

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Tony Delfin
Acting Cabinet Secretary

David R. Catanach, 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: 7-6-16

Well information:

Operator Encana, Well Name and Number Nageezi Unit # 327H

API# 30045-3583 Section 33 Township 24 N/S, Range 9 E/W

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

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☒ Hold C-104 for NSL, NSP, DHC GCP
- ☐ 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
- ☐ Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- ☒ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ☒ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Charles Hernandez
NMOCD Approved by Signature

1-4-2017
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

5. Lease Serial No.
NMNM 12374

6. If Indian, Allottee or Tribe Name

1a. Type of work: ☒ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.
NAGEEZI UNIT / 327H

9. API Well No.

30-045-35783

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

3b. Phone No. (include area code)
(720)876-5331

10. Field and Pool, or Exploratory
Wildcat

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface NWNE / 205 FNL / 2412 FEL / LAT 36.277199 / LONG -107.793536

At proposed prod. zone NENE / 770 FNL / 1110 FEL / LAT 36.261127 / LONG -107.771178

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 33 / T24N / R9W / NMP

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

12. County or Parish
SAN JUAN

13. State
NM

15. Distance from proposed*
location to nearest 4990 feet
property or lease line, ft.
(Also to nearest drig. unit line, if any)

16. No. of acres in lease
2240

17. Spacing Unit dedicated to this well
10415.12

OIL CONS. DIV DIST. 3

18. Distance from proposed location*
to nearest well, drilling, completed, 30 feet
applied for, on this lease, ft.

19. Proposed Depth
5017 feet / 12494 feet

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

DEC 01 2016

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
6954 feet

22. Approximate date work will start*
01/02/2017

23. Estimated duration
20 days

24. Attachments

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

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature
(Electronic Submission)

Name (Printed/Typed)
Katie Wegner / Ph: (720)876-3533

Date
07/06/2016

Title
Regulatory Analyst

Approved by (Signature)

Chip Haraden

Name (Printed/Typed)

Chip Haraden

Date

11/29/16

Title
Acting AFM - Minerals

Office
FARMINGTON

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

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

(Continued on page 2)

*(Instructions on page 2)

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

NMOCD

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 Dr., Hobbs, N.M. 88240
Phone: (505) 593-0161 Fax: (505) 593-0720

DISTRICT II

511 S. First St., Artesia, N.M. 88210
Phone: (505) 743-1283 Fax: (505) 743-9720

DISTRICT III

1000 E. Bravo Rd., Artesia, N.M. 87410
Phone: (505) 334-0178 Fax: (505) 334-0170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-3480 Fax: (505) 478-3488

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35783		*Pool Code 98080	*Pool Name NAGEEZI UNIT <i>Manco</i>
*Property Code 315244	*Property Name NAGEEZI UNIT		*Well Number 327H
*OGRID No. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 6948.5'

¹⁰ Surface Location

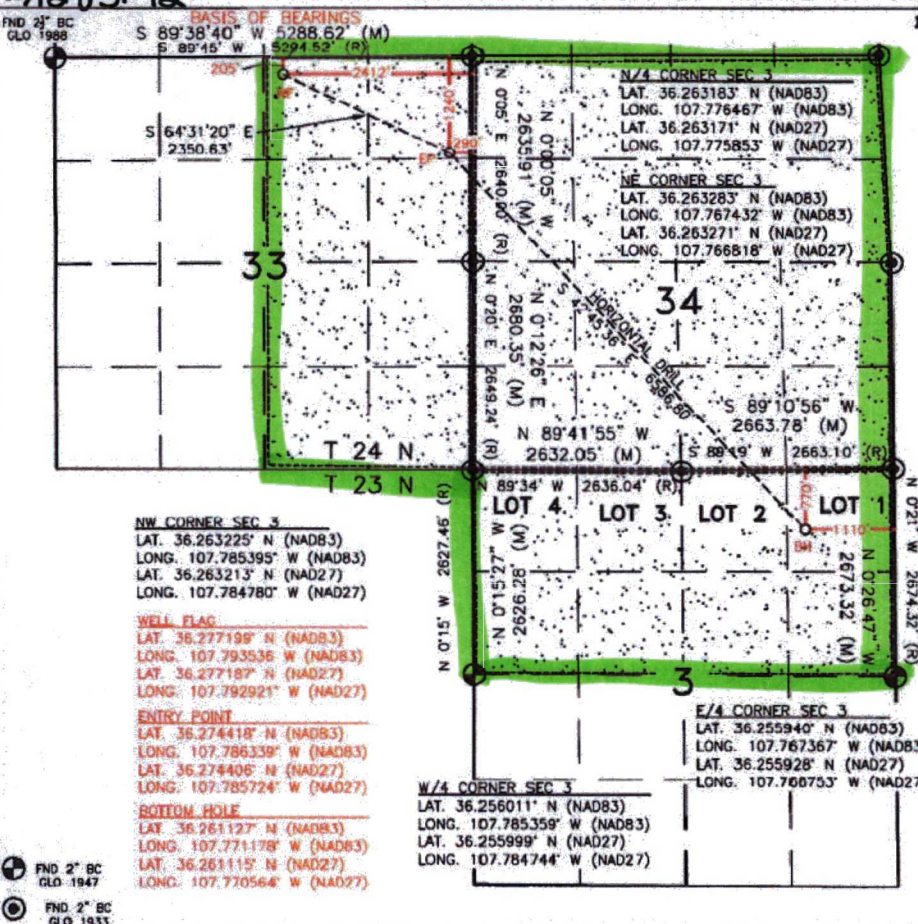
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	33	24N	9W		205'	NORTH	2412'	EAST	SAN JUAN

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
A	3	23N	9W	1	770'	NORTH	1110'	EAST	SAN JUAN

*Dedicated Acres 33 (320 ACRES), ALL SEC. 34 (640 ACRES), N/2 SEC. 3 (320 ACRES) = TOTAL 10,415.12 ACRES; SEC. 21-23 (5/2); 25-28, 33-36, 1-4, 9-10 (ALL); 5 (W/2); 11 (NW/4) = UNDIVIDED UNIT	*Joint or Infill	*Consolidation Code	*Order No. R-13856-A (10,415.12 ACRES)
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



¹⁷ OPERATOR CERTIFICATION

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

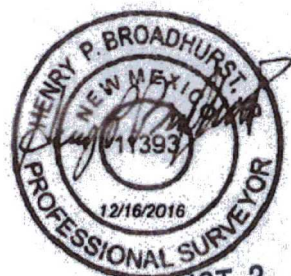
Katie Wegner 12/20/16
Signature Date

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

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
APRIL 28, 2016

Date of Survey
Signature and Seal of Professional Surveyor:



OIL CONS. DIV. DIST. 3
License Number 11393

DEC 20 2016

Nageezi Unit 327H

SHL: NW/4 NE/4 Sec 33 T24N R9W, 205' FNL, 2412' FEL

BHL: NE/4 NE/4 Sec 3 T23N R9W, 770' FNL, 1110' FEL

San Juan, New Mexico

Lease Number: NMNM 12374, BIA NO-G-1403-1916, BIA NO-G-1403-1918; NM 8005

OIL CONS. DIV DIST. 3
DEC 12 2016

**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
San Jose Fn.	n/a
Nacimiento Fn.	surface
Ojo Alamo Ss.	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	4,806
Gallup Fn.	5,066
Base Gallup	5,390

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
Oil/Gas	Pictured Cliffs Ss.	1,605
Oil/Gas	Cliffhouse Ss.	2,350
Gas	Menefee Fn.	3,103
Oil/Gas	Point Lookout Ss.	4,065
Oil/Gas	Mancos Shale	4,208
Oil/Gas	Mancos Silt	4,806
Oil/Gas	Gallup Fn.	5,066

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

Nageezi Unit 327H**SHL: NW/4 NE/4 Sec 33 T24N R9W, 205' FNL, 2412' FEL****BHL: NE/4 NE/4 Sec 3 T23N R9W, 770' FNL, 1110' FEL****San Juan, New Mexico****Lease Number: NMNM 12374, BIA NO-G-1403-1916, BIA NO-G-1403-1918; NM 8005****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.
- 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

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

- a) The proposed casing design is as follows:

Casing	Depth (MD)	Hole Size	Csg Size	Weight	Grade
Conductor	0'-60'	26"	16"	42.09#	
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5550'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5450'-12494'	6 1/8"	4 1/2"	11.6#	N80, 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	N80	LTC	6350	7780	201	1.125	1.1	1.5

Casing design is subject to revision based on geologic conditions encountered.

Nageezi Unit 327H**SHL: NW/4 NE/4 Sec 33 T24N R9W, 205' FNL, 2412' FEL****BHL: NE/4 NE/4 Sec 3 T23N R9W, 770' FNL, 1110' FEL****San Juan, New Mexico****Lease Number: NMNM 12374, BIA NO-G-1403-1916, BIA NO-G-1403-1918; NM 8005**

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.

b) The proposed cementing program is as follows:

Casing	Depth (MD)	Cement Volume (sacks)	Cement Type & Yield	Design	Centralizers
Conductor	0'-60'	100 sks	Type I Neat 16 ppg @ 4.5 ft ³ /sk	Surface	None
Surface	0'-500'	228 sks	Type III Cement 14.6 ppg with 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water @ 1.38 ft ³ /sk	Surface	1 per joint on bottom 3 joints
Intermediate	0'-5550'	100% open hole excess Stage 1 Lead: 517 sks Stage 1 Tail: 394 sks	Lead: PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 12.1ppg 2.13 ft ³ /sk Tail: Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38 ft ³ /sk	Surface	1 every 3 joints through water bearing zones
Production Liner	5450'-12494'	50% OH excess Stage 1 Blend Total: 393sks	Blend: Premium Lite High Strength FM 13.5 ppg with 0.7% bwoc R-3 + 3% bwow Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL-52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield 2.63 cuft/sk	Liner Hanger	N/A

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

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

5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 600'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5017'/12494'	Gallup

Nageezi Unit 327H**SHL: NW/4 NE/4 Sec 33 T24N R9W, 205' FNL, 2412' FEL****BHL: NE/4 NE/4 Sec 3 T23N R9W, 770' FNL, 1110' FEL****San Juan, New Mexico****Lease Number: NMNM 12374, BIA NO-G-1403-1916, BIA NO-G-1403-1918; NM 8005****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)
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'-5028'/5550'	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"	5028'/5550'- 5017'/12494'	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 test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH. Sized LCM material (such as sawdust & wood fiber) will be kept on location in order to mitigate lost circulation. Electronic PVT totalizers will be used to monitor drilling fluid volumes.

- ✓ 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 +/- 2348 psi based on a 9.0 ppg at 5017' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated. Expected bottom hole temp is 170 deg F.

