



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4119.00	4223.92	Williams Fork
5004.00	5130.73	Price Coal
6076.00	6365.22	Top of Gas



Azimuths to Grid North
True North: 1.72°
Magnetic North: 11.80°

Magnetic Field
Strength: 52209.4snT
Dip Angle: 65.80°
Date: 07/12/2012
Model: IGRF2010

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
0.00	0.00	0.00	0.00	19.90	158.74	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	19.90	158.74	0.00	0.00	0.00	
2905.68	21.17	256.84	2889.74	-9.45	-33.23	3.00	256.84	-128.13	
4310.75	21.17	256.84	4199.97	-125.00	-460.87	0.00	0.00	-632.54	
4310.78	21.17	256.84	4200.00	-125.00	-460.88	3.00	120.78	-632.55	Mid Point 1
5016.44	0.00	256.84	4889.72	-154.34	-586.39	3.00	180.00	-760.68	
5126.73	0.00	256.84	5000.00	-154.34	-586.39	0.00	256.84	-760.68	Mid Point 2
5598.24	28.29	38.58	5452.59	-65.18	-515.25	6.00	38.58	-663.95	
5917.65	28.29	38.58	5733.85	53.16	-420.84	0.00	0.00	-535.58	
7041.56	90.00	74.52	6295.00	459.37	381.67	6.00	39.46	356.33	Landing Point
12004.60	90.00	74.52	6295.00	1784.15	5164.63	0.00	0.00	5307.68	BH

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Site River Ranch C, Grid North
Vertical (TVD) Reference: KB @ 5414.00ft (Original Well Elev)
Section (VS) Reference: Slot - C-1H(19.90N, 158.74E)
Measured Depth Reference: KB @ 5414.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

PROJECT DETAILS: River Ranch

Geodetic System: Universal Transverse Mercator
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Zone 13N (108 W to 102 W)
System Datum: Mean Sea Level

Antero Resources

River Ranch

River Ranch C

River Ranch C-1H (112005) - Slot C-1H

C-1H

Plan: River Ranch C-1H P01

Standard Planning Report

18 April, 2012

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	River Ranch C-1H P01		

Project	River Ranch		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		River Ranch C			
Site Position:		Northing:	14,370,543.45 usft	Latitude:	39.539856944°N
From:	Map	Easting:	881,282.91 usft	Longitude:	107.692522116°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.71 °

Well	River Ranch C-1H (112005) - Slot C-1H					
Well Position	+N/-S	19.90 ft	Northing:	14,370,563.36 usft	Latitude:	39.539924578°N
	+E/-W	158.74 ft	Easting:	881,441.65 usft	Longitude:	107.691961781°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,384.00 ft

Wellbore	C-1H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	07/12/12	10.08	65.80	52,209

Design	River Ranch C-1H P01			
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	19.90	158.74	70.59

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	19.90	158.74	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	19.90	158.74	0.00	0.00	0.00	0.00	
2,905.68	21.17	256.84	2,889.74	-9.45	33.23	3.00	3.00	0.00	256.84	
4,310.75	21.17	256.84	4,199.97	-125.00	-460.87	0.00	0.00	0.00	0.00	
4,310.78	21.17	256.84	4,200.00	-125.00	-460.88	3.00	-1.54	7.14	120.78	Mid Point 1
5,016.45	0.00	256.84	4,889.72	-154.34	-586.39	3.00	-3.00	0.00	180.00	
5,126.73	0.00	256.84	5,000.00	-154.34	-586.39	0.00	0.00	0.00	256.84	Mid Point 2
5,598.24	28.29	38.58	5,452.59	-65.18	-515.25	6.00	6.00	30.06	38.58	
5,917.65	28.29	38.58	5,733.85	53.16	-420.84	0.00	0.00	0.00	0.00	
7,041.56	90.00	74.52	6,295.00	459.37	381.67	6.00	5.49	3.20	39.46	Landing Point
12,004.60	90.00	74.52	6,295.00	1,784.15	5,164.63	0.00	0.00	0.00	0.00	BH

