In Lie	u of
Form	3160
(June	1990)

# UNITED STATES DEPARTMENT OF INTERIOR BUREAU OF LAND MANAGEMENT

FORM	4 APPROVED
Budget Bu	reau No. 1004-0135
Expires	March 31, 1993

Lease Designation and Serial No

SUNDRY NOTICE AND REPORTS ON WELLS	
On not use this form for proposals to drill or to deepen or reentry to a different reservoir.	Use "APPLICATION
TO DRILL" for permit for such proposals	

NMSF-078764

	10 BRIEL for permit for such proposals	6	If Indian, Allottee or Tribe Name
	SUBMIT IN TRIPLICATE DIFFERENCE	7	If Unit or CA, Agreement Designation Rosa Unit
1.	Type of Well Oil Well Gas Well X Other	8.	Well Name and No Rosa Unit 137C
2	Name of Operator WILLIAMS PRODUCTION COMPANY  Russian of Land Management of Land Manageme	9	API Well No 30-039-30691
3	WILLIAMS PRODUCTION COMPANY  Ruleau Of Land Management  Address and Telephone No.  PO Box 640 Aztec, NM 87410-0640	10.	Field and Pool, or Exploratory Area BLANCO MV/BASIN DK/BASIN MC
4	Location of Well (Footage, Sec., T, R, M., or Survey Description) 730' FSL & 2175' FEL SEC 31, 31N, 5W	11.	County or Parish, State Rio Arriba, New Mexico

CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA TYPE OF SUBMISSION TYPE OF ACTION Notice of Intent Abandonment Change of Plans Recompletion New Construction X Subsequent Report Plugging Back Non-Routine Fracturing Casing Repair Water Shut-Off Final Abandonment Altering Casing Conversion to Injection X Other REALLOCATION Dispose Water (Note Report results of multiple completion on Well Completion or Recompletion Report and Log form )

Williams E&P has run Protechnic's Completion profiler tool for allocation purposes on the Rosa Unit #137C. Based on the results obtained, Williams proposes the following allocation:

Mesaverde	63%	313	Mcf/d
Mancos	13%	66	Mcf/d
Dakota	24%	121	Mcf/d
Total	100%	500	Mcf/d

Conditions of approval, if any

I hereby certify that the foregoing is true and correct

Signed Larry Higgins

Title PERMIT SUPRV

Date 7/21/11

(This space for Federal or State office use)

Approved by See Hurth

Title 600

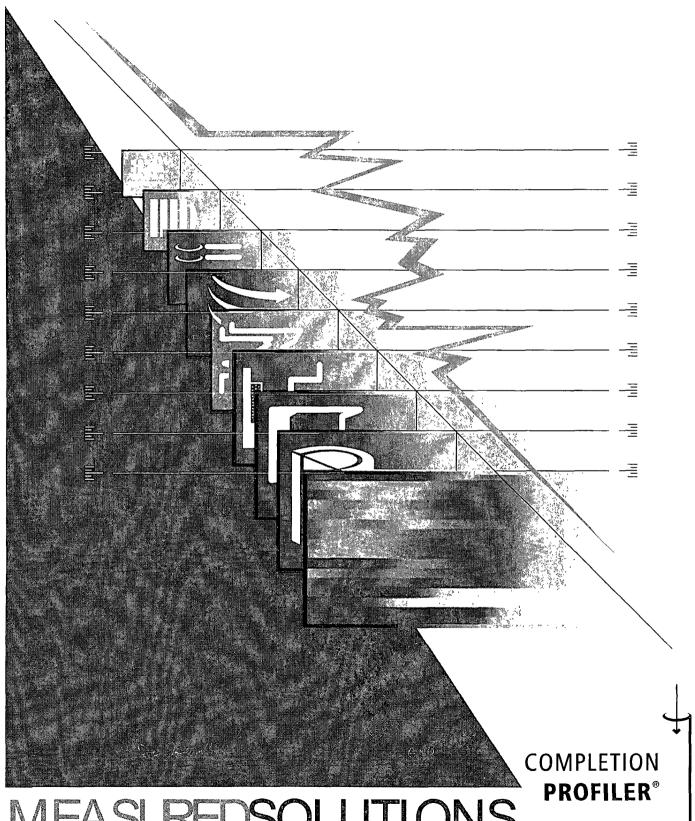
Date 7-22-11

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



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.)\*

#### Williams Production Company Rosa Unit #137C







Company | Williams Production Company

Well Name | Rosa Unit #137C

Field | Blanco Mesaverde/Basin Dakota

Location | Rio Arriba County, New Mexico

Customer Name | Michael Andrews

Date of Survey | June 16, 2011

Date of Analysis | June 20, 2011

Logging Engineer | Loren Healy

Analyst | Cole Hutchings

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful misconduct on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.





## Table of Contents

Survey Objectives
Logging Procedures
Well Information
Tool String
Well Log History
Results
Analysis Summary
Brief Description of Process
Model Results With Recorded Data
Production Rates At Surface Conditions
Flow Model at Downhole Conditions With Comparison of Theoretical Response to Recorded Data
Overlay of all Log Data
Apparent Fluid Velocity Derived from Spinner
Spinner Calibration Plots Relationship between R.P.S. and Fluid Velocity (fpm)
Well Information
Parameters used for Analysis
Definitions





#### Survey Objectives

- · Identify the source of water production.
- · Identify gas producing intervals.
- Quantitative production profile.

