

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



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: 8/7/14

Well information;

Operator ENCANA, Well Name and Number Nageezi Unit D34-2409Y
API# 30-045-35582, Section 34, Township 24 N/S, Range 9 E/W # 314

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
- ☐ Hold C-104 for NSL, NSP, DHC
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☐ 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
- ☐ 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
- ☒ 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.

Chad Allen
NMOCD Approved by Signature

8-12-2014
Date

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

AUG 08 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
Order No. R-13856 NM NM - 70843

Indian, Allottee or Tribe Name
N/A

1a. Type of work: ☒ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name and No. PENDING	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		8. Lease Name and Well No. Nageezi Unit D34-2409Y 03H	
2. Name of Operator Encana Oil & Gas (USA) Inc.		9. API Well No. 30-045-35583	
3a. Address 370 17th Street, Suite 1700 Denver, CO 80202	3b. Phone No. (include area code) 720-876-3926	10. Field and Pool, or Exploratory Nageezi Unit HZ (OIL)	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1136' FNL and 523' FWL Section 34, T24N, R9W At proposed prod. zone 1870' FNL and 330' FWL Section 33, T24N, R9W		11. Sec., T. R. M. or Blk. and Survey or Area Section 34, T24N, R9W NMPM	
14. Distance in miles and direction from nearest town or post office* +/- 35.7 miles south from intersection of US Hwy 550 and US Hwy 64 in Bloomfield, NM		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) BHL is 330' from west lease line	16. No. of acres in lease 9,135.51 acres	17. Spacing Unit dedicated to this well 320 acres	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. OHWADA 2 is 1,231' north of the wellbore	19. Proposed Depth 5,106' TVD/10,348' MD	20. BLM/BIA Bond No. on file COB-000235	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,857' GL; 6,873' KB	22. Approximate date work will start* 08/16/2014	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:

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

25. Signature Jessica Gregg Name (Printed/Typed) Jessica Gregg Date 08/07/2014
Title Regulatory Analyst

Approved by (Signature) Troy Salyers Name (Printed/Typed) Troy Salyers Date 8/11/2014
Title Petroleum Engineer (Acting AFM) Office FEO

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

AUG 12 2014

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

This action is subject to
technical and procedural review
pursuant to 43 CFR 3165.3 and
appeal pursuant 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**

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

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

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

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

AMENDED REPORT
RECEIVED

AUG 08 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35583		*Pool Code 98080	*Pool Name NAGEEZI UNIT HZ (OIL)
*Property Code 313584	*Property Name NAGEEZI UNIT D34-2409Y		*Well Number 03H
*UGRID No. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 6857'

10 Surface Location

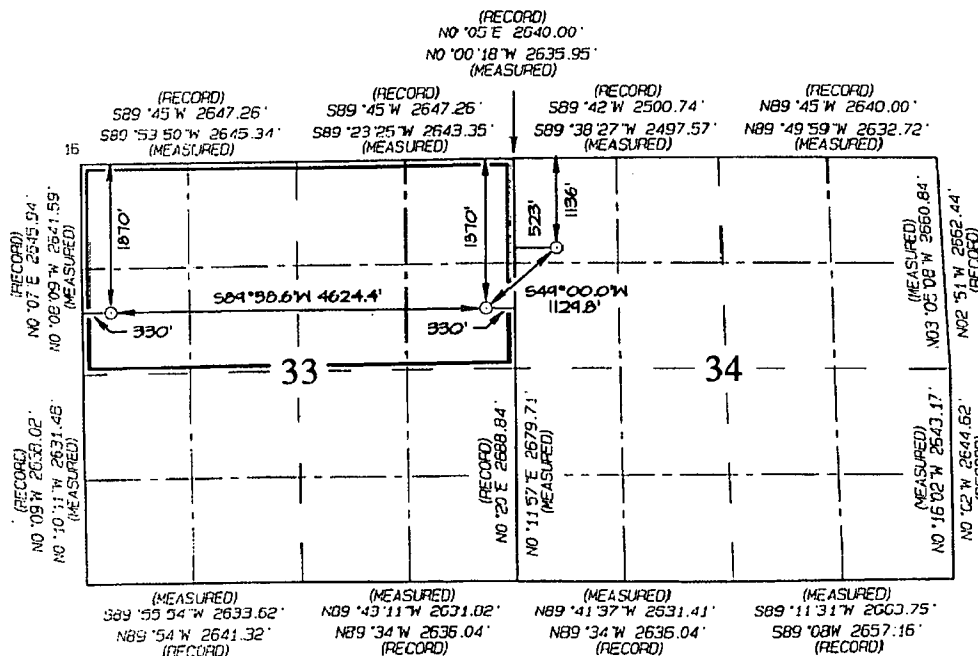
U. or lot no.	Section	Township	Range	Lot 10	Feet from the	North/South line	Feet from the	East/West line	County
D	34	24N	9W		1136	NORTH	523	WEST	SAN JUAN

11 Bottom Hole Location If Different From Surface

U. or lot no.	Section	Township	Range	Lot 10	Feet from the	North/South line	Feet from the	East/West line	County
E	33	24N	9W		1870	NORTH	330	WEST	SAN JUAN

*Dedicated Acres 320.0 Acres N/2 Section 33	*Joint or Initial	*Consolidation Code	*Order No. R-13856	9,135.51 Acres
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



END-OF-LATERAL
1870' FNL 330' FNL
SECTION 33, T24N, R9W
LAT: 36.27268°N
LONG: 107.78585°W
DATUM: NAD1927

POINT-OF-ENTRY
1870' FNL 330' FNL
SECTION 33, T24N, R9W
LAT: 36.27268°N
LONG: 107.78585°W
DATUM: NAD1927

SURFACE LOCATION
1136' FNL 523' FNL
SECTION 34, T24N, R9W
LAT: 36.27471°N
LONG: 107.78207°W
DATUM: NAD1927

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: *Jessica Gregg* Date: *8/7/14*
Printed Name: *Jessica Gregg*
E-mail Address: *Jessica.Gregg@encana.com*

18 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.

