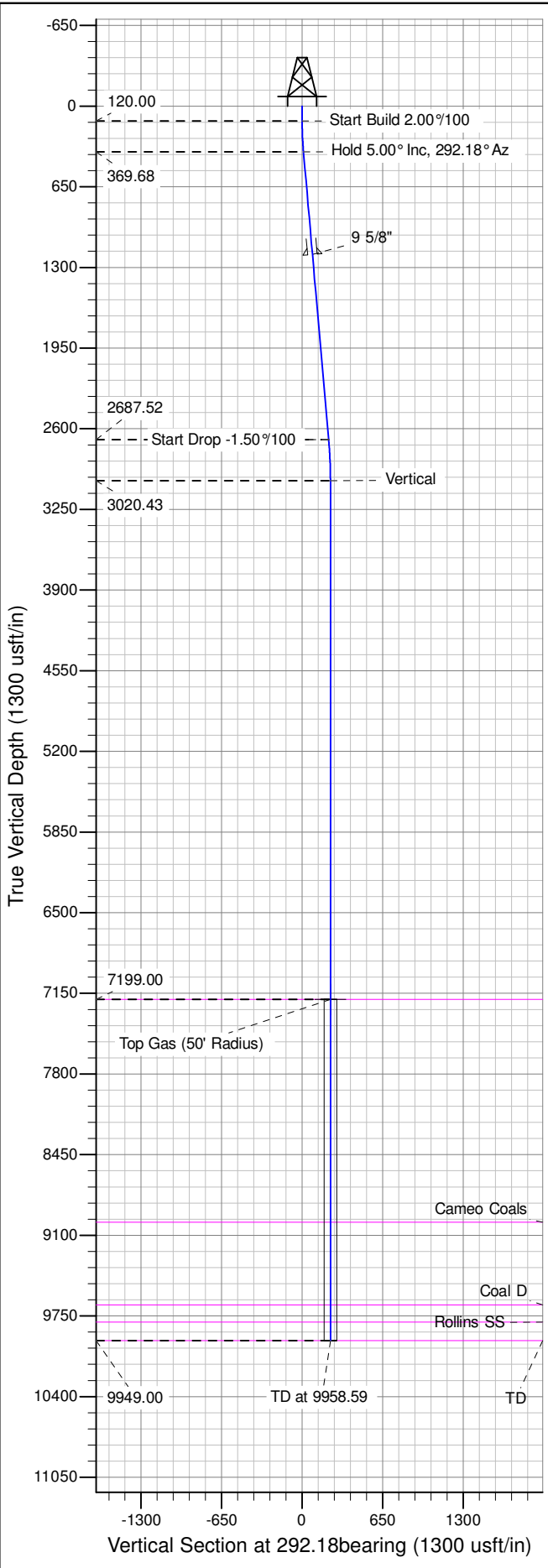




Well Name: RU 321-8
 Surface Location: RU 21-8 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 7736.00

