



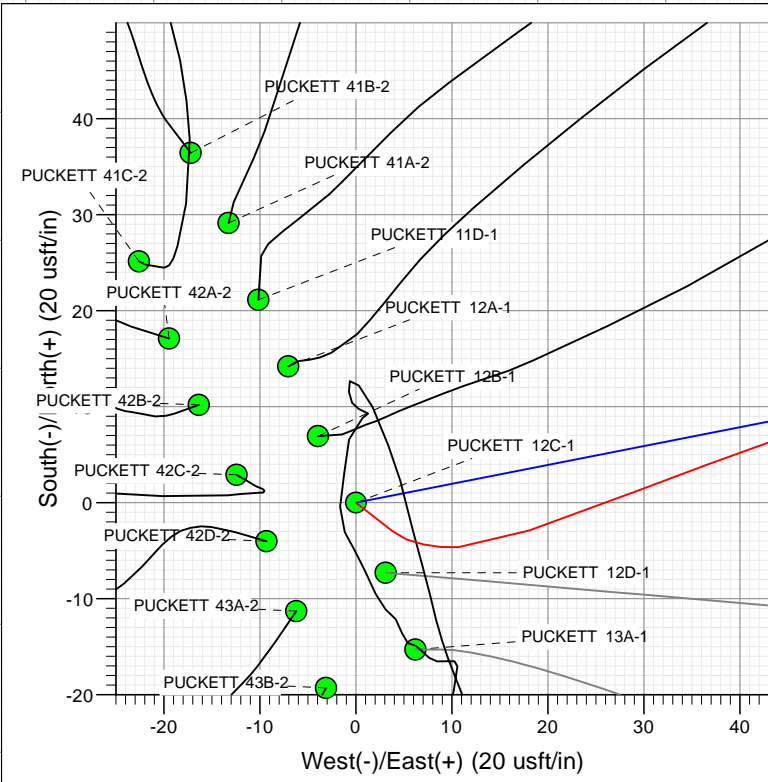
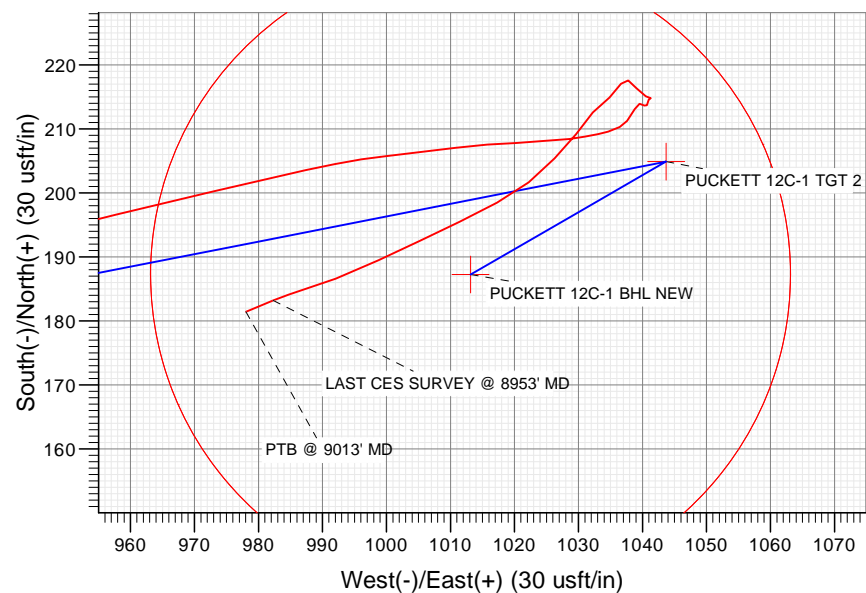
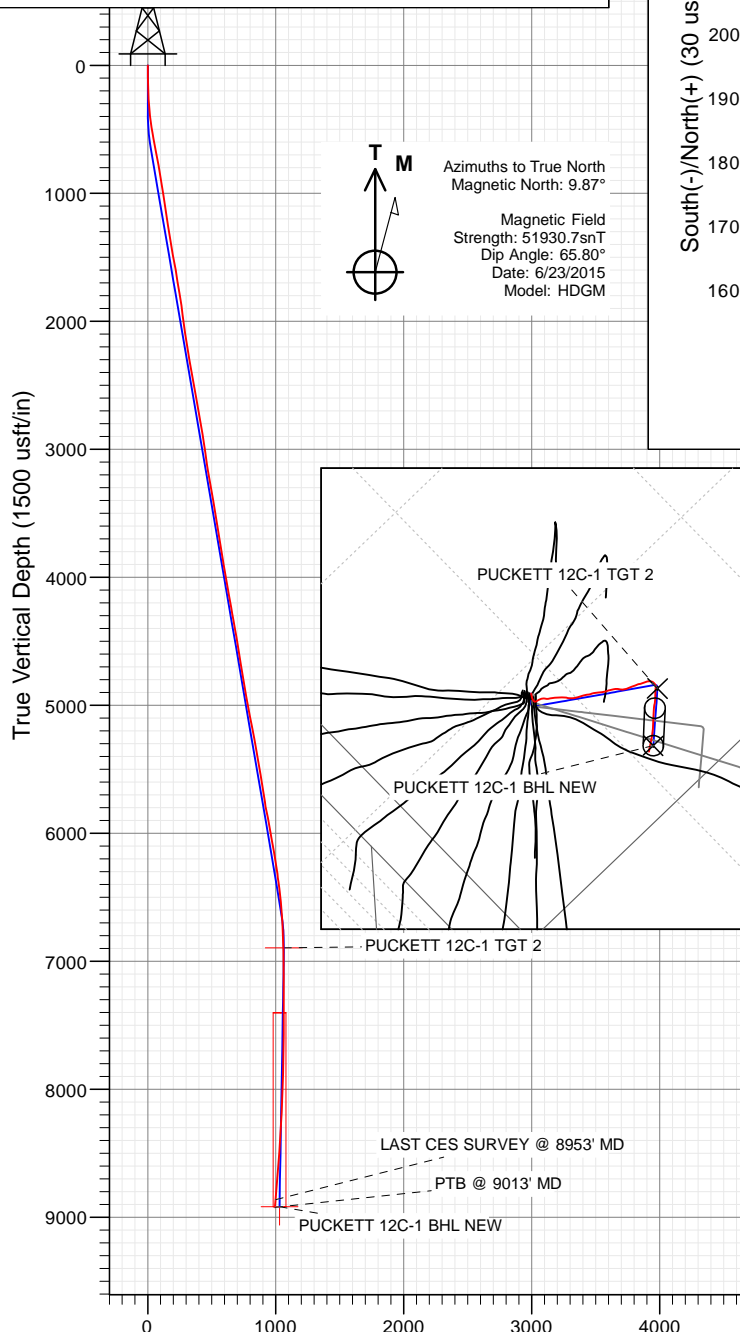
Project: Garfield County, CO  
Site: S2-T7S-R97W (Mesa H2)  
Well: PUCKETT 12C-1  
Wellbore: OH  
Design: FINAL

