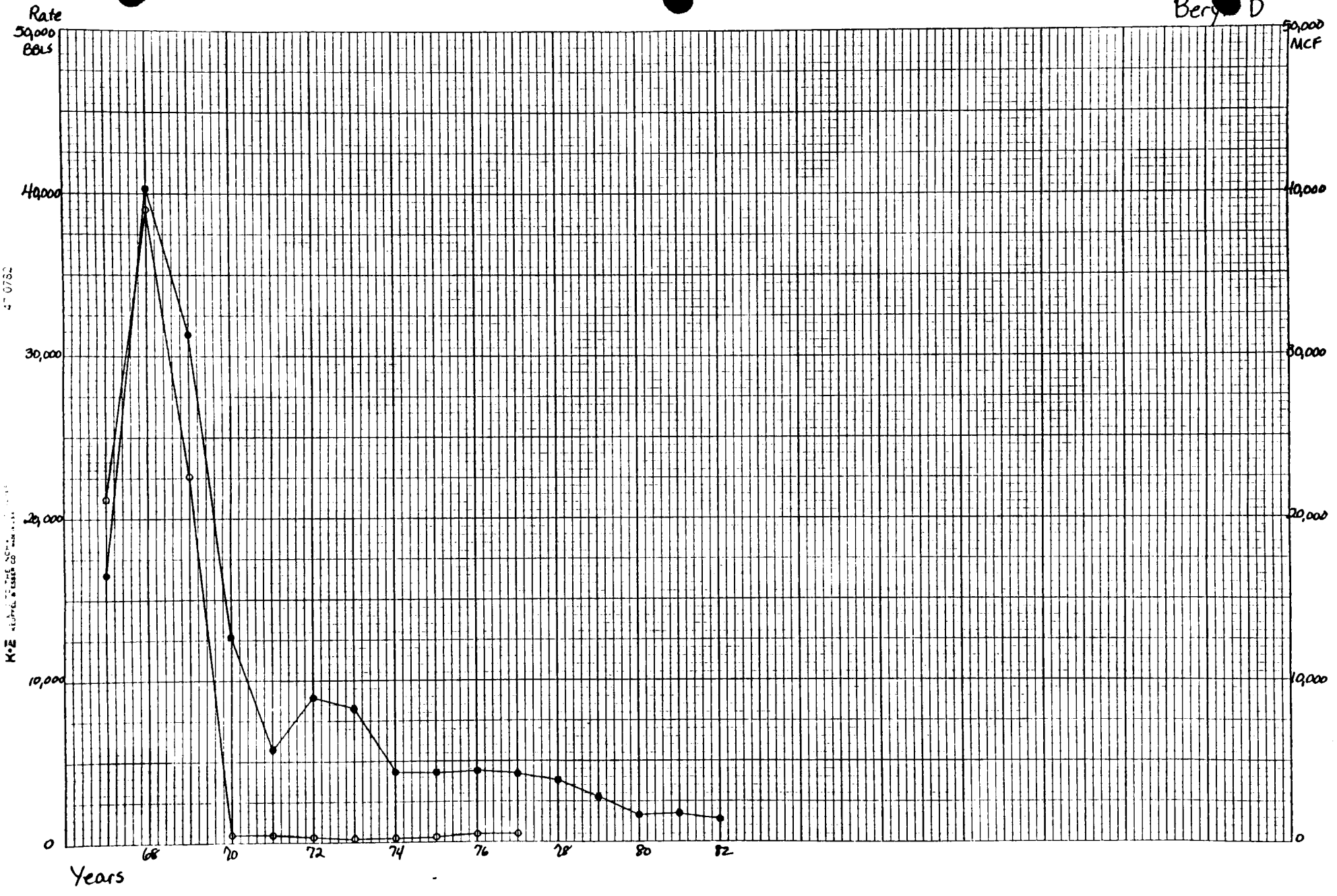
K&E

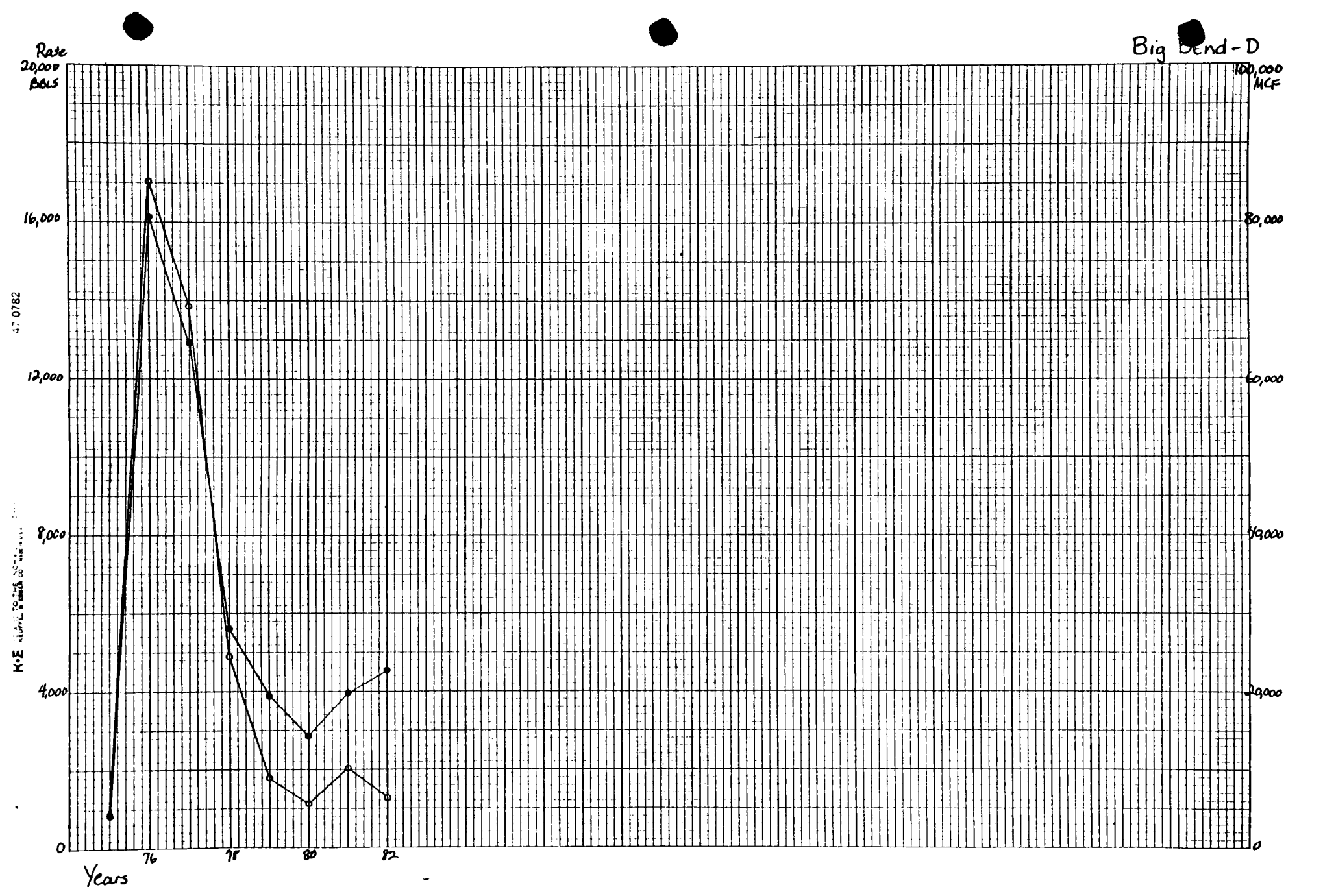

Bear Gulch-D
Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
75
77
79
81
83
Years

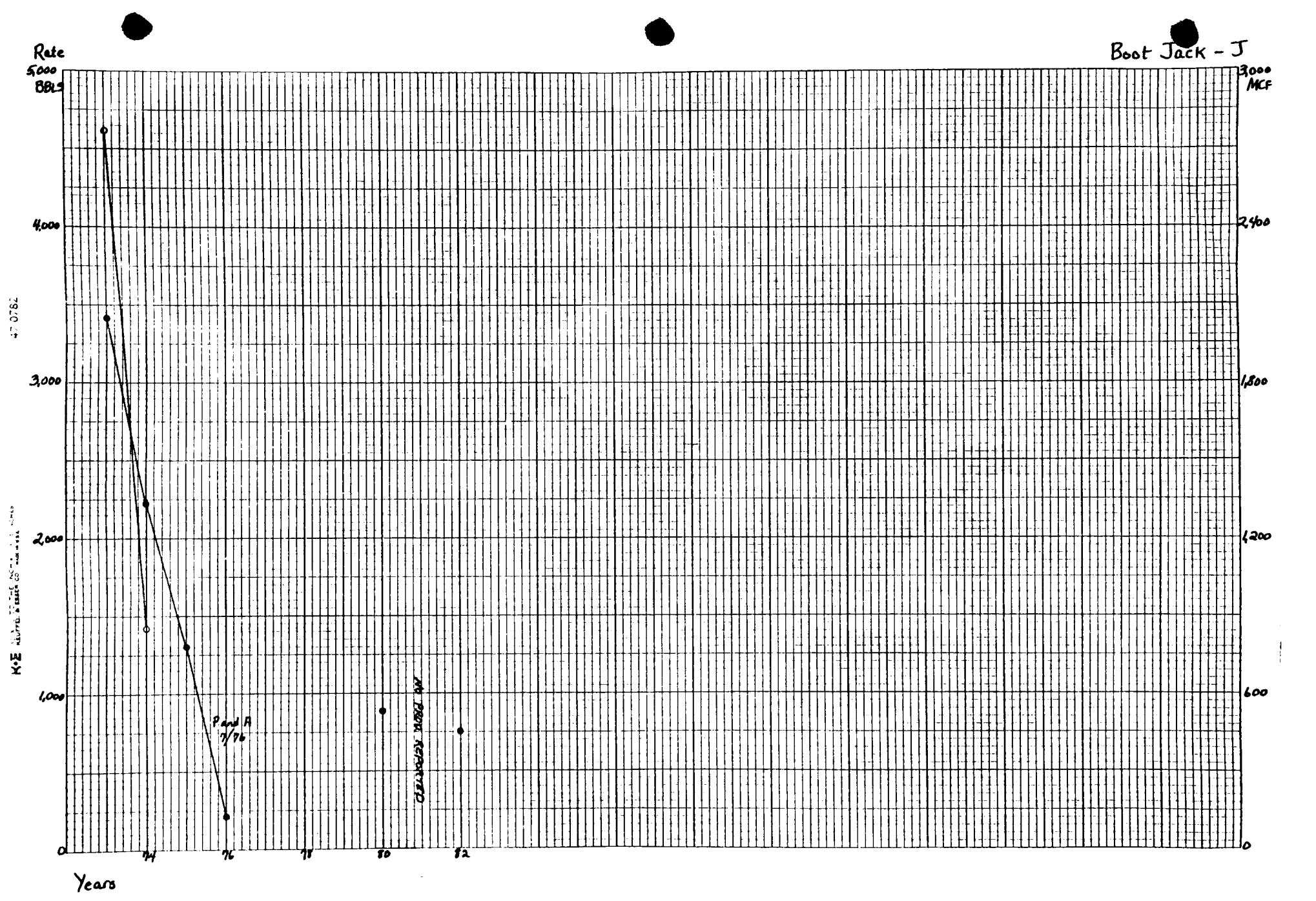

Bear Gulch-J
Rate
60,000
BBLS
48,000
36,000
24,000
12,000
0
700,000
MCF
560,000
420,000
280,000
140,000
0
74
76
78
80
82
Years

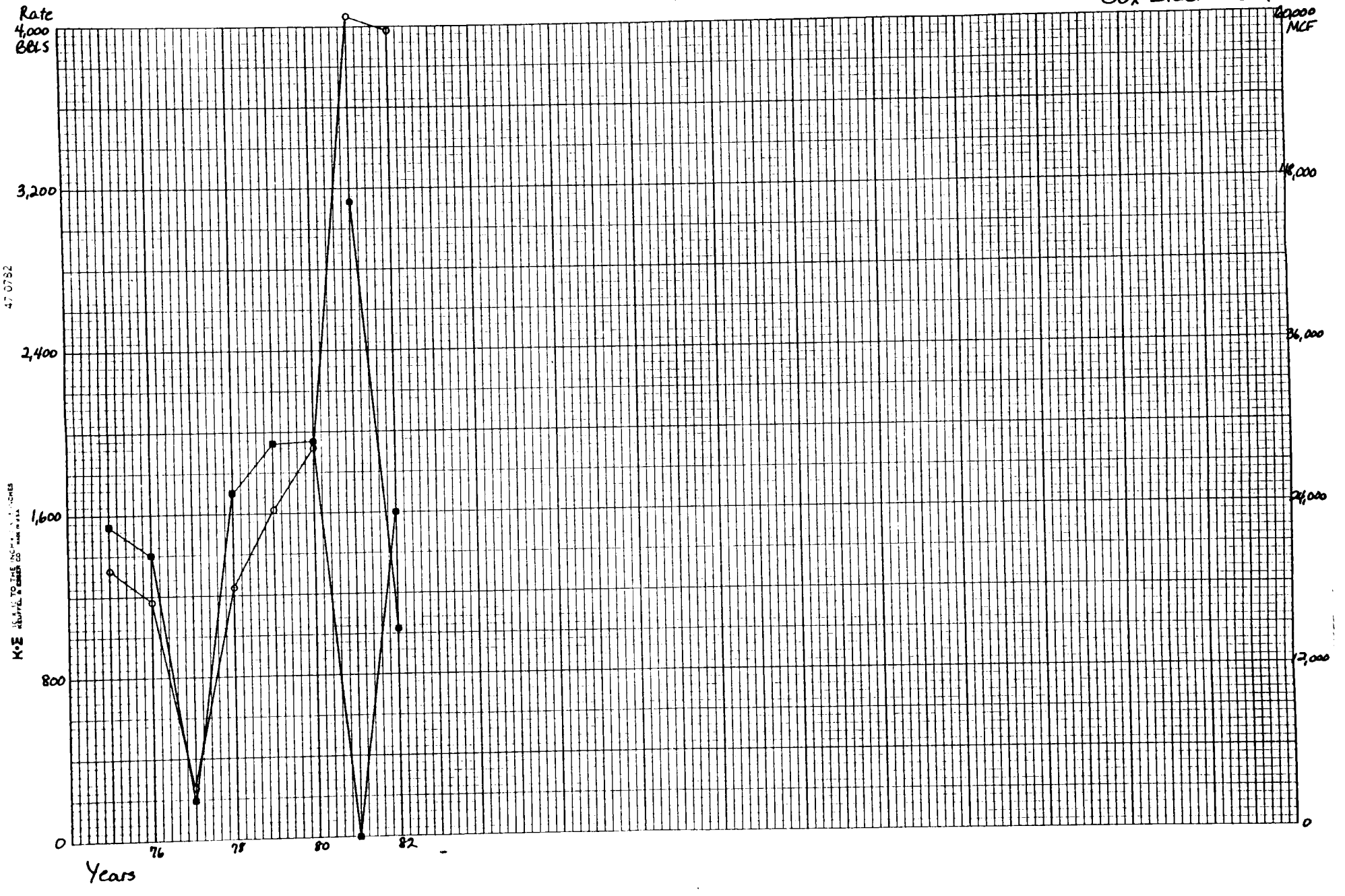

Bennett-D
Rate
110,000
BBLS
88,000
66,000
44,000
22,000
0
500,000
MCF
400,000
300,000
200,000
100,000
0
70
72
74
76
78
80
82
Years
47 0782

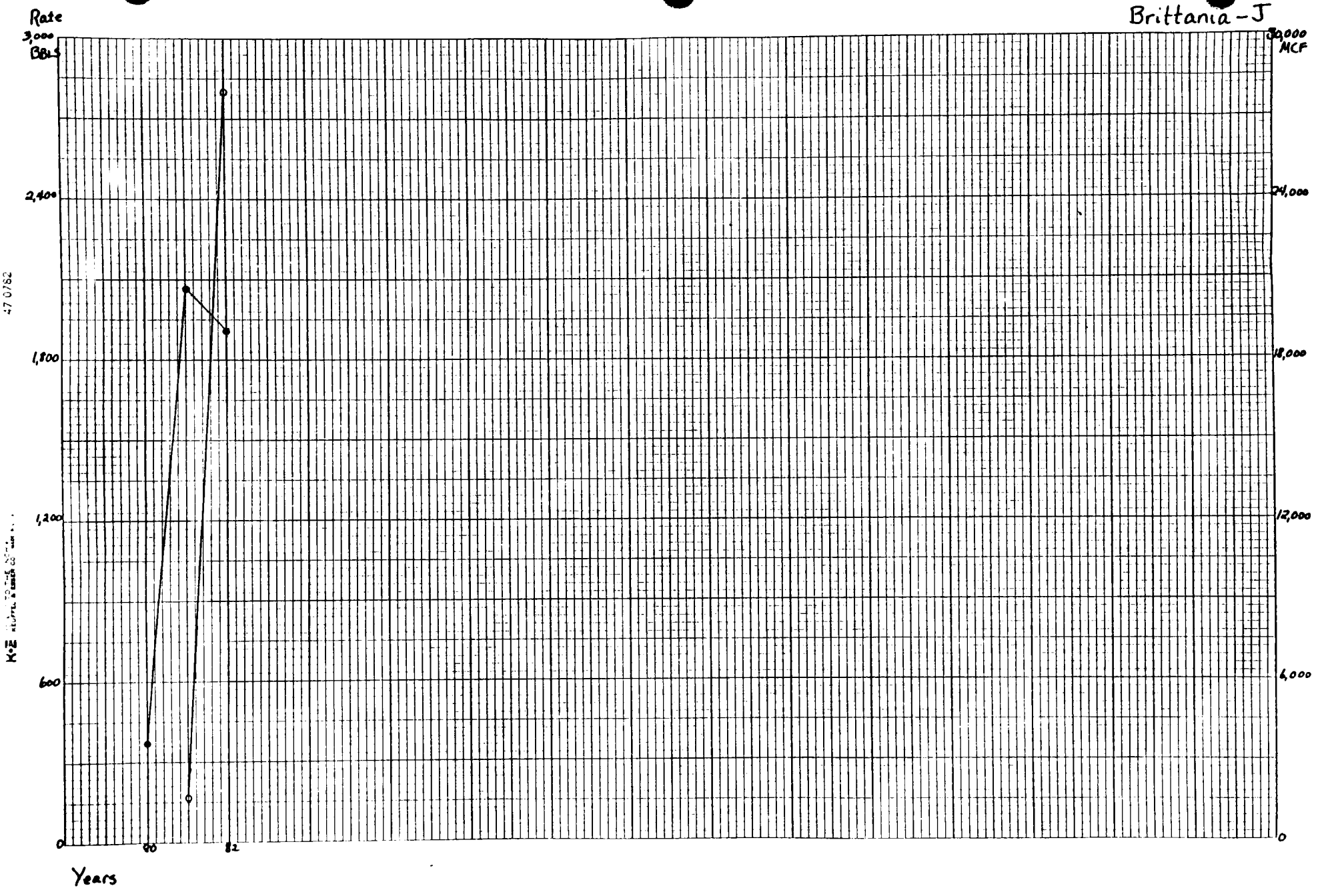

Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
200,000 MCF
160,000
120,000
80,000
40,000
0
72
74
76
78
80
82
Years
Pand A 1/91


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

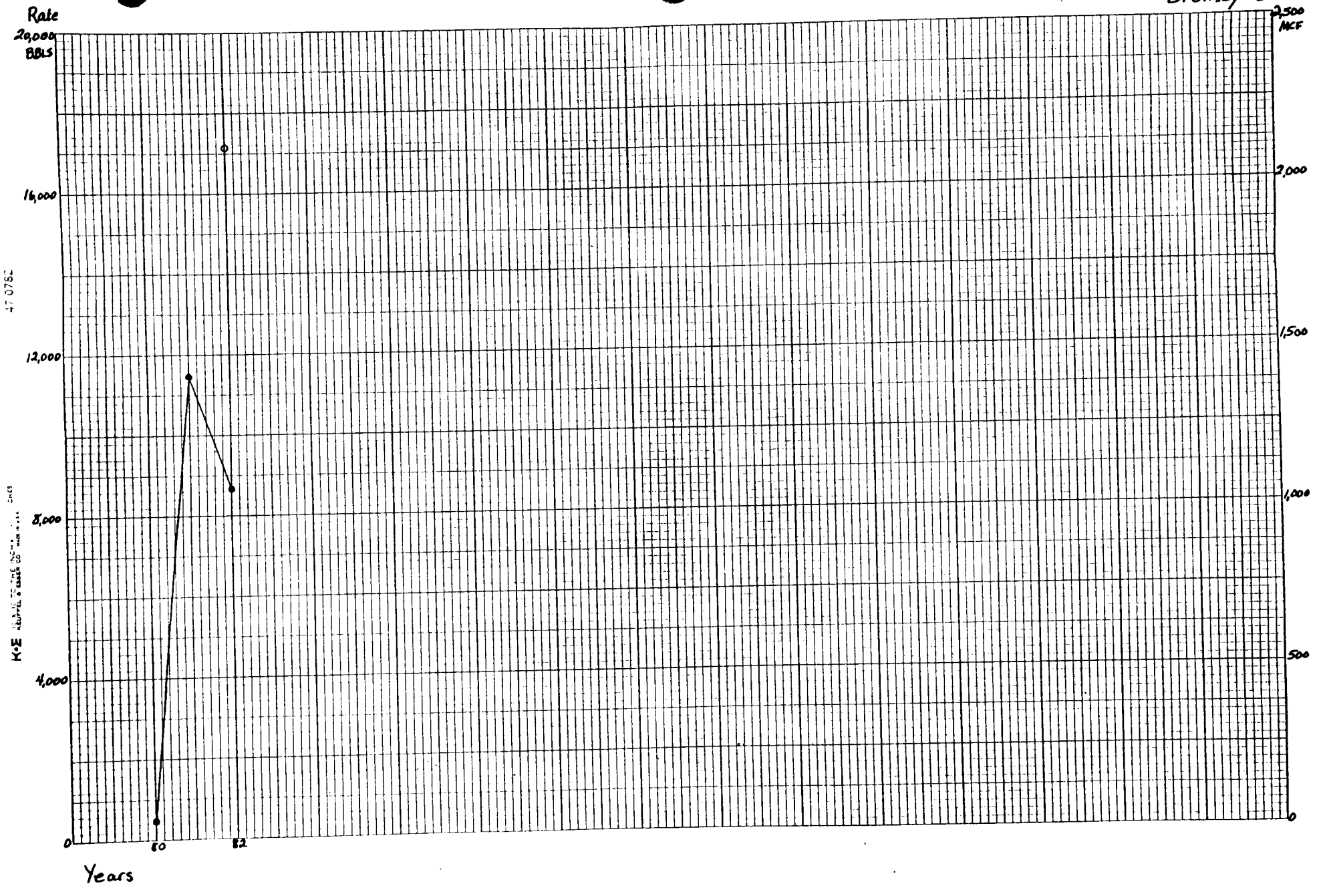

Rate
20,000 BBLS
16,000
12,000
8,000
4,000
0
100,000 MCF
80,000
60,000
40,000
20,000
0
76
78
80
82
Years
Big Bend - D

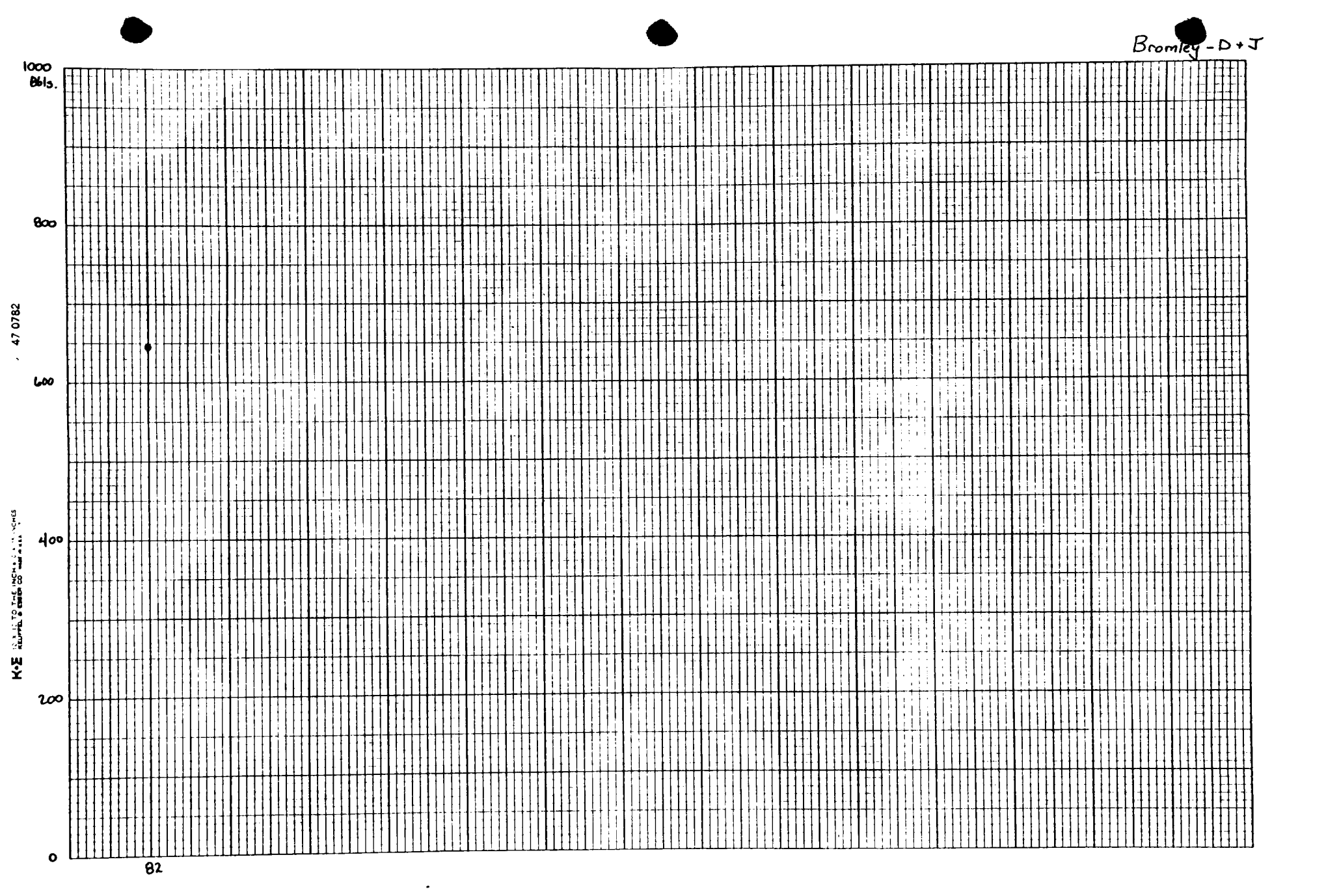

Rate
5000 BBLS
4,000
3,000
2,000
1,000
0
3,000 MCF
2,400
1,800
1,200
600
0
Boot Jack - J
P and A 7/76
NO PROD. REPORTED
74
76
78
80
82
Years
47 0782
K·E

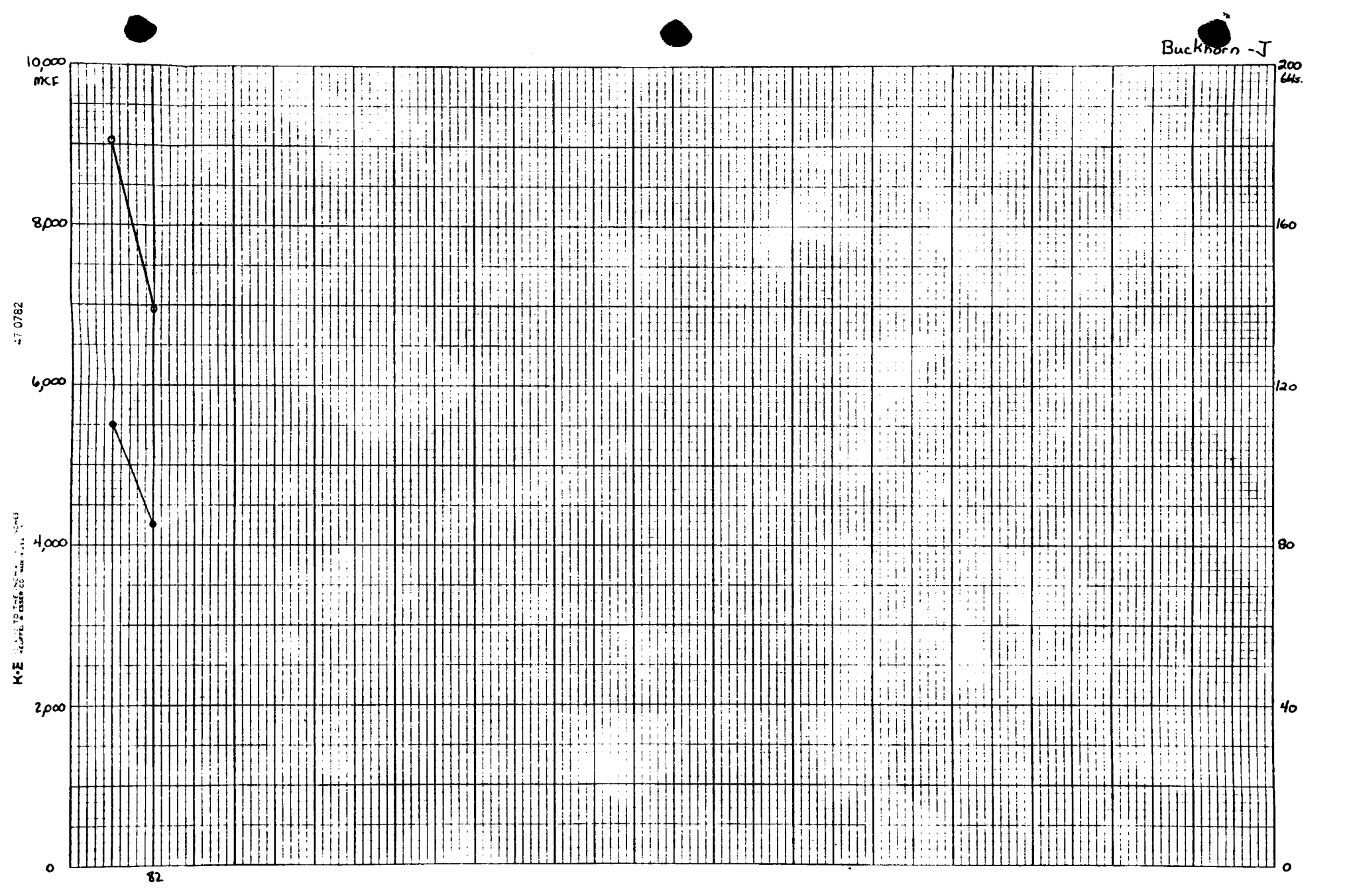

Box Elder Creek-J
Rate
4,000
BBLS
3,200
2,400
1,600
800
0
48,000
36,000
24,000
12,000
0
76
78
80
82
Years

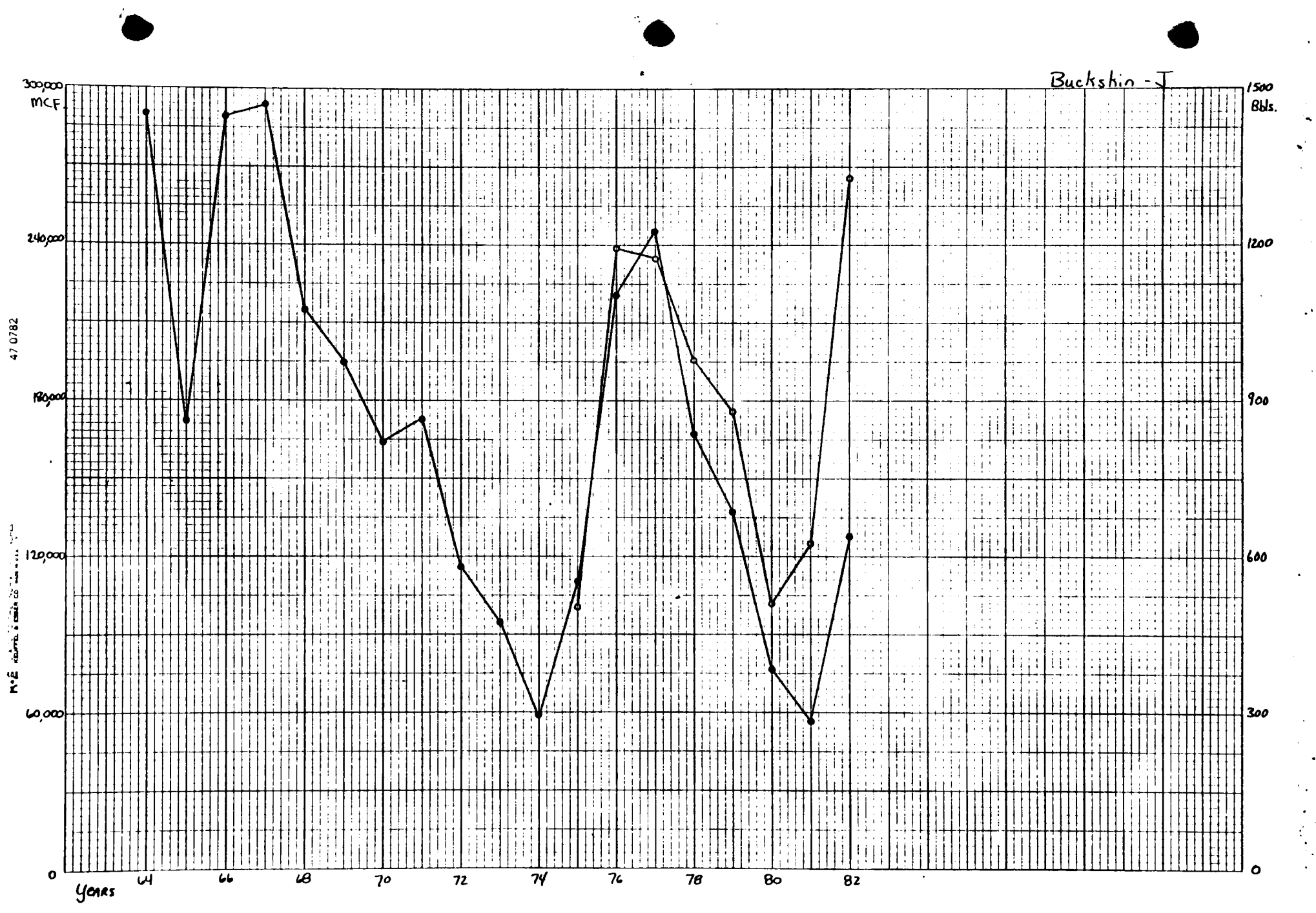

Rate
Brittania-J
3,000
BBLS
2,400
1,800
1,200
600
0
30,000
MCF
24,000
18,000
12,000
6,000
0
80
82
Years

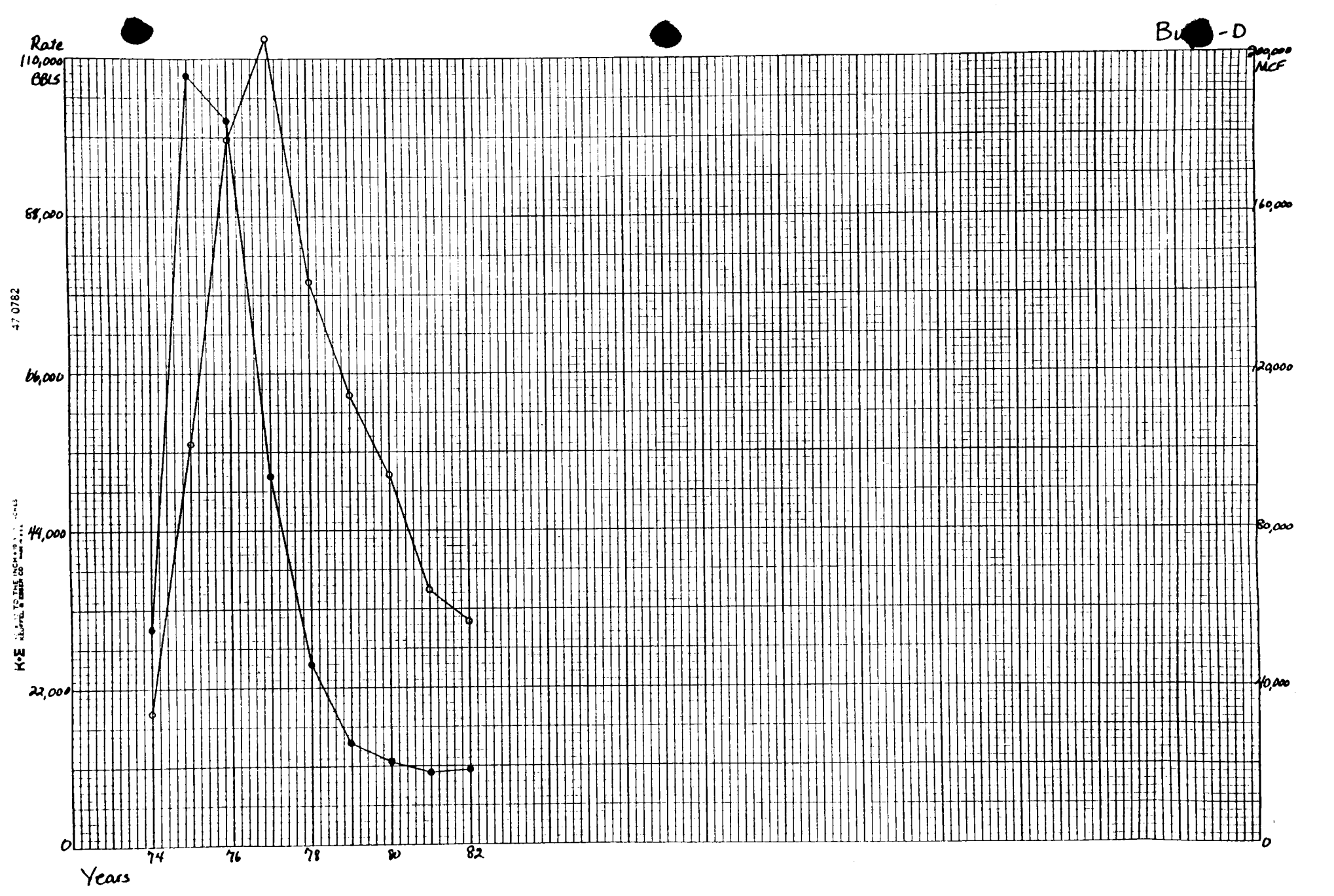
Brominey-D

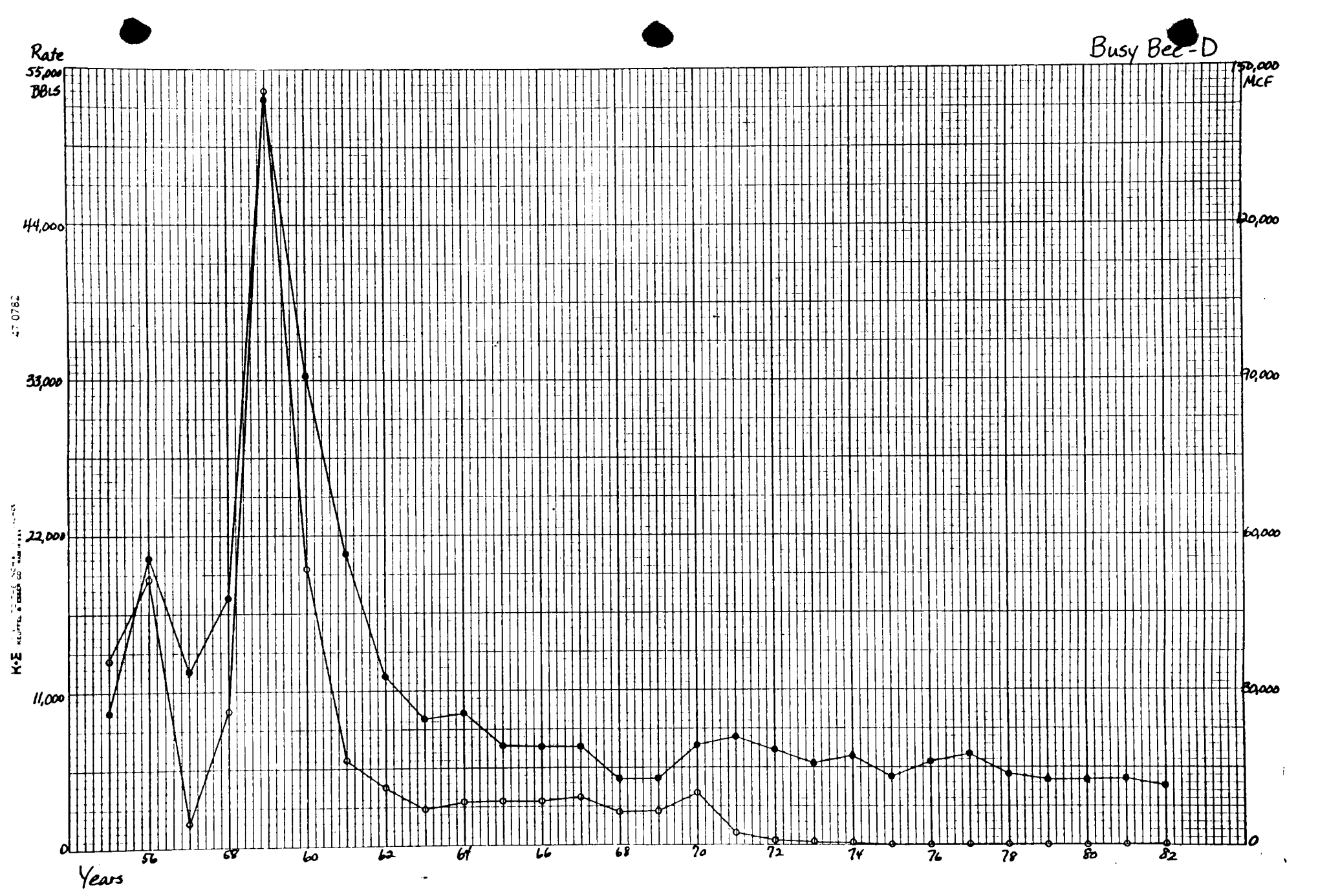

Rate
20,000
BBLS
16,000
12,000
8,000
4,000
0
2,500
MCF
2,000
1,500
1,000
500
0
60
82
Years

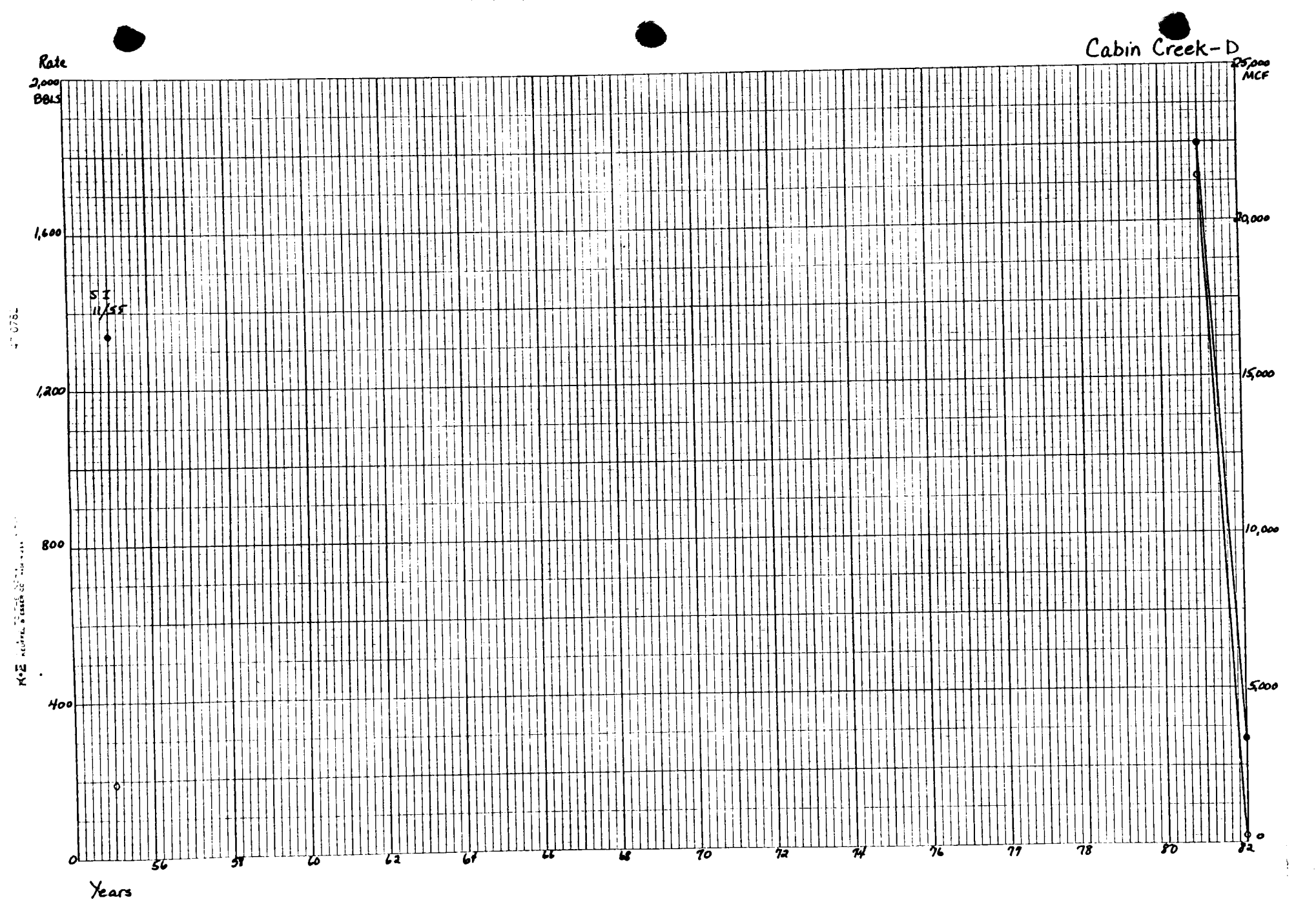

Bromley - D + J
1000
Bbls.
800
600
400
200
0
82
47 0782
K+E


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

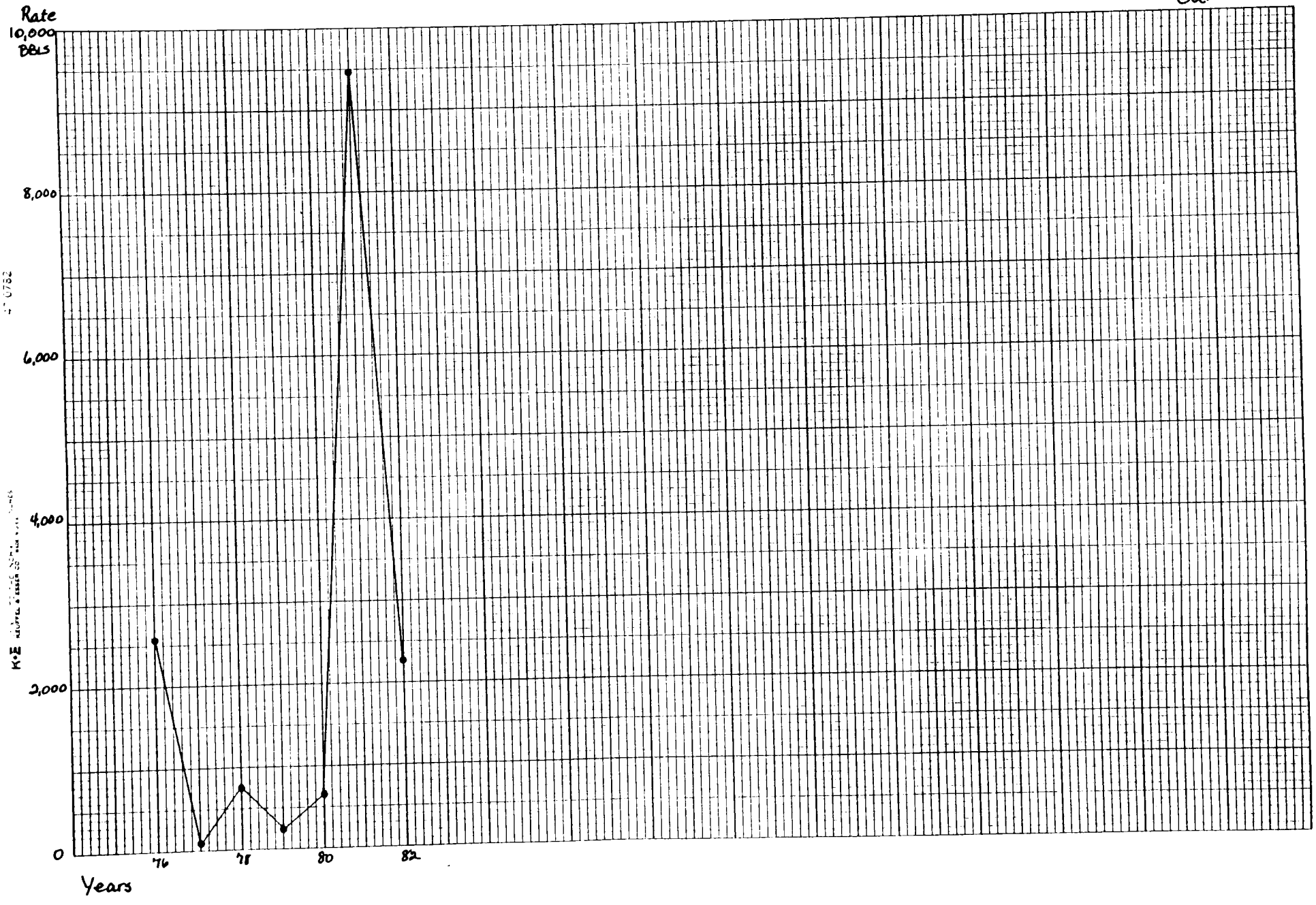

Buckskin - J
300,000
MCF
240,000
180,000
120,000
60,000
0
1500
Bbls.
1200
900
600
300
0
Years
64
66
68
70
72
74
76
78
80
82
47 0782

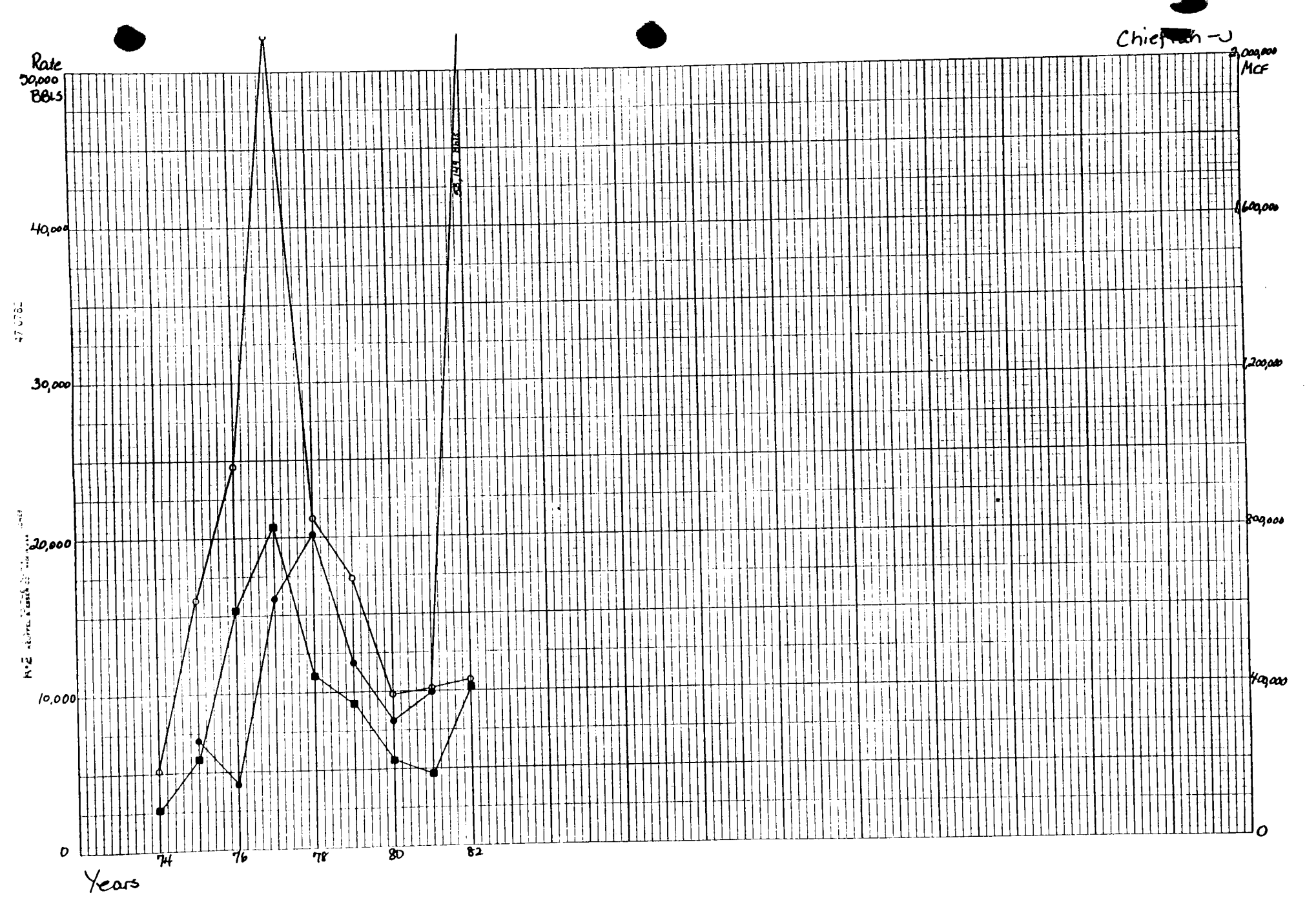

Rate
110,000
BBLS
88,000
66,000
44,000
22,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
74
76
78
80
82
Years
47 0782
K&E

