

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires: January 2018

MAY 15 2017

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.
NMNM 12374

6. If Indian, Allottee or Tribe
Farmington Field Office
Bureau of Land Management

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Encana Oil & Gas (USA) Inc.

3a. Address

370 17th Street, Suite 1700
Denver, CO 80202

3b. Phone No. (include area code)

(720) 876-3533

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SHL: 250' FNL and 2362' FEL Section 33, T24N, R9W
BHL: 1440' FNL and 550' FEL Section 3, T23N, R9W

7. If Unit of CA Agreement, Name and/or No.

NMNM 132981A

8. Well Name and No.

Nageezi Unit 324H

9. API Well No.

30-045-35782

10. Field and Pool or Exploratory Area

Nageezi Unit HZ (OIL)

11. Country or Parish, State

San Juan County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start-Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM-BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Encana Oil & Gas (USA) Inc. (Encana) is submitting this sundry to notify the BLM that the surface hole location was shifted 60'. Please note, the footprint of the pad will not change.

An updated C-102, Directional Drilling Plan, Drilling Plan and Wellbore Diagram are attached, which reflect these changes.

OIL CONS. DIV DIST. 3

MAY 22 2017

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Katie Wegner

Title Senior Regulatory Analyst

Signature

Date

05/11/2017

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Supv NRS

Date

5/16/17

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

FFU

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.

(Instructions on page 2)

ADHERE TO PREVIOUS NMOC

NMOC

CONDITIONS OF APPROVAL

MAY 31 2017

Form C-102

Revised August 1, 2011

DISTRICT I1625 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) 748-8720**DISTRICT III**1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-8178 Fax: (505) 334-8170**DISTRICT IV**1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505Submit one copy to appropriate
District Office☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35782		*Pool Code 98080	*Pool Name Nageezi Unit; Mancos
*Property Code 315244	*Property Name NAGEEZI UNIT		*Well Number 324H
*OGRID No. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 6954.2'

¹⁰ Surface Location

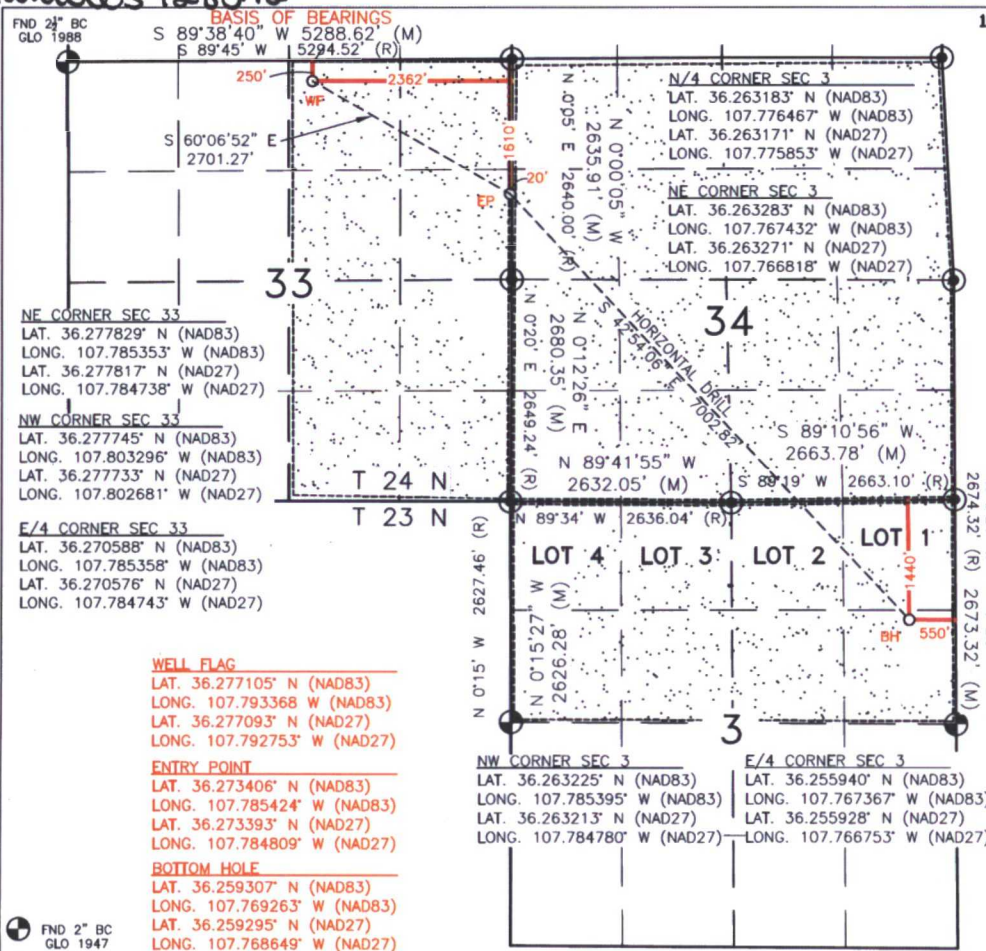
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	33	24N	9W		250'	NORTH	2362'	EAST	SAN JUAN

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
H	3	23N	9W		1440'	NORTH	550'	EAST	SAN JUAN

¹² Dedicated AcresPENETRATED SPACING UNIT; E/2 SEC. 33
(320 ACRES), ALL SEC. 34 (640 ACRES),
N/2 SEC. 3 (323.42 ACRES)¹³ Joint or Infill¹⁴ Consolidation Code¹⁵ Order No.

R-13856 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 DIVISION¹⁷ 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

Printed Name

E-mail Address

SURVEYOR CERTIFICATION

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

APRIL 28, 2016

Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number

11393

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) 334-6178

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3480 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

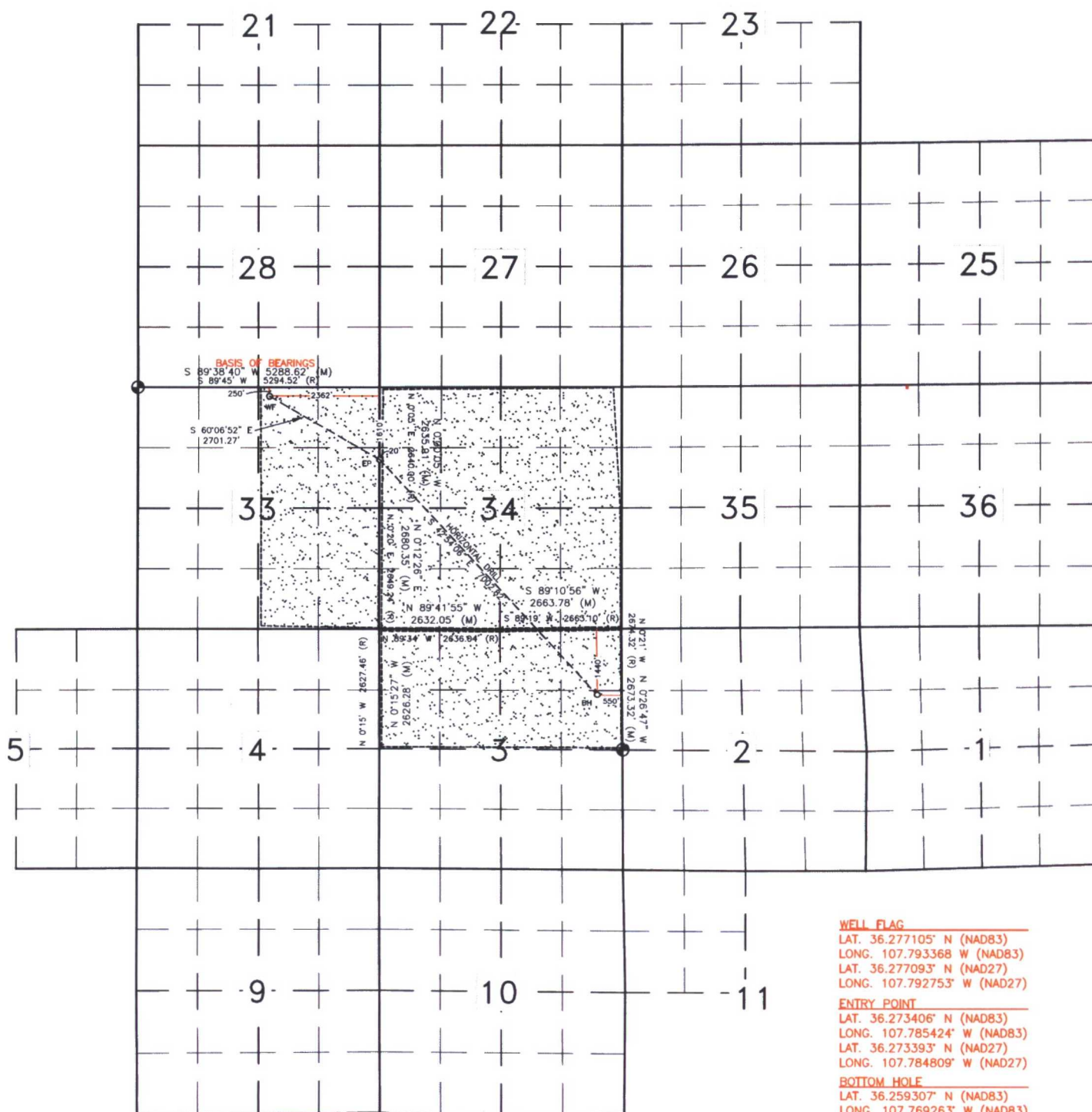
Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

☐ AMENDED REPORT

ENCANA OIL & GAS (USA) INC.
NAGEEZI UNIT #324H



PENETRATED SPACING UNIT; E/2 SEC. 33 (320 ACRES),
ALL SEC. 34 (640 ACRES), N/2 SEC. 3 (323.42 ACRES)
TOTAL 10,415.12 ACRES: SEC. 21-23 (S/2); 25-28, 33-36,
1-4, 9-10 (ALL); 5 (W/2); 11 (NW/4) - UNDIVIDED UNIT

WELL FLAG

LAT. 36.277105° N (NAD83)
LONG. 107.793368° W (NAD83)
LAT. 36.277093° N (NAD27)
LONG. 107.792753° W (NAD27)

ENTRY POINT

LAT. 36.273406° N (NAD83)
LONG. 107.785424° W (NAD83)
LAT. 36.273393° N (NAD27)
LONG. 107.784809° W (NAD27)

BOTTOM HOLE

LAT. 36.259307° N (NAD83)
LONG. 107.769263° W (NAD83)
LAT. 36.259295° N (NAD27)
LONG. 107.768649° W (NAD27)

Nageezi Unit 324H
 SHL: NWNE Sec 33, T24N, R9W
 250' FNL, 2362' FEL
 BHL: SENE Sec 3, T23N, R9W
 1440' FNL, 550' FEL
 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	839
Kirtland Shale	1,016
Fruitland Coal	1,325
Pictured Cliffs Ss.	1,605
Lewis Shale	1,699
Cliffhouse Ss.	2,350
Menefee Fn.	3,103
Point Lookout Ss.	4,065
Mancos Shale	4,208
Mancos Silt	4,800
Gallup Fn.	5,060

The referenced surface elevation is 6954', KB 6970'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,325
Water/Gas	Pictured Cliffs Ss.	1,605
Water/Gas	Cliffhouse Ss.	2,350
Water/Gas	Menefee Fn.	3,103
Water/Gas	Point Lookout Ss.	4,065
Oil/Gas	Mancos Shale	4,208
Oil/Gas	Mancos Silt	4,800
Oil/Gas	Gallup Fn.	5,060

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

3. PRESSURE CONTROL

- a) Pressure control 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.

Nageezi Unit 324H**SHL: NWNE Sec 33, T24N, R9W****250' FNL, 2362' FEL****BHL: SENE Sec 3, T23N, R9W****1440' FNL, 550' FEL****San Juan, New Mexico**

- 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 higher grade of casing may be run at the Operator's discretion, but a lower grade will not be substituted without prior approval of the BLM.

