District I
1625 N French Dr., Hobbs, NM 88240

District II
1301 W Grand Avenue, Artesia, NM 88210

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

As-Drilled

RCVD AUG 12'11
OIL CONS. DIV.
DIST. 3

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-30912	71629	BASIN FRUITLAND COAL

[4] Property Code	[5] Property Name	[6] Well Number
17033	ROSA UNIT	406

[7] OGRID No.	[8] Operator Name	[9] Elevation
120782	WILLIAMS PRODUCTION COMPANY	6599'

[10] Surface Location

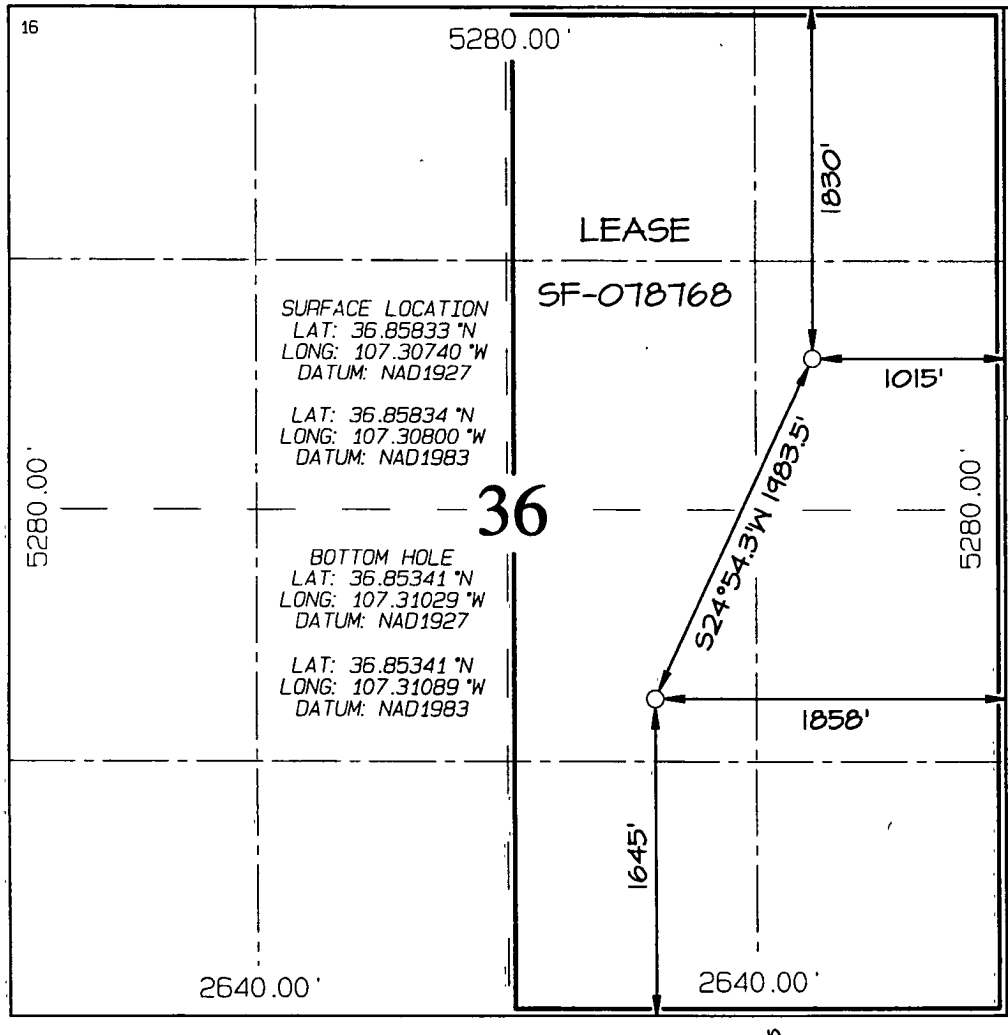
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	36	31N	5W		1830	NORTH	1015	EAST	RIO ARRIBA

[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
J	36	31N	5W		1645	SOUTH	1858	EAST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320.0 Acres - (E/2)			R-13200

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



[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.

