Form 3160-5 (June 2015)

# **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT OCT 25 2000

FORM APPROVED OMB No. 1004-0137 Expires: January 31, 2018

			NMNM 8005	NMNM 8005	
SUNDRY N	OTICES AND REPORTS OF	6. If Indian, Allottee or	6. If Indian, Allottee or Tribe Name  Eastern Navajo		
	orm for proposals to drill o Jse Form 3160-3 (APD) for	Eastern Navajo			
SUBMIT IN TRIPLICATE - Other instructions on page 2			7. If Unit of CA/Agree	7. If Unit of CA/Agreement, Name and/or No.	
1. Type of Well			NMNM 132981A	NMNM 132981A	
✓ Oil Well Gas Well Other			8. Well Name and No. Nageezi Unit 502H		
2. Name of Operator			9. API Well No.		
Encana Oil & Gas (USA) Inc.		No. (include area code)	30-045-35863	10. Field and Pool or Exploratory Area	
3a. Address 370 17th Street, Suite 1700 Denver, CO 80202	(720) 876-5339		Nageezi Unit; Manco	Nageezi Unit; Mancos (Oil)	
4. Location of Well (Footage, Sec., T. I SHL: 2567' FNL and 1528' FEL BHL: 2089' FNL and 2297' FW			11. Country or Parish, State San Juan County, NM		
	CK THE APPROPRIATE BOX(ES) TO	INDICATE NATURE C	F NOTICE, REPORT OR OTH	ER DATA	
TYPE OF SUBMISSION		TYPE	OF ACTION		
	Acidize	Deepen	Production (Start/Resume)	oduction (Start/Resume) Water Shut-Off	
Notice of Intent		Hydraulic Fracturing	Reclamation	Well Integrity	
		New Construction	Recomplete	✓ Other Completions	
✓ Subsequent Report		Plug and Abandon	Temporarily Abandon	Information	
Final Abandonment Notice		Plug Back	Water Disposal		
is ready for final inspection.) Encana Oil & Gas (USA) In enclosed.	c. performed completion operations are selected as a selected se		to 10/16/2018, which are D FOR RECORD  15 7018  DM/ELD OFFICE	detailed on the attachment	
14.1 hereby certify that the foregoing is	true and correct. Name (Printed/Typed)				
Jevin Croteau		Title Senior Regu	Title Senior Regulatory Analyst		
Signature /	Date 10/2	Date 18/23/18			
1	THE SPACE FOR F	EDERAL OR STA	TE OFICE USE		
Approved by		Title		Pate	
C	had Americal of this native leaves			Date	
	hed. Approval of this notice does not wa equitable title to those rights in the subje- iduct operations thereon.				

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.



# Nageezi Unit 502H API: 30-045-35863 Completions Sundry Information dated 10/23/2018:

# 09/12/18:

- N/U bop stack and annular.
- Spotted in and r/u, r/u rig floor and handling tools.
- Pressure tested blind rams to a low test of 500 psi and a high ntest of 4500 psi, installed landing jt, pressure tested pipe rams to a low test of 500 psi and a high test of 4500 psi, annular to 2000 psi, all test good. Pulled tbg hanger, shut blind rams.
- Loaded racks with 2 3/8" PH6 workstring and tallied.

