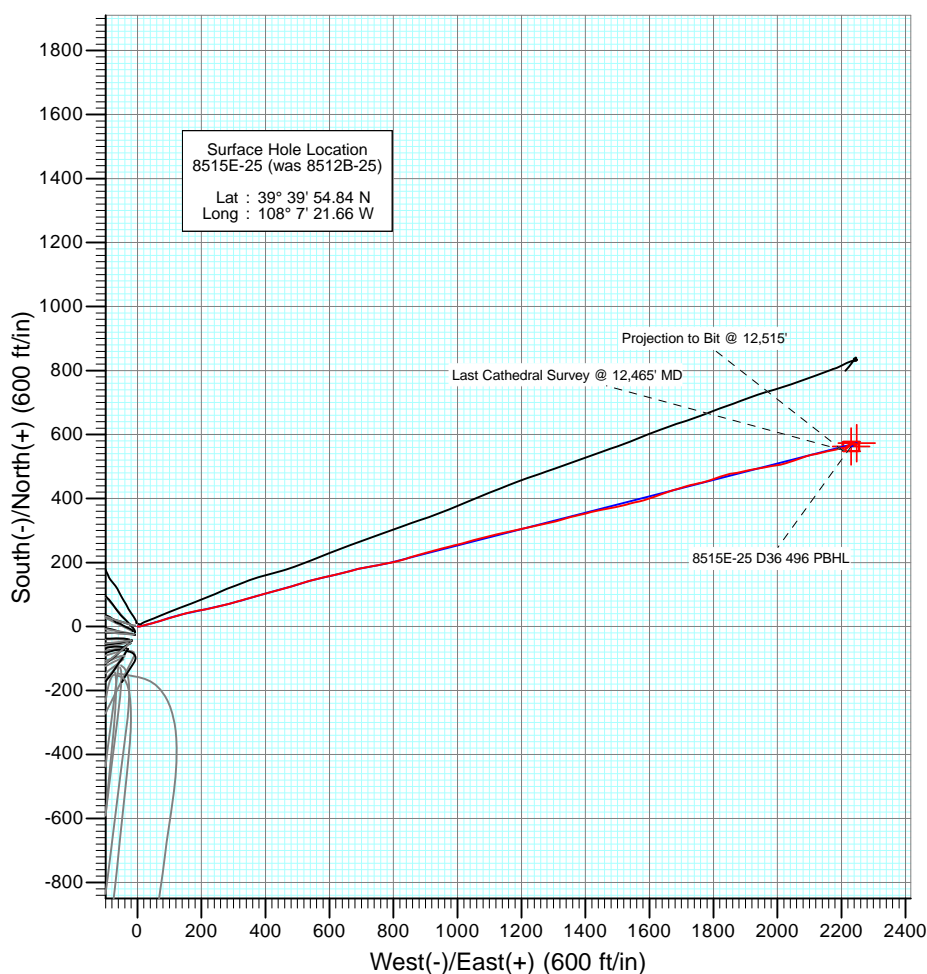
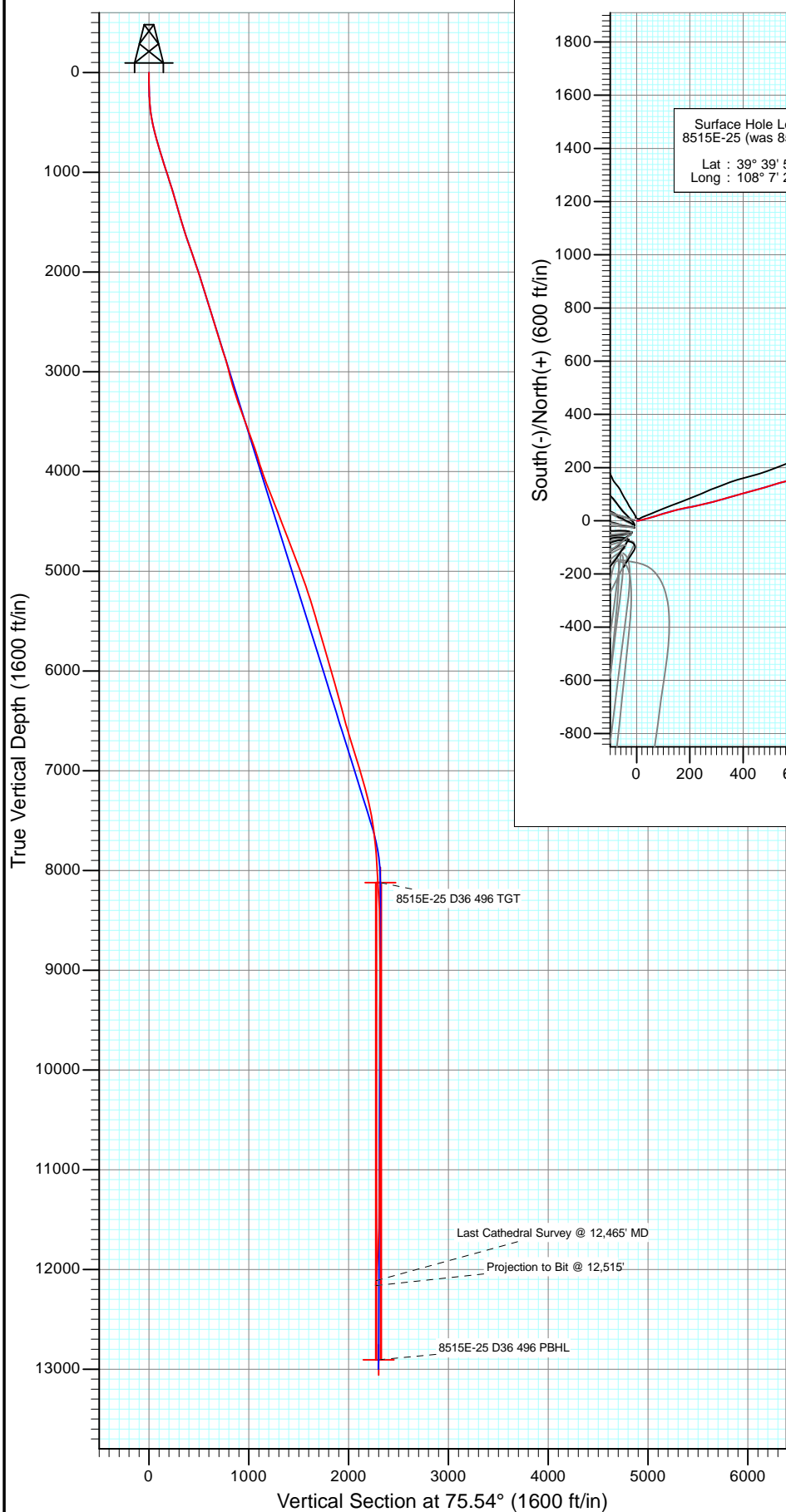




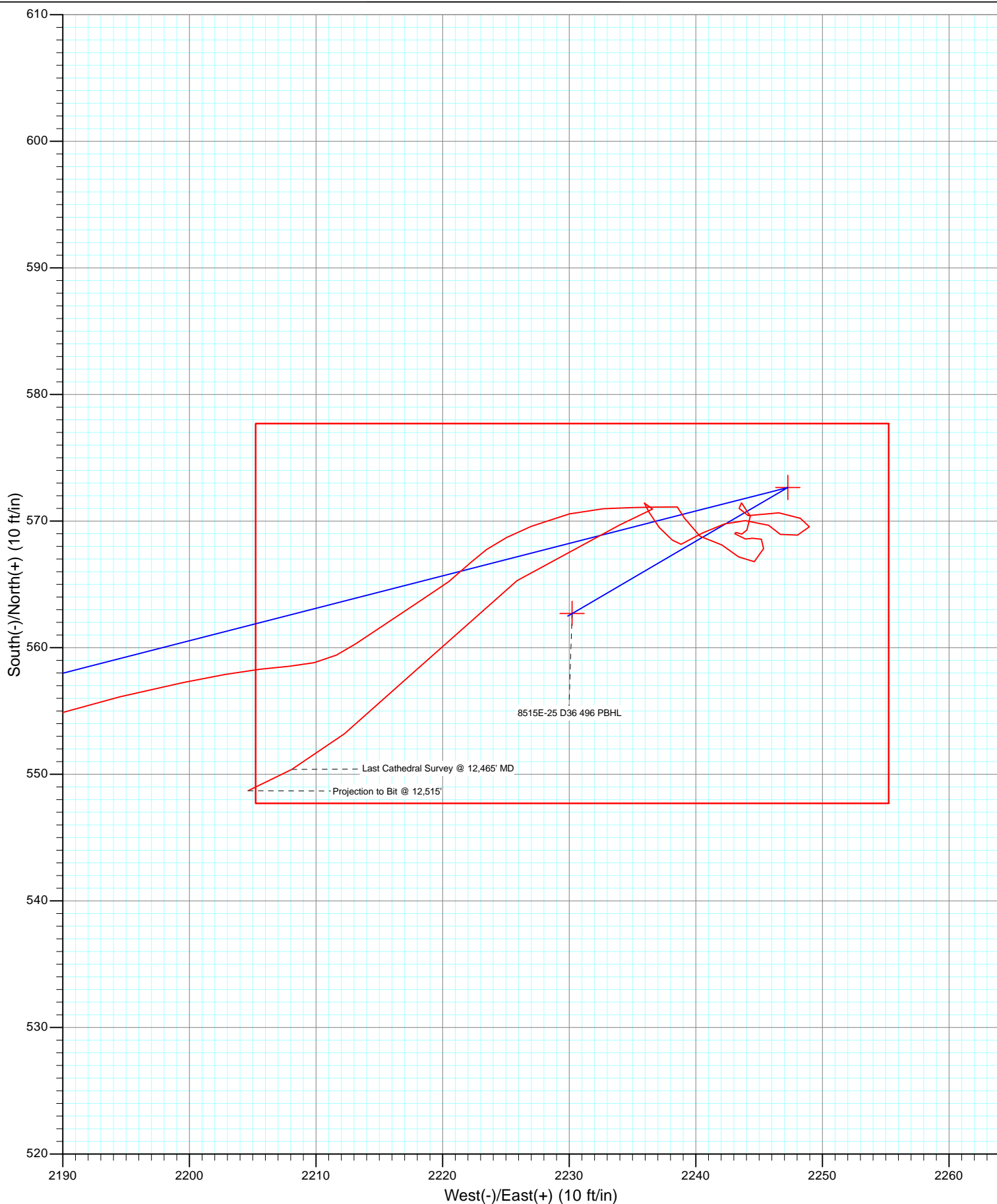
Project: Story Gulch
Site: S36-T4S-R96W (D36 496)
Well: 8515E-25 (was 8512B-25)
Wellbore: DD
Design: FINAL



Azimuths to True North
Magnetic North: 10.26°

Magnetic Field
Strength: 52170.3snT
Dip Angle: 65.82°
Date: 10/22/2012
Model: IGRF2010

DD									
8515E-25 (was 8512B-25)									
125536 193655; 194155 125575; LR									
KB @ 8324.0ft (Patterson 326)									
GL @ 6291.0									
North American Datum 1983									
Well 8515E-25 (was 8512B-25), True North									
Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD	
User	No Target (Freehand)	75.54	Slot		0.0	0.0		0.0	
8515E-25 D36 496 TGT		TVD		+N/-S		+E/-W	Latitude		Longitude
8515E-25 D36 496 PBHL		8122.0		572.7		2247.3	39° 40' 0.50 N		108° 6' 52.92 W
		12906.0		562.7		2230.2	39° 40' 0.40 N		108° 6' 53.14 W



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8515E-25 (was 8512B-25)
Project:	Story Gulch	TVD Reference:	KB @ 8324.0ft (Patterson 326)
Site:	S36-T4S-R96W (D36 496)	MD Reference:	KB @ 8324.0ft (Patterson 326)
Well:	8515E-25 (was 8512B-25)	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		S36-T4S-R96W (D36 496)			
Site Position:		Northing:	1,677,701.75 ft	Latitude:	39° 39' 53.35 N
From:	Lat/Long	Easting:	2,261,687.16 ft	Longitude:	108° 7' 22.59 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.65 °

Well	8515E-25 (was 8512B-25)					
Well Position	+N/-S	0.0 ft	Northing:	1,677,850.33 ft	Latitude:	39° 39' 54.84 N
	+E/-W	0.0 ft	Easting:	2,261,764.21 ft	Longitude:	108° 7' 21.66 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,291.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/22/2012	10.26	65.82	52,170

