

RECEIVED

JUL 12 2017

Form 3160-5
(March 2012)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.Farmington Field Office
of Land Management5. Lease Serial No.
NMNM 80056. If Indian, Allottee or Tribe Name
N/A

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

OIL CONS. DIV DIST. 3

2. Name of Operator
Encana Oil & Gas (USA) Inc.

JUL 17 2017

3a. Address
370 17th Street, Suite 1700 Denver, CO 802023b. Phone No. (include area code)
720-876-53317. If Unit of CA/Agreement, Name and/or No.
NMNM 132981A8. Well Name and No.
Nageezi Unit 405H9. API Well No.
30-045-358414. Location of Well (Footage, Sec., T.R.M., or Survey Description)
SHL: 1985' FSL and 1738' FWL Section 3, T23N, R9W
BHL: 2050' FSL and 850' FWL Section 33, T24N, R9W10. Field and Pool or Exploratory Area
Nageezi Unit; Mancos (OIL)11. County or Parish, State
San Juan County, NM

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

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

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

Encana Oil & Gas (USA) Inc. (Encana) wishes to plug back and sidetrack the Nageezi Unit 405H well due to the drill string getting stuck in the hole due to downhole instability. The BHA became stuck at 2,375', and Encana was unable to fish it out. Therefore, Encana proposes to do the following:

1. Back off fish at ~2222' MD
2. Lay down fishing BHA
3. RIH to 2200' MD
4. Spot 850' Balanced Cement Plug
 - a. 15.8ppg Class G Slurry @ 1.15 cuft/sk yield & 20% excess
5. POOH above plug to 1000' MD and circulate hole clean
6. WOC
7. Tag plug & drill ahead per Sidetrack Plan #1 (attached)

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

Please note, the POE and BHL will not change, nor will the 10-point drilling plan submitted with the original APD.

Attached is a wellbore diagram identifying where Encana intends to plugback the well and an updated Directional Drilling plan.

Encana received approval from the OCD and BLM on 07/11/2017 via email to move forward with this plan prior to sundry approval.

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

Katie Wegner

Title Senior Regulatory Analyst

Signature

Date 07/11/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title PE

Date 7/12/17

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

Office FFO

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

(Instructions on page 2)

NMOCB VV

14

LOC: Sec 03 T23N R9W, 1985' FSL, 1738' FWL County: San Juan WELL: Nageezi Unit 405H			Encana Natural Gas WELL SUMMARY					ENG: L. Hubbard RIG: Unassigned GLE: 8765 RKBE: 8781		7/11/17	
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH TVDMD					HOLE SIZE	CASING SPECS	MW MUD TYPE	
		Nacimiento	0					12 1/4	9 5/8" 32.3ppf H40 STC TOC to Surface 15.8ppg type V cement w/ 2% CaCl		
		9 5/8" Csg	320	320							
		Ojo Alamo	571					8 3/4	15.8ppg Class G Cement 1.15 cuft/sk 20% OHXS 370 sks		
		Kirtland Shale	700	701'							
		Fruitland Coal	1,137	1,143'							
		Pictured Cliffs Ss.	1,311	1,323'		Top of KOP: 1350' MD					
		Lewis Shale	1,439	1,458'		Planned kick off point: 1600' MD					
		Chacra Sands	1,629	1,655'							
		Cliffhouse Ss.	1,990	2,028'		Bottom of KOP: 2200' MD					
						TOF @ 2193' MD BOF @ 2375' MD					
		Menefee Fn.	2,706	2,771'							
		Point Lookout Ss.	3,679	3,781'							
		TD	3,829	3,945'			9.0ppg WBM				



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	1602.00	17.53	183.49	1578.77	-189.43	-29.10	0.00	0.00	-102.22	
2	1772.00	14.00	197.15	1742.41	-234.67	-36.72	3.00	140.00	-126.12	
3	1922.00	14.00	197.15	1887.96	-269.34	-47.43	0.00	0.00	-140.77	
4	1937.10	14.31	197.40	1902.59	-272.87	-48.52	2.08	11.43	-142.25	
5	4114.93	14.31	197.40	4012.87	-786.44	-209.51	0.00	0.00	-357.40	
6	5447.16	90.00	317.15	4875.00	-344.00	-880.39	7.28	118.97	439.26	
7	10687.16	90.00	317.15	4875.00	3497.48	-4444.19	0.00	0.00	5648.79	NAGEEZI UNIT 405H TGT P6
8	10695.01	90.00	317.30	4875.00	3503.25	-4449.52	2.00	90.00	5656.60	
9	12587.36	90.00	317.30	4875.00	4894.06	-5732.72	0.00	0.00	7537.37	
10	12619.59	90.00	316.66	4875.00	4917.62	-5754.71	2.00	-90.00	7569.42	
11	13219.59	90.00	316.66	4875.00	5354.00	-6166.50	0.00	0.00	8166.46	NAGEEZI UNIT 405H PBHL P6

Project: San Juan County, NM
Site: S3-T23N-R9W
Well: NAGEEZI UNIT 405H
Wellbore: STK #1
Design: PLAN #1

