

Well Name: **Aristocrat Angus 2-4**

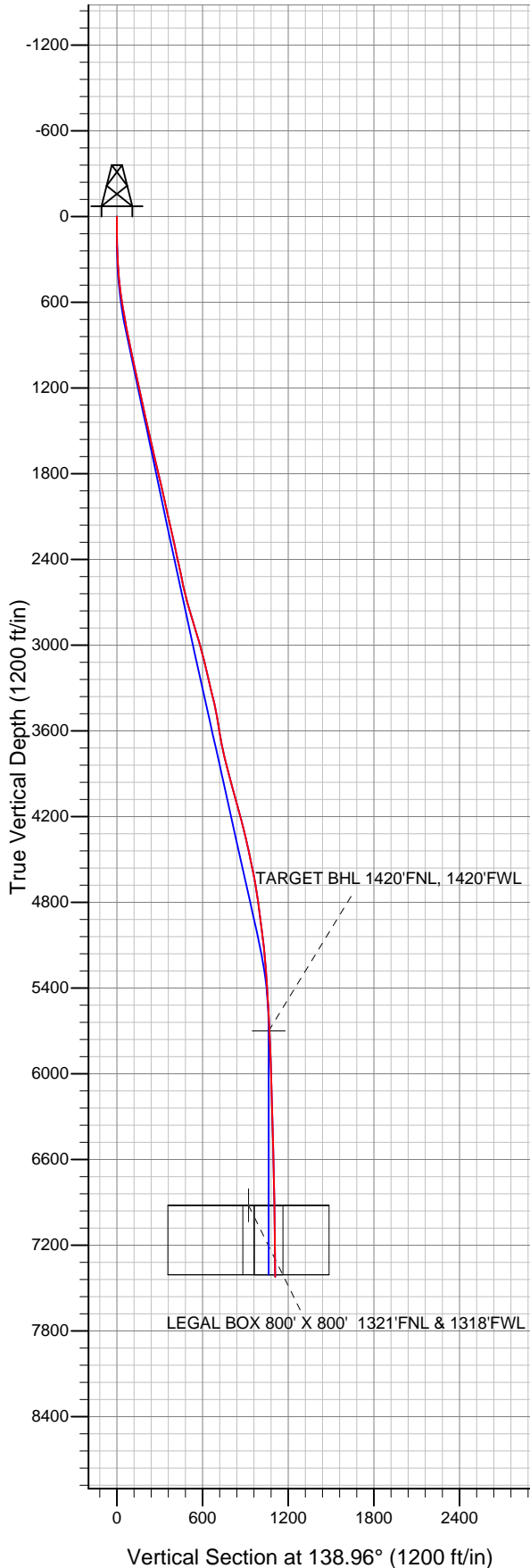
Surface Location: Aristocrat Angus 2-4 Pad Sec.4-T3N-R65W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4843.0

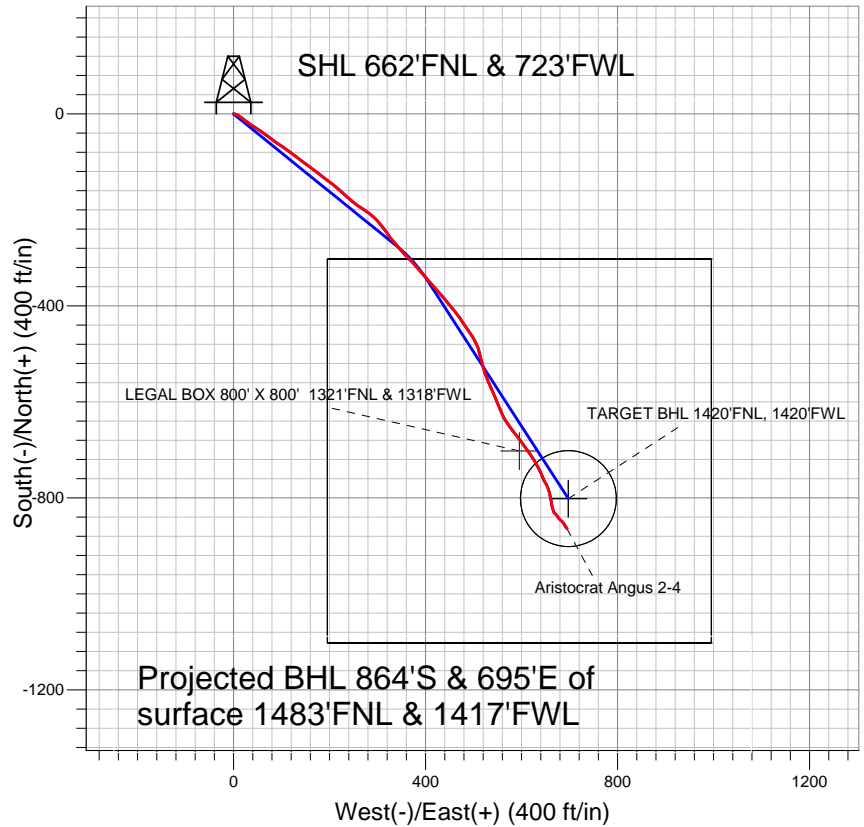
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1338604.79	3230208.97	40.259930	-104.675120

