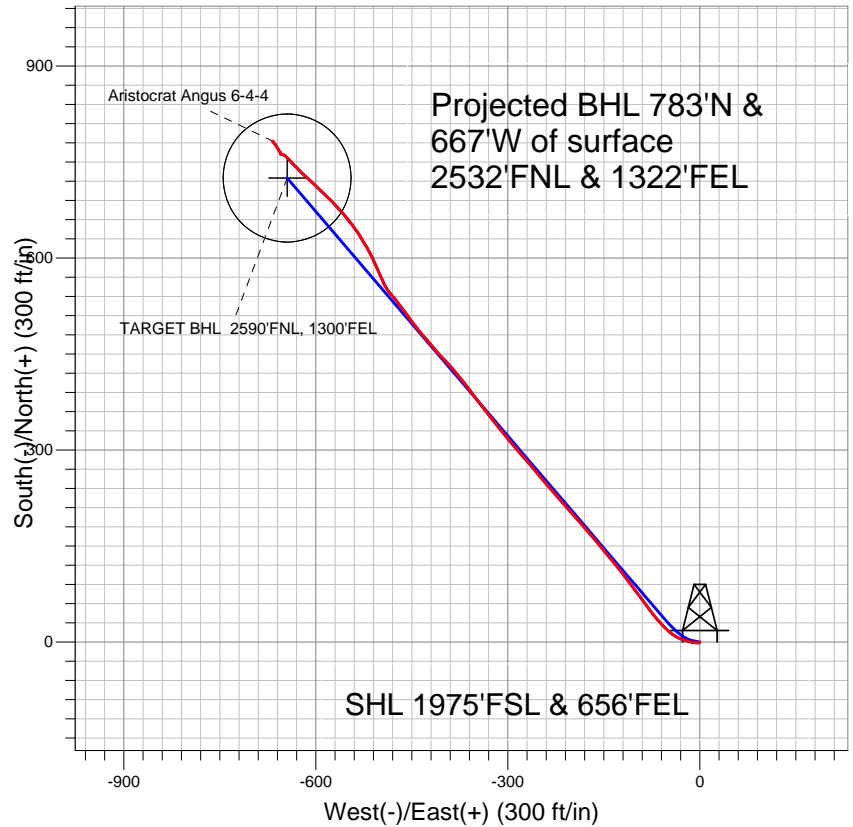


## EnCana Oil & Gas Weld County CO



### LEGEND

- +— Aristocrat Angus 6-4-4, Wellbore #1, Plan #2 (10-25-12) V0
- +— Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
 7507'MD & 7395'TVD @ 1028'VS  
 0.3 deg Inc 91.1 deg AZ

Project: SEC.4-T3N-R65W  
 Site: Aristocrat Angus 6-4-4 Pad Sec.4-T3N-R65W  
 Well: Aristocrat Angus 6-4-4  
 Plan: Wellbore #1



## **Directional**

### **EnCana Oil & Gas Weld County CO**

**SEC.4-T3N-R65W**

**Aristocrat Angus 6-4-4 Pad Sec.4-T3N-R65W**

**Aristocrat Angus 6-4-4**

**Wellbore #1**

**Survey: Survey #1**

### **Standard Survey Report**

**20 November, 2012**

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Aristocrat Angus 6-4-4
<b>Project:</b>	SEC.4-T3N-R65W	<b>TVD Reference:</b>	WELL @ 4817.0ft (Original Well Elev)
<b>Site:</b>	Aristocrat Angus 6-4-4 Pad Sec.4-T3N-R65W	<b>MD Reference:</b>	WELL @ 4817.0ft (Original Well Elev)
<b>Well:</b>	Aristocrat Angus 6-4-4	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.4-T3N-R65W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Aristocrat Angus 6-4-4 Pad Sec.4-T3N-R65W				
Site Position:		Northing:	1,335,941.98ft	Latitude:	40.252520
From:	Lat/Long	Easting:	3,234,116.41ft	Longitude:	-104.661210
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.54 °

Well	Aristocrat Angus 6-4-4					
Well Position	+N/-S	0.0 ft	Northing:	1,335,941.97 ft	Latitude:	40.252520
	+E/-W	0.0 ft	Easting:	3,234,116.41 ft	Longitude:	-104.661210
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,805.0 ft

<b>Wellbore</b>	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>
	IGRF2010	11/12/2012	8.61	66.90	52,916

