

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.: 35129241010000

Completion Report

Spud Date: May 22, 2017

OTC Prod. Unit No.: 129222581

Drilling Finished Date: July 01, 2017

1st Prod Date: September 29, 2017

Completion Date: September 24, 2017

Drill Type: HORIZONTAL HOLE

Well Name: THUNDER 17-12-26 1HA

Purchaser/Measurer: WILLIAMS/BP ENERGY

Location: ROGER MILLS 19 12N 26W
SE NW NE NE
647 FNL 662 FEL of 1/4 SEC
Latitude: 35.50763686 Longitude: -99.98442665
Derrick Elevation: 2371 Ground Elevation: 2350

First Sales Date: 9/29/2017

Operator: FOURPOINT ENERGY LLC 23429

100 SAINT PAUL ST STE 400
DENVER, CO 80206-5140

Completion Type		Location Exception		Increased Density	
X	Single Zone	Order No		Order No	
	Multiple Zone	677535		662364	
	Commingled				

Casing and Cement							
Type	Size	Weight	Grade	Feet	PSI	SAX	Top of CMT
SURFACE	13-3/8	48	H-40	869	1730	895	SURFACE
INTERMEDIATE	9-5/8	40	J-55	6510	3950	620	1725
PRODUCTION	5-1/2	20	P-110	17809	12640	2685	4721

Liner								
Type	Size	Weight	Grade	Length	PSI	SAX	Top Depth	Bottom Depth
There are no Liner records to display.								

Total Depth: 18140

Packer	
Depth	Brand & Type
There are no Packer records to display.	

Plug	
Depth	Plug Type
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
Oct 28, 2017	DES MOINES	239	55	10796	45172	248	FLOWING	3825	25/64	3270

Completion and Test Data by Producing Formation									
Formation Name: DES MOINES				Code: 404DSMN			Class: GAS		
Spacing Orders				Perforated Intervals					
Order No		Unit Size		From			To		
171758		640		13345			17759		
Acid Volumes				Fracture Treatments					
20,000 GAL 15% FE ACID				93,651 BBLS WATER, 195,280 LBS 100 MESH COMMON WHITE SAND, 2,599,400 LBS 40/70 PREMIUM WHITE SAND, 649,720 LBS 40/70 CRC SAND					

Formation	Top
DES MOINES	12560

Were open hole logs run? No

Date last log run:

Were unusual drilling circumstances encountered? No

Explanation:

Other Remarks
OCC - THE FINAL ORDER FOR LOCATION EXCEPTION 201605452 SHOWS THE BHL/TD AT 18082', THE PROJECTED TO BIT DEPTH IS 18140.

Lateral Holes
Sec: 17 TWP: 12N RGE: 26W County: ROGER MILLS NW NE NW NW 161 FNL 919 FWL of 1/4 SEC Depth of Deviation: 12359 Radius of Turn: 248 Direction: 1 Total Length: 5390 Measured Total Depth: 18140 True Vertical Depth: 12750 End Pt. Location From Release, Unit or Property Line: 161

FOR COMMISSION USE ONLY
<div>Status: Accepted</div> <div>1137922</div>

9/1/18
Oklahoma Corporation Commission
Oil & Gas Conservation Division
Post Office Box 52000
Oklahoma City, Oklahoma 73152-2000
Rule 165: 10-3-25

Form 1002A

1016EZ

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A: 115484 S

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DENVER, CO 80206-5140

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	Multiple Zone	677535		662364	
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Liner								
Type	Size	Weight	Grade	Length	PSI	SAX	Top Depth	Bottom Depth
There are no Liner records to display.								

Total Depth: 18140

Packer		Plug	
Depth	Brand & Type	Depth	Plug Type
There are no Packer records to display.		There are no Plug records to display.	

Initial Test Data

August 22, 2018

10/28/17

404DSMN

3825

1 of 2
JR

E2

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
Oct 28, 2017	DES MOINES	239	55	10796	45172	248	FLOWING	3825	25/64	3270

Completion and Test Data by Producing Formation

Formation Name: DES MOINES

Code: 404DSMN

Class: GAS

Spacing Orders

Order No	Unit Size
171758	640

Perforated Intervals

From	To
13345	17759

Acid Volumes

20,000 GAL 15% FE ACID

Fracture Treatments

93,651 BBLs WATER, 195,280 LBS 100 MESH COMMON WHITE SAND, 2,599,400 LBS 40/70 PREMIUM WHITE SAND, 649,720 LBS 40/70 CRC SAND

