

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

Submit one copy to appropriate
District Office

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

AMENDED REPORT
 AS DRILLED

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-043-21206		² Pool Code 13379	³ Pool Name COUNSELORS GALLUP-DAKOTA
⁴ Property Code 313260	⁵ Property Name GALLO CANYON UNIT 027-2306		⁶ Well Number 01H
⁷ OGRID No. 282327	⁸ Operator Name ENCANA OIL & GAS (USA) INC.		⁹ Elevation 6980.7'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	27	23N	6W		24'	SOUTH	2042'	EAST	SANDOVAL

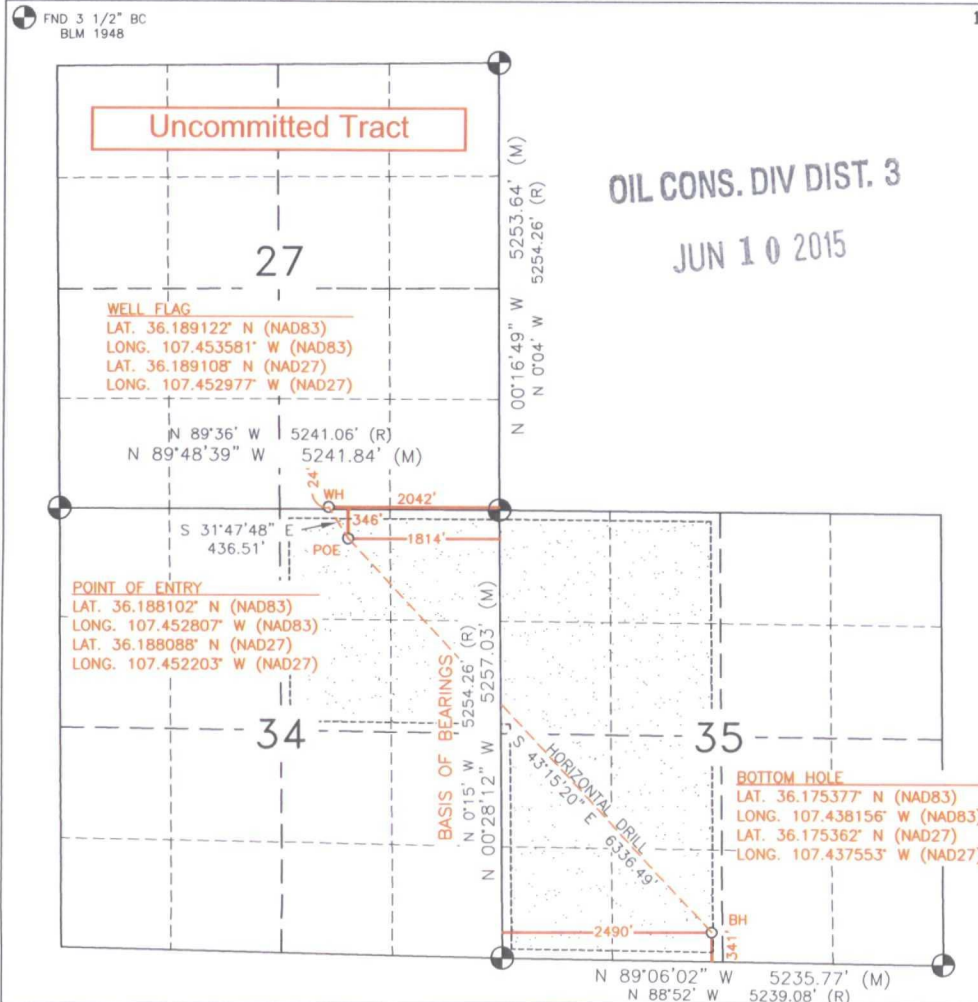
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	35	23N	6W		341'	SOUTH	2490'	WEST	SANDOVAL

¹² Dedicated Acres 5,120 Acres Sec. 22-26, 34-36 - Undivided Unit Penetrated Spacing Units; W/2 Sec. 35; NE Sec. 34 - 480 Acres	¹³ Joint or Infill PROJECT AREA	¹⁴ Consolidation Code	¹⁵ Order No. R-13718-A (5,120 Acres) Committed
---	---	----------------------------------	--

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Katie Wegner 6/2/15
Signature Date

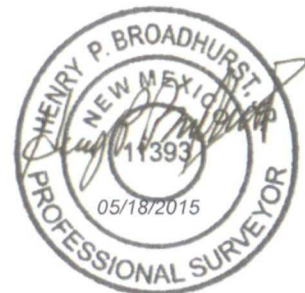
Katie Wegner
Printed Name
Katie.Wegner@encana.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

APRIL 8, 2015

Date of Survey
Signature and Seal of Professional Surveyor:



AV

16

DISTRICT I
 1625 N. French Dr., Hobbs, N.M. 88240
 Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
 811 S. First St., Artesia, N.M. 88210
 Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
 1000 Rio Brazos Rd., Aztec, N.M. 87410
 Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
 1220 S. St. Francis Dr., Santa Fe, NM 87505
 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
 Energy, Minerals & Natural Resources Department

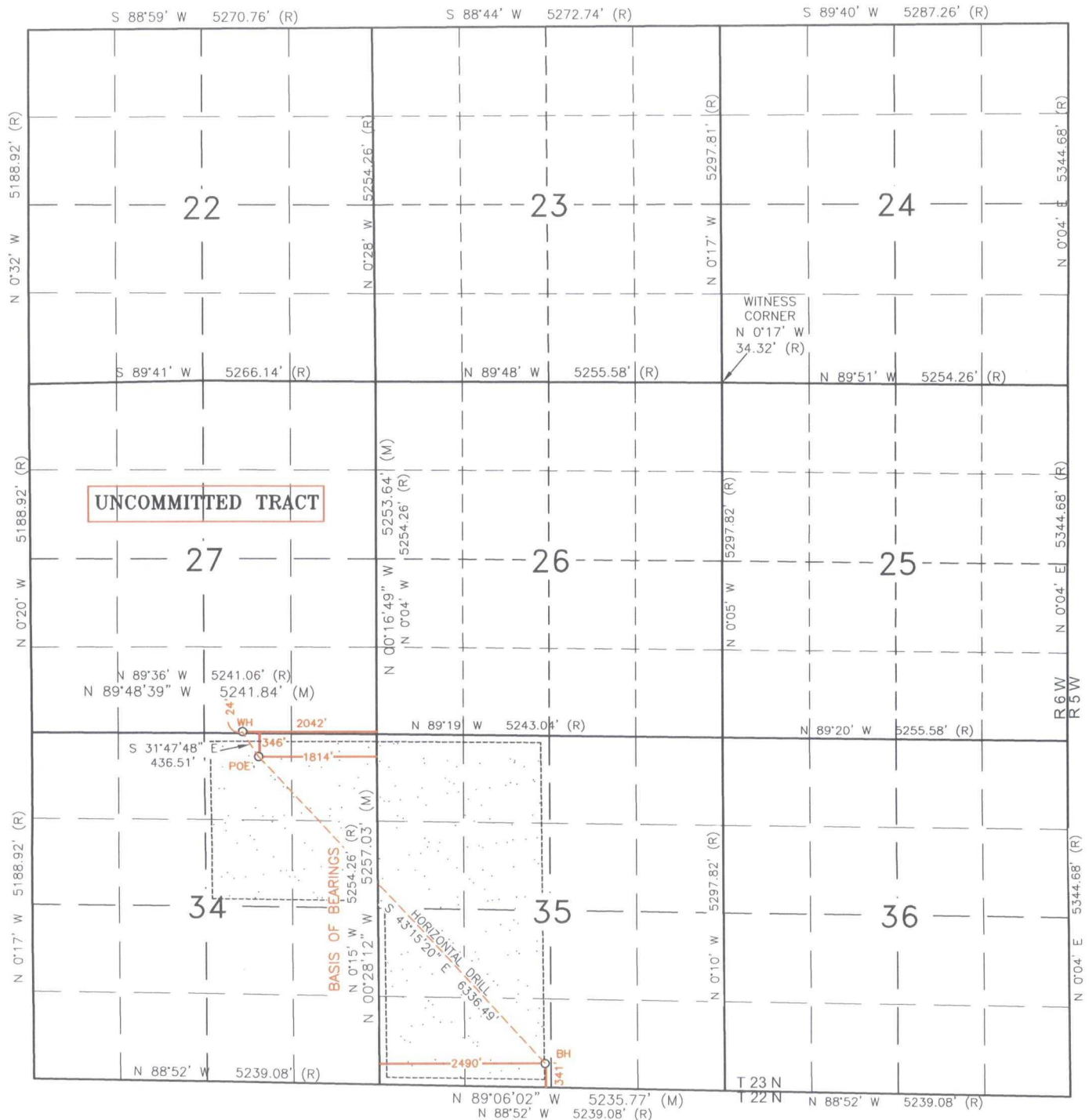
Form C-102
 Revised August 1, 2011

Submit one copy to appropriate
 District Office

OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

AMENDED REPORT
 AS DRILLED

ENCANA OIL & GAS (USA) INC.
 GALLO CANYON UNIT 027-2306 #01H



WELL FLAG
 LAT. 36.189122° N (NAD83)
 LONG. 107.453581° W (NAD83)
 LAT. 36.189108° N (NAD27)
 LONG. 107.452977° W (NAD27)

