

DISTRICT I

1625 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

DISTRICT II

811 S. First St., Artesia, N.M. 88210
Phone: (505) 748-1283 Fax: (505) 748-9720

DISTRICT III

1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6176 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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35820		² Pool Code 98080	³ Pool Name Nageezi Unit; Mancos (Oil)
⁴ Property Code 315244	⁵ Property Name NAGEEZI UNIT OIL CONS. DIV DIST. 3		⁶ Well Number 221H
⁷ OGRID No. 282327	⁸ Operator Name ENCANA OIL & GAS (USA) INC. JUN 09 2017		⁹ Elevation 6927.5'

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
L	27	24N	9W		2428'	SOUTH	345'	WEST	SAN JUAN

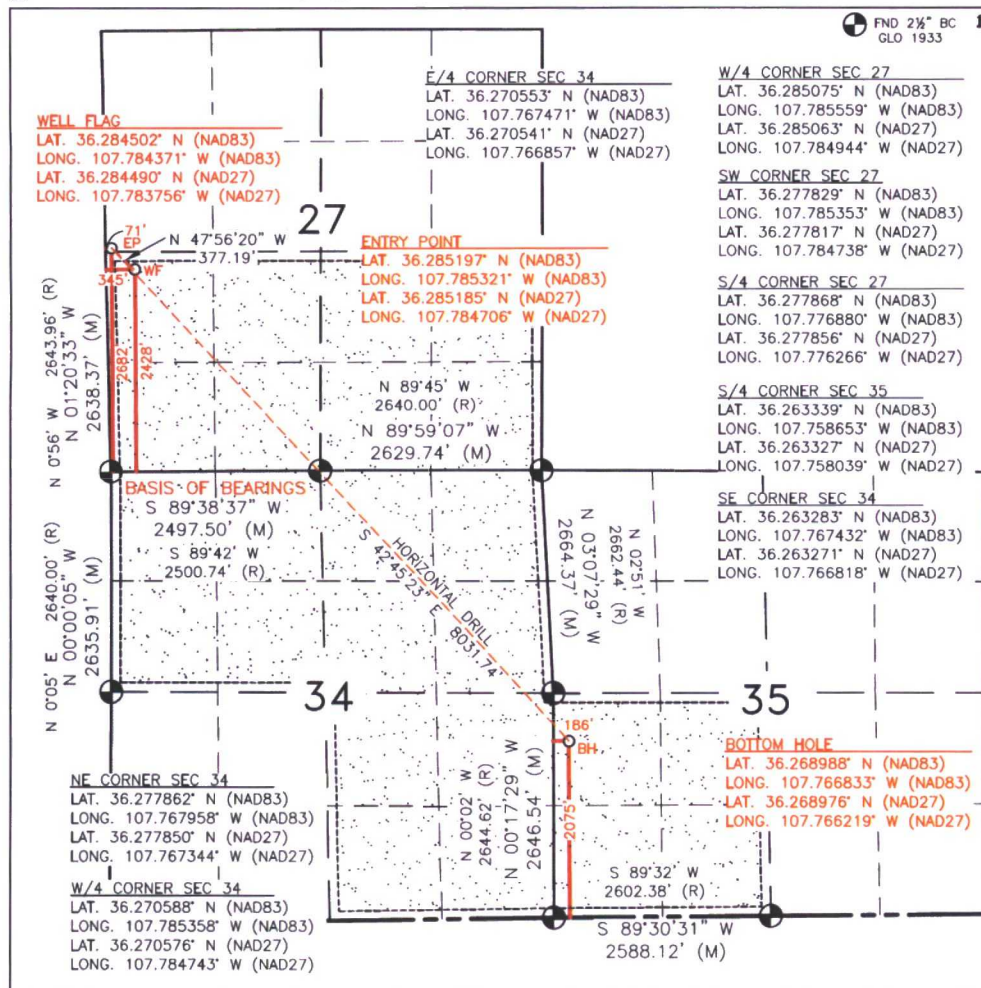
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	35	24N	9W		2075'	SOUTH	186'	WEST	SAN JUAN

¹² Dedicated Acres PENETRATED SPACING UNIT: S/2 SEC. 27 (320 ACRES); N/2 & SE/4 SEC. 34 (480 ACRES); SW/4 SEC. 35 (160 ACRES) - 960 TOTAL ACRES	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13856-A - 10,415.12 Acres
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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



FND 2 1/2" BC
GLO 1933

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.

Signature Date
Katie Wegner 06/07/17

Printed Name
Katie Wegner

E-mail Address
katie.wegner@encana.com

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.