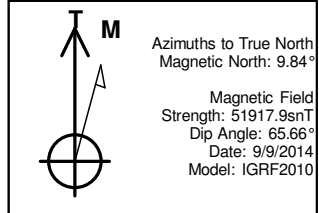
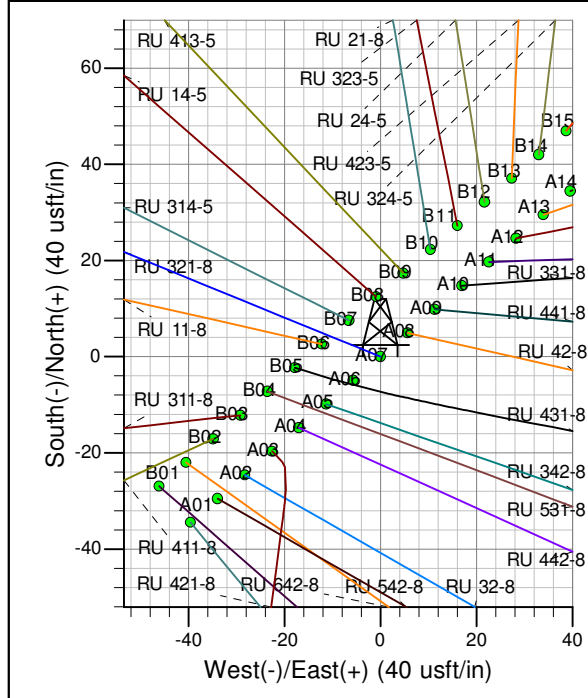
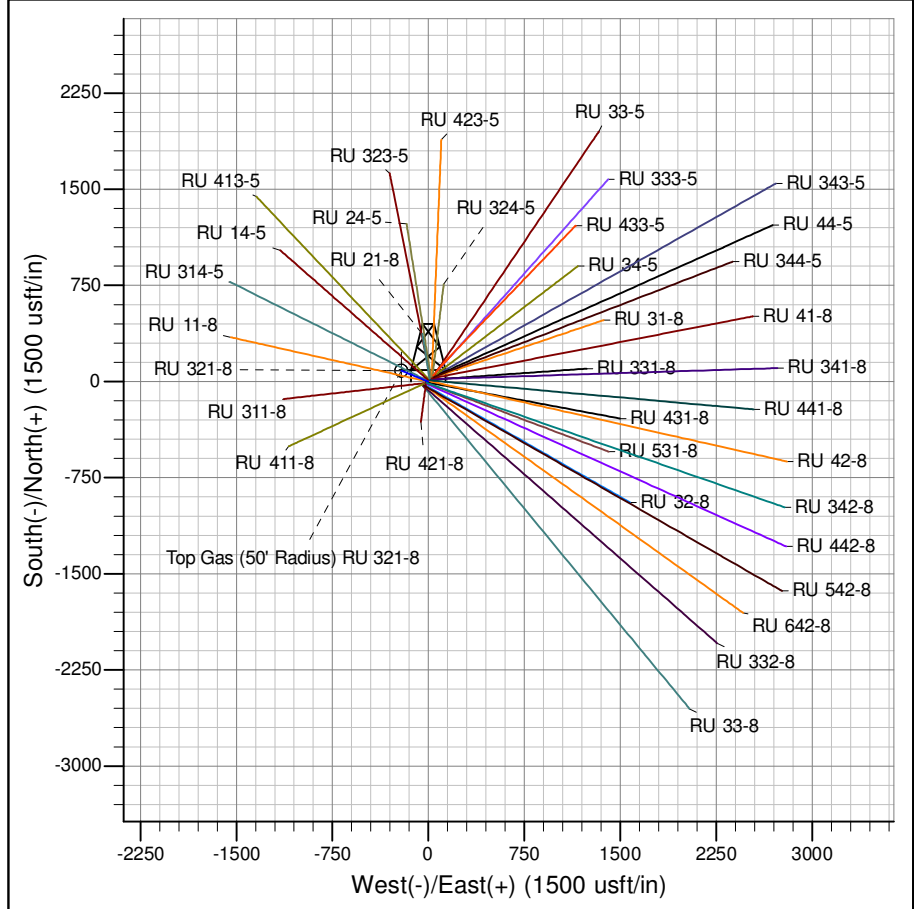
+N/-S 0.00 +E/-W 0.00 Northing 1602659.89 Easting 2350497.81 Latitude 39.46549 Longitude -107.80081 Slot A08

KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)



ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Departure	Annotation
120.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00%/100
369.68	370.00	5.00	292.18	4.12	-10.09	10.90	10.90	Hold 5.00° Inc, 292.18° Az
2687.52	2696.69	5.00	292.18	80.68	-197.87	213.69	213.69	Start Drop -1.50%/100
3020.43	3030.02	0.00	0.00	86.16	-211.33	228.22	228.22	Vertical
7199.00	7208.59	0.00	0.00	86.16	-211.33	228.22	228.22	Top Gas
9949.00	9958.59	0.00	0.00	86.16	-211.33	228.22	228.22	TD at 9958.59



Project: RU 08-07S-093W
 Site: RU 21-8 Pad
 Well: RU 321-8
 Design #1 09Sep14 mab