POINT OF ENTRY
 LAT. 36.188102° N (NAD83)
 LONG. 107.452807° W (NAD83)
 LAT. 36.188088° N (NAD27)
 LONG. 107.452203° W (NAD27)

BOTTOM HOLE
 LAT. 36.175377° N (NAD83)
 LONG. 107.438156° W (NAD83)
 LAT. 36.175362° N (NAD27)
 LONG. 107.437553° W (NAD27)

CONFIDENTIAL

DEVIATION SURVEYS
Gallo Canyon Unit O27-2306 01H
30-043-21206

MD (Feet)	Inclination (Degree)
788'	0.90
1104'	1.10
1420'	0.60
1737'	1.10
2053'	1.10
2369'	0.80
2685'	0.70
3001'	0.50
3317'	0.50
3633'	0.30
3950'	0.50
4266'	0.50
4582'	0.60
4803'	9.70

OIL CONS. DIV DIST. 3

JUN 10 2015

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Cristi Bauer

Cristi Bauer, Regulatory Analyst

6/8/15

Date

ACKNOWLEDGMENT

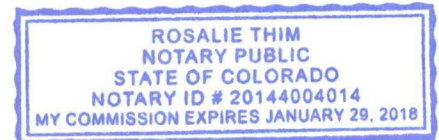
State of Colorado
City and County of Denver

This instrument was acknowledged before me on this 8th day of June, 2015 by Cristi Bauer as Regulatory Analyst of Encana Oil & Gas (USA) Inc., authorized agent for Encana Oil & Gas (USA) Inc., on behalf of said corporation.

In witness whereof, I hereunto set my hand and official seal.

Notary Public: *Rosalie Thim*

My Commission Expires: *1/29/18*



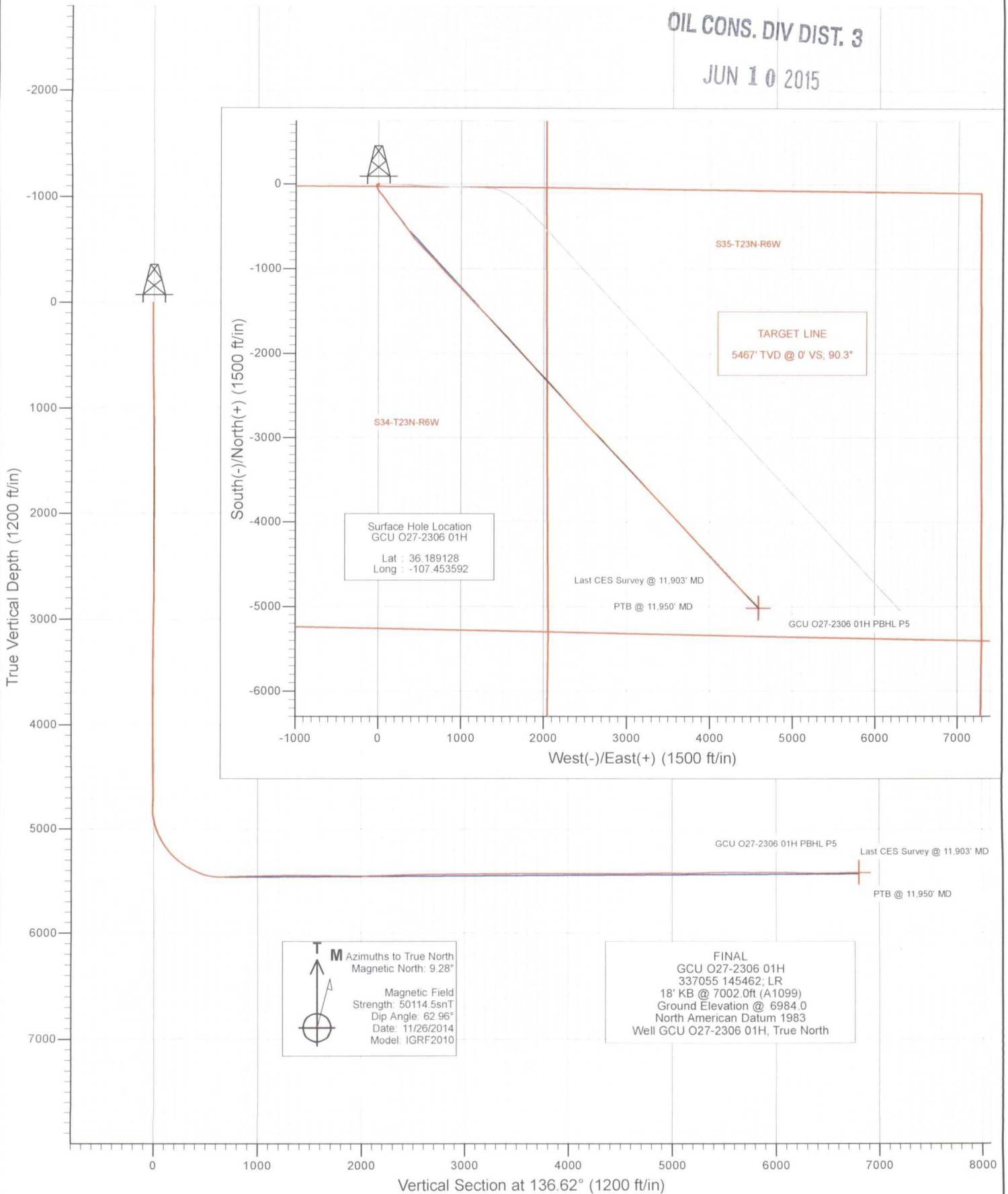


Project: Sandoval County, NM
 Site: S27-T23N-R6W
 Well: GCU O27-2306 01H
 Wellbore: Hz
 Design: FINAL



OIL CONS. DIV DIST. 3

JUN 10 2015



Cathedral Energy Services

Survey Report

JUN 10 2015

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Project	Sandoval County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	S27-T23N-R6W				
Site Position:		Northing:	1,890,314.91 ft	Latitude:	36.189128
From:	Lat/Long	Easting:	1,285,261.84 ft	Longitude:	-107.453592
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.71 °

Well	GCU O27-2306 01H					
Well Position	+N-S	0.0 ft	Northing:	1,890,314.91 ft	Latitude:	36.189128
	+E-W	0.0 ft	Easting:	1,285,261.84 ft	Longitude:	-107.453592
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,984.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/26/2014	9.28	62.96	50,115

Design	FINAL				
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	136.62	

Survey Program	Date	12/9/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
599.0	11,950.0	Survey's (Hz)	Geolink MWD	Geolink MWD	