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 November 5, 2015. 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: NW/4 NE/4 Sec 33 T24N R9W, 205' FNL County: San Juan WELL: Nageezi Unit 327H			Encana Oil & Gas (USA) Inc. WELL SUMMARY					ENG: 0 RIG: Unassigned GLE: 6954.2 RKBE: 6970.2	12-12-16
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			TVD	MD					
			60	60'		26	16" 42.09# 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	San Jose Fn.	0						
		Nacimiento Fn. 9 5/8" Csg	surface 500	500			9 5/8" 36ppf J55 LTC TOC Surface with 100% OH Excess: 228 sks Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water.	Fresh wtr 8.3-10	Vertical <1°
Survey Every 60'-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5	No OH logs	Ojo Alamo Ss. Kirtland Shale	839 1,016		12 1/4 8 3/4		7" 26ppf J55 LTC TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 911sks Stage 1 Lead: 517 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: 394 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°
		Fruitland Coal	1,325						
		Pictured Cliffs Ss. Lewis Shale	1,605 1,699						
		Cliffhouse Ss. Menefee Fn.	2,350 3,103						
		Point Lookout Ss. Mancos Shale	4,065 4,208						
Surveys every 30' through the curve	Mud logger onsite	KOP	600	600					
		Mancos Silt	4,806						
		Gallup Fn.	5,066						
		7" Csg	5,028	5,550'					
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD	5,017 5,017	12,494		6 1/8	100' overlap at liner top 6944' Drilled Lateral		Horz Inc/TVD 90.8deg/5139.2ft
		Base Gallup	5,390					4 1/2" 11.6ppf SB80 LTC TOC @ hanger (50% OH excess) Stage 1 Total: 393sks Stage 1 Blend: 393 sks Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwow Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL- 52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield 2.63 cuft/sk.	WBM 8.3-10
MWD Gamma Directional									

NOTES:

- 1) Drill with 26" bit to 60', set 16" 42.09ppf conductor pipe
- 2) Drill surface to 500', R&C 9 5/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to KOP of 600', 8 3/4 inch holesize
- 5) Start curve at 10deg/100' build rate
- 6) Drill to csg point of 5550' MD
- 7) R&C 7" csg, circ cmt to surface
- 8) Land at ~55 deg, drill lateral to 12494' run 4 1/2 inch cemented liner

Nageezi Unit 327H

SHL: NW/4 NE/4 Sec 33 T24N R9W, 205' FNL, 2412' FEL

BHL: NE/4 NE/4 Sec 3 T23N R9W, 770' FNL, 1110' FEL

San Juan, New Mexico

Lease Number: NMNM 12374, BIA NO-G-1403-1916, BIA NO-G-1403-1918; NM 8005

CASING & CEMENTING PROGRAM

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

- a) The proposed casing design is as follows:

Casing	Depth (MD)	Hole Size	Csg Size	Weight	Grade
Conductor	0'-60'	26"	16"	42.09#	
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5550'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5450'-12494'	6 1/8"	4 1/2"	11.6#	N80, 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	N80	LTC	6350	7780	201	1.125	1.1	1.5

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.



EnCana Oil & Gas (USA) Inc

San Juan County, NM

S33-T24N-R9W

NAGEEZI UNIT 327H

OH

PLAN #1

Anticollision Report

23 May, 2016

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Reference	PLAN #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	Systematic Ellipse
Depth Range:	387.00 to 9,999,999.00usft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,500.00usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	5/23/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	12,494.10	PLAN #1 (OH)	MWD+HDGM	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 324H - OH - PLAN #1	587.00	587.00	90.25	86.46	23.797	CC, ES
NAGEEZI UNIT 324H - OH - PLAN #1	987.00	987.66	115.00	108.39	17.402	SF
NAGEEZI UNIT 325H - OH - PLAN #1	587.00	587.00	60.40	56.61	15.925	CC, ES
NAGEEZI UNIT 325H - OH - PLAN #1	11,687.00	11,951.61	1,339.93	967.40	3.597	SF
NAGEEZI UNIT 326H - OH - PLAN #1	587.00	587.00	29.85	26.06	7.871	CC, ES
NAGEEZI UNIT 326H - OH - PLAN #1	12,270.42	12,079.41	673.50	283.06	1.725	SF

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 324H - OH - PLAN #1													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)		Between Centres (usft)	Between Ellipses (usft)				Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	
387.00	387.00	387.00	387.00	1.18	1.18	-55.06	51.69	-73.98	90.25	87.89	2.36	38.263		
487.00	487.00	487.00	487.00	1.54	1.54	-55.06	51.69	-73.98	90.25	87.18	3.08	29.344		
587.00	587.00	587.00	587.00	1.90	1.90	-55.06	51.69	-73.98	90.25	86.46	3.79	23.797 CC, ES		
687.00	686.99	686.99	686.99	2.25	2.25	-165.47	51.69	-73.98	91.53	87.03	4.50	20.340		
787.00	786.87	786.87	786.87	2.59	2.61	-166.17	51.69	-73.98	96.16	90.96	5.20	18.487		
887.00	886.52	886.52	886.52	2.94	2.97	-167.22	51.69	-73.98	104.21	98.30	5.91	17.641		
987.00	985.82	987.66	987.65	3.30	3.32	-169.05	50.35	-73.98	115.00	108.39	6.61	17.402 SF		
1,087.00	1,084.66	1,088.76	1,088.62	3.68	3.65	-172.22	45.48	-73.96	127.63	120.32	7.30	17.474		
1,187.00	1,182.90	1,189.29	1,188.80	4.07	3.99	-176.22	37.10	-73.93	142.55	134.54	8.01	17.806		
1,287.00	1,280.43	1,289.03	1,287.83	4.49	4.33	179.35	25.32	-73.90	160.25	151.54	8.72	18.387		
1,387.00	1,377.14	1,387.74	1,385.38	4.94	4.68	174.84	10.27	-73.85	181.15	171.72	9.44	19.197		
1,487.00	1,472.90	1,485.21	1,481.15	5.43	5.05	170.46	-7.87	-73.79	205.56	195.38	10.18	20.199		
1,587.00	1,567.59	1,581.26	1,574.86	5.96	5.42	166.35	-28.93	-73.72	233.65	222.71	10.94	21.352		
1,687.00	1,661.10	1,675.71	1,666.26	6.54	5.81	162.57	-52.69	-73.64	265.49	253.75	11.74	22.615		
1,787.00	1,753.33	1,768.39	1,755.15	7.18	6.22	159.13	-78.92	-73.55	301.08	288.51	12.57	23.946		
1,887.00	1,844.14	1,859.16	1,841.34	7.87	6.64	156.01	-107.38	-73.46	340.35	326.90	13.45	25.311		
1,987.00	1,933.74	1,948.12	1,924.89	8.63	7.08	153.41	-137.91	-73.36	382.66	368.30	14.36	26.648		
2,087.00	2,023.23	2,035.93	2,006.39	9.41	7.54	151.06	-170.58	-73.25	425.93	410.62	15.31	27.821		
2,187.00	2,112.72	2,122.52	2,085.75	10.21	8.01	148.81	-205.22	-73.14	470.07	453.77	16.30	28.843		
2,287.00	2,202.20	2,209.77	2,164.94	11.03	8.52	146.70	-241.85	-73.02	515.04	497.70	17.34	29.699		
2,387.00	2,291.69	2,297.50	2,244.53	11.86	9.04	144.89	-278.76	-72.89	560.53	542.11	18.42	30.430		
2,487.00	2,381.18	2,385.22	2,324.11	12.70	9.58	143.35	-315.66	-72.77	606.40	586.87	19.52	31.060		
2,587.00	2,470.66	2,472.95	2,403.70	13.54	10.12	142.02	-352.56	-72.65	652.58	631.93	20.65	31.608		
2,687.00	2,560.15	2,560.68	2,483.29	14.39	10.67	140.86	-389.47	-72.53	699.00	677.22	21.79	32.086		
2,787.00	2,649.64	2,648.41	2,562.88	15.25	11.23	139.85	-426.37	-72.41	745.62	722.69	22.94	32.506		
2,887.00	2,739.12	2,736.14	2,642.47	16.11	11.80	138.95	-463.28	-72.29	792.41	768.31	24.10	32.877		
2,987.00	2,828.61	2,823.87	2,722.06	16.97	12.37	138.15	-500.18	-72.17	839.33	814.06	25.28	33.205		
3,087.00	2,918.10	2,911.59	2,801.65	17.84	12.94	137.44	-537.09	-72.04	886.37	859.91	26.46	33.498		
3,187.00	3,007.58	2,999.32	2,881.23	18.71	13.52	136.79	-573.99	-71.92	933.51	905.86	27.65	33.760		
3,287.00	3,097.07	3,087.05	2,960.82	19.58	14.10	136.21	-610.89	-71.80	980.73	951.88	28.85	33.994		
3,387.00	3,186.56	3,174.78	3,040.41	20.46	14.68	135.68	-647.80	-71.68	1,028.02	997.97	30.05	34.206		
3,487.00	3,276.04	3,262.51	3,120.00	21.33	15.27	135.20	-684.70	-71.56	1,075.37	1,044.11	31.26	34.398		
3,587.00	3,365.53	3,350.24	3,199.59	22.21	15.86	134.76	-721.61	-71.44	1,122.78	1,090.31	32.48	34.572		
3,687.00	3,455.02	3,437.97	3,279.18	23.09	16.45	134.35	-758.51	-71.32	1,170.24	1,136.55	33.69	34.731		
3,787.00	3,544.50	3,525.69	3,358.77	23.97	17.04	133.98	-795.42	-71.19	1,217.74	1,182.82	34.92	34.877		
3,887.00	3,633.99	3,613.42	3,438.35	24.85	17.64	133.63	-832.32	-71.07	1,265.28	1,229.14	36.14	35.010		
3,987.00	3,723.48	3,701.15	3,517.94	25.74	18.23	133.31	-869.22	-70.95	1,312.85	1,275.48	37.37	35.133		
4,087.00	3,812.96	3,788.88	3,597.53	26.62	18.83	133.01	-906.13	-70.83	1,360.45	1,321.85	38.60	35.247		
4,187.00	3,902.45	3,876.61	3,677.12	27.51	19.43	132.73	-943.03	-70.71	1,408.07	1,368.24	39.83	35.352		
4,287.00	3,991.94	3,964.34	3,756.71	28.39	20.03	132.47	-979.94	-70.59	1,455.73	1,414.66	41.07	35.449		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 325H - OH - PLAN #1														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)		Between Centres (usft)	Between Ellipses (usft)				Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)		
387.00	387.00	387.00	387.00	1.18	1.18	-55.07	34.58	-49.52	60.40	58.04	2.36	25.606			
487.00	487.00	487.00	487.00	1.54	1.54	-55.07	34.58	-49.52	60.40	57.32	3.08	19.637			
587.00	587.00	587.00	587.00	1.90	1.90	-55.07	34.58	-49.52	60.40	56.61	3.79	15.925	CC, ES		
687.00	686.99	686.99	686.99	2.25	2.25	-165.59	34.58	-49.52	61.68	57.18	4.50	13.706			
787.00	786.87	786.87	786.87	2.59	2.61	-166.59	34.58	-49.52	66.32	61.12	5.20	12.749			
887.00	886.52	886.31	886.29	2.94	2.96	-168.72	33.30	-49.05	73.33	67.43	5.91	12.418			
987.00	985.82	989.96	989.82	3.30	3.30	-172.51	28.67	-47.35	81.23	74.61	6.61	12.282			
1,087.00	1,084.66	1,091.43	1,090.93	3.68	3.64	-177.41	20.88	-44.42	90.43	83.10	7.33	12.335			
1,187.00	1,182.90	1,192.61	1,191.38	4.07	3.99	177.08	9.36	-40.27	101.44	93.38	8.05	12.594			
1,287.00	1,280.43	1,293.34	1,290.91	4.49	4.38	171.41	-5.20	-34.93	114.70	105.91	8.79	13.051			
1,387.00	1,377.14	1,393.53	1,389.29	4.94	4.74	165.90	-22.93	-28.42	130.57	121.03	9.54	13.682			
1,487.00	1,472.90	1,493.04	1,486.30	5.43	5.14	160.74	-43.74	-20.79	149.27	138.94	10.33	14.449			
1,587.00	1,567.59	1,591.76	1,581.72	5.96	5.58	156.05	-67.49	-12.08	170.90	159.74	11.17	15.306			
1,687.00	1,661.10	1,688.57	1,674.58	6.54	6.00	152.08	-93.16	-2.66	195.67	183.63	12.04	16.248			
1,787.00	1,753.33	1,784.10	1,766.16	7.18	6.44	149.31	-118.69	6.70	223.90	210.94	12.96	17.277			
1,887.00	1,844.14	1,878.87	1,857.01	7.87	6.90	147.48	-144.02	15.99	255.24	241.33	13.91	18.348			
1,987.00	1,933.74	1,972.95	1,947.20	8.63	7.36	146.50	-169.16	25.21	288.93	274.04	14.89	19.404			
2,087.00	2,023.23	2,066.96	2,037.32	9.41	7.82	145.86	-194.29	34.43	322.87	306.98	15.89	20.319			
2,187.00	2,112.72	2,160.97	2,127.44	10.21	8.30	145.35	-219.41	43.64	356.84	339.93	16.91	21.101			
2,287.00	2,202.20	2,254.98	2,217.57	11.03	8.78	144.92	-244.54	52.86	390.82	372.88	17.95	21.774			
2,387.00	2,291.69	2,349.00	2,307.69	11.86	9.26	144.57	-269.66	62.07	424.83	405.82	19.00	22.356			
2,487.00	2,381.18	2,443.01	2,397.81	12.70	9.75	144.28	-294.78	71.29	458.84	438.77	20.07	22.864			
2,587.00	2,470.66	2,537.02	2,487.93	13.54	10.24	144.00	-319.91	80.50	492.87	471.72	21.14	23.309			
2,687.00	2,560.15	2,631.03	2,578.05	14.39	10.73	143.77	-345.03	89.72	526.90	504.67	22.23	23.702			
2,787.00	2,649.64	2,725.04	2,668.18	15.25	11.22	143.57	-370.16	98.94	560.94	537.62	23.32	24.051			
2,887.00	2,739.12	2,819.05	2,758.30	16.11	11.72	143.40	-395.28	108.15	594.99	570.56	24.42	24.362			
2,987.00	2,828.61	2,913.06	2,848.42	16.97	12.22	143.24	-420.41	117.37	629.03	603.51	25.53	24.641			
3,087.00	2,918.10	3,007.07	2,938.54	17.84	12.72	143.10	-445.53	126.58	663.09	636.45	26.64	24.892			
3,187.00	3,007.58	3,101.09	3,028.86	18.71	13.22	142.97	-470.65	135.80	697.14	669.39	27.75	25.120			
3,287.00	3,097.07	3,195.10	3,118.79	19.58	13.73	142.85	-495.78	145.01	731.20	702.33	28.87	25.326			
3,387.00	3,186.56	3,289.11	3,208.91	20.46	14.23	142.75	-520.90	154.23	765.26	735.27	29.99	25.514			
3,487.00	3,276.04	3,383.12	3,299.03	21.33	14.74	142.65	-546.03	163.44	799.33	768.21	31.12	25.686			
3,587.00	3,365.53	3,477.13	3,389.15	22.21	15.24	142.56	-571.15	172.66	833.39	801.15	32.25	25.844			
3,687.00	3,455.02	3,571.14	3,479.27	23.09	15.75	142.48	-596.28	181.87	867.46	834.08	33.38	25.989			
3,787.00	3,544.50	3,665.15	3,569.40	23.97	16.26	142.40	-621.40	191.09	901.53	867.02	34.51	26.123			
3,887.00	3,633.99	3,759.16	3,659.52	24.85	16.77	142.33	-646.52	200.30	935.60	899.95	35.65	26.247			
3,987.00	3,723.48	3,853.18	3,749.64	25.74	17.28	142.27	-671.65	209.52	969.67	932.89	36.78	26.362			
4,087.00	3,812.96	3,947.19	3,839.76	26.62	17.79	142.21	-696.77	218.73	1,003.74	965.82	37.92	26.469			
4,187.00	3,902.45	4,041.20	3,929.88	27.51	18.30	142.15	-721.90	227.95	1,037.82	998.76	39.06	26.569			
4,287.00	3,991.94	4,135.21	4,020.01	28.39	18.81	142.10	-747.02	237.16	1,071.89	1,031.69	40.20	26.663			
4,387.00	4,081.42	4,229.22	4,110.13	29.28	19.32	142.05	-772.14	246.38	1,105.96	1,064.62	41.34	26.750			
4,487.00	4,170.91	4,323.23	4,200.25	30.16	19.83	142.00	-797.27	255.59	1,140.04	1,097.55	42.49	26.832			
4,587.00	4,260.40	4,417.24	4,290.37	31.05	20.34	141.96	-822.39	264.81	1,174.12	1,130.48	43.63	26.909			
4,687.00	4,349.88	4,511.25	4,380.49	31.94	20.85	141.91	-847.52	274.02	1,208.19	1,163.41	44.78	26.981			
4,787.00	4,439.37	4,605.27	4,470.62	32.83	21.37	141.87	-872.64	283.24	1,242.27	1,196.34	45.93	27.050			
4,887.00	4,528.86	4,691.67	4,637.70	33.72	22.40	141.53	-894.29	304.98	1,275.86	1,227.78	48.08	26.538			
4,987.00	4,618.34	4,779.61	4,699.05	34.60	22.74	132.01	-1,206.94	508.91	1,287.67	1,231.87	55.80	23.076			
5,087.00	4,707.70	4,869.50	4,788.43	35.50	31.76	121.85	-1,386.05	662.96	1,284.82	1,222.96	61.87	20.768			
5,179.69	4,786.77	4,949.50	4,870.21	36.48	33.65	112.79	-1,462.92	732.94	1,282.84	1,217.14	65.70	19.526			
5,187.00	4,792.76	4,959.49	4,880.16	36.56	33.72	112.33	-1,465.77	735.57	1,282.85	1,216.95	65.90	19.465			
5,287.00	4,870.37	5,038.76	4,959.33	37.85	34.84	106.49	-1,509.37	775.72	1,285.77	1,216.84	68.93	18.652			
5,387.00	4,939.02	5,108.65	5,028.35	39.35	36.20	101.42	-1,560.78	823.06	1,292.59	1,220.41	72.18	17.907			