MAY 3, 2017

Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number

11393

Av

a

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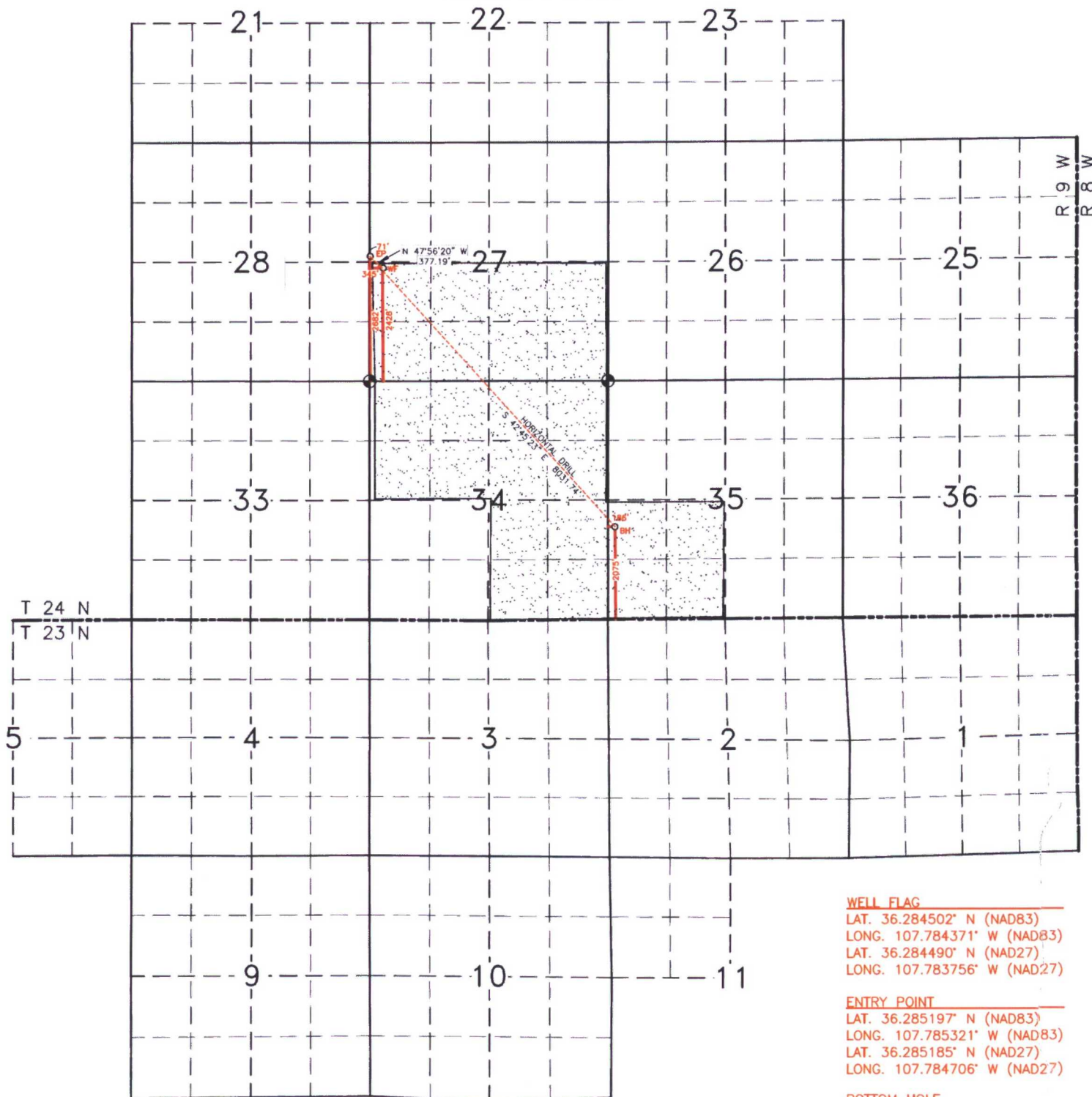
Form C-102
Revised August 1, 2011

Submit one copy to appropriate
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1220 South St. Francis Dr.
Santa Fe, NM 87505

ENCANA OIL & GAS (USA) INC.
NAGEEZI UNIT #221H

☐ AMENDED REPORT
☒ AS-DRILLED



**PENETRATED SPACING UNIT; S/2 SEC. 27 (320 ACRES); N/2 &
SE/4 SEC. 34 (480 ACRES); SW/4 SEC. 35 (160 ACRES)
TOTAL 10,415.12 ACRES: SEC. 21-23 (S/2); 25-28, 33-36, 1-4,
9-10 (ALL); 5 (W/2); 11 (NW/4) - UNDIVIDED UNIT**

WELL FLAG

LAT. 36.284502° N (NAD83)
LONG. 107.784371° W (NAD83)
LAT. 36.284490° N (NAD27)
LONG. 107.783756° W (NAD27)

ENTRY POINT

LAT. 36.285197° N (NAD83)
LONG. 107.785321° W (NAD83)
LAT. 36.285185° N (NAD27)
LONG. 107.784706° W (NAD27)

BOTTOM HOLE

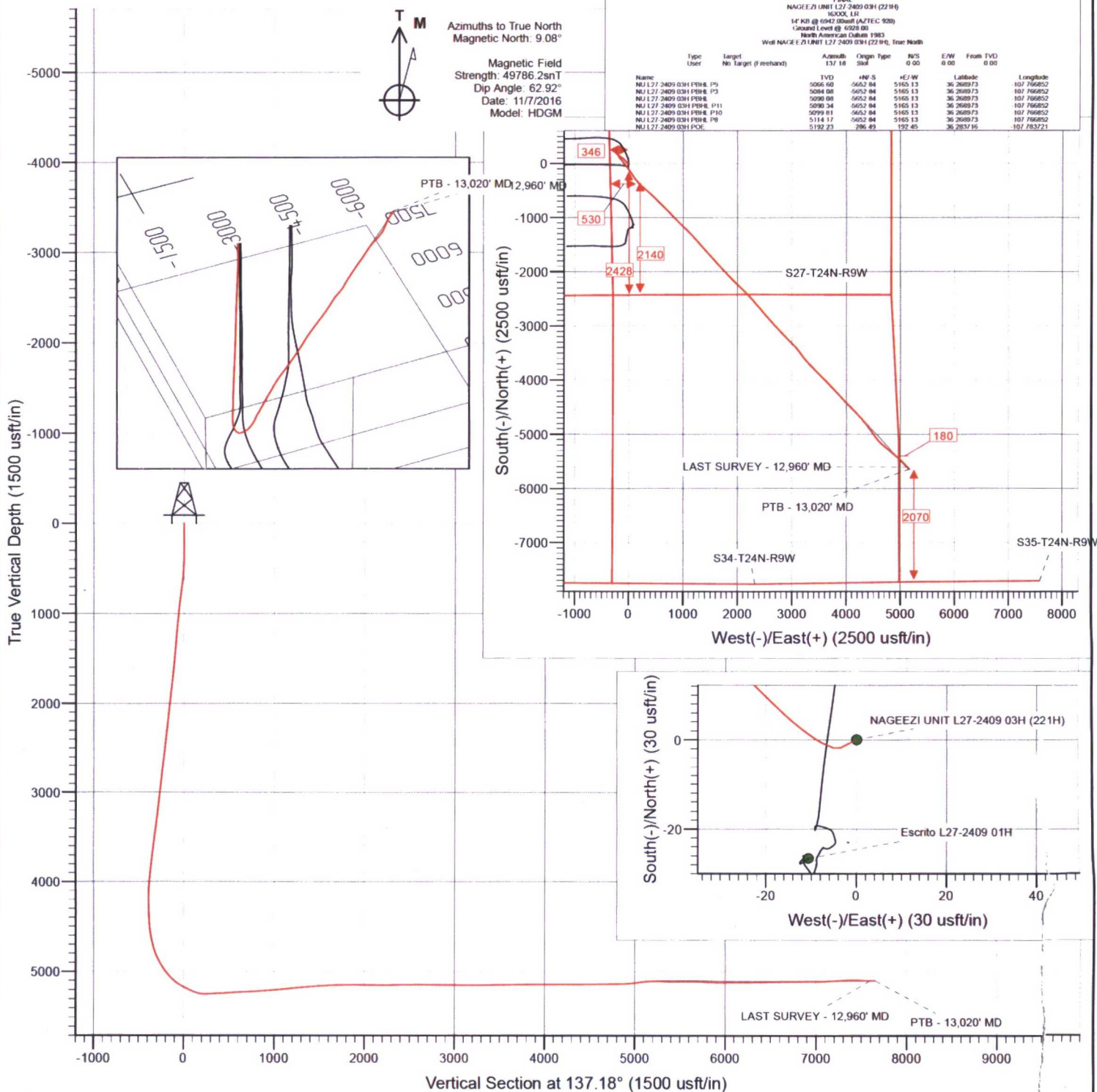
LAT. 36.268988° N (NAD83)
LONG. 107.766833° W (NAD83)
LAT. 36.268976° N (NAD27)
LONG. 107.766219° W (NAD27)