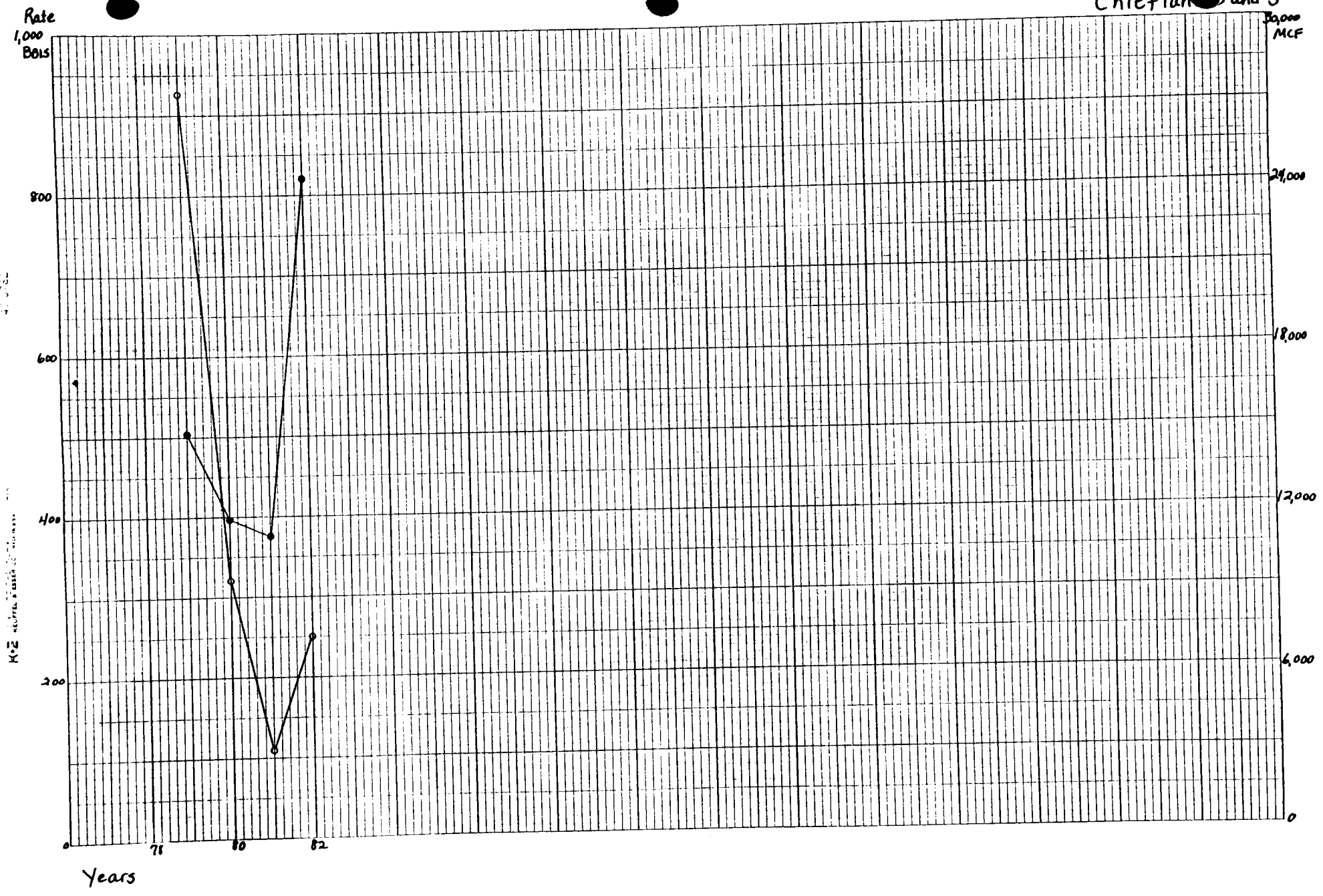

Busy Bee-D
Rate
55,000
BBLS
44,000
33,000
22,000
11,000
0
150,000
MCF
120,000
90,000
60,000
30,000
0
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

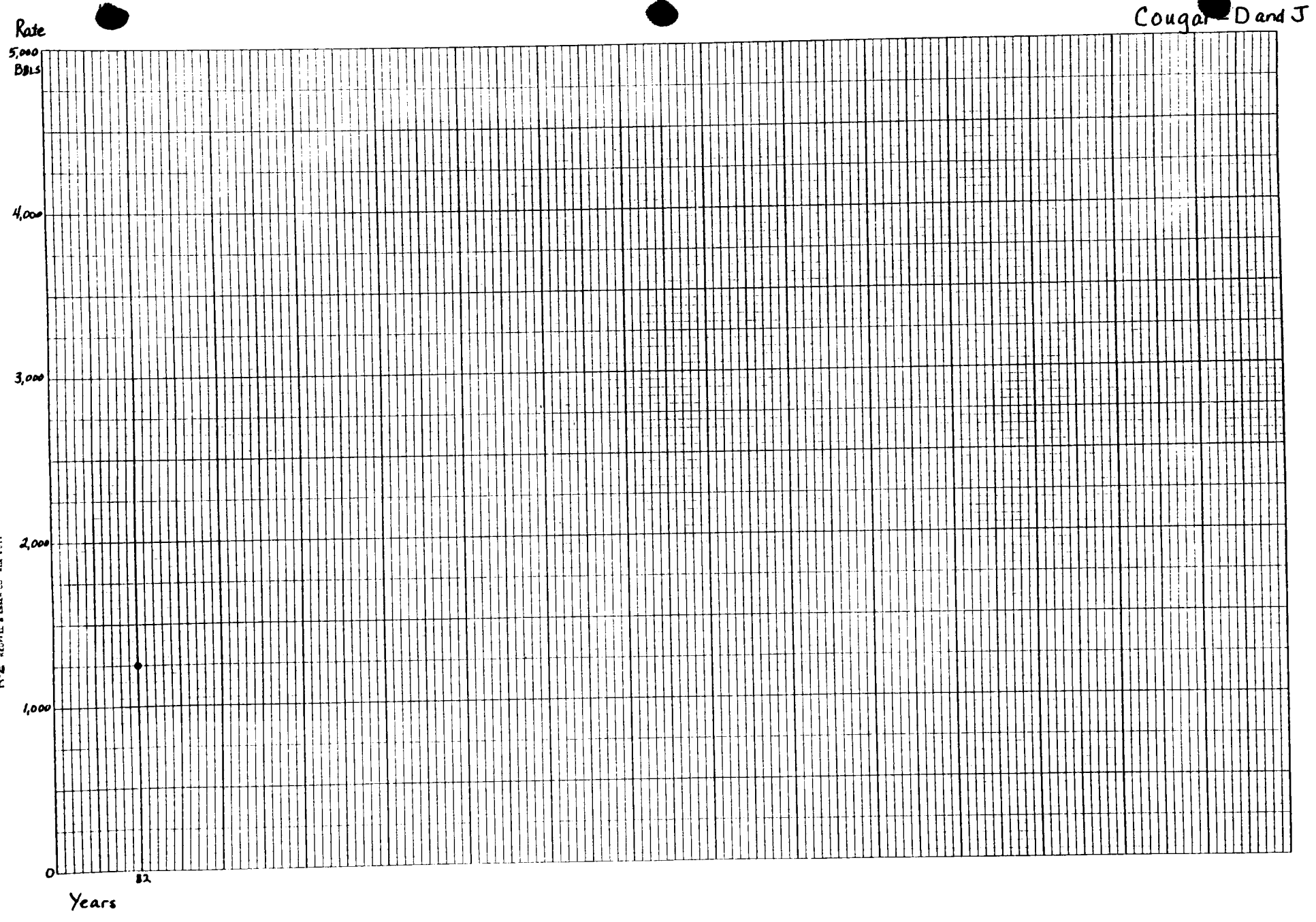

Cabin Creek-D
Rate
2,000
BBLS
1,600
1,200
800
400
0
25,000
MCF
20,000
15,000
10,000
5,000
0
SI
11/55
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

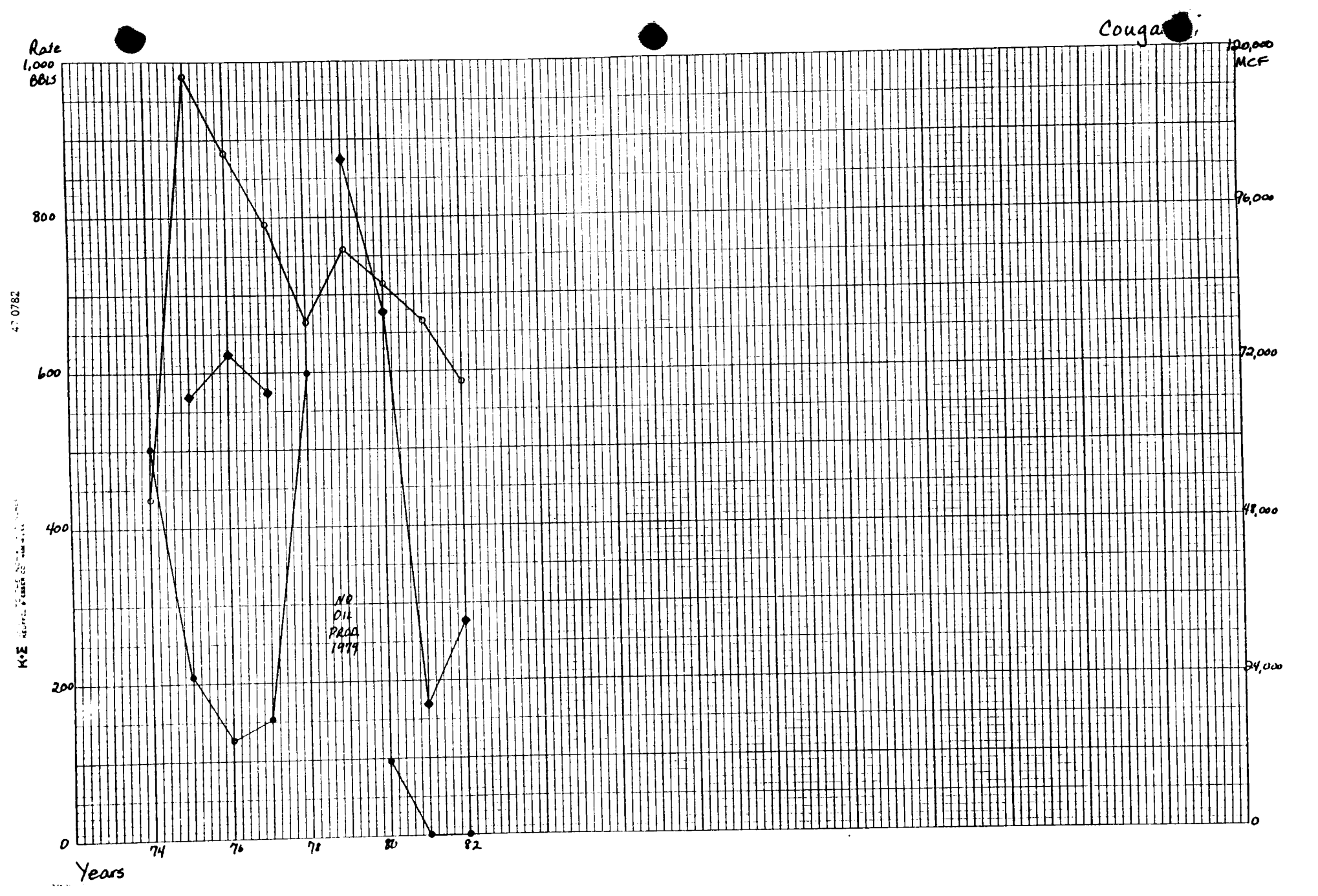
Cannon-J

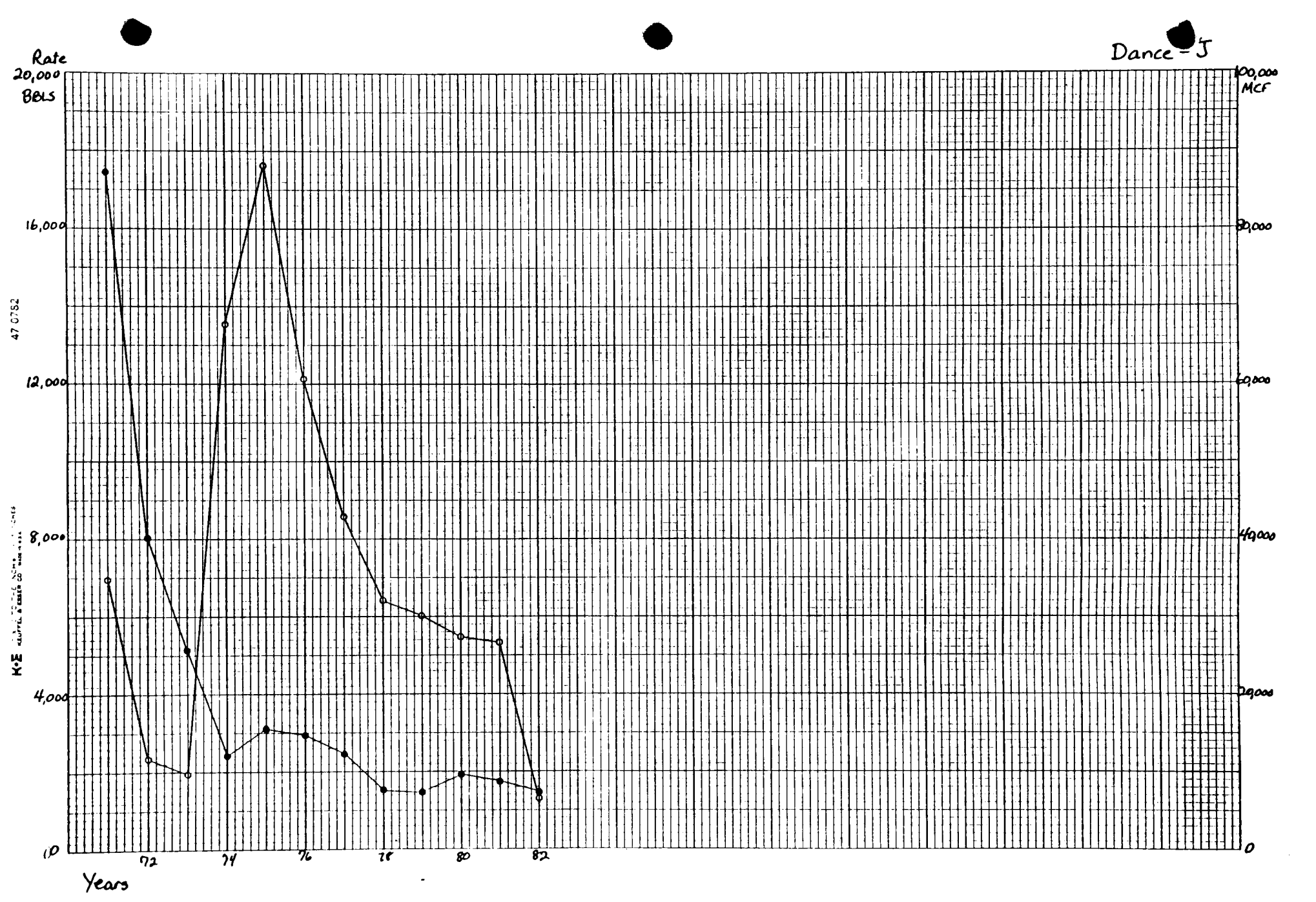


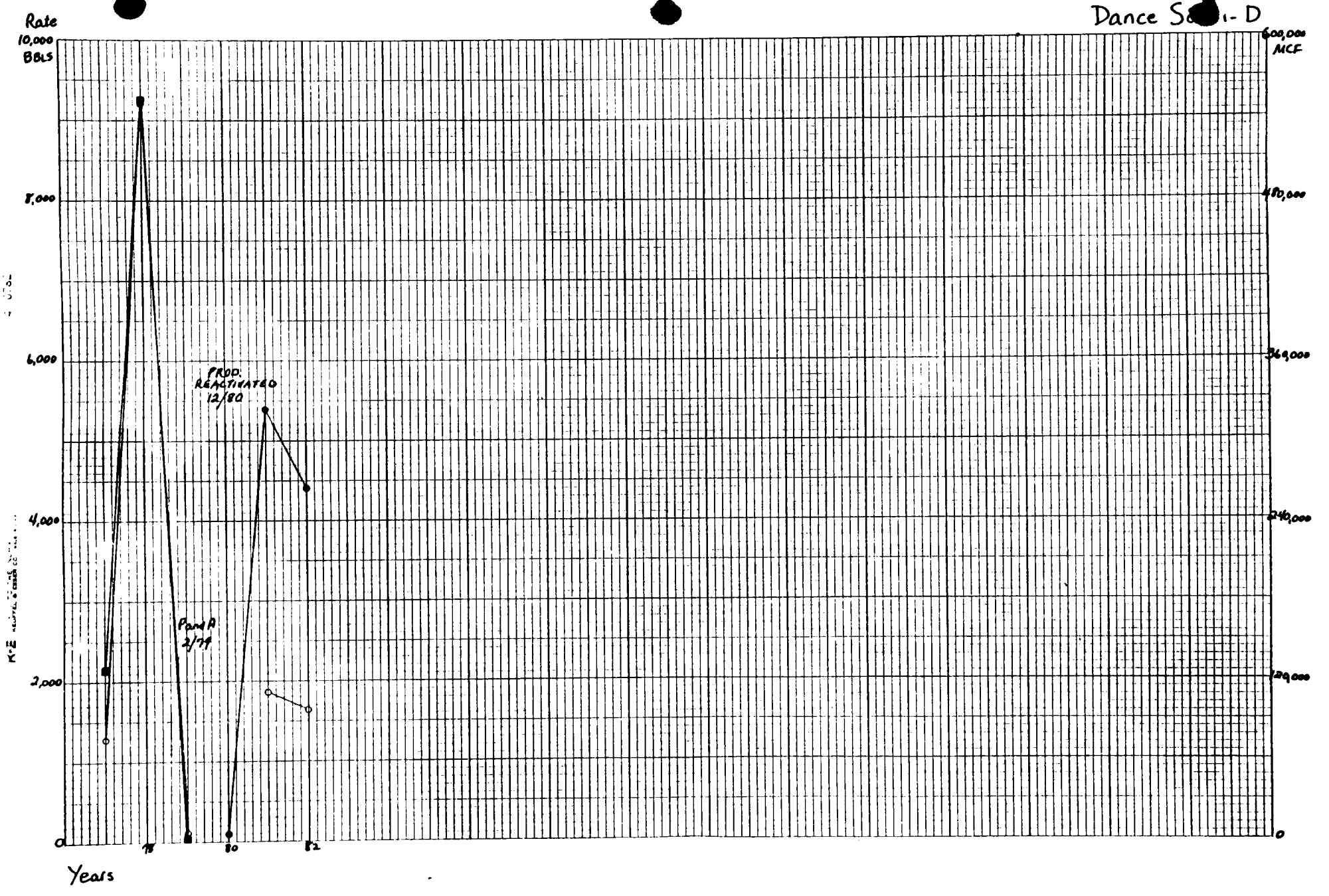

Chief
Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
MCF
3,000,000
2,400,000
1,800,000
1,200,000
600,000
0
74
76
78
80
82
Years

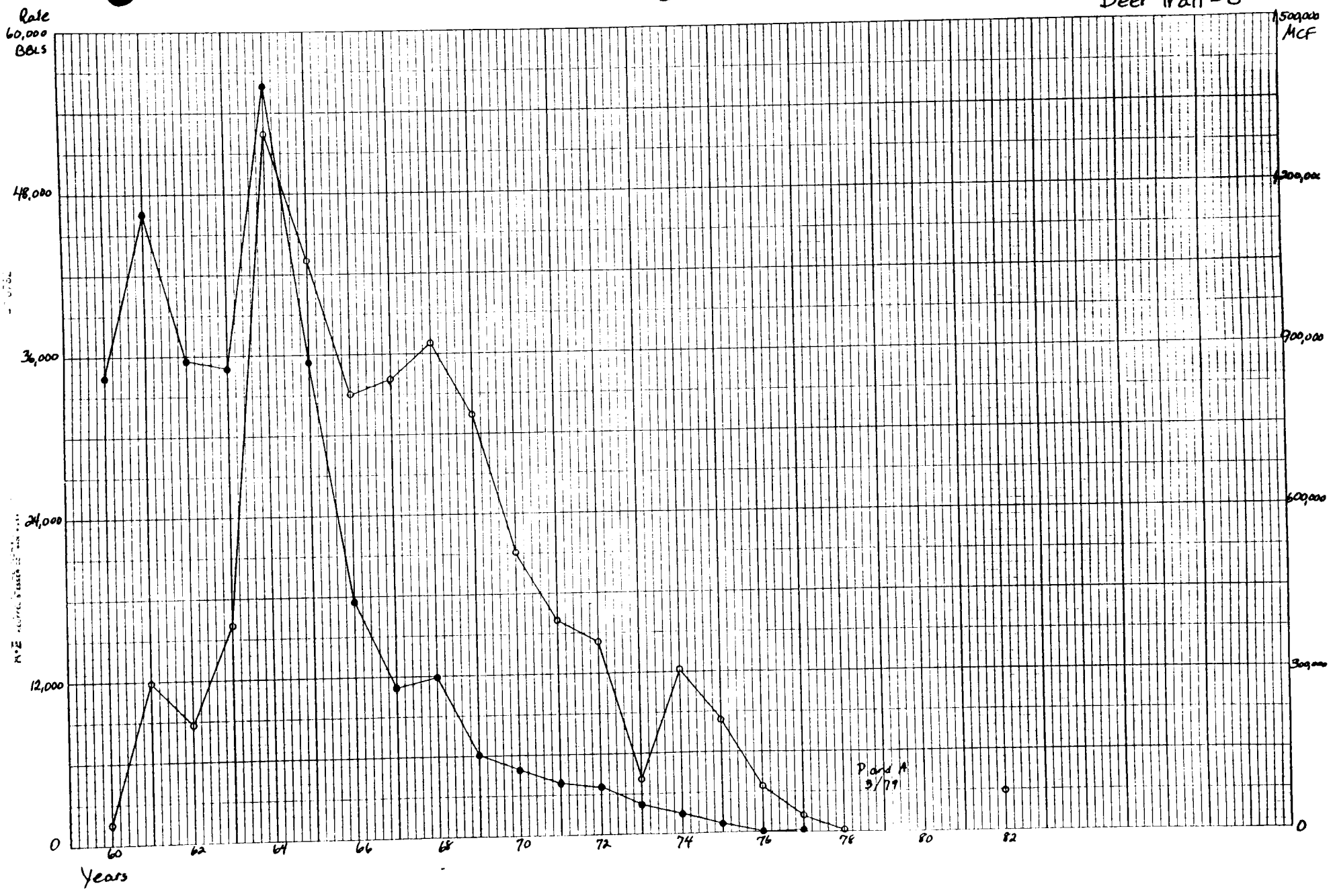

Chieftan[redacted] and J
Rate
1,000
BBLS
800
600
400
200
0
78
80
82
Years
30,000
MCF
24,000
18,000
12,000
6,000
0

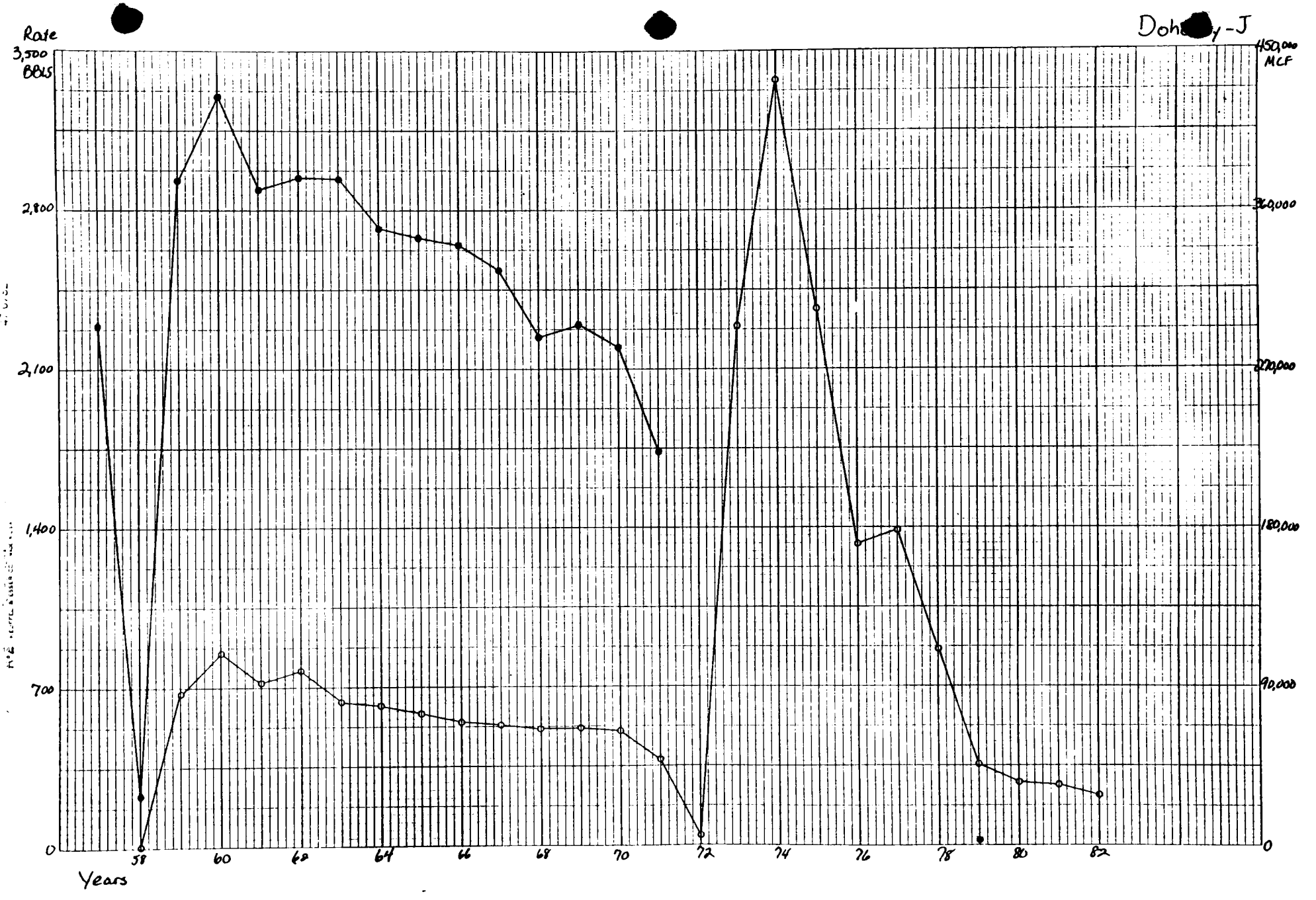

Rate
Cougar - D and J
5,000
BBLS
4,000
3,000
2,000
1,000
0
82
Years


Rate
1,000
BBLS
800
600
400
200
0
100,000
MCF
96,000
72,000
48,000
24,000
0
74
76
78
80
82
Years
NO
OIL
PROD
1979


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


Deer Trail - J
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
P and A
3/79

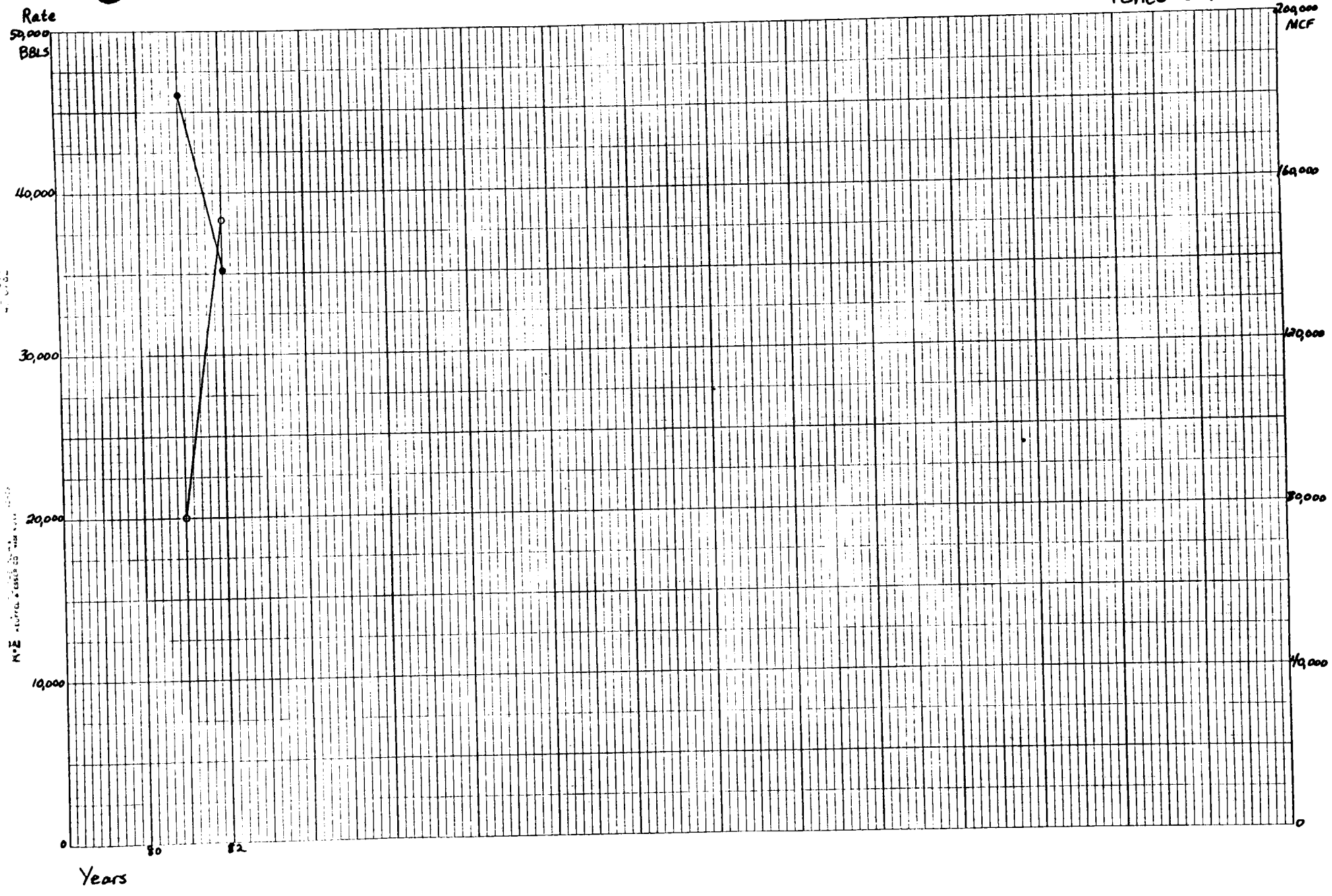

Rate
3,500
BBLS
2,800
2,100
1,400
700
0
1150,000
MCF
360,000
270,000
180,000
90,000
0
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

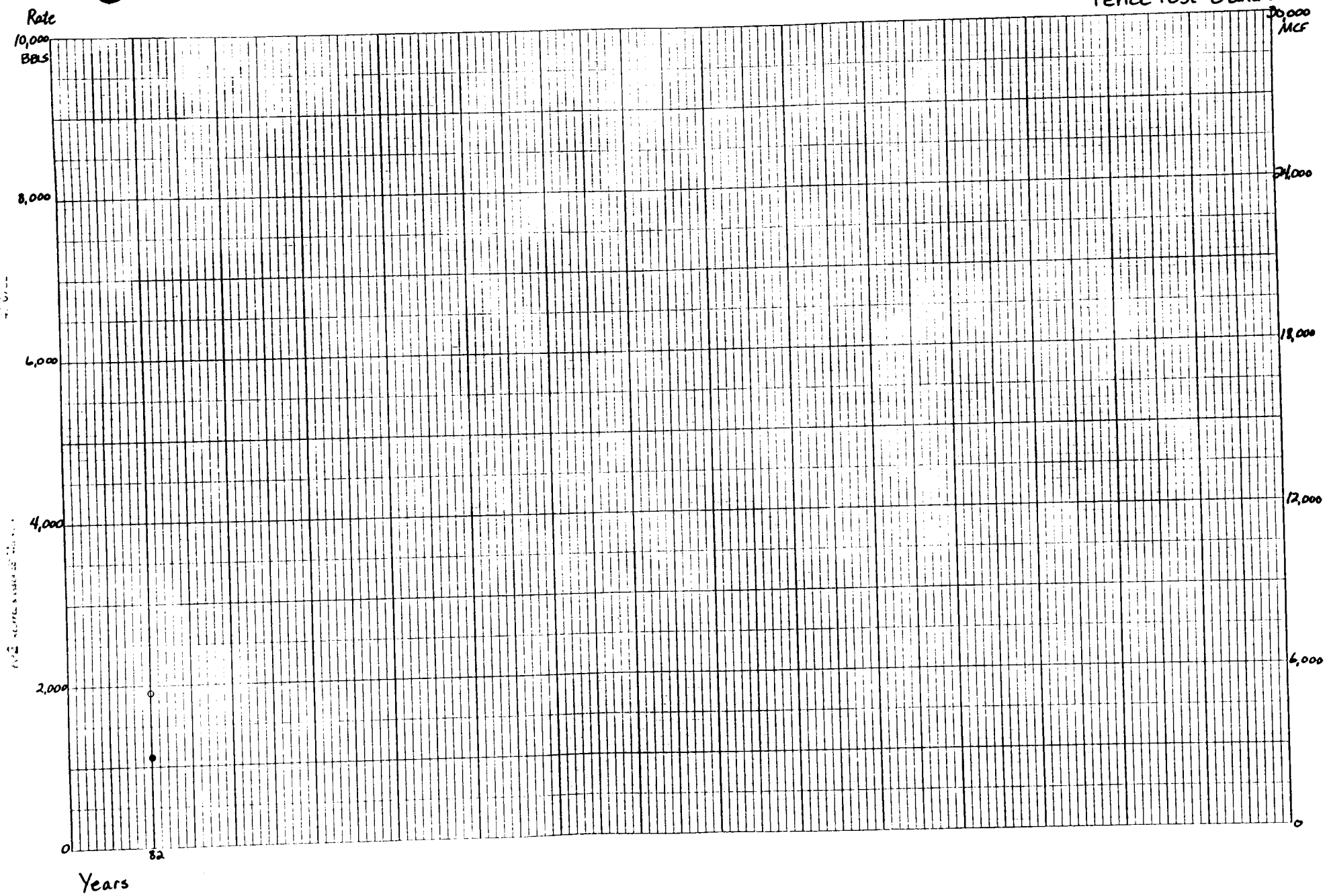

Double Eagle-D
Rate
20,000
BBLS
16,000
12,000
8,000
4,000
0
24,000
MCF
18,000
12,000
6,000
0
74
76
78
80
82
Years

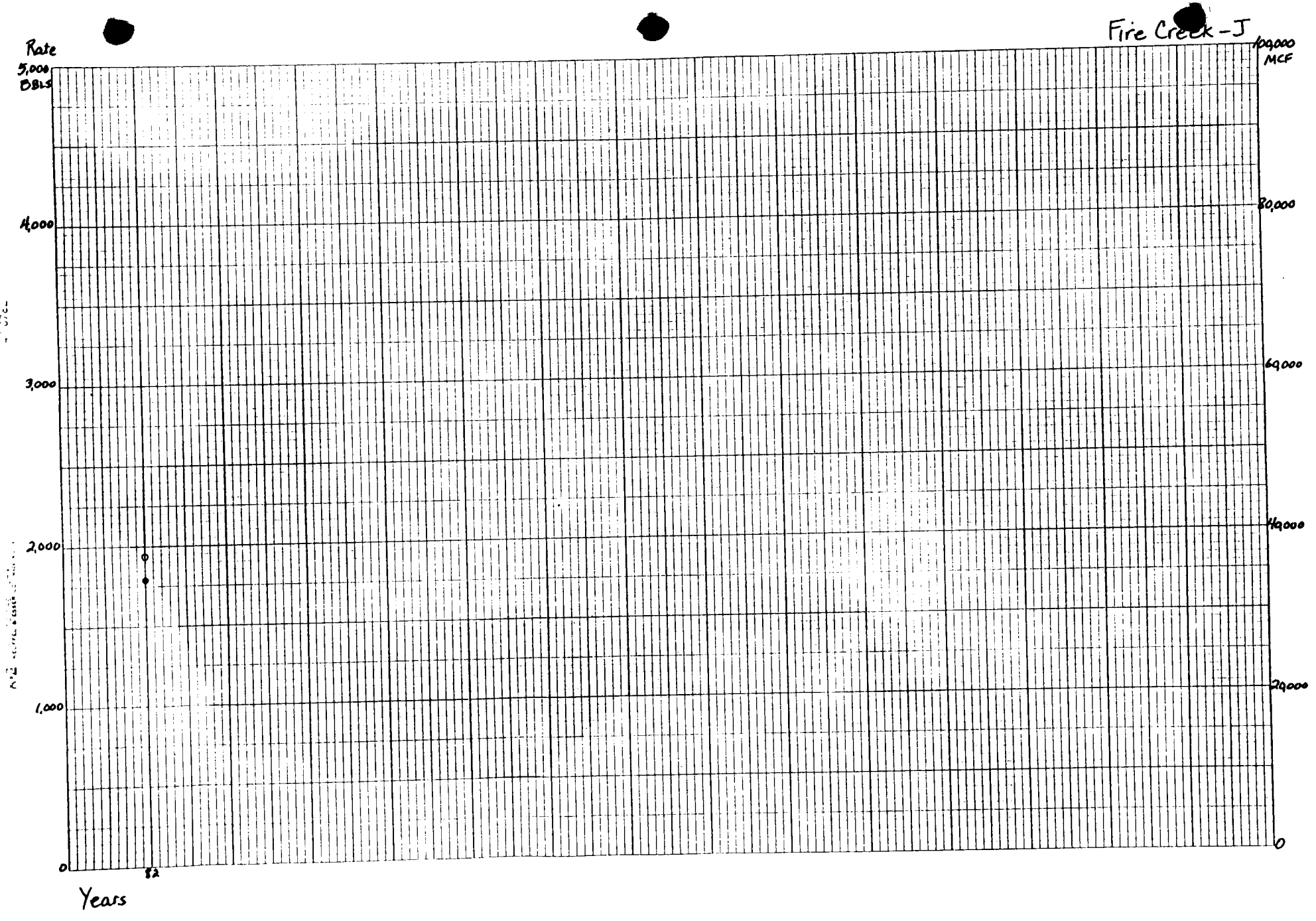
Egret-D

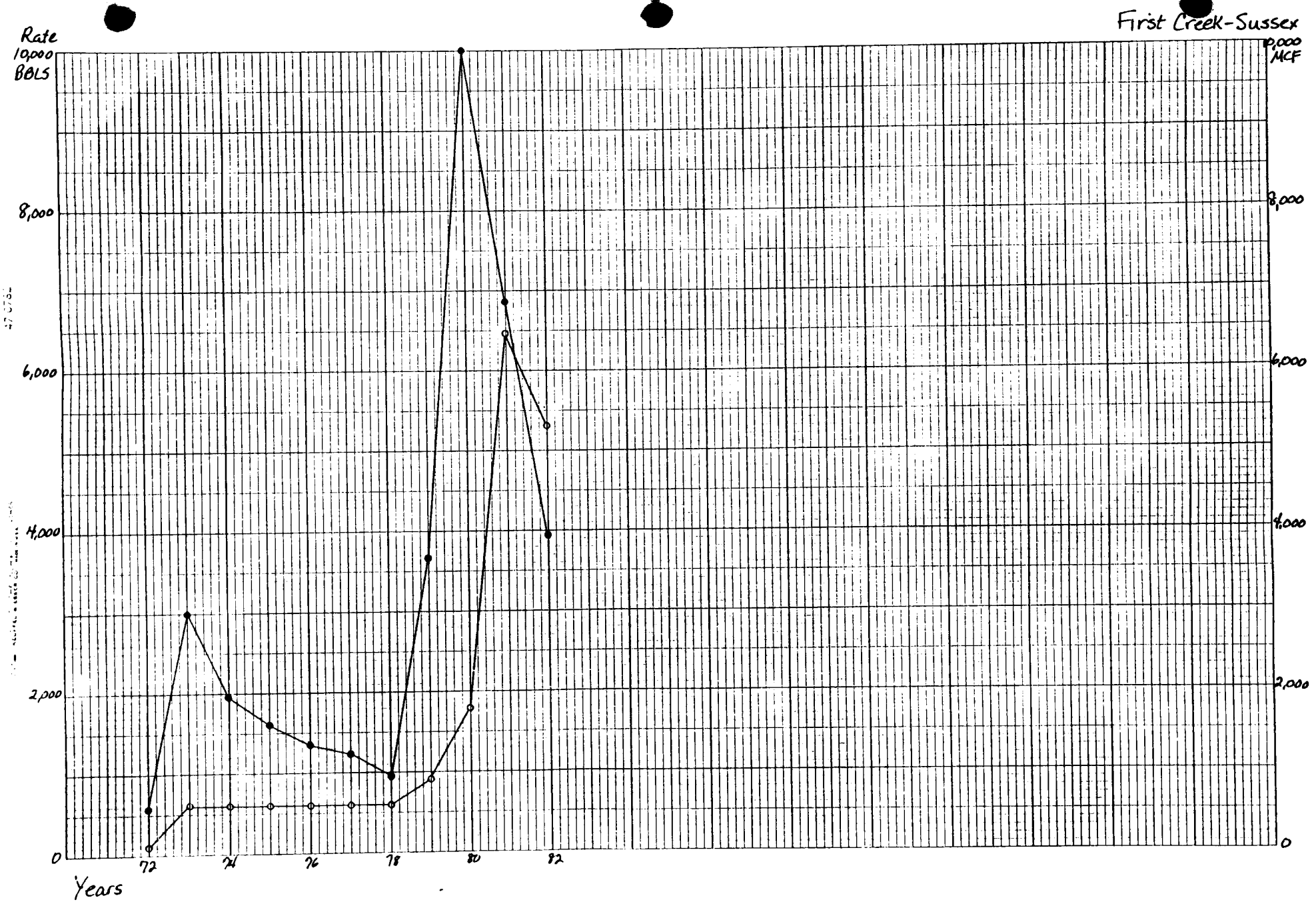

Rate
10,000
BBLS
8,000
6,000
4,000
2,000
0
100,000
MCF
80,000
60,000
40,000
20,000
0
Years

Fence Post - D

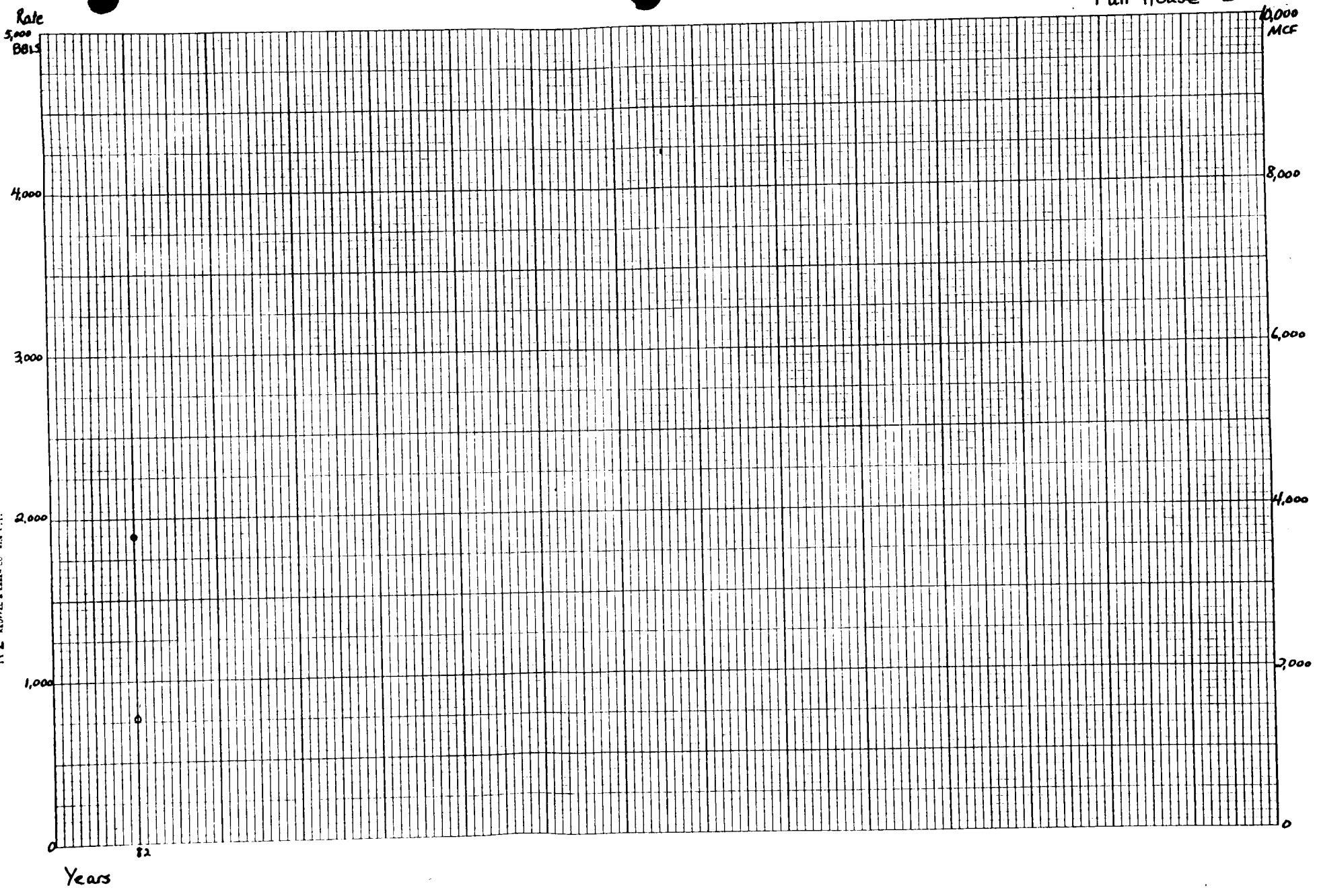

Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
80
82
Years

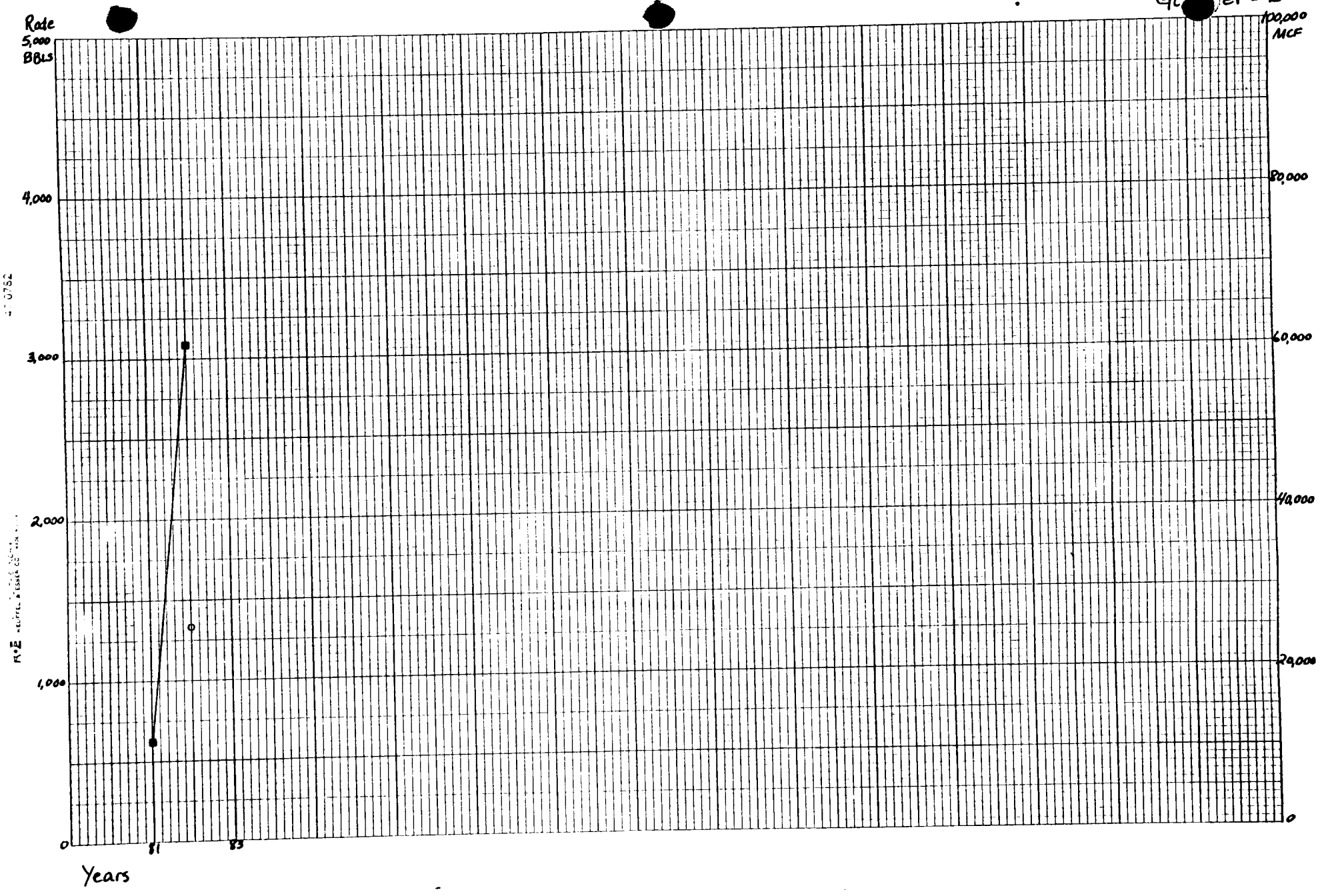

Fence Post-D and J
Rate
10,000
BBLS
8,000
6,000
4,000
2,000
0
82
Years
30,000
MCF
24,000
18,000
12,000
6,000
0

