United States Department of the Interior

BUREAU OF LAND MANAGEMENT

505 MARQUETTE AVENUE, N.W., SUITE 815
ALBUQUERQUE, NEW MEXICO 87102

IN REPLY
REFER TO:

Amoco Production Company
Attention: J. C. Burnside
Amoco Building
1670 Broadway
Denver, Colorado 80202

247

Gentlemen:

Three approved copies of your 1983 plan of development for the Gallegos Canyon unit area, San Juan County, New Mexico, are enclosed. Such plan, proposing to drill 25 infill wells including three wells carried over from the 1982 plan of development, was approved on this date subject to like approval by the appropriate officials of the State of New Mexico.

Sincerely yours,

Gene F. Daniel
Deputy Minerals Manager
Oil and Gas

Enclosures

cc:
Comm. of Public Lands
NMOCD

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

January 20, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

AMOCO PRODUCTION COMPANY
Amoco Building
1670 Broadway
Denver, CO 80202

ATTENTION: J. C. Burnside

RE: 1983 Plan of Development
Gallegos Canyon Unit
Dakota Formation
San Juan County, NM

Dear Mr. Burnside:

The above referenced submittal has been approved by the New Mexico Oil Conservation Division effective this date. Such approval is contingent upon like approval by the New Mexico Commissioner of Public Lands and the United States Minerals Management Service.

Sincerely,

Roy E. Johnson
Petroleum Geologist

REJ/dp

cc: Commissioner of Public Lands - Santa Fe
Minerals Management Service - Albuquerque
OCD District Office - Aztec

Amoco Production Company

Denver Region
Amoco Building
1670 Broadway
Denver, Colorado 80202

Far West Division
303-830-4040

J. C. Burnside
Division Production
Manager

Case 247

January 4, 1983

Mr. J. W. Sutherland (5)
United States Department
of the Interior
Minerals Management Service
P. O. Box 26124
Albuquerque, NM 87125

Commissioner of Public Lands
State of New Mexico
P. O. Box 1148
Santa Fe, NM 87501

NM Oil Conservation Division (3)
State of New Mexico
P. O. Box 2088
Santa Fe, NM 87501

Working Interest Owners
(See Attached List)

File: DAW-1-416

Gentlemen:

1983 Plan of Development and Operation
Gallegos Canyon Unit - Dakota Formation
San Juan County, New Mexico

Amoco Production Company, Unit Operator of the Gallegos Canyon Unit (GCU), submits for your consideration and approval the following Plan of Development for the year 1983.

The Gallegos Canyon Unit was formed in November, 1950, for the development of the West Kutz Pictured Cliffs and Gallup Pools. The Dakota zone was later established to be productive in 1952. Since that time the Dakota participating area has been enlarged several times and presently contains 41,529 acres. The first Gallegos Canyon Unit Dakota well, the Gallegos Canyon Unit No. 8 was drilled in January, 1952, on a 320 acre well spacing. In 1961, 13 additional Gallegos Canyon Unit Dakota wells were drilled. From 1963 through 1966, 119 Dakota wells were drilled, of which five were dry holes. In December, 1960, the Gallegos Canyon Unit No. 264 was drilled, completing development of the Unit on single well-320 acre spacing. This completion made a total of 128 producing wells.

Through December 31, 1982, 69 Dakota infill wells will have been drilled in GCU. Of these 69 wells, eight will be drilled in 1982 (see Attachment 1). Three wells on the 1982 plan of development (POD) have been carried over to the 1983 POD due to problems in obtaining gas sales line connection rights-of-way. Production in GCU is currently averaging 25.7 MMCFD for 1982 from 182 producing Dakota wells with six wells presently shut-in.

Plan of Action

On May 22, 1979, the New Mexico Oil Conservation District approved the drilling of an additional well on each 320 acre spacing unit in the Basin Dakota Field (Order No. R-1670-V). Since that time, Amoco has initiated infill drilling within the Gallegos Canyon Unit. During 1983, 25 wells will be drilled in GCU. These well names, including their location, are shown on Attachment 2. Also, attached is a map of the GCU which includes drilled and proposed well locations.

Many of the proposed 1983 drilling locations are located on Navajo allotted lands or on lands located within the Navajo Irrigational Project. Due to delays experienced in the past in receiving rights-of-way to connect gas sales lines (up to two years in some cases), some of the wells listed on Attachment 2 may not be drilled during 1983. However, Amoco will diligently proceed in attempting to obtain these rights-of-way and drill as many wells as possible.

Amoco Production Company, as Unit Operator, hereby proposes the attached list of Basin Dakota infill wells for 1983 drilling in the Gallegos Canyon Unit. Your early approval of this Plan of Development for 1983 would be deeply appreciated.

Sincerely,

J. C. Burnside

DJB/gjw

Attachments

LTR509

Attachment 1

GALLEGOS CANYON UNIT

WELLS DRILLED IN 1982

GCU		95E	SE/4	Sec. 31-T28N-R11W
GCU	Com E	161E	SW/4	Sec. 23-T29N-R13W
GCU		164E	NW/4	Sec. 35-T29N-R13W
GCU		174E	NW/4	Sec. 28-T28N-R12W
GCU	Com H	180E	SW/4	Sec. 28-T29N-R12W
GCU		190E	SW/4	Sec. 32-T28N-R12W
GCU		239E	SE/4	Sec. 24-T28N-R13W
GCU		246E	SE/4	Sec. 35-T28N-R12W

DJB/gjw

LTR509

Attachment 2

GALLEGOS CANYON UNIT
1983 PLAN OF DEVELOPMENT

GCU	83E	NW/4	Sec. 26-T28N-R12W
GCU	85E	SE/4	Sec. 19-T28N-R12W
GCU	89E	SW/4	Sec. 6-T27N-R12W
GCU	90E	SE/4	Sec. 35-T28N-R13W
GCU	137E	SW/4	Sec. 36-T28N-R13W
GCU	139E	SW/4	Sec. 18-T28N-R11W
#GCU	158E	NE/4	Sec. 36-T28N-R13W
GCU	159E	SW/4	Sec. 31-T28N-R12W
GCU	165E	SE/4	Sec. 29-T28N-R12W
GCU	175E	SW/4	Sec. 25-T28N-R13W
GCU	176E	NE/4	Sec. 25-T28N-R13W
GCU	177E	NE/4	Sec. 31-T28N-R12W
GCU	183E	NE/4	Sec. 9-T27N-R12W
GCU	191E	NE/4	Sec. 32-T28N-R12W
#GCU	192E	NE/4	Sec. 30-T28N-R12W
GCU	193E	SW/4	Sec. 30-T28N-R12W
GCU	194E	SW/4	Sec. 5-T27N-R12W
GCU	198E	SE/4	Sec. 20-T28N-R12W
GCU	215E	SE/4	Sec. 16-T28N-R12W
GCU	219E	NW/4	Sec. 23-T28N-R12W
GCU	224E	SE/4	Sec. 18-T28N-R12W
GCU	228E	NW/4	Sec. 21-T28N-R12W
GCU	230E	SE/4	Sec. 23-T28N-R12W
GCU	231E	NW/4	Sec. 27-T28N-R12W
#GCU	241E	SW/4	Sec. 29-T28N-R12W

#Carry-over from 1982 POD.

DJB/gjw
LTR509

MAILING LIST OF WORKING INTEREST OWNERS
GALLEGOS CANYON UNIT AREA
SAN JUAN COUNTY, NEW MEXICO

American Petrofina Co. of Texas
P.O. Box 2159
Dallas, TX 75221
Attention: Elmer T. Ireton
Production Dept.

Atlantic Richfield Company
Outside Operating Unit
Box 2819
Dallas, TX 75221

Southland Royalty Co.
Suite 1000
410 17th Street
Denver, CO 80202

Featherstone Farms Ltd.
1717 West Second Street
Roswell, NM 88201

A. C. Pegg
P.O. Box 66067
Chicago, IL 66066

E. I. Rydin
P.O. Box 66067
Chicago, IL 66066

L. B. Hodges
P.O. Box 489
Roswell, NM 88201

Sun Gas Company
P.O. Box 20
Dallas, TX 75221
Attn: Manager, Unitization
& Joint Operations

National Drilling Company, Inc.
4810 North Kenneth Avenue
Chicago, IL 60639

Getty Oil Company
1515 Arapahoe, Suite 700
Tower 3
Denver, CO 80202

Texaco, Inc.
P.O. Box 2100
Denver, CO 80202

Wood Oil Company
320 South boston, Suite 518
Tulsa, OK 74103

Texon Energy Corporation
A/W A. W. Dugan
1212 Main Street, Suite 1400
Houston, TX 77002

Mesa Petroleum Company
P.O. Box 2009
Amarillo, TX 79189

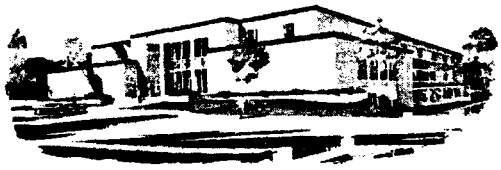
Patricia Kalvestrand
115 Conifer Lane
Walnut Creek, CA 94598

Unicon Producing Company
Suite 1010 Lincoln Tower
1860 Lincoln Street
Denver, CO 80295

Nicole Huve Trust
c/o First National Bank Trustee
Trust Department
P.O. Box 1331
Amarillo, TX 79180

DJB/gjw
LTR509

State of New Mexico



Commissioner of Public Lands

JIM BACA
COMMISSIONER

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

January 12, 1983

#247

Amoco Production Company
Amoco Building, 1670 Broadway
Denver, Colorado 80202

Re: 1983 Plan of Development
Gallegos Canyon Unit - Dakota Formation
San Juan County, New Mexico

ATTENTION: Mr. J. C. Burnside

Gentlemen:

The Commissioner of Public Lands has this date approved your 1983 Plan of Development for the Gallegos Canyon Unit, San Juan County, New Mexico. Such plan proposes to drill 25 Basin Dakota infill wells. Our approval is subject to like approval by the Bureau of Land Management and the New Mexico Oil Conservation Division.

Enclosed is an approved copy for your files.

Please remit a Three ($3.00) Dollar filing fee.

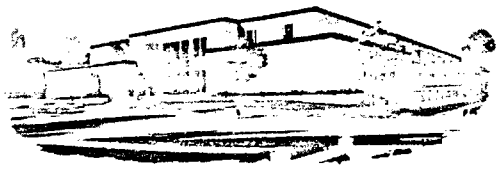
Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.
cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
Administration

State of New Mexico



Commissioner of Public Lands

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, N. M. 87504-1148

December 27, 1982

Amoco Production Company
Amoco Building
1670 Broadway
Denver, Colorado 80202

Re: Farmington Participating Area
Application and Enlargements to
Fruitland Participating Area
Gallegos Canyon Unit
San Juan County, New Mexico

ATTENTION: Mr. John C. Burnside

Gentlemen:

The Commissioner of Public Lands has this date approved your application for approval of the Initial Farmington "A" Participating Area and your Enlargements "B," "C" and "D" to the Fruitland Participating Areas. These changes to the unit participating acreage are based upon the completion or reworking of unit well numbers 274, 306, 309, 310, 312, 319 and 328. Our approval is subject to like approval by the United States Minerals Management Service and the New Mexico Oil Conservation Division.

Enclosed is an approved copy for your files.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

AJA/RDG/pm
encls.
cc: OCD-Santa Fe, New Mexico
USMMS-Albuquerque, New Mexico
Administration

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

October 22, 1982

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

Amoco Production Company
Amoco Building
1670 Broadway
Denver, Colorado 80202

247

Attention: John C. Burnside

Re: Farmington Participating Area
Application and Enlargements to
Fruitland Participating Area
Gallegos Canyon Unit
San Juan County, New Mexico

Gentlemen:

The above referenced submittal has been approved by the New Mexico Oil Conservation Division effective this date. Such approval is contingent upon like approval by the New Mexico Commissioner of Public Lands and the United States Minerals Management Service.

Sincerely,

W. PERRY PEARCE
General Counsel

WPP/dr

cc: Commissioner of Public Lands - Santa Fe
Minerals Management Service - Albuquerque
OCD District Office

Amoco Production Company

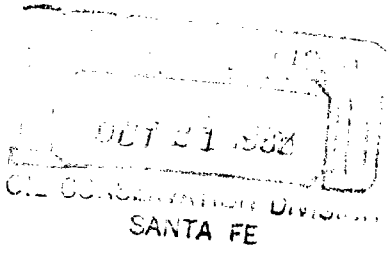
Denver Region
Amoco Building
1670 Broadway
Denver, Colorado 80202
303-830-4040

October 15, 1982

Minerals Management Service(5)
Area Oil and Gas Supervisor
505 Marquette, N.W.
815 Western National Bank Bldg.
Albuquerque, NM 87102

Commissioner of Public Lands
State of New Mexico
P. O. Box 1148
Sante Fe, NM 87501

NM Oil Conservation Division
State of New Mexico
Box 2088
Santa Fe, NM 87501



File: DAW-97-416

Gentlemen:

Farmington Participating Area
Application and Enlargements to
Fruitland Participating Area
Gallegos Canyon Unit
San Juan County, New Mexico

On behalf of the Sub-Operator, Energy Reserves Group, Inc., AMOCO Production Company, as Unit Operator, requests your approval in accordance with paragraph 10 of the Unit Agreement of the selection of lands indicated on the land map attached as Exhibit "1" to constitute the Initial Farmington "A" and Enlargements "B," "C" and "D" to the Fruitland Participating Areas. These changes to unit participating acreage are based upon the completion or reworking of unit well numbers 274, 306, 309, 310, 312, 319 and 328. The location, completion date, and status of each well are as set forth in the attached Exhibit "2."