# 09/13/18:

- POOH laying down 2 3/8" PH6 workstring onto pipe racks.
- Continued to laydown workstring. Once out of hole polish mill had good marks indicating we were on liner top.
- Swapped pipe rams over to 4.5", r/d rig tongs, r/u csg tongs, loaded and tallied pipe racks with 4.5" tie back string.
- Make up Baker PBR Seal Assembly, rih with 4.5" tie back string and tagged liner top @ 4989', set 25K down, made marks, layed down 2 jts of csg. Spaced out with a 22', 8', and 4' pup jts, landed tie back string on hanger in 22K compression. Pressure tested 7" csg to 1500 psi, held for 5 minutes, good test.
- R/D csg tongs, rig floor and handling tools, r/d. Racked out pump and lines.
- N/D bop stack and annular. N/U 7 1/16" 5K X 4 1/16" 10K adapter, 4 1/16" 10K manual valve, 4 1/16" 10K hydraulic valve, 4 1/16" 10K flow cross with 3" 1502 unions, 4 1/16" 10K swab valve, 4" 1002 Frac Y.
- Pressure tested frac stack to a low test of 500 psi and a high test of 9500 psi, held each for 5 minutes, all test good, pulled TWC.
- Well shut in waiting to open toe sleeve.
- Spotted in and r/u pump trucks and acid truck. Pressure tested lines to a low test of 250 psi and a high test of 9000 psi, good test. Pressured up on 7" csg to 1500 psi and held. Pressure tested 4.5" csg to 1500 psi and held for 30 minutes, tested to 5000 psi and held for 5 minutes, all test good. Kicked pumps on and opened toe sleeve @ 6528 psi, pumped 25 bbls @ 1 bbl/min @ 1389 psi, pumped 25 bbls @ 2 bbls/min @ 1805 psi, pumped 25 bbls @ 3 bbls/min @ 2020 psi, pumped 25 bbls @ 4 bbls/min @ 1849 psi, pumped 50 bbls @ 5 bbls/min @ 2400 psi, pumped 2000 gallons 15% HCl w/inhibitor, flushed csg with 226 bbls @ 5.5 bbls/min @ 2100 psi, shut down pumps, shut in well 758 psi and secured well, bled off pressure from 7" csg, r/d.
- Secured well and shut in waiting on frac.

#### 09/26/18:

- MIRU Frac and other vendors.
- Pressure test lines to 9500 psi. (N2 and Fluid). After small fixes had a good test.
- Pressure test pump down lines to 4500, had to change out 2 low torque valves then got a good test.
- Frac stg #1, of 25. Used 70Q foam, 1,179 bbl water, 1,726,504 scf N2, 101,470 lbs sand, Avg PSI: 6,570' at 59.5 BPM, ISIP:1,056, FG:0.680 psi/ft.
- RIH W/WL, Stage #2. Bbls pumped: 277. plug set @ 11,295' guns would not fire. POOH.
- RIH W/WL, Stage #2. Bbls pumped: 270, Perfs 11,063,' 11,283', Avg spd:280 ft/min, Avg wt: 780, Max rate: 12 Max psi:1,500.

## 09/27/18:

- Frac stg #2, of 25. Used 70Q foam, 1,785 bbl water, 1,380,136 scf N2, 251,800 lbs sand, Avg PSI:
   7,790' at 56.7 BPM, ISIP:1,084, FG:0.661 psi/ft.
- RIH W/WL, Stage #3. Bbls pumped: 219, Plug set @ 11,054' Perfs 10,823' 11,043', Avg spd: 330 ft/min, Avg wt: 700, Max rate: 12 Max psi:1,450.
- Frac stg #3, of 25. Used 70Q foam, 1,107 bbl water, 1,357,979 scf N2, 255,600 lbs sand, Avg PSI:
   7,882' at 59.4 BPM, ISIP:1,324, FG:0.710 psi/ft.
- RIH W/WL, Stage #4. Bbls pumped: 211, Set plug @: 10,814 Perfs 10,583,' 10,803', Avg spd: 350 ft/min, Avg wt: 550, Max rate: 12 Max psi:1,380.
- Frac stg #4, of 25. Used 70Q foam, 1,169 bbl water, 1,279762 scf N2, 252,000 lbs sand, Avg PSI: 7,620' at 58.4 BPM, ISIP:1,343, FG:0.714 psi/f.
- RIH W/WL, Stage #5. Bbls pumped: 189, Set plug @: 10,542 Perfs:10,350,' 10,558', Avg spd: 350 ft/min, Avg wt:720, Max rate:12 Max psi:1,340.
- Frac stg #5, of 25. Used 70Q foam, 1,149 bbl water, 1,247398 scf N2, 251,000 lbs sand, Avg PSI: 7,555' at 56.5 BPM, ISIP:1,420, FG:0.729 psi/ft.
- RIH W/WL, Stage #6. Bbls pumped: 187, Set plug @: 10,334 Perfs:10,103,' 10,324', Avg spd: 350 ft/min, Avg wt:720, Max rate:12 Max psi:1,525.
- Frac stg #6, of 25. Used 70Q foam, 1,351 bbl water, 1,145,012 scf N2, 251,000 lbs sand, Avg PSI: 7,651' at 61.3 BPM, ISIP:1,546, FG:0.755 psi/ft.
- RIH W/WL, Stage #7. Bbls pumped: 191, Set plug @: 10,094 Perfs: 10,083,' 9,863', Avg spd: 340 ft/min, Avg wt:760, Max rate:12 Max psi:1,650.