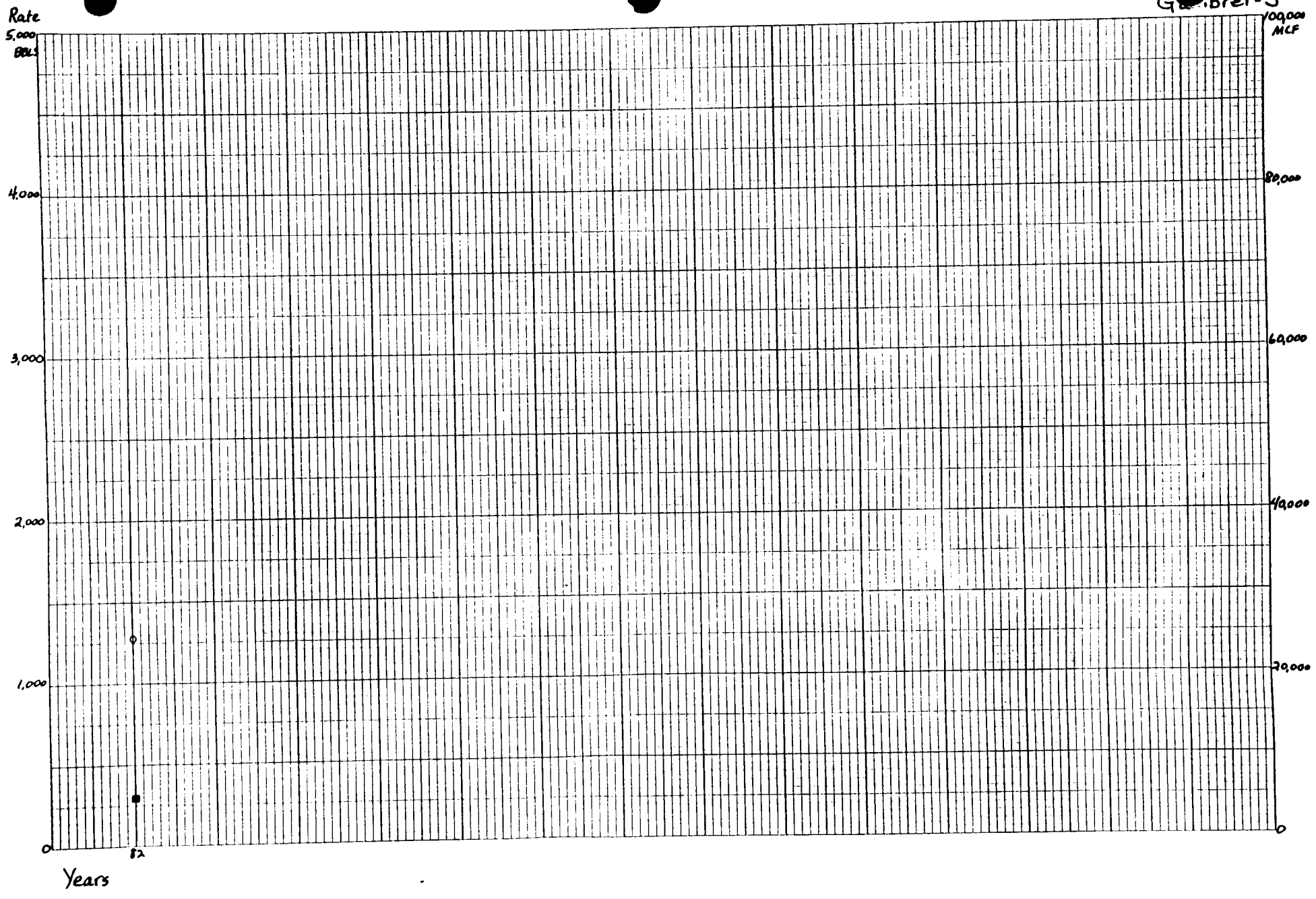

Fire Creek - J
Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
100,000 MCF
80,000
60,000
40,000
20,000
0
82
Years

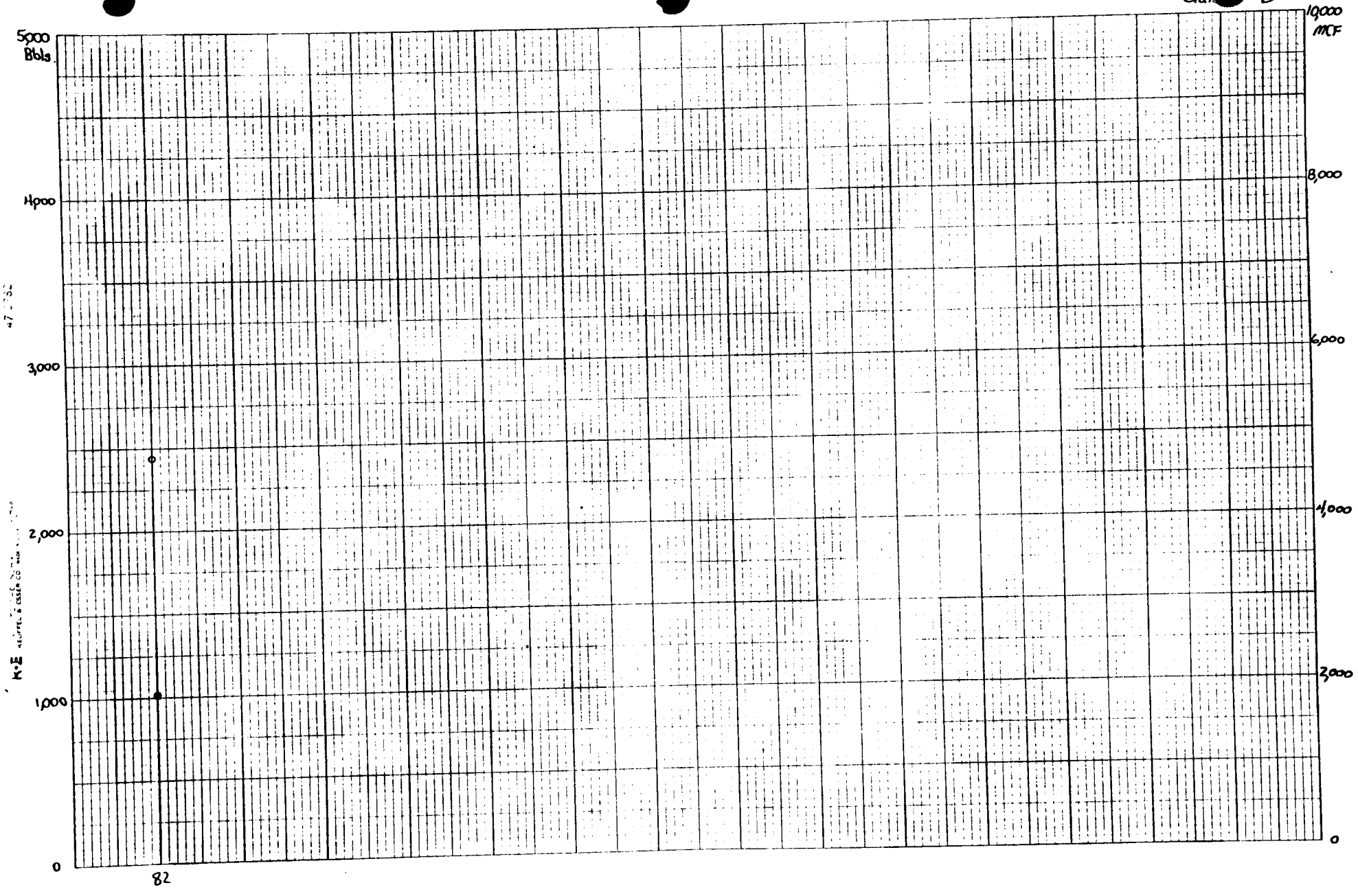

First Creek-Sussex
Rate
10,000
BBLS
8,000
6,000
4,000
2,000
0
10,000
MCF
8,000
6,000
4,000
2,000
0
72
74
76
78
80
82
Years

Full House-D

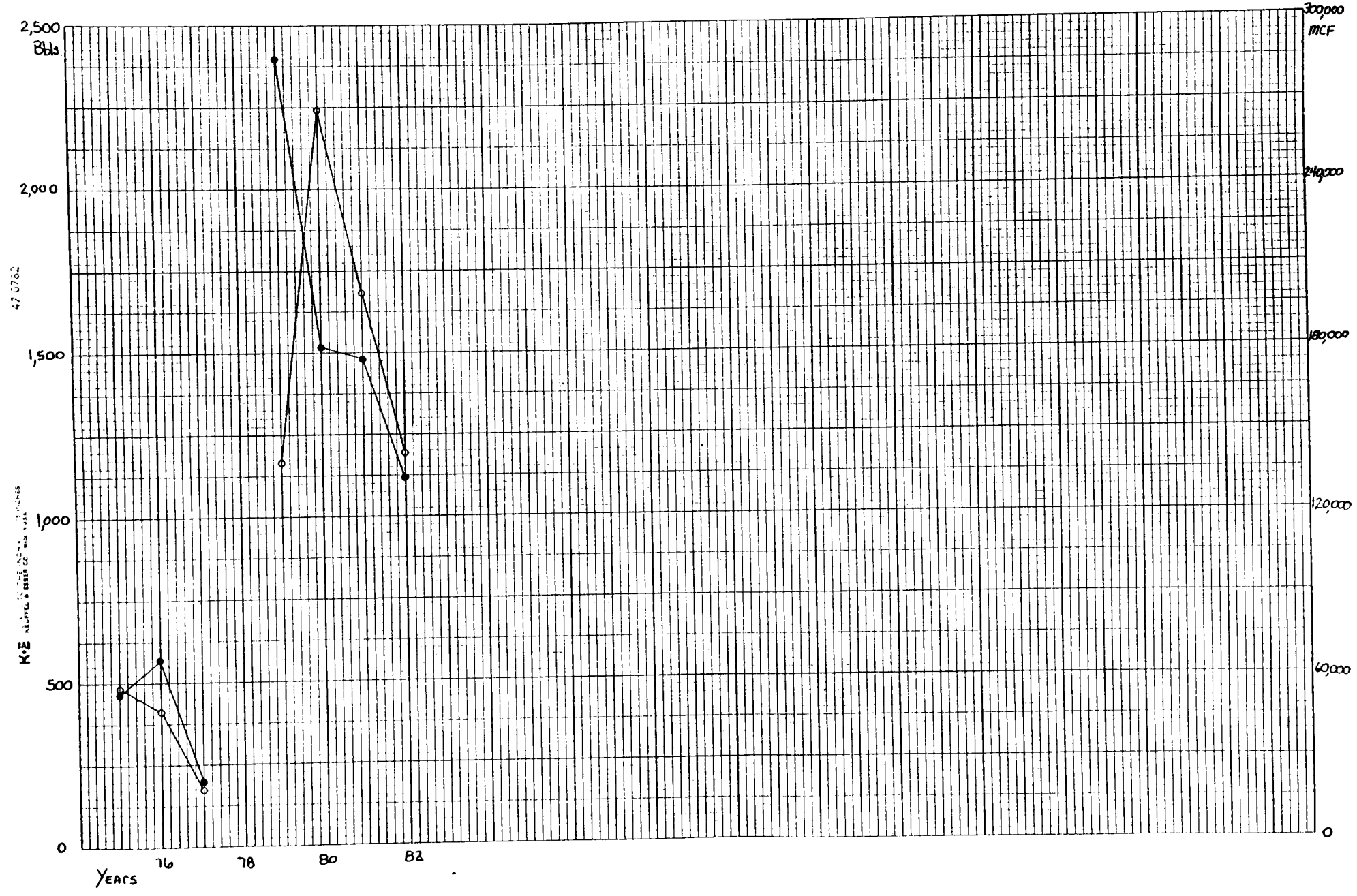

Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
10,000
MCF
8,000
6,000
4,000
2,000
0
$2
Years


Gc ler-D
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

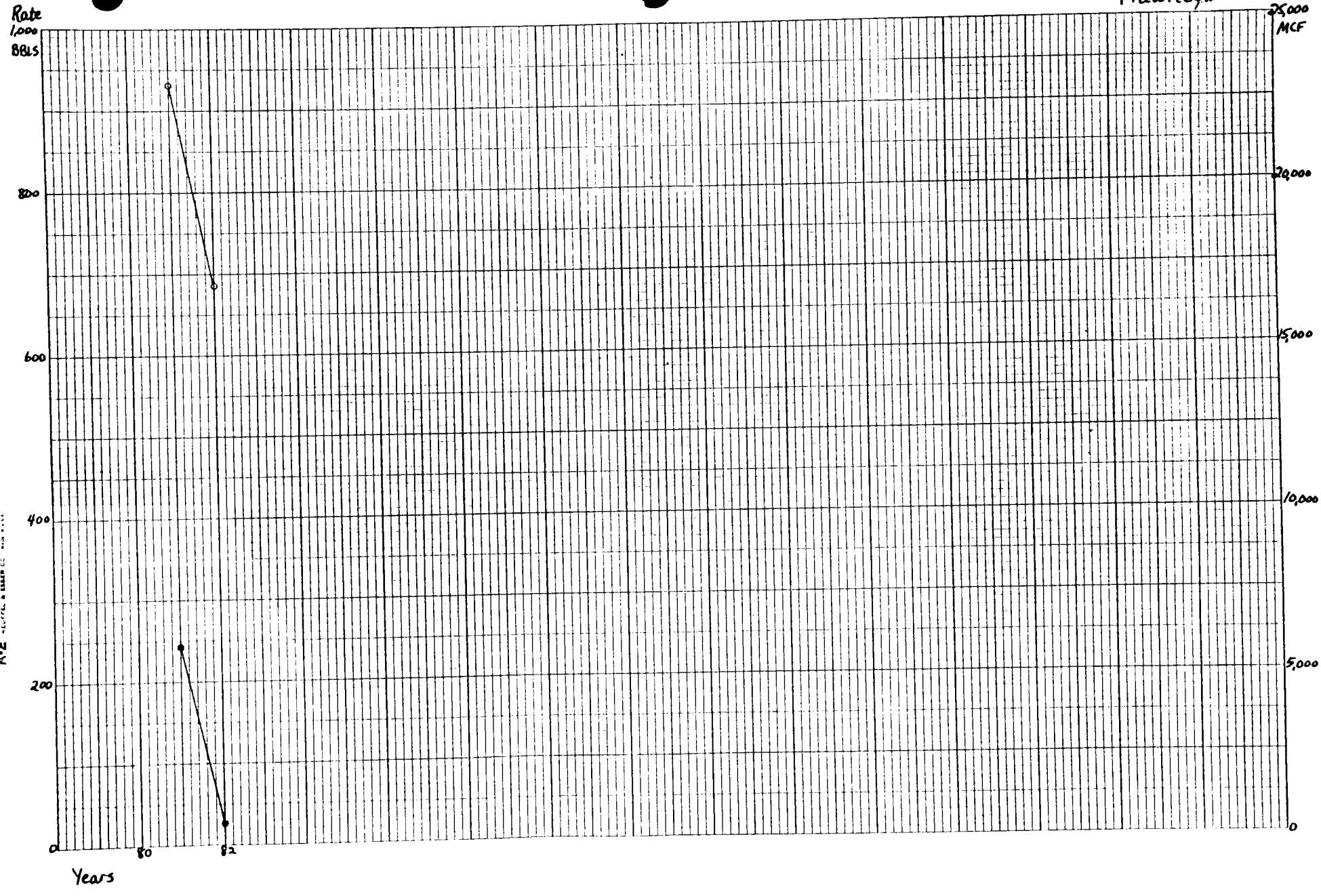

Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
100,000 MCF
80,000
60,000
40,000
20,000
0
82
Years

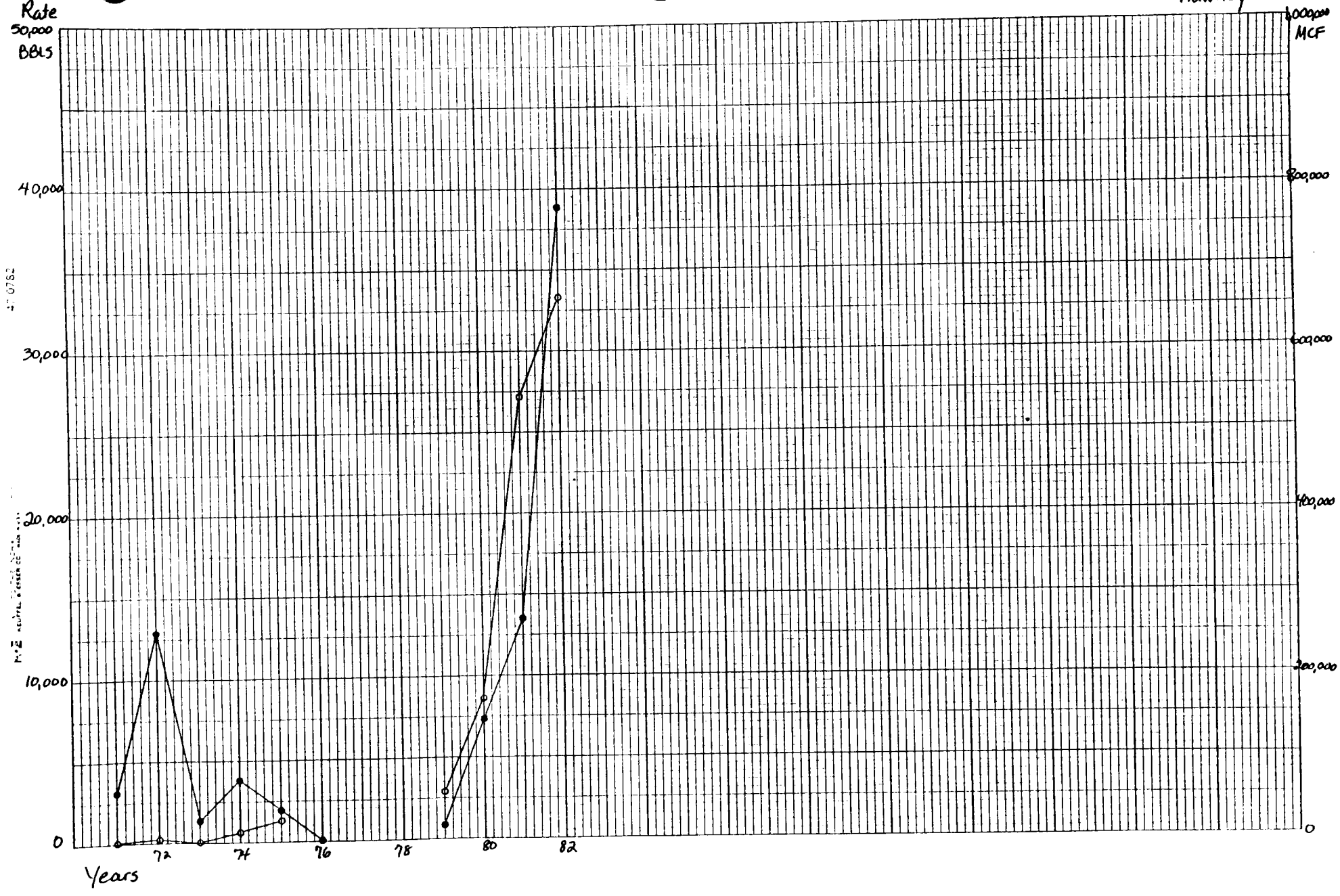

5000
Bbls
4000
3000
2000
1000
0
82
10,000
MCF
8,000
6,000
4,000
2,000
0

Gurdon - J

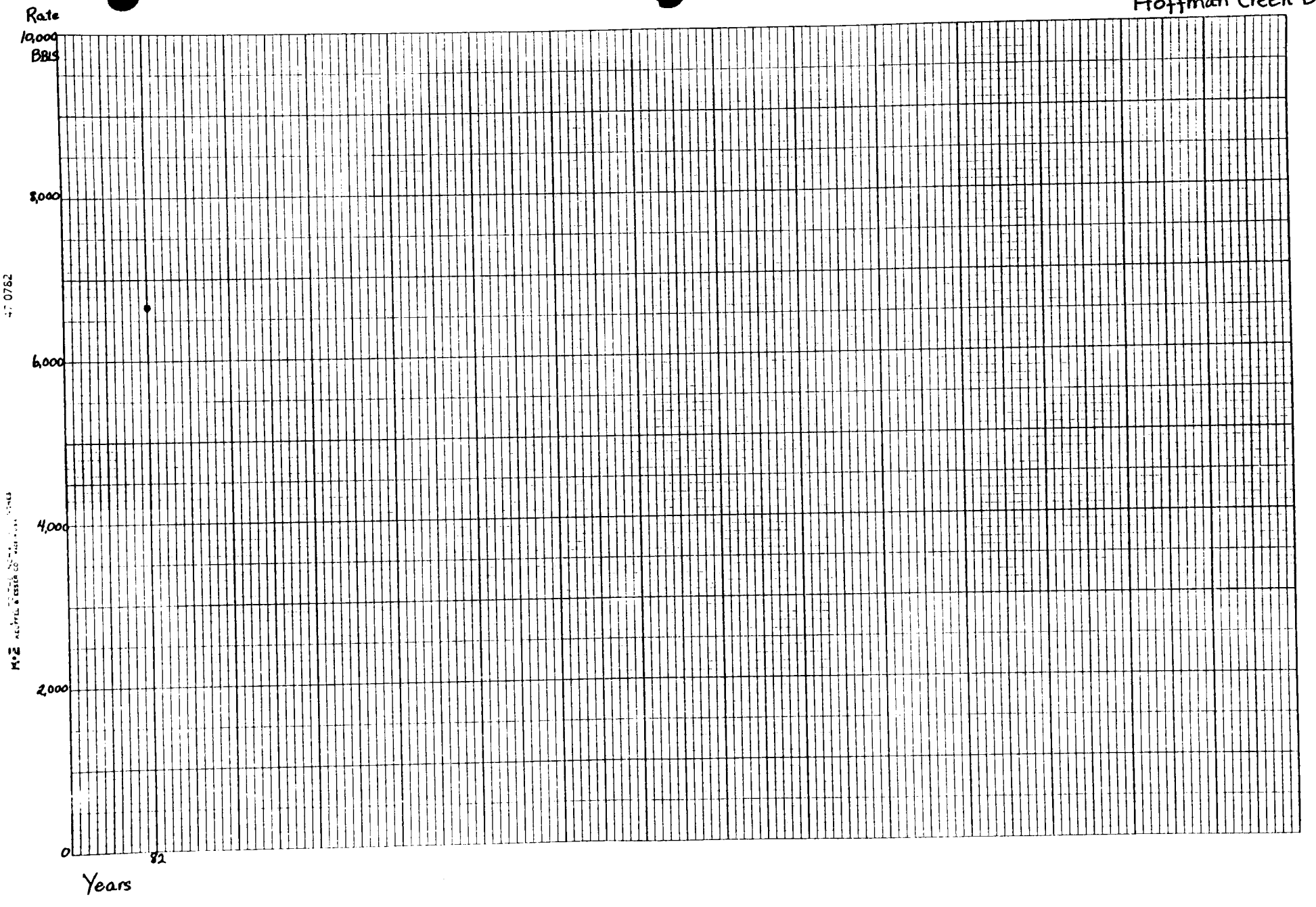

2,500
Bbls
2,000
1,500
1,000
500
0
300,000
MCF
240,000
180,000
120,000
60,000
0
76
78
80
82
YEARS

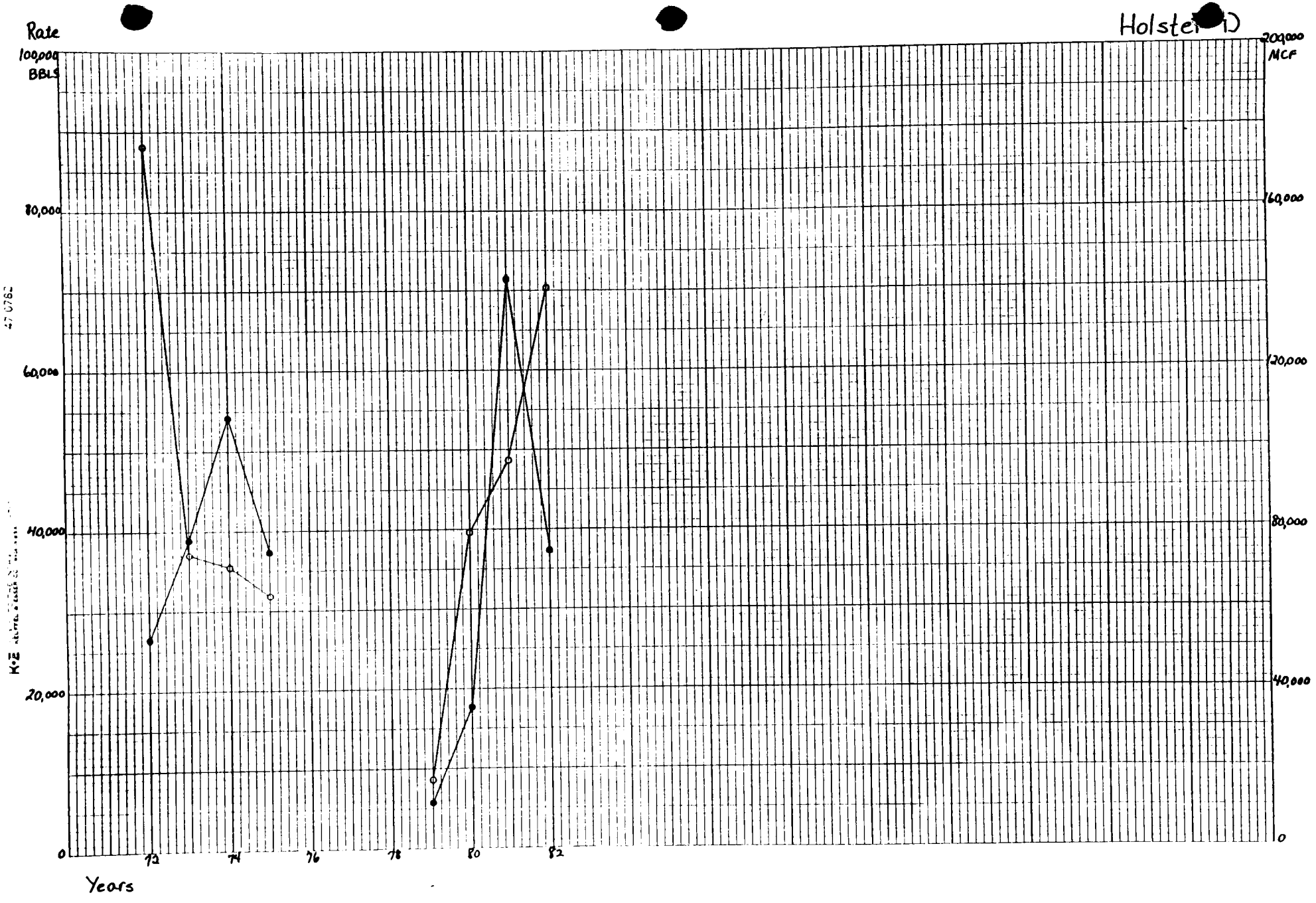
Hawke[illegible]-D

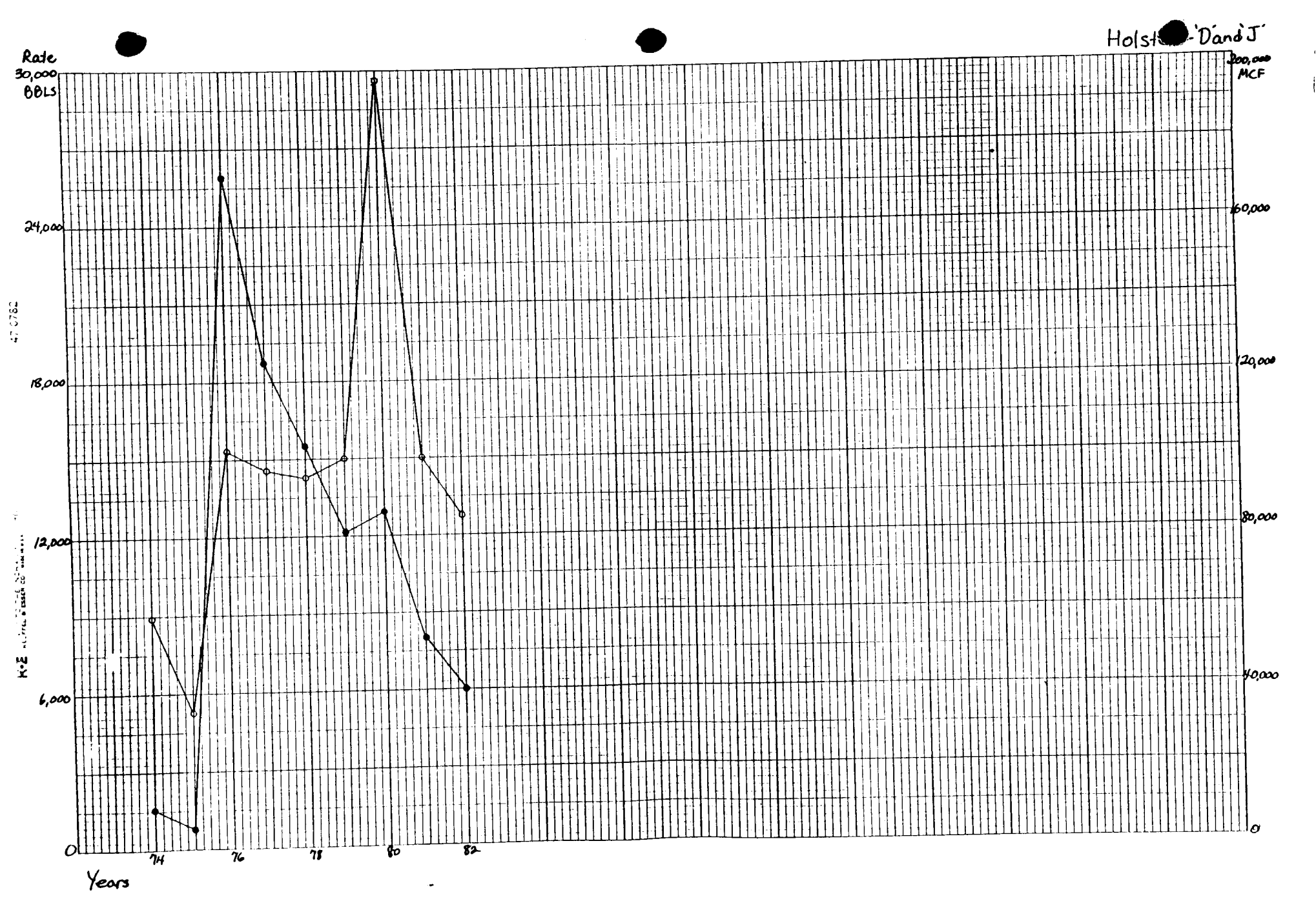

Rate
1,000
BBLS
800
600
400
200
0
80
82
Years
25,000
MCF
20,000
15,000
10,000
5,000
0

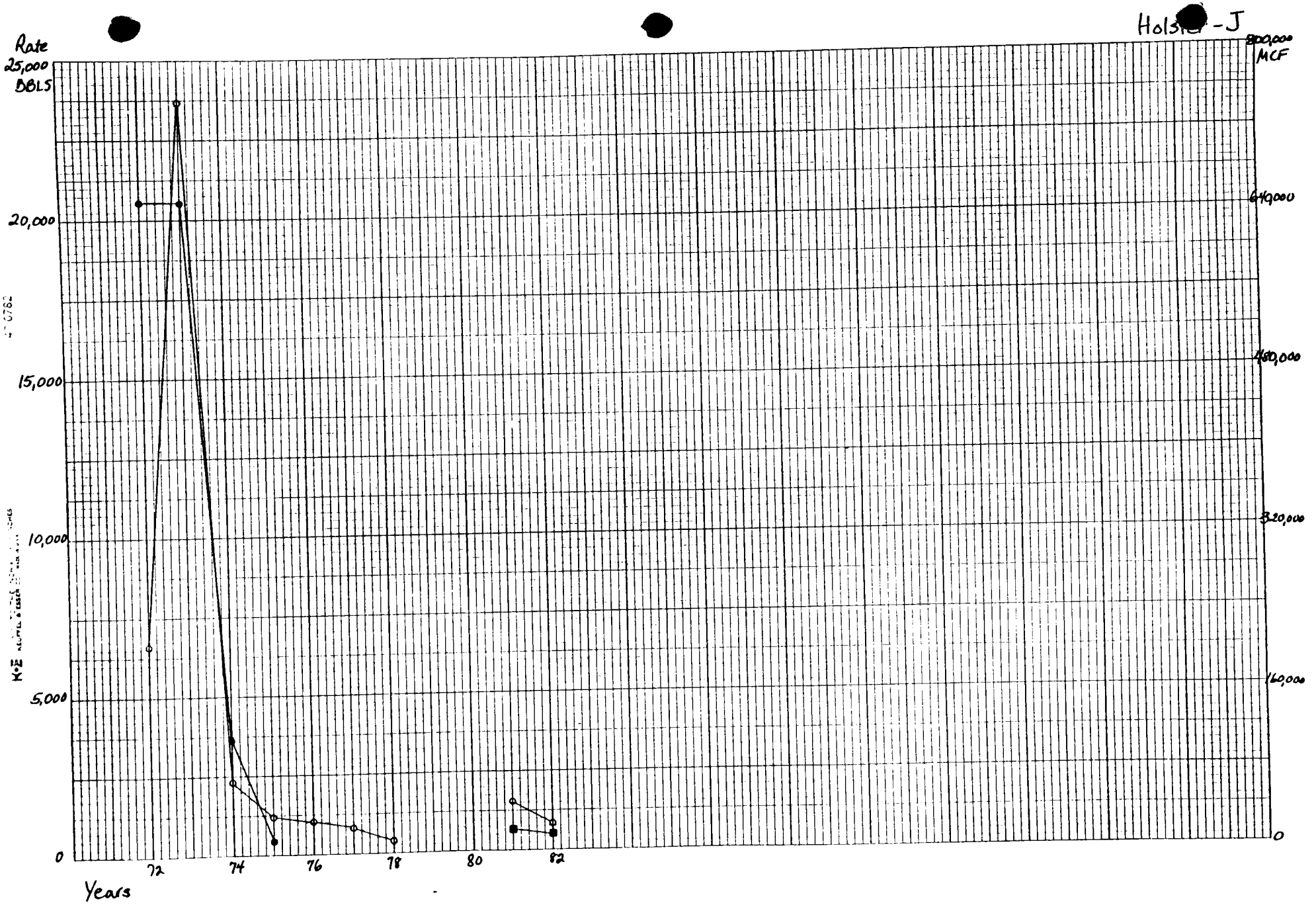

Hawkeye - J
Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
1,000,000
MCF
800,000
600,000
400,000
200,000
0
72
74
76
78
80
82
Years

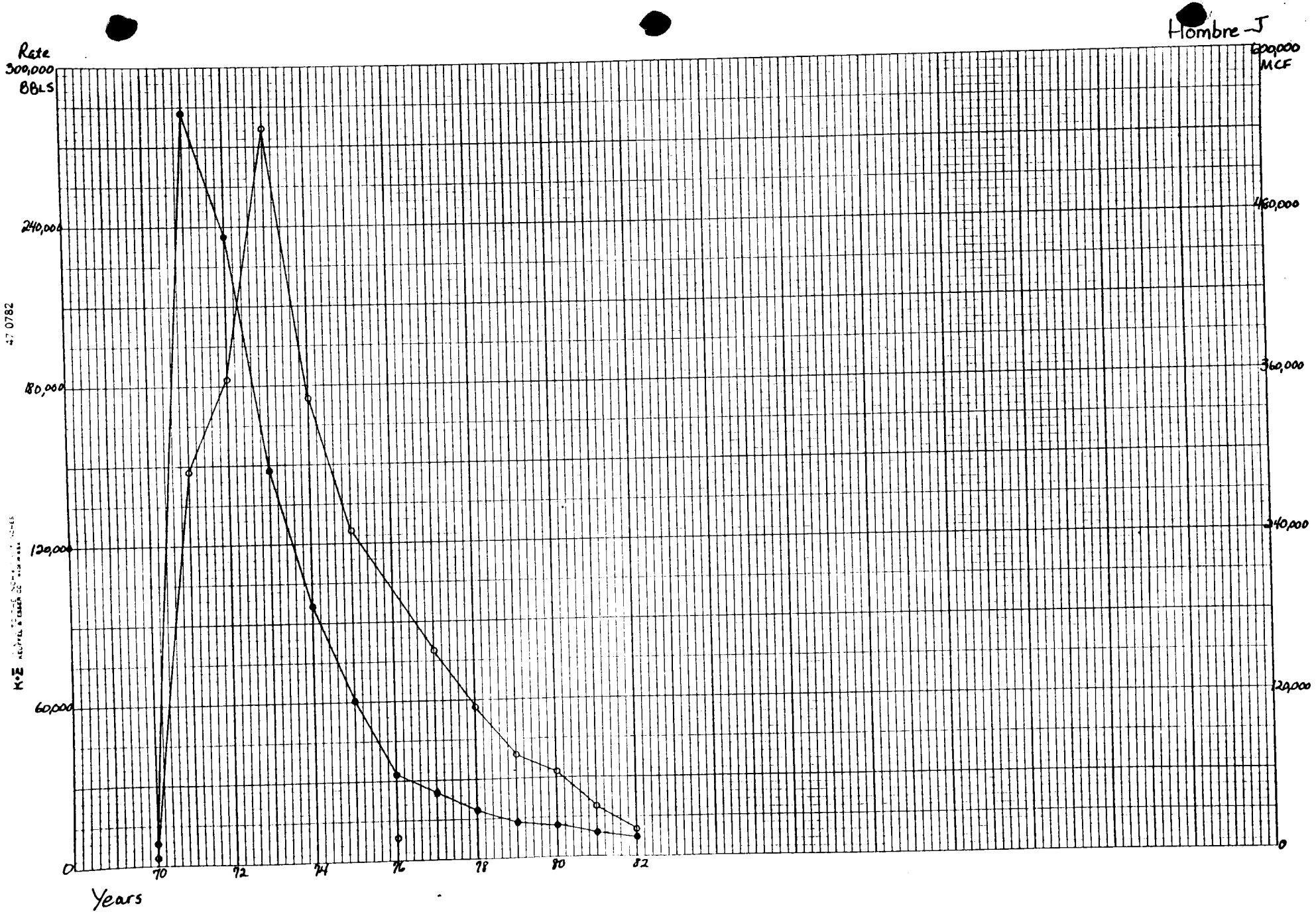
Hoffman Creek-D

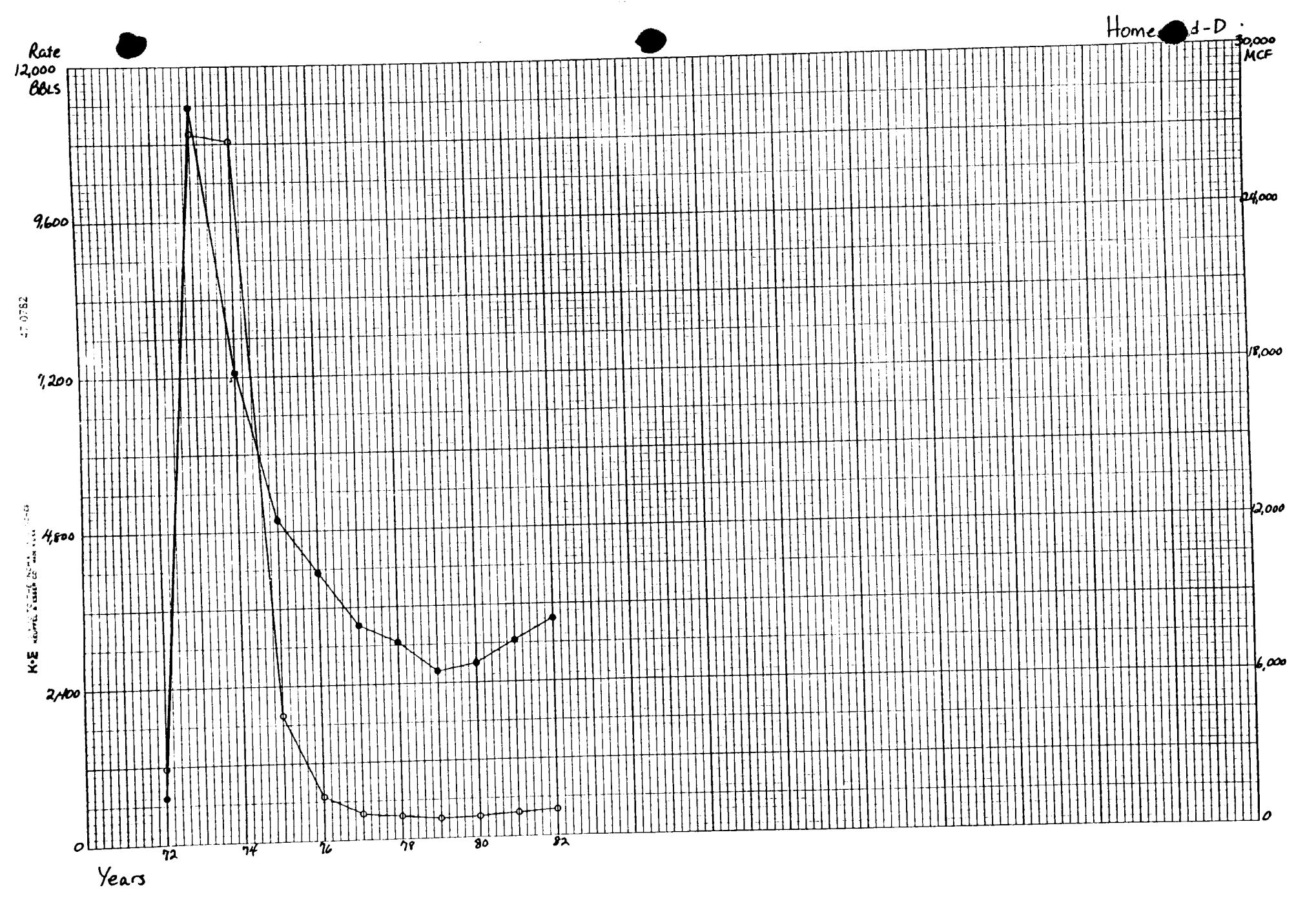


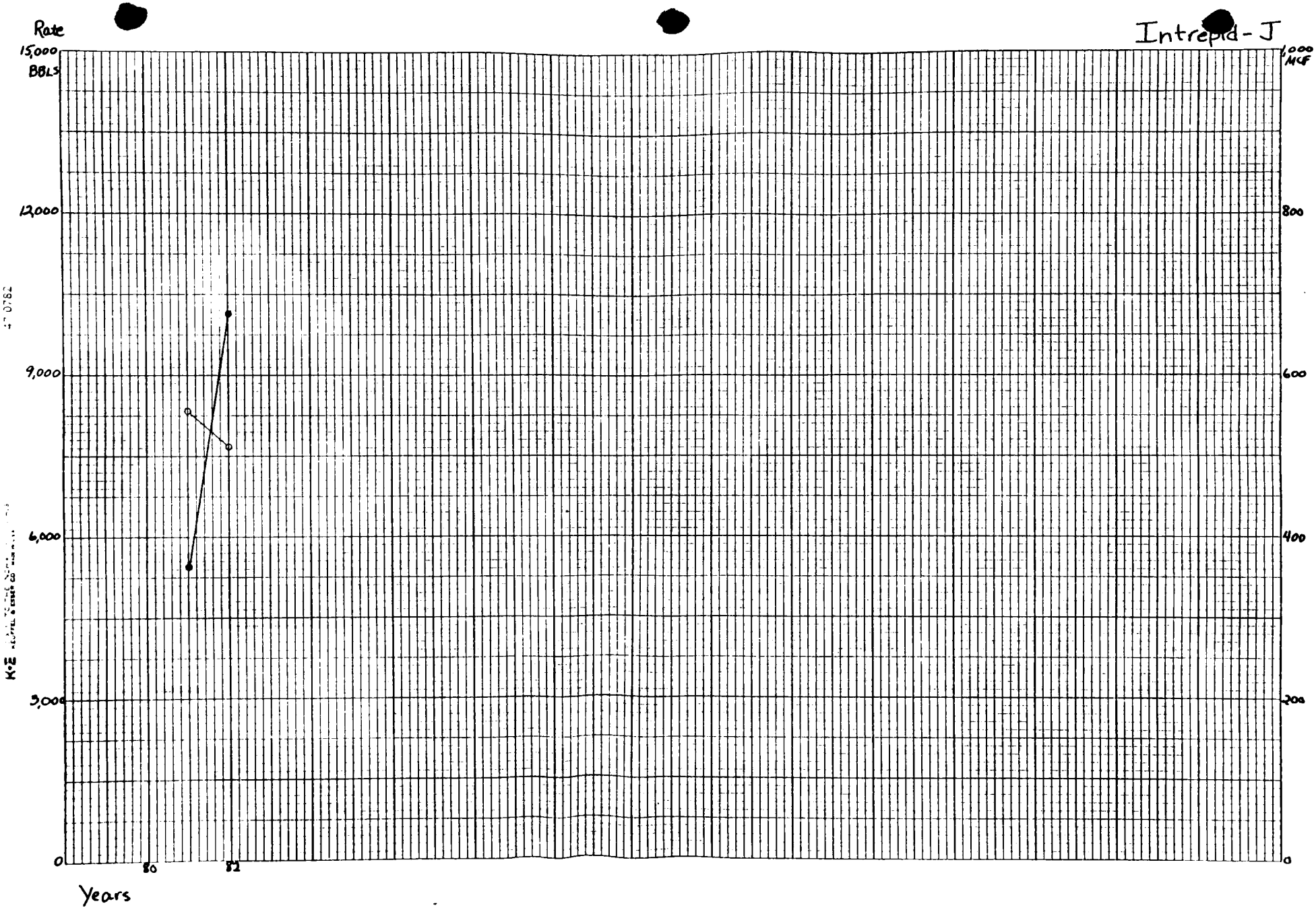

Rate
100,000
BBLS
80,000
60,000
40,000
20,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
72
74
76
78
80
82
Years

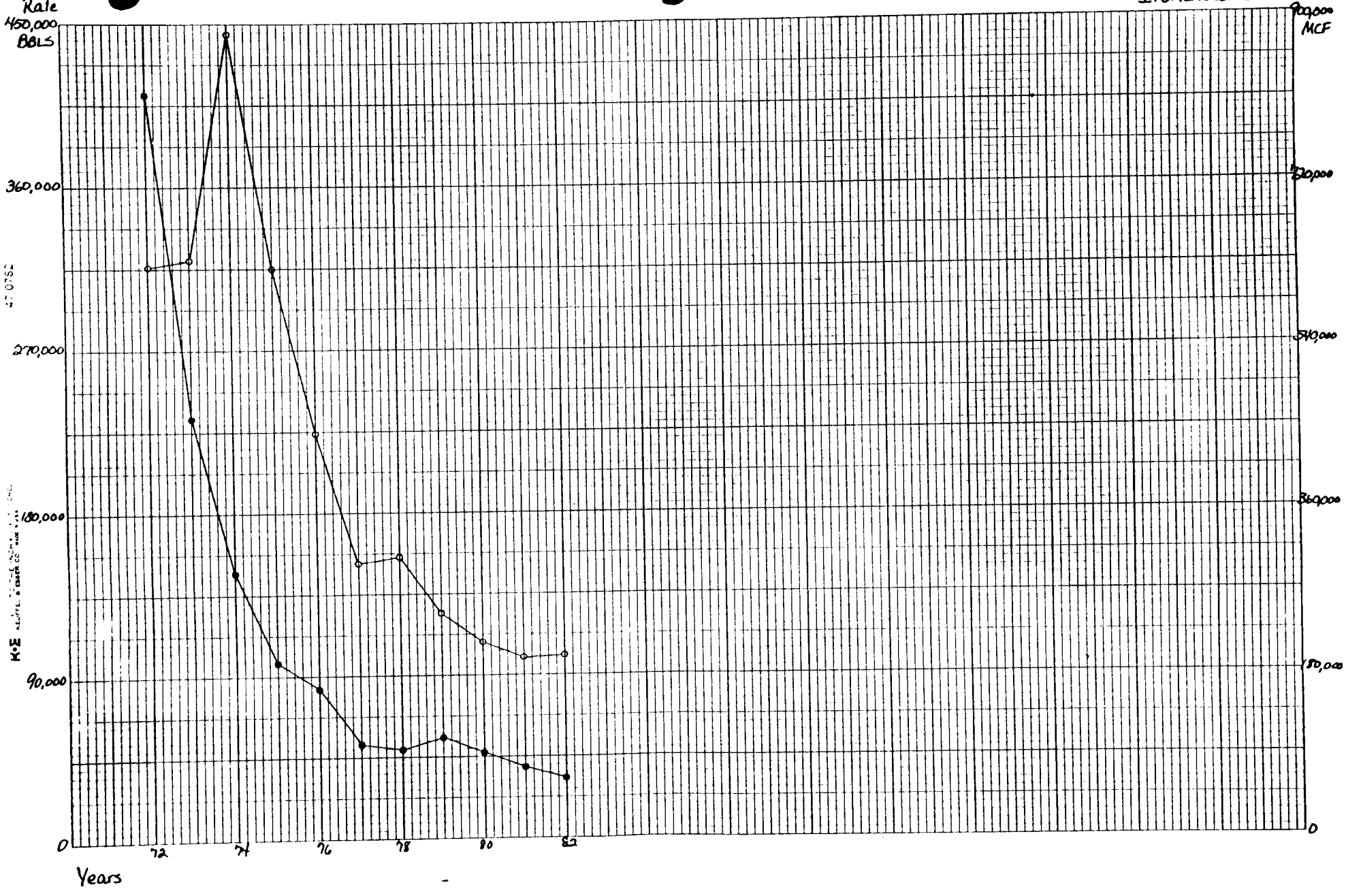

Holst[redacted]-'D and J'
Rate
30,000
BBLS
24,000
18,000
12,000
6,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
74
76
78
80
82
Years

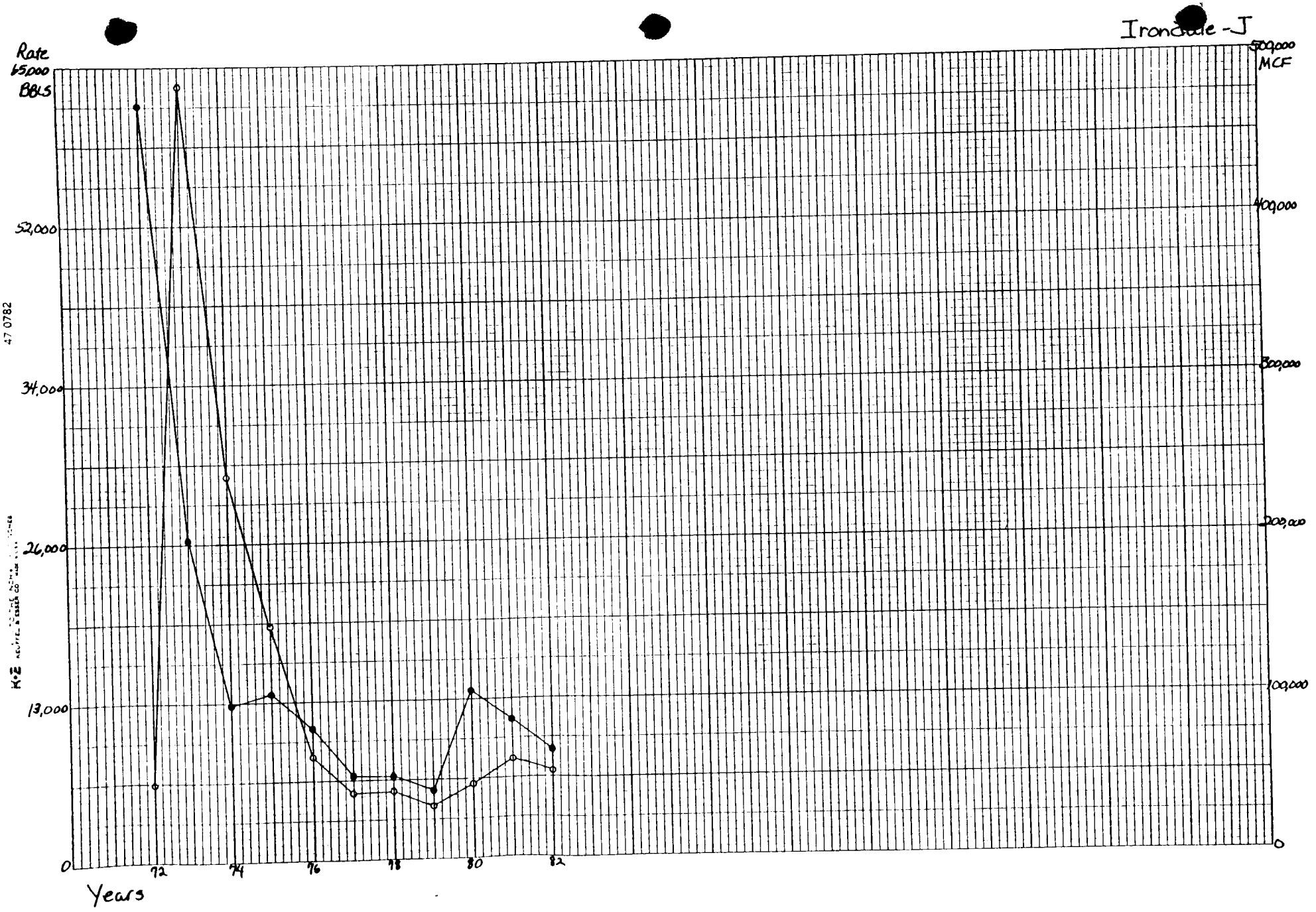

Holst -J
Rate
25,000
BBLS
20,000
15,000
10,000
5,000
0
300,000
MCF
240,000
160,000
80,000
0
72
74
76
78
80
82
Years

