

Bill Barrett Corp. (II)

Garfield County, Colorado [NAD83]

MDP 23 Pad

Federal 31A-19-691

Wellbore #1

Plan: plan1 10jun10 rbw

Standard Planning Report

11 November, 2011

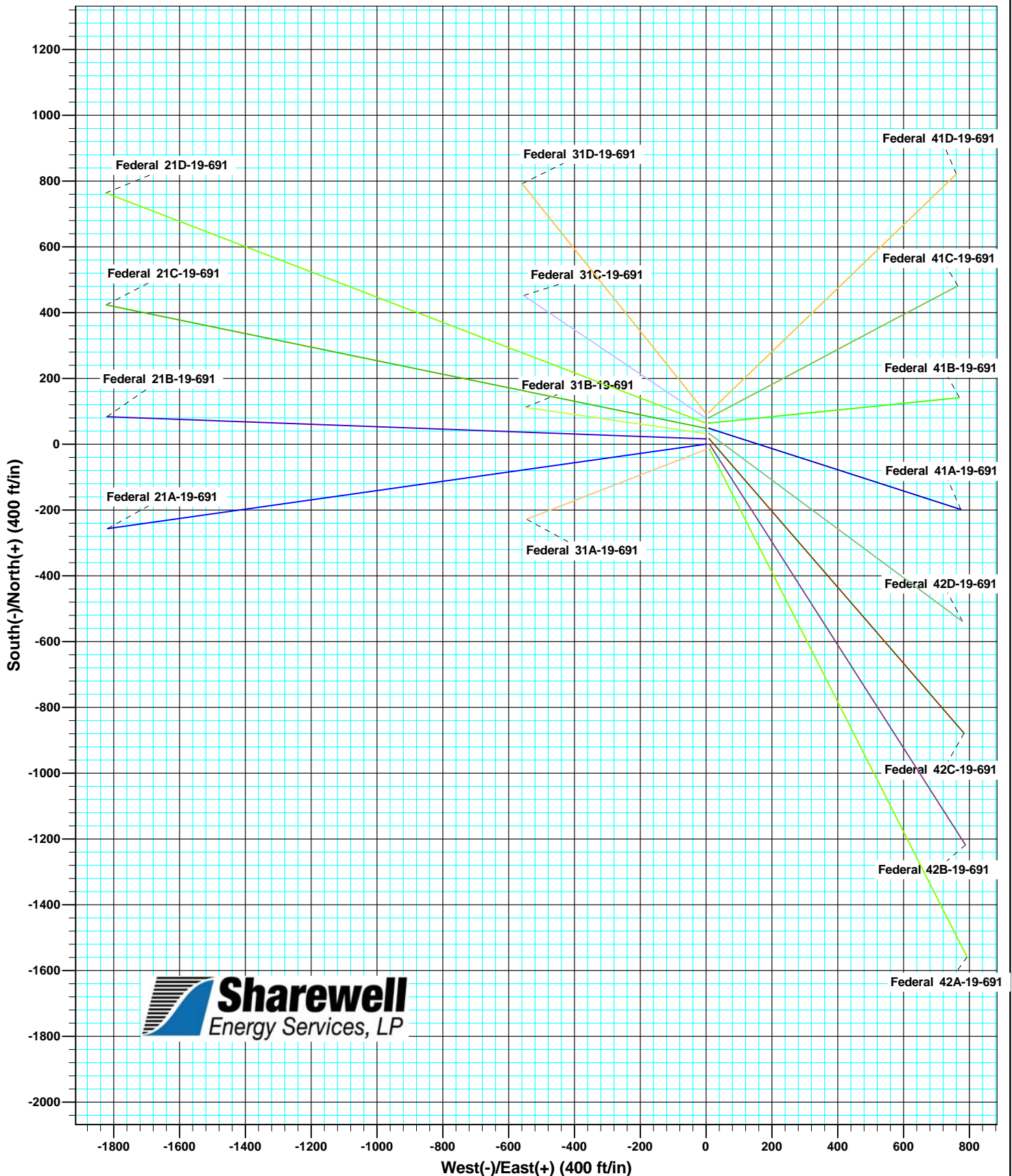




MDP 23 Pad