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	75.54	

Survey Program	Date	12/18/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
209.0	2,980.0	Survey #1 (DD)	MWD	Geolink MWD	
3,078.0	12,515.0	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		
209.0	1.50	94.60	209.0	-0.2	2.7	2.6	0.72	0.72		
240.0	2.30	97.50	240.0	-0.3	3.7	3.5	2.60	2.58		
271.0	3.30	81.10	270.9	-0.3	5.2	5.0	4.10	3.23		
302.0	4.30	76.90	301.9	0.1	7.3	7.1	3.35	3.23		
332.0	5.10	74.10	331.8	0.7	9.6	9.5	2.77	2.67		
362.0	6.20	73.70	361.6	1.6	12.5	12.5	3.67	3.67		
392.0	7.20	75.00	391.4	2.5	15.8	16.0	3.37	3.33		
423.0	8.50	75.60	422.1	3.6	19.9	20.2	4.20	4.19		
514.0	11.90	76.50	511.7	7.4	35.6	36.3	3.74	3.74		
606.0	14.30	73.50	601.3	12.9	55.7	57.2	2.71	2.61		
697.0	16.40	72.50	689.0	19.9	78.7	81.2	2.33	2.31		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8515E-25 (was 8512B-25)
Project:	Story Gulch	TVD Reference:	KB @ 8324.0ft (Patterson 326)
Site:	S36-T4S-R96W (D36 496)	MD Reference:	KB @ 8324.0ft (Patterson 326)
Well:	8515E-25 (was 8512B-25)	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
789.0	17.10	73.20	777.1	27.8	104.1	107.7	0.79	0.76	
881.0	16.70	73.50	865.1	35.4	129.7	134.4	0.44	-0.43	
973.0	17.80	77.20	953.0	42.3	156.1	161.7	1.69	1.20	
1,064.0	18.20	79.20	1,039.5	48.0	183.6	189.8	0.81	0.44	
1,156.0	17.20	78.30	1,127.2	53.5	211.0	217.7	1.13	-1.09	
1,250.0	16.70	77.30	1,217.1	59.3	237.8	245.1	0.62	-0.53	
1,342.0	15.80	76.10	1,305.4	65.2	262.9	270.8	1.04	-0.98	
1,434.0	16.00	76.00	1,393.9	71.3	287.3	296.0	0.22	0.22	
1,525.0	16.40	75.10	1,481.3	77.6	311.9	321.4	0.52	0.44	
1,617.0	17.30	72.90	1,569.3	85.0	337.5	348.1	1.20	0.98	