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

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 327H
Well Error: 0.00usft
Reference Wellbore: OH
Reference Design: PLAN #1

Local Co-ordinate Reference: Well NAGEEZI UNIT 327H
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 325H - OH - PLAN #1												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)				
5,487.00	4,997.37	5,857.80	5,087.25	41.04	37.78	97.02	-1,819.00	876.87	1,301.52	1,225.85	75.87	17.199
5,587.00	5,044.29	5,944.67	5,086.03	42.89	39.56	93.36	-1,882.90	935.50	1,310.83	1,231.42	79.41	16.508
5,687.00	5,078.86	6,037.56	5,064.74	44.87	41.50	90.56	-1,751.22	998.42	1,318.97	1,235.60	83.38	15.819
5,787.00	5,100.41	6,134.67	5,063.38	46.91	43.58	88.75	-1,822.65	1,064.20	1,324.75	1,237.20	87.55	15.131
5,887.00	5,108.52	6,234.11	5,061.99	48.97	45.75	88.00	-1,895.80	1,131.55	1,327.36	1,235.50	91.86	14.450
5,987.00	5,107.39	6,334.11	5,060.60	51.03	47.96	87.98	-1,969.35	1,199.28	1,327.60	1,231.35	96.25	13.793
6,087.00	5,106.00	6,434.11	5,059.20	53.12	50.21	87.98	-2,042.91	1,267.01	1,327.77	1,227.07	100.71	13.185
6,187.00	5,104.60	6,534.11	5,057.81	55.26	52.48	87.98	-2,116.46	1,334.74	1,327.94	1,222.73	105.21	12.621
6,287.00	5,103.20	6,634.11	5,056.41	57.42	54.78	87.98	-2,190.02	1,402.47	1,328.11	1,218.34	109.77	12.099
6,387.00	5,101.81	6,734.11	5,055.01	59.61	57.10	87.98	-2,263.57	1,470.21	1,328.29	1,213.91	114.37	11.614
6,487.00	5,100.41	6,834.11	5,053.62	61.83	59.43	87.98	-2,337.13	1,537.94	1,328.46	1,209.45	119.01	11.162
6,587.00	5,099.01	6,934.11	5,052.22	64.08	61.78	87.98	-2,410.68	1,605.67	1,328.63	1,204.94	123.69	10.742
6,687.00	5,097.62	7,034.11	5,050.82	66.34	64.15	87.98	-2,484.24	1,673.40	1,328.80	1,200.41	128.39	10.350
6,787.00	5,096.22	7,134.11	5,049.43	68.63	66.52	87.98	-2,557.79	1,741.13	1,328.97	1,195.86	133.12	9.983
6,887.00	5,094.83	7,234.11	5,048.03	70.93	68.91	87.98	-2,631.35	1,808.87	1,329.14	1,191.27	137.87	9.640
6,987.00	5,093.43	7,334.11	5,046.64	73.24	71.31	87.98	-2,704.90	1,876.60	1,329.32	1,186.67	142.65	9.319
7,087.00	5,092.03	7,434.11	5,045.24	75.57	73.72	87.98	-2,778.46	1,944.33	1,329.49	1,182.05	147.44	9.017
7,187.00	5,090.64	7,534.11	5,043.84	77.92	76.14	87.98	-2,852.02	2,012.06	1,329.66	1,177.40	152.26	8.733
7,287.00	5,089.24	7,634.11	5,042.45	80.27	78.56	87.98	-2,925.57	2,079.79	1,329.83	1,172.75	157.09	8.466
7,387.00	5,087.85	7,734.11	5,041.05	82.64	80.99	87.98	-2,999.13	2,147.53	1,330.00	1,168.07	161.93	8.213
7,487.00	5,086.45	7,834.11	5,039.66	85.02	83.43	87.98	-3,072.68	2,215.26	1,330.18	1,163.39	166.79	7.975
7,587.00	5,085.05	7,934.11	5,038.26	87.40	85.87	87.98	-3,146.24	2,282.99	1,330.35	1,158.69	171.66	7.750
7,687.00	5,083.66	8,034.11	5,036.86	89.80	88.32	87.98	-3,219.79	2,350.72	1,330.52	1,153.98	176.54	7.537
7,787.00	5,082.26	8,134.11	5,035.47	92.20	90.77	87.98	-3,293.35	2,418.46	1,330.69	1,149.26	181.43	7.334
7,887.00	5,080.86	8,234.11	5,034.07	94.61	93.23	87.98	-3,366.90	2,486.19	1,330.86	1,144.53	186.33	7.143
7,987.00	5,079.47	8,334.11	5,032.67	97.02	95.69	87.98	-3,440.46	2,553.92	1,331.03	1,139.79	191.24	6.960
8,087.00	5,078.07	8,434.11	5,031.28	99.44	98.16	87.98	-3,514.01	2,621.65	1,331.21	1,135.05	196.16	6.786
8,187.00	5,076.68	8,534.11	5,029.88	101.87	100.63	87.98	-3,587.57	2,689.38	1,331.38	1,130.29	201.08	6.621
8,287.00	5,075.28	8,634.11	5,028.49	104.30	103.10	87.98	-3,661.12	2,757.12	1,331.55	1,125.53	206.02	6.463
8,387.00	5,073.88	8,734.11	5,027.09	106.74	105.57	87.98	-3,734.68	2,824.85	1,331.72	1,120.77	210.95	6.313
8,487.00	5,072.49	8,834.11	5,025.69	109.18	108.05	87.99	-3,808.24	2,892.58	1,331.89	1,115.99	215.90	6.169
8,587.00	5,071.09	8,934.11	5,024.30	111.63	110.53	87.99	-3,881.79	2,960.31	1,332.06	1,111.21	220.85	6.032
8,687.00	5,069.69	9,034.11	5,022.90	114.08	113.01	87.99	-3,955.35	3,028.04	1,332.24	1,106.43	225.81	5.900
8,787.00	5,068.30	9,134.11	5,021.51	116.54	115.50	87.99	-4,028.90	3,095.78	1,332.41	1,101.64	230.77	5.774
8,887.00	5,066.90	9,234.11	5,020.11	118.99	117.99	87.99	-4,102.46	3,163.51	1,332.58	1,096.85	235.73	5.653
8,987.00	5,065.51	9,334.11	5,018.71	121.45	120.48	87.99	-4,176.01	3,231.24	1,332.75	1,092.05	240.70	5.537
9,087.00	5,064.11	9,434.11	5,017.32	123.92	122.97	87.99	-4,249.57	3,298.97	1,332.92	1,087.25	245.68	5.426
9,187.00	5,062.71	9,534.11	5,015.92	126.39	125.46	87.99	-4,323.12	3,366.70	1,333.09	1,082.44	250.65	5.318
9,287.00	5,061.32	9,634.11	5,014.53	128.86	127.96	87.99	-4,396.68	3,434.44	1,333.27	1,077.63	255.64	5.215
9,387.00	5,059.92	9,734.11	5,013.13	131.33	130.45	87.99	-4,470.23	3,502.17	1,333.44	1,072.82	260.62	5.116
9,487.00	5,058.52	9,834.11	5,011.73	133.80	132.95	87.99	-4,543.79	3,569.90	1,333.61	1,068.00	265.61	5.021
9,587.00	5,057.13	9,934.11	5,010.34	136.28	135.45	87.99	-4,617.34	3,637.63	1,333.78	1,063.18	270.60	4.929
9,687.00	5,055.73	10,034.11	5,008.94	138.76	137.95	87.99	-4,690.90	3,705.36	1,333.95	1,058.36	275.59	4.840
9,787.00	5,054.34	10,134.11	5,007.54	141.24	140.45	87.99	-4,764.46	3,773.10	1,334.12	1,053.53	280.59	4.755
9,887.00	5,052.94	10,234.11	5,006.15	143.72	142.95	87.99	-4,838.01	3,840.83	1,334.30	1,048.71	285.59	4.672
9,987.00	5,051.54	10,334.11	5,004.75	146.21	145.46	87.99	-4,911.57	3,908.56	1,334.47	1,043.88	290.59	4.592
10,087.00	5,050.15	10,434.11	5,003.36	148.70	147.96	87.99	-4,985.12	3,976.29	1,334.64	1,039.04	295.60	4.515
10,187.00	5,048.75	10,534.11	5,001.96	151.19	150.47	87.99	-5,058.68	4,044.02	1,334.81	1,034.21	300.60	4.440
10,287.00	5,047.36	10,634.11	5,000.56	153.68	152.98	87.99	-5,132.23	4,111.76	1,334.98	1,029.37	305.61	4.368
10,387.00	5,045.96	10,734.11	4,999.17	156.17	155.49	87.99	-5,205.79	4,179.49	1,335.15	1,024.53	310.62	4.298
10,487.00	5,044.56	10,834.11	4,997.77	158.66	157.99	87.99	-5,279.34	4,247.22	1,335.33	1,019.69	315.63	4.231
10,587.00	5,043.17	10,934.11	4,996.38	161.16	160.50	87.99	-5,352.90	4,314.95	1,335.50	1,014.85	320.65	4.165