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	
599.0	0.90	185.20	599.0	-4.7	-0.4	3.1	0.15	0.15	
662.0	0.90	193.50	662.0	-5.7	-0.6	3.7	0.21	0.00	
725.0	0.70	187.60	725.0	-6.5	-0.8	4.2	0.34	-0.32	
788.0	0.90	185.50	788.0	-7.4	-0.9	4.8	0.32	0.32	
852.0	0.90	191.00	851.9	-8.4	-1.0	5.4	0.13	0.00	
915.0	0.90	196.60	914.9	-9.3	-1.2	5.9	0.14	0.00	
978.0	1.00	194.40	977.9	-10.4	-1.5	6.5	0.17	0.16	
1,041.0	1.10	196.40	1,040.9	-11.5	-1.8	7.1	0.17	0.16	
1,104.0	1.10	187.50	1,103.9	-12.6	-2.1	7.8	0.27	0.00	
1,168.0	1.40	195.20	1,167.9	-14.0	-2.4	8.6	0.54	0.47	
1,231.0	1.30	188.50	1,230.9	-15.5	-2.7	9.4	0.30	-0.16	
1,294.0	0.70	37.70	1,293.9	-15.9	-2.5	9.8	3.08	-0.95	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
1,357.0	0.80	36.40	1,356.9	-15.2	-2.0	9.7	0.16	0.16	
1,420.0	0.60	55.50	1,419.9	-14.7	-1.5	9.6	0.48	-0.32	
1,484.0	0.50	68.40	1,483.9	-14.4	-1.0	9.8	0.25	-0.16	
1,547.0	0.40	60.70	1,546.9	-14.2	-0.5	9.9	0.19	-0.16	
1,610.0	0.60	62.90	1,609.9	-13.9	0.0	10.1	0.32	0.32	
1,674.0	0.80	60.30	1,673.8	-13.5	0.7	10.3	0.32	0.31	
1,737.0	1.10	45.30	1,736.8	-12.9	1.5	10.4	0.61	0.48	
1,800.0	0.80	45.80	1,799.8	-12.2	2.2	10.4	0.48	-0.48	
1,863.0	1.00	38.60	1,862.8	-11.4	2.9	10.3	0.36	0.32	
1,927.0	1.00	50.10	1,926.8	-10.6	3.6	10.2	0.31	0.00	
1,990.0	1.00	50.60	1,989.8	-9.9	4.5	10.3	0.01	0.00	
2,053.0	1.10	43.00	2,052.8	-9.1	5.3	10.3	0.27	0.16	
2,116.0	1.00	34.40	2,115.8	-8.2	6.1	10.1	0.30	-0.16	
2,179.0	0.70	39.00	2,178.8	-7.5	6.6	10.0	0.49	-0.48	
2,242.0	0.90	28.00	2,241.8	-6.7	7.1	9.8	0.40	0.32	
2,306.0	0.90	20.40	2,305.8	-5.8	7.5	9.4	0.19	0.00	
2,369.0	0.80	14.80	2,368.8	-4.9	7.8	8.9	0.21	-0.16	
2,432.0	0.70	0.30	2,431.8	-4.1	7.9	8.4	0.34	-0.16	
2,495.0	0.60	358.70	2,494.7	-3.4	7.9	7.9	0.16	-0.16	
2,559.0	0.60	3.60	2,558.7	-2.7	7.9	7.4	0.08	0.00	
2,622.0	0.70	3.30	2,621.7	-2.0	7.9	6.9	0.16	0.16	
2,685.0	0.70	1.60	2,684.7	-1.3	8.0	6.4	0.03	0.00	
2,748.0	0.70	358.30	2,747.7	-0.5	8.0	5.8	0.06	0.00	
2,811.0	0.70	359.90	2,810.7	0.3	8.0	5.3	0.03	0.00	
2,875.0	0.50	349.90	2,874.7	0.9	7.9	4.8	0.35	-0.31	
2,938.0	0.60	345.20	2,937.7	1.5	7.8	4.2	0.17	0.16	
3,001.0	0.50	353.30	3,000.7	2.1	7.7	3.7	0.20	-0.16	
3,064.0	0.60	345.80	3,063.7	2.7	7.6	3.2	0.20	0.16	
3,128.0	0.40	353.40	3,127.7	3.3	7.4	2.7	0.33	-0.31	
3,191.0	0.60	340.30	3,190.7	3.8	7.3	2.3	0.36	0.32	
3,254.0	0.50	322.60	3,253.7	4.3	7.0	1.7	0.31	-0.16	
3,317.0	0.50	305.00	3,316.7	4.7	6.6	1.1	0.24	0.00	
3,380.0	0.50	317.20	3,379.7	5.1	6.2	0.6	0.17	0.00	
3,444.0	0.50	303.10	3,443.7	5.4	5.8	0.1	0.19	0.00	
3,507.0	0.30	258.90	3,506.7	5.5	5.4	-0.3	0.56	-0.32	
3,570.0	0.30	227.30	3,569.7	5.4	5.1	-0.4	0.26	0.00	
3,633.0	0.30	271.50	3,632.7	5.3	4.8	-0.5	0.36	0.00	
3,697.0	0.20	232.10	3,696.7	5.2	4.6	-0.6	0.30	-0.16	
3,760.0	0.40	226.20	3,759.7	5.0	4.3	-0.6	0.32	0.32	
3,823.0	0.70	241.80	3,822.7	4.7	3.8	-0.7	0.53	0.48	
3,886.0	0.60	238.20	3,885.7	4.3	3.2	-0.9	0.17	-0.16	
3,950.0	0.50	245.40	3,949.7	4.0	2.7	-1.1	0.19	-0.16	
4,013.0	0.50	230.90	4,012.7	3.7	2.2	-1.2	0.20	0.00	
4,076.0	0.50	239.20	4,075.7	3.4	1.8	-1.3	0.11	0.00	
4,139.0	0.60	234.40	4,138.7	3.1	1.3	-1.4	0.17	0.16	
4,202.0	0.60	237.70	4,201.7	2.7	0.7	-1.5	0.05	0.00	
4,266.0	0.50	236.70	4,265.7	2.4	0.2	-1.6	0.16	-0.16	
4,329.0	0.50	236.70	4,328.7	2.1	-0.3	-1.7	0.00	0.00	
4,392.0	0.40	239.70	4,391.7	1.8	-0.7	-1.8	0.16	-0.16	
4,455.0	0.60	237.80	4,454.7	1.5	-1.1	-1.9	0.32	0.32	
4,518.0	0.50	239.00	4,517.7	1.2	-1.7	-2.0	0.16	-0.16	
4,582.0	0.60	232.40	4,581.7	0.9	-2.2	-2.1	0.18	0.16	
4,645.0	0.60	230.60	4,644.7	0.4	-2.7	-2.2	0.03	0.00	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
4,708.0	2.50	241.60	4,707.6	-0.4	-4.1	-2.5	3.04	3.02	
4,740.0	6.40	247.40	4,739.5	-1.4	-6.4	-3.4	12.25	12.19	
4,771.0	9.10	246.80	4,770.2	-3.1	-10.3	-4.8	8.71	8.71	
4,803.0	9.70	232.30	4,801.8	-5.7	-14.7	-6.0	7.61	1.87	
4,834.0	10.90	214.90	4,832.3	-9.7	-18.5	-5.6	10.71	3.87	
4,866.0	12.00	192.40	4,863.7	-15.4	-20.9	-3.1	14.28	3.44	
4,898.0	12.60	177.20	4,895.0	-22.2	-21.5	1.4	10.26	1.87	
4,929.0	13.10	166.40	4,925.2	-29.0	-20.5	7.0	7.90	1.61	
4,961.0	15.60	156.50	4,956.2	-36.4	-17.9	14.2	10.92	7.81	
4,992.0	19.30	156.80	4,985.8	-45.0	-14.2	22.9	11.94	11.94	
5,024.0	22.30	156.80	5,015.7	-55.4	-9.7	33.6	9.37	9.37	
5,056.0	25.50	153.00	5,044.9	-67.1	-4.2	45.9	11.09	10.00	
5,087.0	27.50	148.50	5,072.7	-79.2	2.6	59.3	9.14	6.45	
5,119.0	29.00	142.40	5,100.9	-91.6	11.2	74.3	10.16	4.69	
5,151.0	31.00	138.20	5,128.6	-103.9	21.4	90.2	9.06	6.25	
5,182.0	33.90	137.50	5,154.7	-116.3	32.5	106.9	9.43	9.35	
5,214.0	36.80	140.00	5,180.8	-130.2	44.7	125.4	10.13	9.06	
5,245.0	39.40	143.60	5,205.2	-145.2	56.5	144.4	11.03	8.39	
5,277.0	42.10	142.20	5,229.5	-161.9	69.2	165.2	8.91	8.44	
5,309.0	44.10	143.20	5,252.8	-179.3	82.4	186.9	6.60	6.25	
5,340.0	46.70	142.20	5,274.6	-196.8	95.8	208.8	8.70	8.39	
5,372.0	48.80	143.10	5,296.1	-215.7	110.1	232.4	6.88	6.56	
5,403.0	51.60	145.20	5,316.0	-235.0	124.1	256.0	10.42	9.03	
5,435.0	54.50	143.90	5,335.2	-255.8	138.9	281.3	9.63	9.06	
5,467.0	56.90	143.60	5,353.2	-277.1	154.5	307.6	7.54	7.50	
5,498.0	60.50	140.90	5,369.3	-298.0	170.8	333.9	13.79	11.61	
5,530.0	61.60	141.70	5,384.8	-319.9	188.3	361.8	4.07	3.44	
5,572.0	65.50	140.20	5,403.5	-349.1	212.0	399.3	9.82	9.28	
5,603.0	66.70	140.80	5,416.1	-371.0	230.0	427.6	4.26	3.87	
5,634.0	68.20	141.60	5,428.0	-393.3	247.9	456.1	5.39	4.84	
5,664.0	71.90	141.60	5,438.2	-415.4	265.4	484.2	12.33	12.33	
5,695.0	75.50	143.10	5,446.9	-438.9	283.6	513.8	12.51	11.61	
5,726.0	79.80	143.80	5,453.5	-463.2	301.6	543.9	14.05	13.87	
5,756.0	83.30	144.00	5,458.0	-487.2	319.1	573.3	11.69	11.67	
5,787.0	87.80	144.10	5,460.4	-512.2	337.3	603.9	14.52	14.52	
5,818.0	89.50	144.00	5,461.1	-537.3	355.5	634.7	5.49	5.48	
5,848.0	91.60	143.40	5,460.8	-561.5	373.2	664.4	7.28	7.00	
5,879.0	91.80	142.90	5,459.9	-586.3	391.8	695.2	1.74	0.65	
5,909.0	91.70	142.60	5,459.0	-610.2	410.0	725.0	1.05	-0.33	
5,939.0	91.40	139.10	5,458.2	-633.4	428.9	754.9	11.71	-1.00	
6,000.0	91.30	138.00	5,456.7	-679.1	469.3	815.9	1.81	-0.16	
6,062.0	91.50	135.70	5,455.2	-724.3	511.6	877.9	3.72	0.32	
6,123.0	91.60	135.30	5,453.6	-767.8	554.4	938.8	0.68	0.16	
6,184.0	91.90	135.30	5,451.7	-811.2	597.3	999.8	0.49	0.49	
6,245.0	91.10	136.00	5,450.1	-854.8	639.9	1,060.8	1.74	-1.31	
6,306.0	91.90	135.80	5,448.5	-898.6	682.3	1,121.7	1.35	1.31	
6,367.0	90.30	137.30	5,447.3	-942.8	724.3	1,182.7	3.59	-2.62	
6,429.0	89.50	136.20	5,447.4	-988.0	766.7	1,244.7	2.19	-1.29	
6,490.0	90.80	137.50	5,447.3	-1,032.5	808.5	1,305.7	3.01	2.13	
6,552.0	91.20	137.20	5,446.2	-1,078.1	850.5	1,367.7	0.81	0.65	
6,613.0	89.60	135.60	5,445.8	-1,122.3	892.5	1,428.7	3.71	-2.62	
6,674.0	89.40	134.50	5,446.3	-1,165.4	935.6	1,489.7	1.83	-0.33	
6,736.0	89.60	134.20	5,446.8	-1,208.8	980.0	1,551.6	0.58	0.32	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
6,797.0	90.90	136.00	5,446.6	-1,252.0	1,023.0	1,612.6	3.64	2.13	
6,859.0	89.30	135.70	5,446.5	-1,296.5	1,066.2	1,674.6	2.63	-2.58	
6,920.0	88.30	135.90	5,447.7	-1,340.2	1,108.7	1,735.6	1.67	-1.64	
6,981.0	88.60	135.80	5,449.4	-1,383.9	1,151.2	1,796.5	0.52	0.49	
7,042.0	88.80	135.60	5,450.8	-1,427.6	1,193.8	1,857.5	0.46	0.33	
7,103.0	90.00	135.50	5,451.4	-1,471.1	1,236.5	1,918.5	1.97	1.97	
7,164.0	90.10	135.10	5,451.4	-1,514.5	1,279.4	1,979.5	0.68	0.16	
7,225.0	90.00	134.70	5,451.3	-1,557.5	1,322.6	2,040.5	0.68	-0.16	
7,285.0	90.80	135.50	5,450.9	-1,600.0	1,365.0	2,100.4	1.89	1.33	
7,346.0	91.80	136.00	5,449.5	-1,643.7	1,407.5	2,161.4	1.83	1.64	
7,406.0	92.30	135.70	5,447.4	-1,686.7	1,449.3	2,221.4	0.97	0.83	
7,470.0	91.90	135.50	5,445.0	-1,732.4	1,494.0	2,285.3	0.70	-0.62	
7,533.0	91.20	136.50	5,443.3	-1,777.7	1,537.8	2,348.3	1.94	-1.11	
7,596.0	91.60	136.50	5,441.8	-1,823.4	1,581.1	2,411.3	0.63	0.63	
7,659.0	92.00	136.60	5,439.8	-1,869.1	1,624.4	2,474.2	0.65	0.63	
7,722.0	90.70	138.10	5,438.3	-1,915.5	1,667.1	2,537.2	3.15	-2.06	
7,786.0	90.70	137.50	5,437.5	-1,962.9	1,710.1	2,601.2	0.94	0.00	
7,849.0	91.10	137.80	5,436.5	-2,009.4	1,752.5	2,664.2	0.79	0.63	
7,912.0	89.80	136.70	5,436.0	-2,055.7	1,795.3	2,727.2	2.70	-2.06	
7,975.0	90.50	136.60	5,435.9	-2,101.5	1,838.5	2,790.2	1.12	1.11	
8,038.0	90.90	136.80	5,435.1	-2,147.3	1,881.7	2,853.2	0.71	0.63	
8,102.0	90.50	135.40	5,434.3	-2,193.4	1,926.1	2,917.1	2.27	-0.62	
8,165.0	90.30	134.40	5,433.9	-2,237.9	1,970.7	2,980.1	1.62	-0.32	
8,228.0	90.90	135.90	5,433.2	-2,282.6	2,015.2	3,043.1	2.56	0.95	
8,291.0	90.80	137.30	5,432.3	-2,328.3	2,058.4	3,106.1	2.23	-0.16	
8,354.0	90.00	136.50	5,431.9	-2,374.3	2,101.5	3,169.1	1.80	-1.27	
8,418.0	91.20	138.60	5,431.2	-2,421.6	2,144.7	3,233.1	3.78	1.87	
8,481.0	90.10	137.80	5,430.5	-2,468.5	2,186.7	3,296.0	2.16	-1.75	
8,544.0	90.80	139.50	5,430.0	-2,515.8	2,228.3	3,359.0	2.92	1.11	
8,608.0	90.50	137.70	5,429.2	-2,563.8	2,270.6	3,422.9	2.85	-0.47	
8,671.0	90.40	137.20	5,428.8	-2,610.2	2,313.2	3,485.9	0.81	-0.16	
8,734.0	90.50	136.40	5,428.3	-2,656.1	2,356.3	3,548.9	1.28	0.16	
8,797.0	89.30	137.10	5,428.4	-2,702.0	2,399.5	3,611.9	2.21	-1.90	
8,861.0	89.60	136.50	5,429.0	-2,748.7	2,443.3	3,675.9	1.05	0.47	
8,924.0	89.70	135.40	5,429.4	-2,794.0	2,487.1	3,738.9	1.75	0.16	
8,987.0	89.60	135.30	5,429.8	-2,838.8	2,531.4	3,801.9	0.22	-0.16	
9,050.0	90.50	136.30	5,429.7	-2,883.9	2,575.3	3,864.9	2.14	1.43	
9,113.0	90.80	135.90	5,429.0	-2,929.3	2,619.0	3,927.9	0.79	0.48	
9,177.0	90.20	136.40	5,428.4	-2,975.5	2,663.3	3,991.9	1.22	-0.94	
9,240.0	90.00	135.40	5,428.3	-3,020.7	2,707.2	4,054.9	1.62	-0.32	
9,303.0	91.00	136.40	5,427.8	-3,066.0	2,751.0	4,117.9	2.24	1.59	
9,366.0	89.50	136.80	5,427.5	-3,111.7	2,794.3	4,180.9	2.46	-2.38	
9,429.0	90.20	137.40	5,427.7	-3,157.9	2,837.2	4,243.9	1.46	1.11	
9,493.0	90.50	137.00	5,427.3	-3,204.8	2,880.6	4,307.9	0.78	0.47	
9,556.0	90.40	135.10	5,426.8	-3,250.2	2,924.4	4,370.9	3.02	-0.16	
9,619.0	89.10	136.10	5,427.0	-3,295.2	2,968.4	4,433.8	2.60	-2.06	
9,682.0	89.30	136.10	5,427.9	-3,340.6	3,012.1	4,496.8	0.32	0.32	
9,745.0	90.40	136.30	5,428.1	-3,386.1	3,055.7	4,559.8	1.77	1.75	
9,809.0	90.90	139.20	5,427.4	-3,433.4	3,098.8	4,623.8	4.60	0.78	
9,872.0	91.20	138.40	5,426.2	-3,480.8	3,140.2	4,686.7	1.36	0.48	
9,935.0	91.00	137.60	5,425.0	-3,527.6	3,182.4	4,749.7	1.31	-0.32	
9,998.0	91.00	136.50	5,423.9	-3,573.7	3,225.3	4,812.7	1.75	0.00	
10,062.0	91.10	137.60	5,422.7	-3,620.6	3,268.9	4,876.7	1.73	0.16	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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
10,125.0	88.90	137.20	5,422.7	-3,667.0	3,311.6	4,939.7	3.55	-3.49	
10,188.0	89.10	136.50	5,423.8	-3,712.9	3,354.6	5,002.7	1.16	0.32	
10,251.0	89.30	136.40	5,424.7	-3,758.6	3,398.0	5,065.7	0.35	0.32	
10,315.0	90.00	136.70	5,425.1	-3,805.0	3,442.0	5,129.7	1.19	1.09	
10,378.0	91.50	136.80	5,424.3	-3,850.9	3,485.2	5,192.7	2.39	2.38	
10,441.0	91.50	136.20	5,422.6	-3,896.6	3,528.6	5,255.6	0.95	0.00	
10,504.0	91.60	135.20	5,420.9	-3,941.7	3,572.5	5,318.6	1.59	0.16	
10,567.0	91.80	136.20	5,419.0	-3,986.7	3,616.5	5,381.6	1.62	0.32	
10,631.0	90.50	137.10	5,417.8	-4,033.3	3,660.4	5,445.5	2.47	-2.03	
10,694.0	91.20	137.40	5,416.8	-4,079.5	3,703.2	5,508.5	1.21	1.11	
10,757.0	89.80	138.00	5,416.3	-4,126.1	3,745.6	5,571.5	2.42	-2.22	
10,820.0	90.20	136.60	5,416.3	-4,172.4	3,788.3	5,634.5	2.31	0.63	
10,883.0	88.90	138.00	5,416.8	-4,218.7	3,831.0	5,697.5	3.03	-2.06	
10,946.0	89.10	137.00	5,417.9	-4,265.1	3,873.6	5,760.5	1.62	0.32	
11,009.0	89.80	136.30	5,418.5	-4,311.0	3,916.8	5,823.5	1.57	1.11	
11,073.0	90.10	136.00	5,418.5	-4,357.1	3,961.2	5,887.5	0.66	0.47	
11,136.0	90.00	135.80	5,418.5	-4,402.4	4,005.0	5,950.5	0.35	-0.16	
11,199.0	90.90	136.30	5,418.0	-4,447.7	4,048.7	6,013.5	1.63	1.43	
11,262.0	90.10	136.50	5,417.4	-4,493.3	4,092.2	6,076.5	1.31	-1.27	
11,325.0	87.90	136.50	5,418.5	-4,539.0	4,135.5	6,139.4	3.49	-3.49	
11,388.0	87.60	136.60	5,421.0	-4,584.7	4,178.8	6,202.4	0.50	-0.48	
11,452.0	88.90	136.80	5,423.0	-4,631.3	4,222.7	6,266.4	2.06	2.03	
11,515.0	89.30	135.90	5,424.0	-4,676.8	4,266.2	6,329.3	1.56	0.63	
11,578.0	90.10	136.50	5,424.3	-4,722.3	4,309.8	6,392.3	1.59	1.27	
11,641.0	91.20	136.50	5,423.6	-4,768.0	4,353.1	6,455.3	1.75	1.75	
11,704.0	90.70	135.70	5,422.5	-4,813.4	4,396.8	6,518.3	1.50	-0.79	
11,767.0	90.80	135.40	5,421.7	-4,858.4	4,440.9	6,581.3	0.50	0.16	
11,830.0	91.00	134.30	5,420.7	-4,902.8	4,485.6	6,644.3	1.77	0.32	
11,903.0	91.20	133.70	5,419.3	-4,953.5	4,538.1	6,717.2	0.87	0.27	Last CES Survey @ 11,903' MD
11,950.0	91.20	133.70	5,418.3	-4,985.9	4,572.1	6,764.1	0.00	0.00	PTB @ 11,950' MD