Signature — Date: 8/11/11

Printed Name

[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: AUGUST 7, 2011
Date of Survey: JULY 3, 2009

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

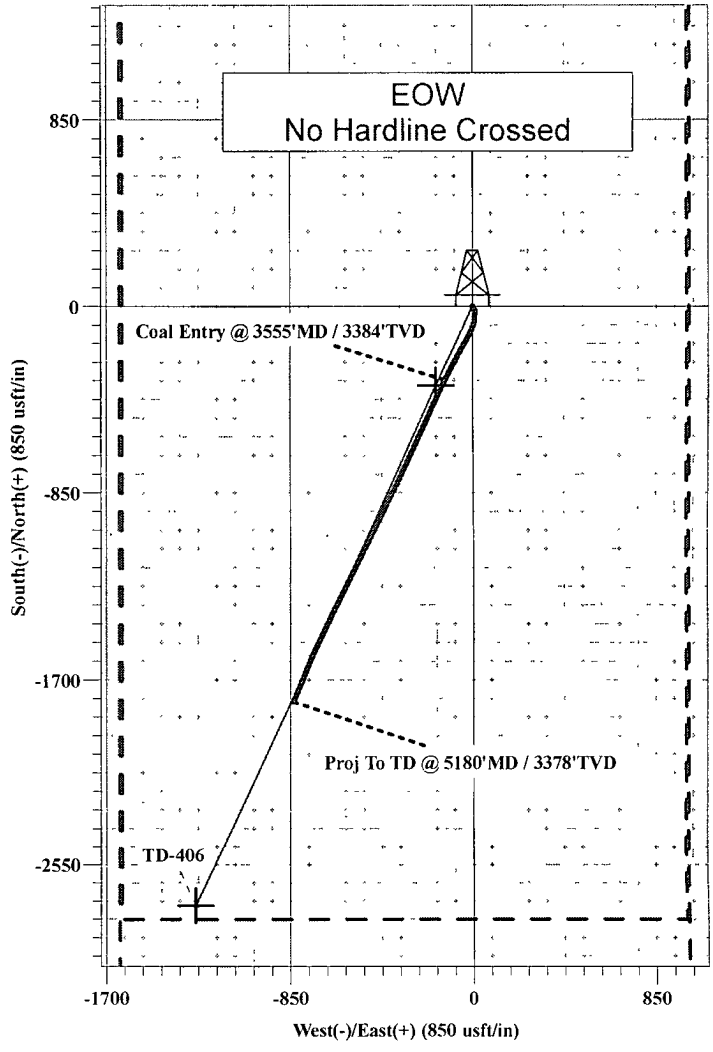
Williams Energy

Rosa Unit #406
Sec36 T31N-R5W - #406
Rio Arriba Co. NM
GL: 6599' KB: 14'