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 325H - OH - PLAN #1													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 +N-S (usft)	Offset Wellbore +E-W (usft)						
10,887.00	5,041.77	11,034.10	4,994.98	163.65	163.01	87.99	-5,426.45	4,382.68	1,335.67	1,010.01	325.66	4.101		
10,787.00	5,040.37	11,134.10	4,993.58	166.15	165.53	87.99	-5,500.01	4,450.42	1,335.84	1,005.16	330.88	4.040		
10,887.00	5,038.98	11,234.10	4,992.19	168.65	168.04	87.99	-5,573.56	4,518.15	1,336.01	1,000.31	335.70	3.980		
10,987.00	5,037.58	11,334.10	4,990.79	171.15	170.55	87.99	-5,647.12	4,585.88	1,336.18	995.46	340.72	3.922		
11,087.00	5,036.19	11,434.10	4,989.40	173.65	173.06	87.99	-5,720.67	4,653.61	1,336.36	990.61	345.74	3.865		
11,187.00	5,034.79	11,534.10	4,988.00	176.15	175.58	87.99	-5,794.23	4,721.34	1,336.53	985.76	350.77	3.810		
11,287.00	5,033.39	11,634.10	4,986.60	178.66	178.09	87.99	-5,867.79	4,789.08	1,336.70	980.91	355.79	3.757		
11,387.00	5,032.00	11,734.10	4,985.21	181.16	180.61	87.99	-5,941.34	4,856.81	1,336.87	976.05	360.82	3.705		
11,487.00	5,030.60	11,834.10	4,983.81	183.66	183.12	87.99	-6,014.90	4,924.54	1,337.04	971.20	365.84	3.655		
11,587.00	5,029.20	11,934.10	4,982.41	186.17	185.64	87.99	-6,088.45	4,992.27	1,337.22	966.34	370.87	3.606		
11,687.00	5,027.81	11,951.61	4,982.17	188.68	186.08	87.99	-6,101.33	5,004.14	1,339.93	967.40	372.52	3.597 SF		
11,787.00	5,026.41	11,951.61	4,982.17	191.18	186.08	87.99	-6,101.33	5,004.14	1,349.95	978.34	371.61	3.633		
11,887.00	5,025.02	11,951.61	4,982.17	193.69	186.08	87.99	-6,101.33	5,004.14	1,367.23	998.45	368.78	3.707		
11,987.00	5,023.62	11,951.61	4,982.17	196.20	186.08	87.99	-6,101.33	5,004.14	1,391.50	1,027.30	364.21	3.821		
12,087.00	5,022.22	11,951.61	4,982.17	198.71	186.08	87.99	-6,101.33	5,004.14	1,422.40	1,064.26	358.15	3.972		
12,187.00	5,020.83	11,951.61	4,982.17	201.22	186.08	87.99	-6,101.33	5,004.14	1,459.52	1,108.64	350.88	4.160		

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 326H - OH - PLAN #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HOGM													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Total Uncertainty Axis	Separation Factor	Warning
387.00	387.00	387.00	387.00	1.18	1.18	-55.03		17.11	-24.46	29.85	27.49	2.36	12.656	
487.00	487.00	487.00	487.00	1.54	1.54	-55.03		17.11	-24.46	29.85	26.78	3.08	9.706	
587.00	587.00	587.00	587.00	1.90	1.90	-55.03		17.11	-24.46	29.85	26.06	3.79	7.871 CC, ES	
687.00	686.99	686.99	686.99	2.25	2.25	-165.86		17.11	-24.46	31.13	26.63	4.50	6.918	
787.00	786.97	787.92	787.91	2.59	2.60	-168.11		16.20	-23.46	34.47	29.27	5.21	6.620	
887.00	886.52	889.08	888.95	2.94	2.95	-171.99		12.93	-19.84	37.89	31.96	5.94	6.383	
987.00	985.82	990.30	989.80	3.30	3.29	-177.08		7.25	-13.56	41.58	34.90	6.68	6.221	
1,087.00	1,084.66	1,091.54	1,090.33	3.68	3.65	177.04		-0.81	-4.85	45.79	38.35	7.44	6.157	
1,187.00	1,182.90	1,192.79	1,190.36	4.07	4.03	170.72		-11.25	6.89	50.79	42.60	8.19	6.198	
1,287.00	1,280.43	1,294.00	1,289.76	4.49	4.42	164.35		-24.05	21.05	56.82	47.86	8.96	6.340	
1,387.00	1,377.14	1,395.17	1,388.36	4.94	4.84	158.19		-39.19	37.79	64.05	54.29	9.75	6.568	
1,487.00	1,472.90	1,496.25	1,486.04	5.43	5.29	152.46		-56.63	57.08	72.60	62.01	10.59	6.858	
1,587.00	1,567.59	1,597.23	1,582.63	5.96	5.77	147.24		-76.36	78.90	82.53	71.05	11.49	7.186	
1,687.00	1,661.10	1,698.08	1,678.01	6.54	6.29	142.59		-98.33	103.19	93.88	81.41	12.47	7.527	
1,787.00	1,753.33	1,798.78	1,772.04	7.18	6.86	138.46		-122.50	129.92	106.64	93.07	13.56	7.863	
1,887.00	1,844.14	1,899.32	1,864.59	7.87	7.47	134.82		-148.83	159.03	120.77	106.00	14.77	8.177	
1,987.00	1,933.74	1,999.69	1,955.56	8.63	8.14	131.54		-177.27	190.48	135.82	119.72	16.10	8.434	
2,087.00	2,023.23	2,099.90	2,044.88	9.41	8.87	127.81		-207.78	224.22	150.26	132.66	17.58	8.546	
2,187.00	2,112.72	2,199.73	2,132.16	10.21	9.67	123.57		-240.23	260.11	164.35	145.14	19.21	8.557	
2,287.00	2,202.20	2,298.92	2,217.19	11.03	10.52	118.95		-274.48	297.98	178.60	157.64	20.96	8.522	
2,387.00	2,291.69	2,396.76	2,300.21	11.86	11.41	114.59		-309.21	336.38	193.66	170.91	22.76	8.509	
2,487.00	2,381.18	2,494.61	2,383.24	12.70	12.32	110.87		-343.93	374.78	209.69	185.12	24.57	8.536	
2,587.00	2,470.66	2,592.45	2,466.26	13.54	13.24	107.68		-378.66	413.18	226.46	200.09	26.37	8.588	
2,687.00	2,560.15	2,690.29	2,549.29	14.39	14.18	104.93		-413.38	451.58	243.83	215.66	28.17	8.657	
2,787.00	2,649.64	2,788.14	2,632.31	15.25	15.13	102.54		-448.11	489.98	261.67	231.72	29.95	8.737	
2,887.00	2,739.12	2,885.98	2,715.34	16.11	16.09	100.47		-482.83	528.37	279.91	248.18	31.73	8.822	
2,987.00	2,828.61	2,983.83	2,798.36	16.97	17.06	98.64		-517.56	566.77	298.46	264.96	33.50	8.910	
3,087.00	2,918.10	3,081.67	2,881.39	17.84	18.03	97.03		-552.28	605.17	317.26	282.00	35.26	8.998	
3,187.00	3,007.58	3,179.51	2,964.41	18.71	19.00	95.60		-587.00	643.57	336.29	299.27	37.02	9.085	
3,287.00	3,097.07	3,277.36	3,047.44	19.58	19.99	94.32		-621.73	681.97	355.50	316.73	38.76	9.171	
3,387.00	3,186.56	3,375.20	3,130.46	20.46	20.97	93.17		-656.45	720.37	374.86	334.35	40.51	9.253	
3,487.00	3,276.04	3,473.05	3,213.49	21.33	21.96	92.14		-691.18	758.77	394.35	352.10	42.25	9.333	
3,587.00	3,365.53	3,570.89	3,296.51	22.21	22.95	91.20		-725.90	797.17	413.95	369.97	43.99	9.410	
3,687.00	3,455.02	3,668.73	3,379.54	23.09	23.94	90.35		-760.63	835.57	433.66	387.93	45.72	9.484	
3,787.00	3,544.50	3,766.58	3,462.56	23.97	24.94	89.57		-795.35	873.97	453.44	405.99	47.46	9.555	
3,887.00	3,633.99	3,864.42	3,545.59	24.85	25.94	88.85		-830.08	912.37	473.30	424.12	49.19	9.622	
3,987.00	3,723.48	3,962.27	3,628.61	25.74	26.94	88.20		-864.80	950.76	493.23	442.31	50.92	9.687	
4,087.00	3,812.96	4,060.11	3,711.64	26.62	27.94	87.59		-899.53	989.16	513.21	460.57	52.64	9.749	
4,187.00	3,902.45	4,157.95	3,794.66	27.51	28.94	87.03		-934.25	1,027.56	533.25	478.88	54.37	9.808	
4,287.00	3,991.94	4,255.80	3,877.69	28.39	29.94	86.51		-968.98	1,065.96	553.33	497.23	56.09	9.864	
4,387.00	4,081.42	4,353.64	3,960.71	29.28	30.95	86.03		-1,003.70	1,104.36	573.45	515.63	57.82	9.918	
4,487.00	4,170.91	4,451.49	4,043.74	30.16	31.96	85.58		-1,038.43	1,142.76	593.61	534.06	59.54	9.970	
4,587.00	4,260.40	4,549.33	4,126.76	31.05	32.96	85.16		-1,073.15	1,181.16	613.80	552.53	61.26	10.019	
4,687.00	4,349.88	4,647.17	4,209.79	31.94	33.97	84.76		-1,107.88	1,219.56	634.02	571.03	62.99	10.066	
4,787.00	4,439.37	4,745.02	4,292.81	32.83	34.98	84.39		-1,142.60	1,257.96	654.26	589.56	64.71	10.111	
4,887.00	4,528.86	4,842.86	4,375.84	33.72	35.99	84.05		-1,177.33	1,296.36	674.54	608.11	66.43	10.154	
4,987.00	4,618.34	4,940.71	4,458.86	34.60	37.00	83.72		-1,212.05	1,334.75	694.83	626.68	68.15	10.196	
5,087.00	4,707.70	5,038.60	4,541.93	35.50	38.01	81.51		-1,246.79	1,373.17	714.95	645.06	69.88	10.230	
5,187.00	4,792.76	5,137.37	4,625.74	36.56	39.03	75.41		-1,281.85	1,411.94	729.38	657.43	71.94	10.138	
5,287.00	4,870.37	5,235.89	4,709.35	37.85	40.05	72.72		-1,316.81	1,450.60	735.65	661.20	74.95	9.881	
5,387.00	4,959.02	5,332.25	4,791.10	39.35	41.04	72.48		-1,351.01	1,488.42	734.33	656.97	77.35	9.493	
5,487.00	4,997.37	5,424.55	4,869.43	41.04	42.00	74.16		-1,383.77	1,524.64	726.63	646.05	80.58	9.018	