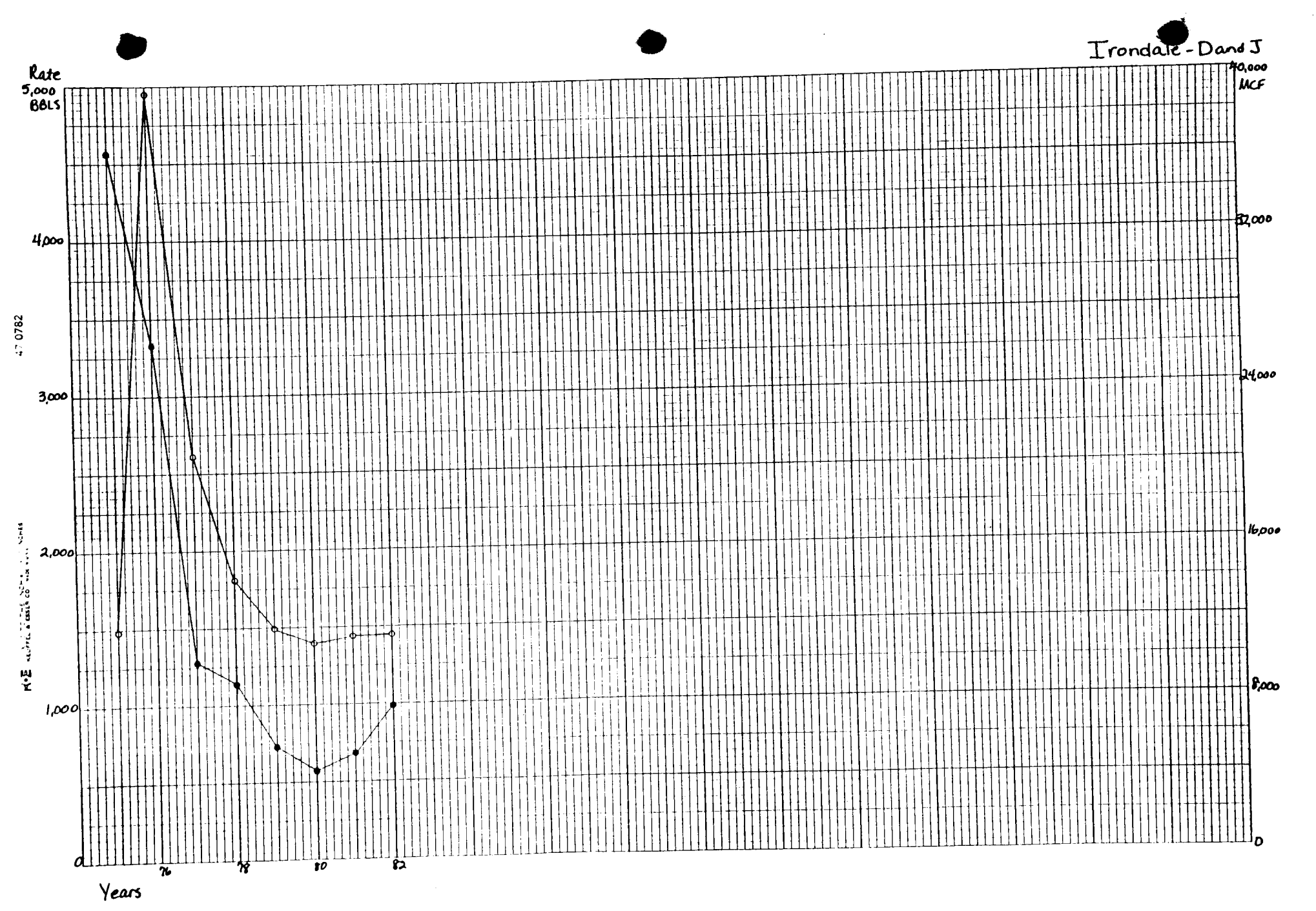

Hombre-J
Rate
300,000
BBLS
240,000
180,000
120,000
60,000
0
600,000
MCF
480,000
360,000
240,000
120,000
0
70
72
74
76
78
80
82
Years
47 0782
K&E


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

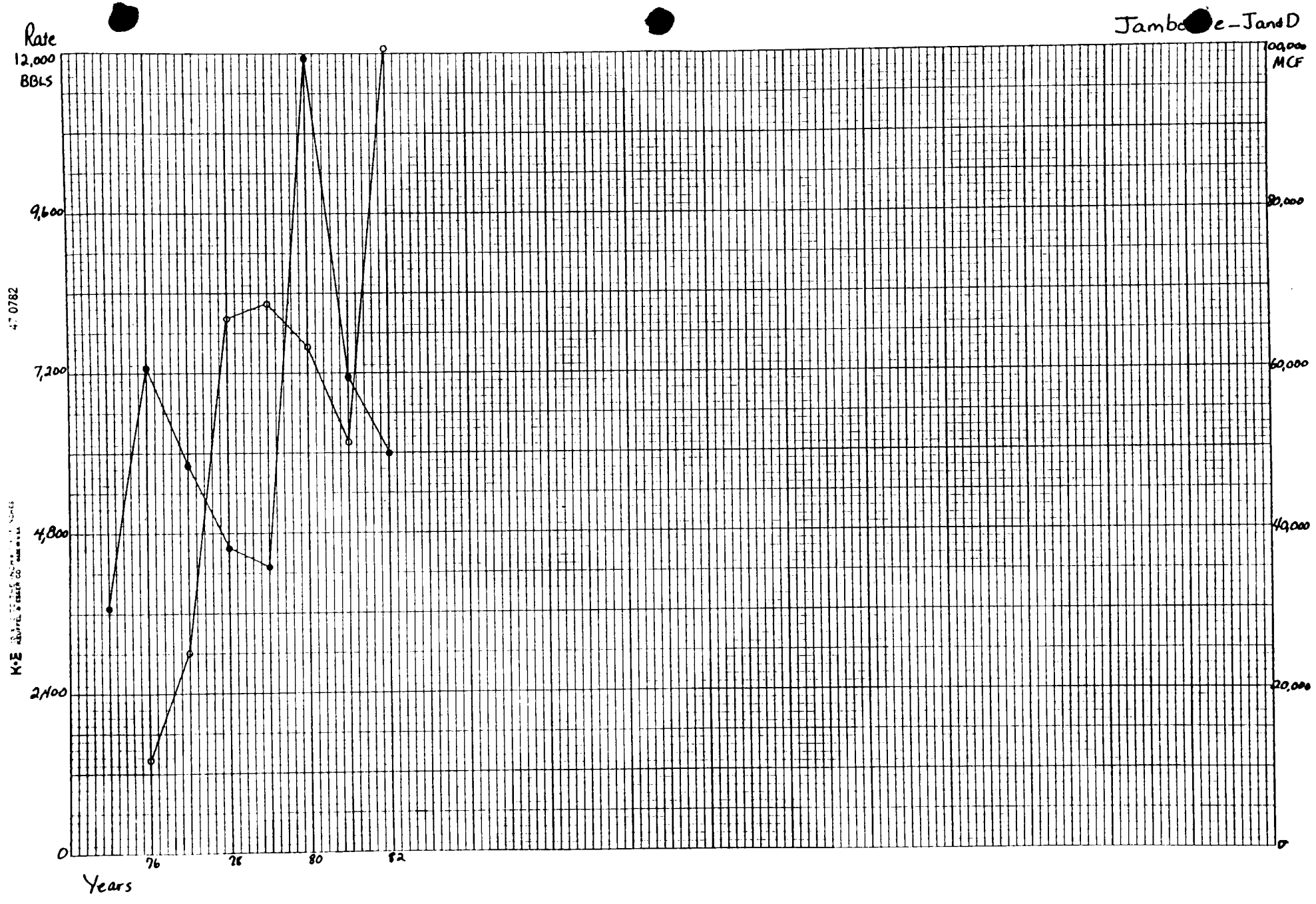

Rate
Intrepid - J
15,000
BBLS
12,000
9,000
6,000
3,000
0
1,000
MCF
800
600
400
200
0
80
81
Years

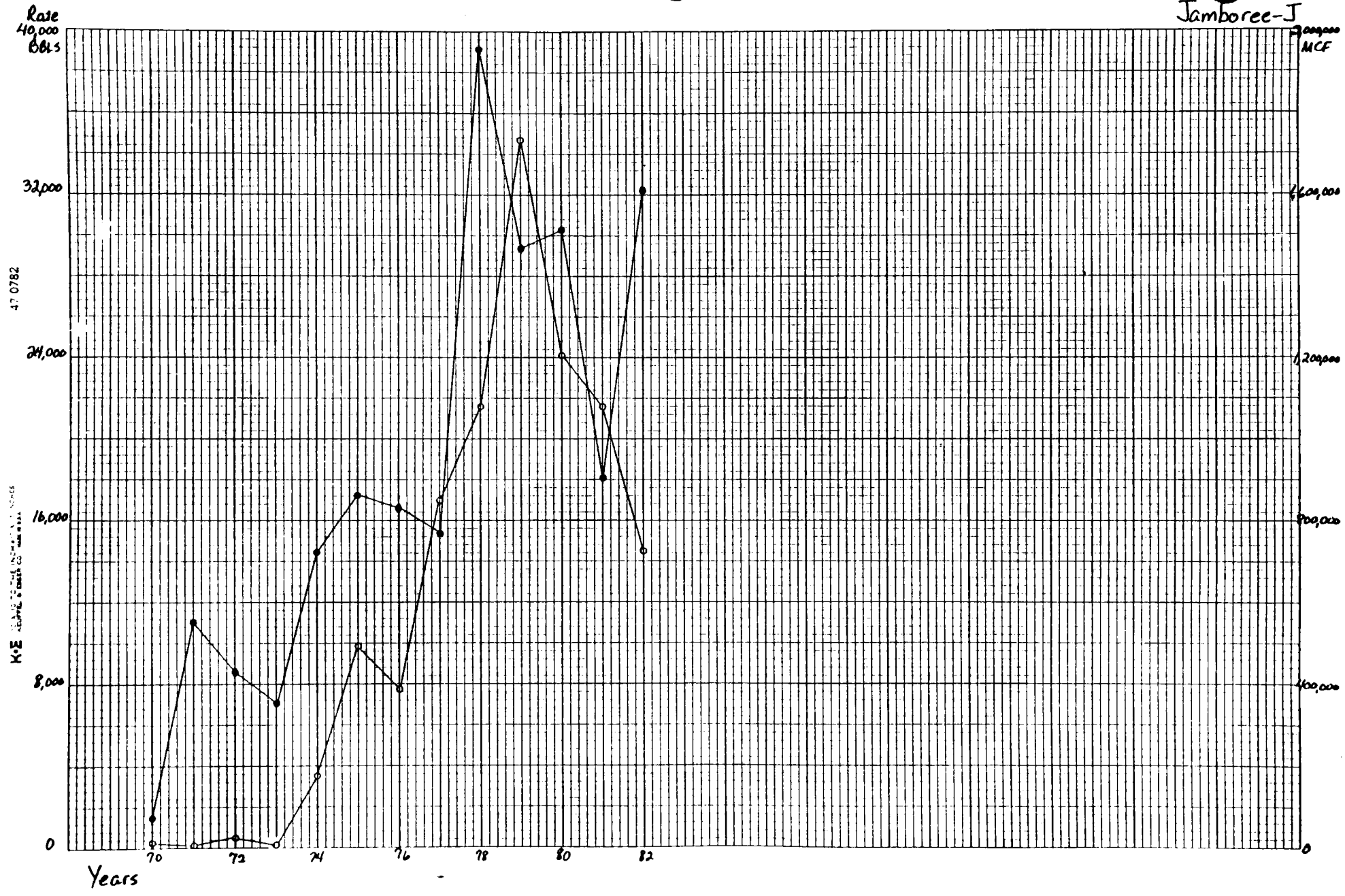

Rate
450,000 BBLS
360,000
270,000
180,000
90,000
0
Irondale D
900,000 MCF
720,000
540,000
360,000
180,000
0
72
74
76
78
80
82
Years

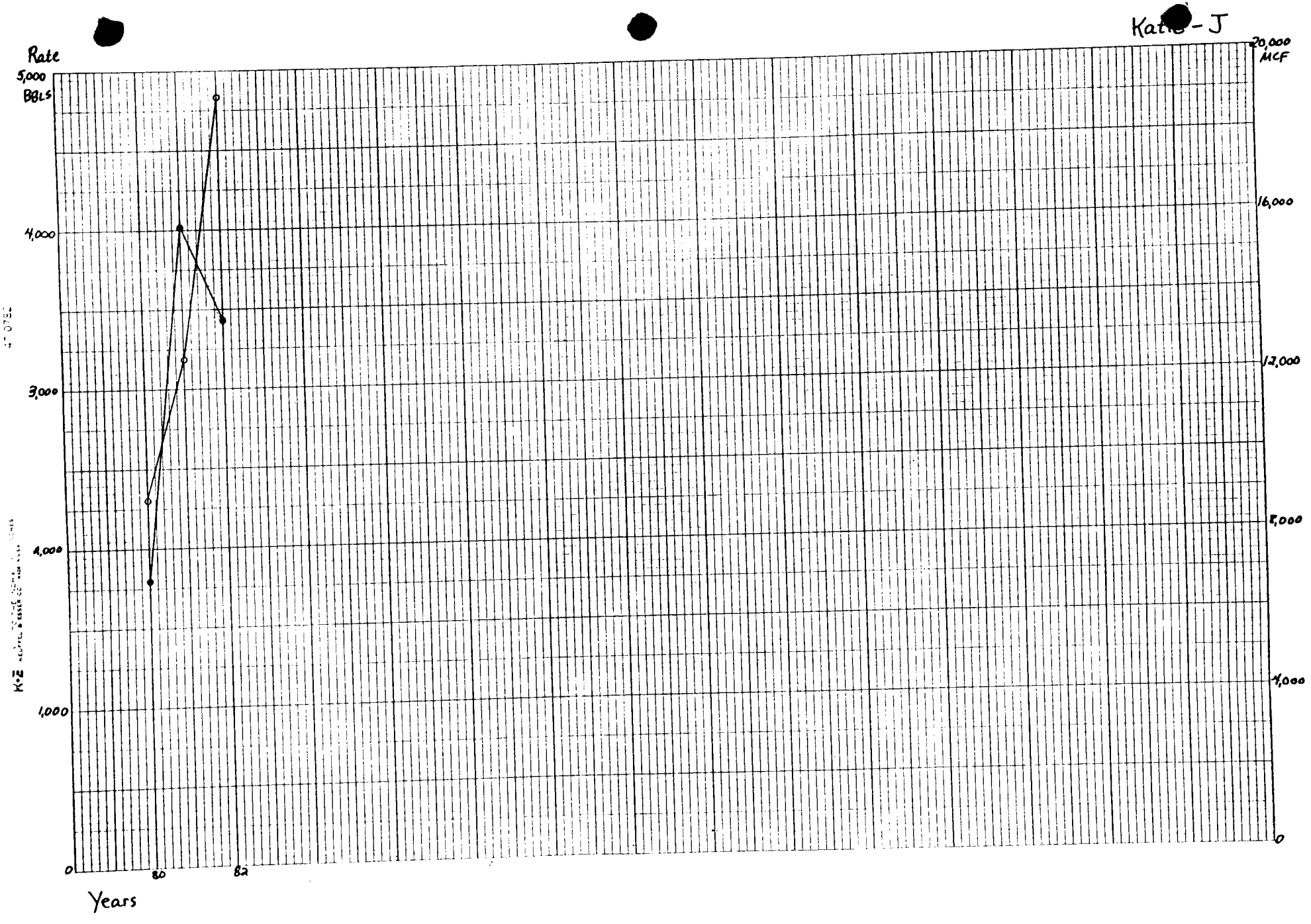

Irondale - J
Rate
65,000
BBLS
52,000
34,000
26,000
13,000
0
500,000
MCF
400,000
300,000
200,000
100,000
0
72
74
76
78
80
82
Years

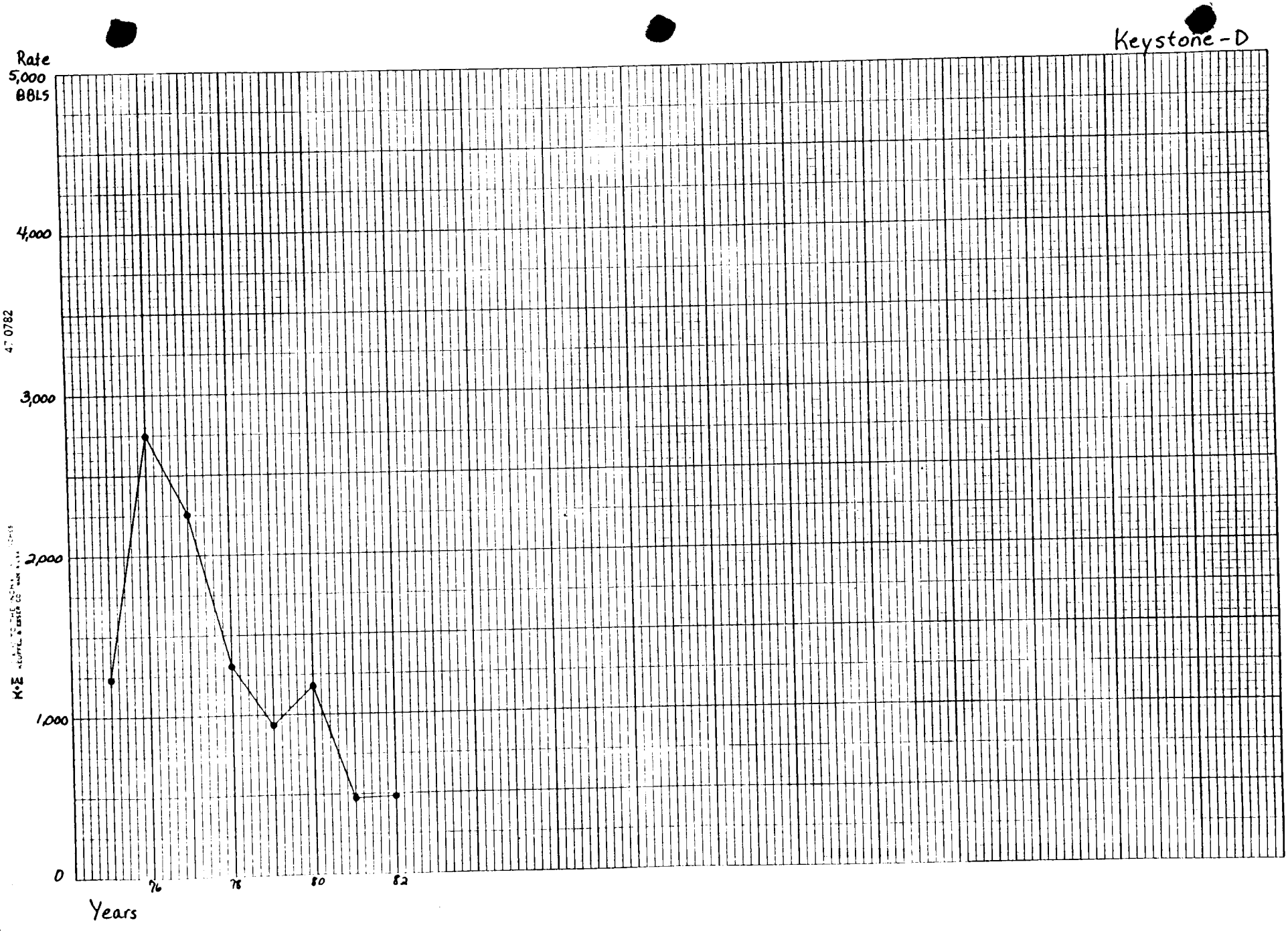

Irondale - Dand J
Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
40,000 MCF
32,000
24,000
16,000
8,000
0
76
78
80
82
Years

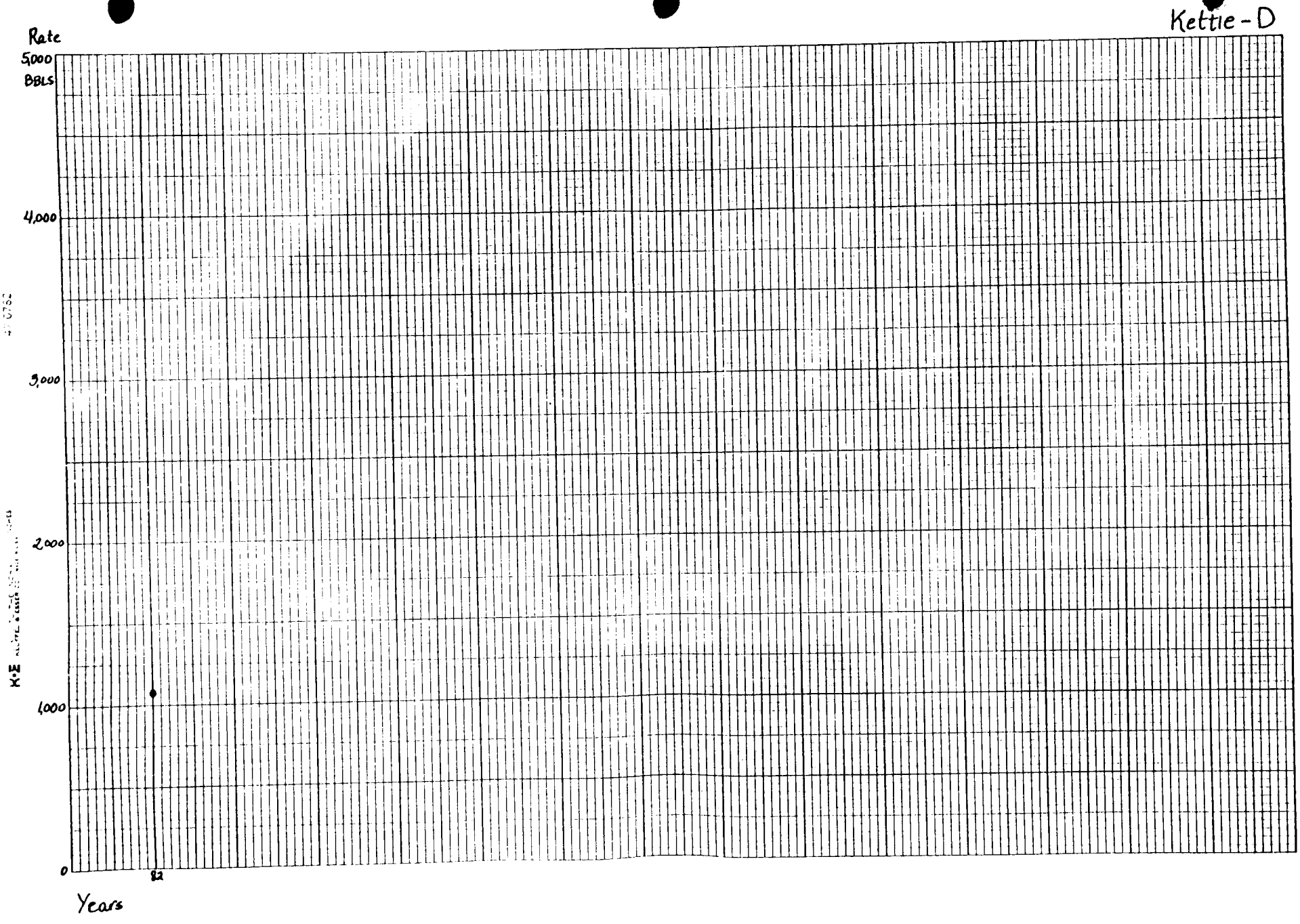

Jambalee-D
Rate
55,000
BBLS
41,000
33,000
22,000
11,000
0
MCF
400,000
320,000
240,000
160,000
80,000
0
70
72
74
76
78
80
82
Years

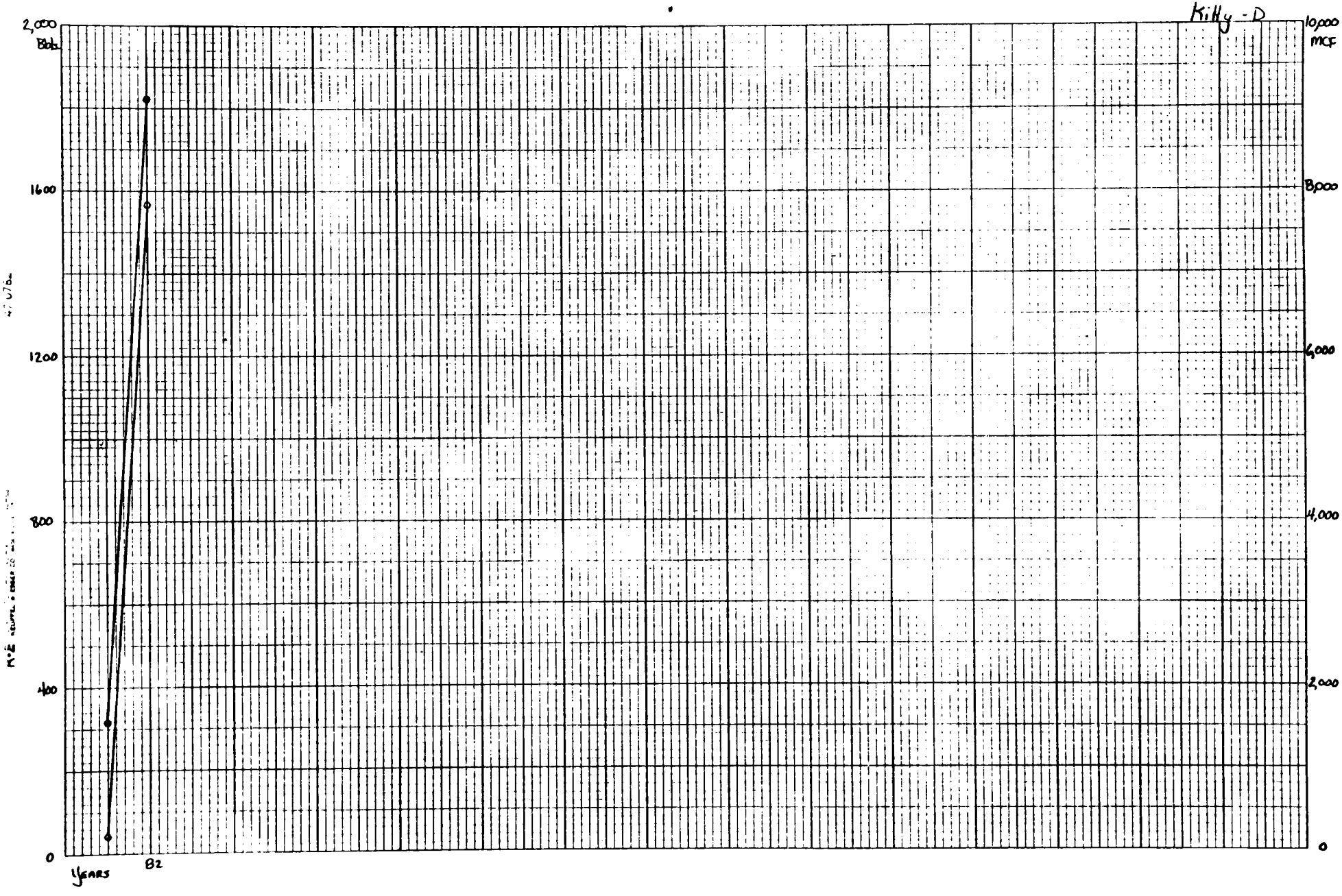

Jamb e-J and D
Rate
12,000
BBLS
9,600
7,200
4,800
2,400
0
100,000
MCF
80,000
60,000
40,000
20,000
0
76
78
80
82
Years

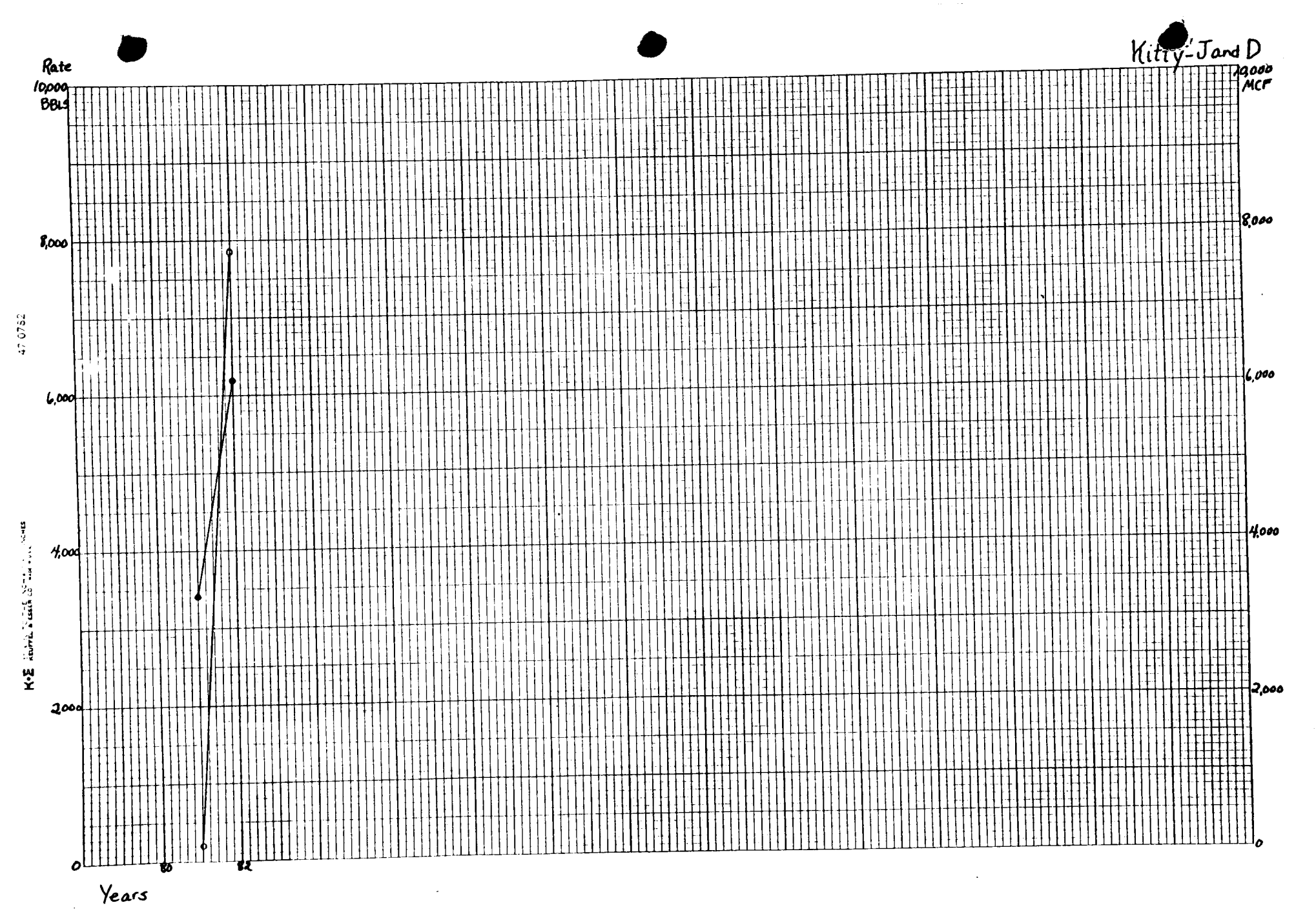

Rate
40,000
BBLS
32,000
24,000
16,000
8,000
0
MCF
1,600,000
1,200,000
800,000
400,000
0
70
72
74
76
78
80
82
Years
Jamboree-J
47 0782
K·E

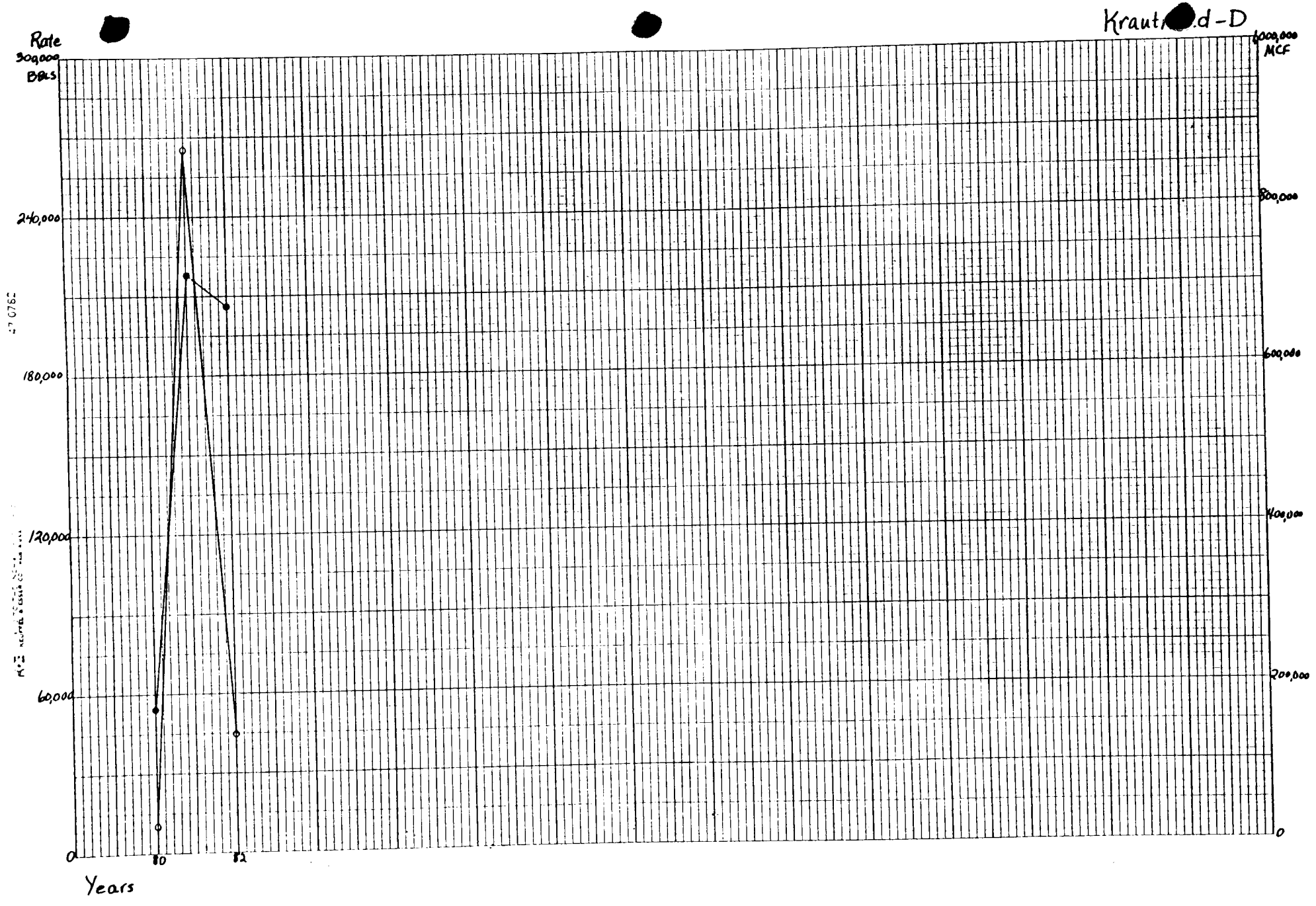

Katie - J
Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
20,000 MCF
16,000
12,000
8,000
4,000
0
80
82
Years


Keystone-D
Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
76
78
80
82
Years

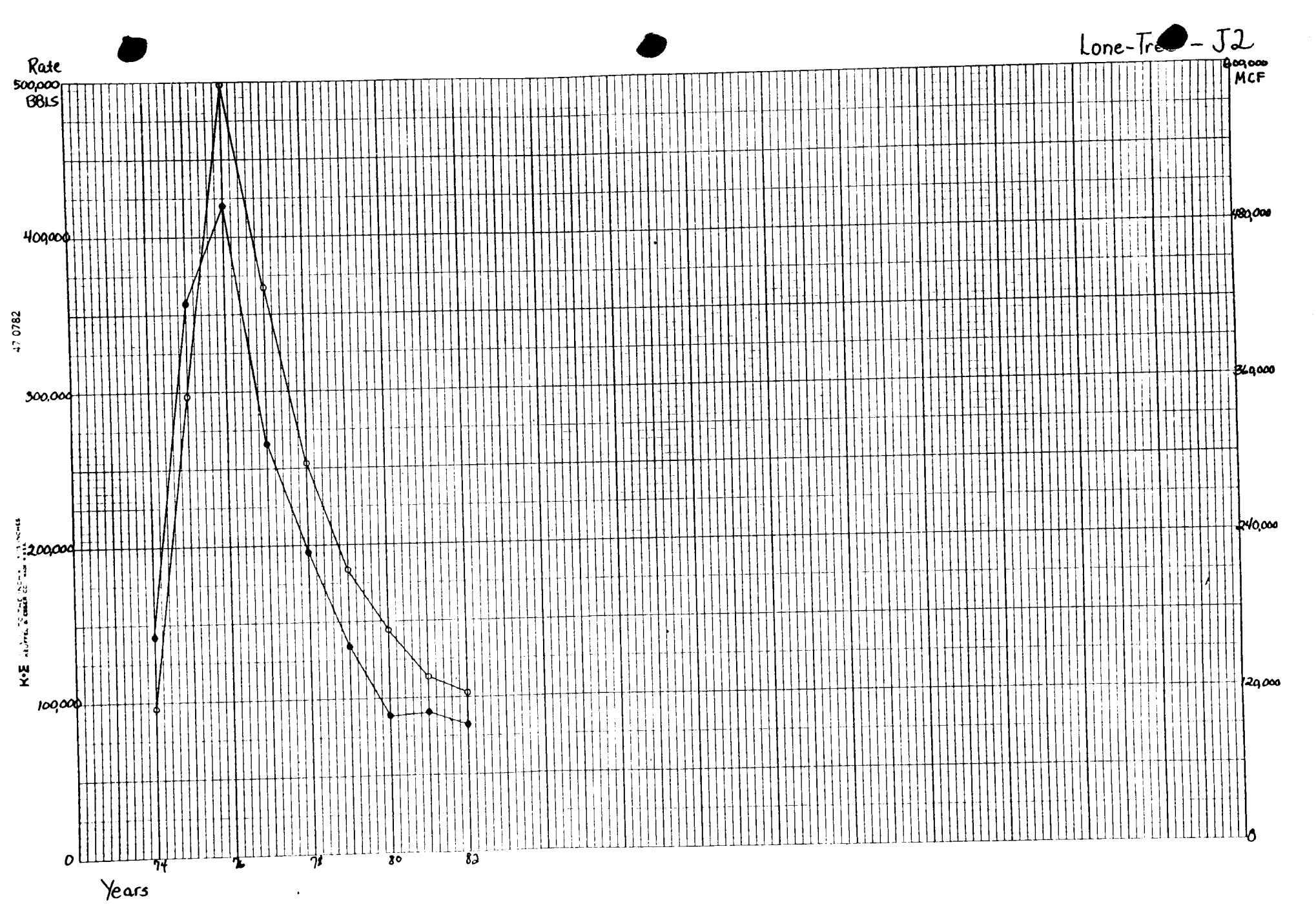

Kettie - D
Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
82
Years

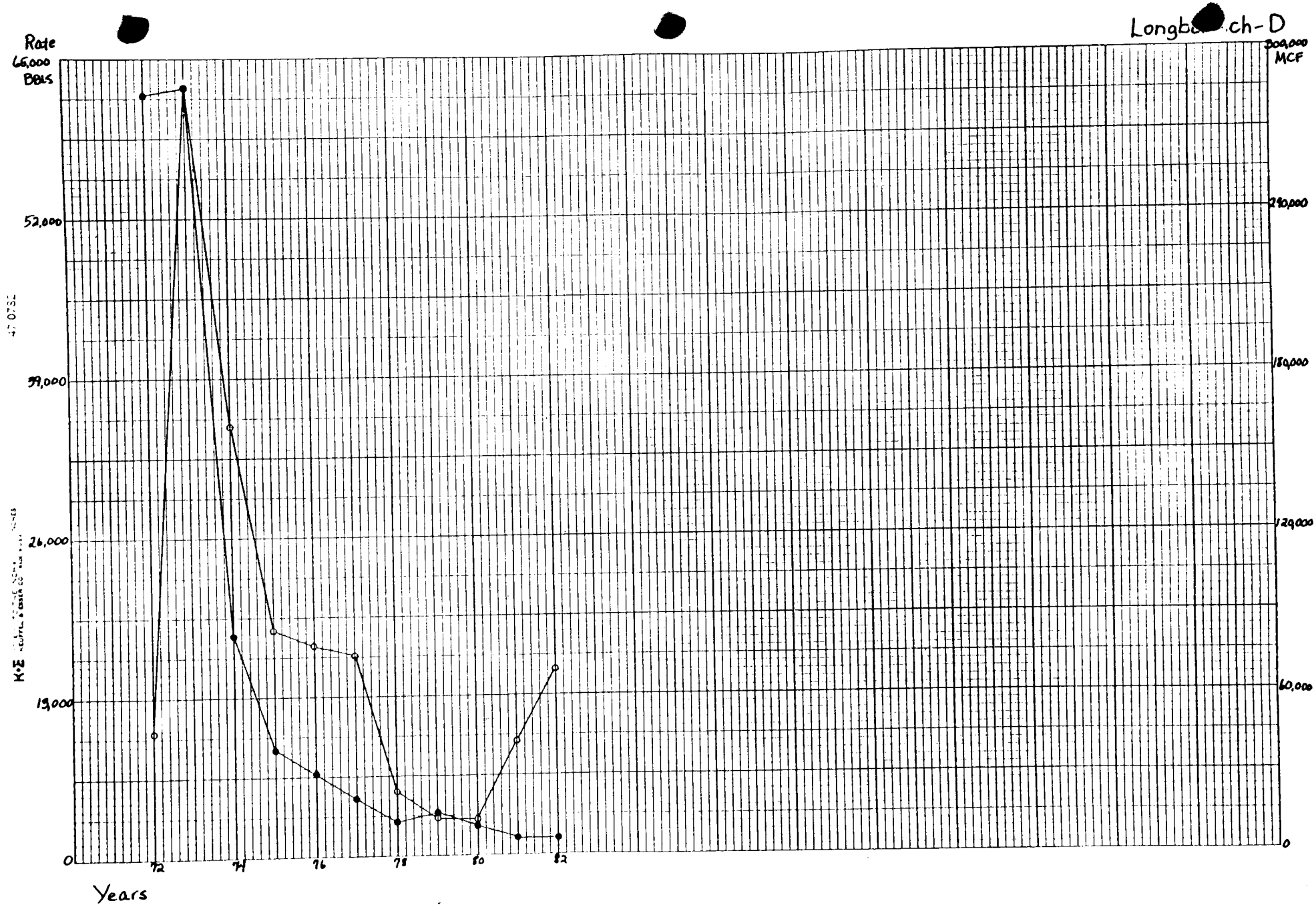

Killy - D
2,000
Bbls
1600
1200
800
400
0
10,000
MCF
8,000
6,000
4,000
2,000
0
Years
82

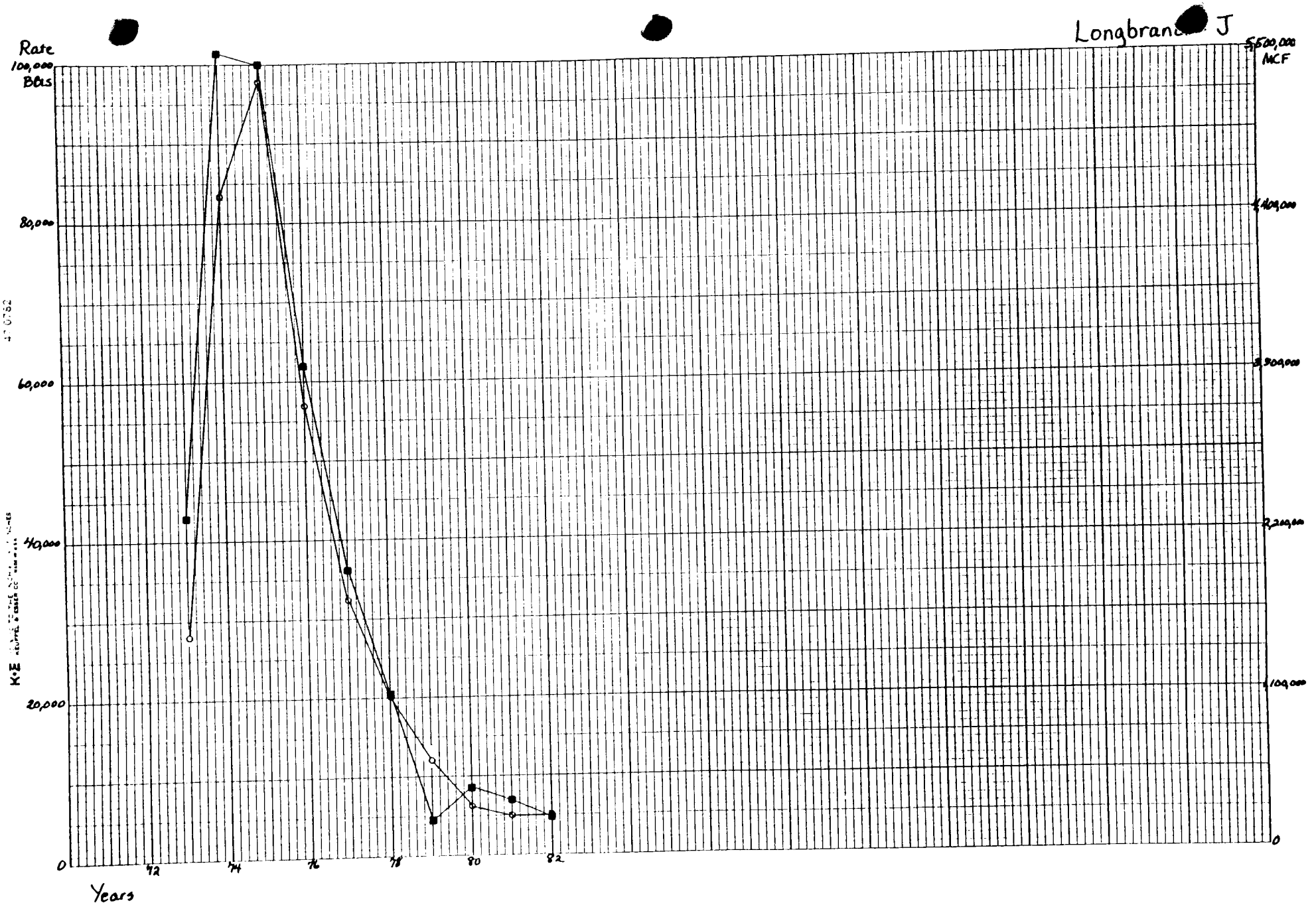

Kitty-J and D
Rate
10,000
BBLS
8,000
6,000
4,000
2,000
0
10,000
MCF
8,000
6,000
4,000
2,000
0
80
82
Years

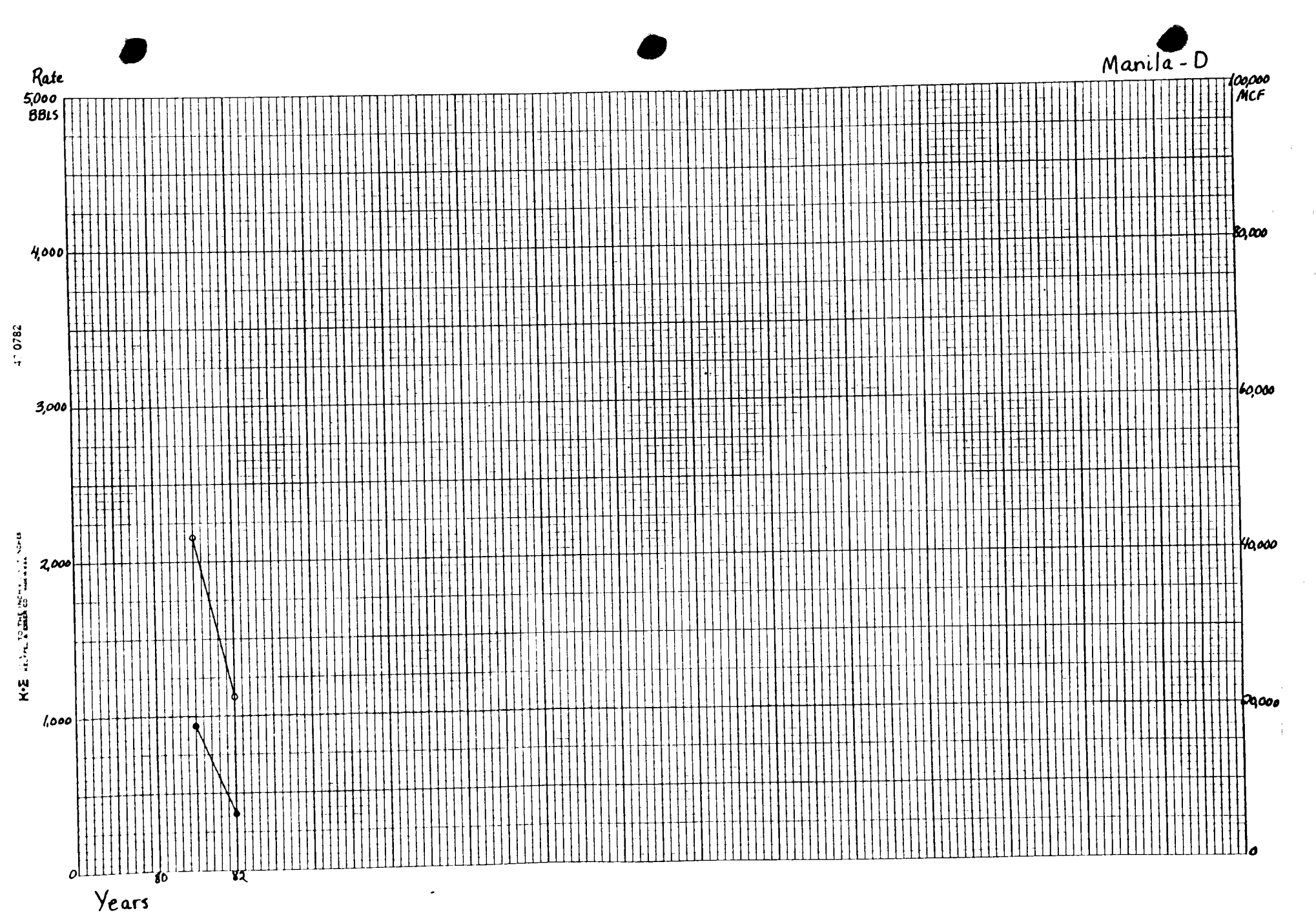

Krautfield-D
Rate
300,000
BBLS
240,000
180,000
120,000
60,000
0
1,000,000
MCF
800,000
600,000
400,000
200,000
0
80
82
Years

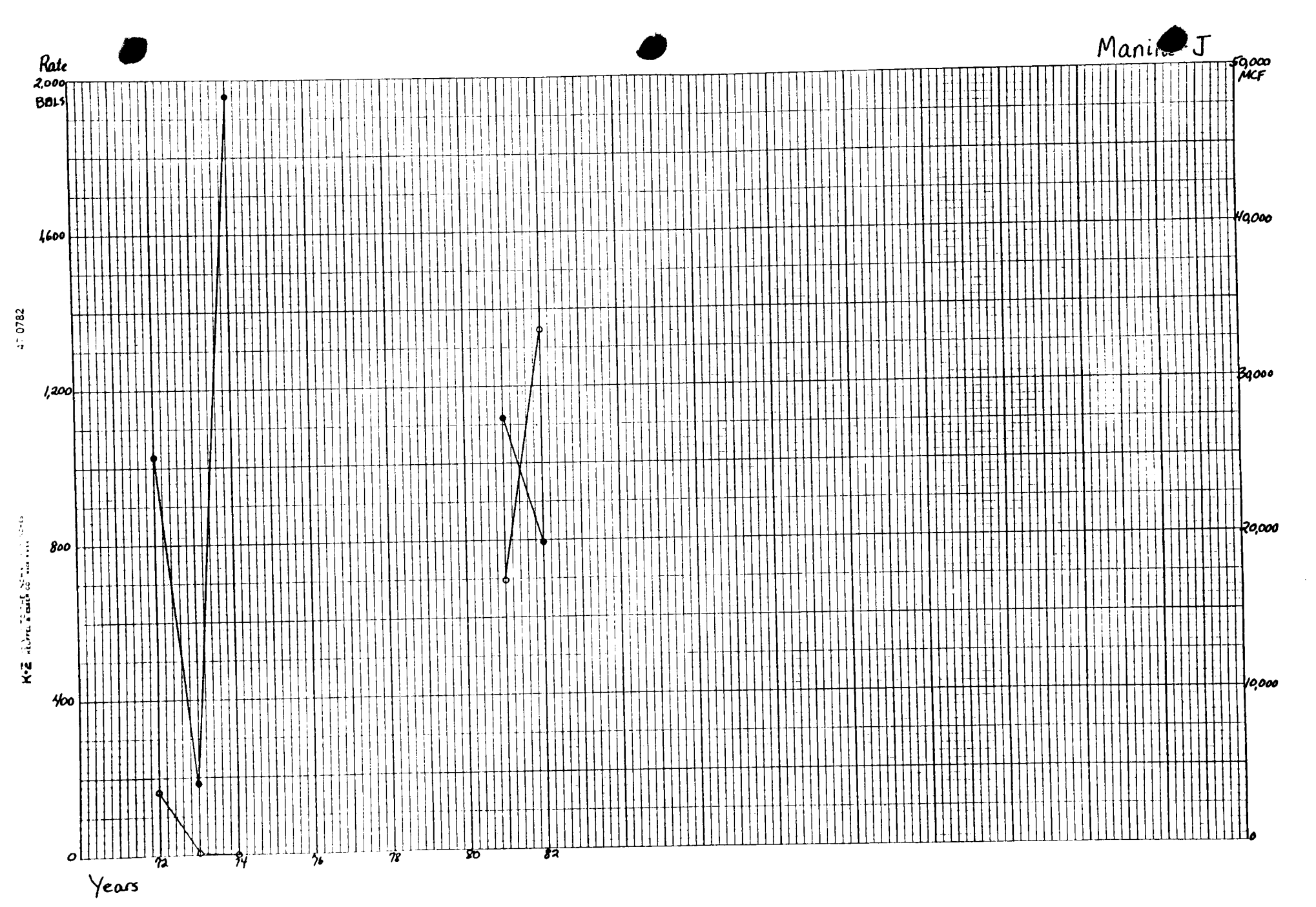

Rate
1500
BBLS
1,200
900
600
300
0
150,000
MCF
120,000
90,000
60,000
30,000
0
76
78
80
82
Years

