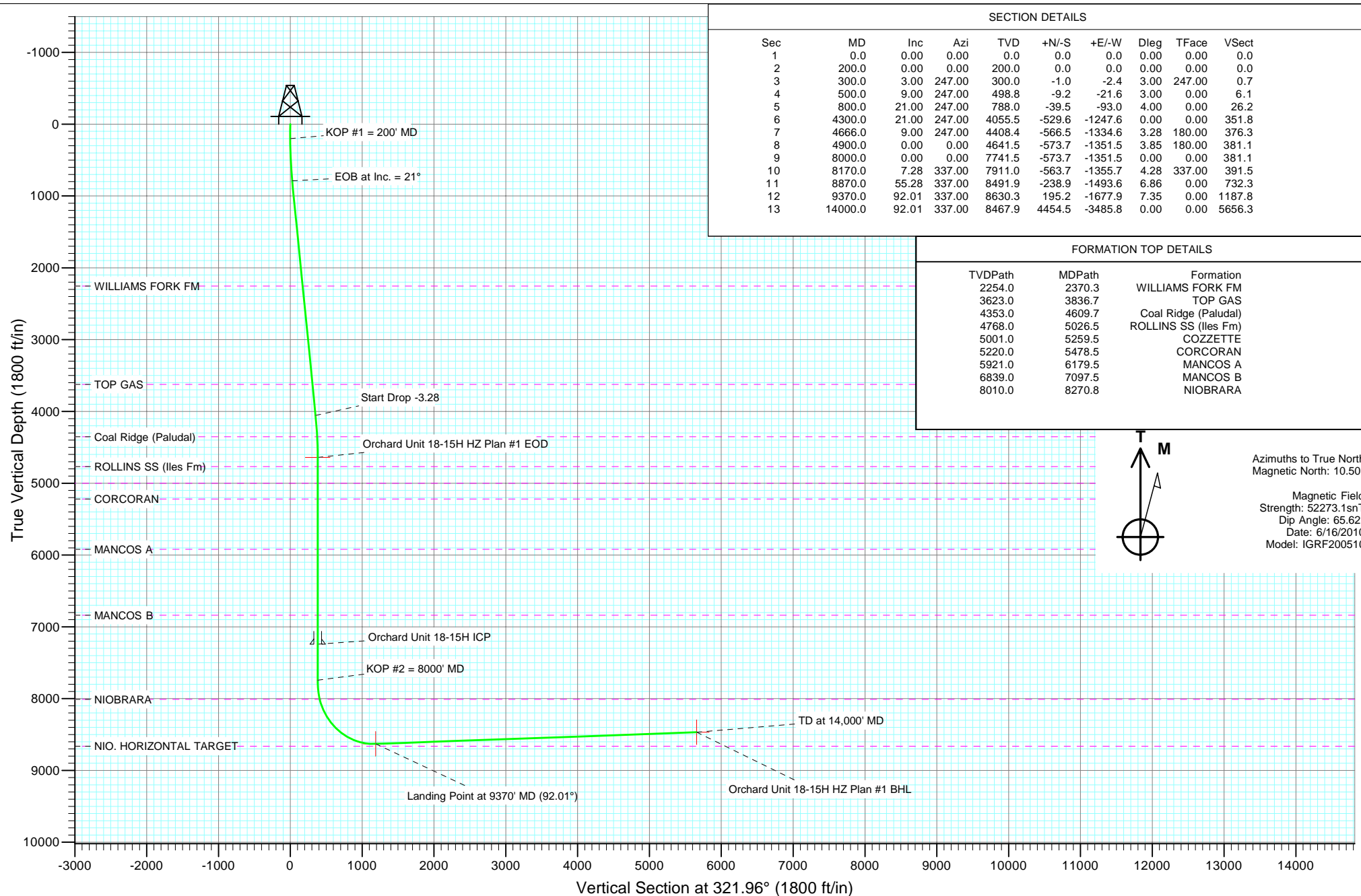


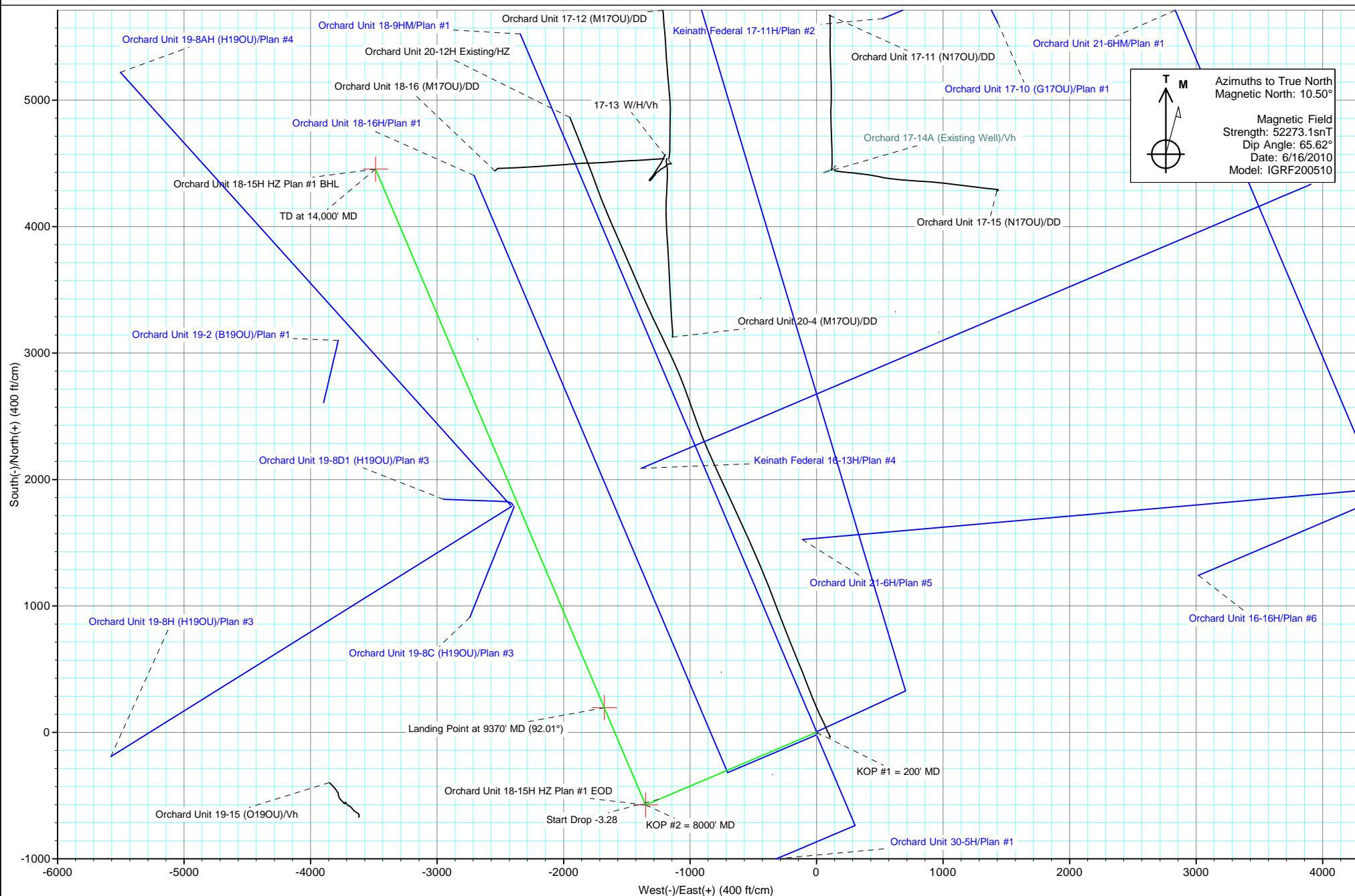


Project: Orchard
Site: NESW Sec20-8S-96W (K20OU Pad)
Well: Orchard Unit 18-15H
Wellbore: HZ
Design: Plan #1





Project: Orchard
Site: NESW Sec20-8S-96W (K20OU Pad)
Well: Orchard Unit 18-15H
Wellbore: HZ
Plan: Plan #1



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Orchard Unit 18-15H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5951.0ft (Original Well Elev)
Project:	Orchard	MD Reference:	WELL @ 5951.0ft (Original Well Elev)
Site:	NESW Sec20-8S-96W (K20OU Pad)	North Reference:	True
Well:	Orchard Unit 18-15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Project	Orchard		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		NESW Sec20-8S-96W (K20OU Pad)			
Site Position:		Northing:	1,556,589.03 ft	Latitude:	39.331906
From:	Lat/Long	Easting:	2,254,817.34 ft	Longitude:	-108.134858
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.66 °

Well	Orchard Unit 18-15H					
Well Position	+N/-S	0.0 ft	Northing:	1,556,667.65 ft	Latitude:	39.332114
	+E/-W	0.0 ft	Easting:	2,254,718.12 ft	Longitude:	-108.135217
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,929.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	6/16/2010	10.50	65.62	52,273

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	321.96

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	3.00	247.00	300.0	-1.0	-2.4	3.00	3.00	0.00	247.00	
500.0	9.00	247.00	498.8	-9.2	-21.6	3.00	3.00	0.00	0.00	
800.0	21.00	247.00	788.0	-39.5	-93.0	4.00	4.00	0.00	0.00	
4,300.0	21.00	247.00	4,055.5	-529.6	-1,247.6	0.00	0.00	0.00	0.00	
4,666.0	9.00	247.00	4,408.4	-566.5	-1,334.6	3.28	-3.28	0.00	180.00	
4,900.0	0.00	0.00	4,641.5	-573.7	-1,351.5	3.85	-3.85	0.00	180.00	
8,000.0	0.00	0.00	7,741.5	-573.7	-1,351.5	0.00	0.00	0.00	0.00	
8,170.0	7.28	337.00	7,911.0	-563.7	-1,355.7	4.28	4.28	0.00	337.00	
8,870.0	55.28	337.00	8,491.9	-238.9	-1,493.6	6.86	6.86	0.00	0.00	
9,370.0	92.01	337.00	8,630.3	195.2	-1,677.9	7.35	7.35	0.00	0.00	
