

Well Name: **Aristocrat Angus 3-3**

Surface Location: Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

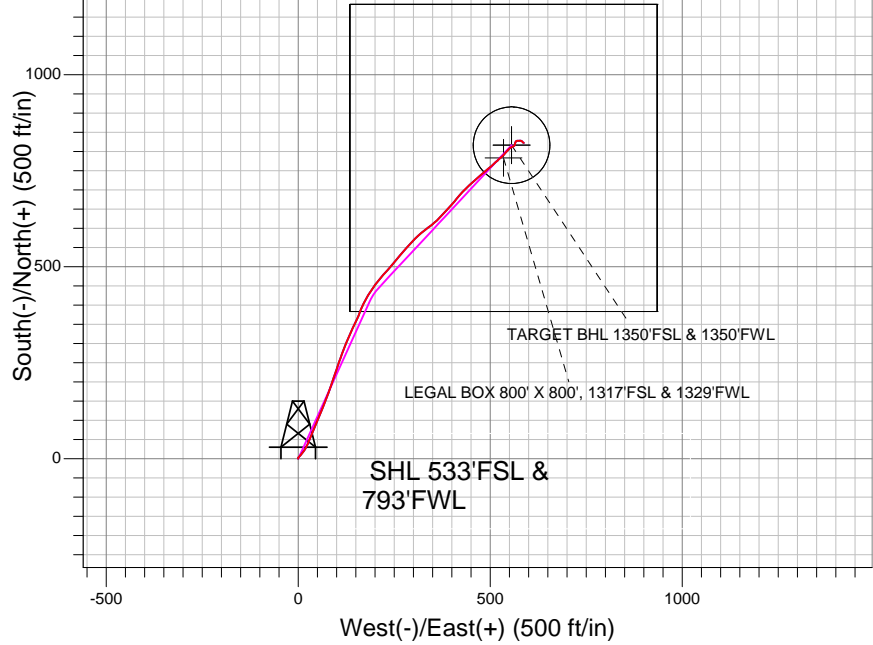
Ground Elevation: 4808.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1334513.23	3235581.48	40.248560	-104.656010	

Original Well Elev WELL @ 4821.0ft (Original Well Elev)

