DHC 4/16/98

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
811 South First St., Artesia, NM 88210-2835
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410-1693

RECEIVED
MAR 27 1998
OIL CONSERVATION DIV.

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

1910

Form C-107-A
New 3-12-96

APPROVAL PROCESS:
X Administrative __ Hearing

EXISTING WELLBORE
X YES __ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Phillips Petroleum Company — 5525 Hwy. 64, Farmington, NM 87401
Operator — Address

San Juan 30-5 Unit — #109A — E, Sec. 14, T30N, R5W, Rio Arriba
Lease — Well No. — Unit Ltr. - Sec - Twp - Rge — County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 017654 Property Code 009258 API NO. 30-039-25706 Federal X, State ___, (and/or) Fee ___

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	72319 Blanco Mesaverde		71599 Basin Dakota
2. Top and Bottom of Pay Section (Perforations)			8028' - 8104'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	flowing		flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 1030 psi (est.) b. (Original) 1294 psi (est.)	a. b.	a. 1219 psi b. 3412 psi (est.)
6. Oil Gravity (°API) or Gas BTU Content	1030 btu/ft^3		990 btu/ft^3
7. Producing or Shut-In?			producing
Production Marginal? (yes or no)	yes		yes
• If Shut-In, give date and oil/gas/ water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: Rates:	Date: Rates:	Date: Rates:
• If Producing, give date andoil/gas/ water rates of recent test (within 60 days)	Date: Rates: estimate 400 mcfd	Date: Rates:	Date: 2/28/98 Rates: 420 mcfd
8. Fixed Percentage Allocation Formula -% for each zone	Oil: % Gas: %	Oil: % Gas: %	Oil: % Gas: %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ___ Yes X No
If not, have all working, overriding, and royalty interests been notified by certified mail? X Yes ~~X~~ No
Have all offset operators been given written notice of the proposed downhole commingling? ~~X~~ Yes ___ No

11. Will cross-flow occur? X Yes ___ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. X Yes ___ No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other? X Yes ___ No

13. Will the value of production be decreased by commingling? ___ Yes X No (If Yes, attach explanation)

14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ___Yes ___ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-10770

16. ATTACHMENTS:
* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
* Production curve for each zone for at least one year. (If not available, attach explanation.)
* For zones with no production history, estimated production rates and supporting data.
* Data to support allocation method or formula.
* Notification list of all offset operators.
* Notification list of working, overriding, and royalty interests for uncommon interest cases.
* Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Mark Stodola TITLE Reservoir Eng. DATE 3-23-98

TYPE OR PRINT NAME Mark Stodola TELEPHONE NO. (505) 599-3455

District I
PO Box 1980, Hobbs, NM 88241-1980
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811 South First, Artesia, NM 88210
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1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
	72319	Blanco Mesaverde

⁴ Property Code	⁵ Property Name	⁶ Well Number
009258	San Juan 30-5 Unit	109A

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
017654	Phillips Petroleum Company	6680'