Date Revised: AUGUST 7, 2014
Date of Survey: JULY 23, 2012

Signature and Seal of Professional Surveyor



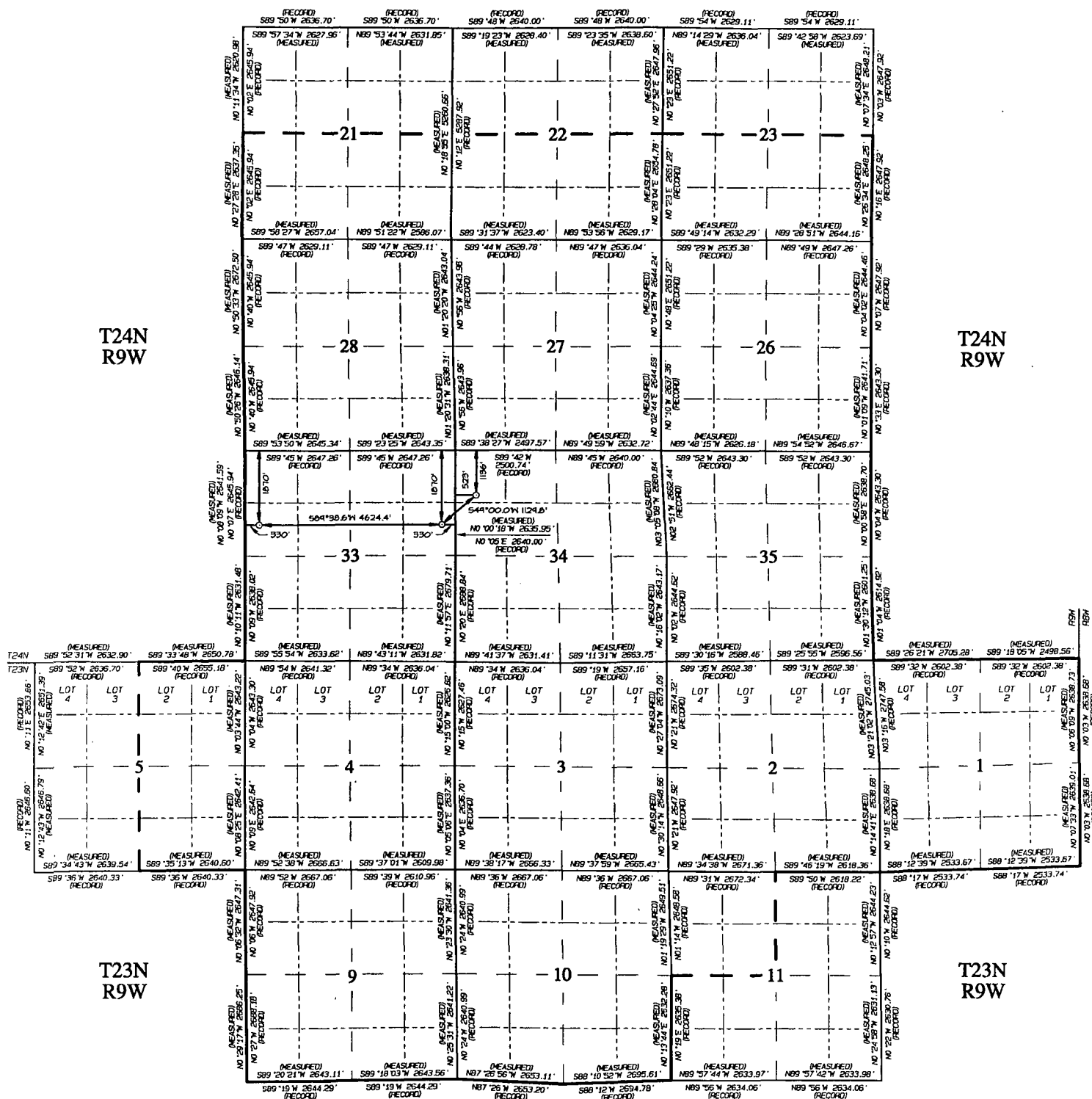
JASON C. EDWARDS
Certificate Number 15269

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

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

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT



END-OF-LATERAL
1870' FWL 330' FWL
SECTION 33, T24N, R9W
LAT: 36.27260°N
LONG: 107.80155°W
DATUM: NAD1927

LAT: 36.27261°N
LONG: 107.80217°W
DATUM: NAD1983

POINT-OF-ENTRY
1870' FNL 330' FEL
SECTION 33, T24N, R9W
LAT: 36.27268°N
LONG: 107.78586°W
DATUM: NAD1927

LAT: 36.27269°N
LONG: 107.78648°W
DATUM: NAD1983

SURFACE LOCATION
1136' FNL 523' FWL
SECTION 34, T24N, R9W
LAT: 36.27471°N
LONG: 107.78297°W
DATUM: NAD1927

LAT: 36.27472°N
LONG: 107.78358°W
DATUM: NAD1983

Nageezi Unit D34-2409Y 03H
 SHL: NW/4 NW/4 34 24N 9W
 1136 FNL 523 FWL
 BHL: SW/4 NW/4 33 24N 9W
 1870 FNL 330 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	761
Kirtland Shale	935
Fruitland Coal	1,180
Pictured Cliffs Ss.	1,506
Lewis Shale	1,618
Cliffhouse Ss.	2,261
Menefee Fn.	3,023
Point Lookout Ss.	3,933
Mancos Shale	4,091
Mancos Silt	4,651
Gallup Fn.	4,908
Horizontal Target	5,163

The referenced surface elevation is 6857', KB 6873'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,180
Oil/Gas	Pictured Cliffs Ss.	1,506
Oil/Gas	Cliffhouse Ss.	2,261
Gas	Menefee Fn.	3,023
Oil/Gas	Point Lookout Ss.	3,933
Oil/Gas	Mancos Shale	4,091
Oil/Gas	Mancos Silt	4,651
Oil/Gas	Gallup Fn.	4,908

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 D34-2409Y 03H
 SHL: NW/4 NW/4 34 24N 9W
 1136 FNL 523 FWL
 BHL: SW/4 NW/4 33 24N 9W
 1870 FNL 330 FWL
 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 times.
- 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'	30"	20"	94#	
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5723'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5523'-10348'	6 1/8"	4 1/2"	11.6#	B80*, LTC 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"	36	J55	STC	2020	3520	394	1.125	1.1	1.5
7"	26	J55	LTC	4320	4980	367	1.125	1.1	1.5
4.5"	11.6	B80	LTC	6350	7780	201	1.125	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 D34-2409Y 03H
 SHL: NW/4 NW/4 34 24N 9W
 1136 FNL 523 FWL
 BHL: SW/4 NW/4 33 24N 9W
 1870 FNL 330 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'	247 sks	HALCEM™ SYSTEM + 2% CaCl ₂ + 0.125lbm/sk Poly-E-Flake. 15.8 ppg, 1.174 cuft/sk	Surface	1 per joint on bottom 3 joints
Intermediate	0'-5723'	100% open hole excess Stage 1 Lead: 516 sks Stage 1 Tail: 393 sks	Lead: PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 12.1ppg 2.13cuft/sk Tail: Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuft/sk	Surface	1 every 3 joints through water bearing zones
Production Liner	5523'-10348'	None - External Casing Packers	N/A	N/A	N/A

*Production liner clarification: Utilizing external swell casing packer system for zonal isolation will not use cement in the production liner

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 3000'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5106'/10348'	Gallup

6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Nageezi Unit D34-2409Y 03H
 SHL: NW/4 NW/4 34 24N 9W
 1136 FNL 523 FWL
 BHL: SW/4 NW/4 33 24N 9W
 1870 FNL 330 FWL
 San Juan, New Mexico

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
30"	0-60'/60'	Fresh Water	8.3-9.2	38-100	4-28
12 1/4"	0'-500'/500'	Fresh Water	8.3-10	60-70	NC
8 3/4"	500'/500'-5154'/5723'	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"	5154'/5723'- 5106'/10348'	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) Mudd Logging - Mud loggers will be on location from kick off point 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 +/- 2416 psi based on a 9.0 ppg at 5163' 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 August 16, 2014. 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 20 days.

