


SECTION DETAILS										WELL DETAILS: Parry GU E #4			
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target	Northing	Ground Level:	6636.5	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		1156384.10	Easting	2388756.24	37° 4' 38.352 N107° 35' 43.080 V
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.0					
430.0	0.00	0.00	430.0	0.0	0.0	0.00	0.00	0.0					
860.0	21.50	0.00	850.0	79.7	0.0	5.00	0.00	72.1					
1344.9	40.97	29.43	1264.9	310.5	79.3	5.00	51.67	314.6					
2285.1	40.97	29.43	1974.7	847.5	382.2	0.00	0.00	929.5					
3004.9	5.00	25.34	2626.5	1089.4	516.0	5.00	179.39	1205.4	FC parry 4				
3201.7	5.00	25.34	2822.5	1104.9	523.3	0.00	0.00	1222.6	PC parry 4				
3377.3	5.00	25.34	2997.5	1118.7	529.9	0.00	0.00	1237.9	BHL parry 4				
										PROJECT DETAILS: Western - San Juan North (NAD 83)			
										Geodetic System: US State Plane 1983			
										Datum: North American Datum 1983			
										Ellipsoid: GRS 1980			
										Zone: Colorado Southern Zone			
										System Datum: Mean Sea Level			

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)							Polygon Point (Radius: 150.0)
Name	TVD	+N/-S	+E/-W	Northing	Easting		
drill window parry 4	0.0	0.0	0.0	1156384.10	2388756.24		
FC parry 4	2626.5	1089.4	516.0	1157473.53	2389272.26		
PC parry 4	2822.5	1104.9	523.3	1157489.03	2389279.56		
BHL parry 4	2997.5	1118.7	529.9	1157502.83	2389286.16		