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 326H - OH - PLAN #1														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)							
5,587.00	5,044.29	5,504.91	4,937.92	42.89	42.83	77.08	-1,412.29	1,556.18	714.44	630.59	83.85	8.520			
5,687.00	5,078.86	5,571.23	4,992.20	44.87	43.58	80.38	-1,437.76	1,583.88	701.29	614.33	86.96	8.065			
5,787.00	5,100.41	5,634.86	5,041.09	46.91	44.40	84.06	-1,465.69	1,613.46	689.62	599.67	89.96	7.666			
5,887.00	5,108.52	5,700.00	5,087.22	48.97	45.35	88.15	-1,497.61	1,646.54	680.56	587.78	92.78	7.335			
5,987.00	5,107.39	5,772.57	5,133.47	51.03	46.53	92.22	-1,536.79	1,686.39	676.03	580.57	95.46	7.082			
6,013.46	5,107.02	5,793.63	5,145.81	51.58	46.89	93.29	-1,548.82	1,698.49	675.84	579.68	96.17	7.028			
6,087.00	5,106.00	5,857.15	5,179.92	53.12	48.04	96.25	-1,586.76	1,736.29	677.04	578.83	98.21	6.894			
6,187.00	5,104.60	5,955.52	5,223.06	55.26	49.98	99.99	-1,649.82	1,798.12	681.20	579.82	101.38	6.719			
6,287.00	5,103.20	6,066.72	5,256.77	57.42	52.33	102.92	-1,726.07	1,871.55	685.81	580.58	105.23	6.518			
6,387.00	5,101.81	6,187.21	5,274.37	59.61	54.98	104.51	-1,812.59	1,953.33	688.56	578.67	109.90	6.266			
6,487.00	5,100.41	6,297.77	5,274.93	61.83	57.44	104.68	-1,893.48	2,028.64	688.64	573.98	114.66	6.006			
6,587.00	5,099.01	6,397.77	5,273.54	64.08	59.69	104.69	-1,966.74	2,096.70	688.38	569.30	119.08	5.781			
6,687.00	5,097.62	6,497.77	5,272.14	66.34	61.96	104.70	-2,039.99	2,164.76	688.12	564.57	123.54	5.570			
6,787.00	5,096.22	6,597.77	5,270.75	68.63	64.25	104.70	-2,113.25	2,232.81	687.85	559.82	128.04	5.372			
6,887.00	5,094.83	6,697.77	5,269.35	70.93	66.56	104.71	-2,186.50	2,300.87	687.59	555.03	132.57	5.187			
6,987.00	5,093.43	6,797.77	5,267.95	73.24	68.89	104.71	-2,259.75	2,368.93	687.33	550.21	137.12	5.013			
7,087.00	5,092.03	6,897.77	5,266.56	75.57	71.23	104.72	-2,333.01	2,436.98	687.07	545.37	141.70	4.849			
7,187.00	5,090.64	6,997.77	5,265.16	77.92	73.58	104.72	-2,406.26	2,505.04	686.81	540.51	146.30	4.694			
7,287.00	5,089.24	7,097.77	5,263.76	80.27	75.94	104.73	-2,479.52	2,573.10	686.54	535.62	150.92	4.549			
7,387.00	5,087.85	7,197.77	5,262.37	82.64	78.32	104.74	-2,552.77	2,641.16	686.28	530.72	155.56	4.412			
7,487.00	5,086.45	7,297.77	5,260.97	85.02	80.71	104.74	-2,626.03	2,709.21	686.02	525.80	160.22	4.282			
7,587.00	5,085.05	7,397.77	5,259.57	87.40	83.10	104.75	-2,699.28	2,777.27	685.76	520.87	164.89	4.159			
7,687.00	5,083.66	7,497.77	5,258.18	89.80	85.51	104.75	-2,772.54	2,845.33	685.50	515.92	169.58	4.042			
7,787.00	5,082.26	7,597.77	5,256.78	92.20	87.92	104.76	-2,845.79	2,913.38	685.24	510.95	174.28	3.932			
7,887.00	5,080.86	7,697.77	5,255.39	94.61	90.34	104.76	-2,919.05	2,981.44	684.97	505.98	178.99	3.827			
7,987.00	5,079.47	7,797.77	5,253.99	97.02	92.76	104.77	-2,992.30	3,049.50	684.71	501.00	183.72	3.727			
8,087.00	5,078.07	7,897.77	5,252.59	99.44	95.19	104.78	-3,065.56	3,117.55	684.45	496.00	188.45	3.632			
8,187.00	5,076.68	7,997.77	5,251.20	101.87	97.63	104.78	-3,138.81	3,185.61	684.19	491.00	193.19	3.542			
8,287.00	5,075.28	8,097.76	5,249.80	104.30	100.07	104.79	-3,212.07	3,253.67	683.93	485.98	197.94	3.455			
8,387.00	5,073.88	8,197.76	5,248.40	106.74	102.52	104.79	-3,285.32	3,321.72	683.66	480.96	202.70	3.373			
8,487.00	5,072.49	8,297.76	5,247.01	109.18	104.97	104.80	-3,358.57	3,389.78	683.40	475.93	207.47	3.294			
8,587.00	5,071.09	8,397.76	5,245.61	111.63	107.43	104.80	-3,431.83	3,457.84	683.14	470.90	212.24	3.219			
8,687.00	5,069.69	8,497.76	5,244.21	114.08	109.89	104.81	-3,505.08	3,525.89	682.88	465.86	217.02	3.147			
8,787.00	5,068.30	8,597.76	5,242.82	116.54	112.35	104.82	-3,578.34	3,593.95	682.62	460.81	221.81	3.077			
8,887.00	5,066.90	8,697.76	5,241.42	118.99	114.82	104.82	-3,651.59	3,662.01	682.35	455.75	226.60	3.011			
8,987.00	5,065.51	8,797.76	5,240.02	121.45	117.28	104.83	-3,724.85	3,730.06	682.09	450.69	231.40	2.948			
9,087.00	5,064.11	8,897.76	5,238.63	123.92	119.76	104.83	-3,798.10	3,798.12	681.83	445.63	236.20	2.887			
9,187.00	5,062.71	8,997.76	5,237.23	126.39	122.23	104.84	-3,871.36	3,866.18	681.57	440.56	241.01	2.828			
9,287.00	5,061.32	9,097.76	5,235.84	128.86	124.71	104.85	-3,944.61	3,934.24	681.31	435.49	245.82	2.772			
9,387.00	5,059.92	9,197.76	5,234.44	131.33	127.19	104.85	-4,017.87	4,002.29	681.05	430.41	250.63	2.717			
9,487.00	5,058.52	9,297.76	5,233.04	133.80	129.67	104.86	-4,091.12	4,070.35	680.78	425.33	255.45	2.665			
9,587.00	5,057.13	9,397.76	5,231.65	136.28	132.16	104.86	-4,164.38	4,138.41	680.52	420.25	260.28	2.615			
9,687.00	5,055.73	9,497.76	5,230.25	138.76	134.65	104.87	-4,237.63	4,206.46	680.26	415.16	265.10	2.566			
9,787.00	5,054.34	9,597.76	5,228.85	141.24	137.14	104.87	-4,310.88	4,274.52	680.00	410.07	269.93	2.519			
9,887.00	5,052.94	9,697.76	5,227.46	143.72	139.63	104.88	-4,384.14	4,342.58	679.74	404.97	274.78	2.474			
9,987.00	5,051.54	9,797.76	5,226.06	146.21	142.12	104.89	-4,457.39	4,410.63	679.47	399.88	279.60	2.430			
10,087.00	5,050.15	9,897.76	5,224.66	148.70	144.61	104.89	-4,530.65	4,478.69	679.21	394.78	284.44	2.388			
10,187.00	5,048.75	9,997.76	5,223.27	151.19	147.11	104.90	-4,603.90	4,546.75	678.95	389.67	289.28	2.347			
10,287.00	5,047.36	10,097.76	5,221.87	153.68	149.61	104.90	-4,677.16	4,614.80	678.69	384.57	294.12	2.308			
10,387.00	5,045.96	10,197.76	5,220.48	156.17	152.11	104.91	-4,750.41	4,682.86	678.43	379.46	298.97	2.269			
10,487.00	5,044.56	10,297.76	5,219.08	158.66	154.61	104.92	-4,823.67	4,750.92	678.17	374.35	303.81	2.232			
10,587.00	5,043.17	10,397.76	5,217.68	161.16	157.11	104.92	-4,896.92	4,818.97	677.90	369.24	308.66	2.196			