The schedules attached as Exhibits "3," "4," "5" and "6" describe the lands within the proposed Initial Farmington Participating Area "A," the Initial Fruitland Participating Area "B," the Initial and First Enlargement to Fruitland Participating Area "C" and the Initial Fruitland Participating Area "D," respectively. Also reflected is each lease within each area and its percentage of the proposed participating area. Please note that we have attached justification for each enlargement being approximately 160 acres as to each

well. The #309 and #310 wells fall within an irregular section such that the half section was far less than 160 acres. As you had previously indicated, additional tracts must be added and we believe the lands in Section 32-T29N, R12W are most appropriate.

Inasmuch as the enlargements to the Fruitland Participating Area are separate pools, we request references to the existing two section Fruitland Participating Area be referred to as the "A" pool and the other areas being the "B," "C" and "D" pools, as submitted. Also, since there were no immediate sales from any of the wells involved herein, we have no problems with the effective date of each participating area being the first of the month following the date information is received on which the revisions are predicated (as required by paragraph 10 of the Unit Agreement).

Thus, our effective dates follow the completion dates and we note that the #309, 310 and 312 wells are handled as one enlargement since they were all completed in the same month. The proposed dates are as follows:

Participating Area	Effective Date
Initial Farmington "A"	9-1-81
Initial Fruitland "B"	9-1-80
Initial Fruitland "C"	3-1-81
First Enlargement to Fruitland "C"	6-1-81
Initial Fruitland "D"	9-1-81

A geological and engineering analysis is attached as Exhibit "7" covering each well. We note that drainage was determined volumetrically for each well based on the data used in the unit pay analysis. The produced gas value was determined by estimating the decline rate and calculating cumulative production at the economic limit. The recovery factor was based on initial and abandonment bottom-hole pressure, so it varied from well to well. Should you require additional information concerning either the engineering analysis or land issues, please contact Christine Hinton of Energy Reserves Group (303) 572-3323.

Your approval of our application as submitted is hereby requested. We enclose five (5) sets of the application and request that one be returned to AMOCO, and one be returned to Energy Reserves Group, Inc.

Very truly yours,

AMOCO PRODUCTION COMPANY

by: John C. Barnett
Its Attorney in Fact

TDW/ljp

Attachments

LTR592

EXHIBIT "2"

WELL NO.	LOCATION	COMPLETION DATE	Reported as a Completion in What Formation(s)	Formation(s) currently capable of Production	CURRENT WEL STATUS
#274	T28N, R12W Sec. 20:NW/4SE/4SE/4	8-25-81	Farmington Sands	Farmington Sand	Producing
#306	T29N, R12W Sec. 19:NW/4NE/4SE/4	8-18-80	Fruitland-producing Mesaverde-disposal	Fruitland	Producing Disposing
#309	T28N, R12W Sec. 9:NW/4SE/4SW/4	5-25-81	Fruitland	Fruitland	Shut-In
#310	T28N, R12W Sec. 9:SE/4NW/4SE/4	5-30-81	Fruitland Pictured Cliffs	Fruitland Pictured Cliffs	Producing Producing
#312	T28N, R12W Sec. 16:SW/4NW/NE/4	5-5-81	Fruitland Pictured Cliffs	Fruitland Pictured Cliffs	Producing Producing
#319	T28N, R12W Sec. 30: NW/4SE/4NW/4	8-13-81	Fruitland	Fruitland	Shut-In
#328	T29N, R12W Sec. 33:SE/4SW/4	2-5-81	Fruitland-producing Mesaverde-disposal	Fruitland	Producing Disposing

EXHIBIT "3"

Initial Farmington Participating Area "A"

GALLEGOS CANYON UNIT

UNIT TRACT NUMBERS	LEASE NAME	DESCRIPTION	PARTICIPATING ACRES	TRACT ALLOCATION
39	Nav. 8476	T28N, R12W Sec. 20: SE/4	160.00	100.00%
		Total	160.00	

EXHIBIT "4"

Initial Fruitland Participating Area "B"

GALLEGOS CANYON UNIT

UNIT TRACT NUMBER	LEASE NAME	DESCRIPTION	PARTICIPATING ACRES	TRACT ALLOCATION
34	SF-080723	T29N, R12W Sec. 19: NE/4SE/4	40.00	25.00%
122	Whitenack, Mamie	T29N, R12W Sec. 19: W/2SE/4	80.00	50.00%
117	Chapman, Goldie A. and Pearl	T29N, R12W Sec. 19: SE/4SE/4	40.00	25.00%
		TOTALS	160.00	100.00%

EXHIBIT "5"

Initial and First Enlargement to Fruitland Participating Area "C"

GALLEGOS CANYON UNIT

UNIT TRACT NUMBER	LEASE NAME	DESCRIPTION	PARTICIPATING ACRES	TRACT ALLOCATION
Initial Fruitland "C"				
45	Nav-8486	T29N, R12W Sec. 33: SW/4	160.00	100%
		Total	160.00	
First Enlargement Fruitland "C"				
45	Nav-8486	T29N, R12W Sec. 33: SW/4	160.00	23.78970%
10	SF-078109	T28N, R12W Sec. 9: W/2 (Lots 3,4, S/2SW/4)	136.32	20.26882%
37	Nav-8474	T28N, R12W Sec. 9: E/2 (Lots 1,2, S/2SE/4) Sec. 16: NE/4	296.24	44.04663%
71	B-10405	T29N, R12W Sec. 32: SE/4SE/4	40.00	5.94743%
69	E-2754	T29N, R12W Sec. 32: SW/4SE/4	40.00	5.94742%
		TOTALS	672.56	100.00%

EXHIBIT "6"

Initial Fruitland Participating Area "D"

GALLEGOS CANYON UNIT

UNIT TRACT NUMBER	LEASE NAME	DESCRIPTION	PARTICIPATING ACRES	TRACT ALLOCATION
42	Nav -8470	T28N, R12W Sec. 30: Lots 1 (36.26), 2 (36.19), E/2NW/4	152.45	100.00%
			Total 152.45	

Exhibit "7" - D R A I N A G E A C R E A G E

WELL #	FORMATION	BOTTOM-HOLE TEMPERATURE °R	BOTTOM-HOLE PRESSURE INITIAL, PSI	BOTTOM-HOLE PRESSURE ABANDONMENT, PSI	POROSITY %	WATER SATURATION %	NET PAY FT.	PRODUCED GAS, MMF	DRAINAGE ACREAGE AC.
274	Farmington Sand	543	351	110	25.8	53.0	24	281.589	130.6
306	Fruitland	543	360	110	13.0	38.0	18	196.770	176.4
309	Fruitland	543	495	110	23.3	57.3	23	368.236	132.7
310	Fruitland	543	497	110	20.9	58.5	22	334.300	143.8
312	Fruitland	543	528	110	20.2	60.9	30	563.389	179.2
319	Fruitland	543	438	110	16.0	58.5	16	179.789	165.2
328	Fruitland	543	490	110	16.0	40.0	20	404.311	176.2

Average 162.3 Acres

GALLEGOS CANYON UNIT #274
NW, SE, SEC. 20, T28N-R12W
SAN JUAN COUNTY, NEW MEXICO

The Gallegos Canyon Unit #274 was spudded on January 11, 1977, and drilled to a T.D. of 1,500' on January 15, 1977. The well was drilled through the Pictured Cliffs Formation. Seven-inch 23 pound casing was set at 94' and cemented with 60 sx. Class "A" cement with 3% $CaCl_2$. 4½ inch 10.5 pound casing was set at 1,449' and cemented with 130 sx Class "A" cement.

Logging Program

Induction Electric Log and Density Borehole Compensated logs were run to evaluate formations:
Log formation tops are as follows:

Ojo Alamo	Surface
Kirtland	50'
Fruitland	845'
Pictured Cliffs	1,242'

Cores And DST's

No cores were cut and no DST's were run on this well.

Recompletion

MIRUWOU on 8-17-81. Dumped 5 sx cement onto cast iron bridge plug at 1,180'. Perforate Fruitland formation at 962'-971' with 1 JSPF. Broke down Fruitland with 1000 gallons 7-1/2% HCl with additives. Tested - no liquid or gas entry. Set cement retainer at 911' and squeezed Fruitland perfs with 50 sx "G" cement, dumping 2 bbl cement onto retainer. PBTD 781'. Perforate Farmington Sand formation at 614'-622', 627'-633', and 638'-644' with 1 JSPF. Broke down with 1000 gal 7-1/2% MCA. Attempt frac with 5000 gallons 70% quality foam with 1000# 10-20 sand screened out. Changed foamer and refrac'd with 4000 gallons 70% foam pad and 11,000 gallons 70% foam with 23,000# 10-20 sand. Test and stabilized rate of 306 MCFPD.

Using the economic parameters outlined in the following pages, the well will payout in .5 years.

Conclusion

It is concluded that the Gallegos Canyon Unit #274 is productive in paying quantities according to the unit agreement and should be classified as "paying well".

Data and Assumptions

1. Net pay - 24 feet
2. Average porosity - 25.8%
3. Average SW - 53%
4. Well spacing - 160 Acres
5. Reservoir temperature - 77° F
6. Measured initial BHP - 351 psi
7. Line pressure - 110 psi
8. Calculated flowing BHP - 113 psi
9. Gas Price - $3.00
10. Operating costs - $250/mo
11. Severance plus advalorem taxes - 7.7%
12. Discount rate - 15%
13. Royalty - 12.5%
14. Well cost - $37,000
15. Gas gravity - .655
16. Stabilized test flow rate - 153 MCFD *
17. Stabilized test flowing BHP - 93 psi
18. n (assummed) - .85

* 50% of flow rate was used throughout this evaluation to account for the quick drop in production commonly seen in this area.

TABLE 2
PRODUCTION AND RESERVES

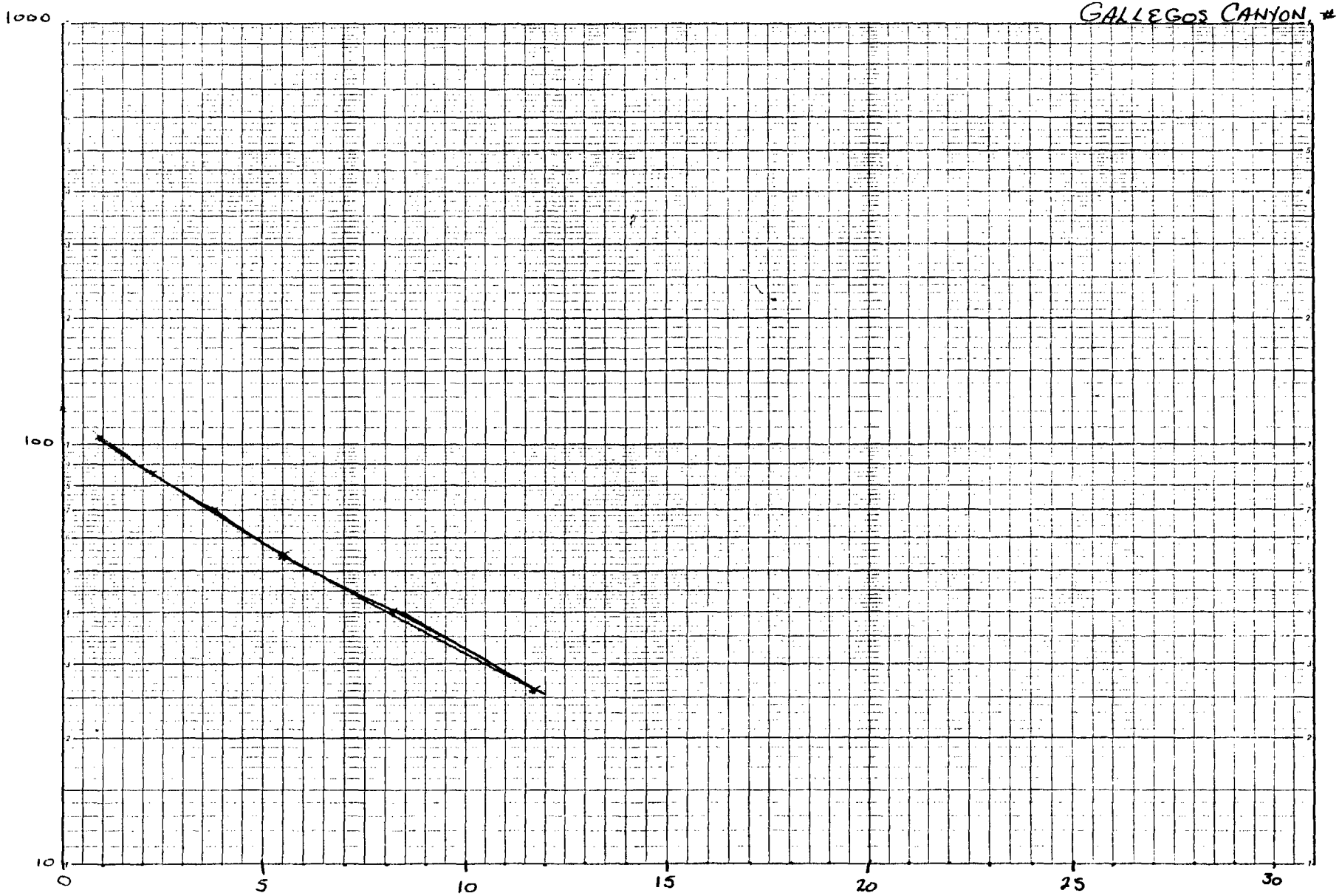
POINT	STATIC BHP	Z	$\Delta(P^2)x10^3$	Q,MCPD	.8Q MCFPD	Q AVG MCFD	GIP (MMCF)	PROD. (MMCF)	CUM PROD. (MMCF)	TIME		
										DAYS	YEARS	CUM. YEARS
Test	351	.940	115.0	153	122		496.8					
1	330	.943	96.1	128	102	112	465.6	31.2	31.2	278	.8	.8
2	300	.948	77.2	107	86	94	421.0	44.6	75.8	474	1.3	2.1
3	270	.952	60.1	87	70	78	377.3	43.7	119.5	563	1.5	3.6
4	240	.957	44.8	67	54	62	333.6	43.7	163.1	709	1.9	5.5
5	210	.961	31.3	50	40	47	290.7	42.9	206.1	917	2.5	8.1
6	180	.968	19.6	33	26	33	247.4	43.3	249.4	1305	3.6	11.6