EnCana Oil & Gas Weld County CO

Projected BHL 822'N & 587'E of
surface 1356'FSL & 1382'FWL



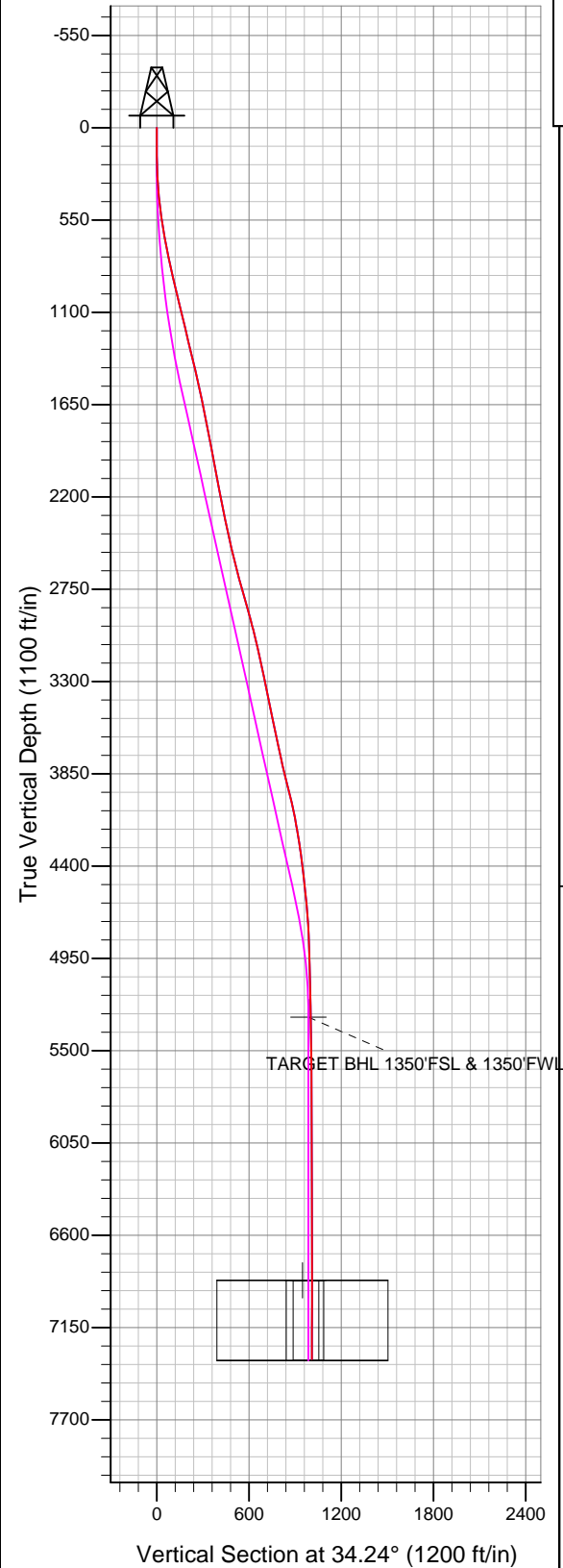
LEGEND

- △— Aristocrat Angus 3-3, Wellbore #1, Plan #2 (3-21-13) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7458'MD & 7340'TVD @
1010.25' VS 0.80 deg Inc
111.34 deg AZ

Project: SEC.3-T3N-R65W
Site: Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W
Well: Aristocrat Angus 3-3
Plan: Wellbore #1





Directional

EnCana Oil & Gas Weld County CO

SEC.3-T3N-R65W

Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W

Aristocrat Angus 3-3

Wellbore #1

Survey: Survey #1

Standard Survey Report

17 May, 2013



Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 3-3
Project:	SEC.3-T3N-R65W	TVD Reference:	WELL @ 4821.0ft (Original Well Elev)
Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Well:	Aristocrat Angus 3-3	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.3-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 0-8-3 Pad Sec.3-T3N-R65W				
Site Position:		Northing:	1,334,502.31 ft	Latitude:	40.248530
From:	Lat/Long	Easting:	3,235,581.58 ft	Longitude:	-104.656010
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.55 °

Well	Aristocrat Angus 3-3					
Well Position	+N-S	0.0 ft	Northing:	1,334,513.23 ft	Latitude:	40.248560
	+E-W	0.0 ft	Easting:	3,235,581.48 ft	Longitude:	-104.656010
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,808.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/25/2013	8.55	66.89	52,876

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	34.24	

Survey Program	Date	5/17/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
105.0	7,458.0	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	
105.0	0.80	331.10	105.0	0.6	-0.4	0.3	0.76	0.76	0.00	
166.0	1.10	2.40	166.0	1.6	-0.5	1.0	0.96	0.49	51.31	
225.0	1.80	40.50	225.0	2.9	0.1	2.4	1.96	1.19	64.58	
286.0	2.90	46.00	285.9	4.7	1.8	4.9	1.84	1.80	9.02	
346.0	4.40	44.90	345.8	7.4	4.5	8.6	2.50	2.50	-1.83	
406.0	5.90	40.70	405.6	11.3	8.2	14.0	2.58	2.50	-7.00	
466.0	7.40	36.00	465.1	16.8	12.5	20.9	2.66	2.50	-7.83	
527.0	8.40	30.30	525.6	23.8	17.0	29.3	2.08	1.64	-9.34	
587.0	9.80	27.00	584.8	32.1	21.5	38.7	2.49	2.33	-5.50	
648.0	11.20	24.00	644.8	42.2	26.3	49.7	2.46	2.30	-4.92	
711.0	12.70	22.10	706.4	54.2	31.4	62.5	2.46	2.38	-3.02	
783.0	13.50	20.70	776.5	69.4	37.4	78.4	1.20	1.11	-1.94	