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Offset Design S33-T24N-R9W - NAGEEZI UNIT 326H - OH - PLAN #1													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)	Between Centres (usft)	Between Ellipses (usft)					
10,687.00	5,041.77	10,497.76	5,216.29	163.65	159.61	104.93	-4,970.18	4,887.03	677.64	364.13	313.51	2.161		
10,767.00	5,040.37	10,597.76	5,214.89	166.15	162.12	104.93	-5,043.43	4,955.09	677.38	359.01	318.37	2.128		
10,887.00	5,038.98	10,697.76	5,213.49	168.65	164.62	104.94	-5,116.69	5,023.14	677.12	353.90	323.22	2.095		
10,967.00	5,037.58	10,797.75	5,212.10	171.15	167.13	104.95	-5,189.94	5,091.20	676.86	348.78	328.08	2.063		
11,067.00	5,036.19	10,897.75	5,210.70	173.65	169.64	104.95	-5,263.20	5,159.26	676.60	343.66	332.94	2.032		
11,167.00	5,034.79	10,997.75	5,209.30	176.15	172.14	104.96	-5,336.45	5,227.32	676.33	338.54	337.79	2.002		
11,267.00	5,033.39	11,097.75	5,207.91	178.66	174.65	104.96	-5,409.70	5,295.37	676.07	333.42	342.66	1.973		
11,367.00	5,032.00	11,197.75	5,206.51	181.16	177.16	104.97	-5,482.96	5,363.43	675.81	328.29	347.52	1.945		
11,467.00	5,030.60	11,297.75	5,205.12	183.66	179.68	104.97	-5,556.21	5,431.49	675.55	323.17	352.38	1.917		
11,567.00	5,029.20	11,397.75	5,203.72	186.17	182.19	104.98	-5,629.47	5,499.54	675.29	318.04	357.25	1.890		
11,667.00	5,027.81	11,497.75	5,202.32	188.68	184.70	104.99	-5,702.72	5,567.60	675.02	312.91	362.11	1.864		
11,767.00	5,026.41	11,597.75	5,200.93	191.18	187.21	104.99	-5,775.98	5,635.66	674.76	307.78	366.98	1.839		
11,867.00	5,025.02	11,697.75	5,199.53	193.69	189.73	105.00	-5,849.23	5,703.71	674.50	302.65	371.85	1.814		
11,967.00	5,023.62	11,797.75	5,198.13	196.20	192.24	105.00	-5,922.49	5,771.77	674.24	297.52	376.72	1.790		
12,067.00	5,022.22	11,897.75	5,196.74	198.71	194.76	105.01	-5,995.74	5,839.83	673.98	292.39	381.59	1.766		
12,167.00	5,020.83	11,997.75	5,195.34	201.22	197.28	105.02	-6,069.00	5,907.88	673.72	287.26	386.46	1.743		
12,270.42	5,019.66	12,079.41	5,194.20	203.32	199.33	105.02	-6,128.82	5,963.46	673.50	283.06	390.44	1.725 SF		
12,287.00	5,019.43	12,079.41	5,194.20	203.73	199.33	105.02	-6,128.82	5,963.46	673.70	283.36	390.26	1.726		
12,387.00	5,018.04	12,079.41	5,194.20	206.24	199.33	105.02	-6,128.82	5,963.46	683.52	298.54	384.98	1.775		
12,487.00	5,016.64	12,079.41	5,194.20	208.76	199.33	105.02	-6,128.82	5,963.46	707.47	335.15	372.32	1.900		

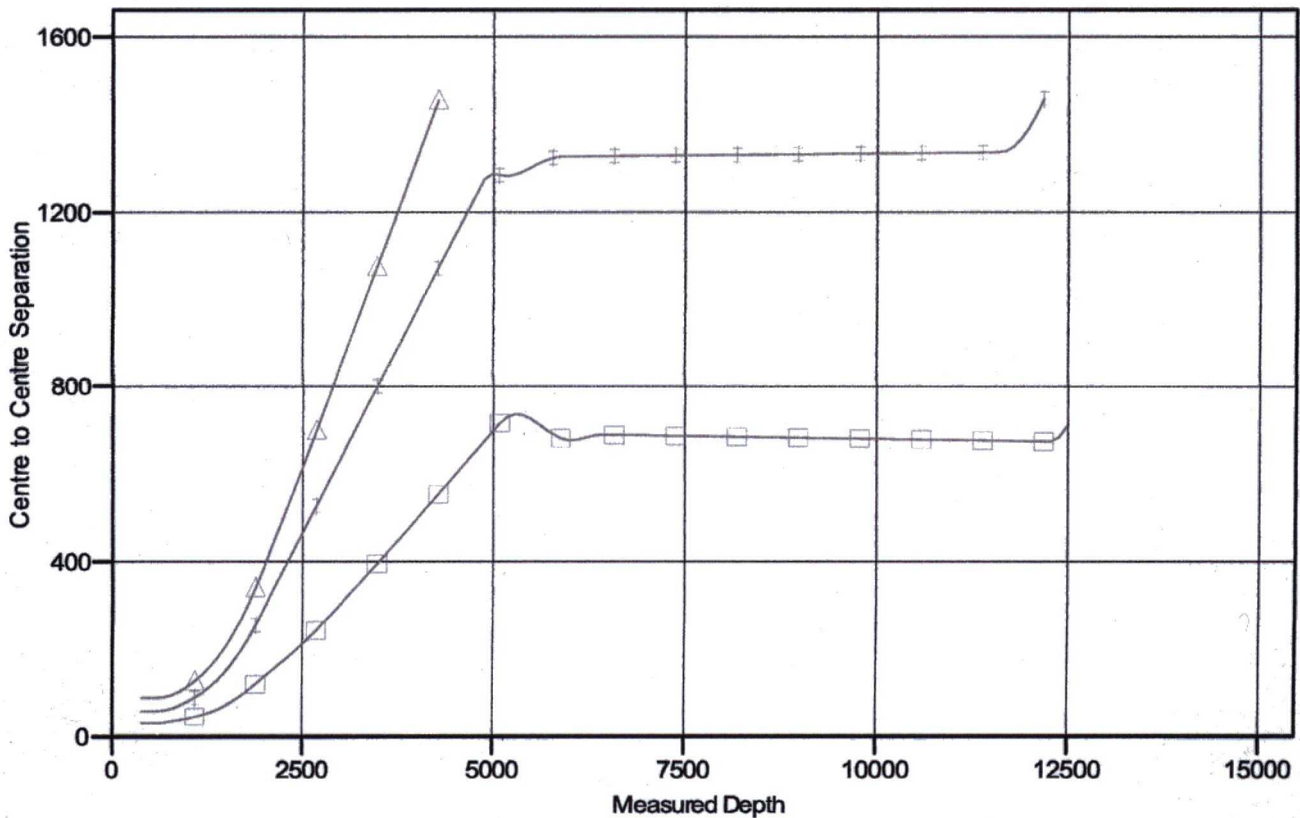
Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

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

Coordinates are relative to: NAGEEZI UNIT 327H
 Coordinate System is US State Plane 1983, New Mexico Western Zone
 Grid Convergence at Surface is: 0.02°

Ladder Plot



LEGEND

▲ NAGEEZI UNIT 324H, OH, PLAN #1 V0
 ◆ NAGEEZI UNIT 325H, OH, PLAN #1 V0
 ◻ NAGEEZI UNIT 326H, OH, PLAN #1 V0



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	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	
3	1925.44	26.51	110.21	1878.65	-104.06	282.64	2.00	110.21	268.24	
4	5064.94	26.51	110.21	4688.09	-588.18	1597.62	0.00	0.00	1516.24	
5	5906.91	90.80	137.26	5108.54	-1012.27	2121.38	8.00	29.52	2183.18	NAGEEZI UNIT 327H POE
6	12494.10	90.80	137.26	5016.54	-5849.84	6591.34	0.00	0.00	8769.72	NAGEEZI UNIT 327H PBHL

Project: San Juan County, NM
Site: S33-T24N-R9W
Well: NAGEEZI UNIT 327H
Wellbore: OH
Design: PLAN #1

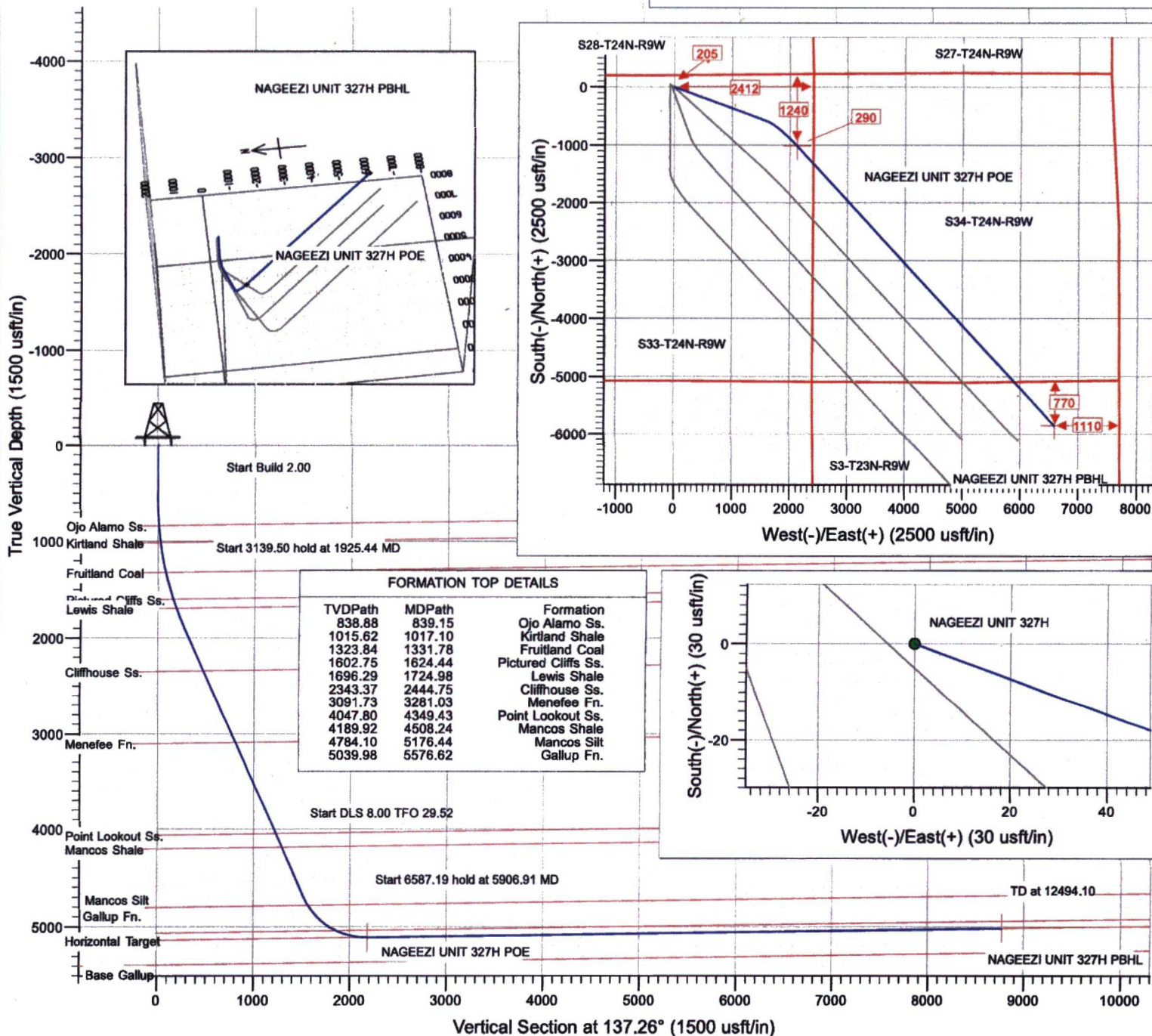


Azimuths to True North
Magnetic North: 9.13°

Magnetic Field
Strength: 49822.2aT
Dip Angle: 62.92°
Date: 5/23/2016
Model: HDGM

PLAN #1
NAGEEZI UNIT 327H
50000 LIP
10' KB @ 9970.25usf
Ground Level @ 6954.00
North American Datum 1983
Well NAGEEZI UNIT 327H, True North

Type	Target	No Target (Freehand)	Azimuth	Origin	Type	N/S	E/W	From TVD
Name			TVD	+N/-S	+E/-W	Latitude	Longitude	
NAGEEZI UNIT 327H PBHL			4882.17	-8101.33	8504.14	36.260937	-107.775662	
NAGEEZI UNIT 327H POE			5016.54	-5849.84	6591.34	36.261127	-107.771176	
NAGEEZI UNIT 327H POE			5070.45	-1480.28	721.29	36.273218	-107.791088	
NAGEEZI UNIT 327H POE			5108.51	-1012.27	2121.38	36.274418	-107.786339	