14,000.0	92.01	337.00	8,467.9	4,454.5	-3,485.8	0.00	0.00	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Orchard Unit 18-15H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5951.0ft (Original Well Elev)
Project:	Orchard	MD Reference:	WELL @ 5951.0ft (Original Well Elev)
Site:	NESW Sec20-8S-96W (K20OU Pad)	North Reference:	True
Well:	Orchard Unit 18-15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP #1 = 200' MD
300.0	3.00	247.00	300.0	-1.0	-2.4	0.7	3.00	3.00	
400.0	6.00	247.00	399.6	-4.1	-9.6	2.7	3.00	3.00	
500.0	9.00	247.00	498.8	-9.2	-21.6	6.1	3.00	3.00	
600.0	13.00	247.00	596.9	-16.6	-39.2	11.1	4.00	4.00	
700.0	17.00	247.00	693.5	-26.8	-63.0	17.8	4.00	4.00	
800.0	21.00	247.00	788.0	-39.5	-93.0	26.2	4.00	4.00	EOB at Inc. = 21°
900.0	21.00	247.00	881.4	-53.5	-126.0	35.5	0.00	0.00	
1,000.0	21.00	247.00	974.7	-67.5	-159.0	44.8	0.00	0.00	
1,100.0	21.00	247.00	1,068.1	-81.5	-192.0	54.1	0.00	0.00	
1,200.0	21.00	247.00	1,161.4	-95.5	-224.9	63.4	0.00	0.00	
1,300.0	21.00	247.00	1,254.8	-109.5	-257.9	72.7	0.00	0.00	
1,400.0	21.00	247.00	1,348.2	-123.5	-290.9	82.0	0.00	0.00	
1,500.0	21.00	247.00	1,441.5	-137.5	-323.9	91.3	0.00	0.00	
1,600.0	21.00	247.00	1,534.9	-151.5	-356.9	100.6	0.00	0.00	
1,700.0	21.00	247.00	1,628.2	-165.5	-389.9	109.9	0.00	0.00	
1,800.0	21.00	247.00	1,721.6	-179.5	-422.9	119.2	0.00	0.00	
1,900.0	21.00	247.00	1,815.0	-193.5	-455.9	128.5	0.00	0.00	
2,000.0	21.00	247.00	1,908.3	-207.5	-488.8	137.8	0.00	0.00	
2,100.0	21.00	247.00	2,001.7	-221.5	-521.8	147.1	0.00	0.00	
2,200.0	21.00	247.00	2,095.0	-235.5	-554.8	156.5	0.00	0.00	
2,300.0	21.00	247.00	2,188.4	-249.5	-587.8	165.8	0.00	0.00	
2,370.3	21.00	247.00	2,254.0	-259.4	-611.0	172.3	0.00	0.00	WILLIAMS FORK FM
2,400.0	21.00	247.00	2,281.7	-263.5	-620.8	175.1	0.00	0.00	
2,500.0	21.00	247.00	2,375.1	-277.5	-653.8	184.4	0.00	0.00	
2,600.0	21.00	247.00	2,468.5	-291.5	-686.8	193.7	0.00	0.00	
2,700.0	21.00	247.00	2,561.8	-305.5	-719.8	203.0	0.00	0.00	
2,800.0	21.00	247.00	2,655.2	-319.5	-752.7	212.3	0.00	0.00	
2,900.0	21.00	247.00	2,748.5	-333.5	-785.7	221.6	0.00	0.00	
3,000.0	21.00	247.00	2,841.9	-347.5	-818.7	230.9	0.00	0.00	
3,100.0	21.00	247.00	2,935.3	-361.5	-851.7	240.2	0.00	0.00	