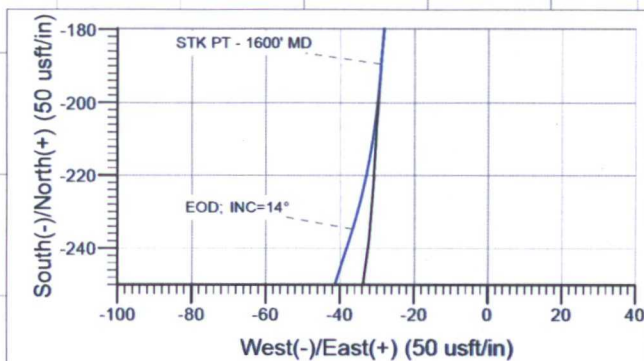
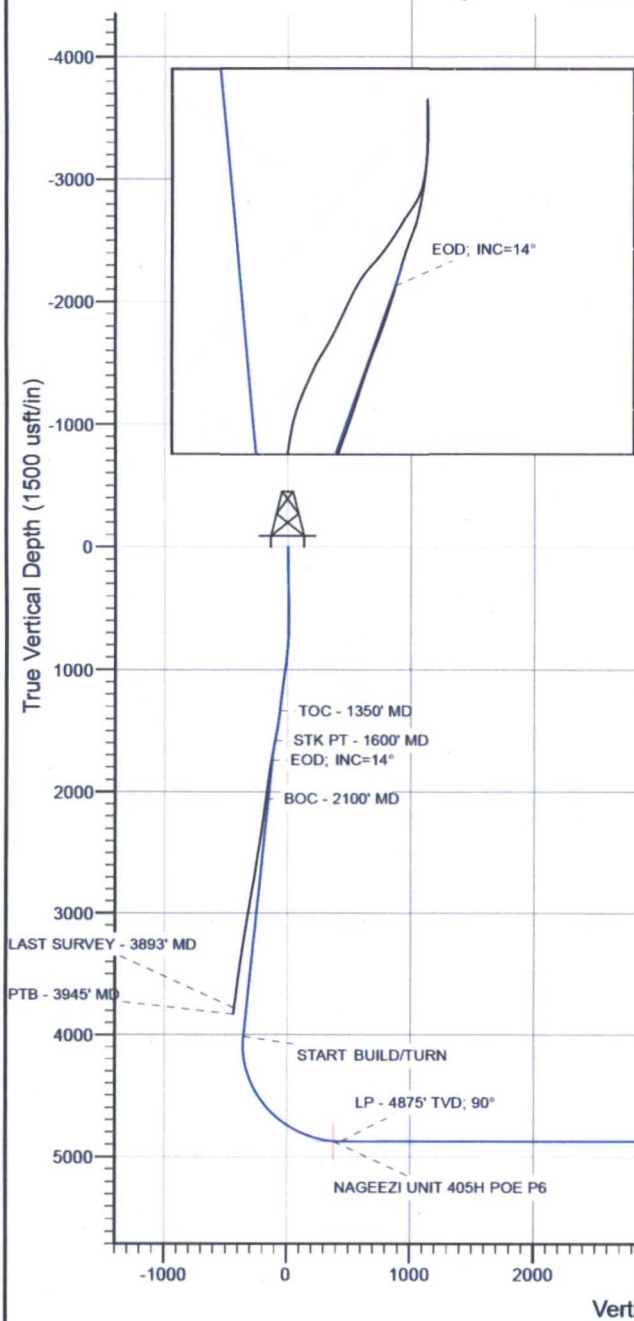
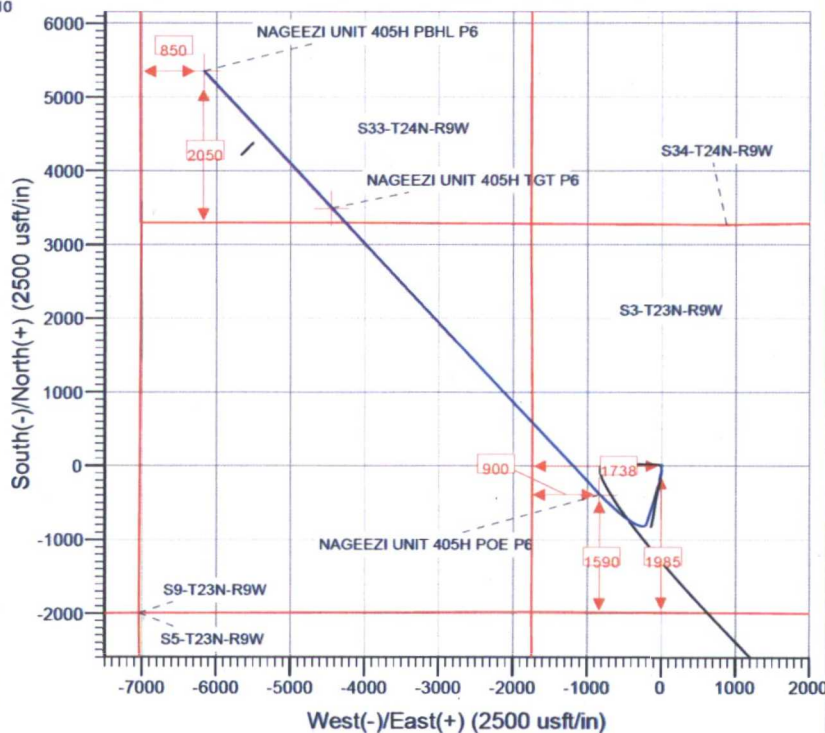


Azimuths to True North
Magnetic North: 9.11°

Magnetic Field
Strength: 49854.0snT
Dip Angle: 62.90°
Date: 7/10/2017
Model: IGRF2010

14° KB @ 6782.00m (AZTEC 100)
Ground Level @ 6768.00
North American Datum 1983
Well NAGEEZI UNIT 405H, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From TVD
TD	No Target (if redefined)	310.97	Stk	Stk	0.00	0.00	0.00
Name		TVD	+N/-S	+E/-W	Latitude	Longitude	
NAGEEZI UNIT 405H PBHL P6		4875.00	5354.00	-6166.50	36.254891	-107.782314	
NAGEEZI UNIT 405H POE P6		4875.00	-389.13	-808.52	36.253116	-107.782314	
NAGEEZI UNIT 405H TGT P6		4875.00	3497.48	-4444.19	36.263752	-107.794545	



Vertical Section at 310.97° (1500 usft/in)

WELL DETAILS: NAGEEZI UNIT 405H

+N/-S	+E/-W	Northing	Ground Level:	6768.00	Latitude	Longitude
0.00	0.00	1911826.36	Easting	2738972.48	36.254185	-107.779470



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NAGEEZI UNIT 405H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	14' KB @ 6782.00usft (AZTEC 920)
Project:	San Juan County, NM	MD Reference:	14' KB @ 6782.00usft (AZTEC 920)
Site:	S3-T23N-R9W	North Reference:	True
Well:	NAGEEZI UNIT 405H	Survey Calculation Method:	Minimum Curvature
Wellbore:	STK #1		
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		S3-T23N-R9W			
Site Position:		Northing:	1,911,826.36 usft	Latitude:	36.254185
From:	Lat/Long	Easting:	2,738,972.48 usft	Longitude:	-107.779470
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.03 °

Well	NAGEEZI UNIT 405H					
Well Position	+N/-S	0.00 usft	Northing:	1,911,826.36 usft	Latitude:	36.254185
	+E/-W	0.00 usft	Easting:	2,738,972.48 usft	Longitude:	-107.779470
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,768.00 usft

Wellbore	STK #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/10/2017	9.10	62.90	49,853.98769122

Design	PLAN #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	1,602.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	310.97

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
1,602.00	17.53	183.49	1,578.77	-189.43	-29.10	0.00	0.00	0.00	0.00	
1,772.00	14.00	197.15	1,742.41	-234.67	-36.72	3.00	-2.08	8.04	140.00	
1,922.00	14.00	197.15	1,887.96	-269.34	-47.43	0.00	0.00	0.00	0.00	
1,937.10	14.31	197.40	1,902.59	-272.87	-48.52	2.08	2.04	1.67	11.43	
4,114.93	14.31	197.40	4,012.87	-786.44	-209.51	0.00	0.00	0.00	0.00	
5,447.16	90.00	317.15	4,875.00	-344.00	-880.39	7.28	5.68	8.99	118.97	
10,687.16	90.00	317.15	4,875.00	3,497.48	-4,444.19	0.00	0.00	0.00	0.00	NAGEEZI UNIT 405H
10,695.01	90.00	317.30	4,875.00	3,503.25	-4,449.52	2.00	0.00	2.00	90.00	
12,587.36	90.00	317.30	4,875.00	4,894.06	-5,732.72	0.00	0.00	0.00	0.00	
12,619.59	90.00	316.66	4,875.00	4,917.62	-5,754.71	2.00	0.00	-2.00	-90.00	
13,219.59	90.00	316.66	4,875.00	5,354.00	-6,166.50	0.00	0.00	0.00	0.00	NAGEEZI UNIT 405H

Cathedral Energy Services

Planning Report

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Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Site: S3-T23N-R9W
Well: NAGEEZI UNIT 405H
Wellbore: STK #1
Design: PLAN #1