¹⁰ Surface Location

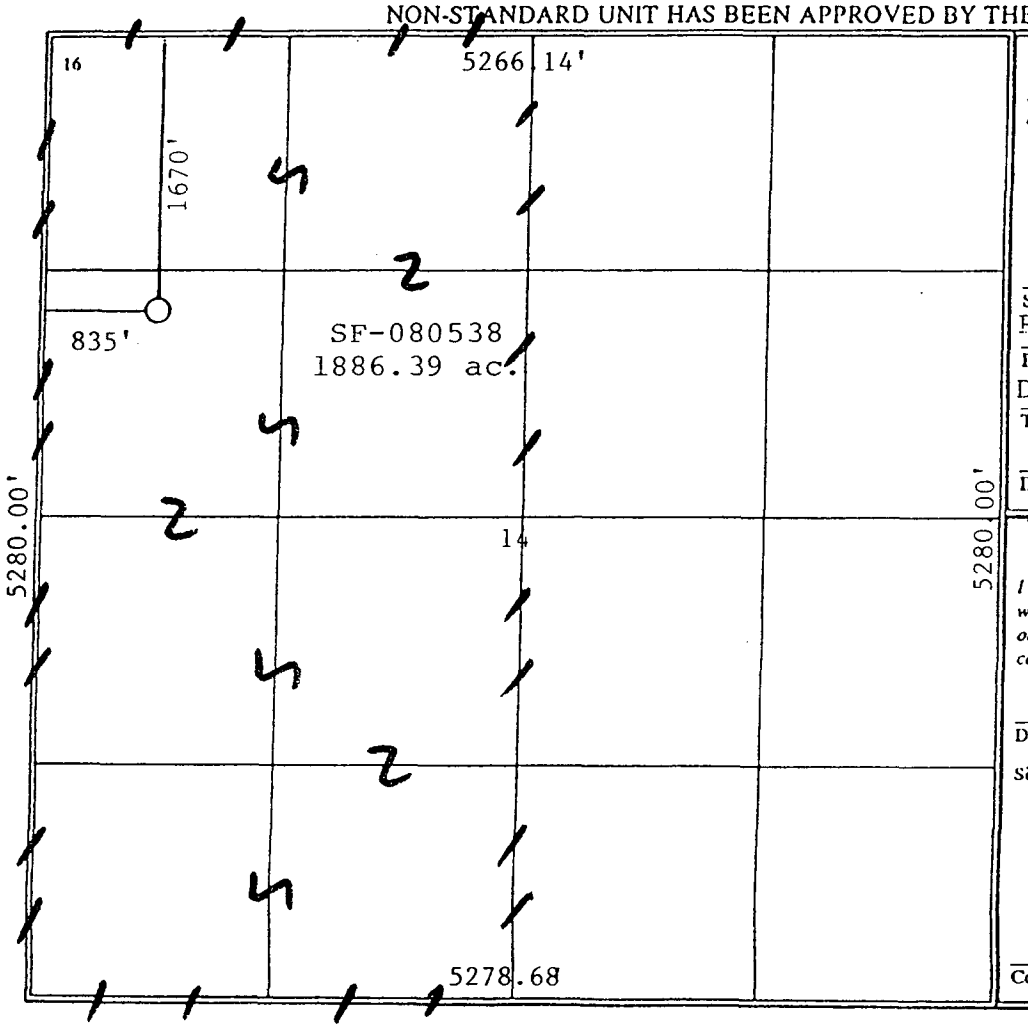
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	14	30N	5W		1670'	North	835'	West	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320 W/2	Y	U	

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



¹⁷ OPERATOR CERTIFICATION

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

Richard A Allred

Signature
Richard A. Allred
Printed Name
Drilling & Prod. Superv.
Title
6-9-97
Date

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

05/21/97
Date of Survey

Signature and Seal of Professional Surveyor:

HENRY P. BROADHURST
NEW MEXICO
15703
PROFESSIONAL SURVEYOR

Certificate Number

District I
PO Box 1980, Hobbs, NM 88241-1980
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State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

97 JUN 12 PM 3:57 ☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
	71599	Basin Dakota

⁴ Property Code	⁵ Property Name	⁶ Well Number
002958	San Juan 30-5 Unit	109A

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
017654	Phillips Petroleum Company	6680'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	14	30N	5W		1670'	North	835'	West	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320 W/2	Y	U	