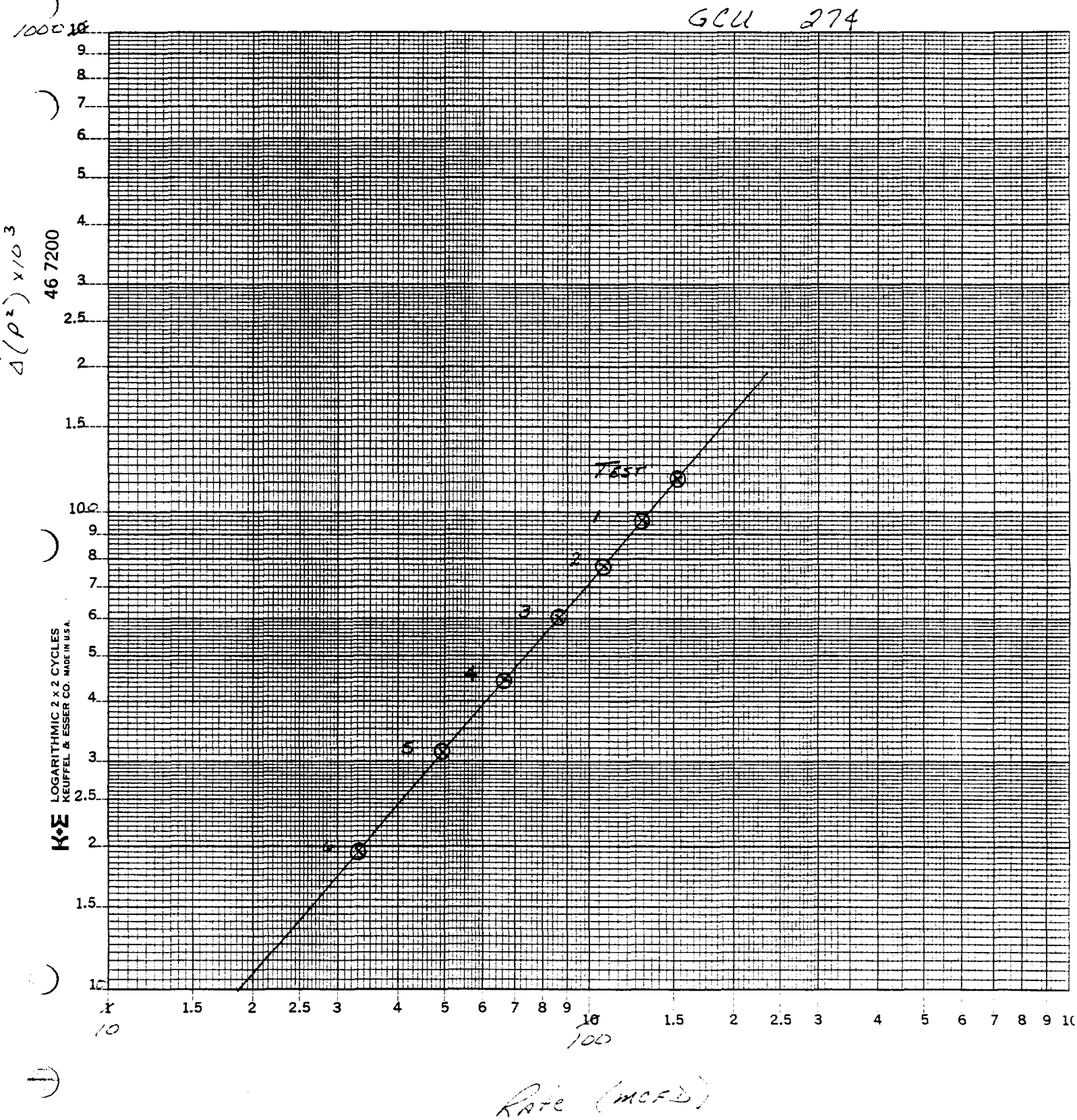
TABLE 3
ECONOMICS

GCU 274

YEARLY PROD (MCF)	WORKING INTEREST YEARLY PROD (MCF)	WORKING INTEREST VALUE ($)	WORKING INTEREST LESS TAXES	WORKING INTEREST LESS OPER. COST & PROFIT	DISCOUNT FACTOR	DISCOUNT VALUE	$37,000 W.I. COST PAYOUT
40880	35,770	107,310	99047	95867	.870	83404	46,404

GALLEGOS CANYON #274




GCU 274
$\Delta(p^2) \times 10^3$
46 7200
1000
9
8
7
6
5
4
3
2.5
2
1.5
100
Test
1
2
3
4
5
6
LOGARITHMIC 2 x 2 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.
K&E
10
1.5
2
2.5
3
4
5
6
7
8
9
100
Rate (MCFD)

GALLEGOS CANYON UNIT #306
NE, SE SEC. 19, T29N-R12W
SAN JUAN COUNTY, NEW MEXICO

The Gallegos Canyon Unit #306 was spudded on April 14, 1980, and drilled to a T.D. of 4,154' on April 22, 1980. The well was drilled through the Point Lookout formation. 9-5/8 inch 32.3 pound casing was set at 235' and cemented with 250 sx Class "B" cement + 2% $CaCl_2$ + 1/4 pound/sx Flocele.
Seven-inch 20 & 23 pound casing was set at 4,154' and cemented with:
1st stage: 690 sx 50-50 Pozmix
2nd stage: 470 sx 50-50 Pozmix

Logging Program

Dual Induction-SFL; Compensated Neutron-Formation Density Logs were run to evaluate the formation:
Log formation tops are as follows:

Fruitland	1,047'
Pictured Cliffs	1,312'
Lewis	1,463'
Cliff House	2,864'
Menefee	2,998'
Point Lookout	3,708'
Mancos	4,073'

Cores and DST's

No cores were cut and no DST's were run on this well.

Completion

Perforated Mesaverde Sand at 3,574'-3,600'; 3,520'-46'; 3,342'-68'; 3,306'-14'; 3,175'-90'; 3,145'-52'; 3,102'-08'; and 3,022'-42' with 1 JSPF. Broke down perfs below 3,444' with 3000 gallons 15% HCl with additives and 150 ball sealers. Broke down perfs between 3,260' and 3,450' with 2000 gallons 15% HCl with additives and 100 ball sealers. Broke down perfs between 2,986' and 3,248' with 3000 gallons 15% HCl with additives and 150 ball sealers. Injection test into Mesaverde - 1.25 BPM at 900 psi. Perforate Fruitland Sand at 1,054'-56'; 1,060'-63'; and 1,066'-70' with 1 JSPF. Broke down Fruitland perfs with 600 gallons 7-1/2% HCl with additives. Frac'd with 30,000 gallons 70% foam with 25000 pounds 20-40 sand and 35,000 pounds 10-20 sand. Landed coated injection tubing with packer at 2,975' KB. Landed production tubing at 1,100' KB. Completed on 8-18-80 as dually-completed Mesaverde water disposal well/Fruitland producer. Disposal test rate 1.25 BPM injected at 900 psi. Production potential - 337 MCFPD + 3 BW.

Conclusion

Due to the high cost involved in making this well a dual Mesaverde Disposal well along with the Fruitland producer, the well could be classified as a "non paying well". However, we feel it should be considered a paying well based on the fact that in the first three years it will produce $162,000 (discounted at 15%). This would more than offset the normal drilling costs that average $66,000 and range up to $103,700.

Data and Assumptions

1. Net pay - 18 feet
2. Average porosity - 13%
3. Average SW - 38%
4. Well spacing - 160 Acres
5. Reservoir temperature - 83° F
6. Measured initial BHP - 360 psi
7. Line pressure - 110 psi
8. Calculated flowing BHP - 113 psi
9. Gas Price - $3.00
10. Operating costs - $250/mo
11. Severance plus advalorem taxes - 7.7%
12. Discount rate - 15%
13. Royalty - 12.5%
14. Well cost - $274,700
15. Gas gravity - .655
16. Stabilized test flow rate - 168 MCFD *
17. Stabilized test flowing BHP - 126 psi
18. n (assummed) - .85

* 50% of flow rate was used throughout this evaluation to account for the quick drop in production commonly seen in this area.

TABLE 2
PRODUCTION AND RESERVES

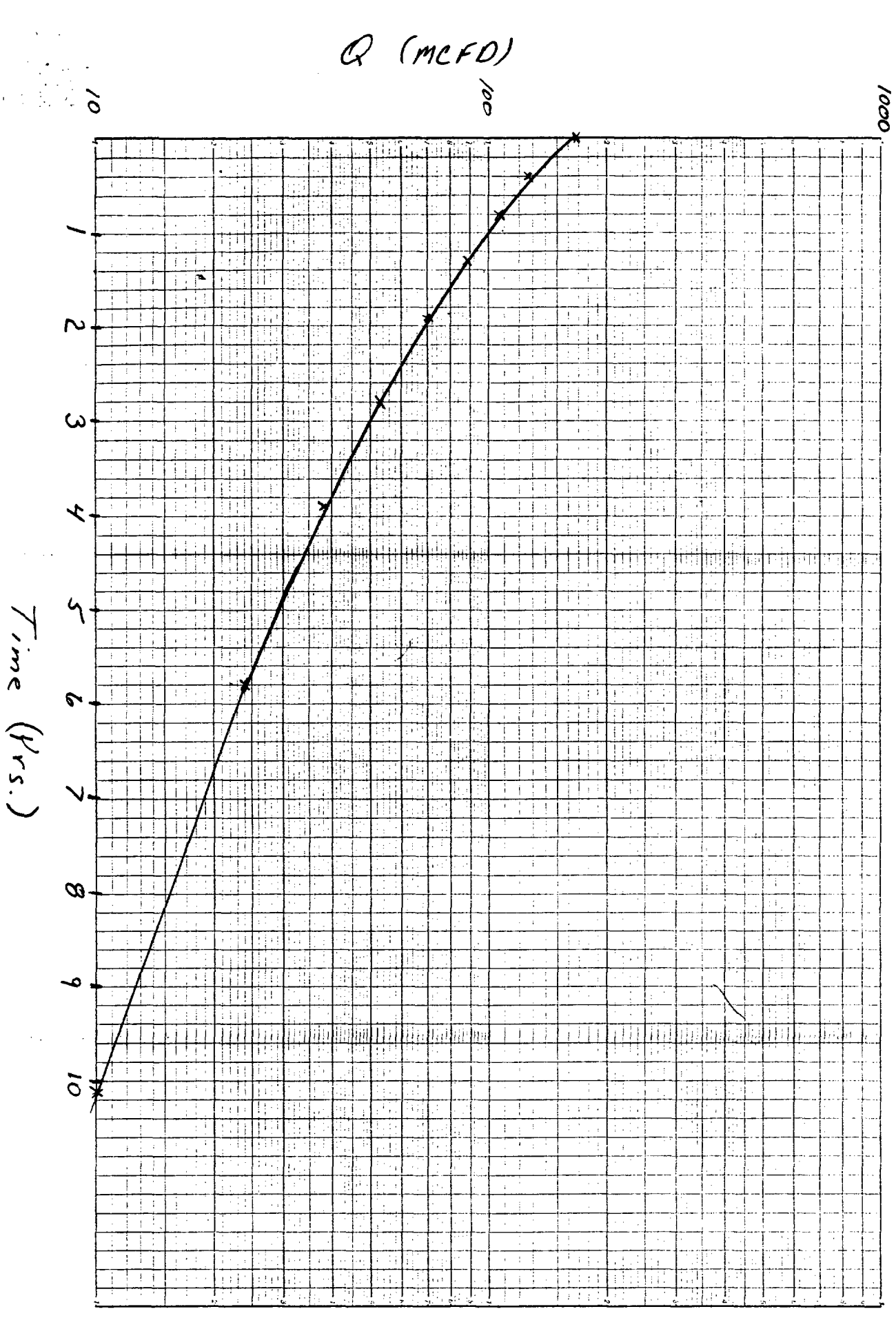
GCU 306

POINT	STATIC BHP	Z	$\Delta(P^2)x10^3$	Q,MCPD	.8Q MCFPD	Q AVG MCFD	GIP (MMCF)	PROD. (MMCF)	CUM PROD. (MMCF)	TIME DAYS	TIME YEARS	TIME CUM. YEARS
Test	360	.939	113.7	168	134		190.7					
1	330	.943	96.1	146	117	126	174.1	16.6	16.6	132	0.4	0.4
2	300	.948	77.2	121	97	107	157.4	16.7	33.3	156	0.4	0.8
3	270	.952	60.1	98	78	88	141.1	16.3	49.6	187	0.5	1.3
4	240	.957	44.8	76	61	70	124.8	16.3	66.0	235	0.6	1.9
5	210	.961	31.3	57	46	53	108.7	16.1	82.0	302	0.8	2.8
6	180	.968	19.6	38	30	38	92.5	16.2	98.2	426	1.2	3.9
7	150	.972	9.7	21	17	24	76.8	15.7	114.0	667	1.8	5.8
8	120	.977	1.6	4	3	10	61.1	15.7	129.6	1567	4.3	10.1

