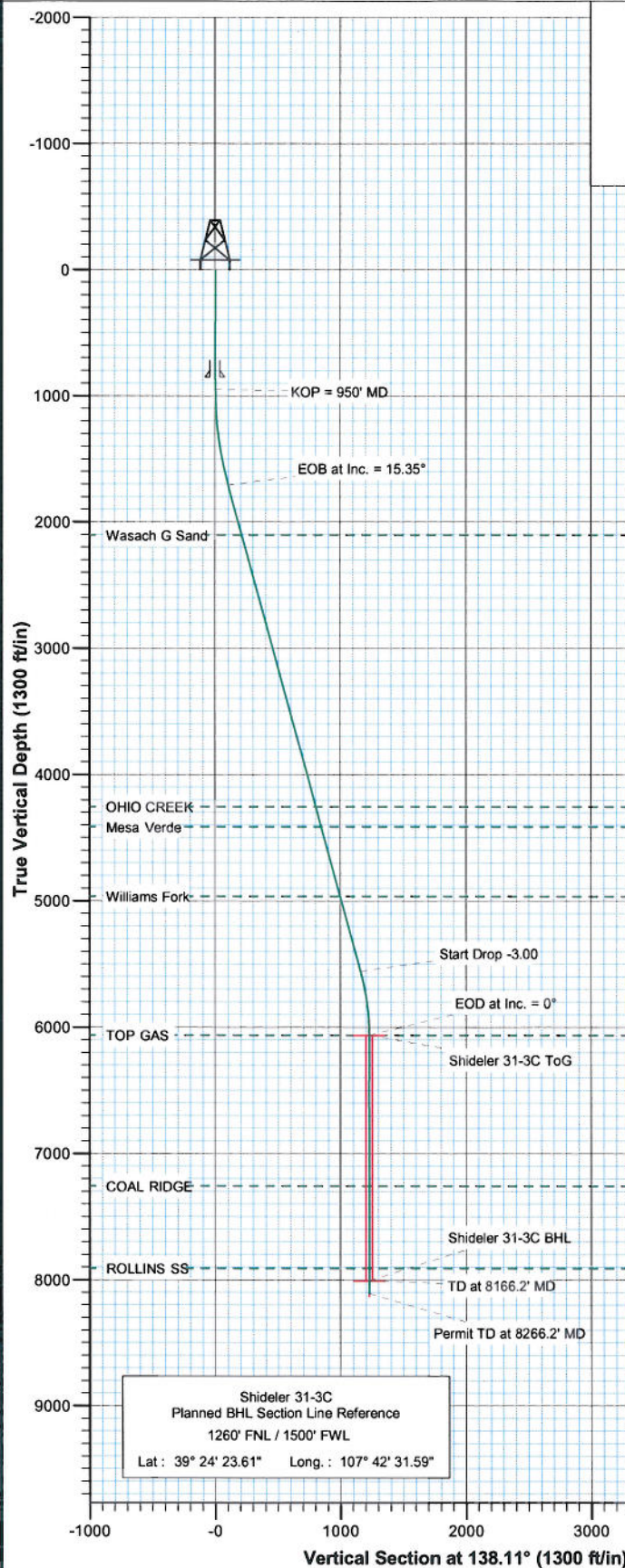
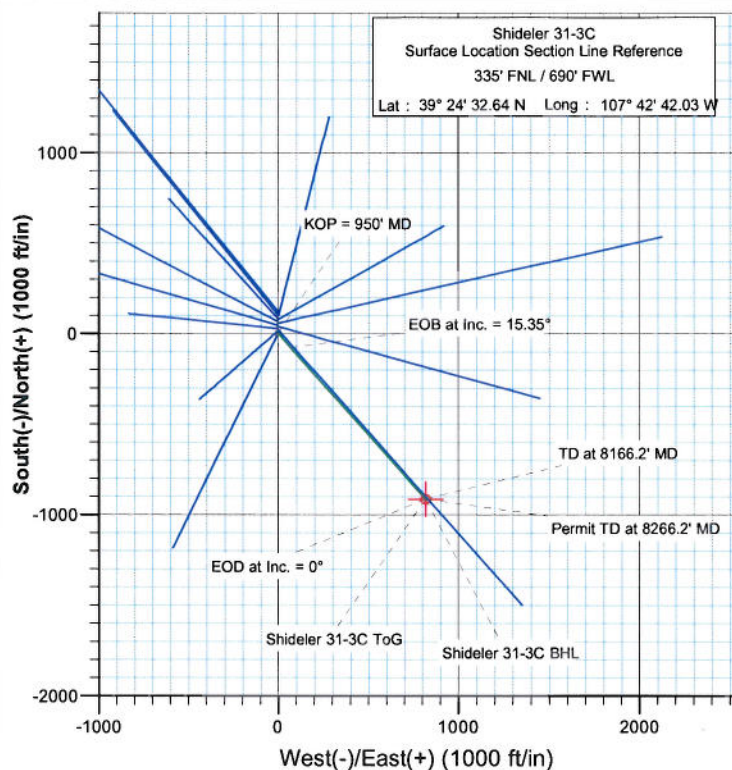