1,708.0	18.80	73.50	1,655.9	93.1	364.5	376.2	1.66	1.65	
1,800.0	19.60	75.10	1,742.7	101.3	393.7	406.5	1.04	0.87	
1,892.0	18.90	75.10	1,829.6	109.1	423.0	436.8	0.76	-0.76	
1,983.0	19.00	74.40	1,915.7	116.9	451.5	466.4	0.27	0.11	
2,075.0	18.30	73.70	2,002.8	124.9	479.8	495.8	0.80	-0.76	
2,166.0	16.90	72.50	2,089.6	132.9	506.1	523.3	1.59	-1.54	
2,258.0	16.90	73.60	2,177.6	140.7	531.7	550.0	0.35	0.00	
2,349.0	17.80	77.00	2,264.5	147.6	557.9	577.1	1.49	0.99	
2,441.0	17.50	77.10	2,352.1	153.8	585.1	605.0	0.33	-0.33	
2,532.0	17.60	76.50	2,438.9	160.1	611.8	632.4	0.23	0.11	
2,624.0	16.80	75.10	2,526.8	166.8	638.2	659.6	0.98	-0.87	
2,715.0	16.50	75.60	2,614.0	173.4	663.4	685.7	0.37	-0.33	
2,807.0	17.20	77.20	2,702.0	179.6	689.3	712.4	0.91	0.76	
2,898.0	17.80	79.40	2,788.8	185.2	716.1	739.7	0.98	0.66	
2,980.0	17.40	79.70	2,867.0	189.7	740.5	764.4	0.50	-0.49	Last Cathedral Survey @ 2,980' MD
3,078.0	15.20	78.00	2,961.0	195.0	767.5	791.9	2.30	-2.24	
3,169.0	13.40	80.20	3,049.2	199.2	789.6	814.3	2.07	-1.98	
3,261.0	16.10	77.00	3,138.2	203.9	812.5	837.7	3.06	2.93	
3,352.0	18.10	70.90	3,225.1	211.4	838.2	864.4	2.95	2.20	
3,443.0	20.00	73.80	3,311.2	220.4	866.5	894.0	2.33	2.09	
3,535.0	19.90	73.50	3,397.6	229.2	896.6	925.4	0.16	-0.11	
3,626.0	20.10	76.30	3,483.1	237.3	926.6	956.5	1.07	0.22	
3,718.0	20.90	74.10	3,569.3	245.5	957.8	988.7	1.21	0.87	
3,809.0	17.80	78.10	3,655.2	252.8	987.0	1,018.9	3.70	-3.41	
3,900.0	19.50	75.10	3,741.4	259.6	1,015.3	1,048.0	2.14	1.87	
3,992.0	18.80	74.00	3,828.3	267.7	1,044.4	1,078.1	0.86	-0.76	
4,083.0	16.70	76.80	3,915.0	274.7	1,071.2	1,105.9	2.49	-2.31	
4,175.0	18.70	72.60	4,002.6	282.1	1,098.2	1,133.8	2.58	2.17	
4,266.0	20.30	78.80	4,088.4	289.5	1,127.6	1,164.2	2.87	1.76	
