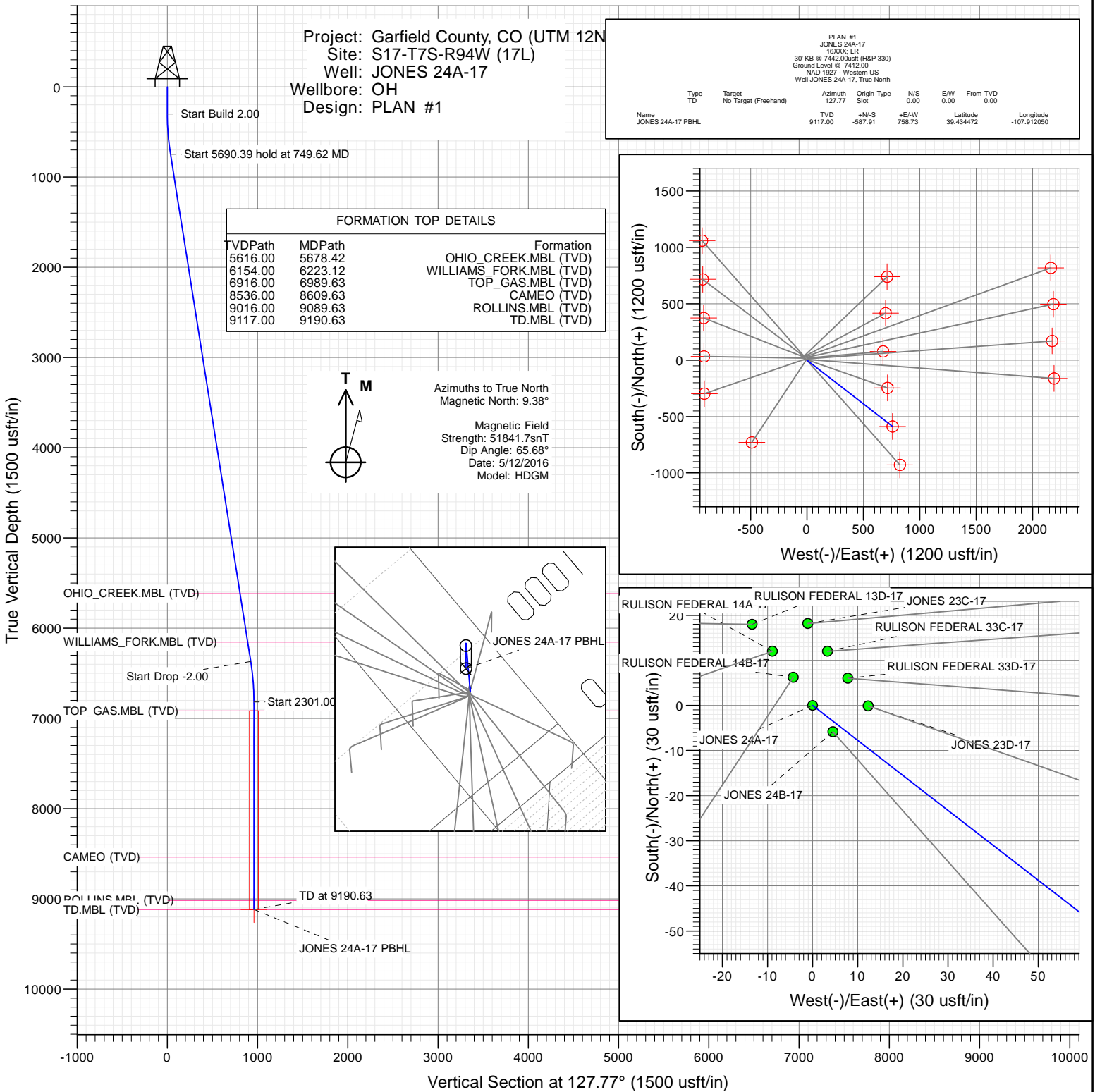




SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	749.62	8.99	127.77	747.77	-21.57	27.83	2.00	127.77	35.21	
4	6440.01	8.99	127.77	6368.23	-566.34	730.89	0.00	0.00	924.63	
5	6889.63	0.00	0.00	6816.00	-587.91	758.73	2.00	180.00	959.84	
6	9190.63	0.00	0.00	9117.00	-587.91	758.73	0.00	0.00	959.84	JONES 24A-17 PBHL



WELL DETAILS: JONES 24A-17

+N/-S	+E/-W	Northing	Ground Level:	7412.00	Latitude	Longitude
0.00	0.00	14335621.70	Easting	2511618.20	39.436085	-107.914735