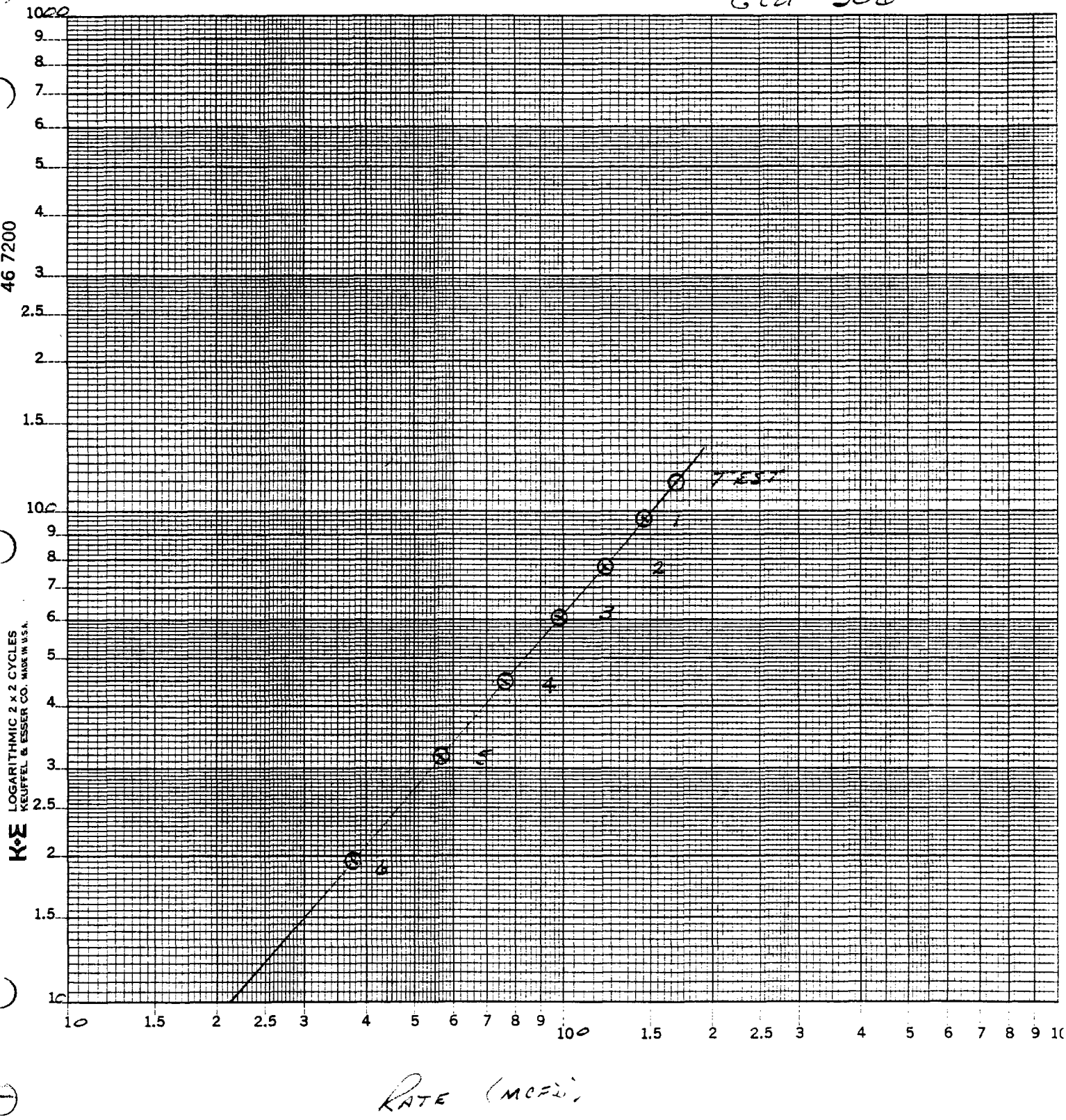
TABLE 3
ECONOMICS

GCU 306

YEAR	AVG. PROD RATE (MCFD)	YEARLY PROD (MCF)	WORKING INTEREST YEARLY PROD (MCF)	WORKING INTEREST VALUE ($)	LESS TAXES	LESS OPER. COST & PROFIT	DISCOUNT FACTOR	DISCOUNT VALUE	$274,000 W.I. COST PAYOUT
1	120	43,800	38,325	114,975	106,122	102,942	.870	89,560	-185,141
2	82	29,930	26,189	78,566	72,517	69,337	.756	52,419	-132,722
3	58	21,170	18,524	55,571	51,292	48,112	.658	31,658	-101,064
4	46	16,790	14,691	44,074	40,680	37,500	.572	21,450	- 79,614
5	36	13,140	11,498	34,493	31,837	28,657	.497	14,242	- 65,372
6	25	9,125	7,984	23,953	22,109	18,929	.432	8,177	- 57,195
7	20	7,300	6,388	19,163	17,687	14,507	.376	5,455	- 51,740
8	16	5,840	5,110	15,330	14,150	10,970	.327	3,587	- 48,153
9	13.5	4,928	4,312	12,935	11,939	8,759	.284	2,488	- 45,665
10	11	4,015	3,513	10,539	9,728	6,548	.247	1,617	- 44,048


Q (MCFD)
10
100
1000
Time (hrs.)
1
2
3
4
5
6
7
8
9
10

GCU 306


46 7200
K•E LOGARITHMIC 2 x 2 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.
TEST
1
2
3
4
5
6
RATE (MCFD)

13

GALLEGOS CANYON UNIT #309
NW, SE, SW, Sec. 9, T28N-R12W
SAN JUAN COUNTY, NEW MEXICO

The Gallegos Canyon Unit #309 was spudded on March 9, 1982 and drilled to a T.D. of 1,500' on March 11, 1981. The well was drilled through the Pictured Cliffs formation. Seven-inch 17 pound casing was set at 126' and cemented with 60 sx. Class "B" cement. 4½ inch 10.5 pound casing was set at 1,493' and cemented with 160 sx of 50-50 Pozmix.

Logging Program

Induction, Compensated Neutron-Formation Density Logs were run to evaluate the formations:
Log formation tops are as follows:

Ojo Alamo	36'
Kirtland	136'
Fruitland	934'
Pictured Cliffs	1,346'

Cores and DST's

No cores were cut and no DST's were run on this well.

Completion

Squeezed 4-1/2" - 7" annulus with 75 sx 50-50 Pozmix with 2% Gel and 2% $CaCl_2$. Perforated Pictured Cliffs at 1,357'-62' with 1 JSPF. Broke down with 500 gallons 7-1/2% Spearhead Acid. Frac'd Pictured Cliffs perfs with 20,000 gallons 70% Quality Foam with 22,500 pounds 10-20 sand. Tested 56 MCFPD with 272 BWPD. Set cast iron bridge plug at 1,327' and dumped 5 sx cement onto it. Tagged cement at 1,257'. Perforated Fruitland at 1,036'-38'; 1,052'-54'; and 1,064'-74' with 1 JSPF. Spotted acid and broke down with 850 gallons 7-1/2% MCA. Tested at 340 MCFPD. Frac'd Fruitland perfs with 25,000 gallons 70% Quality Foam with 40,000 pounds 10-20 sand. Tested at 578 MCFPD at 170 psi FTP.

Using the economic parameters outlined in the following pages, the well will payout in 1.0 years.

Conclusion

It is concluded that Gallegos Canyon Unit #309 is productive in paying quantities according to the unit agreement and should be classified as a "paying well".

GCU 309

Data and Assumptions

1. Net pay - 23 feet
2. Average porosity - 23.3%
3. Avage SW - 57.3%
4. Well spacing - 160 Acres
5. Reservoir temperature - 83° F
6. Measured initial BHP - 495 psi
7. Line pressure - 110 psi
8. Calculated flowing BHP - 113 psi
9. Gas Price - $3.00
10. Operating costs - $250/mo
11. Severance plus advalorem taxes - 7.7%
12. Discount rare - 15%
13. Royalty - 12.5%
14. Well cost - $97,700
15. Gas gravity - .655
16. Stabilized test flow rate - 289 MCFD *
17. Stabilized test flowing BHP - 178 psi
18. n (assummed) - .85

* 50% of flow rate was used throughout this evaluation to account for the quick drop in production commonly seen in this area.

