DATE IN	SUSPENSE	ENGINEER	LOGGED BY	TYPE
11/2/98	11/23/98	DC	WV	DHC

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
2040 South Pacheco, Santa Fe, NM 87505

2131

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATION FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling
☐ NSL ☐ NSP ☐ DD ☐ SD

RECEIVED
NOV - 2 1998

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☒ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **INFORMATION / DATA SUBMITTED IS COMPLETE** - Certification

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. ***I understand that any omission of data (including API numbers, pool codes, etc.), pertinent information and any required notification is cause to have the application package returned with no action taken.***

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Mark Stodola	Mark Stodola	Reservoir Engr.	10/30/98
Print or Type Name	Signature	Title	Date

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

APPLICATION FOR DOWNHOLE COMMINGLING

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

APPROVAL PROCESS:
X Administrative __ Hearing

EXISTING WELLBORE
__ YES X NO

Phillips Petroleum Co. (Operator) 5525 Hwy. 64, Farmington, NM 87401 (Address)

San Juan 29-5 (Lease) 67M (Well No.) D Sec 20, T29N, R5W (Unit Ltr. - Sec - Twp - Rge) Rio Arriba (County)

OGRID NO. 017654 Property Code 009256 API NO. 30-039-25821 Spacing Unit Lease Types: (check 1 or more) 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	Blanco Mesa Verde 72319		Basin Dakota 71599
2. Top and Bottom of Pay Section (Perforations)			
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) 800 psia (est.)	a.	a. 1050 psia (est.)
	b. (Original) 1234 psia (est.)	b.	b. 2981 psia (est.)
6. Oil Gravity (°API) or Gas BTU Content	1150 BTU/SCF		1020 BTU/SCF
7. Producing or Shut-In?			
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:	Date: Rates:	Date: Rates:
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 __ 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 (see attachment

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. X 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 Engr. DATE 10/29/98

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

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 South First, Artesia, NM 88210
District III
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
	71599	Basin Dakota

[4] Property Code	[5] Property Name	[6] Well Number
009256	SAN JUAN 29-5 UNIT	67M

[7] OGRID No.	[8] Operator Name	[9] Elevation
017654	PHILLIPS PETROLEUM COMPANY	6641'

[10] Surface Location

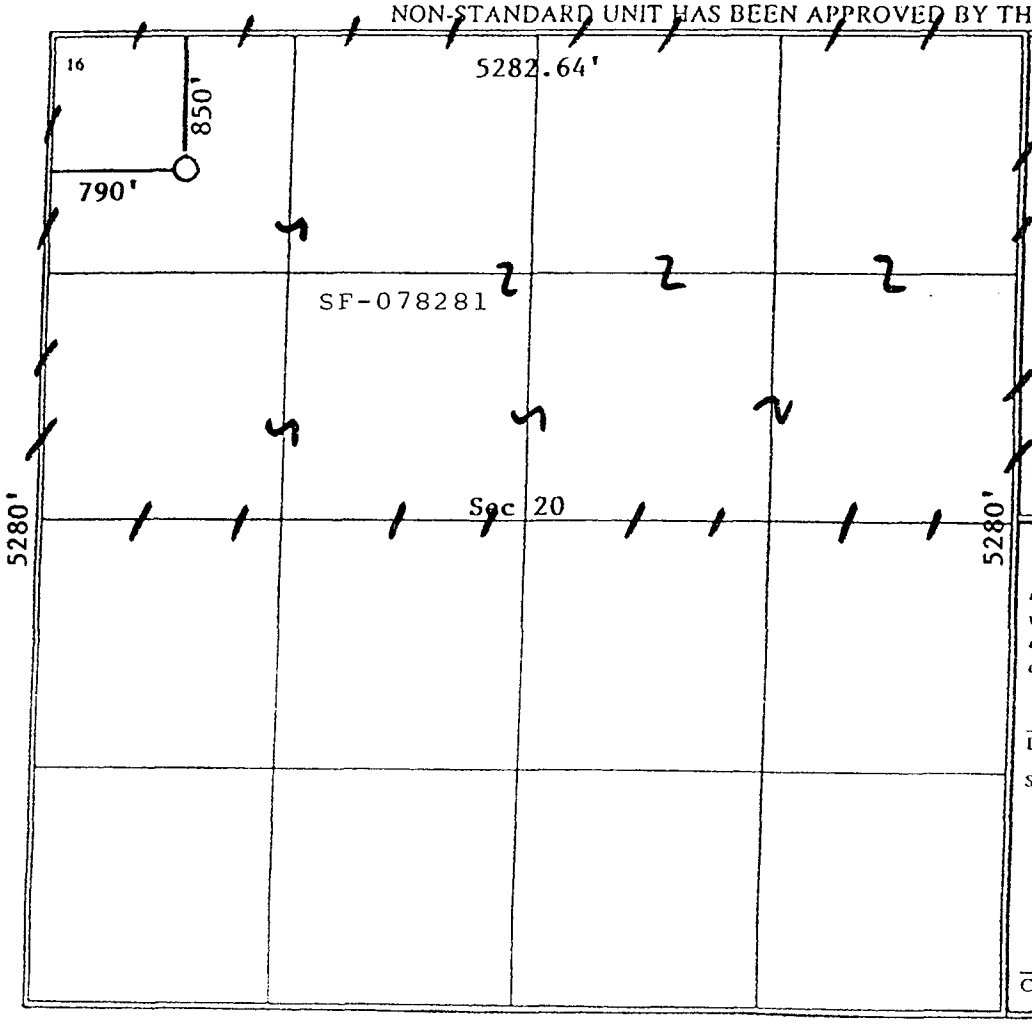
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	20	29N	5W		850'	NORTH	790'	WEST	RIO ARRIBA