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	River Ranch C-1H P01		

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	19.90	158.74	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	19.90	158.74	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	19.90	158.74	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	19.90	158.74	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	19.90	158.74	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	19.90	158.74	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	19.90	158.74	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	19.90	158.74	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	19.90	158.74	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	19.90	158.74	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	19.90	158.74	0.00	0.00	0.00	0.00
Surf Csg at 1000 MD/TVD									
1,100.00	0.00	0.00	1,100.00	19.90	158.74	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	19.90	158.74	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	19.90	158.74	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	19.90	158.74	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	19.90	158.74	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	19.90	158.74	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	19.90	158.74	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	19.90	158.74	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	19.90	158.74	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	19.90	158.74	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	19.90	158.74	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	19.90	158.74	0.00	0.00	0.00	0.00
KOP 3°/100 at 2200 MD/TVD									
2,300.00	3.00	256.84	2,299.95	19.31	156.19	-2.60	3.00	3.00	0.00
2,400.00	6.00	256.84	2,399.63	17.52	148.55	-10.40	3.00	3.00	0.00
2,500.00	9.00	256.84	2,498.77	14.55	135.85	-23.37	3.00	3.00	0.00
2,600.00	12.00	256.84	2,597.08	10.40	118.10	-41.49	3.00	3.00	0.00
2,700.00	15.00	256.84	2,694.31	5.08	95.37	-64.69	3.00	3.00	0.00
2,800.00	18.00	256.84	2,790.18	-1.38	67.72	-92.92	3.00	3.00	0.00
2,900.00	21.00	256.84	2,884.43	-8.98	35.22	-126.10	3.00	3.00	0.00
2,905.68	21.17	256.84	2,889.74	-9.45	33.23	-128.13	3.00	3.00	0.00
Hold 21° at 2906 MD/2890 TVD									
3,000.00	21.17	256.84	2,977.69	-17.21	0.06	-161.99	0.00	0.00	0.00
3,100.00	21.17	256.84	3,070.94	-25.43	-35.10	-197.89	0.00	0.00	0.00
3,200.00	21.17	256.84	3,164.19	-33.65	-70.27	-233.79	0.00	0.00	0.00
3,300.00	21.17	256.84	3,257.44	-41.88	-105.43	-269.69	0.00	0.00	0.00
3,400.00	21.17	256.84	3,350.69	-50.10	-140.60	-305.59	0.00	0.00	0.00
3,500.00	21.17	256.84	3,443.94	-58.32	-175.76	-341.49	0.00	0.00	0.00
3,600.00	21.17	256.84	3,537.19	-66.55	-210.93	-377.39	0.00	0.00	0.00
3,700.00	21.17	256.84	3,630.44	-74.77	-246.10	-413.29	0.00	0.00	0.00
3,800.00	21.17	256.84	3,723.69	-83.00	-281.26	-449.19	0.00	0.00	0.00
3,900.00	21.17	256.84	3,816.95	-91.22	-316.43	-485.09	0.00	0.00	0.00
4,000.00	21.17	256.84	3,910.20	-99.44	-351.59	-520.99	0.00	0.00	0.00
4,100.00	21.17	256.84	4,003.45	-107.67	-386.76	-556.89	0.00	0.00	0.00
4,200.00	21.17	256.84	4,096.70	-115.89	-421.92	-592.79	0.00	0.00	0.00
4,223.92	21.17	256.84	4,119.00	-117.86	-430.33	-601.37	0.00	0.00	0.00
Williams Fork									
4,300.00	21.17	256.84	4,189.95	-124.11	-457.09	-628.69	0.00	0.00	0.00
4,310.75	21.17	256.84	4,199.97	-125.00	-460.87	-632.54	0.00	0.00	0.00
4,310.78	21.17	256.84	4,200.00	-125.00	-460.88	-632.55	3.00	-1.54	7.14
Drop/Turn at 4311 MD/4200 TVD									
4,400.00	18.49	256.84	4,283.92	-131.89	-490.35	-662.64	3.00	-3.00	0.00

