State of New Mexico
Energy, Minerals and Natural Resources Department

New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 11/21/2016
Well information;
Operator Encana, Well Name and Number Nageezi Unit 221H

API# 30-045-35820, Section 27, Township 24 (N)/S, Range 9 E/(W)

Conditions of Approval: (See the below checked and handwritten conditions)

- ✓ Notify Aztec OCD 24hrs prior to casing & cement.
- ✓ Hold C-104 for directional survey & "As Drilled" Plat
- o Hold C-104 for NSL, NSP, DHC
- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- o Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- o Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ✓ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ✓ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Chad Kerr — NMOCD Approved by Signature

1-25-2017 — Date

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM12374

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
INITAL MANCOS PA / NMNM132981A

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
NAGEEZI UNIT 221H

2. Name of Operator
ENCANA OIL & GAS (USA) INC

9. API Well No.
30-045-35820

3a. Address
370 17TH STREET, SUITE 1700 DENVER CO

3b. Phone No. *(include area code)*
(970)285-2600

10. Field and Pool, or Exploratory
Wildcat

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NWSW / 2428 FSL / 346 FWL / LAT 36.284503 / LONG -107.784374
At proposed prod. zone NWSW / 2070 FSL / 180 FWL / LAT 36.268973 / LONG -107.766852

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 27 / T24N / R9W / NMP

14. Distance in miles and direction from nearest town or post office*
34.1 miles

12. County or Parish
SAN JUAN

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
5626 feet

16. No. of acres in lease
2240

17. Spacing Unit dedicated to this well
10415.12

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
25 feet

19. Proposed Depth
5092 feet / 12895 feet

20. BLM/BIA Bond No. on file
FED: COB000235

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
6928 feet

22. Approximate date work will start*
03/01/2017

23. Estimated duration
20 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Katie Wegner / Ph: (720)876-3533	11/21/2016

Title
Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Maclaskey AFM		1/3/17
Title	Office	
	FARMINGTON	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

OIL CONS. DIV DIST. 3
JAN 06 2017

ubject to
cedural review
FR 3165.3 and
to 43 CFR 3165.4

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

NMOCD

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

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

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-045-35820	98080	Nageezi Unit; Mancos

4 Property Code	5 Property Name	6 Well Number
315244	NAGEEZI UNIT	221H

7 OGRID No.	8 Operator Name	9 Elevation
282327	ENCANA OIL & GAS (USA) INC.	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	346'	WEST	SAN JUAN

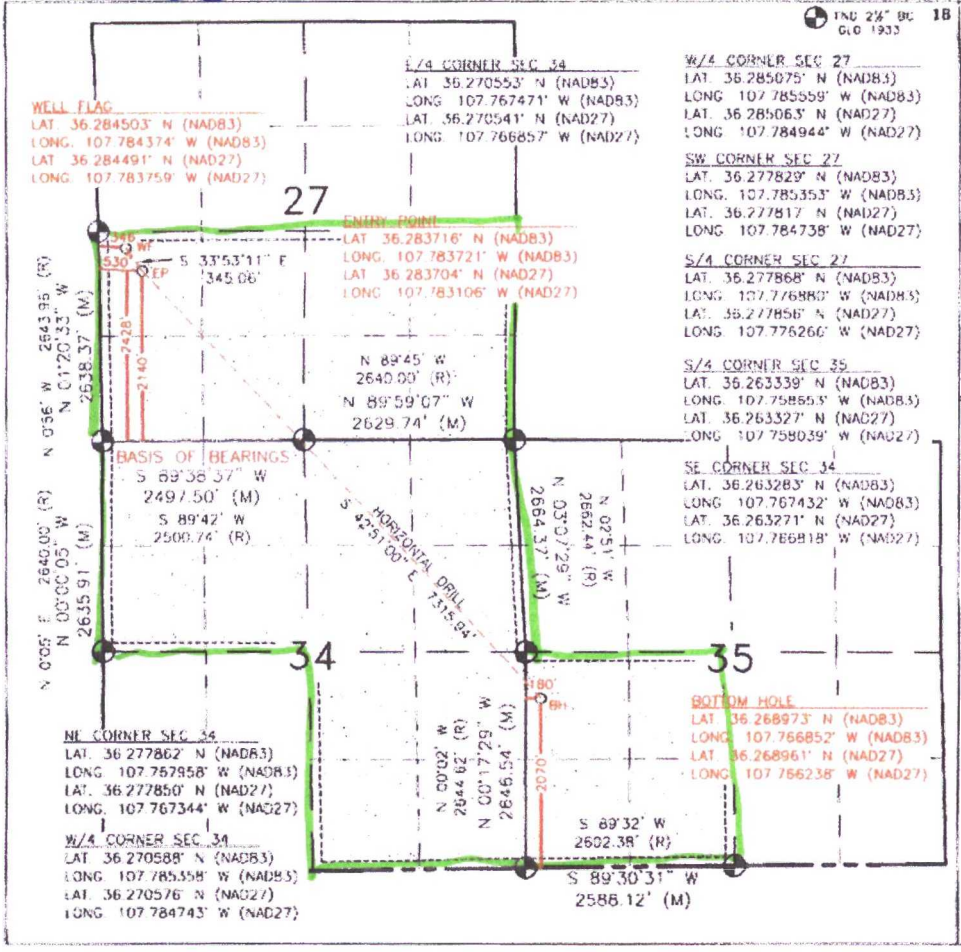
11 Bottom Hole Location If Different From Surface

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		2070'	SOUTH	180'	WEST	SAN JUAN

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
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. 27-25 (S/2); 25-28, 33-36, 1-4, 9-10 (ALL); 5 (W/2); 1* (NW/4) - UNDIVIDED UNIT			R-13856-A - 10,415.12 Acres

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

Total acres 960



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: 11/14/16

Kathryn 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.

OCTOBER 20, 2016
Date of Survey

Signature and Seal of Professional Surveyor:

GARY P. BROADHURST
NEW MEXICO
11393
10/24/2016
PROFESSIONAL SURVEYOR

Certificate Number 11393

Nageezi Unit 221H
SHL: NWSW Sec 27 T24N R9W
2428' FSL 346' FWL
BHL: NWSE Sec 35 T24N R9W
2070' FSL 180' FWL
San Juan, New Mexico

Encana Oil & Gas (USA) Inc.
Drilling Plan

1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)

The estimated tops of important geologic markers are as follows:

Formation	Depth (TVD) units = feet
Ojo Alamo	931
Kirtland Shale	1,108
Fruitland Coal	1,417
Pictured Cliffs Ss.	1,697
Lewis Shale	1,791
Cliffhouse Ss.	2,442
Menefee Fn.	3,195
Point Lookout Ss.	4,157
Mancos Shale	4,300
Mancos Silt	4,866
Gallup Fn.	5,126

The referenced surface elevation is 6928', KB 6944'

2. ESTIMATED DEPTH OF POTENTIAL WATER, OIL, GAS, & OTHER MINERAL BEARING FORMATIONS

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,417
Water/Gas	Pictured Cliffs Ss.	1,697
Water/Gas	Cliffhouse Ss.	2,442
Water/Gas	Menefee Fn.	3,195
Water/Gas	Point Lookout Ss.	4,157
Oil/Gas	Mancos Shale	4,300
Oil/Gas	Mancos Silt	4,866
Oil/Gas	Gallup Fn.	5,126

All shows of fresh water and minerals will be reported and protected.

3. PRESSURE CONTROL

a) Pressure contol equipment and configuration will be designed to meet 2M standards.
b) Working pressure on rams and BOPE will be 3,000 psi.
c) Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
d) The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
e) Blind and Pipe Rams/BOP will be tested against a test plug to 100 percent of rated working pressure.
f) Pressure tests are required before drilling out from under all casing strings set and cemented in place.

g) BOP controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned.
h) BOP testing procedures and testing frequency will conform to Onshore Order No. 2.
i) BOP remote controls shall be located on the rig floor at a location readily accessible to the driller. Master controls shall be on the ground at the accumulator and shall have the capability to function all preventers.
j) The kill line shall be 2-inch minimum and contain two kill line valves, one of which shall be a check valve.
k) The choke line shall be a 2-inch minimum and contain two choke line valves (2-inch minimum).
l) The choke and manifold shall contain two adjustable chokes.
m) Hand wheels shall be installed on all ram preventers.
n) Safety valves and wrenches (with subs for drill string connections) shall be available on the rig floor at all
o) Inside BOP or float sub shall also be available on the rig floor at all times.

Proposed BOP and choke manifold arrangements are attached.

4. CASING & CEMENTING PROGRAM

The proposed casing and cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. All indications of useable water shall be reported.

a) The proposed casing design is as follows:

Casing	Depth (MD)	Hole Size	Csg Size	Weight	Grade
Conductor	0'-60'	26"	16"	42	
Surface	0'-500'	12 1/4"	9 5/8"	32.3	J55, STC New
Intermediate	0'-5400'	8 3/4"	7"	26	J55, LTC New
Production Liner	5200'-12895'	6 1/8"	4 1/2"	11.6	B80*, BTC New

Casing String				Casing Strength Properties			Minimum Design Factors		
Size	Weight (ppf)	Grade	Connection	Collapse (psi)	Burst (psi)	Tensile (1000lbs)	Collapse	Burst	Tension
9 5/8"	32.3	J55	STC	1370	2270	365	1.0	1.1	1.5
7"	26	J55	LTC	4330	4980	367	1.0	1.1	1.5
4.5"	11.6	B80	BTC	6350	7780	267	1.0	1.1	1.5

*B80 pipe specifications are attached

Casing design is subject to revision based on geologic conditions encountered

All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or 1,500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

Nageezi Unit 221H
SHL: NWSW Sec 27 T24N R9W
2428' FSL 346' FWL
BHL: NWSE Sec 35 T24N R9W
2070' FSL 180' FWL
San Juan, New Mexico

b) The proposed cementing program is as follows

Casing	Depth (MD)	Cement Volume (sacks)	Cement Type & Yield	Designed TOC	Centralizers
Conductor	0'-60'	100 sks	Type I Neat 16 ppg	Surface	None
Surface	0'-500'	248 sks	Class G w/ 2% CaCl Weight: 14.6ppg Yield: 13.8 ft^3/sk	Surface	1 per joint on bottom 3 joints
Intermediate	0'-5400'	100% open hole excess Stage 1 Lead: 603 sks Stage 1 Tail: 292 sks	Lead: Extended Class G w/ 6% BWOC bentonite + 5 lb/sk Kol-Seal + 0.125 lb/sk Poly-flake + 0.3% BWOC HR-5 Weight: 12.1ppg Yield: 2.038 ft^3/sk Tail: Extended Class G w/ 1% BWOC bentonite + 0.3% BWOC Halad-567 + 0.2% BWOC Versaset + 0.05% SA-1015 Weight: 14.6ppg Yield: 1.059 ft^3/sk	Surface	1 every 3 joints through water bearing zones
Production Liner	5200'-12895'	30% open hole excess Cement Vol: 727 sks	Extended Class G w/ 2.5 lb/sk Kol-seal + 0.7% BWOC Halad-567 + 0.20% BWOC Halad-9 + 0.05% SA-1015 Weight: 13.5ppg Yield: 1.302 ft^3/sk	Top of Liner	N/A

Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM and New Mexico Oil Conservation Division requirements. Slurries used will be the slurries listed above or equivalent slurries depending on service provider selected. Cement yields may change depending on slurries selected

All waiting on cement times shall be a minimum of 8 hours or adequate to achieve minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4508'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5092'/12895'	Gallup

6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
26"	0-60'/60'	Fresh Water	8.3-9.2	38-100	NC
12 1/4"	0'-500'/500'	Fresh Water	8.3-10	60-70	NC
8 3/4"	500'/500'-5172'/5400'	Fresh Water LSND	8.3-10	40-50	8-10

b) Intermediate Casing Point to TD:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	5172'/5400'-5092'/12895'	Fresh Water LSND	8.3-10	15-25	<15

c) There will be sufficient mud on location to control a blowout should one occur. Mud flow and volume will be monitored both visually and with electronic pit volume totalizers. Mud tests shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

d) A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystems, Inc. The location will be lined in accordance with the Surface Use Plan of Operations.

7. TESTING, CORING, & LOGGING

a) Drill Stem Testing - None anticipated.
b) Coring - None anticipated.
c) Mud Logging - Top Mancos to TD

d) Logging - See below
Cased Hole:
CBL/CCL/GR/VDL will be run as needed for perforating control

8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2433 psi based on a 9.0 ppg at 5199' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H_2S is encountered, the guidelines in Onshore Order No. 6 will be followed.

9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on March 1st, 2017. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies.

It is anticipated that the drilling of this well will take approximately 10 days.