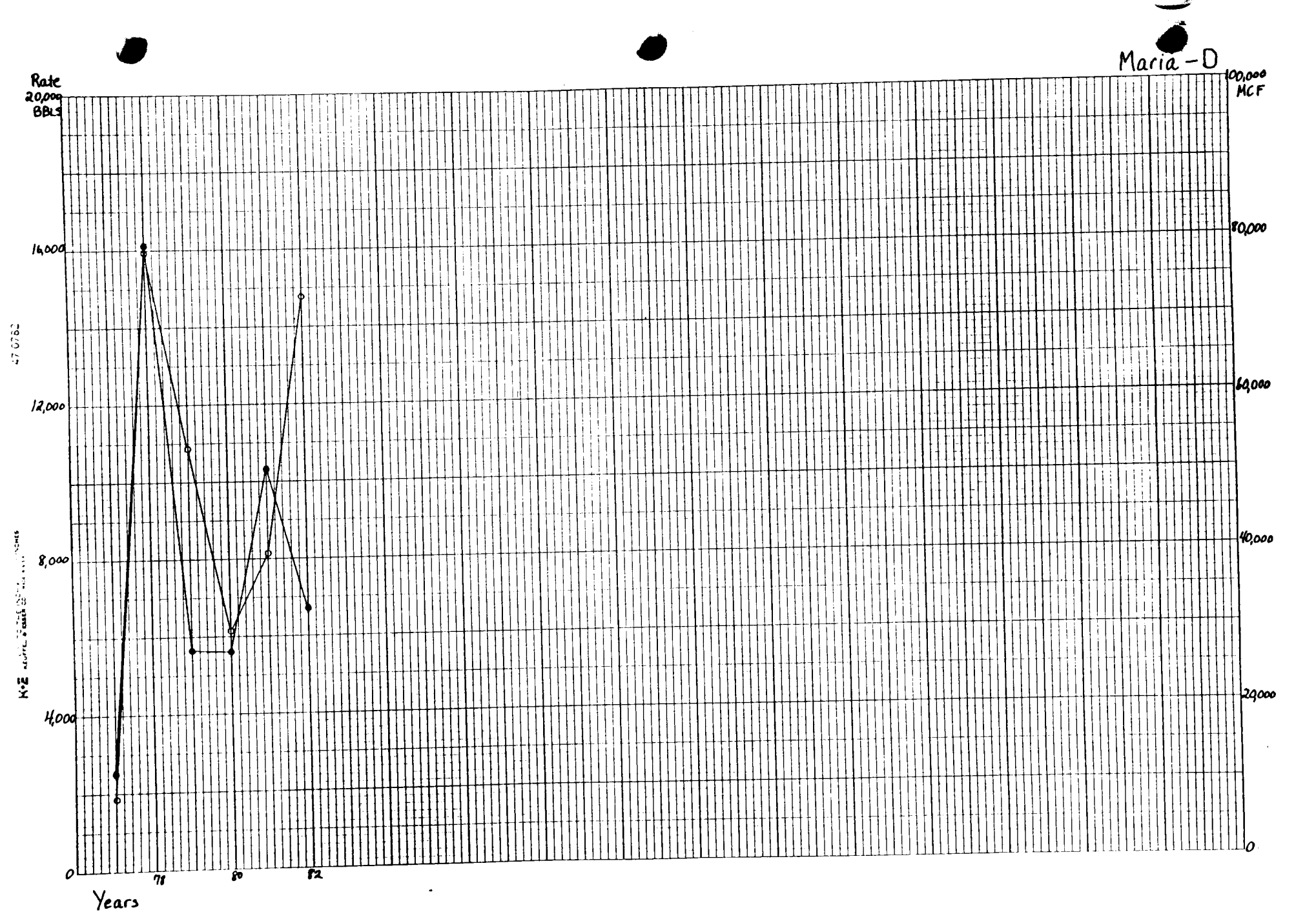

Lone-Tree - J2
Rate
500,000
BBLS
400,000
300,000
200,000
100,000
0
800,000
MCF
480,000
360,000
240,000
120,000
0
74
76
78
80
82
Years

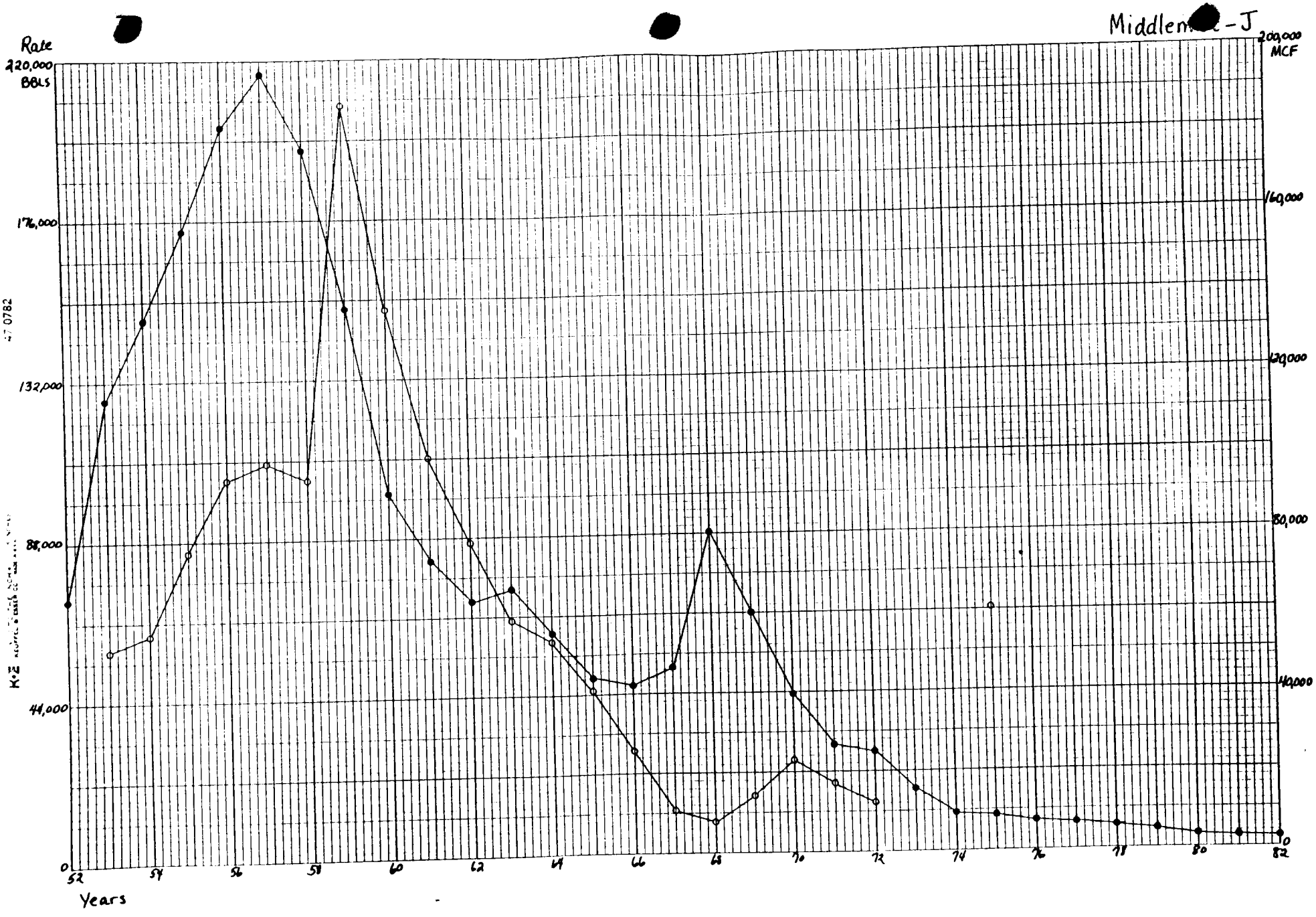

Rate
65,000 BBLS
52,000
39,000
26,000
13,000
0
300,000 MCF
240,000
180,000
120,000
60,000
0
72
74
76
78
80
82
Years

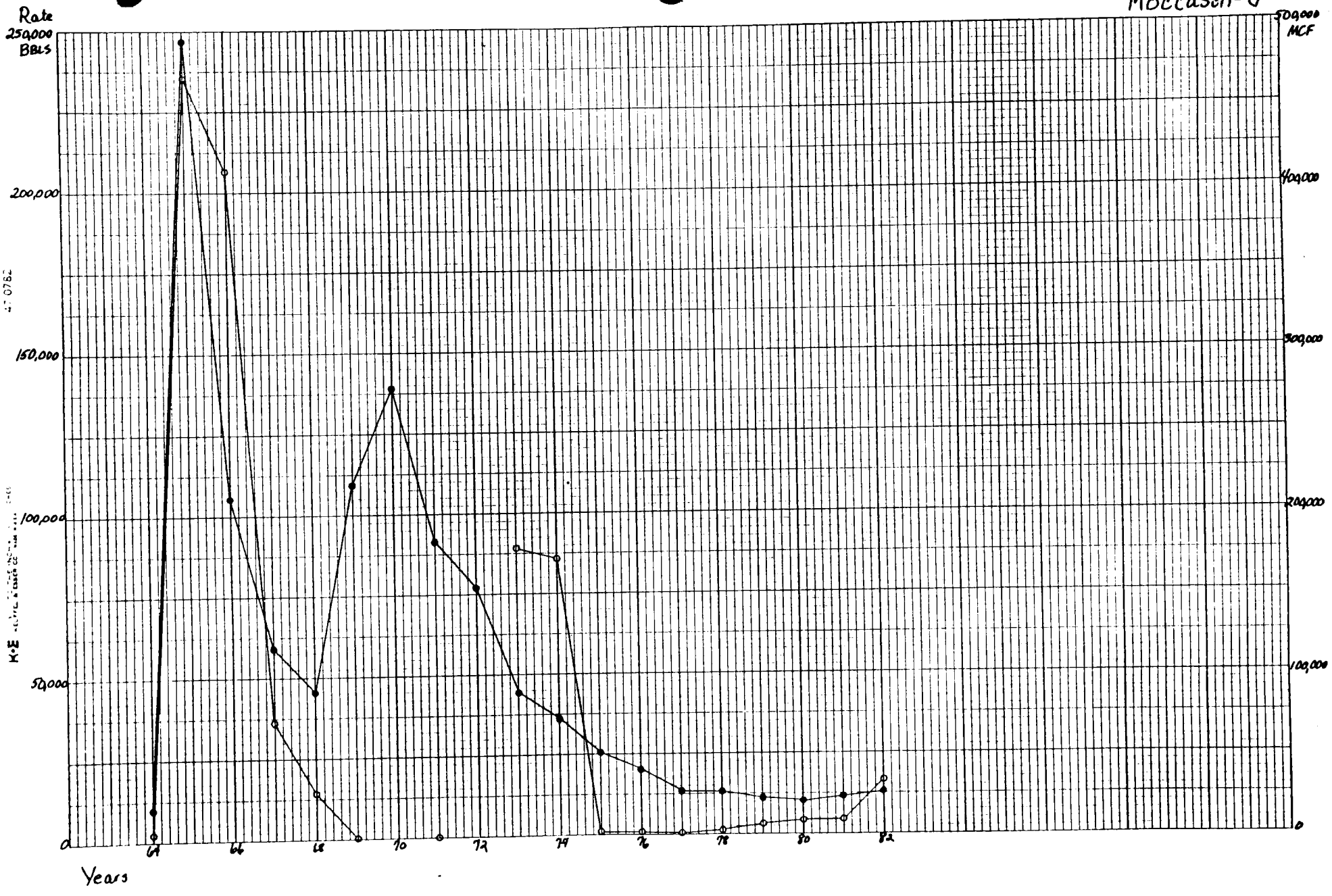

Longbranch J
Rate
100,000
BBLS
80,000
60,000
40,000
20,000
0
5,500,000
MCF
4,400,000
3,300,000
2,200,000
1,100,000
0
72
74
76
78
80
82
Years

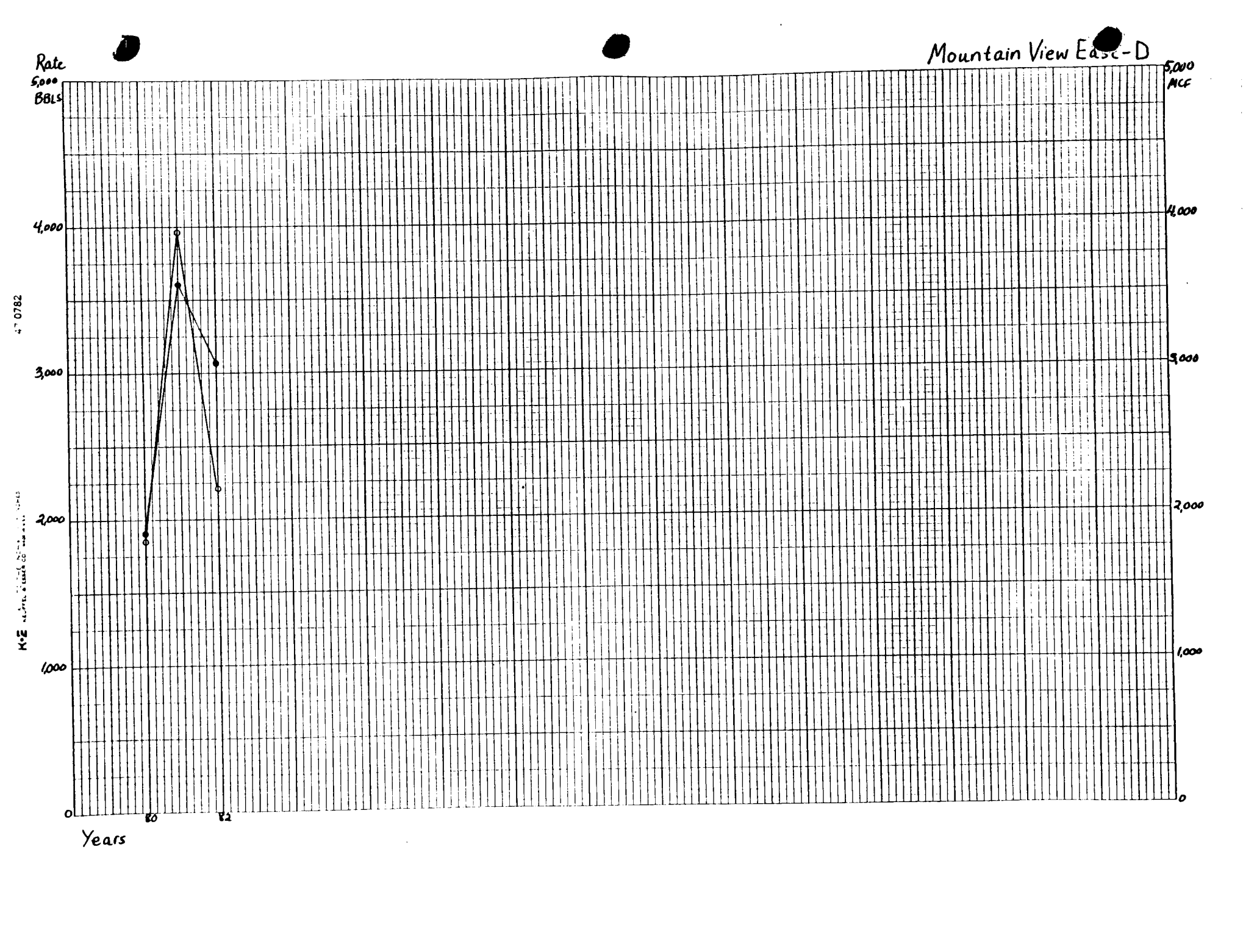

Manila - D
Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
100,000 MCF
80,000
60,000
40,000
20,000
0
80
82
Years

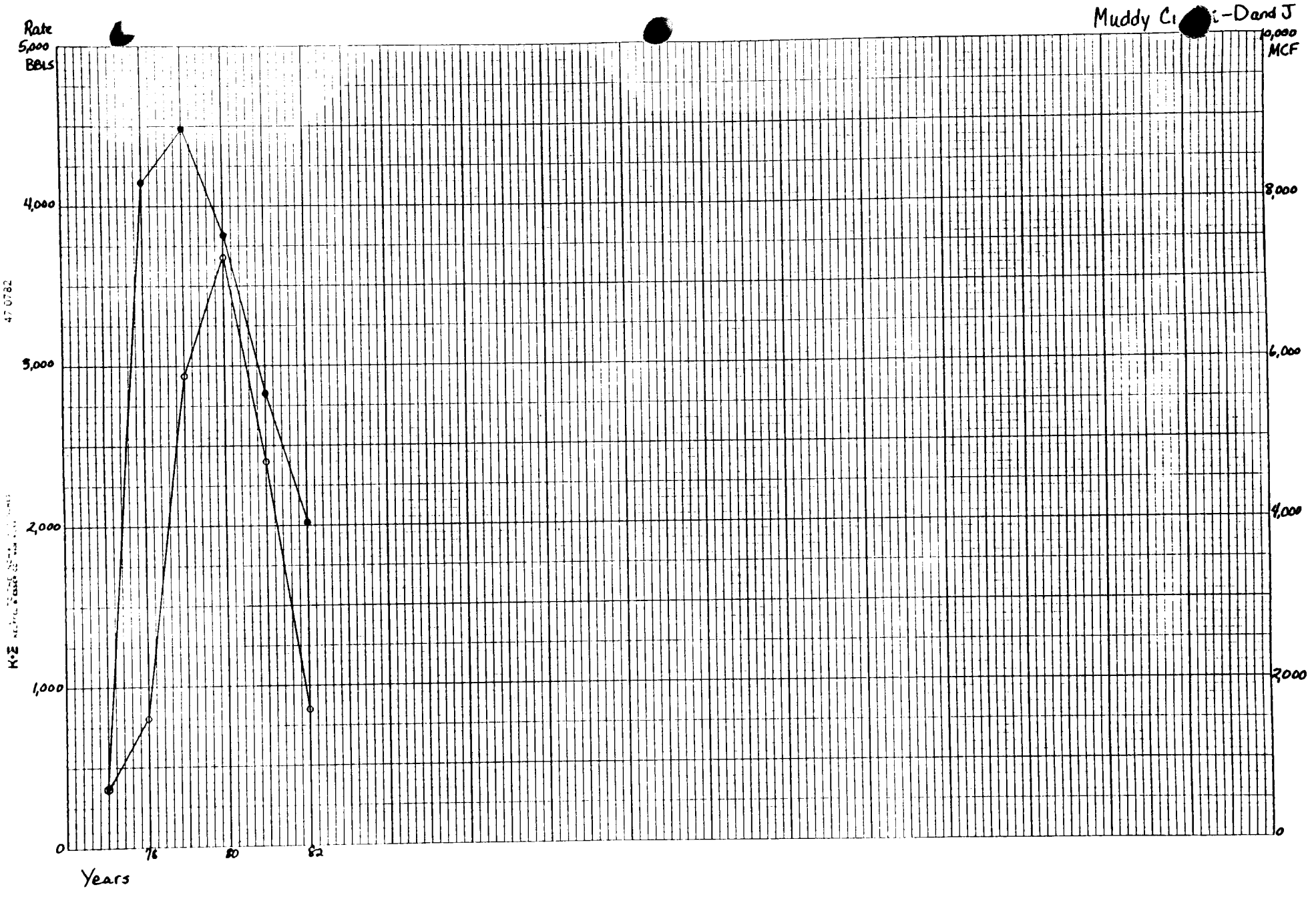

Rate
2,000
BBLS
1,600
1,200
800
400
0
50,000
MCF
40,000
30,000
20,000
10,000
0
72
74
76
78
80
82
Years

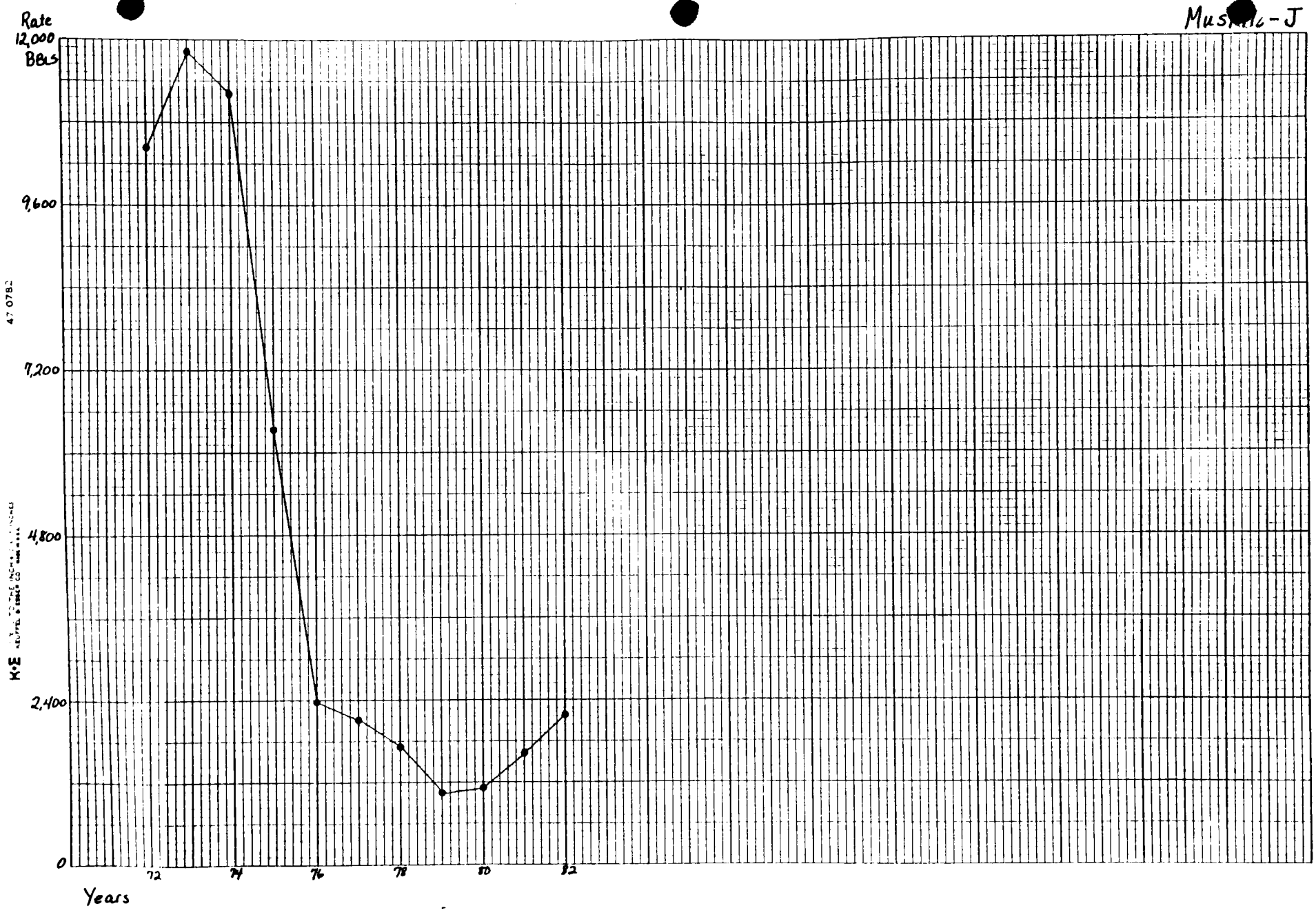

Maria-D
Rate
20,000 BBLS
16,000
12,000
8,000
4,000
0
100,000 MCF
80,000
60,000
40,000
20,000
0
78
80
82
Years

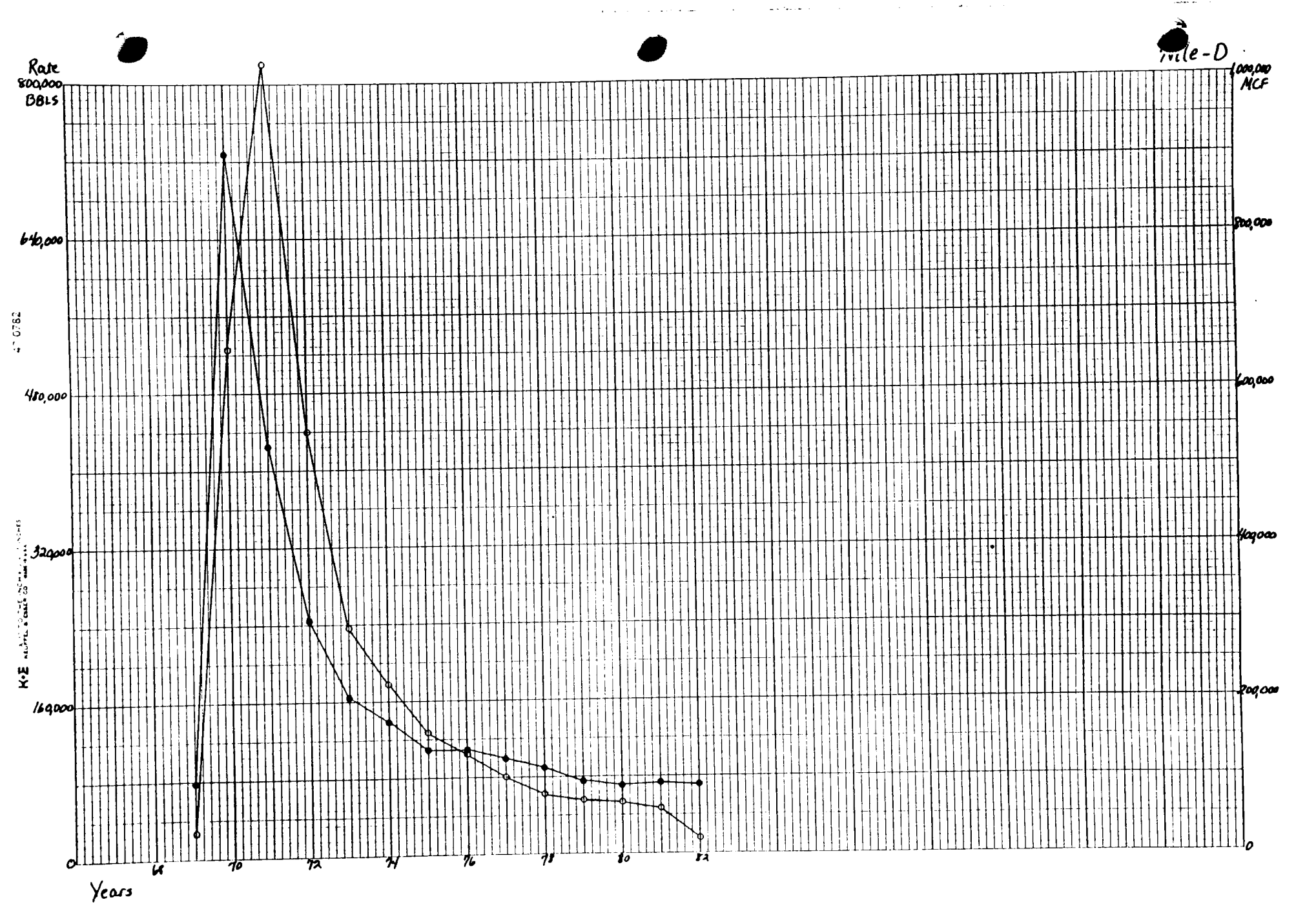

Middlen[redacted]-J
Rate
220,000 BBLS
176,000
132,000
88,000
44,000
0
200,000 MCF
160,000
120,000
80,000
40,000
0
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

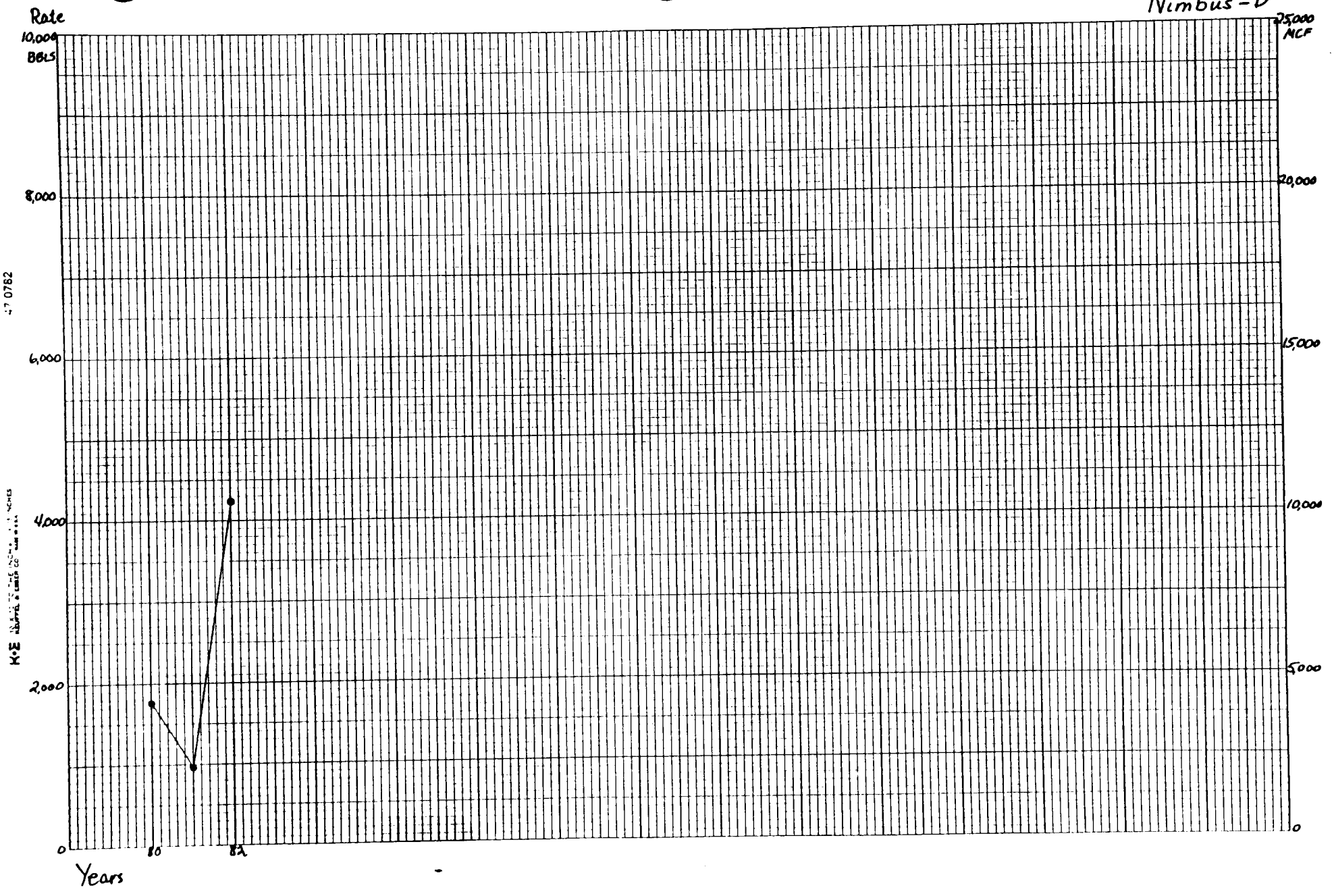

Moccasin-J
Rate
250,000
BBLS
200,000
150,000
100,000
50,000
0
500,000
MCF
400,000
300,000
200,000
100,000
0
64
66
68
70
72
74
76
78
80
82
Years


Mountain View East-D
Rate
5,000 BBLS
4,000
3,000
2,000
1,000
0
5,000 MCF
4,000
3,000
2,000
1,000
0
80
82
Years


Muddy C
-Dand J
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
47 0782
K-E

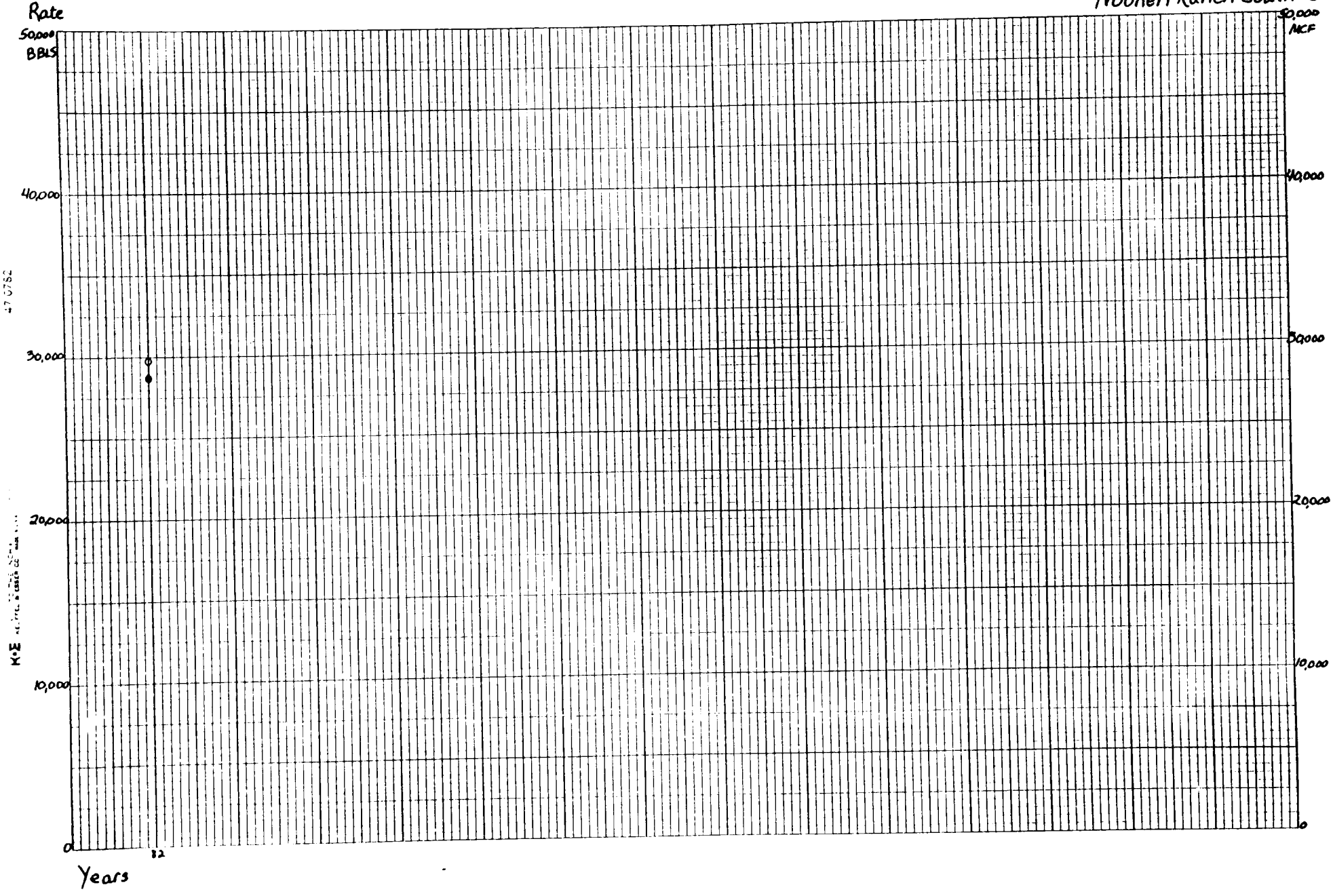

Rate
12,000
BBLS
9,600
7,200
4,800
2,400
0
72
74
76
78
80
82
Years
Mus
J


Rate
800,000
BBLS
640,000
480,000
320,000
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

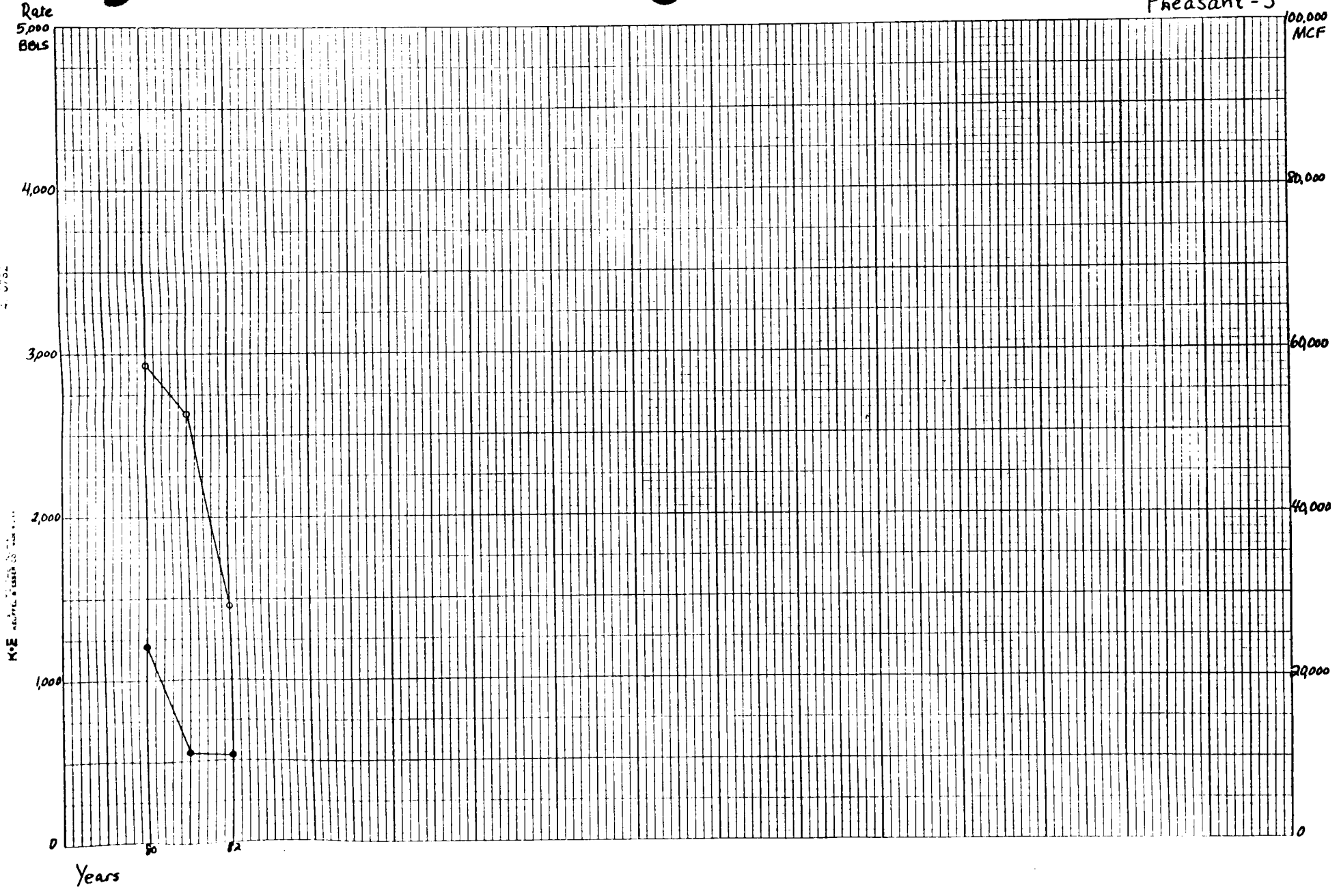

Nimbus - D
Rate
10,000
BBLS
8,000
6,000
4,000
2,000
0
25,000
MCF
20,000
15,000
10,000
5000
0
80
82
Years

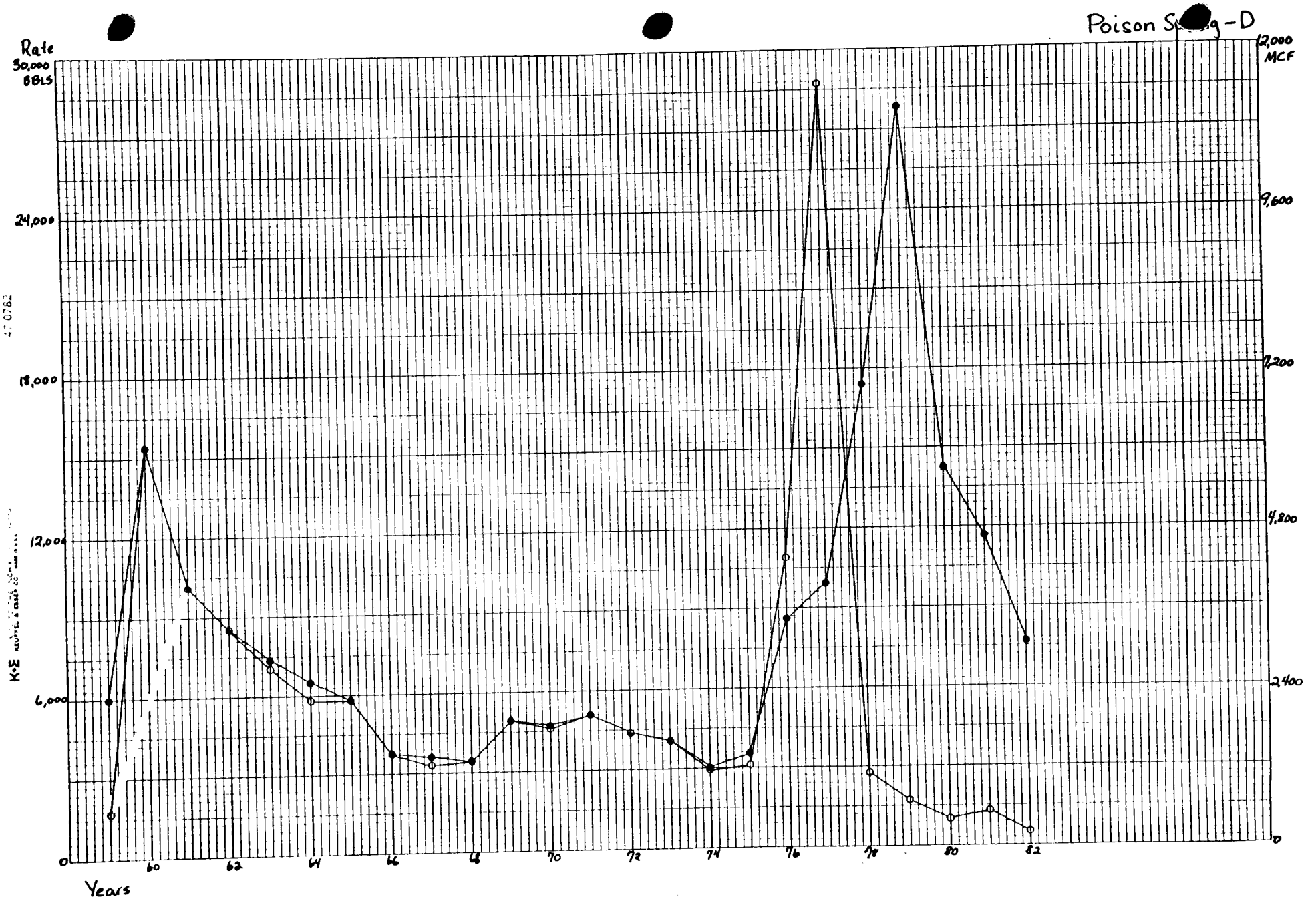

Noonen Ranch-J
Rate
25,000
BBLS
20,000
15,000
10,000
5,000
0
50,000
MCF
40,000
30,000
20,000
10,000
0
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years
MO GAS PROD.