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
GCU O27-2306 01H PO - survey misses target center by 66.0ft at 5587.8ft MD (5410.0 TVD, -360.2 N, 221.2 E) - Point	0.00	0.00	5,465.6	-357.5	185.6	1,889,955.12	1,285,443.02	36.188146	-107.452963
GCU O27-2306 01H PO - survey misses target center by 66.2ft at 5587.9ft MD (5410.0 TVD, -360.2 N, 221.2 E) - Point	0.00	0.00	5,465.8	-357.5	185.6	1,889,955.12	1,285,443.02	36.188146	-107.452963
GCU O27-2306 01H PB - survey misses target center by 43.3ft at 11950.0ft MD (5418.3 TVD, -4985.9 N, 4572.1 E) - Point	0.00	0.00	5,443.3	-5,016.8	4,589.3	1,885,241.56	1,289,788.55	36.175347	-107.438044
GCU O27-2306 01H PB - survey misses target center by 37.7ft at 11950.0ft MD (5418.3 TVD, -4985.9 N, 4572.1 E) - Point	0.00	0.00	5,431.4	-5,016.8	4,589.3	1,885,241.56	1,289,788.55	36.175347	-107.438044
GCU O27-2306 01H LP - survey misses target center by 10.4ft at 5818.8ft MD (5461.1 TVD, -538.0 N, 355.9 E) - Point	0.00	0.00	5,450.7	-537.5	356.4	1,889,773.02	1,285,611.54	36.187652	-107.452384
GCU O27-2306 01H PB - survey misses target center by 43.3ft at 11950.0ft MD (5418.3 TVD, -4985.9 N, 4572.1 E) - Point	0.00	0.00	5,443.4	-5,016.8	4,589.3	1,885,241.56	1,289,788.55	36.175347	-107.438044
GCU O27-2306 01H PB - survey misses target center by 35.3ft at 11950.0ft MD (5418.3 TVD, -4985.9 N, 4572.1 E) - Point	0.00	0.00	5,418.4	-5,016.8	4,589.3	1,885,241.56	1,289,788.55	36.175347	-107.438044