LOC: NW/4 SW/4 Sec 27 T24N R9W, 2140
County: San Juan
WELL: Nageezi Unit 221H

Encana Natural Gas

WELL SUMMARY

ENG: L. Hubbard 1-3-17
RIG: Unassigned
GLE: 6928
RKBE: 6944

MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH TVD	DEPTH MD	HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			60	60'	26	**16" 42#** 100sx Type I Neat 16.0ppg cmt	Fresh wtr 8.3-9.2	
Multi-Well pad take survey every stand and run anti-collision report prior to spud	None	Nacimiento	0		12 1/4	**9 5/8" 32.3ppf J55 STC** TOC to Surface 100% OHE	Fresh wtr 8.3-10	Vertical <1°
		9 5/8" Csg	**500**	**500.00**				
Survey Every 60'-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5	No OH logs MWD GR Mud Log	Ojo Alamo Kirtland Shale Fruitland Coal Pictured Cliffs Ss. Lewis Shale Cliffhouse Ss. Menefee Fn. Point Lookout Ss. Mancos Shale	931 1,108 1,417 1,697 1,791 2,442 3,195 4,157 4,300		8 3/4	**7" 26ppf J55 LTC** TOC @ surface (100% OH excess) Stage 1 Total: 896sks	Fresh Wtr 8.3-10	Vertical <1°
		KOP	**4,508**	**4,520**				
Surveys every 30' through the curve		Mancos Silt	4,866					
		Gallup Fn.	5,126					
		7" Csg	**5,172**	**5,400'**				
Surveys every stand to TD unless directed otherwise by Geologist MWD Gamma Directional	No OH Logs	Horizontal Target **TD** Base Gallup	5,199 **5,092** 5,450	**12,895**	6 1/8	200' overlap at liner top 7495' Drilled Lateral TOC @ Top of Liner (30% open hole excess)	**WBM** 8.3-10	Horz Inc/TVD 90.8deg/5199' TD = 12895.35' MD

ENCANA

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
3	724.57	4.49	308.64	724.34	5.49	-6.87	2.00	308.64	-8.70	
4	4520.31	4.49	308.64	4508.42	191.10	-239.04	0.00	0.00	-302.65	
5	5578.54	90.80	137.18	5194.23	-286.49	192.45	9.00	-171.43	340.95	NU L27-2409 03H POE
6	12895.35	90.80	137.18	5092.08	-5652.84	5165.13	0.00	0.00	7657.04	NU L27-2409 03H PBHL

Project: San Juan County, NM
Site: S27-T24N-R9W
Well: NAGEEZI UNIT L27-2409 03H (221H)
Wellbore: OH
Design: PLAN #1

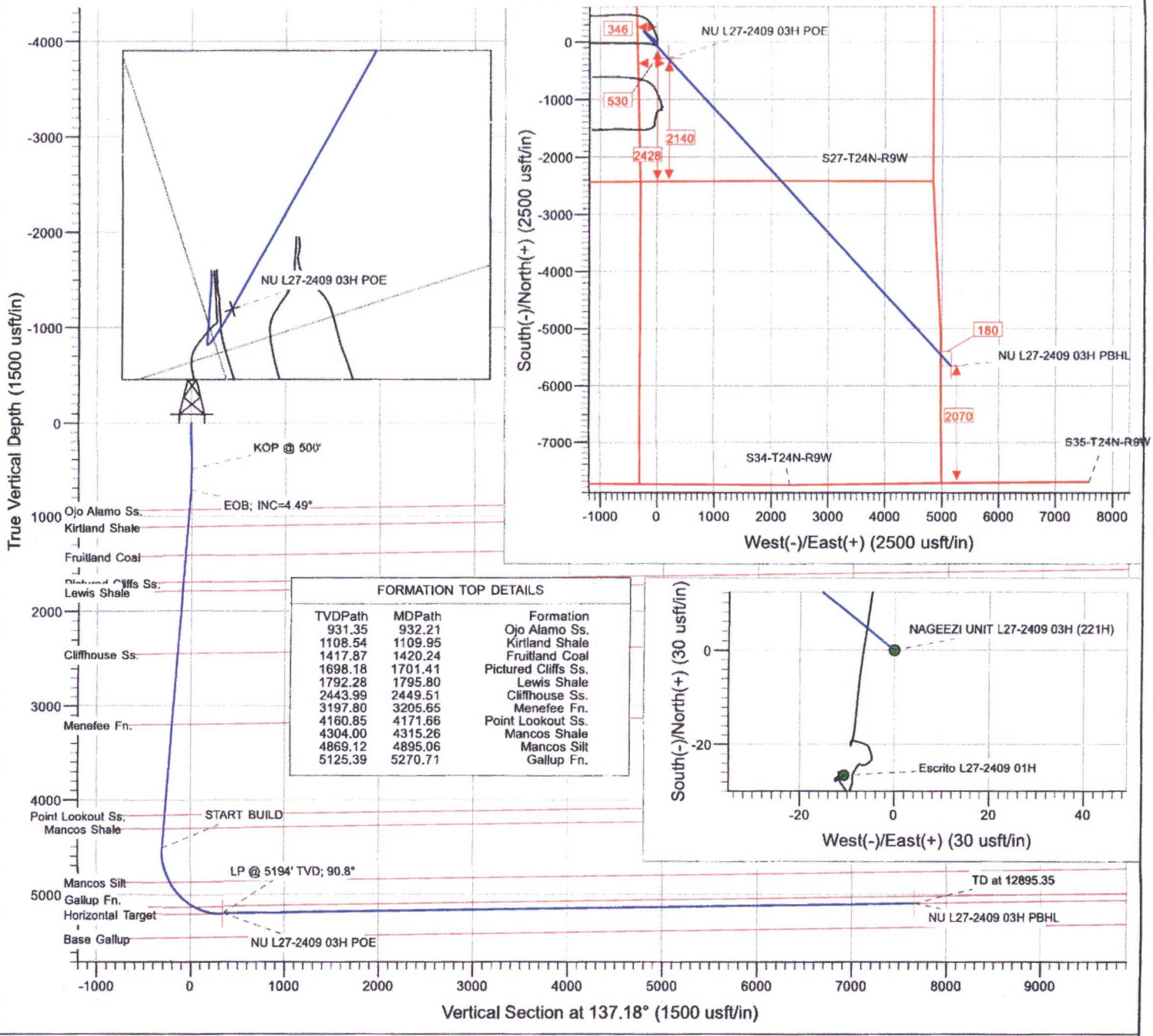
Azimuths to True North
Magnetic North: 9.08°

Magnetic Field
Strength: 49786.2snT
Dip Angle: 62.92°
Date: 11/7/2016
Model: HDGM

PLAN #1
NAGEEZI UNIT L27-2409 03H (221H)
18XXX, LR
RKB @ 6944.00usft
Ground Level @ 6928.00
North American Datum 1983
Well NAGEEZI UNIT L27-2409 03H (221H), True North

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
User	Min Target (Tree hand)	137.18	Slot	0.00	0.00	0.00

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
NU L27-2409 03H PBHL	5092.08	-5652.84	5165.13	36.268673	-107.780862
NU L27-2409 03H POE	5194.23	-286.49	192.45	36.283718	-107.783721



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
931.35	932.21	Ojo Alamo Ss.
1108.54	1109.95	Kirtland Shale
1417.87	1420.24	Fruitland Coal
1698.18	1701.41	Pictured Cliffs Ss.
1792.28	1795.80	Lewis Shale
2443.99	2449.51	Cliffhouse Ss.
3197.80	3205.65	Menefee Fn.
4160.85	4171.66	Point Lookout Ss.
4304.00	4315.26	Mancos Shale
4869.12	4895.06	Mancos Silt
5125.39	5270.71	Gallup Fn.

CATHEDRAL

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

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

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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	PLAN #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**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	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
724.57	4.49	308.64	724.34	5.49	-6.87	2.00	2.00	0.00	308.64	
4,520.31	4.49	308.64	4,508.42	191.10	-239.04	0.00	0.00	0.00	0.00	
5,578.54	90.80	137.18	5,194.23	-286.49	192.45	9.00	8.16	-16.20	-171.43	NAGEEZI UNIT POE
12,895.35	90.80	137.18	5,092.08	-5,652.84	5,165.13	0.00	0.00	0.00	0.00	NAGEEZI UNIT PBHL

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	KOP @ 500'
600.00	2.00	308.64	599.98	1.09	-1.36	-1.73	2.00	2.00	
700.00	4.00	308.64	699.84	4.36	-5.45	-6.90	2.00	2.00	
724.57	4.49	308.64	724.34	5.49	-6.87	-8.70	2.00	2.00	EOB; INC=4.49°
800.00	4.49	308.64	799.54	9.18	-11.49	-14.54	0.00	0.00	
900.00	4.49	308.64	899.23	14.07	-17.60	-22.29	0.00	0.00	
932.21	4.49	308.64	931.35	15.65	-19.57	-24.78	0.00	0.00	Ojo Alamo Ss.
1,000.00	4.49	308.64	998.92	18.96	-23.72	-30.03	0.00	0.00	
1,100.00	4.49	308.64	1,098.62	23.85	-29.83	-37.77	0.00	0.00	
1,109.95	4.49	308.64	1,108.54	24.34	-30.44	-38.54	0.00	0.00	Kirtland Shale
1,200.00	4.49	308.64	1,198.31	28.74	-35.95	-45.52	0.00	0.00	
1,300.00	4.49	308.64	1,298.00	33.63	-42.07	-53.26	0.00	0.00	
1,400.00	4.49	308.64	1,397.70	38.52	-48.18	-61.01	0.00	0.00	
1,420.24	4.49	308.64	1,417.87	39.51	-49.42	-62.57	0.00	0.00	Fruitland Coal
1,500.00	4.49	308.64	1,497.39	43.41	-54.30	-68.75	0.00	0.00	
1,600.00	4.49	308.64	1,597.08	48.30	-60.42	-76.49	0.00	0.00	
1,700.00	4.49	308.64	1,696.77	53.19	-66.53	-84.24	0.00	0.00	
1,701.41	4.49	308.64	1,698.18	53.26	-66.62	-84.35	0.00	0.00	Pictured Cliffs Ss.
1,795.80	4.49	308.64	1,792.28	57.88	-72.39	-91.66	0.00	0.00	Lewis Shale
1,800.00	4.49	308.64	1,796.47	58.08	-72.65	-91.98	0.00	0.00	
1,900.00	4.49	308.64	1,896.16	62.97	-78.77	-99.73	0.00	0.00	
2,000.00	4.49	308.64	1,995.85	67.86	-84.88	-107.47	0.00	0.00	
2,100.00	4.49	308.64	2,095.55	72.75	-91.00	-115.22	0.00	0.00	
2,200.00	4.49	308.64	2,195.24	77.64	-97.12	-122.96	0.00	0.00	
2,300.00	4.49	308.64	2,294.93	82.53	-103.23	-130.70	0.00	0.00	
2,400.00	4.49	308.64	2,394.62	87.42	-109.35	-138.45	0.00	0.00	
2,449.51	4.49	308.64	2,443.99	89.84	-112.38	-142.28	0.00	0.00	Cliffhouse Ss.
2,500.00	4.49	308.64	2,494.32	92.31	-115.47	-146.19	0.00	0.00	
2,600.00	4.49	308.64	2,594.01	97.20	-121.58	-153.94	0.00	0.00	
2,700.00	4.49	308.64	2,693.70	102.09	-127.70	-161.68	0.00	0.00	
2,800.00	4.49	308.64	2,793.40	106.98	-133.82	-169.42	0.00	0.00	
2,900.00	4.49	308.64	2,893.09	111.87	-139.93	-177.17	0.00	0.00	
3,000.00	4.49	308.64	2,992.78	116.76	-146.05	-184.91	0.00	0.00	
3,100.00	4.49	308.64	3,092.48	121.65	-152.17	-192.66	0.00	0.00	
3,200.00	4.49	308.64	3,192.17	126.54	-158.28	-200.40	0.00	0.00	
3,205.65	4.49	308.64	3,197.80	126.82	-158.63	-200.84	0.00	0.00	Menefee Fn.
3,300.00	4.49	308.64	3,291.86	131.43	-164.40	-208.15	0.00	0.00	
3,400.00	4.49	308.64	3,391.55	136.32	-170.52	-215.89	0.00	0.00	
3,500.00	4.49	308.64	3,491.25	141.21	-176.63	-223.63	0.00	0.00	
3,600.00	4.49	308.64	3,590.94	146.10	-182.75	-231.38	0.00	0.00	
3,700.00	4.49	308.64	3,690.63	150.99	-188.87	-239.12	0.00	0.00	
3,800.00	4.49	308.64	3,790.33	155.88	-194.98	-246.87	0.00	0.00	
3,900.00	4.49	308.64	3,890.02	160.77	-201.10	-254.61	0.00	0.00	
4,000.00	4.49	308.64	3,989.71	165.66	-207.21	-262.35	0.00	0.00	
4,100.00	4.49	308.64	4,089.40	170.55	-213.33	-270.10	0.00	0.00	
4,171.66	4.49	308.64	4,160.85	174.06	-217.71	-275.65	0.00	0.00	Point Lookout Ss.
4,200.00	4.49	308.64	4,189.10	175.44	-219.45	-277.84	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
4,300.00	4.49	308.64	4,288.79	180.33	-225.56	-285.59	0.00	0.00	
4,315.26	4.49	308.64	4,304.00	181.08	-226.50	-286.77	0.00	0.00	Mancos Shale
4,400.00	4.49	308.64	4,388.48	185.22	-231.68	-293.33	0.00	0.00	
4,500.00	4.49	308.64	4,488.18	190.11	-237.80	-301.08	0.00	0.00	
4,520.31	4.49	308.64	4,508.42	191.10	-239.04	-302.65	0.00	0.00	START BUILD
4,600.00	2.81	150.94	4,588.05	191.34	-240.53	-303.84	9.00	-2.11	
4,700.00	11.75	140.41	4,687.14	181.33	-232.83	-291.26	9.00	8.94	
4,800.00	20.74	138.96	4,783.05	160.09	-214.68	-263.34	9.00	8.99	
4,895.06	29.29	138.38	4,869.12	129.95	-188.13	-223.19	9.00	9.00	Mancos Silt
4,900.00	29.74	138.36	4,873.41	128.13	-186.52	-220.76	9.00	9.00	
5,000.00	38.74	138.02	4,956.00	86.25	-149.03	-164.56	9.00	9.00	
5,100.00	47.73	137.80	5,028.78	35.48	-103.16	-96.14	9.00	9.00	
5,200.00	56.73	137.63	5,089.96	-22.94	-50.02	-17.17	9.00	9.00	
5,270.71	63.10	137.53	5,125.39	-68.08	-8.77	43.98	9.00	9.00	Gallup Fn.
5,300.00	65.73	137.49	5,138.04	-87.56	9.08	70.40	9.00	9.00	
5,400.00	74.73	137.37	5,171.82	-156.80	72.67	164.41	9.00	9.00	
5,500.00	83.73	137.26	5,190.49	-228.94	139.21	262.54	9.00	9.00	
5,578.54	90.80	137.18	5,194.23	-286.49	192.45	340.95	9.00	9.00	LP @ 5194' TVD; 90.8°
5,600.00	90.80	137.18	5,193.93	-302.22	207.04	362.40	0.00	0.00	
5,700.00	90.80	137.18	5,192.53	-375.57	275.00	462.39	0.00	0.00	
5,800.00	90.80	137.18	5,191.14	-448.91	342.96	562.38	0.00	0.00	
5,900.00	90.80	137.18	5,189.74	-522.25	410.92	662.37	0.00	0.00	
6,000.00	90.80	137.18	5,188.35	-595.59	478.89	762.36	0.00	0.00	
6,100.00	90.80	137.18	5,186.95	-668.94	546.85	862.35	0.00	0.00	
6,200.00	90.80	137.18	5,185.55	-742.28	614.81	962.34	0.00	0.00	
6,300.00	90.80	137.18	5,184.16	-815.62	682.77	1,062.33	0.00	0.00	
6,400.00	90.80	137.18	5,182.76	-888.97	750.74	1,162.32	0.00	0.00	
6,500.00	90.80	137.18	5,181.37	-962.31	818.70	1,262.31	0.00	0.00	
6,600.00	90.80	137.18	5,179.97	-1,035.65	886.66	1,362.30	0.00	0.00	
6,700.00	90.80	137.18	5,178.57	-1,108.99	954.62	1,462.29	0.00	0.00	
6,800.00	90.80	137.18	5,177.18	-1,182.34	1,022.59	1,562.28	0.00	0.00	
6,900.00	90.80	137.18	5,175.78	-1,255.68	1,090.55	1,662.28	0.00	0.00	
7,000.00	90.80	137.18	5,174.39	-1,329.02	1,158.51	1,762.27	0.00	0.00	
7,100.00	90.80	137.18	5,172.99	-1,402.37	1,226.47	1,862.26	0.00	0.00	
7,200.00	90.80	137.18	5,171.59	-1,475.71	1,294.44	1,962.25	0.00	0.00	
7,300.00	90.80	137.18	5,170.20	-1,549.05	1,362.40	2,062.24	0.00	0.00	
7,400.00	90.80	137.18	5,168.80	-1,622.39	1,430.36	2,162.23	0.00	0.00	
7,500.00	90.80	137.18	5,167.40	-1,695.74	1,498.32	2,262.22	0.00	0.00	
7,600.00	90.80	137.18	5,166.01	-1,769.08	1,566.29	2,362.21	0.00	0.00	
7,700.00	90.80	137.18	5,164.61	-1,842.42	1,634.25	2,462.20	0.00	0.00	
7,800.00	90.80	137.18	5,163.22	-1,915.77	1,702.21	2,562.19	0.00	0.00	
7,900.00	90.80	137.18	5,161.82	-1,989.11	1,770.17	2,662.18	0.00	0.00	
8,000.00	90.80	137.18	5,160.42	-2,062.45	1,838.13	2,762.17	0.00	0.00	
8,100.00	90.80	137.18	5,159.03	-2,135.79	1,906.10	2,862.16	0.00	0.00	
8,200.00	90.80	137.18	5,157.63	-2,209.14	1,974.06	2,962.15	0.00	0.00	
8,300.00	90.80	137.18	5,156.24	-2,282.48	2,042.02	3,062.14	0.00	0.00	
8,400.00	90.80	137.18	5,154.84	-2,355.82	2,109.98	3,162.13	0.00	0.00	
8,500.00	90.80	137.18	5,153.44	-2,429.16	2,177.95	3,262.12	0.00	0.00	
8,600.00	90.80	137.18	5,152.05	-2,502.51	2,245.91	3,362.11	0.00	0.00	
8,700.00	90.80	137.18	5,150.65	-2,575.85	2,313.87	3,462.10	0.00	0.00	
8,800.00	90.80	137.18	5,149.26	-2,649.19	2,381.83	3,562.09	0.00	0.00	
8,900.00	90.80	137.18	5,147.86	-2,722.54	2,449.80	3,662.08	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
9,000.00	90.80	137.18	5,146.46	-2,795.88	2,517.76	3,762.07	0.00	0.00	
9,100.00	90.80	137.18	5,145.07	-2,869.22	2,585.72	3,862.06	0.00	0.00	
9,200.00	90.80	137.18	5,143.67	-2,942.56	2,653.68	3,962.05	0.00	0.00	
9,300.00	90.80	137.18	5,142.27	-3,015.91	2,721.65	4,062.04	0.00	0.00	
9,400.00	90.80	137.18	5,140.88	-3,089.25	2,789.61	4,162.03	0.00	0.00	
9,500.00	90.80	137.18	5,139.48	-3,162.59	2,857.57	4,262.02	0.00	0.00	
9,600.00	90.80	137.18	5,138.09	-3,235.94	2,925.53	4,362.01	0.00	0.00	
9,700.00	90.80	137.18	5,136.69	-3,309.28	2,993.50	4,462.00	0.00	0.00	
9,800.00	90.80	137.18	5,135.29	-3,382.62	3,061.46	4,561.99	0.00	0.00	
9,900.00	90.80	137.18	5,133.90	-3,455.96	3,129.42	4,661.98	0.00	0.00	
10,000.00	90.80	137.18	5,132.50	-3,529.31	3,197.38	4,761.97	0.00	0.00	
10,100.00	90.80	137.18	5,131.11	-3,602.65	3,265.34	4,861.96	0.00	0.00	
10,200.00	90.80	137.18	5,129.71	-3,675.99	3,333.31	4,961.95	0.00	0.00	
10,300.00	90.80	137.18	5,128.31	-3,749.33	3,401.27	5,061.94	0.00	0.00	
10,400.00	90.80	137.18	5,126.92	-3,822.68	3,469.23	5,161.93	0.00	0.00	
10,500.00	90.80	137.18	5,125.52	-3,896.02	3,537.19	5,261.92	0.00	0.00	
10,600.00	90.80	137.18	5,124.13	-3,969.36	3,605.16	5,361.91	0.00	0.00	
10,700.00	90.80	137.18	5,122.73	-4,042.71	3,673.12	5,461.90	0.00	0.00	
10,800.00	90.80	137.18	5,121.33	-4,116.05	3,741.08	5,561.89	0.00	0.00	
10,900.00	90.80	137.18	5,119.94	-4,189.39	3,809.04	5,661.89	0.00	0.00	
11,000.00	90.80	137.18	5,118.54	-4,262.73	3,877.01	5,761.88	0.00	0.00	
11,100.00	90.80	137.18	5,117.14	-4,336.08	3,944.97	5,861.87	0.00	0.00	
11,200.00	90.80	137.18	5,115.75	-4,409.42	4,012.93	5,961.86	0.00	0.00	
11,300.00	90.80	137.18	5,114.35	-4,482.76	4,080.89	6,061.85	0.00	0.00	
11,400.00	90.80	137.18	5,112.96	-4,556.11	4,148.86	6,161.84	0.00	0.00	
11,500.00	90.80	137.18	5,111.56	-4,629.45	4,216.82	6,261.83	0.00	0.00	
11,600.00	90.80	137.18	5,110.16	-4,702.79	4,284.78	6,361.82	0.00	0.00	
11,700.00	90.80	137.18	5,108.77	-4,776.13	4,352.74	6,461.81	0.00	0.00	
11,800.00	90.80	137.18	5,107.37	-4,849.48	4,420.71	6,561.80	0.00	0.00	
11,900.00	90.80	137.18	5,105.98	-4,922.82	4,488.67	6,661.79	0.00	0.00	
12,000.00	90.80	137.18	5,104.58	-4,996.16	4,556.63	6,761.78	0.00	0.00	
12,100.00	90.80	137.18	5,103.18	-5,069.50	4,624.59	6,861.77	0.00	0.00	
12,200.00	90.80	137.18	5,101.79	-5,142.85	4,692.56	6,961.76	0.00	0.00	
12,300.00	90.80	137.18	5,100.39	-5,216.19	4,760.52	7,061.75	0.00	0.00	
12,400.00	90.80	137.18	5,099.00	-5,289.53	4,828.48	7,161.74	0.00	0.00	
12,500.00	90.80	137.18	5,097.60	-5,362.88	4,896.44	7,261.73	0.00	0.00	
12,600.00	90.80	137.18	5,096.20	-5,436.22	4,964.40	7,361.72	0.00	0.00	
12,700.00	90.80	137.18	5,094.81	-5,509.56	5,032.37	7,461.71	0.00	0.00	
12,800.00	90.80	137.18	5,093.41	-5,582.90	5,100.33	7,561.70	0.00	0.00	
12,895.35	90.80	137.18	5,092.08	-5,652.84	5,165.13	7,657.04	0.00	0.00	TD at 12895.35

