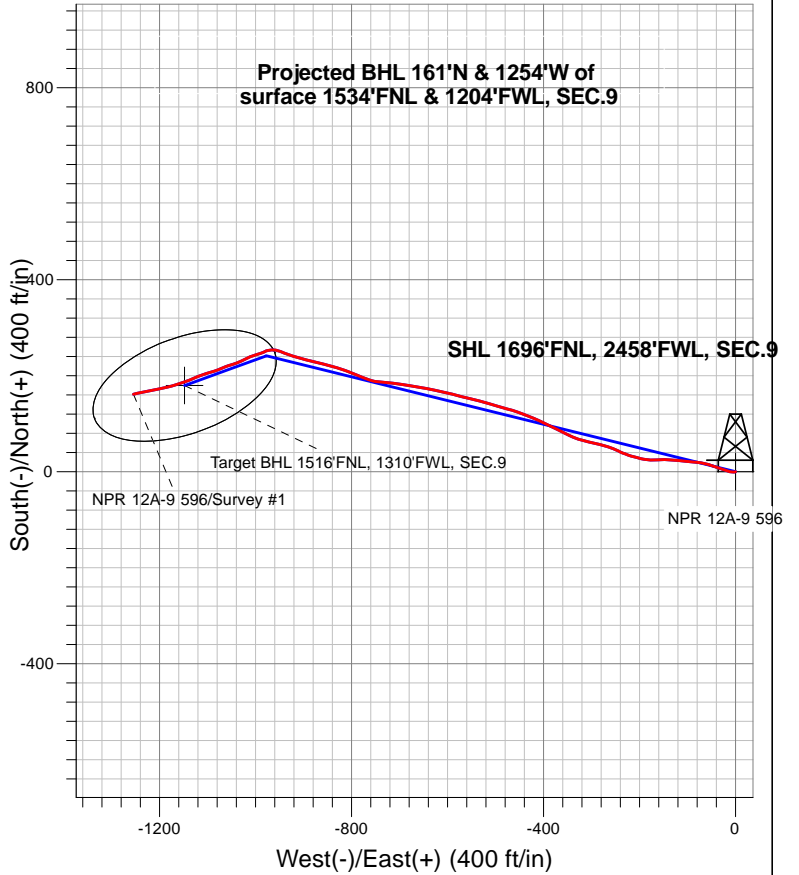
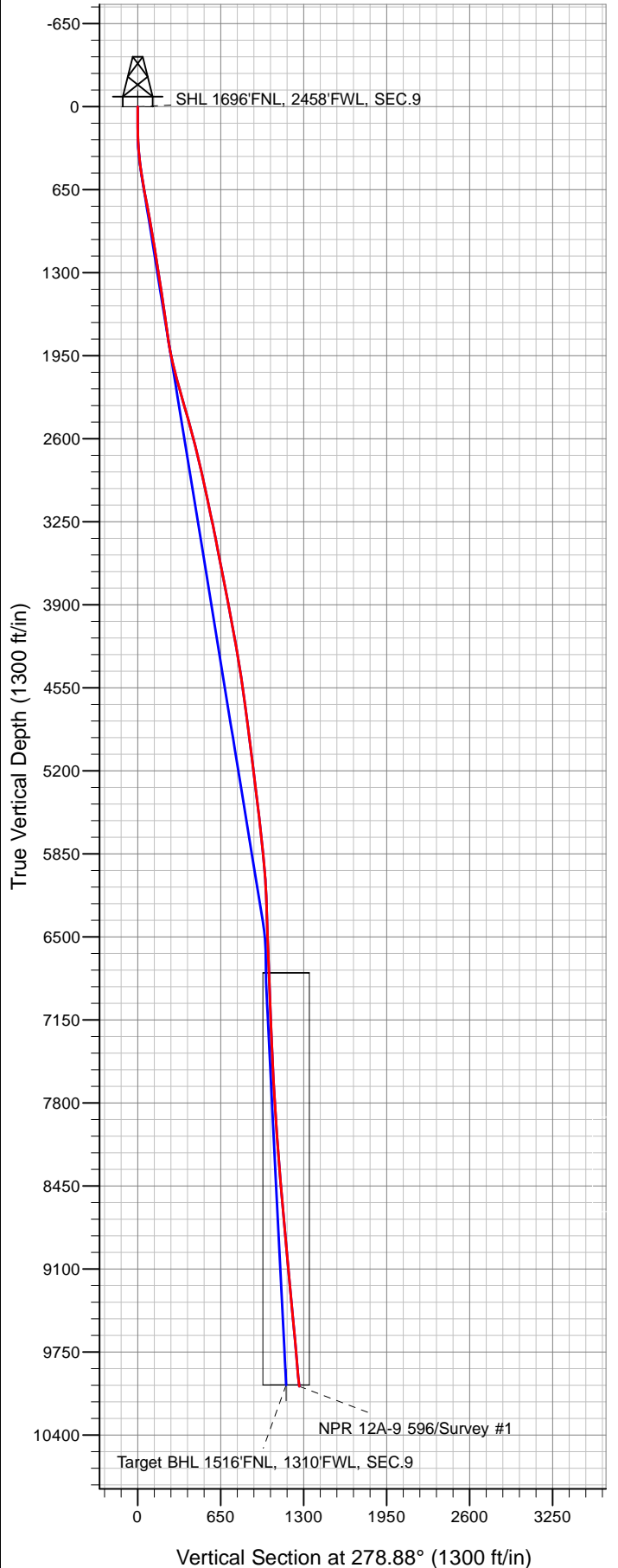