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
11,903.0	5,419.3	-4,953.5	4,538.1	Last CES Survey @ 11,903' MD
11,950.0	5,418.3	-4,985.9	4,572.1	PTB @ 11,950' MD

Checked By: _____ Approved By: _____ Date: _____

EnCana Oil & Gas (USA) Inc

Sandoval County, NM

S27-T23N-R6W

GCU O27-2306 01H

Hz

Survey: Survey's

Survey Report - Geographic

09 December, 2014

Cathedral Energy Services

Survey Report - Geographic

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well GCU O27-2306 01H
Project: Sandoval County, NM	TVD Reference: 18' KB @ 7002.0ft (A1099)
Site: S27-T23N-R6W	MD Reference: 18' KB @ 7002.0ft (A1099)
Well: GCU O27-2306 01H	North Reference: True
Wellbore: Hz	Survey Calculation Method: Minimum Curvature
Design: FINAL	Database: USA EDM 5000 Multi Users DB

Project Sandoval County, NM		
Map System: US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum: North American Datum 1983		
Map Zone: New Mexico Central Zone		

Site S27-T23N-R6W					
Site Position:		Northing:	1,890,314.91 ft	Latitude:	36.189128
From: Lat/Long		Easting:	1,285,261.84 ft	Longitude:	-107.453592
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.71 °

Well GCU O27-2306 01H						
Well Position	+N/-S	0.0 ft	Northing:	1,890,314.91 ft	Latitude:	36.189128
	+E/-W	0.0 ft	Easting:	1,285,261.84 ft	Longitude:	-107.453592
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,984.0 ft

Wellbore Hz					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/26/2014	9.28	62.96	50,115

Design FINAL					
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	136.62	

Survey Program Date 12/9/2014					
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
599.0	11,950.0	Survey's (Hz)	Geolink MWD	Geolink MWD	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	1,890,314.91	1,285,261.84	36.189128	-107.453592
599.0	0.90	185.20	599.0	-4.7	-0.4	1,890,310.23	1,285,261.35	36.189115	-107.453594
662.0	0.90	193.50	662.0	-5.7	-0.6	1,890,309.26	1,285,261.18	36.189113	-107.453594
725.0	0.70	187.60	725.0	-6.5	-0.8	1,890,308.40	1,285,261.00	36.189110	-107.453595
788.0	0.90	185.50	788.0	-7.4	-0.9	1,890,307.52	1,285,260.89	36.189108	-107.453595
852.0	0.90	191.00	851.9	-8.4	-1.0	1,890,306.53	1,285,260.74	36.189105	-107.453596
915.0	0.90	196.60	914.9	-9.3	-1.2	1,890,305.58	1,285,260.49	36.189102	-107.453596
978.0	1.00	194.40	977.9	-10.4	-1.5	1,890,304.57	1,285,260.20	36.189100	-107.453597
1,041.0	1.10	196.40	1,040.9	-11.5	-1.8	1,890,303.46	1,285,259.88	36.189097	-107.453598
1,104.0	1.10	187.50	1,103.9	-12.6	-2.1	1,890,302.29	1,285,259.61	36.189093	-107.453599
1,168.0	1.40	195.20	1,167.9	-14.0	-2.4	1,890,300.93	1,285,259.31	36.189090	-107.453600
1,231.0	1.30	188.50	1,230.9	-15.5	-2.7	1,890,299.48	1,285,258.99	36.189086	-107.453601