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 3-3
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Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	MD Reference:	WELL @ 4821.0ft (Original Well Elev)
Well:	Aristocrat Angus 3-3	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)
868.0	14.40	21.90	859.0	88.5	44.8	98.3	1.11	1.06	1.41
954.0	14.80	24.40	942.3	108.4	53.3	119.6	0.87	0.47	2.91
1,040.0	14.20	23.30	1,025.5	128.1	62.0	140.8	0.77	-0.70	-1.28
1,125.0	15.30	21.00	1,107.7	148.1	70.2	162.0	1.47	1.29	-2.71
1,211.0	15.00	20.00	1,190.7	169.2	78.1	183.8	0.46	-0.35	-1.16
1,297.0	14.90	18.40	1,273.8	190.1	85.4	205.2	0.49	-0.12	-1.86
1,383.0	15.50	19.30	1,356.8	211.5	92.6	226.9	0.75	0.70	1.05
1,468.0	15.00	18.90	1,438.8	232.6	100.0	248.5	0.60	-0.59	-0.47
1,554.0	15.00	19.10	1,521.9	253.6	107.2	270.0	0.06	0.00	0.23
1,640.0	12.70	18.00	1,605.4	273.2	113.8	289.8	2.69	-2.67	-1.28
1,726.0	12.40	23.00	1,689.3	290.6	120.3	308.0	1.31	-0.35	5.81
1,811.0	13.40	24.20	1,772.2	308.0	127.9	326.6	1.22	1.18	1.41
1,897.0	12.10	23.00	1,856.1	325.4	135.5	345.3	1.54	-1.51	-1.40
1,983.0	11.90	23.30	1,940.2	341.9	142.5	362.8	0.24	-0.23	0.35
2,069.0	12.00	26.80	2,024.3	358.0	150.1	380.4	0.85	0.12	4.07
2,154.0	11.10	24.00	2,107.6	373.3	157.4	397.2	1.25	-1.06	-3.29
2,240.0	12.40	19.30	2,191.8	389.6	163.8	414.3	1.88	1.51	-5.47
2,326.0	12.60	28.40	2,275.8	406.6	171.3	432.5	2.30	0.23	10.58
2,411.0	12.60	31.90	2,358.7	422.6	180.6	451.0	0.90	0.00	4.12
2,497.0	13.80	32.50	2,442.4	439.2	191.1	470.6	1.40	1.40	0.70
2,583.0	14.30	36.50	2,525.9	456.4	202.9	491.5	1.27	0.58	4.65
2,669.0	14.90	42.30	2,609.1	473.1	216.7	513.1	1.84	0.70	6.74
2,754.0	17.50	40.50	2,690.7	490.9	232.3	536.6	3.12	3.06	-2.12
2,840.0	17.10	40.40	2,772.8	510.4	248.9	562.0	0.47	-0.47	-0.12
2,926.0	17.30	41.10	2,855.0	529.7	265.5	587.3	0.33	0.23	0.81
3,012.0	16.80	41.40	2,937.2	548.6	282.2	612.3	0.59	-0.58	0.35
3,097.0	14.30	41.40	3,019.1	565.7	297.2	634.9	2.94	-2.94	0.00
3,183.0	14.50	48.80	3,102.4	580.8	312.4	655.9	2.15	0.23	8.60
3,269.0	15.10	53.20	3,185.5	594.6	329.4	676.9	1.48	0.70	5.12
3,355.0	14.00	50.60	3,268.8	607.9	346.4	697.5	1.49	-1.28	-3.02
3,440.0	12.20	47.40	3,351.6	620.5	361.0	716.1	2.28	-2.12	-3.76
3,526.0	12.60	42.50	3,435.6	633.6	374.0	734.2	1.31	0.47	-5.70
3,612.0	13.20	43.30	3,519.4	647.6	387.1	753.2	0.73	0.70	0.93
3,697.0	13.10	42.10	3,602.2	661.8	400.2	772.3	0.34	-0.12	-1.41
3,783.0	13.20	36.90	3,685.9	676.9	412.6	791.8	1.38	0.12	-6.05
3,869.0	13.50	43.20	3,769.6	692.1	425.4	811.5	1.73	0.35	7.33
3,955.0	15.30	47.70	3,852.9	707.1	440.7	832.5	2.46	2.09	5.23
4,040.0	16.00	47.60	3,934.7	722.5	457.6	854.8	0.82	0.82	-0.12
4,126.0	15.30	48.10	4,017.6	738.1	474.8	877.3	0.83	-0.81	0.58
4,212.0	12.30	51.40	4,101.1	751.4	490.4	897.1	3.61	-3.49	3.84
4,298.0	10.30	48.50	4,185.4	762.2	503.3	913.3	2.42	-2.33	-3.37
4,383.0	10.50	46.50	4,269.0	772.5	514.6	928.2	0.49	0.24	-2.35
4,469.0	8.20	50.90	4,353.8	781.8	525.1	941.8	2.80	-2.67	5.12
4,555.0	7.00	45.10	4,439.1	789.4	533.6	952.8	1.65	-1.40	-6.74
4,640.0	7.20	39.80	4,523.4	797.1	540.6	963.2	0.81	0.24	-6.24
4,726.0	6.40	42.70	4,608.8	804.8	547.3	973.3	1.01	-0.93	3.37
4,812.0	4.80	61.30	4,694.4	810.0	553.8	981.2	2.79	-1.86	21.63
4,898.0	4.00	65.30	4,780.2	813.0	559.6	987.0	1.00	-0.93	4.65
4,983.0	1.90	37.30	4,865.1	815.4	563.2	990.9	2.93	-2.47	-32.94
5,069.0	2.10	3.50	4,951.0	818.1	564.1	993.7	1.37	0.23	-39.30
5,241.0	1.70	23.30	5,122.9	823.6	565.3	998.9	0.44	-0.23	11.51
5,412.0	0.90	53.50	5,293.9	826.7	567.4	1,002.7	0.60	-0.47	17.66
5,417.9	0.90	54.75	5,299.8	826.8	567.5	1,002.8	0.33	0.03	21.24
TARGET BHL 1350'FSL & 1350'FWL									

