

Bill Barrett Corp. (II)

Garfield County, Colorado [NAD83]

MDP 23 Pad

Federal 42A-19-691

Wellbore #1

Plan: plan1 02jun10 rbw

Standard Planning Report

10 November, 2011

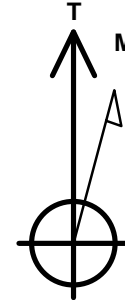
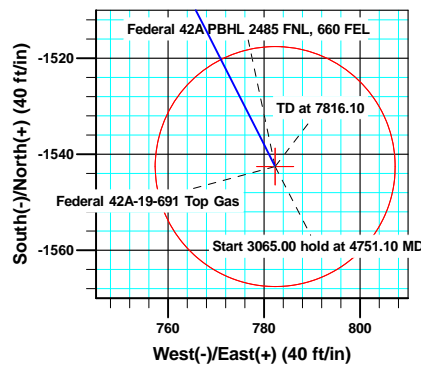
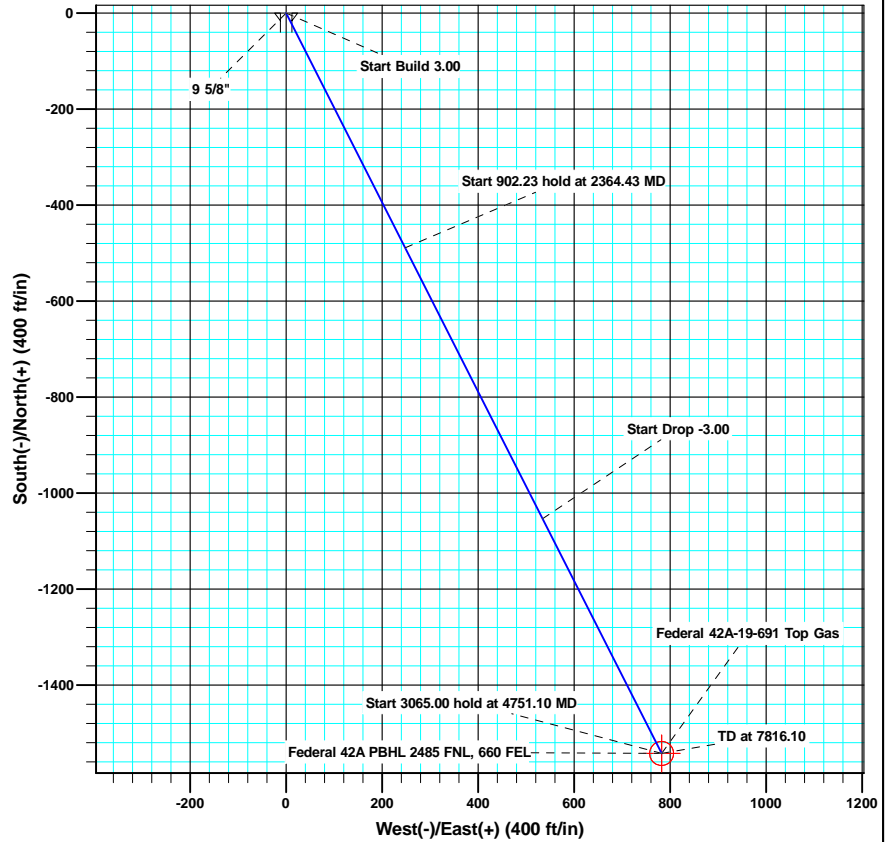
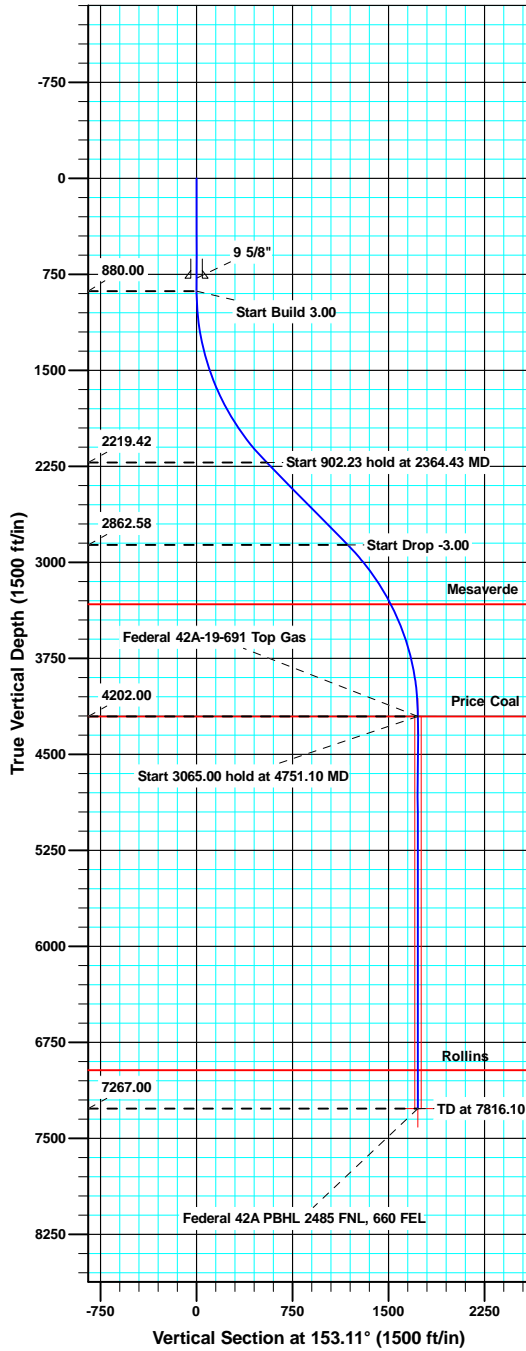




