

Well Name: Aristocrat Angus 0-8-3

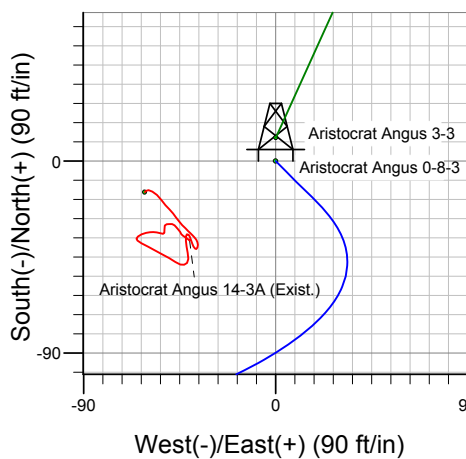
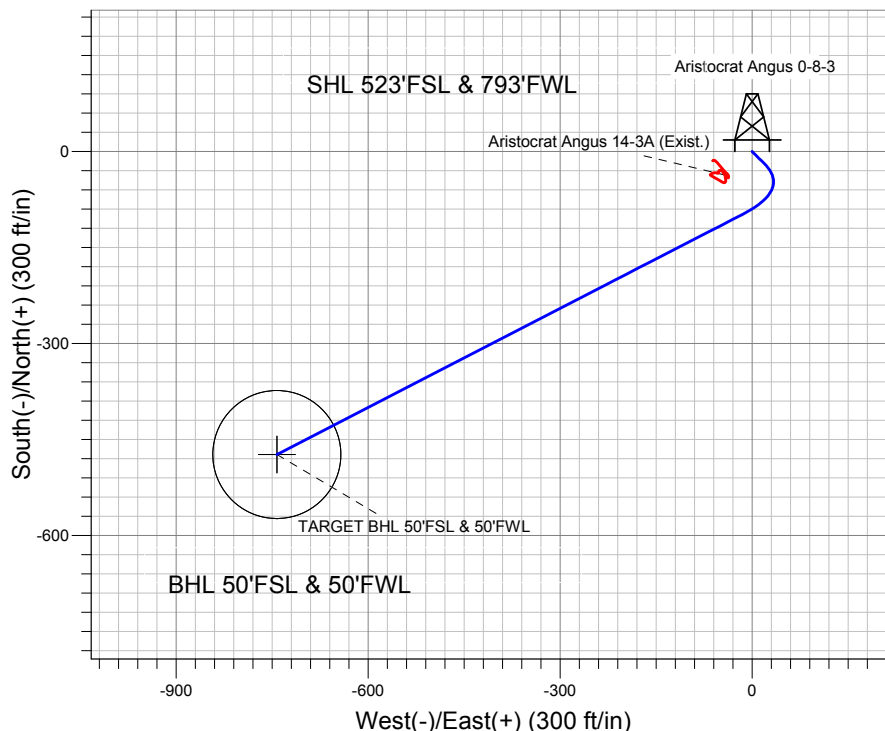
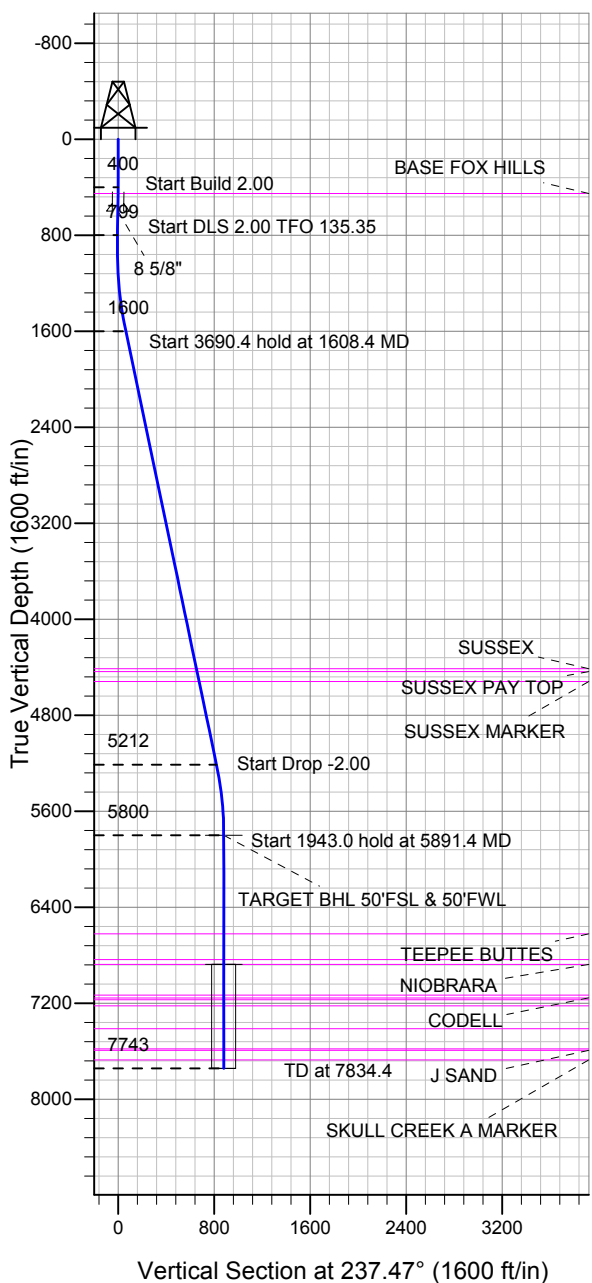
Surface Location: Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4808.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1334502.30	3235581.58	40.248530	-104.656010	

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

EnCana Oil & Gas Weld County CO



Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W
Aristocrat Angus 0-8-3
Plan #2 (3-21-13)



Azimuths to True North
Magnetic North: 8.55°

Magnetic Field
Strength: 52876.5nT
Dip Angle: 66.88°
Date: 3/25/2013
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 50'FSL & 50'FWL	5800.0	-473.6	-742.5	40.247230	-104.658670	Point
TARGET CIRCLE 50'FSL & 50'FWL	6876.0	-473.6	-742.5	40.247230	-104.658670	Circle (Radius: 100.0)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	800.0	8.00	135.00	798.7	-19.7	19.7	2.00	135.00	-6.0	
4	1608.4	11.85	242.72	1599.9	-98.1	-14.5	2.00	135.35	65.0	
5	5298.8	11.85	242.72	5211.5	-445.6	-688.2	0.00	0.00	819.9	
6	5891.4	0.00	0.00	5800.0	-473.6	-742.5	2.00	180.00	880.7	TARGET BHL 50'FSL & 50'FWL
7	7834.4	0.00	0.00	7743.0	-473.6	-742.5	0.00	0.00	880.7	



Directional

EnCana Oil & Gas Weld County CO

SEC.3-T3N-R65W

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

Aristocrat Angus 0-8-3

Wellbore #1

Plan: Plan #2 (3-21-13)

Standard Planning Report

25 March, 2013



Database:	Landmark	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Project:	SEC.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	North Reference:	True
Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-21-13)		

