

Oklahoma Corporation Commission
Oil & Gas Conservation Division
Post Office Box 52000
Oklahoma City, Oklahoma 73152-2000
Rule 165: 10-3-25

Form 1002A

API No.: 35153236320000

Completion Report

Spud Date: August 22, 2018

OTC Prod. Unit No.: 153-224295

Drilling Finished Date: September 24, 2018

1st Prod Date: October 13, 2018

Completion Date: October 05, 2018

Drill Type: HORIZONTAL HOLE

Well Name: JOAN 23-20-20 1H

Purchaser/Measurer: PLAINS MARKETING

Location: WOODWARD 14 20N 20W
NW NW SE SW
1000 FSL 1585 FWL of 1/4 SEC
Latitude: 36.205715297 Longitude: -99.305078286
Derrick Elevation: 2182 Ground Elevation: 2166

First Sales Date: 10/13/2018

Operator: TAPSTONE ENERGY LLC 23467

100 E MAIN ST
OKLAHOMA CITY, OK 73104-2509

Completion Type		Location Exception		Increased Density	
X	Single Zone	Order No		Order No	
	Multiple Zone	689757		There are no Increased Density records to display.	
	Commingled				

Casing and Cement							
Type	Size	Weight	Grade	Feet	PSI	SAX	Top of CMT
SURFACE	9 5/8	36	J-55	1503	850	465	SURFACE
PRODUCTION	7	26	L-80	12175	2300	550	6270

Liner								
Type	Size	Weight	Grade	Length	PSI	SAX	Top Depth	Bottom Depth
LINER	4 1/2	15.10	L-80	5836	0	0	11357	17193

Total Depth: 17193

Packer		Plug	
Depth	Brand & Type	Depth	Plug Type
11972	AS1-X	There are no Plug records to display.	

Initial Test Data										
Test Date	Formation	Oil BBL/Day	Oil-Gravity (API)	Gas MCF/Day	Gas-Oil Ratio Cu FT/BBL	Water BBL/Day	Pumpin or Flowing	Initial Shut-In Pressure	Choke Size	Flow Tubing Pressure
Nov 10, 2018	MISSISSIPPIAN	180	53	7758	43100	1377	FLOWING	850	28/64	2216

Completion and Test Data by Producing Formation			
Formation Name: MISSISSIPPIAN		Code: 359MSSP	Class: GAS
Spacing Orders		Perforated Intervals	
Order No	Unit Size	From	To
682731	640	There are no Perf. Intervals records to display.	
Acid Volumes		Fracture Treatments	
612 BBL 15% HCL		125,992 BBL OF FLUID & 2,996,040 LBS OF SAND.	

Formation	Top
UPPER MERAMEC	10696
MIDDLE MERAMEC	10821
LOWER MERAMEC	11181
UPPER OSAGE	11425
LOWER OSAGE	11782

Were open hole logs run? No
Date last log run:

Were unusual drilling circumstances encountered? No
Explanation:

Other Remarks
OCC - THIS IS AN OPEN HOLE COMPLETION FROM THE BOTTOM OF THE 7" AT 12160' TO TERMINUS AT 17193', THE 4 1/2" LINER IS NOT CEMENTED.

Lateral Holes
Sec: 23 TWP: 20N RGE: 20W County: WOODWARD SE SW SW SE 202 FSL 2137 FEL of 1/4 SEC Depth of Deviation: 11435 Radius of Turn: 556 Direction: 172 Total Length: 4884 Measured Total Depth: 17193 True Vertical Depth: 11873 End Pt. Location From Release, Unit or Property Line: 202

FOR COMMISSION USE ONLY	
Status: Accepted	1141344

TEST: ☒ INITIAL
☐ ANNUAL
☐ RETEST

OKLAHOMA CORPORATION COMMISSION
Oil & Gas Conservation Division
Post Office Box 52000
Oklahoma City, Oklahoma 73152-2000

RECEIVED

Form 1016
Rev. 2017

JAN 4 2019

BACK PRESSURE TEST FOR NATURAL GAS WELLS

OAC 165:10-17-6

Oklahoma Corporation
Commission

DATE OF TEST:

12/11/2018

DATE OF 1ST SALES: 10/24/2018

Operator Tapstone Energy, LLC				Operator # 23467	
Address PO Box 1608			City Oklahoma City	ST OK	ZIP 73101
E-mail regulatory@tapstoneenergy.com		Ph 405-702-1600	Fax	Well Name/# JOAN 23-20-20 1H	
Gas Volume Reporter ENABLE GATHERING & PROCESSING			Gas Volume Reporter # 22589		API # 153-23632
Producing Zone MISSISSIPPIAN			OTC Lease 153-224295-0		
Surface Location 1,000' FSL - 1,585' FWL NW 1/4 NW 1/4 SE 1/4 SW 1/4			Sec 14	Twp 20N	Rge 20W
Zone Location (if different) 202' FSL - 2,136' FEL SE 1/4 SW 1/4 SW 1/4 SE 1/4			Sec 23	Twp 20N	Rge 20W
Field VICI NORTH				Spacing Size 640	

