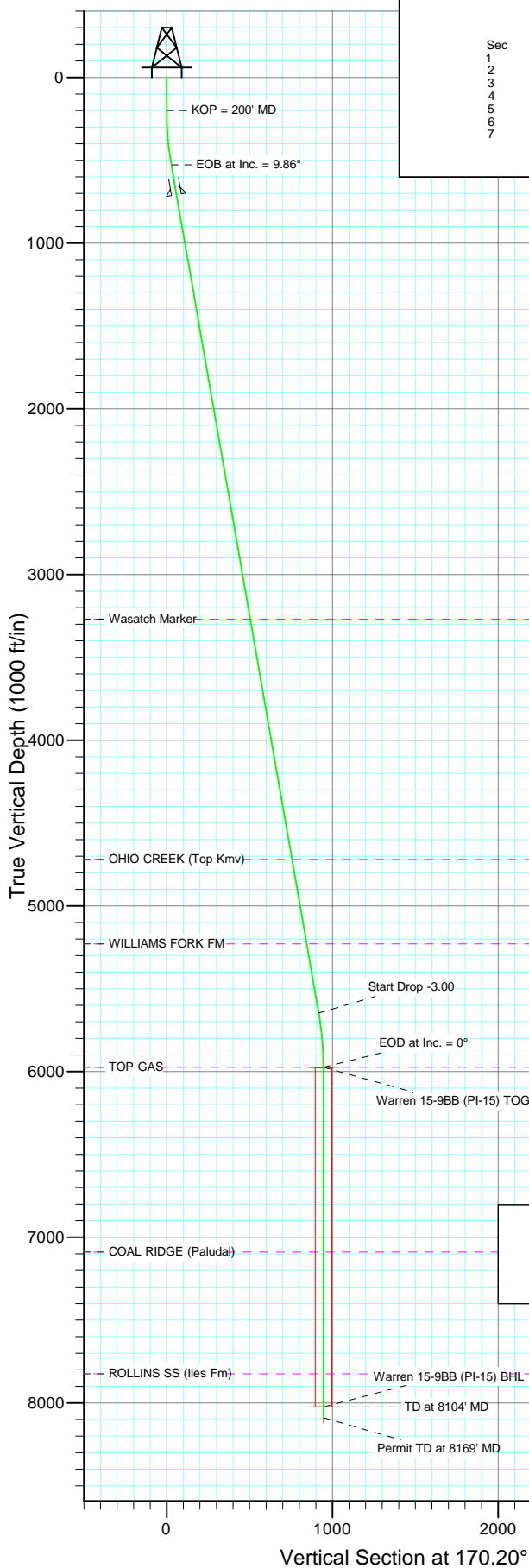
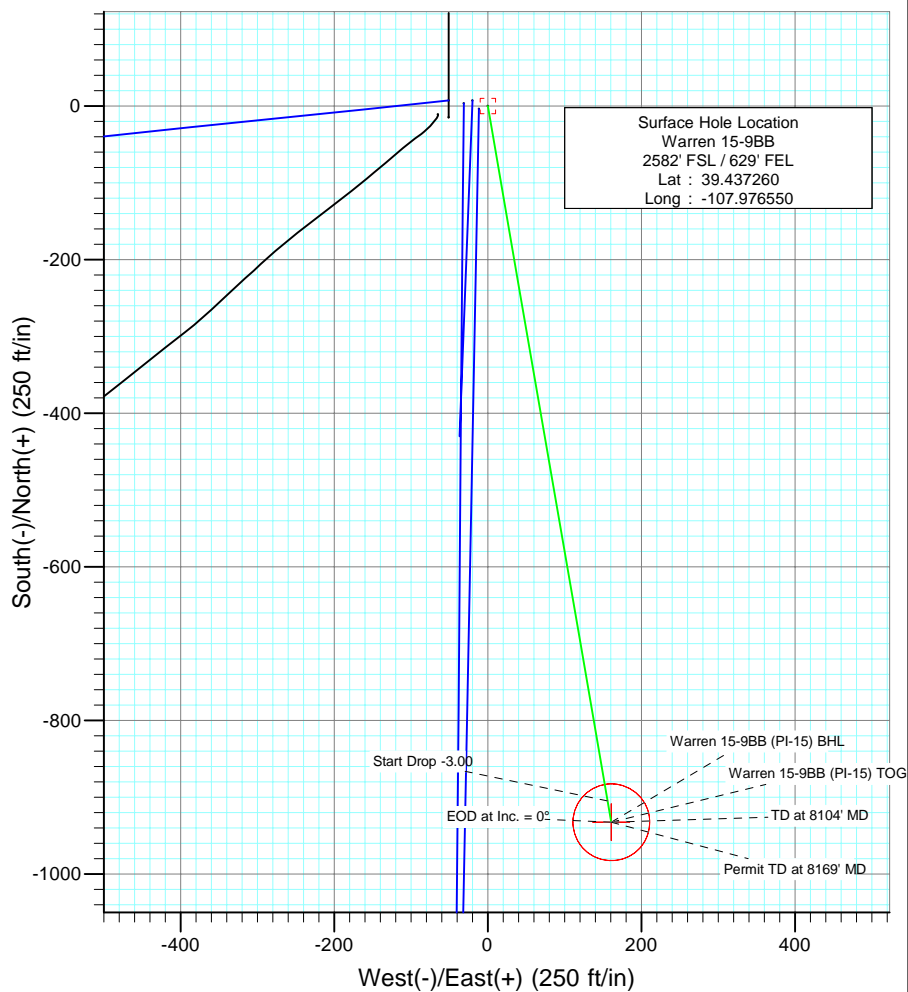