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
1,294.0	0.70	37.70	1,293.9	-15.9	-2.5	1,890,299.08	1,285,259.11	36.189085	-107.453601
1,357.0	0.80	36.40	1,356.9	-15.2	-2.0	1,890,299.73	1,285,259.61	36.189086	-107.453599
1,420.0	0.60	55.50	1,419.9	-14.7	-1.5	1,890,300.26	1,285,260.15	36.189088	-107.453597
1,484.0	0.50	68.40	1,483.9	-14.4	-1.0	1,890,300.55	1,285,260.69	36.189089	-107.453596
1,547.0	0.40	60.70	1,546.9	-14.2	-0.5	1,890,300.75	1,285,261.14	36.189089	-107.453594
1,610.0	0.60	62.90	1,609.9	-13.9	0.0	1,890,301.01	1,285,261.63	36.189090	-107.453592
1,674.0	0.80	60.30	1,673.8	-13.5	0.7	1,890,301.37	1,285,262.32	36.189091	-107.453590
1,737.0	1.10	45.30	1,736.8	-12.9	1.5	1,890,302.00	1,285,263.14	36.189093	-107.453587
1,800.0	0.80	45.80	1,799.8	-12.2	2.2	1,890,302.73	1,285,263.90	36.189095	-107.453585
1,863.0	1.00	38.60	1,862.8	-11.4	2.9	1,890,303.45	1,285,264.56	36.189097	-107.453583
1,927.0	1.00	50.10	1,926.8	-10.6	3.6	1,890,304.24	1,285,265.35	36.189099	-107.453580
1,990.0	1.00	50.60	1,989.8	-9.9	4.5	1,890,304.93	1,285,266.21	36.189101	-107.453577
2,053.0	1.10	43.00	2,052.8	-9.1	5.3	1,890,305.71	1,285,267.05	36.189103	-107.453574
2,116.0	1.00	34.40	2,115.8	-8.2	6.1	1,890,306.60	1,285,267.79	36.189105	-107.453572
2,179.0	0.70	39.00	2,178.8	-7.5	6.6	1,890,307.34	1,285,268.35	36.189108	-107.453570
2,242.0	0.90	28.00	2,241.8	-6.7	7.1	1,890,308.07	1,285,268.83	36.189110	-107.453568
2,306.0	0.90	20.40	2,305.8	-5.8	7.5	1,890,308.98	1,285,269.26	36.189112	-107.453567
2,369.0	0.80	14.80	2,368.8	-4.9	7.8	1,890,309.87	1,285,269.55	36.189115	-107.453566
2,432.0	0.70	0.30	2,431.8	-4.1	7.9	1,890,310.68	1,285,269.68	36.189117	-107.453566
2,495.0	0.60	358.70	2,494.7	-3.4	7.9	1,890,311.39	1,285,269.68	36.189119	-107.453566
2,559.0	0.60	3.60	2,558.7	-2.7	7.9	1,890,312.06	1,285,269.70	36.189121	-107.453566
2,622.0	0.70	3.30	2,621.7	-2.0	7.9	1,890,312.77	1,285,269.75	36.189122	-107.453565
2,685.0	0.70	1.60	2,684.7	-1.3	8.0	1,890,313.54	1,285,269.79	36.189125	-107.453565
2,748.0	0.70	358.30	2,747.7	-0.5	8.0	1,890,314.31	1,285,269.80	36.189127	-107.453565
2,811.0	0.70	359.90	2,810.7	0.3	8.0	1,890,315.08	1,285,269.80	36.189129	-107.453565
2,875.0	0.50	349.90	2,874.7	0.9	7.9	1,890,315.75	1,285,269.76	36.189131	-107.453565
2,938.0	0.60	345.20	2,937.7	1.5	7.8	1,890,316.34	1,285,269.63	36.189132	-107.453566
3,001.0	0.50	353.30	3,000.7	2.1	7.7	1,890,316.93	1,285,269.53	36.189134	-107.453566
3,064.0	0.60	345.80	3,063.7	2.7	7.6	1,890,317.53	1,285,269.42	36.189136	-107.453567
3,128.0	0.40	353.40	3,127.7	3.3	7.4	1,890,318.07	1,285,269.32	36.189137	-107.453567
3,191.0	0.60	340.30	3,190.7	3.8	7.3	1,890,318.61	1,285,269.19	36.189138	-107.453568
3,254.0	0.50	322.60	3,253.7	4.3	7.0	1,890,319.14	1,285,268.92	36.189140	-107.453568
3,317.0	0.50	305.00	3,316.7	4.7	6.6	1,890,319.52	1,285,268.53	36.189141	-107.453570
3,380.0	0.50	317.20	3,379.7	5.1	6.2	1,890,319.88	1,285,268.12	36.189142	-107.453571
3,444.0	0.50	303.10	3,443.7	5.4	5.8	1,890,320.25	1,285,267.70	36.189143	-107.453573
3,507.0	0.30	258.90	3,506.7	5.5	5.4	1,890,320.37	1,285,267.31	36.189143	-107.453574
3,570.0	0.30	227.30	3,569.7	5.4	5.1	1,890,320.23	1,285,267.03	36.189143	-107.453575
3,633.0	0.30	271.50	3,632.7	5.3	4.8	1,890,320.13	1,285,266.74	36.189143	-107.453576
3,697.0	0.20	232.10	3,696.7	5.2	4.6	1,890,320.06	1,285,266.48	36.189142	-107.453577
3,760.0	0.40	226.20	3,759.7	5.0	4.3	1,890,319.85	1,285,266.24	36.189142	-107.453578
3,823.0	0.70	241.80	3,822.7	4.7	3.8	1,890,319.52	1,285,265.73	36.189141	-107.453579
3,886.0	0.60	238.20	3,885.7	4.3	3.2	1,890,319.17	1,285,265.11	36.189140	-107.453581
3,950.0	0.50	245.40	3,949.7	4.0	2.7	1,890,318.89	1,285,264.57	36.189139	-107.453583
4,013.0	0.50	230.90	4,012.7	3.7	2.2	1,890,318.60	1,285,264.10	36.189138	-107.453585
4,076.0	0.50	239.20	4,075.7	3.4	1.8	1,890,318.29	1,285,263.65	36.189137	-107.453586
4,139.0	0.60	234.40	4,138.7	3.1	1.3	1,890,317.97	1,285,263.14	36.189137	-107.453588
4,202.0	0.60	237.70	4,201.7	2.7	0.7	1,890,317.61	1,285,262.59	36.189136	-107.453590
4,266.0	0.50	236.70	4,265.7	2.4	0.2	1,890,317.28	1,285,262.07	36.189135	-107.453592
4,329.0	0.50	236.70	4,328.7	2.1	-0.3	1,890,316.98	1,285,261.60	36.189134	-107.453593
4,392.0	0.40	239.70	4,391.7	1.8	-0.7	1,890,316.73	1,285,261.18	36.189133	-107.453595
4,455.0	0.60	237.80	4,454.7	1.5	-1.1	1,890,316.45	1,285,260.71	36.189132	-107.453596
4,518.0	0.50	239.00	4,517.7	1.2	-1.7	1,890,316.14	1,285,260.19	36.189131	-107.453598
4,582.0	0.60	232.40	4,581.7	0.9	-2.2	1,890,315.79	1,285,259.68	36.189130	-107.453600
4,645.0	0.60	230.60	4,644.7	0.4	-2.7	1,890,315.39	1,285,259.16	36.189129	-107.453601
4,708.0	2.50	241.60	4,707.6	-0.4	-4.1	1,890,314.55	1,285,257.69	36.189127	-107.453606