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



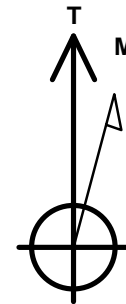
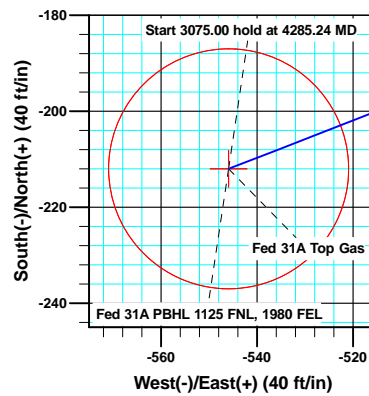
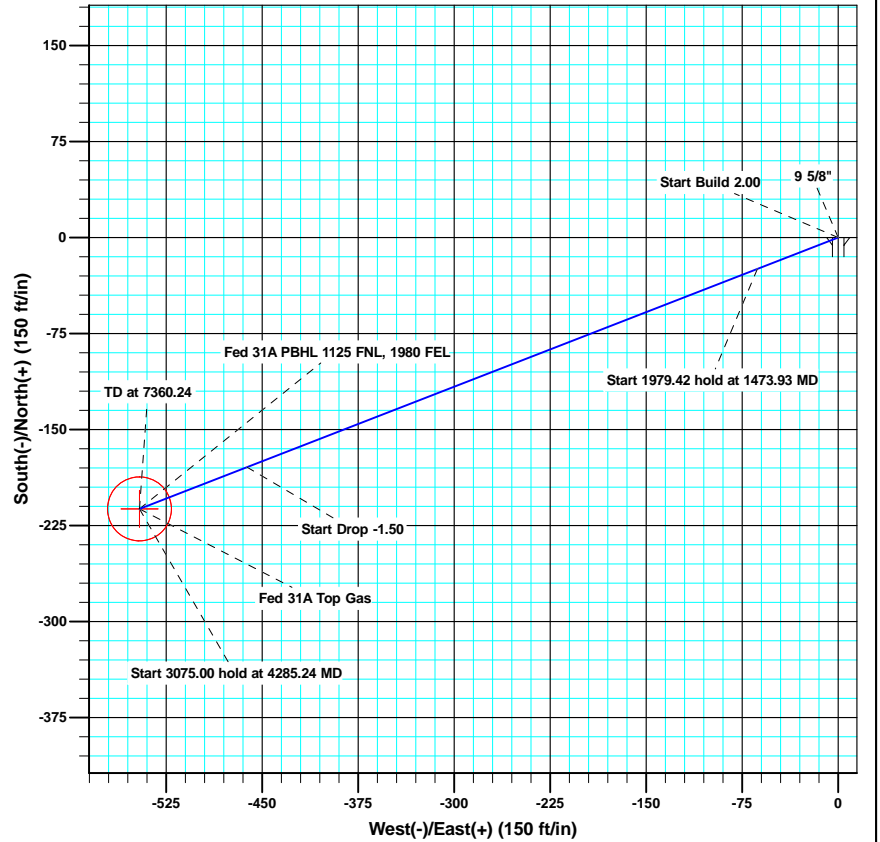
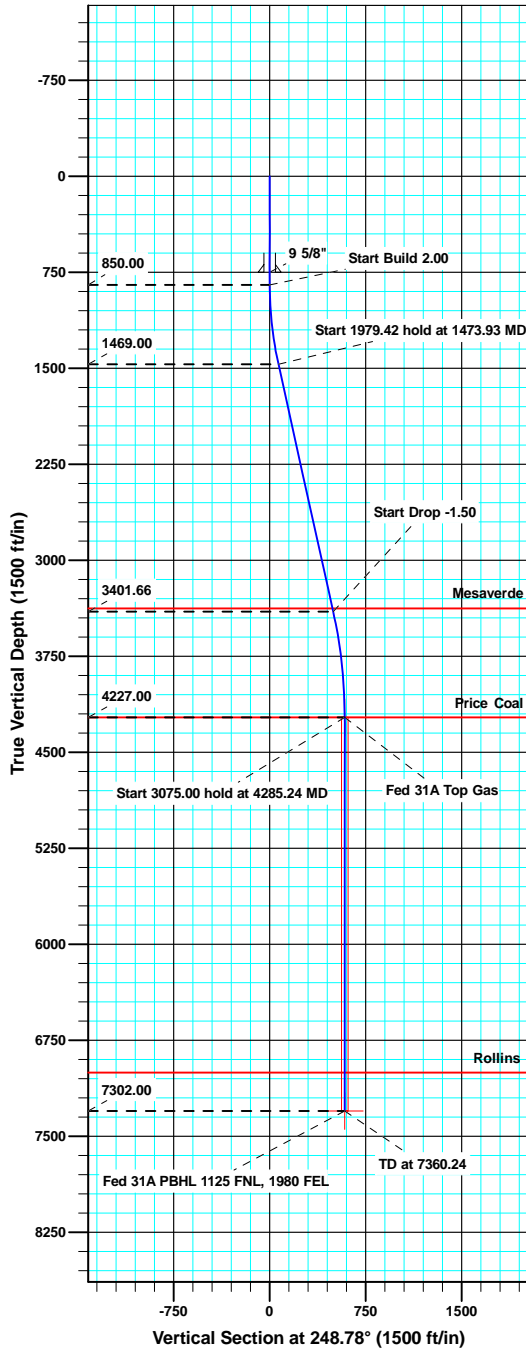