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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
NAGEEZI UNIT POE - plan hits target center - Point	0.00	0.00	5,194.23	-286.49	192.45	1,922,575.69	2,737,713.63	36.283716	-107.783721
NAGEEZI UNIT PBHL - plan hits target center - Point	0.00	0.00	5,092.08	-5,652.84	5,165.13	1,917,211.86	2,742,689.02	36.268973	-107.766852

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
932.21	931.00	Ojo Alamo Ss.		-0.80	137.18
1,109.95	1,108.00	Kirtland Shale		-0.80	137.18
1,420.24	1,417.00	Fruitland Coal		-0.80	137.18
1,701.41	1,697.00	Pictured Cliffs Ss.		-0.80	137.18
1,795.80	1,791.00	Lewis Shale		-0.80	137.18
2,449.51	2,442.00	Cliffhouse Ss.		-0.80	137.18
3,205.65	3,195.00	Menefee Fn.		-0.80	137.18
4,171.66	4,157.00	Point Lookout Ss.		-0.80	137.18
4,315.26	4,300.00	Mancos Shale		-0.80	137.18
4,895.06	4,866.00	Mancos Silt		-0.80	137.18
5,270.71	5,126.00	Gallup Fn.		-0.80	137.18

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
500.00	500.00	0.00	0.00	KOP @ 500'
724.57	724.34	5.49	-6.87	EOB; INC=4.49°
4,520.31	4,508.42	191.10	-239.04	START BUILD
5,578.54	5,194.23	-286.49	192.45	LP @ 5194' TVD; 90.8°
12,895.35	5,092.08	-5,652.84	5,165.13	TD at 12895.35

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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	PLAN #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**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	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
724.57	4.49	308.64	724.34	5.49	-6.87	2.00	2.00	0.00	308.64	
4,520.31	4.49	308.64	4,508.42	191.10	-239.04	0.00	0.00	0.00	0.00	
5,578.54	90.80	137.18	5,194.23	-286.49	192.45	9.00	8.16	-16.20	-171.43	NAGEEZI UNIT POE
12,895.35	90.80	137.18	5,092.08	-5,652.84	5,165.13	0.00	0.00	0.00	0.00	NAGEEZI UNIT PBHL