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
4,740.0	6.40	247.40	4,739.5	-1.4	-6.4	1,890,313.56	1,285,255.41	36.189124	-107.453614
4,771.0	9.10	246.80	4,770.2	-3.1	-10.3	1,890,311.97	1,285,251.54	36.189120	-107.453627
4,803.0	9.70	232.30	4,801.8	-5.7	-14.7	1,890,309.38	1,285,247.05	36.189112	-107.453642
4,834.0	10.90	214.90	4,832.3	-9.7	-18.5	1,890,305.43	1,285,243.26	36.189101	-107.453655
4,866.0	12.00	192.40	4,863.7	-15.4	-20.9	1,890,299.73	1,285,240.74	36.189086	-107.453663
4,898.0	12.60	177.20	4,895.0	-22.2	-21.5	1,890,293.00	1,285,240.11	36.189067	-107.453665
4,929.0	13.10	166.40	4,925.2	-29.0	-20.5	1,890,286.19	1,285,241.02	36.189049	-107.453662
4,961.0	15.60	156.50	4,956.2	-36.4	-17.9	1,890,278.69	1,285,243.49	36.189028	-107.453653
4,992.0	19.30	156.80	4,985.8	-45.0	-14.2	1,890,270.11	1,285,247.07	36.189005	-107.453640
5,024.0	22.30	156.80	5,015.7	-55.4	-9.7	1,890,259.61	1,285,251.42	36.188976	-107.453625
5,056.0	25.50	153.00	5,044.9	-67.1	-4.2	1,890,247.82	1,285,256.79	36.188944	-107.453607
5,087.0	27.50	148.50	5,072.7	-79.2	2.6	1,890,235.69	1,285,263.41	36.188911	-107.453584
5,119.0	29.00	142.40	5,100.9	-91.6	11.2	1,890,223.13	1,285,271.85	36.188876	-107.453554
5,151.0	31.00	138.20	5,128.6	-103.9	21.4	1,890,210.72	1,285,281.93	36.188843	-107.453520
5,182.0	33.90	137.50	5,154.7	-116.3	32.5	1,890,198.25	1,285,292.94	36.188809	-107.453482
5,214.0	36.80	140.00	5,180.8	-130.2	44.7	1,890,184.17	1,285,304.96	36.188770	-107.453441
5,245.0	39.40	143.60	5,205.2	-145.2	56.5	1,890,168.99	1,285,316.58	36.188729	-107.453401
5,277.0	42.10	142.20	5,229.5	-161.9	69.2	1,890,152.19	1,285,328.97	36.188683	-107.453358
5,309.0	44.10	143.20	5,252.8	-179.3	82.4	1,890,134.63	1,285,342.00	36.188636	-107.453313
5,340.0	46.70	142.20	5,274.6	-196.8	95.8	1,890,116.91	1,285,355.16	36.188587	-107.453268
5,372.0	48.80	143.10	5,296.1	-215.7	110.1	1,890,097.90	1,285,369.29	36.188536	-107.453219
5,403.0	51.60	145.20	5,316.0	-235.0	124.1	1,890,078.43	1,285,382.99	36.188483	-107.453172
5,435.0	54.50	143.90	5,335.2	-255.8	138.9	1,890,057.42	1,285,397.57	36.188426	-107.453122
5,467.0	56.90	143.60	5,353.2	-277.1	154.5	1,890,035.91	1,285,412.93	36.188367	-107.453069
5,498.0	60.50	140.90	5,369.3	-298.0	170.8	1,890,014.78	1,285,428.89	36.188309	-107.453014
5,530.0	61.60	141.70	5,384.8	-319.9	188.3	1,889,992.71	1,285,446.13	36.188249	-107.452954
5,572.0	65.50	140.20	5,403.5	-349.1	212.0	1,889,963.22	1,285,469.46	36.188169	-107.452874
5,603.0	66.70	140.80	5,416.1	-371.0	230.0	1,889,941.13	1,285,487.21	36.188109	-107.452813
5,634.0	68.20	141.60	5,428.0	-393.3	247.9	1,889,918.60	1,285,504.87	36.188048	-107.452752
5,664.0	71.90	141.60	5,438.2	-415.4	265.4	1,889,896.28	1,285,522.11	36.187987	-107.452693
5,695.0	75.50	143.10	5,446.9	-438.9	283.6	1,889,872.50	1,285,539.99	36.187922	-107.452631
5,726.0	79.80	143.80	5,453.5	-463.2	301.6	1,889,847.96	1,285,557.71	36.187856	-107.452570
5,756.0	83.30	144.00	5,458.0	-487.2	319.1	1,889,823.77	1,285,574.90	36.187790	-107.452511
5,787.0	87.80	144.10	5,460.4	-512.2	337.3	1,889,798.54	1,285,592.72	36.187721	-107.452449
5,818.0	89.50	144.00	5,461.1	-537.3	355.5	1,889,773.22	1,285,610.60	36.187652	-107.452388
5,848.0	91.60	143.40	5,460.8	-561.5	373.2	1,889,748.83	1,285,628.06	36.187586	-107.452328
5,879.0	91.80	142.90	5,459.9	-586.3	391.8	1,889,723.81	1,285,646.34	36.187518	-107.452265
5,909.0	91.70	142.60	5,459.0	-610.2	410.0	1,889,699.71	1,285,664.19	36.187452	-107.452203
5,939.0	91.40	139.10	5,458.2	-633.4	428.9	1,889,676.23	1,285,682.83	36.187388	-107.452139
6,000.0	91.30	138.00	5,456.7	-679.1	469.3	1,889,630.02	1,285,722.63	36.187263	-107.452002
6,062.0	91.50	135.70	5,455.2	-724.3	511.6	1,889,584.28	1,285,764.45	36.187139	-107.451859
6,123.0	91.60	135.30	5,453.6	-767.8	554.4	1,889,540.27	1,285,806.65	36.187019	-107.451714
6,184.0	91.90	135.30	5,451.7	-811.2	597.3	1,889,496.40	1,285,848.99	36.186900	-107.451569
6,245.0	91.10	136.00	5,450.1	-854.8	639.9	1,889,452.27	1,285,891.08	36.186780	-107.451424
6,306.0	91.90	135.80	5,448.5	-898.6	682.3	1,889,407.95	1,285,932.96	36.186660	-107.451280
6,367.0	90.30	137.30	5,447.3	-942.8	724.3	1,889,363.16	1,285,974.35	36.186538	-107.451138
6,429.0	89.50	136.20	5,447.4	-988.0	766.7	1,889,317.48	1,286,016.27	36.186414	-107.450994
6,490.0	90.80	137.50	5,447.3	-1,032.5	808.5	1,889,272.47	1,286,057.43	36.186292	-107.450853
6,552.0	91.20	137.20	5,446.2	-1,078.1	850.5	1,889,226.35	1,286,098.86	36.186167	-107.450711
6,613.0	89.60	135.60	5,445.8	-1,122.3	892.5	1,889,181.67	1,286,140.37	36.186045	-107.450568
6,674.0	89.40	134.50	5,446.3	-1,165.4	935.6	1,889,137.97	1,286,182.93	36.185927	-107.450422
6,736.0	89.60	134.20	5,446.8	-1,208.8	980.0	1,889,094.08	1,286,226.72	36.185808	-107.450272
6,797.0	90.90	136.00	5,446.6	-1,252.0	1,023.0	1,889,050.34	1,286,269.24	36.185689	-107.450126
6,859.0	89.30	135.70	5,446.5	-1,296.5	1,066.2	1,889,005.33	1,286,311.87	36.185567	-107.449980
6,920.0	88.30	135.90	5,447.7	-1,340.2	1,108.7	1,888,961.08	1,286,353.84	36.185447	-107.449836