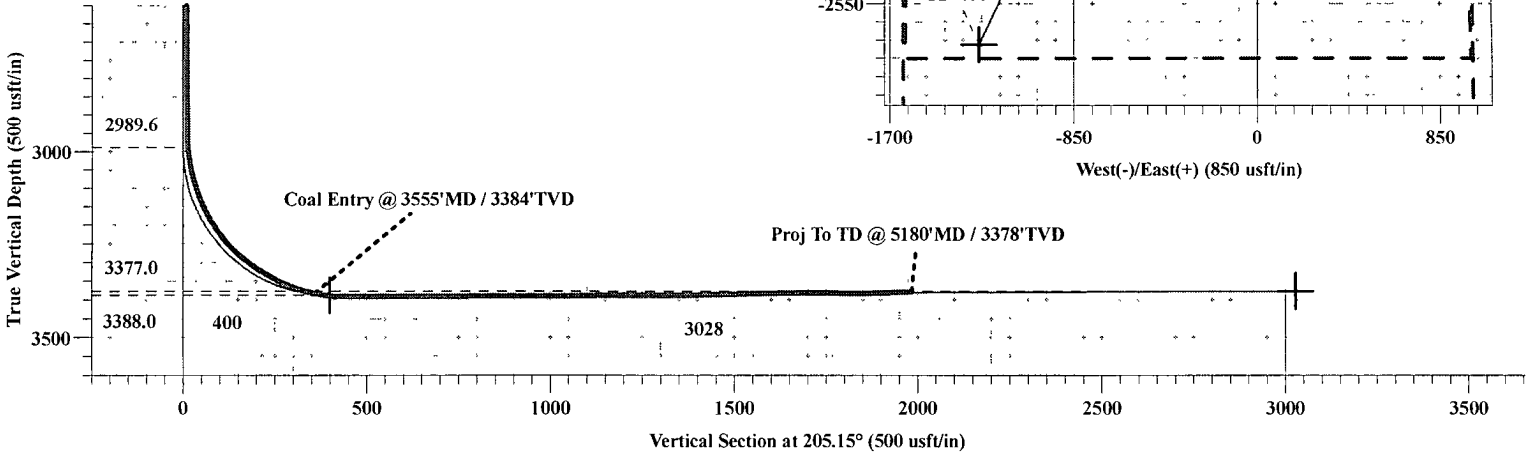
PATHFINDER®
A Schlumberger Company

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
TD-406	3377 0	-2741 3	-1287 0	2130645 05	189334 22	Point
LAND-406	3388 0	-362 2	-170.0	2133011.61	190477 51	Point



WELL DETAILS: Rosa Unit #406			
		6599 0	
Northing	Easting	Latitude	Longitude
2133371 91	190651.51	36° 51' 30 000 N	107° 18' 26 639 W



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0 0	0 00	0 00	0 0	0.0	0 0	0 00	0 00	0 0	
2989 6	0 00	0 00	2989 6	0 0	0 0	0 00	0 00	0 0	
3617 1	90 24	205 15	3388 0	-362 2	-170 0	14 38	205 15	400 1	
6245 4	90 24	205 15	3377 0	-2741 3	-1287 0	0 00	0 00	3028 4	TD-406

Plan: Design #1 (Rosa Unit #406/Wellbore #1)

Created By: Frank C. Scardino Date: 7/16/2011

Williams Energy

Rio Arriba Co. NM
Sec36 T31N-R5W - #406
Rosa Unit #406

Wellbore #1

Design: Wellbore #1

Standard Survey Report

22 July, 2011

Survey Report

Company:	Williams Energy	**Local Co-ordinate Reference:**	Site Sec36 T31N-R5W - #406
Project:	Rio Arriba Co. NM	**TVD Reference:**	WELL @ 6613 0usft (Original Well Elev)
Site:	Sec36 T31N-R5W - #406	**MD Reference:**	WELL @ 6613 0usft (Original Well Elev)
Well:	Rosa Unit #406	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**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 Sec36 T31N-R5W - #406

Site Position:		**Northing:**	2,133,371 91 usft	**Latitude:**	36° 51' 30 000 N
From:	Lat/Long	**Easting:**	190,651 52 usft	**Longitude:**	107° 18' 26 639 W
Position Uncertainty:	0 0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0 63 °

Well Rosa Unit #406

Well Position	**+N/-S**	0 0 usft	**Northing:**	2,133,371 91 usft	**Latitude:**	36° 51' 30 000 N
	+E/-W	0 0 usft	**Easting:**	190,651 52 usft	**Longitude:**	107° 18' 26 639 W
Position Uncertainty		0 0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	6,599 0 usft

Wellbore Wellbore #1

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	06/28/11	9 71	63 65	50,858

Design Wellbore #1

Audit Notes:

Version:	1 0	**Phase:**	ACTUAL	**Tie On Depth:**	0 0

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0 0	0 0	0 0	205 15

Survey Program **Date** 07/22/11

From (usft)	**To (usft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
200 0	5,180 0	Survey #1 (Wellbore #1)	MWD	MWD - Standard