**Caerus Oil and Gas LLC**



**LEGEND**

- + NPR 12A-9 596, NPR 12A-9 596 Wellbore #1, Plan #2 (12-12-18) V0
- + NPR 12A-9 596 Wellbore #1
- + Survey #1

**Final Survey Plot**

**Projected Final Survey -**  
**10,127'MD & 10019' TVD @ 1264.18'VS**  
**5.6 deg Inc 255.3 deg AZ**

Project: SEC.9-T5S-R96W  
 Site: NPR G09 596 Pad Sec.9-T5S-R96W  
 Well: NPR 12A-9 596  
 Plan: NPR 12A-9 596 Wellbore #1



## Directional

### **Caerus Oil and Gas LLC**

**SEC.9-T5S-R96W**

**NPR G09 596 Pad Sec.9-T5S-R96W**

**NPR 12A-9 596**

**NPR 12A-9 596 Wellbore #1**

**Survey: Survey #1**

### **Standard Survey Report**

**02 January, 2019**

<b>Company:</b>	Caerus Oil and Gas LLC	<b>Local Co-ordinate Reference:</b>	Well NPR 12A-9 596
<b>Project:</b>	SEC.9-T5S-R96W	<b>TVD Reference:</b>	WELL @ 7670.0ft (Original Well Elev)
<b>Site:</b>	NPR G09 596 Pad Sec.9-T5S-R96W	<b>MD Reference:</b>	WELL @ 7670.0ft (Original Well Elev)
<b>Well:</b>	NPR 12A-9 596	<b>North Reference:</b>	True
<b>Wellbore:</b>	NPR 12A-9 596 Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NPR 12A-9 596 Wellbore #1	<b>Database:</b>	US_EDM

<b>Project</b>	SEC.9-T5S-R96W, Garfield County, CO		
<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		Using Well Reference Point
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		Using geodetic scale factor

<b>Site</b>	NPR G09 596 Pad Sec.9-T5S-R96W				
<b>Site Position:</b>		<b>Northing:</b>	14,404,590.33 usft	<b>Latitude:</b>	39.632067
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,436,015.01 usft	<b>Longitude:</b>	-108.174492
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	1.80 °

<b>Well</b>	NPR 12A-9 596					
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	14,404,635.26 usft	<b>Latitude:</b>	39.632183
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,436,104.42 usft	<b>Longitude:</b>	-108.174170
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	0.0 ft	<b>Ground Level:</b>	7,640.0 ft

<b>Wellbore</b>	NPR 12A-9 596 Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	12/12/2018	9.55	65.80	51,400

<b>Design</b>	NPR 12A-9 596 Wellbore #1				
<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	278.88	

