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**DISTRICT II** 

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-103 Revised 1-1-89

P.O. Box 1980, Hobbs, NM 88240

811 South First, Artesia NM 88210

## OIL CONSERVATION DIVISION

2040 South Pacheco

30-039-25583

Santa Fe, NM 87505

Indicate Type of Lease **STATE** 

**DISTRICT III** 1000 Rio Brazos Rd., Aztec, NM 87410 State Oil & Gas Lease No.

WELL API NO.

SUNDRY (DO NOT USE THIS FORM I	7.	Lease Name or Unit Agreement Name:		
	R. USE "APPLICATION FOR I PROPOSALS	PERMIT" (FORM C-101) FOR SUCH		ROSA UNIT
1. Type of Well:				
Oil Well	Gas Well	Other		
2. Name of Operator			8.	Well No.
WILLIAMS PRODUCTION	COMPANY			159
3. Address of Operator			9.	Pool name or Wildcat
P O BOX 3102, MS 25-2, TU	LSA, OK 74101			BLANCO MV/BASIN DK
4. Well Location (Surface)				

Unit letter O: 790 feet from the SOUTH line & 1850 feet from the EAST line Sec 19-31N-05W RIO ARRIBA, NM

10. Elevation (Show whether DF, RKB, RT, GR, etc. 6327' GR

Check Appropriate Box to Indicate Nature of Notice, Report or Other Data SUBSEQUENT REPORT OF: **NOTICE OF INTENTION TO:** 

PERFORM REMEDIAL WORK

PLUG AND ABANDON

REMEDIAL WORK

**ALTERING CASING** 

TEMPORARILY ABANDON

**CHANGE PLANS** 

COMMENCE DRILLING OPNS.

PLUG AND **ABANDONMENT** 

PULL OR ALTER CASING OTHER: COMMINGLE

CASING TEST AND CEMENT JOB

OTHER: .

12. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103.

Williams Production Company proposes to commingle the Mesa Verde and Dakota zones in this well. These zones are part of the pre-approved pools for commingling. The production packer currently installed will be removed along with the Dakota and Mesa Verde tubing strings and will be replaced by one string of tubing landed at 8022'. Attached is all necessary information requested by rule 19.15.5.303 C(3)(b)

I hereby certify that the information above is true and complete to the best of my knowledge and belief. SIGNATURE 2 TITLE: SR. Production Analyst DATE: October 20, 2006. Type or print name, Telephone No: \_(918) 573-6254 (This space for State use)

**APPROVED** EPUTY OIL & GAS INSPECTOR, DIST & DATE  $BY_{-}$ TITLE Conditions of approval, if any

osa Unit	159 O - 19	- 31N - 5W	Rio Arriba	
ase	Well No. Unit Letter-	Section-Township-Range	County	
GRID No. 120782 Property Code	e <u>17033</u> API No. <u>30-<b>625</b>-7</u>	255-83 Lease Type:Fed	eralState X_Fee	
DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE	
Pool Name	Blanco MV		Basin Dakota	
Pool Code	72319		71599	
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	5413' – 5985'		7880' – 8030' (8042' – 8055' below CIB	
Method of Production (Flowing or Artificial Lift)	Flowing		Flowing	
Bottomhole Pressure (Note: Pressure data will not be required if the bottom 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)	1004 BTU		984 BTU	
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 estimates and supporting data.)	Date: 5/26/2006  Rates: 152 MCF	Date:	Date: 5/26/2006  Rates: 105	
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 explanation will be required.)	% 35 %	% %	% 65 %	
	ADDITIO	NAL DATA		

Yes	No X
Yes 🗶	No
Yes>	No
Yes	No <b>X</b>
Yes 🗶	No
	Yes X Yes X Yes

### **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.

Notification list of working, royalty and overriding royalty interests for uncommon interest cases.

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

Data to support allocation method or formula.



## Production Allocation Recommendation Rosa #159 (MV/DK)

WELLNAME: Rosa

Rosa #159

SW/4 SE/4 Sec.19, T31N,R05W

API No.:

30-039-25583

FIELD:

Rosa DK & Blanco MV

COUNTY: Rio Arriba, NM

May 24, 2006

**Current Status:** The Rosa #159 is currently a dual completion well producing from the Dakota and Mesaverde formations. The Production Optimization and Enhancement Team recommends commingling this well upon completion of the work-over.