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)**
0 0	0 00	0 00	0 0	0 0	0 0	0 0	0 00	0 00	0 00
200 0	0 34	152 07	200 0	-0 5	0 3	0 4	0 17	0 17	0 00
400 0	0 64	210 80	400 0	-2 0	0 0	1 8	0 27	0 15	29 37
600 0	0 58	166 15	600 0	-4 0	-0 3	3 7	0 23	-0 03	-22 33
800 0	0 82	155 39	800 0	-6 2	0 5	5 4	0 14	0 12	-5 38
1,000 0	0 74	176 88	999 9	-8 8	1 2	7.5	0 15	-0.04	10 75
1,200 0	0 37	112 88	1,199 9	-10 4	1 8	8 6	0 33	-0 19	-32 00
1,400 0	0 24	129 41	1,399 9	-10 9	2.7	8 7	0.08	-0 07	8 27
1,600 0	0 92	146 12	1,599 9	-12 5	4 0	9 6	0 35	0 34	8 36
1,800 0	0 32	152 11	1,799 9	-14 3	5 1	10 8	0 30	-0 30	3 00

Survey Report

Company:	Williams Energy	**Local Co-ordinate Reference:**	Site Sec36 T31N-R5W - #406
Project:	Rio Arriba Co. NM	**TVD Reference:**	WELL @ 6613 0usft (Original Well Elev)
Site:	Sec36 T31N-R5W - #406	**MD Reference:**	WELL @ 6613 0usft (Original Well Elev)
Well:	Rosa Unit #406	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**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 60	142 85	1,999 9	-15 6	6 0	11 6	0 14	0 14	-4 63
2,200 0	0 83	45 96	2,199 9	-15 5	7 7	10 7	0 54	0 12	-48 45
2,400 0	0 56	131 33	2,399.9	-15 1	9 5	9 7	0 48	-0 14	42 69
2,600 0	0 74	138 47	2,599 9	-16.7	11 1	10 4	0 10	0 09	3 57
2,800 0	0 57	160 63	2,799 9	-18 6	12 2	11 7	0 15	-0 09	11 08
2,947 0	0 60	168 74	2,946 9	-20 1	12 6	12 8	0 06	0 02	5 52
2,966 0	0 60	168 74	2,965 9	-20 3	12 7	13 0	0 00	0 00	0 00
3,025 0	9 76	185 74	3,024.5	-25 6	12 2	17 9	15 57	15 53	28 81
3,057 0	14 25	183 88	3,055 8	-32 2	11 7	24 2	14 08	14 03	-5 81
3,089 0	18 11	181 65	3,086 6	-41 1	11 3	32 4	12 22	12 06	-6 97
3,121 0	21 98	182.08	3,116 6	-52 0	10 9	42 5	12 10	12 09	1 34
3,153 0	25 06	190 06	3,146 0	-64 7	9 5	54 5	13 83	9 63	24 94
3,184 0	28 58	197 29	3,173.6	-78 3	6 2	68 2	15 46	11 35	23 32
3,217 0	33 24	201 79	3,201 9	-94 2	0 5	85 1	15 75	14 12	13 64
3,249 0	38 16	204 55	3,227 9	-111 4	-6 9	103 7	16 17	15 38	8 63