[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
D									

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320 N/2	I		

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

Signature

Richard Allred
Printed Name

Drilling Superintendent
Title

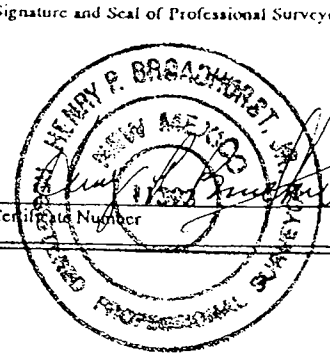
September 30, 1998
Date

[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.

11-10-97
Date of Survey

Signature and Seal of Professional Surveyer:



Certificate Number

District I
PO Box 1980, Hobbs, NM 88241-1980
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811 South First, Artesia, NM 88210
District III
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
009256	SAN JUAN 29-5 UNIT	67M

[7] OGRID No.	[8] Operator Name	[9] Elevation
017654	PHILLIPS PETROLEUM COMPANY	6641'

[10] Surface Location

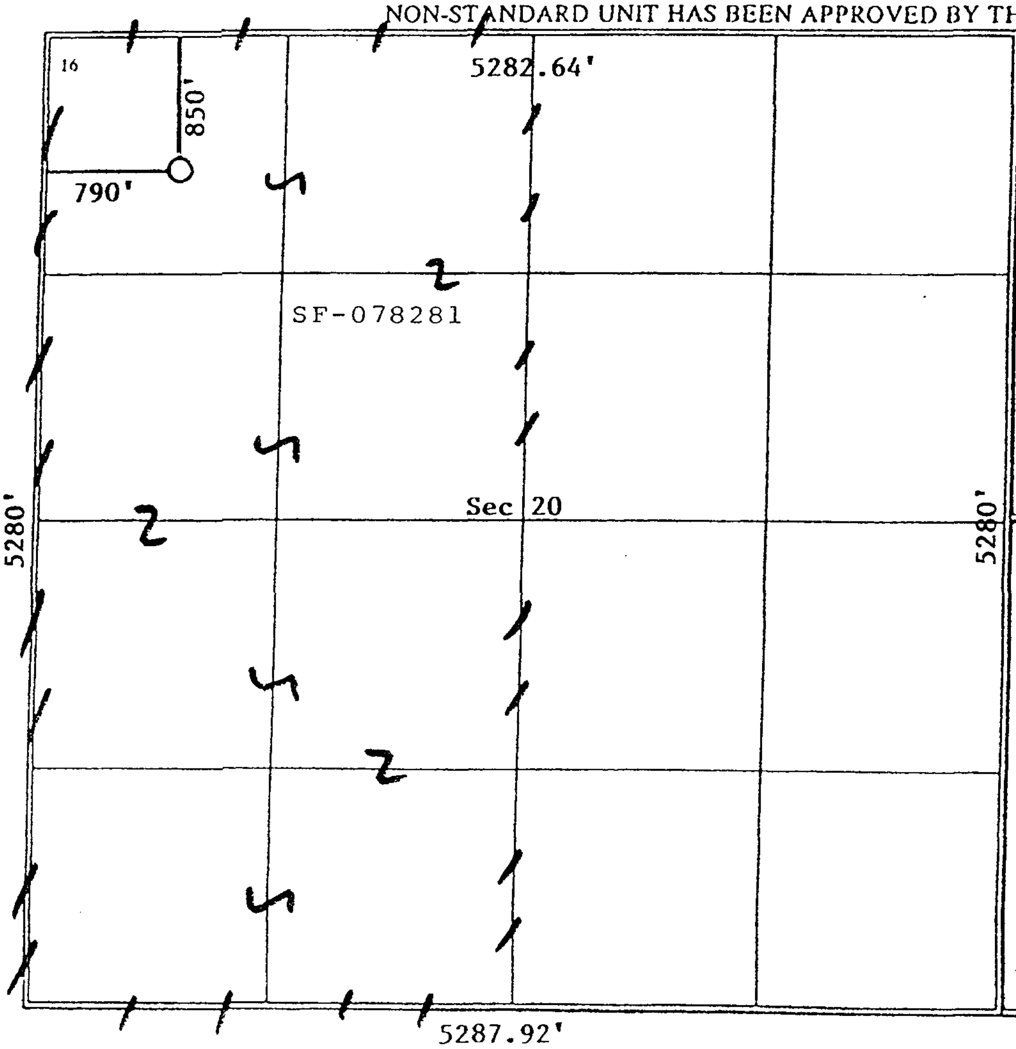
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	20	29N	5W		850'	NORTH	790'	WEST	RIO ARRIBA