TABLE 2
PRODUCTION AND RESERVES

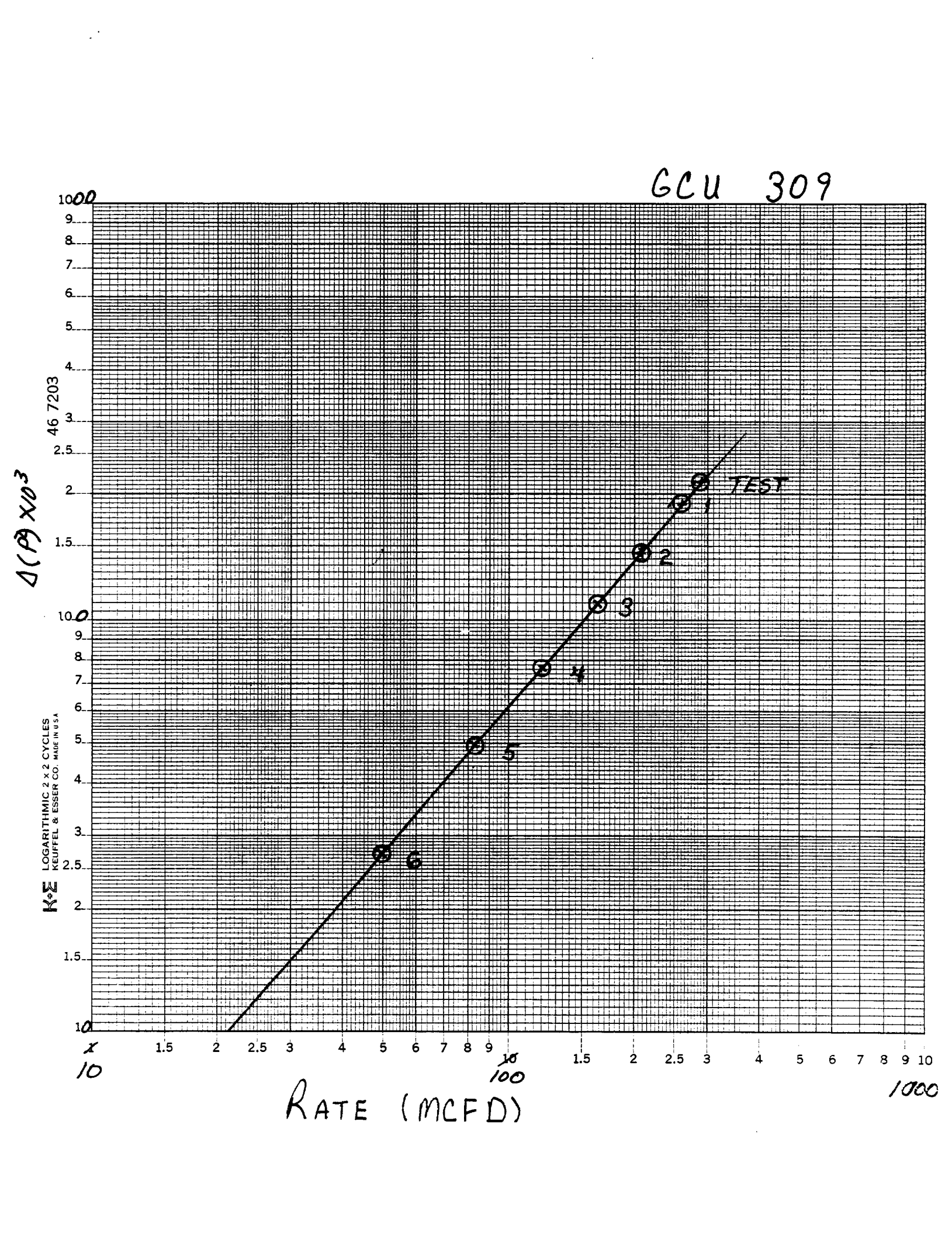
GCU 309

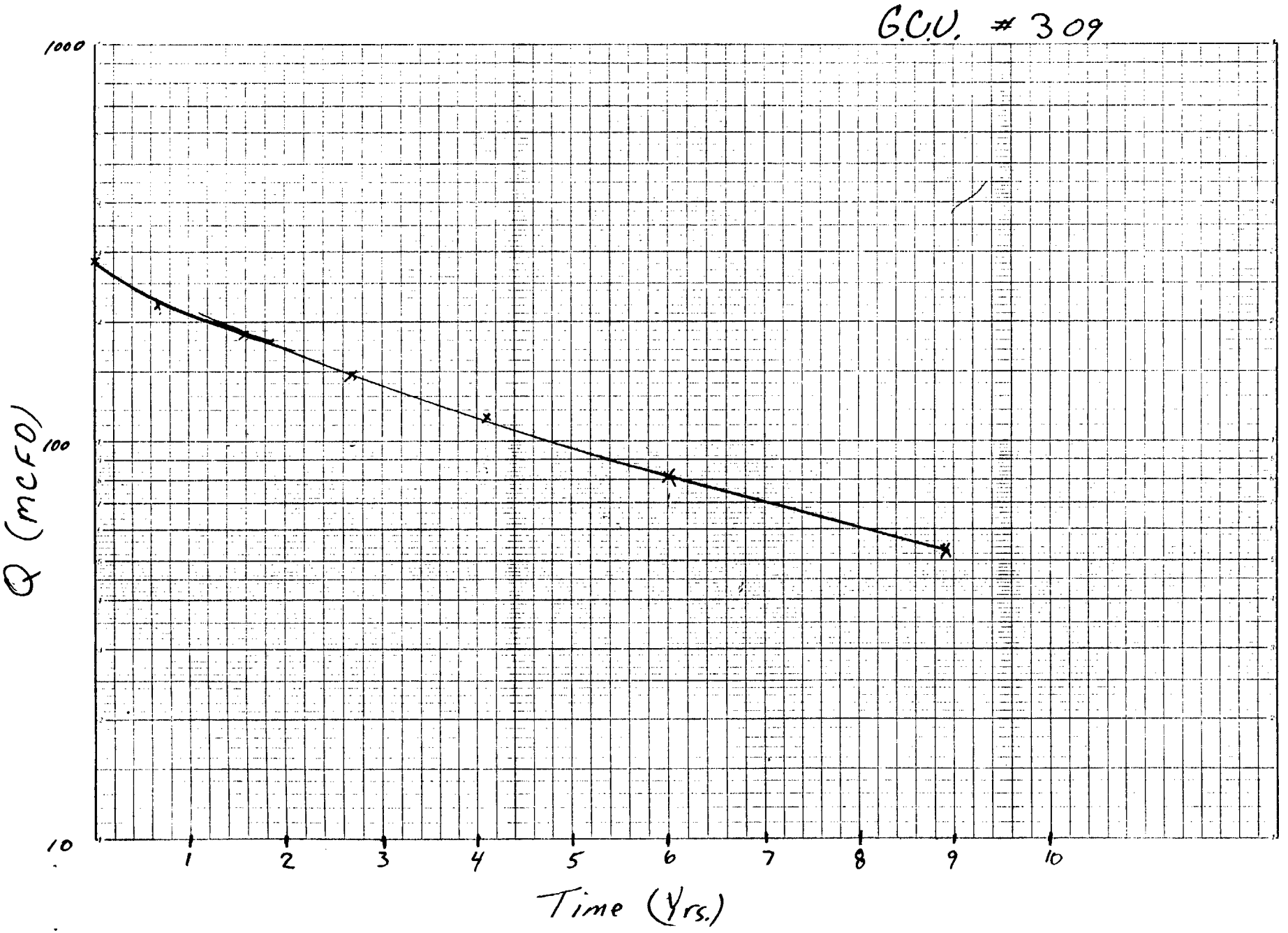
POINT	STATIC BHP	Z	$\Delta(P^2)x10^6$	Q,MCPD	.8Q MCFPD	Q AVG MCFD	GIP (MMCF)	PROD. (MMCF)	CUM PROD. (MMCF)	TIME		
										DAYS	YEARS	CUM. YEARS
Test	495	.917	213.3	289	231		564.7					
1	450	.923	189.7	262	210	220	510.0	54.7	54.7	248	0.7	0.7
2	400	.933	147.2	209	167	188	448.5	61.5	116.2	327	0.9	1.6
3	350	.940	109.7	164	131	149	389.5	59.0	175.2	395	1.1	2.7
4	300	.948	77.2	120	96	114	331.0	58.5	233.6	515	1.4	4.1
5	250	.954	49.7	83	66	81	274.1	56.9	290.2	701	1.9	6.0
6	200	.963	27.2	49	39	53	217.3	56.9	347.4	1077	2.9	8.9

TABLE 3
ECONOMICS

GCU 309

AVG. PROD RATE (MCFD)	YEARLY PROD (MCF)	WORKING INTEREST YEARLY PROD (MCF)	WORKING INTEREST VALUE ($)	LESS TAXES	LESS OPER. COST & PROFIT	DISCOUNT FACTOR	DISCOUNT VALUE	$97,700 W.I. COST PAYOUT
245	89,425	78,247	234,741	216,666	213,486	.870	185,732	88,032


GCU 309
Δ(P)² X10³
RATE (MCFD)
TEST
1
2
3
4
5
6
LOGARITHMIC 2 x 2 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.
46 7203


G.C.U. # 309
1000
100
10
Q (mcfd)
1
2
3
4
5
6
7
8
9
10
Time (Yrs.)

GALLEGOS CANYON UNIT #310
SE, NW, SE Sec. 9, T28N-R12W
SAN JUAN COUNTY, NEW MEXICO

The Gallegos Canyon Unit #310 was spudded on March 11, 1981 and drilled to a T.D. of 1,500' on March 14, 1981. The well was drilled through the Lewis formation. Seven-inch 17 pound casing was set at 124' and cemented with 60 sx. Class "B" cement. 4½ inch 10.5 pound casing was set at 1,485' and cemented with 200 sx 50-50 Pozmix.

Logging Program

Induction, Compensated Neutron-Formation Density Logs were run to evaluate the formation:
Log formation tops are as follows:

Ojo Alamo	265'
Kirtland	375'
Fruitland	965'
Pictured Cliffs	1,255'
Lewis	1,468'

Cores and DST's

No cores were cut and no DST's were run on this well.

Completion

Pictured Cliffs formation was perforated at 1,268'-74' and 1,281'-86' with 1 JSPF (13 perfs.) Broke down with 500 gallons 7-1/2% acid + additives + 26 ball sealers. Frac'd with 20,000 gallons 70% Quality Foam with 22,500 pounds 10-20 sand. Final test 568 MCFPD/155 BWPD. Fruitland Zone was perforated at 987'-990'; 992'-994'; 998'-1,002'; 1,004'-06'; and 1,014' with 1 JSPF (20 perfs). Broke down with 1000 gallons 7-1/2% MCA with additives + 30 ball sealers. Frac'd with 25,000 gallons 70% Quality Foam with 40,000 pounds 10-20 sand. Final test 329 MCFPD/0 BWPD. Completed as dual Pictured Cliffs and Fruitland poducer with Mountain States Repeata II Retrievable packer set at 1,250'.

Using the economic parameters outlined in the following pages, the well will payout in .4 years.

Conclusion

It is concluded that Gallegos Canyon Unit #310 is productive in paying quantities according to the unit agreement and should be classified as a "paying well".

Data and Assumptions

1. Net pay - 22 feet
2. Average porosity - 20.9%
3. Average SW - 58.5%
4. Well spacing - 160 Acres
5. Reservoir temperature - 83° F
6. Measured initial BHP - 497 psi
7. Line pressure - 110 psi
8. Calculated flowing BHP - 113 psi
9. Gas Price - $3.00/MCF
10. Operating costs - $250/mo
11. Severance plus advalorem taxes - 7.7%
12. Discount rate - 15%
13. Royalty - 13.5595%
14. Well cost - 39,700
15. Gas gravity - .655
16. Stabilized test flow rate - 165 MCFD *
17. Stabilized test flowing BHP - 102 psi
18. n (assummed) - .85

* 50% of flow rate was used throughout this evaluation to account for the quick drop in production commonly seen in this area.

TABLE 2
PRODUCTION AND RESERVES
GCU 310

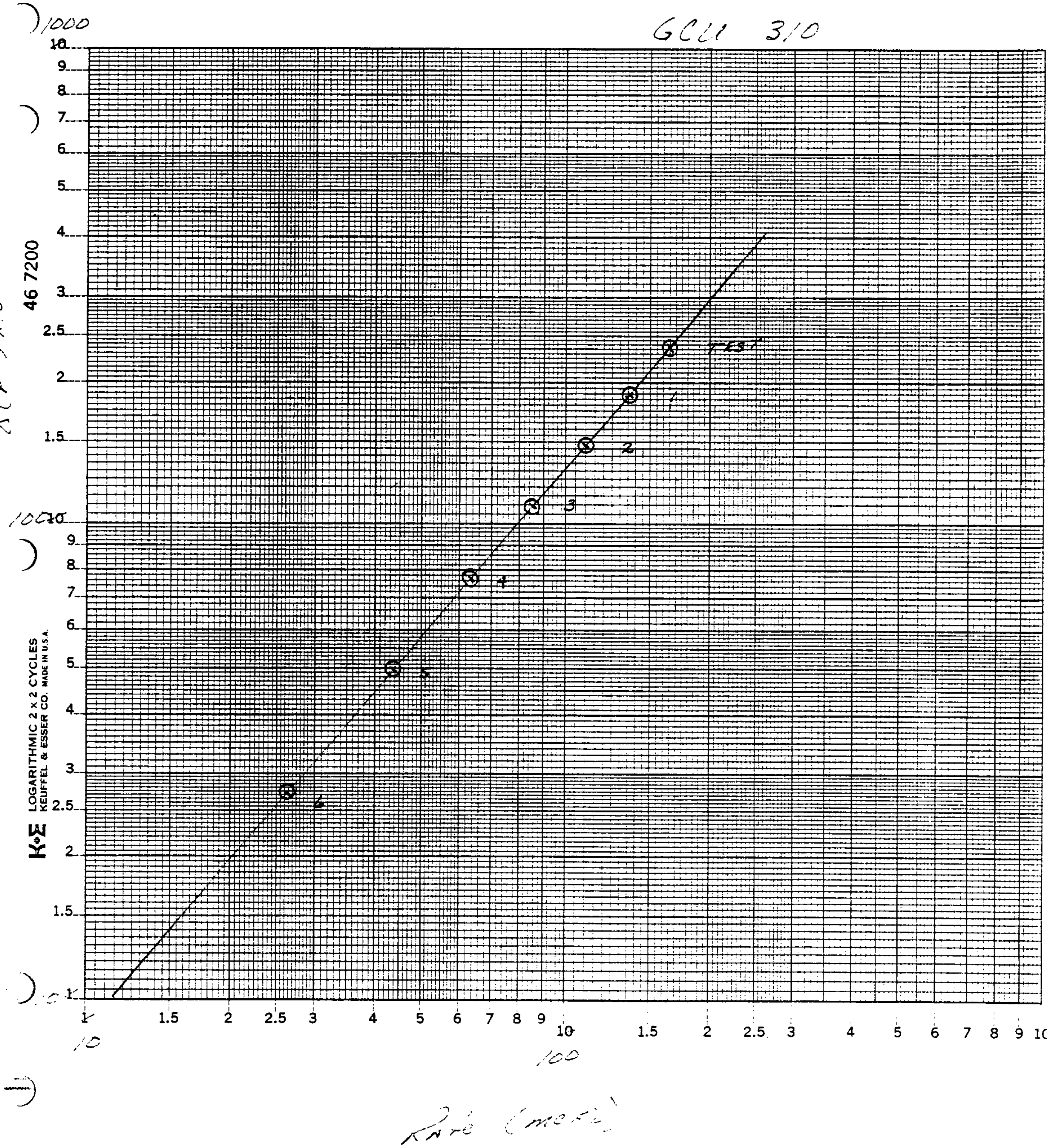
POINT	STATIC BHP	Z	$\Delta(P^2)x10^3$	Q,MCPD	.8Q MCFPD	Q AVG MCFD	GIP (MMCF)	PROD. (MMCF)	CUM PROD. (MMCF)	TIME		
										DAYS	YEARS	CUM. YEARS
Test	497	.917	236.6	165	132		472.8					
1	450	.923	189.7	136	109	120	425.3	47.5	47.5	394	1.1	1.1
2	400	.933	147.2	110	88	98	374.0	51.3	98.8	521	1.4	2.5
3	350	.940	109.7	86	69	78	324.8	49.2	148.0	627	1.7	4.2
4	300	.948	72.2	63	50	60	276.0	48.7	196.7	818	2.2	6.5
5	250	.954	49.7	44	35	43	228.6	47.5	244.2	1109	3.0	9.5
6	200	.963	27.2	26	21	28	181.2	47.4	291.6	1694	4.6	14.1