Project: San Juan County, NM
 Site: S27-T24N-R9W
 Well: NAGEEZI UNIT L27-2409 03H (221H)
 Wellbore: OH
 Design: FINAL

OIL CONS. DIV DIST. 3

JUN 09 2017



Azimuths to True North
 Magnetic North: 9.08°
 Magnetic Field
 Strength: 49786.2snT
 Dip Angle: 62.92°
 Date: 11/7/2016
 Model: HDGM

Type	Target	Azimuth	Origin	Type	N/S	E/W	From TVD
User	No. Target (if rebar)	137.18	Steel	Steel	0.00	0.00	0.00
Name	TVD	HF-S	H/E/W	Latitude	Longitude		
NU L27-2409 03H PTH P5	5064.60	5652.84	5165.13	36.268973	107.784522		
NU L27-2409 03H PTH P3	5084.00	5652.84	5165.13	36.268973	107.784522		
NU L27-2409 03H PTH P10	5090.00	5652.84	5165.13	36.268973	107.784522		
NU L27-2409 03H PTH P11	5090.34	5652.84	5165.13	36.268973	107.784522		
NU L27-2409 03H PTH P10	5099.81	5652.84	5165.13	36.268973	107.784522		
NU L27-2409 03H PTH P8	5114.17	5652.84	5165.13	36.268973	107.784522		
NU L27-2409 03H PTH POC	5192.23	286.49	192.45	36.283716	107.783721		

WELL DETAILS: NAGEEZI UNIT L27-2409 03H (221H)

+N/-S 0.00 +E/-W 0.00 Northing 1922862.08 Easting 2737521.03 Ground Level: 6928.00 Latitude 36.284503 Longitude -107.784374



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT L27-2409 03H (221H)
Project:	San Juan County, NM	TVD Reference:	14' KB @ 6942.00usft (AZTEC 920)
Site:	S27-T24N-R9W	MD Reference:	14' KB @ 6942.00usft (AZTEC 920)
Well:	NAGEEZI UNIT L27-2409 03H (221H)	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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

Site		S27-T24N-R9W			
Site Position:		Northing:	1,922,835.50 usft	Latitude:	36.284430
From:	Lat/Long	Easting:	2,737,510.43 usft	Longitude:	-107.784410
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.03 °

Well	NAGEEZI UNIT L27-2409 03H (221H)					
Well Position	+N/-S	0.00 usft	Northing:	1,922,862.08 usft	Latitude:	36.284503
	+E/-W	0.00 usft	Easting:	2,737,521.03 usft	Longitude:	-107.784374
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,928.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/7/2016	9.08	62.92	49,786

Design	FINAL			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	137.18

Survey Program	Date	4/28/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
407.00	13,020.00	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
407.00	1.10	243.01	406.97	-1.77	-3.48	-1.07	0.27	0.27	
470.00	1.85	281.77	469.96	-1.84	-5.02	-2.06	1.92	1.19	
533.00	3.52	299.52	532.88	-0.68	-7.69	-4.73	2.93	2.65	
597.00	5.49	307.69	596.68	2.16	-11.83	-9.62	3.23	3.08	
660.00	7.43	313.58	659.28	6.81	-17.16	-16.66	3.25	3.08	
723.00	8.39	316.04	721.68	12.93	-23.30	-25.32	1.62	1.52	
787.00	7.25	312.09	785.09	19.00	-29.54	-34.01	1.97	-1.78	
850.00	6.46	304.62	847.64	23.67	-35.41	-41.43	1.89	-1.25	
913.00	5.54	300.93	910.29	27.25	-40.94	-47.81	1.58	-1.46	
976.00	5.14	312.61	973.02	30.73	-45.62	-53.54	1.83	-0.63	
1,039.00	5.49	321.32	1,035.75	34.99	-49.58	-59.36	1.39	0.56	
1,103.00	5.45	323.43	1,099.46	39.82	-53.31	-65.44	0.32	-0.06	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Site: S27-T24N-R9W
Well: NAGEEZI UNIT L27-2409 03H (221H)
Wellbore: OH
Design: FINAL