[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
D									

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320 W/2	I		

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

Signature: R A Allred
Printed Name: Richard Allred
Title: Drilling Superintendent
Date: September 30, 1998

[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.

11-10-97
Date of Survey

Signature and Seal of Professional Surveyor:

HENRY P. BROADHURST, JR. NEW MEXICO 11393 REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

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

October 30, 1998

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

Downhole Commingling Allocation Method
for the San Juan 29-5 Unit # 67M

Dear Sirs:

Phillips is proposing to utilize the ratio method on the subject well. In accordance with the Commingling Order #R-10770, the Dakota will be tested by itself until a stabilized rate is obtained. The Mesaverde will then be completed. Both zones will be tested together, at which time a suitable allocation will be determined.

Attached are the Dakota and Mesaverde Decline Curve Forecast and Normalized History with Type Curve for the San Juan 29-5 Unit.

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

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.

b) the average current shut-in bottomhole pressure within the Mesaverde and Dakota formations are approximately 843 psi and 1,224 psi, respectively.

(10) There is sufficient pressure data available within the San Juan 29-5 Unit so as to except pressure criteria as proposed by the applicant.

(11) The applicant testified that various allocation methods will be utilized for downhole commingled wells within the San Juan 29-5 Unit depending on the circumstances. Some of the methods and circumstances are described as follows:

a) in those instances where a newly completed zone is commingled with an existing producing interval with an established decline, the subtraction method will be utilized for a period of +/- 12 months. Subsequent to this time, and assuming that the production rate has stabilized, a fixed allocation will be determined and utilized; and,

b) in those instances where a well is newly drilled, the lower zone will be production tested for a period of two to four weeks or until a stabilized rate is obtained. Subsequent to that time, a stabilized rate from both commingled zones within the well will be obtained. A fixed allocation of production will then be determined utilizing the data obtained from the flow tests.

