

ABOVE THIS LINE FOR DIVISION USE ONL

### NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



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# ADMINISTRATIVE APPLICATION CHECKLIST

TH	IIS CHECKLIST IS MA	NDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REC WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE	GULATIONS	
Applic	[DHC-Dowr [PC-Po	and Idard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication Inhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Comminglin Iol Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement] [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase] ified Enhanced Oil Recovery Certification] [PPR-Positive Production Response	ng]	
[1]	[A]	PLICATION - Check Those Which Apply for [A] Location - Spacing Unit - Simultaneous Dedication NSL NSP SD One Only for [B] or [C] Commingling - Storage - Measurement	RECE	
	[C] [D]	DHC       CTB       PLC       PC       OLS       OLM         Injection - Disposal - Pressure Increase - Enhanced Oil Recovery         WFX       PMX       SWD       IPI       EOR       PPR         Other: Specify	ECEIVED May 12 Pm 3 40	-
[2]	NOTIFICATI [A] [B] [C] [D] [E] [F]	<ul> <li>ON REQUIRED TO: - Check Those Which Apply, or Does Not Apply Working, Royalty or Overriding Royalty Interest Owners</li> <li>Offset Operators, Leaseholders or Surface Owner</li> <li>Application is One Which Requires Published Legal Notice</li> <li>Notification and/or Concurrent Approval by BLM or SLO U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office</li> <li>For all of the above, Proof of Notification or Publication is Attached, and/or,</li> <li>Waivers are Attached</li> </ul>		
[3]		CURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS TI TION INDICATED ABOVE.	НЕ ТҮРЕ	

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

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

<u>Granney</u> <u>5-12-08</u> Date <u>Omundsdry@holkndhart.</u> e-mail Address )cean Monds-Dry df 12 Print or Type Name Signature

HOLLAND&HART

Ocean Munds-Dry omundsdry@hollandhart.com

May 12, 2008

# HAND-DELIVERED

Mark E. Fesmire, P.E. Director Oil Conservation Division New Mexico Department of Energy, Minerals and Natural Resources 1220 South Saint Francis Drive Santa Fe, New Mexico 87505

Re: Application of Williams Production Company for downhole commingling, Rio Arriba County, New Mexico.

Dear Mr. Fesmire:

Williams Production Company requests administrative approval to downhole commingle its Rosa unit Well No. 100E located in Section 21, Township 31 North, Range 6 West, NMPM, Rio Arriba County, New Mexico. Williams seeks to commingle the Rosa Pictured Cliffs zone with the Blanco Mesaverde zone.

Williams has notified all working, royalty and overriding royalty interest owners by certified mail. The notification list is attached.

Your attention to this application is appreciated.

Sincerely, ean Nume

Ocean Munds-Dry Attorney for Williams Production Company

Enclosures

Holland & Hart up

*			
District I 1625 N. French Drive, Hobbs, NM 88240	State Energy, Minerals and	of New Mexico Natural Resources Department	Form C-107A DRevised June 10, 2003
District II 1301 W. Grand Avenue, Artesia, NM 88210	Oil Con	servation Division MAY 1	2 2008 APPLICATION TYPE
District III 1000 Rio Brazos Road, Aztec, NM 87410			
Pools	Santa F	South St. Francis Dr. e, New Mexico 87505 HOLLAND &	HARTLLP
District IV			EXISTING WELLBORE
1220 S. St. Francis Dr., Santa Fe, NM 87505	APPLICATION FOR I	OOWNHOLE COMMINGLING	YesNo
WILLIAMS PRODUCTION COMPANY		° O BOX 3102, MS 25-4, TULSA, OK-74101	4023)
Operator ROSA UNIT		Address C 21 – T31N – R06W	RIO ARRIBA, NM
Lease	Well No. Unit Let	ter-Section-Township-Range	County
OGRID No016189 Property C	ode_008480_ API No	03-039-25135 Lease Type: _X	FederalStateFee
DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Rosa Pictured Cliffs		Blanco Mesa Verde
Pool Code	96175		72319
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	3156' – 3218'		5304' - 5686'
Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
Bottomhole Pressure (Note: Pressure data will not be required if the bottom	616		470
perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)			
Oil Gravity or Gas BTU (Degree API or Gas BTU)	1055		, 943
Producing, Shut-In or New Zone	Producing		Producing
Date and Oil/Gas/Water Rates of			
Last Production. (Note: For new zones with no production history, applicant shall be required to attach production	Date: 11/27/05	Date:	Date: 05/07/08
estimates and supporting data.)	Rates: 145 Mcfd 39 Bwpd	Rates:	Rates: 104 Mcfd 1 Bwpd
Fixed Allocation Percentage	Oil Gas	Oil Gas	Oil Gas
(Note: If allocation is based upon something other than current or past production, supporting data or	0.04		0.0/ 220/
explanation will be required )	0 % 67	% % %	0 % 33%

### **ADDITIONAL DATA**

Are all working, royalty and overriding royalty interests identical in all commingled zones? If not, have all working, royalty and overriding royalty interest owners been notified by certified mail?	Yes YesX	NoX _ No
Are all produced fluids from all commingled zones compatible with each other?	YesX	_ No
Will commingling decrease the value of production?	Yes	NoX
If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application?	YesX	_ No
NMOCD Reference Case No. applicable to this well:		

Attachments:

explanation will be required.)

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 working, royalty and overriding royalty interests for uncommon interest cases.

Any additional statements, data or documents required to support commingling.

### **PRE-APPROVED POOLS**

If application is to establish Pre-Approved Pools, the following additional information will be required:

List of other orders approving downhole commingling within the proposed Pre-Approved Pools List of all operators within the proposed Pre-Approved Pools Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application. Bottomhole pressure data.

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

SIGNATURE	Tenter	, misure	TITLE	Engineering Technician	DATE	May 8, 2008
	1 armit	L'appress-			DATE	Nay 0, 2008

TYPE OR PRINT NAME\_\_Rachel Lipperd\_\_

\_\_\_\_\_TELEPHONE NO. (\_918\_)\_\_573-3046\_

E-MAIL ADDRESS rachel.lipperd@williams.com

# ORIGINAL ON FILE

District I PO Box 1980, Hobbs, NM 88241-1980 District II PO Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos Rd., Aziec, NM 87410 District IV

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PO Box 2088, Santa Fe, NM 87504-2088

### State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION PO Box 2088 Santa Fe, NM 87504-2088 Form C-102 Revised February 21, 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

	AP1 Number 0-039-2513:			<sup>3</sup> Pool Code 96175 WILDO					' Fool Name CAT ROSA PICTURED CLIFFS			
* Property 4 008480			·	<sup>5</sup> Property Name ROSA						* Well Number #100E		
<sup>1</sup> OGRID				* Operator Name						'Elevation		
016189					NORTH	WEST PIPEL					6268'	
						<sup>10</sup> Surface						*
UL or lot no.	Section	Township	-	Lot I	dn 👌	Feet from the 1571	1	rth/South line	Feet from the 870'	East/Wes	t line EAST	County RIO ARRIBA
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UL or lot no.	Section	Township	Range	Lot I	din ji	Feet from the	No	rth/South line	Feet from the	F/BSU/ Wes	t une	County
<sup>12</sup> Dedicated Acr	es <sup>13</sup> Joint	or Infill 14	Consolidation	a Code	<sup>15</sup> Ord	er No.	_					
SE-160	1											
NO ALLOWA	BLE WILL	BE ASSIG	NED TO THI					ERESTS HAVE I THE DIVISION	BEEN CONSOLID	ATED OR	A NON-SI	TANDARD UNIT
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					900	DIST.	3	-	SR. ENGINEER	t		Title
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# ORIGINAL ON FILE

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION PO Box 2088 Santa Fe, NM 87504-2088 Form C-102 Revised February 21, 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 0-039-2513		1	<sup>2</sup> Pool Code 72319		······································	<sup>3</sup> Pool Na BLANCO MES			
<sup>4</sup> Property 008480					<sup>3</sup> Property ROS				6 9	Well Number #100E
<sup>7</sup> OGRID				<del></del>	* Operator	r Name	' Elevation			
016189	·			NOR		NE CORPORATION			<u> </u>	6268
	<u></u>				<sup>10</sup> Surface	Location				
UL or lot no. I	Section 21	Township 31N	Range 06W	Lot Idn	Feet from the 1570	North/South line SOUTH	Feet from the <b>870</b> '	East/Wes		County RIO ARRIBA
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12 Dedicated Acr	es <sup>13</sup> Joint	or Infill <sup>14</sup> C	Consolidation	Code 15 O	rder No.					<u> </u>
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District i PO Box 1980, Hobbs, NM 88241-1988 District II PO Drawer DD, Artesta, NM 88211-0719 District III 1800 Rio Brazos Rd., Aztec, NM 87410 District IV PO Box 2088, Sania Fe, NM 87504-2088

