

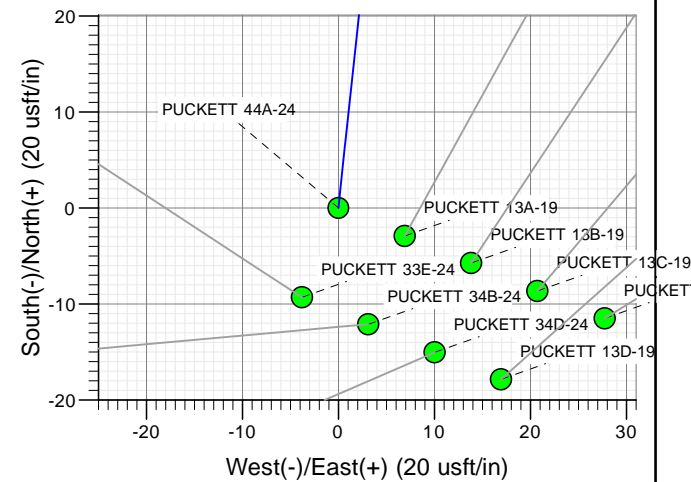
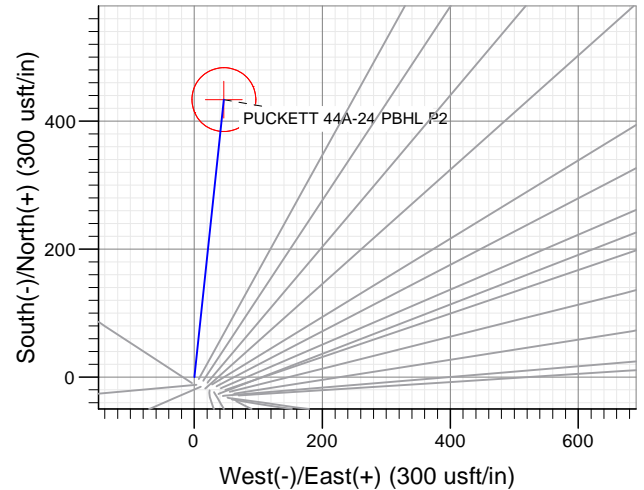
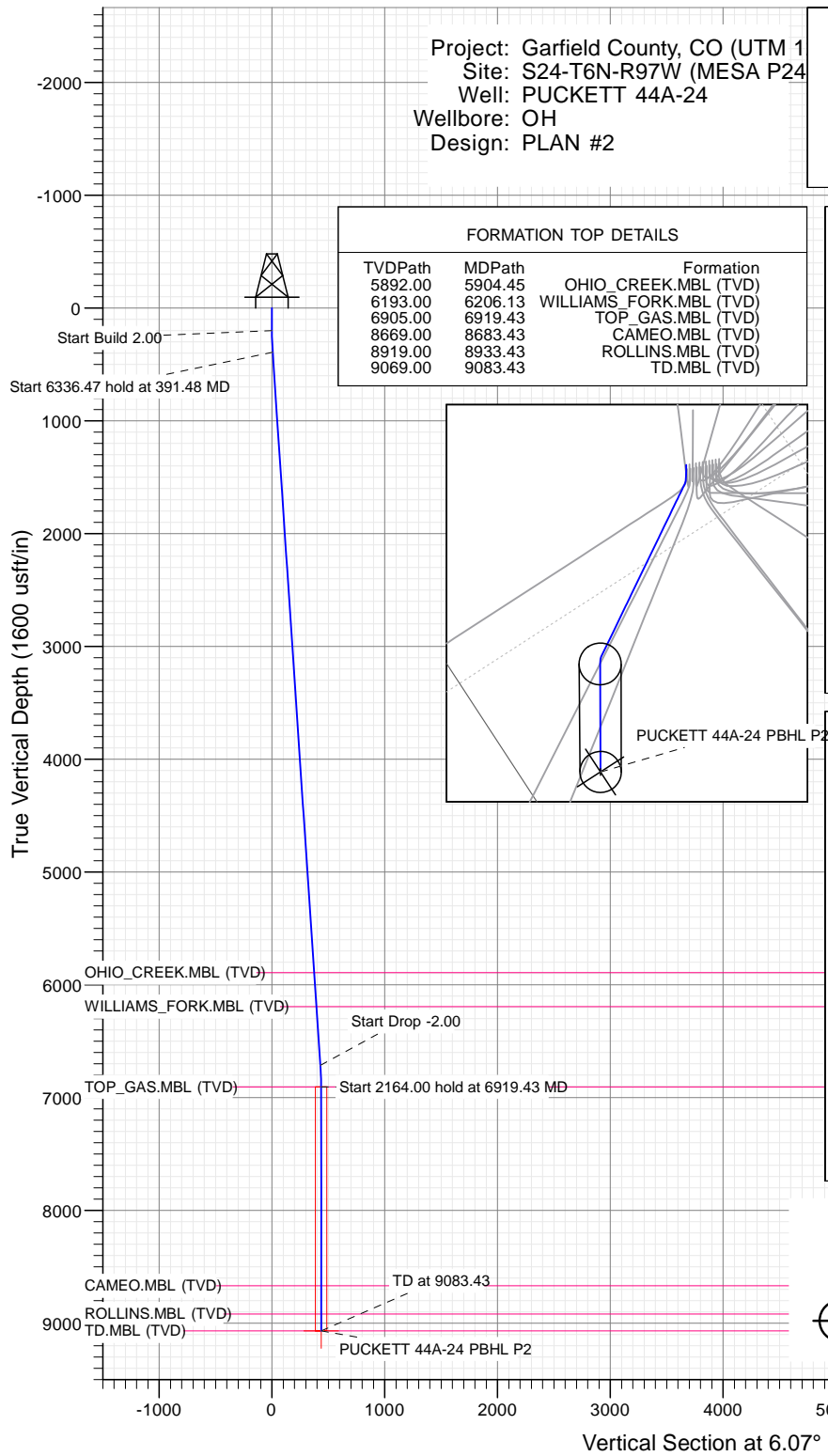