<b>Design</b>	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	318.35	

<b>Survey Program</b>	<b>Date</b>	11/20/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
46.0	7,507.0	Survey #1 (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 (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
46.0	0.50	191.80	46.0	-0.2	0.0	-0.1	1.09	1.09	0.00	
136.0	0.80	231.90	136.0	-1.0	-0.6	-0.3	0.59	0.33	44.56	
227.0	2.30	267.00	227.0	-1.5	-2.9	0.9	1.88	1.65	38.57	
317.0	4.20	279.80	316.8	-1.0	-8.0	4.6	2.25	2.11	14.22	
408.0	6.20	281.60	407.4	0.6	-16.1	11.1	2.20	2.20	1.98	
500.0	7.70	289.50	498.8	3.6	-26.8	20.5	1.93	1.63	8.59	
590.0	8.60	300.90	587.9	9.1	-38.2	32.2	2.05	1.00	12.67	
660.0	9.10	310.10	657.0	15.3	-47.0	42.7	2.14	0.71	13.14	
735.0	9.00	315.50	731.1	23.3	-55.6	54.4	1.14	-0.13	7.20	
820.0	9.90	319.20	814.9	33.6	-65.0	68.3	1.28	1.06	4.35	
906.0	11.30	323.10	899.5	46.0	-74.9	84.1	1.83	1.63	4.53	
992.0	12.90	322.40	983.6	60.3	-85.8	102.1	1.87	1.86	-0.81	

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Aristocrat Angus 6-4-4
<b>Project:</b>	SEC.4-T3N-R65W	<b>TVD Reference:</b>	WELL @ 4817.0ft (Original Well Elev)
<b>Site:</b>	Aristocrat Angus 6-4-4 Pad Sec.4-T3N-R65W	<b>MD Reference:</b>	WELL @ 4817.0ft (Original Well Elev)
<b>Well:</b>	Aristocrat Angus 6-4-4	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,077.0	13.90	323.10	1,066.2	76.0	-97.8	121.7	1.19	1.18	0.82	
1,163.0	14.20	325.00	1,149.7	92.9	-110.0	142.5	0.64	0.35	2.21	
1,248.0	14.60	321.30	1,232.0	109.8	-122.7	163.6	1.18	0.47	-4.35	
1,334.0	14.60	320.30	1,315.2	126.6	-136.4	185.2	0.29	0.00	-1.16	
1,420.0	14.50	319.60	1,398.5	143.1	-150.3	206.8	0.24	-0.12	-0.81	
1,505.0	14.50	320.80	1,480.8	159.5	-163.9	228.1	0.35	0.00	1.41	
1,591.0	14.10	319.90	1,564.1	175.8	-177.5	249.3	0.53	-0.47	-1.05	
1,676.0	13.50	318.20	1,646.6	191.1	-190.8	269.6	0.85	-0.71	-2.00	
1,762.0	13.60	317.80	1,730.2	206.1	-204.2	289.7	0.16	0.12	-0.47	
1,848.0	13.60	319.00	1,813.8	221.2	-217.7	310.0	0.33	0.00	1.40	
1,933.0	13.30	318.70	1,896.5	236.1	-230.7	329.7	0.36	-0.35	-0.35	
2,019.0	13.30	321.00	1,980.2	251.2	-243.4	349.5	0.62	0.00	2.67	
2,104.0	13.10	320.60	2,062.9	266.3	-255.7	368.9	0.26	-0.24	-0.47	
2,190.0	13.00	318.50	2,146.7	281.1	-268.3	388.3	0.56	-0.12	-2.44	
2,276.0	12.80	318.30	2,230.6	295.4	-281.0	407.5	0.24	-0.23	-0.23	
2,361.0	12.00	320.10	2,313.6	309.2	-293.0	425.8	1.05	-0.94	2.12	
2,447.0	12.50	322.40	2,397.6	323.5	-304.4	444.0	0.81	0.58	2.67	
2,532.0	13.00	318.70	2,480.5	337.9	-316.3	462.7	1.13	0.59	-4.35	
2,618.0	12.90	322.40	2,564.3	352.8	-328.5	482.0	0.97	-0.12	4.30	
2,704.0	14.00	322.60	2,648.0	368.7	-340.7	501.9	1.28	1.28	0.23	
2,789.0	15.60	324.70	2,730.2	386.2	-353.6	523.5	1.99	1.88	2.47	
2,875.0	15.70	320.80	2,813.0	404.6	-367.6	546.6	1.23	0.12	-4.53	
2,960.0	15.80	319.90	2,894.8	422.4	-382.3	569.7	0.31	0.12	-1.06	
3,046.0	15.00	315.70	2,977.7	439.3	-397.6	592.5	1.60	-0.93	-4.88	
3,132.0	13.90	319.20	3,061.0	455.1	-412.2	614.0	1.63	-1.28	4.07	
3,217.0	14.20	320.40	3,143.4	470.9	-425.5	634.6	0.49	0.35	1.41	
3,303.0	12.80	318.50	3,227.1	486.1	-438.5	654.7	1.71	-1.63	-2.21	
3,388.0	12.00	325.40	3,310.1	500.5	-449.8	672.9	1.98	-0.94	8.12	
3,474.0	12.00	323.80	3,394.2	515.0	-460.1	690.6	0.39	0.00	-1.86	
3,560.0	12.30	319.70	3,478.3	529.2	-471.3	708.7	1.06	0.35	-4.77	
3,645.0	12.50	322.40	3,561.3	543.4	-482.8	726.9	0.72	0.24	3.18	
3,731.0	11.30	330.20	3,645.4	558.1	-492.7	744.4	2.33	-1.40	9.07	
3,816.0	12.10	340.10	3,728.7	573.7	-499.8	760.9	2.54	0.94	11.65	
3,902.0	12.40	334.90	3,812.7	590.6	-506.8	778.1	1.33	0.35	-6.05	
3,988.0	14.10	331.50	3,896.4	608.1	-515.7	797.2	2.17	1.98	-3.95	
4,073.0	14.90	329.10	3,978.7	626.6	-526.3	818.0	1.18	0.94	-2.82	
4,159.0	13.50	325.40	4,062.1	644.3	-537.7	838.8	1.94	-1.63	-4.30	
4,244.0	13.10	320.60	4,144.8	660.0	-549.4	858.3	1.38	-0.47	-5.65	
4,330.0	12.60	319.40	4,228.7	674.6	-561.7	877.4	0.66	-0.58	-1.40	
4,416.0	12.80	313.40	4,312.6	688.3	-574.7	896.3	1.55	0.23	-6.98	
4,501.0	11.90	315.70	4,395.6	701.0	-587.7	914.4	1.21	-1.06	2.71	
4,587.0	11.30	312.70	4,479.8	713.1	-600.1	931.6	0.99	-0.70	-3.49	
4,672.0	9.80	312.00	4,563.4	723.6	-611.6	947.1	1.77	-1.76	-0.82	
4,758.0	8.50	313.40	4,648.3	732.8	-621.6	960.7	1.53	-1.51	1.63	
4,844.0	7.60	318.30	4,733.5	741.4	-630.0	972.7	1.32	-1.05	5.70	
4,929.0	6.40	310.40	4,817.8	748.7	-637.4	983.1	1.81	-1.41	-9.29	
5,015.0	5.90	324.80	4,903.3	755.4	-643.6	992.2	1.88	-0.58	16.74	
5,100.0	4.50	294.40	4,988.0	760.4	-649.1	999.6	3.58	-1.65	-35.76	
5,186.0	1.80	277.20	5,073.9	761.9	-653.6	1,003.7	3.29	-3.14	-20.00	
5,272.0	0.50	290.40	5,159.8	762.2	-655.3	1,005.0	1.53	-1.51	15.35	
5,443.0	0.70	31.10	5,330.8	763.4	-655.4	1,006.0	0.55	0.12	58.89	
5,614.0	0.40	331.30	5,501.8	764.8	-655.2	1,006.9	0.35	-0.18	-34.97	
5,711.7	0.68	320.79	5,599.6	765.6	-655.7	1,007.8	0.30	0.29	-10.76	
TARGET BHL 2590'FNL, 1300'FEL										