4,357.0	21.80	75.70	4,173.3	296.8	1,159.4	1,196.8	2.05	1.65	
4,449.0	21.80	80.00	4,258.8	304.0	1,192.8	1,230.9	1.74	0.00	
4,541.0	22.20	78.90	4,344.1	310.3	1,226.7	1,265.3	0.62	0.43	
4,632.0	20.80	76.50	4,428.7	317.4	1,259.3	1,298.6	1.82	-1.54	
4,724.0	21.40	77.40	4,514.6	324.8	1,291.5	1,331.7	0.74	0.65	
4,815.0	20.30	72.80	4,599.6	333.1	1,322.8	1,364.1	2.17	-1.21	
4,906.0	20.50	75.90	4,684.9	341.7	1,353.4	1,395.8	1.21	0.22	
4,998.0	21.60	77.00	4,770.8	349.4	1,385.5	1,428.8	1.27	1.20	
5,089.0	20.80	74.50	4,855.6	357.5	1,417.4	1,461.7	1.33	-0.88	
5,180.0	20.90	80.50	4,940.6	364.5	1,449.0	1,494.1	2.35	0.11	
5,271.0	20.70	79.00	5,025.7	370.2	1,480.8	1,526.3	0.63	-0.22	
5,363.0	19.90	75.70	5,112.0	377.2	1,511.9	1,558.2	1.52	-0.87	
5,454.0	18.20	75.70	5,198.0	384.6	1,540.7	1,587.9	1.87	-1.87	
5,545.0	17.20	78.40	5,284.7	390.8	1,567.6	1,615.5	1.42	-1.10	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8515E-25 (was 8512B-25)
Project:	Story Gulch	TVD Reference:	KB @ 8324.0ft (Patterson 326)
Site:	S36-T4S-R96W (D36 496)	MD Reference:	KB @ 8324.0ft (Patterson 326)
Well:	8515E-25 (was 8512B-25)	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
5,637.0	17.10	70.90	5,372.6	397.9	1,593.7	1,642.6	2.40	-0.11	
5,728.0	15.80	70.10	5,459.9	406.5	1,618.0	1,668.3	1.45	-1.43	
5,820.0	17.10	71.70	5,548.1	415.0	1,642.6	1,694.2	1.50	1.41	
5,911.0	15.10	72.20	5,635.6	422.9	1,666.6	1,719.4	2.20	-2.20	
6,002.0	16.90	71.50	5,723.0	430.7	1,690.5	1,744.5	1.99	1.98	
6,093.0	17.00	74.10	5,810.1	438.5	1,715.8	1,770.9	0.84	0.11	
6,185.0	16.00	78.60	5,898.3	444.7	1,741.2	1,797.1	1.76	-1.09	
6,276.0	15.00	76.50	5,986.0	449.9	1,764.9	1,821.4	1.26	-1.10	
6,367.0	15.60	71.30	6,073.8	456.6	1,788.0	1,845.3	1.64	0.66	
