

KANSAS CORPORATION COMMISSION

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow
 Deliverability

(See Instructions on Reverse Side)

Test Date:
9-9-14

API No. 15
15-187-21010-00-00

Company Agape Services Incorporated		Lease SULLIVAN		Well Number 2-24	
County STANTON	Location	Section 24	TWP 30S	RNG (E/W) 42W	Acres Attributed 640
Field SPARKS NORTHEAST		Reservoir MORROW		Gas Gathering Connection DUKE ENERGY	
Completion Date		Plug Back Total Depth		Packer Set at NONE	
Casing Size 4.5	Weight 10.5	Internal Diameter 4.052	Set at	Perforations 5192	To 5196
Tubing Size 2.375	Weight 4.7	Internal Diameter	Set at	Perforations	To
Type Completion (Describe) SINGLE GAS		Type Fluid Production NONE		Pump Unit or Traveling Plunger? Yes / No NO	
Producing Thru (Annulus / Tubing) TUBING		% Carbon Dioxide		% Nitrogen	
Vertical Depth(H) 5194		Pressure Taps FLANGE		(Meter Run) (Prover) Size 3068"	
Pressure Buildup: Shut in 9-5-14 20 at 1200 (AM) (PM) Taken 9-8-14 20 at 1200 (AM) (PM)					
Well on Line: Started 9-8-14 20 at 1200 (AM) (PM) Taken 9-9-14 20 at 1200 (AM) (PM)					

OBSERVED SURFACE DATA

Duration of Shut-in **72.0** Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter or Prover Pressure psig (Pm)	Pressure Differential in Inches H ₂ O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P _w) or (P ₁) or (P _c)		Tubing Wellhead Pressure (P _w) or (P ₁) or (P _c)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-in						246.0	260.4	247.1	261.5	72.0	
Flow	.750	25.0	1.0	90	75	219.5	233.9	25.2	39.6	24.0	0

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _s) (F _d) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F _g	Flowing Temperature Factor F _t	Deviation Factor F _p	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _m
2.7402	39.40	6.28	1.1952	0.9723	1.0037	20.1	NONE	0.700

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = **67.8** ; (P_w)² = **54.7** ; P_c = **89.8** % (P_c - 14.4) + 14.4 = **260.4** ; (P₃)² = **0.207**
(F₂)² =

(P _c) ² - (P _w) ² or (P ₃) ² - (P _w) ²	(P _c) ² - (P _w) ²	Choose formula 1 or 2: 1. P _c ² - P _w ² 2. P _c ² - P _w ² divided by: P _c ² - P _w ²	LOG of formula 1. or 2. and divide by: $\frac{P_c^2 - P_w^2}{P_c^2 - P_w^2}$	Backpressure Curve Slope = "n" ----- Assigned Standard Slope	n x LOG	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
67.6	13.1	5.161	0.7127	0.850	0.6058	4.0347	80.95

Open Flow **81**

Mcfd @ 14.65 psia

Deliverability

Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the 9TH day of SEPTEMBER, 20 14

Copg to KCC Wichita
Witness (if any)

Precision Wellbore & Testing
For Company

For Commission

Received
KANSAS CORPORATION COMMISSION

Checked by

SEP 17 2014

CONSERVATION DIVISION
WICHITA, KS

PRECISION WIRELINE and TESTING
P.O. BOX 560
LIBERAL, KANSAS 67905-0560
620-624-4505

PRODUCER QUANTUM OPERATING CORP.
WELL NAME SULLIVAN 2-24
LOCATION 24-30S-42W
COUNTY STANTON STATE KS

CSG 4.5 WT 10.5 SET @ _____ TD _____ PB _____ GL _____
TBG 2.375 WT 4.7 SET @ _____ SN _____ PKR _____ KB _____
PERFS 5192 TO 5196 TO _____ TO _____ TO _____
PROVER _____ METER 3" TAPS FLANGE ORIFICE 750 PCR _____ TCR _____
GG 700 API _____ @ _____ GM _____ RESERVOIR MORROW

DATE TIME OF READING	ELAP TIME HOUR	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE TEST: _____	INITIAL _____	SPEICAL _____	ENDING _____	
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ r BHP	PRESS PSIG	DIFF.	TEMP	Q MCFD	COND BBL.	WATER BBL.	ANNUAL _____	RETEST _____	DATE <u>9-9-14</u>		
REMARKS PERTINENT TO TEST DATA QUALITY																		
MONDAY																		
9-8-14																		ASSUME AVERAGE JT. LENGTH = 31.50'
1200		246.0		247.1														CONDUCT LIQUID LEVEL DETERMINATION TEST
																		SHOT JTS TO DISTANCE
																		# FLUID TO FLUID
																		1 168.0 5292'
																		2 168.0 5292'
																		TURN WELL ON FOR FLOW PORTION OF TEST
TUESDAY																		
9-9-14																		
1200	24.0	219.5		25.2			25.0	1.0	90	21	0	0						END IPT. TEST

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KANSAS CORPORATION COMMISSION

SEP 17 2014

CONSERVATION DIVISION
WICHITA, KS

I declare under penalty of perjury under the laws of the state of Kansas that I am authorized to request exempt status under Rule K.A.R. 82-3-304 on behalf of the operator Agape Services Inc. and that the foregoing pressure information and statements contained on this application form are true and correct to the best of my knowledge and belief based upon available production summaries and lease records of equipment installation and/or upon type of completion or upon use being made of the gas well herein named.


I hereby request a one-year exemption from open flow testing for the Sullivan 2-24 gas well on the grounds that said well:

(Check one)

- is a coalbed methane producer
- is cycled on plunger lift due to water
- is a source of natural gas for injection into an oil reservoir undergoing ER
- is on vacuum at the present time; KCC approval Docket No. _____
- is not capable of producing at a daily rate in excess of 250 mcf/D

I further agree to supply to the best of my ability any and all supporting documents deemed by Commission staff as necessary to corroborate this claim for exemption from testing.

Date: 9/11/2014

Signature: 
Title: President

Instructions: If a gas well meets one of the eligibility criteria set out in KCC regulation K.A.R. 82-3-304, the operator may complete the statement provided above in order to claim exempt status for the gas well.

At some point during the current calendar year, wellhead shut-in pressure shall have been measured after a minimum of 24 hours shut-in/buildup time and shall be reported on the front side of this form under **OBSERVED SURFACE DATA**. Shut-in pressure shall thereafter be reported yearly in the same manner for so long as the gas well continues to meet the eligibility criterion or until the claim of eligibility for exemption is denied.

The G-2 form conveying the newest shut-in pressure reading shall be filed with the Wichita office no later than December 31 of the year for which it's intended to acquire exempt status for the subject well. The form must be signed and dated on the front side as though it was a verified report of annual test results.

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SEP 17 2014
CONSERVATION DIVISION
WICHITA, KS