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

Well NAGEEZI UNIT 405H
14' KB @ 6782.00usft (AZTEC 920)
14' KB @ 6782.00usft (AZTEC 920)
True
Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
1,602.00	17.53	183.49	1,578.77	-189.43	-29.10	-102.22	0.00	0.00	
1,700.00	15.39	190.63	1,672.76	-216.95	-32.39	-117.77	3.00	-2.18	
1,772.00	14.00	197.15	1,742.41	-234.67	-36.72	-126.12	3.00	-1.93	EOD; INC=14°
1,800.00	14.00	197.15	1,769.58	-241.14	-38.72	-128.85	0.00	0.00	
1,900.00	14.00	197.15	1,866.61	-264.25	-45.86	-138.62	0.00	0.00	
1,922.00	14.00	197.15	1,887.96	-269.34	-47.43	-140.77	0.00	0.00	
1,937.10	14.31	197.40	1,902.59	-272.87	-48.52	-142.25	2.08	2.04	
2,000.00	14.31	197.40	1,963.54	-287.70	-53.17	-148.47	0.00	0.00	
2,100.00	14.31	197.40	2,060.44	-311.28	-60.56	-158.35	0.00	0.00	
2,200.00	14.31	197.40	2,157.34	-334.86	-67.96	-168.22	0.00	0.00	
2,300.00	14.31	197.40	2,254.24	-358.45	-75.35	-178.10	0.00	0.00	
2,400.00	14.31	197.40	2,351.13	-382.03	-82.74	-187.98	0.00	0.00	
2,500.00	14.31	197.40	2,448.03	-405.61	-90.13	-197.86	0.00	0.00	
2,600.00	14.31	197.40	2,544.93	-429.19	-97.52	-207.74	0.00	0.00	
2,700.00	14.31	197.40	2,641.83	-452.77	-104.92	-217.62	0.00	0.00	
2,800.00	14.31	197.40	2,738.73	-476.36	-112.31	-227.50	0.00	0.00	
2,900.00	14.31	197.40	2,835.63	-499.94	-119.70	-237.38	0.00	0.00	
3,000.00	14.31	197.40	2,932.52	-523.52	-127.09	-247.26	0.00	0.00	
3,100.00	14.31	197.40	3,029.42	-547.10	-134.49	-257.13	0.00	0.00	
3,200.00	14.31	197.40	3,126.32	-570.68	-141.88	-267.01	0.00	0.00	
3,300.00	14.31	197.40	3,223.22	-594.27	-149.27	-276.89	0.00	0.00	
3,400.00	14.31	197.40	3,320.12	-617.85	-156.66	-286.77	0.00	0.00	
3,500.00	14.31	197.40	3,417.01	-641.43	-164.05	-296.65	0.00	0.00	
3,600.00	14.31	197.40	3,513.91	-665.01	-171.45	-306.53	0.00	0.00	
3,700.00	14.31	197.40	3,610.81	-688.59	-178.84	-316.41	0.00	0.00	
3,800.00	14.31	197.40	3,707.71	-712.18	-186.23	-326.29	0.00	0.00	
3,900.00	14.31	197.40	3,804.61	-735.76	-193.62	-336.17	0.00	0.00	
4,000.00	14.31	197.40	3,901.50	-759.34	-201.01	-346.04	0.00	0.00	
4,100.00	14.31	197.40	3,998.40	-782.92	-208.41	-355.92	0.00	0.00	
4,114.93	14.31	197.40	4,012.87	-786.44	-209.51	-357.40	0.00	0.00	START BUILD/TURN
4,200.00	12.51	223.24	4,095.69	-803.21	-218.98	-361.24	7.28	-2.11	
4,300.00	14.02	254.71	4,193.14	-814.31	-238.11	-354.07	7.28	1.51	
4,400.00	18.47	275.63	4,289.21	-815.95	-265.60	-334.39	7.28	4.45	
4,500.00	24.29	287.77	4,382.33	-808.11	-301.01	-302.52	7.28	5.82	
4,600.00	30.71	295.26	4,471.01	-790.92	-343.75	-258.97	7.28	6.42	
4,700.00	37.43	300.33	4,553.81	-764.64	-393.14	-204.44	7.28	6.71	
4,800.00	44.30	304.03	4,629.40	-729.70	-448.38	-139.82	7.28	6.87	
4,900.00	51.27	306.92	4,696.56	-686.67	-508.59	-66.15	7.28	6.97	
5,000.00	58.29	309.28	4,754.21	-636.25	-572.78	15.38	7.28	7.02	
5,100.00	65.35	311.32	4,801.41	-579.24	-639.93	103.46	7.28	7.06	
5,200.00	72.44	313.13	4,837.40	-516.56	-708.94	196.66	7.28	7.09	
5,300.00	79.54	314.80	4,861.60	-449.24	-778.71	293.48	7.28	7.10	
5,400.00	86.65	316.40	4,873.62	-378.34	-848.11	392.37	7.28	7.11	
5,447.16	90.00	317.15	4,875.00	-344.00	-880.39	439.26	7.28	7.11	LP - 4875' TVD; 90°
5,500.00	90.00	317.15	4,875.00	-305.26	-916.33	491.79	0.00	0.00	
5,600.00	90.00	317.15	4,875.00	-231.95	-984.34	591.21	0.00	0.00	
5,700.00	90.00	317.15	4,875.00	-158.64	-1,052.35	690.63	0.00	0.00	
5,800.00	90.00	317.15	4,875.00	-85.33	-1,120.36	790.04	0.00	0.00	
5,900.00	90.00	317.15	4,875.00	-12.02	-1,188.37	889.46	0.00	0.00	
6,000.00	90.00	317.15	4,875.00	61.29	-1,256.39	988.88	0.00	0.00	
6,100.00	90.00	317.15	4,875.00	134.60	-1,324.40	1,088.30	0.00	0.00	
6,200.00	90.00	317.15	4,875.00	207.91	-1,392.41	1,187.72	0.00	0.00	

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Site: S3-T23N-R9W
Well: NAGEEZI UNIT 405H
Wellbore: STK #1
Design: PLAN #1