Local Co-ordinate Reference: Well NAGEEZI UNIT L27-2409 03H (221H)
TVD Reference: 14' KB @ 6942.00usft (AZTEC 920)
MD Reference: 14' KB @ 6942.00usft (AZTEC 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
1,166.00	5.49	321.84	1,162.17	44.59	-56.95	-71.42	0.25	0.06	
1,229.00	5.49	320.70	1,224.88	49.29	-60.72	-77.43	0.17	0.00	
1,291.00	4.83	318.15	1,286.63	53.53	-64.34	-83.00	1.13	-1.06	
1,352.00	4.75	314.55	1,347.42	57.22	-67.85	-88.09	0.51	-0.13	
1,413.00	4.75	314.90	1,408.21	60.77	-71.44	-93.14	0.05	0.00	
1,474.00	4.61	308.84	1,469.01	64.09	-75.14	-98.08	0.84	-0.23	
1,536.00	5.10	313.67	1,530.78	67.56	-79.08	-103.30	1.03	0.79	
1,598.00	5.58	318.33	1,592.51	71.71	-83.07	-109.06	1.04	0.77	
1,659.00	6.46	315.25	1,653.18	76.36	-87.46	-115.46	1.54	1.44	
1,720.00	7.08	313.32	1,713.75	81.38	-92.61	-122.64	1.08	1.02	
1,781.00	7.03	312.18	1,774.29	86.47	-98.11	-130.11	0.24	-0.08	
1,842.00	6.86	312.09	1,834.84	91.42	-103.58	-137.46	0.28	-0.28	
1,904.00	6.42	308.84	1,896.43	96.07	-109.03	-144.57	0.93	-0.71	
1,965.00	6.15	305.94	1,957.06	100.13	-114.33	-151.15	0.68	-0.44	
2,026.00	6.20	302.77	2,017.71	103.83	-119.75	-157.55	0.56	0.08	
2,086.00	6.15	300.05	2,077.36	107.19	-125.25	-163.76	0.49	-0.08	
2,148.00	6.06	297.06	2,139.01	110.34	-131.04	-170.01	0.53	-0.15	
2,209.00	6.42	301.98	2,199.65	113.61	-136.80	-176.32	1.06	0.59	
2,270.00	6.55	302.77	2,260.26	117.30	-142.62	-182.98	0.26	0.21	
2,331.00	6.94	307.52	2,320.83	121.43	-148.47	-189.98	1.12	0.64	
2,393.00	7.12	310.42	2,382.37	126.20	-154.37	-197.49	0.64	0.29	
2,455.00	6.72	307.96	2,443.92	130.93	-160.15	-204.89	0.80	-0.65	
2,516.00	6.81	307.52	2,504.49	135.32	-165.83	-211.98	0.17	0.15	
2,578.00	6.33	303.56	2,566.08	139.45	-171.60	-218.92	1.06	-0.77	
2,639.00	6.59	310.68	2,626.70	143.59	-177.05	-225.67	1.38	0.43	
2,700.00	7.03	316.75	2,687.27	148.59	-182.27	-232.88	1.38	0.72	
2,761.00	6.46	313.85	2,747.85	153.69	-187.30	-240.04	1.09	-0.93	
2,821.00	6.28	314.20	2,807.48	158.32	-192.09	-246.68	0.31	-0.30	
2,883.00	5.98	312.79	2,869.12	162.87	-196.89	-253.29	0.54	-0.48	
2,944.00	6.06	314.37	2,929.78	167.28	-201.52	-259.67	0.30	0.13	
3,005.00	6.11	310.86	2,990.44	171.66	-206.28	-266.12	0.62	0.08	
3,067.00	5.58	309.71	3,052.12	175.74	-211.09	-272.39	0.88	-0.85	
3,128.00	6.02	311.30	3,112.81	179.75	-215.78	-278.51	0.77	0.72	
3,190.00	6.37	309.10	3,174.44	184.07	-220.89	-285.15	0.68	0.56	
3,250.00	6.94	311.38	3,234.04	188.56	-226.19	-292.05	1.05	0.95	
3,311.00	7.60	315.69	3,294.55	193.88	-231.77	-299.75	1.40	1.08	
3,371.00	7.21	314.11	3,354.05	199.34	-237.25	-307.47	0.73	-0.65	
3,433.00	6.99	311.47	3,415.57	204.55	-242.87	-315.11	0.63	-0.35	
3,493.00	7.08	312.18	3,475.12	209.45	-248.34	-322.43	0.21	0.15	
3,554.00	7.16	311.03	3,535.65	214.47	-254.00	-329.95	0.27	0.13	
3,614.00	6.86	309.45	3,595.20	219.20	-259.59	-337.22	0.59	-0.50	
3,676.00	6.33	307.08	3,656.79	223.62	-265.17	-344.26	0.96	-0.85	
3,739.00	6.55	307.52	3,719.40	227.90	-270.79	-351.22	0.36	0.35	
3,802.00	6.46	309.01	3,781.99	232.32	-276.40	-358.27	0.30	-0.14	
3,865.00	6.55	308.22	3,844.58	236.77	-281.97	-365.33	0.20	0.14	
3,929.00	6.37	308.39	3,908.18	241.23	-287.62	-372.44	0.28	-0.28	
3,992.00	5.27	309.45	3,970.85	245.24	-292.60	-378.76	1.75	-1.75	
4,055.00	3.74	312.79	4,033.66	248.48	-296.34	-383.68	2.46	-2.43	
4,118.00	2.51	316.31	4,096.56	250.87	-298.80	-387.11	1.98	-1.95	
4,181.00	1.58	343.90	4,159.52	252.70	-299.99	-389.26	2.11	-1.48	
4,243.00	2.59	61.42	4,221.49	254.19	-299.00	-389.68	4.40	1.63	
4,307.00	3.30	69.77	4,285.40	255.52	-296.00	-388.62	1.29	1.11	
4,371.00	2.99	81.02	4,349.31	256.42	-292.63	-386.98	1.08	-0.48	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
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Site: S27-T24N-R9W
Well: NAGEEZI UNIT L27-2409 03H (221H)
Wellbore: OH
Design: FINAL