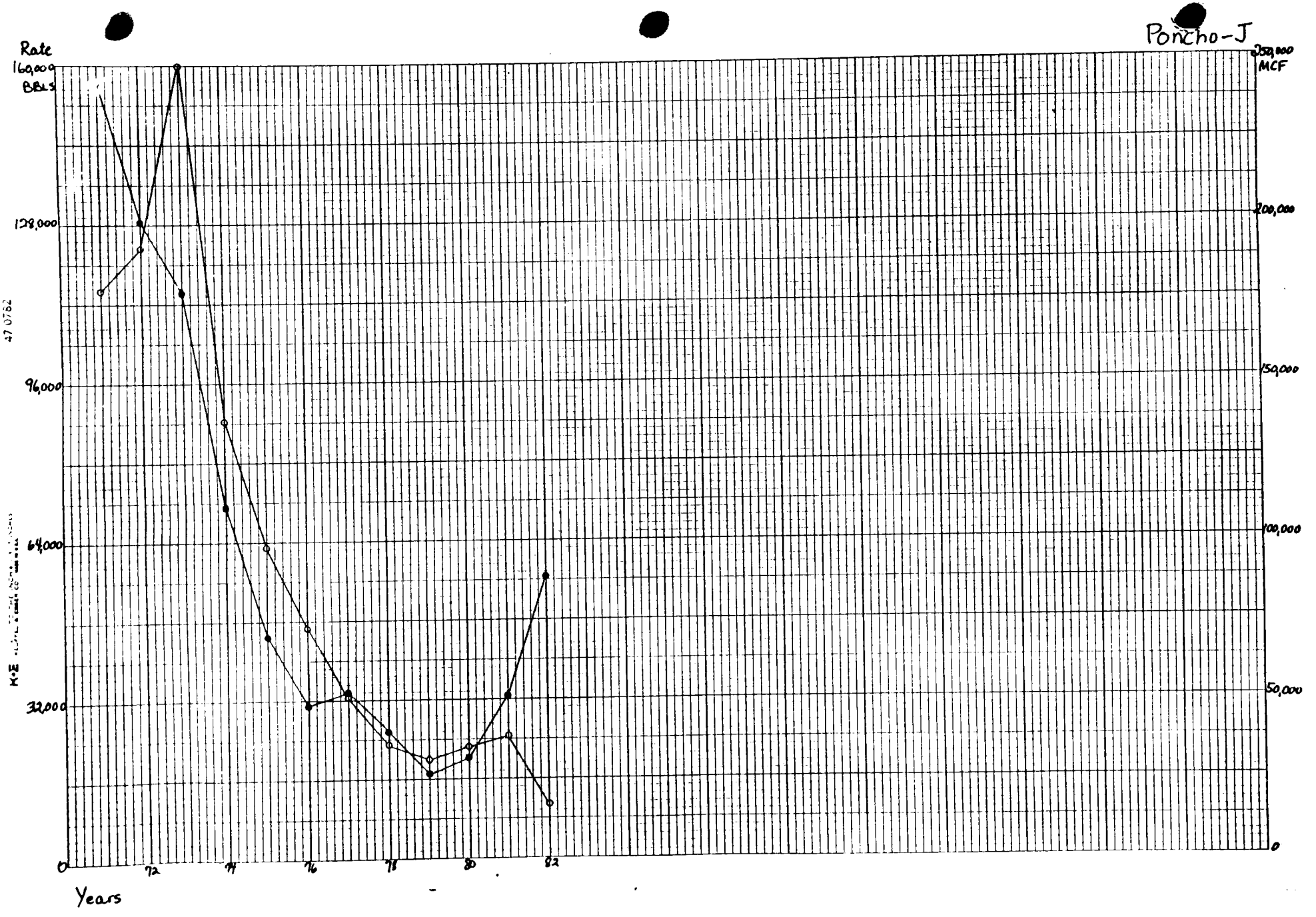
Noonen Ranch South - J

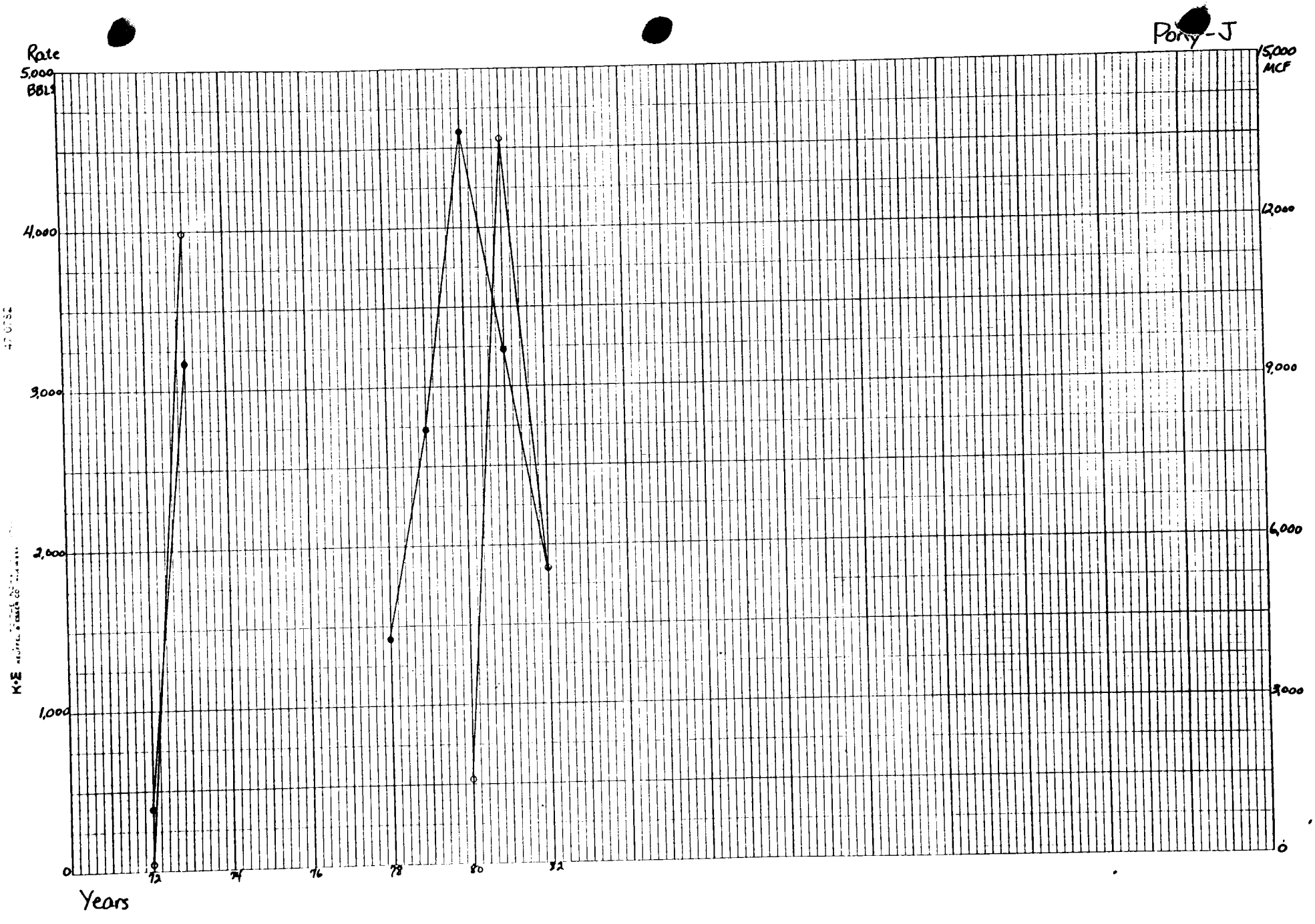


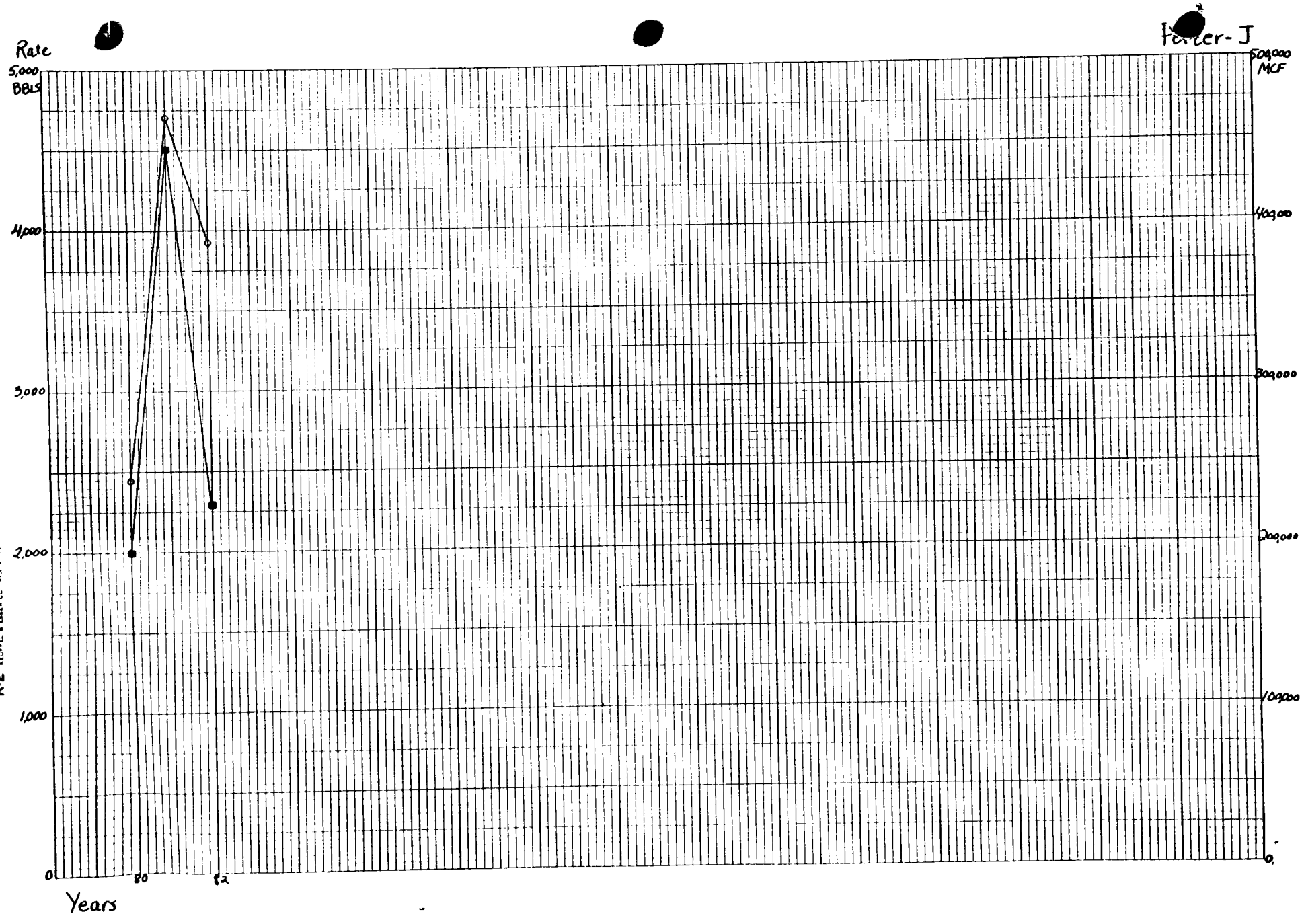
Pheasant - J

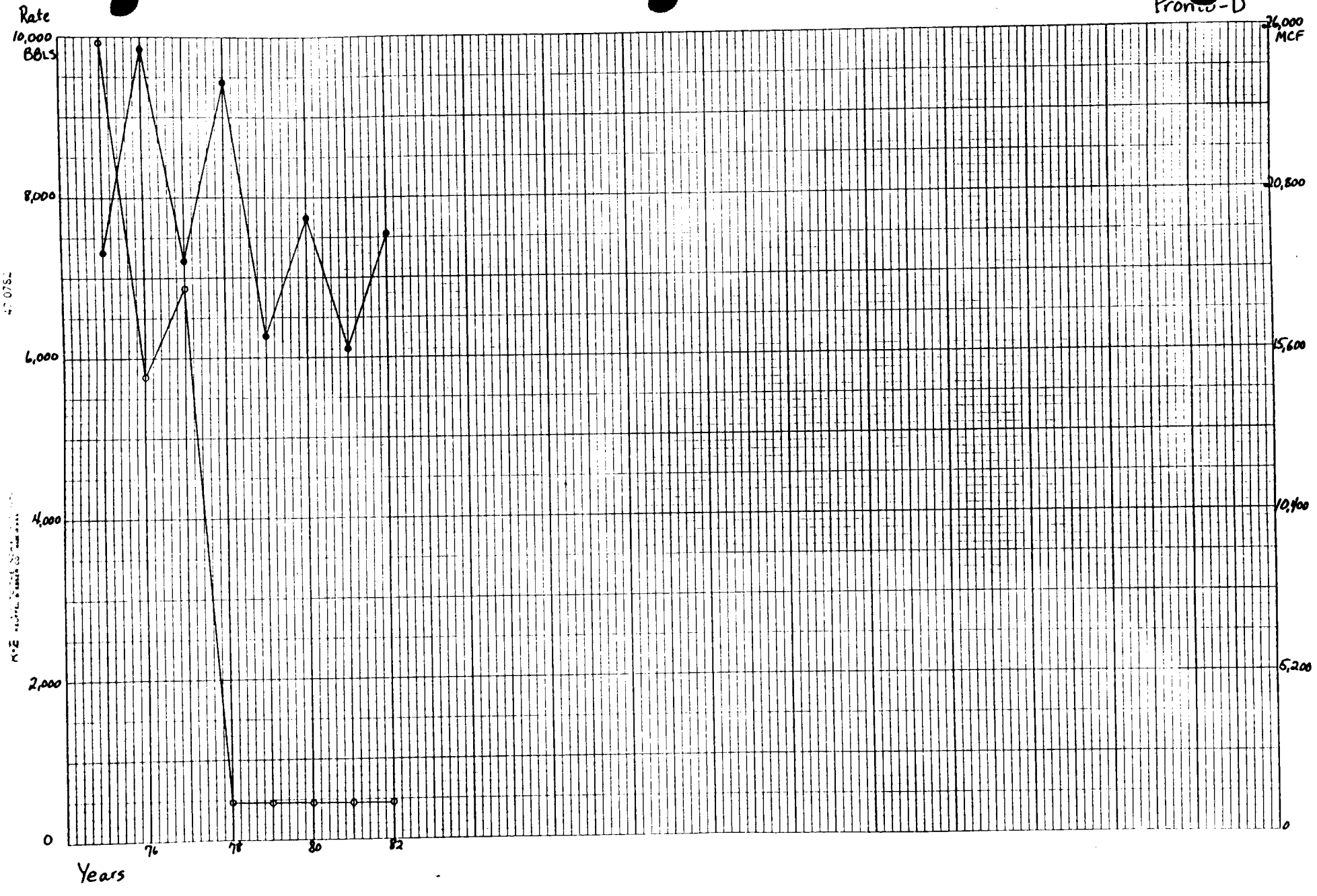

Rate
5,000
Bbls
4,000
3,000
2,000
1,000
0
100,000
MCF
80,000
60,000
40,000
20,000
0
Years

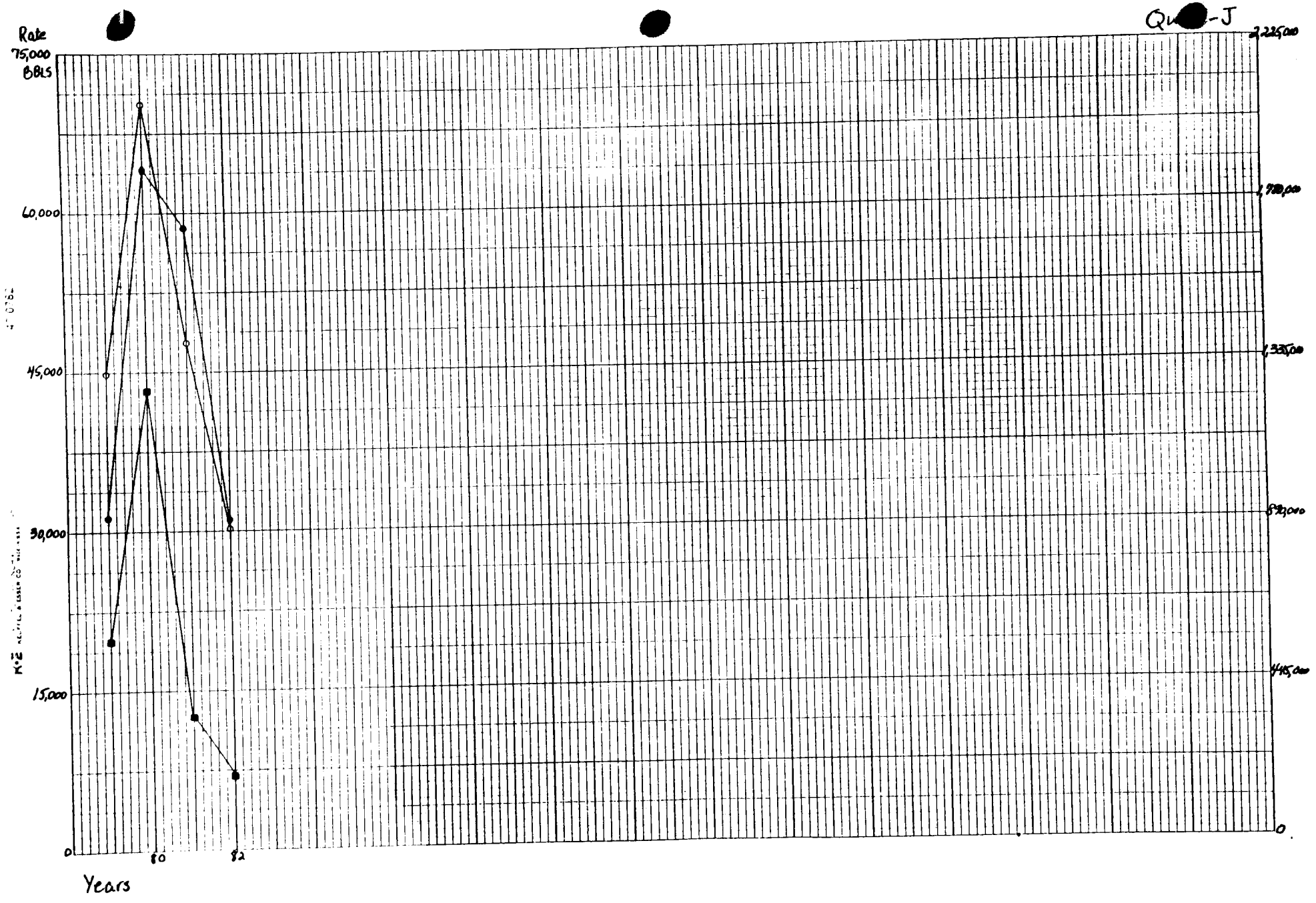

Poison S[illegible]g-D
Rate
30,000 BBLS
24,000
18,000
12,000
6,000
0
12,000 MCF
9,600
7,200
4,800
2,400
0
60
62
64
66
68
70
72
74
76
78
80
82
Years

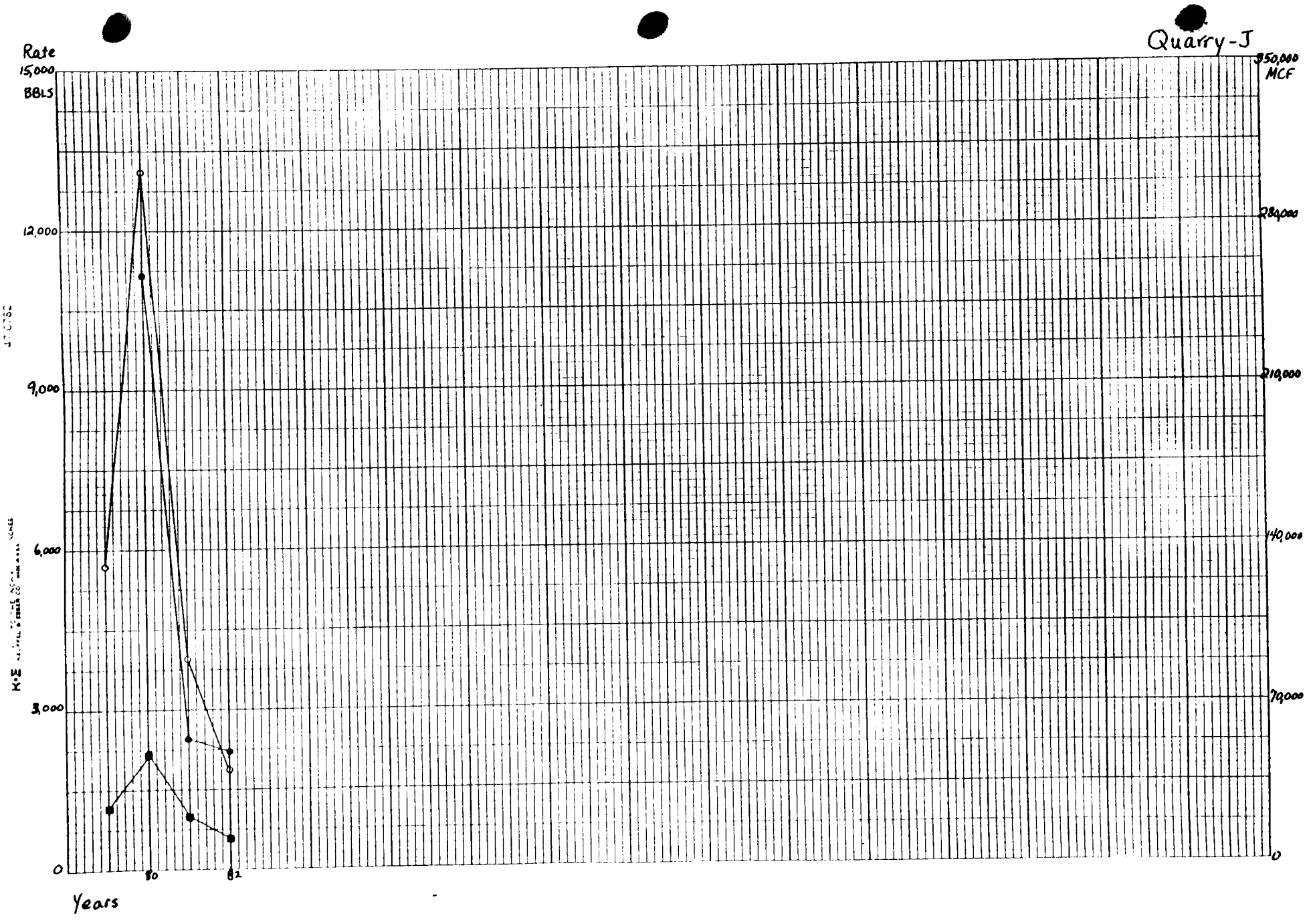

Poncho-J
Rate
160,000
BBLS
128,000
96,000
64,000
32,000
0
350,000
MCF
200,000
150,000
100,000
50,000
0
72
74
76
78
80
82
Years

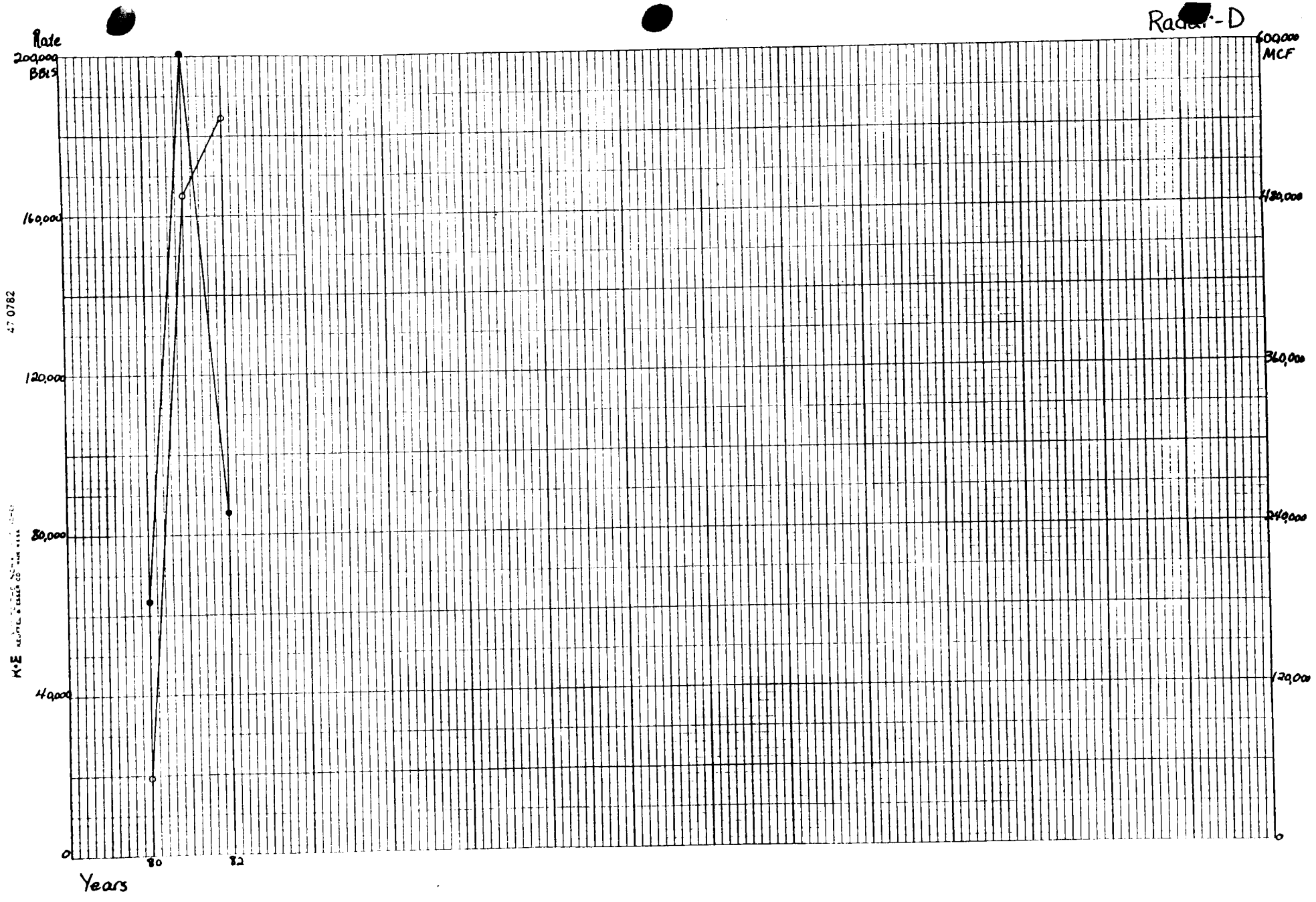

Pony-J
Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
15,000
MCF
12,000
9,000
6,000
3,000
0
72
74
76
78
80
82
Years

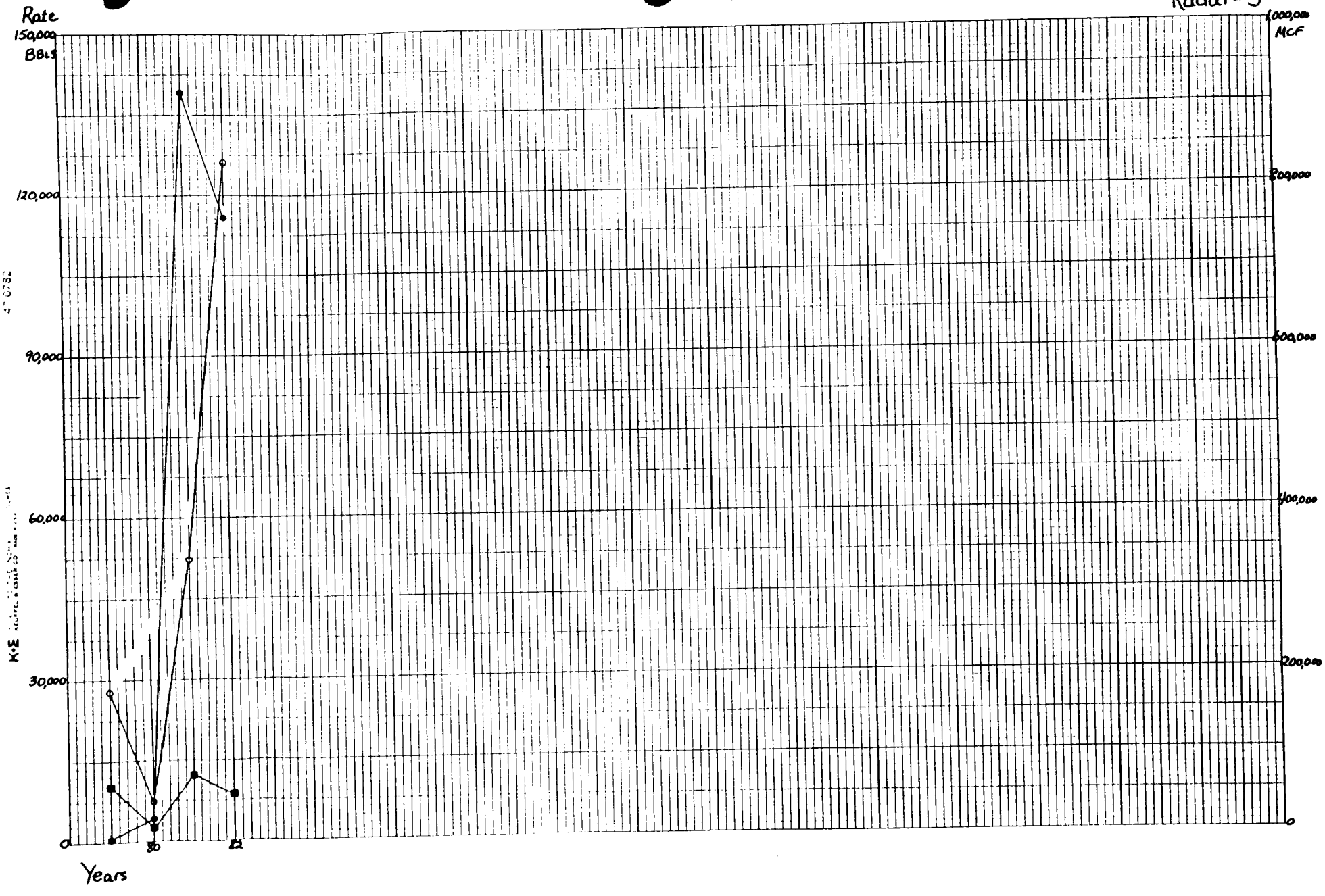

Rate
5,000
BBLS
4,000
3,000
2,000
1,000
0
500,000
MCF
400,000
300,000
200,000
100,000
0
80
82
Years
Porter-J


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

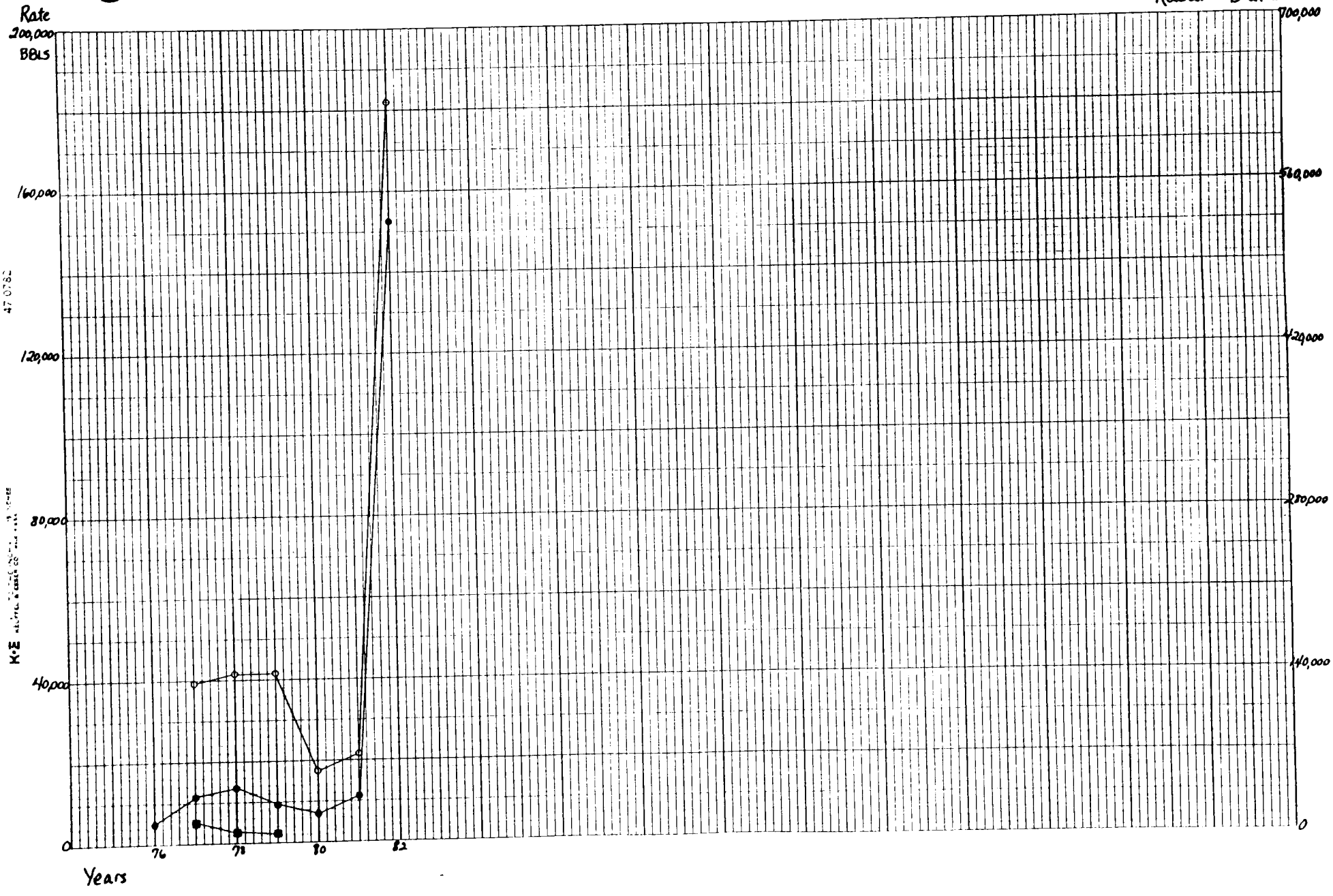

Rate
75,000
BBLS
60,000
45,000
30,000
15,000
0
80
82
Years
2,225,000
1,780,000
1,335,000
890,000
445,000
0
Qu -J

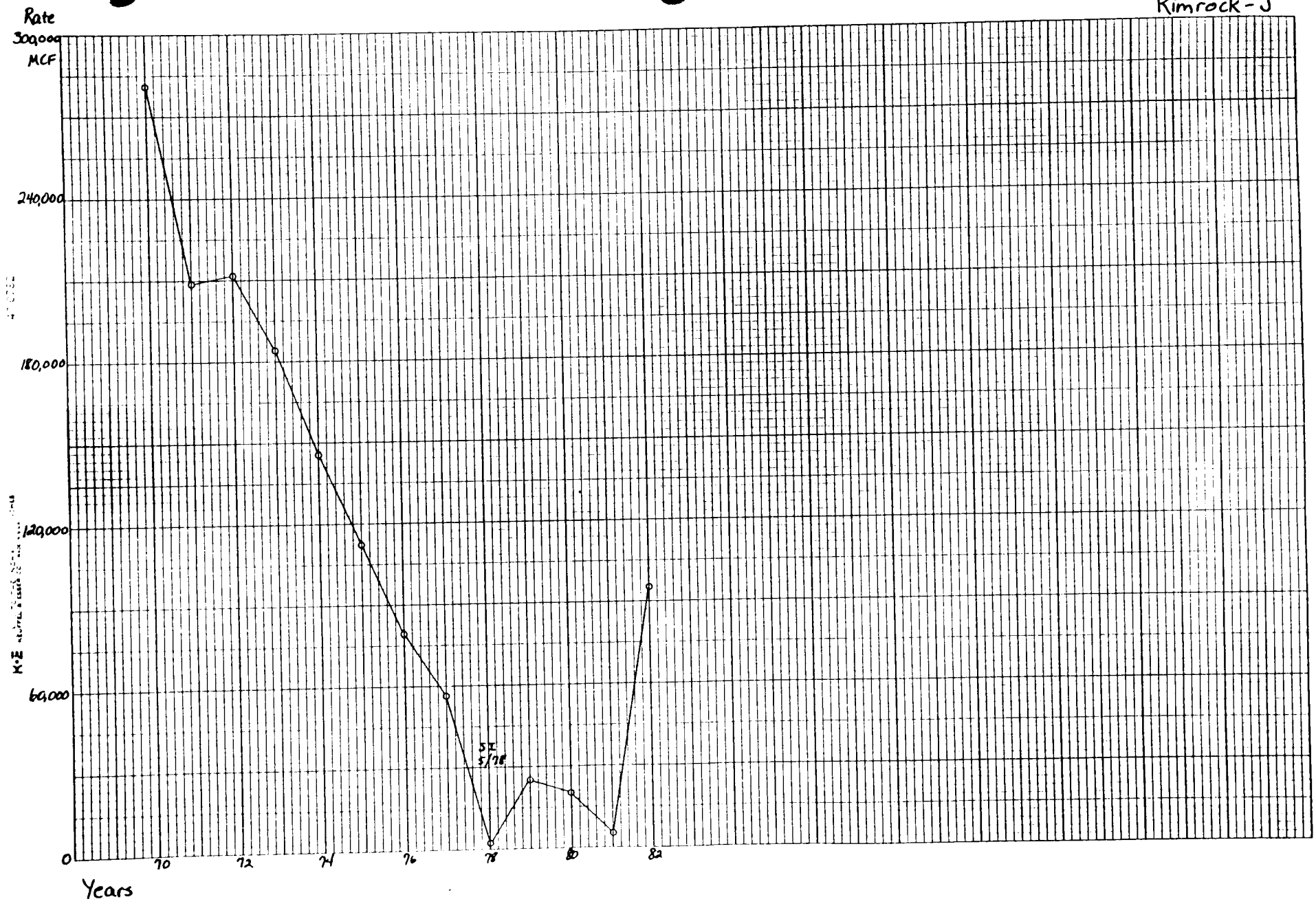

Quarry-J
Rate
15,000
BBLS
12,000
9,000
6,000
3,000
0
350,000
MCF
280,000
210,000
140,000
70,000
0
80
81
Years


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

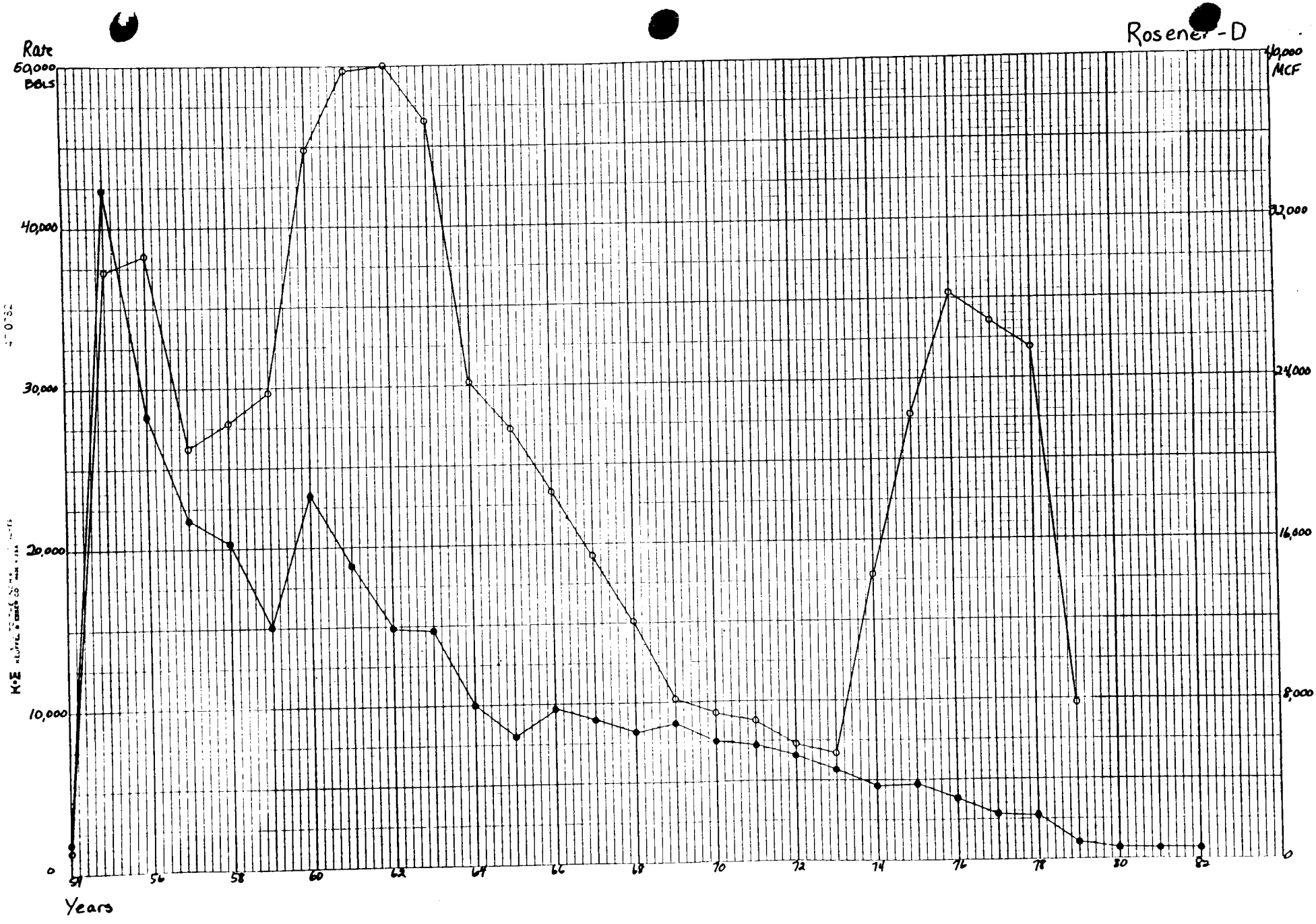

Radar-J
Rate
150,000
BBLS
120,000
90,000
60,000
30,000
0
1,000,000
MCF
800,000
600,000
400,000
200,000
0
80
82
Years

Radar - D and J


Rate
200,000
BBLS
160,000
120,000
80,000
40,000
0
700,000
560,000
420,000
280,000
140,000
0
76
78
80
82
Years

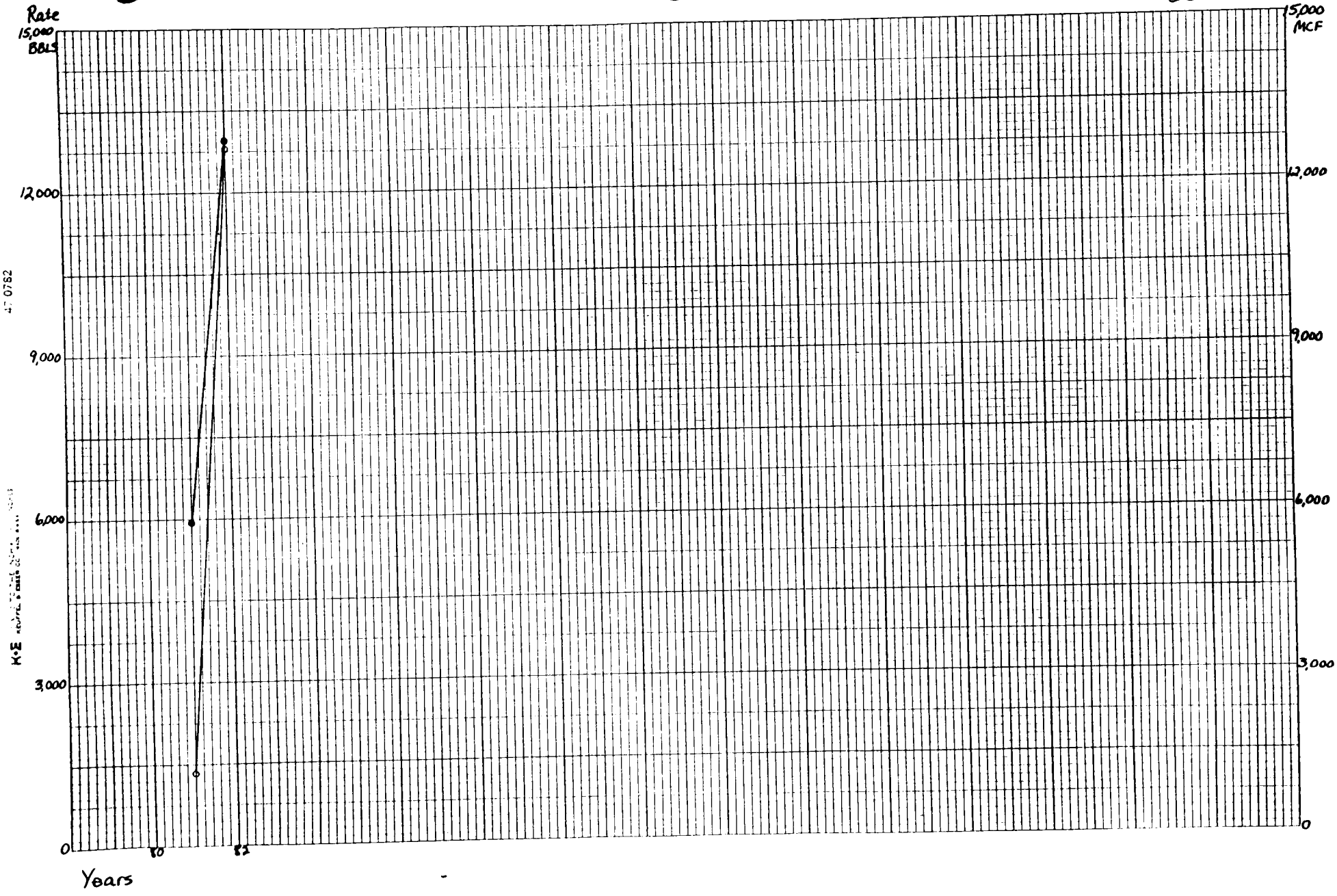

Rimrock-J
Rate
300,000
MCF
240,000
180,000
120,000
60,000
0
70
72
74
76
78
80
82
Years
5H
5/78


Roman Nose - J
Rate
75,000
BBLS
60,000
45,000
30,000
15,000
0
25,000
MCF
20,000
15,000
10,000
5,000
0
68
70
72
74
76
78
80
82
Years

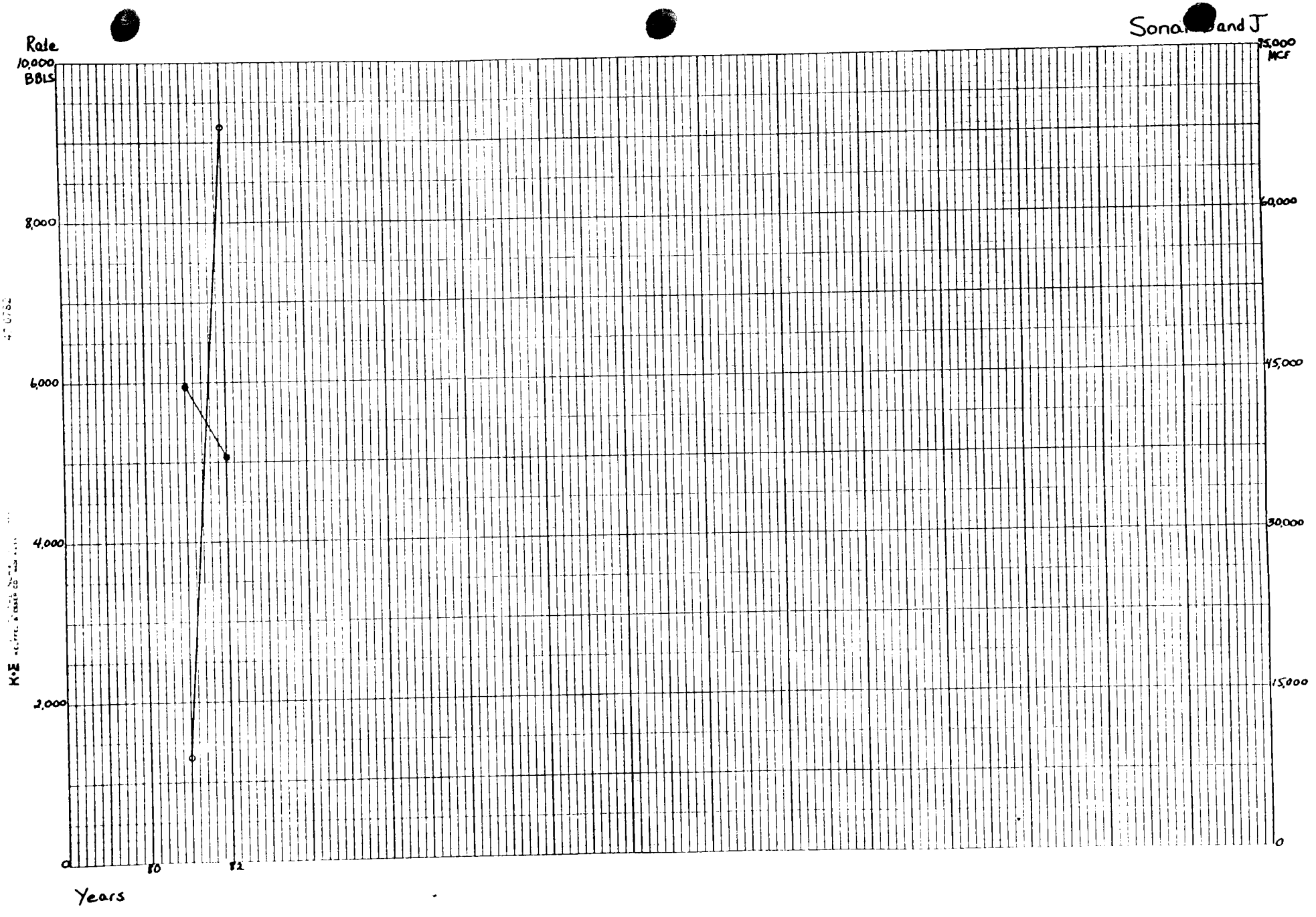

Rosener-D
Rate
50,000 Bbls
40,000
30,000
20,000
10,000
0
40,000 MCF
32,000
24,000
16,000
8,000
0
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

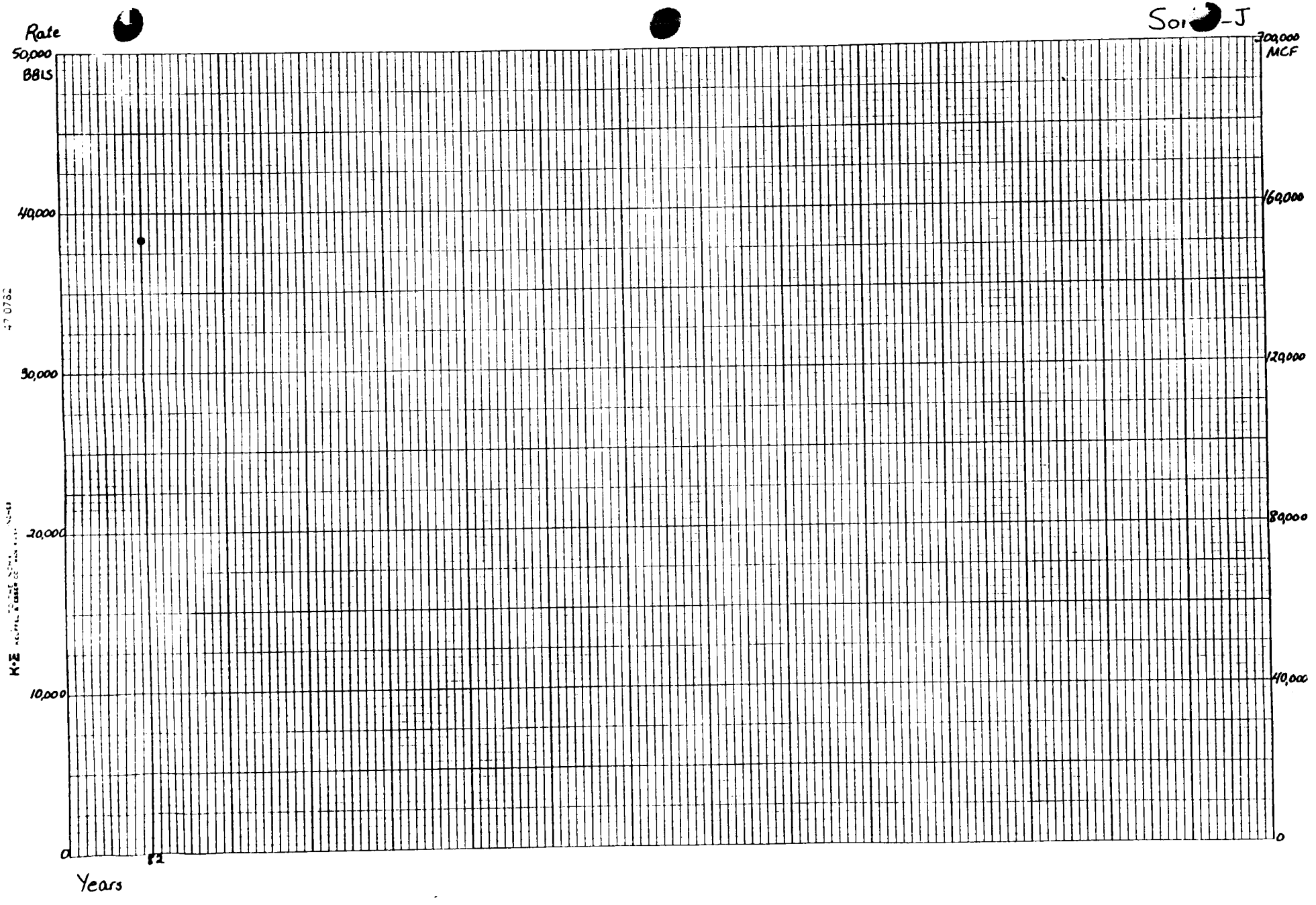

Second Creek - J+D
Rate
15,000
BBLS
12,000
9,000
6,000
3,000
0
40,000
MCF
32,000
24,000
16,000
8,000
0
56
58
60
62
64
66
68
70
72
74
76
78
80
82
Years

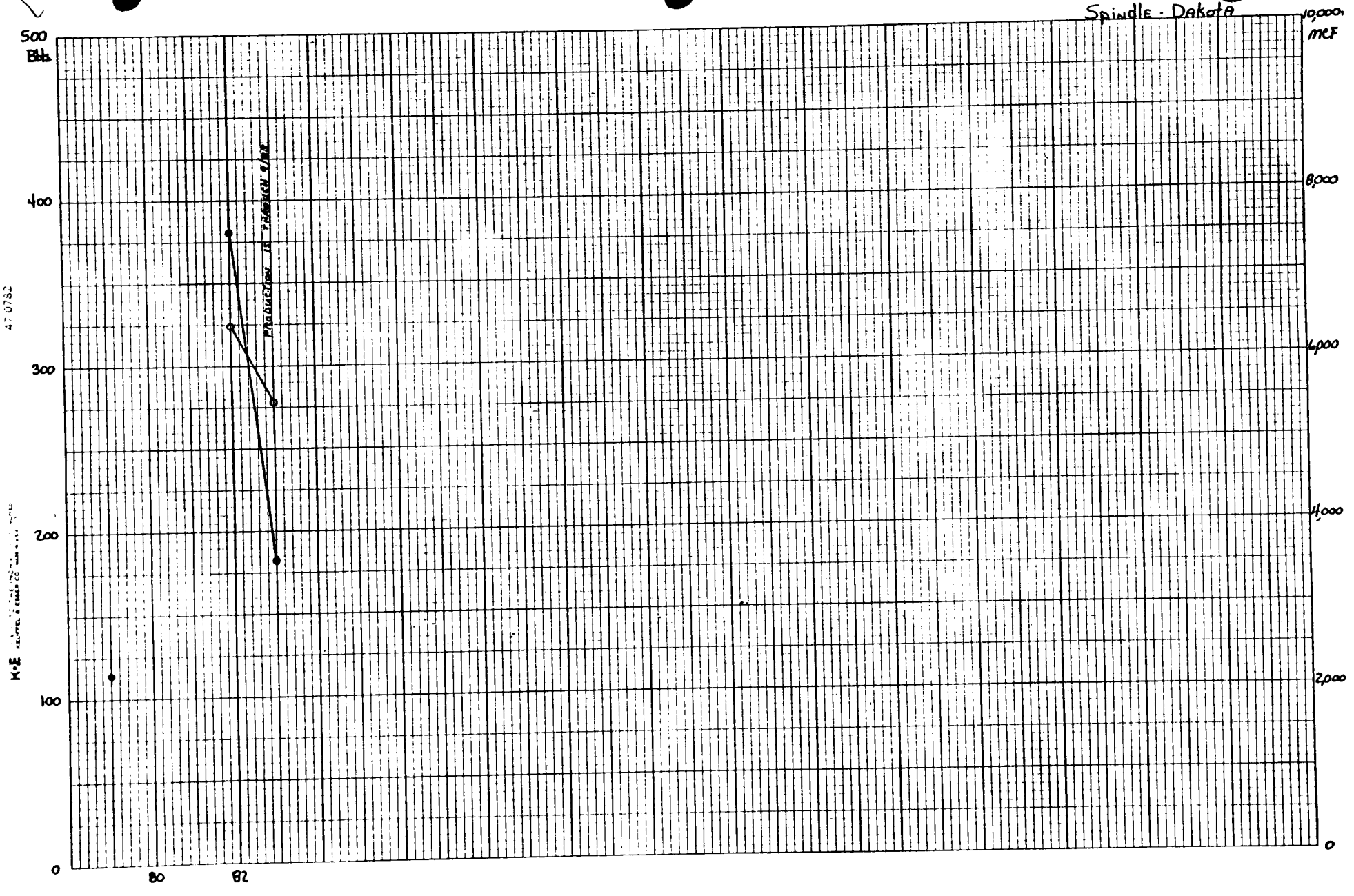
Sonat-D



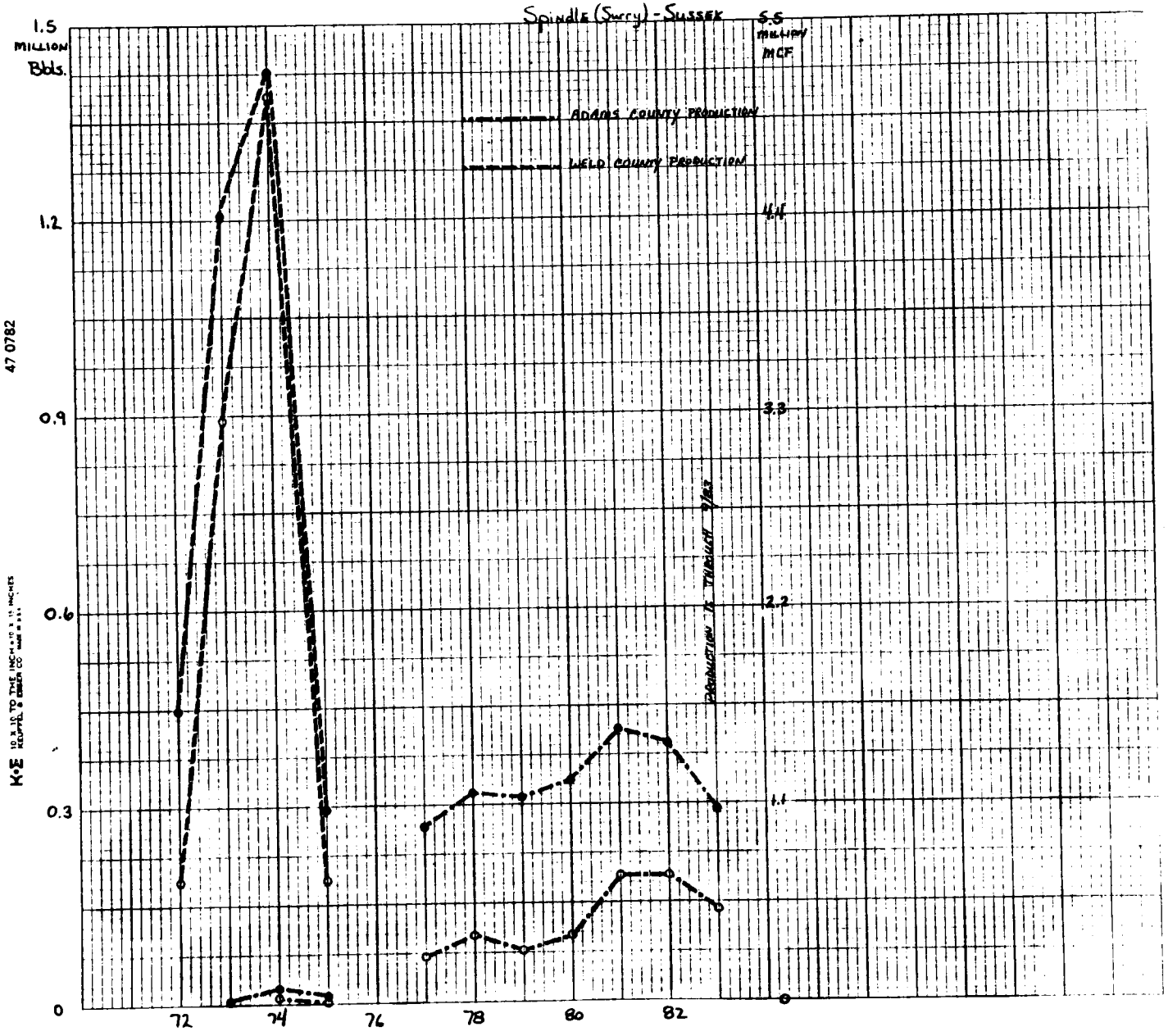

47 0782

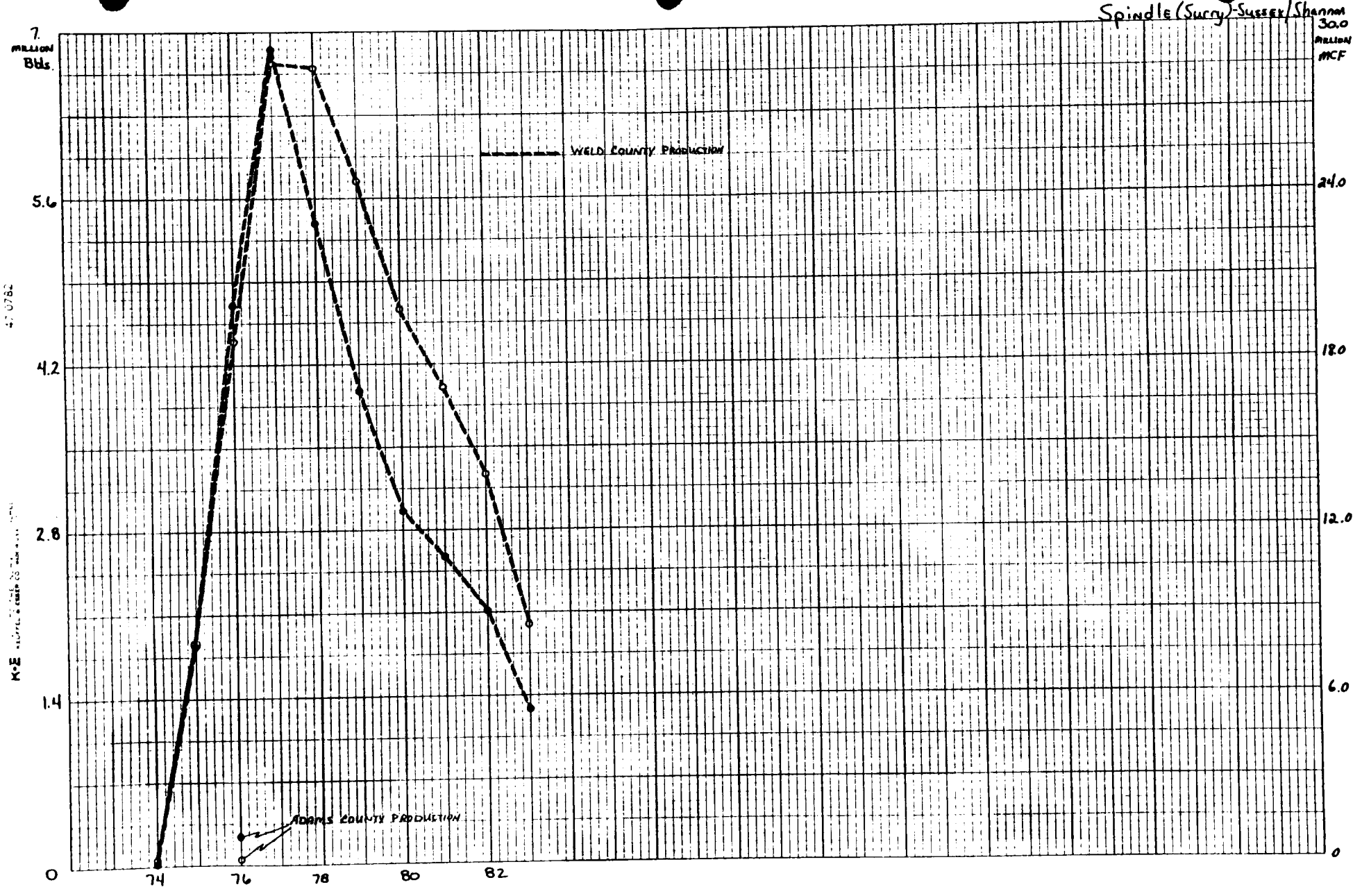

Sona and J
Rate
10,000
BBLS
8,000
6,000
4,000
2,000
0
80
82
Years
75,000
MCF
60,000
45,000
30,000
15,000
0