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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)
5,584.0	1.10	85.00	5,465.9	827.6	570.2	1,005.0	0.33	0.12	18.21
5,755.0	0.90	100.00	5,636.8	827.6	573.1	1,006.6	0.19	-0.12	8.77
5,926.0	0.60	77.30	5,807.8	827.5	575.3	1,007.8	0.24	-0.18	-13.27
6,098.0	0.20	28.90	5,979.8	828.0	576.3	1,008.8	0.29	-0.23	-28.14
6,269.0	0.20	65.20	6,150.8	828.4	576.7	1,009.3	0.07	0.00	21.23
6,784.0	0.60	109.80	6,665.8	827.8	580.1	1,010.8	0.09	0.08	8.66
6,955.0	0.80	130.70	6,836.8	826.7	581.8	1,010.8	0.19	0.12	12.22
6,986.0	0.80	131.40	6,867.8	826.5	582.2	1,010.8	0.03	0.00	2.27
TARGET CIRCLE 1350'FSL & 1350'FWL									
6,986.2	0.80	131.40	6,867.9	826.5	582.2	1,010.8	0.00	0.00	0.00
LEGAL BOX 800' X 800', 1317'FSL & 1329'FWL									
7,127.0	0.80	134.60	7,008.8	825.1	583.6	1,010.5	0.03	0.00	2.27
7,298.0	0.80	131.20	7,179.7	823.5	585.4	1,010.1	0.03	0.00	-1.99
7,414.0	0.80	116.80	7,295.7	822.6	586.7	1,010.1	0.17	0.00	-12.41
7,458.0	0.80	111.34	7,339.7	822.4	587.3	1,010.3	0.17	0.00	-12.41

Checked By: _____	Approved By: _____	Date: _____
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