WELL DETAILS: Federal 31A-19-691

North American Datum 1983		US State Plane 1983		Colorado Central Zone	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1620266.12	2409656.51	39.517742	-107.592761

Ground Level: 5904.00

MDP 23 Pad



Azimuths to True North
Magnetic North: 10.28°

Magnetic Field
Strength: 52446.5nT
Dip Angle: 65.87°
Date: 6/10/2010
Model: IGRF200510

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
850.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1469.00	1473.93	12.48	248.78	-24.50	-63.09	67.67	67.67	Start 1979.42 hold at 1473.93 MD
3401.66	3453.34	12.48	248.78	-179.31	-461.78	495.37	495.37	Start Drop -1.50
4227.00	4285.24	0.00	0.00	-211.97	-545.89	585.61	585.61	Start 3075.00 hold at 4285.24 MD
7302.00	7360.24	0.00	0.00	-211.97	-545.89	585.61	585.61	TD at 7360.24



Database:	CompassVM	Local Co-ordinate Reference:	Well Federal 31A-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 31A-19-691	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan1 10jun10 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 31A-19-691					
Well Position	+N/-S	-112.20 ft	Northing:	1,620,266.11 usft	Latitude:	39.517742
	+E/-W	-7.90 ft	Easting:	2,409,656.51 usft	Longitude:	-107.592761
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	6/10/2010	10.28	65.87	52,447

Design	plan1 10jun10 rbw			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	248.78

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	
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,473.93	12.48	248.78	1,469.00	-24.50	-63.09	2.00	2.00	0.00	248.78	
3,453.34	12.48	248.78	3,401.66	-179.31	-461.78	0.00	0.00	0.00	0.00	
4,285.24	0.00	0.00	4,227.00	-211.97	-545.89	1.50	-1.50	0.00	180.00	Fed 31A Top Gas
7,360.24	0.00	0.00	7,302.00	-211.97	-545.89	0.00	0.00	0.00	0.00	Fed 31A PBHL 1125 f