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 0-8-3					
Well Position	+N-S	0.0 ft	Northing:	1,334,502.30 ft	Latitude:	40.248530
	+E-W	0.0 ft	Easting:	3,235,581.58 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	Plan #2 (3-21-13)				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	237.47	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	8.00	135.00	798.7	-19.7	19.7	2.00	2.00	0.00	135.00	
1,608.4	11.85	242.72	1,599.9	-98.1	-14.5	2.00	0.48	13.32	135.35	
5,298.8	11.85	242.72	5,211.5	-445.6	-688.2	0.00	0.00	0.00	0.00	
5,891.4	0.00	0.00	5,800.0	-473.6	-742.5	2.00	-2.00	0.00	180.00	TARGET BHL 50'F:
7,834.4	0.00	0.00	7,743.0	-473.6	-742.5	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Project:	SEC.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	North Reference:	True
Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-21-13)		

Planned 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.80	135.00	440.0	-0.2	0.2	-0.1	2.00	2.00	0.00
451.0	1.02	135.00	451.0	-0.3	0.3	-0.1	2.00	2.00	0.00
BASE FOX HILLS									
480.0	1.60	135.00	480.0	-0.8	0.8	-0.2	2.00	2.00	0.00
520.0	2.40	135.00	520.0	-1.8	1.8	-0.5	2.00	2.00	0.00
560.0	3.20	135.00	559.9	-3.2	3.2	-1.0	2.00	2.00	0.00
600.0	4.00	135.00	599.8	-4.9	4.9	-1.5	2.00	2.00	0.00
600.2	4.00	135.00	600.0	-4.9	4.9	-1.5	0.00	0.00	0.00
8 5/8"									
640.0	4.80	135.00	639.7	-7.1	7.1	-2.2	2.01	2.01	0.00
680.0	5.60	135.00	679.6	-9.7	9.7	-3.0	2.00	2.00	0.00
720.0	6.40	135.00	719.3	-12.6	12.6	-3.9	2.00	2.00	0.00
760.0	7.20	135.00	759.1	-16.0	16.0	-4.9	2.00	2.00	0.00
800.0	8.00	135.00	798.7	-19.7	19.7	-6.0	2.00	2.00	0.00
840.0	7.45	139.34	838.3	-23.6	23.4	-7.0	2.00	-1.37	10.85
880.0	6.95	144.33	878.0	-27.6	26.5	-7.5	2.00	-1.25	12.47
920.0	6.51	150.04	917.7	-31.5	29.0	-7.5	2.00	-1.10	14.27
960.0	6.15	156.49	957.5	-35.4	31.0	-7.1	2.00	-0.92	16.14
1,000.0	5.87	163.66	997.3	-39.4	32.4	-6.2	2.00	-0.70	17.92
1,040.0	5.69	171.41	1,037.1	-43.3	33.3	-4.8	2.00	-0.45	19.38
1,080.0	5.61	179.51	1,076.9	-47.2	33.6	-3.0	2.00	-0.18	20.25
1,120.0	5.65	187.65	1,116.7	-51.1	33.4	-0.7	2.00	0.10	20.36
1,160.0	5.81	195.53	1,156.5	-55.0	32.6	2.1	2.00	0.38	19.68
1,200.0	6.06	202.87	1,196.3	-58.9	31.2	5.4	2.00	0.64	18.36
1,240.0	6.40	209.53	1,236.0	-62.8	29.3	9.1	2.00	0.86	16.65
1,280.0	6.83	215.44	1,275.8	-66.7	26.8	13.3	2.00	1.05	14.78
1,320.0	7.31	220.63	1,315.5	-70.5	23.8	17.9	2.00	1.21	12.95
1,360.0	7.85	225.14	1,355.1	-74.4	20.2	23.0	2.00	1.34	11.28
1,400.0	8.42	229.05	1,394.7	-78.2	16.0	28.6	2.00	1.44	9.79
1,440.0	9.03	232.46	1,434.3	-82.1	11.3	34.6	2.00	1.53	8.51
1,480.0	9.67	235.42	1,473.7	-85.9	6.1	41.1	2.00	1.60	7.42
1,520.0	10.33	238.02	1,513.1	-89.7	0.3	48.0	2.00	1.65	6.49
1,560.0	11.01	240.30	1,552.4	-93.5	-6.1	55.4	2.00	1.70	5.71
1,600.0	11.71	242.32	1,591.6	-97.3	-13.0	63.3	2.00	1.74	5.05
1,608.4	11.85	242.72	1,599.9	-98.1	-14.5	65.0	2.00	1.76	4.69
1,640.0	11.85	242.72	1,630.8	-101.0	-20.3	71.4	0.00	0.00	0.00
1,680.0	11.85	242.72	1,669.9	-104.8	-27.6	79.6	0.00	0.00	0.00
1,720.0	11.85	242.72	1,709.1	-108.6	-34.9	87.8	0.00	0.00	0.00
1,760.0	11.85	242.72	1,748.2	-112.3	-42.2	96.0	0.00	0.00	0.00
1,800.0	11.85	242.72	1,787.4	-116.1	-49.5	104.2	0.00	0.00	0.00
1,840.0	11.85	242.72	1,826.5	-119.9	-56.8	112.4	0.00	0.00	0.00
1,880.0	11.85	242.72	1,865.7	-123.6	-64.1	120.5	0.00	0.00	0.00
1,920.0	11.85	242.72	1,904.8	-127.4	-71.4	128.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Project:	SEC.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	North Reference:	True
Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-21-13)		