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

Well NAGEEZI UNIT 405H
14' KB @ 6782.00usft (AZTEC 920)
14' KB @ 6782.00usft (AZTEC 920)
True
Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
6,300.00	90.00	317.15	4,875.00	281.22	-1,460.42	1,287.14	0.00	0.00	
6,400.00	90.00	317.15	4,875.00	354.54	-1,528.43	1,386.56	0.00	0.00	
6,500.00	90.00	317.15	4,875.00	427.85	-1,596.44	1,485.97	0.00	0.00	
6,600.00	90.00	317.15	4,875.00	501.16	-1,664.45	1,585.39	0.00	0.00	
6,700.00	90.00	317.15	4,875.00	574.47	-1,732.46	1,684.81	0.00	0.00	
6,800.00	90.00	317.15	4,875.00	647.78	-1,800.48	1,784.23	0.00	0.00	
6,900.00	90.00	317.15	4,875.00	721.09	-1,868.49	1,883.65	0.00	0.00	
7,000.00	90.00	317.15	4,875.00	794.40	-1,936.50	1,983.07	0.00	0.00	
7,100.00	90.00	317.15	4,875.00	867.71	-2,004.51	2,082.49	0.00	0.00	
7,200.00	90.00	317.15	4,875.00	941.02	-2,072.52	2,181.90	0.00	0.00	
7,300.00	90.00	317.15	4,875.00	1,014.33	-2,140.53	2,281.32	0.00	0.00	
7,400.00	90.00	317.15	4,875.00	1,087.64	-2,208.54	2,380.74	0.00	0.00	
7,500.00	90.00	317.15	4,875.00	1,160.95	-2,276.56	2,480.16	0.00	0.00	
7,600.00	90.00	317.15	4,875.00	1,234.26	-2,344.57	2,579.58	0.00	0.00	
7,700.00	90.00	317.15	4,875.00	1,307.57	-2,412.58	2,679.00	0.00	0.00	
7,800.00	90.00	317.15	4,875.00	1,380.88	-2,480.59	2,778.42	0.00	0.00	
7,900.00	90.00	317.15	4,875.00	1,454.20	-2,548.60	2,877.83	0.00	0.00	
8,000.00	90.00	317.15	4,875.00	1,527.51	-2,616.61	2,977.25	0.00	0.00	
8,100.00	90.00	317.15	4,875.00	1,600.82	-2,684.62	3,076.67	0.00	0.00	
8,200.00	90.00	317.15	4,875.00	1,674.13	-2,752.64	3,176.09	0.00	0.00	
8,300.00	90.00	317.15	4,875.00	1,747.44	-2,820.65	3,275.51	0.00	0.00	
8,400.00	90.00	317.15	4,875.00	1,820.75	-2,888.66	3,374.93	0.00	0.00	
8,500.00	90.00	317.15	4,875.00	1,894.06	-2,956.67	3,474.35	0.00	0.00	
8,600.00	90.00	317.15	4,875.00	1,967.37	-3,024.68	3,573.76	0.00	0.00	
8,700.00	90.00	317.15	4,875.00	2,040.68	-3,092.69	3,673.18	0.00	0.00	
8,800.00	90.00	317.15	4,875.00	2,113.99	-3,160.70	3,772.60	0.00	0.00	
8,900.00	90.00	317.15	4,875.00	2,187.30	-3,228.71	3,872.02	0.00	0.00	
9,000.00	90.00	317.15	4,875.00	2,260.61	-3,296.73	3,971.44	0.00	0.00	
9,100.00	90.00	317.15	4,875.00	2,333.92	-3,364.74	4,070.86	0.00	0.00	
9,200.00	90.00	317.15	4,875.00	2,407.23	-3,432.75	4,170.28	0.00	0.00	
9,300.00	90.00	317.15	4,875.00	2,480.54	-3,500.76	4,269.69	0.00	0.00	
9,400.00	90.00	317.15	4,875.00	2,553.86	-3,568.77	4,369.11	0.00	0.00	
9,500.00	90.00	317.15	4,875.00	2,627.17	-3,636.78	4,468.53	0.00	0.00	
9,600.00	90.00	317.15	4,875.00	2,700.48	-3,704.79	4,567.95	0.00	0.00	
9,700.00	90.00	317.15	4,875.00	2,773.79	-3,772.81	4,667.37	0.00	0.00	
9,800.00	90.00	317.15	4,875.00	2,847.10	-3,840.82	4,766.79	0.00	0.00	
9,900.00	90.00	317.15	4,875.00	2,920.41	-3,908.83	4,866.21	0.00	0.00	
10,000.00	90.00	317.15	4,875.00	2,993.72	-3,976.84	4,965.62	0.00	0.00	
10,100.00	90.00	317.15	4,875.00	3,067.03	-4,044.85	5,065.04	0.00	0.00	
10,200.00	90.00	317.15	4,875.00	3,140.34	-4,112.86	5,164.46	0.00	0.00	
10,300.00	90.00	317.15	4,875.00	3,213.65	-4,180.87	5,263.88	0.00	0.00	
10,400.00	90.00	317.15	4,875.00	3,286.96	-4,248.89	5,363.30	0.00	0.00	
10,500.00	90.00	317.15	4,875.00	3,360.27	-4,316.90	5,462.72	0.00	0.00	
10,600.00	90.00	317.15	4,875.00	3,433.58	-4,384.91	5,562.13	0.00	0.00	
10,687.16	90.00	317.15	4,875.00	3,497.48	-4,444.19	5,648.79	0.00	0.00	Start Turn 2.00
10,695.01	90.00	317.30	4,875.00	3,503.25	-4,449.52	5,656.60	2.00	0.00	
10,700.00	90.00	317.30	4,875.00	3,506.91	-4,452.90	5,661.55	0.00	0.00	
10,800.00	90.00	317.30	4,875.00	3,580.41	-4,520.71	5,760.94	0.00	0.00	
10,900.00	90.00	317.30	4,875.00	3,653.90	-4,588.52	5,860.33	0.00	0.00	
11,000.00	90.00	317.30	4,875.00	3,727.40	-4,656.33	5,959.72	0.00	0.00	
11,100.00	90.00	317.30	4,875.00	3,800.90	-4,724.14	6,059.11	0.00	0.00	
11,200.00	90.00	317.30	4,875.00	3,874.39	-4,791.95	6,158.49	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NAGEEZI UNIT 405H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	14' KB @ 6782.00usft (AZTEC 920)
Project:	San Juan County, NM	MD Reference:	14' KB @ 6782.00usft (AZTEC 920)
Site:	S3-T23N-R9W	North Reference:	True
Well:	NAGEEZI UNIT 405H	Survey Calculation Method:	Minimum Curvature
Wellbore:	STK #1		
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
11,300.00	90.00	317.30	4,875.00	3,947.89	-4,859.76	6,257.88	0.00	0.00	
11,400.00	90.00	317.30	4,875.00	4,021.39	-4,927.57	6,357.27	0.00	0.00	
11,500.00	90.00	317.30	4,875.00	4,094.88	-4,995.38	6,456.66	0.00	0.00	
11,600.00	90.00	317.30	4,875.00	4,168.38	-5,063.19	6,556.05	0.00	0.00	
11,700.00	90.00	317.30	4,875.00	4,241.88	-5,131.00	6,655.44	0.00	0.00	
11,800.00	90.00	317.30	4,875.00	4,315.38	-5,198.81	6,754.83	0.00	0.00	
11,900.00	90.00	317.30	4,875.00	4,388.87	-5,266.62	6,854.21	0.00	0.00	
12,000.00	90.00	317.30	4,875.00	4,462.37	-5,334.43	6,953.60	0.00	0.00	
12,100.00	90.00	317.30	4,875.00	4,535.87	-5,402.24	7,052.99	0.00	0.00	
12,200.00	90.00	317.30	4,875.00	4,609.36	-5,470.05	7,152.38	0.00	0.00	
12,300.00	90.00	317.30	4,875.00	4,682.86	-5,537.86	7,251.77	0.00	0.00	
12,400.00	90.00	317.30	4,875.00	4,756.36	-5,605.67	7,351.16	0.00	0.00	
12,500.00	90.00	317.30	4,875.00	4,829.85	-5,673.48	7,450.55	0.00	0.00	
12,587.36	90.00	317.30	4,875.00	4,894.06	-5,732.72	7,537.37	0.00	0.00	
12,600.00	90.00	317.05	4,875.00	4,903.33	-5,741.32	7,549.94	2.00	0.00	
12,619.59	90.00	316.66	4,875.00	4,917.62	-5,754.71	7,569.42	2.00	0.00	
12,700.00	90.00	316.66	4,875.00	4,976.11	-5,809.90	7,649.44	0.00	0.00	
12,800.00	90.00	316.66	4,875.00	5,048.84	-5,878.53	7,748.94	0.00	0.00	
12,900.00	90.00	316.66	4,875.00	5,121.56	-5,947.16	7,848.45	0.00	0.00	
13,000.00	90.00	316.66	4,875.00	5,194.29	-6,015.80	7,947.96	0.00	0.00	
13,100.00	90.00	316.66	4,875.00	5,267.02	-6,084.43	8,047.46	0.00	0.00	
13,200.00	90.00	316.66	4,875.00	5,339.75	-6,153.06	8,146.97	0.00	0.00	
13,219.59	90.00	316.66	4,875.00	5,354.00	-6,166.50	8,166.46	0.00	0.00	TD at 13219.59

Targets

Target Name	- hit/miss target	- Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
NAGEEZI UNIT 405H PI	- plan hits target center	- Rectangle (sides W0.00 H20.00 D5,000.00)	90.00	317.15	4,875.00	5,354.00	-6,166.50	1,917,176.93	2,732,803.00	36.268891	-107.800389
NAGEEZI UNIT 405H T1	- plan hits target center	- Point	0.00	0.00	4,875.00	3,497.48	-4,444.19	1,915,321.37	2,734,526.35	36.263792	-107.794545
NAGEEZI UNIT 405H P1	- plan misses target center by 2.41usft at 5385.85usft MD (4872.67 TVD, -388.55 N, -838.35 E)	- Point	0.00	0.00	4,875.00	-389.13	-838.52	1,911,436.77	2,738,134.17	36.253116	-107.782314

