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District II
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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

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

☐ AMENDED REPORT

As Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-29835		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 217A
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6347'

¹⁰ Surface Location

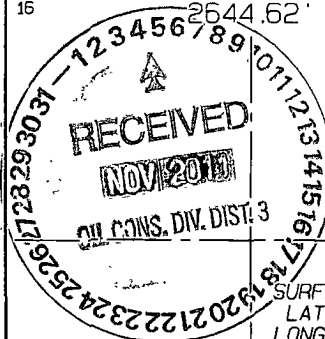
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	11	31N	6W		1496	SOUTH	2263	EAST	RIO ARRIBA

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
P	11	31N	6W		352	SOUTH	367	EAST	RIO ARRIBA

¹² Dedicated Acres 320.0 Acres - (E/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  2644.62' 5280.00' SURFACE LOCATION LAT: 36.91097°N LONG: 107.43027°W DATUM: NAD1927 LAT: 36.91098°N LONG: 107.43088°W DATUM: NAD1983 POINT OF ENTRY LAT: 36.91014°N LONG: 107.42884°W DATUM: NAD1927 LAT: 36.91015°N LONG: 107.42945°W DATUM: NAD1983 END OF LATERAL LAT: 36.90780°N LONG: 107.42380°W DATUM: NAD1927 LAT: 36.90781°N LONG: 107.42441°W DATUM: NAD1983 2643.96'	2644.62' LEASE SF-078771 11 5280.00' 1496' 554°17.6'E 5163' 1195' 2263' 1844' 360°17.1'E 1700.9' 367' 352' 2643.96'	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. <i>Larry Higgins</i> 11-2-11 Signature Date Larry Higgins Printed Name Larry.Higgins@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: OCTOBER 6, 2011 Survey Date: OCTOBER 6, 2005 Signature and Seal of Professional Surveyor  JASON C. EDWARDS Certificate Number 15269
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OIL CONS. DIV.
DIST. 3



Williams Energy

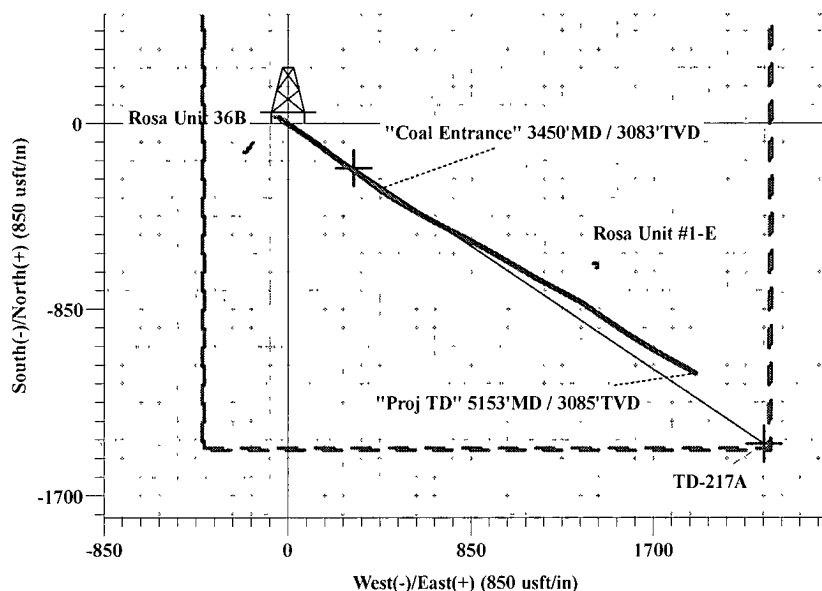
Rosa Unit #217A Stk
Sec11 T31N-R6W - 217A
Rio Arriba Co. NM
GL: 6349' KB: 14'