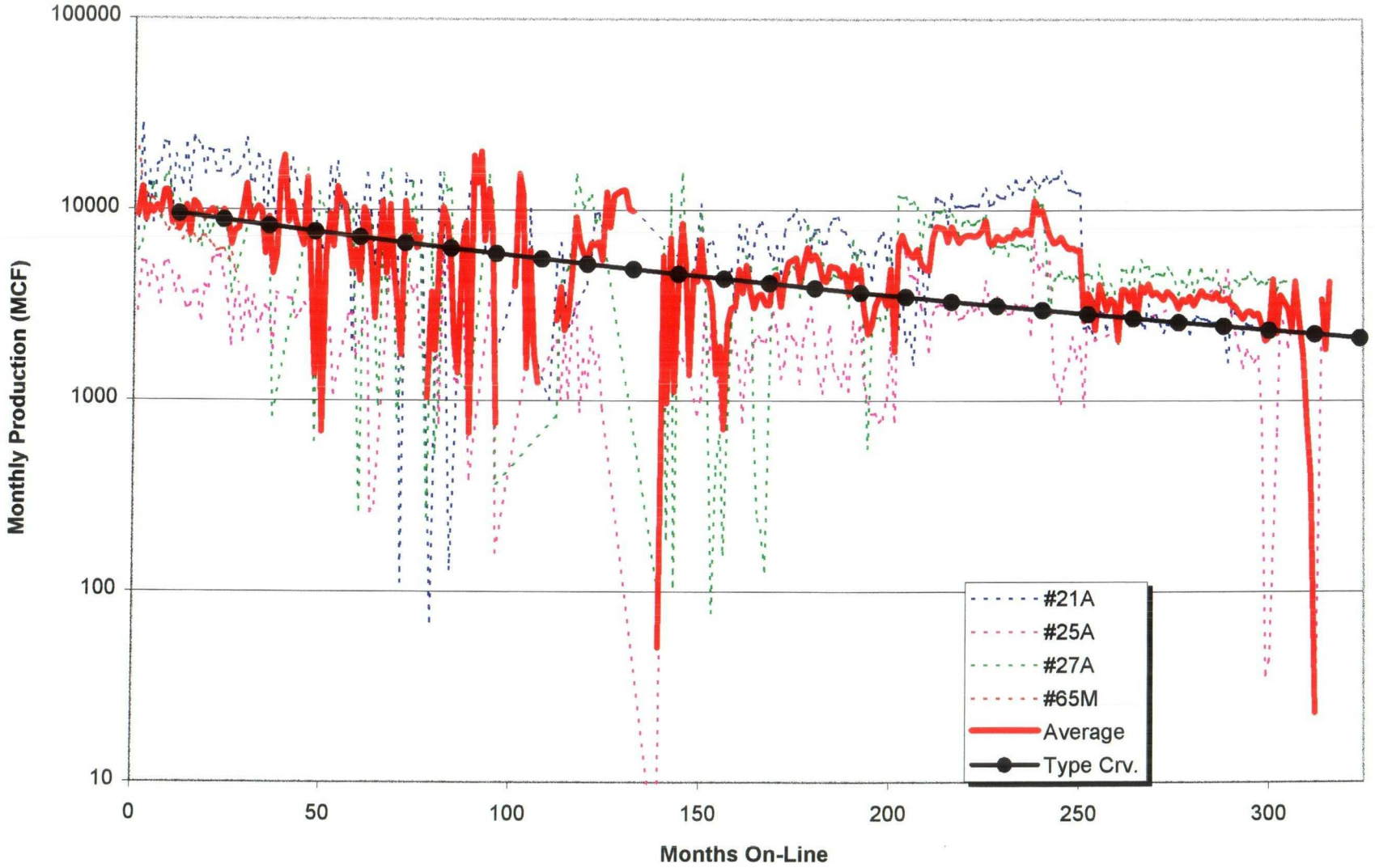
(12) The allocation methods proposed by the applicant are routinely utilized by industry and approved by the Division and therefore, the proposal to except allocation formulas should be approved.

(13) In support of its request to establish a "reference case" or administrative procedure for providing notice within the San Juan 29-5 Unit the applicant presented evidence and testimony which indicates that:

a) the interest ownership between two zones within a given wellbore in the San Juan 29-5 Unit is generally not common;

b) pursuant to Division Rule No. 303.D., applicant is currently required to notify all interest owners within the San Juan 29-5 Unit every time a Form C-107-A is submitted to the Division. There are a considerable number of such interest owners within the unit;

c) providing notice to each interest owner within the San Juan 29-5 Unit of subsequent downhole commingling is unnecessary and is an excessive burden on the applicant;