Original Well Elev WELL @ 4855.0ft (Original Well Elev)

Slot



EnCana Oil & Gas Weld County CO



LEGEND

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

Final Survey Plot

Projected Final Survey -
7542'MD & 7421'TVD @ 1108'VS
0.6 deg Inc 152.0 deg AZ

Project: SEC.4-T3N-R65W
Site: Aristocrat Angus 2-4 Pad Sec.4-T3N-R65W
Well: Aristocrat Angus 2-4
Plan: Wellbore #1



Directional

EnCana Oil & Gas Weld County CO

SEC.4-T3N-R65W

Aristocrat Angus 2-4 Pad Sec.4-T3N-R65W

Aristocrat Angus 2-4

Wellbore #1

Survey: Survey #1

Standard Survey Report

26 November, 2012

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 2-4
Project:	SEC.4-T3N-R65W	TVD Reference:	WELL @ 4855.0ft (Original Well Elev)
Site:	Aristocrat Angus 2-4 Pad Sec.4-T3N-R65W	MD Reference:	WELL @ 4855.0ft (Original Well Elev)
Well:	Aristocrat Angus 2-4	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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

Site	Aristocrat Angus 2-4 Pad Sec.4-T3N-R65W				
Site Position:		Northing:	1,338,604.80 ft	Latitude:	40.259930
From:	Lat/Long	Easting:	3,230,208.97 ft	Longitude:	-104.675120
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.53 °

Well	Aristocrat Angus 2-4					
Well Position	+N/-S	0.0 ft	Northing:	1,338,604.79 ft	Latitude:	40.259930
	+E/-W	0.0 ft	Easting:	3,230,208.97 ft	Longitude:	-104.675120
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,843.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/12/2012	8.61	66.90	52,919

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	138.96	

Survey Program	Date	11/26/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
106.0	7,542.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
106.0	0.60	89.30	106.0	0.0	0.6	0.4	0.57	0.57	0.00	
197.0	1.30	103.00	197.0	-0.2	2.0	1.5	0.80	0.77	15.05	
287.0	3.00	108.60	286.9	-1.2	5.3	4.4	1.90	1.89	6.22	
377.0	4.40	122.50	376.7	-3.8	10.4	9.7	1.84	1.56	15.44	
469.0	5.90	126.60	468.4	-8.5	17.2	17.7	1.68	1.63	4.46	
560.0	8.40	126.70	558.6	-15.3	26.3	28.8	2.75	2.75	0.11	
590.0	9.10	125.50	588.3	-18.0	30.0	33.2	2.41	2.33	-4.00	
644.0	10.00	125.00	641.5	-23.1	37.3	41.9	1.67	1.67	-0.93	
691.0	10.00	122.50	687.8	-27.7	44.1	49.8	0.92	0.00	-5.32	
777.0	11.30	124.10	772.3	-36.4	57.3	65.1	1.55	1.51	1.86	
863.0	11.90	127.10	856.6	-46.5	71.4	81.9	0.99	0.70	3.49	
949.0	12.10	125.70	940.7	-57.1	85.8	99.4	0.41	0.23	-1.63	