LOC: SE/4 NE/4 33,24N 9W 1870 FNL 330 County: San Juan WELL: Nageezi Unit D34-2409Y 03H			Encana Natural Gas				ENG: Sydney Kuyke 8/7/14 RIG: Aztec 777 GLE: 6857 RKBE: 6873		
WELL SUMMARY									
MWD	OPEN HOLE	FORM	DEPTH			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
LWD	LOGGING		TVD	MD					
			60	60'		30	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					12 1/4	9 5/8" 36ppf J55 STC	Fresh wtr 8.3-10	Vertical <1°
		Nacimiento 9 5/8" Csg	0 500	500.00	TOC Surface (100% OH excess) - 247 sks of Type III Cement				
Survey Every 60"-120", updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.6	No OH logs	Ojo Alamo	761			8 3/4	7" 26ppf J55 LTC TOC @ surface (100% OH excess) Stage 1 Total: 910sks Stage 1 Lead: 516 sks Premium Lite FM + 3% CaCl2 + 0.25/sk Cello Flake + 5#/sk LCM-1 + 8% Bentonite + 0.4% FL-52A + 0.4% Sodium Metasilicate. Mixed at 12.1 ppg. Yield 2.13 cuft/sk. Stage 1 Tail: 393 sks Type III Cement + 1% CaCl2 + 0.25#/sk Cello Flake + 0.2% FL-52A. Mixed at 14.6 ppg. Yield 1.38 cuft/sk.	Fresh Wtr 8.3-10	Vertical <1°
		Kirtland Shale	935						
		Fruitland Coal	1,180						
		Pictured Cliffs Ss. Lewis Shale	1,506 1,618						
		Cliffhouse Ss. Monofee Fn.	2,261 3,023						
Mud logger onsite		Point Lookout Ss. Mancos Shale	3,933 4,091			6 1/8	200' overlap at liner top 4025' Unlined Lateral	WBM 8.3-10	Horz Inc/TVD 00.6°dog/5163ft TD = 10347.7 MD
		KOP	3,000	3,000					
		Mancos Silt	4,651						
		Gallup Fn.	4,908						
		7" Csg	5,154	5,723'					
Surveys every 30' through the curve									
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD	5,163 5,106	10,348					
		Base Gallup	5,213						
MWD Gamma Directional							4 1/2" 11.6ppf SB80 LTC Running external swellable csg packers for isolation of prod string		



Boomerang Tube LLC

CASING (OR) TUBING DESCRIPTION AND PERFORMANCE PROPERTIES

Pipe Outside Diameter (ins)	_____	4.500
Pipe Wall Thickness (ins)	_____	0.250
Nominal Weight Per Foot (lbs)	_____	11.60

Thread Name	_____	Long Thread CSG
Grade Name	_____	SB-80

Pipe Minimum Yield (psi)	_____	80,000
Pipe Minimum Ultimate (psi)	_____	90,000

Coupling Minimum Yield (psi)	_____	80,000
Coupling Minimum Ultimate (psi)	_____	100,000

Coupling or Joint Outside Diameter (ins)	_____	5.000
Drift Diameter (ins)	_____	3.875
Plain End Weight per Foot (lbs)	_____	11.36

Joint Strength (lbs)	_____	201,000
Internal Yield (psi)	_____	7,780
Collapse Rating (psi)	_____	6,350

MAXIMUM DEPTH/LENGTH BASED ON MUD WTS & SAFETY FACTORS

Drilling Mud Weight (ppg)	_____	9.625
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Tension Safety Factor	_____	1.80
Maximum Tension Length (ft)	_____	9,630

Internal Yield Safety Factor	_____	1.10
Maximum Depth for Internal Yield (ft)	_____	14,150

Collapse Safety Factor	_____	1.125
Maximum Collapse Depth (ft)	_____	11,290

API RELATED VALUES and INTERMEDIATE CALCULATION RESULTS

Coupling Thread Fracture Strength	_____	464,000
Pipe Thread Fracture Strength (lbs)	_____	201,000

Pipe Body Plain End Yield (lbs)	_____	267,000
Round Thread Pull-Out (lbs)	_____	219,000