Planned 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)
1,960.0	11.85	242.72	1,944.0	-131.2	-78.7	136.9	0.00	0.00	0.00
2,000.0	11.85	242.72	1,983.1	-134.9	-86.0	145.1	0.00	0.00	0.00
2,040.0	11.85	242.72	2,022.3	-138.7	-93.3	153.3	0.00	0.00	0.00
2,080.0	11.85	242.72	2,061.4	-142.5	-100.6	161.5	0.00	0.00	0.00
2,120.0	11.85	242.72	2,100.6	-146.2	-107.9	169.6	0.00	0.00	0.00
2,160.0	11.85	242.72	2,139.7	-150.0	-115.2	177.8	0.00	0.00	0.00
2,200.0	11.85	242.72	2,178.9	-153.8	-122.5	186.0	0.00	0.00	0.00
2,240.0	11.85	242.72	2,218.0	-157.5	-129.8	194.2	0.00	0.00	0.00
2,280.0	11.85	242.72	2,257.1	-161.3	-137.1	202.4	0.00	0.00	0.00
2,320.0	11.85	242.72	2,296.3	-165.1	-144.4	210.5	0.00	0.00	0.00
2,360.0	11.85	242.72	2,335.4	-168.8	-151.7	218.7	0.00	0.00	0.00
2,400.0	11.85	242.72	2,374.6	-172.6	-159.0	226.9	0.00	0.00	0.00
2,440.0	11.85	242.72	2,413.7	-176.4	-166.3	235.1	0.00	0.00	0.00
2,480.0	11.85	242.72	2,452.9	-180.1	-173.7	243.3	0.00	0.00	0.00
2,520.0	11.85	242.72	2,492.0	-183.9	-181.0	251.5	0.00	0.00	0.00
2,560.0	11.85	242.72	2,531.2	-187.7	-188.3	259.6	0.00	0.00	0.00
2,600.0	11.85	242.72	2,570.3	-191.4	-195.6	267.8	0.00	0.00	0.00
2,640.0	11.85	242.72	2,609.5	-195.2	-202.9	276.0	0.00	0.00	0.00
2,680.0	11.85	242.72	2,648.6	-199.0	-210.2	284.2	0.00	0.00	0.00
2,720.0	11.85	242.72	2,687.8	-202.7	-217.5	292.4	0.00	0.00	0.00
2,760.0	11.85	242.72	2,726.9	-206.5	-224.8	300.6	0.00	0.00	0.00
2,800.0	11.85	242.72	2,766.1	-210.3	-232.1	308.7	0.00	0.00	0.00
2,840.0	11.85	242.72	2,805.2	-214.0	-239.4	316.9	0.00	0.00	0.00
2,880.0	11.85	242.72	2,844.4	-217.8	-246.7	325.1	0.00	0.00	0.00
2,920.0	11.85	242.72	2,883.5	-221.6	-254.0	333.3	0.00	0.00	0.00
2,960.0	11.85	242.72	2,922.6	-225.3	-261.3	341.5	0.00	0.00	0.00
3,000.0	11.85	242.72	2,961.8	-229.1	-268.6	349.6	0.00	0.00	0.00
3,040.0	11.85	242.72	3,000.9	-232.9	-275.9	357.8	0.00	0.00	0.00
3,080.0	11.85	242.72	3,040.1	-236.6	-283.2	366.0	0.00	0.00	0.00
3,120.0	11.85	242.72	3,079.2	-240.4	-290.5	374.2	0.00	0.00	0.00
3,160.0	11.85	242.72	3,118.4	-244.2	-297.8	382.4	0.00	0.00	0.00
3,200.0	11.85	242.72	3,157.5	-247.9	-305.1	390.6	0.00	0.00	0.00
3,240.0	11.85	242.72	3,196.7	-251.7	-312.4	398.7	0.00	0.00	0.00
3,280.0	11.85	242.72	3,235.8	-255.5	-319.7	406.9	0.00	0.00	0.00
3,320.0	11.85	242.72	3,275.0	-259.2	-327.0	415.1	0.00	0.00	0.00
3,360.0	11.85	242.72	3,314.1	-263.0	-334.3	423.3	0.00	0.00	0.00
3,400.0	11.85	242.72	3,353.3	-266.8	-341.6	431.5	0.00	0.00	0.00
3,440.0	11.85	242.72	3,392.4	-270.5	-348.9	439.6	0.00	0.00	0.00
3,480.0	11.85	242.72	3,431.6	-274.3	-356.2	447.8	0.00	0.00	0.00
3,520.0	11.85	242.72	3,470.7	-278.1	-363.5	456.0	0.00	0.00	0.00
3,560.0	11.85	242.72	3,509.9	-281.8	-370.8	464.2	0.00	0.00	0.00
3,600.0	11.85	242.72	3,549.0	-285.6	-378.1	472.4	0.00	0.00	0.00
3,640.0	11.85	242.72	3,588.1	-289.4	-385.4	480.6	0.00	0.00	0.00
3,680.0	11.85	242.72	3,627.3	-293.1	-392.7	488.7	0.00	0.00	0.00
3,720.0	11.85	242.72	3,666.4	-296.9	-400.0	496.9	0.00	0.00	0.00
3,760.0	11.85	242.72	3,705.6	-300.7	-407.3	505.1	0.00	0.00	0.00
3,800.0	11.85	242.72	3,744.7	-304.4	-414.6	513.3	0.00	0.00	0.00
3,840.0	11.85	242.72	3,783.9	-308.2	-421.9	521.5	0.00	0.00	0.00
3,880.0	11.85	242.72	3,823.0	-312.0	-429.2	529.7	0.00	0.00	0.00
3,920.0	11.85	242.72	3,862.2	-315.7	-436.5	537.8	0.00	0.00	0.00
3,960.0	11.85	242.72	3,901.3	-319.5	-443.8	546.0	0.00	0.00	0.00
4,000.0	11.85	242.72	3,940.5	-323.3	-451.1	554.2	0.00	0.00	0.00
4,040.0	11.85	242.72	3,979.6	-327.0	-458.4	562.4	0.00	0.00	0.00
4,080.0	11.85	242.72	4,018.8	-330.8	-465.7	570.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Project:	SEC.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	North Reference:	True
Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-21-13)		

Planned 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)
4,120.0	11.85	242.72	4,057.9	-334.6	-473.1	578.7	0.00	0.00	0.00
4,160.0	11.85	242.72	4,097.1	-338.3	-480.4	586.9	0.00	0.00	0.00
4,200.0	11.85	242.72	4,136.2	-342.1	-487.7	595.1	0.00	0.00	0.00
4,240.0	11.85	242.72	4,175.4	-345.9	-495.0	603.3	0.00	0.00	0.00
4,280.0	11.85	242.72	4,214.5	-349.6	-502.3	611.5	0.00	0.00	0.00
4,320.0	11.85	242.72	4,253.6	-353.4	-509.6	619.7	0.00	0.00	0.00
4,360.0	11.85	242.72	4,292.8	-357.2	-516.9	627.8	0.00	0.00	0.00
4,400.0	11.85	242.72	4,331.9	-360.9	-524.2	636.0	0.00	0.00	0.00
4,440.0	11.85	242.72	4,371.1	-364.7	-531.5	644.2	0.00	0.00	0.00
4,480.0	11.85	242.72	4,410.2	-368.5	-538.8	652.4	0.00	0.00	0.00
4,480.8	11.85	242.72	4,411.0	-368.5	-538.9	652.5	0.00	0.00	0.00
SUSSEX									
4,506.3	11.85	242.72	4,436.0	-370.9	-543.6	657.8	0.00	0.00	0.00
SUSSEX PAY TOP									
4,520.0	11.85	242.72	4,449.4	-372.2	-546.1	660.6	0.00	0.00	0.00
4,560.0	11.85	242.72	4,488.5	-376.0	-553.4	668.7	0.00	0.00	0.00
4,591.1	11.85	242.72	4,519.0	-378.9	-559.1	675.1	0.00	0.00	0.00
SUSSEX MARKER									
4,600.0	11.85	242.72	4,527.7	-379.8	-560.7	676.9	0.00	0.00	0.00
4,640.0	11.85	242.72	4,566.8	-383.5	-568.0	685.1	0.00	0.00	0.00
4,680.0	11.85	242.72	4,606.0	-387.3	-575.3	693.3	0.00	0.00	0.00
4,720.0	11.85	242.72	4,645.1	-391.1	-582.6	701.5	0.00	0.00	0.00
4,760.0	11.85	242.72	4,684.3	-394.8	-589.9	709.7	0.00	0.00	0.00
4,800.0	11.85	242.72	4,723.4	-398.6	-597.2	717.8	0.00	0.00	0.00
4,840.0	11.85	242.72	4,762.6	-402.4	-604.5	726.0	0.00	0.00	0.00
4,880.0	11.85	242.72	4,801.7	-406.1	-611.8	734.2	0.00	0.00	0.00
4,920.0	11.85	242.72	4,840.9	-409.9	-619.1	742.4	0.00	0.00	0.00
4,960.0	11.85	242.72	4,880.0	-413.7	-626.4	750.6	0.00	0.00	0.00
5,000.0	11.85	242.72	4,919.1	-417.4	-633.7	758.8	0.00	0.00	0.00
5,040.0	11.85	242.72	4,958.3	-421.2	-641.0	766.9	0.00	0.00	0.00
5,080.0	11.85	242.72	4,997.4	-425.0	-648.3	775.1	0.00	0.00	0.00
5,120.0	11.85	242.72	5,036.6	-428.7	-655.6	783.3	0.00	0.00	0.00
5,160.0	11.85	242.72	5,075.7	-432.5	-662.9	791.5	0.00	0.00	0.00
5,200.0	11.85	242.72	5,114.9	-436.3	-670.2	799.7	0.00	0.00	0.00
5,240.0	11.85	242.72	5,154.0	-440.0	-677.5	807.8	0.00	0.00	0.00
5,280.0	11.85	242.72	5,193.2	-443.8	-684.8	816.0	0.00	0.00	0.00
5,298.8	11.85	242.72	5,211.5	-445.6	-688.2	819.9	0.00	0.00	0.00
5,320.0	11.43	242.72	5,232.3	-447.5	-692.1	824.1	2.00	-2.00	0.00
5,360.0	10.63	242.72	5,271.6	-451.0	-698.9	831.8	2.00	-2.00	0.00
5,400.0	9.83	242.72	5,311.0	-454.3	-705.2	838.8	2.00	-2.00	0.00
5,440.0	9.03	242.72	5,350.4	-457.3	-711.0	845.4	2.00	-2.00	0.00
5,480.0	8.23	242.72	5,390.0	-460.0	-716.3	851.3	2.00	-2.00	0.00
5,520.0	7.43	242.72	5,429.6	-462.5	-721.2	856.8	2.00	-2.00	0.00
5,560.0	6.63	242.72	5,469.3	-464.8	-725.5	861.6	2.00	-2.00	0.00
5,600.0	5.83	242.72	5,509.1	-466.8	-729.4	866.0	2.00	-2.00	0.00
5,640.0	5.03	242.72	5,548.9	-468.5	-732.7	869.7	2.00	-2.00	0.00
5,680.0	4.23	242.72	5,588.7	-470.0	-735.6	872.9	2.00	-2.00	0.00
5,720.0	3.43	242.72	5,628.7	-471.2	-738.0	875.6	2.00	-2.00	0.00
5,760.0	2.63	242.72	5,668.6	-472.2	-739.9	877.7	2.00	-2.00	0.00
5,800.0	1.83	242.72	5,708.6	-472.9	-741.2	879.2	2.00	-2.00	0.00
5,840.0	1.03	242.72	5,748.6	-473.4	-742.1	880.2	2.00	-2.00	0.00
5,880.0	0.23	242.72	5,788.6	-473.6	-742.5	880.7	2.00	-2.00	0.00
5,891.4	0.00	0.00	5,800.0	-473.6	-742.5	880.7	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Project:	SEC.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	North Reference:	True
Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-21-13)		