G

T

M



Azimuths to Grid North

True North: 1.28°

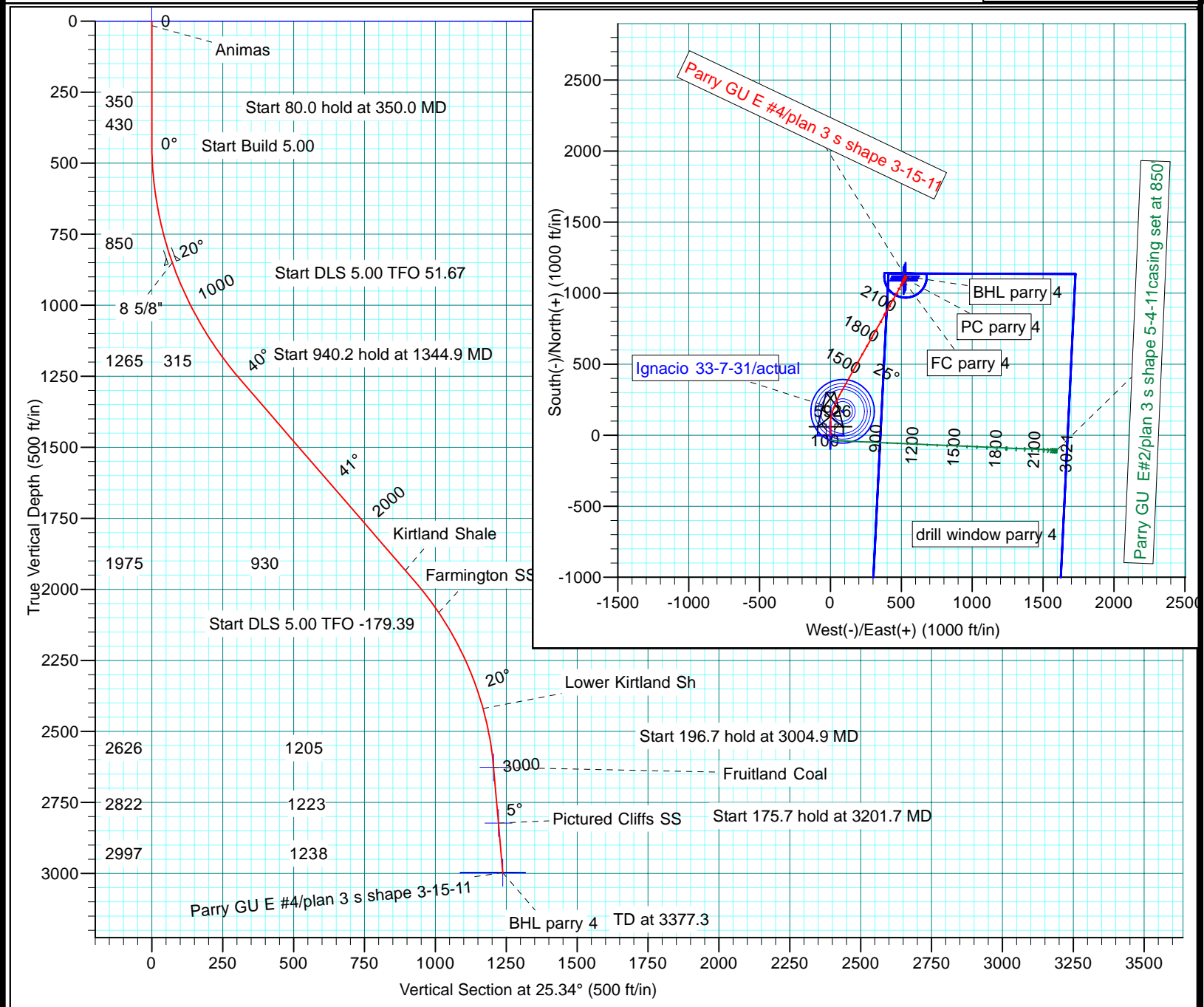
Magnetic North: 11.14°

Magnetic Field Strength: 50946.2snT

Dip Angle: 63.82°

Date: 5/24/2011

Model: BGGM2010



North America - Onshore US - BP

Western - San Juan North (NAD 83)

Sec 27-T33N-R7W

Parry GU E #4

Wellbore #1

Plan: plan 3 s shape 3-15-11

Standard Planning Report

24 May, 2011

D&C Digital

Planning Report

Database:	EDM .16 Hou Prod - WH21P	Local Co-ordinate Reference:	Well Parry GU E #4
Company:	North America - Onshore US - BP	TVD Reference:	RKB MSL @ 6652.5ft (RIG)
Project:	Western - San Juan North (NAD 83)	MD Reference:	RKB MSL @ 6652.5ft (RIG)
Site:	Sec 27-T33N-R7W	North Reference:	Grid
Well:	Parry GU E #4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan 3 s shape 3-15-11		

Project	Western - San Juan North (NAD 83), LAPLATA COUNTY COLORADO, USA		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Southern Zone		Using geodetic scale factor

Site		Sec 27-T33N-R7W			
Site Position:		Northing:	1,157,282.61 ft	Latitude:	37° 4' 46.812 N
From:	Lat/Long	Easting:	2,386,859.21 ft	Longitude:	107° 36' 6.732 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-1.29 °

Well	Parry GU E #4					
Well Position	+N/-S	0.0 ft	Northing:	1,156,384.10 ft	Latitude:	37° 4' 38.352 N
	+E/-W	0.0 ft	Easting:	2,388,756.24 ft	Longitude:	107° 35' 43.080 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	6,652.5 ft	Ground Level:	6,636.5 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	5/24/2011	9.86	63.82	50,946

Design	plan 3 s shape 3-15-11			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	25.34

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00	
430.0	0.00	0.00	430.0	0.0	0.0	0.00	0.00	0.00	0.00	
860.0	21.50	0.00	850.0	79.7	0.0	5.00	5.00	0.00	0.00	
1,344.9	40.97	29.43	1,264.9	310.5	79.3	5.00	4.02	6.07	51.67	
2,285.1	40.97	29.43	1,974.7	847.5	382.2	0.00	0.00	0.00	0.00	
3,004.9	5.00	25.34	2,626.5	1,089.4	516.0	5.00	-5.00	-0.57	-179.39	FC parry 4
3,201.7	5.00	25.34	2,822.5	1,104.9	523.3	0.00	0.00	0.00	0.00	PC parry 4
3,377.3	5.00	25.34	2,997.5	1,118.7	529.9	0.00	0.00	0.00	0.00	BHL parry 4

Database: EDM .16 Hou Prod - WH21P
Company: North America - Onshore US - BP
Project: Western - San Juan North (NAD 83)
Site: Sec 27-T33N-R7W
Well: Parry GU E #4
Wellbore: Wellbore #1
Design: plan 3 s shape 3-15-11

