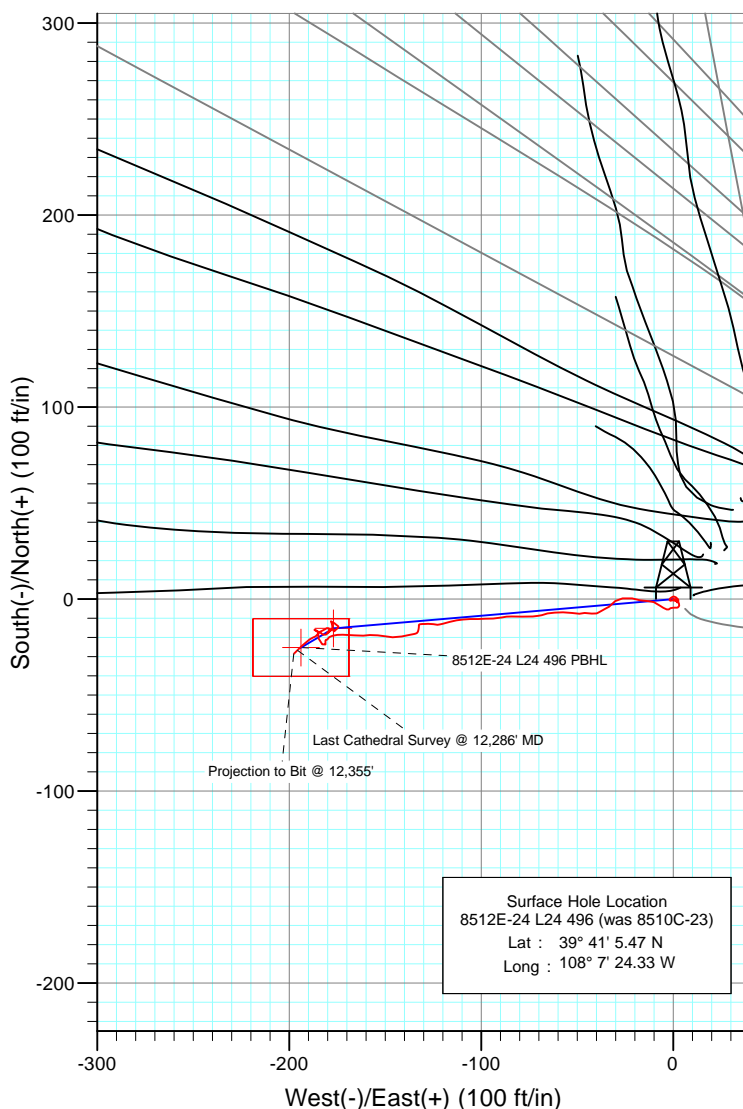
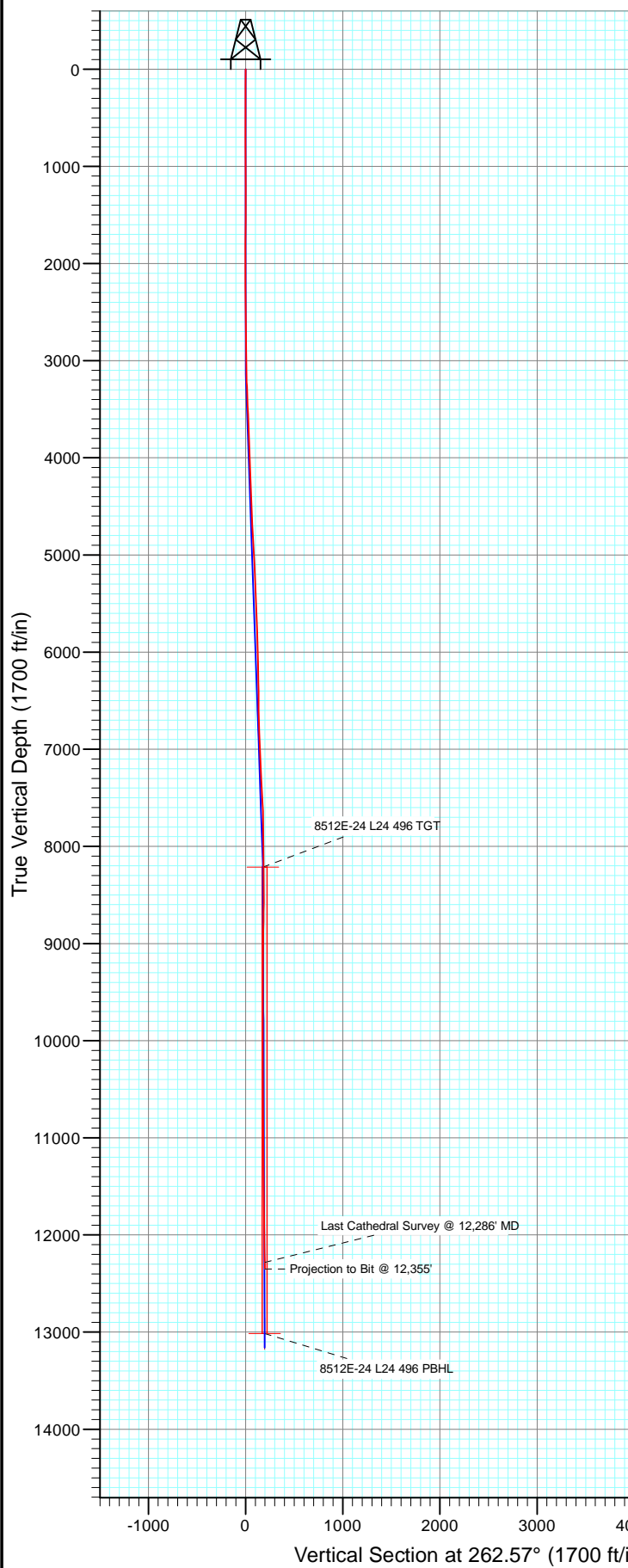




