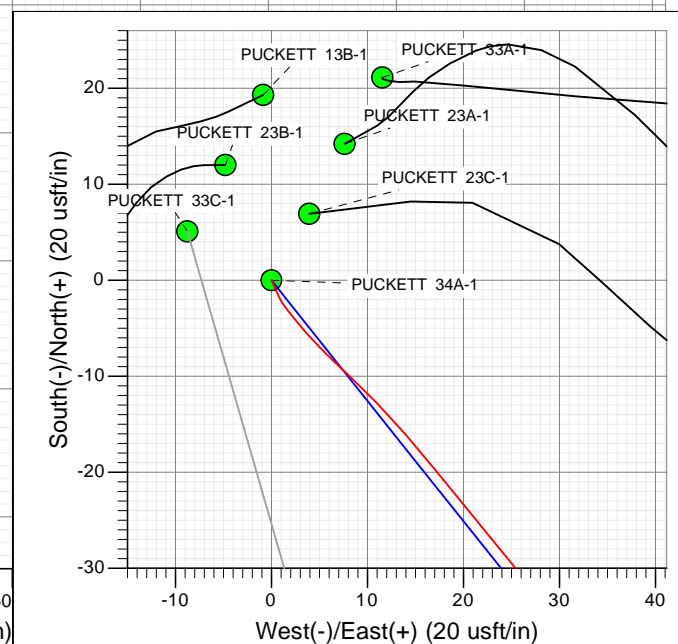
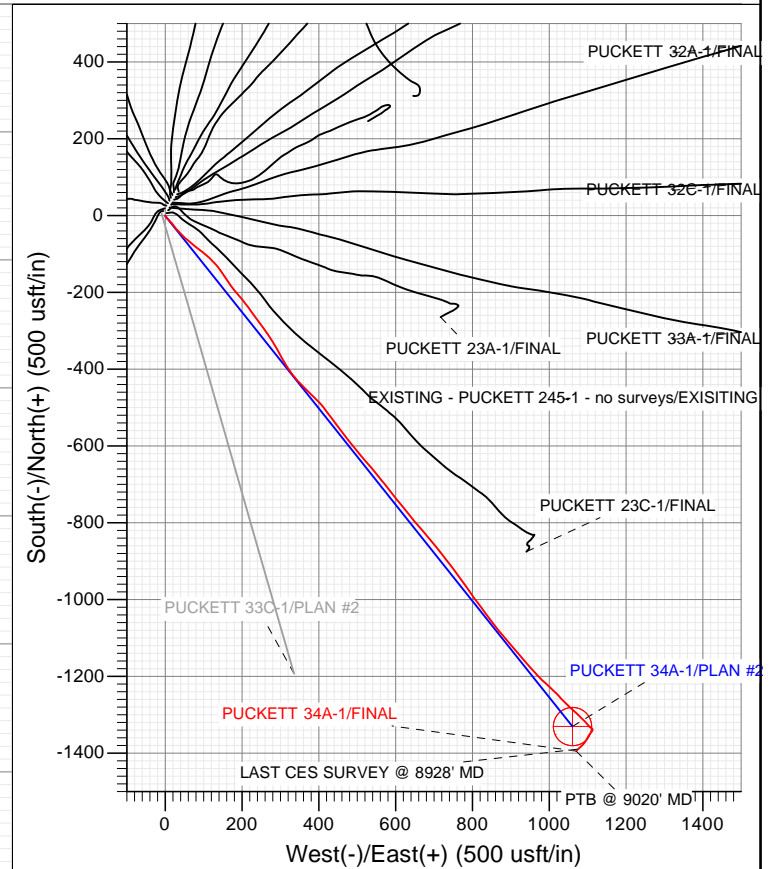