Project: S. Piceance
Site: NESE S15-T7S-R95W (PI 15 Pad)
Well: Warren 15-9BB
Wellbore: DD
Design: Plan #2



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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	528.6	9.86	170.20	527.0	-27.8	4.8	3.00	170.20	28.2	
4	5725.3	9.86	170.20	5647.0	-904.6	156.2	0.00	0.00	918.0	
5	6054.0	0.00	0.00	5974.0	-932.4	161.0	3.00	180.00	946.2	Warren 15-9BB (PI-15) TOG
6	8104.0	0.00	0.00	8024.0	-932.4	161.0	0.00	0.00	946.2	Warren 15-9BB (PI-15) BHL
7	8169.0	0.00	0.00	8089.0	-932.4	161.0	0.00	0.00	946.2	



Azimuths to True North
Magnetic North: 10.52°

Magnetic Field
Strength: 52407.3snT
Dip Angle: 65.75°
Date: 10/27/2009
Model: IGRF200510

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3269.0	3311.7	Wasatch Marker
4719.0	4783.5	OHIO CREEK (Top Kmv)
5229.0	5301.1	WILLIAMS FORK FM
5974.0	6054.0	TOP GAS
7089.0	7169.0	COAL RIDGE (Paludal)
7824.0	7904.0	ROLLINS SS (Iles Fm)

DESIGN DETAILS: Plan #2

95XXX; KR
KBE @ 6689.0ft (Nabors M11)

Target	Azimuth	Origin	N/S	E/W	From TVD
Warren 15-9BB (PI-15) BHL	170.20	Slot	0.0	0.0	0.0

Planning Report

Database:	US EDM 2003.21 Multi User Db	Local Co-ordinate Reference:	Well Warren 15-9BB
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6689.0ft (Nabors M11)
Project:	S. Piceance	MD Reference:	KBE @ 6689.0ft (Nabors M11)
Site:	NESE S15-T7S-R95W (PI 15 Pad)	North Reference:	True
Well:	Warren 15-9BB	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Project	S. Piceance, Garfield County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	NESE S15-T7S-R95W (PI 15 Pad)			
Site Position:		Northing:	1,593,681.40 ft	Latitude: 39.437240
From:	Lat/Long	Easting:	2,300,607.26 ft	Longitude: -107.976610
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence: -1.56 °

Well	Warren 15-9BB			
Well Position	+N/-S	0.0 ft	Northing:	1,593,688.21 ft
	+E/-W	0.0 ft	Easting:	2,300,624.40 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft
			Ground Level:	6,676.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/27/2009	10.52	65.75	52,407