COMPLETION: ☒ Single ☐ Multiple Zone ☐ Commingled ☐ Recompletion Date of Completion 10/05/18

Total Depth 17,193'	Plug Back Depth	Packer Set Depth 11,956'	Elevation 2,166' GL
Csg Size 4-1/2" Liner	WT 15.1 d 3.83	Depth Set 11,357' - 17,193'	Perfs. 12,160' - 17,193'
Tbg Size 2-7/8"	WT 6.50 d 2.441	Depth Set 11,979'	Perfs.
Prod. Thru TBG	Res. Temp. F 222 @ 14677	Mean Grd. Temp. F 60	Atm. Press. PSIA 14.4
L 14677 H 14677 G _g .6120 %CO ₂ .281 %N ₂ .542 H ₂ S(ppm)	Prover	Meter Run	X Taps Flange

SHUT-IN DATA		FLOW DATA						TUBING DATA		CASING DATA		BHP DATA		FLOW (HRS)
PRESS	(HRS)	PROVER		DIFF		TEMP	PRESS	TEMP	PRESS	TEMP	PRESS	TEMP		
		LINE SIZE	X	ORIFICE SIZE	PRESS (PSIG)								(INCHES) (ROOTS)	
1831	24	4.026		2.5	99	95	82	761	70					24

RATE OF FLOW CALCULATIONS

COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	PRESSURE P _m	FLOW TEMP. FACTOR F _t	GRAVITY FACTOR F _g	SUPER COMPRESS FACTOR F _{pw}	RATE OF FLOW (Q) MCFD
33.48	103.7931	113.4	.9795	1.2783	1.0085	4388

P _r	TEMP. R	T _r	Z
.1690	541.7	1.5021	.9832

Gas/Liquid Hydrocarbon Ratio		79.78	MCF/BBL
API Gravity of Liquid Hydrocarbons		60	Deg.
Specific Gravity Separator Gas	.612	Specific Gravity Flowing Fluid	.648
Critical Pressure	670.95 PSIA	Critical Pressure	669.8 PSIA
Critical Temperature	360.62 R	Critical Temperature	371.76 R

P_c 1845.4 (PSIA) P_c² 3405.5

P _w	P _w ²	P _c ² - P _w ²
775.4	601.25	2804.26

[1] $\frac{P_c^2}{P_c^2 - P_w^2} = 1.2144$ (Not to exceed 5.263)

[2] $\frac{P_c^2}{P_c^2 - P_w^2} = 1.1795$ WHAOF=Q

$\frac{P_c^2}{P_c^2 - P_w^2} = 5176$ 5755

Calculated wellhead open flow	5176 MCFD @ 14.65	Angle of Slope	Slope, n .850
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Remarks Oil Produced 55 BBLS Water Produced 856 BBLS

Approved by Commission:	Conducted by: Jeff Lanham	Calculated by: Thurmond-McGlothlin	Checked by:
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WITNESSED - OCC FIELD STAFF Y ☒ N ☐ NAME: DATE: 12-18-18

IF THE ALLOWABLE FOR THIS WELL HAS BEEN ADJUSTED BY COMMISSION ORDER, PLEASE GIVE THE ORDER NUMBER(S) IN ONE OR MORE OF THE CATEGORIES BELOW:

INCREASED DENSITY _____ LOCATION EXCEPTION* _____

COMMINGLING _____ MULTIPLE ZONE _____

SEPARATE OR SPECIAL ALLOWABLE* _____

OTHER PENALTY ORDER(S)* _____

* FOR THESE ORDER TYPES, PLEASE DESCRIBE ALLOWABLES AND/OR PENALTIES:

I declare that I have knowledge of the contents of this report and am authorized by my organization to make this report, which was prepared by me or under my supervision and direction, with the data and facts stated herein to be true, correct and complete to the best of my knowledge and belief.

SIGNATURE	TITLE	Manager
Thurmond-McGlothlin	12/14/18	580-256-9849
COMPANY	DATE	PHONE NO.

- Pc SHUT-IN PRESSURE, PSIA (LENGTH OF SHUT-IN MINIMUM OF 24 HOURS).
- Pw STATIC COLUMN WELLHEAD PRESSURE CORRESPONDING TO THE FLOWING WELLHEAD PRESSURE, PSIA (TO BE RECORDED AT END OF EACH FLOW RATE.) THE VALUE OF Pw SHOULD NOT EXCEED 90% OF Pc.
- Gg SPECIFIC GRAVITY OF SEPARATOR GAS (AIR = 1.000).
- L LENGTH OF THE FLOW STRING FROM THE MIDDLE OF THE PRODUCING FORMATION TO THE PRESSURE POINT AT WELLHEAD, FEET.
- H VERTICAL DEPTH CORRESPONDING TO L, FEET.
- Q 24 HOUR RATE OF FLOW, MCF/D.
- d INSIDE DIAMETER, INCHES.
- R DEGREES, RANKINE (DEGREES FAHRENHEIT ABSOLUTE).
- Pr REDUCED PRESSURE, DIMENSIONLESS.
- Tr REDUCED TEMPERATURE, DIMENSIONLESS.
- Z COMPRESSIBILITY FACTOR, DIMENSIONLESS.