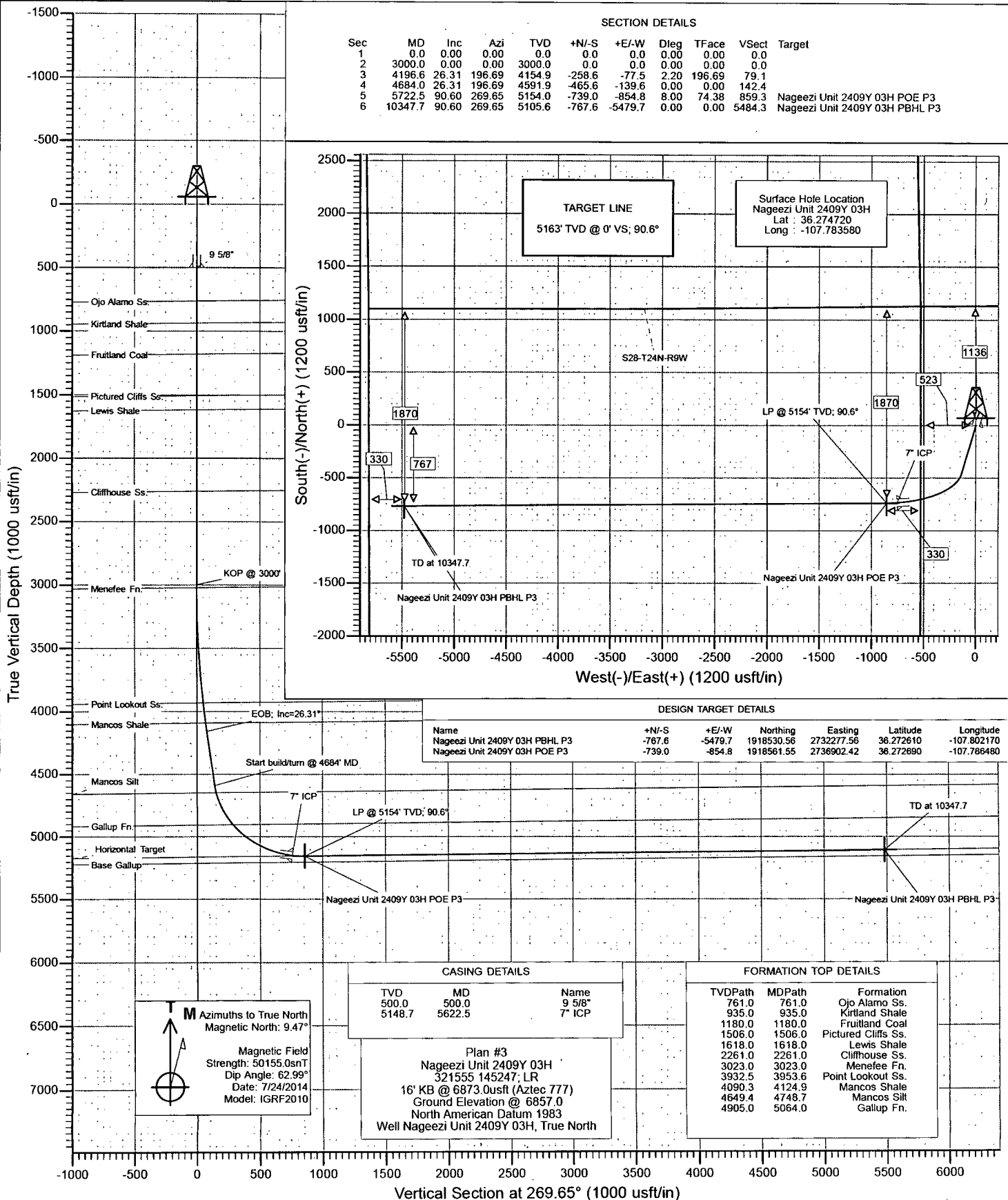
Minimum Make-up Torque (ft-lbs)	_____	1,640
Nominal Make-up Torque (ft-lbs)	_____	2,190
Maximum Make-up Torque (ft-lbs)	_____	2,740

Coupling Internal Yield (psi)	_____	10,660
Pipe Body Internal Yield (psi)	_____	7,780
Leak @ E1 or E7 plane (psi)	_____	17,920

Pipe Hydrostatic Test Pressure @ 80 % SMYS	_____	7,100
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encana

Project: San Juan County, NM
Site: S34-T24N-R9W (Escrito)
Well: Nageezi Unit 2409Y 03H
Wellbore: Hz
Design: Plan #3



Planning Report

Database: USA EDM 5000 Multi Users DB
 Company: EnCana Oil & Gas (USA) Inc
 Project: San Juan County, NM
 Site: S34-T24N-R9W (Escrito)
 Well: Nageezi Unit 2409Y 03H
 Wellbore: Hz
 Design: Plan #3

Local Co-ordinate Reference: Well Nageezi Unit 2409Y 03H
 TVD Reference: 16' KB @ 6873.0usft (Aztec 777)
 MD Reference: 16' KB @ 6873.0usft (Aztec 777)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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

Site: S34-T24N-R9W (Escrito)
 Site Position: Northing: 1,919,326.42 usft Latitude: 36.274790
 From: Lat/Long Easting: 2,737,742.11 usft Longitude: -107.783630
 Position Uncertainty: 0.0 usft Slot Radius: 13-3/16" Grid Convergence: 0.03 °

Well: Nageezi Unit 2409Y 03H
 Well Position: +N/-S 0.0 usft Northing: 1,919,300.94 usft Latitude: 36.274720
 +E/-W 0.0 usft Easting: 2,737,756.87 usft Longitude: -107.783580
 Position Uncertainty: 0.0 usft Wellhead Elevation: usft Ground Level: 6,857.0 usft

Wellbore: Hz
 Magnetics: Model Name Sample Date Declination Dip Angle Field Strength
 (°) (°) (nT)
 IGRF2010 7/24/2014 9.47 62.99 50,155

Design: Plan #3
 Audit Notes:
 Version: Phase: PLAN Tie On Depth: 0.0
 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
 (usft) (usft) (usft) (°)
 0.0 0.0 0.0 269.65

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,196.6	26.31	196.69	4,154.9	-258.6	-77.5	2.20	2.20	0.00	196.69	
4,684.0	26.31	196.69	4,591.9	-465.6	-139.6	0.00	0.00	0.00	0.00	
5,722.5	90.60	269.65	5,154.0	-739.0	-854.8	8.00	6.19	7.03	74.38	Nageezi Unit 2409Y C
10,347.7	90.60	269.65	5,105.6	-767.6	-5,479.7	0.00	0.00	0.00	0.00	Nageezi Unit 2409Y C

Planning Report

Database: USA EDM 5000 Multi Users DB
 Company: EnCana Oil & Gas (USA) Inc
 Project: San Juan County, NM
 Site: S34-T24N-R9W (Escrito)
 Well: Nageezi Unit 2409Y 03H
 Wellbore: Hz
 Design: Plan #3

Local Co-ordinate Reference: Well Nageezi Unit 2409Y 03H
 TVD Reference: 16' KB @ 6873.0usft (Aztec 777)
 MD Reference: 16' KB @ 6873.0usft (Aztec 777)
 North Reference: True
 Survey Calculation Method: 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
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	9 5/8"
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
761.0	0.00	0.00	761.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
935.0	0.00	0.00	935.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,180.0	0.00	0.00	1,180.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,506.0	0.00	0.00	1,506.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,618.0	0.00	0.00	1,618.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,261.0	0.00	0.00	2,261.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 3000'
3,023.0	0.51	196.69	3,023.0	-0.1	0.0	0.0	2.20	2.20	Menefee Fn.
3,100.0	2.20	196.69	3,100.0	-1.8	-0.6	0.6	2.20	2.20	
3,200.0	4.40	196.69	3,199.8	-7.3	-2.2	2.2	2.20	2.20	
3,300.0	6.60	196.69	3,299.3	-16.5	-5.0	5.1	2.20	2.20	
3,400.0	8.80	196.69	3,398.4	-29.4	-8.8	9.0	2.20	2.20	
3,500.0	11.00	196.69	3,496.9	-45.8	-13.7	14.0	2.20	2.20	
3,600.0	13.20	196.69	3,594.7	-65.9	-19.8	20.2	2.20	2.20	
3,700.0	15.39	196.69	3,691.6	-89.5	-26.8	27.4	2.20	2.20	
3,800.0	17.59	196.69	3,787.5	-116.7	-35.0	35.7	2.20	2.20	
3,900.0	19.79	196.69	3,882.2	-147.4	-44.2	45.1	2.20	2.20	
3,953.6	20.97	196.69	3,932.5	-165.3	-49.6	50.6	2.20	2.20	Point Lookout Ss.
4,000.0	21.99	196.69	3,975.6	-181.6	-54.4	55.6	2.20	2.20	
4,100.0	24.19	196.69	4,067.6	-219.1	-65.7	67.0	2.20	2.20	
4,124.9	24.74	196.69	4,090.3	-229.0	-68.7	70.1	2.20	2.20	Mancos Shale
4,196.6	26.31	196.69	4,154.9	-258.6	-77.5	79.1	2.20	2.20	EOB; Inc=26.31°