TABLE 3
ECONOMICS

GCU 310

AVG. PROD RATE (MCFD)	YEARLY PROD (MCF)	WORKING INTEREST				DISCOUNT FACTOR	DISCOUNT VALUE	$39,700 W.I. COST PAYOUT
		YEARLY PROD (MCF)	VALUE ($)	LESS TAXES	LESS OPER. COST & PROFIT			
140	51,100	44,712	134,137	123,808	120,628	.870	104,947	65,247

GCU 310



$\Delta(P^2) \times 10^{-3}$
46 7200
K+E LOGARITHMIC 2 x 2 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.
TEST
1
2
3
4
5
6
1000
100
10
Rate (mcf)

Gallegos Canyon #310

GALLEGOS CANYON UNIT #312
SW, NW, SE SEC. 16,T28N-R12W
SAN JUAN COUNTY, NEW MEXICO

The Gallegos Canyon Unit #312 was spudded on March 6, 1981, and drilled to a T.D. of 1,410' on March 8, 1981. The well was drilled through the Pictured Cliffs formation. Seven-inch 17 pound casing was set at 126' and cemented with 60 sx Class "B" cement. 4½ inch 10.5 pound casing was set at 1,410' and cemented with 160 sx 50-50 Pozmix.

Logging Program

Induction Electric Log-Compensated Density-Neutron Logs were run to evaluate the formations:

Log formation tops are as follows:

Ojo Alamo	20'
Kirtland	135'
Fruitland	940'
Pictured Cliffs	1,420'

Cores and DST's

No cores were cut and no DST's were run on this well.

Completion

Perforated Pictured Cliffs formation at 1,278'-89' and 1,292'-1,304' with 1 JSPF (25 perfs). Broke down with 750 gallons 7-1/2% acid with additives and ball sealers. Frac'd with 20,000 gallons 60% Quality Foam with 22,500 pounds 10-20 sand. Final test 177 MCFPD + 386 BWPD. Perforated Fruitland at 977'-980'; 986'-1,000'; and 1,006'-17' with 1 JSPF (26 perfs). Broke down with 1000 gallons 7-1/2% acid with additives and ball sealers. Frac'd with 25,000 gallons 70% Quality Foam with 40,000 pounds 10-20 sand. Final test 1,360 MCFPD + 0 BWPD. Completed as a Dual Pictured Cliffs - Fruitland producer. A packer has been set at 1,242', with the Pictured Cliffs producing up 2-3/8" tubing.

Using the economic parameters outlined in the following pages, the well will payout in .1 years.

Conclusion

It is concluded that Gallegos Canyon Unit #312 is productive in paying quantities according to the unit agreement and should be classified as a "paying well".

Data and Assumptions

1. Net pay - 30 feet
2. Average porosity - 20.2%
3. Average SW - 60.9%
4. Well spacing - 160 Acres
5. Reservoir temperature - 83° F
6. Measured initial BHP - 528 psi
7. Line pressure - 110 psi
8. Calculated flowing BHP - 113 psi
9. Gas Price - $3.00/MCF
10. Operating costs - $250/mo
11. Severance plus advalorem taxes - 7.7%
12. Discount rate - 15%
13. Royalty - 13.5595%
14. Well cost - $49,500
15. Gas gravity - .655
16. Stabilized test flow rate - 680 MCFD *
17. Stabilized test flowing BHP - 78 psi
18. n (assummed) - .85

* 50% of flow rate was used throughout this evaluation to account for the quick drop in production commonly seen in this area.

TABLE 2
PRODUCTION AND RESERVES

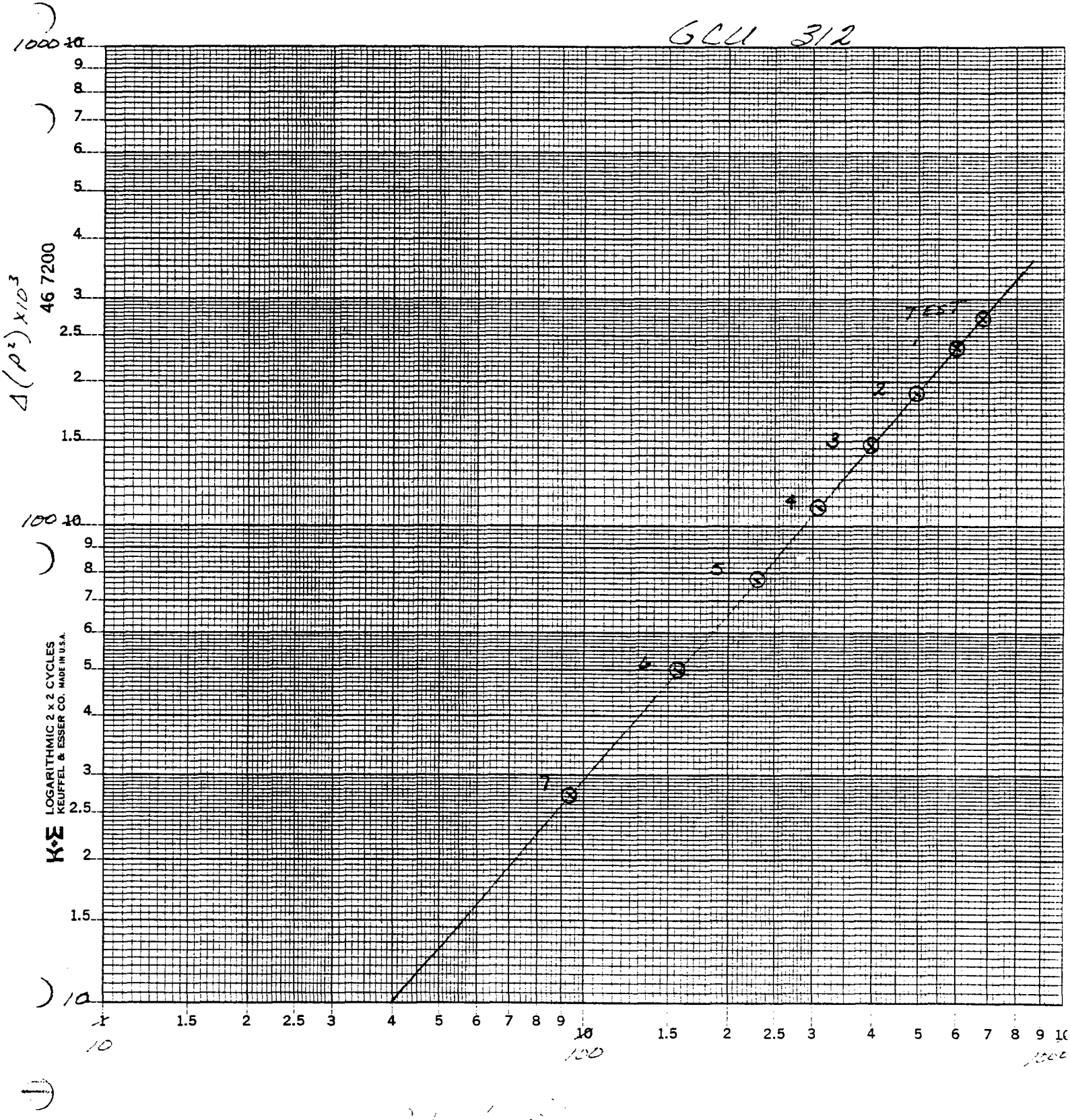
GCU 312

POINT	STATIC BHP	Z	$\Delta(P^2)x10^3$	Q,MCPD	.8Q MCFPD	Q AVG MCFD	GIP (MMCF)	PROD. (MMCF)	CUM PROD. (MMCF)	TIME DAYS	TIME YEARS	TIME CUM. YEARS
Test	528	.910	272.7	680	544		628.5					
1	500	.916	237.2	600	480	512	591.3	37.2	37.2	73	.2	.2
2	450	.923	189.7	497	398	439	588.1	63.2	100.4	144	.4	.6
3	400	.933	147.2	398	318	358	464.4	63.7	164.1	178	.5	1.1
4	350	.940	109.7	309	247	283	403.3	61.1	225.2	216	.6	1.7
5	300	.948	77.2	229	183	215	342.8	60.5	285.7	281	.8	2.4
6	250	.954	49.7	157	126	154	283.9	58.9	344.6	382	1.0	3.5
7	200	.963	27.2	94	75	100	225.0	58.9	403.5	587	1.6	5.1

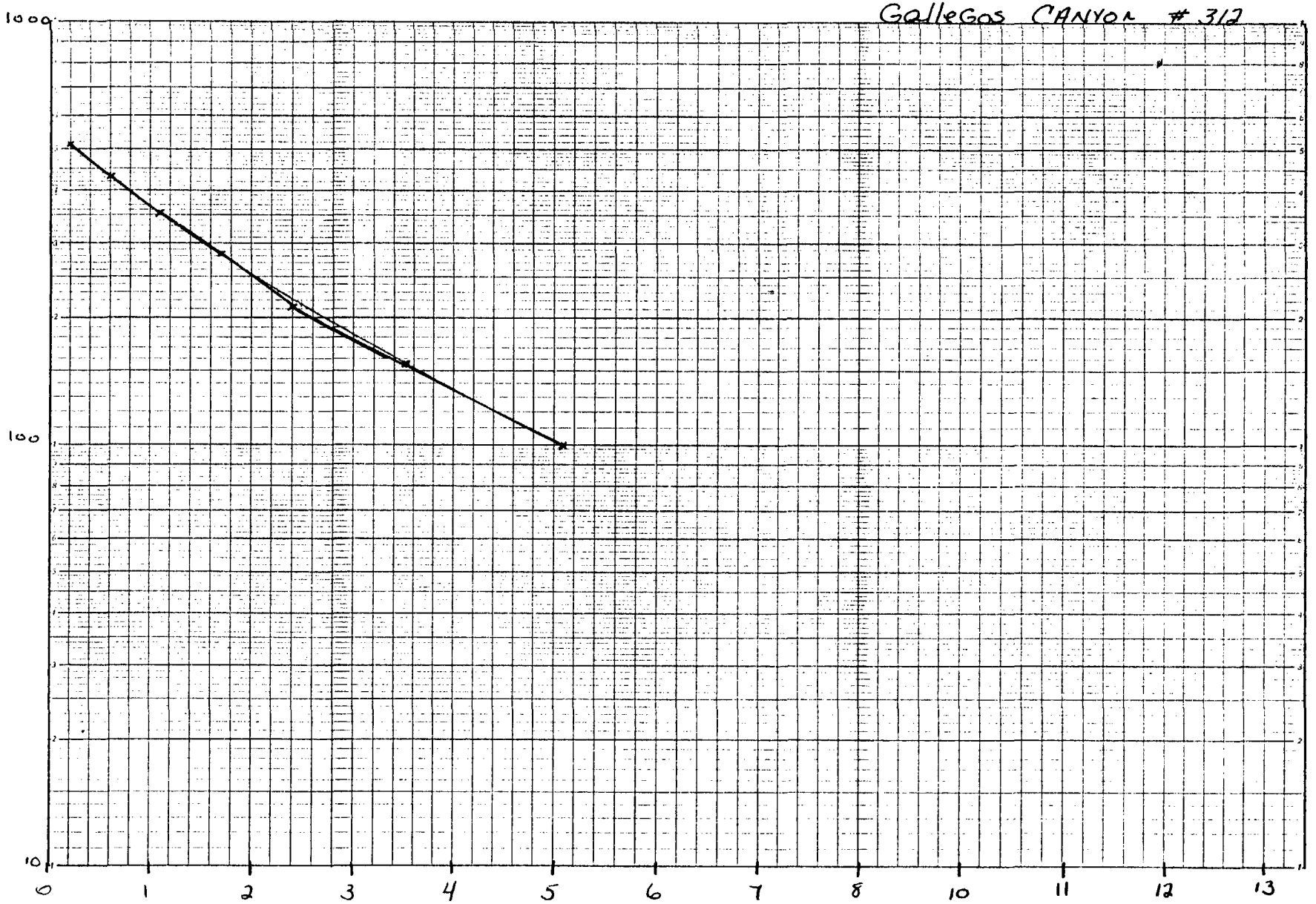
TABLE 3
ECONOMICS

GCU 312

YEAR	AVG. PROD RATE (MCFD)	YEARLY PROD (MCF)	WORKING INTEREST				DISCOUNT FACTOR	DISCOUNT VALUE	$49,500 W.I. COST PAYOUT
			YEARLY PROD (MCF)	VALUE ($)	LESS TAXES	LESS OPER. COST & PROFIT			
1	450	164,250	143,718	431,156	397,957	394,777	.870	343,456	293,956.18


GCU 312
$\Delta(p^2) \times 10^3$
46 7200
LOGARITHMIC 2 x 2 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.
K+E
TEST
1
2
3
4
5
6
7
Rate (mcfd)

GALLEGOS CANYON #312



GALLEGOS CANYON UNIT #319
NW, SE SEC 30, T28-R12W
SAN JUAN COUNTY, NEW MEXICO

The Gallegos Canyon Unit #319 was spudded on April 12, 1981 and drilled to a T.D. of 1,595' on April 14, 1981. The well was drilled through the Pictured Cliffs formation. Seven-inch 17 pound casing was set at 122' and cemented with 65 sx. Class "B" cement. 4½ inch 10.5 pound casing was set at 1,585' and cemented with 250 sx. 50-50 Pozmix.