Design	Plan #2			
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	170.20

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
528.6	9.86	170.20	527.0	-27.8	4.8	3.00	3.00	0.00	170.20	
5,725.3	9.86	170.20	5,647.0	-904.6	156.2	0.00	0.00	0.00	0.00	
6,054.0	0.00	0.00	5,974.0	-932.4	161.0	3.00	-3.00	0.00	180.00	Warren 15-9BB (PI-15)
8,104.0	0.00	0.00	8,024.0	-932.4	161.0	0.00	0.00	0.00	0.00	Warren 15-9BB (PI-15)
8,169.0	0.00	0.00	8,089.0	-932.4	161.0	0.00	0.00	0.00	0.00	

Planning Report

Database:	US EDM 2003.21 Multi User Db	Local Co-ordinate Reference:	Well Warren 15-9BB
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6689.0ft (Nabors M11)
Project:	S. Piceance	MD Reference:	KBE @ 6689.0ft (Nabors M11)
Site:	NESE S15-T7S-R95W (PI 15 Pad)	North Reference:	True
Well:	Warren 15-9BB	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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	KOP = 200' MD
300.0	3.00	170.20	300.0	-2.6	0.4	2.6	3.00	3.00	
400.0	6.00	170.20	399.6	-10.3	1.8	10.5	3.00	3.00	
500.0	9.00	170.20	498.8	-23.2	4.0	23.5	3.00	3.00	
528.6	9.86	170.20	527.0	-27.8	4.8	28.2	3.00	3.00	EOB at Inc. = 9.86°
600.0	9.86	170.20	597.3	-39.8	6.9	40.4	0.00	0.00	
700.0	9.86	170.20	695.8	-56.7	9.8	57.5	0.00	0.00	
712.3	9.86	170.20	708.0	-58.8	10.2	59.7	0.00	0.00	Surface Casing
800.0	9.86	170.20	794.4	-73.6	12.7	74.7	0.00	0.00	
900.0	9.86	170.20	892.9	-90.5	15.6	91.8	0.00	0.00	
1,000.0	9.86	170.20	991.4	-107.3	18.5	108.9	0.00	0.00	
1,100.0	9.86	170.20	1,089.9	-124.2	21.4	126.0	0.00	0.00	
1,200.0	9.86	170.20	1,188.5	-141.1	24.4	143.2	0.00	0.00	
1,300.0	9.86	170.20	1,287.0	-157.9	27.3	160.3	0.00	0.00	
1,400.0	9.86	170.20	1,385.5	-174.8	30.2	177.4	0.00	0.00	
1,500.0	9.86	170.20	1,484.0	-191.7	33.1	194.5	0.00	0.00	
1,600.0	9.86	170.20	1,582.6	-208.6	36.0	211.7	0.00	0.00	
1,700.0	9.86	170.20	1,681.1	-225.4	38.9	228.8	0.00	0.00	
1,800.0	9.86	170.20	1,779.6	-242.3	41.8	245.9	0.00	0.00	
1,900.0	9.86	170.20	1,878.1	-259.2	44.8	263.0	0.00	0.00	
2,000.0	9.86	170.20	1,976.7	-276.1	47.7	280.1	0.00	0.00	
2,100.0	9.86	170.20	2,075.2	-292.9	50.6	297.3	0.00	0.00	
2,200.0	9.86	170.20	2,173.7	-309.8	53.5	314.4	0.00	0.00	
2,300.0	9.86	170.20	2,272.2	-326.7	56.4	331.5	0.00	0.00	
2,400.0	9.86	170.20	2,370.7	-343.5	59.3	348.6	0.00	0.00	
2,500.0	9.86	170.20	2,469.3	-360.4	62.2	365.8	0.00	0.00	
2,600.0	9.86	170.20	2,567.8	-377.3	65.1	382.9	0.00	0.00	
2,700.0	9.86	170.20	2,666.3	-394.2	68.1	400.0	0.00	0.00	
2,800.0	9.86	170.20	2,764.8	-411.0	71.0	417.1	0.00	0.00	
2,900.0	9.86	170.20	2,863.4	-427.9	73.9	434.2	0.00	0.00	
3,000.0	9.86	170.20	2,961.9	-444.8	76.8	451.4	0.00	0.00	
3,100.0	9.86	170.20	3,060.4	-461.7	79.7	468.5	0.00	0.00	
3,200.0	9.86	170.20	3,158.9	-478.5	82.6	485.6	0.00	0.00	
3,300.0	9.86	170.20	3,257.5	-495.4	85.5	502.7	0.00	0.00	
3,311.7	9.86	170.20	3,269.0	-497.4	85.9	504.7	0.00	0.00	Wasatch Marker
3,400.0	9.86	170.20	3,356.0	-512.3	88.5	519.9	0.00	0.00	
3,500.0	9.86	170.20	3,454.5	-529.2	91.4	537.0	0.00	0.00	
3,600.0	9.86	170.20	3,553.0	-546.0	94.3	554.1	0.00	0.00	
3,700.0	9.86	170.20	3,651.5	-562.9	97.2	571.2	0.00	0.00	
3,800.0	9.86	170.20	3,750.1	-579.8	100.1	588.4	0.00	0.00	
3,900.0	9.86	170.20	3,848.6	-596.6	103.0	605.5	0.00	0.00	
4,000.0	9.86	170.20	3,947.1	-613.5	105.9	622.6	0.00	0.00	
4,100.0	9.86	170.20	4,045.6	-630.4	108.8	639.7	0.00	0.00	
4,200.0	9.86	170.20	4,144.2	-647.3	111.8	656.8	0.00	0.00	
4,300.0	9.86	170.20	4,242.7	-664.1	114.7	674.0	0.00	0.00	
4,400.0	9.86	170.20	4,341.2	-681.0	117.6	691.1	0.00	0.00	
4,500.0	9.86	170.20	4,439.7	-697.9	120.5	708.2	0.00	0.00	
4,600.0	9.86	170.20	4,538.3	-714.8	123.4	725.3	0.00	0.00	
4,700.0	9.86	170.20	4,636.8	-731.6	126.3	742.5	0.00	0.00	
4,783.5	9.86	170.20	4,719.0	-745.7	128.8	756.7	0.00	0.00	OHIO CREEK (Top Kmv)