6,458.0	16.30	71.40	6,161.3	464.6	1,811.6	1,870.3	0.77	0.77	
6,549.0	16.90	72.10	6,248.5	472.8	1,836.3	1,896.2	0.69	0.66	
6,641.0	13.50	82.20	6,337.3	478.3	1,859.7	1,920.2	4.67	-3.70	
6,732.0	15.80	78.30	6,425.3	482.3	1,882.4	1,943.2	2.75	2.53	
6,823.0	14.60	77.90	6,513.1	487.2	1,905.7	1,967.0	1.32	-1.32	
6,915.0	16.90	79.40	6,601.6	492.1	1,930.2	1,991.9	2.54	2.50	
7,006.0	16.90	79.80	6,688.7	496.9	1,956.2	2,018.3	0.13	0.00	
7,097.0	17.10	81.10	6,775.7	501.3	1,982.5	2,044.8	0.47	0.22	
7,189.0	17.40	79.00	6,863.6	506.0	2,009.3	2,072.0	0.75	0.33	
7,281.0	17.90	70.30	6,951.3	513.4	2,036.1	2,099.8	2.92	0.54	
7,372.0	16.00	71.80	7,038.3	522.0	2,061.2	2,126.3	2.14	-2.09	
7,464.0	16.30	69.90	7,126.7	530.4	2,085.4	2,151.8	0.66	0.33	
7,555.0	14.20	80.40	7,214.5	536.7	2,108.4	2,175.6	3.80	-2.31	
7,646.0	13.70	75.40	7,302.8	541.2	2,129.8	2,197.5	1.43	-0.55	
7,738.0	10.10	77.80	7,392.8	545.7	2,148.3	2,216.5	3.95	-3.91	
7,829.0	9.90	80.40	7,482.5	548.7	2,163.8	2,232.2	0.54	-0.22	
7,921.0	9.10	75.70	7,573.2	551.8	2,178.6	2,247.4	1.21	-0.87	
8,012.0	5.70	73.30	7,663.4	554.9	2,189.9	2,259.1	3.75	-3.74	
8,103.0	6.80	78.40	7,753.9	557.3	2,199.5	2,269.0	1.35	1.21	
8,194.0	3.90	86.40	7,844.5	558.5	2,207.9	2,277.4	3.28	-3.19	
8,285.0	3.40	53.80	7,935.3	560.3	2,213.2	2,283.0	2.31	-0.55	
8,377.0	4.00	58.50	8,027.1	563.6	2,218.1	2,288.6	0.73	0.65	
8,467.0	2.70	44.60	8,117.0	566.8	2,222.3	2,293.4	1.69	-1.44	
8,559.0	4.30	68.20	8,208.8	569.6	2,227.0	2,298.7	2.31	1.74	
8,650.0	3.20	87.30	8,299.6	571.0	2,232.7	2,304.6	1.81	-1.21	
8,742.0	1.70	89.40	8,391.5	571.1	2,236.6	2,308.4	1.63	-1.63	
8,833.0	0.70	90.30	8,482.5	571.1	2,238.5	2,310.2	1.10	-1.10	
8,925.0	1.10	179.80	8,574.5	570.2	2,239.1	2,310.6	1.41	0.43	