WELL DETAILS: Federal 42A-19-691

North American Datum 1983 US State Plane 1983 Colorado Central Zone
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.00 0.00 1620265.88 2409666.66 39.517742 -107.592725

Ground Level: 5904.00 MDP 23 Pad



Azimuths to True North
 Magnetic North: 10.28°

Magnetic Field
 Strength: 52448.7snT
 Dip Angle: 65.87°
 Date: 6/2/2010
 Model: IGRF200510

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
880.00	880.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 3.00
2219.42	2364.43	44.53	153.11	-489.11	248.07	548.42	548.42	Start 902.23 hold at 2364.43 MD
2862.58	3266.67	44.53	153.11	-1053.43	534.28	1181.18	1181.18	Start Drop -3.00
4202.00	4751.10	0.00	0.00	-1542.55	782.35	1729.60	1729.60	Start 3065.00 hold at 4751.10 MD
7267.00	7816.10	0.00	0.00	-1542.55	782.35	1729.60	1729.60	TD at 7816.10

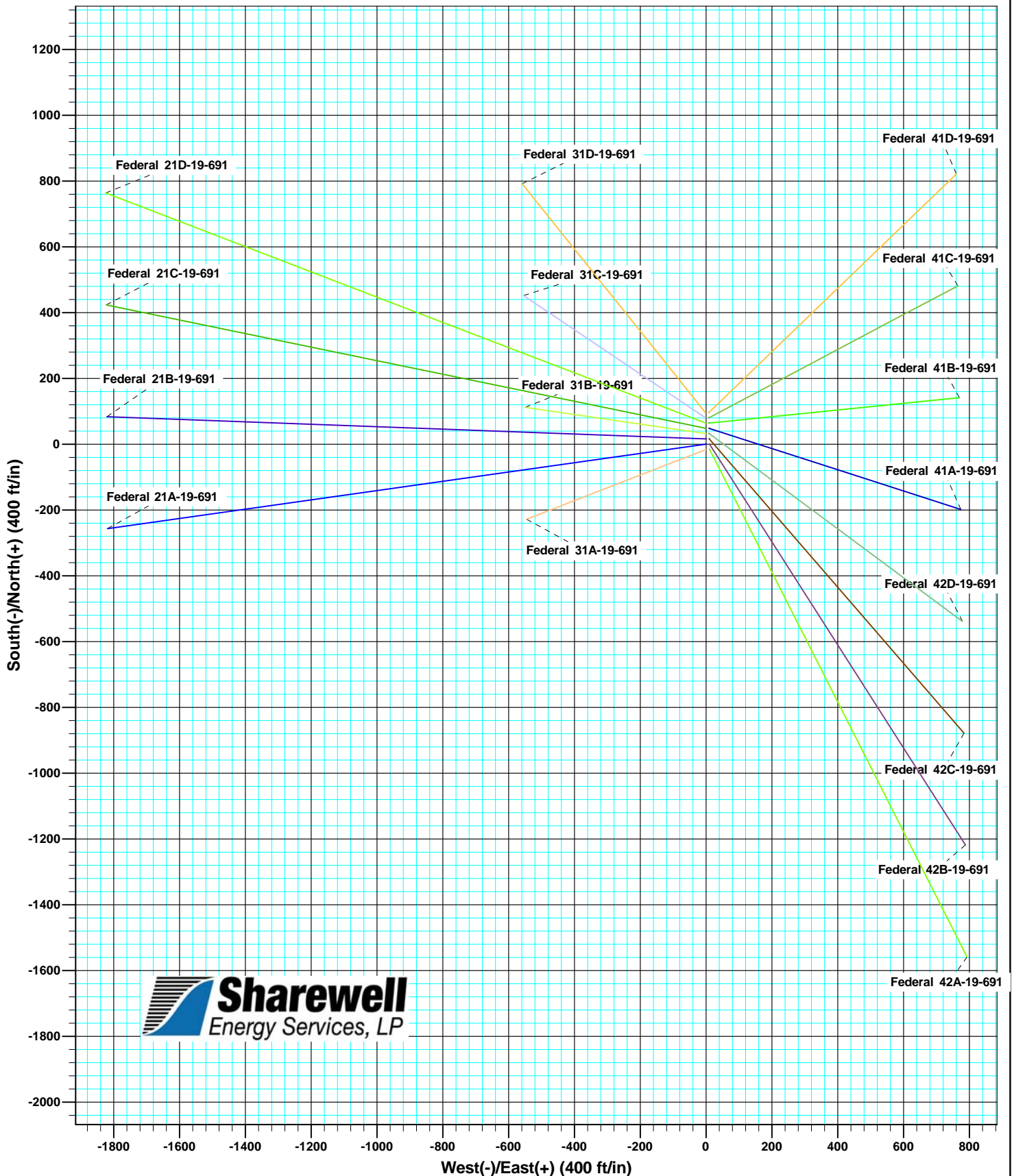




MDP 23 Pad

North American Datum 1983		US State Plane 1983		Colorado Central Zone	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1620282.13	2409656.60	39.517786	-107.592762

Ground Level: 5904.00



Database:	CompassVM	Local Co-ordinate Reference:	Well Federal 42A-19-691
Company:	Bill Barrett Corp. (II)	TVD Reference:	KB @ 5927.00ft
Project:	Garfield County, Colorado [NAD83]	MD Reference:	KB @ 5927.00ft