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Submit to Appropriate District Office		Energy, N		e of New Mexi d Natural Resc		∼ nt			m C-102 Ised 1-1-89
x State Lease - A copies Fee Lease - 3 copies DISTRICT I P.O. Bux 1980, Hobbs, 1	NTNE ##240	OILC		RVATION O. Box 2088	DIVISI	ON	RE	CEIVED BLM	
DISTRICT II P.O. Drawer DD, Artesi		รม	ita Fe, Ne	w Mexico 87	/504-2088		91 OCT	17 AH 10	: 23
DISTRICT III IOXI Rio Brazos Rd., Az		WELL LOCAT		ACREAGE			19 FARI	HINGTOP	I, N.M.
Operator				es cç				Wal No.	
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	1	Township	1	10ge	• <b>•</b>				DΛ
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Actual Footage Location	of Well;								
1570 fee	t from the	SOUTH		····	870	fed from (	he Ef	ST line	
Ground level Elev.	Producing	2	]Pc		01	1		Dedicated A	creage: 320
6268	· Unko	tr.		Basin	Vala	oth	<b>.</b>	5/2	Xcres
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this form if no	o <sup>*</sup> list the owners as	nd tract descriptions wi	hich have act	-	-				
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In Lieu of Form 3160 (June 1990)	LED DEPARTMENT BUREAU OF LANI	OF INTERIOR	FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993
Do not use this form for	SUNDRY NOTICE AND RE proposals to drill or to deepen or ree TO DRILL" for permit for	ntry to a different reservoir. Use "APPLICATIC	5. Lease Designation and Serial No. NMSF-078766 3: 086. If Indian, Allottee or Tribe Name
	SUBMIT IN TRIPI	LICATE 210 TOTAL	7. If Unit or CA, Agreement Designation Rosa Unit
1. Type of Well Oil Well Ga	is Well X Other		8. Well Name and No. Rosa Unit #100E
2. Name of Oper WILLIAMS P	rator RODUCTION COMPANY		9. API Well No. 30-039-25135
3. Address and T PO Box 640 A	elephone No. Ztec, NM 87410-0640		10. Field and Pool, or Exploratory Area BASIN DK
4. Location of W 1570' FSL & 8	ell (Footage, Sec., T., R., M., or Surv 870' FEL Sec. 21, T31N,	••	11. County or Parish, State Rio Arriba, New Mexico
	CHECK APPROPRIATE B	DX(s) TO INDICATE NATURE OF NOTICE,	REPORT, OR OTHER DATA
TYPEOF	SUBMISSION	ТҮ	PE OF ACTION
Notice of Ir Subsequent X Final Aban	Report	X Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other	Change of Plans New Construction Non-Routine Fracturing Water Shut-Off Conversion to Injection Dispose Water (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)
directionally dr		heasured and true vertical depths for all markers	s, including estimated date of starting any proposed work. If well i and zones pertinent to this work.)*
			JUL 2 3 2007
·		• • •	FARMINGTON FIELD OFFICE BY Mark Kelly
Signed	that the foregoing is true and correct	Title Drilling C.O.M.	Date7-3-07
(This space for F	Federal or State office use)	Title	Data
Conditions of ap	proval, if any:	Title	Date
	1, makes it a crime for any person kno s as to any matter within its jurisdiction		or agency of the United States any false, fictitious or fraudulent
· · ·		OPERATOR	

In Lieu Form 3 (June 19	160 DEPARTME	ED STATES NT OF INTERIOR ND MANAGEMENT	FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993
Do not	SUNDRY NOTICE AND I use this form for proposals to drill or to deepen or TO DRILL" for permit	reentry to a different reservoir. Use "APPLICATION	5. Lease Designation and Serial No. NMSF-078766 AM II: 18 6. If Indian, Allottee or Tribe Name VED
	SUBMIT IN TR	210 FARE	M MATON MAJONITOR CA, Agreement Designation Rosa Unit
1.	Type of Well Oil Well Gas Well X Other		8. Well Name and No. Rosa Unit #100E
2.	Name of Operator WILLIAMS PRODUCTION COMPANY		9. API Well No. 30-039-25135
3.	Address and Telephone No. PO Box 640 Aztec, NM 87410-0640		10. Field and Pool, or Exploratory Area BASIN DK
4.	Location of Well (Footage, Sec., T., R., M., or S 1570' FSL & 870' FEL Sec. 21, T3	urvey Description) IN, R6W NMPM	11. County or Parish, State Rio Arriba, New Mexico
	CHECK APPROPRIATE	BOX(s) TO INDICATE NATURE OF NOTICE, REPO	DRT, OR OTHER DATA
	TYPE OF SUBMISSION	TYPE C	FACTION
	Notice of Intent Subsequent Report X Final Abandonment	X Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other	Change of Plans New Construction Non-Routine Fracturing Water Shut-Off Conversion to Injection Dispose Water (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)
13.	Describe Proposed or Completed Operations (Clea directionally drilled, give subsurface locations and	arly state all pertinent details, and give pertinent dates, inc d measured and true vertical depths for all markers and z	luding estimated date of starting any proposed work. If well is ones pertinent to this work.)*
	This well has been P&A'd and the final	reclamation complete.	

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14.	I hereby certify that the foregoing is true and correct Signed Larry Hugg	Title <u>Drilling C.O.M.</u>	Date7-3-07
	(This space for Federal or State office use) Approved by	Title EPTL	Date <u>8</u> 907
	Conditions of approval, if any:		