Planning Report

Database: USA EDM 5000 Multi Users DB
 Company: EnCana Oil & Gas (USA) Inc
 Project: San Juan County, NM
 Site: S34-T24N-R9W (Escrito)
 Well: Nageezi Unit 2409Y 03H
 Wellbore: Hz
 Design: Plan #3

Local Co-ordinate Reference: Well Nageezi Unit 2409Y 03H
 TVD Reference: 16' KB @ 6873.0usft (Aztec 777)
 MD Reference: 16' KB @ 6873.0usft (Aztec 777)
 North Reference: True
 Survey Calculation Method: 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
4,200.0	26.31	196.69	4,158.0	-260.1	-78.0	79.6	0.00	0.00	
4,300.0	26.31	196.69	4,247.6	-302.5	-90.7	92.5	0.00	0.00	
4,400.0	26.31	196.69	4,337.3	-345.0	-103.4	105.5	0.00	0.00	
4,500.0	26.31	196.69	4,426.9	-387.5	-116.2	118.5	0.00	0.00	
4,600.0	26.31	196.69	4,516.6	-429.9	-128.9	131.5	0.00	0.00	
4,684.0	26.31	196.69	4,591.9	-465.6	-139.6	142.4	0.00	0.00	Start build/turn @ 4684' MD
4,700.0	26.68	199.43	4,606.2	-472.4	-141.8	144.7	8.00	2.32	
4,748.7	28.12	207.30	4,649.4	-492.9	-150.7	153.7	8.00	2.95	Mancos Silt
4,800.0	30.07	214.74	4,694.3	-514.2	-163.6	166.7	8.00	3.80	
4,900.0	34.87	226.71	4,778.7	-554.5	-198.7	202.1	8.00	4.80	
5,000.0	40.57	235.90	4,857.8	-592.4	-246.5	250.1	8.00	5.71	
5,064.0	44.54	240.70	4,905.0	-615.0	-283.4	287.1	8.00	6.20	Gallup Fn.
5,100.0	46.85	243.10	4,930.1	-627.1	-306.1	309.9	8.00	6.42	
5,200.0	53.49	248.91	4,994.2	-658.2	-376.2	380.2	8.00	6.64	
5,300.0	60.37	253.79	5,048.7	-684.8	-455.6	459.8	8.00	6.88	
5,400.0	67.41	258.03	5,092.7	-706.5	-542.6	546.9	8.00	7.04	
5,500.0	74.55	261.86	5,125.3	-723.0	-635.7	640.1	8.00	7.14	
5,600.0	81.74	265.43	5,145.8	-733.7	-732.8	737.3	8.00	7.20	
5,700.0	88.97	268.88	5,153.9	-738.7	-832.3	836.8	8.00	7.23	
5,710.0	89.69	269.22	5,154.0	-738.8	-842.3	846.8	8.00	7.23	7" ICP
5,722.5	90.60	269.65	5,154.0	-739.0	-854.8	859.3	8.00	7.23	LP @ 5154' TVD; 90.6°
5,800.0	90.60	269.65	5,153.2	-739.4	-932.3	936.8	0.00	0.00	
5,900.0	90.60	269.65	5,152.1	-740.1	-1,032.3	1,036.8	0.00	0.00	
6,000.0	90.60	269.65	5,151.1	-740.7	-1,132.3	1,136.8	0.00	0.00	
6,100.0	90.60	269.65	5,150.0	-741.3	-1,232.3	1,236.8	0.00	0.00	
6,200.0	90.60	269.65	5,149.0	-741.9	-1,332.3	1,336.8	0.00	0.00	
6,300.0	90.60	269.65	5,148.0	-742.5	-1,432.3	1,436.8	0.00	0.00	
6,400.0	90.60	269.65	5,146.9	-743.1	-1,532.3	1,536.8	0.00	0.00	
6,500.0	90.60	269.65	5,145.9	-743.8	-1,632.2	1,636.8	0.00	0.00	
6,600.0	90.60	269.65	5,144.8	-744.4	-1,732.2	1,736.8	0.00	0.00	
6,700.0	90.60	269.65	5,143.8	-745.0	-1,832.2	1,836.7	0.00	0.00	
6,800.0	90.60	269.65	5,142.7	-745.6	-1,932.2	1,936.7	0.00	0.00	
6,900.0	90.60	269.65	5,141.7	-746.2	-2,032.2	2,036.7	0.00	0.00	
7,000.0	90.60	269.65	5,140.6	-746.9	-2,132.2	2,136.7	0.00	0.00	
7,100.0	90.60	269.65	5,139.6	-747.5	-2,232.2	2,236.7	0.00	0.00	
7,200.0	90.60	269.65	5,138.5	-748.1	-2,332.2	2,336.7	0.00	0.00	
7,300.0	90.60	269.65	5,137.5	-748.7	-2,432.2	2,436.7	0.00	0.00	
7,400.0	90.60	269.65	5,136.4	-749.3	-2,532.2	2,536.7	0.00	0.00	
7,500.0	90.60	269.65	5,135.4	-750.0	-2,632.2	2,636.7	0.00	0.00	
7,600.0	90.60	269.65	5,134.3	-750.6	-2,732.2	2,736.7	0.00	0.00	
7,700.0	90.60	269.65	5,133.3	-751.2	-2,832.2	2,836.7	0.00	0.00	
7,800.0	90.60	269.65	5,132.2	-751.8	-2,932.1	2,936.7	0.00	0.00	
7,900.0	90.60	269.65	5,131.2	-752.4	-3,032.1	3,036.7	0.00	0.00	
8,000.0	90.60	269.65	5,130.1	-753.0	-3,132.1	3,136.7	0.00	0.00	
8,100.0	90.60	269.65	5,129.1	-753.7	-3,232.1	3,236.7	0.00	0.00	
8,200.0	90.60	269.65	5,128.1	-754.3	-3,332.1	3,336.7	0.00	0.00	
8,300.0	90.60	269.65	5,127.0	-754.9	-3,432.1	3,436.7	0.00	0.00	
8,400.0	90.60	269.65	5,126.0	-755.5	-3,532.1	3,536.7	0.00	0.00	
8,500.0	90.60	269.65	5,124.9	-756.1	-3,632.1	3,636.6	0.00	0.00	
8,600.0	90.60	269.65	5,123.9	-756.8	-3,732.1	3,736.6	0.00	0.00	
8,700.0	90.60	269.65	5,122.8	-757.4	-3,832.1	3,836.6	0.00	0.00	
8,800.0	90.60	269.65	5,121.8	-758.0	-3,932.1	3,936.6	0.00	0.00	