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	KOP @ 500'
600.00	2.00	308.64	599.98	1.09	-1.36	-1.73	2.00	2.00	
700.00	4.00	308.64	699.84	4.36	-5.45	-6.90	2.00	2.00	
724.57	4.49	308.64	724.34	5.49	-6.87	-8.70	2.00	2.00	EOB; INC=4.49°
800.00	4.49	308.64	799.54	9.18	-11.49	-14.54	0.00	0.00	
900.00	4.49	308.64	899.23	14.07	-17.60	-22.29	0.00	0.00	
932.21	4.49	308.64	931.35	15.65	-19.57	-24.78	0.00	0.00	Ojo Alamo Ss.
1,000.00	4.49	308.64	998.92	18.96	-23.72	-30.03	0.00	0.00	
1,100.00	4.49	308.64	1,098.62	23.85	-29.83	-37.77	0.00	0.00	
1,109.95	4.49	308.64	1,108.54	24.34	-30.44	-38.54	0.00	0.00	Kirtland Shale
1,200.00	4.49	308.64	1,198.31	28.74	-35.95	-45.52	0.00	0.00	
1,300.00	4.49	308.64	1,298.00	33.63	-42.07	-53.26	0.00	0.00	
1,400.00	4.49	308.64	1,397.70	38.52	-48.18	-61.01	0.00	0.00	
1,420.24	4.49	308.64	1,417.87	39.51	-49.42	-62.57	0.00	0.00	Fruitland Coal
1,500.00	4.49	308.64	1,497.39	43.41	-54.30	-68.75	0.00	0.00	
1,600.00	4.49	308.64	1,597.08	48.30	-60.42	-76.49	0.00	0.00	
1,700.00	4.49	308.64	1,696.77	53.19	-66.53	-84.24	0.00	0.00	
1,701.41	4.49	308.64	1,698.18	53.26	-66.62	-84.35	0.00	0.00	Pictured Cliffs Ss.
1,795.80	4.49	308.64	1,792.28	57.88	-72.39	-91.66	0.00	0.00	Lewis Shale
1,800.00	4.49	308.64	1,796.47	58.08	-72.65	-91.98	0.00	0.00	
1,900.00	4.49	308.64	1,896.16	62.97	-78.77	-99.73	0.00	0.00	
2,000.00	4.49	308.64	1,995.85	67.86	-84.88	-107.47	0.00	0.00	
2,100.00	4.49	308.64	2,095.55	72.75	-91.00	-115.22	0.00	0.00	
2,200.00	4.49	308.64	2,195.24	77.64	-97.12	-122.96	0.00	0.00	
2,300.00	4.49	308.64	2,294.93	82.53	-103.23	-130.70	0.00	0.00	
2,400.00	4.49	308.64	2,394.62	87.42	-109.35	-138.45	0.00	0.00	
2,449.51	4.49	308.64	2,443.99	89.84	-112.38	-142.28	0.00	0.00	Cliffhouse Ss.
2,500.00	4.49	308.64	2,494.32	92.31	-115.47	-146.19	0.00	0.00	
2,600.00	4.49	308.64	2,594.01	97.20	-121.58	-153.94	0.00	0.00	
2,700.00	4.49	308.64	2,693.70	102.09	-127.70	-161.68	0.00	0.00	
2,800.00	4.49	308.64	2,793.40	106.98	-133.82	-169.42	0.00	0.00	
2,900.00	4.49	308.64	2,893.09	111.87	-139.93	-177.17	0.00	0.00	
3,000.00	4.49	308.64	2,992.78	116.76	-146.05	-184.91	0.00	0.00	
3,100.00	4.49	308.64	3,092.48	121.65	-152.17	-192.66	0.00	0.00	
3,200.00	4.49	308.64	3,192.17	126.54	-158.28	-200.40	0.00	0.00	
3,205.65	4.49	308.64	3,197.80	126.82	-158.63	-200.84	0.00	0.00	Menefee Fn.
3,300.00	4.49	308.64	3,291.86	131.43	-164.40	-208.15	0.00	0.00	
3,400.00	4.49	308.64	3,391.55	136.32	-170.52	-215.89	0.00	0.00	
3,500.00	4.49	308.64	3,491.25	141.21	-176.63	-223.63	0.00	0.00	
3,600.00	4.49	308.64	3,590.94	146.10	-182.75	-231.38	0.00	0.00	
3,700.00	4.49	308.64	3,690.63	150.99	-188.87	-239.12	0.00	0.00	
3,800.00	4.49	308.64	3,790.33	155.88	-194.98	-246.87	0.00	0.00	
3,900.00	4.49	308.64	3,890.02	160.77	-201.10	-254.61	0.00	0.00	
4,000.00	4.49	308.64	3,989.71	165.66	-207.21	-262.35	0.00	0.00	
4,100.00	4.49	308.64	4,089.40	170.55	-213.33	-270.10	0.00	0.00	
4,171.66	4.49	308.64	4,160.85	174.06	-217.71	-275.65	0.00	0.00	Point Lookout Ss.
4,200.00	4.49	308.64	4,189.10	175.44	-219.45	-277.84	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
4,300.00	4.49	308.64	4,288.79	180.33	-225.56	-285.59	0.00	0.00	
4,315.26	4.49	308.64	4,304.00	181.08	-226.50	-286.77	0.00	0.00	Mancos Shale
4,400.00	4.49	308.64	4,388.48	185.22	-231.68	-293.33	0.00	0.00	
4,500.00	4.49	308.64	4,488.18	190.11	-237.80	-301.08	0.00	0.00	
4,520.31	4.49	308.64	4,508.42	191.10	-239.04	-302.65	0.00	0.00	START BUILD
4,600.00	2.81	150.94	4,588.05	191.34	-240.53	-303.84	9.00	-2.11	
4,700.00	11.75	140.41	4,687.14	181.33	-232.83	-291.26	9.00	8.94	
4,800.00	20.74	138.96	4,783.05	160.09	-214.68	-263.34	9.00	8.99	
4,895.06	29.29	138.38	4,869.12	129.95	-188.13	-223.19	9.00	9.00	Mancos Silt
4,900.00	29.74	138.36	4,873.41	128.13	-186.52	-220.76	9.00	9.00	
5,000.00	38.74	138.02	4,956.00	86.25	-149.03	-164.56	9.00	9.00	
5,100.00	47.73	137.80	5,028.78	35.48	-103.16	-96.14	9.00	9.00	
5,200.00	56.73	137.63	5,089.96	-22.94	-50.02	-17.17	9.00	9.00	
5,270.71	63.10	137.53	5,125.39	-68.08	-8.77	43.98	9.00	9.00	Gallup Fn.
5,300.00	65.73	137.49	5,138.04	-87.56	9.08	70.40	9.00	9.00	
5,400.00	74.73	137.37	5,171.82	-156.80	72.67	164.41	9.00	9.00	
5,500.00	83.73	137.26	5,190.49	-228.94	139.21	262.54	9.00	9.00	
5,578.54	90.80	137.18	5,194.23	-286.49	192.45	340.95	9.00	9.00	LP @ 5194' TVD; 90.8°
5,600.00	90.80	137.18	5,193.93	-302.22	207.04	362.40	0.00	0.00	
5,700.00	90.80	137.18	5,192.53	-375.57	275.00	462.39	0.00	0.00	
5,800.00	90.80	137.18	5,191.14	-448.91	342.96	562.38	0.00	0.00	
5,900.00	90.80	137.18	5,189.74	-522.25	410.92	662.37	0.00	0.00	
6,000.00	90.80	137.18	5,188.35	-595.59	478.89	762.36	0.00	0.00	
6,100.00	90.80	137.18	5,186.95	-668.94	546.85	862.35	0.00	0.00	
6,200.00	90.80	137.18	5,185.55	-742.28	614.81	962.34	0.00	0.00	
6,300.00	90.80	137.18	5,184.16	-815.62	682.77	1,062.33	0.00	0.00	
6,400.00	90.80	137.18	5,182.76	-888.97	750.74	1,162.32	0.00	0.00	
6,500.00	90.80	137.18	5,181.37	-962.31	818.70	1,262.31	0.00	0.00	
6,600.00	90.80	137.18	5,179.97	-1,035.65	886.66	1,362.30	0.00	0.00	
6,700.00	90.80	137.18	5,178.57	-1,108.99	954.62	1,462.29	0.00	0.00	
6,800.00	90.80	137.18	5,177.18	-1,182.34	1,022.59	1,562.28	0.00	0.00	
6,900.00	90.80	137.18	5,175.78	-1,255.68	1,090.55	1,662.28	0.00	0.00	
7,000.00	90.80	137.18	5,174.39	-1,329.02	1,158.51	1,762.27	0.00	0.00	
7,100.00	90.80	137.18	5,172.99	-1,402.37	1,226.47	1,862.26	0.00	0.00	
7,200.00	90.80	137.18	5,171.59	-1,475.71	1,294.44	1,962.25	0.00	0.00	
7,300.00	90.80	137.18	5,170.20	-1,549.05	1,362.40	2,062.24	0.00	0.00	
7,400.00	90.80	137.18	5,168.80	-1,622.39	1,430.36	2,162.23	0.00	0.00	
7,500.00	90.80	137.18	5,167.40	-1,695.74	1,498.32	2,262.22	0.00	0.00	
7,600.00	90.80	137.18	5,166.01	-1,769.08	1,566.29	2,362.21	0.00	0.00	
7,700.00	90.80	137.18	5,164.61	-1,842.42	1,634.25	2,462.20	0.00	0.00	
7,800.00	90.80	137.18	5,163.22	-1,915.77	1,702.21	2,562.19	0.00	0.00	
7,900.00	90.80	137.18	5,161.82	-1,989.11	1,770.17	2,662.18	0.00	0.00	
8,000.00	90.80	137.18	5,160.42	-2,062.45	1,838.13	2,762.17	0.00	0.00	
8,100.00	90.80	137.18	5,159.03	-2,135.79	1,906.10	2,862.16	0.00	0.00	
8,200.00	90.80	137.18	5,157.63	-2,209.14	1,974.06	2,962.15	0.00	0.00	
8,300.00	90.80	137.18	5,156.24	-2,282.48	2,042.02	3,062.14	0.00	0.00	
8,400.00	90.80	137.18	5,154.84	-2,355.82	2,109.98	3,162.13	0.00	0.00	
8,500.00	90.80	137.18	5,153.44	-2,429.16	2,177.95	3,262.12	0.00	0.00	
8,600.00	90.80	137.18	5,152.05	-2,502.51	2,245.91	3,362.11	0.00	0.00	
8,700.00	90.80	137.18	5,150.65	-2,575.85	2,313.87	3,462.10	0.00	0.00	
8,800.00	90.80	137.18	5,149.26	-2,649.19	2,381.83	3,562.09	0.00	0.00	
8,900.00	90.80	137.18	5,147.86	-2,722.54	2,449.80	3,662.08	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft	Build Rate (°/100u	Comments / Formations
9,000.00	90.80	137.18	5,146.46	-2,795.88	2,517.76	3,762.07	0.00	0.00	
9,100.00	90.80	137.18	5,145.07	-2,869.22	2,585.72	3,862.06	0.00	0.00	
9,200.00	90.80	137.18	5,143.67	-2,942.56	2,653.68	3,962.05	0.00	0.00	
9,300.00	90.80	137.18	5,142.27	-3,015.91	2,721.65	4,062.04	0.00	0.00	
9,400.00	90.80	137.18	5,140.88	-3,089.25	2,789.61	4,162.03	0.00	0.00	
9,500.00	90.80	137.18	5,139.48	-3,162.59	2,857.57	4,262.02	0.00	0.00	
9,600.00	90.80	137.18	5,138.09	-3,235.94	2,925.53	4,362.01	0.00	0.00	
9,700.00	90.80	137.18	5,136.69	-3,309.28	2,993.50	4,462.00	0.00	0.00	
9,800.00	90.80	137.18	5,135.29	-3,382.62	3,061.46	4,561.99	0.00	0.00	
9,900.00	90.80	137.18	5,133.90	-3,455.96	3,129.42	4,661.98	0.00	0.00	
10,000.00	90.80	137.18	5,132.50	-3,529.31	3,197.38	4,761.97	0.00	0.00	
10,100.00	90.80	137.18	5,131.11	-3,602.65	3,265.34	4,861.96	0.00	0.00	
10,200.00	90.80	137.18	5,129.71	-3,675.99	3,333.31	4,961.95	0.00	0.00	
10,300.00	90.80	137.18	5,128.31	-3,749.33	3,401.27	5,061.94	0.00	0.00	
10,400.00	90.80	137.18	5,126.92	-3,822.68	3,469.23	5,161.93	0.00	0.00	
10,500.00	90.80	137.18	5,125.52	-3,896.02	3,537.19	5,261.92	0.00	0.00	
10,600.00	90.80	137.18	5,124.13	-3,969.36	3,605.16	5,361.91	0.00	0.00	
10,700.00	90.80	137.18	5,122.73	-4,042.71	3,673.12	5,461.90	0.00	0.00	
10,800.00	90.80	137.18	5,121.33	-4,116.05	3,741.08	5,561.89	0.00	0.00	
10,900.00	90.80	137.18	5,119.94	-4,189.39	3,809.04	5,661.89	0.00	0.00	
11,000.00	90.80	137.18	5,118.54	-4,262.73	3,877.01	5,761.88	0.00	0.00	
11,100.00	90.80	137.18	5,117.14	-4,336.08	3,944.97	5,861.87	0.00	0.00	
11,200.00	90.80	137.18	5,115.75	-4,409.42	4,012.93	5,961.86	0.00	0.00	
11,300.00	90.80	137.18	5,114.35	-4,482.76	4,080.89	6,061.85	0.00	0.00	
11,400.00	90.80	137.18	5,112.96	-4,556.11	4,148.86	6,161.84	0.00	0.00	
11,500.00	90.80	137.18	5,111.56	-4,629.45	4,216.82	6,261.83	0.00	0.00	
11,600.00	90.80	137.18	5,110.16	-4,702.79	4,284.78	6,361.82	0.00	0.00	
11,700.00	90.80	137.18	5,108.77	-4,776.13	4,352.74	6,461.81	0.00	0.00	
11,800.00	90.80	137.18	5,107.37	-4,849.48	4,420.71	6,561.80	0.00	0.00	
11,900.00	90.80	137.18	5,105.98	-4,922.82	4,488.67	6,661.79	0.00	0.00	
12,000.00	90.80	137.18	5,104.58	-4,996.16	4,556.63	6,761.78	0.00	0.00	
12,100.00	90.80	137.18	5,103.18	-5,069.50	4,624.59	6,861.77	0.00	0.00	
12,200.00	90.80	137.18	5,101.79	-5,142.85	4,692.56	6,961.76	0.00	0.00	
12,300.00	90.80	137.18	5,100.39	-5,216.19	4,760.52	7,061.75	0.00	0.00	
12,400.00	90.80	137.18	5,099.00	-5,289.53	4,828.48	7,161.74	0.00	0.00	
12,500.00	90.80	137.18	5,097.60	-5,362.88	4,896.44	7,261.73	0.00	0.00	
12,600.00	90.80	137.18	5,096.20	-5,436.22	4,964.40	7,361.72	0.00	0.00	
12,700.00	90.80	137.18	5,094.81	-5,509.56	5,032.37	7,461.71	0.00	0.00	
12,800.00	90.80	137.18	5,093.41	-5,582.90	5,100.33	7,561.70	0.00	0.00	
12,895.35	90.80	137.18	5,092.08	-5,652.84	5,165.13	7,657.04	0.00	0.00	TD at 12895.35

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 6944.00usft
Project:	San Juan County, NM	**MD Reference:**	16' KB @ 6944.00usft
Site:	S27-T24N-R9W	**North Reference:**	True
Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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
NAGEEZI UNIT POE - plan hits target center - Point	0.00	0.00	5,194.23	-286.49	192.45	1,922,575.69	2,737,713.63	36.283716	-107.783721
NAGEEZI UNIT PBHL - plan hits target center - Point	0.00	0.00	5,092.08	-5,652.84	5,165.13	1,917,211.86	2,742,689.02	36.268973	-107.766852

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
932.21	931.00	Ojo Alamo Ss.		-0.80	137.18
1,109.95	1,108.00	Kirtland Shale		-0.80	137.18
1,420.24	1,417.00	Fruitland Coal		-0.80	137.18
1,701.41	1,697.00	Pictured Cliffs Ss.		-0.80	137.18
1,795.80	1,791.00	Lewis Shale		-0.80	137.18
2,449.51	2,442.00	Cliffhouse Ss.		-0.80	137.18
3,205.65	3,195.00	Menefee Fn.		-0.80	137.18
4,171.66	4,157.00	Point Lookout Ss.		-0.80	137.18
4,315.26	4,300.00	Mancos Shale		-0.80	137.18
4,895.06	4,866.00	Mancos Silt		-0.80	137.18
5,270.71	5,126.00	Gallup Fn.		-0.80	137.18

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
500.00	500.00	0.00	0.00	KOP @ 500'
724.57	724.34	5.49	-6.87	EOB; INC=4.49°
4,520.31	4,508.42	191.10	-239.04	START BUILD
5,578.54	5,194.23	-286.49	192.45	LP @ 5194' TVD; 90.8°
12,895.35	5,092.08	-5,652.84	5,165.13	TD at 12895.35

EnCana Oil & Gas (USA) Inc

San Juan County, NM
S27-T24N-R9W
NAGEEZI UNIT L27-2409 03H (221H)
OH
PLAN #1

Anticollision Report

07 November, 2016

Cathedral Energy Services

Anticollision 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:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Reference	PLAN #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,500.00usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 11/7/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	12,895.35	PLAN #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
S27-T24N-R9W						
Escrito L27-2409 01H - Hz - FINAL	0.00	0.00	28.89			
Escrito L27-2409 01H - Hz - FINAL	600.00	596.05	30.28	27.33	10.255	ES
Escrito L27-2409 01H - Hz - FINAL	5,039.13	4,996.43	119.75	93.02	4.481	SF
Escrito L27-2409 02H - Hz - FINAL	506.01	502.06	60.03	57.57	24.418	CC, ES
Escrito L27-2409 02H - Hz - FINAL	5,034.48	4,985.59	114.87	88.96	4.434	SF
Escrito M27-2409 01H - Hz - FINAL	5,664.38	5,226.17	549.02	513.64	15.517	CC, ES
Escrito M27-2409 01H - Hz - FINAL	5,800.00	5,177.18	561.26	524.66	15.333	SF
Escrito M27-2409 02H - Hz - FINAL	6,275.63	4,926.11	1,073.66	1,031.24	25.306	CC
Escrito M27-2409 02H - Hz - FINAL	6,300.00	4,925.73	1,073.94	1,030.99	25.002	ES
Escrito M27-2409 02H - Hz - FINAL	6,600.00	4,921.16	1,121.56	1,073.11	23.147	SF
NOVEMBER 24 #2 (EXISTING) - ENCANA WELL - ENC						Out of range

Cathedral Energy Services

Anticollision 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:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T24N-R9W - Escrito L27-2409 01H - Hz - FINAL — Offset Site Error: 0.00 usft

