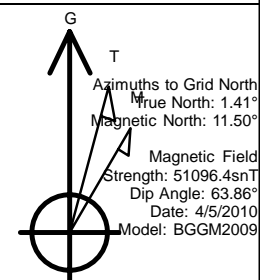


SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.0	0.00	0.00	0.0	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	
510.0	0.00	0.00	510.0	0.0	0.0	0.00	0.00	0.0	
1420.4	45.52	138.27	1327.6	-256.0	228.3	5.00	138.27	343.0	
1876.6	45.52	138.27	1647.2	-498.9	445.0	0.00	0.00	668.5	
2687.0	5.00	138.27	2365.0	-751.7	670.4	5.00	-180.00	1007.2	FC Barnes GU A #4
3156.8	5.00	138.27	2833.0	-782.3	697.7	0.00	0.00	1048.2	PC Barnes GU A #4
3332.5	5.00	138.27	3008.0	-793.7	707.8	0.00	0.00	1063.5	BHL Barnes GU A #4

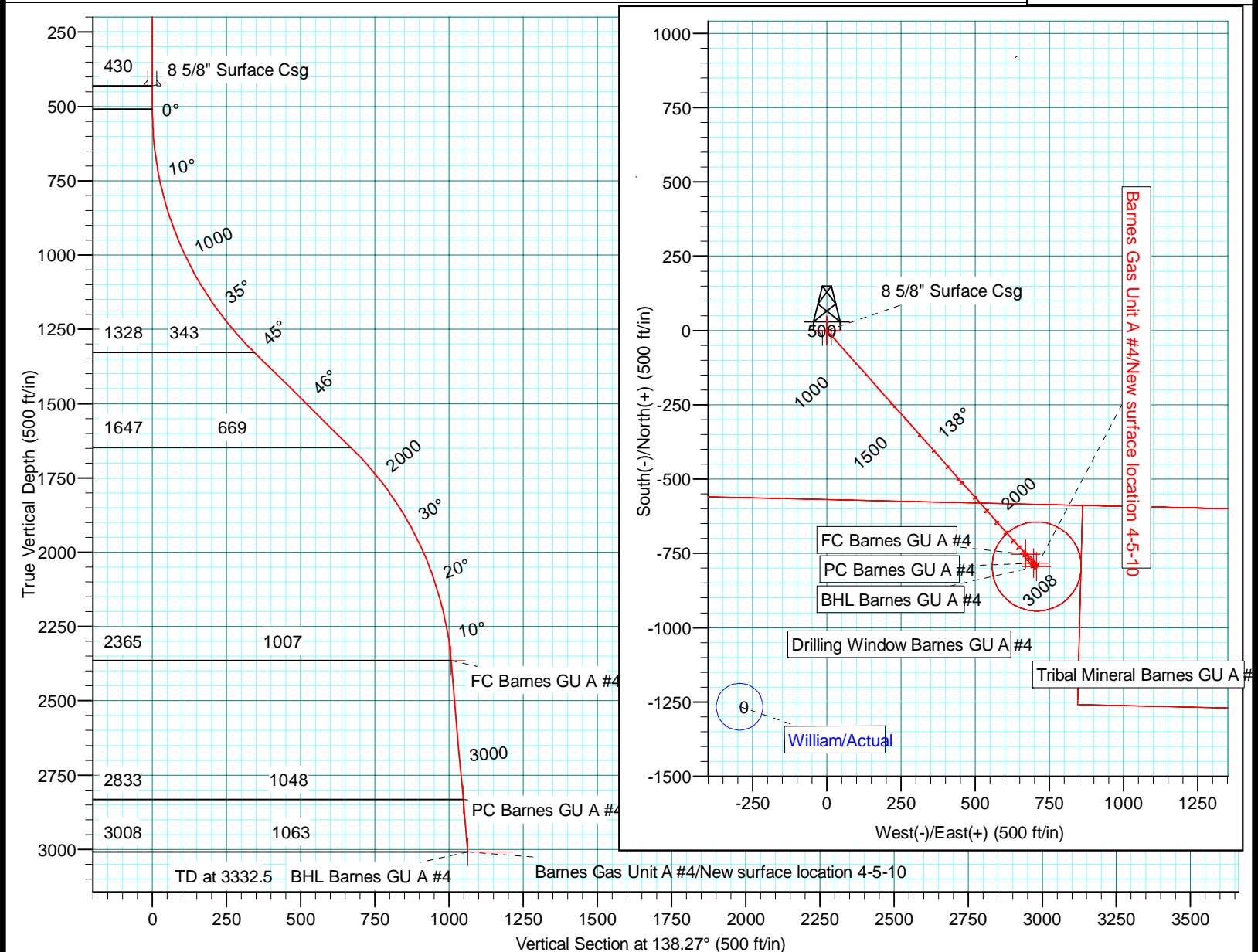


WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Drilling Window Barnes GU A #4	0.0	0.0	0.0	1177900.70	2329973.48	Polygon
Tribal Mineral Barnes GU A #4	0.0	0.0	0.0	1177900.70	2329973.48	Polygon
FC Barnes GU A #4	2365.0	-751.7	670.4	1177148.99	2330643.89	Point
PC Barnes GU A #4	2833.0	-782.3	697.7	1177118.39	2330671.19	Point
BHL Barnes GU A #4	3008.0	-793.7	707.7	1177106.99	2330681.19	Circle (Radius: 150.0)

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
958.0	970.3	Animas
1424.0	1558.0	Kirtland Shale
1696.0	1944.2	Farmington SS
2050.0	2362.5	Lower Kirtland Shale
2365.0	2687.0	Fruitland coal
2833.0	3156.8	Pictured cliffs



Plan: New surface location 4-5-10 (Barnes Gas Unit A #4/OH)

Created By: Masoud Khodadad 3/30/2007

Checked: _____

Reviewed: _____

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

WELL DETAILS: Barnes Gas Unit A #4

Ground Level: 6354.2
 Northing: 1177900.70 Easting: 2329973.48
 Latitude: 37° 7' 57.360 N Longitude: 107° 47' 54.744 W

North America - Onshore US - BP

Western - San Juan North (NAD 83)

Sec 2, T33N, R9W

Barnes Gas Unit A #4

OH

Plan: New surface location 4-5-10

Standard Planning Report

05 April, 2010

BP
Planning Report

Database:	EDM .16 Hou Prod - WH21P	Local Co-ordinate Reference:	Well Barnes Gas Unit A #4
Company:	North America - Onshore US - BP	TVD Reference:	RKB MSL @ 6370.2ft (??)