Planning Report

Database: USA EDM 5000 Multi Users DB
 Company: EnCana Oil & Gas (USA) Inc
 Project: San Juan County, NM
 Site: S34-T24N-R9W (Escrito)
 Well: Nageezi Unit 2409Y 03H
 Wellbore: Hz
 Design: Plan #3

Local Co-ordinate Reference: Well Nageezi Unit 2409Y 03H
 TVD Reference: 16' KB @ 6873.0usft (Aztec 777)
 MD Reference: 16' KB @ 6873.0usft (Aztec 777)
 North Reference: True
 Survey Calculation Method: 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
8,900.0	90.60	269.65	5,120.7	-758.6	-4,032.1	4,036.6	0.00	0.00	
9,000.0	90.60	269.65	5,119.7	-759.2	-4,132.1	4,136.6	0.00	0.00	
9,100.0	90.60	269.65	5,118.6	-759.8	-4,232.0	4,236.6	0.00	0.00	
9,200.0	90.60	269.65	5,117.6	-760.5	-4,332.0	4,336.6	0.00	0.00	
9,300.0	90.60	269.65	5,116.5	-761.1	-4,432.0	4,436.6	0.00	0.00	
9,400.0	90.60	269.65	5,115.5	-761.7	-4,532.0	4,536.6	0.00	0.00	
9,500.0	90.60	269.65	5,114.4	-762.3	-4,632.0	4,636.6	0.00	0.00	
9,600.0	90.60	269.65	5,113.4	-762.9	-4,732.0	4,736.6	0.00	0.00	
9,700.0	90.60	269.65	5,112.3	-763.6	-4,832.0	4,836.6	0.00	0.00	
9,800.0	90.60	269.65	5,111.3	-764.2	-4,932.0	4,936.6	0.00	0.00	
9,900.0	90.60	269.65	5,110.2	-764.8	-5,032.0	5,036.6	0.00	0.00	
10,000.0	90.60	269.65	5,109.2	-765.4	-5,132.0	5,136.6	0.00	0.00	
10,100.0	90.60	269.65	5,108.2	-766.0	-5,232.0	5,236.6	0.00	0.00	
10,200.0	90.60	269.65	5,107.1	-766.7	-5,332.0	5,336.5	0.00	0.00	
10,300.0	90.60	269.65	5,106.1	-767.3	-5,432.0	5,436.5	0.00	0.00	
10,347.7	90.60	269.65	5,105.6	-767.6	-5,479.7	5,484.3	0.00	0.00	TD at 10347.7

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 2409Y 03H - plan hits target center - Point	0.00	0.00	5,154.0	-739.0	-854.8	1,918,561.55	2,736,902.42	36.272690	-107.786480
Nageezi Unit 2409Y 03H - plan hits target center - Point	0.00	0.00	5,105.6	-767.6	-5,479.7	1,918,530.56	2,732,277.56	36.272610	-107.802170
Nageezi Unit 2409Y 03H - plan misses target center by 3.1usft at 5722.5usft MD (5154.0 TVD, -739.0 N, -854.9 E) - Point	0.00	0.00	5,150.9	-739.0	-854.8	1,918,561.55	2,736,902.42	36.272690	-107.786480
Nageezi Unit 2409Y 03H - plan misses target center by 3.2usft at 10347.7usft MD (5105.6 TVD, -767.6 N, -5479.7 E) - Point	0.00	0.00	5,102.4	-767.6	-5,479.7	1,918,530.56	2,732,277.56	36.272610	-107.802170

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
5,710.0	5,154.0	7" ICP	0	0
500.0	500.0	9 5/8"	0	0

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Site: S34-T24N-R9W (Escrito)
Well: Nageezi Unit 2409Y 03H
Wellbore: Hz
Design: Plan #3

Local Co-ordinate Reference: Well Nageezi Unit 2409Y 03H
TVD Reference: 16' KB @ 6873.0usft (Aztec 777)
MD Reference: 16' KB @ 6873.0usft (Aztec 777)
North Reference: True
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
761.0	761.0	Ojo Alamo Ss.		-0.60	269.65
935.0	935.0	Kirtland Shale		-0.60	269.65
1,180.0	1,180.0	Fruitland Coal		-0.60	269.65
1,506.0	1,506.0	Pictured Cliffs Ss.		-0.60	269.65
1,618.0	1,618.0	Lewis Shale		-0.60	269.65
2,261.0	2,261.0	Cliffhouse Ss.		-0.60	269.65
3,023.0	3,023.0	Menefee Fn.		-0.60	269.65
3,953.6	3,933.0	Point Lookout Ss.		-0.60	269.65
4,124.9	4,091.0	Mancos Shale		-0.60	269.65
4,748.7	4,651.0	Mancos Silt		-0.60	269.65
5,064.0	4,908.0	Gallup Fn.		-0.60	269.65

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,000.0	3,000.0	0.0	0.0	KOP @ 3000'
4,196.6	4,154.9	-258.6	-77.5	EOB; Inc=26.31°
4,684.0	4,591.9	-465.6	-139.6	Start build/turn @ 4684' MD
5,722.5	5,154.0	-739.0	-854.8	LP @ 5154' TVD; 90.6°
10,347.7	5,105.6	-767.6	-5,479.7	TD at 10347.7

EnCana Oil & Gas (USA) Inc

San Juan County, NM

S34-T24N-R9W (Escrito)

Nageezi Unit 2409Y 03H

Hz

Plan #3

Anticollision Report

04 August, 2014

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Nageezi Unit 2409Y 03H
Project:	San Juan County, NM	TVD Reference:	16' KB @ 6873.0usft (Aztec 777)
Reference Site:	S34-T24N-R9W (Escrito)	MD Reference:	16' KB @ 6873.0usft (Aztec 777)
Site Error:	0.0usft	North Reference:	True
Reference Well:	Nageezi Unit 2409Y 03H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	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:	MD Interval 100.0usft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 1,000.0usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	Systematic Ellipse
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program	Date	8/4/2014
From (usft)	To (usft)	Survey (Wellbore)
0.0	10,347.7	Plan #3 (Hz)
Tool Name	Description	
MWD	Geolink MWD	