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 2-4
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Site:	Aristocrat Angus 2-4 Pad Sec.4-T3N-R65W	MD Reference:	WELL @ 4855.0ft (Original Well Elev)
Well:	Aristocrat Angus 2-4	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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)	
1,034.0	12.20	124.30	1,023.8	-67.4	100.4	116.7	0.37	0.12	-1.65	
1,120.0	12.70	126.40	1,107.8	-78.1	115.5	134.8	0.78	0.58	2.44	
1,205.0	12.30	126.90	1,190.8	-89.1	130.3	152.7	0.49	-0.47	0.59	
1,291.0	12.80	126.70	1,274.7	-100.3	145.3	171.0	0.58	0.58	-0.23	
1,377.0	12.80	126.60	1,358.6	-111.6	160.6	189.6	0.03	0.00	-0.12	
1,462.0	12.70	127.30	1,441.5	-122.9	175.5	208.0	0.22	-0.12	0.82	
1,548.0	13.40	128.00	1,525.3	-134.8	190.9	227.0	0.83	0.81	0.81	
1,633.0	12.60	127.80	1,608.1	-146.5	206.0	245.8	0.94	-0.94	-0.24	
1,719.0	12.80	131.30	1,692.0	-158.6	220.6	264.4	0.92	0.23	4.07	
1,805.0	13.80	131.80	1,775.7	-171.7	235.4	284.0	1.17	1.16	0.58	
1,890.0	13.70	129.50	1,858.2	-184.8	250.7	304.0	0.65	-0.12	-2.71	
1,976.0	13.10	121.80	1,941.9	-196.5	266.8	323.4	2.19	-0.70	-8.95	
2,061.0	13.20	127.10	2,024.7	-207.4	282.8	342.1	1.42	0.12	6.24	
2,147.0	12.00	136.10	2,108.6	-219.7	296.8	360.6	2.67	-1.40	10.47	
2,233.0	12.70	141.30	2,192.6	-233.6	308.9	379.0	1.53	0.81	6.05	
2,318.0	13.50	145.40	2,275.4	-249.0	320.4	398.2	1.44	0.94	4.82	
2,404.0	11.10	139.20	2,359.4	-263.6	331.5	416.5	3.18	-2.79	-7.21	
2,489.0	12.60	139.70	2,442.6	-276.8	342.8	433.9	1.77	1.76	0.59	
2,575.0	12.10	138.20	2,526.6	-290.7	354.9	452.3	0.69	-0.58	-1.74	
2,661.0	12.70	134.50	2,610.6	-304.0	367.7	470.7	1.16	0.70	-4.30	
2,746.0	14.70	139.60	2,693.2	-318.8	381.3	490.8	2.75	2.35	6.00	
2,832.0	16.80	137.50	2,776.0	-336.3	396.8	514.2	2.53	2.44	-2.44	
2,917.0	17.20	139.20	2,857.3	-354.9	413.3	539.0	0.75	0.47	2.00	
3,003.0	17.20	139.90	2,939.4	-374.2	429.8	564.5	0.24	0.00	0.81	
3,089.0	15.10	139.90	3,022.0	-392.5	445.2	588.4	2.44	-2.44	0.00	
3,174.0	13.50	139.90	3,104.4	-408.6	458.7	609.4	1.88	-1.88	0.00	
3,260.0	13.60	144.50	3,188.0	-424.5	471.1	629.5	1.26	0.12	5.35	
3,345.0	13.50	146.90	3,270.6	-440.9	482.3	649.2	0.67	-0.12	2.82	
3,431.0	12.80	144.80	3,354.4	-457.1	493.3	668.7	0.99	-0.81	-2.44	
3,517.0	12.40	153.10	3,438.3	-473.1	502.9	687.1	2.15	-0.47	9.65	
3,602.0	11.50	160.10	3,521.5	-489.2	510.0	703.8	2.01	-1.06	8.24	
3,688.0	10.00	170.00	3,606.0	-504.7	514.2	718.2	2.76	-1.74	11.51	
3,773.0	12.30	163.60	3,689.4	-520.6	518.0	732.8	3.07	2.71	-7.53	
3,859.0	14.30	160.30	3,773.0	-539.4	524.2	751.0	2.49	2.33	-3.84	
3,945.0	14.50	157.70	3,856.3	-559.4	531.8	771.1	0.79	0.23	-3.02	
4,030.0	16.60	156.10	3,938.2	-580.3	540.8	792.8	2.52	2.47	-1.88	
4,116.0	16.20	158.90	4,020.7	-602.7	550.1	815.8	1.03	-0.47	3.26	
4,201.0	16.00	155.60	4,102.4	-624.5	559.2	838.2	1.10	-0.24	-3.88	
4,287.0	14.50	145.70	4,185.4	-644.2	570.2	860.2	3.49	-1.74	-11.51	
4,373.0	14.70	141.30	4,268.6	-661.6	583.1	881.8	1.31	0.23	-5.12	
4,458.0	13.60	142.70	4,351.0	-677.9	595.9	902.6	1.36	-1.29	1.65	
4,544.0	11.90	145.40	4,434.9	-693.3	607.0	921.5	2.09	-1.98	3.14	
4,629.0	11.30	144.80	4,518.2	-707.3	616.8	938.5	0.72	-0.71	-0.71	
4,715.0	12.00	148.40	4,602.4	-721.8	626.3	955.7	1.17	0.81	4.19	
4,801.0	10.40	152.40	4,686.8	-736.3	634.6	972.0	2.07	-1.86	4.65	
4,886.0	7.90	156.40	4,770.7	-748.4	640.5	985.1	3.03	-2.94	4.71	
4,972.0	8.00	158.20	4,855.8	-759.4	645.1	996.4	0.31	0.12	2.09	
5,057.0	7.80	147.80	4,940.0	-769.8	650.4	1,007.6	1.70	-0.24	-12.24	
5,143.0	7.70	160.80	5,025.3	-780.2	655.4	1,018.8	2.04	-0.12	15.12	
5,229.0	6.60	165.40	5,110.6	-790.4	658.5	1,028.5	1.44	-1.28	5.35	
5,314.0	6.10	169.30	5,195.1	-799.6	660.6	1,036.8	0.78	-0.59	4.59	
5,400.0	5.30	169.60	5,280.6	-808.0	662.2	1,044.2	0.93	-0.93	0.35	
5,485.0	4.60	170.90	5,365.3	-815.2	663.4	1,050.4	0.83	-0.82	1.53	
5,571.0	3.70	167.20	5,451.1	-821.3	664.6	1,055.8	1.09	-1.05	-4.30	