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well JONES 24A-17
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 7442.00usft (H&P 330)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 7442.00usft (H&P 330)
Site:	S17-T7S-R94W (17L)	North Reference:	True
Well:	JONES 24A-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Project	Garfield County, CO (UTM 12N)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

Site		S17-T7S-R94W (17L)			
Site Position:		Northing:	14,335,663.20 usft	Latitude:	39.436201
From:	Map	Easting:	2,511,597.60 usft	Longitude:	-107.914803
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.96 °

Well	JONES 24A-17					
Well Position	+N/-S	0.00 usft	Northing:	14,335,621.70 usft	Latitude:	39.436085
	+E/-W	0.00 usft	Easting:	2,511,618.20 usft	Longitude:	-107.914735
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,412.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	5/12/2016	9.38	65.68	51,842

Design	PLAN #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	127.77	

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.00	0.00	0.00	0.00	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	
749.62	8.99	127.77	747.77	-21.57	27.83	2.00	2.00	0.00	127.77	
6,440.01	8.99	127.77	6,368.23	-566.34	730.89	0.00	0.00	0.00	0.00	
6,889.63	0.00	0.00	6,816.00	-587.91	758.73	2.00	-2.00	0.00	180.00	
9,190.63	0.00	0.00	9,117.00	-587.91	758.73	0.00	0.00	0.00	0.00	JONES 24A-17 PBHL