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						
S34-T24N-R9W (Escrito)						
Escrito D34-2409 01H - Hz - Hz	187.9	187.9	29.2	28.6	48.581	CC
Escrito D34-2409 01H - Hz - Hz	2,667.7	2,668.5	34.5	25.3	3.729	ES, SF

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
 Project: San Juan County, NM
 Reference Site: S34-T24N-R9W (Escrito)
 Site Error: 0.0usft
 Reference Well: Nageezi Unit 2409Y 03H
 Well Error: 0.0usft
 Reference Wellbore: Hz
 Reference Design: Plan #3

Local Co-ordinate Reference: Well Nageezi Unit 2409Y 03H
 TVD Reference: 16' KB @ 6873.0usft (Aztec 777)
 MD Reference: 16' KB @ 6873.0usft (Aztec 777)
 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 S34-T24N-R9W (Escrito) - Escrito D34-2409 01H - Hz - Hz											Offset Site Error: 0.0 usft		
Survey Program: 115-Geolink MWD											Offset Well Error: 0.0 usft		
Reference		Offset		Semi Major Axis			Distance						
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	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-30.04	25.5	-14.7	29.4				
100.0	100.0	100.1	100.1	0.1	0.2	-30.42	25.3	-14.8	29.3	29.0	0.30	98.658	
187.9	187.9	187.9	187.9	0.3	0.3	-31.24	24.9	-15.1	29.2	28.6	0.60	48.581	CC
200.0	200.0	200.0	200.0	0.3	0.3	-31.35	24.9	-15.2	29.2	28.5	0.64	45.394	
300.0	300.0	299.8	299.8	0.5	0.5	-32.13	25.1	-15.7	29.6	28.6	0.99	29.853	
400.0	400.0	399.9	399.9	0.7	0.7	-33.38	25.3	-16.7	30.3	28.9	1.34	22.579	
500.0	500.0	500.0	500.0	0.8	0.8	-34.39	25.1	-17.2	30.4	28.7	1.69	18.010	
600.0	600.0	599.9	599.9	1.0	1.0	-35.02	25.1	-17.6	30.7	28.6	2.04	15.042	
700.0	700.0	700.0	700.0	1.2	1.2	-35.75	25.0	-18.0	30.8	28.4	2.39	12.906	
800.0	800.0	800.0	800.0	1.4	1.4	-36.87	24.7	-18.5	30.9	28.2	2.74	11.286	
900.0	900.0	899.9	899.9	1.5	1.5	-38.06	24.4	-19.1	31.0	28.0	3.09	10.055	
1,000.0	1,000.0	999.9	999.9	1.7	1.7	-39.44	24.2	-19.9	31.3	27.8	3.44	9.103	
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	-41.09	23.7	-20.7	31.4	27.6	3.79	8.301	
1,105.1	1,105.1	1,105.2	1,105.2	1.9	1.9	-41.19	23.6	-20.7	31.4	27.6	3.80	8.261	
1,200.0	1,200.0	1,200.1	1,200.1	2.1	2.1	-42.87	23.1	-21.4	31.5	27.4	4.14	7.619	
1,300.0	1,300.0	1,300.2	1,300.1	2.2	2.2	-45.91	21.6	-22.3	31.0	26.5	4.49	6.915	
1,355.0	1,355.0	1,355.1	1,355.0	2.3	2.3	-46.71	21.2	-22.5	30.9	26.2	4.68	6.609	
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	-46.44	21.3	-22.4	30.9	26.1	4.83	6.398	
1,500.0	1,500.0	1,499.7	1,499.7	2.6	2.6	-45.14	22.1	-22.3	31.4	26.2	5.18	6.058	
1,600.0	1,600.0	1,599.7	1,599.6	2.8	2.8	-44.02	23.3	-22.5	32.4	26.9	5.53	5.865	
1,700.0	1,700.0	1,699.8	1,699.8	2.9	2.9	-43.10	24.5	-22.9	33.5	27.6	5.88	5.700	
1,800.0	1,800.0	1,800.0	1,799.9	3.1	3.1	-40.02	25.9	-21.8	33.9	27.6	6.23	5.435	
1,900.0	1,900.0	1,899.9	1,899.8	3.3	3.3	-36.23	27.7	-20.3	34.4	27.8	6.58	5.224	
2,000.0	2,000.0	2,000.0	1,999.8	3.5	3.5	-32.56	29.4	-18.8	34.9	27.9	6.93	5.035	
2,100.0	2,100.0	2,099.9	2,099.8	3.6	3.6	-29.31	31.0	-17.4	35.6	28.3	7.27	4.889	
2,200.0	2,200.0	2,200.0	2,199.9	3.8	3.8	-27.10	32.1	-16.4	36.0	28.4	7.62	4.726	
2,300.0	2,300.0	2,299.9	2,299.8	4.0	4.0	-26.00	32.8	-16.0	36.5	28.5	7.97	4.579	
2,400.0	2,400.0	2,400.1	2,399.9	4.2	4.2	-25.77	33.6	-16.2	37.3	29.0	8.32	4.482	
2,500.0	2,500.0	2,500.7	2,500.5	4.3	4.3	-24.30	33.3	-15.0	36.6	27.9	8.67	4.215	
2,600.0	2,600.0	2,600.6	2,600.4	4.5	4.5	-22.04	32.8	-13.3	35.4	26.4	9.02	3.922	
2,667.7	2,667.7	2,668.5	2,668.3	4.6	4.6	-20.65	32.3	-12.2	34.5	25.3	9.26	3.729	ES, SF
2,700.0	2,700.0	2,685.0	2,684.8	4.7	4.7	-20.42	32.0	-11.9	37.4	28.1	9.34	4.005	
2,800.0	2,800.0	2,685.0	2,684.8	4.9	4.7	-20.42	32.0	-11.9	120.2	110.7	9.52	12.626	
2,900.0	2,900.0	2,685.0	2,684.8	5.0	4.7	-20.42	32.0	-11.9	217.9	208.2	9.69	22.482	
3,000.0	3,000.0	2,685.0	2,684.8	5.2	4.7	-20.42	32.0	-11.9	317.1	307.2	9.87	32.131	
3,100.0	3,100.0	2,685.0	2,684.8	5.4	4.7	122.67	32.0	-11.9	416.7	406.7	10.04	41.503	
3,200.0	3,199.8	2,685.0	2,684.8	5.6	4.7	77.26	32.0	-11.9	516.6	506.4	10.22	50.554	
3,300.0	3,299.3	2,685.0	2,684.8	5.7	4.7	38.02	32.0	-11.9	616.5	606.1	10.37	59.466	
3,400.0	3,398.4	2,685.0	2,684.8	5.9	4.7	21.67	32.0	-11.9	716.3	705.8	10.50	68.213	
3,500.0	3,496.9	2,685.0	2,684.8	6.2	4.7	14.26	32.0	-11.9	815.9	805.3	10.63	76.771	
3,600.0	3,594.7	2,685.0	2,684.8	6.4	4.7	10.24	32.0	-11.9	915.2	904.5	10.75	85.166	