Project: Mamm Creek
Site: C31E Pad (NENW 31-7S-92W)
Well: Shideler 31-3C
Wellbore: DD
Plan: Plan #1



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.0	
3	1717.6	15.35	138.11	1708.5	-76.1	68.3	2.00	138.11	102.2	
4	5709.5	15.35	138.11	5557.9	-862.9	773.9	0.00	0.00	1159.1	
5	6221.2	0.00	0.00	6063.5	-913.6	819.4	3.00	180.00	1227.2	Shideler 31-3C ToG
6	8166.2	0.00	0.00	8008.5	-913.6	819.4	0.00	0.00	1227.2	Shideler 31-3C BHL
7	8266.2	0.00	0.00	8108.5	-913.6	819.4	0.00	0.00	1227.2	



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2103.5	2127.3	Wasach G Sand
4253.5	4356.8	OHIO CREEK
4413.5	4522.8	Mesa Verde
4963.5	5093.1	Williams Fork
6063.5	6221.2	TOP GAS
7258.5	7416.2	COAL RIDGE
7908.5	8066.2	ROLLINS SS



Azimuths to True North
Magnetic North: 10.44°

Magnetic Field
Strength: 52455.7nT
Dip Angle: 65.78°
Date: 7/8/2009
Model: IGRF200510