9,016.0	1.70	114.10	8,665.5	568.8	2,240.3	2,311.4	1.76	0.66	
9,108.0	0.60	106.30	8,757.4	568.1	2,242.1	2,312.9	1.20	-1.20	
9,199.0	1.50	132.50	8,848.4	567.2	2,243.4	2,313.9	1.10	0.99	
9,290.0	0.70	40.40	8,939.4	566.8	2,244.6	2,315.1	1.84	-0.88	
9,381.0	0.90	31.50	9,030.4	567.8	2,245.4	2,316.0	0.26	0.22	
9,473.0	0.70	282.20	9,122.4	568.6	2,245.2	2,316.0	1.42	-0.22	
9,564.0	0.20	259.20	9,213.4	568.6	2,244.5	2,315.4	0.57	-0.55	
9,656.0	0.50	265.60	9,305.4	568.6	2,243.9	2,314.8	0.33	0.33	
9,747.0	0.80	314.60	9,396.4	569.0	2,243.1	2,314.1	0.66	0.33	
9,839.0	0.80	123.30	9,488.4	569.1	2,243.2	2,314.2	1.73	0.00	
9,931.0	0.80	32.30	9,580.4	569.3	2,244.0	2,315.1	1.24	0.00	
10,022.0	0.70	352.00	9,671.4	570.4	2,244.3	2,315.6	0.58	-0.11	
10,113.0	1.00	310.10	9,762.4	571.4	2,243.6	2,315.2	0.74	0.33	
10,204.0	1.30	156.30	9,853.3	571.0	2,243.4	2,314.9	2.46	0.33	
10,296.0	0.60	38.20	9,945.3	570.4	2,244.1	2,315.5	1.81	-0.76	
10,479.0	1.20	106.00	10,128.3	570.7	2,246.6	2,317.9	0.61	0.33	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8515E-25 (was 8512B-25)
Project:	Story Gulch	TVD Reference:	KB @ 8324.0ft (Patterson 326)
Site:	S36-T4S-R96W (D36 496)	MD Reference:	KB @ 8324.0ft (Patterson 326)
Well:	8515E-25 (was 8512B-25)	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
10,570.0	1.00	103.10	10,219.3	570.2	2,248.3	2,319.4	0.23	-0.22	
10,662.0	0.60	188.80	10,311.3	569.6	2,249.0	2,320.0	1.22	-0.43	
10,753.0	1.10	257.50	10,402.3	568.9	2,248.0	2,318.9	1.15	0.55	
10,845.0	0.70	296.10	10,494.3	569.0	2,246.7	2,317.6	0.77	-0.43	
10,936.0	0.80	317.60	10,585.3	569.7	2,245.8	2,316.9	0.33	0.11	
11,027.0	1.80	265.80	10,676.2	570.0	2,243.9	2,315.2	1.59	1.10	