PATHFINDER®
A Schlumberger Company

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

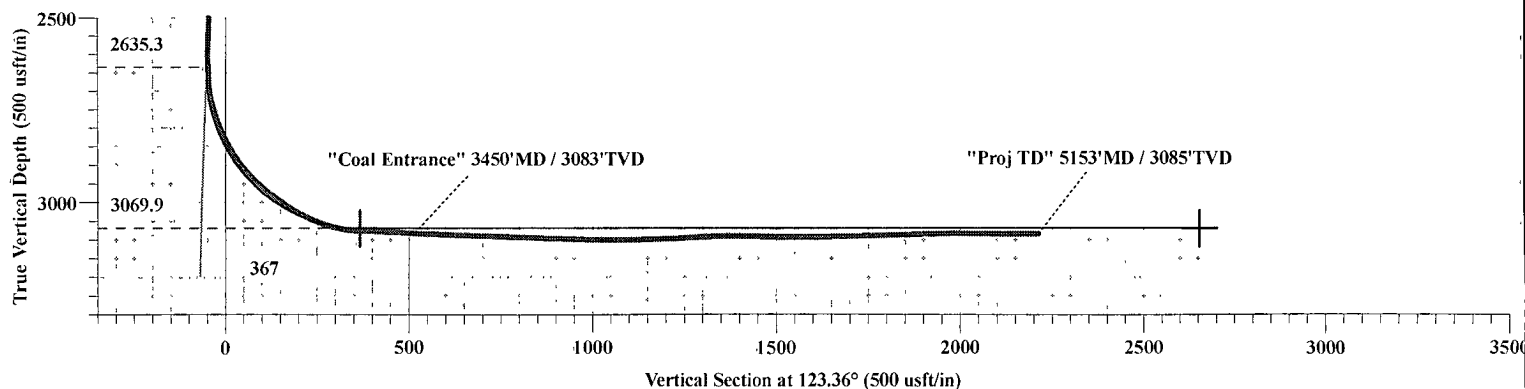
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
LAND-217A	3070 0	-205 8	304 2	2152746 87	155242 29	Point
TD-217A	3070 0	-1463 6	2214 4	2151465 55	157136 77	Point

EOW
No Hardlines
Crossed



WELL DETAILS: Rosa Unit #217A Stk

North	6349.0	Latitude	Longitude
2152956 42	154940 66	36° 54' 39 492 N	107° 25' 48.972 W



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
2636 0	2 21	291 06	2635 3	27 4	-43 4	0 00	0 00	-51 3	
3309 7	90 00	123 36	3069 9	-205 8	304 2	13 68	-167 68	367 3	
5596 8	90 00	123 36	3070 0	-1463 6	2214 4	0 00	0 00	2654 3	TD-217A

Plan: Design #2 (Rosa Unit #217A Stk/STK)

Created By: Frank C. Scardino

Date: 9/27/2011

[illegible][illegible][illegible][illegible][illegible][illegible][illegible]

Survey Report

Company:	Williams Energy	Local Co-ordinate Reference:	Site Sec11 T31N-R6W-217A
Project:	Rio Arriba Co NM	TVD Reference:	WELL @ 6363.0usft (Original Well Elev)
Site:	Sec11 T31N-R6W - 217A	MD Reference:	WELL @ 6363.0usft (Original Well Elev)
Well:	Rosa Unit #217A Stk	North Reference:	True
Wellbore:	STK	Survey Calculation Method:	Minimum Curvature
Design:	STK	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	Sec11 T31N-R6W - 217A		
Site Position:		Northing:	2,152,956.41 usft
From:	Lat/Long	Easting:	154,940.66 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	36° 54' 39.492 N
		Longitude:	107° 25' 48.972 W
		Grid Convergence:	-0.71 °

Well	Rosa Unit #217A Stk		
Well Position	+N/-S	0.0 usft	Northing: 2,152,956.41 usft
	+E/-W	0.0 usft	Easting: 154,940.66 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	36° 54' 39.492 N
		Longitude:	107° 25' 48.972 W
		Ground Level:	6,349.0 usft

Wellbore	STK		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	08/09/11	(°)
			9.76
		Dip Angle	(°)
			63.67
		Field Strength	(nT)
			50,862

Design	STK		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
		Direction	(°)
			123.36

Survey Program	Date 10/04/11		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
200.0	5,153.0	Survey #1 (STK)	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	1.06	313.62	200.0	1.3	-1.3	-1.8	0.53	0.53	0.00	
400.0	2.17	309.79	399.9	5.0	-5.6	-7.4	0.56	0.56	-1.92	
600.0	1.38	313.33	599.8	9.1	-10.2	-13.5	0.40	-0.40	1.77	
800.0	1.03	296.63	799.8	11.5	-13.6	-17.7	0.25	-0.18	-8.35	
1,000.0	0.92	306.35	999.7	13.3	-16.5	-21.1	0.10	-0.06	4.86	
1,200.0	0.76	296.29	1,199.7	14.8	-19.0	-24.0	0.11	-0.08	-5.03	
1,400.0	0.48	248.76	1,399.7	15.1	-21.0	-25.8	0.28	-0.14	-23.77	
1,600.0	1.19	239.04	1,599.7	13.7	-23.5	-27.2	0.36	0.36	-4.86	
1,800.0	0.95	289.42	1,799.7	13.2	-26.9	-29.7	0.47	-0.12	25.19	