Logging Program

Induction/Comp. Neutron-Form Density Logs were run to evaluate the formations:
Log formation tops are as follows:

Kirtland	235'
Fruitland	925'
Pictured Cliffs	1,442'

Cores and DST's

No cores were cut and no DST's were run on this well.

Completion

Pictured Cliffs formation was perforated at 1,448'-53'; 1,460'-62'; 1,466'-68'; and 1,472'-74' (15 perfs). Broke down with 500 gallons 7-1/2% Spearhead Acid. Frac'd with 20,000 gallons 70% quality foam with 22,500 pounds 10-20 sand. Tested at 131 MCFPD/136 BWPD at FTP 105 psi.Set Halco E-Z Drill BP at 1,400' on wire line - leaked. Set Gearhart BP on WL at 1,382'. Dumped 4 sx cement on BP. Perforated Fruitland formation at 1,162'-70' with 1 JSPF. Acidize with 500 gallons 7-1/2 MCA - no break. Broke down with 500 gallons 7-1/2% MCA. Frac'd with 25,000 gallons 70% quality foam with 34,000 pounds 10-20 sand into perfs before screenout. Flowed back - well died. Shut in pressure 490 psi. Treated with 50,000 SCF N_2 and 2000 gallons 7-1/2% HCl with additives and N_2. Final test 89 MCFPD + 0 BW.

Using the economic parameters outlined in the following pages, the well will payout in 6.7 years.

Conclusion

It is concluded that Gallegos Canyon Unit #319 is productive in paying quantities according to the unit agreement and should be classified as a "paying well".

GCU 319

Data and Assumptions

1. Net pay - 16 feet
2. Average porosity - 16%
3. Average SW - 58.5%
4. Well spacing - 160 Acres
5. Reservoir temperature - 83° F
6. Measured SI BHP - 438 psi
7. Line pressure - 110 psi
8. Calculated flowing BHP - 113 psi
9. Gas Price - $3.00
10. Operating costs - $250/mo
11. Severance plus advalorem taxes - 7.7%
12. Discount rate - 15%
13. Royalty - 13.6%
14. Well cost - $103,700
15. Gas gravity - .655
16. Stabilized test flow rate - 45 MCFD *
17. Stabilized test flowing BHP - 103
18. n (assummed) - .85

* 50% of flow rate was used throughout this evaluation to account for the quick drop in production commonly seen in this area.

TABLE 2
PRODUCTION AND RESERVES

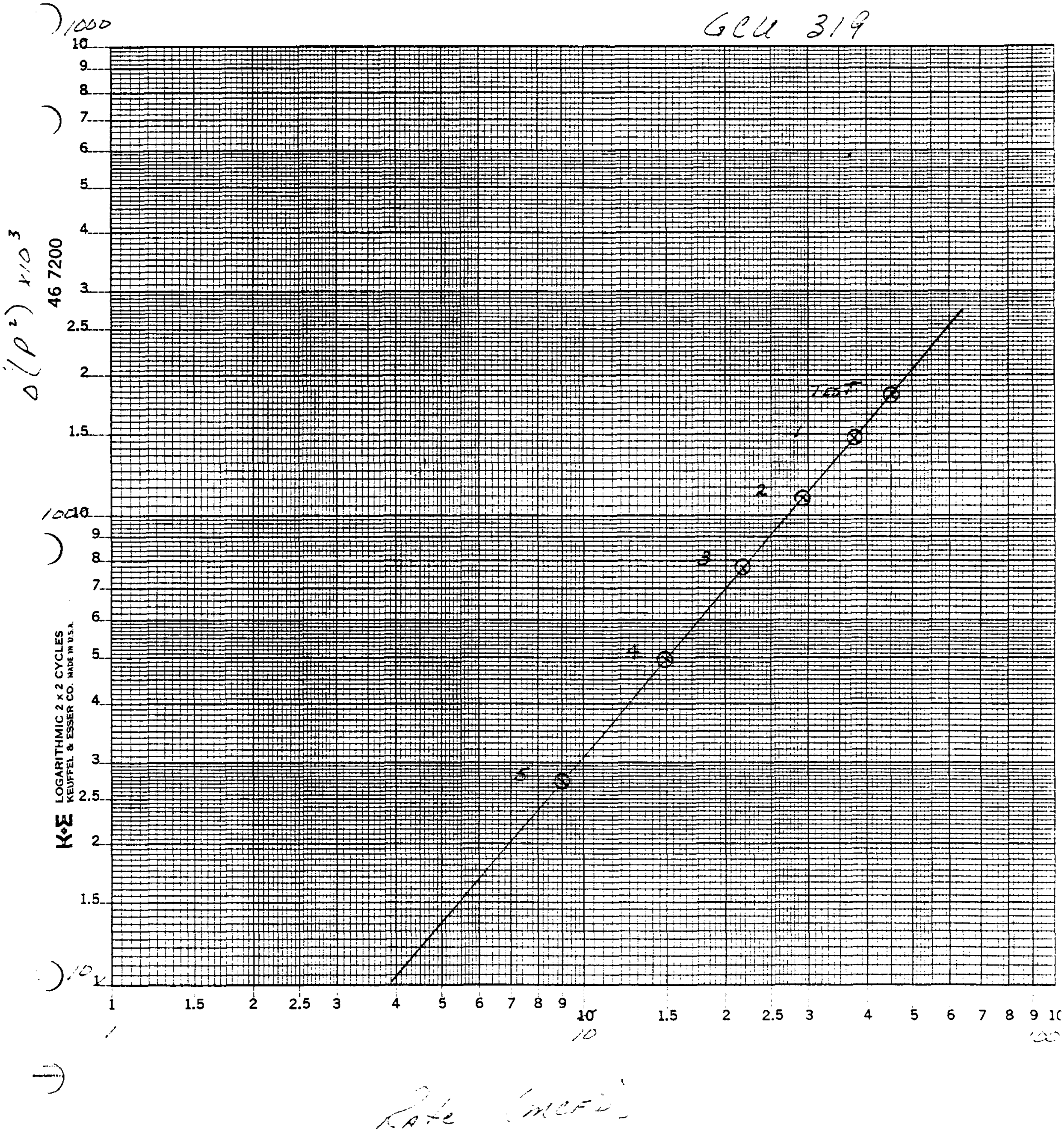
GCU 319

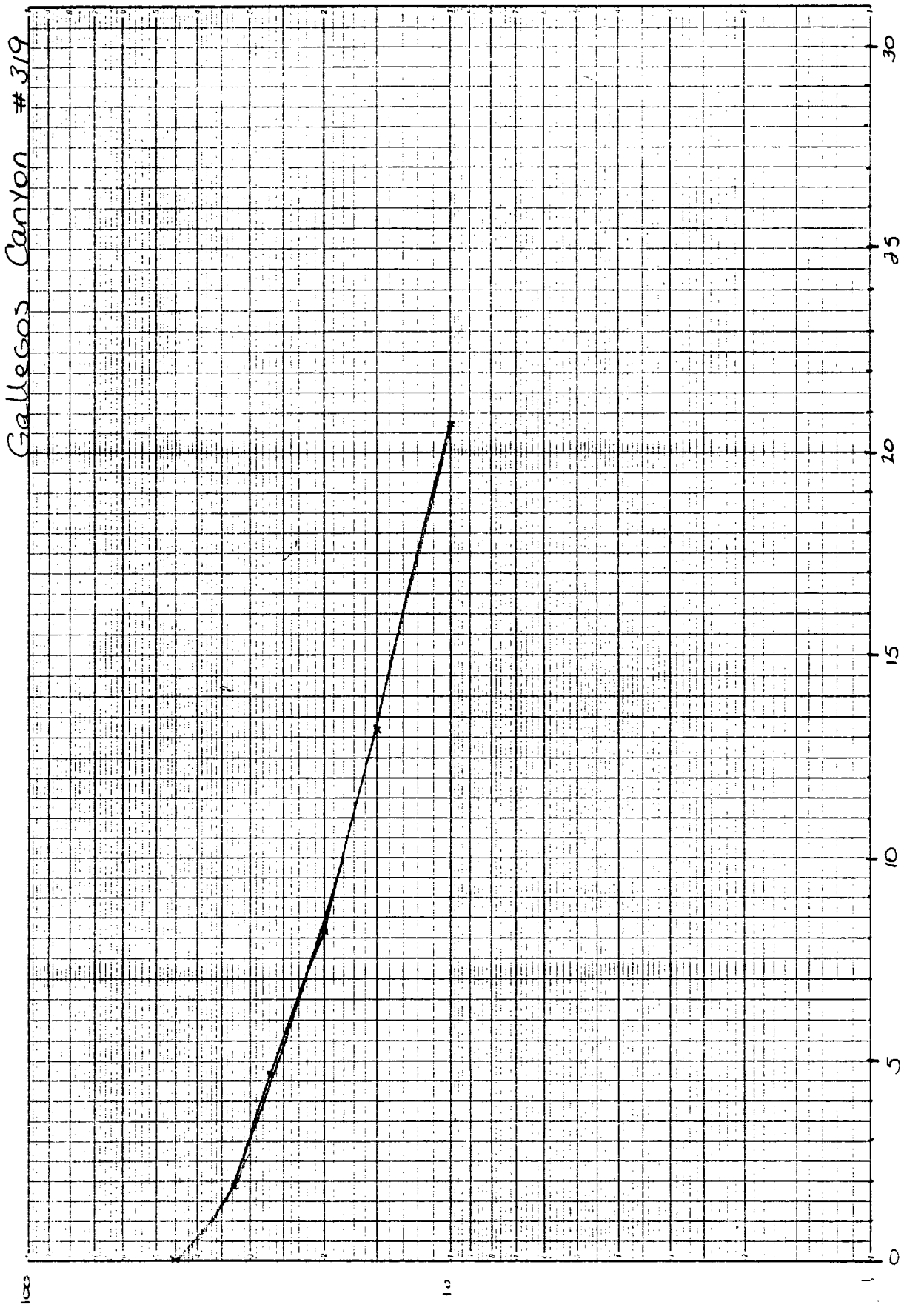
POINT	STATIC BHP	Z	$\Delta(P^2)x10^3$	Q,MCPD	.8Q MCFPD	Q AVG MCFD	GIP (MMCF)	PROD. (MMCF)	CUM PROD. (MMCF)	TIME DAYS	TIME YEARS	TIME CUM. YEARS
Test	438	.925	181.2	45	36		230.0					
1	400	.933	147.2	38	30	33	208.2	21.8	21.8	655	1.8	1.8
2	350	.940	109.7	29	23	27	180.8	27.4	49.1	1022	2.8	4.6
3	300	.948	77.2	22	18	20	153.7	27.1	76.3	1330	3.6	8.2
4	250	.954	49.7	15	12	15	127.3	26.4	102.7	1785	4.9	13.1
5	200	.963	27.2	9	7	10	100.9	26.4	129.1	2751	7.5	20.7

TABLE 3
ECONOMICS

GCU 319

YEAR	AVG. PROD RATE (MCFD)	YEARLY PROD (MCF)	WORKING INTEREST YEARLY PROD (MCF)	WORKING INTEREST VALUE ($)	WORKING INTEREST LESS TAXES	WORKING INTEREST LESS OPER. COST & PROFIT	DISCOUNT FACTOR	DISCOUNT VALUE	$103,700 W.I. COST PAYOUT
1	41	14,965	13,094	39,283	36,258	33,078	.870	28,778	-74,921
2	35	12,775	11,178	33,534	30,952	27,772	.756	20,995	-53,926
3	32	11,680	10,220	30,660	28,299	25,119	.658	16,528	-37,397
4	30	10,950	9,581	28,743	26,530	23,350	.572	13,356	-24,041
5	28	10,220	8,942	26,827	24,761	21,581	.497	10,726	-13,315
6	26	9,490	8,303	24,911	22,993	19,813	.432	8,559	- 4,755
7	24	8,760	7,665	22,995	21,224	18,044	.376	6,784	2,028


GCU 319
$\Delta(P^2) \times 10^3$
46 7200
K·E LOGARITHMIC 2 x 2 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.
1000
100
10
1
10
100
Test
1
2
3
4
5
Rate (mcfd)


Gallegos Canyon #319
30
25
20
15
10
5
0
100
10
1

GALLEGOS CANYON UNIT #328
SE, SW, SEC. 33, T29N-R12W
SAN JUAN COUNTY, NEW MEXICO

The Gallegos Canyon Unit #328 was spudded on January 5, 1981, and drilled to a T.D. of 4,085' on January 10, 1981. The well was drilled through the Mancos formation. 9-5/8-inch 32.4 pound casing was set at 277' and cemented with 275 sx Class "B" cement. 7-inch 23 pound casing was set at 4,085' and cemented with:
1st stage: 600 sx. 50-50 Pozmix
2nd stage: 400 sx 50-50 Pozmix

Logging Program

Dual Induction Focused Log and Compensated Neutron-Comp. Densilog logs were run to evaluate the formations:
Log formation tops are as follows:

Fruitland	1,030'
Pictured Cliffs	1,288'
Lewis	1,560'
Mesa Verde	2,834'
Mancos	4,020'

Cores and DST's

No cores were cut and no DST's were run on this well.