Survey Program: 110-Geolink MWD — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-158.23	-26.57	-10.61	28.89				
100.00	100.00	95.70	95.70	0.15	0.14	-157.64	-26.92	-11.07	29.11	28.80	0.32	92.341	
200.00	200.00	195.88	195.87	0.51	0.32	-156.57	-27.51	-11.92	29.98	29.15	0.82	36.357	
300.00	300.00	295.93	295.92	0.87	0.49	-156.09	-27.78	-12.32	30.39	29.03	1.36	22.401	
400.00	400.00	396.07	396.06	1.23	0.66	-155.71	-27.71	-12.50	30.40	28.51	1.89	16.086	
500.00	500.00	496.11	496.10	1.58	0.84	-155.71	-27.44	-12.38	30.10	27.68	2.42	12.425	
535.89	535.89	532.00	531.99	1.71	0.90	-104.74	-27.33	-12.35	30.05	27.43	2.61	11.497	
600.00	599.98	596.05	596.04	1.94	1.01	-107.40	-27.14	-12.33	30.28	27.33	2.95	10.255 ES	
700.00	699.84	695.90	695.89	2.30	1.19	-116.51	-27.09	-12.18	32.16	28.67	3.48	9.231	
724.57	724.34	720.46	720.45	2.39	1.23	-119.43	-27.04	-12.11	32.95	29.34	3.62	9.114	
800.00	799.54	795.73	795.71	2.66	1.36	-128.07	-26.72	-11.80	35.90	31.89	4.02	8.934	
900.00	899.23	895.32	895.31	3.02	1.53	-136.97	-26.35	-11.62	40.86	36.31	4.55	8.974	
1,000.00	998.92	995.00	994.98	3.39	1.71	-143.48	-26.25	-11.67	46.79	41.70	5.09	9.197	
1,100.00	1,098.62	1,094.76	1,094.74	3.75	1.88	-148.53	-26.01	-11.73	53.04	47.42	5.62	9.436	
1,200.00	1,198.31	1,194.29	1,194.28	4.12	2.06	-152.49	-25.92	-11.71	59.80	53.64	6.15	9.716	
1,300.00	1,298.00	1,294.00	1,293.98	4.49	2.23	-155.59	-25.93	-11.69	66.86	60.17	6.69	9.997	
1,400.00	1,397.70	1,393.40	1,393.39	4.86	2.40	-158.05	-26.08	-11.67	74.20	66.98	7.22	10.277	
1,500.00	1,497.39	1,492.61	1,492.60	5.23	2.58	-159.81	-26.93	-11.64	82.27	74.62	7.75	10.612	
1,600.00	1,597.08	1,592.21	1,592.19	5.60	2.75	-161.27	-27.94	-11.49	90.60	82.31	8.29	10.933	
1,700.00	1,696.77	1,691.22	1,691.19	5.97	2.92	-162.76	-28.93	-10.73	99.30	90.49	8.82	11.263	
1,800.00	1,796.47	1,791.54	1,791.50	6.34	3.10	-163.98	-30.21	-9.92	108.31	98.96	9.35	11.579	
1,900.00	1,896.16	1,891.82	1,891.78	6.72	3.27	-164.87	-30.82	-9.94	116.34	106.45	9.89	11.761	
2,000.00	1,995.85	1,991.91	1,991.86	7.09	3.45	-165.66	-31.20	-10.06	124.14	113.72	10.43	11.904	
2,100.00	2,095.55	2,092.23	2,092.18	7.46	3.62	-166.87	-30.45	-9.61	131.44	120.47	10.97	11.986	
2,200.00	2,195.24	2,191.98	2,191.93	7.83	3.80	-167.96	-29.53	-9.24	138.59	127.09	11.50	12.051	
2,300.00	2,294.93	2,291.71	2,291.65	8.21	3.97	-168.92	-28.60	-8.95	145.73	133.70	12.03	12.109	
2,400.00	2,394.62	2,391.44	2,391.38	8.58	4.15	-169.72	-27.82	-8.79	152.95	140.39	12.57	12.169	
2,500.00	2,494.32	2,491.51	2,491.45	8.95	4.32	-170.39	-27.09	-8.81	160.11	147.00	13.11	12.216	
2,600.00	2,594.01	2,590.52	2,590.45	9.32	4.49	-171.02	-26.36	-8.73	167.34	153.70	13.64	12.271	
2,700.00	2,693.70	2,690.07	2,690.00	9.70	4.67	-171.64	-25.77	-8.37	174.90	160.73	14.17	12.342	
2,800.00	2,793.40	2,789.88	2,789.81	10.07	4.84	-172.19	-25.14	-8.11	182.37	167.66	14.71	12.400	
2,900.00	2,893.09	2,889.51	2,889.43	10.44	5.02	-172.72	-24.56	-7.73	189.98	174.73	15.24	12.465	
3,000.00	2,992.78	2,988.86	2,988.78	10.81	5.19	-173.12	-24.27	-7.47	197.72	181.95	15.77	12.534	
3,100.00	3,092.48	3,088.39	3,088.32	11.19	5.36	-173.43	-24.14	-7.35	205.49	189.18	16.31	12.600	
3,200.00	3,192.17	3,187.87	3,187.80	11.56	5.54	-173.67	-24.30	-7.19	213.51	196.66	16.84	12.676	
3,300.00	3,291.86	3,286.81	3,286.74	11.93	5.71	-173.95	-24.37	-6.81	221.61	204.24	17.37	12.755	
3,400.00	3,391.55	3,386.64	3,386.56	12.31	5.88	-174.30	-24.35	-6.02	229.94	212.03	17.91	12.839	
3,500.00	3,491.25	3,487.43	3,487.34	12.68	6.06	-174.82	-23.50	-4.91	237.95	219.50	18.45	12.896	
3,600.00	3,590.94	3,589.24	3,589.14	13.05	6.24	-175.18	-22.56	-4.70	245.26	226.26	19.00	12.911	
3,700.00	3,690.63	3,688.64	3,688.53	13.43	6.41	-175.44	-21.69	-4.94	252.29	232.76	19.53	12.918	
3,800.00	3,790.33	3,788.18	3,788.07	13.80	6.59	-175.65	-20.95	-5.19	259.41	239.34	20.07	12.928	
3,900.00	3,890.02	3,888.36	3,888.25	14.17	6.76	-175.83	-20.26	-5.61	266.44	245.84	20.60	12.932	
4,000.00	3,989.71	3,989.34	3,989.22	14.55	6.94	-175.88	-19.77	-6.63	273.18	252.04	21.14	12.920	
4,100.00	4,089.40	4,089.52	4,089.39	14.92	7.11	-175.84	-19.34	-8.18	279.57	257.89	21.68	12.894	
4,200.00	4,189.10	4,185.61	4,185.48	15.29	7.28	-175.84	-19.31	-9.04	286.70	264.50	22.20	12.914	
4,300.00	4,288.79	4,284.62	4,284.49	15.67	7.45	-175.90	-19.54	-9.18	294.56	271.83	22.73	12.958	
4,400.00	4,388.48	4,382.50	4,382.36	16.04	7.62	-175.94	-19.98	-9.18	302.68	279.43	23.26	13.015	
4,500.00	4,488.18	4,496.38	4,496.17	16.41	7.82	-176.49	-17.50	-8.45	309.59	285.74	23.85	12.979	
4,520.31	4,508.42	4,522.97	4,522.67	16.49	7.87	-176.85	-15.27	-8.18	310.19	286.22	23.98	12.937	
4,550.00	4,538.07	4,559.30	4,558.75	16.60	7.94	-165.38	-11.03	-7.82	309.74	285.60	24.14	12.830	
4,600.00	4,588.05	4,617.49	4,616.11	16.76	8.05	-21.58	-1.38	-6.69	304.72	280.32	24.40	12.490	
4,650.00	4,637.84	4,675.06	4,672.20	16.91	8.17	-15.72	11.45	-4.92	294.77	270.14	24.63	11.968	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision 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:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T24N-R9W - Escrito L27-2409 01H - Hz - FINAL — **Offset Site Error:** 0.00 usft

Survey Program: 110-Geolink MWD — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
4,700.00	4,687.14	4,740.67	4,735.10	17.04	8.32	-17.98	30.02	-3.92	279.27	254.48	24.79	11.264	
4,750.00	4,735.65	4,804.90	4,795.48	17.17	8.49	-23.09	51.72	-6.53	257.51	232.65	24.86	10.358	
4,800.00	4,783.05	4,856.68	4,842.98	17.30	8.65	-30.12	71.78	-11.16	230.88	205.89	24.99	9.238	
4,850.00	4,829.07	4,899.21	4,881.22	17.42	8.79	-39.31	89.61	-16.43	201.57	176.33	25.24	7.987	
4,900.00	4,873.41	4,935.18	4,913.11	17.54	8.93	-50.74	105.26	-22.07	171.68	146.06	25.62	6.701	
4,950.00	4,915.81	4,962.56	4,937.07	17.66	9.04	-62.45	117.56	-27.00	144.41	118.19	26.22	5.508	
5,000.00	4,956.00	4,983.68	4,955.35	17.79	9.13	-72.81	127.37	-30.96	125.08	98.32	26.76	4.675	
5,039.13	4,985.75	4,996.43	4,966.28	17.91	9.19	-78.92	133.48	-33.38	119.75	93.02	26.72	4.481	SF
5,050.00	4,993.73	4,999.45	4,968.85	17.94	9.20	-80.24	134.95	-33.96	120.18	93.58	26.60	4.518	
5,100.00	5,028.78	5,010.69	4,978.39	18.12	9.26	-84.16	140.49	-36.12	132.94	107.30	25.64	5.184	
5,150.00	5,060.92	5,017.84	4,984.42	18.33	9.29	-84.50	144.06	-37.52	159.99	135.33	24.66	6.488	
5,200.00	5,089.96	5,021.19	4,987.24	18.58	9.31	-81.38	145.75	-38.18	195.82	171.77	24.04	8.144	
5,250.00	5,115.72	5,021.15	4,987.21	18.89	9.31	-75.17	145.73	-38.17	236.47	212.73	23.73	9.965	
5,300.00	5,138.04	5,018.10	4,984.64	19.25	9.29	-66.55	144.20	-37.57	279.65	256.05	23.60	11.849	
5,350.00	5,156.77	5,012.37	4,979.81	19.67	9.26	-56.71	141.33	-36.45	324.05	300.47	23.58	13.743	
5,400.00	5,171.82	5,006.00	4,974.42	20.16	9.23	-47.53	138.17	-35.22	368.85	345.17	23.68	15.576	
5,450.00	5,183.08	4,994.29	4,964.45	20.71	9.18	-38.55	132.45	-32.97	413.47	389.75	23.71	17.436	
5,500.00	5,190.49	4,982.41	4,954.26	21.31	9.12	-31.57	126.78	-30.72	457.53	433.70	23.83	19.198	
5,550.00	5,193.99	4,968.23	4,942.00	21.96	9.06	-25.97	120.17	-28.06	500.73	476.77	23.96	20.901	
5,578.54	5,194.23	4,958.91	4,933.89	22.35	9.02	-23.29	115.90	-26.33	524.87	500.85	24.02	21.850	
5,600.00	5,193.93	4,951.76	4,927.66	22.66	8.99	-22.59	112.66	-25.03	542.93	518.86	24.07	22.552	
5,700.00	5,192.53	4,921.40	4,900.95	24.19	8.87	-19.83	99.20	-19.78	628.50	604.16	24.33	25.827	
5,800.00	5,191.14	4,893.84	4,876.43	25.88	8.77	-17.60	87.32	-15.69	716.04	691.48	24.56	29.156	
5,900.00	5,189.74	4,869.55	4,854.62	27.70	8.69	-15.82	77.08	-12.61	805.12	780.36	24.76	32.514	
6,000.00	5,188.35	4,848.00	4,835.09	29.63	8.62	-14.38	68.27	-10.25	895.51	870.57	24.94	35.904	
6,100.00	5,186.95	4,831.11	4,819.66	31.64	8.56	-13.33	61.60	-8.63	987.02	961.90	25.12	39.285	
6,200.00	5,185.55	4,817.00	4,806.68	33.73	8.52	-12.51	56.21	-7.43	1,079.49	1,054.20	25.29	42.683	
6,300.00	5,184.16	4,801.50	4,792.32	35.87	8.48	-11.67	50.48	-6.30	1,172.76	1,147.35	25.41	46.151	
6,400.00	5,182.76	4,785.00	4,776.93	38.07	8.43	-10.82	44.60	-5.32	1,266.74	1,241.24	25.50	49.672	
6,500.00	5,181.37	4,785.00	4,776.93	40.30	8.43	-10.82	44.60	-5.32	1,361.33	1,335.65	25.68	53.012	
6,600.00	5,179.97	4,768.20	4,761.16	42.57	8.39	-10.01	38.86	-4.57	1,456.34	1,430.61	25.73	56.595	

Cathedral Energy Services

Anticollision 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:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T24N-R9W - Escrito L27-2409 02H - Hz - FINAL — Offset Site Error: 0.00 usft