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

• •

OPERATOR

In Lieu of UNITED STATES Form 3160-4 DEPARTMENT OF THE INTERIOR July 1992) BUREAU OF LAND MANAGEMEN WELL COMPLETION OR RECOMPLETION REP				RECEIV	instructions on reverse side)	OMB Expires: 1 '5. LEASE DES	FORM APPROVED OMB NO. 1004-0137 Expires: February 28, 1995 5. LEASE DESIGNATION AND LEASE NO. SF-078766		
	WELL CO	MPLETION OR R	ECOMPLETION REPOR	GLICEP - J A		6. IF INDIAN	, ALLOTTEE OR		
b. TYPE	OF WELL: OIL WELL OF COMPLETION: WELL O WORKOVER		DRY [] PLUG BACK [] DIFF.RESV	DTD FARMING	TON, NW RECOMPLETION	7. UNIT AGREEMENT NAME ROSA UNIT (008480)			
	OF OPERATOR ST PIPELINE CORPOR	ATION				ROSA UNIT #100			
	ESS AND TELEPHONE N 58900 MS 2M3 SALT LA		3-0900 (801) 584-6981			9. API WELL 30-039-25135	NO .		
4. LOCA 1570			ccordance with any State requirement	nts) •		10. FIELD AND BLANCO MESAV	POOL, OR WILDCAT VERDE 72319		
	op production inter otal depth	val reported below	w			11. SEC., T., I NS SURVEY ( NW/4 SE/4 SEC.	R., M., OR BLOCK AND DR AREA 21, T31N R6W		
				14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH RIO ARRIBA	13. STATE NEW MEXICO		
15. DATE SPUDDED 11/05/91	SPUDDED REACHED (READY TO PRODUCE)				(DK, RKB,	19. ELEVATION 6268'	CASINGHEAD		
20. TOTAL DEPTH, MD & TVD 21. PLUG, BACK T.D., MD & TVD 8000' 6000'				22. IF MULTCOMP., HOW MANY PC/MV	23. INTERVALS DRILLED BY	ROTARY TOOLS X	CABLE TOOLS		
MESAVERDE	5304' TO 5686'	·	DP, BOTTOM, NAME (MD AND		L	25. WAS DIRECTIONAL SURVEY MADE YES			
26. TYPE ELECT CASED HOLE:	RIC AND OTHER LOGS GR/CCL/CBL OPEN	RUN N HOLE: IND/GR/CDL/	CNL			27. WAS WELL C	NO NO		
28		c	ASING REPORT (Report all	strings set in we	ell)				
CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF C	CEMENT, CEMENTING	RECORD	AMOUNT PULLED		
9-5/8" K-55	36#	440'	12-1/4"	285 SX	336 cu.ft.	SURFACE			
7" K-55	23#	4185'	8-3/4"	960 SX	1107 cu.ft.	SURFACE			
İ		L	<u> </u>	L		L			
9.	TOP (MD)	LINER RECORI	D SACKS CEMENT*	SCREEN (MD)	30. SIZE	TUBING RECORD	PACKER SET (MD)		
		BOTTOM (MD)	SACKS CEMENT"	SCREEN (HD)	5122	(MD)			
SIZE			· · ·						
	3848'	8000'	670 SX (790 cu.ft.)		1-1/2" 2.9#	5656'	4260'		
⊢1/2" N-80	3848'								
1. PERFORMATIC	3848' N RECORD (Interval			······································	D, SHOT, FRACTURE	, CEMENT SQUEEZE	, ETC.		
1. PERFORMATIC MESAVERDE SITM 304',32',39',49',85	3848'	, size, and number		32. ACI DEPTH INTE	D, SHOT, FRACTURE	, CEMENT SQUEEZE			
1. PERFORMATIC ESAVERDE SITM 304',32',39',49',85 602',06',13',18',25	3848' DN RECORD (Interval RULATION: ',97',5440',50',79',94',99 ',30',38',44',86.	, size, and number	r)	······································	D, SHOT, FRACTURE	, CEMENT SQUEEZE	, ETC.		
1. PERFORMATIC MESAVERDE SITM 304',32',39',49',85 602',06',13',18',25 OTAL OF 32 .36"	3848' DN RECORD (Interval RULATION: ',97',5440',50',79',94',99 ',30',38',44',86.	, size, and number	r)	DEPTH INTE	D, SHOT, FRACTURE 2RVAL (MD)	. CEMENT SQUEEZE AMOUNT AND KIN 103,200# 20/40	, ETC. ID OF MATERIAL USED 101,430 GALS OF		
L1/2" N-80 L1. PERFORMATIC MESAVERDE SITM (304',32',39',49',85 (602',06',13',18',25 (7) TAL OF 32 .36" 3.	3848' DN RECORD (Interval RULATION: ',97',5440',50',79',94',99 ',30',38',44',86.	, size, and number	r) 64',71',73',80',85',90',95',	DEPTH INTE 5304' ION pumping-size and	D, SHOT, FRACTURE ERVAL (MD) 5686'	, CEMENT SQUEEZE AMOUNT AND KIN 103,200# 20/40 SAND WELL STATUS (	, ETC. ID OF MATERIAL USED 101,430 GALS OF		
1. PERFORMATIC MESAVERDE SITM 304',32',39',49',85 602',06',13',18',25 70TAL OF 32 .36" 3. DATE OF FIRS 08/22/94	3848' NN RECORD (Interval NULATION: ',30',38',44',86. DIA HOLES. ST PRODUCTION HOURS TESTED 1 HR. PITOT	, size, and number 9',5504',14',18',56',60', PRODUCTION MET CHOKE SIZE 2''	F) 64',71',73',80',85',90',95', PRODUCT THOD (Flowing, gas lift, FLOWING PROD'N FOR TEST PERIOD	DEPTH INTE 5304' ION pumping-size and GIL - BEL. 0	D, SHOT, FRACTURE CRVAL (MD) 5686' type of pump) GAS - MCF 96	, CEMENT SQUEEZE AMOUNT AND KIN 103,200# 20/40 SAND WELL STATUS ( SAND WATER - BBL. 0	, ETC. ID OF MATERIAL USED 101,430 GALS OF SLICK WATER (PRODUCING OR SHUT IN) HUT IN GAS-OIL RATIO N/A		
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1. PERFORMATIC MESAVERDE SITM 304',32',39',49',85 602',06',13',18',25 OTAL OF 32 .36" 3. DATE OF TEST 08/22/94 FLOW TUBING PRESS N/A 4. DISPOSITION	3848' N RECORD (Interval NULATION: ',97',5440',50',79',94',99' ',30',38',44',86. DIA HOLES. ST PRODUCTION HOURS TESTED 1 HR. PITOT CASING PRESSURE N/A OF GAS (Sold, use	9',5504',14',18',56',60',0 PRODUCTION MET CHOKE SIZE 2" CALCULATED	r) 64',71',73',80',85',90',95', PRODUCT THOD (Flowing, gas lift, FLOWING PROD'N FOR TEST PERIOD PROD'N FOR TEST PERIOD 24-HOUR RATE	DEPTH INTE 5304' ION pumping-size and OIL - BBL. 0 OIL - BBL.	D, SHOT, FRACTURE ERVAL (MD) 5686' type of pump) GAS - MCF 96 GAS - MCF 2298	. CEMENT SQUEEZE AMOUNT AND KIN 103,200# 20/40 SAND WELL STATUS ( S WATER - BBL. 0 WATER - BBL.	, ETC. DO OF MATERIAL USED 101,430 GALS OF SLICK WATER PRODUCING OR SHUT INJ HUT IN GAS-OIL RATIO N/A OIL GRAVITY-API (CORR.)		
1. PERFORMATIC MESAVERDE SITM 304',32',39',49',85 602',06',13',16',25 OTAL OF 32 .36" 3. DATE OF TEST 08/22/94 FLOW TUBING PRESS N/A	3848' N RECORD (Interval NULATION: ',97',5440',50',79',94',94' ',30',38',44',86. DIA HOLES. ST PRODUCTION HOURS TESTED 1 HR. PITOT CASING PRESSURE N/A OF GAS (Sold, use OLD	, size, and number 9',5504',14',18',56',60',0 PRODUCTION MET CHOKE SIZE 2" CALCULATED d for fuel, vented	r) 64',71',73',80',85',90',95', PRODUCT THOD (Flowing, gas lift, FLOWING PROD'N FOR TEST PERIOD PROD'N FOR TEST PERIOD 24-HOUR RATE	DEPTH INTE 5304' ION pumping-size and 3 OIL - BBL. 0 OIL - BBL. 0	D, SHOT, FRACTURE ERVAL (MD) 5686' type of pump) GAS - MCF 96 GAS - MCF 2298	. CEMENT SQUEEZE AMOUNT AND KIN 103,200# 20/40 SAND WELL STATUS ( S WATER - BBL. 0 WATER - BBL. 0	, ETC. DO OF MATERIAL USED 101,430 GALS OF SLICK WATER PRODUCING OR SHUT INJ HUT IN GAS-OIL RATIO N/A OIL GRAVITY-API (CORR.)		

See Instructio	ns and Spaces for A Section 1001, makes	it a crime for a		ASSISTANT DAT	to any department	Ŧ		
36. I hereby consistent signed KAT		egoing and attache	d information is complet					
35, LIST OF AT	LOGS	SUMMARY OF PORC	DUS ZONES, DEVIATION REPO	DRT & WELLBORE DI	AGRAM.	SEP 1-31	994	
TO BE S	olo Lath	4 BAN	nly			MIKE DWINELL	MM	
N/A 34. DISPOSITIO	N/A N OF GAS, (Sold, use	d for fral, vented	l, etc.)	-		Planthe/sh	RFGARD	
FLOW TUBING PRESS	CASING PRESSURE		24-HOUR RATE→→→→	OIL BBL.	GAS - MCF 565	WATER - BBL.	OIL GRAVITY-API (CORR.)	
DATE OF TEST 08/23/94	HOURS TESTED	CHOKE SIZE 2"	PROD'N FOR TEST PERIOD	OIL - BBL. 0	GAS · MCF 24	WATER - BBL.	GAS-OIL RATIO N/A	
DATE OF FIR	ST PRODUCTION	PRODUCTION MET	THOD (Flowing, gas lift, FLOWING		type of pump)		PRODUCING OR SHUT IN) HUT IN	
33.			PRODUCT	ION	L.,			
3196' TO 3204', 3 TOTAL OF 53 .36'				3156'	3218'	97,000# 20/40 SAND	59,360 GALS OF 30# X-LINK GEL IN 70 QUALITY FOAM	
PICTURED CLIFF 3156' TO 3184', 3	S SITMULATION:			DEPTH INTI			D OF MATERIAL USED	
31. PERFORMATI	ON RECORD (Interval	, size, and numbe	r)	32. ACI	D, SHOT, FRACTURE,	CEMENT SQUEEZE	, ETC.	
4-1/2" N-80	3848'	8000'	670 SX (790 cu.ft.)		1-1/2" 2.9#	(MD) 3204'	4260'	
29. SIZE	TOP (MD)	LINER RECOR BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	30. SIZE	TUBING RECORD	PACKER SET (MD)	
			<u> </u>	<u> </u>		MUDING DECOR		
7" K-55	23#	4185'	8-3/4"	960 SX	1107 cu.ft.	SURFACE		
9-5/8" K-55	36#	440'	12-1/4"	285 SX	336 cu.ft.	SURFACE		
CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF	CEMENT, CEMENTING		AMOUNT PULLED	
28.	r	1	ASING REPORT (Report all	1	كملاكر بالين كبعب الفيسينيين بالبكار ومسينة فتغيبت وعر			
	RIC AND OTHER LOGS	N HOLE: IND/GR/CDL	CNL MD	<u>,</u> ,,,,		NO		
24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)* ROSA PICTURED CLIFFS 3156' TO 3218'							25. WAS DIRECTIONAL SURVEY MADE YES 27. WAS WELL CORED	
20. TOTAL DEP 8000'		21. PLUG, BACK ' 6000'		22. IF MULTCOMP., HOW MANY PC/MV	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS	
15. DATE SPUDDED 11/05/91	16. DATE T.D. REACHED 11/29/91	17. DATE COMPLE (READY TO P 08/30/94	TED RODUCE)	18. ELEVATIONS RT, GR, ETC.) * 6268' GR	(DK, RKB,	19. ELEVATION 6268'	CASINGHEAD	
AC	o-ur achen		14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH RIO ARRIBA	13. STATE NEW MEXICO		
At f	Surface cop production inter cotal depth	rval reported belo	w			11. SEC., T., US SURVEY NW/4 SE/4 SEC.	R.,M., OR BLOCK AND DR AREA 21, T31N R6W	
157	0' FSL & 870' FEL	location clearly and in a	ccordance with any State requireme	nts)*			POOL, OR WILDCAT CLIFFS 96175	
	RESS AND TELEPHONE 1 58900 MS 2M3 SALT LA		3-0900 (801) 584-6981			9. API WELL 30-039-25135	NO.	
	E OF OPERATOR				-	8. FARM OR L ROSA UNIT #100	EASE NAME, WELL NO. DE	
b. TYP	E OF COMPLETION: WELL D WORKOVER		PLUG BACK D DIFF QZQ	FARMINGTON	RECOMPLETION	ROSA UNIT (008	480)	
la. TYP	WELL CO			TAND LOG*		7. UNIT AGRE	·	
			PRO	DUCTION ENGH		6. IF INDIAN	SF-078766	
Form 3160-4 (July 1992)			LAND MANAGEMELT	SER 2 VIEBS	94 instructions on reverse side)	Expires: 5. LEASE DES	February 28, 1995 IGNATION AND	
in Lieu of	•		TED STATES		14.17		1 APPROVED NO. 1004-0137	
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ROSA UNIT #100E

38.