Project: Story Gulch
 Site: L24 496
 Well: 8512E-24 L24 496 (was 8510C-23)
 Wellbore: DD
 Design: FINAL



Surface Hole Location
 8512E-24 L24 496 (was 8510C-23)
 Lat : 39° 41' 5.47 N
 Long : 108° 7' 24.33 W

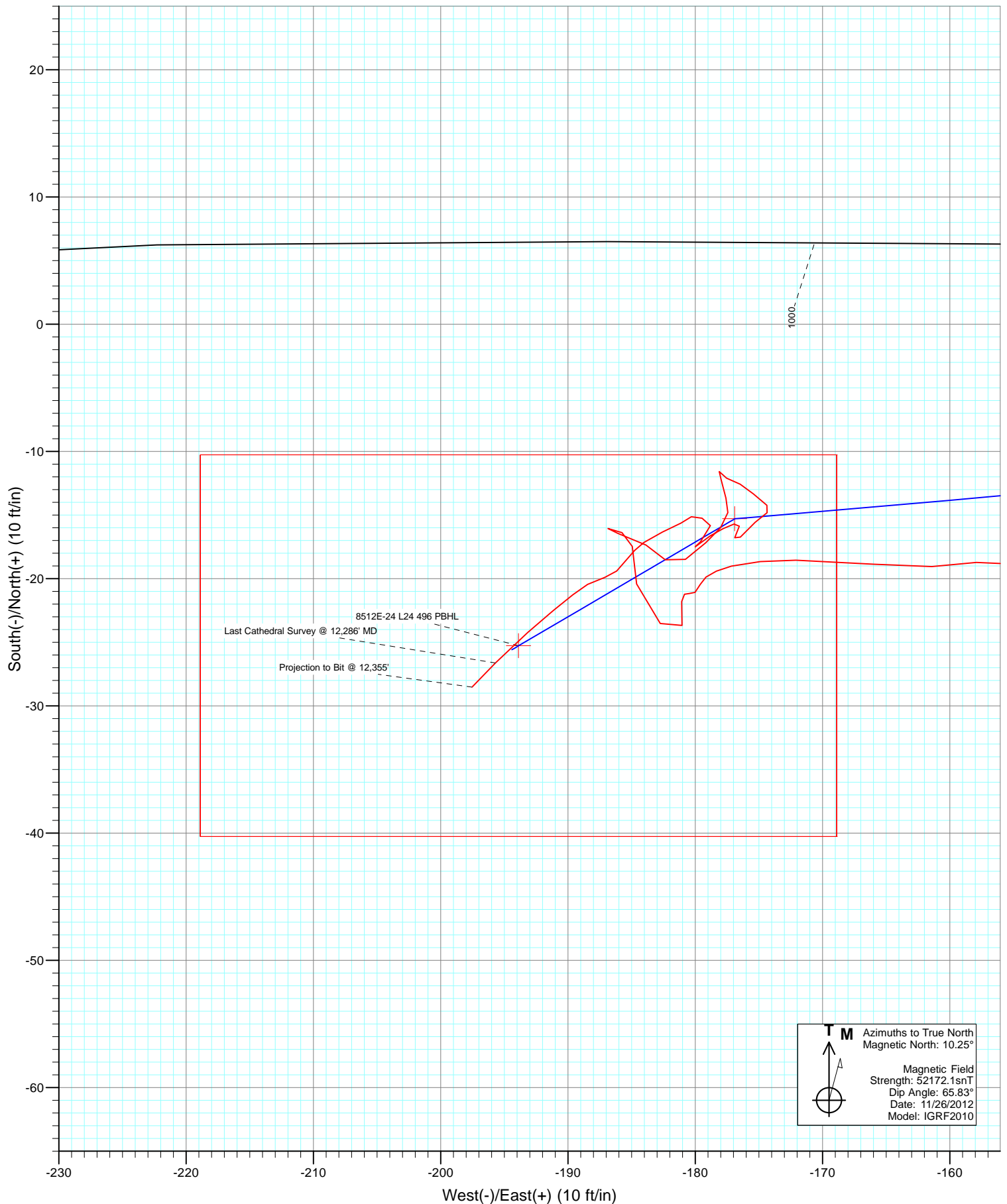


Azimuths to True North
 Magnetic North: 10.25°

Magnetic Field
 Strength: 52172.1snT
 Dip Angle: 65.83°
 Date: 11/26/2012
 Model: IGRF2010

DD
 8512E-24 L24 496 (was 8510C-23)
 125603/202755 (SH) 125623/203055 (MH); SC
 KB @ 8208.0ft (Patterson 330)
 North American Datum 1983
 Well 8512E-24 L24 496 (was 8510C-23), True North

Type Target	Target	Azimuth	Origin	Type	N/S	E/W	From TVD
8512E-24 L24 496 PBHL	262.57		Slot		0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude		
8512E-24 L24 496 TGT	8214.0	-15.3	-176.9	39° 41' 5.32 N	108° 7' 26.59 W		
8512E-24 L24 496 PBHL	13014.0	-25.3	-193.9	39° 41' 5.22 N	108° 7' 26.81 W		



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8512E-24 L24 496 (was 8510C-23)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Patterson 330)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Patterson 330)
Well:	8512E-24 L24 496 (was 8510C-23)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

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

Site	L24 496			
Site Position:		Northing:	1,685,024.52 ft	Latitude: 39° 41' 5.72 N
From:	Lat/Long	Easting:	2,261,789.15 ft	Longitude: 108° 7' 23.99 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -1.65 °

Well	8512E-24 L24 496 (was 8510C-23)			
Well Position	+N/-S	0.0 ft	Northing:	1,684,999.98 ft
	+E/-W	0.0 ft	Easting:	2,261,761.85 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level: 8,193.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/26/2012	10.25	65.83	52,172

Design	DD			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	262.57

Survey Program	Date	12/16/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
176.0	2,985.0	Survey #1 (DD)	MWD	Geolink MWD
3,174.0	12,355.0	Survey #2 (DD)	MWD	Geolink MWD