FINAL  
PUCKETT 12C-1  
118737 155221; LR  
30 KB @ 8507.0usft (H&P 330)  
Ground Level @ 8477.0  
NAD 1927 (NADCON CONUS)  
Well PUCKETT 12C-1, True North

Type	Target	Target	Origin	N/S	E/W	From
User	No Target (Freehand)	Slot	Type	0.0	0.0	TVD
Name						
PUCKETT 12C-1 TGT 2						
PUCKETT 12C-1 TGT						
PUCKETT 12C-1 BHL						
PUCKETT 12C-1 BHL NEW						



Azimuths to True North  
Magnetic North: 9.87°  
Magnetic Field  
Strength: 51930.7snT  
Dip Angle: 65.80°  
Date: 6/23/2015  
Model: HDGM



Vertical Section at 77.60° (1500 usft/in)



CATHEDRAL

WELL DETAILS: PUCKETT 12C-1

+N/-S	+E/-W	North	Ground Level:	8477.0	Latitude	Longitude
0.0	0.0	609314.94	Easting	1243684.20	39.475753	-108.179614



## Survey Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 12C-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Site:</b>	S2-T7S-R97W (Mesa H2)	<b>MD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Well:</b>	PUCKETT 12C-1	<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		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Colorado Central 502		

Site		S2-T7S-R97W (Mesa H2)			
Site Position:		Northing:	609,295.74 usft	Latitude:	39.475700
From:	Lat/Long	Easting:	1,243,680.53 usft	Longitude:	-108.179625
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.69 °