Database:	CompassVM	Local Co-ordinate Reference:	Well Federal 31A-19-691
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Site:	MDP 23 Pad	North Reference:	True
Well:	Federal 31A-19-691	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan1 10jun10 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
750.00	0.00	0.00	750.00	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
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
900.00	1.00	248.78	900.00	-0.16	-0.41	0.44	2.00	2.00	0.00
1,000.00	3.00	248.78	999.93	-1.42	-3.66	3.93	2.00	2.00	0.00
1,100.00	5.00	248.78	1,099.68	-3.95	-10.16	10.90	2.00	2.00	0.00
1,200.00	7.00	248.78	1,199.13	-7.73	-19.91	21.35	2.00	2.00	0.00
1,300.00	9.00	248.78	1,298.15	-12.77	-32.88	35.27	2.00	2.00	0.00
1,400.00	11.00	248.78	1,396.63	-19.05	-49.07	52.63	2.00	2.00	0.00
1,473.93	12.48	248.78	1,469.00	-24.50	-63.09	67.67	2.00	2.00	0.00
Start 1979.42 hold at 1473.93 MD									
1,500.00	12.48	248.78	1,494.46	-26.54	-68.34	73.31	0.00	0.00	0.00
1,600.00	12.48	248.78	1,592.10	-34.36	-88.48	94.92	0.00	0.00	0.00
1,700.00	12.48	248.78	1,689.74	-42.18	-108.62	116.52	0.00	0.00	0.00
1,800.00	12.48	248.78	1,787.38	-50.00	-128.76	138.13	0.00	0.00	0.00
1,900.00	12.48	248.78	1,885.01	-57.82	-148.91	159.74	0.00	0.00	0.00
2,000.00	12.48	248.78	1,982.65	-65.64	-169.05	181.35	0.00	0.00	0.00
2,100.00	12.48	248.78	2,080.29	-73.46	-189.19	202.95	0.00	0.00	0.00
2,200.00	12.48	248.78	2,177.93	-81.29	-209.33	224.56	0.00	0.00	0.00
2,300.00	12.48	248.78	2,275.57	-89.11	-229.47	246.17	0.00	0.00	0.00
2,400.00	12.48	248.78	2,373.20	-96.93	-249.62	267.77	0.00	0.00	0.00
2,500.00	12.48	248.78	2,470.84	-104.75	-269.76	289.38	0.00	0.00	0.00
2,600.00	12.48	248.78	2,568.48	-112.57	-289.90	310.99	0.00	0.00	0.00
2,700.00	12.48	248.78	2,666.12	-120.39	-310.04	332.60	0.00	0.00	0.00
2,800.00	12.48	248.78	2,763.75	-128.21	-330.18	354.20	0.00	0.00	0.00
2,900.00	12.48	248.78	2,861.39	-136.03	-350.33	375.81	0.00	0.00	0.00
3,000.00	12.48	248.78	2,959.03	-143.86	-370.47	397.42	0.00	0.00	0.00
3,100.00	12.48	248.78	3,056.67	-151.68	-390.61	419.03	0.00	0.00	0.00
3,200.00	12.48	248.78	3,154.30	-159.50	-410.75	440.63	0.00	0.00	0.00
3,300.00	12.48	248.78	3,251.94	-167.32	-430.89	462.24	0.00	0.00	0.00
3,400.00	12.48	248.78	3,349.58	-175.14	-451.04	483.85	0.00	0.00	0.00
3,428.08	12.48	248.78	3,377.00	-177.34	-456.69	489.92	0.00	0.00	0.00
Mesaverde									
3,453.34	12.48	248.78	3,401.66	-179.31	-461.78	495.37	0.00	0.00	0.00
Start Drop -1.50									
3,500.00	11.78	248.78	3,447.28	-182.86	-470.92	505.18	1.50	-1.50	0.00
3,600.00	10.28	248.78	3,545.43	-189.79	-488.75	524.31	1.50	-1.50	0.00
3,700.00	8.78	248.78	3,644.05	-195.78	-504.18	540.86	1.50	-1.50	0.00
3,800.00	7.28	248.78	3,743.06	-200.83	-517.20	554.83	1.50	-1.50	0.00
3,900.00	5.78	248.78	3,842.41	-204.95	-527.80	566.20	1.50	-1.50	0.00
4,000.00	4.28	248.78	3,942.02	-208.12	-535.97	574.96	1.50	-1.50	0.00
4,100.00	2.78	248.78	4,041.83	-210.35	-541.71	581.12	1.50	-1.50	0.00
4,200.00	1.28	248.78	4,141.77	-211.63	-545.01	584.65	1.50	-1.50	0.00
4,285.24	0.00	0.00	4,227.00	-211.97	-545.89	585.61	1.50	-1.50	0.00