#### Logging Procedures

Date	Time	Comment
06/16	09:45	Arrive on location
06/16	09:00	Gauge run start
06/16	09:45	Gauge run stop
06/16	10:12	Program Completion Profile String
06/16	10:22	Start GIH pass
06/16	10:42	Stop GIH pass
06/16	10:46	Start logging passes
06/16	13:13	Stop logging passes
06/16	13:19	Start out of well pass
06/16	13:37	Stop out of well pass
06/16	13:45	Start download
06/16	14:00	Stop download
06/16	14:15	Rig down

Interval Logged:

[From 5,307 to 7,932 ft.]

60 ft/min 90 ft/min





#### Well Information

Casing: 5.5" 17.0 lb/ft surface to 7,981 ft PBTD: 7,974 ft

Tubing: 2.375" 4.7 lb/ft surface to 5,212 ft

Perforations: 5,396; 5,398; 5,400; 5,402; 5,404; 5,406; 5,422; 5,424; 5,426; 5,432;

5,434; 5,436; 5,448; 5,450; 5,452; 5,454; 5,456; 5,458; 5,460; 5,462; 5,464; 5,466; 5,468; 5,484; 5,486; 5,488; 5,490; 5,492; 5,494; 5,516; 5,518; 5,520; 5,522; 5,524; 5,526; 5,528; 5,530; 5,532; 5,534; 5,536; 5,538; 5,540; 5,542; 5,544; 5,546; 5,548; 5,550; 5,552; 5,554; 5,580;

5,582; 5,584; 5,586; 5,588; 5,608; 5,610; 5,612 ft

(Upper Mesaverde)

5,638; 5,642; 5,646; 5,650; 5,666; 5,670; 5,674; 5,678; 5,682; 5,686; 5,690; 5,694; 5,698; 5,702; 5,706; 5,710; 5,714; 5,718; 5,722; 5,726; 5,730; 5,734; 5,738; 5,742; 5,746; 5,750; 5,768; 5,771; 5,774; 5,784; 5,787; 5,790; 5,793; 5,809; 5,811; 5,813; 5,832; 5,834; 5,836; 5,842; 5,850; 5,852; 5,860; 5,862; 5,882; 5,884; 5,886; 5,888; 5,890; 5,898;

5,904; 5,926; 5,928; 5,930; 5,944; 5,946; 5,959; 5,961 ft

(Lower Mesaverde)

6,770; 6,780; 6,790; 6,800; 6,810; 6,820; 6,830; 6,840; 6,850; 6,860; 6,870; 6,880; 6,890; 6,900; 6,910; 6,920; 6,930; 6,940; 6,950; 6,960;

6,970; 6,980; 6,990; 7,000; 7,010; 7,020; 7,030; 7,040 ft

(Upper Mancos)

7,080; 7,082; 7,117; 7,130; 7,135; 7,142; 7,150; 7,160; 7,170; 7,174; 7,180; 7,185; 7,190; 7,195; 7,200; 7,210; 7,215; 7,222; 7,230; 7,240;

7,250; 7,260; 7,270 ft (Lower Mancos)

 $7,870;\ 7,873;\ 7,876;\ 7,879;\ 7,882;\ 7,885;\ 7,888;\ 7,891;\ 7,898;\ 7,905;$ 

7,912; 7,918; 7,921; 7,924; 7,927; 7,930; 7,933; 7,936; 7,939; 7,942;

7,945; 7,948; 7,951; 7,954; 7,957; 7,960; 7,963 ft

(Dakota)

Flowing tubing pressure at the time of logging: 76 psi

Daily average surface production reported at the time of logging:

gas: 501 Mscf/d water: N/A bpd





#### **Tool String**

The 1 11/16" Completion Profiler string comprised the following sensors:

Battery housing; RS-232/CCL; Memory/CPU; Gamma Ray; Pressure/Temperature Combo; Centralizer; Induction Collar Locator; Fluid Density; Centralizer; Spinner Flowmeter.

#### Well Log History

Log Date	Type of Survey		.•		
06/18/10	Completion Profiler				





### Results

The following table summarizes the production from each producing zone.

				GAS / WATER PR	ODUCTION P			
Zone	Inte	rvals	Q-Gas	Qp-Gas	Percent of	Q-Water	Qp-Water	Percent of
	feet		MCFD	MCFD	Total	BFPD	BFPD	Total
Surface	to	5396	499 Mcf/d		100 %	6 bpd		100 %
		Ü	pper Mesaverde		27.%			30.%
5396	to	5612	499 Mcf/d	136 Mcf/d		6 bpd	2 bpd	
MES.	,		ower Mesaverde		[  }`}35°%}}}			40 %
5638	to ·	5961	363 Mcf/d	177 Mcf/d		4 bpd	2 bpd	
- 30 mg		Sall Files	Upper Mancos		10%	AND THE CORP.		<u> </u>
6770	to	7040	187 Mcf/d	49 Mcf/d		2 bpd	1 bpd	
3 1 1 1		1. 1.	Lower Mancos		<u>3</u> %,3	AND		4%
7080	to	7270	138 Mcf/d	17 Mcf/d		1 bpd	0 bpd	
	Q#4333 Q#4333		   Dakota		.* 24%, 💥			14 %
7870	to	7930	121 Mcf/d	117 Mcf/d		1 bpd	1 bpd	3 3 30 4004
ÇFlow C	ontr	ibution f	rom Below Log Der	រំព្រឹង្ហិរី ស្រ្តា	1,%			. 0 % ⊕ :
7933	to	Below	4 Mcf/d		1 %	0 bpd		0 %