PICEANCE VLY NAD 83

RU 08-07S-093W

RU 21-8 Pad

RU 321-8 - Slot A08

Wellbore #1

Plan: Design #1 09Sep14 mab

Standard Planning Report - Geographic

04 November, 2014

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RU 321-8 - Slot A08
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Project:	RU 08-07S-093W	MD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Site:	RU 21-8 Pad	North Reference:	True
Well:	RU 321-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 09Sep14 mab		

Project	RU 08-07S-093W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	RU 21-8 Pad				
Site Position:		Northing:	1,602,707.70000 usft	Latitude:	39.46563
From:	Map	Easting:	2,350,555.60000 usft	Longitude:	-107.80061
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.45 °

Well	RU 321-8 - Slot A08					
Well Position	+N/-S	0.00 usft	Northing:	1,602,659.89332 usft	Latitude:	39.46549
	+E/-W	0.00 usft	Easting:	2,350,497.81140 usft	Longitude:	-107.80081
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level:	7,736.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/9/2014	9.84	65.66	51,918

Design	Design #1 09Sep14 mab			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)
	0.00	0.00	0.00	292.18

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
370.00	5.00	292.18	369.68	4.12	-10.09	2.00	2.00	0.00	292.18	
2,696.69	5.00	292.18	2,687.52	80.68	-197.87	0.00	0.00	0.00	0.00	
3,030.02	0.00	0.00	3,020.43	86.16	-211.33	1.50	-1.50	0.00	180.00	
7,208.59	0.00	0.00	7,199.00	86.16	-211.33	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
9,958.59	0.00	0.00	9,949.00	86.16	-211.33	0.00	0.00	0.00	0.00	