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MD Reference: 14' KB @ 6942.00usft (AZTEC 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
4,434.00	2.73	96.49	4,412.23	256.51	-289.51	-384.93	1.29	-0.41	
4,497.00	3.47	106.77	4,475.14	255.79	-286.20	-382.15	1.46	1.17	
4,529.00	6.28	115.21	4,507.02	254.76	-283.68	-379.69	9.04	8.78	
4,561.00	8.79	122.77	4,538.74	252.69	-280.04	-375.69	8.42	7.84	
4,591.00	10.02	125.14	4,568.34	249.95	-275.98	-370.92	4.30	4.10	
4,624.00	10.68	128.13	4,600.80	246.41	-271.23	-365.09	2.58	2.00	
4,656.00	10.90	132.35	4,632.24	242.54	-266.66	-359.15	2.56	0.69	
4,687.00	11.25	130.86	4,662.66	238.59	-262.21	-353.22	1.46	1.13	
4,718.00	12.79	133.23	4,692.98	234.26	-257.42	-346.80	5.22	4.97	
4,750.00	15.25	138.33	4,724.02	228.69	-252.04	-339.05	8.60	7.69	
4,781.00	17.58	140.61	4,753.76	222.02	-246.36	-330.30	7.80	7.52	
4,812.00	19.42	144.30	4,783.16	214.22	-240.38	-320.51	7.03	5.94	
4,844.00	22.90	144.92	4,813.00	204.80	-233.69	-309.06	10.90	10.87	
4,875.00	25.88	147.29	4,841.23	194.17	-226.57	-296.42	10.12	9.61	
4,903.00	28.17	146.24	4,866.17	183.53	-219.59	-283.88	8.35	8.18	
4,934.00	28.70	148.00	4,893.43	171.14	-211.58	-269.34	3.20	1.71	
4,966.00	29.97	148.35	4,921.32	157.82	-203.32	-253.95	4.00	3.97	
4,997.00	32.17	145.80	4,947.88	144.40	-194.61	-238.19	8.27	7.10	
5,029.00	35.33	144.83	4,974.48	129.78	-184.49	-220.60	10.02	9.87	
5,060.00	37.88	141.93	4,999.37	114.96	-173.46	-202.22	9.94	8.23	
5,092.00	40.12	141.23	5,024.23	99.19	-160.94	-182.15	7.13	7.00	
5,124.00	42.58	140.96	5,048.25	82.74	-147.67	-161.06	7.71	7.69	
5,156.00	45.35	140.96	5,071.28	65.48	-133.68	-138.89	8.66	8.66	
5,188.00	48.47	141.76	5,093.14	47.23	-119.09	-115.59	9.92	9.75	
5,219.00	51.77	141.49	5,113.01	28.58	-104.32	-91.87	10.67	10.65	
5,251.00	55.11	143.25	5,132.07	8.23	-88.64	-66.28	11.33	10.44	
5,282.00	58.71	142.99	5,149.00	-12.54	-73.05	-40.45	11.63	11.61	
5,314.00	62.45	143.16	5,164.71	-34.82	-56.31	-12.73	11.70	11.69	
5,346.00	66.31	142.55	5,178.55	-57.82	-38.89	15.98	12.18	12.06	
5,370.00	63.68	144.39	5,188.69	-75.29	-25.94	37.59	12.97	-10.96	
5,401.00	63.19	143.95	5,202.55	-97.77	-9.71	65.11	2.03	-1.58	
5,433.00	67.72	144.04	5,215.84	-121.31	7.40	94.01	14.16	14.16	
5,465.00	70.23	145.97	5,227.33	-145.78	24.52	123.60	9.65	7.84	
5,497.00	75.32	146.68	5,236.80	-171.21	41.46	153.76	16.05	15.91	
5,528.00	80.16	147.56	5,243.38	-196.64	57.90	183.59	15.86	15.61	
5,559.00	86.35	146.50	5,247.02	-222.46	74.65	213.91	20.25	19.97	
5,591.00	91.98	145.89	5,247.48	-249.03	92.44	245.49	17.70	17.59	
5,654.00	93.56	141.14	5,244.44	-299.61	129.84	308.02	7.94	2.51	
5,718.00	90.84	140.44	5,241.98	-349.16	170.27	371.84	4.39	-4.25	
5,781.00	93.56	132.79	5,239.56	-394.87	213.47	434.73	12.88	4.32	
5,845.00	94.00	130.51	5,235.34	-437.31	261.19	498.29	3.62	0.69	
5,908.00	94.00	130.24	5,230.95	-478.02	309.06	560.70	0.43	0.00	
5,972.00	93.82	131.91	5,226.58	-519.98	357.20	624.18	2.62	-0.28	
6,035.00	92.59	134.02	5,223.06	-562.84	403.22	686.91	3.87	-1.95	
6,098.00	91.32	134.20	5,220.91	-606.67	448.43	749.78	2.04	-2.02	
6,161.00	92.90	135.25	5,218.59	-650.97	493.16	812.68	3.01	2.51	
6,224.00	95.45	135.60	5,214.00	-695.72	537.25	875.48	4.09	4.05	
6,286.00	95.23	134.72	5,208.23	-739.49	580.78	937.17	1.46	-0.35	
6,350.00	94.66	133.58	5,202.72	-783.91	626.53	1,000.84	1.99	-0.89	
6,413.00	94.35	133.49	5,197.77	-827.17	672.06	1,063.52	0.51	-0.49	
6,477.00	95.49	135.69	5,192.28	-871.93	717.47	1,127.21	3.86	1.78	
6,540.00	95.98	135.78	5,185.98	-916.81	761.22	1,189.88	0.79	0.78	
6,604.00	95.27	136.48	5,179.71	-962.73	805.36	1,253.56	1.55	-1.11	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT L27-2409 03H (221H)
Project:	San Juan County, NM	TVD Reference:	14' KB @ 6942.00usft (AZTEC 920)
Site:	S27-T24N-R9W	MD Reference:	14' KB @ 6942.00usft (AZTEC 920)
Well:	NAGEEZI UNIT L27-2409 03H (221H)	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