Anticollision Report

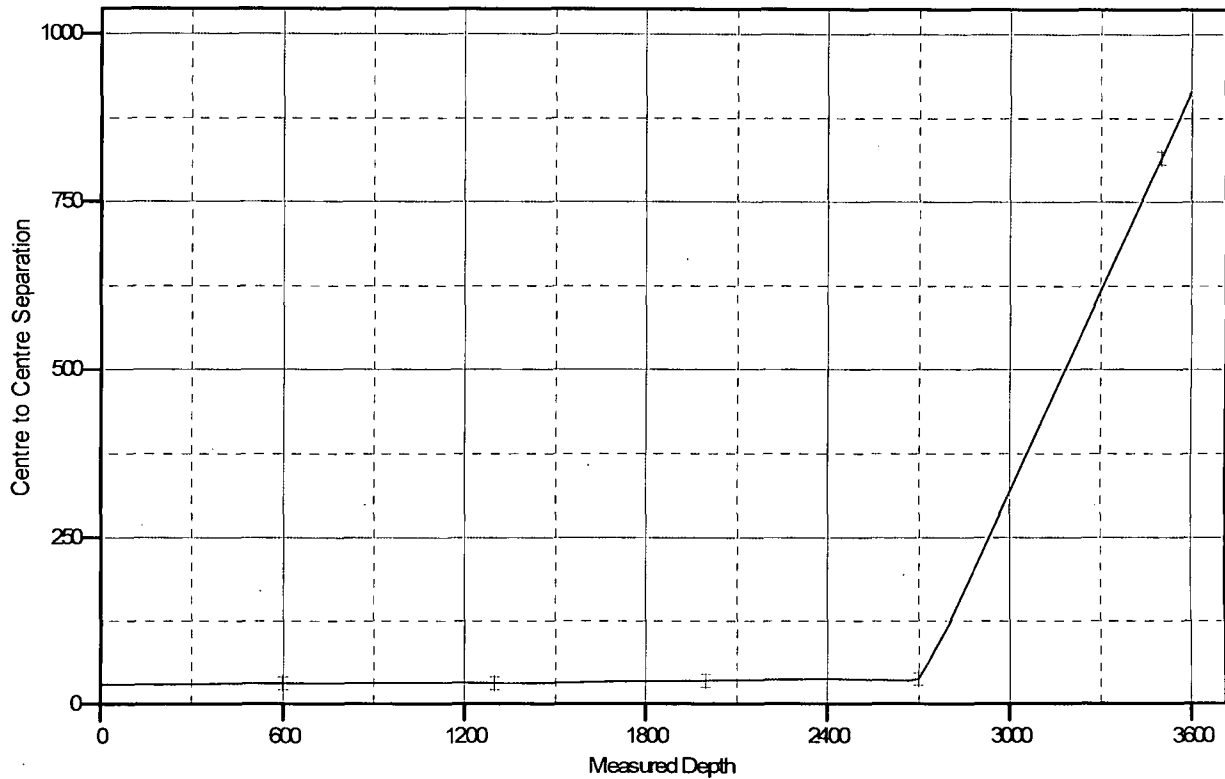
Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S34-T24N-R9W (Escrito)
Site Error: 0.0usft
Reference Well: Nageezi Unit 2409Y 03H
Well Error: 0.0usft
Reference Wellbore: Hz
Reference Design: Plan #3

Local Co-ordinate Reference: Well Nageezi Unit 2409Y 03H
TVD Reference: 16' KB @ 6873.0usft (Aztec 777)
MD Reference: 16' KB @ 6873.0usft (Aztec 777)
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 @ 6873.0usft (Aztec 777)
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.833333 °

Coordinates are relative to: Nageezi Unit 2409Y 03H
 Coordinate System is US State Plane 1983, New Mexico Western Zone
 Grid Convergence at Surface is: 0.03°

Ladder Plot



LEGEND

Escrito D34-240901H, Hz, Hz V0

Directions from the Intersection of US Hwy 550 & US Hwy 64
in Bloomfield, NM to Encana Oil & Gas (USA) Inc. Nageezi Unit D34-2409Y 03H
1136' FNL & 523' FWL, Section 34, T24N, R9W, N.M.P.M., San Juan County, NM

Latitude: 36.27472°N Longitude: 107.78358°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 31.7 miles to Mile Marker 119.5;

Go right (South-westerly) for 0.4 miles to 4-way intersection;

Go straight (South-westerly) @ 4-way intersection for 0.1 miles to Nageezi Unit D34-2409Y 03H well access road on left-hand side of existing roadway which continues for 10,256.3' to fork in well access road;

Go straight (South-easterly) along Nageezi Unit D34-2409Y 03H well access road for an additional 1454.3' to fork in well access road;

Go straight (South-easterly) for an additional 3993.1' to Encana Nageezi Unit D34-2409Y 03H built location.

encana

SAN JUAN COUNTY,
NEW MEXICO

- ABDN
- AGAS
- DRY
- GAS
- INJ
- LOC
- OIL

Basin Mancos
Gas Pool

1 inch = 2,167 feet

MUDDY MUDDA 1

MUDDY MUDDY COM 90

LARGO B FEDERAL 2

LARGO B 1

NAVAJO 23-11

JULY JUBILEE 2

Escrito A28-2409 01H
Escrito A28-2409 02H

Escrito L27-2409 01H
Escrito L27-2409 02H

Escrito M27-2409 01H
Escrito M27-2409 02H

**BISTI LOWER
GALLUP POOL**

NOVEMBER 24 2

OHWADA 2

Escrito D34-2409 01H
Escrito D34 2409Y 03H

MARCH ON 1

RISTRA AGW STATE 1

RISTRA AGW STATE 2

SOUTH HUERFANO 1
OHWADA 1

FEDERAL D 9

FEDERAL D 3

**SOUTH BISTI
GALLUP
POOL**

0 0.125 0.25 0.5 Miles

encana