11,119.0	0.30	231.80	10,768.2	569.8	2,242.3	2,313.5	1.70	-1.63	
11,210.0	2.10	249.80	10,859.2	569.1	2,240.5	2,311.6	2.00	1.98	
11,302.0	0.40	195.90	10,951.2	568.2	2,238.8	2,309.8	2.06	-1.85	
11,394.0	1.10	317.10	11,043.2	568.5	2,238.2	2,309.2	1.47	0.76	
11,485.0	0.70	307.90	11,134.2	569.5	2,237.1	2,308.5	0.47	-0.44	
11,576.0	1.20	336.90	11,225.2	570.7	2,236.3	2,308.0	0.75	0.55	
11,668.0	0.20	177.20	11,317.1	571.4	2,235.9	2,307.8	1.51	-1.09	
11,759.0	0.90	115.50	11,408.1	571.0	2,236.6	2,308.3	0.91	0.77	
11,941.0	2.50	260.50	11,590.1	569.7	2,234.0	2,305.5	1.80	0.88	
12,124.0	3.50	228.00	11,772.9	565.3	2,225.9	2,296.5	1.06	0.55	
12,307.0	3.80	228.90	11,955.5	557.6	2,217.2	2,286.2	0.17	0.16	
12,399.0	4.40	227.90	12,047.2	553.2	2,212.2	2,280.3	0.66	0.65	
12,465.0	4.40	244.00	12,113.1	550.4	2,208.1	2,275.6	1.87	0.00	Last Cathedral Survey @ 12,465' MD
12,515.0	4.40	244.00	12,162.9	548.7	2,204.6	2,271.8	0.00	0.00	Projection to Bit @ 12,515'

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
8515E-25 D36 496 TGT	0.00	0.00	8,122.0	572.7	2,247.3	1,678,357.87	2,264,027.08	39° 40' 0.50 N	108° 6' 52.92 W
- actual wellpath misses target center by 25.5ft at 8473.5ft MD (8123.4 TVD, 567.0 N, 2222.5 E)									
- Point									
8515E-25 D36 496 PBH	0.00	0.00	12,906.0	562.7	2,230.2	1,678,348.42	2,264,009.76	39° 40' 0.40 N	108° 6' 53.14 W
- actual wellpath misses target center by 743.7ft at 12515.0ft MD (12162.9 TVD, 548.7 N, 2204.6 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,980.0	2,867.0	189.7	740.5	Last Cathedral Survey @ 2,980' MD
12,465.0	12,113.1	550.4	2,208.1	Last Cathedral Survey @ 12,465' MD
12,515.0	12,162.9	548.7	2,204.6	Projection to Bit @ 12,515'

Checked By: _____ Approved By: _____ Date: _____