6,667.00	94.40	136.31	5,174.40	-1,008.19	848.65	1,316.33	1.41	-1.38	
6,728.00	94.75	135.95	5,169.53	-1,052.02	890.79	1,377.12	0.82	0.57	
6,790.00	94.48	135.25	5,164.55	-1,096.18	934.03	1,438.90	1.21	-0.44	
6,851.00	94.09	134.02	5,159.99	-1,138.91	977.32	1,499.66	2.11	-0.64	
6,912.00	94.26	134.11	5,155.55	-1,181.22	1,021.03	1,560.41	0.32	0.28	
6,974.00	93.47	133.93	5,151.37	-1,224.21	1,065.52	1,622.18	1.31	-1.27	
7,036.00	92.15	135.25	5,148.33	-1,267.68	1,109.61	1,684.04	3.01	-2.13	
7,108.00	90.44	136.39	5,146.70	-1,319.30	1,159.78	1,755.99	2.85	-2.37	
7,172.00	89.65	138.33	5,146.65	-1,366.38	1,203.13	1,819.99	3.27	-1.23	
7,235.00	89.43	138.85	5,147.16	-1,413.63	1,244.80	1,882.97	0.90	-0.35	
7,298.00	89.39	139.03	5,147.81	-1,461.13	1,286.17	1,945.94	0.29	-0.06	
7,361.00	89.21	138.77	5,148.57	-1,508.60	1,327.59	2,008.90	0.50	-0.29	
7,424.00	88.90	137.98	5,149.61	-1,555.68	1,369.43	2,071.88	1.35	-0.49	
7,489.00	90.13	137.71	5,150.16	-1,603.87	1,413.05	2,136.87	1.94	1.89	
7,552.00	91.54	138.77	5,149.25	-1,650.86	1,455.00	2,199.85	2.80	2.24	
7,614.00	89.96	137.54	5,148.43	-1,697.04	1,496.36	2,261.83	3.23	-2.55	
7,678.00	90.35	138.42	5,148.26	-1,744.58	1,539.20	2,325.83	1.50	0.61	
7,741.00	90.53	138.42	5,147.78	-1,791.71	1,581.01	2,388.81	0.29	0.29	
7,804.00	90.18	138.24	5,147.39	-1,838.77	1,622.89	2,451.80	0.62	-0.56	
7,868.00	91.27	137.71	5,146.58	-1,886.30	1,665.73	2,515.78	1.89	1.70	
7,932.00	89.74	136.66	5,146.01	-1,933.25	1,709.23	2,579.78	2.90	-2.39	
7,995.00	88.68	137.01	5,146.88	-1,979.19	1,752.32	2,642.77	1.77	-1.68	
8,058.00	89.34	136.75	5,147.97	-2,025.17	1,795.38	2,705.76	1.13	1.05	
8,121.00	89.47	135.78	5,148.62	-2,070.69	1,838.93	2,768.75	1.55	0.21	
8,184.00	89.47	134.90	5,149.21	-2,115.50	1,883.21	2,831.71	1.40	0.00	
8,248.00	91.67	136.75	5,148.57	-2,161.39	1,927.80	2,895.68	4.49	3.44	
8,312.00	90.00	134.64	5,147.64	-2,207.18	1,972.49	2,959.65	4.20	-2.61	
8,375.00	88.51	133.76	5,148.46	-2,251.10	2,017.65	3,022.56	2.75	-2.37	
8,439.00	88.90	133.32	5,149.90	-2,295.17	2,064.03	3,086.41	0.92	0.61	
8,501.00	88.86	133.67	5,151.12	-2,337.84	2,109.00	3,148.27	0.57	-0.06	
8,565.00	89.47	136.74	5,152.05	-2,383.25	2,154.08	3,212.22	4.89	0.95	
8,626.00	91.41	139.12	5,151.58	-2,428.52	2,194.95	3,273.20	5.03	3.18	
8,688.00	90.40	136.92	5,150.60	-2,474.60	2,236.41	3,335.19	3.90	-1.63	
8,749.00	91.01	136.92	5,149.85	-2,519.15	2,278.07	3,396.18	1.00	1.00	
8,810.00	90.00	138.68	5,149.31	-2,564.34	2,319.04	3,457.17	3.33	-1.66	
8,872.00	91.49	139.38	5,148.51	-2,611.15	2,359.69	3,519.13	2.66	2.40	
8,934.00	89.03	138.68	5,148.22	-2,657.95	2,400.34	3,581.09	4.13	-3.97	
8,995.00	92.33	140.70	5,147.50	-2,704.46	2,439.79	3,642.02	6.34	5.41	
9,056.00	91.54	140.17	5,145.44	-2,751.46	2,478.62	3,702.88	1.56	-1.30	
9,117.00	89.82	138.77	5,144.72	-2,797.81	2,518.26	3,763.83	3.64	-2.82	
9,178.00	91.41	140.09	5,144.06	-2,844.14	2,557.93	3,824.77	3.39	2.61	
9,239.00	89.60	138.68	5,143.52	-2,890.44	2,597.63	3,885.72	3.76	-2.97	
9,301.00	89.74	138.24	5,143.88	-2,936.85	2,638.74	3,947.71	0.74	0.23	
9,361.00	91.41	138.15	5,143.28	-2,981.57	2,678.74	4,007.69	2.79	2.78	
9,422.00	89.39	136.57	5,142.85	-3,026.44	2,720.05	4,068.68	4.20	-3.31	
9,484.00	88.15	136.39	5,144.18	-3,071.39	2,762.74	4,130.66	2.02	-2.00	
9,545.00	88.68	136.66	5,145.87	-3,115.64	2,804.69	4,191.64	0.98	0.87	
9,606.00	91.58	137.27	5,145.73	-3,160.22	2,846.31	4,252.63	4.86	4.75	
9,667.00	91.58	135.52	5,144.05	-3,204.37	2,888.37	4,313.60	2.87	0.00	
9,729.00	90.04	134.46	5,143.18	-3,248.20	2,932.21	4,375.54	3.02	-2.48	
9,790.00	90.88	134.55	5,142.69	-3,290.95	2,975.71	4,436.47	1.38	1.38	
9,852.00	91.27	134.90	5,141.52	-3,334.58	3,019.75	4,498.41	0.85	0.63	
9,913.00	90.31	138.77	5,140.68	-3,379.06	3,061.47	4,559.39	6.54	-1.57	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Site: S27-T24N-R9W
Well: NAGEEZI UNIT L27-2409 03H (221H)
Wellbore: OH
Design: FINAL