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5,657.0	3.00	159.30	5,537.0	-826.1	666.0	1,060.4	0.97	-0.81	-9.19	
5,819.7	2.60	133.94	5,699.5	-832.7	670.1	1,068.0	0.79	-0.24	-15.58	
TARGET BHL 1420'FNL, 1420'FWL										
5,828.0	2.60	132.50	5,707.8	-832.9	670.4	1,068.4	0.79	-0.06	-17.40	
5,999.0	2.00	151.70	5,878.6	-838.2	674.7	1,075.2	0.57	-0.35	11.23	
6,170.0	2.10	138.70	6,049.5	-843.1	678.2	1,081.2	0.28	0.06	-7.60	
6,341.0	1.60	128.10	6,220.4	-847.0	682.1	1,086.7	0.35	-0.29	-6.20	
6,513.0	1.50	140.40	6,392.4	-850.2	685.4	1,091.3	0.20	-0.06	7.15	
6,684.0	1.40	147.10	6,563.3	-853.7	688.0	1,095.6	0.12	-0.06	3.92	
6,855.0	1.10	146.60	6,734.3	-856.8	690.0	1,099.3	0.18	-0.18	-0.29	
7,026.0	0.90	151.20	6,905.2	-859.3	691.6	1,102.2	0.13	-0.12	2.69	
7,037.9	0.89	150.63	6,917.1	-859.5	691.7	1,102.4	0.14	-0.12	-4.78	
LEGAL BOX 800' X 800' 1321'FNL & 1318'FWL										
7,040.1	0.88	150.52	6,919.4	-859.5	691.7	1,102.5	0.14	-0.12	-4.88	
TARGET CIRCLE 1420'FNL & 1420'FWL										
7,197.0	0.70	140.80	7,076.2	-861.3	692.9	1,104.6	0.14	-0.12	-6.20	
7,369.0	0.60	146.20	7,248.2	-862.9	694.1	1,106.5	0.07	-0.06	3.14	
7,500.0	0.60	151.70	7,379.2	-864.1	694.8	1,107.9	0.04	0.00	4.20	
7,542.0	0.60	152.00	7,421.2	-864.4	695.0	1,108.3	0.01	0.00	0.71	

Checked By: _____ Approved By: _____ Date: _____