

District I
1625 N French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

RECEIVED
OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505-0011

☒ AMENDED REPORT

Farmington Field Office
Bureau of Land Management

As Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-24929		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 332
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6238'

¹⁰ Surface Location

UL or lot no. K	Section 22	Township 31N	Range 6W	Lot Idn	Feet from the 1572	North/South line SOUTH	Feet from the 1327	East/West line WEST	County RIO ARriba
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. C	Section 22	Township 31N	Range 6W	Lot Idn	Feet from the 975	North/South line NORTH	Feet from the 2449	East/West line WEST	County RIO ARriba
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¹² Dedicated Acres 320.0 Acres - (W/2)					¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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

¹⁶

TRACT 40
LEASE STATE E-289
LOT 1
LEASE SF-078766

END OF LATERAL
LAT: 36.88961°N
LONG: 107.45014°W
DATUM: NAD1927
LAT: 36.88962°N
LONG: 107.45074°W
DATUM: NAD1983

POINT OF ENTRY
LAT: 36.88413°N
LONG: 107.45343°W
DATUM: NAD1927
LAT: 36.88414°N
LONG: 107.45403°W
DATUM: NAD1983

SURFACE LOCATION
LAT: 36.88212°N
LONG: 107.45402°W
DATUM: NAD1927
LAT: 36.88213°N
LONG: 107.45462°W
DATUM: NAD1983

17 OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
Ben Mitchell 11/30/2011
Signature Date
Ben Mitchell
Printed Name
ben.mitchell@williams.com
E-mail Address

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.
Date Revised: NOVEMBER 11, 2011
Date of Survey: JULY 13, 1990
Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269



Williams Energy

Rosa Unit #332 STK
Sec22 T31N-R06W - #332
Rio Arriba Co. NM
GL: 6238' KB: 14'

PATHFINDER®
A Schlumberger Company

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
LAND-332	3078.0	700.0	150.0	2143237.82	148023.19	Point
TD-332	3078.0	2865.5	1152.3	2145390.48	149052.77	Point