<b>Survey Program</b>	<b>Date</b>	1/2/2019			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
120.0	10,127.0	Survey #1 (NPR 12A-9 596 Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>SHL 1696'FNL, 2458'FWL, SEC.9</b>										
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00	
211.0	1.60	247.60	211.0	-0.5	-1.2	1.1	1.76	1.76	0.00	
303.0	3.40	268.50	302.9	-1.0	-5.1	4.9	2.16	1.96	22.72	
394.0	5.40	282.50	393.6	-0.2	-12.0	11.8	2.48	2.20	15.38	
486.0	8.30	290.70	485.0	3.1	-22.4	22.6	3.32	3.15	8.91	
578.0	9.90	289.60	575.8	8.1	-36.1	36.9	1.75	1.74	-1.20	
673.0	10.60	286.60	669.3	13.3	-52.1	53.6	0.93	0.74	-3.16	
767.0	10.50	281.20	761.7	17.5	-68.8	70.7	1.06	-0.11	-5.74	

<b>Company:</b>	Caerus Oil and Gas LLC	<b>Local Co-ordinate Reference:</b>	Well NPR 12A-9 596
<b>Project:</b>	SEC.9-T5S-R96W	<b>TVD Reference:</b>	WELL @ 7670.0ft (Original Well Elev)
<b>Site:</b>	NPR G09 596 Pad Sec.9-T5S-R96W	<b>MD Reference:</b>	WELL @ 7670.0ft (Original Well Elev)
<b>Well:</b>	NPR 12A-9 596	<b>North Reference:</b>	True
<b>Wellbore:</b>	NPR 12A-9 596 Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NPR 12A-9 596 Wellbore #1	<b>Database:</b>	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
862.0	10.80	275.50	855.1	20.0	-86.2	88.2	1.15	0.32	-6.00
956.0	10.20	275.10	947.5	21.6	-103.2	105.3	0.64	-0.64	-0.43
1,050.0	8.90	274.80	1,040.2	22.9	-118.8	120.9	1.38	-1.38	-0.32
1,144.0	9.10	275.40	1,133.0	24.2	-133.4	135.6	0.24	0.21	0.64
1,239.0	9.00	270.90	1,226.8	25.1	-148.3	150.4	0.75	-0.11	-4.74
1,333.0	8.90	264.90	1,319.7	24.5	-162.9	164.8	1.00	-0.11	-6.38
1,428.0	8.60	272.90	1,413.6	24.2	-177.3	179.0	1.32	-0.32	8.42
1,522.0	8.70	279.30	1,506.5	25.7	-191.4	193.1	1.03	0.11	6.81
1,616.0	8.60	286.70	1,599.5	28.9	-205.1	207.1	1.19	-0.11	7.87
1,711.0	7.80	285.10	1,693.5	32.6	-218.1	220.6	0.88	-0.84	-1.68
1,805.0	8.20	292.90	1,786.6	36.9	-230.5	233.4	1.23	0.43	8.30
1,900.0	10.30	295.40	1,880.3	43.2	-244.4	248.1	2.25	2.21	2.63