Planning Report

Database:	US EDM 2003.21 Multi User Db	Local Co-ordinate Reference:	Well Warren 15-9BB
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6689.0ft (Nabors M11)
Project:	S. Piceance	MD Reference:	KBE @ 6689.0ft (Nabors M11)
Site:	NESE S15-T7S-R95W (PI 15 Pad)	North Reference:	True
Well:	Warren 15-9BB	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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
4,800.0	9.86	170.20	4,735.3	-748.5	129.2	759.6	0.00	0.00	
4,900.0	9.86	170.20	4,833.8	-765.4	132.2	776.7	0.00	0.00	
5,000.0	9.86	170.20	4,932.3	-782.2	135.1	793.8	0.00	0.00	
5,100.0	9.86	170.20	5,030.9	-799.1	138.0	810.9	0.00	0.00	
5,200.0	9.86	170.20	5,129.4	-816.0	140.9	828.1	0.00	0.00	
5,300.0	9.86	170.20	5,227.9	-832.9	143.8	845.2	0.00	0.00	
5,301.1	9.86	170.20	5,229.0	-833.1	143.8	845.4	0.00	0.00	WILLIAMS FORK FM
5,400.0	9.86	170.20	5,326.4	-849.7	146.7	862.3	0.00	0.00	
5,500.0	9.86	170.20	5,425.0	-866.6	149.6	879.4	0.00	0.00	
5,600.0	9.86	170.20	5,523.5	-883.5	152.5	896.6	0.00	0.00	
5,700.0	9.86	170.20	5,622.0	-900.4	155.5	913.7	0.00	0.00	
5,725.3	9.86	170.20	5,647.0	-904.6	156.2	918.0	0.00	0.00	Start Drop -3.00
5,800.0	7.62	170.20	5,720.8	-915.8	158.1	929.4	3.00	-3.00	
5,900.0	4.62	170.20	5,820.2	-926.3	159.9	940.0	3.00	-3.00	
6,000.0	1.62	170.20	5,920.0	-931.7	160.9	945.5	3.00	-3.00	
6,054.0	0.00	170.20	5,974.0	-932.4	161.0	946.2	3.00	-3.00	EOD at Inc. = 0° - TOP GAS - Warren 15-9BB (
6,100.0	0.00	0.00	6,020.0	-932.4	161.0	946.2	0.00	0.00	
6,200.0	0.00	0.00	6,120.0	-932.4	161.0	946.2	0.00	0.00	
6,300.0	0.00	0.00	6,220.0	-932.4	161.0	946.2	0.00	0.00	
6,400.0	0.00	0.00	6,320.0	-932.4	161.0	946.2	0.00	0.00	
6,500.0	0.00	0.00	6,420.0	-932.4	161.0	946.2	0.00	0.00	
6,600.0	0.00	0.00	6,520.0	-932.4	161.0	946.2	0.00	0.00	
6,700.0	0.00	0.00	6,620.0	-932.4	161.0	946.2	0.00	0.00	
6,800.0	0.00	0.00	6,720.0	-932.4	161.0	946.2	0.00	0.00	
6,900.0	0.00	0.00	6,820.0	-932.4	161.0	946.2	0.00	0.00	
7,000.0	0.00	0.00	6,920.0	-932.4	161.0	946.2	0.00	0.00	
7,100.0	0.00	0.00	7,020.0	-932.4	161.0	946.2	0.00	0.00	
7,169.0	0.00	0.00	7,089.0	-932.4	161.0	946.2	0.00	0.00	COAL RIDGE (Paludal)
7,200.0	0.00	0.00	7,120.0	-932.4	161.0	946.2	0.00	0.00	
7,300.0	0.00	0.00	7,220.0	-932.4	161.0	946.2	0.00	0.00	
7,400.0	0.00	0.00	7,320.0	-932.4	161.0	946.2	0.00	0.00	
7,500.0	0.00	0.00	7,420.0	-932.4	161.0	946.2	0.00	0.00	
7,600.0	0.00	0.00	7,520.0	-932.4	161.0	946.2	0.00	0.00	
7,700.0	0.00	0.00	7,620.0	-932.4	161.0	946.2	0.00	0.00	
7,800.0	0.00	0.00	7,720.0	-932.4	161.0	946.2	0.00	0.00	
7,900.0	0.00	0.00	7,820.0	-932.4	161.0	946.2	0.00	0.00	
7,904.0	0.00	0.00	7,824.0	-932.4	161.0	946.2	0.00	0.00	ROLLINS SS (Iles Fm)
8,000.0	0.00	0.00	7,920.0	-932.4	161.0	946.2	0.00	0.00	
8,100.0	0.00	0.00	8,020.0	-932.4	161.0	946.2	0.00	0.00	
8,104.0	0.00	0.00	8,024.0	-932.4	161.0	946.2	0.00	0.00	TD at 8104' MD - Warren 15-9BB (PI-15) BHL
8,169.0	0.00	0.00	8,089.0	-932.4	161.0	946.2	0.00	0.00	Permit TD at 8169' MD