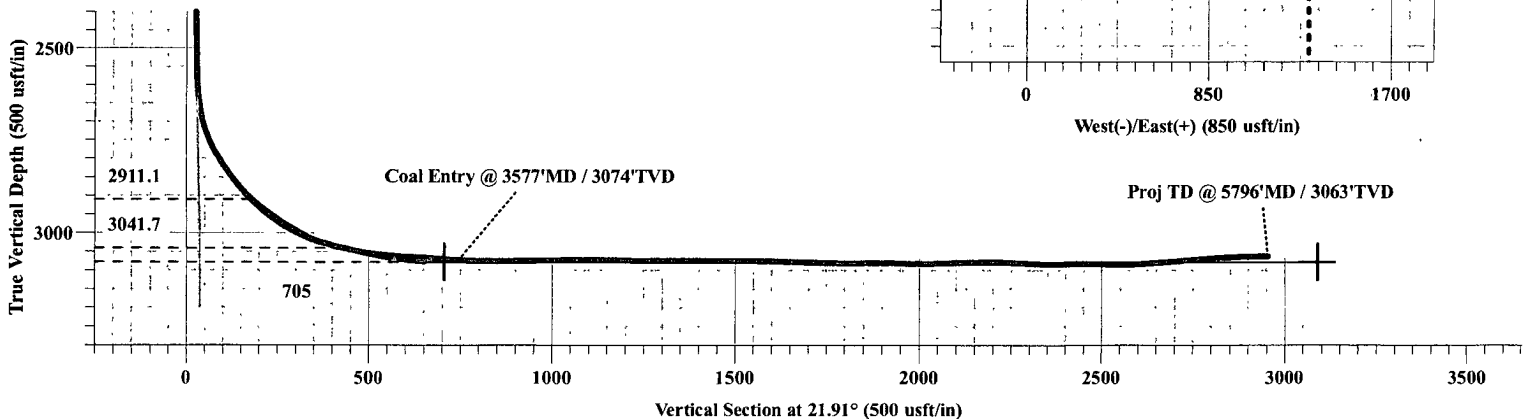
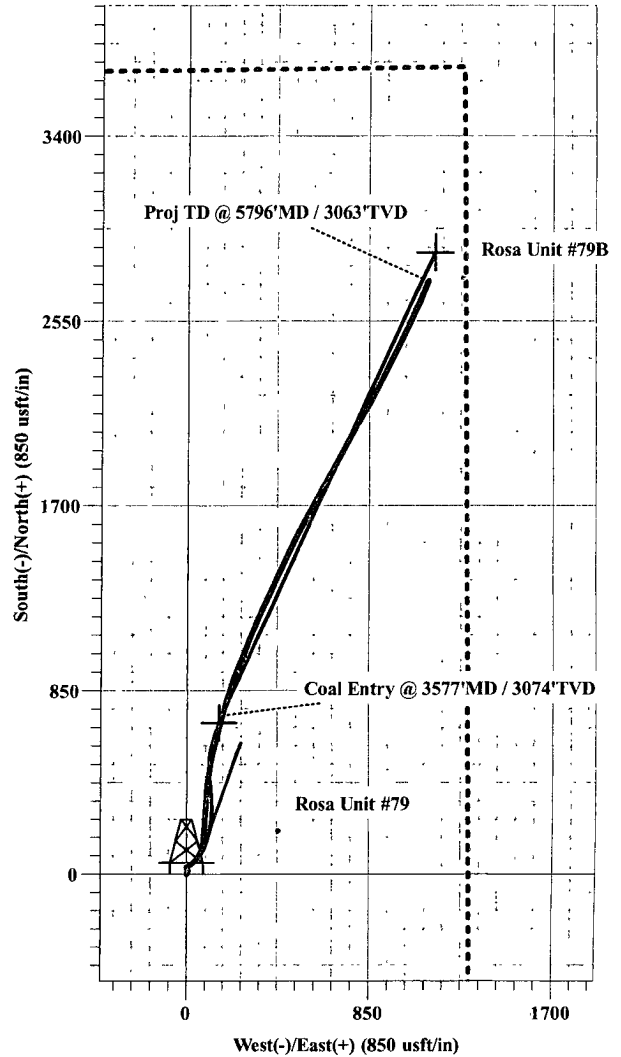
EOW
No Hardline Crossed

LEGEND

- Rosa Unit #332 STK, STK-2, STK-2 V0
- ± Rosa Unit #332 STK, Wellbore #1, Wellbore #1 V0
- Rosa Unit #332 STK, STK, STK V0
- △ Rosa Unit #79, Wellbore #1, Wellbore #1 V0
- ◇ Rosa Unit #79B, Wellbore #1, Wellbore #1 V0
- Design #5

WELL DETAILS Rosa Unit #332 STK

		6238.0	
Northing	Easting	Latitude	Longitude
2142539.77	147864.38	36° 52' 55.632 N	107° 27' 14.472 W



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
2964.0	50.03	17.01	2911.1	164.1	96.6	0.00	0.00	188.3	
3251.7	76.23	351.35	3041.7	415.3	108.2	12.00	-47.90	425.7	
3546.5	90.00	24.84	3078.0	700.0	150.0	12.18	70.21	705.4	LAND-332
5932.7	90.00	24.84	3078.0	2865.5	1152.3	0.00	0.00	3088.5	

Plan: Design #5 (Rosa Unit #332 STK/STK-2)