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	River Ranch C-1H P01		

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)
4,500.00	15.49	256.84	4,379.55	-138.54	-518.81	-691.69	3.00	-3.00	0.00
4,600.00	12.49	256.84	4,476.57	-144.05	-542.35	-715.72	3.00	-3.00	0.00
4,700.00	9.49	256.84	4,574.72	-148.39	-560.92	-734.68	3.00	-3.00	0.00
4,800.00	6.49	256.84	4,673.74	-151.56	-574.46	-748.50	3.00	-3.00	0.00
4,900.00	3.49	256.84	4,773.35	-153.54	-582.93	-757.15	3.00	-3.00	0.00
5,000.00	0.49	256.84	4,873.27	-154.33	-586.32	-760.61	3.00	-3.00	0.00
5,016.45	0.00	256.84	4,889.72	-154.34	-586.39	-760.68	3.00	-3.00	0.00
Hold Vertical at 5016 MD/4890 TVD									
5,016.45	0.00	256.84	4,889.72	-154.34	-586.39	-760.68	0.00	0.00	0.00
ICP at 5016 MD/4890 TVD									
5,100.00	0.00	256.84	4,973.27	-154.34	-586.39	-760.68	0.00	0.00	0.00
5,126.73	0.00	256.84	5,000.00	-154.34	-586.39	-760.68	0.00	0.00	0.00
Build/Turn at 5127 MD/5000 TVD									
5,130.73	0.24	38.58	5,004.00	-154.34	-586.38	-760.67	6.01	6.01	3,547.67
Price Coal									
5,200.00	4.40	38.58	5,073.20	-152.15	-584.63	-758.30	6.00	6.00	0.00
5,300.00	10.40	38.58	5,172.33	-142.09	-576.61	-747.38	6.00	6.00	0.00
5,400.00	16.40	38.58	5,269.56	-123.99	-562.17	-727.75	6.00	6.00	0.00
5,500.00	22.40	38.58	5,363.84	-98.04	-541.46	-699.60	6.00	6.00	0.00
5,598.24	28.29	38.58	5,452.59	-65.18	-515.25	-663.95	6.00	6.00	0.00
5,600.00	28.29	38.58	5,454.14	-64.53	-514.73	-663.24	0.00	0.00	0.00
5,700.00	28.29	38.58	5,542.19	-27.48	-485.17	-623.05	0.00	0.00	0.00
5,800.00	28.29	38.58	5,630.25	9.57	-455.62	-582.86	0.00	0.00	0.00
5,900.00	28.29	38.58	5,718.30	46.62	-426.06	-542.67	0.00	0.00	0.00
5,917.65	28.29	38.58	5,733.85	53.16	-420.84	-535.58	0.00	0.00	0.00
6,000.00	32.25	44.47	5,804.97	84.11	-393.27	-499.28	6.00	4.80	7.15
6,100.00	37.34	50.05	5,887.09	122.65	-351.29	-446.88	6.00	5.09	5.58
6,200.00	42.63	54.45	5,963.70	161.85	-300.45	-385.90	6.00	5.30	4.40
6,300.00	48.07	58.03	6,033.96	201.27	-241.28	-317.00	6.00	5.43	3.58
6,365.22	51.66	60.05	6,076.00	226.89	-198.52	-268.15	6.00	5.51	3.10
Top of Gas									
6,400.00	53.59	61.05	6,097.11	240.47	-174.46	-240.93	6.00	5.55	2.86
6,500.00	59.19	63.66	6,152.45	279.04	-100.69	-158.55	6.00	5.59	2.61
6,600.00	64.83	65.98	6,199.38	316.55	-20.81	-70.73	6.00	5.64	2.32
6,700.00	70.50	68.10	6,237.37	352.59	64.33	21.54	6.00	5.67	2.12
6,800.00	76.19	70.07	6,266.02	386.76	153.79	117.27	6.00	5.70	1.97
6,900.00	81.90	71.94	6,285.01	418.68	246.58	215.40	6.00	5.71	1.88
7,000.00	87.62	73.77	6,294.14	448.02	341.70	314.86	6.00	5.72	1.82
7,041.56	90.00	74.52	6,295.00	459.37	381.67	356.33	6.00	5.72	1.81
Hold 90° at 7042 MD/6295 TVD									
7,100.00	90.00	74.52	6,295.00	474.97	437.99	414.63	0.00	0.00	0.00
7,200.00	90.00	74.52	6,295.00	501.66	534.36	514.39	0.00	0.00	0.00
7,300.00	90.00	74.52	6,295.00	528.36	630.73	614.16	0.00	0.00	0.00
7,400.00	90.00	74.52	6,295.00	555.05	727.10	713.92	0.00	0.00	0.00
7,500.00	90.00	74.52	6,295.00	581.74	823.47	813.69	0.00	0.00	0.00
7,600.00	90.00	74.52	6,295.00	608.44	919.84	913.45	0.00	0.00	0.00
7,700.00	90.00	74.52	6,295.00	635.13	1,016.22	1,013.22	0.00	0.00	0.00
7,800.00	90.00	74.52	6,295.00	661.82	1,112.59	1,112.98	0.00	0.00	0.00
7,900.00	90.00	74.52	6,295.00	688.51	1,208.96	1,212.75	0.00	0.00	0.00
8,000.00	90.00	74.52	6,295.00	715.21	1,305.33	1,312.51	0.00	0.00	0.00
8,100.00	90.00	74.52	6,295.00	741.90	1,401.70	1,412.27	0.00	0.00	0.00
8,200.00	90.00	74.52	6,295.00	768.59	1,498.07	1,512.04	0.00	0.00	0.00
8,300.00	90.00	74.52	6,295.00	795.29	1,594.45	1,611.80	0.00	0.00	0.00