## 09/28/18:

- Frac stg #7, of 25. Used 70Q foam, 1,389 bbl water, 1,175,391 scf N2, 259,200 lbs sand, Avg PSI: 7,208' at 62.8 BPM, ISIP:1,175, FG:0.679 psi/ft.
- RIH W/WL, Stage #8. Bbls pumped: 161, Set plug @: 9,854 Perfs: 9,623,' 9,843', Avg spd: 350 ft/min, Avg wt:600, Max rate:12 Max psi:1,300.
- Frac stg #8, of 25. Used 70Q foam,1,186 bbl water, 1,127,009 scf N2, 249,300 lbs sand, Avg PSI:
   6,616' at 61.2 BPM, ISIP:1,529, FG:0.752 psi/ft.
- RIH W/WL, Stage #9. Bbls pumped:180, Set plug @:9,614 Perfs: 9,386,' 9,597', Avg spd:330 ft/min, Avg wt:700, Max rate:12, Max psi:1,650.
- Frac stg #9, of 25. Used 70Q foam,1,154 bbl water, 1,155,330 scf N2, 253,750 lbs sand, Avg PSI: 7,163' at 60 BPM, ISIP:1,542, FG:0.755 psi/ft.
- RIH W/WL, Stg. #10. Bbls pumped: 142, Plug set @: 9,374' Perfs 9,134 9,363, Avg spd:350 ft/min, Ave wt:710, Max rate:12, Max psi:1,750.
- Frac stg #10 of 20. Used 70Q foam, 1,290 bbl water, 1,176,420 scf N2, 258,200 lbs sand, Avg PSI:7,167' at 62.1 BPM, ISIP:1,194, FG:0.683 psi/ft.
- RIH W/WL, Stg. #11. Bbls pumped: 156, Plug set @: 9,134' Perfs 8,910 9,123', Avg spd:350 ft/min, Ave wt:700, Max rate:12, Max psi:1,750.
- Frac stg #11 of 20. Used 70Q foam, 1,137 bbl water, 1,184,985 scf N2, 259,300 lbs sand, Avg PSI:6,990' at 61.7 BPM, ISIP:1,091, FG:0.662 psi/ft.
- RIH W/WL, Stg. #12. Bbls pumped: 129, Plug set @: 8,894' Perfs 8,663 8,883, Avg spd:350 ft/min, Ave wt:650, Max rate:12, Max psi:1,350.

#### 09/29/18:

- Frac stg #12 of 20. Used 70Q fRIH W/WL, Stg. #13. Bbls pumped: 129, Plug set @: 8,654' Perfs 8,423 8,640, Avg spd: 350 ft/min, Ave wt: 480, Max rate:12, Max psi:1,300, 1,108 bbl water, 1,112,575 scf N2, 246,900 lbs sand, Avg PSI: 6,682' at 60.9 BPM, ISIP: 968, FG:0.637 psi/ft.
- RIH W/WL, Stg. #13. Bbls pumped: 129, Plug set @: 8,654' Perfs 8,423 8,640, Avg spd: 350 ft/min, Ave wt: 480, Max rate:12, Max psi:1,300.