3,281 0	42 91	206 78	3,252 2	-130 1	-15 9	124 5	15 52	14 84	6 97
3,314 0	47 92	208 55	3,275 4	-150 9	-26 9	148 0	15 65	15 18	5 36
3,346 0	52 41	209 76	3,295 9	-172 3	-38 8	172 5	14 33	14 03	3 78
3,378 0	56 63	210 48	3,314 5	-194 9	-51 9	198 5	13 31	13 19	2 25
3,410 0	59 79	209 12	3,331 3	-218 5	-65 4	225 6	10 51	9 88	-4 25
3,442 0	62 96	207 80	3,346 6	-243 2	-78 8	253 6	10 55	9 91	-4 13
3,474 0	67 18	207 39	3,360 1	-268 9	-92 2	282 6	13 24	13 19	-1 28
3,506 0	71 75	207 79	3,371 4	-295 4	-106 1	312 5	14 33	14 28	1 25
3,538 0	76 41	207 59	3,380.1	-322 7	-120 4	343 2	14 57	14 56	-0 63
3,555 0	78 63	207 42	3,383 8	-337 4	-128 1	359 8	13 10	13 06	-1 01
Coal Entry @ 3555'MD / 3384'TVD									
3,569 0	80 46	207 28	3,386 3	-349 6	-134 4	373 6	13 10	13 06	-0 99
3,601 0	85 12	206 51	3,390 4	-377 9	-148 7	405 3	14 76	14 56	-2 41
3,625 0	89 78	205 57	3,391 4	-399 5	-159 3	429 3	19 81	19 42	-3 92
3,657 0	91 28	205 26	3,391 1	-428 4	-173 0	461 3	4 79	4 69	-0 97
3,686 0	90 48	204 90	3,390 7	-454 6	-185 3	490 3	3 02	-2 76	-1 24
3,716 0	90 04	204 56	3,390 6	-481 9	-197 8	520 3	1 85	-1 47	-1 13
3,747 0	89 43	204 55	3,390 7	-510 1	-210 7	551.3	1 97	-1 97	-0 03
3,777 0	89 34	204 76	3,391 0	-537 3	-223 2	581 3	0 76	-0 30	0 70
3,808 0	90 48	205 38	3,391 1	-565 4	-236 4	612 3	4 19	3 68	2 00
3,838 0	90 66	205 69	3,390 8	-592 5	-249 3	642 3	1 19	0 60	1 03
3,868 0	89 87	205 69	3,390 6	-619 5	-262 3	672 3	2 63	-2 63	0 00
3,899 0	90 22	206 08	3,390 6	-647 4	-275 8	703 3	1 69	1 13	1 26
3,930 0	89 69	205 98	3,390 6	-675 3	-289 5	734 3	1 74	-1 71	-0 32
3,960 0	90 48	206 19	3,390 6	-702 2	-302 6	764 2	2 72	2 63	0 70
3,991 0	90 31	206 37	3,390 4	-730 0	-316 4	795 2	0 80	-0 55	0 58
4,022 0	89 96	206 05	3,390 3	-757 8	-330 1	826 2	1 53	-1 13	-1 03
4,053 0	90 04	205 72	3,390 3	-785 7	-343 6	857 2	1 10	0 26	-1 06
4,083 0	90 04	206 63	3,390 3	-812 6	-356 8	887 2	3 03	0 00	3 03