Project:	Western - San Juan North (NAD 83)	MD Reference:	RKB MSL @ 6370.2ft (??)
Site:	Sec 2, T33N, R9W	North Reference:	Grid
Well:	Barnes Gas Unit A #4	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	New surface location 4-5-10		

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 2, T33N, R9W			
Site Position:		Northing:	1,170,941.20 ft	Latitude:	37° 6' 48.960 N
From:	Lat/Long	Easting:	2,331,569.85 ft	Longitude:	107° 47' 32.928 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-1.41 °

Well	Barnes Gas Unit A #4					
Well Position	+N/-S	0.0 ft	Northing:	1,177,900.70 ft	Latitude:	37° 7' 57.360 N
	+E/-W	0.0 ft	Easting:	2,329,973.48 ft	Longitude:	107° 47' 54.744 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	6,370.2 ft	Ground Level:	6,354.2 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	4/5/2010	10.09	63.86	51,096

Design	New surface location 4-5-10			
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	138.27

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	
430.0	0.00	0.00	430.0	0.0	0.0	0.00	0.00	0.00	0.00	
510.0	0.00	0.00	510.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,420.4	45.52	138.27	1,327.6	-256.0	228.3	5.00	5.00	0.00	138.27	
1,876.6	45.52	138.27	1,647.2	-498.9	445.0	0.00	0.00	0.00	0.00	
2,687.0	5.00	138.27	2,365.0	-751.7	670.4	5.00	-5.00	0.00	-180.00	FC Barnes GU A #4
3,156.8	5.00	138.27	2,833.0	-782.3	697.7	0.00	0.00	0.00	0.00	PC Barnes GU A #4
3,332.5	5.00	138.27	3,008.0	-793.7	707.8	0.00	0.00	0.00	0.00	BHL Barnes GU A #4

BP
Planning Report

Database:	EDM .16 Hou Prod - WH21P	Local Co-ordinate Reference:	Well Barnes Gas Unit A #4
Company:	North America - Onshore US - BP	TVD Reference:	RKB MSL @ 6370.2ft (??)
Project:	Western - San Juan North (NAD 83)	MD Reference:	RKB MSL @ 6370.2ft (??)
Site:	Sec 2, T33N, R9W	North Reference:	Grid
Well:	Barnes Gas Unit A #4	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	New surface location 4-5-10		