Planned 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)
5,920.0	0.00	0.00	5,828.6	-473.6	-742.5	880.7	0.00	0.00	0.00
5,960.0	0.00	0.00	5,868.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,908.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,040.0	0.00	0.00	5,948.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,080.0	0.00	0.00	5,988.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,120.0	0.00	0.00	6,028.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,160.0	0.00	0.00	6,068.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,200.0	0.00	0.00	6,108.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,240.0	0.00	0.00	6,148.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,280.0	0.00	0.00	6,188.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,320.0	0.00	0.00	6,228.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,360.0	0.00	0.00	6,268.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,308.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,440.0	0.00	0.00	6,348.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,480.0	0.00	0.00	6,388.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,520.0	0.00	0.00	6,428.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,560.0	0.00	0.00	6,468.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,600.0	0.00	0.00	6,508.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,640.0	0.00	0.00	6,548.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,680.0	0.00	0.00	6,588.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,712.4	0.00	0.00	6,621.0	-473.6	-742.5	880.7	0.00	0.00	0.00
TEEPEE BUTTES									
6,720.0	0.00	0.00	6,628.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,760.0	0.00	0.00	6,668.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,708.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,840.0	0.00	0.00	6,748.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,880.0	0.00	0.00	6,788.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,920.0	0.00	0.00	6,828.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,927.4	0.00	0.00	6,836.0	-473.6	-742.5	880.7	0.00	0.00	0.00
SHARON SPRINGS									
6,960.0	0.00	0.00	6,868.6	-473.6	-742.5	880.7	0.00	0.00	0.00
6,967.4	0.00	0.00	6,876.0	-473.6	-742.5	880.7	0.00	0.00	0.00
NIOBRARA									
7,000.0	0.00	0.00	6,908.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,040.0	0.00	0.00	6,948.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,080.0	0.00	0.00	6,988.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,120.0	0.00	0.00	7,028.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,160.0	0.00	0.00	7,068.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,200.0	0.00	0.00	7,108.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,222.4	0.00	0.00	7,131.0	-473.6	-742.5	880.7	0.00	0.00	0.00
FT.HAYES									
7,240.0	0.00	0.00	7,148.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,246.4	0.00	0.00	7,155.0	-473.6	-742.5	880.7	0.00	0.00	0.00
CODELL									
7,261.4	0.00	0.00	7,170.0	-473.6	-742.5	880.7	0.00	0.00	0.00
FAIRPORT									
7,280.0	0.00	0.00	7,188.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,312.4	0.00	0.00	7,221.0	-473.6	-742.5	880.7	0.00	0.00	0.00
GREENHORN									
7,320.0	0.00	0.00	7,228.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,360.0	0.00	0.00	7,268.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,308.6	-473.6	-742.5	880.7	0.00	0.00	0.00
7,440.0	0.00	0.00	7,348.6	-473.6	-742.5	880.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Company:	EnCana Oil & Gas Weld County CO	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Project:	SEC.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	North Reference:	True
Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (3-21-13)		

Planned 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)	
7,480.0	0.00	0.00	7,388.6	-473.6	-742.5	880.7	0.00	0.00	0.00	
7,502.4	0.00	0.00	7,411.0	-473.6	-742.5	880.7	0.00	0.00	0.00	
GRANEROS										
7,520.0	0.00	0.00	7,428.6	-473.6	-742.5	880.7	0.00	0.00	0.00	
7,560.0	0.00	0.00	7,468.6	-473.6	-742.5	880.7	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,508.6	-473.6	-742.5	880.7	0.00	0.00	0.00	
7,640.0	0.00	0.00	7,548.6	-473.6	-742.5	880.7	0.00	0.00	0.00	
7,670.4	0.00	0.00	7,579.0	-473.6	-742.5	880.7	0.00	0.00	0.00	
MOWRY										
7,680.0	0.00	0.00	7,588.6	-473.6	-742.5	880.7	0.00	0.00	0.00	
7,684.4	0.00	0.00	7,593.0	-473.6	-742.5	880.7	0.00	0.00	0.00	
J SAND										
7,720.0	0.00	0.00	7,628.6	-473.6	-742.5	880.7	0.00	0.00	0.00	
7,760.0	0.00	0.00	7,668.6	-473.6	-742.5	880.7	0.00	0.00	0.00	
7,764.4	0.00	0.00	7,673.0	-473.6	-742.5	880.7	0.00	0.00	0.00	
SKULL CREEK A MARKER										
7,800.0	0.00	0.00	7,708.6	-473.6	-742.5	880.7	0.00	0.00	0.00	
7,834.4	0.00	0.00	7,743.0	-473.6	-742.5	880.7	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
600.2	600.0	8 5/8"	8-5/8	12-1/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
451.0	451.0	BASE FOX HILLS		0.00		
4,480.8	4,411.0	SUSSEX		0.00		
4,506.3	4,436.0	SUSSEX PAY TOP		0.00		
4,591.1	4,519.0	SUSSEX MARKER		0.00		
6,712.4	6,621.0	TEEPEE BUTTES		0.00		
6,927.4	6,836.0	SHARON SPRINGS		0.00		
6,967.4	6,876.0	NIOBRARA		0.00		
7,222.4	7,131.0	FT.HAYES		0.00		
7,246.4	7,155.0	CODELL		0.00		
7,261.4	7,170.0	FAIRPORT		0.00		
7,312.4	7,221.0	GREENHORN		0.00		
7,502.4	7,411.0	GRANEROS		0.00		
7,670.4	7,579.0	MOWRY		0.00		
7,684.4	7,593.0	J SAND		0.00		
7,764.4	7,673.0	SKULL CREEK A MARKER		0.00		