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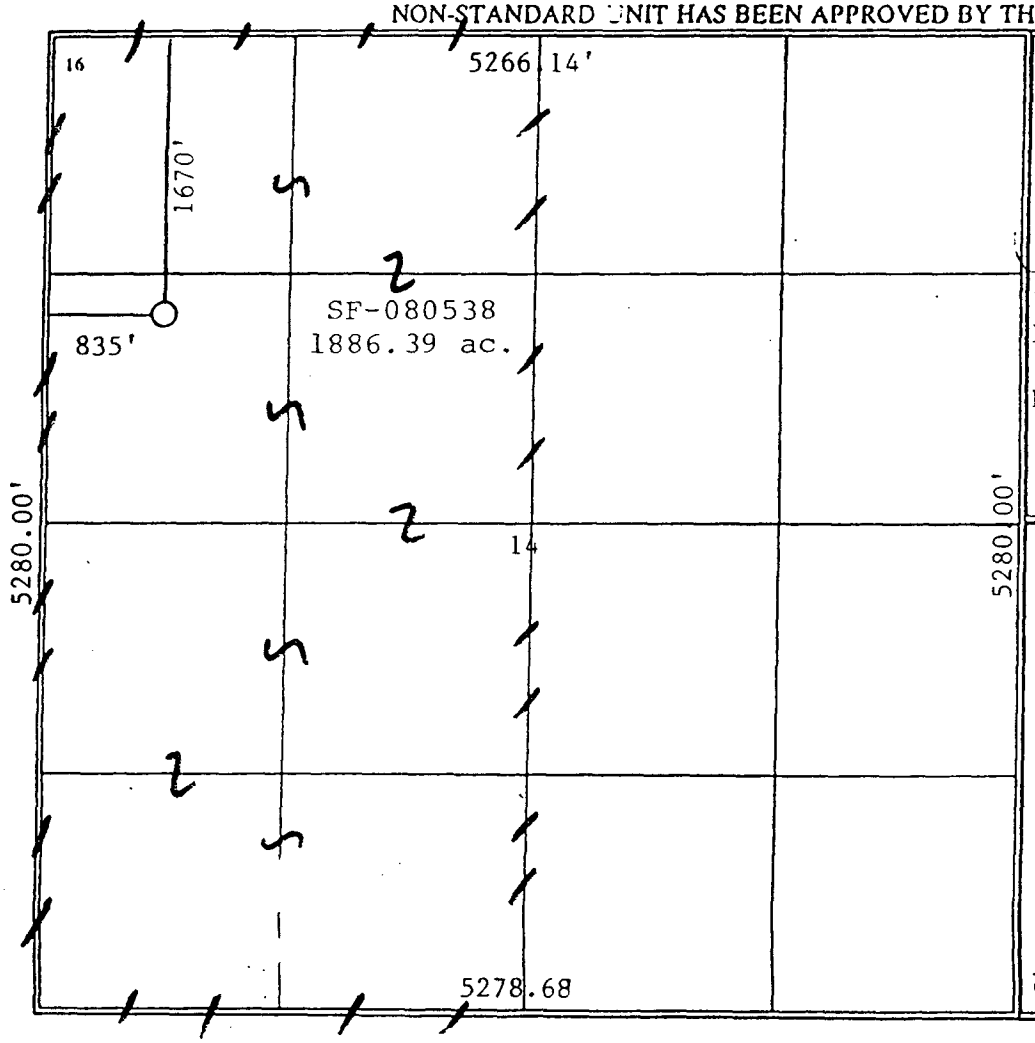


¹⁷ OPERATOR CERTIFICATION

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

Richard A. Allred

Signature

Richard A. Allred

Printed Name

Drilling & Production Supv

Title

6-9-97

Date

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

05/21/97

Date of Survey

Signature and Seal of Professional Surveyor:

HENRY P. BROADHURST NEW MEXICO 1553 REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

PHILLIPS PETROLEUM COMPANY
FARMINGTON, NEW MEXICO 87401
5525 HWY. 64 NBU 3004

March 24, 1998

New Mexico Oil & Gas Conservation Div.
2040 South Pacheco
Santa Fe, New Mexico 87505-6429

Downhole Commingling Allocation Method
on the San Juan 30-5 Unit #109A

Dear Sirs:

Phillips is proposing to utilize the subtraction method on the subject well for approximately six months after actual commingling occurs. After the six month period we will convert to the ratio method as indicated in our commingling application. We believe this will be a more accurate method of allocating production considering that the Dakota interval has been producing for several months and that the production will not be stabilized on the Mesaverde for several months.

Dakota Production Forecast

April 1998	11,895	September 1998	11,384
May 1998	12,184	October 1998	11,661
June 1998	11,688	November 1998	11,186
July 1998	11,972	December 1998	11,458
August 1998	11,867	January 1999	11,358

For example, if the total volume for September 1998 were 20,950 mcf, then the Dakota would be allocated 11,384 mcf and the Mesaverde 9,566 mcf. And subsequently, the Dakota would be allocated (11,384/20,950) or 54.34%, and Mesaverde would be allocated (9,566/20,950) or 45.66%.