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
6,981.0	88.60	135.80	5,449.4	-1,383.9	1,151.2	1,888,916.80	1,286,395.77	36.185327	-107.449692
7,042.0	88.80	135.60	5,450.8	-1,427.6	1,193.8	1,888,872.63	1,286,437.81	36.185207	-107.449547
7,103.0	90.00	135.50	5,451.4	-1,471.1	1,236.5	1,888,828.56	1,286,479.98	36.185087	-107.449403
7,164.0	90.10	135.10	5,451.4	-1,514.5	1,279.4	1,888,784.68	1,286,522.35	36.184968	-107.449257
7,225.0	90.00	134.70	5,451.3	-1,557.5	1,322.6	1,888,741.09	1,286,565.02	36.184850	-107.449111
7,285.0	90.80	135.50	5,450.9	-1,600.0	1,365.0	1,888,698.07	1,286,606.84	36.184733	-107.448967
7,346.0	91.80	136.00	5,449.5	-1,643.7	1,407.5	1,888,653.86	1,286,648.85	36.184613	-107.448823
7,406.0	92.30	135.70	5,447.4	-1,686.7	1,449.3	1,888,610.32	1,286,690.08	36.184495	-107.448682
7,470.0	91.90	135.50	5,445.0	-1,732.4	1,494.0	1,888,564.07	1,286,734.26	36.184369	-107.448530
7,533.0	91.20	136.50	5,443.3	-1,777.7	1,537.8	1,888,518.23	1,286,777.44	36.184245	-107.448382
7,596.0	91.60	136.50	5,441.8	-1,823.4	1,581.1	1,888,472.01	1,286,820.22	36.184119	-107.448235
7,659.0	92.00	136.60	5,439.8	-1,869.1	1,624.4	1,888,425.77	1,286,862.96	36.183994	-107.448088
7,722.0	90.70	138.10	5,438.3	-1,915.5	1,667.1	1,888,378.92	1,286,905.05	36.183867	-107.447944
7,786.0	90.70	137.50	5,437.5	-1,962.9	1,710.1	1,888,330.98	1,286,947.44	36.183736	-107.447798
7,849.0	91.10	137.80	5,436.5	-2,009.4	1,752.5	1,888,283.90	1,286,989.30	36.183609	-107.447654
7,912.0	89.80	136.70	5,436.0	-2,055.7	1,795.3	1,888,237.12	1,287,031.48	36.183481	-107.447509
7,975.0	90.50	136.60	5,435.9	-2,101.5	1,838.5	1,888,190.77	1,287,074.16	36.183356	-107.447363
8,038.0	90.90	136.80	5,435.1	-2,147.3	1,881.7	1,888,144.39	1,287,116.79	36.183230	-107.447217
8,102.0	90.50	135.40	5,434.3	-2,193.4	1,926.1	1,888,097.74	1,287,160.59	36.183103	-107.447066
8,165.0	90.30	134.40	5,433.9	-2,237.9	1,970.7	1,888,052.72	1,287,204.65	36.182981	-107.446915
8,228.0	90.90	135.90	5,433.2	-2,282.6	2,015.2	1,888,007.51	1,287,248.52	36.182858	-107.446765
8,291.0	90.80	137.30	5,432.3	-2,328.3	2,058.4	1,887,961.21	1,287,291.23	36.182732	-107.446618
8,354.0	90.00	136.50	5,431.9	-2,374.3	2,101.5	1,887,914.68	1,287,333.70	36.182606	-107.446472
8,418.0	91.20	138.60	5,431.2	-2,421.6	2,144.7	1,887,866.93	1,287,376.31	36.182476	-107.446326
8,481.0	90.10	137.80	5,430.5	-2,468.5	2,186.7	1,887,819.45	1,287,417.71	36.182347	-107.446183
8,544.0	90.80	139.50	5,430.0	-2,515.8	2,228.3	1,887,771.65	1,287,458.74	36.182218	-107.446042
8,608.0	90.50	137.70	5,429.2	-2,563.8	2,270.6	1,887,723.13	1,287,500.46	36.182086	-107.445899
8,671.0	90.40	137.20	5,428.8	-2,610.2	2,313.2	1,887,676.19	1,287,542.48	36.181958	-107.445755
8,734.0	90.50	136.40	5,428.3	-2,656.1	2,356.3	1,887,629.74	1,287,585.03	36.181832	-107.445609
8,797.0	89.30	137.10	5,428.4	-2,702.0	2,399.5	1,887,583.32	1,287,627.63	36.181706	-107.445462
8,861.0	89.60	136.50	5,429.0	-2,748.7	2,443.3	1,887,536.13	1,287,670.85	36.181578	-107.445314
8,924.0	89.70	135.40	5,429.4	-2,794.0	2,487.1	1,887,490.31	1,287,714.09	36.181453	-107.445166
8,987.0	89.60	135.30	5,429.8	-2,838.8	2,531.4	1,887,444.94	1,287,757.80	36.181330	-107.445016
9,050.0	90.50	136.30	5,429.7	-2,883.9	2,575.3	1,887,399.24	1,287,801.16	36.181206	-107.444867
9,113.0	90.80	135.90	5,429.0	-2,929.3	2,619.0	1,887,353.31	1,287,844.27	36.181082	-107.444719
9,177.0	90.20	136.40	5,428.4	-2,975.5	2,663.3	1,887,306.61	1,287,888.03	36.180955	-107.444569
9,240.0	90.00	135.40	5,428.3	-3,020.7	2,707.2	1,887,260.83	1,287,931.31	36.180831	-107.444420
9,303.0	91.00	136.40	5,427.8	-3,066.0	2,751.0	1,887,215.05	1,287,974.59	36.180706	-107.444272
9,366.0	89.50	136.80	5,427.5	-3,111.7	2,794.3	1,887,168.74	1,288,017.30	36.180581	-107.444125
9,429.0	90.20	137.40	5,427.7	-3,157.9	2,837.2	1,887,122.07	1,288,059.61	36.180454	-107.443980
9,493.0	90.50	137.00	5,427.3	-3,204.8	2,880.6	1,887,074.57	1,288,102.51	36.180325	-107.443832
9,556.0	90.40	135.10	5,426.8	-3,250.2	2,924.4	1,887,028.68	1,288,145.66	36.180200	-107.443684
9,619.0	89.10	136.10	5,427.0	-3,295.2	2,968.8	1,886,983.13	1,288,189.18	36.180077	-107.443535
9,682.0	89.30	136.10	5,427.9	-3,340.6	3,012.1	1,886,937.20	1,288,232.29	36.179952	-107.443387
9,745.0	90.40	136.30	5,428.1	-3,386.1	3,055.7	1,886,891.19	1,288,275.33	36.179827	-107.443239
9,809.0	90.90	139.20	5,427.4	-3,433.4	3,098.8	1,886,843.29	1,288,317.76	36.179697	-107.443093
9,872.0	91.20	138.40	5,426.2	-3,480.8	3,140.2	1,886,795.39	1,288,358.66	36.179567	-107.442953
9,935.0	91.00	137.60	5,425.0	-3,527.6	3,182.4	1,886,748.06	1,288,400.22	36.179438	-107.442810
9,998.0	91.00	136.50	5,423.9	-3,573.7	3,225.3	1,886,701.43	1,288,442.57	36.179311	-107.442665
10,062.0	91.10	137.60	5,422.7	-3,620.6	3,268.9	1,886,654.05	1,288,485.58	36.179183	-107.442517
10,125.0	88.90	137.20	5,422.7	-3,667.0	3,311.6	1,886,607.16	1,288,527.64	36.179055	-107.442373
10,188.0	89.10	136.50	5,423.8	-3,712.9	3,354.6	1,886,560.67	1,288,570.15	36.178929	-107.442227
10,251.0	89.30	136.40	5,424.7	-3,758.6	3,398.0	1,886,514.48	1,288,612.98	36.178804	-107.442080
10,315.0	90.00	136.70	5,425.1	-3,805.0	3,442.0	1,886,467.48	1,288,656.42	36.178676	-107.441931
10,378.0	91.50	136.80	5,424.3	-3,850.9	3,485.2	1,886,421.06	1,288,699.00	36.178550	-107.441784

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well GCU O27-2306 01H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7002.0ft (A1099)
Site:	S27-T23N-R6W	MD Reference:	18' KB @ 7002.0ft (A1099)
Well:	GCU O27-2306 01H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
10,441.0	91.50	136.20	5,422.6	-3,896.6	3,528.6	1,886,374.84	1,288,741.79	36.178424	-107.441637
10,504.0	91.60	135.20	5,420.9	-3,941.7	3,572.5	1,886,329.23	1,288,785.21	36.178301	-107.441488
10,567.0	91.80	136.20	5,419.0	-3,986.7	3,616.5	1,886,283.62	1,288,828.62	36.178177	-107.441339
10,631.0	90.50	137.10	5,417.8	-4,033.3	3,660.4	1,886,236.55	1,288,871.97	36.178049	-107.441191
10,694.0	91.20	137.40	5,416.8	-4,079.5	3,703.2	1,886,189.77	1,288,914.15	36.177922	-107.441046
10,757.0	89.80	138.00	5,416.3	-4,126.1	3,745.6	1,886,142.65	1,288,955.97	36.177794	-107.440902
10,820.0	90.20	136.60	5,416.3	-4,172.4	3,788.3	1,886,095.83	1,288,998.11	36.177667	-107.440758
10,883.0	88.90	138.00	5,416.8	-4,218.7	3,831.0	1,886,049.00	1,289,040.25	36.177540	-107.440613
10,946.0	89.10	137.00	5,417.9	-4,265.1	3,873.6	1,886,002.04	1,289,082.23	36.177412	-107.440469
11,009.0	89.80	136.30	5,418.5	-4,311.0	3,916.8	1,885,955.70	1,289,124.90	36.177286	-107.440322
11,073.0	90.10	136.00	5,418.5	-4,357.1	3,961.2	1,885,909.00	1,289,168.66	36.177159	-107.440172
11,136.0	90.00	135.80	5,418.5	-4,402.4	4,005.0	1,885,863.21	1,289,211.94	36.177035	-107.440023
11,199.0	90.90	136.30	5,418.0	-4,447.7	4,048.7	1,885,817.32	1,289,255.10	36.176910	-107.439875
11,262.0	90.10	136.50	5,417.4	-4,493.3	4,092.2	1,885,771.16	1,289,297.97	36.176785	-107.439728
11,325.0	87.90	136.50	5,418.5	-4,539.0	4,135.5	1,885,724.96	1,289,340.74	36.176660	-107.439581
11,388.0	87.60	136.60	5,421.0	-4,584.7	4,178.8	1,885,678.72	1,289,383.47	36.176534	-107.439435
11,452.0	88.90	136.80	5,423.0	-4,631.3	4,222.7	1,885,631.63	1,289,426.76	36.176406	-107.439286
11,515.0	89.30	135.90	5,423.9	-4,676.8	4,266.2	1,885,585.51	1,289,469.67	36.176281	-107.439139
11,578.0	90.10	136.50	5,424.3	-4,722.3	4,309.8	1,885,539.50	1,289,512.70	36.176156	-107.438991
11,641.0	91.20	136.50	5,423.6	-4,768.0	4,353.1	1,885,493.28	1,289,555.50	36.176031	-107.438844
11,704.0	90.70	135.70	5,422.5	-4,813.4	4,396.8	1,885,447.35	1,289,598.61	36.175906	-107.438696
11,767.0	90.80	135.40	5,421.7	-4,858.4	4,440.9	1,885,401.84	1,289,642.16	36.175782	-107.438547
11,830.0	91.00	134.30	5,420.7	-4,902.8	4,485.6	1,885,356.86	1,289,686.27	36.175660	-107.438396
11,903.0	91.20	133.70	5,419.3	-4,953.5	4,538.1	1,885,305.51	1,289,738.13	36.175521	-107.438218
Last CES Survey @ 11,903' MD									
11,950.0	91.20	133.70	5,418.3	-4,985.9	4,572.1	1,885,272.63	1,289,771.70	36.175432	-107.438103
PTB @ 11,950' MD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
GCU O27-2306 01H PB	0.00	0.00	5,418.4	-5,016.8	4,589.3	1,885,241.56	1,289,788.55	36.175347	-107.438044
- hit/miss target									
- Shape									
- survey misses target center by 35.3ft at 11950.0ft MD (5418.3 TVD, -4985.9 N, 4572.1 E)									
- Point									

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
11,903.0	5,419.3	-4,953.5	4,538.1	Last CES Survey @ 11,903' MD	
11,950.0	5,418.3	-4,985.9	4,572.1	PTB @ 11,950' MD	

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------