3,200.0	21.00	247.00	3,028.6	-375.5	-884.7	249.5	0.00	0.00	
3,300.0	21.00	247.00	3,122.0	-389.5	-917.7	258.8	0.00	0.00	
3,400.0	21.00	247.00	3,215.3	-403.5	-950.7	268.1	0.00	0.00	
3,500.0	21.00	247.00	3,308.7	-417.5	-983.7	277.4	0.00	0.00	
3,600.0	21.00	247.00	3,402.0	-431.5	-1,016.6	286.7	0.00	0.00	
3,700.0	21.00	247.00	3,495.4	-445.5	-1,049.6	296.0	0.00	0.00	
3,800.0	21.00	247.00	3,588.8	-459.5	-1,082.6	305.3	0.00	0.00	
3,836.7	21.00	247.00	3,623.0	-464.7	-1,094.7	308.7	0.00	0.00	TOP GAS
3,900.0	21.00	247.00	3,682.1	-473.5	-1,115.6	314.6	0.00	0.00	
4,000.0	21.00	247.00	3,775.5	-487.6	-1,148.6	323.9	0.00	0.00	
4,100.0	21.00	247.00	3,868.8	-501.6	-1,181.6	333.2	0.00	0.00	
4,200.0	21.00	247.00	3,962.2	-515.6	-1,214.6	342.5	0.00	0.00	
4,300.0	21.00	247.00	4,055.5	-529.6	-1,247.6	351.8	0.00	0.00	Start Drop -3.28
4,400.0	17.72	247.00	4,149.9	-542.5	-1,278.1	360.4	3.28	-3.28	
4,500.0	14.44	247.00	4,246.0	-553.3	-1,303.6	367.6	3.28	-3.28	
4,600.0	11.16	247.00	4,343.5	-562.0	-1,324.0	373.3	3.28	-3.28	
4,609.7	10.85	247.00	4,353.0	-562.7	-1,325.7	373.8	3.28	-3.28	Coal Ridge (Paludal)
4,666.0	9.00	247.00	4,408.4	-566.5	-1,334.6	376.3	3.28	-3.28	
4,700.0	7.69	247.00	4,442.1	-568.4	-1,339.1	377.6	3.85	-3.85	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Orchard Unit 18-15H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5951.0ft (Original Well Elev)
Project:	Orchard	MD Reference:	WELL @ 5951.0ft (Original Well Elev)
Site:	NESW Sec20-8S-96W (K20OU Pad)	North Reference:	True
Well:	Orchard Unit 18-15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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)	Comments / Formations
4,800.0	3.85	247.00	4,541.5	-572.4	-1,348.4	380.2	3.85	-3.85	
4,900.0	0.00	0.00	4,641.5	-573.7	-1,351.5	381.1	3.85	-3.85	EOD at Inc. = 0° - Orchard Unit 18-15H HZ Plar
5,000.0	0.00	0.00	4,741.5	-573.7	-1,351.5	381.1	0.00	0.00	
5,026.5	0.00	0.00	4,768.0	-573.7	-1,351.5	381.1	0.00	0.00	ROLLINS SS (Iles Fm)
5,100.0	0.00	0.00	4,841.5	-573.7	-1,351.5	381.1	0.00	0.00	
5,200.0	0.00	0.00	4,941.5	-573.7	-1,351.5	381.1	0.00	0.00	