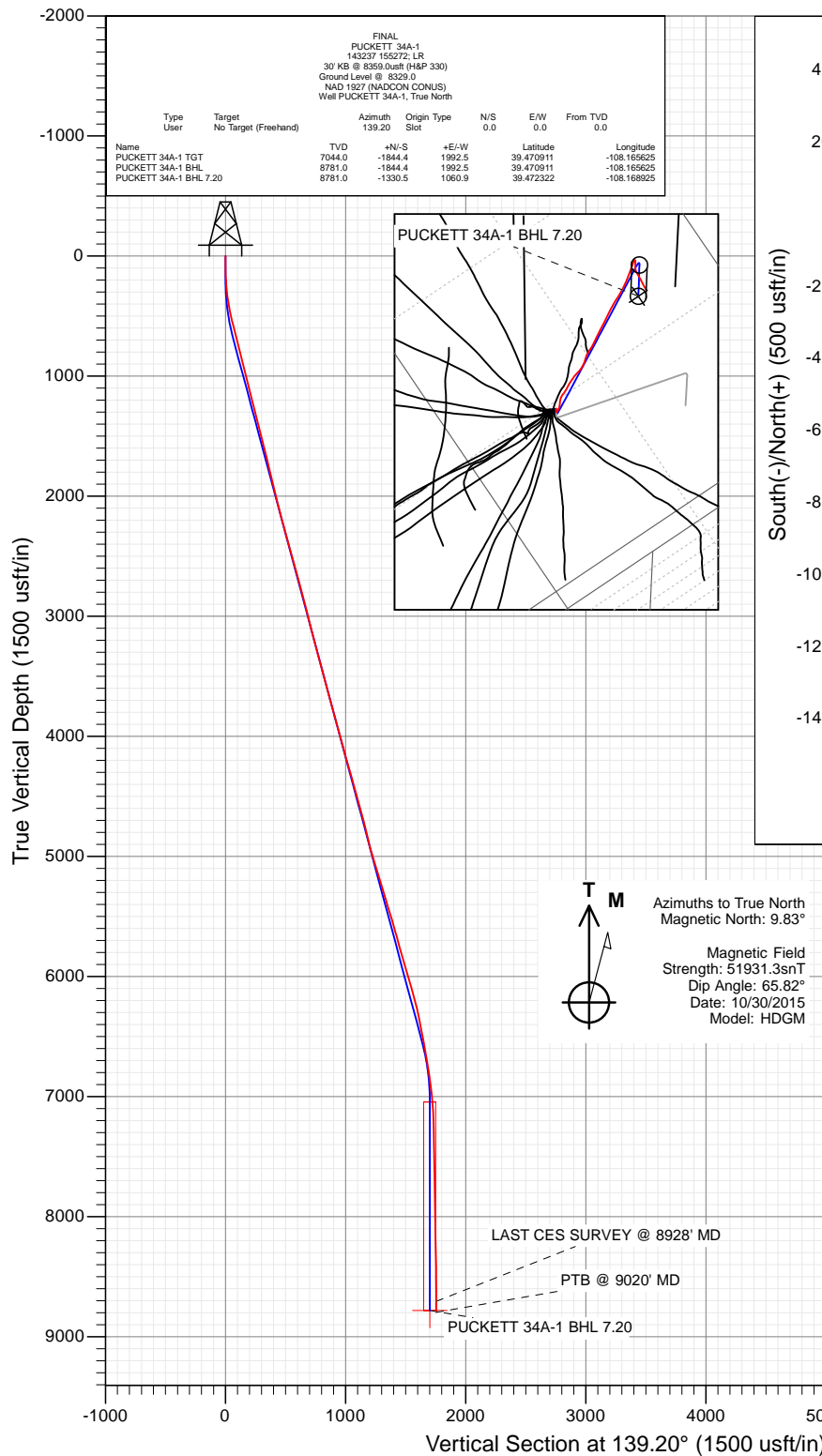