Survey Report

Company:	Williams Energy	Local Co-ordinate Reference:	Site Sec11.T31N-R6W - 217A
Project:	Rio Arriba Co. NM	TVD Reference:	WELL @ 6363.0usft (Original Well Elev)
Site:	Sec11-T31N-R6W - 217A	MD Reference:	WELL @ 6363.0usft (Original Well Elev)
Well:	Rosa Unit #217A Stk	North Reference:	True
Wellbore:	STK	Survey Calculation Method:	Minimum Curvature
Design:	STK	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	0.88	333.26	1,999.6	15.1	-29.1	-32.6	0.34	-0.04	21.92	
2,200.0	1.44	313.29	2,199.6	18.2	-31.6	-36.4	0.34	0.28	-9.99	
2,400.0	2.15	317.05	2,399.5	22.7	-36.0	-42.6	0.36	0.36	1.88	
2,600.0	2.16	292.18	2,599.3	26.9	-42.1	-49.9	0.46	0.01	-12.44	
2,690.0	8.00	132.60	2,689.1	23.2	-39.0	-45.4	11.17	6.49	-177.31	
2,722.0	12.31	123.72	2,720.6	19.8	-34.5	-39.8	14.29	13.47	-27.75	
2,754.0	15.92	122.78	2,751.6	15.6	-28.0	-32.0	11.30	11.28	-2.94	
2,785.0	20.14	124.42	2,781.1	10.3	-20.0	-22.4	13.71	13.61	5.29	
2,818.0	24.97	124.57	2,811.6	3.1	-9.6	-9.7	14.64	14.64	0.45	
2,849.0	27.70	124.28	2,839.4	-4.7	1.7	4.0	8.82	8.81	-0.94	
2,878.0	32.01	123.31	2,864.5	-12.7	13.7	18.5	14.95	14.86	-3.34	
2,911.0	36.58	123.32	2,891.8	-22.9	29.3	37.0	13.85	13.85	0.03	
2,943.0	41.50	123.49	2,916.6	-34.0	46.1	57.2	15.38	15.38	0.53	
2,974.0	45.02	123.01	2,939.2	-45.7	63.9	78.4	11.40	11.35	-1.55	
3,006.0	50.12	123.65	2,960.8	-58.6	83.6	102.0	16.01	15.94	2.00	
3,038.0	52.76	124.91	2,980.7	-72.7	104.2	127.1	8.81	8.25	3.94	
3,070.0	55.31	125.67	2,999.5	-87.7	125.4	152.9	8.20	7.97	2.38	
3,102.0	58.48	126.04	3,017.0	-103.4	147.1	179.7	9.95	9.91	1.16	
3,134.0	63.31	125.84	3,032.5	-119.8	169.7	207.6	15.10	15.09	-0.63	
3,166.0	66.30	126.68	3,046.1	-136.9	193.1	236.6	9.64	9.34	2.63	
3,193.0	70.43	126.63	3,056.1	-151.9	213.2	261.6	15.30	15.30	-0.19	
3,229.0	75.36	126.07	3,066.7	-172.3	240.9	296.0	13.77	13.69	-1.56	
3,261.0	81.87	125.24	3,073.0	-190.6	266.4	327.3	20.50	20.34	-2.59	
3,293.0	88.46	124.69	3,075.7	-208.8	292.5	359.1	20.66	20.59	-1.72	
3,356.0	87.49	126.50	3,077.9	-245.5	343.7	422.1	3.26	-1.54	2.87	
3,387.0	87.05	126.79	3,079.4	-264.0	368.5	453.0	1.70	-1.42	0.94	
3,420.0	86.53	126.68	3,081.2	-283.7	395.0	485.9	1.61	-1.58	-0.33	
3,450.0	85.95	125.32	3,083.2	-301.3	419.2	515.8	4.92	-1.94	-4.53	
"Coal Entrance" 3450 MD / 3083 TVD										
3,452.0	85.91	125.23	3,083.4	-302.4	420.8	517.8	4.92	-1.93	-4.53	
3,484.0	87.58	123.58	3,085.2	-320.5	447.2	549.7	7.33	5.22	-5.16	
3,548.0	87.93	120.88	3,087.7	-354.6	501.2	613.6	4.25	0.55	-4.22	
3,612.0	87.67	119.75	3,090.1	-386.8	556.5	677.5	1.81	-0.41	-1.77	
3,676.0	88.11	118.69	3,092.5	-418.1	612.3	741.3	1.79	0.69	-1.66	
3,739.0	88.11	117.74	3,094.6	-447.8	667.8	804.0	1.51	0.00	-1.51	
3,803.0	87.58	117.70	3,097.0	-477.6	724.4	867.6	0.83	-0.83	-0.06	
3,866.0	87.93	115.90	3,099.4	-506.0	780.6	930.2	2.91	0.56	-2.86	
3,929.0	89.60	117.28	3,100.8	-534.1	836.9	992.7	3.44	2.65	2.19	
3,993.0	89.34	118.18	3,101.4	-563.9	893.5	1,056.4	1.46	-0.41	1.41	
4,056.0	91.01	118.61	3,101.2	-593.9	948.9	1,119.2	2.74	2.65	0.68	
4,120.0	92.77	120.19	3,099.1	-625.3	1,004.7	1,183.0	3.69	2.75	2.47	
4,184.0	93.12	120.27	3,095.8	-657.5	1,059.9	1,246.8	0.56	0.55	0.13	
4,246.0	93.47	120.39	3,092.2	-688.7	1,113.3	1,308.6	0.60	0.56	0.19	
4,310.0	89.96	117.24	3,090.3	-719.5	1,169.4	1,372.4	7.37	-5.48	-4.92	