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
Drilling Window Barnes GU A #4 - Tribal Mineral Barnes GU A #4									
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
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 80.0 hold at 430.0 MD - 8 5/8" Surface Csg									
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
510.0	0.00	0.00	510.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 5.00									
600.0	4.50	138.27	599.9	-2.6	2.4	3.5	5.00	5.00	0.00
700.0	9.50	138.27	699.1	-11.7	10.5	15.7	5.00	5.00	0.00
800.0	14.50	138.27	796.9	-27.2	24.3	36.5	5.00	5.00	0.00
900.0	19.50	138.27	892.5	-49.1	43.7	65.7	5.00	5.00	0.00
970.3	23.01	138.27	958.0	-68.1	60.7	91.2	5.00	5.00	0.00
Animas									
1,000.0	24.50	138.27	985.2	-77.0	68.7	103.2	5.00	5.00	0.00
1,100.0	29.50	138.27	1,074.3	-110.9	98.9	148.6	5.00	5.00	0.00
1,200.0	34.50	138.27	1,159.1	-150.4	134.1	201.5	5.00	5.00	0.00
1,300.0	39.50	138.27	1,238.9	-195.3	174.2	261.7	5.00	5.00	0.00
1,400.0	44.50	138.27	1,313.2	-245.2	218.7	328.6	5.00	5.00	0.00
1,420.4	45.52	138.27	1,327.6	-256.0	228.3	343.0	5.00	5.00	0.00
Start 456.2 hold at 1420.4 MD									
1,500.0	45.52	138.27	1,383.4	-298.4	266.1	399.8	0.00	0.00	0.00
1,558.0	45.52	138.27	1,424.0	-329.3	293.7	441.2	0.00	0.00	0.00
Kirtland Shale									
1,600.0	45.52	138.27	1,453.4	-351.6	313.6	471.2	0.00	0.00	0.00
1,700.0	45.52	138.27	1,523.5	-404.9	361.1	542.5	0.00	0.00	0.00
1,800.0	45.52	138.27	1,593.6	-458.1	408.6	613.9	0.00	0.00	0.00
1,876.6	45.52	138.27	1,647.2	-498.9	445.0	668.5	0.00	0.00	0.00
Start DLS 5.00 TFO -180.00									
1,900.0	44.35	138.27	1,663.8	-511.3	456.0	685.1	5.00	-5.00	0.00
1,944.2	42.14	138.27	1,696.0	-533.9	476.1	715.3	5.00	-5.00	0.00
Farmington SS									
2,000.0	39.35	138.27	1,738.3	-561.0	500.4	751.8	5.00	-5.00	0.00
2,100.0	34.35	138.27	1,818.3	-605.8	540.3	811.7	5.00	-5.00	0.00
2,200.0	29.35	138.27	1,903.2	-645.2	575.4	864.5	5.00	-5.00	0.00
2,300.0	24.35	138.27	1,992.4	-678.9	605.4	909.6	5.00	-5.00	0.00
2,362.5	21.23	138.27	2,050.0	-696.9	621.6	933.8	5.00	-5.00	0.00
Lower Kirtland Shale									
2,400.0	19.35	138.27	2,085.1	-706.6	630.2	946.8	5.00	-5.00	0.00
2,500.0	14.35	138.27	2,180.8	-728.3	649.5	975.8	5.00	-5.00	0.00
2,600.0	9.35	138.27	2,278.7	-743.6	663.2	996.3	5.00	-5.00	0.00
2,687.0	5.00	138.27	2,365.0	-751.7	670.4	1,007.2	5.00	-5.00	0.00
Start 469.8 hold at 2687.0 MD - Fruitland coal - FC Barnes GU A #4									
2,700.0	5.00	138.27	2,377.9	-752.5	671.2	1,008.3	0.00	0.00	0.00
2,800.0	5.00	138.27	2,477.5	-759.0	677.0	1,017.1	0.00	0.00	0.00
2,900.0	5.00	138.27	2,577.1	-765.6	682.8	1,025.8	0.00	0.00	0.00
3,000.0	5.00	138.27	2,676.8	-772.1	688.6	1,034.5	0.00	0.00	0.00
3,100.0	5.00	138.27	2,776.4	-778.6	694.4	1,043.2	0.00	0.00	0.00
3,156.8	5.00	138.27	2,833.0	-782.3	697.7	1,048.2	0.00	0.00	0.00

