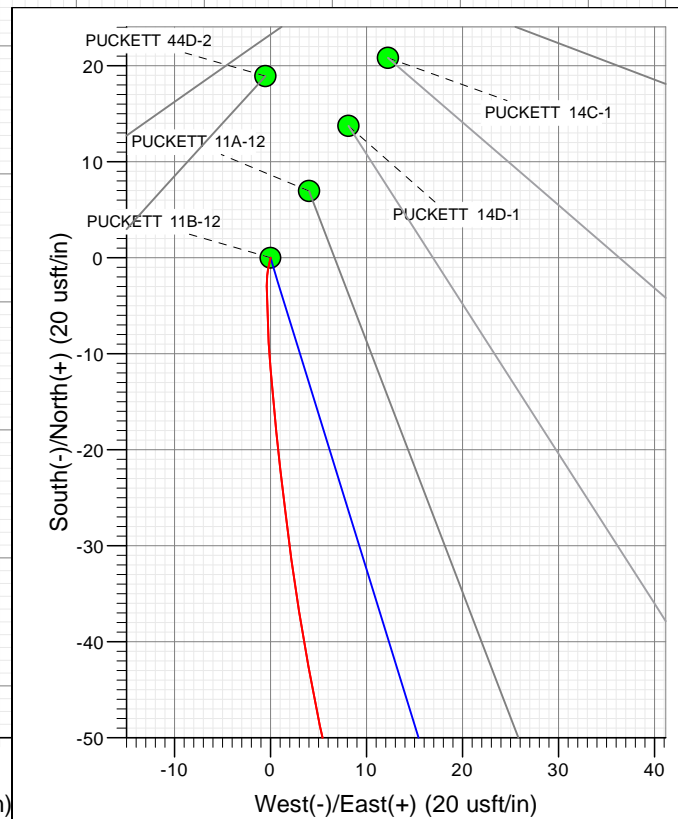
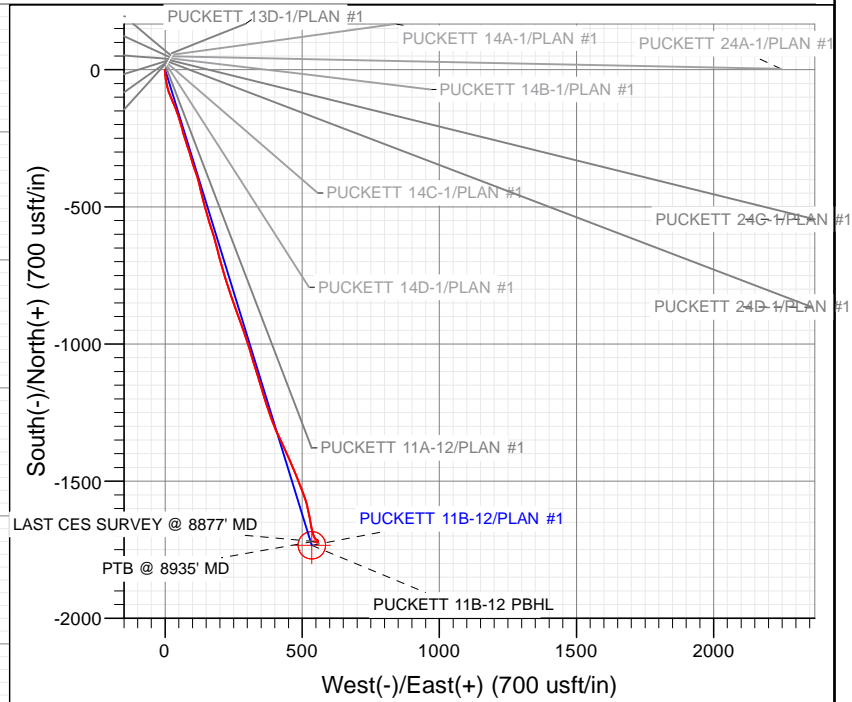