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well JONES 24A-17
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 7442.00usft (H&P 330)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 7442.00usft (H&P 330)
Site:	S17-T7S-R94W (17L)	North Reference:	True
Well:	JONES 24A-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
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	
200.00	0.00	0.00	200.00	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	Start Build 2.00
400.00	2.00	127.77	399.98	-1.07	1.38	1.75	2.00	2.00	
500.00	4.00	127.77	499.84	-4.27	5.52	6.98	2.00	2.00	
600.00	6.00	127.77	599.45	-9.61	12.41	15.69	2.00	2.00	
700.00	8.00	127.77	698.70	-17.08	22.04	27.88	2.00	2.00	
749.62	8.99	127.77	747.77	-21.57	27.83	35.21	2.00	2.00	Start 5690.39 hold at 749.62 MD
800.00	8.99	127.77	797.54	-26.39	34.06	43.09	0.00	0.00	
900.00	8.99	127.77	896.31	-35.96	46.41	58.72	0.00	0.00	
1,000.00	8.99	127.77	995.08	-45.54	58.77	74.35	0.00	0.00	
1,100.00	8.99	127.77	1,093.85	-55.11	71.12	89.98	0.00	0.00	
1,200.00	8.99	127.77	1,192.62	-64.68	83.48	105.61	0.00	0.00	
1,300.00	8.99	127.77	1,291.39	-74.26	95.83	121.24	0.00	0.00	
1,400.00	8.99	127.77	1,390.16	-83.83	108.19	136.87	0.00	0.00	
1,500.00	8.99	127.77	1,488.93	-93.41	120.54	152.50	0.00	0.00	
1,600.00	8.99	127.77	1,587.70	-102.98	132.90	168.13	0.00	0.00	
1,700.00	8.99	127.77	1,686.48	-112.55	145.25	183.76	0.00	0.00	
1,800.00	8.99	127.77	1,785.25	-122.13	157.61	199.39	0.00	0.00	
1,900.00	8.99	127.77	1,884.02	-131.70	169.97	215.02	0.00	0.00	
2,000.00	8.99	127.77	1,982.79	-141.27	182.32	230.65	0.00	0.00	
2,100.00	8.99	127.77	2,081.56	-150.85	194.68	246.28	0.00	0.00	
2,200.00	8.99	127.77	2,180.33	-160.42	207.03	261.91	0.00	0.00	
2,300.00	8.99	127.77	2,279.10	-169.99	219.39	277.54	0.00	0.00	
2,400.00	8.99	127.77	2,377.87	-179.57	231.74	293.17	0.00	0.00	
2,500.00	8.99	127.77	2,476.64	-189.14	244.10	308.80	0.00	0.00	
2,600.00	8.99	127.77	2,575.41	-198.71	256.45	324.43	0.00	0.00	
2,700.00	8.99	127.77	2,674.18	-208.29	268.81	340.06	0.00	0.00	
2,800.00	8.99	127.77	2,772.96	-217.86	281.16	355.69	0.00	0.00	
2,900.00	8.99	127.77	2,871.73	-227.44	293.52	371.32	0.00	0.00	
3,000.00	8.99	127.77	2,970.50	-237.01	305.87	386.95	0.00	0.00	
3,100.00	8.99	127.77	3,069.27	-246.58	318.23	402.58	0.00	0.00	
3,200.00	8.99	127.77	3,168.04	-256.16	330.58	418.21	0.00	0.00	
3,300.00	8.99	127.77	3,266.81	-265.73	342.94	433.84	0.00	0.00	
3,400.00	8.99	127.77	3,365.58	-275.30	355.29	449.47	0.00	0.00	
3,500.00	8.99	127.77	3,464.35	-284.88	367.65	465.10	0.00	0.00	
3,600.00	8.99	127.77	3,563.12	-294.45	380.00	480.73	0.00	0.00	
3,700.00	8.99	127.77	3,661.89	-304.02	392.36	496.36	0.00	0.00	
3,800.00	8.99	127.77	3,760.66	-313.60	404.71	511.99	0.00	0.00	
3,900.00	8.99	127.77	3,859.44	-323.17	417.07	527.62	0.00	0.00	
4,000.00	8.99	127.77	3,958.21	-332.75	429.42	543.25	0.00	0.00	
4,100.00	8.99	127.77	4,056.98	-342.32	441.78	558.88	0.00	0.00	
4,200.00	8.99	127.77	4,155.75	-351.89	454.14	574.51	0.00	0.00	
4,300.00	8.99	127.77	4,254.52	-361.47	466.49	590.14	0.00	0.00	
4,400.00	8.99	127.77	4,353.29	-371.04	478.85	605.77	0.00	0.00	
4,500.00	8.99	127.77	4,452.06	-380.61	491.20	621.41	0.00	0.00	
4,600.00	8.99	127.77	4,550.83	-390.19	503.56	637.04	0.00	0.00	
4,700.00	8.99	127.77	4,649.60	-399.76	515.91	652.67	0.00	0.00	
4,800.00	8.99	127.77	4,748.37	-409.33	528.27	668.30	0.00	0.00	
4,900.00	8.99	127.77	4,847.14	-418.91	540.62	683.93	0.00	0.00	
5,000.00	8.99	127.77	4,945.92	-428.48	552.98	699.56	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well JONES 24A-17
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 7442.00usft (H&P 330)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 7442.00usft (H&P 330)
Site:	S17-T7S-R94W (17L)	North Reference:	True
Well:	JONES 24A-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
5,100.00	8.99	127.77	5,044.69	-438.05	565.33	715.19	0.00	0.00	
5,200.00	8.99	127.77	5,143.46	-447.63	577.69	730.82	0.00	0.00	
5,300.00	8.99	127.77	5,242.23	-457.20	590.04	746.45	0.00	0.00	
5,400.00	8.99	127.77	5,341.00	-466.78	602.40	762.08	0.00	0.00	