Survey Report

Company:	Williams Energy	**Local Co-ordinate Reference:**	Site Sec36 T31N-R5W - #406
Project:	Rio Arriba Co. NM	**TVD Reference:**	WELL @ 6613.0usft (Original Well Elev)
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Well:	Rosa Unit #406	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**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)
4,114.0	90.04	207.03	3,390.3	-840.3	-370.8	918.2	1.29	0.00	1.29
4,144.0	90.31	207.21	3,390.2	-867.0	-384.5	948.2	1.08	0.90	0.60
4,174.0	89.78	206.90	3,390.1	-893.7	-398.1	978.2	2.05	-1.77	-1.03
4,205.0	90.75	207.02	3,390.0	-921.3	-412.2	1,009.2	3.15	3.13	0.39
4,235.0	90.75	207.04	3,389.6	-948.1	-425.8	1,039.1	0.07	0.00	0.07
4,266.0	90.48	206.81	3,389.3	-975.7	-439.9	1,070.1	1.14	-0.87	-0.74
4,297.0	90.40	207.03	3,389.0	-1,003.3	-453.9	1,101.1	0.76	-0.26	0.71
4,329.0	90.40	207.00	3,388.8	-1,031.8	-468.4	1,133.1	0.09	0.00	-0.09
4,360.0	90.13	207.18	3,388.7	-1,059.4	-482.5	1,164.1	1.05	-0.87	0.58
4,392.0	89.69	206.82	3,388.7	-1,087.9	-497.1	1,196.1	1.78	-1.38	-1.13
4,424.0	89.60	206.55	3,388.9	-1,116.5	-511.4	1,228.0	0.89	-0.28	-0.84
4,455.0	89.96	206.39	3,389.0	-1,144.3	-525.3	1,259.0	1.27	1.16	-0.52
4,488.0	90.66	207.05	3,388.9	-1,173.8	-540.1	1,292.0	2.92	2.12	2.00
4,520.0	90.92	206.59	3,388.4	-1,202.3	-554.5	1,324.0	1.65	0.81	-1.44
4,552.0	90.75	206.57	3,387.9	-1,230.9	-568.9	1,356.0	0.53	-0.53	-0.06
4,583.0	90.48	206.80	3,387.6	-1,258.6	-582.8	1,387.0	1.14	-0.87	0.74
4,613.0	90.57	206.92	3,387.3	-1,285.4	-596.3	1,417.0	0.50	0.30	0.40
4,645.0	91.19	207.74	3,386.8	-1,313.8	-611.0	1,448.9	3.21	1.94	2.56
4,676.0	91.89	207.75	3,386.0	-1,341.2	-625.4	1,479.9	2.26	2.26	0.03
4,708.0	92.15	207.61	3,384.9	-1,369.6	-640.3	1,511.8	0.92	0.81	-0.44
4,740.0	91.80	206.64	3,383.8	-1,398.0	-654.9	1,543.8	3.22	-1.09	-3.03
4,772.0	91.54	205.81	3,382.9	-1,426.7	-669.0	1,575.8	2.72	-0.81	-2.59
4,804.0	90.84	205.65	3,382.2	-1,455.5	-682.9	1,607.8	2.24	-2.19	-0.50
4,836.0	89.69	205.33	3,382.0	-1,484.4	-696.7	1,639.8	3.73	-3.59	-1.00
4,867.0	90.04	205.16	3,382.1	-1,512.5	-709.9	1,670.8	1.26	1.13	-0.55
4,899.0	91.01	205.27	3,381.8	-1,541.4	-723.5	1,702.8	3.05	3.03	0.34
4,931.0	89.78	204.76	3,381.6	-1,570.4	-737.1	1,734.8	4.16	-3.84	-1.59
4,962.0	87.14	203.41	3,382.4	-1,598.7	-749.7	1,765.8	9.56	-8.52	-4.35
4,994.0	89.78	204.33	3,383.3	-1,627.9	-762.6	1,797.7	8.74	8.25	2.88
5,026.0	89.87	202.78	3,383.4	-1,657.3	-775.4	1,829.7	4.85	0.28	-4.84
5,058.0	90.75	202.53	3,383.2	-1,686.8	-787.8	1,861.7	2.86	2.75	-0.78
5,089.0	92.42	203.01	3,382.4	-1,715.4	-799.8	1,892.6	5.61	5.39	1.55
5,180.0	92.42	203.01	3,378.5	-1,799.1	-835.3	1,983.5	0.00	0.00	0.00
Proj To TD @ 5180'MD / 3378'TVD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
3,555.0	3,383.8	-337.4	-128.1	Coal Entry @ 3555'MD / 3384'TVD
5,180.0	3,378.5	-1,799.1	-835.3	Proj To TD @ 5180'MD / 3378'TVD

Company:	Williams Energy	**Local Co-ordinate Reference:**	Site Sec36 T31N-R5W - #406
Project:	Rio Arriba Co. NM	**TVD Reference:**	WELL @ 6613 0usft (Original Well Elev)
Site:	Sec36 T31N-R5W - #406	**MD Reference:**	WELL @ 6613 0usft (Original Well Elev)
Well:	Rosa Unit #406	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	EDM 5000 1 Single User Db

Checked By: _____ Approved By: _____ Date _____