Sincerely,

PHILLIPS PETROLEUM COMPANY

Mark W. Stodola

Mark W. Stodola
Reservoir Engineer

MS/pc

cc: OCD – Aztec
BLM- Farmington
NM Commissioner of Public Lands – Santa Fe

Dakota Production Forecast for 30-5 Unit
Well #109A

Year	Month	Gas (MCF)
Apr. 98	1	11,895
May	2	12,184
Jun	3	11,688
Jul	4	11,972
Aug	5	11,867
Sep	6	11,384
Oct	7	11,661
Nov	8	11,186
Dec	9	11,458
1999	10	11,358
Feb	11	10,169
Mar	12	11,160
Apr	13	10,706
May	14	10,966
Jun	15	10,519
Jul	16	10,775
Aug	17	10,681
Sep	18	10,246

Initial Rate = 400 MCF/D

MEP81-01 PARPI - WELLZONE PRODUCTION BROWSE Date: 3/23/98
DAILY AVERAGE BY MONTH User: MWSTODO

Wellzone F0630 02 Yr: 1997 Mth: 09 Property: 650428 SAN JUAN 30-5 #29A DK
Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000109A
Type: D (T-Total, D-Daily Avg) Field: 042233 BASIN
Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20079 DAKOTA NQ

ADJ		PRODUCED			DAYS	WELL			
FLG	DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY
*	1997-09	0.00	0	0	0.00	0	87	11	2
*	1997-10	0.00	359	0	4.00	4	11	11	2
*	1997-11	0.00	689	0	30.00	5	11	11	2
*	1997-12	0.00	494	0	31.00	31	11	11	2
*	1998-01	0.00	466	0	31.00	31	11	11	2

NO MORE DATA AVAILABLE
PA1=ICE PA2=Exit PF1=Help PF3=End PF11=GRAPH
Transfer-> PF7=Backward PF8=Forward PF4=PREV SCREEN PF12=LOG GRAPH

PHILLIPS PETROLEUM COMPANY
5525 HWY 64 NBU 3004
FARMINGTON, NEW MEXICO 87401

DATE: MARCH 18, 1998

WELL NAME: SAN JUAN 30-5 # 109A
FORMATION: DAKOTA

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA
STATE: NEW MEXICO

ELEVATION: GL
TOTAL DEPTH: 8114'
PERFORATIONS: 8028' TO 8104'
TUBING SIZE: 2 3/8 TO 8056'
CASING SIZE: TO
PACKER:
OTHER: BEGINING PRESSURE CAS @ 800.
TUBING @ 900 MCF 378

CASING PRESSURE: 1065
TUBING PRESSURE: 1065
OIL LEVEL:
WATER LEVEL:
TEMPERATURE:
AMERADA ELEMENT NUMBER: 87977
RANGE: 0-2500
WELL STATUS: SHUT IN 24 1/2 HRS