GEOLOGIC MARKERS

ROSA (

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pressures, and recoveries):	drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-i	SUMMARY OF FOROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals, and all
	and shu	vals, and
	ut-in	1 all

10	DAKOTA	GRANEROS	GREENHORN	MANCOS	POINT LOOKOUT	MENEFEE	ULIFF HOUSE	Shian.	PICTURED CLIFFS	FRUITLAND	KIRTLAND	0J0 ALAMO	NACIMIENTO		FORMATION
8000'	7786'	7656'	7606'	5845'	5536'	5324'.	5235'	3440'	3154'	2894' .	2414'	2310'	SURFACE	·	TOP
	N/A	7786'	7656'	7606'	5845'	5536'	5324'	5235'	3440'	3154'	2894'	2411'			Bottom
															DESCRIPTION, CONTENTS, BTC.
															NAME
														NAME	
													·	MEASURED DEPTH	TOP
					·									TRUE VERTICAL DEPTH	-

U.S. GOVERNMENT PRINTING OFFICE: 1992--774-672

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ROSA UNIT #100E

GEOLOGIC MARKERS

pressures,	drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in	SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals, and all
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37.

Ţŀ	DAKOTA	GRANEROS	GREENHORN	MANCOS	POINT LOOKOUT	MENEFEE	F HOUSE	LEWIS	PICTURED CLIFFS	FRUITLAND	KIRTLAND	0JO ALAMO	NACIMIENTO		FORMATION	brosstrs, a
8000'	7786'	7656'	7606'	5845'	5536'	5324'	5235'	3440'	3154'	2894'	2414"	2310'	SURFACE		TOP	ind fecorofies) i
	N/A	7786'	7656'	7606'	5845'	5536'	5324'	5235'	3440'	3154'	2894'	2414'			BOTTOM	
															DESCRIPTION, CONTENTS, STC.	
														·	NAME	
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														Measured Depth	TOP	
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· U.S. GOVERNMENT PRINTING OFFICE: 1992--774-672

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Form 3160-5 DEPARTMENT O (June 1990) BUREAU OF LAN	STATES OF THE INTERIOR ID MANAGEMENT D REPORTS ON WELLERODUCTION ENGINEER o deepen or reentry to a different service 2 Fit 3:	FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993 5. Lease Designation and Serial No. NG SF-078766 6. If Indian, Allottee or Tribe Name
SUBMIT IN	rriplicate 070 FARMINGTON,	If Unit or CA, Agreement Designation ROSA UNIT
1.     Type of Well       □ Oil Well     ☑ Gas Well	] Other	8. Well Name and No. ROSA UNIT #100E
2. Name of Operator WILLIAMS PRODUCTION COMPANY	9. API Well No. 30-039-25135	
<ol> <li>Address and Telephone No.</li> <li>P. O. BOX 58900 MS 10317 SALT LAKE CITY</li> </ol>	, UTAH 84158-0900 (801)584-6981	10. Field and Pool, or Exploratory Area BLANCO MESAVERDE/BASIN DAKOTA
4. Location of Well (Footage, Sec., T., R., M. 1570' FSL, 870' FEL, SEC. 21, T-31N, R6W	, or Survey Description)	11. County or Parish, State RIO ARRIBA, NEW MEXICO
CHECK APPROPRIATE	BOX(5) TO INDICATE NATURE OF NOTICE, REP	ORT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF	ACTION
□ Notice of Intent	Abandonment     Becompletion	□ Change of Plans □ New Construction
🛛 Subsequent Report	⊠ Recompletion □ Plugging Back □ Casing Repair	□ New Construction □ Non-Routine Fracturing □ Water Shut-Off
Final Abandonment	<ul> <li>Water Shut-Off</li> <li>Conversion to Injection</li> <li>Dispose Water</li> <li>(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)</li> </ul>	

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

### 08/17/94

TH with cement retainer to 7721'. Dowell pumped 30 BBLs of water to flush tubing and retainer. Set retainer at 7721'. PT tubing to 3300#, held OK. Pressured annulus to 750#. Dowell pumped 75 sx (86 cu.ft.) of class "G" at 2 BPM and 2000#. Displaced cement with 28 BBLs with pressure increasing to 2600#. Pulled out of retainer and TOH to 7565'. Reverse out 1/2 BBL of good cement. TOH and lay down 2-3/8" tubing. Petro set CIBP @ 6000'. Ran GR/CCL log from 5750' to 5150'. Bond, OK.

### 08/18/94

Established a rate of 71 BPM @ 1630# during a 41,580 gal pad of slick water. Stimulated Mesa Verde with 103,200# of 20/40 sand @ 1 to 2.8 PPG. ATP = 1800#, AIR = 69 BPM, MTP = 2470#, MIR = 71.5 BPM. Job complete @ 1632 hours 8-17-94. ISDP = 120#, 15 min = Vacuum. Total fluid to recover = 2415 BBLs.

### 08/19/94

Perforate the following intervals: 3156'-3184' (28'), 3187'-3193' (6'), 3196'-3204' (8'), 3211'-3218' (7'). Total of 53 (0.36") holes. Western dropped 100 balls in 1500 gal of 15% HCl. Good ball action but did not ball off. TIH to 3230' and knocked off balls. Reset packer at 3108'. Western established a rate of 28.5 BPM at 2100# during a 7500 gal pad of 70 quality foam with 30# cross-linked borate gel. Stimulated PC with 97,000# of 20/40 sand and 59,360 gals of 70 quality foam at 1-4 ppg. Job completed at 1430 hrs 8/18/94. ISIP = 1280#. ATP = 3400#, AIR = 30 BPM, MTP = 3820#, MIR = 30 BPM.

14. Choreby certify that the foregoing is true as A CALLY BACKEY Signed KATHY BARNEY	d correct	SR. OFFICE ASSISTANT	_ Date	09/07/94			
(This space for Federal or State office use)							
Approved by Conditions of approval, if any:	Title	Date	······				
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agent OEE THE SIGE ANECORIDIS or fraudulent statements or representations as to any matter within its jurisdiction.							

\*See Instruction on Reverse Side

SEP 1 8 1994 FARMINGIUN JISINIG UNHCE

### CONTINUED FROM PAGE 1

### ROSA UNIT #100E

08/31/94

Model "D" packer at 4260'.

<u>Mesa Verde</u>: Ran 179 jts. (5644.20') of 1-1/2", 2.9#, J-55 10rd EUE tubing as follows: 1/2 mule shoe on bottom of bottom jt., SN (1.375" ID @ 5623') on top of bottom jt., 43 jts of tail pipe, 3 Unit seal assembly, 134 jts of tubing, 2 (4' & 4') 2-1/16" 3.25# J-55 IJ pups and 1 full jt below hanger. Landed @ 5656'KB. hanger. Set 6000# on packer.

<u>Pictured Cliffs:</u> Ran 101 jts. (3200.45') of 1-1/2", 2.9#, J-55, 10rd EUE tubing as follows: orange peeled perf nipple on bottom and SN (1.375" ID @ 3173') on top of bottom jt. Landed @ 3204' KB. Gauge wells. MV = 1374 MCFD and PC = TSTM.