- a) The proposed casing design is as follows:

Casing	Depth (MD)	Hole Size	Csg Size	Weight	Grade
Surface	0'-320'	12 1/4"	9 5/8"	32.3	H40, STC New
Intermediate	0'-6000'	8 3/4"	7"	26	J55, LTC New
Production Liner	5800'-13267'	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	H40	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 324H**SHL: NWNE Sec 33, T24N, R9W****250' FNL, 2362' FEL****BHL: SENE Sec 3, T23N, R9W****1440' FNL, 550' FEL****San Juan, New Mexico**

b) The proposed cementing program is as follows

Casing	Depth (MD)	Cement Volume (sacks)	Cement Type & Yield	Designed TOC	Centralizers
Surface	0'-320'	116 sks	Class V cement w/ 2% CaCl Weight 15.6ppg Yield: 1.21 ft ³ /sk	Surface	1 per joint on bottom 3 joints
Intermediate	0'-6000'	100% open hole excess Stage 1 Lead: 749 sks Stage 1 Tail: 237 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: 12.3ppg Yield: 1.952 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: 13.5ppg Yield: 1.305 ft ³ /sk	Surface	1 every 3 joints through water bearing zones
Production Liner	5800'- 13267'	30% open hole excess Cement Vol: 706 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

Nageezi Unit 324H**SHL: NWNE Sec 33, T24N, R9W****250' FNL, 2362' FEL****BHL: SENE Sec 3, T23N, R9W****1440' FNL, 550' FEL****San Juan, New Mexico**

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 5001'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5200'/13267'	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)
12 1/4"	0'-320'/320'	Fresh Water	0	60-70	NC
8 3/4"	320'/320'-5249'/6000'	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"	5249'/6000'- 5200'/13267'	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

Nageezi Unit 324H

SHL: NWNE Sec 33, T24N, R9W

250' FNL, 2362' FEL

BHL: SENE Sec 3, T23N, R9W

1440' FNL, 550' FEL

San Juan, New Mexico

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 +/- 2496 psi based on a 9.0 ppg at 5334' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H₂S 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 Jan 1st, 2018. 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: Sec 33 T24N R9W, 250' FNL, 2362' FEL County: San Juan L: Nageezi Unit 324H			Encana Natural Gas WELL SUMMARY				ENG: L. Hubbard RIG: Unassigned GLE: 6954 RKBE: 6970		5-12-17	
LWD	OPEN HOLE LOGGING	FORM	DEPTH			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION	
			TVD	MD						
Run survey tool at TD and update anticollision scan	None	Nacimiento 9 5/8" Csg	0 320	320		12 1/4	9 5/8" 32.3ppf H40 STC TOC to Surface 15.6ppg Class V cement w/ 2% CaCl	Fresh wtr 8.3-9.2		Vertical <1°
Survey Every 60'-120', updating anticollision report after surveys. Stop operations contact drilling engineer if separation 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 KOP Mancos Silt Gallup Fn. 7" Csg	839 1,016 1,325 1,605 1,699 2,350 3,103 4,065 4,208 5,001 4,800 5,060 5,249	 5,604 6,000'		8 3/4	7" 26ppf J55 LTC TOC @ surface (100% OH excess) Stage 1 Total: 987sk	Fresh Wtr 8.3-10		Directional 34.6°
Surveys every 30' through the curve										
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD Base Gallup	5,334 5,200 5,384	13,267		6 1/8	200' overlap at liner top 7267' Drilled Lateral TOC @ Top of Liner (30% open hole excess)			Horz Inc/TVD 90.8deg/5334'
MWD Gamma Directional								WBM 8.3-10		TD = 13266.51' MD



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	900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	
3	2584.62	33.69	117.29	2489.20	-220.63	427.65	2.00	117.29	452.67	
4	5603.96	33.69	117.29	5001.36	-988.55	1916.17	0.00	0.00	2028.28	
5	6263.12	90.80	137.12	5297.97	-1346.43	2341.60	9.00	23.23	2580.01	NAGEEZI UNIT 324H POE
6	13266.51	90.80	137.12	5200.19	-6478.02	7106.54	0.00	0.00	9582.72	NAGEEZI UNIT 324H PBHL

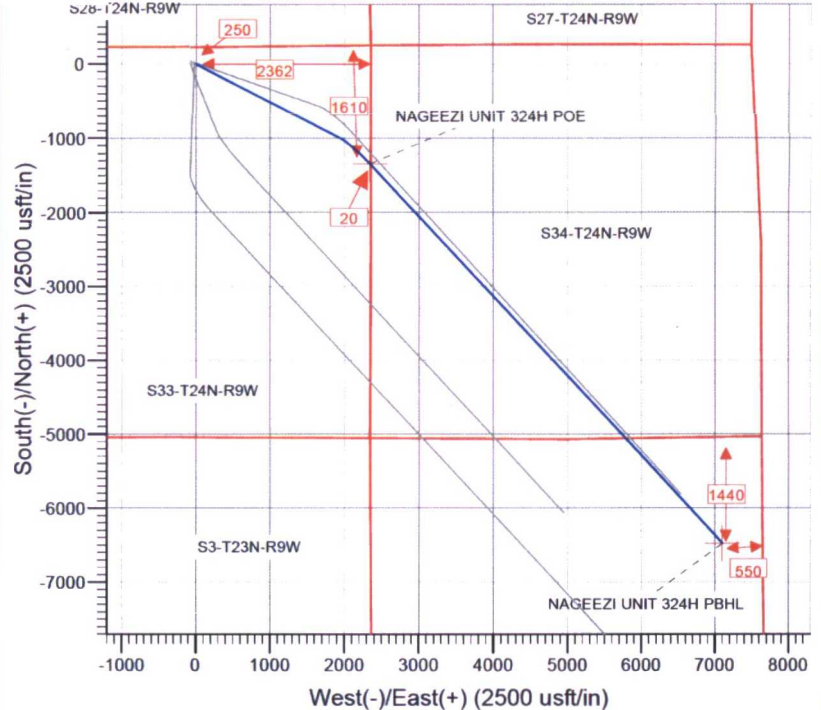
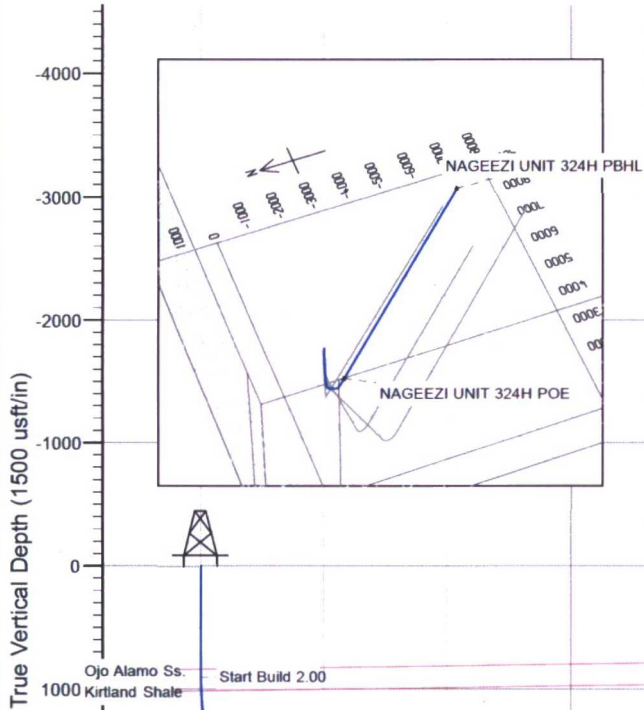
Project: San Juan County, NM
Site: S33-T24N-R9W
Well: NAGEEZI UNIT 324H
Wellbore: OH
Design: PLAN #3



Azimuths to True North
Magnetic North: 9.07°

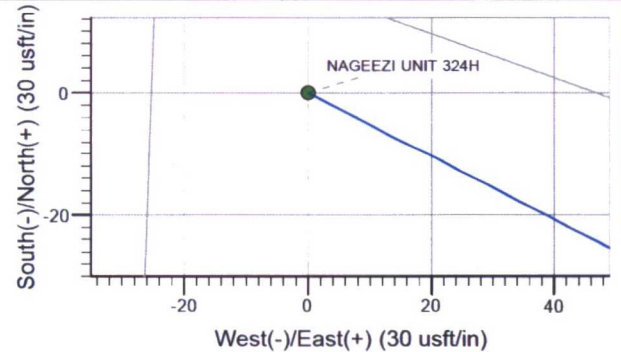
Magnetic Field
Strength: 49755.6nT
Dip Angle: 62.90°
Date: 1/24/2017
Model: HDGM

Type	Target	Target (ft)	Origin	Type	N/S	E/W	From TVD
Name	NAGEEZI UNIT 324H PBHL		5200.19	N/S	-6478.02	7106.54	36.273406
Name	NAGEEZI UNIT 324H POE		5297.97	N/S	-1346.43	2341.60	36.273406



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
839.00	839.00	Ojo Alamo Ss.
1015.97	1016.00	Kirtland Shale
1324.58	1326.15	Fruitland Coal
1603.85	1611.13	Pictured Cliffs Ss.
1697.51	1708.19	Lewis Shale
2344.86	2414.42	Cliffhouse Ss.
3091.41	3308.41	Menefee Fn.
4045.05	4454.58	Point Lookout Ss.
4186.81	4624.96	Mancos Shale
4773.67	5330.30	Mancos Silt
5031.40	5640.72	Gallup Fn.



Start DLS 9.00 TFO 23.23
Start 7003.39 hold at 6263.12 MD

Vertical Section at 137.12° (1500 usft/in)

WELL DETAILS: NAGEEZI UNIT 324H

+N/-S	+E/-W	North	Ground Level	Latitude	Longitude
0.00	0.00	1920167.81	2734871.41	36.277105	-107.793368



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NAGEEZI UNIT 324H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	16' KB @ 6970.00usft
Project:	San Juan County, NM	MD Reference:	16' KB @ 6970.00usft
Site:	S33-T24N-R9W	North Reference:	True
Well:	NAGEEZI UNIT 324H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

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		S33-T24N-R9W			
Site Position:		Northing:	1,920,253.67 usft	Latitude:	36.277341
From:	Lat/Long	Easting:	2,734,747.88 usft	Longitude:	-107.793787
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.02 °

Well	NAGEEZI UNIT 324H					
Well Position	+N/-S	0.00 usft	Northing:	1,920,167.81 usft	Latitude:	36.277105
	+E/-W	0.00 usft	Easting:	2,734,871.41 usft	Longitude:	-107.793368
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,954.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/24/2017	9.07	62.90	49,756

Design	PLAN #3			
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	137.12

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	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,584.62	33.69	117.29	2,489.20	-220.63	427.65	2.00	2.00	0.00	117.29	
5,603.96	33.69	117.29	5,001.36	-988.55	1,916.17	0.00	0.00	0.00	0.00	
6,263.12	90.80	137.12	5,297.97	-1,346.43	2,341.60	9.00	8.66	3.01	23.23	NAGEEZI UNIT 324H
13,266.51	90.80	137.12	5,200.19	-6,478.02	7,106.54	0.00	0.00	0.00	0.00	NAGEEZI UNIT 324H

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Site: S33-T24N-R9W
Well: NAGEEZI UNIT 324H
Wellbore: OH
Design: PLAN #3

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well NAGEEZI UNIT 324H
16' KB @ 6970.00usft
16' KB @ 6970.00usft
True
Minimum Curvature

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	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	
839.00	0.00	0.00	839.00	0.00	0.00	0.00	0.00	0.00	Ojo Alamo Ss.
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	KOP @ 900'
1,000.00	2.00	117.29	999.98	-0.80	1.55	1.64	2.00	2.00	
1,016.00	2.32	117.29	1,015.97	-1.08	2.09	2.21	2.00	2.00	Kirtland Shale
1,100.00	4.00	117.29	1,099.84	-3.20	6.20	6.56	2.00	2.00	
1,200.00	6.00	117.29	1,199.45	-7.20	13.95	14.76	2.00	2.00	
1,300.00	8.00	117.29	1,298.70	-12.78	24.78	26.23	2.00	2.00	
1,326.15	8.52	117.29	1,324.58	-14.51	28.12	29.76	2.00	2.00	Fruitland Coal
1,400.00	10.00	117.29	1,397.47	-19.95	38.68	40.94	2.00	2.00	
1,500.00	12.00	117.29	1,495.62	-28.70	55.64	58.89	2.00	2.00	
1,600.00	14.00	117.29	1,593.06	-39.02	75.63	80.05	2.00	2.00	
1,611.13	14.22	117.29	1,603.85	-40.26	78.04	82.60	2.00	2.00	Pictured Cliffs Ss.
1,700.00	16.00	117.29	1,689.64	-50.88	98.63	104.40	2.00	2.00	
1,708.19	16.16	117.29	1,697.51	-51.92	100.64	106.53	2.00	2.00	Lewis Shale
1,800.00	18.00	117.29	1,785.27	-64.28	124.61	131.90	2.00	2.00	
1,900.00	20.00	117.29	1,879.82	-79.21	153.54	162.52	2.00	2.00	
2,000.00	22.00	117.29	1,973.17	-95.64	185.39	196.23	2.00	2.00	
2,100.00	24.00	117.29	2,065.21	-113.55	220.11	232.99	2.00	2.00	
2,200.00	26.00	117.29	2,155.84	-132.93	257.67	272.74	2.00	2.00	
2,300.00	28.00	117.29	2,244.94	-153.74	298.01	315.44	2.00	2.00	
2,400.00	30.00	117.29	2,332.39	-175.97	341.09	361.05	2.00	2.00	
2,414.42	30.29	117.29	2,344.86	-179.29	347.53	367.86	2.00	2.00	Cliffhouse Ss.
2,500.00	32.00	117.29	2,418.11	-199.58	386.86	409.50	2.00	2.00	
2,584.62	33.69	117.29	2,489.20	-220.63	427.65	452.67	2.00	2.00	EOB; INC=33.69°
2,600.00	33.69	117.29	2,501.99	-224.54	435.23	460.69	0.00	0.00	
2,700.00	33.69	117.29	2,585.20	-249.97	484.53	512.88	0.00	0.00	
2,800.00	33.69	117.29	2,668.40	-275.40	533.83	565.06	0.00	0.00	
2,900.00	33.69	117.29	2,751.60	-300.84	583.13	617.25	0.00	0.00	
3,000.00	33.69	117.29	2,834.80	-326.27	632.43	669.43	0.00	0.00	
3,100.00	33.69	117.29	2,918.01	-351.70	681.73	721.61	0.00	0.00	
3,200.00	33.69	117.29	3,001.21	-377.14	731.03	773.80	0.00	0.00	
3,300.00	33.69	117.29	3,084.41	-402.57	780.33	825.98	0.00	0.00	
3,308.41	33.69	117.29	3,091.41	-404.71	784.47	830.37	0.00	0.00	Menefee Fn.
3,400.00	33.69	117.29	3,167.61	-428.00	829.63	878.17	0.00	0.00	
3,500.00	33.69	117.29	3,250.82	-453.44	878.93	930.35	0.00	0.00	
3,600.00	33.69	117.29	3,334.02	-478.87	928.23	982.53	0.00	0.00	
3,700.00	33.69	117.29	3,417.22	-504.31	977.53	1,034.72	0.00	0.00	
3,800.00	33.69	117.29	3,500.42	-529.74	1,026.83	1,086.90	0.00	0.00	
3,900.00	33.69	117.29	3,583.63	-555.17	1,076.13	1,139.09	0.00	0.00	
4,000.00	33.69	117.29	3,666.83	-580.61	1,125.42	1,191.27	0.00	0.00	
4,100.00	33.69	117.29	3,750.03	-606.04	1,174.72	1,243.45	0.00	0.00	
4,200.00	33.69	117.29	3,833.24	-631.47	1,224.02	1,295.64	0.00	0.00	
4,300.00	33.69	117.29	3,916.44	-656.91	1,273.32	1,347.82	0.00	0.00	