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
176.0	0.60	93.60	176.0	-0.1	0.9	-0.9	0.34	0.34	
240.0	0.30	141.90	240.0	-0.2	1.4	-1.3	0.72	-0.47	
331.0	0.30	146.50	331.0	-0.6	1.6	-1.5	0.03	0.00	
423.0	0.40	159.10	423.0	-1.1	1.9	-1.7	0.14	0.11	
518.0	0.40	166.30	518.0	-1.7	2.1	-1.8	0.05	0.00	
609.0	0.50	22.70	609.0	-1.7	2.3	-2.1	0.94	0.11	
701.0	0.50	39.80	701.0	-1.0	2.7	-2.6	0.16	0.00	
792.0	0.90	323.30	792.0	-0.1	2.5	-2.5	1.01	0.44	
884.0	1.10	307.20	884.0	1.0	1.4	-1.5	0.37	0.22	
976.0	0.60	249.40	976.0	1.4	0.3	-0.4	1.01	-0.54	
1,067.0	0.70	241.40	1,067.0	0.9	-0.7	0.6	0.15	0.11	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8512E-24 L24 496 (was 8510C-23)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Patterson 330)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Patterson 330)
Well:	8512E-24 L24 496 (was 8510C-23)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,159.0	0.70	228.30	1,158.9	0.3	-1.6	1.5	0.17	0.00	
1,250.0	0.50	175.00	1,249.9	-0.5	-2.0	2.0	0.62	-0.22	
1,342.0	0.60	85.60	1,341.9	-0.8	-1.5	1.6	0.84	0.11	
1,434.0	0.70	79.10	1,433.9	-0.7	-0.4	0.5	0.13	0.11	
1,525.0	0.40	121.30	1,524.9	-0.8	0.4	-0.3	0.53	-0.33	
1,617.0	0.60	97.40	1,616.9	-1.0	1.1	-1.0	0.31	0.22	
1,708.0	0.40	85.10	1,707.9	-1.0	1.9	-1.8	0.25	-0.22	
1,800.0	0.50	141.70	1,799.9	-1.3	2.5	-2.3	0.47	0.11	
1,892.0	0.50	153.80	1,891.9	-2.0	2.9	-2.7	0.11	0.00	
1,983.0	0.40	193.10	1,982.9	-2.7	3.0	-2.7	0.35	-0.11	
2,075.0	0.50	153.30	2,074.9	-3.3	3.1	-2.7	0.35	0.11	
2,166.0	0.50	242.10	2,165.9	-3.9	3.0	-2.4	0.77	0.00	
2,258.0	0.40	211.90	2,257.9	-4.3	2.4	-1.9	0.28	-0.11	
2,350.0	0.60	284.50	2,349.9	-4.5	1.8	-1.2	0.67	0.22	
2,441.0	0.70	257.10	2,440.9	-4.5	0.8	-0.2	0.35	0.11	
2,533.0	0.70	273.80	2,532.9	-4.6	-0.3	0.9	0.22	0.00	
2,624.0	0.70	242.00	2,623.9	-4.8	-1.3	2.0	0.42	0.00	
2,716.0	0.60	229.10	2,715.9	-5.4	-2.2	2.9	0.19	-0.11	
2,808.0	1.10	292.10	2,807.9	-5.4	-3.4	4.1	1.07	0.54	
2,899.0	1.20	300.90	2,898.9	-4.5	-5.0	5.6	0.22	0.11	
2,985.0	1.30	301.30	2,984.8	-3.6	-6.6	7.0	0.12	0.12	Last Cathedral Survey @ 2,985' MD
3,174.0	1.10	298.20	3,173.8	-1.6	-10.1	10.2	0.11	-0.11	
3,269.0	2.70	272.20	3,268.7	-1.1	-13.1	13.1	1.87	1.68	
3,364.0	2.30	280.20	3,363.6	-0.7	-17.2	17.1	0.56	-0.42	
3,459.0	2.90	286.90	3,458.5	0.4	-21.4	21.2	0.71	0.63	
3,554.0	3.30	254.80	3,553.4	0.4	-26.3	26.1	1.85	0.42	