Survey Program: 587-Geolink MWD — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-169.86	-59.34	-10.61	60.41				
100.00	100.00	96.00	96.00	0.15	0.16	-169.87	-59.33	-10.60	60.27	59.95	0.31	192.205	
200.00	200.00	196.01	196.01	0.51	0.33	-169.90	-59.31	-10.56	60.24	59.40	0.84	71.555	
300.00	300.00	296.02	296.02	0.87	0.50	-169.95	-59.27	-10.50	60.19	58.82	1.37	43.929	
400.00	400.00	396.03	396.03	1.23	0.67	-170.02	-59.21	-10.41	60.12	58.22	1.90	31.668	
500.00	500.00	496.05	496.05	1.58	0.84	-170.12	-59.14	-10.30	60.03	57.60	2.43	24.737	
506.01	506.01	502.06	502.06	1.61	0.85	-118.77	-59.13	-10.29	60.03	57.57	2.46	24.418	CC, ES
600.00	599.98	596.01	596.01	1.94	1.01	-120.30	-59.05	-10.17	60.78	57.83	2.95	20.585	
700.00	699.84	695.72	695.72	2.30	1.19	-124.35	-59.16	-10.14	63.69	60.21	3.48	18.283	
724.57	724.34	720.23	720.23	2.39	1.23	-125.64	-59.20	-10.16	64.78	61.16	3.62	17.915	
800.00	799.54	795.71	795.71	2.66	1.36	-129.37	-59.21	-10.52	68.40	64.38	4.02	17.020	
900.00	899.23	895.46	895.46	3.02	1.54	-133.80	-58.66	-10.94	73.04	68.48	4.55	16.038	
1,000.00	998.92	995.93	995.92	3.39	1.71	-137.33	-57.92	-11.90	77.79	72.70	5.09	15.276	
1,100.00	1,098.62	1,095.78	1,095.76	3.75	1.89	-140.48	-56.70	-12.88	82.32	76.69	5.63	14.625	
1,200.00	1,198.31	1,195.71	1,195.67	4.12	2.06	-143.33	-55.41	-13.82	87.03	80.86	6.17	14.114	
1,300.00	1,298.00	1,296.04	1,295.98	4.49	2.24	-145.95	-53.81	-14.77	91.63	84.92	6.70	13.666	
1,400.00	1,397.70	1,393.32	1,393.24	4.86	2.41	-148.08	-52.46	-15.92	96.54	89.31	7.23	13.351	
1,500.00	1,497.39	1,492.62	1,492.64	5.23	2.58	-149.70	-53.69	-16.72	104.13	96.36	7.77	13.409	
1,600.00	1,597.08	1,592.26	1,592.18	5.60	2.75	-151.12	-54.81	-17.55	111.67	103.37	8.30	13.453	
1,700.00	1,696.77	1,692.09	1,691.99	5.97	2.93	-152.58	-55.69	-17.99	119.21	110.38	8.84	13.490	
1,800.00	1,796.47	1,791.82	1,791.72	6.34	3.10	-153.79	-56.64	-18.59	126.82	117.45	9.37	13.530	
1,900.00	1,896.16	1,891.21	1,891.09	6.72	3.28	-154.69	-57.82	-19.52	134.55	124.64	9.91	13.578	
2,000.00	1,995.85	1,990.01	1,989.87	7.09	3.45	-155.31	-59.31	-20.75	142.44	132.00	10.44	13.641	
2,100.00	2,095.55	2,088.04	2,087.88	7.46	3.62	-156.55	-61.07	-19.80	151.63	140.66	10.97	13.825	
2,200.00	2,195.24	2,187.06	2,186.86	7.83	3.79	-157.85	-63.04	-18.11	161.40	149.91	11.50	14.038	
2,300.00	2,294.93	2,286.84	2,286.61	8.21	3.97	-158.93	-65.15	-16.63	171.26	159.22	12.03	14.232	
2,400.00	2,394.62	2,385.79	2,385.53	8.58	4.14	-159.70	-67.61	-15.62	181.23	168.67	12.56	14.424	
2,500.00	2,494.32	2,487.70	2,487.41	8.95	4.32	-160.68	-69.14	-14.12	190.65	177.54	13.11	14.542	
2,600.00	2,594.01	2,588.73	2,588.42	9.32	4.49	-161.93	-69.20	-12.07	199.21	185.56	13.65	14.595	
2,700.00	2,693.70	2,691.96	2,691.62	9.70	4.67	-163.25	-68.15	-10.07	206.93	192.74	14.20	14.574	
2,800.00	2,793.40	2,793.19	2,792.83	10.07	4.85	-164.35	-65.93	-9.40	213.05	198.31	14.74	14.455	
2,900.00	2,893.09	2,892.99	2,892.60	10.44	5.02	-165.35	-63.52	-9.01	218.90	203.62	15.27	14.333	
3,000.00	2,992.78	2,992.14	2,991.73	10.81	5.19	-166.08	-61.85	-9.16	225.05	209.25	15.81	14.239	
3,100.00	3,092.48	3,092.04	3,091.62	11.19	5.37	-166.67	-60.40	-9.64	231.23	214.89	16.34	14.150	
3,200.00	3,192.17	3,187.53	3,187.11	11.56	5.54	-167.18	-59.94	-9.53	238.54	221.68	16.86	14.151	
3,300.00	3,291.86	3,286.33	3,285.91	11.93	5.71	-167.64	-60.28	-8.88	246.87	229.48	17.39	14.198	
3,400.00	3,391.55	3,384.71	3,384.28	12.31	5.88	-168.11	-60.79	-7.95	255.52	237.60	17.91	14.263	
3,500.00	3,491.25	3,483.44	3,482.99	12.68	6.05	-168.52	-61.88	-6.65	264.87	246.42	18.44	14.360	
3,600.00	3,590.94	3,586.04	3,585.59	13.05	6.23	-168.84	-62.56	-6.16	273.38	254.36	19.00	14.391	
3,700.00	3,690.63	3,686.65	3,686.19	13.43	6.41	-169.05	-62.97	-6.48	281.14	261.61	19.54	14.391	
3,800.00	3,790.33	3,786.49	3,786.04	13.80	6.58	-169.25	-63.44	-6.71	289.04	268.97	20.07	14.400	
3,900.00	3,890.02	3,884.80	3,884.34	14.17	6.75	-169.39	-64.27	-6.92	297.23	276.63	20.60	14.428	
4,000.00	3,989.71	3,986.45	3,985.99	14.55	6.93	-169.66	-64.48	-6.78	305.18	284.04	21.15	14.432	
4,100.00	4,089.40	4,087.62	4,087.16	14.92	7.11	-169.84	-64.51	-7.35	312.55	290.86	21.69	14.411	
4,200.00	4,189.10	4,185.93	4,185.47	15.29	7.28	-169.95	-64.75	-8.17	319.89	297.68	22.22	14.398	
4,300.00	4,288.79	4,285.38	4,284.92	15.67	7.45	-170.17	-64.79	-8.22	327.60	304.85	22.75	14.398	
4,400.00	4,388.48	4,384.44	4,383.97	16.04	7.63	-170.37	-64.91	-8.35	335.32	312.04	23.28	14.401	
4,500.00	4,488.18	4,502.59	4,502.09	16.41	7.83	-170.41	-64.91	-10.10	342.35	318.46	23.89	14.333	
4,520.31	4,508.42	4,531.48	4,530.89	16.49	7.88	-170.29	-64.26	-12.20	342.60	318.59	24.00	14.272	
4,550.00	4,538.07	4,576.36	4,575.50	16.60	7.96	-157.87	-62.40	-16.71	341.31	317.16	24.15	14.132	
4,600.00	4,588.05	4,658.00	4,655.61	16.76	8.11	-11.30	-56.40	-31.01	332.26	308.02	24.24	13.705	
4,650.00	4,637.84	4,728.02	4,722.65	16.91	8.26	-0.87	-49.63	-49.97	315.60	291.34	24.26	13.011	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision 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:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T24N-R9W - Escrito L27-2409 02H - Hz - FINAL — **Offset Site Error:** 0.00 usft

Survey Program: 587-Geolink MWD — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
4,700.00	4,687.14	4,792.58	4,782.35	17.04	8.44	4.64	-42.92	-73.53	292.42	268.21	24.21	12.077	
4,750.00	4,735.65	4,841.28	4,825.41	17.17	8.60	10.48	-38.40	-95.78	264.22	239.84	24.38	10.840	
4,800.00	4,783.05	4,882.66	4,860.52	17.30	8.77	18.04	-35.27	-117.44	232.93	208.25	24.68	9.436	
4,850.00	4,829.07	4,918.27	4,889.53	17.42	8.95	27.94	-32.62	-137.91	199.83	174.67	25.16	7.941	
4,900.00	4,873.41	4,943.74	4,909.58	17.54	9.09	38.37	-30.83	-153.52	167.25	141.32	25.93	6.451	
4,950.00	4,915.81	4,963.54	4,924.74	17.66	9.22	48.65	-29.60	-166.19	138.61	111.90	26.71	5.190	
5,000.00	4,956.00	4,977.00	4,934.81	17.79	9.31	56.45	-28.86	-175.09	119.26	92.50	26.76	4.457	
5,034.48	4,982.30	4,985.59	4,941.13	17.90	9.37	60.99	-28.42	-180.89	114.87	88.96	25.90	4.434 SF	
5,050.00	4,993.73	4,988.29	4,943.10	17.94	9.39	62.26	-28.29	-182.73	115.78	90.55	25.24	4.588	
5,100.00	5,028.78	4,994.62	4,947.67	18.12	9.44	64.16	-28.01	-187.10	130.46	107.60	22.86	5.707	
5,150.00	5,060.92	4,997.72	4,949.90	18.33	9.46	62.91	-27.87	-189.25	158.69	137.35	21.34	7.437	
5,200.00	5,089.96	4,998.01	4,950.11	18.58	9.46	58.94	-27.86	-189.45	194.73	173.90	20.83	9.351	
5,250.00	5,115.72	4,995.83	4,948.55	18.89	9.45	52.94	-27.95	-187.94	234.85	214.00	20.85	11.266	
5,300.00	5,138.04	4,991.46	4,945.40	19.25	9.41	45.78	-28.15	-184.91	277.02	255.93	21.09	13.134	
5,350.00	5,156.77	4,985.11	4,940.78	19.67	9.37	38.41	-28.44	-180.57	320.10	298.68	21.42	14.944	
5,400.00	5,171.82	4,977.00	4,934.81	20.16	9.31	31.55	-28.86	-175.09	363.37	341.60	21.77	16.689	
5,450.00	5,183.08	4,966.89	4,927.27	20.71	9.24	25.52	-29.41	-168.38	406.38	384.27	22.11	18.377	
5,500.00	5,190.49	4,955.24	4,918.44	21.31	9.17	20.52	-30.10	-160.82	448.77	426.32	22.45	19.994	
5,550.00	5,193.99	4,946.00	4,911.33	21.96	9.11	16.95	-30.68	-154.94	490.29	467.42	22.87	21.436	
5,578.54	5,194.23	4,933.37	4,901.49	22.35	9.04	14.42	-31.53	-147.07	513.46	490.54	22.92	22.400	
5,600.00	5,193.93	4,926.82	4,896.33	22.66	9.00	13.71	-31.99	-143.07	530.84	507.80	23.04	23.037	
5,700.00	5,192.53	4,899.66	4,874.52	24.19	8.86	11.05	-34.02	-127.00	613.89	590.32	23.57	26.048	
5,800.00	5,191.14	4,882.00	4,859.97	25.88	8.77	9.52	-35.31	-117.08	699.81	675.72	24.09	29.053	
5,900.00	5,189.74	4,851.00	4,833.78	27.70	8.64	7.22	-37.63	-100.66	787.68	763.41	24.27	32.459	
6,000.00	5,188.35	4,831.14	4,816.60	29.63	8.57	5.99	-39.26	-90.84	877.12	852.58	24.54	35.747	
6,100.00	5,186.95	4,819.00	4,805.93	31.64	8.52	5.33	-40.35	-85.14	967.82	943.00	24.82	38.994	
6,200.00	5,185.55	4,788.00	4,778.21	33.73	8.42	3.91	-43.39	-71.63	1,059.40	1,034.53	24.87	42.597	
6,300.00	5,184.16	4,777.82	4,768.95	35.87	8.40	3.52	-44.44	-67.53	1,151.85	1,126.77	25.08	45.927	
6,400.00	5,182.76	4,756.00	4,748.85	38.07	8.33	2.79	-46.70	-59.33	1,245.17	1,220.00	25.17	49.473	
6,500.00	5,181.37	4,756.00	4,748.85	40.30	8.33	2.79	-46.70	-59.33	1,338.99	1,313.61	25.38	52.761	
6,600.00	5,179.97	4,739.70	4,733.64	42.57	8.29	2.33	-48.40	-53.73	1,433.40	1,407.94	25.46	56.292	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Project:	San Juan County, NM	**TVD Reference:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T24N-R9W - Escrito M27-2409 01H - Hz - FINAL — **Offset Site Error:** 0.00 usft

Survey Program: 144-Geolink MWD — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	51.56	51.56	0.00	0.08	176.69	-1,144.14	66.08	1,146.04				
100.00	100.00	150.87	150.87	0.15	0.23	176.67	-1,144.18	66.57	1,146.12	1,145.73	0.38	2,990.997	
200.00	200.00	252.56	252.55	0.51	0.41	176.65	-1,144.17	66.95	1,146.13	1,145.21	0.92	1,247.117	
300.00	300.00	352.58	352.58	0.87	0.58	176.62	-1,144.11	67.52	1,146.10	1,144.64	1.45	789.058	
377.31	377.31	429.30	429.29	1.14	0.72	176.58	-1,144.03	68.34	1,146.07	1,144.20	1.86	614.653	
400.00	400.00	451.68	451.67	1.23	0.76	176.57	-1,144.01	68.64	1,146.07	1,144.08	1.99	577.245	
500.00	500.00	555.53	555.51	1.58	0.94	176.49	-1,143.93	70.25	1,146.09	1,143.56	2.53	453.521	
516.08	516.08	572.40	572.38	1.64	0.97	-132.17	-1,143.85	70.48	1,146.06	1,143.45	2.61	438.424	
600.00	599.98	656.77	656.74	1.94	1.12	-132.28	-1,143.39	71.55	1,146.81	1,143.74	3.06	374.626	
700.00	699.84	756.95	756.91	2.30	1.30	-132.49	-1,142.90	72.86	1,149.94	1,146.34	3.59	319.925	
724.57	724.34	781.29	781.25	2.39	1.34	-132.55	-1,142.77	73.15	1,151.06	1,147.34	3.73	308.888	
800.00	799.54	857.04	856.99	2.66	1.47	-132.82	-1,142.38	74.04	1,154.74	1,150.61	4.13	279.547	
900.00	899.23	956.13	956.07	3.02	1.65	-133.16	-1,141.83	75.19	1,159.63	1,154.97	4.67	248.534	
1,000.00	998.92	1,055.15	1,055.08	3.39	1.82	-133.48	-1,141.39	76.04	1,164.64	1,159.43	5.20	223.888	
1,100.00	1,098.62	1,163.90	1,163.82	3.75	2.01	-133.86	-1,140.40	77.49	1,169.26	1,163.50	5.76	203.019	
1,200.00	1,198.31	1,264.05	1,263.94	4.12	2.19	-134.24	-1,138.98	79.56	1,173.50	1,167.20	6.30	186.203	
1,300.00	1,298.00	1,360.82	1,360.69	4.49	2.36	-134.60	-1,137.82	81.42	1,177.99	1,171.15	6.84	172.245	
1,400.00	1,397.70	1,462.77	1,462.61	4.86	2.55	-134.97	-1,136.61	83.17	1,182.62	1,175.14	7.39	160.109	
1,500.00	1,497.39	1,564.80	1,564.62	5.23	2.73	-135.31	-1,135.25	84.52	1,186.91	1,178.98	7.93	149.637	
1,600.00	1,597.08	1,664.61	1,664.42	5.60	2.90	-135.64	-1,133.74	85.59	1,191.12	1,182.65	8.47	140.559	
1,700.00	1,696.77	1,759.83	1,759.62	5.97	3.07	-135.96	-1,132.53	86.95	1,195.66	1,186.66	9.01	132.729	
1,800.00	1,796.47	1,859.40	1,859.18	6.34	3.25	-136.29	-1,131.44	88.30	1,200.41	1,190.86	9.55	125.694	
1,900.00	1,896.16	1,962.09	1,961.85	6.72	3.43	-136.59	-1,130.32	88.98	1,205.10	1,195.00	10.10	119.356	
2,000.00	1,995.85	2,062.82	2,062.58	7.09	3.60	-136.85	-1,129.10	88.96	1,209.61	1,198.97	10.64	113.701	
2,100.00	2,095.55	2,162.61	2,162.36	7.46	3.78	-137.11	-1,127.89	88.80	1,214.12	1,202.94	11.18	108.613	
2,200.00	2,195.24	2,259.00	2,258.74	7.83	3.94	-137.34	-1,126.87	88.52	1,218.79	1,207.08	11.71	104.070	
2,300.00	2,294.93	2,357.22	2,356.96	8.21	4.11	-137.57	-1,126.14	88.07	1,223.76	1,211.51	12.25	99.917	
2,400.00	2,394.62	2,461.19	2,460.92	8.58	4.29	-137.81	-1,125.21	87.57	1,228.60	1,215.80	12.80	96.017	
2,500.00	2,494.32	2,563.50	2,563.23	8.95	4.47	-138.04	-1,123.99	86.83	1,233.13	1,219.79	13.34	92.437	
2,600.00	2,594.01	2,664.25	2,663.96	9.32	4.65	-138.25	-1,122.70	85.92	1,237.55	1,223.67	13.88	89.150	
2,700.00	2,693.70	2,764.53	2,764.23	9.70	4.82	-138.47	-1,121.33	85.14	1,241.94	1,227.51	14.42	86.111	
2,800.00	2,793.40	2,858.51	2,858.20	10.07	4.99	-138.66	-1,120.20	84.24	1,246.48	1,231.53	14.95	83.376	
2,900.00	2,893.09	2,951.35	2,951.03	10.44	5.15	-138.83	-1,119.79	83.03	1,251.69	1,236.21	15.47	80.886	
3,000.00	2,992.78	3,048.61	3,048.28	10.81	5.31	-139.00	-1,119.81	81.77	1,257.38	1,241.38	16.01	78.545	
3,100.00	3,092.48	3,147.56	3,147.22	11.19	5.48	-139.16	-1,119.70	80.20	1,262.91	1,246.37	16.55	76.329	
3,200.00	3,192.17	3,252.83	3,252.48	11.56	5.67	-139.32	-1,119.69	78.35	1,268.52	1,251.43	17.10	74.197	
3,300.00	3,291.86	3,358.67	3,358.29	11.93	5.85	-139.49	-1,119.10	76.48	1,273.60	1,255.95	17.65	72.162	
3,400.00	3,391.55	3,461.70	3,461.29	12.31	6.03	-139.64	-1,118.06	74.41	1,278.19	1,260.00	18.20	70.247	
3,500.00	3,491.25	3,558.64	3,558.22	12.68	6.20	-139.80	-1,117.16	72.71	1,282.93	1,264.20	18.73	68.496	
3,600.00	3,590.94	3,661.14	3,660.69	13.05	6.38	-139.95	-1,116.28	70.75	1,287.71	1,268.43	19.28	66.805	
3,700.00	3,690.63	3,963.86	3,962.04	13.43	6.95	-140.69	-1,093.74	67.63	1,289.68	1,269.63	20.05	64.311	
3,800.00	3,790.33	4,081.02	4,077.29	13.80	7.22	-141.05	-1,072.79	65.41	1,277.75	1,257.15	20.59	62.046	
3,900.00	3,890.02	4,172.14	4,166.88	14.17	7.43	-141.18	-1,057.06	60.26	1,265.70	1,244.57	21.13	59.900	
4,000.00	3,989.71	4,385.78	4,375.18	14.55	8.01	-141.35	-1,012.85	43.74	1,250.23	1,228.65	21.58	57.924	
4,100.00	4,089.40	4,499.72	4,484.50	14.92	8.39	-141.41	-982.76	32.54	1,228.13	1,206.04	22.09	55.599	
4,200.00	4,189.10	4,679.36	4,654.74	15.29	9.09	-141.30	-930.23	9.91	1,202.60	1,180.16	22.43	53.612	
4,300.00	4,288.79	4,842.76	4,805.67	15.67	9.88	-140.91	-874.33	-18.11	1,171.10	1,148.36	22.73	51.513	
4,400.00	4,388.48	5,162.31	5,078.94	16.04	12.11	-138.20	-740.20	-108.31	1,131.05	1,108.82	22.22	50.898	
4,500.00	4,488.18	5,257.15	5,145.31	16.41	13.05	-135.53	-699.66	-162.35	1,078.70	1,055.61	23.09	46.716	
4,520.31	4,508.42	5,262.00	5,148.51	16.49	13.10	-135.37	-697.75	-165.47	1,068.33	1,045.01	23.32	45.807	
4,550.00	4,538.07	5,262.00	5,148.51	16.60	13.10	-122.28	-697.75	-165.47	1,053.20	1,029.53	23.67	44.491	
4,600.00	4,588.05	5,287.51	5,165.17	16.76	13.35	26.04	-688.38	-182.37	1,026.19	1,001.93	24.26	42.292	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Project:	San Juan County, NM	**TVD Reference:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T24N-R9W - Escrito M27-2409 01H - Hz - FINAL — **Offset Site Error:** 0.00 usft