SECTION DETAILS

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	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	391.48	3.83	6.07	391.34	6.36	0.68	2.00	6.07	6.40	
4	6727.95	3.83	6.07	6713.66	427.20	45.43	0.00	0.00	429.61	
5	6919.43	0.00	0.00	6905.00	433.56	46.10	2.00	180.00	436.01	
6	9083.43	0.00	0.00	9069.00	433.56	46.10	0.00	0.00	436.01	PUCKETT 44A-24 PBHL P2

Project: Garfield County, CO (UTM 1
Site: S24-T6N-R97W (MESA P24
Well: PUCKETT 44A-24
Wellbore: OH
Design: PLAN #2

PLAN #2 PUCKETT 44A-24 16X00: LR 30' KB @ 8151.00ft Ground Level @ 8151.00 NAD 1927 - Western US Well PUCKETT 44A-24 - Slot A11, True North									
Type	TD	Target	No Target (Freehand)	Asmuth	Origin Type	Slot	N/S	E/W	From TVD
Name	TVD	+N/-S	+E/-W	Latitude	Longitude				
PUCKETT 44A-24 PBHL	9069.00	500.22	67.41	39.50436	-108.16069				
PUCKETT 44A-24 PBHL P2	9069.00	433.56	46.10	39.504213	-108.161045				



Azimuths to True North
Magnetic North: 9.68°

Magnetic Field
Strength: 51704.6snT
Dip Angle: 65.82°
Date: 8/1/2017
Model: HDGM

WELL DETAILS: PUCKETT 44A-24

+N/-S	+E/-W	Northing	Ground Level:	8151.00	Latitude	Longitude
0.00	0.00	14357711.70	Easting	2441240.40	39.503023	-108.161208

A11



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 44A-24 - Slot A11
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8181.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 44A-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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		S24-T6N-R97W (MESA P24)			
Site Position:		Northing:	14,357,707.60 usft	Latitude:	39.503013
From:	Map	Easting:	2,441,222.80 usft	Longitude:	-108.161271
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.81 °

Well	PUCKETT 44A-24 - Slot A11					
Well Position	+N/-S	0.00 usft	Northing:	14,357,711.70 usft	Latitude:	39.503023
	+E/-W	0.00 usft	Easting:	2,441,240.40 usft	Longitude:	-108.161208
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	8,151.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	8/1/2017	9.68	65.82	51,704.60000000