Well	PUCKETT 12C-1					
Well Position	+N/-S	0.0 usft	Northing:	609,314.94 usft	Latitude:	39.475753
	+E/-W	0.0 usft	Easting:	1,243,684.20 usft	Longitude:	-108.179614
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,477.0 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	6/23/2015	9.87	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	77.60	

<b>Survey Program</b>	<b>Date</b>	6/28/2015			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
178.0	9,013.0	Survey #1 (OH)	ISCWSA MWD	MWD - Standard	

<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		
178.0	3.10	127.90	177.9	-3.0	3.8	3.1	1.74	1.74		
209.0	3.30	113.80	208.9	-3.8	5.3	4.3	2.61	0.65		
240.0	3.50	99.90	239.8	-4.4	7.0	5.9	2.73	0.65		
271.0	3.30	95.50	270.8	-4.6	8.8	7.7	1.06	-0.65		
302.0	3.50	86.20	301.7	-4.6	10.7	9.4	1.89	0.65		
394.0	6.00	71.30	393.4	-2.9	18.0	17.0	3.01	2.72		
485.0	9.30	69.00	483.6	1.3	29.4	29.0	3.64	3.63		
577.0	10.60	70.50	574.2	6.8	44.3	44.7	1.44	1.41		
671.0	10.90	70.60	666.5	12.6	60.9	62.1	0.32	0.32		
766.0	10.90	76.60	759.8	17.7	78.1	80.0	1.19	0.00		
860.0	10.20	82.00	852.2	20.9	95.0	97.2	1.29	-0.74		
955.0	8.20	83.00	946.0	22.9	110.0	112.4	2.11	-2.11		