- Frac stg #13 of 20. Used 70Q foam 1,115 bbl water, 1,135,875 scf N2, 248,300 lbs sand, Avg PSI: 6,217' @ 60 BPM, ISIP: 1,063, FG:0.656 psi/ft.
- RIH W/WL, Stg. #14. Bbls pumped: 132, Plug set @: 8,414' Perfs 8,183' 8,404', Avg spd:330 ft/min, Ave wt:770, Max rate:12, Max psi:1,300.
- Frac stg #14 of 20. Used 70Q foam 1,204 bbl water, 1,125,606 scf N2, 249,250 lbs sand, Avg PSI: 6,158' @ 60 BPM, ISIP: 1,125, FG:0.669 psi/ft.
- RIH W/WL, Stg. #15. Bbls pumped: 103, Plug set @: 8,174' Perfs 7,943' 8,158', Avg spd:350 ft/min, Ave wt:750, Max rate:12, Max psi:1,200.
- Frac stg #15 of 25. Used 70Q foam 1,079 bbl water, 1,124,805 scf N2, 255,900 lbs sand, Avg PSI: 7,358' @ 66.2 BPM, ISIP: 980 FG:0.639 psi/ft.
- RIH W/WL, Stg. #16. Bbls pumped: 94, Plug set @: 7,931' Perfs 7,703' 7,918', Avg spd:350 ft/min, Avg wt:705, Max rate:12, Max psi:1,200.
- Frac stg #16 of 25. Used 70Q foam 1,161 bbl water, 1,131,501 scf N2, 253,300 lbs sand, Avg PSI: 6,378 @ 61.4 BPM, ISIP: 958, FG:0.635 psi/ft.

## 09/30/18:

- RIH W/WL, Stg. #17. Bbls pumped: 101, Plug set @: 7,694' Perfs 7,463' 7,683', Avg spd:350 ft/min, Avg wt:680, Max rate:12, Max psi:1,200.
- Frac stg #17 of 25. Used 70Q foam 1,056 bbl water, 1,137,973 scf N2, 256,000 lbs sand, Avg PSI: 5,906' @ 61.4 BPM, ISIP: 1,067, FG:0.657 psi/ft.
- RIH W/WL, Stg. #18. Bbls pumped: 84, Plug set @: 7,450' Perfs 7,232' 7,436', Avg spd:350 ft/min, Avg wt: Max rate:12, Max psi:1,700.
- Frac stg #18 of 25. Used 70Q foam 975bbl water, 1,094,149 scf N2, 253,400 lbs sand, Avg PSI: 5,507' @ 60 BPM, ISIP:959, FG:0.635 psi/ft.
- RIH W/WL, Stg. #19. Bbls pumped: 73, Plug set @: 7,241' Perfs 6.983' 7,195', Avg spd:350 ft/min, Avg wt:800, Max rate:12, Max psi:1,105.
- Frac stg #19 of 25. Used 70Q foam 980 bbl water, 1,097,173scf N2, 250,000 lbs sand, Avg PSI: 5,326' @ 59.8 BPM, ISIP:998, FG:0.643 psi/ft.
- RIH W/WL, Stg. #20. Bbls pumped: 87, Plug set @: 6,972' Perfs 6.743' 6,961', Avg spd:300 ft/min, Avg wt:800, Max rate:12, Max psi:1,085.
- Frac stg #20 of 25. Used 70Q foam 980 bbl water, 1,097,173scf N2, 250,000 lbs sand, Avg PSI:
   5,326' @ 59.8 BPM, ISIP:998, FG:0.643 psi/ft.
- RIH W/WL, Stg. #21. Bbls pumped: 102, Plug set @: 6,734' Perfs 6.507' 6,723', Avg spd:350 ft/min, Avg wt: 710, Max rate:12, Max psi:1,020.
- Frac stg #21 of 25. Used 70Q foam 1,024 bbl water, 1,144,929 scf N2, 255,700 lbs sand, Avg PSI: 5,785' @ 63.7 BPM, ISIP: 974, FG:0.638 psi/ft.
- RIH W/WL, Stg. #22. Bbls pumped: 60, Plug set @: 6,494' Perfs 6.263' 6,483', Avg spd:350 ft/min, Avg wt: 760, Max rate:12, Max psi:1,200.
- Frac stg #22 of 25. Used 70Q foam 1,069 bbl water, 1,133,056 scf N2, 256,400 lbs sand, Avg PSI: 5,530' @ 64.7 BPM, ISIP: 1,002, FG:0.644 psi/ft.