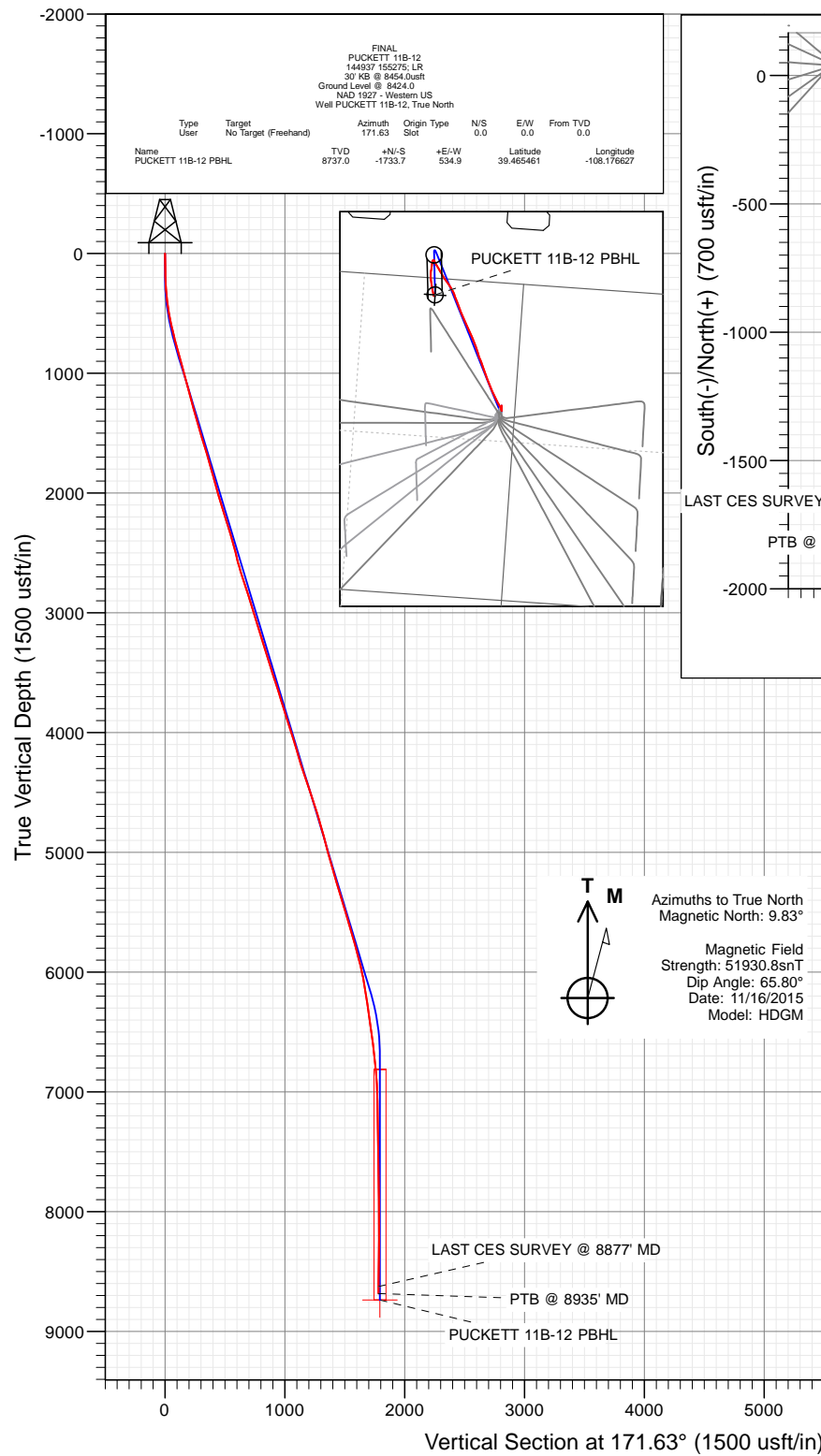