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Aristocrat Angus 6-4-4
<b>Project:</b>	SEC.4-T3N-R65W	<b>TVD Reference:</b>	WELL @ 4817.0ft (Original Well Elev)
<b>Site:</b>	Aristocrat Angus 6-4-4 Pad Sec.4-T3N-R65W	<b>MD Reference:</b>	WELL @ 4817.0ft (Original Well Elev)
<b>Well:</b>	Aristocrat Angus 6-4-4	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,785.0	0.90	317.30	5,672.8	766.3	-656.4	1,008.8	0.30	0.30	-4.76
5,956.0	1.60	330.60	5,843.8	769.4	-658.4	1,012.5	0.44	0.41	7.78
6,128.0	1.70	328.00	6,015.7	773.7	-661.0	1,017.4	0.07	0.06	-1.51
6,299.0	1.00	324.50	6,186.7	777.0	-663.2	1,021.3	0.41	-0.41	-2.05
6,470.0	0.50	322.00	6,357.6	778.8	-664.5	1,023.6	0.29	-0.29	-1.46
6,641.0	0.30	304.20	6,528.6	779.7	-665.3	1,024.7	0.14	-0.12	-10.41
6,812.0	0.30	332.40	6,699.6	780.3	-665.9	1,025.6	0.09	0.00	16.49
6,984.0	0.20	332.00	6,871.6	781.0	-666.3	1,026.3	0.06	-0.06	-0.23
6,990.9	0.22	329.09	6,878.6	781.0	-666.3	1,026.4	0.31	0.26	-42.00
TARGET CIRCLE 2590'FNL & 1300'FEL									
7,155.0	0.70	309.00	7,042.6	781.9	-667.2	1,027.7	0.31	0.29	-12.24
7,326.0	0.20	81.70	7,213.6	782.6	-667.7	1,028.5	0.50	-0.29	77.60
7,462.0	0.30	91.10	7,349.6	782.6	-667.1	1,028.2	0.08	0.07	6.91
7,507.0	0.30	91.10	7,394.6	782.6	-666.9	1,028.0	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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