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RU 321-8 - Slot A08
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Project:	RU 08-07S-093W	MD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Site:	RU 21-8 Pad	North Reference:	True
Well:	RU 321-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 09Sep14 mab		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	1,602,659.89332	2,350,497.81140	39.46549	-107.80081	
120.00	0.00	0.00	120.00	0.00	0.00	1,602,659.89332	2,350,497.81140	39.46549	-107.80081	
Start Build 2.00°/100										
200.00	1.60	292.18	199.99	0.42	-1.03	1,602,660.34107	2,350,496.78813	39.46549	-107.80082	
370.00	5.00	292.18	369.68	4.12	-10.09	1,602,664.26335	2,350,487.82425	39.46550	-107.80085	
Hold 5.00° Inc, 292.18° Az										
400.00	5.00	292.18	399.57	5.10	-12.52	1,602,665.31149	2,350,485.42886	39.46551	-107.80086	
600.00	5.00	292.18	598.81	11.68	-28.66	1,602,672.29909	2,350,469.45956	39.46553	-107.80092	
800.00	5.00	292.18	798.05	18.26	-44.80	1,602,679.28669	2,350,453.49027	39.46554	-107.80097	
1,000.00	5.00	292.18	997.29	24.85	-60.94	1,602,686.27430	2,350,437.52097	39.46556	-107.80103	
1,200.00	5.00	292.18	1,196.52	31.43	-77.08	1,602,693.26190	2,350,421.55168	39.46558	-107.80109	
9 5/8"										
1,400.00	5.00	292.18	1,395.76	38.01	-93.22	1,602,700.24950	2,350,405.58238	39.46560	-107.80114	
1,600.00	5.00	292.18	1,595.00	44.59	-109.36	1,602,707.23710	2,350,389.61309	39.46562	-107.80120	
1,800.00	5.00	292.18	1,794.24	51.17	-125.50	1,602,714.22470	2,350,373.64380	39.46563	-107.80126	
2,000.00	5.00	292.18	1,993.48	57.75	-141.64	1,602,721.21231	2,350,357.67450	39.46565	-107.80132	
2,200.00	5.00	292.18	2,192.72	64.33	-157.79	1,602,728.19991	2,350,341.70522	39.46567	-107.80137	
2,400.00	5.00	292.18	2,391.96	70.91	-173.93	1,602,735.18751	2,350,325.73592	39.46569	-107.80143	
2,600.00	5.00	292.18	2,591.20	77.49	-190.07	1,602,742.17511	2,350,309.76663	39.46571	-107.80149	
2,696.69	5.00	292.18	2,687.52	80.68	-197.87	1,602,745.55330	2,350,302.04620	39.46571	-107.80152	
Start Drop -1.50°/100										
2,800.00	3.45	292.18	2,790.55	83.55	-204.92	1,602,748.60440	2,350,295.07329	39.46572	-107.80154	
3,000.00	0.45	292.18	2,990.41	86.12	-211.22	1,602,751.33270	2,350,288.83811	39.46573	-107.80156	
3,030.02	0.00	0.00	3,020.43	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
Vertical										
3,200.00	0.00	0.00	3,190.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
3,400.00	0.00	0.00	3,390.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
3,600.00	0.00	0.00	3,590.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
3,800.00	0.00	0.00	3,790.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
4,000.00	0.00	0.00	3,990.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
4,200.00	0.00	0.00	4,190.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
4,400.00	0.00	0.00	4,390.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
4,600.00	0.00	0.00	4,590.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
4,800.00	0.00	0.00	4,790.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
5,000.00	0.00	0.00	4,990.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
5,200.00	0.00	0.00	5,190.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
5,400.00	0.00	0.00	5,390.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
5,600.00	0.00	0.00	5,590.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
5,800.00	0.00	0.00	5,790.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
6,000.00	0.00	0.00	5,990.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
6,200.00	0.00	0.00	6,190.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
6,400.00	0.00	0.00	6,390.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
6,600.00	0.00	0.00	6,590.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
6,800.00	0.00	0.00	6,790.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
7,000.00	0.00	0.00	6,990.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
7,200.00	0.00	0.00	7,190.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
7,208.59	0.00	0.00	7,199.00	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
Top Gas - Approx. Top Gas										
7,400.00	0.00	0.00	7,390.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
7,600.00	0.00	0.00	7,590.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
7,800.00	0.00	0.00	7,790.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
8,000.00	0.00	0.00	7,990.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RU 321-8 - Slot A08
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Project:	RU 08-07S-093W	MD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Site:	RU 21-8 Pad	North Reference:	True
Well:	RU 321-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 09Sep14 mab		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
8,200.00	0.00	0.00	8,190.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
8,400.00	0.00	0.00	8,390.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
8,600.00	0.00	0.00	8,590.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
8,800.00	0.00	0.00	8,790.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
9,000.00	0.00	0.00	8,990.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
9,002.59	0.00	0.00	8,993.00	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
Cameo Coals										
9,200.00	0.00	0.00	9,190.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
9,400.00	0.00	0.00	9,390.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
9,600.00	0.00	0.00	9,590.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
9,670.59	0.00	0.00	9,661.00	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
Coal D										
9,800.00	0.00	0.00	9,790.41	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
9,808.59	0.00	0.00	9,799.00	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
Rollins SS										
9,958.59	0.00	0.00	9,949.00	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	
TD at 9958.59 - TD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Top Gas (50' Radius) RL - hit/miss target - Shape - plan hits target center - Circle (radius 50.00)	0.00	358.55	7,199.00	86.16	-211.33	1,602,751.38000	2,350,288.73000	39.46573	-107.80156	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)		
1,200.00	1,196.52	9 5/8"	9.625	13.500		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
7,208.59	7,199.00	Approx. Top Gas				
9,002.59	8,993.00	Cameo Coals				
9,670.59	9,661.00	Coal D				
9,808.59	9,799.00	Rollins SS				
9,958.59	9,949.00	TD				

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RU 321-8 - Slot A08
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Project:	RU 08-07S-093W	MD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Site:	RU 21-8 Pad	North Reference:	True
Well:	RU 321-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 09Sep14 mab		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Build 2.00°/100
370.00	369.68	4.12	-10.09	Hold 5.00° Inc, 292.18° Az
2,696.69	2,687.52	80.68	-197.87	Start Drop -1.50°/100
3,030.02	3,020.43	86.16	-211.33	Vertical
7,208.59	7,199.00	86.16	-211.33	Top Gas
9,958.59	9,949.00	86.16	-211.33	TD at 9958.59