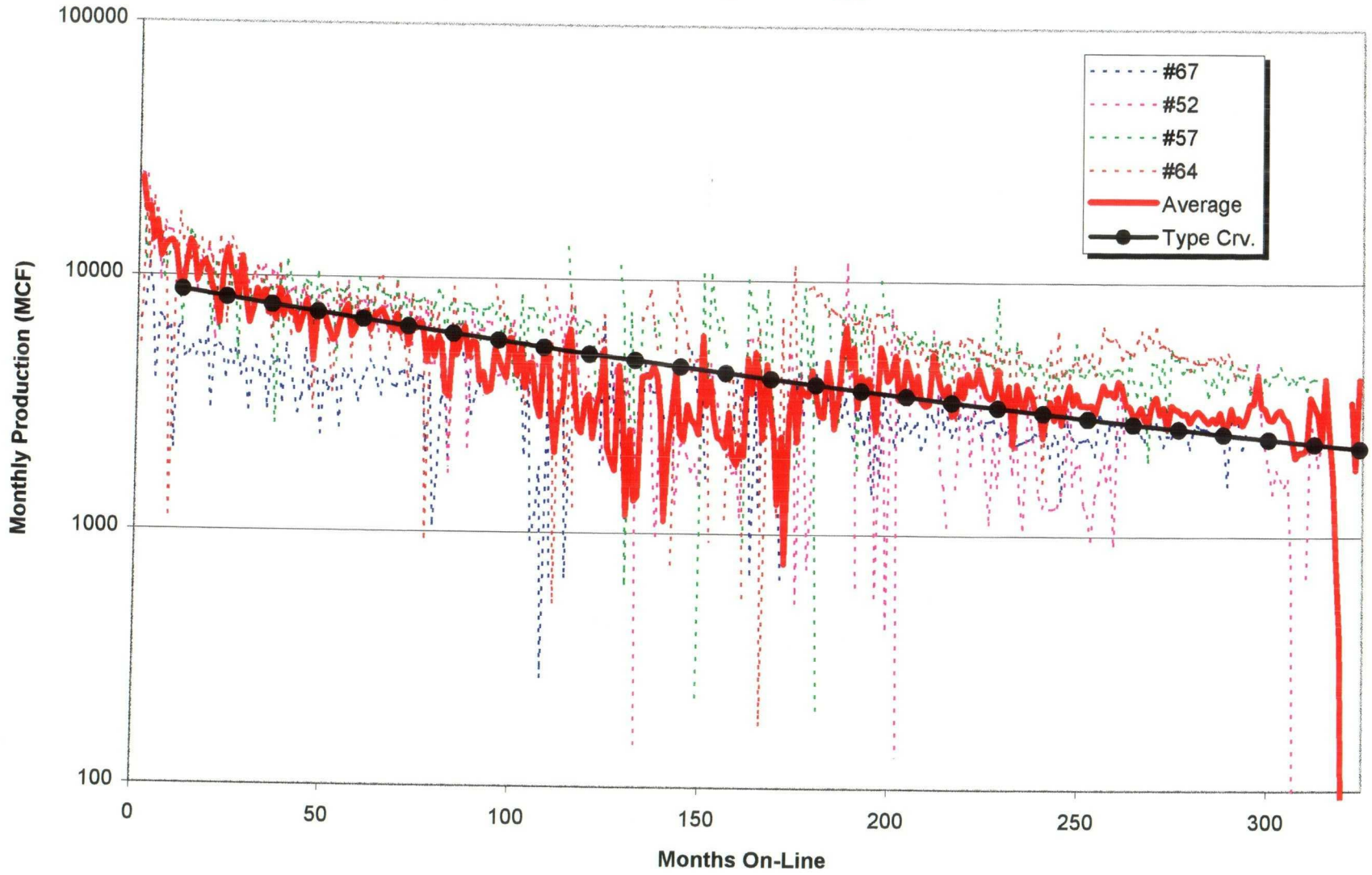

29-5 Mesaverde
Normalized History With Type Curve
100000
10000
1000
100
10
Monthly Production (MCF)
0
50
100
150
200
250
300
Months On-Line
#21A
#25A
#27A
#65M
Average
Type Crv.

Decline Curve Forecasting

Initial Production Rate	=	325	*MCFD*
Hyperbolic Exponent	=	0.33	
Decline Rate	=	7.50	%