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
1,602.00	1,578.77	-189.43	-29.10	STK PT - 1600' MD
1,772.00	1,742.41	-234.67	-36.72	EOD; INC=14°
4,114.93	4,012.87	-269.34	-47.43	START BUILD/TURN
5,447.16	4,875.00	-272.87	-48.52	LP - 4875' TVD; 90°
10,687.16	4,875.00	-786.44	-209.51	Start Turn 2.00
13,219.59	4,875.00	-344.00	-880.39	TD at 13219.59

EnCana Oil & Gas (USA) Inc

San Juan County, NM

S3-T23N-R9W

NAGEEZI UNIT 405H

STK #1

PLAN #1

Anticollision Report

10 July, 2017

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well NAGEEZI UNIT 405H
Project:	San Juan County, NM	TVD Reference:	14' KB @ 6782.00usft (AZTEC 920)
Reference Site:	S3-T23N-R9W	MD Reference:	14' KB @ 6782.00usft (AZTEC 920)
Site Error:	0.00usft	North Reference:	True
Reference Well:	NAGEEZI UNIT 405H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at	2.00 sigma
Reference Wellbore	STK #1	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:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,707.12usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 7/10/2017				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
376.00	1,602.00	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	
1,602.00	13,219.59	PLAN #1 (STK #1)	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						
S3-T23N-R9W						
NAGEEZI UNIT 405H - OH - SURVEYS	2,000.00	1,999.94	13.61	10.65	4.611	CC, ES
NAGEEZI UNIT 405H - OH - SURVEYS	2,200.00	2,199.92	18.82	14.37	4.222	SF
NAGEEZI UNIT 406H - OH - SURVEYS	507.90	507.70	13.66	11.43	6.133	CC, ES
NAGEEZI UNIT 406H - OH - SURVEYS	5,146.64	5,179.83	85.02	48.92	2.355	SF
South Huerfano #1 - DUGAN WELL - NO SURVEYS	12,043.72	4,973.97	332.73	138.98	1.717	CC, ES, SF

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S3-T23N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 405H
Well Error: 0.00usft
Reference Wellbore: STK #1
Reference Design: PLAN #1

Local Co-ordinate Reference: Well NAGEEZI UNIT 405H
TVD Reference: 14' KB @ 6782.00usft (AZTEC 920)
MD Reference: 14' KB @ 6782.00usft (AZTEC 920)
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 S3-T23N-R9W - NAGEEZI UNIT 405H - OH - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 376-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Uncertainty Axis	Factor	
1,602.00	1,578.77	1,602.00	1,578.77	0.00	0.00	-50.67	-189.43	-29.10	0.00	0.00	0.00	N/A	
1,700.00	1,672.76	1,699.97	1,672.84	0.33	0.49	-107.58	-216.74	-30.66	1.75	0.94	0.81	2.156	
1,800.00	1,769.58	1,799.94	1,769.59	0.51	0.99	-100.50	-241.82	-32.60	6.16	4.67	1.49	4.125	
1,900.00	1,866.61	1,899.93	1,866.14	0.73	1.49	-87.51	-267.52	-36.40	10.02	7.81	2.21	4.542	
2,000.00	1,963.54	1,999.94	1,962.91	0.98	1.99	-86.47	-292.43	-40.43	13.61	10.65	2.95	4.611 CC, ES	
2,100.00	2,060.44	2,100.07	2,059.54	1.26	2.49	-81.84	-318.13	-45.88	16.23	12.52	3.71	4.372	
2,200.00	2,157.34	2,199.92	2,155.53	1.56	3.01	-74.18	-344.89	-52.13	18.82	14.37	4.46	4.222 SF	
2,300.00	2,254.24	2,299.86	2,251.20	1.89	3.54	-64.50	-372.91	-59.15	21.93	16.80	5.12	4.278	
2,400.00	2,351.13	2,399.43	2,346.15	2.22	4.08	-54.73	-401.93	-66.76	26.01	20.33	5.68	4.583	
2,500.00	2,448.03	2,499.05	2,441.48	2.58	4.61	-52.73	-430.43	-71.51	31.71	25.32	6.40	4.956	
2,600.00	2,544.93	2,598.89	2,537.26	2.95	5.14	-53.37	-458.39	-75.10	37.61	30.39	7.22	5.210	
2,700.00	2,641.83	2,698.74	2,632.96	3.33	5.67	-53.24	-486.57	-79.10	43.45	35.43	8.02	5.417	
2,800.00	2,738.73	2,798.75	2,728.91	3.72	6.20	-53.45	-514.49	-82.99	49.09	40.24	8.85	5.548	
2,900.00	2,835.63	2,898.29	2,824.51	4.12	6.73	-54.07	-542.03	-86.54	54.73	45.02	9.71	5.635	
3,000.00	2,932.52	2,997.78	2,919.40	4.53	7.28	-52.32	-571.48	-91.54	61.12	50.66	10.46	5.844	
3,100.00	3,029.42	3,097.47	3,014.44	4.95	7.83	-50.95	-601.17	-96.35	67.84	56.61	11.23	6.041	
3,200.00	3,126.32	3,197.32	3,109.63	5.38	8.38	-49.75	-630.93	-101.27	74.55	62.54	12.01	6.210	
3,300.00	3,223.22	3,297.50	3,205.31	5.81	8.92	-49.14	-660.26	-105.90	80.97	68.15	12.82	6.317	
3,400.00	3,320.12	3,398.77	3,302.41	6.25	9.47	-49.20	-688.66	-110.35	86.44	72.76	13.68	6.317	
3,500.00	3,417.01	3,499.81	3,399.63	6.69	10.00	-49.14	-715.59	-115.92	90.10	75.56	14.54	6.197	
3,600.00	3,513.91	3,600.26	3,496.45	7.14	10.52	-49.16	-741.75	-121.73	93.09	77.68	15.40	6.043	
3,700.00	3,610.81	3,700.94	3,593.81	7.59	11.04	-49.87	-766.81	-126.92	95.40	79.07	16.33	5.843	
3,800.00	3,707.71	3,800.64	3,690.46	8.04	11.54	-51.15	-790.90	-131.36	97.50	80.19	17.31	5.633	
3,900.00	3,804.61	3,900.09	3,786.66	8.50	12.05	-51.94	-815.63	-136.16	100.01	81.76	18.26	5.478	
4,000.00	3,901.50	3,945.00	3,829.95	8.96	12.28	-51.90	-827.27	-138.82	116.63	99.69	16.94	6.886	
4,100.00	3,998.40	3,945.00	3,829.95	9.43	12.28	-51.90	-827.27	-138.82	187.57	175.79	11.78	15.924	
4,200.00	4,095.69	3,945.00	3,829.95	9.87	12.28	-74.27	-827.27	-138.82	278.60	269.22	9.39	29.682	
4,300.00	4,193.14	3,945.00	3,829.95	10.26	12.28	-92.34	-827.27	-138.82	376.74	368.02	8.72	43.221	
4,400.00	4,289.21	3,945.00	3,829.95	10.58	12.28	2.68	-827.27	-138.82	476.56	467.81	8.76	54.424	
4,500.00	4,382.33	3,945.00	3,829.95	10.84	12.28	21.06	-827.27	-138.82	576.01	566.87	9.14	63.048	
4,600.00	4,471.01	3,945.00	3,829.95	11.06	12.28	19.42	-827.27	-138.82	673.99	664.29	9.70	69.473	
4,700.00	4,553.81	3,945.00	3,829.95	11.24	12.28	17.18	-827.27	-138.82	769.78	759.41	10.38	74.185	
4,800.00	4,629.40	3,945.00	3,829.95	11.38	12.28	15.39	-827.27	-138.82	862.82	851.71	11.12	77.613	
4,900.00	4,696.56	3,945.00	3,829.95	11.48	12.28	14.05	-827.27	-138.82	952.63	940.74	11.89	80.099	
5,000.00	4,754.21	3,945.00	3,829.95	11.58	12.28	13.08	-827.27	-138.82	1,038.77	1,026.09	12.68	81.898	
5,100.00	4,801.41	3,945.00	3,829.95	11.83	12.28	12.39	-827.27	-138.82	1,120.87	1,107.39	13.48	83.168	
5,200.00	4,837.40	3,945.00	3,829.95	12.67	12.28	11.94	-827.27	-138.82	1,198.55	1,184.25	14.30	83.802	
5,300.00	4,861.60	3,945.00	3,829.95	14.37	12.28	11.68	-827.27	-138.82	1,271.48	1,256.67	14.80	85.884	
5,400.00	4,873.62	3,945.00	3,829.95	16.42	12.28	11.60	-827.27	-138.82	1,339.35	1,324.12	15.23	87.930	
5,500.00	4,875.00	3,945.00	3,829.95	18.54	12.28	11.62	-827.27	-138.82	1,403.26	1,387.71	15.54	90.272	
5,600.00	4,875.00	3,945.00	3,829.95	20.72	12.28	11.62	-827.27	-138.82	1,470.18	1,454.51	15.67	93.844	
5,700.00	4,875.00	3,945.00	3,829.95	22.95	12.28	11.62	-827.27	-138.82	1,540.69	1,525.14	15.55	99.103	
5,800.00	4,875.00	3,945.00	3,829.95	25.21	12.28	11.62	-827.27	-138.82	1,614.32	1,599.16	15.16	106.477	
5,900.00	4,875.00	3,945.00	3,829.95	27.51	12.28	11.62	-827.27	-138.82	1,690.66	1,676.21	14.44	117.058	