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB
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Project: San Juan County, NM
Site: S33-T24N-R9W
Well: NAGEEZI UNIT 324H
Wellbore: OH
Design: PLAN #3

Local Co-ordinate Reference:
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Survey Calculation Method:

Well NAGEEZI UNIT 324H
16' KB @ 6970.00usft
16' KB @ 6970.00usft
True
Minimum Curvature

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
4,400.00	33.69	117.29	3,999.64	-682.34	1,322.62	1,400.00	0.00	0.00	
4,454.58	33.69	117.29	4,045.05	-696.22	1,349.53	1,428.49	0.00	0.00	Point Lookout Ss.
4,500.00	33.69	117.29	4,082.84	-707.77	1,371.92	1,452.19	0.00	0.00	
4,600.00	33.69	117.29	4,166.05	-733.21	1,421.22	1,504.37	0.00	0.00	
4,624.96	33.69	117.29	4,186.81	-739.56	1,433.53	1,517.40	0.00	0.00	Mancos Shale
4,700.00	33.69	117.29	4,249.25	-758.64	1,470.52	1,556.56	0.00	0.00	
4,800.00	33.69	117.29	4,332.45	-784.08	1,519.82	1,608.74	0.00	0.00	
4,900.00	33.69	117.29	4,415.65	-809.51	1,569.12	1,660.92	0.00	0.00	
5,000.00	33.69	117.29	4,498.86	-834.94	1,618.42	1,713.11	0.00	0.00	
5,100.00	33.69	117.29	4,582.06	-860.38	1,667.72	1,765.29	0.00	0.00	
5,200.00	33.69	117.29	4,665.26	-885.81	1,717.02	1,817.48	0.00	0.00	
5,300.00	33.69	117.29	4,748.46	-911.24	1,766.32	1,869.66	0.00	0.00	
5,330.30	33.69	117.29	4,773.67	-918.95	1,781.26	1,885.47	0.00	0.00	Mancos Silt
5,400.00	33.69	117.29	4,831.67	-936.68	1,815.62	1,921.84	0.00	0.00	
5,500.00	33.69	117.29	4,914.87	-962.11	1,864.92	1,974.03	0.00	0.00	
5,600.00	33.69	117.29	4,998.07	-987.54	1,914.22	2,026.21	0.00	0.00	
5,603.96	33.69	117.29	5,001.36	-988.55	1,916.17	2,028.28	0.00	0.00	START BUILD/TURN
5,640.72	36.75	119.47	5,031.40	-998.64	1,934.81	2,048.36	9.00	8.33	Gallup Fn.
5,700.00	41.76	122.40	5,077.29	-1,017.95	1,966.94	2,084.37	9.00	8.44	
5,800.00	50.33	126.22	5,146.65	-1,058.62	2,026.23	2,154.52	9.00	8.57	
5,900.00	59.00	129.20	5,204.44	-1,108.55	2,090.62	2,234.92	9.00	8.67	
6,000.00	67.72	131.67	5,249.24	-1,166.52	2,158.54	2,323.61	9.00	8.73	
6,100.00	76.48	133.85	5,279.94	-1,231.10	2,228.30	2,418.40	9.00	8.76	
6,200.00	85.26	135.88	5,295.80	-1,300.69	2,298.19	2,516.96	9.00	8.78	
6,263.12	90.80	137.12	5,297.97	-1,346.43	2,341.60	2,580.01	9.00	8.78	LP @ 5297' TVD; 90.8°
6,300.00	90.80	137.12	5,297.46	-1,373.45	2,366.69	2,616.89	0.00	0.00	
6,400.00	90.80	137.12	5,296.06	-1,446.72	2,434.73	2,716.88	0.00	0.00	
6,500.00	90.80	137.12	5,294.66	-1,520.00	2,502.76	2,816.87	0.00	0.00	
6,600.00	90.80	137.12	5,293.27	-1,593.27	2,570.80	2,916.86	0.00	0.00	
6,700.00	90.80	137.12	5,291.87	-1,666.54	2,638.84	3,016.85	0.00	0.00	
6,800.00	90.80	137.12	5,290.47	-1,739.82	2,706.88	3,116.84	0.00	0.00	
6,900.00	90.80	137.12	5,289.08	-1,813.09	2,774.91	3,216.83	0.00	0.00	
7,000.00	90.80	137.12	5,287.68	-1,886.36	2,842.95	3,316.82	0.00	0.00	
7,100.00	90.80	137.12	5,286.29	-1,959.63	2,910.99	3,416.81	0.00	0.00	
7,200.00	90.80	137.12	5,284.89	-2,032.91	2,979.03	3,516.80	0.00	0.00	
7,300.00	90.80	137.12	5,283.49	-2,106.18	3,047.06	3,616.79	0.00	0.00	
7,400.00	90.80	137.12	5,282.10	-2,179.45	3,115.10	3,716.78	0.00	0.00	
7,500.00	90.80	137.12	5,280.70	-2,252.73	3,183.14	3,816.77	0.00	0.00	
7,600.00	90.80	137.12	5,279.30	-2,326.00	3,251.18	3,916.76	0.00	0.00	
7,700.00	90.80	137.12	5,277.91	-2,399.27	3,319.22	4,016.75	0.00	0.00	
7,800.00	90.80	137.12	5,276.51	-2,472.55	3,387.25	4,116.74	0.00	0.00	
7,900.00	90.80	137.12	5,275.12	-2,545.82	3,455.29	4,216.73	0.00	0.00	
8,000.00	90.80	137.12	5,273.72	-2,619.09	3,523.33	4,316.72	0.00	0.00	
8,100.00	90.80	137.12	5,272.32	-2,692.36	3,591.37	4,416.71	0.00	0.00	
8,200.00	90.80	137.12	5,270.93	-2,765.64	3,659.40	4,516.70	0.00	0.00	
8,300.00	90.80	137.12	5,269.53	-2,838.91	3,727.44	4,616.69	0.00	0.00	
8,400.00	90.80	137.12	5,268.14	-2,912.18	3,795.48	4,716.68	0.00	0.00	
8,500.00	90.80	137.12	5,266.74	-2,985.46	3,863.52	4,816.67	0.00	0.00	
8,600.00	90.80	137.12	5,265.34	-3,058.73	3,931.55	4,916.66	0.00	0.00	
8,700.00	90.80	137.12	5,263.95	-3,132.00	3,999.59	5,016.65	0.00	0.00	
8,800.00	90.80	137.12	5,262.55	-3,205.27	4,067.63	5,116.64	0.00	0.00	
8,900.00	90.80	137.12	5,261.15	-3,278.55	4,135.67	5,216.63	0.00	0.00	

Cathedral Energy Services

Planning Report

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Site: S33-T24N-R9W
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Wellbore: OH
Design: PLAN #3

Local Co-ordinate Reference:
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Well NAGEEZI UNIT 324H
16' KB @ 6970.00usft
16' KB @ 6970.00usft
True
Minimum Curvature

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	137.12	5,259.76	-3,351.82	4,203.71	5,316.62	0.00	0.00	
9,100.00	90.80	137.12	5,258.36	-3,425.09	4,271.74	5,416.61	0.00	0.00	
9,200.00	90.80	137.12	5,256.97	-3,498.37	4,339.78	5,516.60	0.00	0.00	
9,300.00	90.80	137.12	5,255.57	-3,571.64	4,407.82	5,616.59	0.00	0.00	
9,400.00	90.80	137.12	5,254.17	-3,644.91	4,475.86	5,716.58	0.00	0.00	
9,500.00	90.80	137.12	5,252.78	-3,718.18	4,543.89	5,816.57	0.00	0.00	
9,600.00	90.80	137.12	5,251.38	-3,791.46	4,611.93	5,916.57	0.00	0.00	
9,700.00	90.80	137.12	5,249.98	-3,864.73	4,679.97	6,016.56	0.00	0.00	
9,800.00	90.80	137.12	5,248.59	-3,938.00	4,748.01	6,116.55	0.00	0.00	
9,900.00	90.80	137.12	5,247.19	-4,011.28	4,816.05	6,216.54	0.00	0.00	
10,000.00	90.80	137.12	5,245.80	-4,084.55	4,884.08	6,316.53	0.00	0.00	
10,100.00	90.80	137.12	5,244.40	-4,157.82	4,952.12	6,416.52	0.00	0.00	
10,200.00	90.80	137.12	5,243.00	-4,231.10	5,020.16	6,516.51	0.00	0.00	
10,300.00	90.80	137.12	5,241.61	-4,304.37	5,088.20	6,616.50	0.00	0.00	
10,400.00	90.80	137.12	5,240.21	-4,377.64	5,156.23	6,716.49	0.00	0.00	
10,500.00	90.80	137.12	5,238.82	-4,450.91	5,224.27	6,816.48	0.00	0.00	
10,600.00	90.80	137.12	5,237.42	-4,524.19	5,292.31	6,916.47	0.00	0.00	
10,700.00	90.80	137.12	5,236.02	-4,597.46	5,360.35	7,016.46	0.00	0.00	
10,800.00	90.80	137.12	5,234.63	-4,670.73	5,428.38	7,116.45	0.00	0.00	
10,900.00	90.80	137.12	5,233.23	-4,744.01	5,496.42	7,216.44	0.00	0.00	
11,000.00	90.80	137.12	5,231.83	-4,817.28	5,564.46	7,316.43	0.00	0.00	
11,100.00	90.80	137.12	5,230.44	-4,890.55	5,632.50	7,416.42	0.00	0.00	
11,200.00	90.80	137.12	5,229.04	-4,963.82	5,700.54	7,516.41	0.00	0.00	
11,300.00	90.80	137.12	5,227.65	-5,037.10	5,768.57	7,616.40	0.00	0.00	
11,400.00	90.80	137.12	5,226.25	-5,110.37	5,836.61	7,716.39	0.00	0.00	
11,500.00	90.80	137.12	5,224.85	-5,183.64	5,904.65	7,816.38	0.00	0.00	
11,600.00	90.80	137.12	5,223.46	-5,256.92	5,972.69	7,916.37	0.00	0.00	
11,700.00	90.80	137.12	5,222.06	-5,330.19	6,040.72	8,016.36	0.00	0.00	
11,800.00	90.80	137.12	5,220.67	-5,403.46	6,108.76	8,116.35	0.00	0.00	
11,900.00	90.80	137.12	5,219.27	-5,476.74	6,176.80	8,216.34	0.00	0.00	
12,000.00	90.80	137.12	5,217.87	-5,550.01	6,244.84	8,316.33	0.00	0.00	
12,100.00	90.80	137.12	5,216.48	-5,623.28	6,312.87	8,416.32	0.00	0.00	
12,200.00	90.80	137.12	5,215.08	-5,696.55	6,380.91	8,516.31	0.00	0.00	
12,300.00	90.80	137.12	5,213.68	-5,769.83	6,448.95	8,616.30	0.00	0.00	
12,400.00	90.80	137.12	5,212.29	-5,843.10	6,516.99	8,716.29	0.00	0.00	
12,500.00	90.80	137.12	5,210.89	-5,916.37	6,585.03	8,816.28	0.00	0.00	
12,600.00	90.80	137.12	5,209.50	-5,989.65	6,653.06	8,916.27	0.00	0.00	
12,700.00	90.80	137.12	5,208.10	-6,062.92	6,721.10	9,016.26	0.00	0.00	
12,800.00	90.80	137.12	5,206.70	-6,136.19	6,789.14	9,116.25	0.00	0.00	
12,900.00	90.80	137.12	5,205.31	-6,209.46	6,857.18	9,216.24	0.00	0.00	
13,000.00	90.80	137.12	5,203.91	-6,282.74	6,925.21	9,316.23	0.00	0.00	
13,100.00	90.80	137.12	5,202.51	-6,356.01	6,993.25	9,416.22	0.00	0.00	
13,200.00	90.80	137.12	5,201.12	-6,429.28	7,061.29	9,516.21	0.00	0.00	
13,266.51	90.80	137.12	5,200.19	-6,478.02	7,106.54	9,582.72	0.00	0.00	TD at 13266.51