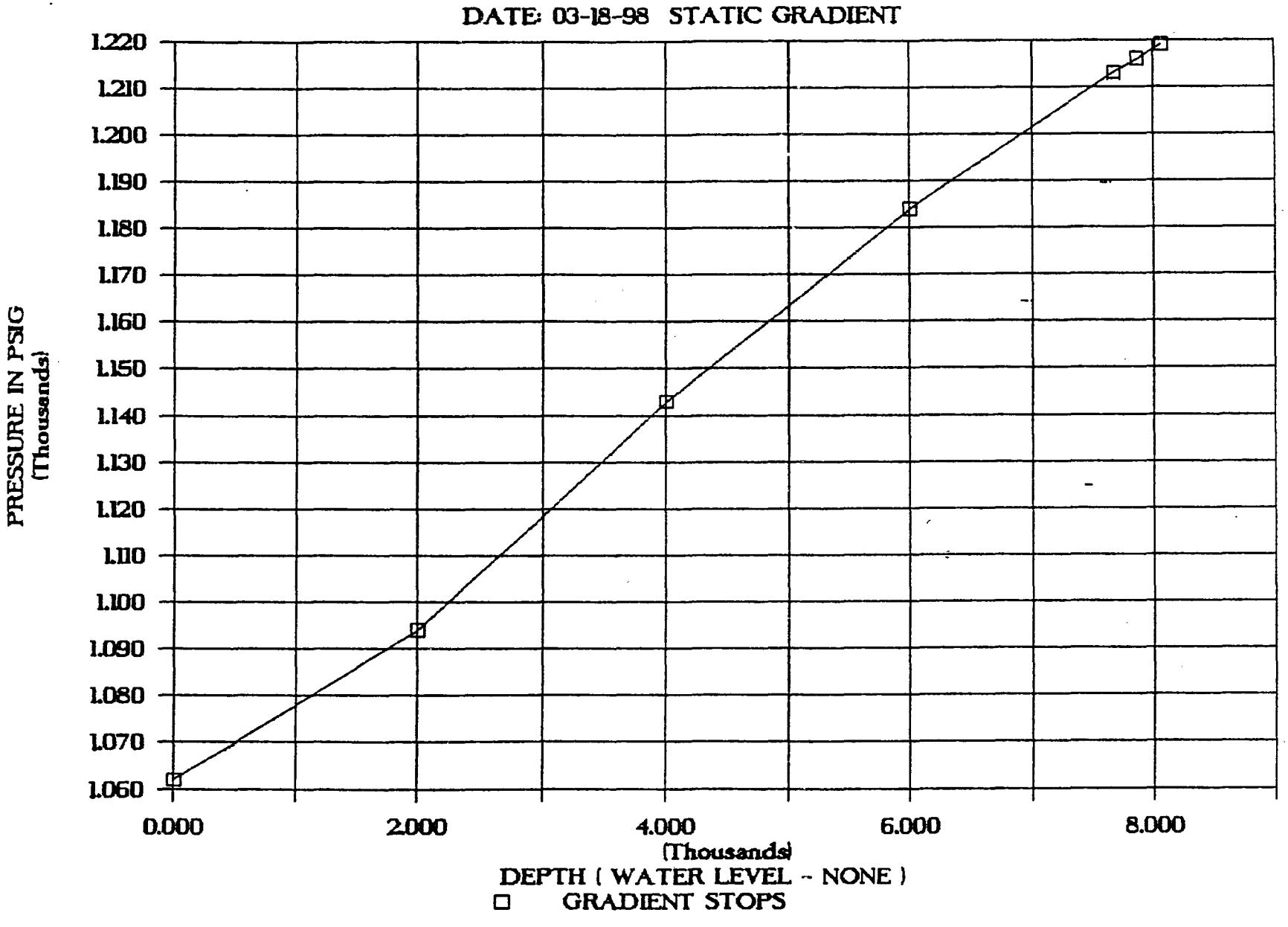
INDIVIDUAL WELL DATA SHEET

FLOWING GRADIENT TRAVERSE

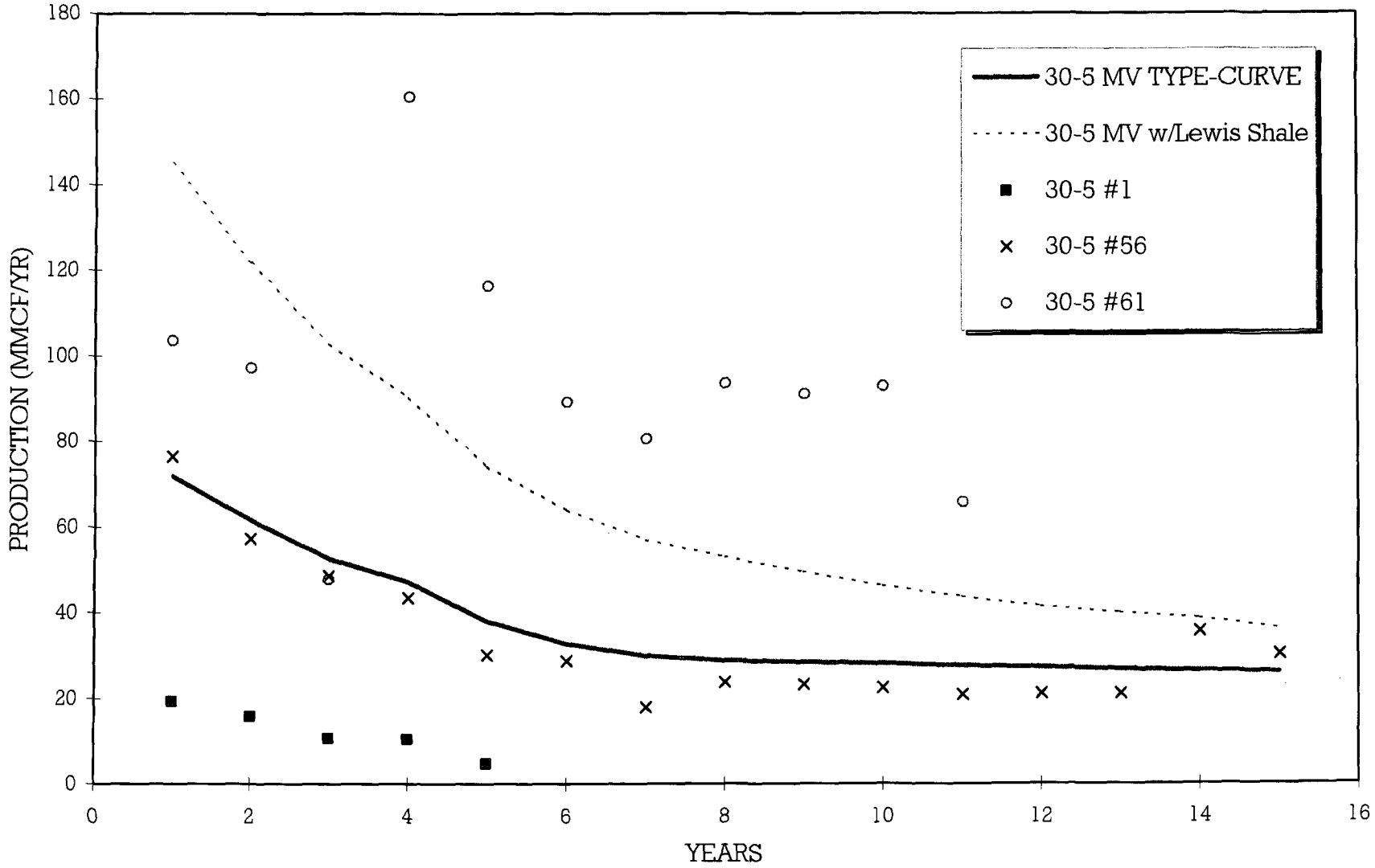
DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	1062	
2000	1094	0.016
4000	1143	0.026
6000	1184	0.021
7666	1213	0.017
7866	1216	0.015
8066	1219	0.015

H & H WIRELINE SERVICE INC.
P. O. BOX 899
FLORA VISTA, N. MEX. 87415
OPERATOR: CHARLES HUGHES
UNIT NO. T-10

PHILLIPS PETROLEUM SAN JUAN 30-5 # 109A



30-5 UNIT MESAVERDE



30-5mvtc

Production Allocation Methodology

- ♦ Adding New Zone to Existing Zone - Initially Subtraction Method followed by Fixed Allocation Method
  - Subtraction Method (+/- 1st 12 months)
    - Forecast production rate by month for existing zone utilizing established decline curve for zone
    - Subtract forecasted rate from commingled rate to define new zone rate
    - Utilize subtraction method for +/- 12 months until new zone rate stabilizes, then utilize fixed allocation method with current rates
  - Fixed Allocation Method (after Subtraction Method)
    - Utilize forecasted rate from established decline curve for lower zone
    - Calculate upper zone rate by subtracting lower zone rate from commingled rate
    - Lower zone allocation = $\frac{\text{Lower zone rate}}{\text{Commingled rate}}$
    - Upper zone allocation = (Commingled rate - Lower zone rate) / Commingled rate

Attachment

OCD Form C-107A (3/12/96)

Item No. 12 - additional explanation:

Based on water analysis from the Mesaverde and Dakota zones and discussions with the chemical treating/analysis company the water from these two zones are compatible. Lab analysis of the individual waters from both the Mesaverde and Dakota formations resulted in positive scaling indices for barium sulfate. There was a slight increase in the barium sulfate scaling index of the combined waters relative to the scaling index of the individual waters.

None of the waters, combined or individual, had meaningful scaling tendencies and combined with the fact that typical water production from either of these zones in San Juan 30-5 are 0-1 BWPD and no barium sulfate scale has been detected to date, no negative impacts to the formations are anticipated.