Design	PLAN #2			
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	6.07

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
391.48	3.83	6.07	391.34	6.36	0.68	2.00	2.00	0.00	6.07	
6,727.95	3.83	6.07	6,713.66	427.20	45.43	0.00	0.00	0.00	0.00	
6,919.43	0.00	0.00	6,905.00	433.56	46.10	2.00	-2.00	0.00	180.00	
9,083.43	0.00	0.00	9,069.00	433.56	46.10	0.00	0.00	0.00	0.00	PUCKETT 44A-24 PE

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 44A-24 - Slot A11
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8181.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 44A-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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	Start Build 2.00
300.00	2.00	6.07	299.98	1.74	0.18	1.75	2.00	2.00	
391.48	3.83	6.07	391.34	6.36	0.68	6.40	2.00	2.00	Start 6336.47 hold at 391.48 MD
400.00	3.83	6.07	399.84	6.93	0.74	6.97	0.00	0.00	
500.00	3.83	6.07	499.62	13.57	1.44	13.64	0.00	0.00	
600.00	3.83	6.07	599.39	20.21	2.15	20.32	0.00	0.00	
700.00	3.83	6.07	699.17	26.85	2.86	27.00	0.00	0.00	
800.00	3.83	6.07	798.95	33.49	3.56	33.68	0.00	0.00	
900.00	3.83	6.07	898.72	40.13	4.27	40.36	0.00	0.00	
1,000.00	3.83	6.07	998.50	46.78	4.97	47.04	0.00	0.00	
1,100.00	3.83	6.07	1,098.28	53.42	5.68	53.72	0.00	0.00	
1,200.00	3.83	6.07	1,198.05	60.06	6.39	60.40	0.00	0.00	
1,300.00	3.83	6.07	1,297.83	66.70	7.09	67.08	0.00	0.00	
1,400.00	3.83	6.07	1,397.61	73.34	7.80	73.76	0.00	0.00	
1,500.00	3.83	6.07	1,497.38	79.98	8.51	80.43	0.00	0.00	
1,600.00	3.83	6.07	1,597.16	86.63	9.21	87.11	0.00	0.00	
1,700.00	3.83	6.07	1,696.94	93.27	9.92	93.79	0.00	0.00	
1,800.00	3.83	6.07	1,796.71	99.91	10.62	100.47	0.00	0.00	
1,900.00	3.83	6.07	1,896.49	106.55	11.33	107.15	0.00	0.00	
2,000.00	3.83	6.07	1,996.27	113.19	12.04	113.83	0.00	0.00	
2,100.00	3.83	6.07	2,096.04	119.83	12.74	120.51	0.00	0.00	
2,200.00	3.83	6.07	2,195.82	126.47	13.45	127.19	0.00	0.00	
2,300.00	3.83	6.07	2,295.60	133.12	14.15	133.87	0.00	0.00	
2,400.00	3.83	6.07	2,395.37	139.76	14.86	140.55	0.00	0.00	
2,500.00	3.83	6.07	2,495.15	146.40	15.57	147.22	0.00	0.00	
2,600.00	3.83	6.07	2,594.93	153.04	16.27	153.90	0.00	0.00	
2,700.00	3.83	6.07	2,694.70	159.68	16.98	160.58	0.00	0.00	
2,800.00	3.83	6.07	2,794.48	166.32	17.69	167.26	0.00	0.00	
2,900.00	3.83	6.07	2,894.26	172.97	18.39	173.94	0.00	0.00	
3,000.00	3.83	6.07	2,994.03	179.61	19.10	180.62	0.00	0.00	
3,100.00	3.83	6.07	3,093.81	186.25	19.80	187.30	0.00	0.00	
3,200.00	3.83	6.07	3,193.59	192.89	20.51	193.98	0.00	0.00	
3,300.00	3.83	6.07	3,293.36	199.53	21.22	200.66	0.00	0.00	
3,400.00	3.83	6.07	3,393.14	206.17	21.92	207.34	0.00	0.00	
3,500.00	3.83	6.07	3,492.92	212.81	22.63	214.01	0.00	0.00	
3,600.00	3.83	6.07	3,592.69	219.46	23.34	220.69	0.00	0.00	
3,700.00	3.83	6.07	3,692.47	226.10	24.04	227.37	0.00	0.00	
3,800.00	3.83	6.07	3,792.25	232.74	24.75	234.05	0.00	0.00	
3,900.00	3.83	6.07	3,892.02	239.38	25.45	240.73	0.00	0.00	
4,000.00	3.83	6.07	3,991.80	246.02	26.16	247.41	0.00	0.00	
4,100.00	3.83	6.07	4,091.58	252.66	26.87	254.09	0.00	0.00	
4,200.00	3.83	6.07	4,191.35	259.31	27.57	260.77	0.00	0.00	
4,300.00	3.83	6.07	4,291.13	265.95	28.28	267.45	0.00	0.00	
4,400.00	3.83	6.07	4,390.91	272.59	28.99	274.13	0.00	0.00	
4,500.00	3.83	6.07	4,490.68	279.23	29.69	280.80	0.00	0.00	
4,600.00	3.83	6.07	4,590.46	285.87	30.40	287.48	0.00	0.00	
4,700.00	3.83	6.07	4,690.24	292.51	31.10	294.16	0.00	0.00	