Cathedral Energy Services

Planning Report

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Well NAGEEZI UNIT 324H
 16' KB @ 6970.00usft
 16' KB @ 6970.00usft
 True
 Minimum Curvature

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
NAGEEZI UNIT 324H PI	0.00	0.00	5,200.19	-6,478.02	7,106.54	1,913,692.72	2,741,980.63	36.259307	-107.769263
- plan hits target center									
- Point									
NAGEEZI UNIT 324H PI	0.00	0.00	5,297.97	-1,346.43	2,341.60	1,918,822.34	2,737,213.57	36.273406	-107.785424
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
839.00	839.00	Ojo Alamo Ss.		-0.80	137.12
1,016.00	1,016.00	Kirtland Shale		-0.80	137.12
1,326.15	1,325.00	Fruitland Coal		-0.80	137.12
1,611.13	1,605.00	Pictured Cliffs Ss.		-0.80	137.12
1,708.19	1,699.00	Lewis Shale		-0.80	137.12
2,414.42	2,350.00	Cliffhouse Ss.		-0.80	137.12
3,308.41	3,103.00	Menefee Fn.		-0.80	137.12
4,454.58	4,065.00	Point Lookout Ss.		-0.80	137.12
4,624.96	4,208.00	Mancos Shale		-0.80	137.12
5,330.30	4,800.00	Mancos Silt		-0.80	137.12
5,640.72	5,060.00	Gallup Fn.		-0.80	137.12

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
900.00	900.00	0.00	0.00	KOP @ 900'
2,584.62	2,489.20	-220.63	427.65	EOB; INC=33.69°
5,603.96	5,001.36	-988.55	1,916.17	START BUILD/TURN
6,263.12	5,297.97	-1,346.43	2,341.60	LP @ 5297' TVD; 90.8°
13,266.51	5,200.19	-6,478.02	7,106.54	TD at 13266.51

EnCana Oil & Gas (USA) Inc

San Juan County, NM

S33-T24N-R9W

NAGEEZI UNIT 324H

OH

PLAN #3

Anticollision Report

28 March, 2017

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 324H
Project:	San Juan County, NM	TVD Reference:	16' KB @ 6970.00usft
Reference Site:	S33-T24N-R9W	MD Reference:	16' KB @ 6970.00usft
Site Error:	0.00usft	North Reference:	True
Reference Well:	NAGEEZI UNIT 324H	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 #3	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	3/28/2017
From (usft)	To (usft)	Survey (Wellbore)
0.00	13,265.78	PLAN #3 (OH)
		Tool Name
		MWD+HDGM
		Description
		OWSG MWD + HDGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S33-T24N-R9W						
NAGEEZI UNIT 325H - OH - PLAN #3	900.00	900.00	30.10	24.06	4.985	CC, ES
NAGEEZI UNIT 325H - OH - PLAN #3	1,100.00	1,100.86	33.92	26.52	4.585	SF
NAGEEZI UNIT 326H - OH - PLAN #3	1,480.32	1,488.62	25.12	14.75	2.422	CC
NAGEEZI UNIT 326H - OH - PLAN #3	1,500.00	1,508.29	25.18	14.65	2.390	ES
NAGEEZI UNIT 326H - OH - PLAN #3	12,400.00	12,498.71	199.22	53.68	1.369	Level 3, SF
NAGEEZI UNIT 327H - OH - PLAN #3	1,029.05	1,034.10	78.06	71.14	11.282	CC, ES
NAGEEZI UNIT 327H - OH - PLAN #3	11,600.00	11,909.97	1,323.23	960.11	3.644	SF

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S33-T24N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 324H
Well Error: 0.00usft
Reference Wellbore: OH
Reference Design: PLAN #3

Local Co-ordinate Reference: Well NAGEEZI UNIT 324H
TVD Reference: 16' KB @ 6970.00usft
MD Reference: 16' KB @ 6970.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 325H - OH - PLAN #3												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-55.35	17.11	-24.76	30.10				
100.00	100.00	100.00	100.00	0.15	0.15	-55.35	17.11	-24.76	30.10	29.79	0.30	99.946	
200.00	200.00	200.00	200.00	0.51	0.51	-55.35	17.11	-24.76	30.10	29.08	1.02	29.561	
300.00	300.00	300.00	300.00	0.87	0.87	-55.35	17.11	-24.76	30.10	28.36	1.74	17.346	
400.00	400.00	400.00	400.00	1.23	1.23	-55.35	17.11	-24.76	30.10	27.64	2.45	12.274	
500.00	500.00	500.00	500.00	1.58	1.58	-55.35	17.11	-24.76	30.10	26.93	3.17	9.497	
600.00	600.00	600.00	600.00	1.94	1.94	-55.35	17.11	-24.76	30.10	26.21	3.89	7.745	
700.00	700.00	700.00	700.00	2.30	2.30	-55.35	17.11	-24.76	30.10	25.49	4.60	6.539	
800.00	800.00	800.00	800.00	2.66	2.66	-55.35	17.11	-24.76	30.10	24.78	5.32	5.657	
900.00	900.00	900.00	900.00	3.02	3.02	-55.35	17.11	-24.76	30.10	24.06	6.04	4.985 CC, ES	
1,000.00	999.98	1,000.54	1,000.51	3.36	3.36	-175.81	15.35	-24.82	30.93	24.20	6.73	4.597	
1,100.00	1,099.84	1,100.86	1,100.69	3.70	3.69	175.76	10.07	-25.00	33.92	26.52	7.40	4.585 SF	
1,200.00	1,199.45	1,200.76	1,200.21	4.05	4.03	164.94	1.34	-25.30	40.17	32.10	8.07	4.977	
1,300.00	1,298.70	1,300.04	1,298.74	4.40	4.37	154.79	-10.76	-25.71	50.53	41.77	8.76	5.768	
1,400.00	1,397.47	1,398.50	1,395.99	4.77	4.72	146.75	-26.13	-26.23	65.22	55.75	9.47	6.886	
1,500.00	1,495.62	1,495.96	1,491.67	5.16	5.09	140.81	-44.62	-26.86	84.11	73.91	10.20	8.242	
1,600.00	1,593.06	1,592.24	1,585.53	5.57	5.46	136.48	-66.07	-27.59	106.97	96.01	10.96	9.757	
1,700.00	1,689.64	1,687.19	1,677.32	6.00	5.86	133.25	-90.30	-28.42	133.59	121.84	11.75	11.373	
1,800.00	1,785.27	1,780.65	1,766.85	6.47	6.27	130.78	-117.11	-29.33	163.79	151.23	12.56	13.043	
1,900.00	1,879.82	1,872.50	1,853.93	6.98	6.70	128.82	-146.28	-30.32	197.42	184.02	13.40	14.734	
2,000.00	1,973.17	1,962.64	1,938.44	7.53	7.15	127.21	-177.61	-31.39	234.34	220.07	14.27	16.417	
2,100.00	2,065.21	2,050.95	2,020.24	8.14	7.62	125.83	-210.87	-32.52	274.43	259.25	15.19	18.071	
2,200.00	2,155.84	2,138.20	2,100.03	8.81	8.10	124.61	-246.13	-33.72	317.54	301.40	16.14	19.670	
2,300.00	2,244.94	2,227.37	2,181.24	9.54	8.62	123.80	-282.94	-34.97	362.80	345.62	17.19	21.112	
2,400.00	2,332.39	2,315.59	2,261.58	10.34	9.14	123.40	-319.35	-36.21	409.80	391.52	18.27	22.426	
2,500.00	2,418.11	2,402.75	2,340.96	11.22	9.67	123.26	-355.34	-37.44	458.52	439.11	19.41	23.627	
2,584.62	2,489.20	2,475.61	2,407.31	12.02	10.11	123.28	-385.41	-38.46	501.12	480.72	20.40	24.564	
2,600.00	2,501.99	2,488.77	2,419.30	12.18	10.19	123.44	-390.84	-38.65	508.98	488.39	20.58	24.726	
2,700.00	2,585.20	2,574.35	2,497.23	13.18	10.73	124.39	-426.17	-39.85	560.14	538.36	21.79	25.711	
2,800.00	2,668.40	2,659.93	2,575.17	14.21	11.27	125.18	-461.50	-41.05	611.40	588.39	23.01	26.573	
2,900.00	2,751.60	2,745.51	2,653.11	15.26	11.81	125.85	-496.83	-42.26	662.74	638.49	24.25	27.332	
3,000.00	2,834.80	2,831.09	2,731.05	16.33	12.36	126.42	-532.15	-43.46	714.13	688.62	25.50	28.003	
3,100.00	2,918.01	2,916.67	2,808.99	17.41	12.91	126.92	-567.48	-44.66	765.56	738.79	26.77	28.599	
3,200.00	3,001.21	3,002.25	2,886.93	18.50	13.47	127.35	-602.81	-45.86	817.04	788.99	28.05	29.132	
3,300.00	3,084.41	3,087.83	2,964.87	19.60	14.02	127.74	-638.14	-47.07	868.54	839.21	29.33	29.610	
3,400.00	3,167.61	3,173.41	3,042.80	20.71	14.59	128.08	-673.47	-48.27	920.07	889.44	30.63	30.041	
3,500.00	3,250.82	3,258.99	3,120.74	21.82	15.15	128.38	-708.79	-49.47	971.62	939.69	31.93	30.431	
3,600.00	3,334.02	3,344.56	3,198.68	22.94	15.72	128.66	-744.12	-50.67	1,023.19	989.95	33.24	30.785	
3,700.00	3,417.22	3,430.14	3,276.62	24.06	16.28	128.90	-779.45	-51.88	1,074.78	1,040.23	34.55	31.108	
3,800.00	3,500.42	3,515.72	3,354.56	25.19	16.85	129.13	-814.78	-53.08	1,126.37	1,090.51	35.87	31.404	
3,900.00	3,583.63	3,601.30	3,432.50	26.32	17.42	129.33	-850.11	-54.28	1,177.98	1,140.79	37.19	31.675	
4,000.00	3,666.83	3,686.88	3,510.44	27.45	18.00	129.52	-885.43	-55.48	1,229.60	1,191.09	38.52	31.925	
4,100.00	3,750.03	3,772.46	3,588.37	28.59	18.57	129.69	-920.76	-56.69	1,281.23	1,241.39	39.85	32.155	
4,200.00	3,833.24	3,858.04	3,666.31	29.73	19.14	129.85	-956.09	-57.89	1,332.87	1,291.69	41.18	32.369	
4,300.00	3,916.44	3,943.62	3,744.25	30.87	19.72	130.00	-991.42	-59.09	1,384.51	1,342.00	42.51	32.567	
4,400.00	3,999.64	4,029.20	3,822.19	32.01	20.30	130.14	-1,026.74	-60.30	1,436.16	1,392.31	43.85	32.751	
4,500.00	4,082.84	4,114.78	3,900.13	33.16	20.88	130.27	-1,062.07	-61.50	1,487.82	1,442.63	45.19	32.923	

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

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S33-T24N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 324H
Well Error: 0.00usft
Reference Wellbore: OH
Reference Design: PLAN #3