Site:	MDP 23 Pad	North Reference:	True
Well:	Federal 42A-19-691	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan1 02jun10 rbw		

Project	Garfield County, Colorado [NAD83]		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	MDP 23 Pad				
Site Position:		Northing:	1,620,378.10 usft	Latitude:	39.518050
From:	Lat/Long	Easting:	2,409,666.99 usft	Longitude:	-107.592733
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	-1.32 °

Well	Federal 42A-19-691					
Well Position	+N/-S	-112.20 ft	Northing:	1,620,265.88 usft	Latitude:	39.517742
	+E/-W	2.26 ft	Easting:	2,409,666.67 usft	Longitude:	-107.592725
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,904.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/2/2010	10.28	65.87	52,449

Design	plan1 02jun10 rbw			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	153.11

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
880.00	0.00	0.00	880.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,364.43	44.53	153.11	2,219.42	-489.11	248.07	3.00	3.00	0.00	153.11	
3,266.67	44.53	153.11	2,862.58	-1,053.43	534.28	0.00	0.00	0.00	0.00	
4,751.10	0.00	0.00	4,202.00	-1,542.55	782.35	3.00	-3.00	0.00	180.00	Federal 42A-19-691 T
7,816.10	0.00	0.00	7,267.00	-1,542.55	782.35	0.00	0.00	0.00	0.00	Federal 42A PBHL 24