5,500.00	8.99	127.77	5,439.77	-476.35	614.75	777.71	0.00	0.00	
5,600.00	8.99	127.77	5,538.54	-485.92	627.11	793.34	0.00	0.00	
5,678.42	8.99	127.77	5,616.00	-493.43	636.80	805.60	0.00	0.00	OHIO_CREEK.MBL (TVD)
5,700.00	8.99	127.77	5,637.31	-495.50	639.46	808.97	0.00	0.00	
5,800.00	8.99	127.77	5,736.08	-505.07	651.82	824.60	0.00	0.00	
5,900.00	8.99	127.77	5,834.85	-514.64	664.17	840.23	0.00	0.00	
6,000.00	8.99	127.77	5,933.63	-524.22	676.53	855.86	0.00	0.00	
6,100.00	8.99	127.77	6,032.40	-533.79	688.88	871.49	0.00	0.00	
6,200.00	8.99	127.77	6,131.17	-543.36	701.24	887.12	0.00	0.00	
6,223.12	8.99	127.77	6,154.00	-545.58	704.10	890.73	0.00	0.00	WILLIAMS_FORK.MBL (TVD)
6,300.00	8.99	127.77	6,229.94	-552.94	713.59	902.75	0.00	0.00	
6,400.00	8.99	127.77	6,328.71	-562.51	725.95	918.38	0.00	0.00	
6,440.01	8.99	127.77	6,368.23	-566.34	730.89	924.63	0.00	0.00	Start Drop -2.00
6,500.00	7.79	127.77	6,427.57	-571.70	737.81	933.39	2.00	-2.00	
6,600.00	5.79	127.77	6,526.87	-578.95	747.16	945.22	2.00	-2.00	
6,700.00	3.79	127.77	6,626.51	-584.07	753.77	953.57	2.00	-2.00	
6,800.00	1.79	127.77	6,726.39	-587.05	757.62	958.44	2.00	-2.00	
6,889.63	0.00	0.00	6,816.00	-587.91	758.73	959.84	2.00	-2.00	Start 2301.00 hold at 6889.63 MD
6,900.00	0.00	0.00	6,826.37	-587.91	758.73	959.84	0.00	0.00	
6,989.63	0.00	0.00	6,916.00	-587.91	758.73	959.84	0.00	0.00	TOP_GAS.MBL (TVD)
7,000.00	0.00	0.00	6,926.37	-587.91	758.73	959.84	0.00	0.00	
7,100.00	0.00	0.00	7,026.37	-587.91	758.73	959.84	0.00	0.00	
7,200.00	0.00	0.00	7,126.37	-587.91	758.73	959.84	0.00	0.00	
7,300.00	0.00	0.00	7,226.37	-587.91	758.73	959.84	0.00	0.00	
7,400.00	0.00	0.00	7,326.37	-587.91	758.73	959.84	0.00	0.00	
7,500.00	0.00	0.00	7,426.37	-587.91	758.73	959.84	0.00	0.00	
7,600.00	0.00	0.00	7,526.37	-587.91	758.73	959.84	0.00	0.00	
7,700.00	0.00	0.00	7,626.37	-587.91	758.73	959.84	0.00	0.00	
7,800.00	0.00	0.00	7,726.37	-587.91	758.73	959.84	0.00	0.00	
7,900.00	0.00	0.00	7,826.37	-587.91	758.73	959.84	0.00	0.00	
8,000.00	0.00	0.00	7,926.37	-587.91	758.73	959.84	0.00	0.00	
8,100.00	0.00	0.00	8,026.37	-587.91	758.73	959.84	0.00	0.00	
8,200.00	0.00	0.00	8,126.37	-587.91	758.73	959.84	0.00	0.00	
8,300.00	0.00	0.00	8,226.37	-587.91	758.73	959.84	0.00	0.00	
8,400.00	0.00	0.00	8,326.37	-587.91	758.73	959.84	0.00	0.00	
8,500.00	0.00	0.00	8,426.37	-587.91	758.73	959.84	0.00	0.00	
8,600.00	0.00	0.00	8,526.37	-587.91	758.73	959.84	0.00	0.00	
8,609.63	0.00	0.00	8,536.00	-587.91	758.73	959.84	0.00	0.00	CAMEO (TVD)
8,700.00	0.00	0.00	8,626.37	-587.91	758.73	959.84	0.00	0.00	
8,800.00	0.00	0.00	8,726.37	-587.91	758.73	959.84	0.00	0.00	
8,900.00	0.00	0.00	8,826.37	-587.91	758.73	959.84	0.00	0.00	
9,000.00	0.00	0.00	8,926.37	-587.91	758.73	959.84	0.00	0.00	
9,089.63	0.00	0.00	9,016.00	-587.91	758.73	959.84	0.00	0.00	ROLLINS.MBL (TVD)
9,100.00	0.00	0.00	9,026.37	-587.91	758.73	959.84	0.00	0.00	
9,190.63	0.00	0.00	9,117.00	-587.91	758.73	959.84	0.00	0.00	TD at 9190.63 - TD.MBL (TVD)

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well JONES 24A-17
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 7442.00usft (H&P 330)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 7442.00usft (H&P 330)
Site:	S17-T7S-R94W (17L)	North Reference:	True
Well:	JONES 24A-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
JONES 24A-17 PBHL	0.00	0.00	9,117.00	-587.91	758.73	14,335,060.10	2,512,396.60	39.434472	-107.912050
- plan hits target center									
- Circle (radius 50.00)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
5,678.42	5,616.00	OHIO_CREEK.MBL (TVD)				
6,223.12	6,154.00	WILLIAMS_FORK.MBL (TVD)				
6,989.63	6,916.00	TOP_GAS.MBL (TVD)				
8,609.63	8,536.00	CAMEO (TVD)				
9,089.63	9,016.00	ROLLINS.MBL (TVD)				
9,190.63	9,117.00	TD.MBL (TVD)				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
749.62	747.77	-21.57	27.83	Start 5690.39 hold at 749.62 MD	
6,440.01	6,368.23	-566.34	730.89	Start Drop -2.00	
6,889.63	6,816.00	-587.91	758.73	Start 2301.00 hold at 6889.63 MD	
9,190.63	9,117.00	-587.91	758.73	TD at 9190.63	