Project: Garfield County, CO
 Site: S1-T7S-R97W (Mesa E1 797)
 Well: PUCKETT 34A-1
 Wellbore: OH
 Design: FINAL



WELL DETAILS: PUCKETT 34A-1

Ground Level: 8329.0
 Northing: 609338.14
 Easting: 1245642.28
 Latitude: 39.475975
 Longitude: -108.172683



Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 34A-1
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8359.0usft (H&P 330)
Site:	S1-T7S-R97W (Mesa E1 797)	MD Reference:	30' KB @ 8359.0usft (H&P 330)
Well:	PUCKETT 34A-1	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Project	Garfield County, CO		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado Central 502		

Site		S1-T7S-R97W (Mesa E1 797)			
Site Position:		Northing:	609,370.34 usft	Latitude:	39.476064
From:	Lat/Long	Easting:	1,245,650.28 usft	Longitude:	-108.172658
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	-1.69 °

Well	PUCKETT 34A-1					
Well Position	+N/-S	0.0 usft	Northing:	609,338.14 usft	Latitude:	39.475975
	+E/-W	0.0 usft	Easting:	1,245,642.28 usft	Longitude:	-108.172683
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,329.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/30/2015	9.83	65.82	51,931

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	139.20	

Survey Program	Date	11/3/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
162.0	9,020.0	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	

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	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
162.0	1.40	155.50	162.0	-1.8	0.8	1.9	0.86	0.86		
253.0	4.70	138.40	252.8	-5.6	3.8	6.7	3.72	3.63		
314.0	7.00	132.80	313.5	-10.0	8.1	12.9	3.88	3.77		
405.0	9.70	141.00	403.6	-19.7	17.0	26.1	3.24	2.97		
497.0	12.60	140.70	493.8	-33.5	28.3	43.8	3.15	3.15		
589.0	14.10	135.30	583.3	-49.2	42.5	65.1	2.12	1.63		
683.0	15.10	129.60	674.3	-65.2	60.0	88.6	1.86	1.06		
778.0	15.10	128.00	766.0	-80.7	79.3	112.9	0.44	0.00		
872.0	14.10	128.70	857.0	-95.4	97.9	136.2	1.08	-1.06		
967.0	13.80	132.30	949.2	-110.3	115.3	158.8	0.97	-0.32		
1,062.0	13.70	139.00	1,041.5	-126.4	131.0	181.3	1.68	-0.11		
1,156.0	13.40	145.00	1,132.8	-143.7	144.6	203.3	1.53	-0.32		