5,259.5	0.00	0.00	5,001.0	-573.7	-1,351.5	381.1	0.00	0.00	COZZETTE
5,300.0	0.00	0.00	5,041.5	-573.7	-1,351.5	381.1	0.00	0.00	
5,400.0	0.00	0.00	5,141.5	-573.7	-1,351.5	381.1	0.00	0.00	
5,478.5	0.00	0.00	5,220.0	-573.7	-1,351.5	381.1	0.00	0.00	CORCORAN
5,500.0	0.00	0.00	5,241.5	-573.7	-1,351.5	381.1	0.00	0.00	
5,600.0	0.00	0.00	5,341.5	-573.7	-1,351.5	381.1	0.00	0.00	
5,700.0	0.00	0.00	5,441.5	-573.7	-1,351.5	381.1	0.00	0.00	
5,800.0	0.00	0.00	5,541.5	-573.7	-1,351.5	381.1	0.00	0.00	
5,900.0	0.00	0.00	5,641.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,000.0	0.00	0.00	5,741.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,100.0	0.00	0.00	5,841.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,179.5	0.00	0.00	5,921.0	-573.7	-1,351.5	381.1	0.00	0.00	MANCOS A
6,200.0	0.00	0.00	5,941.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,300.0	0.00	0.00	6,041.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,400.0	0.00	0.00	6,141.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,500.0	0.00	0.00	6,241.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,600.0	0.00	0.00	6,341.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,700.0	0.00	0.00	6,441.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,800.0	0.00	0.00	6,541.5	-573.7	-1,351.5	381.1	0.00	0.00	
6,900.0	0.00	0.00	6,641.5	-573.7	-1,351.5	381.1	0.00	0.00	
7,000.0	0.00	0.00	6,741.5	-573.7	-1,351.5	381.1	0.00	0.00	
7,097.5	0.00	0.00	6,839.0	-573.7	-1,351.5	381.1	0.00	0.00	MANCOS B
7,100.0	0.00	0.00	6,841.5	-573.7	-1,351.5	381.1	0.00	0.00	
7,200.0	0.00	0.00	6,941.5	-573.7	-1,351.5	381.1	0.00	0.00	
7,300.0	0.00	0.00	7,041.5	-573.7	-1,351.5	381.1	0.00	0.00	
7,400.0	0.00	0.00	7,141.5	-573.7	-1,351.5	381.1	0.00	0.00	
7,500.0	0.00	0.00	7,241.5	-573.7	-1,351.5	381.1	0.00	0.00	Orchard Unit 18-15H ICP
7,600.0	0.00	0.00	7,341.5	-573.7	-1,351.5	381.1	0.00	0.00	
7,700.0	0.00	0.00	7,441.5	-573.7	-1,351.5	381.1	0.00	0.00	
7,800.0	0.00	0.00	7,541.5	-573.7	-1,351.5	381.1	0.00	0.00	
7,900.0	0.00	0.00	7,641.5	-573.7	-1,351.5	381.1	0.00	0.00	
8,000.0	0.00	0.00	7,741.5	-573.7	-1,351.5	381.1	0.00	0.00	KOP #2 = 8000' MD