Survey Program: 144-Geolink MWD — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
4,650.00	4,637.84	5,299.46	5,172.91	16.91	13.47	37.08	-684.42	-190.57	998.16	973.32	24.84	40.183	
4,700.00	4,687.14	5,325.00	5,189.28	17.04	13.73	42.78	-676.88	-208.65	969.41	943.96	25.45	38.087	
4,750.00	4,735.65	5,325.00	5,189.28	17.17	13.73	46.17	-676.88	-208.65	939.33	913.35	25.99	36.148	
4,800.00	4,783.05	5,325.00	5,189.28	17.30	13.73	49.31	-676.88	-208.65	908.87	882.37	26.50	34.300	
4,850.00	4,829.07	5,325.00	5,189.28	17.42	13.73	52.41	-676.88	-208.65	878.19	851.20	26.99	32.539	
4,900.00	4,873.41	5,338.34	5,197.72	17.54	13.86	56.61	-673.46	-218.41	847.19	819.62	27.57	30.732	
4,950.00	4,915.81	5,341.82	5,199.90	17.66	13.90	60.10	-672.63	-220.98	816.43	788.35	28.07	29.085	
5,000.00	4,956.00	5,343.86	5,201.17	17.79	13.92	63.46	-672.15	-222.50	786.06	757.51	28.56	27.526	
5,050.00	4,993.73	5,344.47	5,201.56	17.94	13.93	66.65	-672.01	-222.96	756.38	727.35	29.03	26.055	
5,100.00	5,028.78	5,343.66	5,201.05	18.12	13.92	69.59	-672.20	-222.35	727.65	698.16	29.49	24.673	
5,150.00	5,060.92	5,341.40	5,199.64	18.33	13.90	72.25	-672.73	-220.67	700.19	670.24	29.95	23.380	
5,200.00	5,089.96	5,337.71	5,197.32	18.58	13.86	74.57	-673.62	-217.94	674.27	643.86	30.41	22.175	
5,250.00	5,115.72	5,325.00	5,189.28	18.89	13.73	75.81	-676.88	-208.65	650.31	619.57	30.74	21.152	
5,300.00	5,138.04	5,325.00	5,189.28	19.25	13.73	78.00	-676.88	-208.65	628.26	596.91	31.34	20.044	
5,350.00	5,156.77	5,325.00	5,189.28	19.67	13.73	79.89	-676.88	-208.65	608.80	576.78	32.01	19.016	
5,400.00	5,171.82	5,325.00	5,189.28	20.16	13.73	81.47	-676.88	-208.65	592.31	559.55	32.76	18.081	
5,450.00	5,183.08	5,296.09	5,170.73	20.71	13.43	80.34	-685.51	-188.24	577.47	544.50	32.97	17.516	
5,500.00	5,190.49	5,282.98	5,162.22	21.31	13.30	80.33	-689.96	-179.30	566.06	532.62	33.55	16.874	
5,550.00	5,193.99	5,262.00	5,148.51	21.96	13.10	79.54	-697.75	-165.47	557.59	523.59	33.99	16.402	
5,578.54	5,194.23	5,262.00	5,148.51	22.35	13.10	79.87	-697.75	-165.47	553.89	519.35	34.54	16.037	
5,600.00	5,193.93	5,262.00	5,148.51	22.66	13.10	79.87	-697.75	-165.47	551.99	517.04	34.94	15.796	
5,664.38	5,193.03	5,226.17	5,124.46	23.64	12.73	77.31	-712.26	-143.23	549.02	513.64	35.38	15.517 CC, ES	
5,700.00	5,192.53	5,199.00	5,105.56	24.19	12.46	75.34	-723.92	-127.59	550.21	514.80	35.41	15.536	
5,800.00	5,191.14	5,177.18	5,089.90	25.88	12.25	73.73	-733.57	-115.85	561.26	524.66	36.61	15.333 SF	
5,900.00	5,189.74	5,136.00	5,058.99	27.70	11.87	70.67	-752.06	-95.91	585.73	548.63	37.10	15.788	
6,000.00	5,188.35	5,114.11	5,041.93	29.63	11.69	69.05	-762.02	-86.50	621.87	584.23	37.64	16.523	
6,100.00	5,186.95	5,072.00	5,008.03	31.64	11.34	66.01	-781.37	-70.72	668.84	631.23	37.61	17.781	
6,200.00	5,185.55	5,072.00	5,008.03	33.73	11.34	66.01	-781.37	-70.72	723.98	686.09	37.90	19.103	
6,300.00	5,184.16	5,036.74	4,978.63	35.87	11.07	63.56	-797.44	-59.77	786.14	748.46	37.68	20.864	
6,400.00	5,182.76	5,009.00	4,954.86	38.07	10.87	61.70	-809.78	-52.54	854.32	816.85	37.47	22.801	
6,500.00	5,181.37	4,987.90	4,936.47	40.30	10.73	60.32	-818.87	-47.59	926.91	889.64	37.27	24.870	
6,600.00	5,179.97	4,959.52	4,911.38	42.57	10.54	58.51	-830.49	-41.19	1,002.88	965.87	37.01	27.094	
6,700.00	5,178.57	4,934.57	4,889.02	44.86	10.39	56.96	-840.17	-35.84	1,081.64	1,044.86	36.78	29.410	
6,800.00	5,177.18	4,911.66	4,868.29	47.19	10.25	55.59	-848.79	-31.27	1,162.79	1,126.23	36.57	31.800	
6,900.00	5,175.78	4,873.11	4,833.30	49.53	10.04	53.39	-863.16	-23.86	1,245.63	1,209.30	36.33	34.286	
7,000.00	5,174.39	4,839.88	4,803.04	51.89	9.87	51.62	-875.38	-17.57	1,329.72	1,293.59	36.14	36.796	
7,100.00	5,172.99	4,819.00	4,783.98	54.27	9.76	50.55	-882.94	-13.67	1,415.00	1,379.01	35.99	39.315	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Project:	San Juan County, NM	**TVD Reference:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T24N-R9W - Escrito M27-2409 02H - Hz - FINAL — Offset Site Error: 0.00 usft

Survey Program: 563-Geolink MWD — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
0.00	0.00	48.80	48.80	0.00	0.08	177.35	-1,173.32	54.24	1,174.58				
100.00	100.00	142.67	142.67	0.15	0.25	177.35	-1,173.82	54.31	1,175.11	1,174.70	0.40	2,904.656	
200.00	200.00	236.53	236.52	0.51	0.42	177.35	-1,174.80	54.44	1,176.16	1,175.24	0.92	1,279.439	
300.00	300.00	330.38	330.36	0.87	0.59	177.34	-1,176.27	54.64	1,177.74	1,176.30	1.44	819.315	
400.00	400.00	424.21	424.17	1.23	0.75	177.33	-1,178.23	54.90	1,179.83	1,177.88	1.96	603.234	
500.00	500.00	518.01	517.94	1.58	0.92	177.32	-1,180.67	55.23	1,182.45	1,179.98	2.47	477.940	
600.00	599.98	612.84	612.72	1.94	1.09	-131.33	-1,183.60	55.76	1,186.72	1,183.73	2.99	396.327	
700.00	699.84	726.44	726.26	2.30	1.29	-131.52	-1,186.83	57.14	1,193.11	1,189.57	3.54	336.802	
724.57	724.34	753.00	752.79	2.39	1.34	-131.62	-1,187.28	58.34	1,194.79	1,191.11	3.68	324.770	
800.00	799.54	821.67	821.31	2.66	1.47	-132.01	-1,188.48	62.71	1,200.33	1,196.26	4.08	294.330	
900.00	899.23	938.12	937.56	3.02	1.69	-132.62	-1,190.90	68.95	1,208.15	1,203.50	4.65	259.910	
1,000.00	998.92	1,068.62	1,067.98	3.39	1.91	-133.19	-1,190.20	73.38	1,213.17	1,207.93	5.25	231.264	
1,100.00	1,098.62	1,197.63	1,196.94	3.75	2.12	-133.61	-1,187.35	74.78	1,216.59	1,210.75	5.84	208.261	
1,200.00	1,198.31	1,345.56	1,344.65	4.12	2.35	-134.01	-1,179.48	74.16	1,216.89	1,210.42	6.48	187.870	
1,300.00	1,298.00	1,440.73	1,439.48	4.49	2.50	-134.19	-1,171.82	71.87	1,214.13	1,207.13	7.00	173.475	
1,400.00	1,397.70	1,527.23	1,525.76	4.86	2.65	-134.33	-1,166.11	69.39	1,212.75	1,205.24	7.51	161.582	
1,442.33	1,439.90	1,559.84	1,558.30	5.02	2.70	-134.38	-1,164.28	68.43	1,212.58	1,204.86	7.71	157.215	
1,500.00	1,497.39	1,597.84	1,596.24	5.23	2.77	-134.43	-1,162.57	67.22	1,212.99	1,205.01	7.98	151.933	
1,600.00	1,597.08	1,662.12	1,660.47	5.60	2.88	-134.50	-1,161.37	64.97	1,216.20	1,207.75	8.45	143.868	
1,700.00	1,696.77	1,753.99	1,752.28	5.97	3.03	-134.60	-1,161.54	61.91	1,221.51	1,212.53	8.97	136.102	
1,800.00	1,796.47	1,839.45	1,837.71	6.34	3.18	-134.71	-1,161.93	59.54	1,227.20	1,217.71	9.49	129.367	
1,900.00	1,896.16	1,928.34	1,926.57	6.72	3.34	-134.86	-1,163.44	57.93	1,234.20	1,224.19	10.00	123.365	
2,000.00	1,995.85	2,021.94	2,020.14	7.09	3.50	-135.03	-1,165.41	56.69	1,241.68	1,231.14	10.53	117.896	
2,100.00	2,095.55	2,123.97	2,122.13	7.46	3.68	-135.21	-1,167.74	55.15	1,249.33	1,238.25	11.08	112.784	
2,200.00	2,195.24	2,231.04	2,229.17	7.83	3.86	-135.41	-1,169.76	53.90	1,256.64	1,245.00	11.63	108.019	
2,300.00	2,294.93	2,326.05	2,324.18	8.21	4.03	-135.66	-1,171.16	54.24	1,263.75	1,251.59	12.16	103.891	
2,400.00	2,394.62	2,415.84	2,413.94	8.58	4.19	-135.87	-1,173.11	54.27	1,271.53	1,258.84	12.68	100.253	
2,500.00	2,494.32	2,496.96	2,494.98	8.95	4.33	-135.96	-1,175.96	52.21	1,280.34	1,267.15	13.18	97.126	
2,600.00	2,594.01	2,575.06	2,572.82	9.32	4.47	-135.92	-1,180.42	47.60	1,290.85	1,277.17	13.67	94.403	
2,700.00	2,693.70	2,671.90	2,668.95	9.70	4.66	-135.71	-1,187.41	38.41	1,302.42	1,288.20	14.22	91.592	
2,800.00	2,793.40	2,784.88	2,780.52	10.07	4.90	-135.24	-1,195.44	22.59	1,313.38	1,298.55	14.83	88.581	
2,900.00	2,893.09	2,863.91	2,858.46	10.44	5.08	-134.89	-1,201.02	10.73	1,324.34	1,308.99	15.35	86.282	
3,000.00	2,992.78	2,924.43	2,917.93	10.81	5.23	-134.60	-1,206.98	1.22	1,337.93	1,322.12	15.81	84.616	
3,100.00	3,092.48	2,991.40	2,983.66	11.19	5.40	-134.30	-1,215.17	-8.67	1,354.09	1,337.80	16.28	83.158	
3,200.00	3,192.17	3,064.95	3,056.15	11.56	5.58	-134.13	-1,225.43	-15.55	1,372.42	1,355.66	16.76	81.890	
3,300.00	3,291.86	3,142.81	3,132.97	11.93	5.77	-134.07	-1,237.15	-20.26	1,392.21	1,374.97	17.24	80.759	
3,400.00	3,391.55	3,243.33	3,232.17	12.31	6.02	-134.07	-1,252.91	-24.39	1,412.79	1,394.99	17.80	79.373	
3,500.00	3,491.25	3,340.77	3,328.39	12.68	6.26	-134.09	-1,267.84	-27.81	1,433.09	1,414.74	18.34	78.123	
3,600.00	3,590.94	3,429.21	3,415.73	13.05	6.48	-134.17	-1,281.68	-29.61	1,453.83	1,434.98	18.85	77.128	
3,700.00	3,690.63	3,551.81	3,536.87	13.43	6.80	-134.27	-1,300.35	-32.07	1,474.22	1,454.73	19.49	75.647	
3,800.00	3,790.33	3,643.89	3,627.89	13.80	7.04	-134.30	-1,313.98	-34.84	1,494.03	1,474.01	20.01	74.648	
5,200.00	5,089.96	4,893.99	4,865.50	18.58	10.46	50.98	-1,480.74	-76.54	1,484.02	1,457.40	26.62	55.741	
5,250.00	5,115.72	4,913.63	4,884.36	18.89	10.55	53.86	-1,484.09	-80.88	1,458.55	1,431.73	26.82	54.373	
5,300.00	5,138.04	4,921.44	4,891.80	19.25	10.59	56.51	-1,485.52	-82.78	1,432.36	1,405.36	27.00	53.056	
5,350.00	5,156.77	4,927.76	4,897.79	19.67	10.62	59.25	-1,486.72	-84.37	1,405.53	1,378.32	27.21	51.652	
5,400.00	5,171.82	4,932.60	4,902.37	20.16	10.64	62.06	-1,487.66	-85.63	1,378.25	1,350.77	27.48	50.159	
5,450.00	5,183.08	4,935.97	4,905.55	20.71	10.66	64.92	-1,488.33	-86.53	1,350.70	1,322.90	27.80	48.578	
5,500.00	5,190.49	4,956.99	4,925.21	21.31	10.76	68.76	-1,492.72	-92.53	1,323.44	1,295.10	28.33	46.707	
5,550.00	5,193.99	4,956.99	4,925.21	21.96	10.76	71.57	-1,492.72	-92.53	1,295.91	1,267.10	28.80	44.990	
5,578.54	5,194.23	4,956.99	4,925.21	22.35	10.76	73.17	-1,492.72	-92.53	1,280.33	1,251.22	29.11	43.979	
5,600.00	5,193.93	4,956.99	4,925.21	22.66	10.76	73.17	-1,492.72	-92.53	1,268.80	1,239.44	29.36	43.213	
5,700.00	5,192.53	4,935.89	4,905.48	24.19	10.66	72.04	-1,488.31	-86.51	1,218.13	1,187.59	30.54	39.883	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision 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:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S27-T24N-R9W - Escrito M27-2409 02H - Hz - FINAL — **Offset Site Error:** 0.00 usft