## 10/01/18:

- RIH W/WL, Stg. #23. Bbls pumped: 108, Plug set @: 6,254' Perfs 6.028' 6,243', Avg spd: 350 ft/min, Avg wt: 660, Max rate:12, Max psi:1,200.
- Frac stg #23 of 25. Used 70Q foam 988 bbl water, 1,162,241 scf N2, 254,100 lbs sand, Avg PSI: 5,635' @ 63.8 BPM, ISIP: 163, FG:0.677 psi/ft.
- RIH W/WL, Stg. #24. Bbls pumped: 48, Plug set @: 6,014' Perfs 5,783' 6,003', Avg spd:350 ft/min, Avg wt: 700, Max rate:12, Max psi:1,250.
- Frac stg #24 of 25.
- Start flow back well to open top tanks on 16/64 choke @ 3,000psi.

- Continue to flow back well to open top tanks on 24/64 choke @ 200- 1,000 psi. Sand was extremely heavy at times. Wellbore sand and 140 barrels of fluid returned Good foam returns with light sand. Ball never recovered. Final pressure 1350 on a 16 choke, 4 bpm returns.
- Inject 100 barrels fluid @ 3 barrel / minute @ 1828 PSI, 50 barrels @ 6 barrel / minute @ 2280 PSI, 50 barrels @ 9 barrel / minute @ 2740 PSI, 50 barrels @ 2950 PSI and 12 bpm@2850 for 50 bbls. ISIP @ 950 PSI. Bleed off wellhead and dropped a second ball.
- Frac stg #24 of 25. Used 70Q foam 1481 bbl water, 1,507,058 scf N2, 249850 lbs sand, Avg PSI: 5,118' @ 60.4 BPM, ISIP:988, FG:0.641 psi/ft.
- Frac stg #25 of 25. Used 70Q foam 1015 bbl water, 1,342,280 scf N2, 230,080 lbs sand, Avg PSI: 4,576' @ 60.4 BPM, ISIP:1140, FG:0.672 psi/ft.
- RIH W/WL to set kill plug, Bbls pumped:15, Plug set @: 5,300', Avg spd:250 ft/min, Avg wt: 700, Max rate:6, Max psi:827.
- Negative test plug for 30 mins, positive test to 2000 psi, good test. bled off csg and secured well.
- RD all equipment.
- WO drillout ops.

## 10/12/18:

- Install BPV into hanger and ND frac valve.
- NU 5M double BOP with pipe rams on bottom & blind rams on top. NU flow cross and annular. (Changed Element on Annular) Pull BPV and install TWC.
- Pressure tested blind rams to a low test of 500 psi and a high test of 4500 psi. (Bad Test) Opened doors and cleaned sand from blind ram elements. Closed and tested again. (Bad) Called for new seals & blocks. Installed 2 3/8" jt of tbg, tested pipe rams to a low test of 500 psi and a high test of 4500 psi, annular to 2500 psi. All lines hooked up and ready to be pressure tested.
- RUWOR floor and RU CSG crew equipment. Pull TWC from hanger.
- Un land hanger @ 60k & break out, LD 1 jt 4.5" csg, LD 22' pup jts, PU jt 4.5" csg, MU hanger & landing jt, land hanger, run in lock pins, LD landing jt. RDMO CSG crew equipment.
- Installed TWC. Pulled blind ram blocks and inserted new. Shut and test again 500/4500 psi for good charted test. Pull TWC and release.
- Swap handling tools, Load pipe racks w/ 2 3/8 PH6 & tally. Moved and re spotted light plants.
- Made up BHA of 3 7/8" Hurricane Mill (Serial # HT 4606), bit sub, dual flapper valve, 10' pup jt, RN-Nipple, 10' pup jt. Begin PU 2 3/8" WS. Hand over to Scott Pitt. Continue RIH, Tag kill plug on jt 170 25' in 5306' LD Jt.
- Tie back to single fast line, RU swivel on jt 170. Warm up ADA equipment.