1,994.0	12.60	290.20	1,972.5	50.3	-261.6	266.2	2.68	2.45	-5.53
2,089.0	14.20	283.10	2,064.9	56.5	-282.7	288.0	2.41	1.68	-7.47
2,183.0	15.20	282.20	2,155.8	61.8	-306.0	311.8	1.09	1.06	-0.96
2,278.0	16.30	289.60	2,247.3	68.9	-330.7	337.4	2.41	1.16	7.79
2,372.0	16.30	297.50	2,337.5	79.4	-354.8	362.8	2.36	0.00	8.40
2,445.0	16.20	297.10	2,407.6	88.8	-373.0	382.2	0.21	-0.14	-0.55
2,590.0	16.10	293.80	2,546.8	106.1	-409.4	420.9	0.64	-0.07	-2.28
2,684.0	14.90	292.20	2,637.4	115.9	-432.5	445.2	1.36	-1.28	-1.70
2,779.0	14.10	289.20	2,729.4	124.3	-454.7	468.5	1.15	-0.84	-3.16
2,873.0	12.90	285.00	2,820.8	130.8	-475.7	490.2	1.65	-1.28	-4.47
2,967.0	12.00	285.80	2,912.6	136.2	-495.2	510.3	0.97	-0.96	0.85
3,062.0	12.30	286.60	3,005.5	141.8	-514.4	530.1	0.36	0.32	0.84
3,156.0	11.90	283.70	3,097.4	146.9	-533.4	549.7	0.77	-0.43	-3.09
3,251.0	12.30	284.50	3,190.3	151.8	-552.7	569.6	0.46	0.42	0.84
3,345.0	12.20	284.50	3,282.1	156.8	-572.1	589.4	0.11	-0.11	0.00
3,440.0	11.20	283.60	3,375.2	161.5	-590.7	608.6	1.07	-1.05	-0.95
3,534.0	11.00	282.80	3,467.4	165.6	-608.4	626.6	0.27	-0.21	-0.85
3,629.0	11.30	281.80	3,560.6	169.5	-626.3	645.0	0.38	0.32	-1.05
3,723.0	11.00	280.40	3,652.8	173.0	-644.1	663.1	0.43	-0.32	-1.49
3,817.0	11.00	279.80	3,745.1	176.1	-661.8	681.1	0.12	0.00	-0.64
3,912.0	10.60	278.70	3,838.4	179.0	-679.4	698.9	0.47	-0.42	-1.16
4,006.0	10.50	279.20	3,930.8	181.7	-696.4	716.1	0.14	-0.11	0.53
4,100.0	10.50	277.20	4,023.3	184.1	-713.3	733.2	0.39	0.00	-2.13
4,195.0	10.40	275.70	4,116.7	186.1	-730.4	750.4	0.31	-0.11	-1.58
4,289.0	10.30	275.10	4,209.2	187.7	-747.3	767.3	0.16	-0.11	-0.64
4,384.0	9.70	288.80	4,302.7	191.0	-763.3	783.6	2.58	-0.63	14.42
4,478.0	9.10	293.30	4,395.5	196.5	-777.6	798.6	1.01	-0.64	4.79
4,573.0	8.80	292.30	4,489.3	202.2	-791.2	813.0	0.36	-0.32	-1.05
4,667.0	8.00	289.70	4,582.3	207.2	-804.1	826.4	0.94	-0.85	-2.77
4,762.0	8.00	289.10	4,676.4	211.5	-816.5	839.4	0.09	0.00	-0.63
4,951.0	7.50	285.50	4,863.6	219.1	-840.8	864.6	0.37	-0.26	-1.90