Local Co-ordinate Reference: Well NAGEEZI UNIT L27-2409 03H (221H)
TVD Reference: 14' KB @ 6942.00usft (AZTEC 920)
MD Reference: 14' KB @ 6942.00usft (AZTEC 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
9,975.00	90.66	140.79	5,140.16	-3,426.39	3,101.50	4,621.32	3.31	0.56	
10,036.00	90.75	143.25	5,139.41	-3,474.47	3,139.04	4,682.09	4.04	0.15	
10,097.00	90.75	145.10	5,138.61	-3,523.92	3,174.74	4,742.63	3.03	0.00	
10,178.00	90.44	142.02	5,137.77	-3,589.07	3,222.84	4,823.11	3.82	-0.38	
10,240.00	91.54	139.65	5,136.69	-3,637.13	3,261.99	4,884.97	4.21	1.77	
10,300.00	96.42	137.01	5,132.53	-3,681.83	3,301.76	4,944.79	9.24	8.13	
10,361.00	96.81	136.13	5,125.50	-3,725.83	3,343.42	5,005.38	1.57	0.64	
10,423.00	95.76	134.99	5,118.72	-3,769.83	3,386.57	5,066.98	2.49	-1.69	
10,485.00	94.66	135.43	5,113.09	-3,813.65	3,430.07	5,128.69	1.91	-1.77	
10,546.00	92.29	135.87	5,109.39	-3,857.19	3,472.62	5,189.55	3.95	-3.89	
10,606.00	88.68	135.60	5,108.88	-3,900.14	3,514.49	5,249.52	6.03	-6.02	
10,667.00	87.98	135.52	5,110.66	-3,943.68	3,557.19	5,310.47	1.16	-1.15	
10,728.00	87.67	135.34	5,112.97	-3,987.10	3,599.96	5,371.40	0.59	-0.51	
10,790.00	89.47	135.25	5,114.52	-4,031.15	3,643.56	5,433.34	2.91	2.90	
10,850.00	92.55	135.87	5,113.46	-4,073.98	3,685.56	5,493.30	5.24	5.13	
10,910.00	89.87	136.39	5,112.20	-4,117.22	3,727.13	5,553.27	4.55	-4.47	
10,971.00	89.43	137.10	5,112.57	-4,161.65	3,768.93	5,614.27	1.37	-0.72	
11,033.00	88.99	137.71	5,113.42	-4,207.28	3,810.89	5,676.26	1.21	-0.71	
11,093.00	87.41	137.89	5,115.31	-4,251.71	3,851.17	5,736.23	2.65	-2.63	
11,154.00	87.67	137.71	5,117.93	-4,296.86	3,892.11	5,797.17	0.52	0.43	
11,215.00	87.63	137.71	5,120.43	-4,341.94	3,933.12	5,858.11	0.07	-0.07	
11,277.00	88.24	137.36	5,122.66	-4,387.65	3,974.95	5,920.07	1.13	0.98	
11,338.00	91.27	136.39	5,122.92	-4,432.17	4,016.64	5,981.06	5.22	4.97	
11,399.00	89.91	135.52	5,122.29	-4,476.01	4,059.05	6,042.04	2.65	-2.23	
11,460.00	90.18	135.69	5,122.25	-4,519.59	4,101.72	6,103.02	0.52	0.44	
11,520.00	90.66	136.39	5,121.81	-4,562.78	4,143.37	6,163.00	1.41	0.80	
11,582.00	90.44	135.78	5,121.21	-4,607.44	4,186.37	6,224.99	1.05	-0.35	
11,643.00	90.97	136.92	5,120.46	-4,651.58	4,228.47	6,285.98	2.06	0.87	
11,703.00	90.66	137.45	5,119.61	-4,695.58	4,269.25	6,345.97	1.02	-0.52	
11,765.00	90.84	139.47	5,118.80	-4,741.98	4,310.35	6,407.95	3.27	0.29	
11,825.00	90.70	140.52	5,117.99	-4,787.94	4,348.92	6,467.87	1.77	-0.23	
11,886.00	90.62	143.07	5,117.29	-4,835.87	4,386.64	6,528.66	4.18	-0.13	
11,947.00	90.44	144.48	5,116.72	-4,885.07	4,422.69	6,589.25	2.33	-0.30	
12,007.00	90.79	144.39	5,116.08	-4,933.88	4,457.58	6,648.77	0.60	0.58	
12,067.00	90.75	144.74	5,115.27	-4,982.76	4,492.37	6,708.27	0.59	-0.07	
12,097.00	90.79	143.60	5,114.87	-5,007.08	4,509.93	6,738.04	3.80	0.13	
12,128.00	91.36	144.92	5,114.29	-5,032.24	4,528.03	6,768.80	4.64	1.84	
12,158.00	91.32	143.69	5,113.59	-5,056.59	4,545.53	6,798.56	4.10	-0.13	
12,189.00	90.57	141.05	5,113.07	-5,081.14	4,564.45	6,829.42	8.85	-2.42	
12,220.00	90.97	138.24	5,112.66	-5,104.76	4,584.52	6,860.39	9.16	1.29	
12,250.00	90.22	136.66	5,112.35	-5,126.85	4,604.81	6,890.39	5.83	-2.50	
12,281.00	90.70	134.81	5,112.10	-5,149.05	4,626.44	6,921.37	6.17	1.55	
12,312.00	90.57	133.23	5,111.75	-5,170.59	4,648.73	6,952.32	5.11	-0.42	
12,342.00	90.70	132.35	5,111.42	-5,190.97	4,670.75	6,982.23	2.96	0.43	
12,373.00	90.09	130.86	5,111.21	-5,211.55	4,693.93	7,013.09	5.19	-1.97	
12,404.00	90.18	129.71	5,111.13	-5,231.60	4,717.57	7,043.86	3.72	0.29	
12,435.00	91.23	129.19	5,110.75	-5,251.29	4,741.51	7,074.58	3.78	3.39	
12,466.00	91.80	129.54	5,109.93	-5,270.95	4,765.47	7,105.28	2.16	1.84	
12,496.00	92.59	129.36	5,108.78	-5,290.00	4,788.62	7,134.98	2.70	2.63	
12,527.00	93.38	129.36	5,107.17	-5,309.63	4,812.55	7,165.65	2.55	2.55	
12,558.00	94.53	129.36	5,105.03	-5,329.24	4,836.46	7,196.29	3.71	3.71	
12,589.00	94.35	129.19	5,102.63	-5,348.81	4,860.39	7,226.90	0.80	-0.58	
12,620.00	93.25	130.07	5,100.58	-5,368.54	4,884.21	7,257.57	4.54	-3.55	