Created By: Frank C. Scardino

Date: 11/02/2011

Williams Energy

Rio Arriba Co. NM

Sec22 T31N-R06W - #332

Rosa Unit #332 STK

STK-2

Design: STK-2

Standard Survey Report

07 November, 2011

Survey Report

Company:	Williams Energy	Local Co-ordinate Reference:	Site Sec22 T31N-R06W - #332
Project:	Rio Arriba Co NM	TVD Reference:	WELL @ 6252.0usft (Original Well Elev)
Site:	Sec22 T31N-R06W - #332	MD Reference:	WELL @ 6252.0usft (Original Well Elev)
Well:	Rosa Unit #332 STK	North Reference:	True
Wellbore:	STK-2	Survey Calculation Method:	Minimum Curvature
Design:	STK-2	Database:	EDM 5000 1 Single User Db

Project:	Rio Arriba Co NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site:	Sec22 T31N-R06W - #332		
Site Position:		Northing:	2,142,539.76 usft
From:	Lat/Long	Easting:	147,864.38 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	36° 52' 55.632 N
		Longitude:	107° 27' 14.472 W
		Grid Convergence:	-0.72 °

Well:	Rosa Unit #332 STK		
Well Position	+N/-S	0.0 usft	Northing: 2,142,539.76 usft
	+E/-W	0.0 usft	Easting: 147,864.38 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	36° 52' 55.632 N
		Longitude:	107° 27' 14.472 W
		Ground Level:	6,238.0 usft

Wellbore:	STK-2				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	10/25/11	9.74	63.63	50,823

Design:	STK-2				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	21.91	

Survey Program:	Date:	11/07/11			
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
200.0	5,796.0	Survey #1 (STK-2)	MWD	MWD - Standard	

Survey										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.40	345.68	200.0	0.7	-0.2	0.6	0.20	0.20	0.00	
400.0	0.51	27.23	400.0	2.1	0.1	2.0	0.17	0.06	20.78	
600.0	0.71	27.09	600.0	4.0	1.0	4.1	0.10	0.10	-0.07	
800.0	0.85	16.43	800.0	6.6	2.0	6.8	0.10	0.07	-5.33	
1,000.0	0.91	17.52	999.9	9.5	2.9	9.9	0.03	0.03	0.55	
1,200.0	0.59	24.04	1,199.9	12.0	3.8	12.5	0.17	-0.16	3.26	
1,400.0	0.81	354.97	1,399.9	14.3	4.1	14.8	0.21	0.11	-14.54	
1,600.0	0.83	354.54	1,599.9	17.2	3.8	17.4	0.01	0.01	-0.22	
1,800.0	0.66	317.33	1,799.9	19.4	2.9	19.1	0.25	-0.09	-18.61	