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	River Ranch C-1H P01		

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)
8,400.00	90.00	74.52	6,295.00	821.98	1,690.82	1,711.57	0.00	0.00	0.00
8,500.00	90.00	74.52	6,295.00	848.67	1,787.19	1,811.33	0.00	0.00	0.00
8,600.00	90.00	74.52	6,295.00	875.36	1,883.56	1,911.10	0.00	0.00	0.00
8,700.00	90.00	74.52	6,295.00	902.06	1,979.93	2,010.86	0.00	0.00	0.00
8,800.00	90.00	74.52	6,295.00	928.75	2,076.30	2,110.63	0.00	0.00	0.00
8,900.00	90.00	74.52	6,295.00	955.44	2,172.68	2,210.39	0.00	0.00	0.00
9,000.00	90.00	74.52	6,295.00	982.13	2,269.05	2,310.16	0.00	0.00	0.00
9,100.00	90.00	74.52	6,295.00	1,008.83	2,365.42	2,409.92	0.00	0.00	0.00
9,200.00	90.00	74.52	6,295.00	1,035.52	2,461.79	2,509.68	0.00	0.00	0.00
9,300.00	90.00	74.52	6,295.00	1,062.21	2,558.16	2,609.45	0.00	0.00	0.00
9,400.00	90.00	74.52	6,295.00	1,088.91	2,654.53	2,709.21	0.00	0.00	0.00
9,500.00	90.00	74.52	6,295.00	1,115.60	2,750.91	2,808.98	0.00	0.00	0.00
9,600.00	90.00	74.52	6,295.00	1,142.29	2,847.28	2,908.74	0.00	0.00	0.00
9,700.00	90.00	74.52	6,295.00	1,168.98	2,943.65	3,008.51	0.00	0.00	0.00
9,800.00	90.00	74.52	6,295.00	1,195.68	3,040.02	3,108.27	0.00	0.00	0.00
9,900.00	90.00	74.52	6,295.00	1,222.37	3,136.39	3,208.04	0.00	0.00	0.00
10,000.00	90.00	74.52	6,295.00	1,249.06	3,232.76	3,307.80	0.00	0.00	0.00
10,100.00	90.00	74.52	6,295.00	1,275.76	3,329.14	3,407.57	0.00	0.00	0.00
10,200.00	90.00	74.52	6,295.00	1,302.45	3,425.51	3,507.33	0.00	0.00	0.00
10,300.00	90.00	74.52	6,295.00	1,329.14	3,521.88	3,607.09	0.00	0.00	0.00
10,400.00	90.00	74.52	6,295.00	1,355.83	3,618.25	3,706.86	0.00	0.00	0.00
10,500.00	90.00	74.52	6,295.00	1,382.53	3,714.62	3,806.62	0.00	0.00	0.00
10,600.00	90.00	74.52	6,295.00	1,409.22	3,810.99	3,906.39	0.00	0.00	0.00
10,700.00	90.00	74.52	6,295.00	1,435.91	3,907.37	4,006.15	0.00	0.00	0.00
10,800.00	90.00	74.52	6,295.00	1,462.61	4,003.74	4,105.92	0.00	0.00	0.00
10,900.00	90.00	74.52	6,295.00	1,489.30	4,100.11	4,205.68	0.00	0.00	0.00
11,000.00	90.00	74.52	6,295.00	1,515.99	4,196.48	4,305.45	0.00	0.00	0.00
11,100.00	90.00	74.52	6,295.00	1,542.68	4,292.85	4,405.21	0.00	0.00	0.00
11,200.00	90.00	74.52	6,295.00	1,569.38	4,389.22	4,504.98	0.00	0.00	0.00
11,300.00	90.00	74.52	6,295.00	1,596.07	4,485.60	4,604.74	0.00	0.00	0.00
11,400.00	90.00	74.52	6,295.00	1,622.76	4,581.97	4,704.50	0.00	0.00	0.00
11,500.00	90.00	74.52	6,295.00	1,649.46	4,678.34	4,804.27	0.00	0.00	0.00
11,600.00	90.00	74.52	6,295.00	1,676.15	4,774.71	4,904.03	0.00	0.00	0.00
11,700.00	90.00	74.52	6,295.00	1,702.84	4,871.08	5,003.80	0.00	0.00	0.00
11,800.00	90.00	74.52	6,295.00	1,729.53	4,967.45	5,103.56	0.00	0.00	0.00
11,900.00	90.00	74.52	6,295.00	1,756.23	5,063.83	5,203.33	0.00	0.00	0.00
12,000.00	90.00	74.52	6,295.00	1,782.92	5,160.20	5,303.09	0.00	0.00	0.00
12,004.50	90.00	74.52	6,295.00	1,784.12	5,164.53	5,307.58	0.00	0.00	0.00
TD at 12005 MD/6295 TVD									
12,004.60	90.00	74.52	6,295.00	1,784.15	5,164.63	5,307.68	0.00	0.00	0.00