8,100.0	4.28	337.00	7,841.4	-570.2	-1,352.9	384.7	4.28	4.28	
8,170.0	7.28	337.00	7,911.0	-563.7	-1,355.7	391.5	4.28	4.28	
8,200.0	9.34	337.00	7,940.7	-559.8	-1,357.4	395.7	6.86	6.86	
8,270.8	14.19	337.00	8,010.0	-546.5	-1,363.0	409.6	6.86	6.86	NIORARA
8,300.0	16.19	337.00	8,038.2	-539.4	-1,366.0	417.0	6.86	6.86	
8,400.0	23.05	337.00	8,132.3	-508.5	-1,379.1	449.4	6.86	6.86	
8,500.0	29.91	337.00	8,221.8	-467.5	-1,396.5	492.5	6.86	6.86	
8,600.0	36.77	337.00	8,305.3	-417.0	-1,418.0	545.5	6.86	6.86	
8,700.0	43.62	337.00	8,381.6	-357.6	-1,443.2	607.8	6.86	6.86	
8,800.0	50.48	337.00	8,449.7	-290.2	-1,471.8	678.4	6.86	6.86	
8,870.0	55.28	337.00	8,491.9	-238.9	-1,493.6	732.3	6.86	6.86	
8,900.0	57.48	337.00	8,508.5	-215.9	-1,503.4	756.5	7.35	7.35	
9,000.0	64.83	337.00	8,556.7	-135.3	-1,537.6	841.0	7.35	7.35	
9,100.0	72.18	337.00	8,593.4	-49.7	-1,573.9	930.8	7.35	7.35	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Orchard Unit 18-15H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5951.0ft (Original Well Elev)
Project:	Orchard	MD Reference:	WELL @ 5951.0ft (Original Well Elev)
Site:	NESW Sec20-8S-96W (K20OU Pad)	North Reference:	True
Well:	Orchard Unit 18-15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

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)	Comments / Formations
9,200.0	79.52	337.00	8,617.8	39.5	-1,611.8	1,024.4	7.35	7.35	
9,300.0	86.87	337.00	8,629.6	130.8	-1,650.5	1,120.2	7.35	7.35	
9,370.0	92.01	337.00	8,630.3	195.2	-1,677.9	1,187.8	7.35	7.35	Landing Point at 9370' MD (92.01°) - Orchard U
9,400.0	92.01	337.00	8,629.3	222.8	-1,689.6	1,216.7	0.00	0.00	
9,500.0	92.01	337.00	8,625.8	314.8	-1,728.6	1,313.2	0.00	0.00	
9,600.0	92.01	337.00	8,622.2	406.8	-1,767.7	1,409.7	0.00	0.00	
9,700.0	92.01	337.00	8,618.7	498.8	-1,806.7	1,506.3	0.00	0.00	
9,800.0	92.01	337.00	8,615.2	590.8	-1,845.8	1,602.8	0.00	0.00	
9,900.0	92.01	337.00	8,611.7	682.8	-1,884.8	1,699.3	0.00	0.00	
10,000.0	92.01	337.00	8,608.2	774.8	-1,923.9	1,795.8	0.00	0.00	
10,100.0	92.01	337.00	8,604.7	866.8	-1,962.9	1,892.3	0.00	0.00	
10,200.0	92.01	337.00	8,601.2	958.8	-2,002.0	1,988.8	0.00	0.00	