3,649.0	1.60	239.40	3,648.3	-1.0	-30.1	30.0	1.90	-1.79	
3,744.0	1.80	217.70	3,743.3	-2.9	-32.2	32.3	0.70	0.21	
3,840.0	2.50	247.00	3,839.2	-4.9	-35.0	35.3	1.33	0.73	
3,935.0	2.50	236.10	3,934.1	-6.9	-38.6	39.2	0.50	0.00	
4,030.0	2.50	283.80	4,029.0	-7.5	-42.4	43.0	2.13	0.00	
4,125.0	2.00	261.10	4,124.0	-7.3	-46.0	46.6	1.07	-0.53	
4,220.0	1.50	264.10	4,218.9	-7.7	-48.9	49.5	0.53	-0.53	
4,315.0	3.20	282.10	4,313.8	-7.2	-52.7	53.2	1.93	1.79	
4,410.0	2.50	266.50	4,408.7	-6.8	-57.4	57.8	1.09	-0.74	
4,505.0	2.70	266.30	4,503.6	-7.1	-61.7	62.1	0.21	0.21	
4,600.0	1.90	260.20	4,598.6	-7.5	-65.5	65.9	0.88	-0.84	
4,695.0	1.90	249.00	4,693.5	-8.3	-68.5	69.0	0.39	0.00	
4,790.0	3.70	267.60	4,788.4	-9.0	-73.0	73.6	2.10	1.89	
4,885.0	3.10	270.70	4,883.2	-9.1	-78.7	79.2	0.66	-0.63	
4,980.0	3.40	271.10	4,978.1	-9.0	-84.0	84.5	0.32	0.32	
5,076.0	2.70	254.60	5,073.9	-9.6	-89.1	89.6	1.16	-0.73	
5,171.0	3.00	270.40	5,168.8	-10.2	-93.7	94.2	0.88	0.32	
5,266.0	2.10	265.00	5,263.7	-10.3	-97.9	98.4	0.98	-0.95	
5,361.0	2.40	272.70	5,358.6	-10.3	-101.6	102.1	0.45	0.32	
5,456.0	2.60	266.80	5,453.6	-10.4	-105.8	106.2	0.34	0.21	
5,551.0	1.80	264.50	5,548.5	-10.6	-109.4	109.9	0.85	-0.84	
5,646.0	2.20	262.00	5,643.4	-11.0	-112.7	113.2	0.43	0.42	
5,741.0	2.40	253.10	5,738.4	-11.9	-116.4	117.0	0.43	0.21	
5,836.0	2.20	256.10	5,833.3	-12.9	-120.1	120.8	0.25	-0.21	
5,931.0	1.10	268.30	5,928.2	-13.3	-122.8	123.5	1.21	-1.16	
6,027.0	1.60	284.50	6,024.2	-13.0	-125.0	125.6	0.65	0.52	
6,122.0	1.50	265.60	6,119.2	-12.8	-127.5	128.1	0.55	-0.11	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8512E-24 L24 496 (was 8510C-23)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Patterson 330)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Patterson 330)
Well:	8512E-24 L24 496 (was 8510C-23)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,217.0	0.70	267.00	6,214.2	-12.9	-129.3	129.9	0.84	-0.84	
6,312.0	0.90	270.50	6,309.1	-13.0	-130.7	131.2	0.22	0.21	
6,407.0	0.80	251.90	6,404.1	-13.2	-132.0	132.6	0.31	-0.11	
6,502.0	0.60	159.00	6,499.1	-13.8	-132.5	133.2	1.08	-0.21	
6,597.0	1.80	191.00	6,594.1	-15.8	-132.6	133.5	1.40	1.26	
6,692.0	0.90	230.60	6,689.1	-17.7	-133.5	134.6	1.31	-0.95	
6,788.0	2.90	262.90	6,785.0	-18.5	-136.5	137.7	2.28	2.08	
6,882.0	3.20	254.00	6,878.9	-19.5	-141.3	142.7	0.60	0.32	