BP
Planning Report

Database:	EDM .16 Hou Prod - WH21P	Local Co-ordinate Reference:	Well Barnes Gas Unit A #4
Company:	North America - Onshore US - BP	TVD Reference:	RKB MSL @ 6370.2ft (??)
Project:	Western - San Juan North (NAD 83)	MD Reference:	RKB MSL @ 6370.2ft (??)
Site:	Sec 2, T33N, R9W	North Reference:	Grid
Well:	Barnes Gas Unit A #4	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	New surface location 4-5-10		

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)
Start 175.7 hold at 3156.8 MD - Pictured cliffs - PC Barnes GU A #4									
3,200.0	5.00	138.27	2,876.0	-785.1	700.2	1,051.9	0.00	0.00	0.00
3,300.0	5.00	138.27	2,975.6	-791.6	706.0	1,060.6	0.00	0.00	0.00
3,332.5	5.00	138.27	3,008.0	-793.7	707.8	1,063.5	0.00	0.00	0.00
TD at 3332.5 - BHL Barnes GU A #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
BHL Barnes GU A #4 - plan hits target center - Circle (radius 150.0)	0.00	360.00	3,008.0	-793.7	707.7	1,177,106.99	2,330,681.19	37° 7' 49.687 N	107° 47' 45.766 W
Tribal Mineral Barnes GI - plan hits target center - Polygon	0.00	0.00	0.0	0.0	0.0	1,177,900.70	2,329,973.48	37° 7' 57.360 N	107° 47' 54.744 W
Point 1			0.0	-617.3	2,167.7	1,177,283.39	2,332,141.22		
Point 2			0.0	-588.1	862.1	1,177,312.59	2,330,835.59		
Point 3			0.0	-1,257.8	845.7	1,176,642.88	2,330,819.19		
Point 4			0.0	-1,289.5	2,150.1	1,176,611.18	2,332,123.62		
FC Barnes GU A #4 - plan hits target center - Point	0.00	0.00	2,365.0	-751.7	670.4	1,177,148.99	2,330,643.89	37° 7' 50.093 N	107° 47' 46.240 W
Drilling Window Barnes - plan hits target center - Polygon	0.00	0.00	0.0	0.0	0.0	1,177,900.70	2,329,973.48	37° 7' 57.360 N	107° 47' 54.744 W
Point 1			0.0	-631.7	2,816.2	1,177,268.99	2,332,789.73		
Point 2			0.0	-544.5	-1,087.6	1,177,356.19	2,328,885.85		
Point 3			0.0	-1,864.2	-1,117.3	1,176,036.46	2,328,856.15		
Point 4			0.0	-1,951.2	2,779.3	1,175,949.46	2,332,752.83		
PC Barnes GU A #4 - plan hits target center - Point	0.00	360.00	2,833.0	-782.3	697.7	1,177,118.39	2,330,671.19	37° 7' 49.797 N	107° 47' 45.893 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
430.0	430.0	8 5/8" Surface Csg	8-5/8	12-1/4

BP
Planning Report

Database:	EDM .16 Hou Prod - WH21P	Local Co-ordinate Reference:	Well Barnes Gas Unit A #4
Company:	North America - Onshore US - BP	TVD Reference:	RKB MSL @ 6370.2ft (??)
Project:	Western - San Juan North (NAD 83)	MD Reference:	RKB MSL @ 6370.2ft (??)
Site:	Sec 2, T33N, R9W	North Reference:	Grid
Well:	Barnes Gas Unit A #4	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	New surface location 4-5-10		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
970.3	958.0	Animas		0.00	0.00
1,558.0	1,424.0	Kirtland Shale		0.00	0.00
1,944.2	1,696.0	Farmington SS		0.00	0.00
2,362.5	2,050.0	Lower Kirtland Shale		0.00	0.00
2,687.0	2,365.0	Fruitland coal		0.00	0.00
3,156.8	2,833.0	Pictured cliffs		0.00	0.00

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
430.0	430.0	0.0	0.0	Start 80.0 hold at 430.0 MD
510.0	510.0	0.0	0.0	Start Build 5.00
1,420.4	1,327.6	-256.0	228.3	Start 456.2 hold at 1420.4 MD
1,876.6	1,647.2	-498.9	445.0	Start DLS 5.00 TFO -180.00
2,687.0	2,365.0	-751.7	670.4	Start 469.8 hold at 2687.0 MD
3,156.8	2,833.0	-782.3	697.7	Start 175.7 hold at 3156.8 MD
3,332.5	3,008.0	-793.7	707.8	TD at 3332.5