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<b>Site:</b>	NPR G09 596 Pad Sec.9-T5S-R96W	<b>MD Reference:</b>	WELL @ 7670.0ft (Original Well Elev)
<b>Well:</b>	NPR 12A-9 596	<b>North Reference:</b>	True
<b>Wellbore:</b>	NPR 12A-9 596 Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NPR 12A-9 596 Wellbore #1	<b>Database:</b>	US_EDM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,045.0	7.20	287.10	4,956.9	222.5	-852.4	876.5	0.39	-0.32	1.70	
5,139.0	6.90	284.30	5,050.2	225.6	-863.5	888.0	0.49	-0.32	-2.98	
5,234.0	7.10	282.10	5,144.5	228.3	-874.8	899.5	0.35	0.21	-2.32	
5,328.0	7.30	282.20	5,237.7	230.8	-886.3	911.3	0.21	0.21	0.11	
5,422.0	7.20	285.70	5,331.0	233.6	-897.8	923.1	0.48	-0.11	3.72	
5,611.0	6.60	286.80	5,518.6	240.0	-919.6	945.6	0.33	-0.32	0.58	
5,706.0	6.30	289.60	5,613.0	243.3	-929.7	956.1	0.46	-0.32	2.95	
5,800.0	6.30	290.10	5,706.4	246.8	-939.4	966.3	0.06	0.00	0.53	
5,895.0	6.20	291.70	5,800.9	250.5	-949.1	976.4	0.21	-0.11	1.68	
5,989.0	5.30	277.20	5,894.4	252.9	-958.1	985.7	1.81	-0.96	-15.43	
6,084.0	5.20	269.50	5,989.0	253.4	-966.8	994.3	0.75	-0.11	-8.11	
6,178.0	3.30	258.90	6,082.7	252.9	-973.7	1,001.0	2.18	-2.02	-11.28	
6,272.0	2.60	245.30	6,176.6	251.4	-978.3	1,005.4	1.05	-0.74	-14.47	
6,366.0	2.30	241.30	6,270.5	249.6	-981.9	1,008.6	0.37	-0.32	-4.26	
6,461.0	2.80	248.10	6,365.4	247.9	-985.7	1,012.1	0.61	0.53	7.16	
6,555.0	2.10	253.30	6,459.3	246.5	-989.5	1,015.7	0.78	-0.74	5.53	
6,838.0	2.40	252.10	6,742.1	243.2	-1,000.1	1,025.6	0.11	0.11	-0.42	
6,933.0	2.40	248.20	6,837.0	241.9	-1,003.8	1,029.1	0.17	0.00	-4.11	
7,028.0	2.60	254.70	6,931.9	240.5	-1,007.7	1,032.8	0.36	0.21	6.84	
7,122.0	2.70	241.60	7,025.8	238.9	-1,011.7	1,036.5	0.65	0.11	-13.94	
7,217.0	2.80	246.00	7,120.7	236.9	-1,015.8	1,040.2	0.25	0.11	4.63	
7,501.0	3.20	244.90	7,404.3	230.7	-1,029.3	1,052.6	0.14	0.14	-0.39	
7,690.0	3.70	247.50	7,593.0	226.2	-1,039.8	1,062.2	0.28	0.26	1.38	
7,785.0	3.50	254.50	7,687.8	224.2	-1,045.4	1,067.5	0.51	-0.21	7.37	
7,973.0	4.10	252.20	7,875.4	220.6	-1,057.3	1,078.7	0.33	0.32	-1.22	
8,068.0	4.40	246.80	7,970.1	218.2	-1,063.9	1,084.8	0.53	0.32	-5.68	
8,257.0	4.90	246.90	8,158.5	212.1	-1,078.0	1,097.8	0.26	0.26	0.05	
8,351.0	4.80	253.50	8,252.2	209.4	-1,085.4	1,104.8	0.60	-0.11	7.02	
8,540.0	5.90	254.60	8,440.4	204.6	-1,102.4	1,120.8	0.58	0.58	0.58	
8,729.0	5.80	247.50	8,628.4	198.4	-1,120.6	1,137.8	0.39	-0.05	-3.76	
8,918.0	5.80	246.20	8,816.4	190.9	-1,138.1	1,154.0	0.07	0.00	-0.69	
9,012.0	6.10	249.50	8,909.9	187.2	-1,147.2	1,162.3	0.48	0.32	3.51	
9,201.0	5.60	253.50	9,097.9	181.1	-1,165.4	1,179.4	0.34	-0.26	2.12	
9,296.0	5.60	254.50	9,192.5	178.5	-1,174.3	1,187.8	0.10	0.00	1.05	
9,390.0	5.70	258.30	9,286.0	176.3	-1,183.3	1,196.4	0.41	0.11	4.04	
9,578.0	5.80	257.10	9,473.1	172.3	-1,201.7	1,213.9	0.08	0.05	-0.64	
9,767.0	5.60	260.50	9,661.1	168.7	-1,220.1	1,231.5	0.21	-0.11	1.80	
10,049.0	5.60	255.30	9,941.8	162.9	-1,247.0	1,257.2	0.18	0.00	-1.84	
10,104.1	5.60	255.30	9,996.7	161.5	-1,252.2	1,262.1	0.00	0.00	0.00	
<b>Target BHL 1516'FNL, 1310'FWL, SEC.9</b>										
10,127.0	5.60	255.30	10,019.4	161.0	-1,254.4	1,264.2	0.00	0.00	0.00	

<b>Company:</b>	Caerus Oil and Gas LLC	<b>Local Co-ordinate Reference:</b>	Well NPR 12A-9 596
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<b>Site:</b>	NPR G09 596 Pad Sec.9-T5S-R96W	<b>MD Reference:</b>	WELL @ 7670.0ft (Original Well Elev)
<b>Well:</b>	NPR 12A-9 596	<b>North Reference:</b>	True
<b>Wellbore:</b>	NPR 12A-9 596 Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NPR 12A-9 596 Wellbore #1	<b>Database:</b>	US_EDM

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Target BHL 1516'FNL, 1:	0.00	0.00	10,007.0	179.4	-1,148.0	14,404,778.51	2,434,950.99	39.632675	-108.178245
- survey misses target center by 106.2ft at 10104.1ft MD (9996.7 TVD, 161.5 N, -1252.2 E) - Ellipse (radii L200.0 W100.0 on 250.00 azi)									

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