Formation	Top
DES MOINES	12560

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Lateral Holes

Sec: 17 TWP: 12N RGE: 26W County: ROGER MILLS

NW NE NW NW

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Depth of Deviation: 12359 Radius of Turn: 248 Direction: 1 Total Length: 5390

Measured Total Depth: 18140 True Vertical Depth: 12750 End Pt. Location From Release, Unit or Property Line: 161

FOR COMMISSION USE ONLY

1137922

Status: Accepted

TEST: ☒ INITIAL
☒ ANNUAL
☐ RETEST

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

RECEIVED Form 1016
Rev. 2018

MAR 07 2019

Oklahoma Corporation
Commission

BACK PRESSURE TEST FOR NATURAL GAS WELLS

OAC 165:10-17-6

DATE OF TEST:

2/22/2019

DATE OF 1ST SALES:

9/29/2017

Operator Fourpoint Energy LLC				Operator # 23429			
Address 100 St. Paul Street, Suite 400				City Denver		ST CO ZIP 80206	
E-mail		Ph 302-290-0990		Fax		Well Name/# Thunder 17-12-26 1HA	
Gas Volumes to be Reported to OCC by:				Gas Volume Reporter # 925429		API # 35-129-24101	
Producing Zone Des Moines 404DSMN				OTC Lease # 129-222581-01			
Surface Location SE 1/4 NW 1/4 NE 1/4 NE 1/4				Sec 19		Twp 12N Rge 26W	
Zone Location (if different) 1/4 1/4 1/4 1/4				Sec		Twp Rge	
Field				County Roger Mills		Spacing Size 640	

COMPLETION: ☒ Single ☐ Multiple Zone ☐ Commingled ☐ Recompletion Date of Completion 06/23/17

Total Depth 18140	Plug Back Depth 17806	Packer Set Depth	Elevation 2350 GL
Csg Size 5.5	WT 20 d 4.78	Depth Set 17809	Perfs. 13345 - 17759
Tbg Size 2.375	WT 4.7 d 1.995	Depth Set 12918	Perfs.
Prod. Thru Tubing	Res. Temp. F 231 @ 15552	Mean Grd. Temp. F 60	Alm. Press. PSIA 14.4
L 15552 H 15552 G _g .6849 %CO ₂ .553 %N ₂ .552 H ₂ S(ppm)	Prover	Meter Run	X Taps Flange

SHUT-IN DATA		FLOW DATA						TUBING DATA		CASING DATA		BHP DATA		FLOW (HRS)
		PROVER			DIFF									
PRESS	(HRS)	LINE SIZE	X	ORIFICE SIZE	PRESS	(INCHES)	TEMP (F)	PRESS (PSIG)	TEMP (F)	PRESS (PSIG)	TEMP (F)	PRESS (PSIG)	TEMP (F)	
					(PSIG)	(ROOTS)								
635	24	4.026		1.75	63	60	60	177	60	614	60			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 _{pv}	RATE OF FLOW (Q) MCFD
15.31	68.1469	77.4	1.000	1.2083	1.0080	1271

P _r	TEMP. R	T _r	Z
.1158	519.7	1.3573	.9841

Gas/Liquid Hydrocarbon Ratio	181.55	MCF/BBL
API Gravity of Liquid Hydrocarbons	60	Deg.
Specific Gravity Separator Gas	.6849	
Specific Gravity Flowing Fluid	.7005	
Critical Pressure	668.26	PSIA
Critical Pressure	667.69	PSIA
Critical Temperature	382.86	R
Critical Temperature	687.66	R

P_c 649.4 (PSIA) P_c² 421.72

P _w	P _w ²	P _c ² - P _w ²
*584.4	341.52	80.20

$$\frac{P_c^2}{P_c^2 - P_w^2} = \frac{5.2586}{(Not to exceed 5.263)}$$

$$\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.0996$$

$$\frac{P_c^2}{P_c^2 - P_w^2} = \frac{5210}{5214}$$

Calculated wellhead open-flow 5210	MCFD @ 14.65	Angle of Slope	Slope, n .850
Remarks *90% SHUT IN			
NO PACKER TEST CALCULATED USING CASING PRESSURES			
Oil produced 7 BBLs Water Produced 21 BBLs			
Approved by Commission:	Conducted by: Neal Day	Calculated by: Thurmond-McGlothlin	Checked by:
WITNESSED - OCC FIELD STAFF: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		NAME: Kyle Ivey (over)	DATE: 2-25-19