## Survey Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 12C-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Site:</b>	S2-T7S-R97W (Mesa H2)	<b>MD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Well:</b>	PUCKETT 12C-1	<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
1,049.0	7.90	77.10	1,039.1	25.1	123.0	125.5	0.93	-0.32	
1,143.0	8.30	75.70	1,132.1	28.2	135.8	138.7	0.47	0.43	
1,238.0	9.10	70.10	1,226.0	32.5	149.5	153.0	1.23	0.84	
1,332.0	9.80	78.90	1,318.8	36.6	164.4	168.4	1.71	0.74	
1,427.0	10.60	83.60	1,412.3	39.1	181.0	185.2	1.21	0.84	
1,521.0	10.40	90.20	1,504.7	40.0	198.1	202.1	1.30	-0.21	
1,616.0	9.00	88.00	1,598.3	40.3	214.1	217.7	1.52	-1.47	
1,710.0	9.10	82.70	1,691.2	41.5	228.8	232.4	0.89	0.11	
1,805.0	10.00	80.40	1,784.9	43.8	244.4	248.1	1.03	0.95	
1,899.0	8.20	83.60	1,877.7	45.9	259.1	262.9	1.99	-1.91	
1,994.0	7.30	82.60	1,971.8	47.4	271.8	275.7	0.96	-0.95	
2,088.0	8.20	82.80	2,064.9	49.0	284.4	288.3	0.96	0.96	
2,183.0	9.00	84.80	2,158.9	50.6	298.5	302.4	0.90	0.84	
2,277.0	9.40	87.10	2,251.7	51.6	313.5	317.3	0.58	0.43	
2,372.0	10.00	81.70	2,345.3	53.2	329.4	333.2	1.15	0.63	
2,466.0	9.90	78.60	2,437.9	56.0	345.4	349.4	0.58	-0.11	
2,588.0	10.60	74.50	2,557.9	61.1	366.5	371.1	0.83	0.57	
2,682.0	10.00	76.10	2,650.4	65.3	382.8	387.9	0.71	-0.64	
2,777.0	10.00	73.80	2,744.0	69.6	398.7	404.3	0.42	0.00	
2,872.0	9.70	75.40	2,837.6	73.9	414.3	420.6	0.43	-0.32	
2,966.0	8.70	75.10	2,930.4	77.7	428.9	435.6	1.07	-1.06	
3,061.0	8.30	71.80	3,024.3	81.7	442.3	449.6	0.66	-0.42	
3,155.0	8.70	70.60	3,117.3	86.2	455.5	463.4	0.47	0.43	
3,250.0	10.10	75.40	3,211.0	90.7	470.3	478.8	1.69	1.47	
3,344.0	9.70	75.90	3,303.6	94.7	486.0	495.0	0.44	-0.43	
3,439.0	9.50	75.60	3,397.3	98.6	501.3	510.8	0.22	-0.21	
3,533.0	8.60	73.50	3,490.1	102.5	515.6	525.6	1.02	-0.96	
3,628.0	9.60	80.90	3,583.9	105.8	530.2	540.6	1.62	1.05	
3,723.0	9.60	81.20	3,677.6	108.3	545.9	556.4	0.05	0.00	
3,817.0	9.40	81.40	3,770.3	110.6	561.2	571.9	0.22	-0.21	
3,912.0	8.90	77.80	3,864.1	113.3	576.1	587.0	0.80	-0.53	
4,006.0	10.50	76.40	3,956.8	116.9	591.5	602.8	1.72	1.70	
4,101.0	9.80	74.90	4,050.3	121.0	607.7	619.5	0.79	-0.74	
4,195.0	10.00	76.20	4,142.9	125.1	623.4	635.7	0.32	0.21	
4,290.0	9.30	72.10	4,236.5	129.4	638.7	651.6	1.03	-0.74	
4,384.0	10.30	80.20	4,329.2	133.1	654.2	667.5	1.81	1.06	
4,479.0	10.50	82.40	4,422.6	135.7	671.1	684.6	0.47	0.21	
4,574.0	9.30	81.50	4,516.2	138.0	687.3	700.9	1.27	-1.26	
4,668.0	9.60	93.40	4,608.9	138.7	702.7	716.0	2.10	0.32	
4,763.0	9.40	96.10	4,702.6	137.4	718.3	731.0	0.51	-0.21	
4,858.0	9.40	87.40	4,796.3	136.9	733.7	746.0	1.49	0.00	
4,952.0	10.70	74.70	4,888.9	139.6	749.8	762.3	2.73	1.38	
5,046.0	9.50	80.10	4,981.5	143.2	765.9	778.8	1.62	-1.28	
5,141.0	11.50	73.90	5,074.9	147.2	782.7	796.1	2.42	2.11	
5,236.0	11.00	76.00	5,168.0	152.0	800.6	814.6	0.68	-0.53	
5,330.0	10.40	73.30	5,260.4	156.6	817.4	832.0	0.83	-0.64	
5,424.0	9.70	73.40	5,353.0	161.3	833.1	848.4	0.74	-0.74	
5,519.0	10.30	73.40	5,446.5	166.0	849.0	864.8	0.63	0.63	
5,614.0	9.50	72.80	5,540.1	170.8	864.6	881.1	0.85	-0.84	
5,708.0	9.50	72.70	5,632.8	175.4	879.4	896.5	0.02	0.00	
5,803.0	8.10	74.10	5,726.7	179.5	893.3	911.0	1.49	-1.47	
5,897.0	10.60	73.90	5,819.4	183.7	908.0	926.3	2.66	2.66	
5,992.0	10.70	75.00	5,912.8	188.4	924.9	943.8	0.24	0.11	