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

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S3-T23N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 405H
Well Error: 0.00usft
Reference Wellbore: STK #1
Reference Design: PLAN #1

Local Co-ordinate Reference: Well NAGEEZI UNIT 405H
TVD Reference: 14' KB @ 6782.00usft (AZTEC 920)
MD Reference: 14' KB @ 6782.00usft (AZTEC 920)
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 S3-T23N-R9W - NAGEEZI UNIT 406H - OH - SURVEYS													Offset Site Error: 0.00 usft
Survey Program: 376-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-42.97	14.56	-13.56	19.90				
100.00	100.00	99.99	99.99	0.15	0.17	-17.90	14.58	-13.57	19.60	19.27	0.33	59.864	
200.00	199.99	199.98	199.98	0.33	0.35	-18.76	14.64	-13.58	18.69	18.01	0.68	27.494	
300.00	299.98	299.96	299.96	0.51	0.52	-20.38	14.74	-13.60	17.19	16.16	1.03	16.657	
400.00	399.95	399.93	399.93	0.74	0.69	-8.68	14.89	-13.64	15.15	13.72	1.43	10.616	
500.00	499.93	499.84	499.84	1.09	1.08	57.46	14.80	-14.28	13.67	11.50	2.17	6.295	
507.90	507.82	507.70	507.70	1.12	1.11	62.79	14.79	-14.38	13.66	11.43	2.23	6.133 CC, ES	
600.00	599.89	599.55	599.52	1.44	1.44	101.26	15.22	-16.50	15.03	12.16	2.87	5.228	
700.00	699.76	699.16	699.04	1.79	1.79	128.74	15.63	-20.66	20.33	16.75	3.58	5.673	
800.00	799.39	798.23	797.91	2.14	2.15	142.76	16.20	-26.83	30.73	26.43	4.30	7.143	
900.00	898.49	895.67	894.95	2.51	2.51	148.94	17.73	-35.54	48.03	43.00	5.03	9.550	
1,000.00	997.04	991.84	990.46	2.89	2.88	152.90	19.90	-46.54	71.09	65.34	5.75	12.360	
1,100.00	1,095.19	1,086.26	1,083.75	3.29	3.25	146.58	22.20	-60.89	98.05	91.57	6.47	15.152	
1,200.00	1,192.91	1,180.34	1,175.93	3.71	3.64	133.54	23.55	-79.52	127.02	119.81	7.21	17.617	
1,300.00	1,289.80	1,275.61	1,268.57	4.17	4.06	126.87	23.32	-101.74	156.01	148.00	8.01	19.487	
1,400.00	1,385.77	1,368.92	1,358.95	4.64	4.49	129.19	22.74	-124.97	187.35	178.53	8.82	21.239	
1,500.00	1,481.41	1,461.68	1,448.35	5.14	4.94	134.34	21.99	-149.69	221.85	212.18	9.66	22.957	
1,600.00	1,576.86	1,554.77	1,537.99	5.65	5.41	138.56	21.26	-174.78	258.62	248.09	10.52	24.575	
1,700.00	1,672.76	1,650.25	1,630.28	5.99	5.89	131.60	20.98	-199.24	293.69	282.43	11.25	26.095	
1,800.00	1,769.58	1,743.99	1,721.11	6.16	6.35	125.28	21.18	-222.41	323.88	312.11	11.78	27.497	
1,900.00	1,866.61	1,836.35	1,810.41	6.35	6.83	125.17	21.62	-245.99	353.47	341.12	12.35	28.630	
2,000.00	1,963.54	1,927.65	1,898.43	6.59	7.30	124.73	22.58	-270.23	384.22	371.28	12.94	29.683	
2,100.00	2,060.44	2,019.13	1,986.44	6.85	7.79	124.62	24.09	-295.15	415.91	402.33	13.58	30.630	
2,200.00	2,157.34	2,112.25	2,075.88	7.14	8.29	124.50	25.97	-321.00	448.18	433.92	14.26	31.431	
2,300.00	2,254.24	2,202.81	2,162.64	7.45	8.80	124.32	27.78	-346.87	480.91	465.96	14.95	32.169	
2,400.00	2,351.13	2,292.69	2,248.18	7.79	9.32	123.96	29.28	-374.42	514.64	498.97	15.67	32.848	
2,500.00	2,448.03	2,386.19	2,336.98	8.14	9.87	123.58	30.84	-403.65	548.73	532.29	16.45	33.365	
2,600.00	2,544.93	2,483.98	2,430.09	8.50	10.44	123.30	32.70	-433.49	582.59	565.31	17.28	33.723	
2,700.00	2,641.83	2,593.85	2,535.37	8.88	11.06	123.20	34.67	-464.82	615.19	596.98	18.21	33.782	
2,800.00	2,738.73	2,701.04	2,638.93	9.27	11.63	123.25	35.27	-492.47	645.17	626.06	19.11	33.762	
2,900.00	2,835.63	2,809.17	2,743.97	9.68	12.18	123.46	35.70	-518.11	673.82	653.82	20.00	33.688	
3,000.00	2,932.52	2,915.24	2,847.68	10.09	12.69	123.81	35.43	-540.37	700.30	679.43	20.87	33.559	
3,100.00	3,029.42	3,007.26	2,937.72	10.51	13.12	124.13	35.44	-559.31	726.80	705.17	21.64	33.591	
3,200.00	3,126.32	3,092.97	3,021.50	10.93	13.54	124.41	36.21	-577.42	754.32	731.95	22.37	33.723	
3,300.00	3,223.22	3,192.81	3,118.98	11.37	14.02	124.72	37.70	-598.93	782.59	759.38	23.21	33.721	
3,400.00	3,320.12	3,296.05	3,219.92	11.80	14.51	125.00	38.13	-620.60	809.68	785.60	24.08	33.628	
3,500.00	3,417.01	3,390.54	3,312.30	12.25	14.97	125.22	38.17	-640.47	836.54	811.65	24.89	33.607	
3,600.00	3,513.91	3,471.06	3,390.83	12.70	15.36	125.37	38.72	-658.24	864.50	838.89	25.61	33.753	
3,700.00	3,610.81	3,567.93	3,485.06	13.15	15.85	125.51	40.10	-680.66	893.66	867.20	26.46	33.771	
3,800.00	3,707.71	3,668.82	3,583.38	13.60	16.35	125.66	40.81	-703.27	921.83	894.48	27.35	33.704	
3,900.00	3,804.61	3,756.77	3,668.85	14.06	16.79	125.72	41.15	-723.99	950.42	922.27	28.15	33.766	
4,000.00	3,901.50	3,865.74	3,774.43	14.53	17.36	125.68	40.34	-750.94	978.80	949.67	29.13	33.599	
4,100.00	3,998.40	3,967.91	3,875.94	14.99	17.31	143.70	-913.80	-302.28	892.19	875.70	16.49	54.105	
4,200.00	4,095.69	4,061.13	3,975.78	15.43	17.37	-151.91	-916.33	-300.30	792.43	775.78	16.65	47.607	
4,300.00	4,193.14	4,165.17	4,076.08	15.80	17.26	-135.90	-911.65	-303.98	692.98	676.25	16.72	41.436	
4,400.00	4,289.21	4,267.27	4,177.02	16.10	16.96	-149.56	-898.41	-314.44	595.58	578.85	16.72	35.612	
4,500.00	4,382.33	4,364.47	4,278.96	16.33	16.38	-159.58	-872.75	-334.77	501.95	485.32	16.64	30.170	
4,600.00	4,471.01	4,459.63	4,371.77	16.51	16.56	-166.86	-835.34	-364.46	413.67	397.15	16.52	25.041	
4,700.00	4,553.81	4,534.39	4,444.48	16.65	16.53	-173.45	-785.57	-403.39	331.49	315.00	16.49	20.105	
4,800.00	4,629.40	4,612.91	4,525.61	16.75	16.75	-179.68	-729.21	-447.34	256.21	239.32	16.90	15.164	
4,900.00	4,696.56	4,679.21	4,593.36	16.83	16.83	-169.89	-662.82	-498.20	188.60	170.08	18.51	10.187	
5,000.00	4,754.21	4,729.79	4,644.11	16.91	16.91	-154.25	-595.72	-546.87	129.19	105.89	23.30	5.544	