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Site: S27-T24N-R9W
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Wellbore: OH
Design: FINAL

Local Co-ordinate Reference: Well NAGEEZI UNIT L27-2409 03H (221H)
TVD Reference: 14' KB @ 6942.00usft (AZTEC 920)
MD Reference: 14' KB @ 6942.00usft (AZTEC 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Formations / Comments
12,651.00	93.21	130.77	5,098.83	-5,388.60	4,907.77	7,288.30	2.26	-0.13	
12,682.00	93.56	129.89	5,097.00	-5,408.63	4,931.36	7,319.03	3.05	1.13	
12,713.00	92.99	129.10	5,095.23	-5,428.32	4,955.25	7,349.70	3.14	-1.84	
12,743.00	90.22	129.89	5,094.39	-5,447.39	4,978.39	7,379.41	9.60	-9.23	
12,774.00	88.59	132.44	5,094.71	-5,467.79	5,001.72	7,410.24	9.76	-5.26	
12,805.00	87.76	134.81	5,095.70	-5,489.16	5,024.15	7,441.16	8.10	-2.68	
12,836.00	87.89	136.57	5,096.88	-5,511.33	5,045.78	7,472.13	5.69	0.42	
12,867.00	87.94	136.57	5,098.00	-5,533.83	5,067.08	7,503.10	0.16	0.16	
12,930.00	88.42	136.13	5,100.00	-5,579.39	5,110.54	7,566.06	1.03	0.76	
12,960.00	90.31	136.48	5,100.34	-5,601.08	5,131.27	7,596.06	6.41	6.30	LAST SURVEY - 12,960' MD
13,020.00	90.31	136.48	5,100.01	-5,644.58	5,172.58	7,656.05	0.00	0.00	PTB - 13,020' MD

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
NU L27-2409 03H PBHL - actual wellpath misses target center by 35.21usft at 13020.00usft MD (5100.01 TVD, -5644.58 N, 5172.58 E) - Point	0.00	0.00	5,066.60	-5,652.84	5,165.13	1,917,211.86	2,742,689.02	36.268973	-107.766852
NU L27-2409 03H PBHL - actual wellpath misses target center by 18.00usft at 13020.00usft MD (5100.01 TVD, -5644.58 N, 5172.58 E) - Point	0.00	0.00	5,114.17	-5,652.84	5,165.13	1,917,211.86	2,742,689.02	36.268973	-107.766852
NU L27-2409 03H PBHL - actual wellpath misses target center by 11.12usft at 13020.00usft MD (5100.01 TVD, -5644.58 N, 5172.58 E) - Point	0.00	0.00	5,099.81	-5,652.84	5,165.13	1,917,211.86	2,742,689.02	36.268973	-107.766852
NU L27-2409 03H POE - actual wellpath misses target center by 76.19usft at 5685.40usft MD (5242.85 TVD, -323.97 N, 149.59 E) - Point	0.00	0.00	5,192.23	-286.49	192.45	1,922,575.69	2,737,713.63	36.283716	-107.783721
NU L27-2409 03H PBHL - actual wellpath misses target center by 14.91usft at 13020.00usft MD (5100.01 TVD, -5644.58 N, 5172.58 E) - Point	0.00	0.00	5,090.08	-5,652.84	5,165.13	1,917,211.86	2,742,689.02	36.268973	-107.766852
NU L27-2409 03H PBHL - actual wellpath misses target center by 14.74usft at 13020.00usft MD (5100.01 TVD, -5644.58 N, 5172.58 E) - Point	0.00	0.00	5,090.34	-5,652.84	5,165.13	1,917,211.86	2,742,689.02	36.268973	-107.766852
NU L27-2409 03H PBHL - actual wellpath misses target center by 19.43usft at 13020.00usft MD (5100.01 TVD, -5644.58 N, 5172.58 E) - Point	0.00	0.00	5,084.08	-5,652.84	5,165.13	1,917,211.86	2,742,689.02	36.268973	-107.766852

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
12,960.00	5,100.34	-5,601.08	5,131.27	LAST SURVEY - 12,960' MD
13,020.00	5,100.01	-5,644.58	5,172.58	PTB - 13,020' MD

Checked By: _____ Approved By: _____ Date: _____