In Lieu of Form 3160-5		) STATES OF THE INTERIOR	FORM APPROVED Budget Bureau No. 1004-0135
(June 1990)		ID MANAGEMENT	Expires: March 31, 1993
Do not use this f		D REPORTS ON WELLS to deepen or reentry to a different reservoir. Use	<ol> <li>Lease Designation and Serial No. SF-078766</li> </ol>
	R PERMIT—" for such proposal		6. If Indian, Allottee or Tribe Name
	SUBMIT IN	TRIPLICATE	7. If Unit or CA, Agreement Designatio ROSA UNIT
<ol> <li>Type of We</li> <li>□ Oil Well</li> </ol>		] Other	8. Well Name and No. #100E
2. Name of Oj WILLIAMS PRO	perator DUCTION COMPANY		9. API Well No. 30-039-25135
	d Telephone No. MS 10317 SALT LAKE CITY	, UTAH 84158-0900 (801)584-6981	10. Field and Pool, or Exploratory Area BASIN DAKOTA
	Well (Footage, Sec., T., R., M. EL, SEC. 21, T-31N, R6W	, or Survey Description)	11. County or Parish, State RIO ARRIBA, NEW MEXICO
		BOX(s) TO INDICATE NATURE OF NOTICE	
TYPE O	F SUBMISSION	TYP	E OF ACTION
⊠ Notice of □ Subseque		☑ Abandonment ☑ Recompletion □ Plugging Back	□ Change of Plans □ New Construction □ Non-Routine Fracturing
🗆 Final Aba	andonment	Casing Repair Casing Casing Other Conter	<ul> <li>□ Water Shut-Off</li> <li>□ Conversion to Injection</li> <li>□ Dispose Water</li> <li>(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)</li> </ul>
nronosed wa		led, give subsurface locations and measured and	
this work.)* Estimated start da	te 08/03/94.		true vertical depths for all markers and zones pertinent
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Exploration & Production

# Production Allocation Recommendation Rosa 100E (PC/MV)

 WELLNAME:
 Rosa 100E

 LOCATION:
 NE/4 SE/4

 API No.:
 03-039-251

Rosa 100E NE/4 SE/4 Sec.21, T31N,R06W 03-039-25135 <u>FIELD:</u> <u>COUNTY</u>: <u>Date:</u> Rosa Blanco Rio Arriba, NM May 7, 2008

**Current Status:** The Rosa 100E is currently a dual completion well producing from the Pictured Cliffs and Mesa Verde formations. Williams recommends commingling the well after the proposed completion workover to remove scale and fill from across perforations.

### **Commingle Procedure:**

- 1. Pull Pictured Cliffs tubing
- 2. Pull MesaVerde tubing
- 3. Remove Production packer
- 4. Clean out to PBTD
- 5. Acid stimulate each formation
- 6. Complete with single string 2-3/8" tubing, landed @ 5700', below MV perfs
- 7. Install pumping unit system
- 8. Remove one set of wellhead facilities
- 9. Return to production as PV/MVcommingle

Allocation Method: Historic production data from both zones on this well was gathered and analyzed. Monthly production data from July 2001 through May 2002 was considered because this represented a time when both zones appear to be free from loading problems and each zone was producing optimally. During this time frame the Pictured Cliffs accounted for approximately 67% of the total productionl, while the MesaVerde contributed the remaining 33% of production.

From July 2001 – May 2002 Total Production from well = 75,668 Mcf Total Production from PC = 50,548 Mcf Total Production from MV = 25,120 Mcf

PC allocation = PC prod / Total prod = 25,548 Mcf/75,668 Mcf = 67%

MV allocation = MV prod / Total prod = 25,120 Mcf/75,668 Mcf = 33%

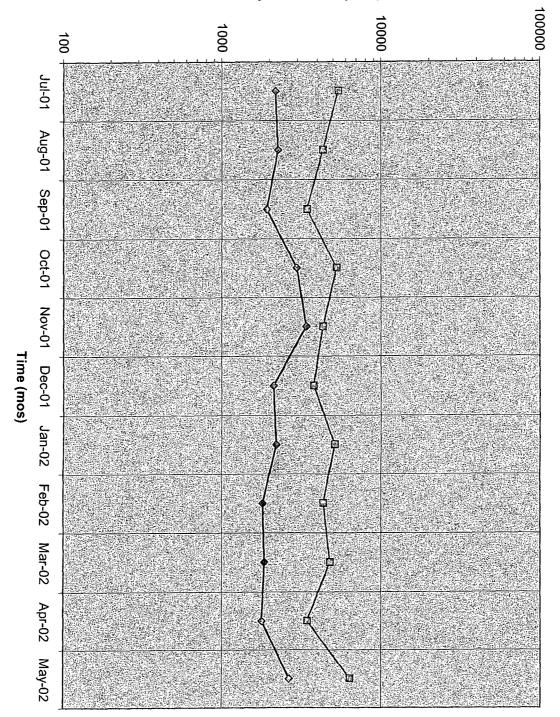
0.67	0.33			50548			25120	
0.67	0.33	75668	50548	6364	May-02	25120	2660	May-02
0.66	0.34	66644	44184	3442	Apr-02	22460	1777	Apr-02
0.66	0.34	61425	40742	4788	Mar-02	20683	1852	Mar-02
0.66	0.34	54785	35954	4345	Feb-02	18831	1806	Feb-02
0.65	0.35	48634	31609	5123	Jan-02	17025	2199	Jan-02
0.64	0.36	41312	26486	3781	Dec-01	14826	2114	Dec-01
0.64	0.36	35417	22705	4321	Nov-01	12712	3392	Nov-01
0.66	0.34	27704	18384	5254	Oct-01	9320	2963	Oct-01
0.67	0.33	19487	13130	3435	Sep-01	6357	1918	Sep-01
0.69	0.31	14134	9695	4304	Aug-01	4439	2260	Aug-01
0.71	0.29	7570	5391	5391	Jul-01	2179	2179	Jul-01
COM% PC	CUM %MV CUM% PC	CUM MCF	CUM MCF	MCF	Date	CUM MCF	MCF	Date
uction	d CUM Prod	Total Combined CUM Production		Pictured Cliffs			Mesa Verde	M

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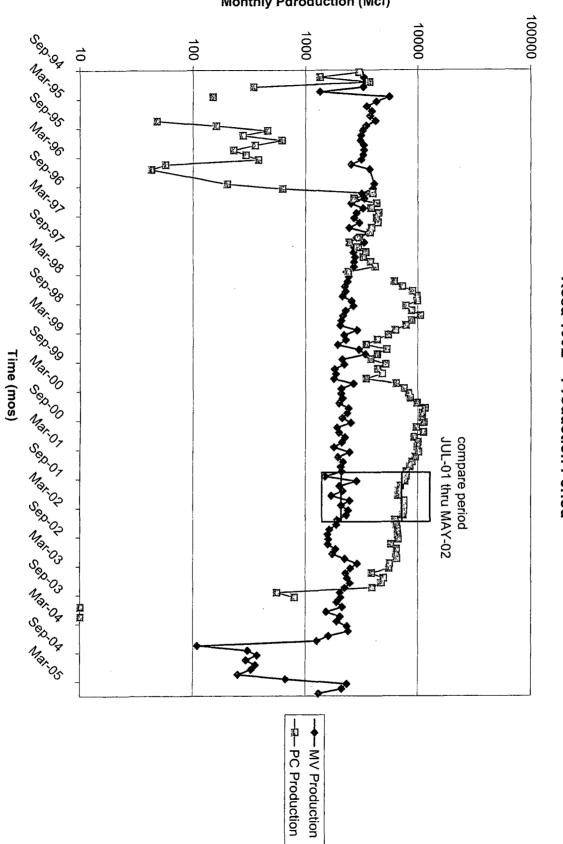
# **ROSA 100E PRODUCTION COMPARISON PERIOD DATA**

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Montly Production (MCF)



**ROSA 100 E Production Comparison Period** 



Rosa 100E -- Production Period

Monthly Pdroduction (Mcf)

### Prod\_Month

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E malla.	C	Endine Trans			4.01	Mamile	MV Gas	DC Cas
Entity 2300430392513572319		Entity Type WELL	Lease Name ROSA UNIT	Well Number 100E	API 30039251350000		19 No Gas	PC Gas 0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Oct-94	20278	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000		9098	õ
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Dec-94	7908	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Jan-95	7958	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Feb-95	7484	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Mar-95	7423	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Apr-95	5835	0
2300430392513572319	Pl	WELL	ROSA UNIT	100E	30039251350000	May-95	6387	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Jun-95	5147	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Jul-95	5429	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000		4399	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Sep-95	4539	0
2300430392513572319		WELL	ROSA UNIT	100E 100E	30039251350000	Oct-95	4423 4699	0 0
2300430392513572319 2300430392513572319		WELL WELL	ROSA UNIT ROSA UNIT	100E	30039251350000 30039251350000	Nov-95 Dec-95	4099 4727	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Jan-96	4221	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Feb-96	3656	0 0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Mar-96	3376	Ő
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Apr-96	4038	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	•	1058	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Aug-96	5662	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Sep-96	4187	0
2300430392513572319	Pl	WELL	ROSA UNIT	100E	30039251350000	Oct-96	4668	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Nov-96	3983	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Dec-96	4306	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Jan-97	3307	0
2300430392513572319		WELL		100E	30039251350000	Feb-97	3039	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Mar-97	3046	2954
2300430392513572319 2300430392513572319		WELL WELL	ROSA UNIT ROSA UNIT	100E 100E	30039251350000 30039251350000	Apr-97 May-97	3273 3422	1331 3679
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	•	3244	343
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Jul-97	1335	0
2300430392513572319		WELL	ROSA UNIT	100E		Aug-97	5554	149
2300430392513572319		WELL	ROSA UNIT	100E		Sep-97	4248	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Oct-97	3504	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Nov-97	3873	0
2300430392513572319	Pl	WELL	ROSA UNIT	100E	30039251350000	Dec-97	3747	0
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Jan-98	4169	48
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Feb-98	3456	160
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Mar-98	3209	458
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Apr-98	3117	276
2300430392513572319 2300430392513572319		WELL	ROSA UNIT ROSA UNIT	100E 100E	30039251350000	•	3046 3283	612 353
2300430392513572319		WELL WELL	ROSA UNIT	100E	30039251350000 30039251350000	Jun-98 Jul-98	3283	227
2300430392513572319		WELL	ROSA UNIT	100E		Aug-98	3239	292
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	*	3113	377
2300430392513572319		WELL	ROSA UNIT	100E		Oct-98	2533	57
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Nov-98	3697	43
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Dec-98	4070	200
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000	Jan-99	3964	623
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000		3171	3938
2300430392513572319		WELL	ROSA UNIT	100E		Mar-99	3330	2675
2300430392513572319		WELL	ROSA UNIT	100E		Apr-99	2521	4247
2300430392513572319			ROSA UNIT	100E	30039251350000		3236	3790
2300430392513572319 2300430392513572319		WELL WELL	ROSA UNIT ROSA UNIT	100E 100E		Jun-99 Jul-99	2817	4439
2300430392513572319			ROSA UNIT	100E	30039251350000 30039251350000		2688 2991	4230 4368
2300430392513572319			ROSA UNIT	100E	30039251350000	÷	2991	4368 3831
2300430392513572319		WELL	ROSA UNIT			Oct-99	3613	3728
2300430392513572319			ROSA UNIT	100E	30039251350000		2831	2988
2300430392513572319			ROSA UNIT	100E	30039251350000		3304	2415
2300430392513572319			ROSA UNIT			Jan-00	2677	2914
2300430392513572319		WELL	ROSA UNIT	100E	30039251350000		2651	3413