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

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S3-T23N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 405H
Well Error: 0.00usft
Reference Wellbore: STK #1
Reference Design: PLAN #1

Local Co-ordinate Reference: Well NAGEEZI UNIT 405H
TVD Reference: 14' KB @ 6782.00usft (AZTEC 920)
MD Reference: 14' KB @ 6782.00usft (AZTEC 920)
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 S3-T23N-R9W - NAGEEZI UNIT 406H - OH - SURVEYS													Offset Site Error:	0.00 usft
Survey Program: 376-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)						
5,100.00	4,801.41	5,216.86	4,860.26	17.09	20.83	129.32	-531.70	-590.88	90.16	57.61	32.56	2.769		
5,146.64	4,819.63	5,179.83	4,851.69	17.26	20.69	113.89	-501.46	-610.47	85.02	48.92	36.10	2.355 SF		
5,200.00	4,837.40	5,137.66	4,839.71	17.76	20.58	95.79	-467.29	-632.04	91.36	55.18	36.18	2.525		
5,300.00	4,861.60	5,062.04	4,811.23	19.15	20.45	68.90	-408.48	-669.97	126.58	95.32	31.26	4.049		
5,400.00	4,873.62	5,000.60	4,778.66	20.85	20.36	52.72	-365.11	-698.67	177.56	149.25	28.31	6.273		
5,500.00	4,875.00	4,947.00	4,744.14	22.70	20.29	44.04	-330.38	-720.39	236.95	208.96	27.99	8.466		
5,600.00	4,875.00	4,894.97	4,707.30	24.66	20.22	38.78	-298.57	-738.74	304.76	276.53	28.24	10.793		
5,700.00	4,875.00	4,848.23	4,672.40	26.72	20.16	35.09	-271.32	-753.70	378.07	349.33	28.74	13.156		
5,800.00	4,875.00	4,808.49	4,641.41	28.85	20.11	32.50	-249.30	-765.25	455.58	426.22	29.36	15.515		
5,900.00	4,875.00	4,776.07	4,615.13	31.04	20.06	30.68	-232.29	-773.69	536.67	506.64	30.03	17.874		
6,000.00	4,875.00	4,746.11	4,590.08	33.27	20.02	29.19	-217.42	-780.67	620.61	590.05	30.57	20.304		
6,100.00	4,875.00	4,716.62	4,564.86	35.55	19.97	27.86	-203.54	-787.08	706.57	675.59	30.98	22.808		
6,200.00	4,875.00	4,695.00	4,546.06	37.86	19.94	26.95	-193.86	-791.53	794.15	762.73	31.43	25.268		
6,300.00	4,875.00	4,663.27	4,518.10	40.19	19.89	25.75	-180.13	-797.57	882.95	851.31	31.63	27.912		
6,400.00	4,875.00	4,645.77	4,502.58	42.55	19.86	25.17	-172.63	-800.65	972.76	940.78	31.98	30.414		
6,500.00	4,875.00	4,594.91	4,457.20	44.92	19.78	23.75	-151.11	-808.58	1,063.24	1,031.35	31.89	33.344		
6,600.00	4,875.00	4,552.96	4,420.17	47.32	19.71	22.92	-132.29	-814.52	1,153.48	1,121.57	31.91	36.148		
6,700.00	4,875.00	4,522.42	4,393.25	49.72	19.66	22.43	-118.41	-818.38	1,244.07	1,212.03	32.04	38.824		
6,800.00	4,875.00	4,506.00	4,378.76	52.14	19.64	22.21	-110.92	-820.29	1,335.16	1,302.88	32.28	41.359		
6,900.00	4,875.00	4,475.13	4,351.49	54.57	19.58	21.85	-96.80	-823.32	1,426.67	1,394.30	32.37	44.071		
7,000.00	4,875.00	4,443.00	4,323.04	57.00	19.52	21.59	-82.02	-825.55	1,518.88	1,486.43	32.45	46.805		
7,100.00	4,875.00	4,443.00	4,323.04	59.45	19.52	21.59	-82.02	-825.55	1,611.40	1,578.68	32.72	49.242		
7,200.00	4,875.00	4,424.64	4,306.73	61.90	19.48	21.47	-73.62	-826.38	1,704.49	1,671.64	32.85	51.887		

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S3-T23N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 405H
Well Error: 0.00usft
Reference Wellbore: STK #1
Reference Design: PLAN #1