10,300.0	92.01	337.00	8,597.7	1,050.8	-2,041.0	2,085.3	0.00	0.00	
10,400.0	92.01	337.00	8,594.2	1,142.8	-2,080.1	2,181.9	0.00	0.00	
10,500.0	92.01	337.00	8,590.7	1,234.8	-2,119.1	2,278.4	0.00	0.00	
10,600.0	92.01	337.00	8,587.2	1,326.7	-2,158.2	2,374.9	0.00	0.00	
10,700.0	92.01	337.00	8,583.7	1,418.7	-2,197.2	2,471.4	0.00	0.00	
10,800.0	92.01	337.00	8,580.2	1,510.7	-2,236.3	2,567.9	0.00	0.00	
10,900.0	92.01	337.00	8,576.7	1,602.7	-2,275.3	2,664.4	0.00	0.00	
11,000.0	92.01	337.00	8,573.1	1,694.7	-2,314.4	2,760.9	0.00	0.00	
11,100.0	92.01	337.00	8,569.6	1,786.7	-2,353.4	2,857.4	0.00	0.00	
11,200.0	92.01	337.00	8,566.1	1,878.7	-2,392.5	2,954.0	0.00	0.00	
11,300.0	92.01	337.00	8,562.6	1,970.7	-2,431.5	3,050.5	0.00	0.00	
11,400.0	92.01	337.00	8,559.1	2,062.7	-2,470.6	3,147.0	0.00	0.00	
11,500.0	92.01	337.00	8,555.6	2,154.7	-2,509.6	3,243.5	0.00	0.00	
11,600.0	92.01	337.00	8,552.1	2,246.7	-2,548.7	3,340.0	0.00	0.00	
11,700.0	92.01	337.00	8,548.6	2,338.7	-2,587.7	3,436.5	0.00	0.00	
11,800.0	92.01	337.00	8,545.1	2,430.7	-2,626.8	3,533.0	0.00	0.00	
11,900.0	92.01	337.00	8,541.6	2,522.7	-2,665.8	3,629.5	0.00	0.00	
12,000.0	92.01	337.00	8,538.1	2,614.7	-2,704.9	3,726.1	0.00	0.00	
12,100.0	92.01	337.00	8,534.6	2,706.7	-2,743.9	3,822.6	0.00	0.00	
12,200.0	92.01	337.00	8,531.1	2,798.7	-2,783.0	3,919.1	0.00	0.00	
12,300.0	92.01	337.00	8,527.5	2,890.6	-2,822.0	4,015.6	0.00	0.00	
12,400.0	92.01	337.00	8,524.0	2,982.6	-2,861.0	4,112.1	0.00	0.00	
12,500.0	92.01	337.00	8,520.5	3,074.6	-2,900.1	4,208.6	0.00	0.00	
12,600.0	92.01	337.00	8,517.0	3,166.6	-2,939.1	4,305.1	0.00	0.00	
12,700.0	92.01	337.00	8,513.5	3,258.6	-2,978.2	4,401.7	0.00	0.00	
12,800.0	92.01	337.00	8,510.0	3,350.6	-3,017.2	4,498.2	0.00	0.00	
12,900.0	92.01	337.00	8,506.5	3,442.6	-3,056.3	4,594.7	0.00	0.00	
13,000.0	92.01	337.00	8,503.0	3,534.6	-3,095.3	4,691.2	0.00	0.00	
13,100.0	92.01	337.00	8,499.5	3,626.6	-3,134.4	4,787.7	0.00	0.00	
13,200.0	92.01	337.00	8,496.0	3,718.6	-3,173.4	4,884.2	0.00	0.00	
13,300.0	92.01	337.00	8,492.5	3,810.6	-3,212.5	4,980.7	0.00	0.00	
13,400.0	92.01	337.00	8,489.0	3,902.6	-3,251.5	5,077.2	0.00	0.00	