WELL DETAILS: NAGEEZI UNIT 327H

+N/-S	+E/-W	Northing	Ground Level:	6954.00	Latitude	Longitude
0.00	0.00	1920202.00	Easting	2734821.88	36.277199	-107.793536



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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

Site		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 327H					
Well Position	+N/-S	0.00 usft	Northing:	1,920,202.00 usft	Latitude:	36.277199
	+E/-W	0.00 usft	Easting:	2,734,821.88 usft	Longitude:	-107.793536
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	5/23/2016	9.13	62.92	49,822

Design	PLAN #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	137.26

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	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,925.44	26.51	110.21	1,878.65	-104.06	282.64	2.00	2.00	0.00	110.21	
5,064.94	26.51	110.21	4,688.09	-588.18	1,597.62	0.00	0.00	0.00	0.00	
5,906.91	90.80	137.26	5,108.51	-1,012.27	2,121.38	8.00	7.64	3.21	29.52	NAGEEZI UNIT 327H
12,494.10	90.80	137.26	5,016.54	-5,849.84	6,591.34	0.00	0.00	0.00	0.00	NAGEEZI UNIT 327H

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
700.00	2.00	110.21	699.98	-0.60	1.64	1.55	2.00	2.00	
800.00	4.00	110.21	799.84	-2.41	6.55	6.22	2.00	2.00	
839.15	4.78	110.21	838.88	-3.45	9.36	8.89	2.00	2.00	Ojo Alamo Ss.
900.00	6.00	110.21	899.45	-5.42	14.73	13.98	2.00	2.00	
1,000.00	8.00	110.21	998.70	-9.63	26.16	24.83	2.00	2.00	
1,017.10	8.34	110.21	1,015.62	-10.47	28.44	26.99	2.00	2.00	Kirtland Shale
1,100.00	10.00	110.21	1,097.47	-15.04	40.84	38.76	2.00	2.00	
1,200.00	12.00	110.21	1,195.62	-21.63	58.75	55.76	2.00	2.00	
1,300.00	14.00	110.21	1,293.06	-29.40	79.86	75.79	2.00	2.00	
1,331.78	14.64	110.21	1,323.84	-32.11	87.23	82.79	2.00	2.00	Fruitland Coal
1,400.00	16.00	110.21	1,389.64	-38.34	104.14	98.84	2.00	2.00	
1,500.00	18.00	110.21	1,485.27	-48.44	131.58	124.88	2.00	2.00	
1,600.00	20.00	110.21	1,579.82	-59.69	162.13	153.87	2.00	2.00	
1,624.44	20.49	110.21	1,602.75	-62.61	170.07	161.40	2.00	2.00	Pictured Cliffs Ss.
1,700.00	22.00	110.21	1,673.17	-72.07	195.76	185.79	2.00	2.00	
1,724.98	22.50	110.21	1,696.29	-75.34	204.63	194.21	2.00	2.00	Lewis Shale
1,800.00	24.00	110.21	1,765.21	-85.57	232.42	220.58	2.00	2.00	
1,900.00	26.00	110.21	1,855.84	-100.17	272.08	258.22	2.00	2.00	
1,925.44	26.51	110.21	1,878.65	-104.06	282.64	268.24	2.00	2.00	Start 3139.50 hold at 1925.44 MD
2,000.00	26.51	110.21	1,945.38	-115.55	313.87	297.88	0.00	0.00	
2,100.00	26.51	110.21	2,034.86	-130.98	355.76	337.63	0.00	0.00	
2,200.00	26.51	110.21	2,124.35	-146.40	397.64	377.39	0.00	0.00	
2,300.00	26.51	110.21	2,213.84	-161.82	439.53	417.14	0.00	0.00	
2,400.00	26.51	110.21	2,303.32	-177.24	481.41	456.89	0.00	0.00	
2,444.75	26.51	110.21	2,343.37	-184.14	500.15	474.68	0.00	0.00	Cliffhouse Ss.
2,500.00	26.51	110.21	2,392.81	-192.66	523.30	496.64	0.00	0.00	
2,600.00	26.51	110.21	2,482.30	-208.08	565.18	536.39	0.00	0.00	
2,700.00	26.51	110.21	2,571.78	-223.50	607.07	576.14	0.00	0.00	
2,800.00	26.51	110.21	2,661.27	-238.92	648.95	615.90	0.00	0.00	
2,900.00	26.51	110.21	2,750.76	-254.34	690.83	655.65	0.00	0.00	
3,000.00	26.51	110.21	2,840.24	-269.76	732.72	695.40	0.00	0.00	
3,100.00	26.51	110.21	2,929.73	-285.18	774.60	735.15	0.00	0.00	
3,200.00	26.51	110.21	3,019.22	-300.60	816.49	774.90	0.00	0.00	
3,281.03	26.51	110.21	3,091.73	-313.10	850.43	807.11	0.00	0.00	Menefee Fn.
3,300.00	26.51	110.21	3,108.70	-316.02	858.37	814.65	0.00	0.00	
3,400.00	26.51	110.21	3,198.19	-331.44	900.26	854.41	0.00	0.00	
3,500.00	26.51	110.21	3,287.68	-346.86	942.14	894.16	0.00	0.00	
3,600.00	26.51	110.21	3,377.16	-362.28	984.03	933.91	0.00	0.00	
3,700.00	26.51	110.21	3,466.65	-377.70	1,025.91	973.66	0.00	0.00	
3,800.00	26.51	110.21	3,556.14	-393.12	1,067.80	1,013.41	0.00	0.00	
3,900.00	26.51	110.21	3,645.62	-408.54	1,109.68	1,053.16	0.00	0.00	
4,000.00	26.51	110.21	3,735.11	-423.96	1,151.57	1,092.91	0.00	0.00	
4,100.00	26.51	110.21	3,824.60	-439.38	1,193.45	1,132.67	0.00	0.00	
4,200.00	26.51	110.21	3,914.08	-454.80	1,235.34	1,172.42	0.00	0.00	
4,300.00	26.51	110.21	4,003.57	-470.22	1,277.22	1,212.17	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
4,349.43	26.51	110.21	4,047.80	-477.85	1,297.93	1,231.82	0.00	0.00	Point Lookout Ss.
4,400.00	26.51	110.21	4,093.06	-485.64	1,319.11	1,251.92	0.00	0.00	
4,500.00	26.51	110.21	4,182.54	-501.07	1,360.99	1,291.67	0.00	0.00	
4,508.24	26.51	110.21	4,189.92	-502.34	1,364.45	1,294.95	0.00	0.00	Mancos Shale
4,600.00	26.51	110.21	4,272.03	-516.49	1,402.88	1,331.42	0.00	0.00	
4,700.00	26.51	110.21	4,361.52	-531.91	1,444.76	1,371.18	0.00	0.00	
4,800.00	26.51	110.21	4,451.00	-547.33	1,486.65	1,410.93	0.00	0.00	
4,900.00	26.51	110.21	4,540.49	-562.75	1,528.53	1,450.68	0.00	0.00	
5,000.00	26.51	110.21	4,629.98	-578.17	1,570.42	1,490.43	0.00	0.00	
5,064.94	26.51	110.21	4,688.09	-588.18	1,597.62	1,516.24	0.00	0.00	Start DLS 8.00 TFO 29.52
5,100.00	28.98	113.06	4,719.12	-594.21	1,612.78	1,530.96	8.00	7.05	
5,176.44	34.53	117.96	4,784.10	-611.64	1,648.99	1,568.34	8.00	7.26	Mancos Silt
5,200.00	36.27	119.19	4,803.30	-618.17	1,660.97	1,581.27	8.00	7.40	
5,300.00	43.79	123.48	4,879.83	-651.74	1,715.75	1,643.10	8.00	7.51	Gallup Fn.
5,400.00	51.42	126.72	4,947.21	-694.27	1,776.03	1,715.25	8.00	7.64	
5,500.00	59.13	129.34	5,004.14	-744.93	1,840.66	1,796.32	8.00	7.71	
5,576.62	65.07	131.07	5,039.98	-788.64	1,892.34	1,863.49	8.00	7.75	
5,600.00	66.88	131.56	5,049.50	-802.74	1,908.38	1,884.72	8.00	7.76	
5,700.00	74.66	133.54	5,082.41	-866.56	1,977.85	1,978.75	8.00	7.78	
5,800.00	82.46	135.37	5,102.23	-935.16	2,047.74	2,076.57	8.00	7.80	
5,900.00	90.26	137.14	5,108.57	-1,007.20	2,116.69	2,176.27	8.00	7.80	
5,906.91	90.80	137.26	5,108.51	-1,012.27	2,121.38	2,183.18	8.00	7.80	
6,000.00	90.80	137.26	5,107.21	-1,080.64	2,184.55	2,276.26	0.00	0.00	
6,100.00	90.80	137.26	5,105.81	-1,154.08	2,252.41	2,376.25	0.00	0.00	
6,200.00	90.80	137.26	5,104.42	-1,227.52	2,320.27	2,476.24	0.00	0.00	
6,300.00	90.80	137.26	5,103.02	-1,300.96	2,388.13	2,576.23	0.00	0.00	
6,400.00	90.80	137.26	5,101.63	-1,374.39	2,455.99	2,676.22	0.00	0.00	
6,500.00	90.80	137.26	5,100.23	-1,447.83	2,523.84	2,776.21	0.00	0.00	
6,600.00	90.80	137.26	5,098.83	-1,521.27	2,591.70	2,876.20	0.00	0.00	
6,700.00	90.80	137.26	5,097.44	-1,594.71	2,659.56	2,976.19	0.00	0.00	
6,800.00	90.80	137.26	5,096.04	-1,668.15	2,727.42	3,076.18	0.00	0.00	
6,900.00	90.80	137.26	5,094.64	-1,741.59	2,795.28	3,176.17	0.00	0.00	
7,000.00	90.80	137.26	5,093.25	-1,815.03	2,863.14	3,276.16	0.00	0.00	
7,100.00	90.80	137.26	5,091.85	-1,888.47	2,931.00	3,376.15	0.00	0.00	
7,200.00	90.80	137.26	5,090.46	-1,961.91	2,998.85	3,476.14	0.00	0.00	
7,300.00	90.80	137.26	5,089.06	-2,035.35	3,066.71	3,576.13	0.00	0.00	
7,400.00	90.80	137.26	5,087.66	-2,108.78	3,134.57	3,676.12	0.00	0.00	
7,500.00	90.80	137.26	5,086.27	-2,182.22	3,202.43	3,776.12	0.00	0.00	
7,600.00	90.80	137.26	5,084.87	-2,255.66	3,270.29	3,876.11	0.00	0.00	
7,700.00	90.80	137.26	5,083.47	-2,329.10	3,338.15	3,976.10	0.00	0.00	
7,800.00	90.80	137.26	5,082.08	-2,402.54	3,406.00	4,076.09	0.00	0.00	
7,900.00	90.80	137.26	5,080.68	-2,475.98	3,473.86	4,176.08	0.00	0.00	
8,000.00	90.80	137.26	5,079.29	-2,549.42	3,541.72	4,276.07	0.00	0.00	
8,100.00	90.80	137.26	5,077.89	-2,622.86	3,609.58	4,376.06	0.00	0.00	
8,200.00	90.80	137.26	5,076.49	-2,696.30	3,677.44	4,476.05	0.00	0.00	
8,300.00	90.80	137.26	5,075.10	-2,769.74	3,745.30	4,576.04	0.00	0.00	
8,400.00	90.80	137.26	5,073.70	-2,843.17	3,813.16	4,676.03	0.00	0.00	
8,500.00	90.80	137.26	5,072.31	-2,916.61	3,881.01	4,776.02	0.00	0.00	
8,600.00	90.80	137.26	5,070.91	-2,990.05	3,948.87	4,876.01	0.00	0.00	
8,700.00	90.80	137.26	5,069.51	-3,063.49	4,016.73	4,976.00	0.00	0.00	
8,800.00	90.80	137.26	5,068.12	-3,136.93	4,084.59	5,075.99	0.00	0.00	
8,900.00	90.80	137.26	5,066.72	-3,210.37	4,152.45	5,175.98	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
9,000.00	90.80	137.26	5,065.32	-3,283.81	4,220.31	5,275.97	0.00	0.00	
9,100.00	90.80	137.26	5,063.93	-3,357.25	4,288.16	5,375.96	0.00	0.00	
9,200.00	90.80	137.26	5,062.53	-3,430.69	4,356.02	5,475.95	0.00	0.00	
9,300.00	90.80	137.26	5,061.14	-3,504.12	4,423.88	5,575.94	0.00	0.00	
9,400.00	90.80	137.26	5,059.74	-3,577.56	4,491.74	5,675.93	0.00	0.00	
9,500.00	90.80	137.26	5,058.34	-3,651.00	4,559.60	5,775.92	0.00	0.00	
9,600.00	90.80	137.26	5,056.95	-3,724.44	4,627.46	5,875.91	0.00	0.00	
9,700.00	90.80	137.26	5,055.55	-3,797.88	4,695.31	5,975.90	0.00	0.00	
9,800.00	90.80	137.26	5,054.15	-3,871.32	4,763.17	6,075.89	0.00	0.00	
9,900.00	90.80	137.26	5,052.76	-3,944.76	4,831.03	6,175.88	0.00	0.00	
10,000.00	90.80	137.26	5,051.36	-4,018.20	4,898.89	6,275.87	0.00	0.00	
10,100.00	90.80	137.26	5,049.97	-4,091.64	4,966.75	6,375.86	0.00	0.00	
10,200.00	90.80	137.26	5,048.57	-4,165.08	5,034.61	6,475.85	0.00	0.00	
10,300.00	90.80	137.26	5,047.17	-4,238.51	5,102.47	6,575.84	0.00	0.00	
10,400.00	90.80	137.26	5,045.78	-4,311.95	5,170.32	6,675.83	0.00	0.00	
10,500.00	90.80	137.26	5,044.38	-4,385.39	5,238.18	6,775.82	0.00	0.00	
10,600.00	90.80	137.26	5,042.99	-4,458.83	5,306.04	6,875.81	0.00	0.00	
10,700.00	90.80	137.26	5,041.59	-4,532.27	5,373.90	6,975.80	0.00	0.00	
10,800.00	90.80	137.26	5,040.19	-4,605.71	5,441.76	7,075.79	0.00	0.00	
10,900.00	90.80	137.26	5,038.80	-4,679.15	5,509.62	7,175.78	0.00	0.00	
11,000.00	90.80	137.26	5,037.40	-4,752.59	5,577.47	7,275.77	0.00	0.00	
11,100.00	90.80	137.26	5,036.00	-4,826.03	5,645.33	7,375.76	0.00	0.00	
11,200.00	90.80	137.26	5,034.61	-4,899.47	5,713.19	7,475.75	0.00	0.00	
11,300.00	90.80	137.26	5,033.21	-4,972.90	5,781.05	7,575.74	0.00	0.00	
11,400.00	90.80	137.26	5,031.82	-5,046.34	5,848.91	7,675.73	0.00	0.00	
11,500.00	90.80	137.26	5,030.42	-5,119.78	5,916.77	7,775.73	0.00	0.00	
11,600.00	90.80	137.26	5,029.02	-5,193.22	5,984.63	7,875.72	0.00	0.00	
11,700.00	90.80	137.26	5,027.63	-5,266.66	6,052.48	7,975.71	0.00	0.00	
11,800.00	90.80	137.26	5,026.23	-5,340.10	6,120.34	8,075.70	0.00	0.00	
11,900.00	90.80	137.26	5,024.83	-5,413.54	6,188.20	8,175.69	0.00	0.00	
12,000.00	90.80	137.26	5,023.44	-5,486.98	6,256.06	8,275.68	0.00	0.00	
12,100.00	90.80	137.26	5,022.04	-5,560.42	6,323.92	8,375.67	0.00	0.00	
12,200.00	90.80	137.26	5,020.65	-5,633.86	6,391.78	8,475.66	0.00	0.00	
12,300.00	90.80	137.26	5,019.25	-5,707.29	6,459.63	8,575.65	0.00	0.00	
12,400.00	90.80	137.26	5,017.85	-5,780.73	6,527.49	8,675.64	0.00	0.00	
12,494.10	90.80	137.26	5,016.54	-5,849.84	6,591.34	8,769.72	0.00	0.00	TD at 12494.10