DESIGN DETAILS: Plan #1

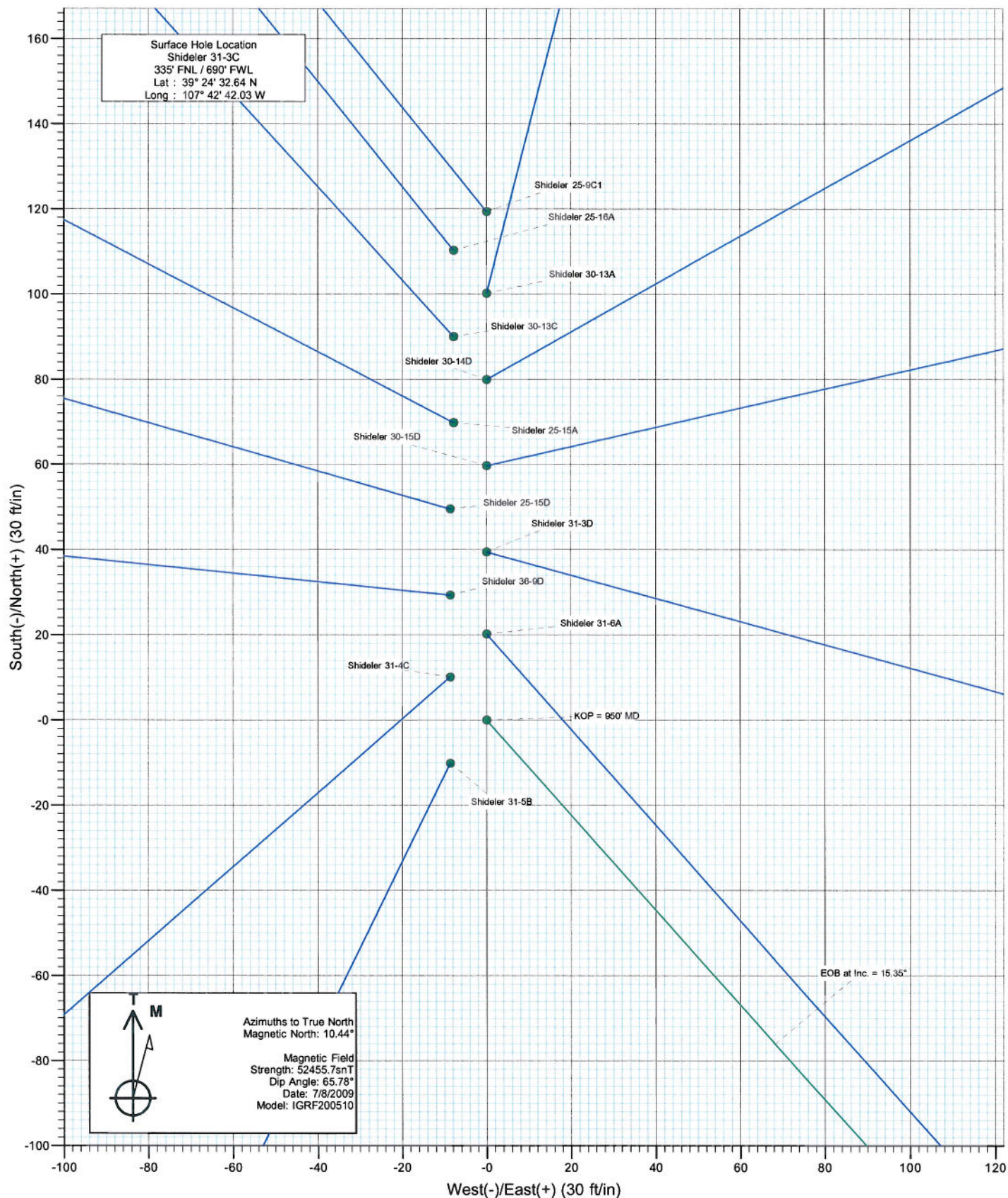
Job# 95xxx: KR

KBE @ 8763.5ft (Original Well Elev)

Target	Azimuth	Origin Type	N/S	E/W	From TVD
Shideler 31-3C BHL	138.11	Slot	0.0	0.0	0.0



Project: Mamm Creek
Site: C31E Pad (NENW 31-7S-92W)
Well: Shideler 31-3C
Wellbore: DD
Design: Plan #1



Planning Report

Database:	US EDM 2003.21 Multi User Db	Local Co-ordinate Reference:	Well Shideler 31-3C
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6763.5ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	KBE @ 6763.5ft (Original Well Elev)
Site:	C31E Pad (NENW 31-7S-92W)	North Reference:	True
Well:	Shideler 31-3C	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Project	Mamm Creek		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	C31E Pad (NENW 31-7S-92W)		
Site Position:		Northing:	1,581,611.55 ft
From:	Lat/Long	Easting:	2,375,162.79 ft
Position Uncertainty:	0.0 ft	Slot Radius:	in
		Latitude:	39° 24' 33.82 N
		Longitude:	107° 42' 42.03 W
		Grid Convergence:	-1.39 °

Well	Shideler 31-3C		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	39° 24' 32.64 N
		Longitude:	107° 42' 42.03 W
		Ground Level:	6,750.0 ft

Wellbore	DD		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF200510	7/8/2009	10.44
			Dip Angle
			(°)
			Field Strength
			(nT)
			65.78
			52,456

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction
			(°)
			138.11

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,717.6	15.35	138.11	1,708.5	-76.1	68.3	2.00	2.00	0.00	138.11	
5,709.5	15.35	138.11	5,557.9	-862.9	773.9	0.00	0.00	0.00	0.00	
6,221.2	0.00	0.00	6,063.5	-913.6	819.4	3.00	-3.00	0.00	180.00	Shideler 31-3C ToG
8,166.2	0.00	0.00	8,008.5	-913.6	819.4	0.00	0.00	0.00	0.00	Shideler 31-3C BHL
8,266.2	0.00	0.00	8,108.5	-913.6	819.4	0.00	0.00	0.00	0.00	

Planning Report

Database: US EDM 2003.21 Multi User Db
 Company: EnCana Oil & Gas (USA) Inc
 Project: Mamm Creek
 Site: C31E Pad (NENW 31-7S-92W)
 Well: Shideler 31-3C
 Wellbore: DD
 Design: Plan #1