Survey Program: 563-Geolink MWD — **Offset Well Error:** 0.00 usft

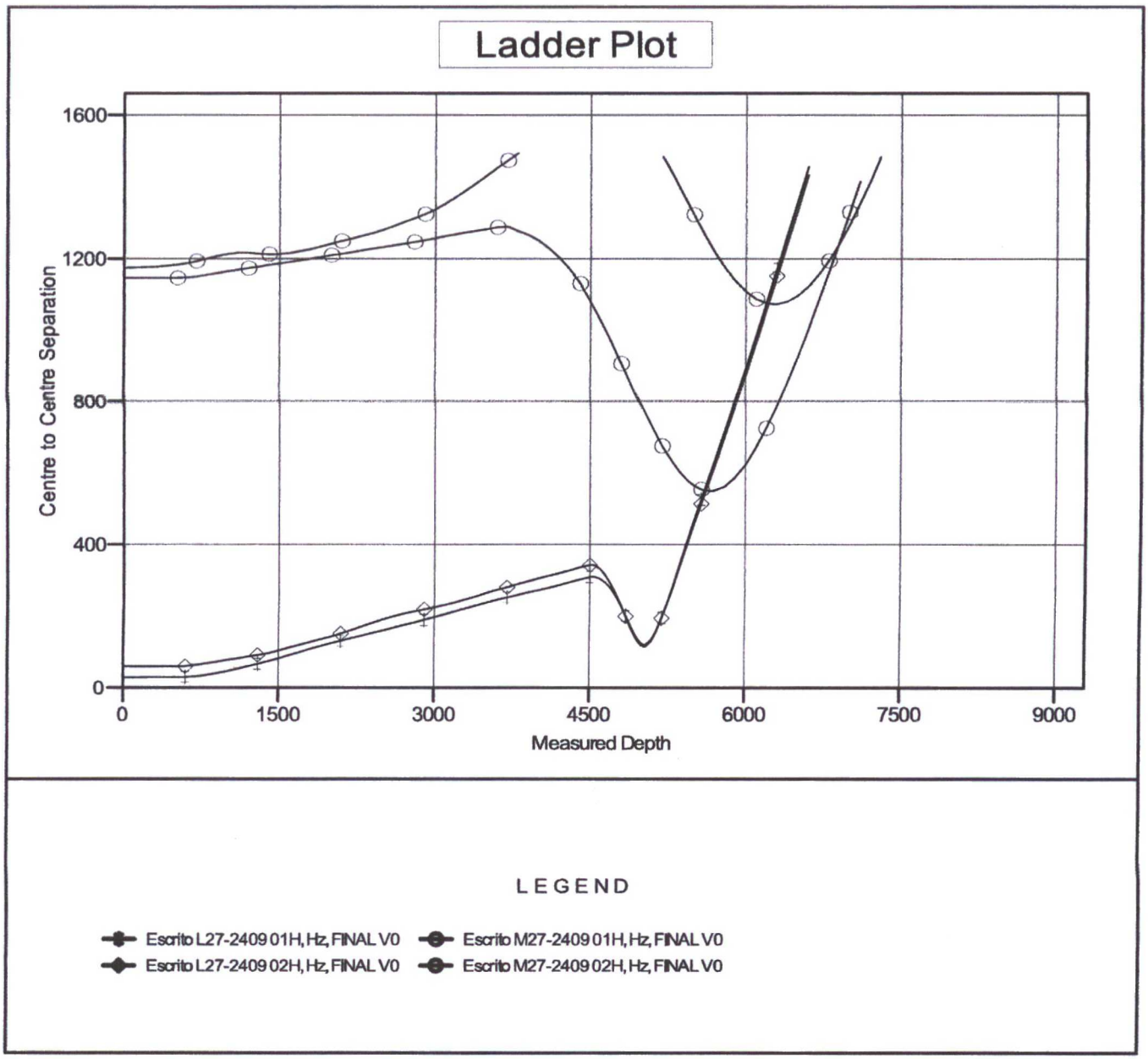
Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
5,800.00	5,191.14	4,934.10	4,903.78	25.88	10.65	71.95	-1,487.95	-86.03	1,174.22	1,142.05	32.18	36.492	
5,900.00	5,189.74	4,932.34	4,902.13	27.70	10.64	71.85	-1,487.61	-85.57	1,137.43	1,103.34	34.08	33.371	
6,000.00	5,188.35	4,930.63	4,900.51	29.63	10.63	71.76	-1,487.27	-85.12	1,108.45	1,072.25	36.20	30.618	
6,100.00	5,186.95	4,928.96	4,898.93	31.64	10.63	71.67	-1,486.95	-84.68	1,087.92	1,049.47	38.45	28.294	
6,200.00	5,185.55	4,927.32	4,897.38	33.73	10.62	71.59	-1,486.63	-84.26	1,076.32	1,035.59	40.73	26.424	
6,275.63	5,184.50	4,926.11	4,896.23	35.35	10.61	71.52	-1,486.40	-83.95	1,073.66	1,031.24	42.43	25.306	CC
6,300.00	5,184.16	4,925.73	4,895.87	35.87	10.61	71.50	-1,486.33	-83.85	1,073.94	1,030.99	42.95	25.002	ES
6,400.00	5,182.76	4,924.17	4,894.39	38.07	10.60	71.42	-1,486.03	-83.46	1,080.84	1,035.81	45.02	24.006	
6,500.00	5,181.37	4,922.65	4,892.94	40.30	10.60	71.34	-1,485.75	-83.08	1,096.84	1,049.97	46.87	23.401	
6,600.00	5,179.97	4,921.16	4,891.53	42.57	10.59	71.26	-1,485.47	-82.71	1,121.56	1,073.11	48.45	23.147	SF
6,700.00	5,178.57	4,919.70	4,890.14	44.86	10.58	71.18	-1,485.20	-82.35	1,154.43	1,104.68	49.75	23.204	
6,800.00	5,177.18	4,918.28	4,888.79	47.19	10.57	71.10	-1,484.93	-82.00	1,194.79	1,144.02	50.77	23.532	
6,900.00	5,175.78	4,916.89	4,887.46	49.53	10.57	71.03	-1,484.68	-81.66	1,241.90	1,190.36	51.54	24.095	
7,000.00	5,174.39	4,893.99	4,865.50	51.89	10.46	69.81	-1,480.74	-76.54	1,295.60	1,243.84	51.76	25.029	
7,100.00	5,172.99	4,893.99	4,865.50	54.27	10.46	69.81	-1,480.74	-76.54	1,353.96	1,301.81	52.14	25.966	
7,200.00	5,171.59	4,893.99	4,865.50	56.66	10.46	69.81	-1,480.74	-76.54	1,416.97	1,364.60	52.37	27.057	
7,300.00	5,170.20	4,893.99	4,865.50	59.06	10.46	69.81	-1,480.74	-76.54	1,484.05	1,431.58	52.48	28.280	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well NAGEEZI UNIT L27-2409 03H (221H)
Project:	San Juan County, NM	**TVD Reference:**	16' KB @ 6944.00usft
Reference Site:	S27-T24N-R9W	**MD Reference:**	16' KB @ 6944.00usft
Site Error:	0.00usft	**North Reference:**	True
Reference Well:	NAGEEZI UNIT L27-2409 03H (221H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to 16' KB @ 6944.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -107.833333 °

Coordinates are relative to: NAGEEZI UNIT L27-2409 03H (221H)
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.03°



2. After removal of vegetation, topsoil was segregated and windrowed on the edge of the pad. Topsoil was defined as the top six (6) inches of soil. The stockpiled topsoil was free of brush and tree limbs, trunks and root balls, but may have included chipped or mulched material so long as it was incorporated into the topsoil stockpile.

   Topsoil was stockpiled separate from subsoil with a noticeable gap left between the stockpiles. Vehicle/equipment traffic was prevented from crossing topsoil stockpiles.

   Topsoil was not stripped when soils were moisture-saturated or frozen below the stripping depth.

   If the location became prone to wind or water erosion, Encana took appropriate measures to prevent topsoil loss from wind. Such measures may have included using tackifiers or water to wet the topsoil stockpile so that a crust was created across the exposed soil to prevent soil loss.

3. All construction materials for the well pad consisted of native borrow and subsoil accumulated during well pad construction. If additional fill or surfacing material was required, it was obtained from existing permitted or private sources and was hauled in by trucks over existing access roads.

   The maximum cut when re-occupying this pad will be approximately 17 feet between corners 2 and 3, and the maximum fill will be approximately 18 feet at corner 5.

4. As determined during the onsite on March 19, 2013, the following best management practices will be implemented:

   a. Water will be diverted around the pad and silt traps installed as needed upon interim reclamation.

5. Construction equipment may include chain saws, a brush hog, scraper, maintainer, excavator, and dozer. Construction for the access road and well pad will take approximately 2 to 4 weeks.

C. Pipeline
   See the Plan of Development submitted with the final Standard SF-299 Application for authorization to construct, operate, maintain and terminate a 537 foot, up to 6-inch buried, steel well connect pipeline that was submitted to the BLM on June 24, 2013.

7. METHODS FOR HANDLING WASTE

A. Cuttings

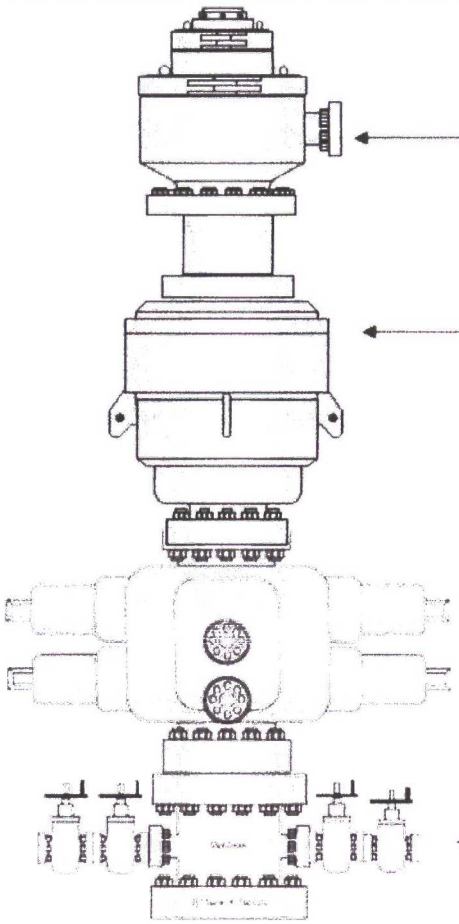
1. A closed-loop system will be used. Cuttings will be moved through a shaker system on the drill rig that separates drilling fluids from the cuttings. Cuttings will be stored onsite in above-ground storage tanks. Cuttings will be pulled from the storage tanks, mixed with saw dust or similar absorbent material, and disposed of at the Envirotech, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.

2. The closed-loop system storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.

WELLHEAD BLOWOUT CONTROL SYSTEM

encana

Well Name and Number:
Nageezi Unit 221H



11" 3K Rotating Head

11" 3K Annular

3K Double Ram
Top: Pipe Ram
Bottom: Blind Ram
3" Outlets Below Ram

3K Mud Cross 3" gate valves