Local Co-ordinate Reference: Well NAGEEZI UNIT 324H
TVD Reference: 16' KB @ 6970.00usft
MD Reference: 16' KB @ 6970.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 326H - OH - PLAN #3													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-55.35	34.22	-49.52	60.19				
100.00	100.00	100.00	100.00	0.15	0.15	-55.35	34.22	-49.52	60.19	59.89	0.30	199.891	
200.00	200.00	200.00	200.00	0.51	0.51	-55.35	34.22	-49.52	60.19	59.17	1.02	59.123	
300.00	300.00	300.00	300.00	0.87	0.87	-55.35	34.22	-49.52	60.19	58.46	1.74	34.692	
400.00	400.00	400.00	400.00	1.23	1.23	-55.35	34.22	-49.52	60.19	57.74	2.45	24.548	
500.00	500.00	500.00	500.00	1.58	1.58	-55.35	34.22	-49.52	60.19	57.02	3.17	18.994	
600.00	600.00	600.00	600.00	1.94	1.94	-55.35	34.22	-49.52	60.19	56.30	3.89	15.490	
700.00	700.00	700.00	700.00	2.30	2.30	-55.35	34.22	-49.52	60.19	55.59	4.60	13.077	
800.00	800.00	802.03	802.01	2.66	2.66	-54.89	33.61	-47.81	58.47	53.14	5.34	10.960	
900.00	900.00	903.80	903.62	3.02	3.00	-53.32	31.80	-42.69	53.35	47.27	6.08	8.768	
1,000.00	999.98	1,005.22	1,004.64	3.36	3.36	-167.72	28.79	-34.21	46.65	39.82	6.83	6.829	
1,100.00	1,099.84	1,106.38	1,105.01	3.70	3.73	-163.22	24.60	-22.40	40.22	32.65	7.57	5.315	
1,200.00	1,199.45	1,207.26	1,204.62	4.05	4.11	-156.33	19.24	-7.30	34.31	26.01	8.30	4.136	
1,300.00	1,298.70	1,307.88	1,303.33	4.40	4.50	-146.04	12.74	11.04	29.35	20.33	9.02	3.255	
1,400.00	1,397.47	1,408.22	1,401.03	4.77	4.93	-131.60	5.10	32.57	26.03	16.29	9.74	2.672	
1,480.32	1,476.36	1,488.62	1,478.70	5.08	5.29	-117.59	-1.84	52.14	25.12	14.75	10.37	2.422 CC	
1,500.00	1,495.62	1,508.29	1,497.61	5.16	5.38	-114.03	-3.65	57.24	25.18	14.65	10.53	2.390 ES	
1,600.00	1,593.06	1,608.09	1,592.96	5.57	5.86	-96.87	-13.50	84.99	27.18	15.75	11.43	2.379	
1,700.00	1,689.64	1,707.61	1,686.96	6.00	6.39	-83.24	-24.42	115.77	31.65	19.26	12.39	2.554	
1,800.00	1,785.27	1,806.85	1,779.52	6.47	6.97	-73.60	-36.39	149.51	37.83	24.46	13.38	2.828	
1,900.00	1,879.82	1,905.82	1,870.53	6.98	7.60	-67.06	-49.38	186.14	45.15	30.76	14.39	3.138	
2,000.00	1,973.17	2,004.51	1,959.89	7.53	8.29	-62.62	-63.38	225.60	53.24	37.80	15.44	3.448	
2,100.00	2,065.21	2,102.93	2,047.52	8.14	9.04	-59.60	-78.36	267.81	61.87	45.32	16.54	3.740	
2,200.00	2,155.84	2,202.28	2,134.89	8.81	9.86	-58.19	-94.17	312.40	70.26	52.50	17.76	3.956	
2,300.00	2,244.94	2,302.04	2,222.58	9.54	10.70	-59.22	-110.08	357.23	76.90	57.73	19.17	4.012	
2,400.00	2,332.39	2,401.82	2,310.28	10.34	11.57	-62.21	-125.98	402.07	81.89	61.08	20.81	3.936	
2,500.00	2,418.11	2,501.50	2,397.89	11.22	12.45	-66.97	-141.87	446.87	85.67	62.96	22.71	3.772	
2,584.62	2,489.20	2,585.67	2,471.88	12.02	13.21	-72.31	-155.29	484.70	88.44	63.92	24.52	3.607	
2,600.00	2,501.99	2,600.95	2,485.31	12.18	13.34	-73.39	-157.73	491.56	88.96	64.10	24.87	3.578	
2,700.00	2,585.20	2,700.29	2,572.63	13.18	14.24	-80.07	-173.57	536.21	93.09	66.01	27.08	3.437	
2,800.00	2,668.40	2,799.64	2,659.96	14.21	15.15	-86.12	-189.41	580.85	98.38	69.15	29.23	3.366	
2,900.00	2,751.60	2,898.98	2,747.28	15.26	16.07	-91.50	-205.24	625.50	104.65	73.37	31.28	3.346	
3,000.00	2,834.80	2,998.32	2,834.60	16.33	16.99	-96.25	-221.08	670.14	111.74	78.52	33.23	3.363	
3,100.00	2,918.01	3,097.67	2,921.92	17.41	17.92	-100.41	-236.92	714.79	119.51	84.44	35.08	3.407	
3,200.00	3,001.21	3,197.01	3,009.25	18.50	18.85	-104.04	-252.76	759.43	127.83	90.99	36.85	3.469	
3,300.00	3,084.41	3,296.36	3,096.57	19.60	19.78	-107.22	-268.60	804.08	136.61	98.05	38.55	3.544	
3,400.00	3,167.61	3,395.70	3,183.89	20.71	20.71	-110.02	-284.43	848.72	145.75	105.54	40.20	3.625	
3,500.00	3,250.82	3,495.05	3,271.21	21.82	21.65	-112.48	-300.27	893.37	155.19	113.38	41.81	3.712	
3,600.00	3,334.02	3,594.39	3,358.54	22.94	22.60	-114.65	-316.11	938.02	164.89	121.50	43.39	3.800	
3,700.00	3,417.22	3,693.73	3,445.86	24.06	23.54	-116.59	-331.95	982.66	174.79	129.85	44.95	3.889	
3,800.00	3,500.42	3,793.08	3,533.18	25.19	24.48	-118.31	-347.79	1,027.31	184.88	138.39	46.48	3.977	
3,900.00	3,583.63	3,892.42	3,620.50	26.32	25.43	-119.86	-363.62	1,071.95	195.11	147.10	48.00	4.064	
4,000.00	3,666.83	3,991.77	3,707.82	27.45	26.38	-121.25	-379.46	1,116.60	205.47	155.95	49.52	4.150	
4,100.00	3,750.03	4,091.11	3,795.15	28.59	27.33	-122.50	-395.30	1,161.24	215.93	164.92	51.02	4.232	
4,200.00	3,833.24	4,190.46	3,882.47	29.73	28.28	-123.64	-411.14	1,205.89	226.50	173.98	52.52	4.313	
4,300.00	3,916.44	4,289.80	3,969.79	30.87	29.23	-124.68	-426.98	1,250.54	237.14	183.13	54.01	4.391	
4,400.00	3,999.64	4,389.14	4,057.11	32.01	30.18	-125.63	-442.82	1,295.18	247.85	192.35	55.50	4.466	
4,500.00	4,082.84	4,488.49	4,144.44	33.16	31.14	-126.50	-458.65	1,339.83	258.62	201.64	56.98	4.539	
4,600.00	4,166.05	4,587.83	4,231.76	34.30	32.09	-127.30	-474.49	1,384.47	269.45	210.98	58.47	4.608	
4,700.00	4,249.25	4,687.18	4,319.08	35.45	33.04	-128.04	-490.33	1,429.12	280.33	220.37	59.95	4.676	
4,800.00	4,332.45	4,786.52	4,406.40	36.60	34.00	-128.72	-506.17	1,473.76	291.24	229.81	61.43	4.741	
4,900.00	4,415.65	4,885.87	4,493.73	37.75	34.96	-129.36	-522.01	1,518.41	302.20	239.28	62.92	4.803	

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

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
 Project: San Juan County, NM
 Reference Site: S33-T24N-R9W
 Site Error: 0.00usft
 Reference Well: NAGEEZI UNIT 324H
 Well Error: 0.00usft
 Reference Wellbore: OH
 Reference Design: PLAN #3

Local Co-ordinate Reference: Well NAGEEZI UNIT 324H
 TVD Reference: 16' KB @ 6970.00usft
 MD Reference: 16' KB @ 6970.00usft
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: USA EDM 5000 Multi Users DB
 Offset TVD Reference: Offset Datum

S33-T24N-R9W - NAGEEZI UNIT 326H - OH - PLAN #3														Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N-S (usft)	+E-W (usft)						
5,000.00	4,498.86	4,985.21	4,581.05	38.90	35.91	-129.95	-537.84	1,563.06	313.19	248.79	64.40	4.863		
5,100.00	4,582.06	5,084.55	4,668.37	40.05	36.87	-130.50	-553.68	1,607.70	324.21	258.33	65.88	4.921		
5,200.00	4,665.26	5,188.44	4,759.65	41.21	37.87	-131.03	-570.30	1,654.42	335.23	267.81	67.42	4.973		
5,300.00	4,748.46	5,279.53	4,911.97	42.36	40.25	-129.72	-623.35	1,755.56	331.26	262.36	68.90	4.808		
5,400.00	4,831.67	5,350.19	5,016.57	43.51	43.08	-124.13	-702.40	1,864.01	302.35	232.98	69.36	4.359		
5,500.00	4,914.87	5,434.85	5,072.92	44.67	45.67	-113.72	-782.12	1,956.39	256.40	184.55	71.85	3.568		
5,603.96	5,001.36	5,788.77	5,098.78	45.87	47.78	-97.51	-851.68	2,028.97	202.35	122.79	79.56	2.543		
5,650.00	5,038.79	5,826.90	5,104.25	46.44	48.56	-93.14	-878.56	2,055.44	181.05	96.52	84.53	2.142		
5,700.00	5,077.29	5,866.25	5,107.58	47.12	49.37	-86.97	-906.91	2,082.53	163.12	73.37	89.75	1.817		
5,750.00	5,113.31	5,903.87	5,108.57	47.87	50.13	-79.52	-934.48	2,108.10	152.13	59.06	93.07	1.635		
5,793.58	5,142.52	5,935.42	5,108.18	48.59	50.77	-72.44	-957.83	2,129.31	149.08	56.00	93.08	1.602		
5,800.00	5,146.65	5,940.18	5,108.11	48.69	50.87	-71.34	-961.35	2,132.52	149.14	56.34	92.81	1.607		
5,850.00	5,177.08	5,978.71	5,107.57	49.57	51.65	-62.62	-989.87	2,158.42	153.36	64.60	88.76	1.728		
5,900.00	5,204.44	6,019.62	5,107.00	50.51	52.49	-54.22	-1,020.15	2,185.93	162.46	79.58	82.87	1.960		
5,950.00	5,228.54	6,062.66	5,106.40	51.49	53.38	-46.86	-1,052.00	2,214.86	174.04	97.12	76.92	2.263		
6,000.00	5,249.24	6,107.56	5,105.77	52.52	54.31	-40.84	-1,085.24	2,245.05	186.21	114.38	71.83	2.592		
6,050.00	5,266.41	6,154.04	5,105.12	53.58	55.29	-36.18	-1,119.64	2,276.30	197.62	129.71	67.92	2.910		
6,100.00	5,279.94	6,201.83	5,104.46	54.66	56.30	-32.72	-1,155.01	2,308.42	207.38	142.19	65.18	3.181		
6,150.00	5,289.76	6,250.61	5,103.78	55.75	57.34	-30.30	-1,191.12	2,341.22	214.87	151.33	63.54	3.382		
6,200.00	5,295.80	6,300.10	5,103.08	56.84	58.40	-28.79	-1,227.75	2,374.49	219.73	156.83	62.90	3.493		
6,250.00	5,298.02	6,349.99	5,102.39	57.93	59.48	-28.08	-1,264.67	2,408.03	221.73	158.52	63.21	3.508		
6,263.12	5,297.97	6,363.11	5,102.20	58.21	59.77	-28.02	-1,274.38	2,416.85	221.76	158.32	63.44	3.495		
6,300.00	5,297.46	6,399.99	5,101.69	59.01	60.57	-27.93	-1,301.67	2,441.64	221.57	157.37	64.20	3.451		
6,400.00	5,296.06	6,499.98	5,100.29	61.18	62.76	-27.67	-1,375.68	2,508.87	221.06	154.81	66.25	3.337		
6,500.00	5,294.66	6,599.97	5,098.90	63.39	64.98	-27.42	-1,449.69	2,576.09	220.55	152.26	68.30	3.229		
6,600.00	5,293.27	6,699.97	5,097.50	65.61	67.22	-27.17	-1,523.70	2,643.32	220.05	149.72	70.33	3.129		
6,700.00	5,291.87	6,799.96	5,096.11	67.86	69.48	-26.91	-1,597.72	2,710.55	219.55	147.20	72.35	3.034		
6,800.00	5,290.47	6,899.96	5,094.71	70.13	71.76	-26.66	-1,671.73	2,777.77	219.06	144.69	74.36	2.946		
6,900.00	5,289.08	6,999.95	5,093.31	72.42	74.05	-26.40	-1,745.74	2,845.00	218.57	142.21	76.36	2.862		
7,000.00	5,287.68	7,099.94	5,091.92	74.72	76.36	-26.14	-1,819.75	2,912.22	218.08	139.75	78.33	2.784		
7,100.00	5,286.29	7,199.94	5,090.52	77.04	78.69	-25.88	-1,893.76	2,979.45	217.60	137.31	80.29	2.710		
7,200.00	5,284.89	7,299.93	5,089.13	79.37	81.02	-25.62	-1,967.77	3,046.68	217.13	134.90	82.23	2.641		
7,300.00	5,283.49	7,399.93	5,087.73	81.72	83.37	-25.36	-2,041.78	3,113.90	216.65	132.51	84.14	2.575		
7,400.00	5,282.10	7,499.92	5,086.33	84.07	85.72	-25.10	-2,115.79	3,181.13	216.19	130.15	86.03	2.513		
7,500.00	5,280.70	7,599.91	5,084.94	86.44	88.09	-24.84	-2,189.80	3,248.35	215.72	127.82	87.90	2.454		
7,600.00	5,279.30	7,699.91	5,083.54	88.82	90.46	-24.57	-2,263.81	3,315.58	215.27	125.52	89.75	2.399		
7,700.00	5,277.91	7,799.90	5,082.14	91.20	92.85	-24.31	-2,337.82	3,382.81	214.81	123.25	91.56	2.346		
7,800.00	5,276.51	7,899.90	5,080.75	93.59	95.24	-24.04	-2,411.83	3,450.03	214.36	121.01	93.35	2.296		
7,900.00	5,275.12	7,999.89	5,079.35	95.99	97.63	-23.77	-2,485.84	3,517.26	213.92	118.80	95.12	2.249		
8,000.00	5,273.72	8,099.88	5,077.96	98.40	100.04	-23.50	-2,559.85	3,584.48	213.48	116.62	96.86	2.204		
8,100.00	5,272.32	8,199.88	5,076.56	100.82	102.44	-23.23	-2,633.86	3,651.71	213.04	114.48	98.57	2.161		
8,200.00	5,270.93	8,299.87	5,075.16	103.24	104.86	-22.96	-2,707.87	3,718.94	212.61	112.37	100.25	2.121		
8,300.00	5,269.53	8,399.87	5,073.77	105.66	107.28	-22.69	-2,781.88	3,786.16	212.19	110.29	101.90	2.082		
8,400.00	5,268.14	8,499.86	5,072.37	108.09	109.70	-22.41	-2,855.89	3,853.39	211.77	108.25	103.52	2.046		
8,500.00	5,266.74	8,599.85	5,070.98	110.53	112.13	-22.14	-2,929.90	3,920.61	211.35	106.24	105.12	2.011		
8,600.00	5,265.34	8,699.85	5,069.58	112.97	114.57	-21.86	-3,003.91	3,987.84	210.94	104.26	106.68	1.977		
8,700.00	5,263.95	8,799.84	5,068.18	115.42	117.01	-21.58	-3,077.92	4,055.07	210.54	102.32	108.21	1.946		
8,800.00	5,262.55	8,899.84	5,066.79	117.87	119.45	-21.31	-3,151.93	4,122.29	210.13	100.42	109.72	1.915		
8,900.00	5,261.15	8,999.83	5,065.39	120.32	121.89	-21.03	-3,225.94	4,189.52	209.74	98.55	111.19	1.886		
9,000.00	5,259.76	9,099.82	5,064.00	122.78	124.34	-20.75	-3,299.95	4,256.74	209.35	96.71	112.64	1.859		
9,100.00	5,258.36	9,199.82	5,062.60	125.24	126.79	-20.47	-3,373.96	4,323.97	208.96	94.91	114.05	1.832		
9,200.00	5,256.97	9,299.81	5,061.20	127.70	129.24	-20.18	-3,447.97	4,391.20	208.58	93.14	115.44	1.807		