Local Co-ordinate Reference: Well Shideler 31-3C
 TVD Reference: KBE @ 6763.5ft (Original Well Elev)
 MD Reference: KBE @ 6763.5ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: 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)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	Surface Casing
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
950.0	0.00	0.00	950.0	0.0	0.0	0.0	0.00	0.00	KOP = 950' MD
1,000.0	1.00	138.11	1,000.0	-0.3	0.3	0.4	2.00	2.00	
1,100.0	3.00	138.11	1,099.9	-2.9	2.6	3.9	2.00	2.00	
1,200.0	5.00	138.11	1,199.7	-8.1	7.3	10.9	2.00	2.00	
1,300.0	7.00	138.11	1,299.1	-15.9	14.3	21.4	2.00	2.00	
1,400.0	9.00	138.11	1,398.2	-26.3	23.5	35.3	2.00	2.00	
1,500.0	11.00	138.11	1,496.6	-39.2	35.1	52.6	2.00	2.00	
1,600.0	13.00	138.11	1,594.4	-54.7	49.0	73.4	2.00	2.00	
1,700.0	15.00	138.11	1,691.5	-72.7	65.2	97.6	2.00	2.00	
1,717.6	15.35	138.11	1,708.5	-76.1	68.3	102.2	2.00	2.00	EOB at Inc. = 15.35°
1,800.0	15.35	138.11	1,787.9	-92.3	82.8	124.0	0.00	0.00	
1,900.0	15.35	138.11	1,884.3	-112.0	100.5	150.5	0.00	0.00	
2,000.0	15.35	138.11	1,980.8	-131.8	118.2	177.0	0.00	0.00	
2,100.0	15.35	138.11	2,077.2	-151.5	135.9	203.5	0.00	0.00	
2,127.3	15.35	138.11	2,103.5	-156.8	140.7	210.7	0.00	0.00	Wasach G Sand
2,200.0	15.35	138.11	2,173.6	-171.2	153.5	229.9	0.00	0.00	
2,300.0	15.35	138.11	2,270.1	-190.9	171.2	256.4	0.00	0.00	
2,400.0	15.35	138.11	2,366.5	-210.6	188.9	282.9	0.00	0.00	
2,500.0	15.35	138.11	2,462.9	-230.3	206.6	309.4	0.00	0.00	
2,600.0	15.35	138.11	2,559.4	-250.0	224.2	335.8	0.00	0.00	
2,700.0	15.35	138.11	2,655.8	-269.7	241.9	362.3	0.00	0.00	
2,800.0	15.35	138.11	2,752.2	-289.4	259.6	388.8	0.00	0.00	
2,900.0	15.35	138.11	2,848.7	-309.1	277.3	415.3	0.00	0.00	
3,000.0	15.35	138.11	2,945.1	-328.8	295.0	441.7	0.00	0.00	
3,100.0	15.35	138.11	3,041.5	-348.6	312.6	468.2	0.00	0.00	
3,200.0	15.35	138.11	3,138.0	-368.3	330.3	494.7	0.00	0.00	
3,300.0	15.35	138.11	3,234.4	-388.0	348.0	521.2	0.00	0.00	
3,400.0	15.35	138.11	3,330.8	-407.7	365.7	547.6	0.00	0.00	
3,500.0	15.35	138.11	3,427.2	-427.4	383.3	574.1	0.00	0.00	
3,600.0	15.35	138.11	3,523.7	-447.1	401.0	600.6	0.00	0.00	
3,700.0	15.35	138.11	3,620.1	-466.8	418.7	627.1	0.00	0.00	
3,800.0	15.35	138.11	3,716.5	-486.5	436.4	653.5	0.00	0.00	
3,900.0	15.35	138.11	3,813.0	-506.2	454.1	680.0	0.00	0.00	
4,000.0	15.35	138.11	3,909.4	-525.9	471.7	706.5	0.00	0.00	
4,100.0	15.35	138.11	4,005.8	-545.6	489.4	733.0	0.00	0.00	
4,200.0	15.35	138.11	4,102.3	-565.4	507.1	759.4	0.00	0.00	
4,300.0	15.35	138.11	4,198.7	-585.1	524.8	785.9	0.00	0.00	
4,356.8	15.35	138.11	4,253.5	-596.3	534.8	801.0	0.00	0.00	OHIO CREEK
4,400.0	15.35	138.11	4,295.1	-604.8	542.4	812.4	0.00	0.00	
4,500.0	15.35	138.11	4,391.6	-624.5	560.1	838.9	0.00	0.00	
4,522.8	15.35	138.11	4,413.5	-629.0	564.1	844.9	0.00	0.00	Mesa Verde

Planning Report

Database: US EDM 2003.21 Multi User Db
 Company: EnCana Oil & Gas (USA) Inc
 Project: Mamm Creek
 Site: C31E Pad (NENW 31-7S-92W)
 Well: Shideler 31-3C
 Wellbore: DD
 Design: Plan #1