Directional

EnCana Oil & Gas Weld County CO

SEC.3-T3N-R65W

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

Aristocrat Angus 0-8-3

Wellbore #1

Plan #2 (3-21-13)

Anticollision Report

25 March, 2013



Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Project:	SEC.3-T3N-R65W	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Reference Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (3-21-13)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (3-21-13)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 3/25/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	7,834.4	Plan #2 (3-21-13) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W						
Aristocrat Angus 14-3A (Exist.) - Wellbore #1 - Wellbore	457.6	457.3	62.0	60.2	33.785	CC
Aristocrat Angus 14-3A (Exist.) - Wellbore #1 - Wellbore	500.0	499.8	62.1	60.1	30.630	ES
Aristocrat Angus 14-3A (Exist.) - Wellbore #1 - Wellbore	1,700.0	1,689.7	73.4	65.9	9.729	SF
Aristocrat Angus 3-3 - Wellbore #1 - Plan #2 (3-21-13)	200.0	200.0	10.9	10.3	16.208	CC, ES
Aristocrat Angus 3-3 - Wellbore #1 - Plan #2 (3-21-13)	400.0	399.6	14.2	12.6	9.012	SF

Offset Design												
Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W - Aristocrat Angus 14-3A (Exist.) - Wellbore #1 - Wellbore												
Survey Program: 100-NS-GYRO-MS												
Reference	Offset	Semi Major Axis			Distance				Offset Site Error: 0.0 ft			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
0.0	0.0	0.0	0.0	0.0	0.0	-103.35	-14.6	-61.4	63.1			
100.0	100.0	99.2	99.2	0.1	0.1	-103.28	-14.5	-61.3	63.0	62.7	0.24	258.015
200.0	200.0	199.1	199.1	0.3	0.4	-103.28	-14.4	-61.0	62.7	62.0	0.70	89.098
300.0	300.0	299.0	299.0	0.6	0.6	-103.23	-14.3	-60.9	62.6	61.5	1.12	55.788
400.0	400.0	399.5	399.5	0.8	0.8	-103.00	-14.0	-60.6	62.2	60.6	1.57	39.579
457.6	457.6	457.3	457.3	0.9	0.9	122.52	-13.8	-60.1	62.0	60.2	1.83	33.785 CC
500.0	500.0	499.8	499.8	1.0	1.0	123.38	-13.7	-59.6	62.1	60.1	2.03	30.630 ES
600.0	599.8	600.1	600.1	1.2	1.3	126.51	-14.3	-57.8	63.5	61.0	2.45	25.860
700.0	699.5	699.8	699.8	1.4	1.5	130.78	-15.9	-55.7	67.0	64.1	2.88	23.255
800.0	798.7	799.3	799.2	1.7	1.7	135.97	-18.3	-53.6	73.4	70.0	3.32	22.099
900.0	897.9	898.7	898.5	1.9	1.9	129.20	-20.7	-51.7	80.1	76.3	3.77	21.234
1,000.0	997.3	998.4	998.2	2.2	2.1	117.81	-22.7	-49.9	84.0	79.8	4.23	19.857
1,100.0	1,096.8	1,097.7	1,097.5	2.4	2.4	103.20	-24.6	-48.2	85.4	80.7	4.69	18.187
1,200.0	1,196.3	1,197.3	1,197.0	2.7	2.6	89.82	-26.5	-46.7	84.4	79.2	5.16	16.354
1,300.0	1,295.6	1,296.7	1,296.4	2.9	2.9	81.81	-28.3	-45.2	81.3	75.7	5.64	14.427
1,400.0	1,394.7	1,395.6	1,395.3	3.2	3.1	80.11	-30.0	-43.8	76.9	70.8	6.12	12.573
1,500.0	1,493.4	1,494.2	1,493.8	3.4	3.4	84.48	-31.4	-42.5	72.6	66.0	6.60	10.992
1,600.0	1,591.6	1,592.1	1,591.8	3.7	3.6	94.19	-32.7	-41.2	70.5	63.4	7.08	9.946
1,602.4	1,594.0	1,594.5	1,594.2	3.7	3.6	94.59	-32.8	-41.2	70.5	63.4	7.10	9.929
1,700.0	1,689.5	1,689.7	1,689.3	4.1	3.9	110.08	-33.8	-40.1	73.4	65.9	7.55	9.729 SF
1,800.0	1,787.4	1,787.4	1,787.1	4.4	4.1	124.08	-34.7	-39.1	82.0	74.1	7.99	10.275
1,900.0	1,885.3	1,885.3	1,884.9	4.8	4.4	134.95	-35.7	-38.2	94.6	86.2	8.42	11.227