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
Project: San Juan County, NM
Reference Site: S33-T24N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 324H
Well Error: 0.00usft
Reference Wellbore: OH
Reference Design: PLAN #3

Local Co-ordinate Reference: Well NAGEEZI UNIT 324H
TVD Reference: 16' KB @ 6970.00usft
MD Reference: 16' KB @ 6970.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 326H - OH - PLAN #3													Offset Site Error:	0.00 usft	
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor			
9,300.00	5,255.57	9,399.81	5,059.81	130.16	131.70	-19.90	-3,521.98	4,458.42	208.21	91.41	116.79	1.783			
9,400.00	5,254.17	9,499.80	5,058.41	132.63	134.16	-19.62	-3,595.99	4,525.65	207.83	89.72	118.12	1.760			
9,500.00	5,252.78	9,599.79	5,057.01	135.11	136.62	-19.33	-3,670.00	4,592.87	207.47	88.06	119.41	1.737			
9,600.00	5,251.38	9,699.79	5,055.62	137.58	139.09	-19.04	-3,744.01	4,660.10	207.11	86.43	120.68	1.716			
9,700.00	5,249.98	9,799.78	5,054.22	140.06	141.55	-18.76	-3,818.02	4,727.33	206.75	84.84	121.91	1.696			
9,800.00	5,248.59	9,899.78	5,052.83	142.53	144.02	-18.47	-3,892.03	4,794.55	206.40	83.28	123.12	1.676			
9,900.00	5,247.19	9,999.77	5,051.43	145.02	146.49	-18.18	-3,966.04	4,861.78	206.06	81.76	124.30	1.658			
10,000.00	5,245.80	10,099.76	5,050.03	147.50	148.97	-17.89	-4,040.05	4,929.00	205.72	80.27	125.45	1.640			
10,100.00	5,244.40	10,199.76	5,048.64	149.98	151.44	-17.60	-4,114.06	4,996.23	205.39	78.82	126.57	1.623			
10,200.00	5,243.00	10,299.75	5,047.24	152.47	153.92	-17.31	-4,188.07	5,063.46	205.06	77.39	127.66	1.606			
10,300.00	5,241.61	10,399.75	5,045.85	154.96	156.39	-17.01	-4,262.08	5,130.68	204.73	76.00	128.73	1.590			
10,400.00	5,240.21	10,499.74	5,044.45	157.45	158.87	-16.72	-4,336.09	5,197.91	204.42	74.65	129.77	1.575			
10,500.00	5,238.82	10,599.73	5,043.05	159.94	161.35	-16.43	-4,410.11	5,265.13	204.10	73.32	130.78	1.561			
10,600.00	5,237.42	10,699.73	5,041.66	162.44	163.83	-16.13	-4,484.12	5,332.36	203.80	72.03	131.77	1.547			
10,700.00	5,236.02	10,799.72	5,040.26	164.93	166.32	-15.83	-4,558.13	5,399.59	203.49	70.76	132.73	1.533			
10,800.00	5,234.63	10,899.72	5,038.87	167.43	168.80	-15.54	-4,632.14	5,466.81	203.20	69.53	133.67	1.520			
10,900.00	5,233.23	10,999.71	5,037.47	169.92	171.29	-15.24	-4,706.15	5,534.04	202.91	68.33	134.58	1.508			
11,000.00	5,231.83	11,099.70	5,036.07	172.42	173.78	-14.94	-4,780.16	5,601.26	202.62	67.15	135.47	1.496 Level 3			
11,100.00	5,230.44	11,199.70	5,034.68	174.92	176.26	-14.64	-4,854.17	5,668.49	202.34	66.00	136.34	1.484 Level 3			
11,200.00	5,229.04	11,299.69	5,033.28	177.42	178.75	-14.34	-4,928.18	5,735.71	202.07	64.88	137.18	1.473 Level 3			
11,300.00	5,227.65	11,399.69	5,031.88	179.93	181.24	-14.04	-5,002.19	5,802.94	201.80	63.79	138.01	1.462 Level 3			
11,400.00	5,226.25	11,499.68	5,030.49	182.43	183.73	-13.73	-5,076.20	5,870.17	201.53	62.72	138.81	1.452 Level 3			
11,500.00	5,224.85	11,599.67	5,029.09	184.93	186.23	-13.43	-5,150.21	5,937.39	201.28	61.68	139.60	1.442 Level 3			
11,600.00	5,223.46	11,699.67	5,027.70	187.44	188.72	-13.13	-5,224.22	6,004.62	201.03	60.66	140.37	1.432 Level 3			
11,700.00	5,222.06	11,799.66	5,026.30	189.95	191.21	-12.82	-5,298.23	6,071.84	200.78	59.66	141.12	1.423 Level 3			
11,800.00	5,220.67	11,899.66	5,024.90	192.45	193.71	-12.52	-5,372.24	6,139.07	200.54	58.68	141.86	1.414 Level 3			
11,900.00	5,219.27	11,999.65	5,023.51	194.96	196.20	-12.21	-5,446.25	6,206.30	200.30	57.73	142.58	1.405 Level 3			
12,000.00	5,217.87	12,099.64	5,022.11	197.47	198.70	-11.90	-5,520.26	6,273.52	200.08	56.79	143.29	1.396 Level 3			
12,100.00	5,216.48	12,199.64	5,020.72	199.98	201.20	-11.59	-5,594.27	6,340.75	199.85	55.87	143.98	1.388 Level 3			
12,200.00	5,215.08	12,299.63	5,019.32	202.49	203.70	-11.29	-5,668.28	6,407.97	199.63	54.97	144.67	1.380 Level 3			
12,300.00	5,213.68	12,399.63	5,017.92	205.00	206.19	-10.98	-5,742.29	6,475.20	199.42	54.08	145.34	1.372 Level 3			
12,384.25	5,212.51	12,483.87	5,016.75	207.12	207.52	-10.72	-5,804.64	6,531.84	199.25	53.70	145.55	1.369 Level 3			
12,400.00	5,212.29	12,498.71	5,016.54	207.51	207.75	-10.67	-5,815.63	6,541.82	199.22	53.68	145.54	1.369 Level 3, SF			
12,500.00	5,210.89	12,498.71	5,016.54	210.03	207.75	-10.67	-5,815.63	6,541.82	223.13	95.10	128.04	1.743			
12,600.00	5,209.50	12,498.71	5,016.54	212.54	207.75	-10.67	-5,815.63	6,541.82	282.65	178.98	103.67	2.726			
12,700.00	5,208.10	12,498.71	5,016.54	215.06	207.75	-10.67	-5,815.63	6,541.82	360.54	274.24	86.30	4.178			
12,800.00	5,206.70	12,498.71	5,016.54	217.57	207.75	-10.67	-5,815.63	6,541.82	447.31	371.66	75.66	5.912			
12,900.00	5,205.31	12,498.71	5,016.54	220.09	207.75	-10.67	-5,815.63	6,541.82	538.69	469.48	69.22	7.783			
13,000.00	5,203.91	12,498.71	5,016.54	222.60	207.75	-10.67	-5,815.63	6,541.82	632.69	567.45	65.24	9.698			
13,100.00	5,202.51	12,498.71	5,016.54	225.12	207.75	-10.67	-5,815.63	6,541.82	728.28	665.57	62.71	11.614			
13,200.00	5,201.12	12,498.71	5,016.54	227.63	207.75	-10.67	-5,815.63	6,541.82	824.92	763.87	61.05	13.511			
13,266.51	5,200.19	12,498.71	5,016.54	228.68	207.75	-10.67	-5,815.63	6,541.82	889.61	830.06	59.54	14.940			

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

Cathedral Energy Services

Anticollision Report

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 Project: San Juan County, NM
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 Site Error: 0.00usft
 Reference Well: NAGEEZI UNIT 324H
 Well Error: 0.00usft
 Reference Wellbore: OH
 Reference Design: PLAN #3

Local Co-ordinate Reference: Well NAGEEZI UNIT 324H
 TVD Reference: 16' KB @ 6970.00usft
 MD Reference: 16' KB @ 6970.00usft
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: USA EDM 5000 Multi Users DB
 Offset TVD Reference: Offset Datum