Survey Report

Company:	Williams Energy	Local Co-ordinate Reference:	Site Sec22 T31N-R06W - #332
Project:	Rio Arriba Co. NM	TVD Reference:	WELL @ 6252.0usft (Original Well Elev)
Site:	Sec22 T31N-R06W - #332	MD Reference:	WELL @ 6252.0usft (Original Well Elev)
Well:	Rosa Unit #332 STK	North Reference:	True
Wellbore:	STK-2	Survey Calculation Method:	Minimum Curvature
Design:	STK-2	Database:	EDM 5000 1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
2,000.0	1.06	335.34	1,999.8	22.0	1.4	20.9	0.24	0.20	9.01	
2,200.0	0.79	339.43	2,199.8	24.9	0.1	23.2	0.14	-0.14	2.05	
2,400.0	1.14	351.08	2,399.8	28.2	-0.7	25.9	0.20	0.18	5.83	
2,574.0	1.54	343.80	2,573.7	32.2	-1.6	29.2	0.25	0.23	-4.18	
2,709.0	19.08	63.12	2,706.2	44.0	17.8	47.4	13.97	12.99	58.76	
2,742.0	24.36	53.05	2,736.9	50.5	28.0	57.3	19.53	16.00	-30.52	
2,774.0	28.58	46.35	2,765.5	59.8	38.8	69.9	16.14	13.19	-20.94	
2,803.0	32.45	36.71	2,790.5	70.8	48.5	83.8	21.48	13.34	-33.24	
2,834.0	35.17	28.01	2,816.3	85.4	57.7	100.7	17.89	8.77	-28.06	
2,866.0	37.37	20.52	2,842.1	102.6	65.4	119.6	15.45	6.88	-23.41	
2,898.0	39.75	13.74	2,867.1	121.7	71.3	139.5	15.15	7.44	-21.19	
2,930.0	42.74	7.96	2,891.2	142.4	75.2	160.1	15.13	9.34	-18.06	
2,962.0	46.34	5.54	2,914.0	164.6	77.8	181.8	12.44	11.25	-7.56	
2,994.0	50.39	4.47	2,935.2	188.5	79.9	204.7	12.90	12.66	-3.34	
3,025.0	54.34	3.98	2,954.2	212.9	81.7	228.1	12.80	12.74	-1.58	
3,057.0	58.04	4.04	2,972.0	239.5	83.6	253.4	11.56	11.56	0.19	
3,089.0	62.26	3.74	2,987.9	267.1	85.4	279.7	13.21	13.19	-0.94	
3,121.0	65.60	3.44	3,002.0	295.8	87.2	307.0	10.47	10.44	-0.94	
3,153.0	69.64	3.45	3,014.1	325.4	89.0	335.1	12.63	12.63	0.03	
3,186.0	74.22	2.73	3,024.4	356.7	90.7	364.8	14.03	13.88	-2.18	
3,218.0	75.71	4.03	3,032.7	387.5	92.5	394.1	6.09	4.66	4.06	
3,250.0	76.77	7.28	3,040.3	418.5	95.6	423.9	10.41	3.31	10.16	
3,282.0	78.88	8.41	3,047.0	449.4	99.9	454.2	7.44	6.59	3.53	
3,314.0	80.81	9.15	3,052.7	480.6	104.7	484.9	6.45	6.03	2.31	
3,346.0	82.83	10.35	3,057.2	511.8	110.0	515.9	7.32	6.31	3.75	
3,378.0	85.30	12.55	3,060.5	543.0	116.4	547.2	10.31	7.72	6.88	
3,410.0	86.61	15.01	3,062.8	574.0	124.0	578.8	8.69	4.09	7.69	
3,442.0	86.70	16.04	3,064.7	604.8	132.5	610.5	3.23	0.28	3.22	
3,506.0	85.47	14.77	3,069.0	666.3	149.5	674.0	2.76	-1.92	-1.98	
3,570.0	85.38	15.41	3,074.1	727.9	166.1	737.3	1.01	-0.14	1.00	
3,577.0	86.00	15.57	3,074.7	734.6	167.9	744.2	9.08	8.79	2.28	
Coal Entry @ 3577'MD / 3074'TVD										
3,633.0	90.92	16.84	3,076.2	788.4	183.6	799.9	9.08	8.79	2.27	
3,696.0	90.22	19.65	3,075.6	848.2	203.3	862.8	4.60	-1.11	4.46	
3,760.0	90.66	21.00	3,075.1	908.2	225.5	926.8	2.22	0.69	2.11	
3,825.0	90.92	21.41	3,074.2	968.8	249.0	991.7	0.75	0.40	0.63	
3,889.0	90.92	21.43	3,073.1	1,028.4	272.4	1,055.7	0.03	0.00	0.03	
3,952.0	89.43	21.50	3,072.9	1,087.0	295.4	1,118.7	2.37	-2.37	0.11	
4,016.0	87.93	23.25	3,074.4	1,146.2	319.8	1,182.7	3.60	-2.34	2.73	
4,080.0	89.60	25.41	3,075.8	1,204.5	346.2	1,246.6	4.27	2.61	3.38	
4,145.0	90.40	25.49	3,075.8	1,263.1	374.1	1,311.5	1.24	1.23	0.12	
4,209.0	90.04	25.07	3,075.6	1,321.0	401.4	1,375.4	0.86	-0.56	-0.66	
4,272.0	90.22	25.24	3,075.4	1,378.0	428.2	1,438.3	0.39	0.29	0.27	
4,336.0	90.13	24.73	3,075.2	1,436.1	455.2	1,502.2	0.81	-0.14	-0.80	