### **Commingle Procedure:**

- Dakota tubing will be pulled
- MesaVerde tubing will be pulled
- Production packer will be milled and pulled out of hole (if possible)
- Casing integrity will be tested between MV and DK perforations
- Casing integrity will be tested above the MV perforations
- Well will be cleaned out to CIBP
- A single string of 2-3/8" tubing will be run to  $\sim$ 8022'
- One set of wellhead facilities will be removed
- Well will be produced as a MV/DK commingle

Allocation Method: Historic production data from both zones on this well was gathered and analyzed. Monthly production data from Jan 2000 to Jun 2004 was considered as 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 Dakota accounted for approximately 65% of the total production of the well, while the MesaVerde contributed the remaining 35% during the same time.

From Jan 2000 - Jun 2004

Total Production from well = 506,568 Mcf

Total Production from DK = 327,203 Mcf

Total Production from MV = 179,364 Mcf

DK allocation = DK prod / Total prod = 327,203 Mcf / 506,568 Mcf = 64.93%

MV allocation = MV prod / Total prod = 179,364 Mcf / 506,568 Mcf = **35.07%** 



ENERGY SERVICES Exploration & Production

# MEMORANDUM

To:

Sterg Katirgis, Mike Turnbaugh, and Bob Revella

From:

Production Optimization Team

Date:

5/22/2006

Subject: Rosa Unit # 159 (MV/DK)

# Recommendation

We recommend pulling the 1-1/4" MV and the 1-1/2" DK production tubing out of the well, lay down, mill packer, test casing integrity and run new tubing to commingle.

This well was drilled and completed in 1996. In 2006 they performed a packerleakage test which failed. OCD gives the operators 90 days to fix any packer problems in wells; therefore, this well will be shut-in if no repair procedure is done to the well within that period of time. In order to maintain the combined production, avoid further packer repair costs and avoid production losses due to mandatory shut in, it is recommended to downhole commingle this well. This well has cumulated 466 MMcf and 834 MMcf, with projected remaining reserves of 115 MMcf and 315 MMcf from the MV and DK zones respectively. Currently this well is averaging 177 Mcfd (up the casing) and 117 Mcfd

WPX has a WI of 58.194719% and NRI of 49.85441% in the Mesaverde and has a WI of 0% and NRI of 0% in the Dakota. The estimated cost for this project is 83.3M\$ (24.2M\$ net to WPX) and has an ATAXROR of 26.1%.



**ENERGY SERVICES** Exploration & Production

## Workover Procedure Rosa Unit # 159 (MV/DK)

790' FSL and 1850' FEL SW/4 SE/4 Sec 19 (O), T31N, R5W Rio Arriba, New Mexico

Purpose for Work: Pull MV and DK tubing. Test casing integrity. Run new 2-3/8" tubing and commingle.

Deliver to Location: 8022' 2-3/8" 4.7# J55 EUE 8 Rd tubing.

Last Workover (9/24/1996): Land dual production strings post new well fracs.

#### Workover Procedure:

- 1. Check/Install rig anchors as necessary.
- 2. MIRUSU. Order 2-3/8" workstring.
- 3. Hold safety meeting daily. Discuss job scope and hazards. If job task changes or job task is not routine hold additional safety meetings to discuss concerns.
- 4. Kill tubing. ND wellhead and NU BOP. Rig up flowback tank.
- 5. TOH and LD 1-1/4" MV tubing. Visually inspect and return tubing to inventory.
- 6. Unseat Model "D" packer.
- 7. TOH and LD with 1-1/2" DK tubing. Visually inspect and return to inventory.
- 8. Convert from dual tubing string to a single, 2-3/8" tubing string. If tubing seal assembly does not release from packer notify Wireline Specialty services and prepare to fish packer assembly. Fish seal assembly and tail pipe as necessary.
- 9. TIH with mill assembly on 2-3/8" workstring and mill Packer @ 6050'. Make an attempt to POOH packer. If fail to POOH packer then push packer down on top of CIBP set at 8035' or below bottom perf at 8030'.
- 10. TOH with workstring and unseat mill assembly.
- 11. PU 5-1/5" RBP and isolation packer combo.
- 12. RIH with workstring and set RBP @ 7800'.
- 13. PUH and set isolation packer @ 7450. 6020.
- 14. Pressure test to 500#. Hold for 15 min.
- 15. Bleed off pressure.
- 16. Release isolation packer.
- 17. RBIH and latch RBP. PUH and set RBP @ 5400.
- 18. PUH workstring and pressure test annulus from surface casing valve to 500#.

- 19. Bleed off Pressure.
- 20. RBIH and latch RBP, POOH.
- 21. RIH and run 2-3/8" tubing. Set tubing @ 8022' w/ SN 1 jt up.
- 22. RDMO.
- 23. MI swabbing unit to kick off well.
- 24. Return well to production.