S33-T24N-R9W - NAGEEZI UNIT 327H - OH - PLAN #3													Offset Site Error: 0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-55.25	51.33	-73.98	90.04				
100.00	100.00	100.00	100.00	0.15	0.15	-55.25	51.33	-73.98	90.04	89.74	0.30	299.032	
200.00	200.00	200.00	200.00	0.51	0.51	-55.25	51.33	-73.98	90.04	89.03	1.02	88.446	
300.00	300.00	300.00	300.00	0.87	0.87	-55.25	51.33	-73.98	90.04	88.31	1.74	51.898	
400.00	400.00	400.00	400.00	1.23	1.23	-55.25	51.33	-73.98	90.04	87.59	2.45	36.723	
500.00	500.00	500.00	500.00	1.58	1.58	-55.25	51.33	-73.98	90.04	86.87	3.17	28.415	
600.00	600.00	600.00	600.00	1.94	1.94	-55.25	51.33	-73.98	90.04	86.16	3.89	23.172	
700.00	700.00	701.87	701.85	2.30	2.29	-56.18	49.52	-73.92	88.99	84.39	4.60	19.343	
800.00	800.00	803.49	803.32	2.66	2.63	-59.11	44.11	-73.73	85.98	80.67	5.31	16.185	
900.00	900.00	904.60	904.02	3.02	2.98	-64.41	35.16	-73.42	81.50	75.48	6.03	13.526	
1,000.00	999.98	1,005.05	1,003.70	3.36	3.33	170.26	22.76	-72.98	78.26	71.54	6.72	11.648	
1,029.05	1,029.01	1,034.10	1,032.44	3.46	3.44	167.47	18.52	-72.84	78.06	71.14	6.92	11.282 CC, ES	
1,100.00	1,099.84	1,104.84	1,102.23	3.70	3.70	160.09	6.99	-72.43	79.33	71.92	7.41	10.706	
1,200.00	1,199.45	1,205.78	1,201.38	4.05	4.09	149.50	-11.82	-70.38	84.48	76.34	8.14	10.376	
1,300.00	1,298.70	1,306.38	1,299.62	4.40	4.51	139.96	-32.90	-65.74	92.73	83.83	8.90	10.421	
1,400.00	1,397.47	1,406.61	1,396.85	4.77	4.94	131.79	-56.19	-58.54	103.75	94.07	9.69	10.712	
1,500.00	1,495.62	1,506.10	1,492.59	5.16	5.39	125.09	-81.46	-48.94	117.17	106.66	10.51	11.151	
1,600.00	1,593.06	1,604.39	1,586.95	5.57	5.86	120.66	-107.02	-38.78	133.23	121.87	11.36	11.730	
1,700.00	1,689.64	1,702.58	1,681.22	6.00	6.33	118.27	-132.55	-28.64	151.45	139.21	12.24	12.373	
1,800.00	1,785.27	1,800.56	1,775.28	6.47	6.82	117.34	-158.03	-18.51	171.38	158.22	13.16	13.026	
1,900.00	1,879.82	1,898.20	1,869.03	6.98	7.31	117.45	-183.42	-8.42	192.89	178.78	14.11	13.669	
2,000.00	1,973.17	1,995.39	1,962.33	7.53	7.80	118.26	-208.69	1.63	216.02	200.92	15.10	14.303	
2,100.00	2,065.21	2,092.00	2,055.09	8.14	8.30	119.55	-233.81	11.61	240.91	224.77	16.13	14.933	
2,200.00	2,155.84	2,187.93	2,147.18	8.81	8.79	121.14	-258.76	21.53	267.71	250.52	17.19	15.570	
2,300.00	2,244.94	2,283.05	2,238.50	9.54	9.29	122.90	-283.49	31.36	296.61	278.33	18.28	16.224	
2,400.00	2,332.39	2,377.25	2,328.93	10.34	9.78	124.74	-307.98	41.09	327.78	308.39	19.39	16.903	
2,500.00	2,418.11	2,470.40	2,418.37	11.22	10.27	126.59	-332.21	50.72	361.36	340.85	20.52	17.614	
2,584.62	2,489.20	2,548.34	2,493.20	12.02	10.68	128.12	-352.47	58.77	391.75	370.28	21.47	18.243	
2,600.00	2,501.99	2,562.43	2,506.72	12.18	10.76	128.49	-356.13	60.23	397.45	375.80	21.65	18.359	
2,700.00	2,585.20	2,654.01	2,594.65	13.18	11.24	130.64	-379.95	69.69	434.83	412.05	22.78	19.089	
2,800.00	2,668.40	2,745.60	2,682.58	14.21	11.73	132.46	-403.77	79.16	472.66	448.75	23.91	19.771	
2,900.00	2,751.60	2,837.19	2,770.51	15.26	12.21	134.01	-427.58	88.63	510.84	485.81	25.03	20.407	
3,000.00	2,834.80	2,928.78	2,858.43	16.33	12.70	135.34	-451.40	98.09	549.30	523.14	26.16	20.998	
3,100.00	2,918.01	3,020.36	2,946.36	17.41	13.19	136.51	-475.21	107.56	587.99	560.70	27.29	21.550	
3,200.00	3,001.21	3,111.95	3,034.29	18.50	13.68	137.53	-499.03	117.02	626.86	598.45	28.41	22.064	
3,300.00	3,084.41	3,203.54	3,122.22	19.60	14.17	138.43	-522.84	126.49	665.88	636.35	29.54	22.544	
3,400.00	3,167.61	3,295.13	3,210.15	20.71	14.66	139.24	-546.66	135.95	705.03	674.37	30.66	22.993	
3,500.00	3,250.82	3,386.72	3,298.08	21.82	15.16	139.96	-570.47	145.42	744.29	712.50	31.79	23.412	
3,600.00	3,334.02	3,478.30	3,386.01	22.94	15.65	140.61	-594.29	154.88	783.63	750.72	32.92	23.806	
3,700.00	3,417.22	3,569.89	3,473.94	24.06	16.14	141.19	-618.10	164.35	823.06	789.01	34.05	24.175	
3,800.00	3,500.42	3,661.48	3,561.87	25.19	16.64	141.73	-641.92	173.82	862.55	827.37	35.17	24.522	
3,900.00	3,583.63	3,753.07	3,649.80	26.32	17.13	142.21	-665.74	183.28	902.09	865.79	36.30	24.849	
4,000.00	3,666.83	3,844.65	3,737.73	27.45	17.63	142.66	-689.55	192.75	941.69	904.26	37.43	25.157	
4,100.00	3,750.03	3,936.24	3,825.65	28.59	18.12	143.07	-713.37	202.21	981.33	942.77	38.56	25.448	
4,200.00	3,833.24	4,027.83	3,913.58	29.73	18.62	143.45	-737.18	211.68	1,021.02	981.32	39.69	25.723	
4,300.00	3,916.44	4,119.42	4,001.51	30.87	19.11	143.80	-761.00	221.14	1,060.73	1,019.91	40.82	25.983	
4,400.00	3,999.64	4,211.00	4,089.44	32.01	19.61	144.12	-784.81	230.61	1,100.48	1,058.53	41.96	26.229	
4,500.00	4,082.84	4,302.59	4,177.37	33.16	20.11	144.43	-808.63	240.07	1,140.26	1,097.17	43.09	26.463	
4,600.00	4,166.05	4,394.18	4,265.30	34.30	20.60	144.71	-832.44	249.54	1,180.06	1,135.84	44.22	26.686	
4,700.00	4,249.25	4,485.77	4,353.23	35.45	21.10	144.97	-856.26	259.01	1,219.88	1,174.53	45.35	26.897	
4,800.00	4,332.45	4,577.35	4,441.16	36.60	21.60	145.22	-880.07	268.47	1,259.73	1,213.24	46.49	27.099	
4,900.00	4,415.65	5,757.55	5,068.49	37.75	35.87	123.22	-1,541.68	787.45	1,254.30	1,192.35	61.95	20.246	

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

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S33-T24N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 324H
Well Error: 0.00usft
Reference Wellbore: OH
Reference Design: PLAN #3

Local Co-ordinate Reference: Well NAGEEZI UNIT 324H
TVD Reference: 16' KB @ 6970.00usft
MD Reference: 16' KB @ 6970.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

S33-T24N-R9W - NAGEEZI UNIT 327H - OH - PLAN #3													Offset Site Error:	0.00 usft
Survey Program: O-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
5,000.00	4,498.86	5,808.49	5,067.77	38.90	36.87	121.16	-1,579.15	821.96	1,229.58	1,163.58	66.00	18.629		
5,100.00	4,582.06	5,859.43	5,067.06	40.05	37.89	119.07	-1,616.62	856.46	1,210.49	1,140.49	69.99	17.294		
5,200.00	4,665.26	5,910.37	5,066.35	41.21	38.92	116.97	-1,654.08	890.96	1,197.29	1,123.45	73.84	16.215		
5,300.00	4,748.46	5,961.30	5,065.64	42.36	39.98	114.86	-1,691.55	925.46	1,190.18	1,112.70	77.48	15.362		
5,364.57	4,802.19	5,994.20	5,065.18	43.11	40.66	113.50	-1,715.75	947.74	1,188.88	1,109.21	79.68	14.922		
5,400.00	4,831.67	6,012.24	5,064.93	43.51	41.04	112.75	-1,729.02	959.96	1,189.27	1,108.44	80.83	14.714		
5,500.00	4,914.87	6,063.18	5,064.22	44.67	42.12	110.64	-1,766.49	994.46	1,194.58	1,110.73	83.85	14.247		
5,603.96	5,001.36	6,116.13	5,063.48	45.87	43.25	108.46	-1,805.44	1,030.33	1,206.60	1,120.00	86.60	13.934		
5,650.00	5,038.79	6,141.00	5,063.13	46.44	43.78	104.62	-1,823.73	1,047.17	1,213.82	1,126.07	87.75	13.833		
5,700.00	5,077.29	6,171.09	5,062.71	47.12	44.43	100.83	-1,845.86	1,067.55	1,222.52	1,133.47	89.05	13.729		
5,750.00	5,113.31	6,204.22	5,062.25	47.87	45.15	97.35	-1,870.23	1,089.99	1,231.81	1,141.40	90.42	13.624		
5,800.00	5,146.65	6,240.19	5,061.75	48.69	45.94	94.15	-1,896.69	1,114.36	1,241.40	1,149.54	91.87	13.513		
5,850.00	5,177.08	6,278.77	5,061.21	49.57	46.79	91.22	-1,925.07	1,140.49	1,250.98	1,157.59	93.40	13.394		
5,900.00	5,204.44	6,319.73	5,060.64	50.51	47.70	88.58	-1,955.19	1,168.23	1,260.27	1,165.25	95.02	13.263		
5,950.00	5,228.54	6,362.80	5,060.03	51.49	48.66	86.24	-1,986.88	1,197.40	1,269.00	1,172.27	96.73	13.118		
6,000.00	5,249.24	6,407.74	5,059.41	52.52	49.67	84.22	-2,019.93	1,227.84	1,276.93	1,178.39	98.54	12.959		
6,050.00	5,266.41	6,454.25	5,058.76	53.58	50.72	82.53	-2,054.14	1,259.34	1,283.83	1,183.39	100.44	12.782		
6,100.00	5,279.94	6,502.06	5,058.09	54.66	51.80	81.18	-2,089.31	1,291.72	1,289.54	1,187.12	102.42	12.591		
6,150.00	5,289.76	6,550.86	5,057.41	55.75	52.92	80.18	-2,125.21	1,324.78	1,293.91	1,189.42	104.49	12.383		
6,200.00	5,295.80	6,600.37	5,056.72	56.84	54.05	79.54	-2,161.62	1,358.31	1,296.82	1,190.20	106.62	12.163		
6,250.00	5,298.02	6,650.26	5,056.02	57.93	55.20	79.26	-2,198.32	1,392.10	1,298.21	1,189.38	108.82	11.930		
6,263.12	5,297.97	6,663.38	5,055.84	58.21	55.50	79.25	-2,207.97	1,400.99	1,298.31	1,188.91	109.41	11.867		
6,300.00	5,297.46	6,700.26	5,055.32	59.01	56.35	79.25	-2,235.10	1,425.97	1,298.47	1,187.40	111.06	11.691		
6,400.00	5,296.06	6,800.26	5,053.93	61.18	58.68	79.25	-2,308.65	1,493.70	1,298.87	1,183.30	115.57	11.238		
6,500.00	5,294.66	6,900.26	5,052.53	63.39	61.02	79.26	-2,382.21	1,561.43	1,299.28	1,179.16	120.13	10.816		
6,600.00	5,293.27	7,000.26	5,051.13	65.61	63.38	79.26	-2,455.76	1,629.16	1,299.69	1,174.98	124.71	10.421		
6,700.00	5,291.87	7,100.26	5,049.74	67.86	65.75	79.26	-2,529.31	1,696.89	1,300.10	1,170.77	129.33	10.053		
6,800.00	5,290.47	7,200.26	5,048.34	70.13	68.14	79.27	-2,602.87	1,764.63	1,300.51	1,166.54	133.97	9.707		
6,900.00	5,289.08	7,300.25	5,046.94	72.42	70.53	79.27	-2,676.42	1,832.36	1,300.92	1,162.28	138.64	9.383		
7,000.00	5,287.68	7,400.25	5,045.55	74.72	72.93	79.27	-2,749.98	1,900.09	1,301.33	1,157.99	143.33	9.079		
7,100.00	5,286.29	7,500.25	5,044.15	77.04	75.35	79.28	-2,823.53	1,967.82	1,301.74	1,153.69	148.04	8.793		
7,200.00	5,284.89	7,600.25	5,042.76	79.37	77.77	79.28	-2,897.09	2,035.55	1,302.15	1,149.37	152.77	8.523		
7,300.00	5,283.49	7,700.25	5,041.36	81.72	80.20	79.28	-2,970.64	2,103.28	1,302.56	1,145.04	157.52	8.269		
7,400.00	5,282.10	7,800.25	5,039.96	84.07	82.63	79.29	-3,044.20	2,171.01	1,302.96	1,140.69	162.28	8.029		
7,500.00	5,280.70	7,900.25	5,038.57	86.44	85.07	79.29	-3,117.75	2,238.75	1,303.37	1,136.32	167.05	7.802		
7,600.00	5,279.30	8,000.25	5,037.17	88.82	87.51	79.29	-3,191.31	2,306.48	1,303.78	1,131.94	171.84	7.587		
7,700.00	5,277.91	8,100.25	5,035.77	91.20	89.97	79.30	-3,264.86	2,374.21	1,304.19	1,127.55	176.64	7.383		
7,800.00	5,276.51	8,200.25	5,034.38	93.59	92.42	79.30	-3,338.42	2,441.94	1,304.60	1,123.15	181.45	7.190		
7,900.00	5,275.12	8,300.25	5,032.98	95.99	94.88	79.30	-3,411.97	2,509.67	1,305.01	1,118.74	186.27	7.006		
8,000.00	5,273.72	8,400.25	5,031.59	98.40	97.34	79.31	-3,485.53	2,577.40	1,305.42	1,114.32	191.10	6.831		
8,100.00	5,272.32	8,500.24	5,030.19	100.82	99.81	79.31	-3,559.08	2,645.13	1,305.83	1,109.89	195.94	6.665		
8,200.00	5,270.93	8,600.24	5,028.79	103.24	102.28	79.31	-3,632.64	2,712.87	1,306.24	1,105.46	200.78	6.506		
8,300.00	5,269.53	8,700.24	5,027.40	105.66	104.75	79.32	-3,706.19	2,780.60	1,306.65	1,101.01	205.63	6.354		
8,400.00	5,268.14	8,800.24	5,026.00	108.09	107.23	79.32	-3,779.75	2,848.33	1,307.06	1,096.56	210.49	6.209		
8,500.00	5,266.74	8,900.24	5,024.60	110.53	109.71	79.32	-3,853.30	2,916.06	1,307.47	1,092.11	215.36	6.071		
8,600.00	5,265.34	9,000.24	5,023.21	112.97	112.19	79.33	-3,926.86	2,983.79	1,307.87	1,087.64	220.23	5.939		
8,700.00	5,263.95	9,100.24	5,021.81	115.42	114.67	79.33	-4,000.41	3,051.52	1,308.28	1,083.17	225.11	5.812		
8,800.00	5,262.55	9,200.24	5,020.42	117.87	117.16	79.33	-4,073.97	3,119.25	1,308.69	1,078.70	229.99	5.690		
8,900.00	5,261.15	9,300.24	5,019.02	120.32	119.65	79.34	-4,147.52	3,186.99	1,309.10	1,074.22	234.88	5.574		
9,000.00	5,259.76	9,400.24	5,017.62	122.78	122.14	79.34	-4,221.08	3,254.72	1,309.51	1,069.74	239.77	5.461		
9,100.00	5,258.36	9,500.24	5,016.23	125.24	124.63	79.34	-4,294.63	3,322.45	1,309.92	1,065.25	244.67	5.354		
9,200.00	5,256.97	9,600.23	5,014.83	127.70	127.12	79.35	-4,368.19	3,390.18	1,310.33	1,060.76	249.57	5.250		