Year	Year #	Initial q MCFD	Final q MCFD	Average q MCFD	Cum. MCF	***Yearly MCF***
1999	1	325	302	313	114,320	***114,320***
2000	2	302	281	291	220,570	***106,250***
2001	3	281	262	271	319,490	***98,920***
2002	4	262	244	253	411,739	***92,248***
2003	5	244	228	236	497,900	***86,162***
2004	6	228	214	221	578,498	***80,598***
2005	7	214	200	207	654,000	***75,502***
2006	8	200	188	194	724,826	***70,826***
2007	9	188	177	182	791,352	***66,527***
2008	10	177	166	171	853,920	***62,568***
2009	11	166	157	161	912,837	***58,917***
2010	12	157	148	152	968,381	***55,543***
2011	13	148	140	144	1,020,803	***52,422***
2012	14	140	132	136	1,070,333	***49,530***
2013	15	132	125	128	1,117,179	***46,846***
2014	16	125	118	122	1,161,532	***44,353***
2015	17	118	112	115	1,203,564	***42,032***
2016	18	112	106	109	1,243,435	***39,871***
2017	19	106	101	104	1,281,289	***37,855***
2018	20	101	96	99	1,317,261	***35,972***
2019	21	96	91	94	1,351,472	***34,211***
2020	22	91	87	89	1,384,036	***32,564***
2021	23	87	83	85	1,415,057	***31,020***
2022	24	83	79	81	1,444,629	***29,572***
2023	25	79	76	77	1,472,842	***28,213***
2024	26	76	72	74	1,499,778	***26,936***
2025	27	72	69	71	1,525,511	***25,734***
2026	28	69	66	67	1,550,114	***24,603***
2027	29	66	63	64	1,573,650	***23,536*** E.L.
2028	30	63	60	62	1,596,181	***22,531***
2029	31	60	58	59	1,617,762	***21,581***
2030	32	58	55	57	1,638,447	***20,685***
2031	33	55	53	54	1,658,284	***19,837***
2032	34	53	51	52	1,677,318	***19,034***
2033	35	51	49	50	1,695,593	***18,275***
2034	36	49	47	48	1,713,148	***17,555***
2035	37	47	45	46	1,730,020	***16,872***
2036	38	45	44	44	1,746,244	***16,224***

DK MV


29-5 Dakota
Normalized History With Type Curve
100000
10000
1000
100
Monthly Production (MCF)
0
50
100
150
200
250
300
Months On-Line
#67
#52
#57
#64
Average
Type Crv.

Decline Curve Forecast

Initial Production Rate	=	*300*	*MCFD*
Hyperbolic Exponent	=	*0.33*	
Decline Rate	=	*6.75*	%

Year	Year #	Initial q MCFD	Final q MCFD	Average q MCFD	Cum. MCF	***Yearly MCF***
1999	1	300	281	290	105,912	***105,912***
2000	2	281	263	272	205,055	***99,143***
2001	3	263	247	255	297,993	***92,938***
2002	4	247	232	239	385,232	***87,239***
2003	5	232	218	225	467,227	***81,995***
2004	6	218	205	211	544,390	***77,163***
2005	7	205	193	199	617,091	***72,702***
2006	8	193	183	188	685,668	***68,577***
2007	9	183	172	177	750,426	***64,758***
2008	10	172	163	168	811,643	***61,217***
2009	11	163	154	159	869,572	***57,929***
2010	12	154	146	150	924,443	***54,871***
2011	13	146	139	143	976,468	***52,025***
2012	14	139	132	135	1,025,839	***49,371***
2013	15	132	125	129	1,072,734	***46,895***
2014	16	125	119	122	1,117,315	***44,581***
2015	17	119	113	116	1,159,732	***42,417***
2016	18	113	108	111	1,200,122	***40,390***
2017	19	108	103	105	1,238,611	***38,490***
2018	20	103	98	101	1,275,318	***36,707***
2019	21	98	94	96	1,310,349	***35,032***
2020	22	94	90	92	1,343,806	***33,457***
2021	23	90	86	88	1,375,781	***31,975***
2022	24	86	82	84	1,406,361	***30,579***
2023	25	82	78	80	1,435,624	***29,263***
2024	26	78	75	77	1,463,645	***28,021***
2025	27	75	72	74	1,490,494	***26,849***
2026	28	72	69	71	1,516,235	***25,741***
2027	29	69	66	68	1,540,927	***24,692***
2028	30	66	64	65	1,564,627	***23,700***
2029	31	64	61	62	1,587,387	***22,760***
2030	32	61	59	60	1,609,257	***21,869***
2031	33	59	56	58	1,630,281	***21,024***
2032	34	56	54	55	1,650,503	***20,222***
2033	35	54	52	53	1,669,963	***19,460***
2034	36	52	50	51	1,688,698	***18,736***
2035	37	50	49	49	1,706,745	***18,047***
2036	38	49	47	48	1,724,136	***17,391***

DK