### **Formation Tops:**

Ojo Alamo	2464'	Menefee	5440'
Kirtland	2578'	Point Lookout	5649'
Fruitland Coal	2894'	Mancos	6118'
Pictured Cliffs	3200'	Greenhorn	7698'
Lewis	3615'	Graneros	7751'
Cliff House	5398'	Dakota	7862'

Casing and Tubing current record:

	Depth (ft)	Weight (#/Ft)	Туре	0D (in)	ID (in)	Drift (in)	Burst (psi)
Surf Csg	342	40.50	J-55	10 3/4	10.05	9.894	3,130
Int Csg	4185	26.40	K-55	75/8	6.969	6.844	4,140
Lng Strg Csg	8096	17.00	N-80	51/2	4.892	4.767	7,740
DK Tbg	7959	2.90	J-55	11/2	1.61	1.516	7,350
MV Tbg	5946	2.33	J-55	11/4	1.38	1.286	8,120

G.L. 6327'.

#### **LOGGING RECORD**:

ISE/GR CDL/CNL IND/GR & CDL/SNL

## **STIMULATION:**

CH/Menefee: 5413'-5638', 82,000# of 20/40 sand in 1683 bbls of slick

water.

Point Lookout: 5650'-5985', 82,220# of 20/40 sand in 1890 bbls of slick

water.

Dakota: 7880'-8021', 90,300# of 20/40 sand in 505 bbls of 35#

CMHPG gel X-Linked w/ Zirconium in a 60 quality

foam.

### **PRODUCTION HISTORY:**

The MV and DK were IP tested making 1930 Mcfd and 694 Mcfd respectively on 10/12/1996. The MV and DK first delivered on 11/6/96. The MV has cumulated 466 MMcf and has projected remaining reserves of 115 MMcf. Currently the MV is averaging 177 Mcfd up the casing. The Dakota has cumulated 835 MMcf and has projected remaining reserves of 315 MMcf. Currently the DK is averaging 117 Mcfd. A packer-leakage test was performed indicating communication between the zones.

## ROSA UNIT #159 MV/DK

Spudded

1st Delivery

MV/PC Completed

7-25-1996

9 -24-1994

11-06-1996

Location: 790' FSL, 1850' FEL SW/4 SE/4 Section 19, T31N, R5W

Rio Arriba, NM Elevation: 6327' GR

Elevation: 6327' GR KB=14'		10-3/4", 7 jts., 40.5#, J-55 csg. Landed @ 342'
<u>Tops</u>	<u>Depth</u>	10-5/4 , , j.s., 10-5/4 ,
Ojo Alamo	2464`	Mesaverde Tubing: 179 jts of 1-1/4" 2.33# J-55, Lonestar IJ as follow: Orange peeled perforated jt
Kirtland	2578`	on bottom, SN (1.062" ID @ 5913') on top of bottom jt and 178 jts of tubing. Landed @ 5946'
Fruitland	2894'	КВ
Pictured Cliffs	3200'	
Lewis	3615'	7-5/8", 81 jts, 26.4#, K-55 Landed @4185"
Cliff House	5398'	
Menefee	5440'	5413
Point Lookout	5649'	5638' Mesaverde Perforations
Mancos	6113'	5650'
Greenhorn	7698'	5985' Model "D" packer @ 6050'
Graneros	7751'	Model D packer @ 0000
Dakota	7862'	
water Dakota: 7880' - 8021'	683 bbls of slick water	Dakota Tubing: 244 jts of 1-1/2" 2.9# J-55 EUE as follow: ½ mule shoe on bottom, SN (1.375" ID @ 7925') on top of bottom jt. 59 jts of tail pipe, 5 seal units, 183 jts of tbg, 2-8' pups, and 1 full jt on top. Landed @ 7959' KB.
	w/ Zircodium in a 60 quality	8030'
	64DD 0 4444	Dakota Perforations

CIBP @ 8035'

PBTD @ 8074

HOLE SIZE	CASING	CEMENT	VOLUME	СМТТОР
14-3/4"	10-3/4" 40.5#	285 s x	336 CU.FT	SURFACE
9-7/8"	7-5/8" 26.4#	805 s x	1548 CU.FT	SURFACE
6-3/4"	5-1/2" 17#	440 s x	614 CU.FT	2950' (CBL)

8042 8055

5-1/2", 177 jts, 17#, N-80. Landed @ 8096"