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 34A-1
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8359.0usft (H&P 330)
Site:	S1-T7S-R97W (Mesa E1 797)	MD Reference:	30' KB @ 8359.0usft (H&P 330)
Well:	PUCKETT 34A-1	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	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
1,251.0	14.10	146.90	1,225.1	-162.4	157.2	225.7	0.88	0.74	
1,345.0	14.50	143.80	1,316.2	-181.5	170.4	248.8	0.92	0.43	
1,440.0	15.30	139.70	1,408.0	-200.7	185.6	273.1	1.39	0.84	
1,535.0	14.80	139.60	1,499.8	-219.5	201.5	297.8	0.53	-0.53	
1,629.0	13.60	144.60	1,590.9	-237.6	215.7	320.8	1.82	-1.28	
1,724.0	13.40	144.50	1,683.3	-255.7	228.6	342.9	0.21	-0.21	
1,819.0	13.50	142.90	1,775.7	-273.5	241.7	364.9	0.41	0.11	
1,913.0	13.80	143.80	1,867.0	-291.3	254.9	387.1	0.39	0.32	
2,008.0	13.70	146.40	1,959.3	-309.8	267.8	409.5	0.66	-0.11	
2,103.0	13.90	147.70	2,051.5	-328.8	280.1	432.0	0.39	0.21	
2,197.0	15.00	151.20	2,142.6	-349.0	292.0	455.0	1.49	1.17	
2,291.0	15.50	150.60	2,233.3	-370.6	304.1	479.2	0.56	0.53	
2,386.0	15.30	147.70	2,324.8	-392.3	317.0	504.1	0.84	-0.21	
2,480.0	16.00	143.30	2,415.4	-413.1	331.4	529.3	1.47	0.74	
2,593.0	15.40	136.00	2,524.2	-436.4	351.1	559.8	1.83	-0.53	
2,688.0	16.00	135.00	2,615.6	-454.8	369.1	585.4	0.69	0.63	
2,782.0	15.40	133.80	2,706.1	-472.6	387.3	610.8	0.73	-0.64	
2,877.0	14.70	137.50	2,797.9	-490.2	404.5	635.4	1.25	-0.74	
2,972.0	13.80	143.50	2,889.9	-508.2	419.4	658.7	1.82	-0.95	
3,066.0	14.20	143.60	2,981.1	-526.5	432.9	681.4	0.43	0.43	
3,161.0	14.90	142.60	3,073.1	-545.5	447.3	705.2	0.78	0.74	
3,256.0	14.20	143.40	3,165.0	-564.6	461.6	729.0	0.77	-0.74	
3,350.0	15.10	142.10	3,256.0	-583.5	476.0	752.8	1.02	0.96	
3,445.0	14.50	140.40	3,347.8	-602.4	491.2	777.0	0.78	-0.63	
3,539.0	15.80	139.90	3,438.6	-621.3	507.0	801.6	1.39	1.38	
3,634.0	15.00	139.30	3,530.2	-640.5	523.3	826.8	0.86	-0.84	
3,728.0	15.00	139.40	3,621.0	-659.0	539.1	851.1	0.03	0.00	
3,823.0	15.50	142.10	3,712.6	-678.3	554.9	876.1	0.91	0.53	
3,917.0	14.60	140.40	3,803.4	-697.4	570.2	900.5	1.07	-0.96	
4,012.0	15.20	142.20	3,895.2	-716.4	585.5	924.9	0.80	0.63	
4,107.0	16.20	141.30	3,986.6	-736.6	601.4	950.6	1.08	1.05	
4,201.0	14.80	140.70	4,077.2	-756.1	617.2	975.7	1.50	-1.49	
4,296.0	16.10	141.10	4,168.8	-775.8	633.2	1,001.0	1.37	1.37	
4,390.0	15.40	140.60	4,259.3	-795.6	649.3	1,026.5	0.76	-0.74	
4,485.0	15.90	139.60	4,350.7	-815.2	665.7	1,052.1	0.60	0.53	
4,579.0	15.20	139.60	4,441.3	-834.4	682.0	1,077.3	0.74	-0.74	
4,673.0	15.80	140.50	4,531.9	-853.7	698.2	1,102.4	0.69	0.64	
4,768.0	14.90	140.40	4,623.5	-873.1	714.2	1,127.6	0.95	-0.95	
4,862.0	14.30	142.50	4,714.5	-891.6	728.9	1,151.2	0.85	-0.64	
4,957.0	13.80	142.00	4,806.6	-909.8	743.1	1,174.3	0.54	-0.53	
5,052.0	14.50	143.60	4,898.7	-928.3	757.1	1,197.4	0.84	0.74	
5,146.0	15.90	145.70	4,989.4	-948.4	771.3	1,222.0	1.60	1.49	
5,241.0	17.40	144.30	5,080.5	-970.7	787.0	1,249.0	1.63	1.58	
5,336.0	17.20	144.30	5,171.2	-993.7	803.4	1,277.2	0.21	-0.21	
5,430.0	16.70	143.70	5,261.1	-1,015.8	819.6	1,304.5	0.56	-0.53	
5,525.0	16.70	144.10	5,352.1	-1,037.9	835.6	1,331.7	0.12	0.00	
5,619.0	17.10	141.60	5,442.0	-1,059.7	852.1	1,359.0	0.88	0.43	
5,714.0	16.90	141.10	5,532.9	-1,081.4	869.5	1,386.7	0.26	-0.21	
5,808.0	16.00	139.30	5,623.0	-1,101.8	886.5	1,413.3	1.10	-0.96	
5,903.0	14.70	139.00	5,714.6	-1,120.8	903.0	1,438.5	1.37	-1.37	
5,998.0	15.40	139.70	5,806.4	-1,139.6	919.0	1,463.1	0.76	0.74	
6,092.0	16.30	139.10	5,896.8	-1,159.0	935.7	1,488.8	0.97	0.96	
6,186.0	16.70	138.60	5,986.9	-1,179.1	953.3	1,515.5	0.45	0.43	