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NAGEEZI UNIT 327H
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 327H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Targets									
Target Name	- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	
- Shape		(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude Longitude
NAGEEZI UNIT 325H PI		0.00	0.00	5,070.45	-1,450.26	721.29	1,918,752.04	2,735,543.77	36.273215 -107.791089
- plan misses target center by 1282.92usft at 5171.62usft MD (4780.13 TVD, -610.37 N, 1646.59 E)									
- Point									
NAGEEZI UNIT 325H PI		0.00	0.00	4,982.17	-6,101.33	5,004.14	1,914,102.73	2,739,828.53	36.260437 -107.776562
- plan misses target center by 1337.24usft at 11602.22usft MD (5028.99 TVD, -5194.85 N, 5986.13 E)									
- Point									
NAGEEZI UNIT 327H PI		0.00	0.00	5,108.51	-1,012.27	2,121.38	1,919,190.60	2,736,943.68	36.274418 -107.786339
- plan hits target center									
- Point									
NAGEEZI UNIT 327H PI		0.00	0.00	5,016.54	-5,849.84	6,591.34	1,914,354.88	2,741,415.63	36.261127 -107.771178
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
839.15	839.00	Ojo Alamo Ss.		-0.80	137.26	
1,017.10	1,016.00	Kirtland Shale		-0.80	137.26	
1,331.78	1,325.00	Fruitland Coal		-0.80	137.26	
1,624.44	1,605.00	Pictured Cliffs Ss.		-0.80	137.26	
1,724.98	1,699.00	Lewis Shale		-0.80	137.26	
2,444.75	2,350.00	Cliffhouse Ss.		-0.80	137.26	
3,281.03	3,103.00	Menefee Fn.		-0.80	137.26	
4,349.43	4,065.00	Point Lookout Ss.		-0.80	137.26	
4,508.24	4,208.00	Mancos Shale		-0.80	137.26	
5,176.44	4,806.00	Mancos Silt		-0.80	137.26	
5,576.62	5,066.00	Gallup Fn.		-0.80	137.26	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
600.00	600.00	0.00	0.00	Start Build 2.00	
1,925.44	1,878.65	-104.06	282.64	Start 3139.50 hold at 1925.44 MD	
5,064.94	4,688.09	-588.18	1,597.62	Start DLS 8.00 TFO 29.52	
5,906.91	5,108.51	-1,012.27	2,121.38	Start 6587.19 hold at 5906.91 MD	
12,494.10	5,016.54	-5,849.84	6,591.34	TD at 12494.10	

Nageezi Unit 327H

**SHL: NWNE Section 33, T24N, R9W
205 FNL and 2412 FEL**

**BHL: NENE Section 3, T23N, R9W
770 FNL and 1110 FEL**

San Juan County, New Mexico

Unit Number: NMNM 132981A

Lease Numbers: NMNM 12374, BIA NO-G-1403-1916, BIA NO-G-1403-1918; NM 8005

Any trees smaller than 3-inches in diameter, slash and brush will be chipped, shredded or mulched and incorporated into the topsoil for later use in interim reclamation.

Remaining brush will be brush-hogged or scalped at ground-level prior to ground disturbance.

4. After removal of vegetation, topsoil will be segregated and windrowed on the edge of the access road. Topsoil will be defined as the top six (6) inches of soil. The stockpiled topsoil will be free of brush and tree limbs, trunks and root balls, but may include chipped or mulched material so long as it is incorporated into the topsoil stockpile.

Topsoil will not be stripped when soils are moisture-saturated or frozen below the stripping depth.

5. All construction materials for the pipeline will consist of native borrow and subsoil accumulated during pipeline construction. If additional fill or surfacing material is required, it will be obtained from existing permitted or private sources and will be hauled in by trucks over existing access roads.
6. Construction equipment may include chain saws, a brush hog, scraper, maintainer, excavator, dozer, backhoe, hydrovac, welder, trencher, side-boom, and misc. specialty equipment. Construction of the pipeline will take approximately 2-4 weeks.

7. METHODS FOR HANDLING WASTE

A. Cuttings

- ✓ 1. A closed-loop system will be used. Cuttings will be moved through a shaker system on the drill rig that separates drilling fluids from the cuttings. Cuttings will be stored onsite in above-ground storage tanks. Cuttings will be pulled from the storage tanks, mixed with saw dust or similar absorbent material, and disposed of at the Envirotech, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.
2. The closed-loop system storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.
3. A 20-mil liner will be installed under tanks, pumps, ancillary facilities, and truck loading/unloading areas associated with the closed-loop system.

B. Drilling Fluids

1. A closed-loop system will be used. Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. Residual fluids will be vacuumed from the storage tanks and disposed of at Basin Disposal, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.
2. The closed-loop system storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.
3. The closed-loop system storage tanks will be placed in bermed secondary containment sized to accommodate a minimum of 110 percent of the volume of the largest storage tank.
4. A 20-mil liner will be installed under tanks, pumps, ancillary facilities, and truck loading/unloading areas associated with the closed-loop system.

encana

Well Name and Number:

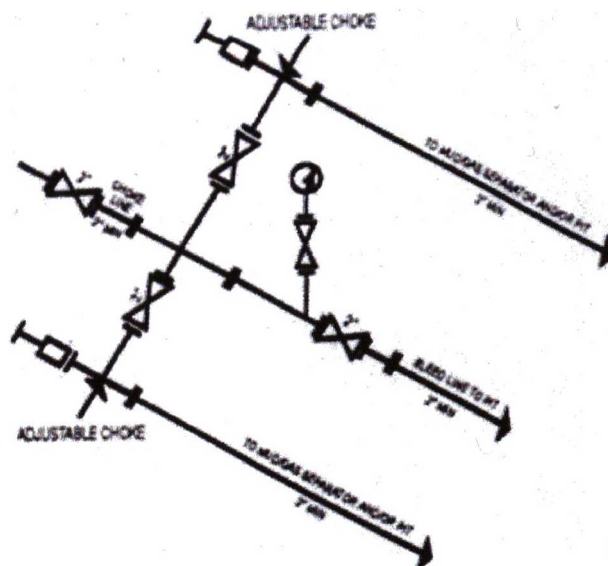
Nageezi Unit 327H



11" 3K Annular

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

3K Mud Cross 3" gate valves



ENCANA OIL & GAS (USA) INC.

NAGEEZI UNIT #327H

LOCATED IN THE NW/4 NE/4 OF SECTION 33,
T24N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM THE INTERSECTION OF HWY 64 & HWY 550 IN BLOOMFIELD, GO SOUTH ON HWY 550, 32.0 MILES TO MP 119.6.
- 2) TURN RIGHT AND GO 2.8 MILES TO WHERE ACCESS IS STAKED ON RIGHT SIDE OF ROAD.

WELL FLAG LOCATED AT LAT. 36.277199° N, LONG. 107.793536° W (NAD 83).



JOB No.: NAGEEZI UNIT #327H_REV2
DATE: 05/05/16
DRAWN BY: GRR

CCI

CHENAULT CONSULTING INC.

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