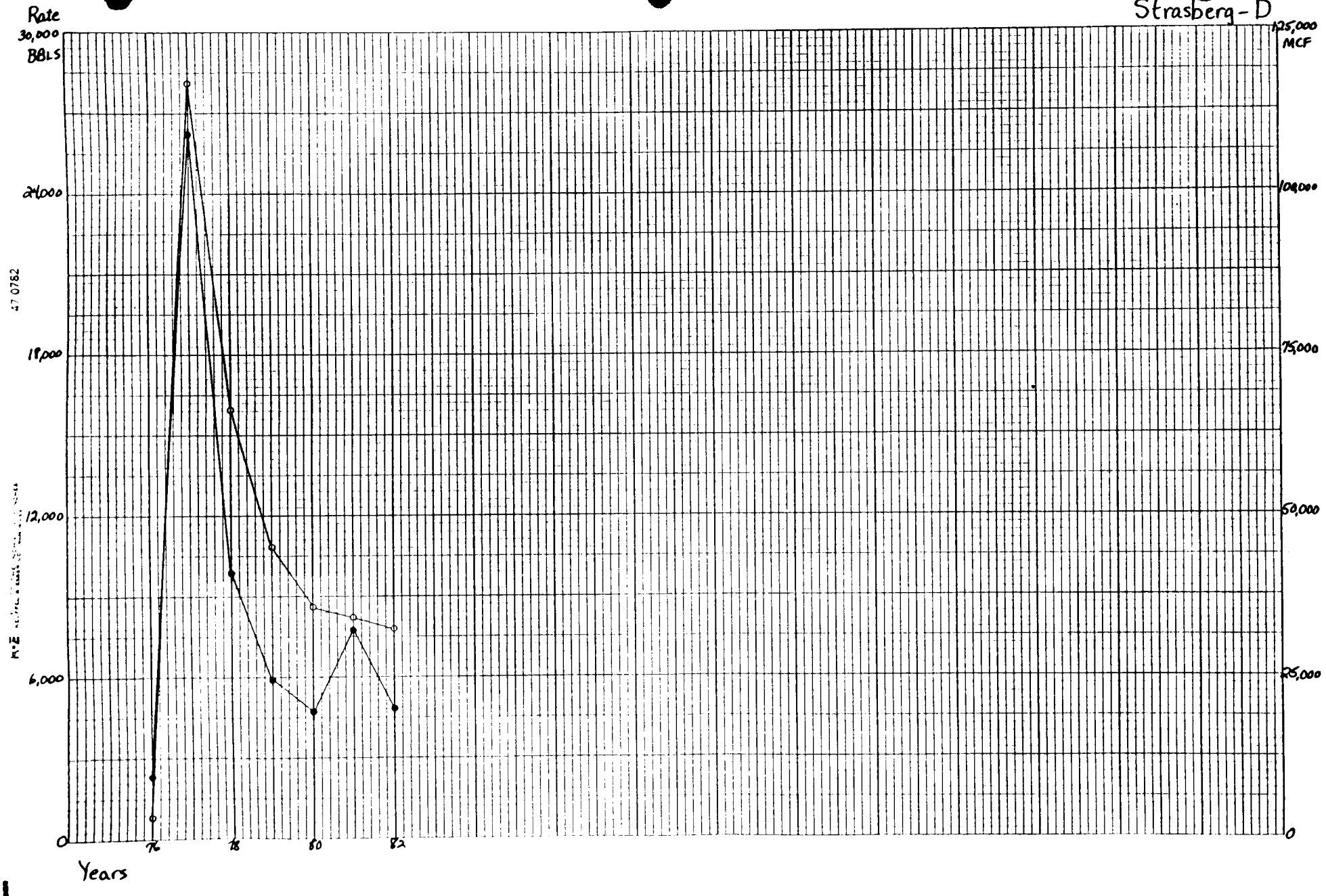

Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
Years
200,000
MCF
160,000
120,000
80,000
40,000
0

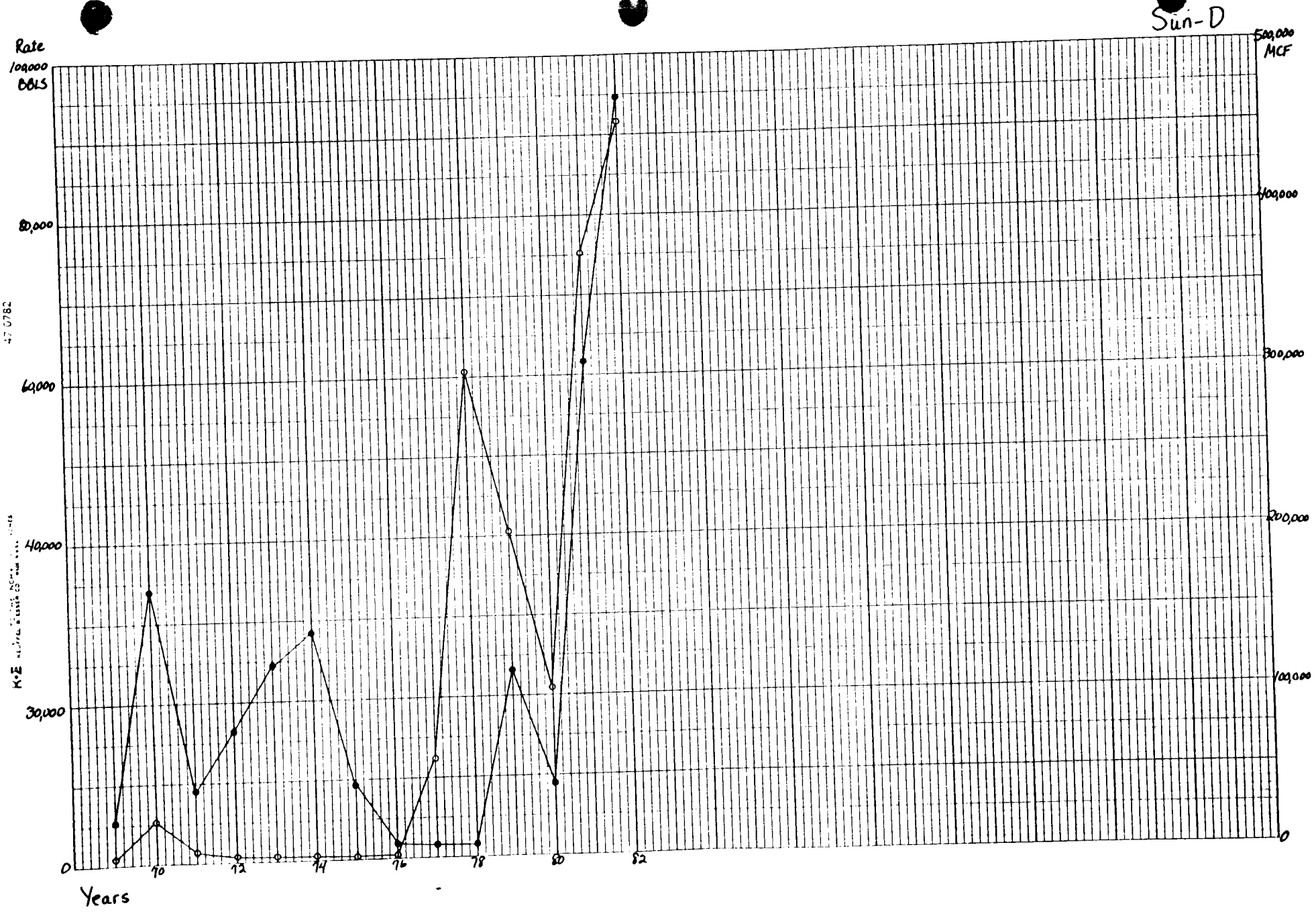

Spindle - Dakota
500
Bbls
400
300
200
100
0
10,000
mcf
8,000
6,000
4,000
2,000
0
80
82
Production in Bbls/mcf
47 0782

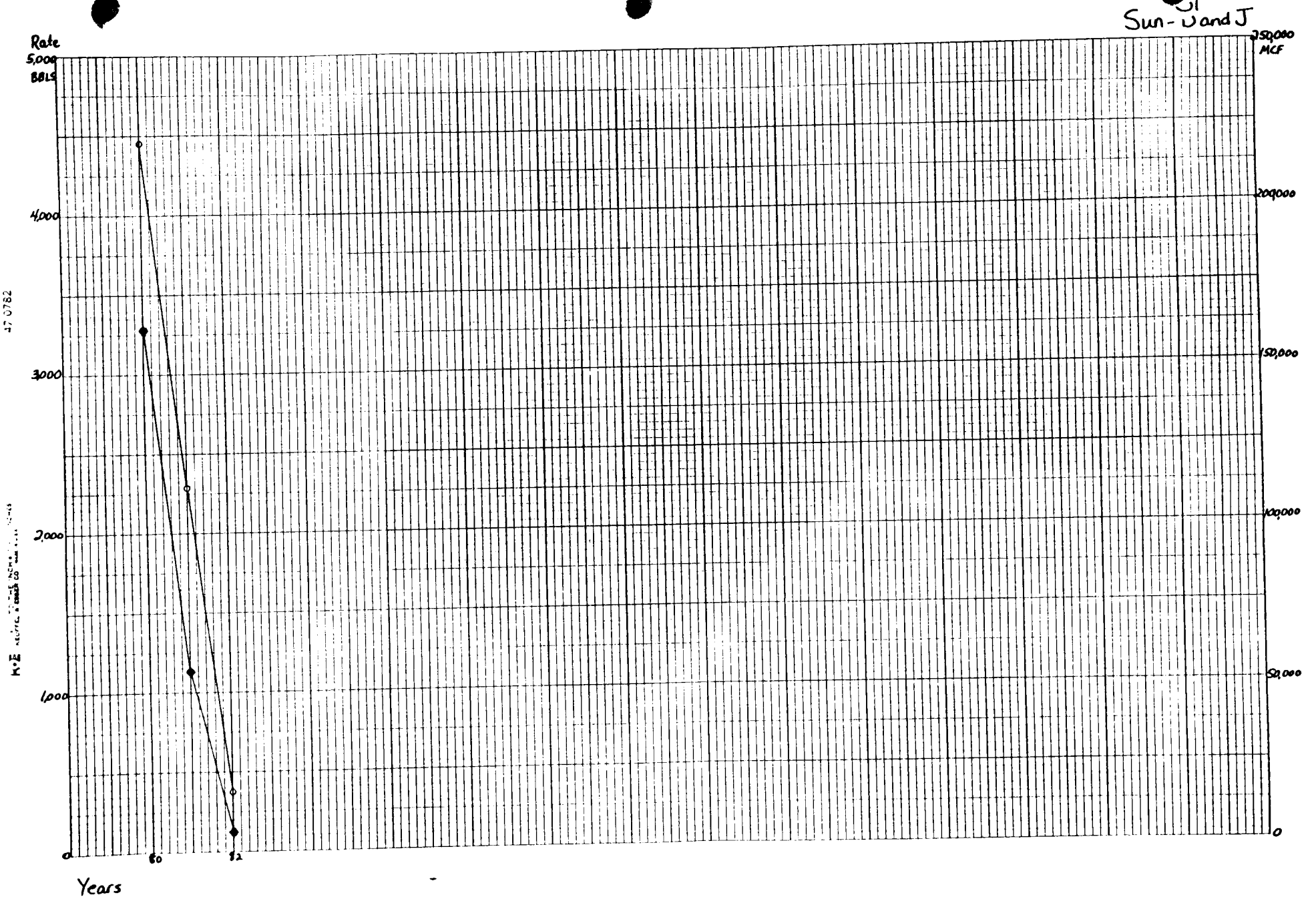

Spindle (Surry) - Niobrara / Sussex / Timpas / Cadell
170,000
Bbls.
136,000
102,000
68,000
34,000
0
300,000
MCF
240,000
180,000
120,000
60,000
0
74
76
78
80
82
PRODUCTION IS THROUGH 4/82
K•E

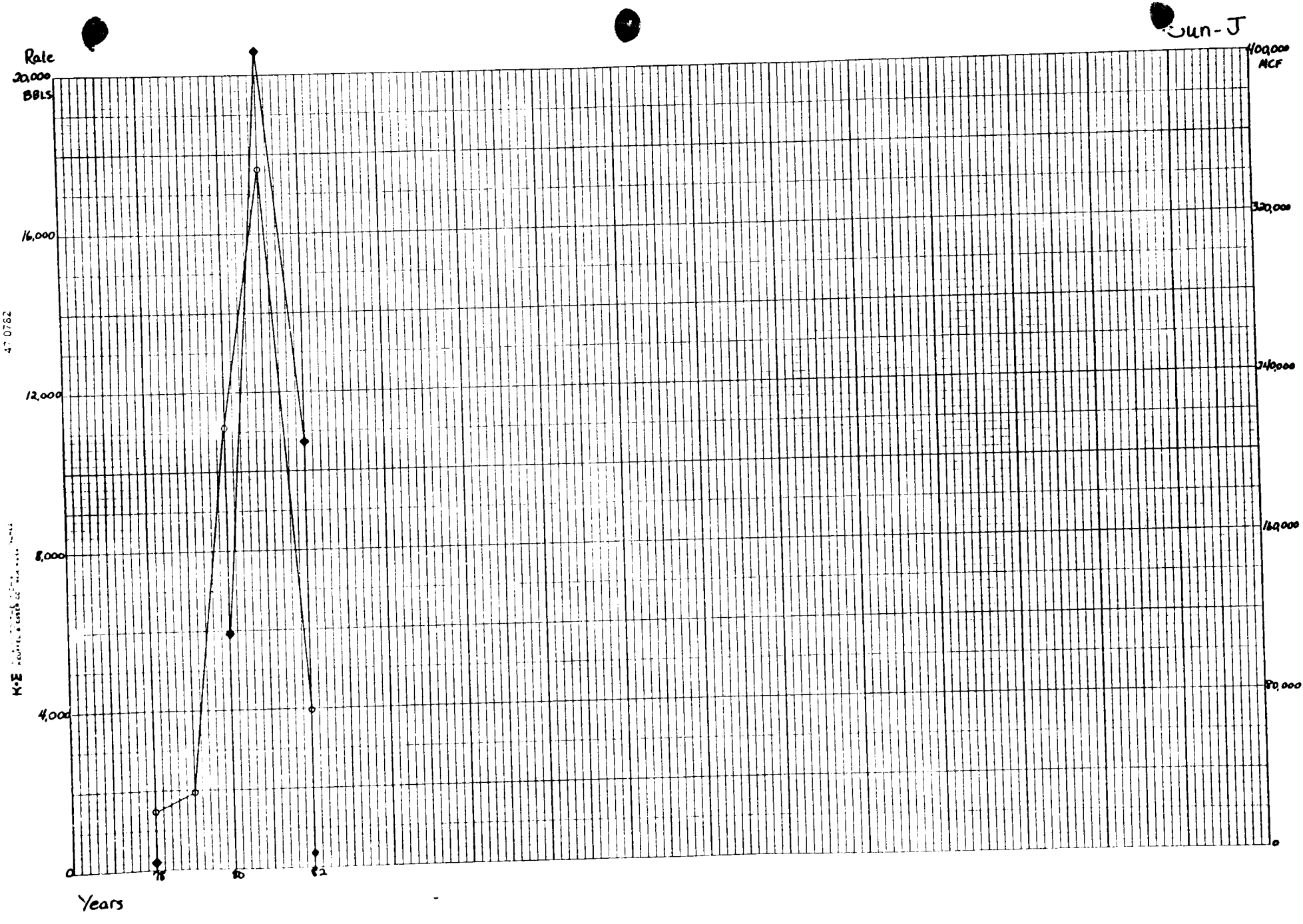

Spindle (Surry) - Sussex
1.5 MILLION Bbls.
1.2
0.9
0.6
0.3
0
5.5 MILLION MCF
4.4
3.3
2.2
1.1
0
ADAMS COUNTY PRODUCTION
LIELD COUNTY PRODUCTION
PRODUCTION IN THOUSAND BBLS
72
74
76
78
80
82
47 0782
K&E

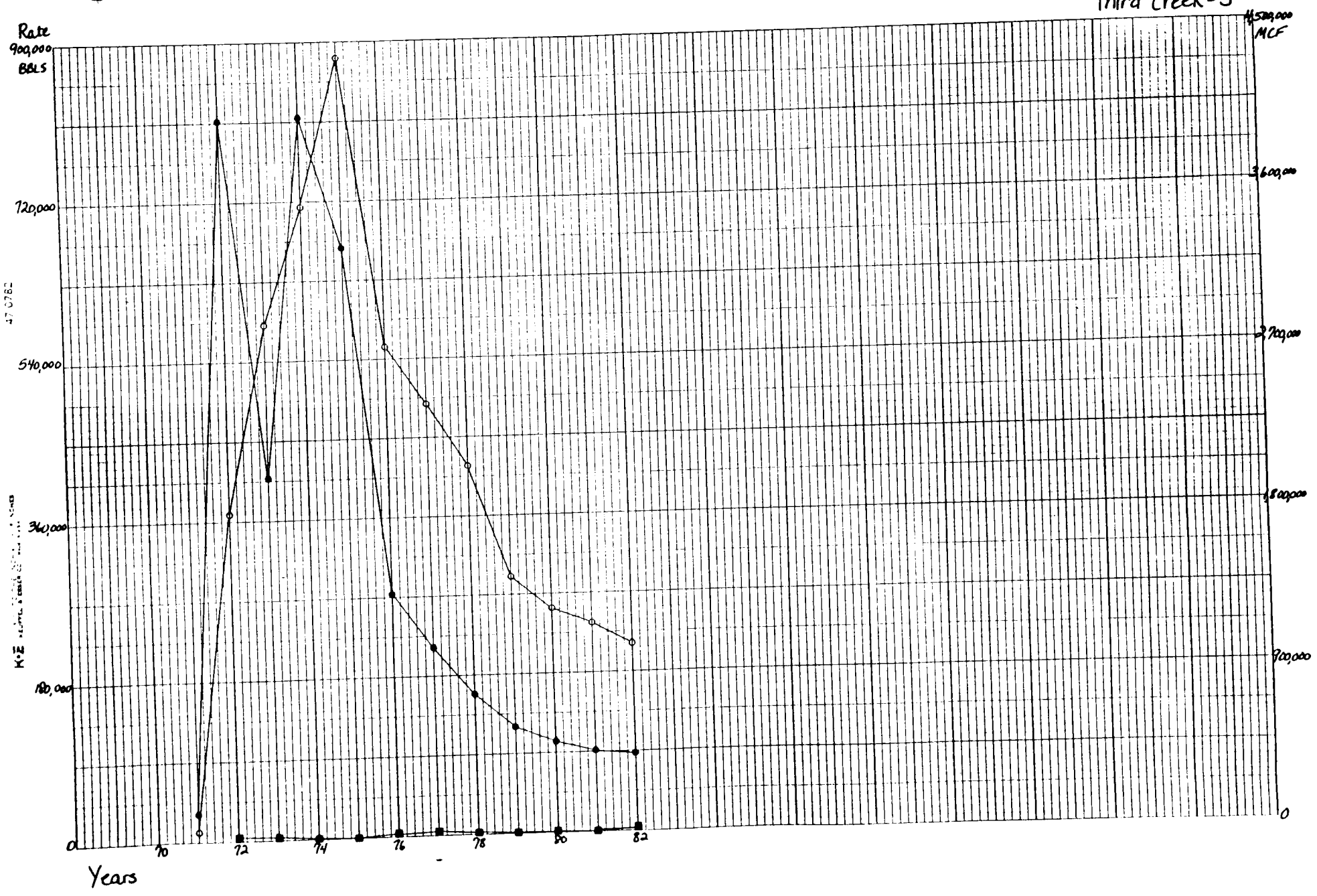

Spindle (Surry)-Sussex/Shannon
7.
MILLION
BBLS.
5.6
4.2
2.8
1.4
0
30.0
MILLION
MCF
24.0
18.0
12.0
6.0
0
WELD COUNTY PRODUCTION
ADAMS COUNTY PRODUCTION
74
76
78
80
82
K-E


Strasberg - D
Rate
30,000
BBLS
24000
18,000
12,000
6,000
0
125,000
MCF
100,000
75,000
50,000
25,000
0
78
80
82
Years

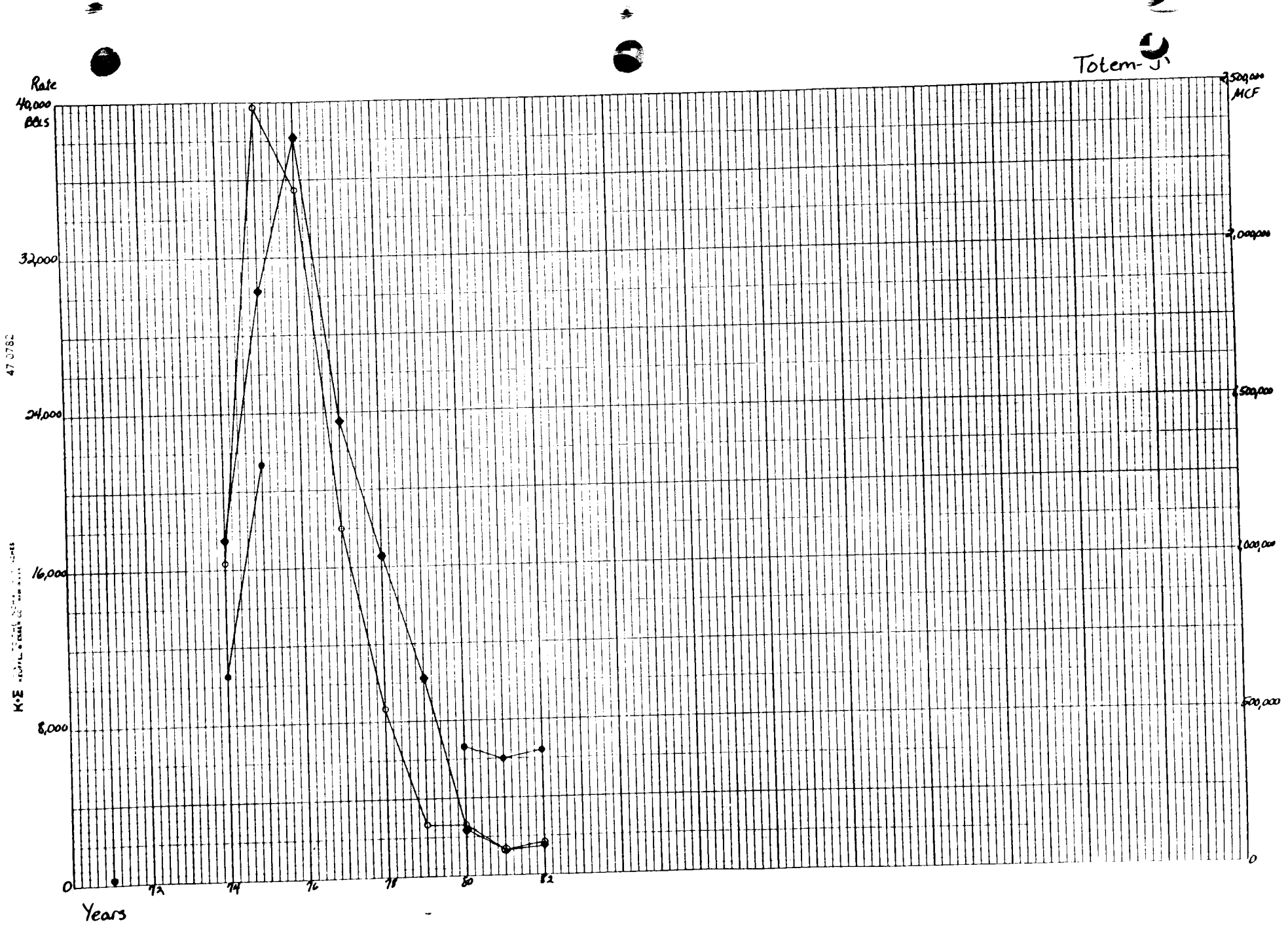

Sun-D
Rate
100,000
BBLS
80,000
60,000
40,000
30,000
0
500,000
MCF
400,000
300,000
200,000
100,000
0
70
72
74
76
78
80
82
Years

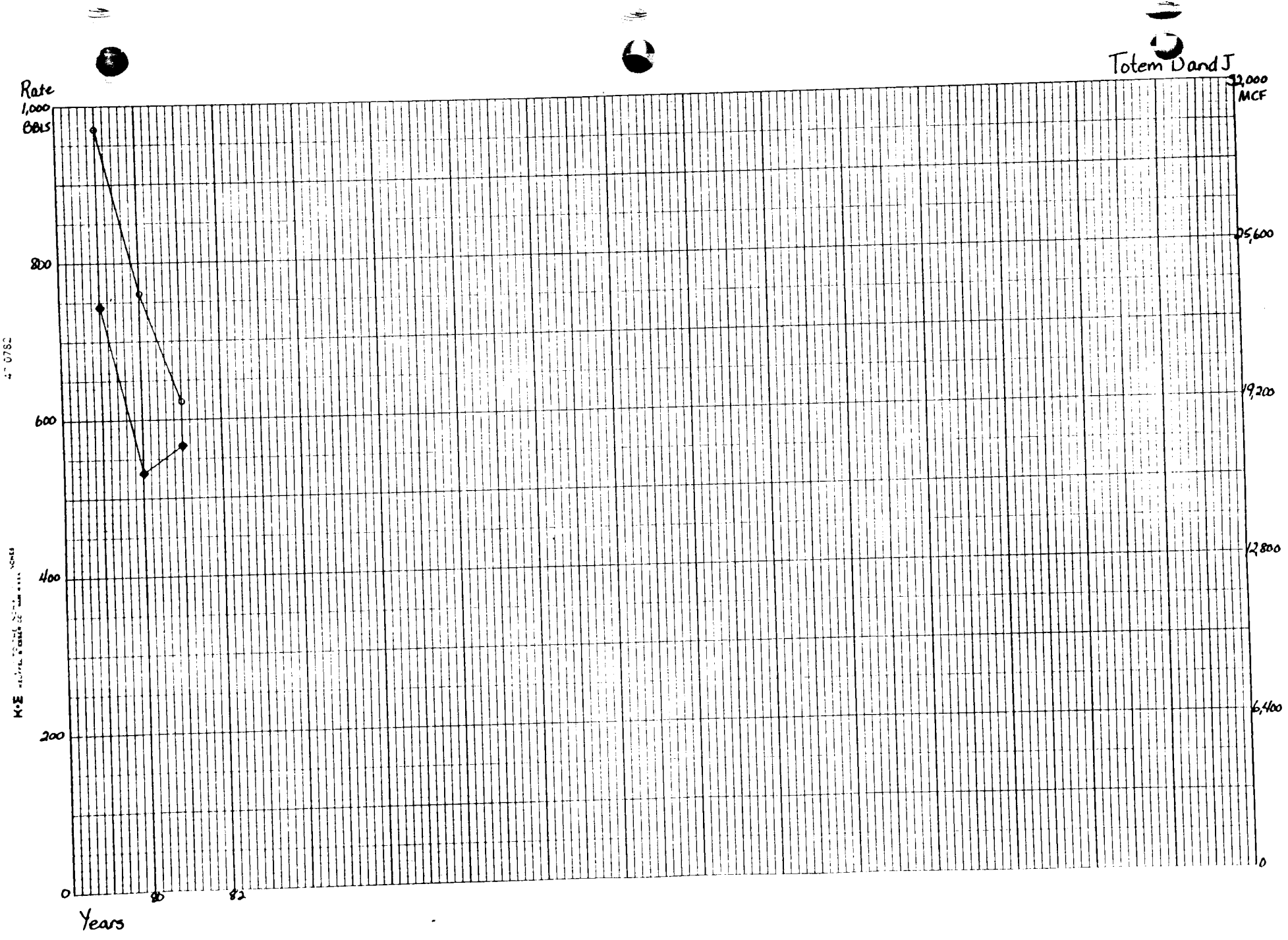

Sun - J and J
Rate
5,000
BBLS
4,000
3000
2,000
1,000
0
250,000
MCF
200,000
150,000
100,000
50,000
0
60
72
Years

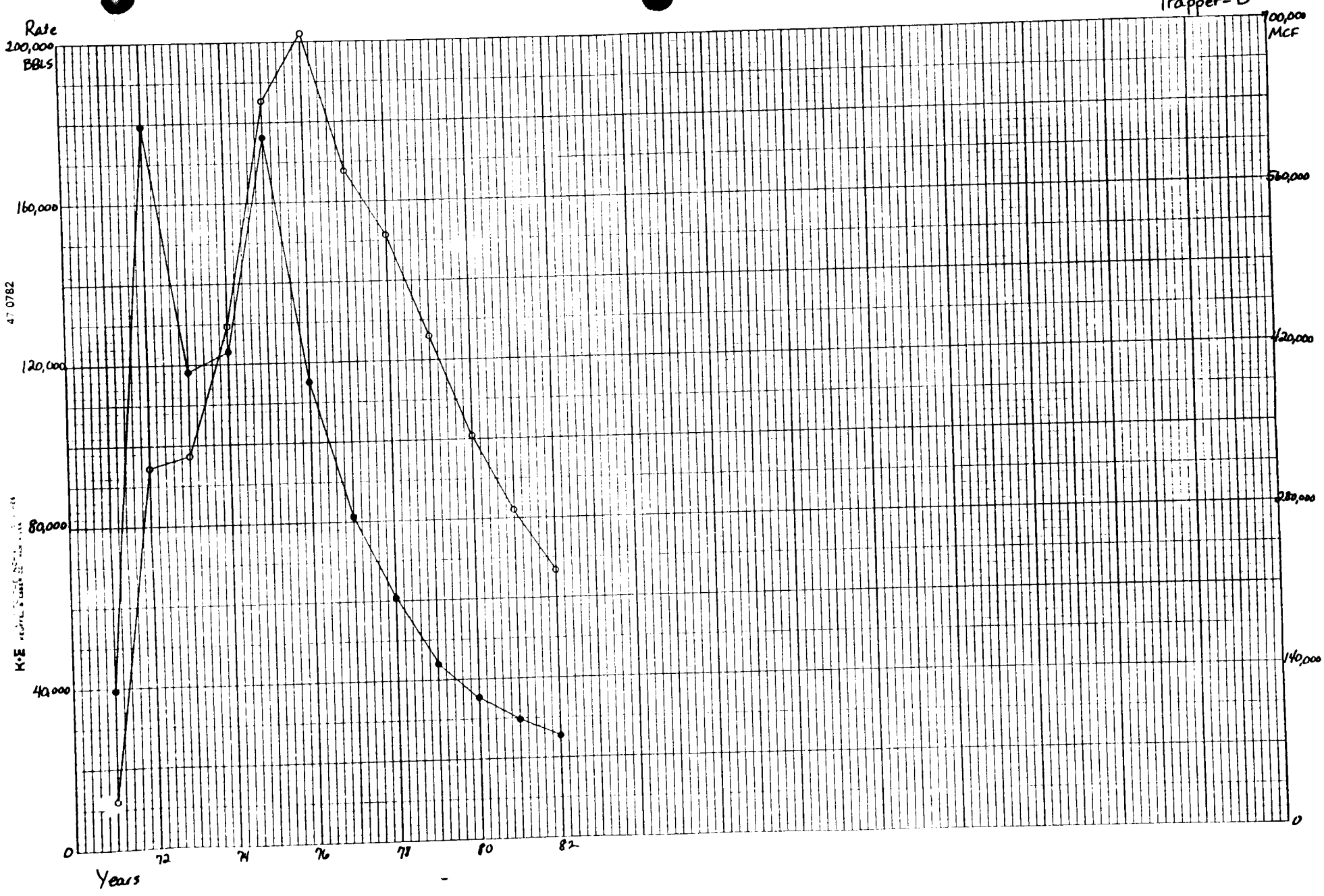

Jun-J
Rate
20,000
BBLS
16,000
12,000
8,000
4,000
0
400,000
MCF
320,000
240,000
160,000
80,000
0
78
80
82
Years

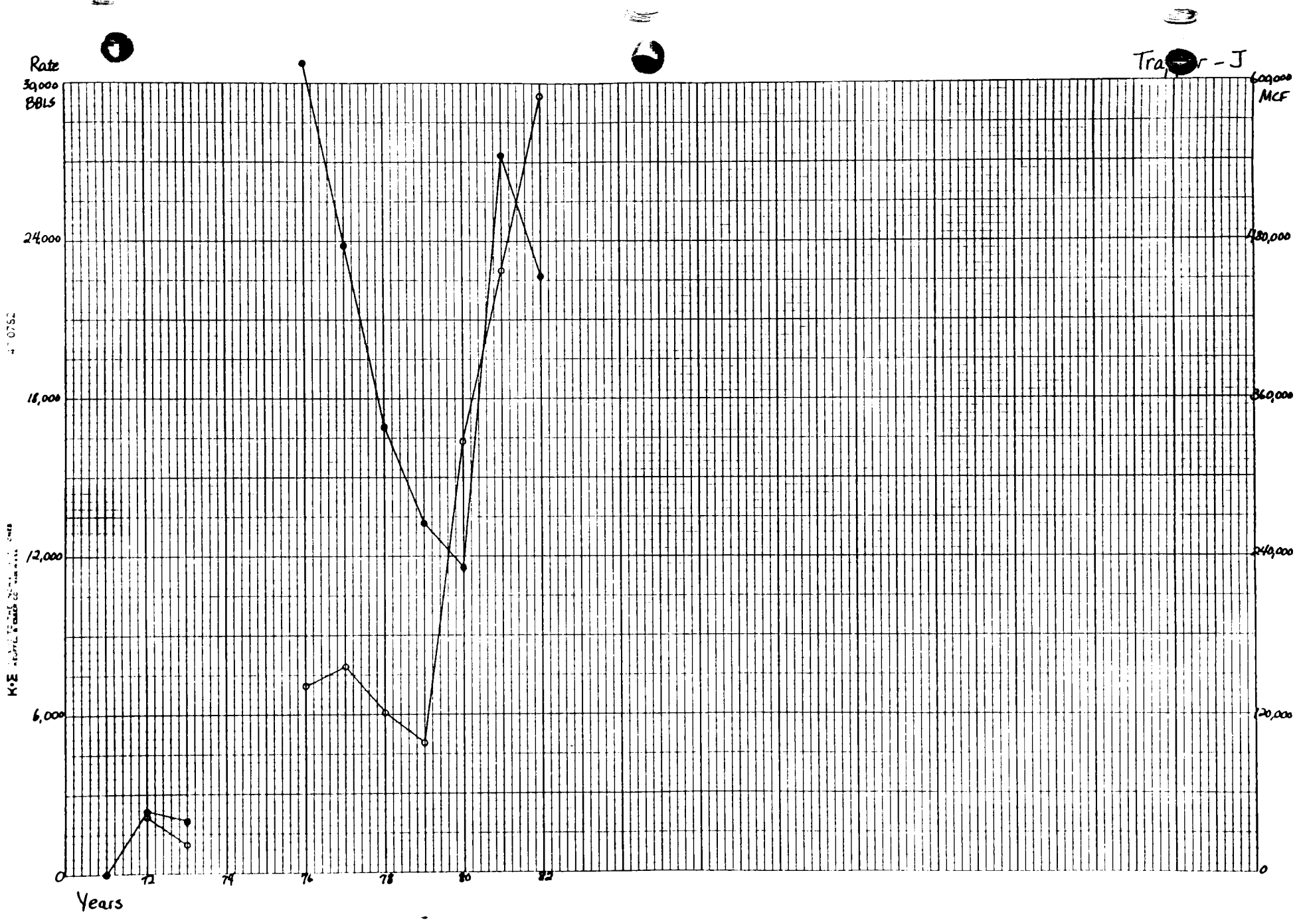

Third Creek-J
Rate
900,000
BBLS
720,000
540,000
360,000
180,000
0
4500,000
MCF
3600,000
2700,000
1800,000
900,000
0
70
72
74
76
78
80
82
Years

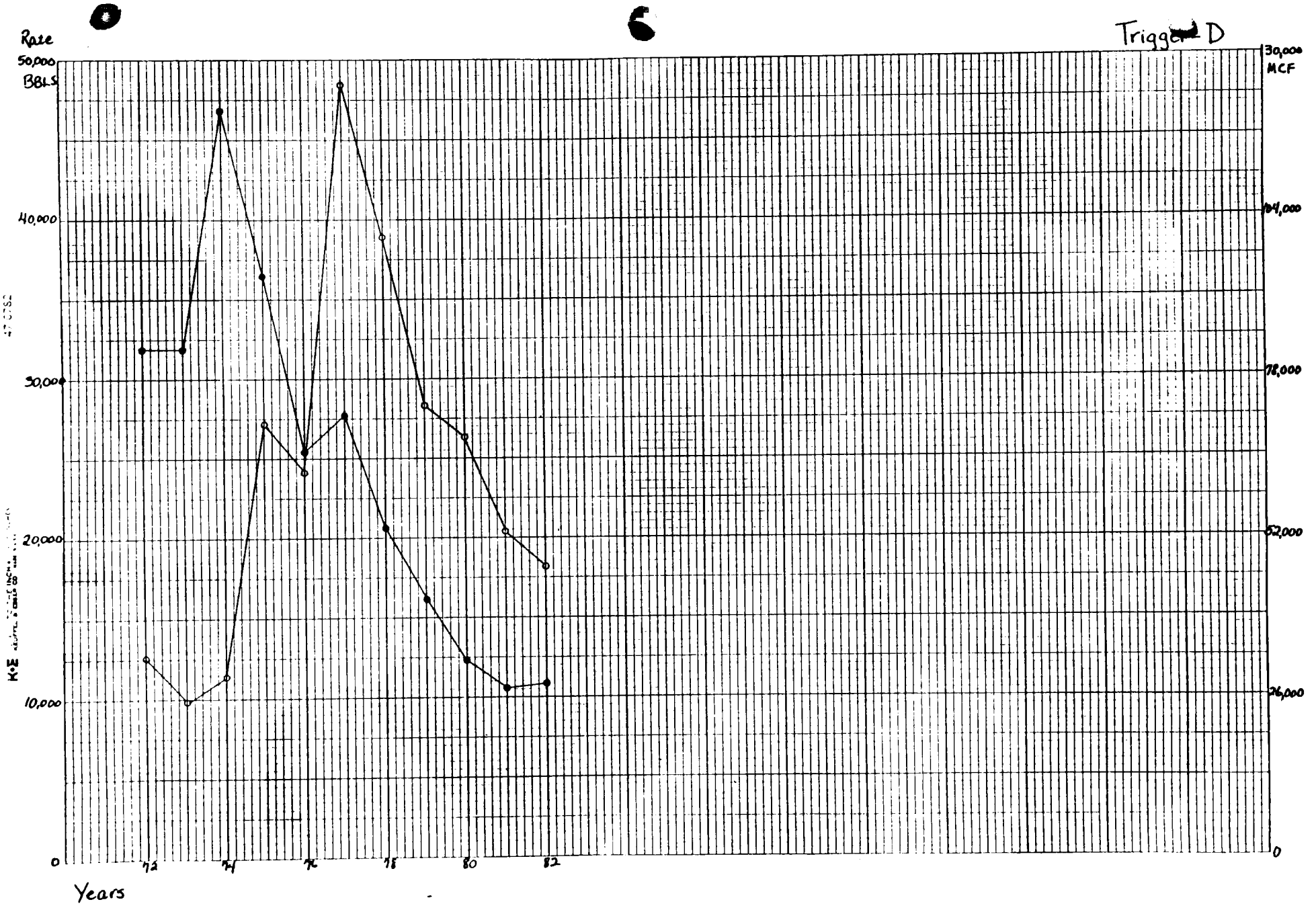

Totem-D
Rate
25,000
BBLS
20,000
15,000
10,000
5,000
0
90,000
MCF
60,000
45,000
30,000
15,000
0
NO PRODUCTION RECORDED
72
74
76
78
80
82
Years

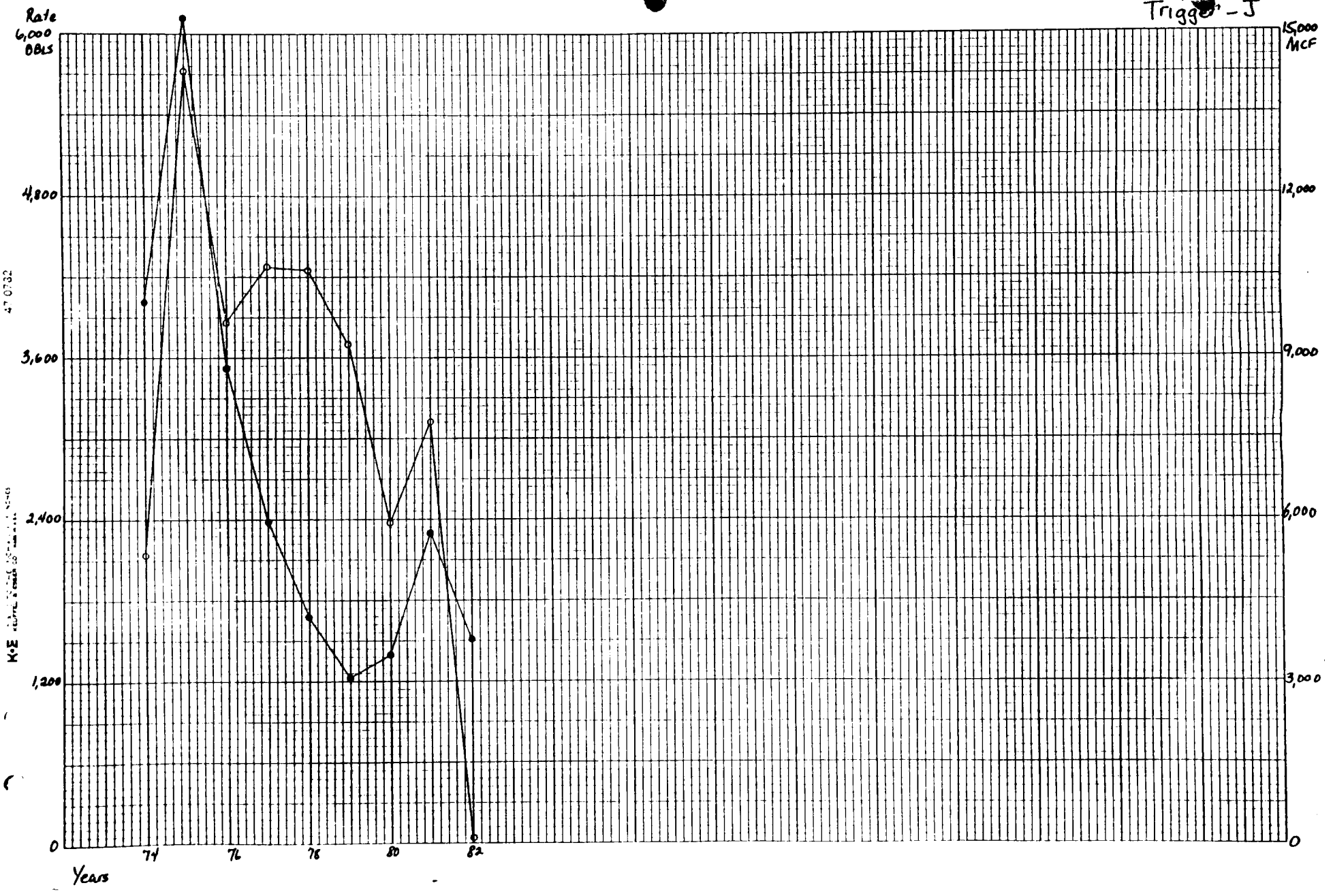

Totem-J
Rate
40,000
Bbls
32,000
24,000
16,000
8,000
0
2,500,000
MCF
2,000,000
1,500,000
1,000,000
500,000
0
72
74
76
78
80
82
Years
47 0782
K·E

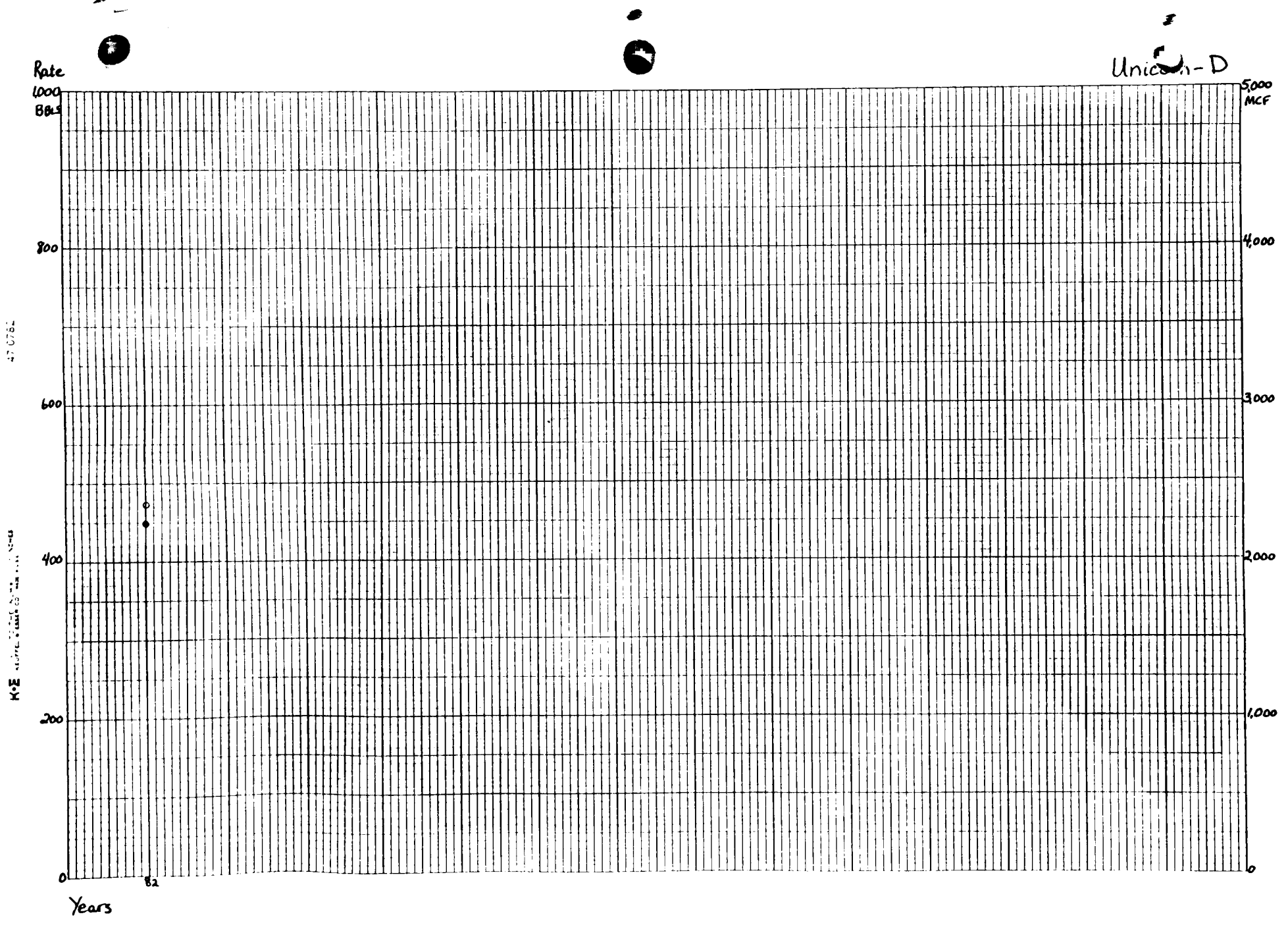

Totem D and J
Rate
1,000
BBLS
800
600
400
200
0
80
82
Years
32,000
MCF
25,600
19,200
12,800
6,400
0