Completion

Perforated Mesaverde Sand at 3,784'-3,797'; 3,760'-3,778'; 3,604'-3,626'; 3,546'-3,550'; 3,532'-3,536';3,512'-3,522'; 3,487'-3,496'; 3,340'-3,354'; 3,170'-3,175'; 3,158'-3,165'; 3,114'-3,126'; 3,010'-3,019'; 2,936'-2,948'; 2,924'-2,932'; 2,894'-2,916'; 2,862'-2,886' & 2,852'-2,858' with 2 JSPF (419 perfs). Spotted 1600 gallons 7-1/2% Spearhead Acid with additives. Broke down with PC water with 650 ball sealers. Injection Test into Mesaverde - 1 BPM at 140 psi and 3.9 BPM at 510 psi. Perforated Fruitland Sand at 1,033'-1,052' with 1 JSPF (20 perfs). Broke down Fruitland perfs with 1000 gallons 7-1/2% MCA with additives and 20 ball sealers. Frac'd with 30,000 gallons 70% Quality Foam with 2500 pounds 20-40 sand and 30,500 pounds 10-20 sand. Landed coated injection tubing with packer at 2,805' KB Landed production tubing at 1,056' K.B. Completed on 2-5-81 as dually-completed Mesaverde water disposal well/Fruitland Producer. Disposal Test rate 1 BPM at 140 PSI. Production potential- 802 MCFD/0 BWPD.

Using the economic parameters outlined in the following pages, the well will payout in 1.6 years.

Conclusion

It is concluded that Gallegos Canyon Unit #328 is productive in paying quantities according to the unit agreement and should be classified as a "paying well".

GCU 328

Data and Assumptions

1. Net pay - 20 feet
2. Average porosity - 16%
3. Average SW - 40%
4. Well spacing - 160 Acres
5. Reservoir temperature - 83° F
6. Measured initial BHP - 490 psi
7. Line pressure - 110 psi
8. Calculated flowing BHP - 113 psi
9. Gas Price - $3.00
10. Operating costs - $250/mo
11. Severance plus advalorem taxes - 7.7%
12. Discount rate - 15%
13. Royalty - 12.5%
14. Well cost - $300,000
15. Gas gravity - .655
16. Stabilized test flow rate - 401 MCFD *
17. Stabilized test flowing BHP - 43 psi
18. n (assummed) - .85

* 50% of flow rate was used throughout this evaluation to account for the quick drop in production commonly seen in this area.

TABLE 2
PRODUCTION AND RESERVES

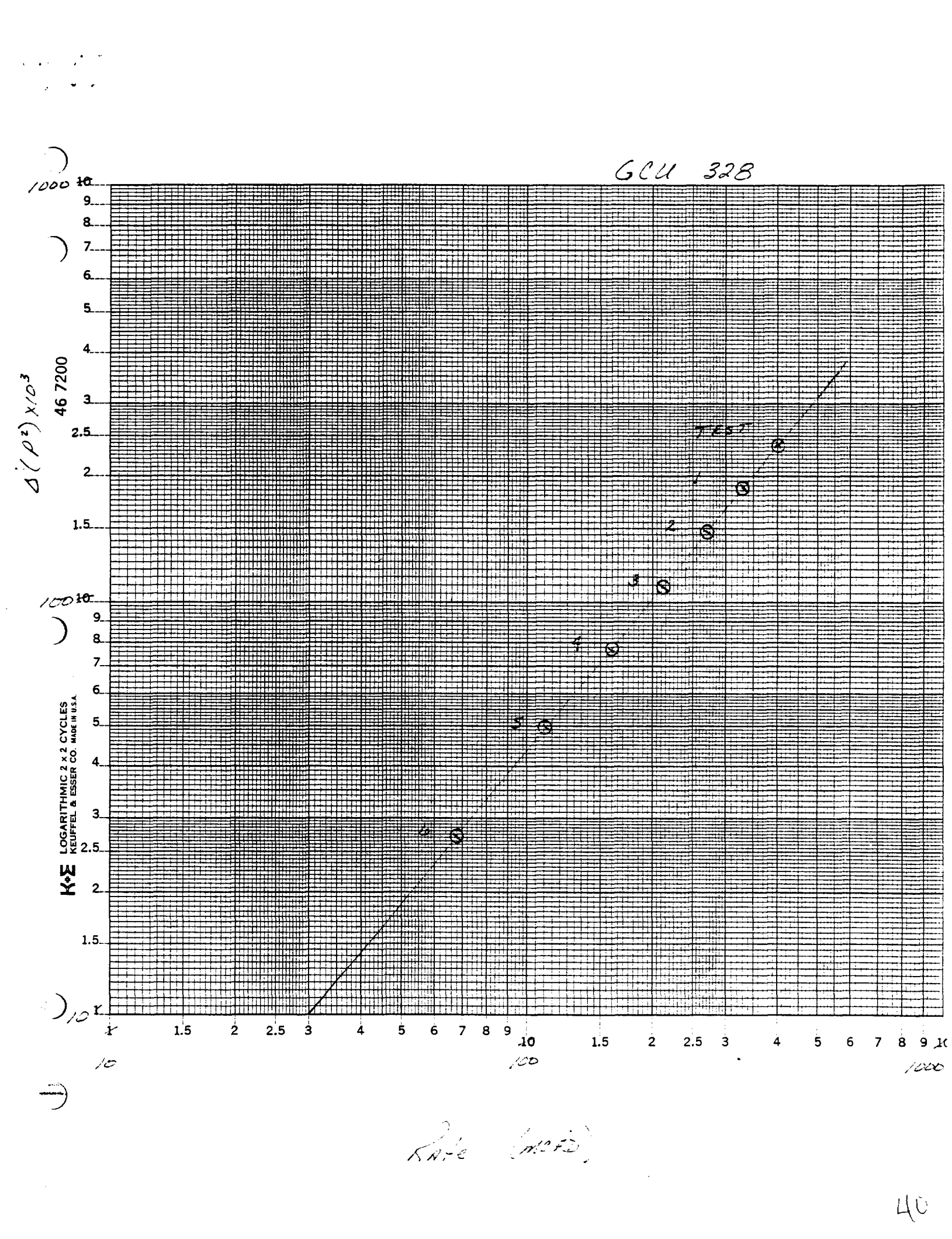
GCU 328 (Fruitland)

POINT	STATIC BHP	Z	$\Delta(P^2)x10^3$	Q,MCPD	.8Q MCFPD	Q AVG MCFD	GIP (MMCF)	PROD. (MMCF)	CUM PROD. (MMCF)	TIME		
										DAYS	YEARS	CUM. YEARS
Test	490	.918	238.2	401	321		468.5					
1	450	.923	189.7	331	265	293	427.9	40.6	40.6	139	.4	.4
2	400	.933	147.2	270	216	240	376.3	51.6	92.2	215	.6	1.0
3	350	.940	109.7	211	169	192	326.8	49.5	141.7	257	.7	1.7
4	300	.948	77.2	159	127	148	277.8	49.1	190.7	331	.9	2.6
5	250	.954	49.7	112	90	108	230.0	47.7	238.5	440	1.2	3.8
6	200	.963	27.2	67	54	72	182.3	47.7	286.2	666	1.8	5.6

TABLE 3
ECONOMICS

GCU 328

YEARLY PROD (MCF)	WORKING INTEREST YEARLY PROD (MCF)	WORKING INTEREST VALUE ($)	WORKING INTEREST LESS TAXES	WORKING INTEREST LESS OPER. COST & PROFIT	DISCOUNT FACTOR	DISCOUNT VALUE	$300,000 W.I. COST PAYOUT
105,120	91,980	275,940	254,692	251,512	.870	218,815	- 81,184
74,825	65,471	196,415	181,291	178,111	.756	134,652	53,468


GCU 328
$\Delta(\rho^2) \times 10^3$
46 7200
K+E
LOGARITHMIC 2 x 2 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.
TEST
1
2
3
4
5
6
1000
100
10
1
1.5
2
2.5
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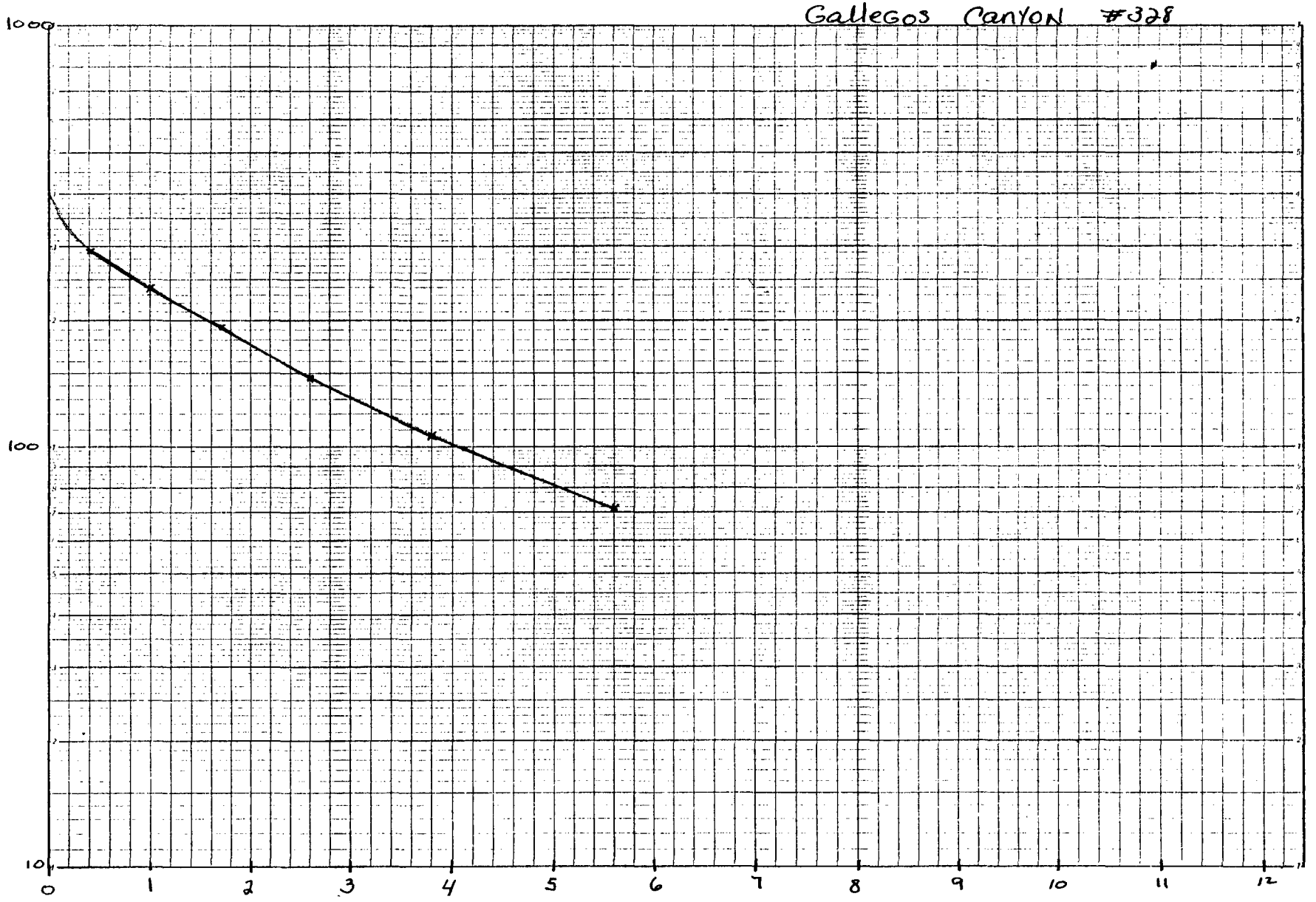
Gallegos Canyon #328
1000
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12