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Project:	SEC.3-T3N-R65W	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Reference Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (3-21-13)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
2,000.0	1,983.1	1,983.3	1,982.9	5.1	4.6	143.09	-36.7	-37.4	109.6	100.7	8.87	12.351	
2,100.0	2,081.0	2,081.3	2,080.9	5.5	4.9	149.17	-37.9	-36.8	126.1	116.7	9.32	13.520	
2,200.0	2,178.9	2,179.6	2,179.2	5.9	5.1	153.70	-39.1	-36.5	143.4	133.6	9.77	14.676	
2,300.0	2,276.7	2,277.9	2,277.5	6.3	5.3	157.18	-40.3	-36.6	161.1	150.9	10.20	15.801	
2,400.0	2,374.6	2,375.3	2,374.9	6.8	5.4	159.77	-41.1	-37.1	179.3	168.8	10.57	16.959	
2,500.0	2,472.5	2,472.2	2,471.8	7.2	5.5	161.68	-41.2	-37.7	198.3	187.4	10.89	18.220	
2,600.0	2,570.3	2,569.3	2,568.9	7.6	5.5	163.10	-40.4	-38.3	218.0	206.8	11.16	19.535	
2,700.0	2,668.2	2,666.5	2,666.1	8.0	5.5	164.21	-39.3	-39.0	238.1	226.6	11.44	20.811	
2,800.0	2,766.1	2,764.2	2,763.7	8.5	5.6	165.16	-38.0	-39.4	258.4	246.7	11.74	22.016	
2,900.0	2,863.9	2,862.0	2,861.6	8.9	5.6	165.99	-36.8	-39.9	278.8	266.8	12.05	23.140	
3,000.0	2,961.8	2,960.0	2,959.6	9.4	5.7	166.72	-35.6	-40.3	299.3	286.9	12.38	24.181	
3,100.0	3,059.7	3,058.9	3,058.4	9.8	5.8	167.43	-34.8	-40.6	319.6	306.9	12.71	25.143	
3,200.0	3,157.5	3,159.0	3,158.5	10.2	5.9	168.06	-34.4	-41.2	339.5	326.4	13.06	25.997	
3,300.0	3,255.4	3,258.6	3,258.1	10.7	6.0	168.73	-34.8	-42.0	358.8	345.3	13.45	26.677	
3,400.0	3,353.3	3,357.6	3,357.1	11.1	6.2	169.53	-36.5	-42.1	377.8	363.9	13.89	27.197	
3,500.0	3,451.1	3,455.8	3,455.3	11.6	6.4	170.37	-38.9	-42.0	396.7	382.4	14.36	27.629	
3,600.0	3,549.0	3,554.0	3,553.5	12.0	6.7	171.18	-41.6	-41.5	415.8	400.9	14.84	28.024	
3,700.0	3,646.9	3,652.8	3,652.2	12.5	6.9	171.97	-44.7	-41.0	434.7	419.4	15.32	28.382	
3,800.0	3,744.7	3,751.4	3,750.8	12.9	7.1	172.58	-47.1	-41.1	453.6	437.8	15.79	28.736	
3,900.0	3,842.6	3,849.6	3,849.0	13.4	7.3	172.97	-48.4	-42.1	472.5	456.3	16.22	29.127	
4,000.0	3,940.5	3,947.3	3,946.7	13.8	7.4	173.19	-48.7	-43.7	491.4	474.8	16.62	29.570	
4,100.0	4,038.3	4,044.7	4,044.0	14.3	7.5	173.28	-48.2	-45.7	510.4	493.4	16.99	30.044	
4,200.0	4,136.2	4,143.0	4,142.2	14.7	7.6	173.23	-46.6	-48.3	529.6	512.2	17.35	30.516	
4,300.0	4,234.1	4,243.1	4,242.3	15.2	7.7	173.16	-44.8	-51.2	548.5	530.8	17.73	30.945	
4,400.0	4,331.9	4,342.3	4,341.4	15.6	7.8	173.06	-43.1	-54.6	567.1	549.0	18.11	31.321	
4,500.0	4,429.8	4,439.8	4,438.9	16.1	8.0	172.97	-41.2	-57.9	585.8	567.3	18.49	31.678	
4,600.0	4,527.7	4,537.7	4,536.6	16.6	8.1	172.90	-39.5	-61.1	604.5	585.6	18.89	32.008	
4,700.0	4,625.5	4,632.2	4,631.2	17.0	8.2	172.88	-38.1	-63.7	623.5	604.2	19.28	32.339	
4,800.0	4,723.4	4,724.1	4,723.0	17.5	8.4	172.94	-37.1	-65.1	643.3	623.6	19.67	32.706	
4,900.0	4,821.3	4,816.0	4,814.9	17.9	8.5	173.08	-36.2	-65.3	664.0	644.0	20.06	33.109	
5,000.0	4,919.1	4,907.3	4,906.2	18.4	8.6	173.25	-35.3	-64.5	685.7	665.3	20.45	33.532	
5,100.0	5,017.0	5,001.4	5,000.3	18.8	8.8	173.45	-34.4	-62.8	708.1	687.2	20.86	33.943	
5,200.0	5,114.9	5,100.5	5,099.4	19.3	8.9	173.68	-33.7	-60.8	730.5	709.2	21.29	34.314	
5,300.0	5,212.7	5,202.8	5,201.6	19.7	9.1	173.92	-33.4	-59.0	752.6	730.8	21.74	34.624	
5,400.0	5,311.0	5,300.0	5,298.9	20.1	9.3	174.16	-33.3	-57.4	772.6	750.4	22.20	34.810	
5,500.0	5,409.8	5,401.5	5,400.3	20.3	9.5	174.39	-33.5	-55.8	789.1	766.5	22.64	34.855	
5,600.0	5,509.1	5,498.3	5,497.1	20.6	9.7	174.59	-33.9	-54.1	802.2	779.1	23.05	34.799	
5,700.0	5,608.7	5,603.9	5,602.7	20.8	9.9	174.73	-34.1	-52.7	811.5	788.1	23.45	34.613	
5,800.0	5,708.6	5,702.4	5,701.2	20.9	10.1	174.76	-33.6	-52.2	817.1	793.4	23.77	34.379	
5,900.0	5,808.6	5,800.0	5,798.8	21.1	10.2	57.40	-32.0	-52.2	819.5	795.5	24.04	34.084	
6,000.0	5,908.6	5,899.4	5,898.1	21.2	10.4	57.30	-30.3	-52.0	820.7	796.3	24.38	33.665	
6,100.0	6,008.6	6,000.0	5,998.8	21.3	10.6	57.30	-29.6	-51.1	821.7	797.0	24.74	33.211	
6,200.0	6,108.6	6,099.3	6,098.0	21.4	10.8	57.34	-29.5	-49.9	822.8	797.7	25.12	32.749	
6,300.0	6,208.6	6,200.6	6,199.4	21.5	11.0	57.39	-29.6	-48.6	823.9	798.4	25.52	32.288	
6,400.0	6,308.6	6,305.4	6,304.2	21.7	11.2	57.47	-30.2	-47.3	824.6	798.7	25.92	31.813	
6,500.0	6,408.6	6,409.1	6,407.8	21.8	11.4	57.56	-31.2	-46.5	824.7	798.4	26.32	31.335	
6,506.2	6,414.8	6,415.1	6,413.8	21.8	11.4	57.57	-31.3	-46.4	824.7	798.4	26.34	31.307	
6,600.0	6,508.6	6,505.3	6,504.1	21.9	11.6	57.65	-32.2	-45.6	825.0	798.3	26.71	30.890	
6,700.0	6,608.6	6,609.8	6,608.5	22.1	11.9	57.76	-33.4	-44.7	825.1	798.0	27.11	30.431	
6,800.0	6,708.6	6,709.1	6,707.9	22.2	12.1	57.84	-34.4	-44.2	825.0	797.5	27.51	29.989	
6,804.7	6,713.2	6,713.5	6,712.2	22.2	12.1	57.84	-34.5	-44.1	825.0	797.5	27.53	29.969	
6,900.0	6,808.6	6,803.1	6,801.8	22.3	12.3	57.92	-35.2	-43.3	825.3	797.4	27.90	29.582	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Project:	SEC.3-T3N-R65W	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Reference Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (3-21-13)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
7,000.0	6,908.6	6,905.9	6,904.5	22.5	12.5	57.99	-35.9	-42.2	825.8	797.5	28.32	29.164	
7,100.0	7,008.6	7,005.2	7,003.9	22.6	12.7	58.07	-36.6	-41.3	826.2	797.5	28.73	28.760	
7,200.0	7,108.6	7,100.0	7,098.7	22.7	12.9	58.14	-37.3	-40.4	826.7	797.6	29.13	28.376	
7,300.0	7,208.6	7,100.0	7,098.7	22.9	12.9	58.14	-37.3	-40.4	833.8	804.5	29.32	28.435	
7,400.0	7,308.6	7,100.0	7,098.7	23.0	12.9	58.14	-37.3	-40.4	852.6	823.1	29.51	28.889	
7,500.0	7,408.6	7,100.0	7,098.7	23.2	12.9	58.14	-37.3	-40.4	882.5	852.8	29.71	29.708	
7,600.0	7,508.6	7,100.0	7,098.7	23.3	12.9	58.14	-37.3	-40.4	922.2	892.3	29.90	30.847	
7,700.0	7,608.6	7,100.0	7,098.7	23.4	12.9	58.14	-37.3	-40.4	970.7	940.6	30.09	32.260	
7,800.0	7,708.6	7,100.0	7,098.7	23.6	12.9	58.14	-37.3	-40.4	1,026.7	996.4	30.28	33.902	
7,834.4	7,743.0	7,100.0	7,098.7	23.6	12.9	58.14	-37.3	-40.4	1,047.5	1,017.1	30.35	34.512	