Planning Report

Database:	US EDM 2003.21 Multi User Db	Local Co-ordinate Reference:	Well Warren 15-9BB
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6689.0ft (Nabors M11)
Project:	S. Piceance	MD Reference:	KBE @ 6689.0ft (Nabors M11)
Site:	NESE S15-T7S-R95W (PI 15 Pad)	North Reference:	True
Well:	Warren 15-9BB	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Warren 15-9BB (PI-15) I - plan hits target center - Circle (radius 50.0)	0.00	0.00	8,024.0	-932.4	161.0	1,592,751.74	2,300,759.92	39.434700	-107.975980
Warren 15-9BB (PI-15) 1 - plan hits target center - Point	0.00	0.00	5,974.0	-932.4	161.0	1,592,751.74	2,300,759.92	39.434700	-107.975980

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
712.3	708.0	Surface Casing		0.000	0.000

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
3,311.7	3,269.0	Wasatch Marker				
4,783.5	4,719.0	OHIO CREEK (Top Kmv)				
5,301.1	5,229.0	WILLIAMS FORK FM				
6,054.0	5,974.0	TOP GAS				
7,169.0	7,089.0	COAL RIDGE (Paludal)				
7,904.0	7,824.0	ROLLINS SS (Iles Fm)				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
200.0	200.0	0.0	0.0	KOP = 200' MD	
528.6	527.0	-27.8	4.8	EOB at Inc. = 9.86°	
5,725.3	5,647.0	-904.6	156.2	Start Drop -3.00	
6,054.0	5,974.0	-932.4	161.0	EOD at Inc. = 0°	
8,104.0	8,024.0	-932.4	161.0	TD at 8104' MD	
8,169.0	8,089.0	-932.4	161.0	Permit TD at 8169' MD	