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2300430392513572319 PI	WELL	ROSA UNIT	100E	30039251350000	Mar-00	2737	3231
	WELL		100E			2686	3762
2300430392513572319 Pi				30039251350000	•		
2300430392513572319 PI	WELL		100E	30039251350000		2658	4119
2300430392513572319 PI	WELL		100E	30039251350000		2294	2362
2300430392513572319 PI	WELL		100E	30039251350000	Jul-00	2400	0
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Aug-00	2349	6117
2300430392513572319 PI	WELL		100E	30039251350000	-	2222	7202
2300430392513572319 PI	WELL		100E	30039251350000		2256	8873
2300430392513572319 PI	WELL		100E	30039251350000		2116	9747
2300430392513572319 PI	WELL		100E	30039251350000		2558	9838
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Jan-01	2649	7748
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Feb-01	2266	8743
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000		2145	10454
2300430392513572319 PI	WELL		100E	30039251350000		2080	8747
					•	2022	
2300430392513572319 PI	WELL		100E	30039251350000	•		7778
2300430392513572319 PI	WELL		100E	30039251350000		2854	6262
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Jul-01	2179	5391
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Aug-01	2260	4304
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Sep-01	1918	3435
2300430392513572319 PI	WELL		100E	30039251350000	•	2963	5254
2300430392513572319 PI	WELL		100E	30039251350000		3392	4321
2300430392513572319 PI	WELL		100E	30039251350000		2114	3781
2300430392513572319 PI	WELL		100E	30039251350000	Jan-02	2199	5123
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Feb-02	1806	4345
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Mar-02	1852	4788
2300430392513572319 PI	WELL		100E	30039251350000		1777	3442
2300430392513572319 PI	WELL		100E	30039251350000	•	2660	6364
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2300430392513572319 PI	WELL		100E	30039251350000		2074	7496
2300430392513572319 PI	WELL		100E	30039251350000	Jul-02	2054	8173
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Aug-02	2120	8482
2300430392513572319 PI	WELL	ROSA UNIT 1	100E	30039251350000	Sep-02	1970	9767
2300430392513572319 PI	WELL	ROSA UNIT 1	00E	30039251350000	Oct-02	2395	11512
2300430392513572319 PI	WELL		00E	30039251350000		2335	10873
2300430392513572319 PI	WELL		100E	30039251350000		2115	10826
2300430392513572319 PI	WELL		00E	30039251350000		2513	11306
2300430392513572319 PI	WELL		00E	30039251350000		1896	9641
2300430392513572319 PI	WELL		00E	30039251350000	Mar-03	1980	11182
2300430392513572319 PI	WELL	ROSA UNIT 1	00E	30039251350000	Apr-03	2230	9210
2300430392513572319 PI	WELL	ROSA UNIT 1	00E	30039251350000	May-03	2096	9952
2300430392513572319 PI	WELL		00E	30039251350000	Jun-03	1782	9808
2300430392513572319 PI	WELL		00E	30039251350000	Jul-03	2459	10086
2300430392513572319 PI	WELL		00E	30039251350000	Aug-03	1941	9426
2300430392513572319 PI	WELL		00E	30039251350000	Sep-03	2148	8820
2300430392513572319 PI	WELL		00E	30039251350000	Oct-03	2059	8419
2300430392513572319 PI	WELL	ROSA UNIT 1	00E	30039251350000	Nov-03	2088	7858
2300430392513572319 PI	WELL	ROSA UNIT 1	00E	30039251350000	Dec-03	1488	7827
2300430392513572319 PI	WELL		00E	30039251350000	Jan-04	2829	7633
2300430392513572319 PI	WELL		00E	30039251350000		1997	6924
2300430392513572319 PI	WELL		00E	30039251350000		2130	6689
2300430392513572319 PI	WELL		00E	30039251350000	•	1691	6619
2300430392513572319 PI	WELL		00E	30039251350000	•	2467	7489
2300430392513572319 PI	WELL		00E	30039251350000		2073	7488
2300430392513572319 PI	WELL	ROSA UNIT 1	00E	30039251350000	Jul-04	2394	7452
2300430392513572319 PI	WELL	ROSA UNIT 1	00E	30039251350000	Aug-04	2303	7332
2300430392513572319 PI	WELL		00E	30039251350000	U U	1899	6210
2300430392513572319 Pl	WELL		00E	30039251350000	Oct-04	1866	6386
2300430392513572319 PI	WELL		00E				
				30039251350000		1621	6478
2300430392513572319 PI	WELL		00E	30039251350000		1566	6563
2300430392513572319 PI	WELL		00E	30039251350000	Jan-05	1592	6629
2300430392513572319 PI	WELL	ROSA UNIT 10	00E	30039251350000	Feb-05	1573	5698
2300430392513572319 PI	WELL	ROSA UNIT 10	00E	30039251350000	Mar-05	1838	6381
2300430392513572319 PI	WELL		00E	30039251350000	Apr-05	1726	6330
2300430392513572319 PI	WELL		00E	30039251350000		2224	6441
2300430392513572319 PI	WELL		00E		-		
				30039251350000	Jun-05	2869	5566
2300430392513572319 PI	WELL	ROSA UNIT 10	00E	30039251350000	Jul-05	2489	5506

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2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Aug-05	2262	3858
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Sep-05	2350	4907
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Oct-05	2466	4670
2300430392513572319	Pì	WELL	ROSA UNIT	100E	30039251350000	Nov-05	2218	3886
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Dec-05	2012	551
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Jan-06	2040	790
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Feb-06	1882	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Mar-06	2115	10
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Apr-06	1523	9
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	May-06	2021	10
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Jun-06	1889	9
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Jul-06	2331	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Aug-06	2395	2
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Sep-06	1602	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Oct-06	1258	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Nov-06	109	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Dec-06	303	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Jan-07	368	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Feb-07	293	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Mar-07	355	0
2300430392513572319	Pl	WELL	ROSA UNIT	100E	30039251350000	Apr-07	326	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	May-07	250	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Jun-07	662	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Jul-07	2334	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Aug-07	2089	0
2300430392513572319	PI	WELL	ROSA UNIT	100E	30039251350000	Sep-07	1306	1



# ENERGY SERVICES **Exploration & Production**

To: Bobby Goodwin and Randy VandenBerg **Production Optimization Team** From: Date: 5/1/2008

SUBJECT: Rosa Unit #100E PC/MV Dual

nit Install Commingle and Pumping

William's recommends acid stimulating and commingling the Rictured Cliffs and Mesa Verde formations in the Rosa 100E. A beam pumping unit system will be installed to artificially lift the well.

Currently the Rosa 100E is a dual completion, each zone is completed with 1-1/2", 2.9 lb, J-55 production tubing. The Pictured Cliffs is not producing do to scale damage, fill across perforations and our inability to unload water from the reservoir. The Mesa Verde is producing with a stop clock program an average of 75 MCFD. The small tubing completion is not conducive to plunger lift or reduction in bottom hole flowing pressure do to frictional pressure losses. In addition the dual completion limits our ability to remove scale and fill from across the Mesa Verde perforations.

Commingling the well and installing a beam pumping unit system will keep the well unloaded, eliminate frictional pressure losses up tubing, and lower bottom hole flowing pressure so more remaining reserves can be captured.

Production allocation for this commingle will be based on historical production data from each zone.

This work will restore PC production back to an estimated 200 Mcfd and increase the current Pictured Cliffs PDP forecast by an estimated 170 MMcf. In addition the work will increase the Mesa Verde PDP forecast by an estimated 140 MMcf and accelerate gas recovery by providing an uplift of 75 Mcfd gas production. The capital cost of this project is 418 M\$ (247M\$ net to WPX). Attached is a cost estimate and well bore diagram to obtain approval for commingle and pumping unit install on the Rosa Unit #100E.