4,800.00	3.83	6.07	4,790.01	299.15	31.81	300.84	0.00	0.00	
4,900.00	3.83	6.07	4,889.79	305.80	32.52	307.52	0.00	0.00	
5,000.00	3.83	6.07	4,989.57	312.44	33.22	314.20	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 44A-24 - Slot A11
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8181.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 44A-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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	3.83	6.07	5,089.34	319.08	33.93	320.88	0.00	0.00	
5,200.00	3.83	6.07	5,189.12	325.72	34.64	327.56	0.00	0.00	
5,300.00	3.83	6.07	5,288.90	332.36	35.34	334.24	0.00	0.00	
5,400.00	3.83	6.07	5,388.67	339.00	36.05	340.92	0.00	0.00	
5,500.00	3.83	6.07	5,488.45	345.65	36.75	347.59	0.00	0.00	
5,600.00	3.83	6.07	5,588.23	352.29	37.46	354.27	0.00	0.00	
5,700.00	3.83	6.07	5,688.00	358.93	38.17	360.95	0.00	0.00	
5,800.00	3.83	6.07	5,787.78	365.57	38.87	367.63	0.00	0.00	
5,900.00	3.83	6.07	5,887.56	372.21	39.58	374.31	0.00	0.00	
5,904.45	3.83	6.07	5,892.00	372.51	39.61	374.61	0.00	0.00	OHIO_CREEK.MBL (TVD)
6,000.00	3.83	6.07	5,987.33	378.85	40.29	380.99	0.00	0.00	
6,100.00	3.83	6.07	6,087.11	385.50	40.99	387.67	0.00	0.00	
6,200.00	3.83	6.07	6,186.89	392.14	41.70	394.35	0.00	0.00	
6,206.13	3.83	6.07	6,193.00	392.54	41.74	394.76	0.00	0.00	WILLIAMS_FORK.MBL (TVD)
6,300.00	3.83	6.07	6,286.66	398.78	42.40	401.03	0.00	0.00	
6,400.00	3.83	6.07	6,386.44	405.42	43.11	407.71	0.00	0.00	
6,500.00	3.83	6.07	6,486.22	412.06	43.82	414.38	0.00	0.00	
6,600.00	3.83	6.07	6,585.99	418.70	44.52	421.06	0.00	0.00	
6,700.00	3.83	6.07	6,685.77	425.34	45.23	427.74	0.00	0.00	
6,727.95	3.83	6.07	6,713.66	427.20	45.43	429.61	0.00	0.00	Start Drop -2.00
6,800.00	2.39	6.07	6,785.60	431.09	45.84	433.52	2.00	-2.00	
6,900.00	0.39	6.07	6,885.57	433.50	46.10	435.94	2.00	-2.00	
6,919.43	0.00	0.00	6,905.00	433.56	46.10	436.01	2.00	-2.00	Start 2164.00 hold at 6919.43 MD - TOP_GAS.I
7,000.00	0.00	0.00	6,985.57	433.56	46.10	436.01	0.00	0.00	
7,100.00	0.00	0.00	7,085.57	433.56	46.10	436.01	0.00	0.00	
7,200.00	0.00	0.00	7,185.57	433.56	46.10	436.01	0.00	0.00	
7,300.00	0.00	0.00	7,285.57	433.56	46.10	436.01	0.00	0.00	
7,400.00	0.00	0.00	7,385.57	433.56	46.10	436.01	0.00	0.00	
7,500.00	0.00	0.00	7,485.57	433.56	46.10	436.01	0.00	0.00	
7,600.00	0.00	0.00	7,585.57	433.56	46.10	436.01	0.00	0.00	
7,700.00	0.00	0.00	7,685.57	433.56	46.10	436.01	0.00	0.00	
7,800.00	0.00	0.00	7,785.57	433.56	46.10	436.01	0.00	0.00	
7,900.00	0.00	0.00	7,885.57	433.56	46.10	436.01	0.00	0.00	
8,000.00	0.00	0.00	7,985.57	433.56	46.10	436.01	0.00	0.00	
8,100.00	0.00	0.00	8,085.57	433.56	46.10	436.01	0.00	0.00	
8,200.00	0.00	0.00	8,185.57	433.56	46.10	436.01	0.00	0.00	
8,300.00	0.00	0.00	8,285.57	433.56	46.10	436.01	0.00	0.00	
8,400.00	0.00	0.00	8,385.57	433.56	46.10	436.01	0.00	0.00	
8,500.00	0.00	0.00	8,485.57	433.56	46.10	436.01	0.00	0.00	
8,600.00	0.00	0.00	8,585.57	433.56	46.10	436.01	0.00	0.00	
8,683.43	0.00	0.00	8,669.00	433.56	46.10	436.01	0.00	0.00	CAMEO.MBL (TVD)
8,700.00	0.00	0.00	8,685.57	433.56	46.10	436.01	0.00	0.00	
8,800.00	0.00	0.00	8,785.57	433.56	46.10	436.01	0.00	0.00	
8,900.00	0.00	0.00	8,885.57	433.56	46.10	436.01	0.00	0.00	
8,933.43	0.00	0.00	8,919.00	433.56	46.10	436.01	0.00	0.00	ROLLINS.MBL (TVD)
9,000.00	0.00	0.00	8,985.57	433.56	46.10	436.01	0.00	0.00	
9,083.43	0.00	0.00	9,069.00	433.56	46.10	436.01	0.00	0.00	TD at 9083.43 - TD.MBL (TVD)