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Parry GU E #4
 RKB MSL @ 6652.5ft (RIG)
 RKB MSL @ 6652.5ft (RIG)
 Grid
 Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
drill window parry 4									
16.0	0.00	0.00	16.0	0.0	0.0	0.0	0.00	0.00	0.00
Animas									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
Start 80.0 hold at 350.0 MD									
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
430.0	0.00	0.00	430.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 5.00									
500.0	3.50	0.00	500.0	2.1	0.0	1.9	5.00	5.00	0.00
600.0	8.50	0.00	599.4	12.6	0.0	11.4	5.00	5.00	0.00
700.0	13.50	0.00	697.5	31.7	0.0	28.6	5.00	5.00	0.00
800.0	18.50	0.00	793.6	59.2	0.0	53.5	5.00	5.00	0.00
860.0	21.50	0.00	850.0	79.7	0.0	72.1	5.00	5.00	0.00
Start DLS 5.00 TFO 51.67 - 8 5/8"									
900.0	22.79	4.05	887.0	94.8	0.5	85.9	5.00	3.23	10.14
1,000.0	26.39	12.42	978.0	135.8	6.7	125.6	5.00	3.60	8.37
1,100.0	30.36	18.82	1,066.0	181.5	19.6	172.4	5.00	3.97	6.40
1,200.0	34.58	23.83	1,150.3	231.4	39.3	226.0	5.00	4.22	5.01
1,300.0	38.97	27.86	1,230.4	285.2	65.5	285.8	5.00	4.38	4.03
1,344.9	40.97	29.43	1,264.9	310.5	79.3	314.6	5.00	4.47	3.49
Start 940.2 hold at 1344.9 MD									
1,400.0	40.97	29.43	1,306.4	342.0	97.0	350.6	0.00	0.00	0.00
1,500.0	40.97	29.43	1,381.9	399.1	129.3	416.0	0.00	0.00	0.00
1,600.0	40.97	29.43	1,457.4	456.2	161.5	481.4	0.00	0.00	0.00
1,700.0	40.97	29.43	1,532.9	513.3	193.7	546.8	0.00	0.00	0.00
1,800.0	40.97	29.43	1,608.4	570.4	225.9	612.2	0.00	0.00	0.00
1,900.0	40.97	29.43	1,683.9	627.5	258.1	677.6	0.00	0.00	0.00
2,000.0	40.97	29.43	1,759.4	684.7	290.3	743.0	0.00	0.00	0.00
2,100.0	40.97	29.43	1,834.9	741.8	322.6	808.5	0.00	0.00	0.00
2,200.0	40.97	29.43	1,910.4	798.9	354.8	873.9	0.00	0.00	0.00
2,231.2	40.97	29.43	1,934.0	816.7	364.8	894.3	0.00	0.00	0.00
Kirtland Shale									
2,285.1	40.97	29.43	1,974.7	847.5	382.2	929.5	0.00	0.00	0.00
Start DLS 5.00 TFO -179.39									
2,300.0	40.23	29.41	1,986.0	855.9	387.0	939.2	5.00	-5.00	-0.08
2,400.0	35.23	29.32	2,065.0	909.2	417.0	1,000.2	5.00	-5.00	-0.09
2,420.6	34.20	29.30	2,082.0	919.5	422.7	1,011.9	5.00	-5.00	-0.11
Farmington SS									
2,500.0	30.23	29.20	2,149.1	956.4	443.4	1,054.1	5.00	-5.00	-0.12
2,600.0	25.23	29.04	2,237.6	997.0	466.0	1,100.6	5.00	-5.00	-0.16
2,700.0	20.23	28.81	2,329.8	1,030.8	484.7	1,139.1	5.00	-5.00	-0.23
2,794.8	15.50	28.45	2,420.0	1,056.3	498.7	1,168.1	5.00	-5.00	-0.37
Lower Kirtland Sh									
2,800.0	15.23	28.43	2,425.0	1,057.6	499.3	1,169.5	5.00	-5.00	-0.49
2,900.0	10.24	27.68	2,522.6	1,077.0	509.7	1,191.5	5.00	-5.00	-0.74
3,000.0	5.24	25.55	2,621.6	1,089.0	515.8	1,205.0	5.00	-4.99	-2.13
3,004.9	5.00	25.34	2,626.5	1,089.4	516.0	1,205.4	5.00	-4.98	-4.35
Start 196.7 hold at 3004.9 MD - Fruitland Coal - FC parry 4									