Michael Coker

Sr. Production Engineer

5/1/2008

# ROSA UNIT #100E PC/MV

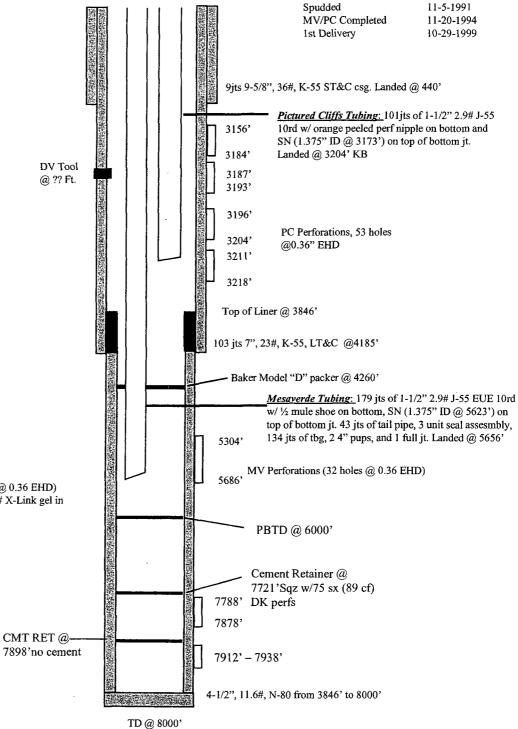
Location: 1570' FSL, 870' FEL NE/4 SE/4 Section 21, T31N, R6W Rio Arriba, NM Elevation: 6268' GR

<u>Tops</u>	<u>Depth</u>
Nacimiento	N/A
Ojo Alamo	2310'
Kirtland	2414'
Fruitland	2894'
Pictured Cliffs	3154'
Lewis	3440'
Cliff House	5235'
Menefee	5324'
Point Lookout	5536'
Mancos	5845'
Greenhorn	7606'
Graneros	7656'
Dakota	7786'

### **STIMULATION**

Pictured Cliffs 3156' - 3218' (53 holes @ 0.36 EHD) 97,000# 20/40 sand in 59,360 gals of 30# X-Link gel in 70 qual foam.

<u>Mesa Verde</u> 5304' - 5686' 103,200# 20/40 in 101,430 gals



HOLE SIZE	CASING	CEMENT	VOLUME	СМТ ТОР
12-1/4"	9-5/8" 36#	285 s x	336 CU.FT	SURFACE
8-3/4"	7" 23#	.960 s x	1107 CU.FT	SURFACE
6-1/4"	4-1/2" 1.6#	670 s x	790 CU.FT	LINER TOP

2.0	MARK STREET	3050-Williams P	iouucue										
	ell Name: ROSA UT #100E MV				Well#: 62042591					Field: BLAN			
	ocation: SPOT 21H-31N-6W				County: Rio Arriba					State: NM Days: 12			
Formation: MESAV/ERDE				Total Depth: 8000.0 Type Code: Equipment-CAP							umole -		
=itec	live Date: 04/29/200	0		i yp	e Co	ie: Ed	upment-C		Desc Unit	: Install B	i im Pi	umping	
Ruda	et No: 1061381-200	8		00	REIF	: 1379				Name: N.	Ā	<del>~ · · · · · · · · · · · · · · · · · · ·</del>	
	ator: WILLIAMS PR		С				J-OP			Manager:		Mike	
AF		tion tubing and pa										g Unit	
Des	c: System with Pu	mp-off control will	be insta	lled to arti	ficial I	ift the	well. Attac	ch stain	less s	steel cher	nical	tion	
000	line to productio				ile.at i			on orann			nioui		
3500	8600 Tangible		Bell John B		196.36P	a an	2-3-55-7 <b>-</b> 86	AL GRACE	Star Sto		Marsa	35.34	
	ar Goods									5- 10 A.	9.1/12.2		
		F	eet	Size	Wt.	Grade	Солл	\$/FT	D	RILL C	OMP	TAL	
	8856 TCC-PRODU EQUIPMEN	JCTION	<u> 2012 - 2013 - 2014</u>		<u>Manan</u>				<u></u>	01	1000		
	8902 TUBING &		700	2-7/8"2-3/	8.7#	j55	8rd eue	4.69	-	0	15000	500	
Other	Equipment			34532469		S (R SA	金校 新学生	ans and	arus.	2477			
	8716 ARTIFICIAL						<u>, and a substant of a substant os</u>	Contra Contra da	0		000	5500	
	8782 FLOW LINES							1	0		100	110	
	8918 WELLHEAD ring gasket)	EQUIPMENT (ne	w tbg hg	r, B-1 ada	pter,t	ee ma	nifold,		0	1	750	75	
otal	Tangible Costs		680.99		53. B	A. (197			0	83	850	>385	
	8400 Intangible	de ander 19 ger an Wille and Linger af State of the State of the Stat	<u> (19</u> 54)	S. W. Star							No.	199	
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RL			的。当时,清			3344		24	RILL	<u>0,57 C</u> C	MP	TOTA	
	8070 ICC-COMML		LEPHON	NE					0		150	15	
	8212 ICC-FUEL &								Ű		250	225	
	8216 ICC-OTHER			S					0		750	75	
	8702 ICC-FISHING	G TOOLS & REPA	JR	···					0		000	400	
	8732 ICC-BITS								0		500	50	
	8735 COMPLETIC			,					0		520	2052	
	8740 ICC-RIG MO			<u> </u>				<u> </u>	0		710	171	
	8742 TRUCKING move)				lion, F	load E	Base, Rig		0		250	425	
	8743 ICC-WELLHI			ETION)					0		000	100	
	8748 ICC-COMPR								0		000	1500	
	8772 ICC-ENVIRC	NMENTAL MITIG	ATION (	Agua wat	er dis	oosal)			0		000	100	
	8774 FACILITIES	LABOR (roustabo	ut for gas	s line, fend	cing, e	etc.)			0		700	270	
······	8790 CONTINGEN								0		000	900	
	8831 MISC LABO						'OC)		0		350	235	
	8846 ICC-PACKER	TUDING DDI	-, isolati		acid v	vork)			0		500	750	
	8866 ICC-RENTAL								0		500	750	
	8869 RENTAL EQ 8870 RENTAL EQ							·	0		750 300	175 30	
<u> </u>	8871 ICC-RENTAL			·					- 0		500	250	
	8911 WATER HAU				·				0		300 300	250	
	8920 ICC-WIRELIN			am cutter	1						750	275	
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8902	TUBING &		5700	2-7/8"2-	-3/8.7#	155	8rd eue	4.69		0	15000	1500		
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8702	ICC-FISHIN	G TOOLS & REF							0		1000	400		
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8743		EAD SERVICES	(COMP)	ETION			· ·	<del> </del>	0		000	100		
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		DNMENTAL MIT			ater dis	posal	5		Ő		000	100		
8774	FACILITIES	LABOR (roustab	out for g	as line, f	encing,	etc.)			0	2	2700	270		
8790	CONTINGE	VCY(addittional 2	2 days fo	r rig, air j	ock, con	sultar	it) ·		0	g	000	900		
8831	MISC LABO	R & MATERIALS	i (Install I	Pneumal	ic pump	and I	POC)		0		2350	235		
		RS & PLUGS (R				work)			0		500	750		
8866	ICC-RENTA	L - TUBING, DRI		, COLLA	R				0		500	750		
8809	RENTAL EC	UIPMENT: (Crar	le to set	unity					0		750 300	175		
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ate:		Partners Approva	al:											

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Mondeya 4777 API 30-039 25135

Location: 1570' FSL, 870' FEL NE/4 SE/4 Section 21, T31N, R6W Rio Arriba, NM Elevation: 6268' GR

<u>Tops</u>

Nacimiento

Ojo Alamo

Kirtland

Fruitland

Lewis

Cliff House

Menefee

Mancos

Greenhorn

Graneros

Dakota

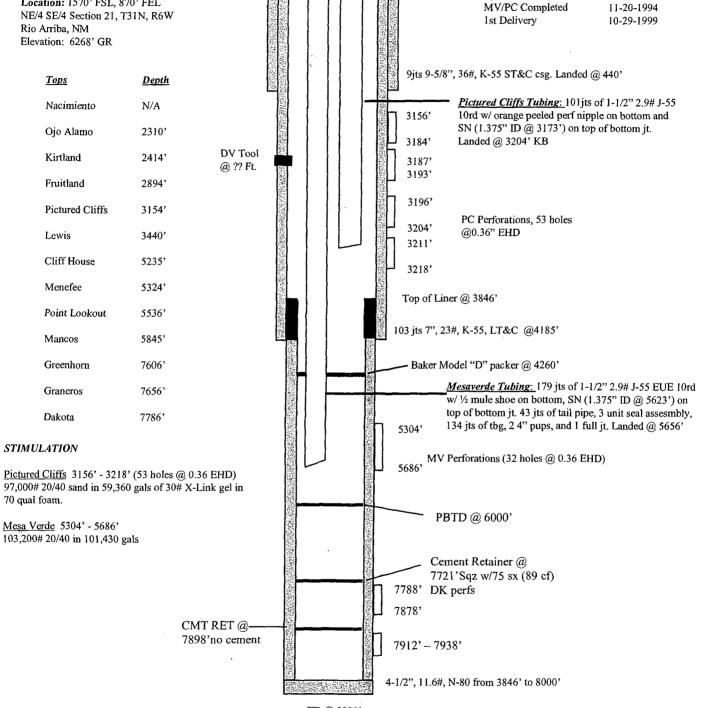
**STIMULATION** 

70 qual foam.