#### 10/13/18:

- Pressure test Rig, FB & ADA iron 500 psi & 2500 psi, Move 3" FB valve up to flowcross, Re test FB
   3" line.
- Broke circulation with N2 unit putting 1450 SCFM down backside @ 1500 psi and 1200 SCFM @ 1500 psi with rig pump pumping 1.25 bbl/min @ 1450. Circulated for 1.25 hours, WHP 675 psi on 40/64 and RTR 1.25 bbls/min.
- RIH with swivel and tagged kill plug @ 5302', drilled plug in 50 mins, circulate 15 mins, WHP 775 psi.
- RIH tagged @ 7630' (90' sand), washed to plug #1 @ 5,750', N2 @ 1450 SCFM @ 1500 psi down backside, 1200 SCFM @ 1500 psi down tbg, drilled plug in 10 mins. WHP @ 775 psi. RTR .9 bpm, circulate for 15 mins.
- DO CFP #1 through #15.

## 10/14/18:\_\_

DO CFP #16 through #24.

- Sent 10-10-10 heavy gel sweep, circulated wellbore clean. WHP 600 psi & 1.3 RTR. Sweeps came back clean.
- Laid down 20 jts with swivel, r/d power swivel. Continued to lay down work string onto racks.

#### 10/15/18:

- Pulling stick on jt 329, 10,261', RU swivel, swivel out 14 jts to 9824' @ PTP #4 pump 20 bbls down tbg, bleed off plug, pull 4 more jt w/swivel, pulling good, rack swivel, POH laying down WS, LD to 157 JT's in the hole. EOT @ 4907' KB. Shut down N2 & foam unit. Begin bleeding down 7" to frac tanks on choke. 7" pressure 1150 psi. WHP 650 psi.
- Pump 130 bbl's TFW down 4.5" for kill. 7" down to 0 psi. After 75 bbl's WHP was still 200 psi. After 90 bbl's vacuum. Tbg begain to unload, pump 20 bbls and on vacuum.
- Continue LD WS, 137 jts left to pull EOT 4286' air system on rig froze up.
- Air lines on rig froze up. Got lines fixed and started pulling TBG then froze up again. Fixed again, started pulling TBG and clutch lever broke. Mechanic came out with wrong clutch lever. Hot shot another one out from Aztec and replaced.
- Finish LD 2 3/8" PH-6 WS down. Move over to floats and have taken all (448) JT's back to NOV / Tubo Scope.
- Swap over handling tools & pipe rams to 4.5", RU San Juan cag crew & tongs.
- Pump 50 bbls down 7" csg. well on vacuum
- MU landing 4.5 jt, back out lock pins, Un land hanger, LD landing jt & hanger & begin TOOH w/4.5" tie back string.
- Continue I/d tie back string, OOH w/Baker PBR seal assy.
- RD csg equipment, swap handling tools & pipe rams to 2 7/8, load production tbg on rack, remove tread protectors & tally. Aztec mechanic to check out rig.

#### 10/16/18:

- Made up BHA of half mule shoe, 12 jts 2 3/8" tbg, 2 3/8" X 2 7/8" X-Over, 1 jt 2 7/8" tbg, profile nipple, rih with tbg and GLV's as per design to landing depth, landed tbg on hanger.
- R/D rig floor and handling tools.
- N/D bop stack, annular, and flow cross.
- Pulled tbg hanger, made marks, put 7 turns to the left, set TAC 14K tension placing TAC @ 4415.06', X nipple 4881.72 and EOT @ 5304.37', landed tbg on hanger.
- NU 5K x 2 9/16" (Cameron) well head. Rig down Aztec 880.
- Pull BPV and install TWC. Test void 250/5000. (Good) Test pro tree 250/4500 psi for good charted test. Pull TWC and release T&T. Well is ready for production.
- S.I. Secure well. Wait for flowback.

# 10/18/18:

- Flowing back well. TBG is wide open at this time. TBG 0 psi, CSG 700 psi & flowing 0 bbl's oil per hour. Flowing 0 bbl's water per hour. Gas spot rate is NA.

#### 10/19/18:

- Flowing back well. Flowing TBG on 91/64 choke at this time. TBG 500 psi, CSG 883 psi & flowing 16 bbl's oil per hour. Flowing 38 bbl's water per hour. Gas rate is 6738 MFC.