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 44A-24 - Slot A11
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8181.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 44A-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

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)		
PUCKETT 44A-24 PBHL	0.00	0.00	9,069.00	433.56	46.10	14,358,146.50	2,441,272.81	39.504213	-108.161045
- plan hits target center									
- Circle (radius 50.00)									
PUCKETT 44A-24 PBHL	0.00	0.00	9,069.00	500.22	67.41	14,358,213.80	2,441,292.00	39.504396	-108.160969
- plan misses target center by 69.98usft at 9083.43usft MD (9069.00 TVD, 433.56 N, 46.10 E)									
- Circle (radius 50.00)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
5,904.45	5,892.00	OHIO_CREEK.MBL (TVD)				
6,206.13	6,193.00	WILLIAMS_FORK.MBL (TVD)				
6,919.43	6,905.00	TOP_GAS.MBL (TVD)				
8,683.43	8,669.00	CAMEO.MBL (TVD)				
8,933.43	8,919.00	ROLLINS.MBL (TVD)				
9,083.43	9,069.00	TD.MBL (TVD)				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
200.00	200.00	0.00	0.00	Start Build 2.00	
391.48	391.34	6.36	0.68	Start 6336.47 hold at 391.48 MD	
6,727.95	6,713.66	427.20	45.43	Start Drop -2.00	
6,919.43	6,905.00	433.56	46.10	Start 2164.00 hold at 6919.43 MD	
9,083.43	9,069.00	433.56	46.10	TD at 9083.43	