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Site:	MDP 23 Pad	North Reference:	True
Well:	Federal 31A-19-691	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan1 10jun10 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)
Start 3075.00 hold at 4285.24 MD - Price Coal - Fed 31A Top Gas									
4,300.00	0.00	0.00	4,241.76	-211.97	-545.89	585.61	0.00	0.00	0.00
4,400.00	0.00	0.00	4,341.76	-211.97	-545.89	585.61	0.00	0.00	0.00
4,500.00	0.00	0.00	4,441.76	-211.97	-545.89	585.61	0.00	0.00	0.00
4,600.00	0.00	0.00	4,541.76	-211.97	-545.89	585.61	0.00	0.00	0.00
4,700.00	0.00	0.00	4,641.76	-211.97	-545.89	585.61	0.00	0.00	0.00
4,800.00	0.00	0.00	4,741.76	-211.97	-545.89	585.61	0.00	0.00	0.00
4,900.00	0.00	0.00	4,841.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,000.00	0.00	0.00	4,941.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,100.00	0.00	0.00	5,041.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,200.00	0.00	0.00	5,141.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,300.00	0.00	0.00	5,241.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,400.00	0.00	0.00	5,341.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,500.00	0.00	0.00	5,441.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,600.00	0.00	0.00	5,541.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,700.00	0.00	0.00	5,641.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,800.00	0.00	0.00	5,741.76	-211.97	-545.89	585.61	0.00	0.00	0.00
5,900.00	0.00	0.00	5,841.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,000.00	0.00	0.00	5,941.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,100.00	0.00	0.00	6,041.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,200.00	0.00	0.00	6,141.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,300.00	0.00	0.00	6,241.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,400.00	0.00	0.00	6,341.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,500.00	0.00	0.00	6,441.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,600.00	0.00	0.00	6,541.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,700.00	0.00	0.00	6,641.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,800.00	0.00	0.00	6,741.76	-211.97	-545.89	585.61	0.00	0.00	0.00
6,900.00	0.00	0.00	6,841.76	-211.97	-545.89	585.61	0.00	0.00	0.00
7,000.00	0.00	0.00	6,941.76	-211.97	-545.89	585.61	0.00	0.00	0.00
7,060.24	0.00	0.00	7,002.00	-211.97	-545.89	585.61	0.00	0.00	0.00
Rollins									
7,100.00	0.00	0.00	7,041.76	-211.97	-545.89	585.61	0.00	0.00	0.00
7,200.00	0.00	0.00	7,141.76	-211.97	-545.89	585.61	0.00	0.00	0.00
7,300.00	0.00	0.00	7,241.76	-211.97	-545.89	585.61	0.00	0.00	0.00
7,360.24	0.00	0.00	7,302.00	-211.97	-545.89	585.61	0.00	0.00	0.00
TD at 7360.24 - Fed 31A PBHL 1125 FNL, 1980 FEL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Fed 31A Top Gas - plan hits target center - Circle (radius 25.00)	0.00	0.00	4,227.00	-211.97	-545.89	1,620,066.77	2,409,105.88	39.517160	-107.594696
Fed 31A PBHL 1125 FNI - plan hits target center - Point	0.00	0.00	7,302.00	-211.97	-545.89	1,620,066.77	2,409,105.88	39.517160	-107.594696

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Project:	Garfield County, Colorado [NAD83]	MD Reference:	KB @ 5927.00ft
Site:	MDP 23 Pad	North Reference:	True
Well:	Federal 31A-19-691	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	plan1 10jun10 rbw		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (ft)	Hole Diameter (ft)
750.00	750.00	9 5/8"	0.80	1.02

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,428.08	3,377.00	Mesaverde		0.00	
4,285.24	4,227.00	Price Coal		0.00	
7,060.24	7,002.00	Rollins		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
850.00	850.00	0.00	0.00	Start Build 2.00
1,473.93	1,469.00	-24.50	-63.09	Start 1979.42 hold at 1473.93 MD
3,453.34	3,401.66	-179.31	-461.78	Start Drop -1.50
4,285.24	4,227.00	-211.97	-545.89	Start 3075.00 hold at 4285.24 MD
7,360.24	7,302.00	-211.97	-545.89	TD at 7360.24