6,977.0	2.60	279.20	6,973.8	-19.9	-146.0	147.4	1.47	-0.63	
7,073.0	2.20	274.00	7,069.7	-19.4	-150.0	151.2	0.47	-0.42	
7,168.0	2.50	280.40	7,164.6	-18.9	-153.9	155.0	0.42	0.32	
7,262.0	2.50	264.40	7,258.5	-18.7	-157.9	159.0	0.74	0.00	
7,358.0	1.70	265.30	7,354.5	-19.0	-161.4	162.5	0.83	-0.83	
7,453.0	3.80	275.40	7,449.3	-18.9	-166.0	167.0	2.26	2.21	
7,547.0	3.70	270.50	7,543.1	-18.5	-172.1	173.0	0.36	-0.11	
7,642.0	2.50	256.00	7,638.0	-19.0	-177.2	178.1	1.50	-1.26	
7,738.0	1.20	203.90	7,734.0	-20.4	-179.6	180.7	2.08	-1.35	
7,833.0	0.60	292.40	7,829.0	-21.2	-180.5	181.7	1.40	-0.63	
7,928.0	1.00	190.00	7,923.9	-21.8	-181.1	182.4	1.34	0.42	
8,023.0	1.30	170.60	8,018.9	-23.7	-181.0	182.6	0.51	0.32	
8,118.0	2.70	302.60	8,113.9	-23.5	-182.7	184.3	3.89	1.47	
8,206.0	2.60	356.80	8,201.8	-20.4	-184.6	185.7	2.74	-0.11	
8,301.0	1.00	344.90	8,296.8	-17.5	-184.9	185.6	1.72	-1.68	
8,396.0	0.80	294.90	8,391.8	-16.4	-185.8	186.3	0.82	-0.21	
8,491.0	0.60	276.70	8,486.7	-16.1	-186.9	187.4	0.31	-0.21	
8,586.0	1.60	109.60	8,581.7	-16.4	-186.1	186.7	2.30	1.05	
8,681.0	1.30	115.80	8,676.7	-17.4	-183.9	184.6	0.36	-0.32	
8,775.0	1.10	141.00	8,770.7	-18.5	-182.4	183.2	0.59	-0.21	
8,870.0	1.50	53.70	8,865.7	-18.5	-180.8	181.6	1.91	0.42	
8,965.0	1.00	45.80	8,960.6	-17.2	-179.2	179.9	0.56	-0.53	
9,060.0	1.00	43.20	9,055.6	-16.0	-178.0	178.6	0.05	0.00	
9,155.0	0.70	1.60	9,150.6	-14.8	-177.4	177.9	0.70	-0.32	
9,250.0	0.70	343.20	9,245.6	-13.7	-177.6	177.9	0.24	0.00	
9,345.0	1.10	346.20	9,340.6	-12.2	-178.0	178.1	0.42	0.42	
9,440.0	0.30	163.60	9,435.6	-11.6	-178.1	178.1	1.47	-0.84	
9,535.0	0.70	118.00	9,530.6	-12.1	-177.5	177.6	0.56	0.42	
9,630.0	0.70	110.60	9,625.6	-12.6	-176.5	176.6	0.10	0.00	
9,725.0	0.90	138.10	9,720.6	-13.3	-175.4	175.7	0.45	0.21	
9,820.0	0.80	122.10	9,815.6	-14.2	-174.4	174.8	0.27	-0.11	
9,915.0	0.70	247.40	9,910.6	-14.8	-174.4	174.8	1.40	-0.11	
10,010.0	0.80	217.00	10,005.6	-15.6	-175.3	175.8	0.43	0.11	
10,105.0	1.20	230.30	10,100.5	-16.7	-176.5	177.1	0.48	0.42	
10,199.0	0.80	28.20	10,194.5	-16.8	-176.9	177.6	2.09	-0.43	
10,294.0	0.40	8.30	10,289.5	-15.9	-176.5	177.1	0.47	-0.42	
10,389.0	0.60	250.90	10,384.5	-15.7	-177.0	177.5	0.91	0.21	
10,485.0	0.50	242.10	10,480.5	-16.1	-177.8	178.4	0.14	-0.10	
10,579.0	0.90	240.30	10,574.5	-16.6	-178.8	179.5	0.43	0.43	