Database:	CompassVM	Local Co-ordinate Reference:	Well Federal 42A-19-691
Company:	Bill Barrett Corp. (II)	TVD Reference:	KB @ 5927.00ft
Project:	Garfield County, Colorado [NAD83]	MD Reference:	KB @ 5927.00ft
Site:	MDP 23 Pad	North Reference:	True
Well:	Federal 42A-19-691	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan1 02jun10 rbw		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
780.00	0.00	0.00	780.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
880.00	0.00	0.00	880.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
900.00	0.60	153.11	900.00	-0.09	0.05	0.10	3.00	3.00	0.00
1,000.00	3.60	153.11	999.92	-3.36	1.70	3.77	3.00	3.00	0.00
1,100.00	6.60	153.11	1,099.51	-11.29	5.73	12.66	3.00	3.00	0.00
1,200.00	9.60	153.11	1,198.50	-23.85	12.10	26.75	3.00	3.00	0.00
1,300.00	12.60	153.11	1,296.62	-41.02	20.81	46.00	3.00	3.00	0.00
1,400.00	15.60	153.11	1,393.60	-62.75	31.82	70.35	3.00	3.00	0.00
1,500.00	18.60	153.11	1,489.17	-88.97	45.12	99.75	3.00	3.00	0.00
1,600.00	21.60	153.11	1,583.07	-119.61	60.67	134.12	3.00	3.00	0.00
1,700.00	24.60	153.11	1,675.04	-154.60	78.41	173.35	3.00	3.00	0.00
1,800.00	27.60	153.11	1,764.83	-193.83	98.31	217.34	3.00	3.00	0.00
1,900.00	30.60	153.11	1,852.20	-237.20	120.30	265.96	3.00	3.00	0.00
2,000.00	33.60	153.11	1,936.90	-284.59	144.34	319.10	3.00	3.00	0.00
2,100.00	36.60	153.11	2,018.71	-335.86	170.34	376.59	3.00	3.00	0.00
2,200.00	39.60	153.11	2,097.39	-390.89	198.25	438.29	3.00	3.00	0.00
2,300.00	42.60	153.11	2,172.74	-449.51	227.98	504.02	3.00	3.00	0.00
2,364.43	44.53	153.11	2,219.42	-489.11	248.07	548.42	3.00	3.00	0.00
Start 902.23 hold at 2364.43 MD									
2,400.00	44.53	153.11	2,244.78	-511.36	259.35	573.37	0.00	0.00	0.00
2,500.00	44.53	153.11	2,316.06	-573.90	291.07	643.50	0.00	0.00	0.00
2,600.00	44.53	153.11	2,387.35	-636.45	322.80	713.63	0.00	0.00	0.00
2,700.00	44.53	153.11	2,458.63	-699.00	354.52	783.76	0.00	0.00	0.00
2,800.00	44.53	153.11	2,529.91	-761.55	386.24	853.89	0.00	0.00	0.00
2,900.00	44.53	153.11	2,601.20	-824.09	417.96	924.03	0.00	0.00	0.00
3,000.00	44.53	153.11	2,672.48	-886.64	449.69	994.16	0.00	0.00	0.00
3,100.00	44.53	153.11	2,743.77	-949.19	481.41	1,064.29	0.00	0.00	0.00
3,200.00	44.53	153.11	2,815.05	-1,011.74	513.13	1,134.42	0.00	0.00	0.00
3,266.67	44.53	153.11	2,862.58	-1,053.43	534.28	1,181.18	0.00	0.00	0.00
Start Drop -3.00									
3,300.00	43.53	153.11	2,886.54	-1,074.10	544.76	1,204.35	3.00	-3.00	0.00
3,400.00	40.53	153.11	2,960.81	-1,133.80	575.04	1,271.29	3.00	-3.00	0.00
3,500.00	37.53	153.11	3,038.48	-1,189.96	603.53	1,334.26	3.00	-3.00	0.00
3,600.00	34.53	153.11	3,119.34	-1,242.42	630.13	1,393.08	3.00	-3.00	0.00
3,700.00	31.53	153.11	3,203.16	-1,291.03	654.79	1,447.59	3.00	-3.00	0.00
3,800.00	28.53	153.11	3,289.73	-1,335.67	677.42	1,497.63	3.00	-3.00	0.00
3,842.18	27.27	153.11	3,327.00	-1,353.27	686.35	1,517.37	3.00	-3.00	0.00
Mesaverde									
3,900.00	25.53	153.11	3,378.79	-1,376.20	697.98	1,543.08	3.00	-3.00	0.00
4,000.00	22.53	153.11	3,470.11	-1,412.51	716.40	1,583.80	3.00	-3.00	0.00
4,100.00	19.53	153.11	3,563.44	-1,444.52	732.63	1,619.69	3.00	-3.00	0.00
4,200.00	16.53	153.11	3,658.51	-1,472.12	746.63	1,650.64	3.00	-3.00	0.00
4,300.00	13.53	153.11	3,755.08	-1,495.25	758.36	1,676.57	3.00	-3.00	0.00