Local Co-ordinate Reference: Well Shideler 31-3C
 TVD Reference: KBE @ 6763.5ft (Original Well Elev)
 MD Reference: KBE @ 6763.5ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: 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)	Comments / Formations
4,600.0	15.35	138.11	4,488.0	-644.2	577.8	865.4	0.00	0.00	
4,700.0	15.35	138.11	4,584.4	-663.9	595.5	891.8	0.00	0.00	
4,800.0	15.35	138.11	4,680.9	-683.6	613.1	918.3	0.00	0.00	
4,900.0	15.35	138.11	4,777.3	-703.3	630.8	944.8	0.00	0.00	
5,000.0	15.35	138.11	4,873.7	-723.0	648.5	971.3	0.00	0.00	
5,093.1	15.35	138.11	4,963.5	-741.4	665.0	995.9	0.00	0.00	Williams Fork
5,100.0	15.35	138.11	4,970.2	-742.7	666.2	997.7	0.00	0.00	
5,200.0	15.35	138.11	5,066.6	-762.4	683.9	1,024.2	0.00	0.00	
5,300.0	15.35	138.11	5,163.0	-782.2	701.5	1,050.7	0.00	0.00	
5,400.0	15.35	138.11	5,259.4	-801.9	719.2	1,077.2	0.00	0.00	
5,500.0	15.35	138.11	5,355.9	-821.6	736.9	1,103.6	0.00	0.00	
5,600.0	15.35	138.11	5,452.3	-841.3	754.6	1,130.1	0.00	0.00	
5,700.0	15.35	138.11	5,548.7	-861.0	772.2	1,156.6	0.00	0.00	
5,709.5	15.35	138.11	5,557.9	-862.9	773.9	1,159.1	0.00	0.00	Start Drop -3.00
5,800.0	12.64	138.11	5,645.7	-879.2	788.5	1,181.0	3.00	-3.00	
5,900.0	9.64	138.11	5,743.8	-893.5	801.4	1,200.3	3.00	-3.00	
6,000.0	6.64	138.11	5,842.8	-904.1	810.9	1,214.4	3.00	-3.00	
6,100.0	3.64	138.11	5,942.4	-910.7	816.9	1,223.4	3.00	-3.00	
6,200.0	0.64	138.11	6,042.3	-913.5	819.3	1,227.1	3.00	-3.00	
6,221.2	0.00	0.00	6,063.5	-913.6	819.4	1,227.2	3.00	-3.00	EOD at Inc. = 0° - TOP GAS - Shideler 31-3
6,300.0	0.00	0.00	6,142.3	-913.6	819.4	1,227.2	0.00	0.00	
6,400.0	0.00	0.00	6,242.3	-913.6	819.4	1,227.2	0.00	0.00	
6,500.0	0.00	0.00	6,342.3	-913.6	819.4	1,227.2	0.00	0.00	
6,600.0	0.00	0.00	6,442.3	-913.6	819.4	1,227.2	0.00	0.00	
6,700.0	0.00	0.00	6,542.3	-913.6	819.4	1,227.2	0.00	0.00	
6,800.0	0.00	0.00	6,642.3	-913.6	819.4	1,227.2	0.00	0.00	
6,900.0	0.00	0.00	6,742.3	-913.6	819.4	1,227.2	0.00	0.00	
7,000.0	0.00	0.00	6,842.3	-913.6	819.4	1,227.2	0.00	0.00	
7,100.0	0.00	0.00	6,942.3	-913.6	819.4	1,227.2	0.00	0.00	
7,200.0	0.00	0.00	7,042.3	-913.6	819.4	1,227.2	0.00	0.00	
7,300.0	0.00	0.00	7,142.3	-913.6	819.4	1,227.2	0.00	0.00	
7,400.0	0.00	0.00	7,242.3	-913.6	819.4	1,227.2	0.00	0.00	
7,416.2	0.00	0.00	7,258.5	-913.6	819.4	1,227.2	0.00	0.00	COAL RIDGE
7,500.0	0.00	0.00	7,342.3	-913.6	819.4	1,227.2	0.00	0.00	
7,600.0	0.00	0.00	7,442.3	-913.6	819.4	1,227.2	0.00	0.00	
7,700.0	0.00	0.00	7,542.3	-913.6	819.4	1,227.2	0.00	0.00	
7,800.0	0.00	0.00	7,642.3	-913.6	819.4	1,227.2	0.00	0.00	
7,900.0	0.00	0.00	7,742.3	-913.6	819.4	1,227.2	0.00	0.00	
8,000.0	0.00	0.00	7,842.3	-913.6	819.4	1,227.2	0.00	0.00	
8,066.2	0.00	0.00	7,908.5	-913.6	819.4	1,227.2	0.00	0.00	ROLLINS SS
8,100.0	0.00	0.00	7,942.3	-913.6	819.4	1,227.2	0.00	0.00	
8,166.2	0.00	0.00	8,008.5	-913.6	819.4	1,227.2	0.00	0.00	TD at 8166.2' MD - Shideler 31-3C BHL
8,200.0	0.00	0.00	8,042.3	-913.6	819.4	1,227.2	0.00	0.00	
8,266.2	0.00	0.00	8,108.5	-913.6	819.4	1,227.2	0.00	0.00	Permit TD at 8266.2' MD