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Project:	SEC.3-T3N-R65W	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Reference Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (3-21-13)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	10.9	0.0	10.9	10.9	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	0.00	10.9	0.0	10.9	10.7	0.22	48.624		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	10.9	0.0	10.9	10.3	0.67	16.208 CC, ES		
300.0	300.0	299.8	299.8	0.6	0.6	1.76	11.7	0.4	11.7	10.6	1.12	10.445		
400.0	400.0	399.6	399.5	0.8	0.8	5.82	14.1	1.4	14.2	12.6	1.57	9.012 SF		
500.0	500.0	499.2	499.0	1.0	1.0	-128.99	18.0	3.2	19.4	17.4	2.01	9.649		
600.0	599.8	598.3	598.0	1.2	1.2	-133.15	23.5	5.7	28.5	26.1	2.44	11.674		
700.0	699.5	696.9	696.2	1.4	1.5	-137.54	30.5	8.9	41.8	38.9	2.90	14.419		
800.0	798.7	794.5	793.4	1.7	1.7	-141.05	39.0	12.7	59.3	56.0	3.37	17.588		
900.0	897.9	891.4	889.8	1.9	2.0	-154.32	48.9	17.2	79.5	75.7	3.84	20.716		
1,000.0	997.3	987.8	985.3	2.2	2.3	-169.25	60.2	22.4	100.8	96.5	4.30	23.451		
1,100.0	1,096.8	1,083.4	1,079.9	2.4	2.6	173.73	72.8	28.1	123.3	118.5	4.75	25.955		
1,200.0	1,196.3	1,177.9	1,173.2	2.7	2.9	157.93	86.7	34.4	147.5	142.3	5.19	28.407		
1,300.0	1,295.6	1,271.3	1,265.0	2.9	3.3	146.32	101.8	41.3	173.9	168.3	5.63	30.916		
1,400.0	1,394.7	1,363.1	1,355.2	3.2	3.6	138.98	118.0	48.7	202.9	196.8	6.05	33.538		
1,500.0	1,493.4	1,453.4	1,443.4	3.4	4.0	134.67	135.2	56.5	234.7	228.2	6.47	36.286		
1,600.0	1,591.6	1,541.8	1,529.6	3.7	4.4	132.24	153.3	64.7	269.6	262.7	6.90	39.102		
1,700.0	1,689.5	1,630.9	1,616.1	4.1	4.8	135.15	172.6	73.5	307.2	299.9	7.32	41.937		
1,800.0	1,787.4	1,722.1	1,704.6	4.4	5.2	137.86	192.5	82.5	345.7	337.9	7.77	44.495		
1,900.0	1,885.3	1,813.2	1,793.2	4.8	5.6	140.04	212.3	91.5	384.7	376.5	8.23	46.759		
2,000.0	1,983.1	1,904.4	1,881.7	5.1	6.1	141.81	232.2	100.5	424.1	415.5	8.70	48.759		
2,100.0	2,081.0	1,995.6	1,970.2	5.5	6.5	143.29	252.1	109.6	463.9	454.7	9.18	50.529		
2,200.0	2,178.9	2,086.7	2,058.7	5.9	6.9	144.54	272.0	118.6	503.8	494.1	9.67	52.099		
2,300.0	2,276.7	2,177.9	2,147.2	6.3	7.4	145.60	291.8	127.6	543.9	533.8	10.17	53.497		
2,400.0	2,374.6	2,269.0	2,235.7	6.8	7.8	146.52	311.7	136.6	584.2	573.5	10.67	54.746		
2,500.0	2,472.5	2,360.2	2,324.2	7.2	8.3	147.33	331.6	145.7	624.6	613.4	11.18	55.866		
2,600.0	2,570.3	2,451.4	2,412.7	7.6	8.7	148.03	351.4	154.7	665.0	653.3	11.69	56.875		
2,700.0	2,668.2	2,542.5	2,501.2	8.0	9.2	148.66	371.3	163.7	705.5	693.3	12.21	57.786		
2,800.0	2,766.1	2,633.7	2,589.7	8.5	9.6	149.21	391.2	172.8	746.1	733.4	12.73	58.613		
2,900.0	2,863.9	2,724.9	2,678.3	8.9	10.1	149.71	411.0	181.8	786.8	773.5	13.25	59.365		
3,000.0	2,961.8	2,815.6	2,766.4	9.4	10.5	150.22	430.4	191.5	827.5	813.7	13.76	60.122		
3,100.0	3,059.7	2,905.8	2,854.0	9.8	10.9	150.88	448.1	203.4	868.3	854.1	14.25	60.924		
3,200.0	3,157.5	2,995.6	2,941.2	10.2	11.2	151.67	464.2	217.4	909.4	894.6	14.74	61.708		
3,300.0	3,255.4	3,086.0	3,029.0	10.7	11.7	152.43	480.0	232.2	950.6	935.4	15.24	62.393		
3,400.0	3,353.3	3,176.3	3,116.7	11.1	12.1	153.14	495.8	247.0	991.9	976.2	15.74	63.039		
3,500.0	3,451.1	3,266.7	3,204.5	11.6	12.5	153.79	511.7	261.7	1,033.4	1,017.2	16.24	63.648		
3,600.0	3,549.0	3,357.1	3,292.2	12.0	13.0	154.38	527.5	276.5	1,075.0	1,058.2	16.74	64.225		
3,700.0	3,646.9	3,447.5	3,380.0	12.5	13.4	154.94	543.4	291.2	1,116.6	1,099.4	17.24	64.771		
3,800.0	3,744.7	3,537.9	3,467.8	12.9	13.9	155.45	559.2	306.0	1,158.4	1,140.6	17.74	65.288		
3,900.0	3,842.6	3,628.3	3,555.5	13.4	14.3	155.93	575.0	320.7	1,200.2	1,181.9	18.25	65.778		
4,000.0	3,940.5	3,718.7	3,643.3	13.8	14.7	156.38	590.9	335.5	1,242.1	1,223.3	18.75	66.243		
4,100.0	4,038.3	3,809.1	3,731.1	14.3	15.2	156.80	606.7	350.2	1,284.0	1,264.7	19.25	66.685		
4,200.0	4,136.2	3,899.5	3,818.8	14.7	15.6	157.19	622.5	365.0	1,326.0	1,306.2	19.76	67.106		
4,300.0	4,234.1	3,989.9	3,906.6	15.2	16.1	157.56	638.4	379.7	1,368.0	1,347.8	20.27	67.505		
4,400.0	4,331.9	4,080.3	3,994.3	15.6	16.5	157.91	654.2	394.5	1,410.1	1,389.3	20.77	67.886		
4,500.0	4,429.8	4,170.6	4,082.1	16.1	17.0	158.23	670.0	409.2	1,452.2	1,431.0	21.28	68.249		
4,600.0	4,527.7	4,261.0	4,169.9	16.6	17.4	158.54	685.9	424.0	1,494.4	1,472.6	21.79	68.595		