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Project:	Garfield County, Colorado [NAD83]	MD Reference:	KB @ 5927.00ft
Site:	MDP 23 Pad	North Reference:	True
Well:	Federal 42A-19-691	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan1 02jun10 rbw		

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)
4,400.00	10.53	153.11	3,852.87	-1,513.84	767.79	1,697.42	3.00	-3.00	0.00
4,500.00	7.53	153.11	3,951.62	-1,527.85	774.89	1,713.12	3.00	-3.00	0.00
4,600.00	4.53	153.11	4,051.06	-1,537.22	779.65	1,723.63	3.00	-3.00	0.00
4,700.00	1.53	153.11	4,150.90	-1,541.94	782.04	1,728.92	3.00	-3.00	0.00
4,751.10	0.00	0.00	4,202.00	-1,542.55	782.35	1,729.60	3.00	-3.00	0.00
Start 3065.00 hold at 4751.10 MD - Price Coal - Federal 42A-19-691 Top Gas									
4,800.00	0.00	0.00	4,250.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
4,900.00	0.00	0.00	4,350.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,000.00	0.00	0.00	4,450.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,100.00	0.00	0.00	4,550.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,200.00	0.00	0.00	4,650.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,300.00	0.00	0.00	4,750.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,400.00	0.00	0.00	4,850.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,500.00	0.00	0.00	4,950.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,600.00	0.00	0.00	5,050.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,700.00	0.00	0.00	5,150.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,800.00	0.00	0.00	5,250.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
5,900.00	0.00	0.00	5,350.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,000.00	0.00	0.00	5,450.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,100.00	0.00	0.00	5,550.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,200.00	0.00	0.00	5,650.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,300.00	0.00	0.00	5,750.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,400.00	0.00	0.00	5,850.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,500.00	0.00	0.00	5,950.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,600.00	0.00	0.00	6,050.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,700.00	0.00	0.00	6,150.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,800.00	0.00	0.00	6,250.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
6,900.00	0.00	0.00	6,350.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,000.00	0.00	0.00	6,450.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,100.00	0.00	0.00	6,550.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,200.00	0.00	0.00	6,650.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,300.00	0.00	0.00	6,750.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,400.00	0.00	0.00	6,850.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,500.00	0.00	0.00	6,950.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,516.10	0.00	0.00	6,967.00	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
Rollins									
7,600.00	0.00	0.00	7,050.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,700.00	0.00	0.00	7,150.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,800.00	0.00	0.00	7,250.90	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
7,816.10	0.00	0.00	7,267.00	-1,542.55	782.35	1,729.60	0.00	0.00	0.00
TD at 7816.10 - Federal 42A PBHL 2485 FNL, 660 FEL									

Database:	CompassVM	Local Co-ordinate Reference:	Well Federal 42A-19-691
Company:	Bill Barrett Corp. (II)	TVD Reference:	KB @ 5927.00ft
Project:	Garfield County, Colorado [NAD83]	MD Reference:	KB @ 5927.00ft
Site:	MDP 23 Pad	North Reference:	True
Well:	Federal 42A-19-691	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan1 02jun10 rbw		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
Federal 42A-19-691 Top	0.00	0.00	4,202.00	-1,542.55	782.35	1,618,705.72	2,410,413.27	39.513507	-107.589952
- plan hits target center									
- Circle (radius 25.00)									
Federal 42A PBHL 2485	0.00	0.00	7,267.00	-1,542.55	782.35	1,618,705.72	2,410,413.27	39.513507	-107.589952
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)		Name	(ft)	(ft)
780.00	780.00	9 5/8"		0.80	1.02

Formations					
Measured Depth	Vertical Depth			Dip	Dip Direction
(ft)	(ft)		Name	(°)	(°)
3,842.18	3,327.00		Mesaverde	0.00	
4,751.10	4,202.00		Price Coal	0.00	
7,516.10	6,967.00		Rollins	0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
880.00	880.00	0.00	0.00	Start Build 3.00	
2,364.43	2,219.42	-489.11	248.07	Start 902.23 hold at 2364.43 MD	
3,266.67	2,862.58	-1,053.43	534.28	Start Drop -3.00	
4,751.10	4,202.00	-1,542.55	782.35	Start 3065.00 hold at 4751.10 MD	
7,816.10	7,267.00	-1,542.55	782.35	TD at 7816.10	