Project: Garfield County, CO (UTM 12N)  
Site: S2-T7S-R97W (P2)  
Well: PUCKETT 11B-12  
Wellbore: OH  
Design: FINAL



WELL DETAILS: PUCKETT 11B-12

+N/-S	+E/-W	Northing	Ground Level:	8424.0	Latitude	Longitude
0.0	0.0	14345611.30	Easting	2436730.20	39.470219	-108.178520



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Caerus Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 11B-12
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>TVD Reference:</b>	30' KB @ 8454.0usft
<b>Site:</b>	S2-T7S-R97W (P2)	<b>MD Reference:</b>	30' KB @ 8454.0usft
<b>Well:</b>	PUCKETT 11B-12	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

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

Site		S2-T7S-R97W (P2)			
Site Position:		Northing:	14,345,665.30 usft	Latitude:	39.470366
From:	Map	Easting:	2,436,748.30 usft	Longitude:	-108.178450
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.79 °

Well	PUCKETT 11B-12					
Well Position	+N/-S	0.0 usft	Northing:	14,345,611.30 usft	Latitude:	39.470219
	+E/-W	0.0 usft	Easting:	2,436,730.20 usft	Longitude:	-108.178520
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,424.0 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	11/16/2015	9.83	65.80	51,931

<b>Design</b>	FINAL				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	171.63	

<b>Survey Program</b>	<b>Date</b>	11/22/2015			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
156.0	8,935.0	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usf)</b>	<b>Build Rate (°/100u)</b>	<b>Formations / Comments</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
156.0	0.90	191.60	156.0	-1.2	-0.2	1.2	0.58	0.58		
186.0	1.60	185.20	186.0	-1.8	-0.3	1.8	2.38	2.33		
217.0	2.50	181.90	217.0	-3.0	-0.4	2.9	2.93	2.90		
309.0	4.80	176.10	308.8	-8.8	-0.2	8.7	2.53	2.50		
401.0	6.90	174.30	400.3	-18.1	0.6	18.0	2.29	2.28		
493.0	9.80	172.40	491.3	-31.4	2.2	31.4	3.17	3.15		
586.0	12.00	168.60	582.6	-48.7	5.2	49.0	2.49	2.37		
681.0	14.10	164.30	675.2	-69.6	10.2	70.3	2.43	2.21		
775.0	15.30	158.70	766.1	-92.1	17.8	93.7	1.98	1.28		
870.0	16.30	156.10	857.5	-116.0	27.8	118.8	1.29	1.05		
964.0	15.50	158.90	947.9	-139.8	37.7	143.8	1.18	-0.85		
1,059.0	15.20	160.90	1,039.5	-163.4	46.3	168.4	0.64	-0.32		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Caerus Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 11B-12
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>TVD Reference:</b>	30' KB @ 8454.0usft
<b>Site:</b>	S2-T7S-R97W (P2)	<b>MD Reference:</b>	30' KB @ 8454.0usft
<b>Well:</b>	PUCKETT 11B-12	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

### Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
1,154.0	15.60	163.70	1,131.1	-187.4	54.0	193.3	0.89	0.42	
1,248.0	15.20	164.90	1,221.7	-211.4	60.7	218.0	0.54	-0.43	
1,343.0	15.30	164.00	1,313.4	-235.5	67.4	242.8	0.27	0.11	
1,437.0	16.00	162.40	1,403.9	-259.8	74.8	267.9	0.87	0.74	
1,532.0	16.70	161.10	1,495.1	-285.2	83.1	294.3	0.83	0.74	
1,626.0	17.80	163.30	1,584.8	-311.7	91.6	321.7	1.36	1.17	
1,721.0	16.50	163.00	1,675.6	-338.5	99.8	349.5	1.37	-1.37	
1,815.0	15.60	159.40	1,765.9	-363.1	108.1	375.0	1.43	-0.96	
1,910.0	15.60	162.90	1,857.4	-387.3	116.4	400.1	0.99	0.00	
2,005.0	15.90	165.60	1,948.9	-412.1	123.4	425.7	0.83	0.32	
2,099.0	16.00	166.90	2,039.3	-437.2	129.5	451.4	0.39	0.11	
2,193.0	17.20	166.70	2,129.3	-463.3	135.6	478.2	1.28	1.28	
2,288.0	18.60	165.60	2,219.7	-491.7	142.6	507.2	1.52	1.47	
2,383.0	17.40	163.40	2,310.1	-520.0	150.5	536.4	1.45	-1.26	
2,477.0	14.90	162.00	2,400.4	-544.9	158.2	562.2	2.69	-2.66	
2,599.0	14.20	162.80	2,518.5	-574.2	167.5	592.4	0.60	-0.57	
2,693.0	16.30	162.80	2,609.1	-597.8	174.8	616.9	2.23	2.23	
2,788.0	17.90	165.40	2,699.9	-624.6	182.4	644.6	1.87	1.68	
2,883.0	18.20	166.10	2,790.3	-653.2	189.7	673.8	0.39	0.32	
2,977.0	18.10	164.70	2,879.6	-681.5	197.0	702.9	0.48	-0.11	
3,072.0	17.10	162.50	2,970.1	-709.1	205.1	731.4	1.26	-1.05	
3,167.0	17.50	164.70	3,060.9	-736.2	213.1	759.3	0.81	0.42	
3,261.0	16.30	164.10	3,150.8	-762.5	220.4	786.5	1.29	-1.28	
3,356.0	18.40	162.30	3,241.5	-789.6	228.7	814.5	2.28	2.21	
3,450.0	17.70	160.80	3,330.8	-817.2	237.9	843.1	0.89	-0.74	
3,545.0	16.90	159.90	3,421.5	-843.8	247.4	870.9	0.89	-0.84	
3,640.0	18.60	160.20	3,512.0	-871.0	257.2	899.2	1.79	1.79	
3,734.0	18.10	160.10	3,601.2	-898.9	267.3	928.2	0.53	-0.53	
3,828.0	17.00	160.00	3,690.9	-925.5	277.0	956.0	1.17	-1.17	
3,923.0	18.40	161.10	3,781.4	-952.8	286.6	984.3	1.52	1.47	
4,018.0	17.80	162.30	3,871.7	-980.8	295.8	1,013.4	0.74	-0.63	
4,112.0	17.80	162.60	3,961.2	-1,008.2	304.5	1,041.8	0.10	0.00	
4,207.0	17.30	163.30	4,051.7	-1,035.6	312.9	1,070.1	0.57	-0.53	
4,301.0	16.70	162.30	4,141.6	-1,061.8	321.0	1,097.3	0.71	-0.64	
4,396.0	16.40	163.90	4,232.7	-1,087.7	328.9	1,124.0	0.57	-0.32	
4,490.0	18.60	162.00	4,322.3	-1,114.7	337.2	1,151.9	2.42	2.34	
4,584.0	18.90	163.00	4,411.3	-1,143.5	346.3	1,181.8	0.47	0.32	
4,679.0	18.90	162.90	4,501.2	-1,173.0	355.3	1,212.2	0.03	0.00	
4,773.0	18.10	162.80	4,590.4	-1,201.5	364.1	1,241.7	0.85	-0.85	
4,868.0	17.40	163.70	4,680.8	-1,229.2	372.5	1,270.3	0.79	-0.74	
4,963.0	16.10	160.10	4,771.8	-1,255.2	380.9	1,297.3	1.75	-1.37	
5,057.0	16.20	158.60	4,862.1	-1,279.7	390.1	1,322.9	0.46	0.11	
5,152.0	15.10	158.40	4,953.6	-1,303.5	399.5	1,347.8	1.16	-1.16	
5,247.0	16.00	155.20	5,045.1	-1,326.9	409.6	1,372.4	1.31	0.95	
5,341.0	16.70	154.80	5,135.3	-1,350.9	420.8	1,397.8	0.75	0.74	
5,436.0	16.00	154.60	5,226.5	-1,375.1	432.2	1,423.4	0.74	-0.74	
5,530.0	17.00	154.30	5,316.6	-1,399.2	443.7	1,448.9	1.07	1.06	
5,625.0	17.80	158.20	5,407.2	-1,425.1	455.1	1,476.2	1.49	0.84	
5,719.0	17.50	158.10	5,496.8	-1,451.6	465.7	1,504.0	0.32	-0.32	
5,814.0	17.20	157.50	5,587.5	-1,477.8	476.4	1,531.5	0.37	-0.32	