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Site River Ranch C
Company:	Antero Resources	TVD Reference:	KB @ 5414.00ft (Original Well Elev)
Project:	River Ranch	MD Reference:	KB @ 5414.00ft (Original Well Elev)
Site:	River Ranch C	North Reference:	Grid
Well:	River Ranch C-1H (112005)	Survey Calculation Method:	Minimum Curvature
Wellbore:	C-1H		
Design:	River Ranch C-1H P01		

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)		
Mid Point 1	0.00	360.00	4,200.00	-125.00	-460.88	14,370,418.45	880,822.03	39.539476158°N	107.694141815°W
- plan hits target center									
- Point									
Mid Point 2	0.00	360.00	5,000.00	-154.34	-586.39	14,370,389.11	880,696.52	39.539385352°N	107.694583399°W
- plan hits target center									
- Point									
BH	0.00	0.00	6,295.00	1,784.15	5,164.63	14,372,327.60	886,447.53	39.545174333°N	107.674410855°W
- plan hits target center									
- Point									
Landing Point	0.00	360.00	6,295.00	459.37	381.67	14,371,002.82	881,664.57	39.541148510°N	107.691218522°W
- plan hits target center									
- Point									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(ft)	(ft)	Name	(in)	(in)
	1,000.00	1,000.00	Surf Csg at 1000 MD/TVD	10.750	12.250
	5,016.45	4,889.72	ICP at 5016 MD/4890 TVD	8.625	9.785

Formations					
	Measured Depth	Vertical Depth		Dip	Dip Direction
	(ft)	(ft)	Name	(°)	(°)
	4,223.92	4,119.00	Williams Fork		
	5,130.73	5,004.00	Price Coal		
	6,365.22	6,076.00	Top of Gas		

Plan Annotations					
	Measured Depth	Vertical Depth	Local Coordinates		
	(ft)	(ft)	+N/-S	+E/-W	Comment
	(ft)	(ft)	(ft)	(ft)	
	2,200.00	2,200.00	19.90	158.74	KOP 3°/100 at 2200 MD/TVD
	2,905.68	2,889.74	-9.45	33.23	Hold 21° at 2906 MD/2890 TVD
	4,310.78	4,200.00	-125.00	-460.88	Drop/Turn at 4311 MD/4200 TVD
	5,016.45	4,889.72	-154.34	-586.39	Hold Vertical at 5016 MD/4890 TVD
	5,126.73	5,000.00	-154.34	-586.39	Build/Turn at 5127 MD/5000 TVD
	7,041.56	6,295.00	459.37	381.67	Hold 90° at 7042 MD/6295 TVD
	12,004.50	6,295.00	1,784.12	5,164.53	TD at 12005 MD/6295 TVD