# ROSA UNIT #100E PC/MV

Spudded

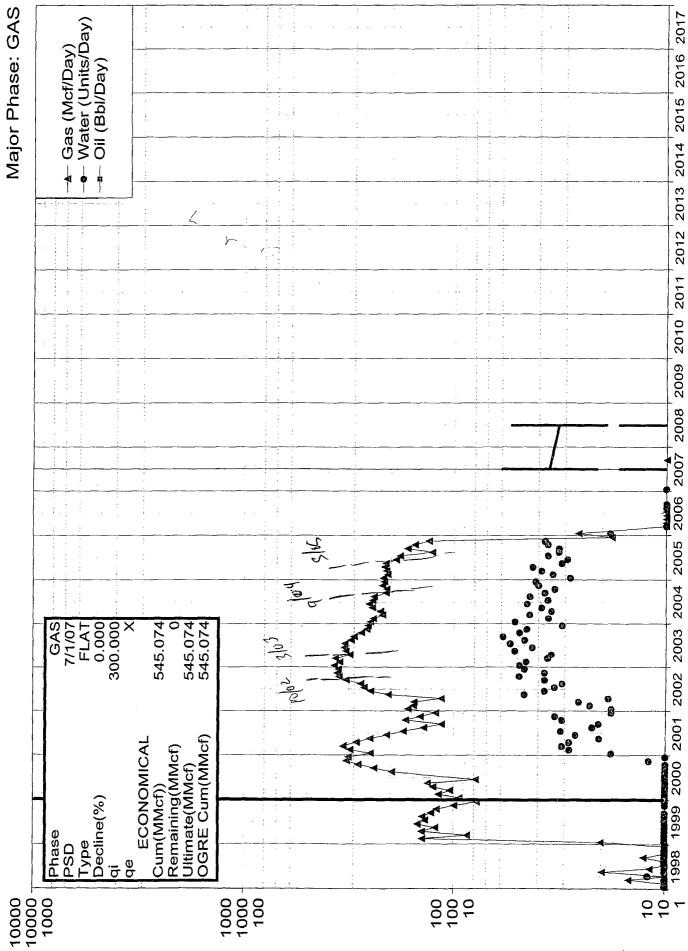
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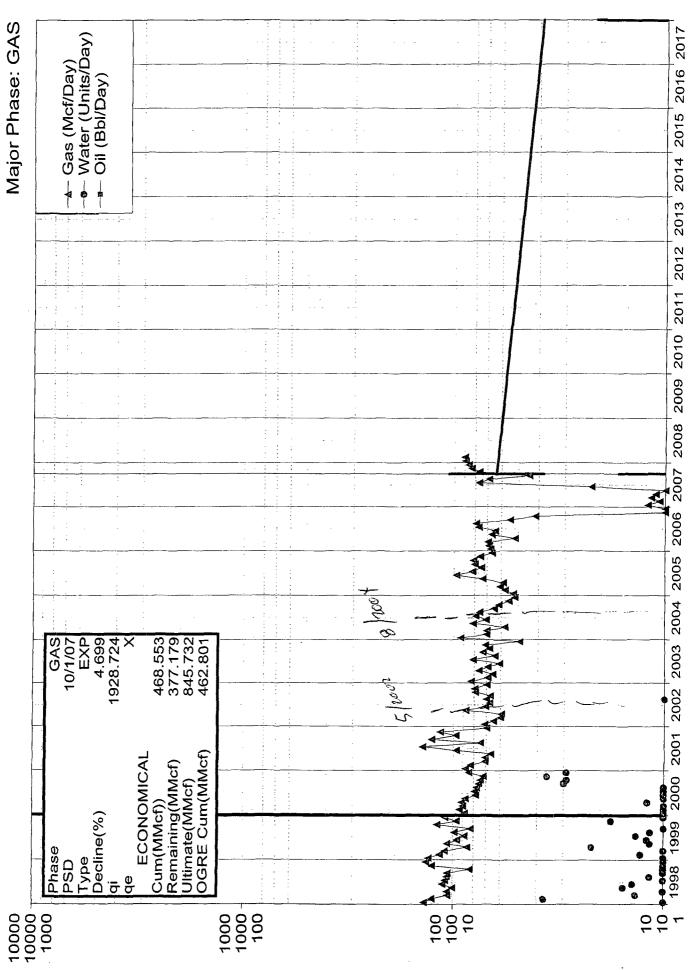


HOLE SIZE	CASING	CEMENT	VOLUME	СМТ ТОР		
12-1/4"	9-5/8" 36#	285 s x	336 CU.FT	SURFACE		
8-3/4"	7" 23#	960 s x	1107 CU.FT	SURFACE		
6-1/4"	4-1/2" 1.6#	670 s x	790 CU.FT	LINER TOP		

API: 30-039-25135 County: RIO ARRIBA, NM 0.5828063 :: |> CLIFFS STR: NESE 21 - 31 N - 6 W **Reservoir: PICTURED** Well: ROSA UNIT # 100E PC Field: ROSA



API: 30-039-25135 VIT # 100E MV County: RIO ARRIBA , NM Reservoir: MESAVERDE API: 30-039-25 0.5819472 <u>S</u> NESE 21 - 31 N - 6 W Well: ROSA UNIT # 100E MV STR: Field: **BLANCO** 



# RECEIVED

MAY 1 2 2008

### CERTIFIED MAIL

# HOLLAND & HART LL

May 9, 2008



WILLIAMS PRODUCTION COMPANY, LLC One Williams Center P.O. Box 3102 Tulsa, OK 74101-3102 918/573-6169

- To: Bureau of Land Management Mesaverde Participating Area Owners Pictured Cliffs Participating Area Owners (attached list)
- RE: Permit to Down-hole Commingle Rosa Unit #100E NE/4 SE/4 Sec. 21, T31N, R6W Rio Arriba County, New Mexico

Ladies and Gentlemen,

In accordance with the New Mexico Oil Conservation Division Rule 303 governing down hole commingling, you are hereby notified that Williams Production Company, LLC, as operator of the referenced well, intends to down-hole commingle production from the Blanco Mesaverde and Rosa Pictured Cliffs pools. The Blanco Mesaverde is approved for downhole commingling; the Rosa Pictured Cliffs is not. Since these pools are not pre-approved for commingling by the State of New Mexico Oil Conservation Division (NMOCD) of the Energy, Minerals and Natural Resources Department, Williams Production Company, LLC is required to submit application to the NMOCD of our intent to commingle the two zones.

The lease on which this well is located is owned by the United States of America and is committed to the Rosa Unit I sec. No.587. This well is interior to the Rosa Unit Boundaries. The Mesaverde Participating Area Owners own the Mesaverde production, the Pictured Cliffs Participating Area Owners own the Pictured Cliffs production.

The attached engineering documentation outlines the allocation method and provides the pertinent data supporting our application to commingle this well.

Any objections to the application must be filed with NMOCD within 20 days of receipt of this letter and supporting documentation

Sincerely, <sup>2</sup>

Vern Hansen M.

Senior Staff Landman Williams Production Company, LLC Enclosures

## Rosa Unit #100E Interest Owners

ASSISTANT DISTRICT MANAGER, MINERALS BUREAU OF LAND MANAGEMENT FARMINGTON RESOURCES AREA 1235 LA PLATA HIGHWAY FARMINGTON, NEW MEXICO 87401

BP AMERICA PRODUCTION CO. ATTN: JOHN LARSON P.O. BOX 3092 HOUSTON, TX 77253-3092

MS. ELIZABETH T. CALLOWAY P.O. BOX 191767 DALLAS, TX 75219-1767

MARY FRANCES TURNER, JR TRUST ATTN: IRIS GLEISER P O BOX 660197 DALLAS, TX 75266-0197 FOREST OIL CORPORATION ATTN: KEN MCPHEE 707 17<sup>TH</sup> STREET DENVER, CO 80202

MR. J. GLENN TURNER, JR., LLC 3838 OAK LAWN, SUITE 1450 DALLAS, TX 75219

MR. FRED E. TURNER, LLC 4925 GREENVILLE AVENUE, #852 DALLAS, TX 75206-4079

MR. JOHN L. TURNER PMB 285 317 SIDNEY BAKER SOUTH #400 KERRVILLE, TX 78028

SACRAMENTO MUNICIPAL UTILITIES DISTRICT ATTN: THOMAS INGWERS P. O. BOX 15830 SACRAMENTO, CA 95852-1830