## Survey Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 12C-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Site:</b>	S2-T7S-R97W (Mesa H2)	<b>MD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Well:</b>	PUCKETT 12C-1	<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
6,086.0	10.10	76.50	6,005.3	192.6	941.4	960.8	0.70	-0.64	
6,181.0	10.30	76.20	6,098.8	196.6	957.7	977.6	0.22	0.21	
6,275.0	9.10	77.10	6,191.4	200.3	973.1	993.4	1.29	-1.28	
6,370.0	8.70	77.00	6,285.3	203.6	987.4	1,008.1	0.42	-0.42	
6,464.0	6.90	83.70	6,378.4	205.8	1,000.0	1,020.8	2.14	-1.91	
6,559.0	6.30	82.90	6,472.8	207.0	1,010.8	1,031.7	0.64	-0.63	
6,653.0	5.30	88.50	6,566.3	207.8	1,020.3	1,041.1	1.22	-1.06	
6,748.0	4.80	82.40	6,660.9	208.4	1,028.6	1,049.4	0.77	-0.53	
6,842.0	2.70	74.20	6,754.7	209.6	1,034.6	1,055.5	2.30	-2.23	
6,937.0	1.60	35.80	6,849.6	211.2	1,037.6	1,058.7	1.85	-1.16	
7,032.0	1.10	28.10	6,944.6	213.1	1,038.8	1,060.3	0.56	-0.53	
7,126.0	0.40	91.30	7,038.6	213.9	1,039.5	1,061.2	1.05	-0.74	
7,220.0	0.60	121.50	7,132.6	213.6	1,040.3	1,061.9	0.34	0.21	
7,315.0	0.40	358.10	7,227.6	213.7	1,040.7	1,062.3	0.93	-0.21	
7,409.0	0.70	30.40	7,321.6	214.5	1,041.0	1,062.8	0.45	0.32	
7,504.0	0.30	171.90	7,416.6	214.8	1,041.3	1,063.1	1.00	-0.42	
7,598.0	1.20	303.50	7,510.6	215.1	1,040.5	1,062.4	1.51	0.96	
7,693.0	1.10	317.60	7,605.6	216.3	1,039.1	1,061.3	0.31	-0.11	
7,788.0	1.10	311.00	7,700.6	217.6	1,037.8	1,060.3	0.13	0.00	
7,882.0	1.50	200.80	7,794.5	217.0	1,036.6	1,059.1	2.28	0.43	
7,977.0	2.00	234.60	7,889.5	214.9	1,034.9	1,056.9	1.18	0.53	
8,071.0	2.30	222.60	7,983.4	212.6	1,032.2	1,053.8	0.57	0.32	
8,165.0	2.90	214.20	8,077.3	209.2	1,029.6	1,050.5	0.75	0.64	
8,260.0	3.30	227.60	8,172.2	205.4	1,026.3	1,046.4	0.87	0.42	
8,354.0	3.40	227.10	8,266.0	201.7	1,022.2	1,041.7	0.11	0.11	
8,449.0	3.80	246.10	8,360.9	198.5	1,017.3	1,036.2	1.32	0.42	
8,543.0	4.20	240.40	8,454.6	195.5	1,011.4	1,029.8	0.60	0.43	
8,637.0	4.30	248.10	8,548.4	192.5	1,005.2	1,023.1	0.62	0.11	
8,732.0	4.30	241.50	8,643.1	189.5	998.7	1,016.1	0.52	0.00	
8,826.0	4.60	251.50	8,736.8	186.6	992.1	1,009.0	0.88	0.32	
8,921.0	4.80	251.10	8,831.5	184.1	984.7	1,001.2	0.21	0.21	
8,953.0	4.40	247.40	8,863.4	183.2	982.3	998.7	1.56	-1.25	LAST CES SURVEY @ 8953' MD
9,013.0	4.40	247.40	8,923.2	181.4	978.0	994.2	0.00	0.00	PTB @ 9013' MD

## Survey Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 12C-1
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Site:</b>	S2-T7S-R97W (Mesa H2)	<b>MD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Well:</b>	PUCKETT 12C-1	<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

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 12C-1 BHL N	0.00	0.00	8,917.0	187.2	1,013.1	609,472.23	1,244,702.41	39.476267	-108.176025
- actual wellpath misses target center by 35.0usft at 9004.1usft MD (8914.4 TVD, 181.7 N, 978.7 E)									
- Circle (radius 50.0)									
PUCKETT 12C-1 BHL	0.00	0.00	8,912.0	-36.4	1,329.0	609,239.39	1,245,011.57	39.475653	-108.174906
- actual wellpath misses target center by 412.1usft at 8983.4usft MD (8893.7 TVD, 182.3 N, 980.1 E)									
- Circle (radius 50.0)									
PUCKETT 12C-1 TGT 2	0.00	0.00	6,895.0	204.9	1,043.7	609,488.97	1,244,733.48	39.476315	-108.175917
- actual wellpath misses target center by 9.1usft at 6982.3usft MD (6894.9 TVD, 212.2 N, 1038.2 E)									
- Point									
PUCKETT 12C-1 TGT	0.00	0.00	7,397.0	-36.4	1,329.0	609,239.39	1,245,011.57	39.475653	-108.174906
- actual wellpath misses target center by 382.0usft at 7484.7usft MD (7397.3 TVD, 214.9 N, 1041.3 E)									
- Point									

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	Comment	
8,953.0	8,863.4	183.2	982.3	LAST CES SURVEY @ 8953' MD	
9,013.0	8,923.2	181.4	978.0	PTB @ 9013' MD	

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