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 34A-1
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8359.0usft (H&P 330)
Site:	S1-T7S-R97W (Mesa E1 797)	MD Reference:	30' KB @ 8359.0usft (H&P 330)
Well:	PUCKETT 34A-1	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	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
6,281.0	16.50	136.60	6,078.0	-1,199.2	971.6	1,542.6	0.64	-0.21	
6,376.0	15.50	132.00	6,169.3	-1,217.5	990.3	1,568.7	1.70	-1.05	
6,470.0	13.40	133.90	6,260.3	-1,233.4	1,007.5	1,592.0	2.29	-2.23	
6,565.0	11.60	135.70	6,353.0	-1,247.9	1,022.1	1,612.5	1.94	-1.89	
6,659.0	10.40	136.00	6,445.3	-1,260.8	1,034.6	1,630.4	1.28	-1.28	
6,754.0	10.60	135.00	6,538.7	-1,273.1	1,046.7	1,647.7	0.28	0.21	
6,849.0	10.20	132.70	6,632.2	-1,285.0	1,059.1	1,664.8	0.61	-0.42	
6,943.0	9.50	131.20	6,724.8	-1,295.8	1,071.0	1,680.7	0.79	-0.74	
7,038.0	8.40	133.40	6,818.6	-1,305.7	1,082.0	1,695.4	1.21	-1.16	
7,132.0	7.30	138.40	6,911.7	-1,314.9	1,090.9	1,708.2	1.38	-1.17	
7,227.0	5.90	138.90	7,006.1	-1,323.1	1,098.2	1,719.1	1.47	-1.47	
7,321.0	3.20	140.50	7,099.8	-1,328.7	1,103.0	1,726.6	2.88	-2.87	
7,416.0	1.70	134.20	7,194.7	-1,331.8	1,105.7	1,730.6	1.60	-1.58	
7,510.0	1.40	121.50	7,288.7	-1,333.3	1,107.7	1,733.1	0.48	-0.32	
7,605.0	1.30	120.10	7,383.6	-1,334.5	1,109.6	1,735.2	0.11	-0.11	
7,699.0	1.20	117.20	7,477.6	-1,335.5	1,111.4	1,737.2	0.13	-0.11	
7,794.0	1.10	145.40	7,572.6	-1,336.7	1,112.8	1,739.0	0.60	-0.11	
7,888.0	1.40	183.30	7,666.6	-1,338.6	1,113.2	1,740.7	0.91	0.32	
7,983.0	2.20	207.20	7,761.5	-1,341.3	1,112.3	1,742.2	1.14	0.84	
8,078.0	3.40	218.10	7,856.4	-1,345.2	1,109.8	1,743.4	1.38	1.26	
8,172.0	3.60	218.10	7,950.3	-1,349.7	1,106.2	1,744.5	0.21	0.21	
8,267.0	3.30	211.60	8,045.1	-1,354.4	1,103.0	1,745.9	0.52	-0.32	
8,362.0	3.70	207.20	8,139.9	-1,359.4	1,100.1	1,747.9	0.51	0.42	
8,456.0	3.60	208.30	8,233.7	-1,364.7	1,097.3	1,750.1	0.13	-0.11	
8,551.0	3.70	215.40	8,328.5	-1,369.9	1,094.1	1,751.9	0.49	0.11	
8,645.0	4.00	220.20	8,422.3	-1,374.8	1,090.3	1,753.1	0.47	0.32	
8,740.0	4.00	226.20	8,517.1	-1,379.7	1,085.7	1,753.8	0.44	0.00	
8,834.0	4.40	226.50	8,610.8	-1,384.4	1,080.8	1,754.2	0.43	0.43	
8,928.0	4.40	227.40	8,704.5	-1,389.3	1,075.5	1,754.5	0.07	0.00	LAST CES SURVEY @ 8928' MD
9,020.0	4.40	227.40	8,796.3	-1,394.1	1,070.3	1,754.7	0.00	0.00	PTB @ 9020' MD

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 34A-1
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8359.0usft (H&P 330)
Site:	S1-T7S-R97W (Mesa E1 797)	MD Reference:	30' KB @ 8359.0usft (H&P 330)
Well:	PUCKETT 34A-1	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
PUCKETT 34A-1 BHL	0.00	0.00	8,781.0	-1,844.4	1,992.5	607,435.95	1,247,579.69	39.470911	-108.165625
- actual wellpath misses target center by 1025.5usft at 8976.1usft MD (8752.5 TVD, -1391.8 N, 1072.8 E)									
- Circle (radius 50.0)									
PUCKETT 34A-1 TGT	0.00	0.00	7,044.0	-1,844.4	1,992.5	607,435.95	1,247,579.69	39.470911	-108.165625
- actual wellpath misses target center by 1029.7usft at 7321.0usft MD (7099.8 TVD, -1328.7 N, 1103.0 E)									
- Point									
PUCKETT 34A-1 BHL 7.	0.00	0.00	8,781.0	-1,330.5	1,060.9	607,977.01	1,246,663.57	39.472322	-108.168925
- actual wellpath misses target center by 63.6usft at 9002.0usft MD (8778.3 TVD, -1393.2 N, 1071.3 E)									
- Circle (radius 50.0)									

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
8,928.0	8,704.5	-1,389.3	1,075.5	LAST CES SURVEY @ 8928' MD	
9,020.0	8,796.3	-1,394.1	1,070.3	PTB @ 9020' MD	

Checked By: _____ Approved By: _____ Date: _____