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Planning Report

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Project:	Western - San Juan North (NAD 83)	MD Reference:	RKB MSL @ 6652.5ft (RIG)
Site:	Sec 27-T33N-R7W	North Reference:	Grid
Well:	Parry GU E #4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan 3 s shape 3-15-11		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,100.0	5.00	25.34	2,721.2	1,096.9	519.5	1,213.7	0.00	0.00	0.00	
3,200.0	5.00	25.34	2,820.9	1,104.8	523.3	1,222.4	0.00	0.00	0.00	
3,201.7	5.00	25.34	2,822.5	1,104.9	523.3	1,222.6	0.00	0.00	0.00	
Start 175.7 hold at 3201.7 MD - Pictured Cliffs SS - PC parry 4										
3,300.0	5.00	25.34	2,920.5	1,112.6	527.0	1,231.1	0.00	0.00	0.00	
3,377.3	5.00	25.34	2,997.5	1,118.7	529.9	1,237.9	0.00	0.00	0.00	
TD at 3377.3 - BHL parry 4										

Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude Longitude		
PC parry 4 - plan hits target center - Point	0.00	360.00	2,822.5	1,104.9	523.3	1,157,489.03	2,389,279.56	37° 4' 49.390 N 107° 35' 36.930 W		
drill window parry 4 - plan hits target center - Polygon	0.00	0.00	0.0	0.0	0.0	1,156,384.10	2,388,756.24	37° 4' 38.352 N 107° 35' 43.080 W		
Point 1			0.0	1,135.7	1,728.8	1,157,519.83	2,390,485.10			
Point 2			0.0	1,139.5	409.3	1,157,523.63	2,389,165.55			
Point 3			0.0	-2,737.1	218.1	1,153,646.91	2,388,974.35			
Point 4			0.0	-2,729.5	1,542.3	1,153,654.51	2,390,298.59			
BHL parry 4 - plan hits target center - Circle (radius 150.0)	0.00	360.00	2,997.5	1,118.7	529.9	1,157,502.83	2,389,286.16	37° 4' 49.528 N 107° 35' 36.852 W		
FC parry 4 - plan hits target center - Point	0.00	0.00	2,626.5	1,089.4	516.0	1,157,473.53	2,389,272.26	37° 4' 49.235 N 107° 35' 37.015 W		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
860.0	850.0	8 5/8"		8-5/8	12-1/4

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
16.0	16.0	Animas		0.00	0.16	
2,231.2	1,934.0	Kirtland Shale		0.00	0.16	
2,420.6	2,082.0	Farmington SS		0.00	0.16	
2,794.8	2,420.0	Lower Kirtland Sh		0.00	0.16	
3,004.9	2,626.5	Fruitland Coal		0.00	0.16	
3,201.7	2,822.5	Pictured Cliffs SS		0.00	0.16	

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Planning Report

Database:	EDM .16 Hou Prod - WH21P	Local Co-ordinate Reference:	Well Parry GU E #4
Company:	North America - Onshore US - BP	TVD Reference:	RKB MSL @ 6652.5ft (RIG)
Project:	Western - San Juan North (NAD 83)	MD Reference:	RKB MSL @ 6652.5ft (RIG)
Site:	Sec 27-T33N-R7W	North Reference:	Grid
Well:	Parry GU E #4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan 3 s shape 3-15-11		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
350.0	350.0	0.0	0.0	Start 80.0 hold at 350.0 MD
430.0	430.0	0.0	0.0	Start Build 5.00
860.0	850.0	79.7	0.0	Start DLS 5.00 TFO 51.67
1,344.9	1,264.9	310.5	79.3	Start 940.2 hold at 1344.9 MD
2,285.1	1,974.7	847.5	382.2	Start DLS 5.00 TFO -179.39
3,004.9	2,626.5	1,089.4	516.0	Start 196.7 hold at 3004.9 MD
3,201.7	2,822.5	1,104.9	523.3	Start 175.7 hold at 3201.7 MD
3,377.3	2,997.5	1,118.7	529.9	TD at 3377.3