5,909.0	17.20	157.40	5,678.2	-1,503.8	487.2	1,558.7	0.03	0.00	
6,003.0	16.30	157.70	5,768.3	-1,528.8	497.6	1,585.0	0.96	-0.96	
6,097.0	14.60	160.10	5,858.9	-1,552.2	506.6	1,609.4	1.93	-1.81	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Caerus Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 11B-12
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>TVD Reference:</b>	30' KB @ 8454.0usft
<b>Site:</b>	S2-T7S-R97W (P2)	<b>MD Reference:</b>	30' KB @ 8454.0usft
<b>Well:</b>	PUCKETT 11B-12	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
6,192.0	12.90	163.60	5,951.1	-1,573.6	513.7	1,631.6	1.99	-1.79	
6,287.0	10.90	168.80	6,044.1	-1,592.6	518.4	1,651.1	2.39	-2.11	
6,381.0	9.30	166.60	6,136.6	-1,608.7	521.9	1,667.5	1.75	-1.70	
6,476.0	8.70	169.70	6,230.5	-1,623.2	525.0	1,682.4	0.81	-0.63	
6,570.0	8.30	170.20	6,323.4	-1,636.9	527.4	1,696.3	0.43	-0.43	
6,665.0	8.10	169.30	6,417.5	-1,650.2	529.8	1,709.8	0.25	-0.21	
6,760.0	7.50	169.40	6,511.6	-1,662.9	532.2	1,722.7	0.63	-0.63	
6,854.0	7.50	167.40	6,604.8	-1,674.9	534.6	1,734.9	0.28	0.00	
6,949.0	6.60	165.20	6,699.1	-1,686.3	537.4	1,746.5	0.99	-0.95	
7,043.0	5.30	158.70	6,792.5	-1,695.5	540.3	1,756.1	1.56	-1.38	
7,138.0	4.00	158.00	6,887.2	-1,702.7	543.2	1,763.6	1.37	-1.37	
7,232.0	2.40	158.10	6,981.1	-1,707.5	545.1	1,768.7	1.70	-1.70	
7,327.0	1.60	126.70	7,076.0	-1,710.2	547.0	1,771.6	1.40	-0.84	
7,421.0	1.30	113.50	7,170.0	-1,711.4	549.0	1,773.1	0.48	-0.32	
7,516.0	1.40	122.40	7,265.0	-1,712.4	551.0	1,774.4	0.24	0.11	
7,610.0	1.50	126.40	7,358.9	-1,713.8	552.9	1,776.1	0.15	0.11	
7,705.0	1.30	119.80	7,453.9	-1,715.1	554.8	1,777.6	0.27	-0.21	
7,799.0	1.10	130.30	7,547.9	-1,716.2	556.5	1,778.9	0.32	-0.21	
7,894.0	0.80	162.30	7,642.9	-1,717.4	557.4	1,780.3	0.63	-0.32	
7,989.0	1.00	175.80	7,737.9	-1,718.9	557.6	1,781.7	0.31	0.21	
8,083.0	0.80	190.70	7,831.9	-1,720.3	557.6	1,783.2	0.33	-0.21	
8,178.0	0.60	195.00	7,926.9	-1,721.5	557.3	1,784.3	0.22	-0.21	
8,273.0	1.00	239.30	8,021.8	-1,722.4	556.5	1,785.0	0.75	0.42	
8,367.0	1.20	261.20	8,115.8	-1,722.9	554.8	1,785.4	0.49	0.21	
8,462.0	1.00	285.70	8,210.8	-1,722.9	553.0	1,785.0	0.53	-0.21	
8,556.0	1.20	291.20	8,304.8	-1,722.3	551.3	1,784.2	0.24	0.21	
8,651.0	1.50	293.90	8,399.8	-1,721.4	549.2	1,783.1	0.32	0.32	
8,745.0	1.50	283.60	8,493.7	-1,720.6	546.9	1,781.9	0.29	0.00	
8,840.0	1.80	281.90	8,588.7	-1,720.0	544.2	1,781.0	0.32	0.32	
8,877.0	1.90	277.80	8,625.7	-1,719.8	543.1	1,780.6	0.45	0.27	LAST CES SURVEY @ 8877' MD
8,935.0	1.90	277.80	8,683.6	-1,719.6	541.2	1,780.0	0.00	0.00	PTB @ 8935' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PUCKETT 11B-12 PBHL	0.00	0.00	8,737.0	-1,733.7	534.9	14,343,895.20	2,437,319.10	39.465461	-108.176627
- hit/miss target									
- Shape									
- survey misses target center by 55.6usft at 8935.0usft MD (8683.6 TVD, -1719.6 N, 541.2 E)									
- Circle (radius 50.0)									

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
8,877.0	8,625.7	-1,719.8	543.1	LAST CES SURVEY @ 8877' MD	
8,935.0	8,683.6	-1,719.6	541.2	PTB @ 8935' MD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_