10,674.0	0.90	227.40	10,669.5	-17.5	-180.0	180.8	0.21	0.00	
10,769.0	1.60	47.00	10,764.5	-17.1	-179.6	180.3	2.63	0.74	
10,864.0	0.50	331.00	10,859.5	-15.8	-178.8	179.4	1.64	-1.16	
10,959.0	0.60	296.30	10,954.5	-15.2	-179.5	179.9	0.36	0.11	
11,054.0	0.50	255.50	11,049.5	-15.1	-180.3	180.8	0.42	-0.11	
11,148.0	0.70	226.20	11,143.5	-15.6	-181.1	181.6	0.38	0.21	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8512E-24 L24 496 (was 8510C-23)
Project:	Story Gulch	TVD Reference:	KB @ 8208.0ft (Patterson 330)
Site:	L24 496	MD Reference:	KB @ 8208.0ft (Patterson 330)
Well:	8512E-24 L24 496 (was 8510C-23)	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
11,243.0	1.30	253.60	11,238.5	-16.3	-182.6	183.2	0.79	0.63	
11,338.0	0.80	219.90	11,333.4	-17.2	-184.0	184.7	0.82	-0.53	
11,433.0	0.40	247.90	11,428.4	-17.8	-184.8	185.5	0.51	-0.42	
11,527.0	0.70	206.50	11,522.4	-18.4	-185.3	186.2	0.51	0.32	
11,622.0	0.90	233.00	11,617.4	-19.4	-186.2	187.1	0.44	0.21	
11,717.0	0.40	259.60	11,712.4	-19.9	-187.1	188.1	0.60	-0.53	
11,906.0	0.50	238.50	11,901.4	-20.4	-188.5	189.5	0.10	0.05	
12,001.0	1.20	233.60	11,996.4	-21.3	-189.6	190.8	0.74	0.74	
12,096.0	1.20	228.80	12,091.4	-22.5	-191.2	192.5	0.11	0.00	
12,191.0	2.00	229.30	12,186.3	-24.2	-193.2	194.7	0.84	0.84	
12,286.0	2.20	224.20	12,281.3	-26.6	-195.7	197.5	0.29	0.21	Last Cathedral Survey @ 12,286' MD Projection to Bit @ 12,355'
12,355.0	2.20	224.20	12,350.2	-28.5	-197.5	199.6	0.00	0.00	

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
8512E-24 L24 496 TGT - hit/miss target - Shape	0.00	0.00	8,214.0	-15.3	-176.9	1,684,989.80	2,261,584.58	39° 41' 5.32 N	108° 7' 26.59 W
- actual wellpath misses target center by 9.0ft at 8218.3ft MD (8214.1 TVD, -19.9 N, -184.6 E)									
- Point									
8512E-24 L24 496 PBHI - actual wellpath misses target center by 663.8ft at 12355.0ft MD (12350.2 TVD, -28.5 N, -197.5 E)	0.00	0.00	13,014.0	-25.3	-193.9	1,684,980.32	2,261,567.32	39° 41' 5.22 N	108° 7' 26.81 W
- Rectangle (sides W30.0 H50.0 D0.0)									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,985.0	2,984.8	-3.6	-6.6	Last Cathedral Survey @ 2,985' MD	
12,286.0	12,281.3	-26.6	-195.7	Last Cathedral Survey @ 12,286' MD	
12,355.0	12,350.2	-28.5	-197.5	Projection to Bit @ 12,355'	

Checked By: _____ Approved By: _____ Date: _____