4,700.0	4,625.5	4,351.4	4,257.6	17.0	17.8	158.83	701.7	438.8	1,536.6	1,514.3	22.29	68.926		
4,800.0	4,723.4	4,441.8	4,345.4	17.5	18.3	159.11	717.5	453.5	1,578.8	1,556.0	22.80	69.242		
4,900.0	4,821.3	4,532.2	4,433.2	17.9	18.7	159.37	733.4	468.3	1,621.1	1,597.8	23.31	69.545		
5,000.0	4,919.1	4,622.6	4,520.9	18.4	19.2	159.62	749.2	483.0	1,663.3	1,639.5	23.82	69.834		
5,100.0	5,017.0	4,713.0	4,608.7	18.8	19.6	159.85	765.0	497.8	1,705.6	1,681.3	24.33	70.111		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Project:	SEC.3-T3N-R65W	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Reference Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (3-21-13)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,114.9	4,935.7	4,826.7	19.3	20.5	160.40	798.2	528.6	1,744.8	1,719.7	25.07	69.602	
5,300.0	5,212.7	5,181.5	5,070.5	19.7	21.1	160.95	820.2	549.2	1,776.1	1,750.3	25.79	68.865	
5,400.0	5,311.0	5,422.2	5,311.0	20.1	21.4	161.57	827.0	555.5	1,797.5	1,770.9	26.55	67.698	
5,500.0	5,409.8	5,521.0	5,409.8	20.3	21.5	161.81	827.0	555.5	1,812.1	1,785.0	27.06	66.955	
5,600.0	5,509.1	5,620.3	5,509.1	20.6	21.7	162.00	827.0	555.5	1,823.4	1,795.8	27.55	66.181	
5,700.0	5,608.7	5,719.9	5,608.7	20.8	21.8	162.13	827.0	555.5	1,831.4	1,803.4	28.00	65.404	
5,800.0	5,708.6	5,819.8	5,708.6	20.9	21.9	162.21	827.0	555.5	1,836.1	1,807.7	28.41	64.620	
5,900.0	5,808.6	5,919.8	5,808.6	21.1	22.0	44.94	827.0	555.5	1,837.5	1,808.7	28.80	63.810	
6,000.0	5,908.6	6,019.8	5,908.6	21.2	22.1	44.94	827.0	555.5	1,837.5	1,808.3	29.15	63.028	
6,100.0	6,008.6	6,119.8	6,008.6	21.3	22.3	44.94	827.0	555.5	1,837.5	1,808.0	29.51	62.260	
6,200.0	6,108.6	6,219.8	6,108.6	21.4	22.4	44.94	827.0	555.5	1,837.5	1,807.6	29.88	61.505	
6,300.0	6,208.6	6,319.8	6,208.6	21.5	22.5	44.94	827.0	555.5	1,837.5	1,807.2	30.24	60.764	
6,400.0	6,308.6	6,419.8	6,308.6	21.7	22.7	44.94	827.0	555.5	1,837.5	1,806.9	30.61	60.036	
6,500.0	6,408.6	6,519.8	6,408.6	21.8	22.8	44.94	827.0	555.5	1,837.5	1,806.5	30.98	59.320	
6,600.0	6,508.6	6,619.8	6,508.6	21.9	22.9	44.94	827.0	555.5	1,837.5	1,806.1	31.35	58.618	
6,700.0	6,608.6	6,719.8	6,608.6	22.1	23.1	44.94	827.0	555.5	1,837.5	1,805.8	31.72	57.929	
6,800.0	6,708.6	6,819.8	6,708.6	22.2	23.2	44.94	827.0	555.5	1,837.5	1,805.4	32.09	57.252	
6,900.0	6,808.6	6,919.8	6,808.6	22.3	23.3	44.94	827.0	555.5	1,837.5	1,805.0	32.47	56.587	
7,000.0	6,908.6	7,019.8	6,908.6	22.5	23.5	44.94	827.0	555.5	1,837.5	1,804.6	32.85	55.934	
7,100.0	7,008.6	7,119.8	7,008.6	22.6	23.6	44.94	827.0	555.5	1,837.5	1,804.2	33.23	55.294	
7,200.0	7,108.6	7,219.8	7,108.6	22.7	23.7	44.94	827.0	555.5	1,837.5	1,803.9	33.61	54.665	
7,300.0	7,208.6	7,319.8	7,208.6	22.9	23.9	44.94	827.0	555.5	1,837.5	1,803.5	34.00	54.048	
7,400.0	7,308.6	7,419.8	7,308.6	23.0	24.0	44.94	827.0	555.5	1,837.5	1,803.1	34.36	53.472	
7,411.0	7,319.5	7,430.7	7,319.5	23.0	24.0	44.94	827.0	555.5	1,837.5	1,803.1	34.39	53.423	
7,500.0	7,408.6	7,457.2	7,346.0	23.2	24.0	44.94	827.0	555.5	1,838.5	1,803.9	34.59	53.154	
7,600.0	7,508.6	7,457.2	7,346.0	23.3	24.0	44.94	827.0	555.5	1,844.6	1,809.9	34.78	53.039	
7,700.0	7,608.6	7,457.2	7,346.0	23.4	24.0	44.94	827.0	555.5	1,856.1	1,821.2	34.97	53.079	
7,800.0	7,708.6	7,457.2	7,346.0	23.6	24.0	44.94	827.0	555.5	1,872.9	1,837.7	35.16	53.266	
7,834.4	7,743.0	7,457.2	7,346.0	23.6	24.0	44.94	827.0	555.5	1,879.9	1,844.6	35.23	53.364	

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Project:	SEC.3-T3N-R65W	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Reference Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (3-21-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4821.0ft (Original Well Elev) Coordinates are relative to: Aristocrat Angus 0-8-3
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.55°



Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Aristocrat Angus 0-8-3
Project:	SEC.3-T3N-R65W	TVD Reference:	Well @ 4821.0ft (Original Well Elev)
Reference Site:	Aristocrat Angus 0-8-3 Pad Sec.3-T3N-R65W	MD Reference:	Well @ 4821.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Aristocrat Angus 0-8-3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (3-21-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4821.0ft (Original Well Elev) Coordinates are relative to: Aristocrat Angus 0-8-3
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.55°