Survey Report

Company:	Williams Energy	Local Co-ordinate Reference:	Site Sec22 T31N-R06W - #332
Project:	Rio Arriba Co. NM	TVD Reference:	WELL @ 6252.0usft (Original Well Elev)
Site:	Sec22 T31N-R06W - #332	MD Reference:	WELL @ 6252.0usft (Original Well Elev)
Well:	Rosa Unit #332 STK	North Reference:	True
Wellbore:	STK-2	Survey Calculation Method:	Minimum Curvature
Design:	STK-2	Database:	EDM 5000 1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,399.0	88.72	26.58	3,075.8	1,492.8	482.5	1,565.1	3.69	-2.24	2.94
4,463.0	88.29	26.41	3,077.5	1,550.1	511.0	1,628.8	0.72	-0.67	-0.27
4,526.0	88.72	27.67	3,079.2	1,606.2	539.7	1,691.6	2.11	0.68	2.00
4,589.0	88.02	30.02	3,081.0	1,661.3	570.1	1,754.1	3.89	-1.11	3.73
4,653.0	91.10	29.94	3,081.4	1,716.8	602.0	1,817.4	4.81	4.81	-0.13
4,716.0	90.48	28.16	3,080.6	1,771.8	632.6	1,879.9	2.99	-0.98	-2.83
4,780.0	88.37	28.07	3,081.2	1,828.3	662.8	1,943.5	3.30	-3.30	-0.14
4,844.0	88.81	27.98	3,082.8	1,884.8	692.8	2,007.2	0.70	0.69	-0.14
4,907.0	92.68	28.42	3,082.0	1,940.3	722.6	2,069.8	6.18	6.14	0.70
4,971.0	90.84	29.13	3,080.0	1,996.3	753.4	2,133.3	3.08	-2.88	1.11
5,034.0	89.96	30.44	3,079.6	2,051.0	784.7	2,195.7	2.50	-1.40	2.08
5,098.0	87.76	29.01	3,080.8	2,106.6	816.4	2,259.1	4.10	-3.44	-2.23
5,161.0	88.02	29.37	3,083.2	2,161.5	847.1	2,321.5	0.70	0.41	0.57
5,225.0	90.84	28.00	3,083.8	2,217.7	877.8	2,385.0	4.90	4.41	-2.14
5,288.0	90.04	27.13	3,083.3	2,273.5	907.0	2,447.7	1.88	-1.27	-1.38
5,350.0	87.93	26.30	3,084.4	2,328.9	934.8	2,509.5	3.66	-3.40	-1.34
5,414.0	90.84	26.18	3,085.1	2,386.3	963.1	2,573.3	4.55	4.55	-0.19
5,478.0	95.14	26.82	3,081.8	2,443.5	991.6	2,637.0	6.79	6.72	1.00
5,540.0	93.91	26.09	3,076.9	2,498.8	1,019.2	2,698.6	2.31	-1.98	-1.18
5,604.0	95.14	24.55	3,071.8	2,556.5	1,046.5	2,762.3	3.07	1.92	-2.41
5,668.0	94.53	23.67	3,066.4	2,614.7	1,072.5	2,826.0	1.67	-0.95	-1.38
5,732.0	90.40	22.30	3,063.7	2,673.5	1,097.5	2,889.9	6.80	-6.45	-2.14
5,796.0	90.40	22.30	3,063.2	2,732.7	1,121.8	2,953.9	0.00	0.00	0.00
Proj TD @ 5796'MD / 3063'TVD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N-S (usft)	+E-W (usft)	Comment
3,577.0	3,074.7	734.6	167.9	Coal Entry @ 3577'MD / 3074'TVD
5,796.0	3,063.2	2,732.7	1,121.8	Proj TD @ 5796'MD / 3063'TVD

Checked By: _____ Approved By: _____ Date: _____