Local Co-ordinate Reference:
TVD Reference: 14' KB @ 6782.00usft (AZTEC 920)
MD Reference: 14' KB @ 6782.00usft (AZTEC 920)
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									
Survey Program: 600-15CWSA.MWD									
Measured	Vertical	Depth	Measured	Vertical	Depth	Offset	Reference	Offset	Warning
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	
10,400.00	4,875.00	4,976.23	4,973.66	141.94	10.95	-88.37	4,268.96	-5,608.53	44.072
10,500.00	4,875.00	4,976.10	4,973.53	144.46	10.95	-88.35	4,268.96	-5,608.53	39.630
10,600.00	4,875.00	4,975.97	4,973.40	146.98	10.95	-88.33	4,268.96	-5,608.53	35.321
10,700.00	4,875.00	4,975.84	4,973.27	149.51	10.95	-88.32	4,268.97	-5,608.52	31.171
10,800.00	4,875.00	4,975.70	4,973.13	152.02	10.95	-88.30	4,268.97	-5,608.52	27.195
10,900.00	4,875.00	4,975.56	4,972.99	154.54	10.95	-88.28	4,268.97	-5,608.52	23.439
11,000.00	4,875.00	4,975.42	4,972.85	157.06	10.95	-88.25	4,268.98	-5,608.51	19.928
11,100.00	4,875.00	4,975.28	4,972.71	159.58	10.95	-88.23	4,268.98	-5,608.51	16.685
11,200.00	4,875.00	4,975.14	4,972.57	162.11	10.95	-88.20	4,268.98	-5,608.51	13.730
11,300.00	4,875.00	4,975.00	4,972.44	164.63	10.95	-88.18	4,268.99	-5,608.50	11.080
11,400.00	4,875.00	4,974.86	4,972.30	167.15	10.95	-88.16	4,268.99	-5,608.50	8.749
11,500.00	4,875.00	4,974.72	4,972.16	169.67	10.95	-88.13	4,268.99	-5,608.50	6.746
11,600.00	4,875.00	4,974.58	4,972.02	172.19	10.95	-88.11	4,269.00	-5,608.49	5.078
11,700.00	4,875.00	4,974.45	4,971.88	174.71	10.95	-88.08	4,269.00	-5,608.49	3.749
11,800.00	4,875.00	4,974.31	4,971.74	177.24	10.95	-88.06	4,269.00	-5,608.49	2.757
11,900.00	4,875.00	4,974.17	4,971.60	179.76	10.95	-88.04	4,269.01	-5,608.48	2.098
12,000.00	4,875.00	4,974.03	4,971.46	182.28	10.95	-88.01	4,269.01	-5,608.48	1.765
12,043.72	4,875.00	4,973.97	4,971.40	183.39	10.95	-88.00	4,269.01	-5,608.48	1.717
12,100.00	4,875.00	4,973.89	4,971.32	184.81	10.95	-87.99	4,269.01	-5,608.48	1.741
12,200.00	4,875.00	4,973.75	4,971.18	187.33	10.95	-87.96	4,269.02	-5,608.47	2.005
12,300.00	4,875.00	4,973.61	4,971.04	189.86	10.95	-87.94	4,269.02	-5,608.47	2.532
12,400.00	4,875.00	4,973.47	4,970.90	192.38	10.95	-87.92	4,269.02	-5,608.47	3.294
12,500.00	4,875.00	4,973.33	4,970.76	194.91	10.95	-87.89	4,269.03	-5,608.46	4.265
12,600.00	4,875.00	4,973.19	4,970.62	197.43	10.95	-87.88	4,269.03	-5,608.46	5.420
12,700.00	4,875.00	4,973.09	4,970.52	199.97	10.95	-87.89	4,269.04	-5,608.45	6.744
12,800.00	4,875.00	4,972.99	4,970.42	202.51	10.95	-87.87	4,269.04	-5,608.45	8.220
12,900.00	4,875.00	4,972.89	4,970.32	205.05	10.95	-87.86	4,269.04	-5,608.45	9.829
13,000.00	4,875.00	4,972.79	4,970.22	207.59	10.95	-87.84	4,269.04	-5,608.45	11.556
13,100.00	4,875.00	4,972.68	4,970.12	210.14	10.95	-87.82	4,269.04	-5,608.45	13.389
13,200.00	4,875.00	4,972.58	4,970.02	212.68	10.95	-87.81	4,269.05	-5,608.44	15.315
13,219.59	4,875.00	4,972.56	4,970.00	213.17	10.95	-87.80	4,269.05	-5,608.44	15.702

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

Cathedral Energy Services

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
Project: San Juan County, NM
Reference Site: S3-T23N-R9W
Site Error: 0.00usft
Reference Well: NAGEEZI UNIT 405H
Well Error: 0.00usft
Reference Wellbore: STK #1
Reference Design: PLAN #1

Local Co-ordinate Reference: Well NAGEEZI UNIT 405H
TVD Reference: 14' KB @ 6782.00usft (AZTEC 920)
MD Reference: 14' KB @ 6782.00usft (AZTEC 920)
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 14' KB @ 6782.00usft (AZTEC 920)

Offset Depths are relative to Offset Datum

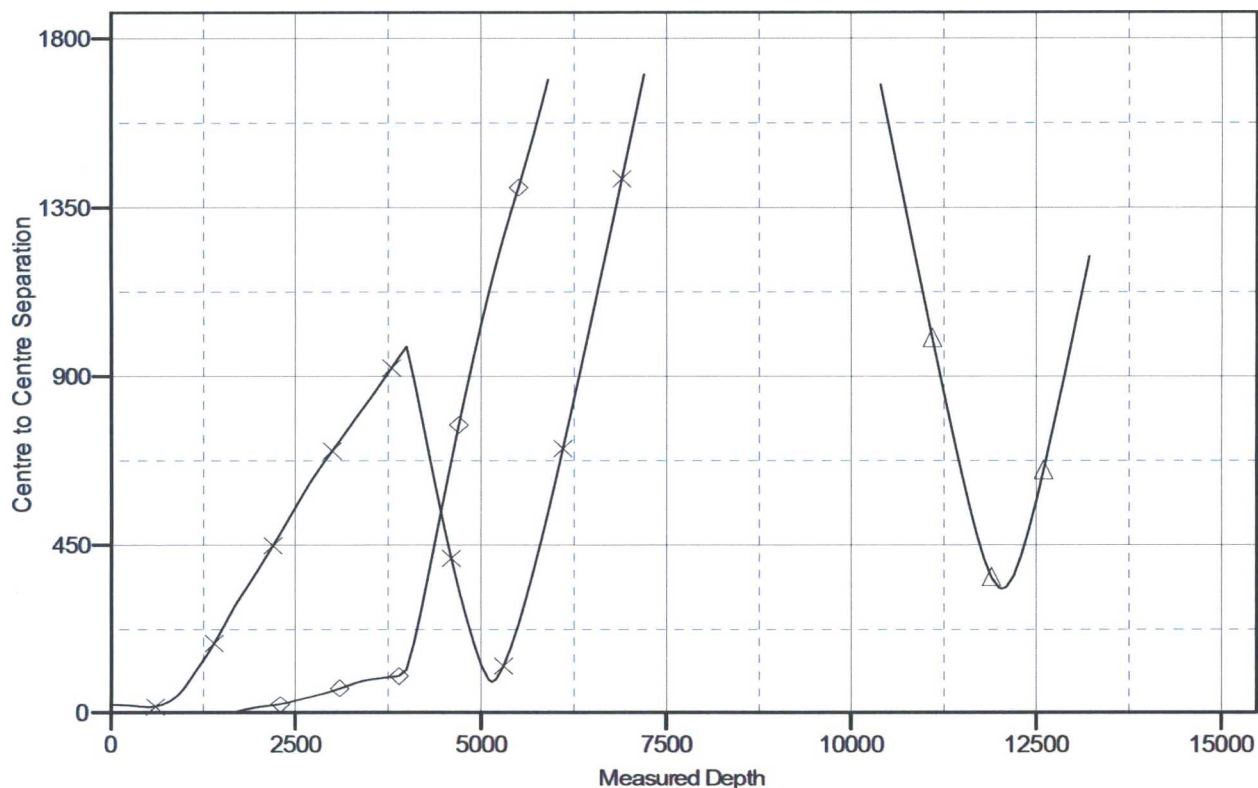
Central Meridian is -107.833333 °

Coordinates are relative to: NAGEEZI UNIT 405H

Coordinate System is US State Plane 1983, New Mexico Western Zone

Grid Convergence at Surface is: 0.03°

Ladder Plot



LEGEND

NAGEEZI UNIT 405H, OH, SURVEYS V0



South Huerfano #1, DUGAN WELL, NO SURVEYS V0



NAGEEZI UNIT 406H, OH, SURVEYS V0