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

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S33-T24N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 324H
Well Error: 0.00usft
Reference Wellbore: OH
Reference Design: PLAN #3

Local Co-ordinate Reference: Well NAGEEZI UNIT 324H
TVD Reference: 16' KB @ 6970.00usft
MD Reference: 16' KB @ 6970.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 327H - OH - PLAN #3														Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)							
9,300.00	5,255.57	9,700.23	5,013.43	130.16	129.62	79.35	-4,441.74	3,457.91	1,310.74	1,056.26	254.47	5.151			
9,400.00	5,254.17	9,800.23	5,012.04	132.63	132.12	79.35	-4,515.30	3,525.64	1,311.15	1,051.77	259.38	5.055			
9,500.00	5,252.78	9,900.23	5,010.64	135.11	134.62	79.36	-4,588.85	3,593.37	1,311.56	1,047.26	264.29	4.962			
9,600.00	5,251.38	10,000.23	5,009.25	137.58	137.11	79.36	-4,662.41	3,661.11	1,311.97	1,042.76	269.21	4.873			
9,700.00	5,249.98	10,100.23	5,007.85	140.06	139.62	79.36	-4,735.96	3,728.84	1,312.38	1,038.25	274.13	4.787			
9,800.00	5,248.59	10,200.23	5,006.45	142.53	142.12	79.37	-4,809.52	3,796.57	1,312.78	1,033.74	279.05	4.704			
9,900.00	5,247.19	10,300.23	5,005.06	145.02	144.62	79.37	-4,883.07	3,864.30	1,313.19	1,029.22	283.97	4.624			
10,000.00	5,245.80	10,400.23	5,003.66	147.50	147.13	79.37	-4,956.63	3,932.03	1,313.60	1,024.70	288.90	4.547			
10,100.00	5,244.40	10,500.23	5,002.26	149.98	149.63	79.38	-5,030.18	3,999.76	1,314.01	1,020.18	293.83	4.472			
10,200.00	5,243.00	10,600.23	5,000.87	152.47	152.14	79.38	-5,103.74	4,067.49	1,314.42	1,015.66	298.76	4.400			
10,300.00	5,241.61	10,700.23	4,999.47	154.96	154.65	79.38	-5,177.29	4,135.23	1,314.83	1,011.14	303.69	4.329			
10,400.00	5,240.21	10,800.22	4,998.08	157.45	157.15	79.39	-5,250.85	4,202.96	1,315.24	1,006.61	308.63	4.262			
10,500.00	5,238.82	10,900.22	4,996.68	159.94	159.66	79.39	-5,324.40	4,270.69	1,315.65	1,002.08	313.57	4.196			
10,600.00	5,237.42	11,000.22	4,995.28	162.44	162.17	79.39	-5,397.96	4,338.42	1,316.06	997.55	318.51	4.132			
10,700.00	5,236.02	11,100.22	4,993.89	164.93	164.68	79.40	-5,471.51	4,406.15	1,316.47	993.02	323.45	4.070			
10,800.00	5,234.63	11,200.22	4,992.49	167.43	167.20	79.40	-5,545.07	4,473.88	1,316.88	988.48	328.40	4.010			
10,900.00	5,233.23	11,300.22	4,991.09	169.92	169.71	79.40	-5,618.62	4,541.61	1,317.29	983.94	333.34	3.952			
11,000.00	5,231.83	11,400.22	4,989.70	172.42	172.22	79.41	-5,692.18	4,609.35	1,317.70	979.41	338.29	3.895			
11,100.00	5,230.44	11,500.22	4,988.30	174.92	174.73	79.41	-5,765.73	4,677.08	1,318.10	974.87	343.24	3.840			
11,200.00	5,229.04	11,600.22	4,986.90	177.42	177.25	79.41	-5,839.29	4,744.81	1,318.51	970.33	348.19	3.787			
11,300.00	5,227.65	11,700.22	4,985.51	179.93	179.76	79.42	-5,912.84	4,812.54	1,318.92	965.78	353.14	3.735			
11,400.00	5,226.25	11,800.22	4,984.11	182.43	182.28	79.42	-5,986.40	4,880.27	1,319.33	961.24	358.09	3.684			
11,500.00	5,224.85	11,900.21	4,982.72	184.93	183.86	79.42	-6,059.95	4,948.00	1,319.74	957.62	362.13	3.644			
11,600.00	5,223.46	11,909.97	4,982.58	187.44	184.01	79.42	-6,067.12	4,954.61	1,323.23	960.11	363.12	3.644 SF			
11,700.00	5,222.06	11,909.97	4,982.58	189.95	184.01	79.42	-6,067.12	4,954.61	1,334.19	972.32	361.87	3.687			
11,800.00	5,220.67	11,909.97	4,982.58	192.45	184.01	79.42	-6,067.12	4,954.61	1,352.48	993.76	358.72	3.770			
11,900.00	5,219.27	11,909.97	4,982.58	194.96	184.01	79.42	-6,067.12	4,954.61	1,377.80	1,023.93	353.87	3.893			
12,000.00	5,217.87	11,909.97	4,982.58	197.47	184.01	79.42	-6,067.12	4,954.61	1,409.77	1,062.19	347.59	4.056			
12,100.00	5,216.48	11,909.97	4,982.58	199.98	184.01	79.42	-6,067.12	4,954.61	1,447.96	1,107.82	340.15	4.257			
12,200.00	5,215.08	11,909.97	4,982.58	202.49	184.01	79.42	-6,067.12	4,954.61	1,491.89	1,160.05	331.83	4.496			

Cathedral Energy Services

Anticollision Report

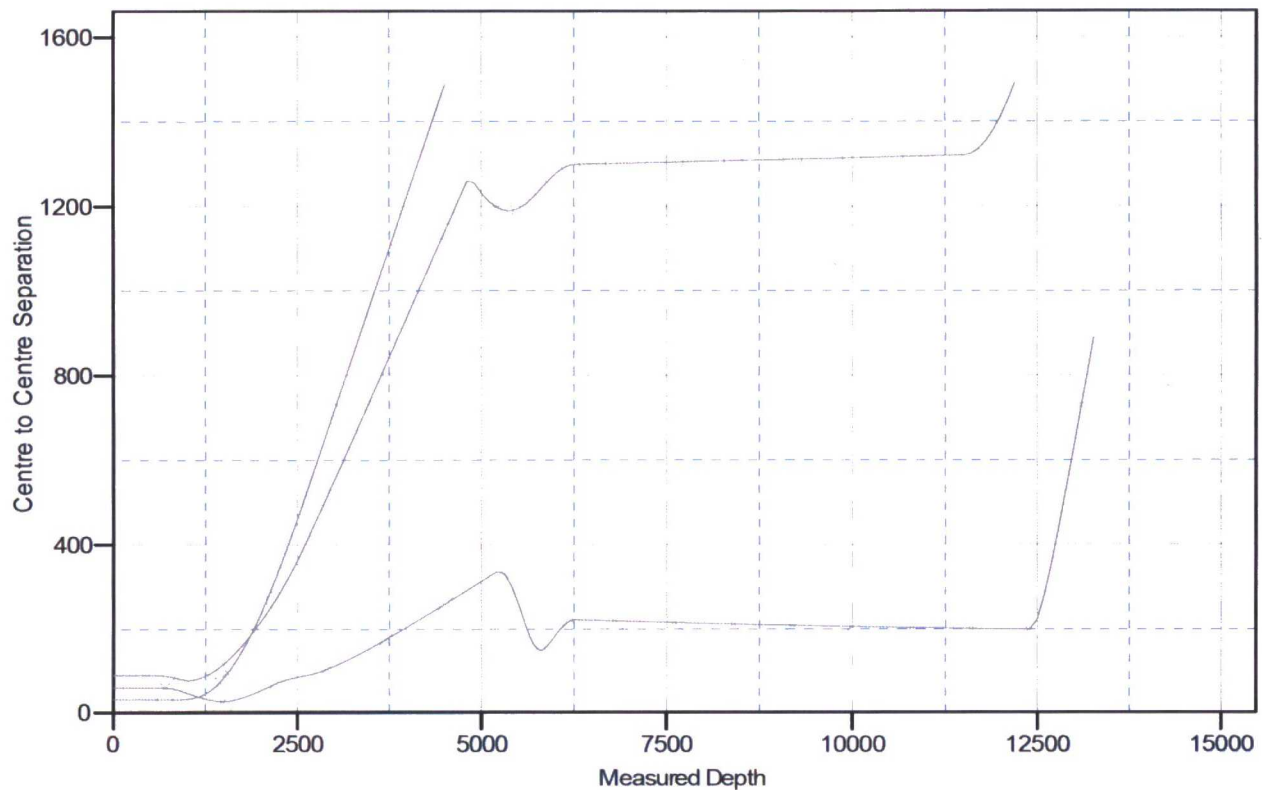
Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S33-T24N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 324H
Well Error: 0.00usft
Reference Wellbore: OH
Reference Design: PLAN #3

Local Co-ordinate Reference: Well NAGEEZI UNIT 324H
TVD Reference: 16' KB @ 6970.00usft
MD Reference: 16' KB @ 6970.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: USA EDM 5000 Multi Users DB
Offset TVD Reference: Offset Datum

Reference Depths are relative to 16' KB @ 6970.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.833333 °

Coordinates are relative to: NAGEEZI UNIT 324H
 Coordinate System is US State Plane 1983, New Mexico Western Zone
 Grid Convergence at Surface is: 0.02°

Ladder Plot



LEGEND

◆ NAGEEZI UNIT 325H, OH, PLAN#3 V0 ✕ NAGEEZI UNIT 326H, OH, PLAN#3 V0 ○ NAGEEZI UNIT 327H, OH, PLAN#3 V0