Survey Report

Company:	Williams Energy	Local Co-ordinate Reference:	Site Sec11 T31N-R6W - 217A
Project:	Rio Arriba Co. NM	TVD Reference:	WELL @ 6363 0usft (Original Well Elev)
Site:	Sec11 T31N-R6W - 217A	MD Reference:	WELL @ 6363 0usft (Original Well Elev)
Well:	Rosa Unit #217A Stk	North Reference:	True
Wellbore:	STK	Survey Calculation Method:	Minimum Curvature
Design:	STK	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)
4,374 0	89 08	116 73	3,090 9	-748 6	1,226 4	1,436 0	1 59	-1 38	-0 80
4,437 0	88 90	117 24	3,092 0	-777 2	1,282 5	1,498 6	0 86	-0 29	0 81
4,501 0	89 52	118 61	3,092 9	-807 1	1,339 1	1,562 3	2 35	0 97	2 14
4,564 0	90 75	123 35	3,092 7	-839 6	1,393 1	1,625 2	7 77	1 95	7 52
4,628 0	91 45	123 83	3,091 5	-875 0	1,446 4	1,689 2	1 33	1 09	0 75
4,692 0	92 95	124 36	3,089 0	-910 8	1,499 3	1,753 1	2 49	2 34	0 83
4,756 0	90 66	121 99	3,087 0	-945 8	1,552 8	1,817 1	5 15	-3 58	-3 70
4,820 0	91 28	122 40	3,085 9	-979 9	1,607 0	1,881 1	1 16	0 97	0 64
4,884 0	91 54	121 59	3,084 3	-1,013 8	1,661 3	1,945 0	1 33	0 41	-1 27
4,948 0	89 96	118 95	3,083 5	-1,046 0	1,716 5	2,008 9	4 81	-2 47	-4 13
5,012 0	88 46	117 69	3,084 4	-1,076 4	1,772 9	2,072 7	3 06	-2 34	-1 97
5,076 0	90 40	118 69	3,085 0	-1,106 6	1,829 3	2,136 4	3 41	3 03	1 56
5,093 0	90 04	119 44	3,085 0	-1,114 9	1,844 1	2,153 3	4 89	-2 12	4 41
5,153 0	90 04	119 44	3,084 9	-1,144 4	1,896 4	2,213 2	0 00	0 00	0 00
"Proj TD" 5153' MD / 3085' TVD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,450 0	3,083 2	-301 3	419 2	"Coal Entrance" 3450' MD / 3083' TVD
5,153 0	3,084 9	-1,144 4	1,896 4	"Proj TD" 5153' MD / 3085' TVD

Checked By _____	Approved By _____	Date: _____
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