13,500.0	92.01	337.00	8,485.5	3,994.6	-3,290.6	5,173.8	0.00	0.00	
13,600.0	92.01	337.00	8,482.0	4,086.6	-3,329.6	5,270.3	0.00	0.00	
13,700.0	92.01	337.00	8,478.4	4,178.6	-3,368.7	5,366.8	0.00	0.00	
13,800.0	92.01	337.00	8,474.9	4,270.6	-3,407.7	5,463.3	0.00	0.00	
13,900.0	92.01	337.00	8,471.4	4,362.5	-3,446.8	5,559.8	0.00	0.00	
14,000.0	92.01	337.00	8,467.9	4,454.5	-3,485.8	5,656.3	0.00	0.00	TD at 14,000' MD - Orchard Unit 18-15H HZ Pl

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Orchard Unit 18-15H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5951.0ft (Original Well Elev)
Project:	Orchard	MD Reference:	WELL @ 5951.0ft (Original Well Elev)
Site:	NESW Sec20-8S-96W (K20OU Pad)	North Reference:	True
Well:	Orchard Unit 18-15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #1		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Orchard Unit 18-15H HZ - plan hits target center - Point	0.00	0.00	4,641.5	-573.7	-1,351.5	1,556,133.41	2,253,350.56	39.330539	-108.139995
Orchard Unit 18-15H HZ - plan hits target center - Point	0.00	0.00	8,467.9	4,454.5	-3,485.8	1,561,221.41	2,251,362.95	39.344343	-108.147542
Orchard Unit 18-15H HZ - plan hits target center - Point	0.00	0.00	8,630.3	195.2	-1,677.9	1,556,911.45	2,253,046.62	39.332650	-108.141149

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
7,500.0	7,241.5	Orchard Unit 18-15H ICP		

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
2,370.3	2,254.0	WILLIAMS FORK FM			
3,836.7	3,623.0	TOP GAS			
4,609.7	4,353.0	Coal Ridge (Paludal)			
5,026.5	4,768.0	ROLLINS SS (Iles Fm)			
5,259.5	5,001.0	COZZETTE			
5,478.5	5,220.0	CORCORAN			
6,179.5	5,921.0	MANCOS A			
7,097.5	6,839.0	MANCOS B			
8,270.8	8,010.0	NIORARA			

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP #1 = 200' MD
800.0	788.0	-39.5	-93.0	EOB at Inc. = 21°
4,300.0	4,055.5	-529.6	-1,247.6	Start Drop -3.28
4,900.0	4,641.5	-573.7	-1,351.5	EOD at Inc. = 0°
8,000.0	7,741.5	-573.7	-1,351.5	KOP #2 = 8000' MD
9,370.0	8,630.3	195.2	-1,677.9	Landing Point at 9370' MD (92.01°)
14,000.0	8,467.9	4,454.5	-3,485.8	TD at 14,000' MD