Trapper-D
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
72
74
76
78
80
82
Years
47 0782
K+E

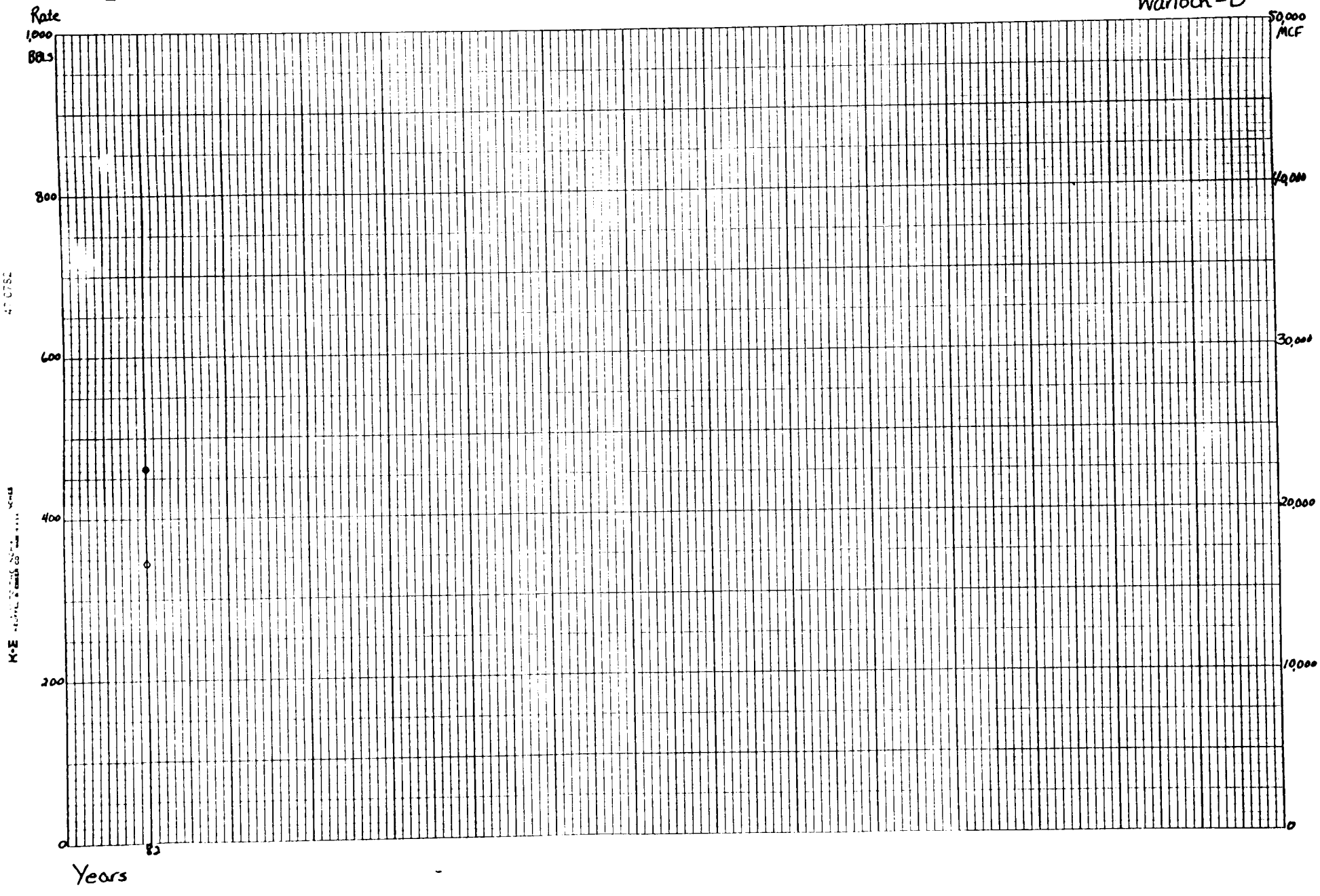

Rate
30,000
BBLS
24,000
18,000
12,000
6,000
0
600,000
MCF
480,000
360,000
240,000
120,000
0
72
74
76
78
80
82
Years

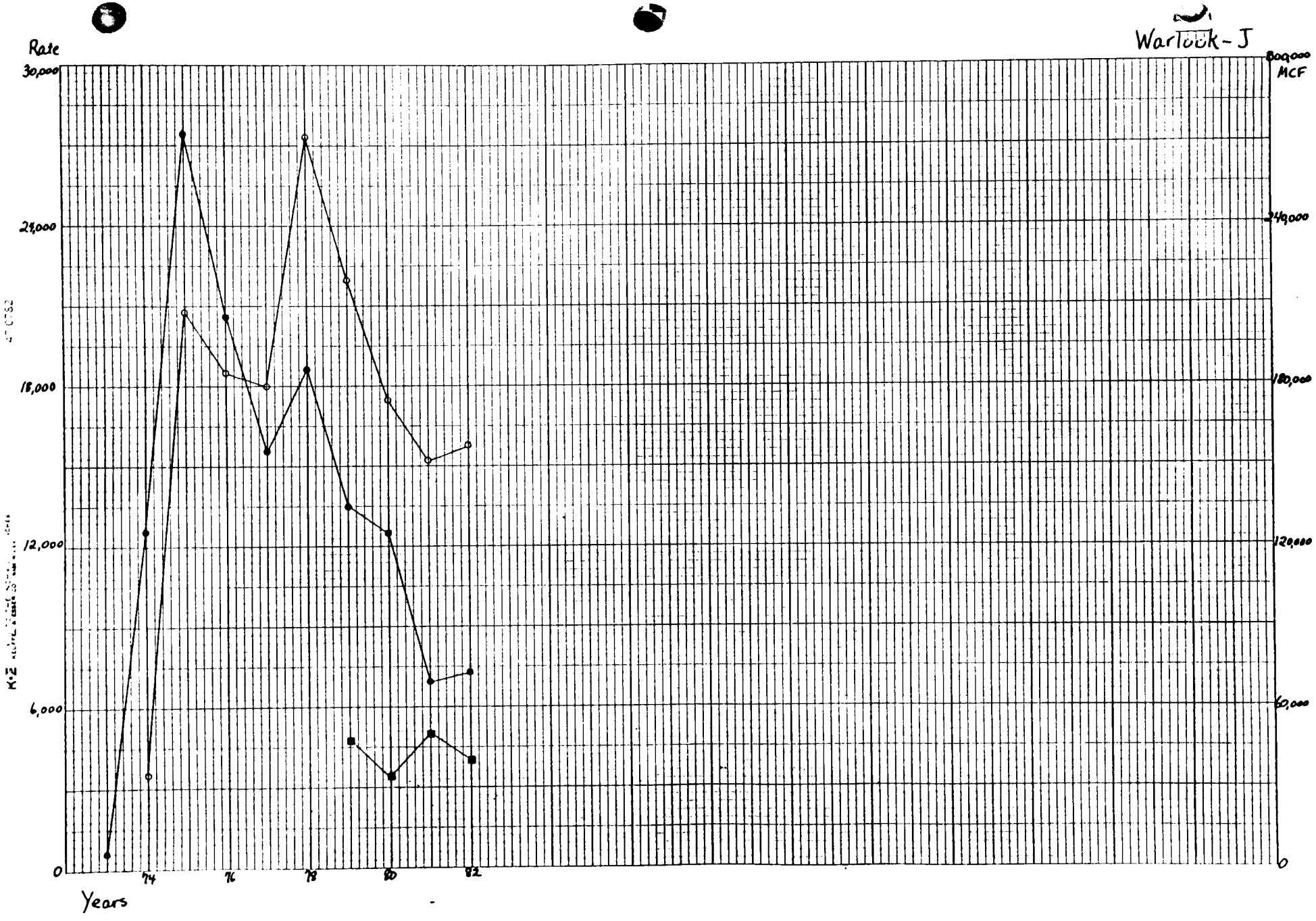

Rate
50,000
BBLS
40,000
30,000
20,000
10,000
0
30,000
MCF
24,000
18,000
12,000
6,000
0
72
74
76
78
80
82
Years

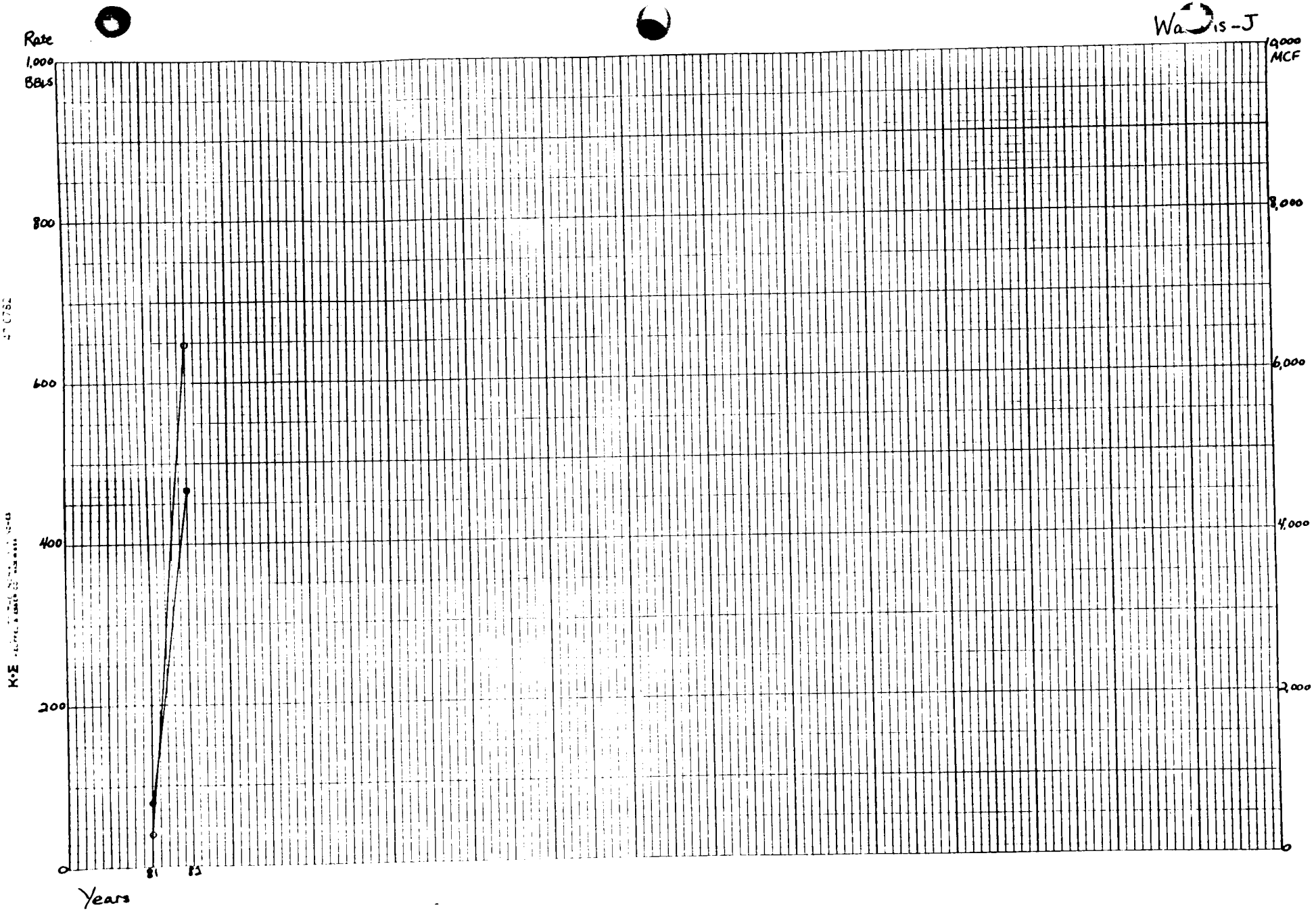

Rate
6,000 BBLS
4,800
3,600
2,400
1,200
0
15,000 MCF
12,000
9,000
6,000
3,000
0
74
76
78
80
82
Years
Trigg - J

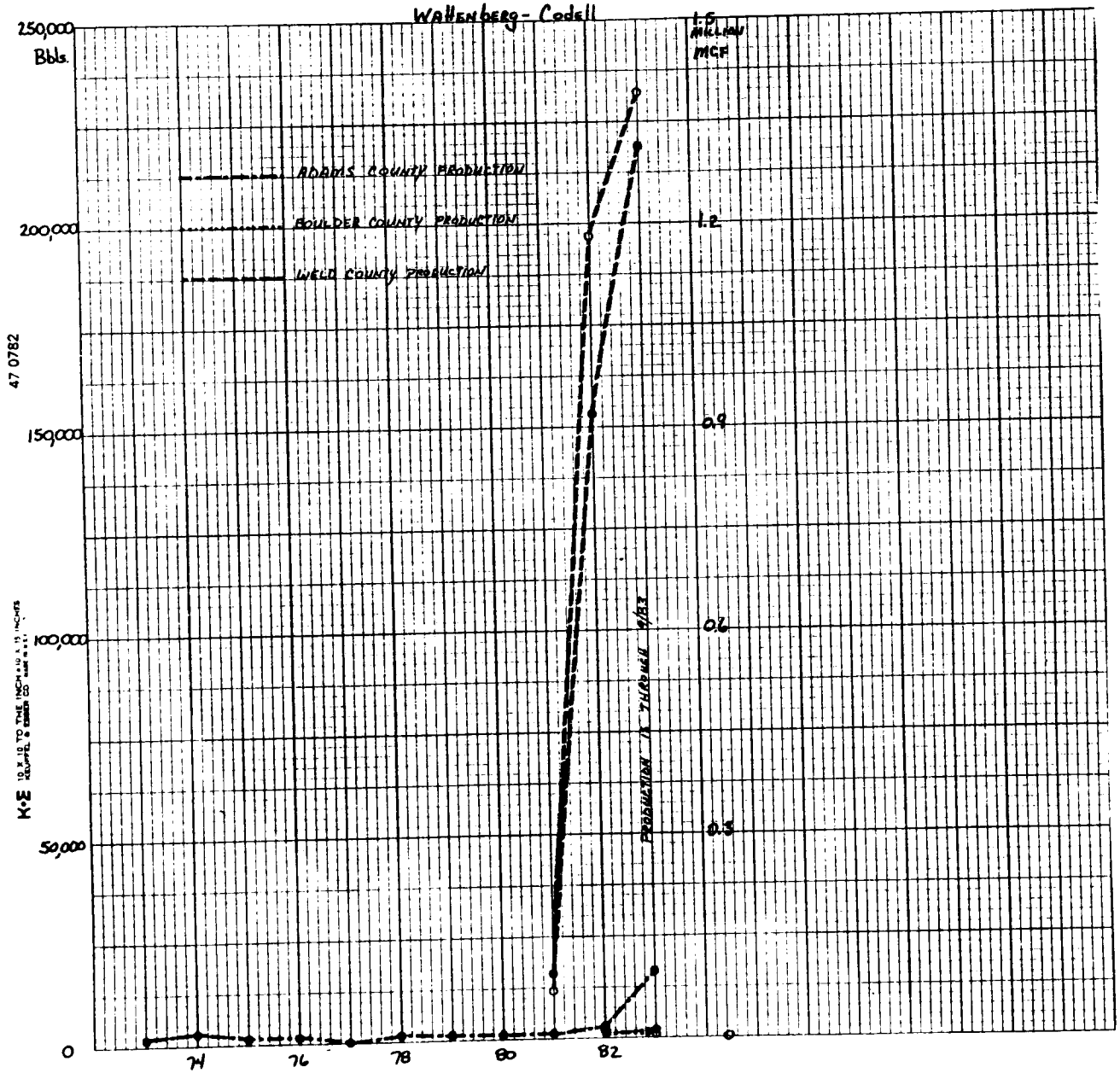

Rate
1000
BBLS
800
600
400
200
0
5,000
MCF
4,000
3,000
2,000
1,000
0
82
Years

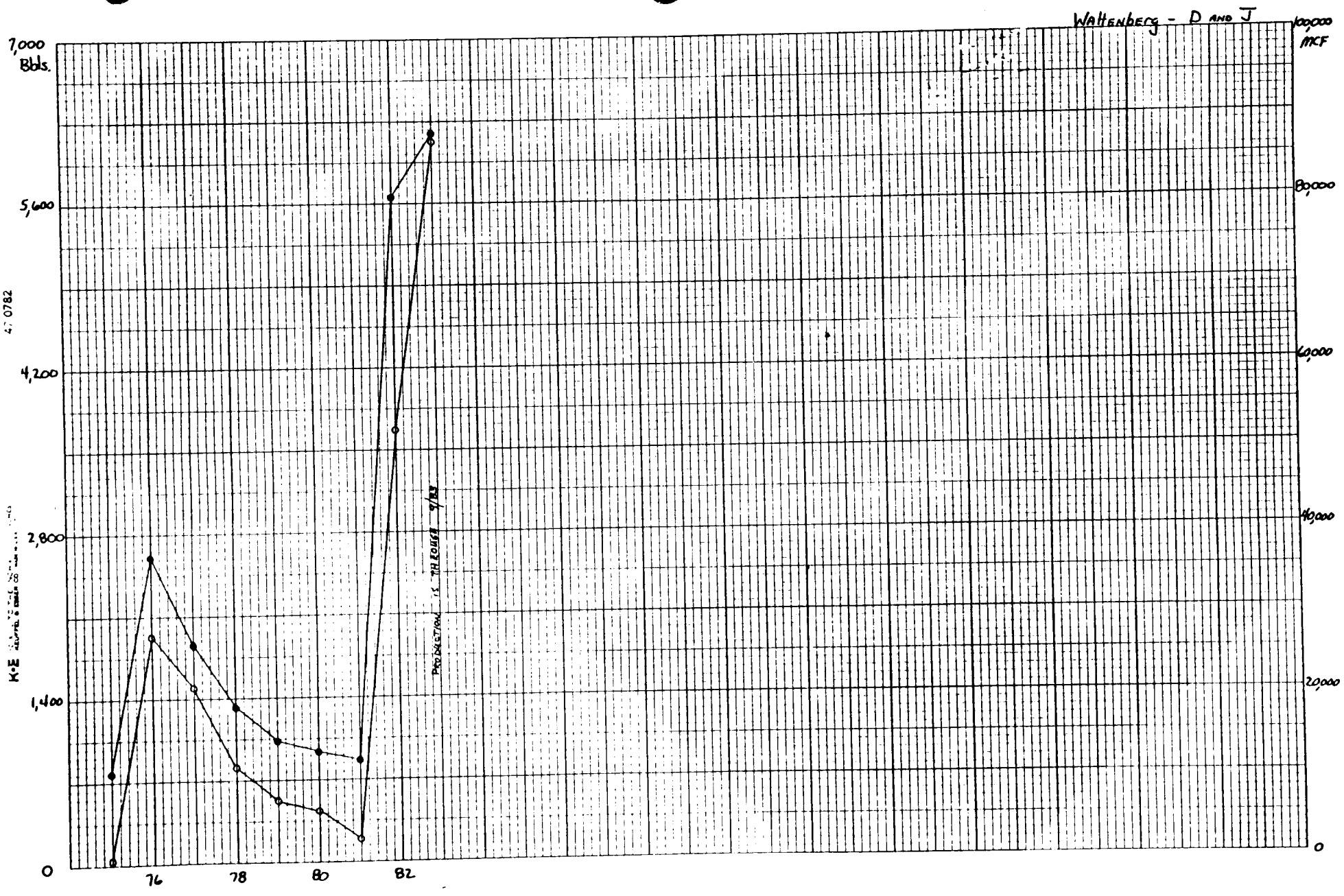
Warlock-D

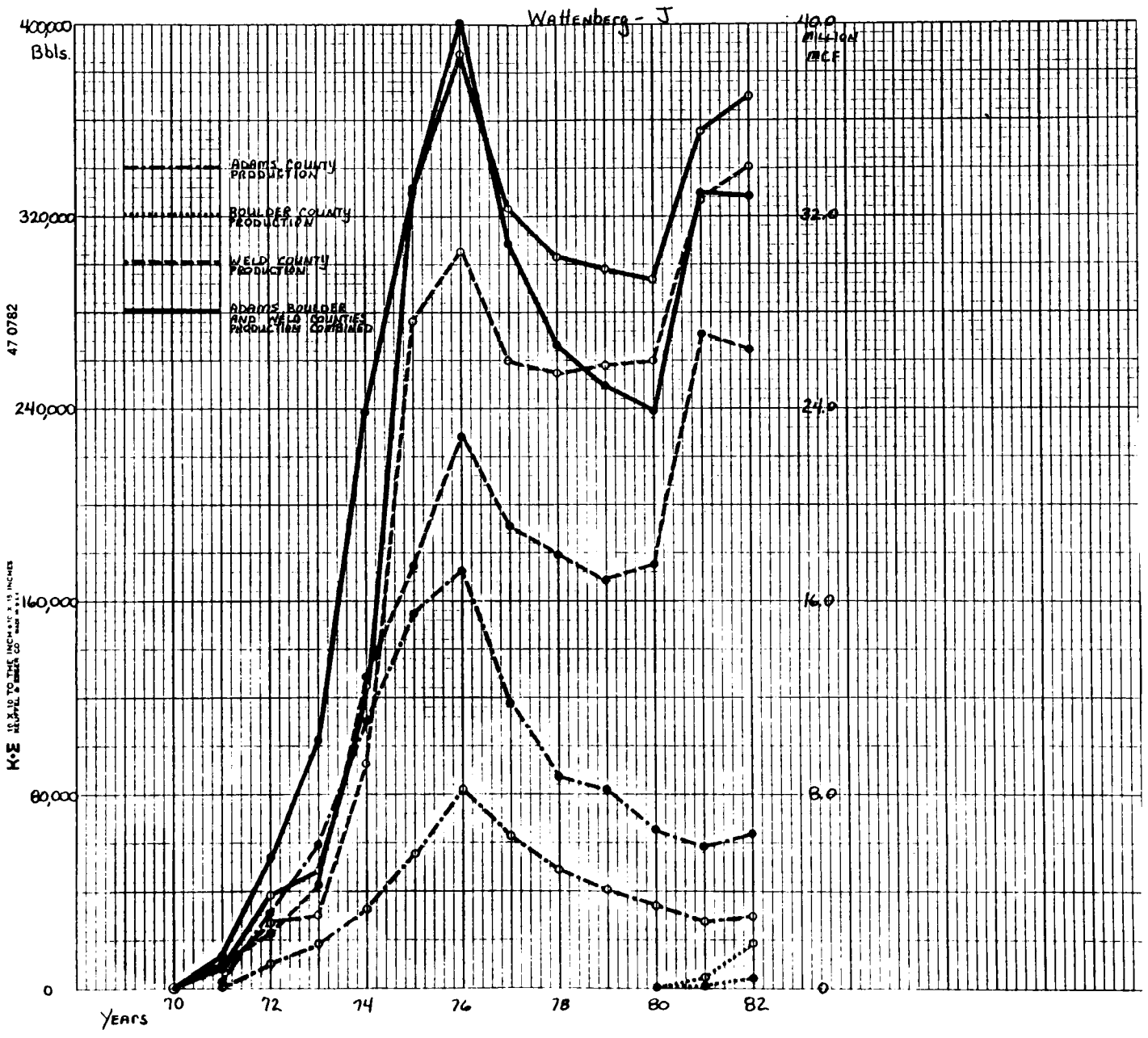

Rate
1,000
BBLS
800
600
400
200
0
50,000
MCF
40,000
30,000
20,000
10,000
0
83
Years

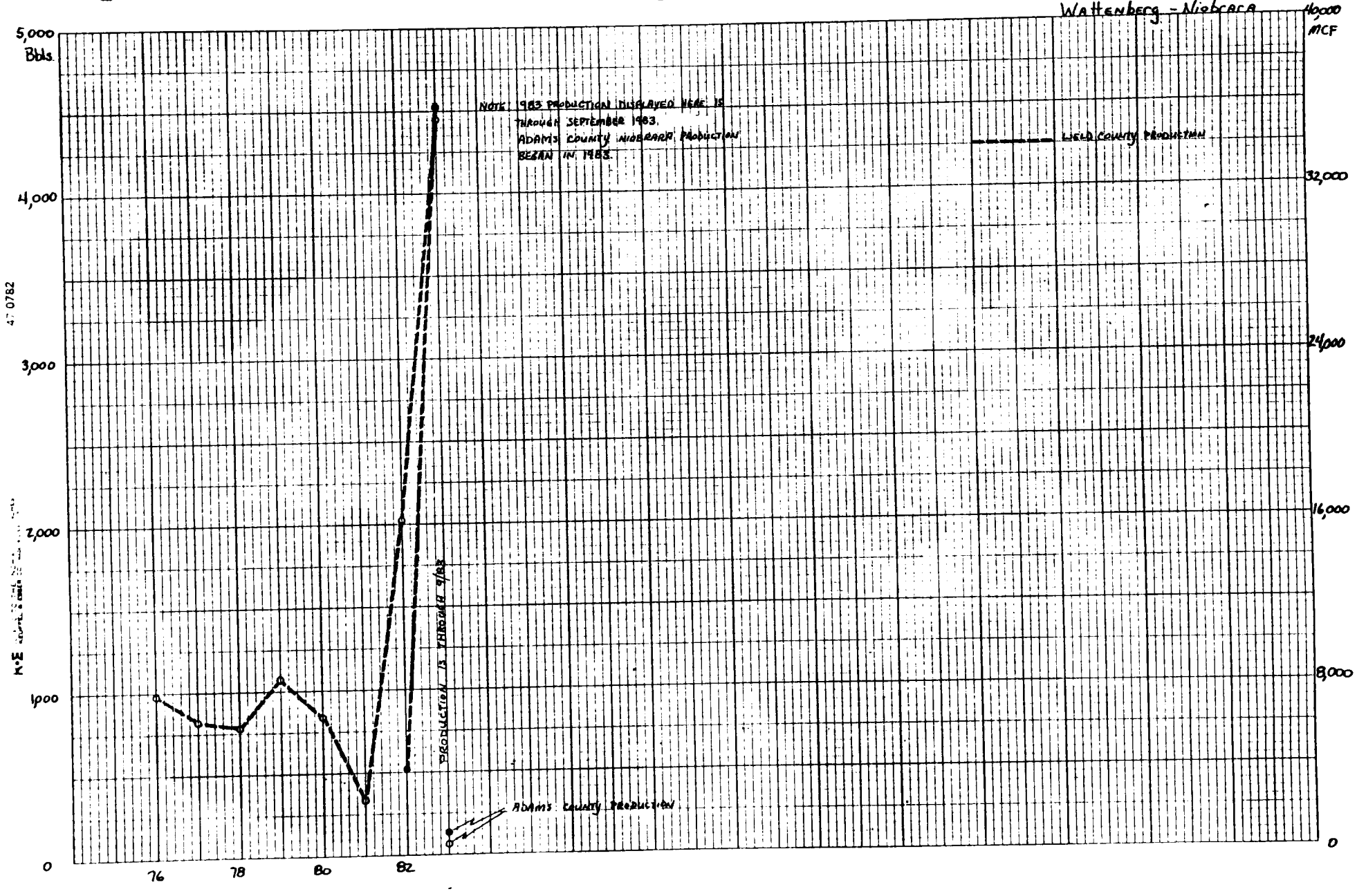

Rate
30,000
24,000
18,000
12,000
6,000
0
74
76
78
80
82
Years
MCF
240,000
180,000
120,000
60,000
0

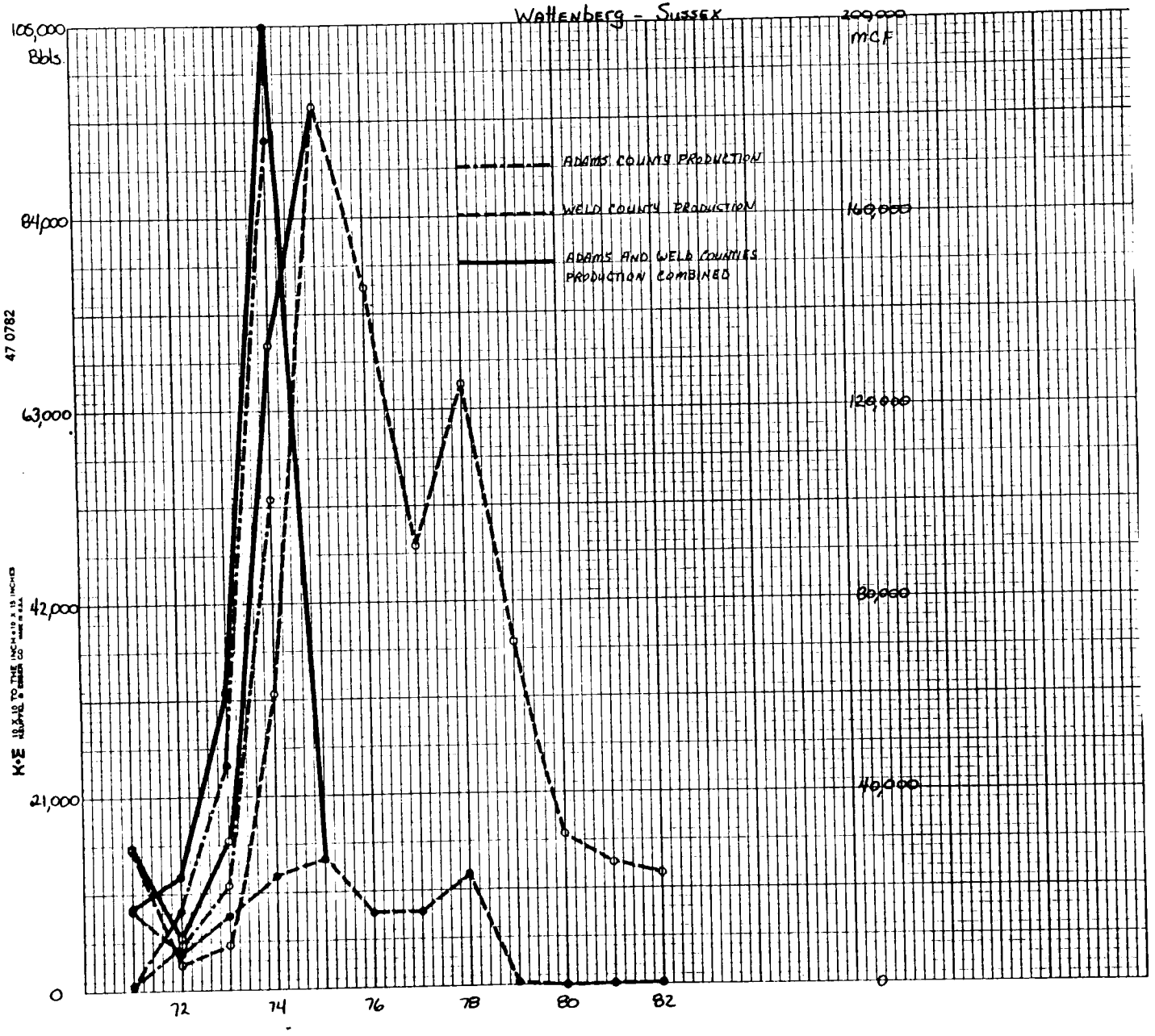

Rate
1,000
BBLS
800
600
400
200
0
10,000
MCF
8,000
6,000
4,000
2,000
81
82
Years


WATTENBERG - CODELL
250,000
Bbls.
200,000
150,000
100,000
50,000
0
1.5
MILLION
MCF
1.2
0.9
0.6
0.3
ADAMS COUNTY PRODUCTION
BOULDER COUNTY PRODUCTION
WELD COUNTY PRODUCTION
PRODUCTION IN THOUSAND M/BBL
74
76
78
80
82
47 0782
K·E

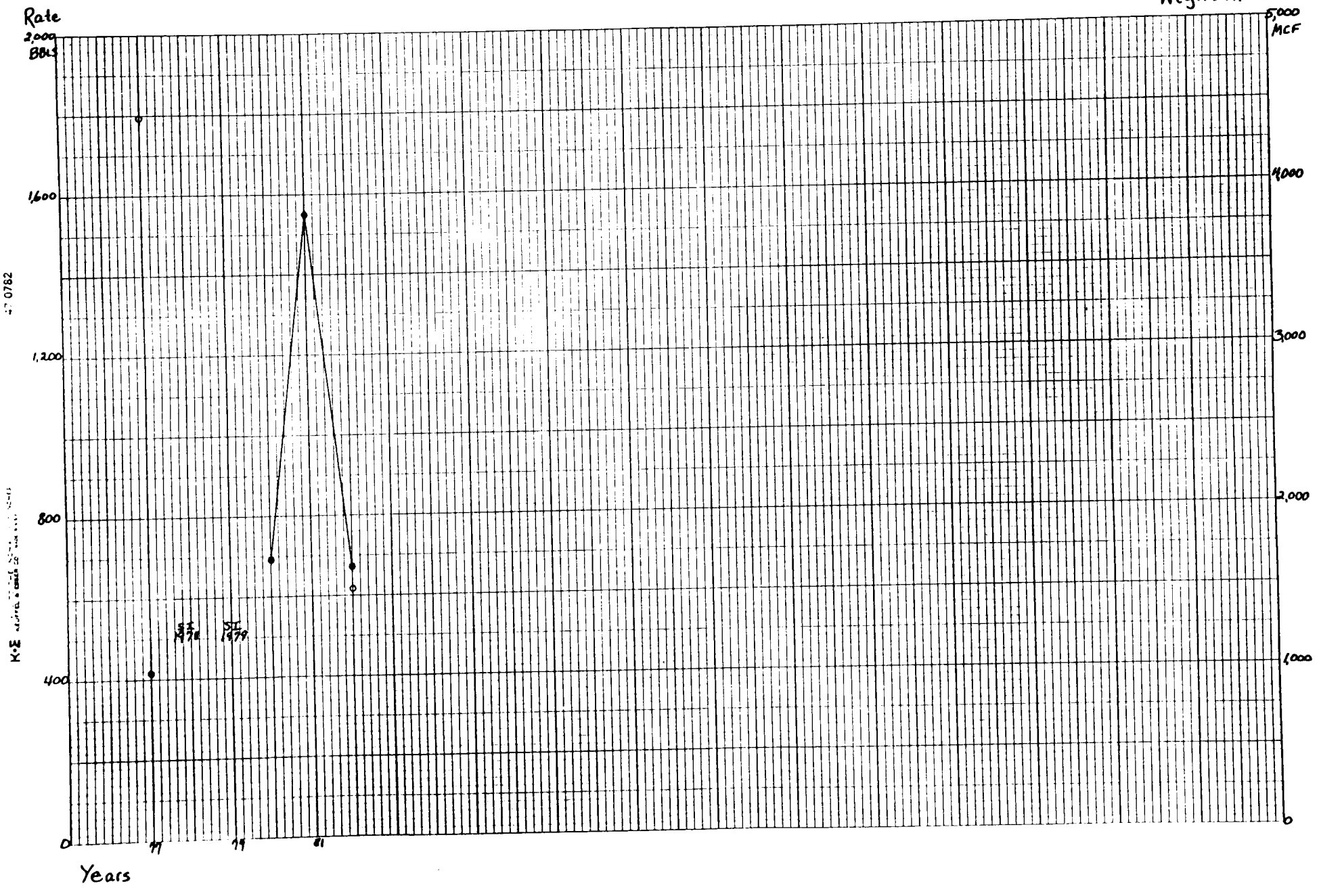

WATTENBERG - D AND J
7,000 Bbls.
5,600
4,200
2,800
1,400
0
100,000 MCF
80,000
60,000
40,000
20,000
0
76
78
80
82
PRODUCTION IS THROUGH 9/84

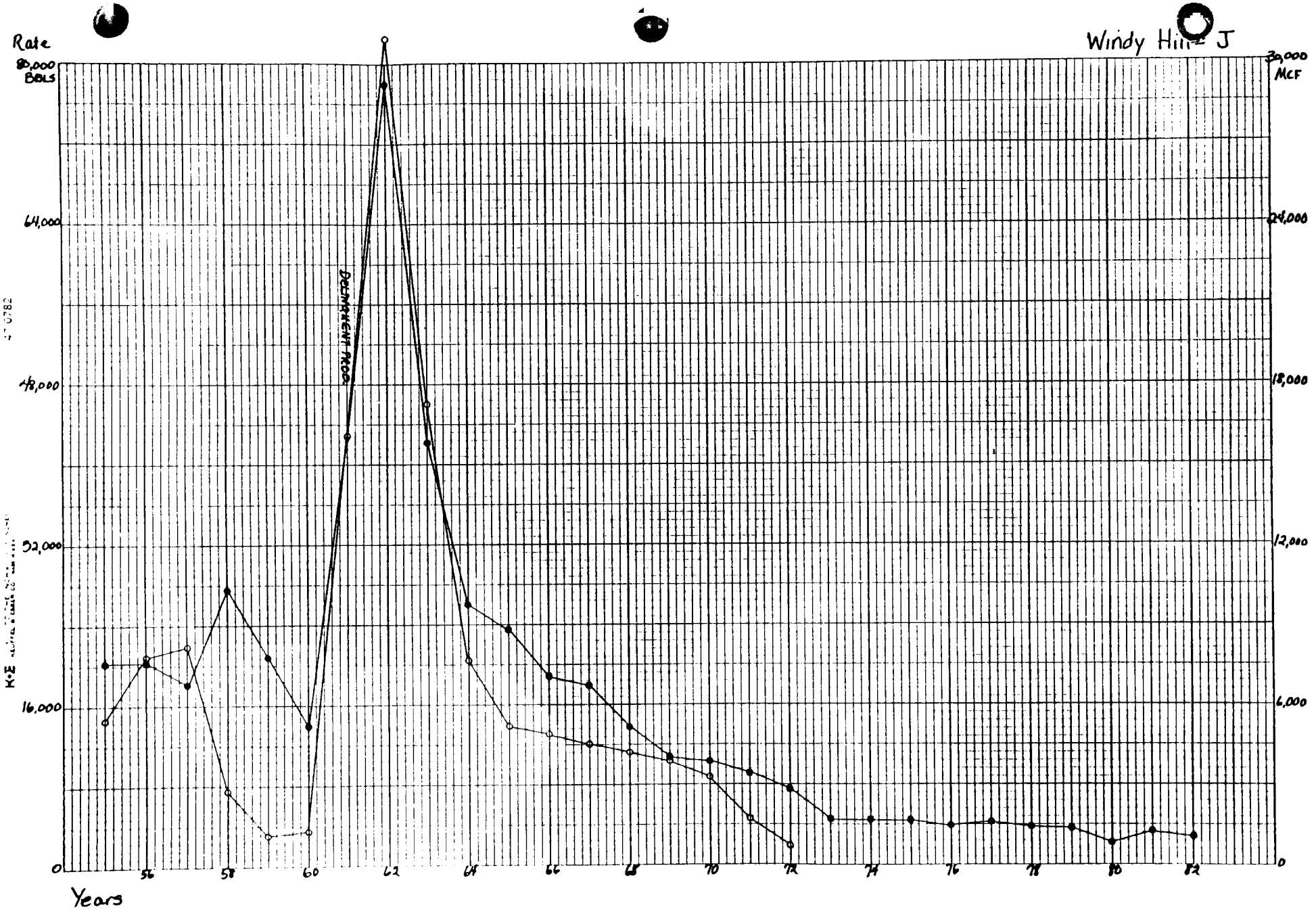

Wattenberg - J
400,000 Bbls.
320,000
240,000
160,000
80,000
0
40.0 MILLION MCF
32.0
24.0
16.0
8.0
0
ADAMS COUNTY PRODUCTION
BOULDER COUNTY PRODUCTION
WELD COUNTY PRODUCTION
ADAMS BOULDER AND WELD COUNTIES PRODUCTION COMBINED
YEARS
70
72
74
76
78
80
82

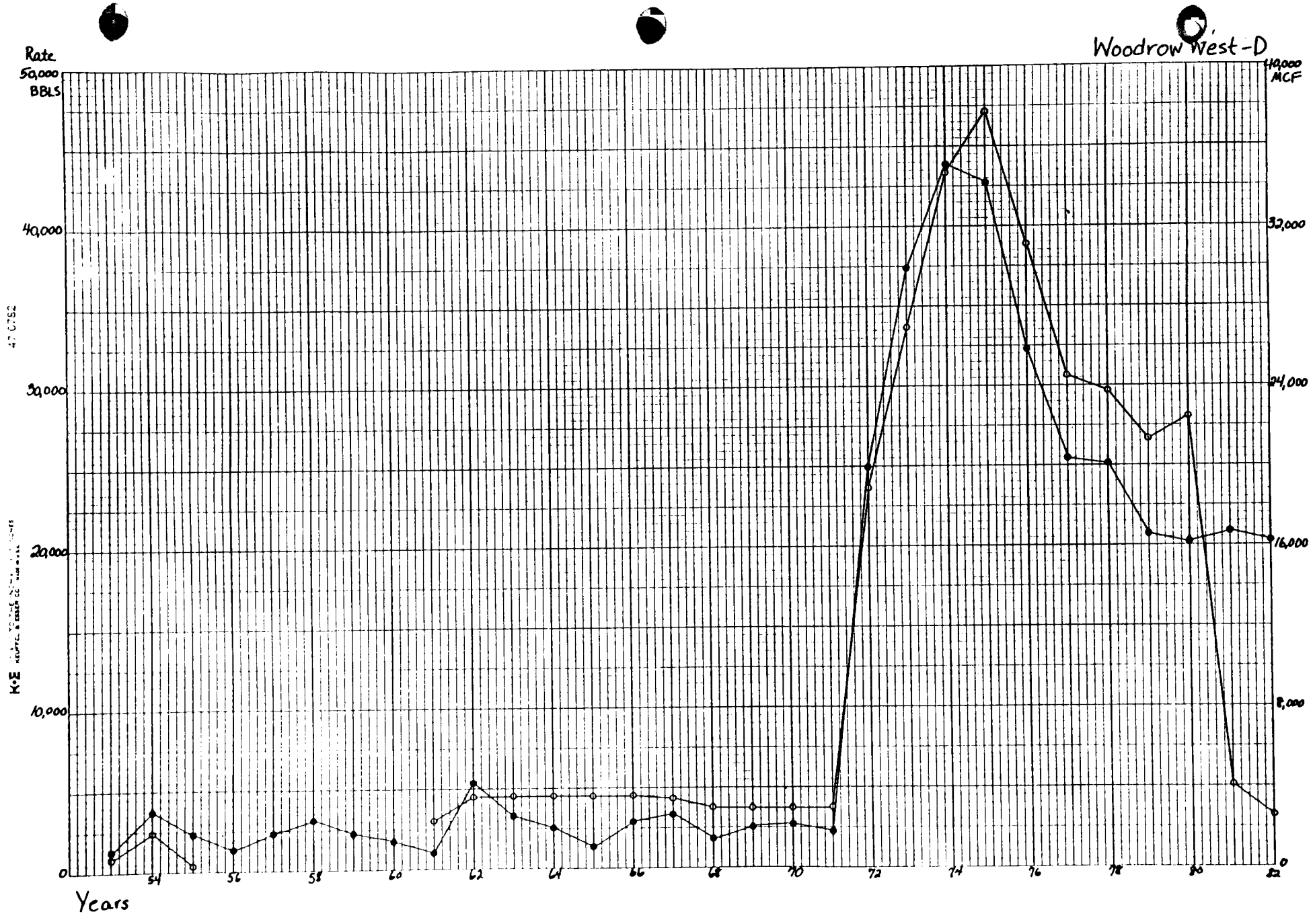

Wattenberg - Niobrara
5,000 Bbls.
4,000
3,000
2,000
1000
0
76
78
80
82
40,000 MCF
32,000
24,000
16,000
8,000
0
NOTE: 1983 PRODUCTION DISPLAYED HERE IS THROUGH SEPTEMBER 1983.
ADAMS COUNTY NIOBRARA PRODUCTION BEGAN IN 1983.
WELD COUNTY PRODUCTION
ADAMS COUNTY PRODUCTION
PRODUCTION IS THROUGH 9/83
47 0782

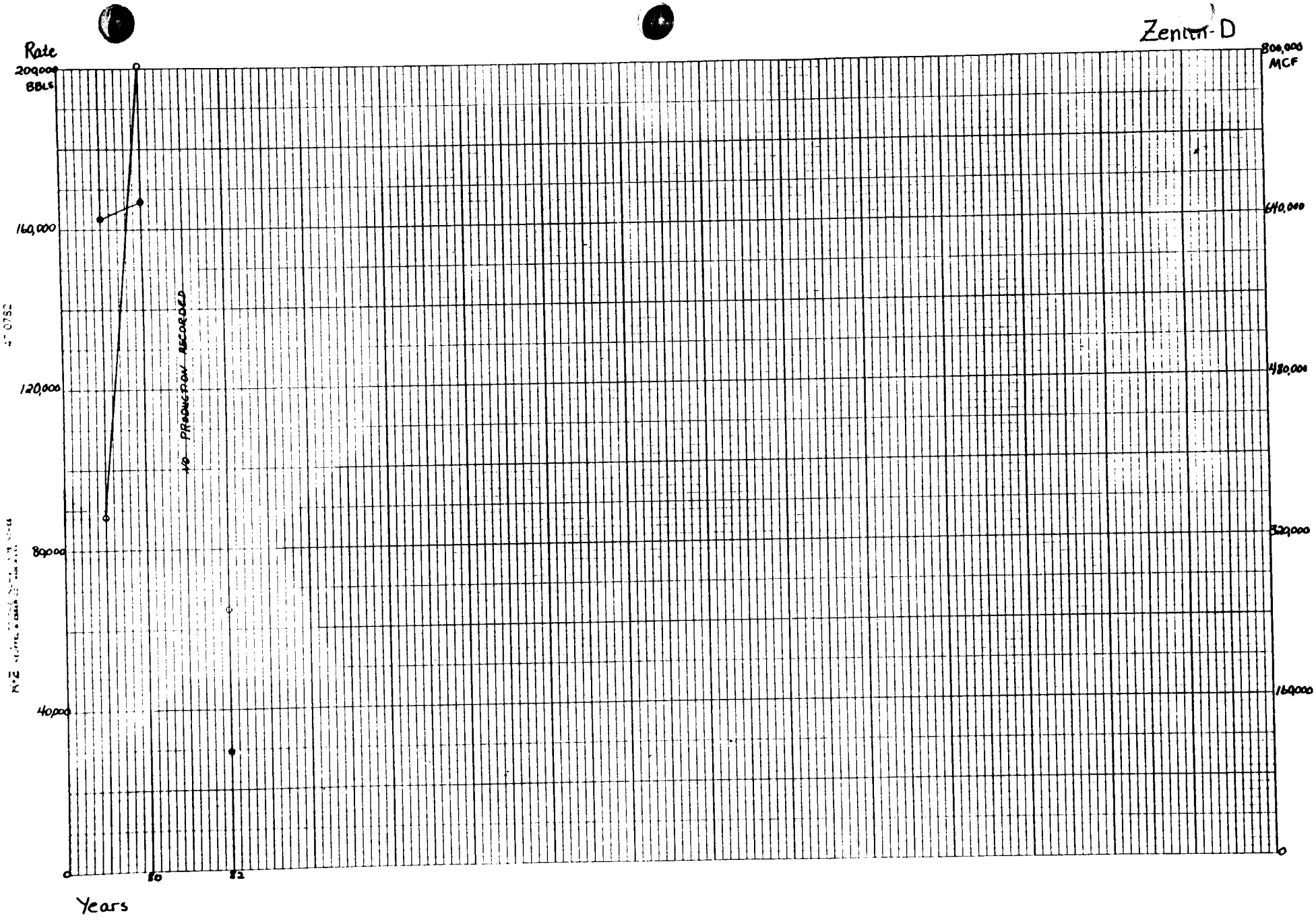

Wattenberg - Sussex
105,000
Bbls.
84,000
63,000
42,000
21,000
0
200,000
MCF
160,000
120,000
80,000
40,000
0
72
74
76
78
80
82
ADAMS COUNTY PRODUCTION
WELD COUNTY PRODUCTION
ADAMS AND WELD COUNTIES
PRODUCTION COMBINED
47 0782
K•E

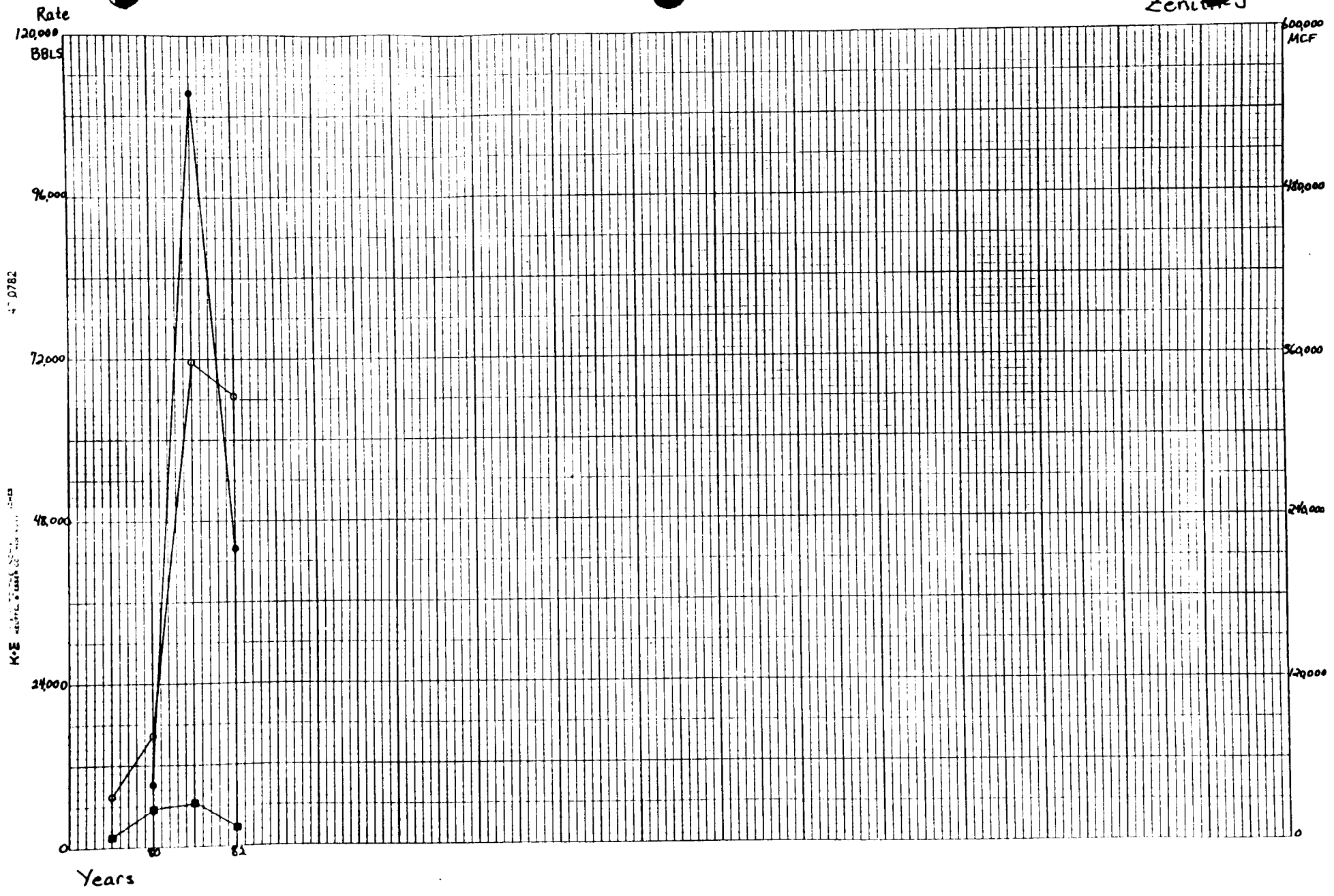
Wigwam-D


Rate
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


Rate
Windy Hill J
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


Woodrow West-D
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


Zenith-D
Rate
200000
BBLS
160,000
120,000
80000
40,000
NO PRODUCTION RECORDED
800,000
MCF
640,000
480,000
320,000
160,000
80
82
Years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120,000
BBLS
96,000
72,000
48,000
24,000
0
600,000
MCF
480,000
360,000
240,000
120,000
0
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.

The Colorado Geological Survey has other publications covering topics in mineral fuels, minerals, groundwater, geothermal, and engineering and environmental geology. For a current publication list please contact:

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