

# KANSAS CORPORATION COMMISSION

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow  
 Deliverability

(See Instructions on Reverse Side)

Test Date:  
5-17-11

API No. 15  
15-119-21284-00-00

Company <b>CLAASSEN OIL AND GAS</b>			Lease <b>HEINSON</b>			Well Number <b>10</b>		
County <b>MEAD</b>	Location <b>2330'FSL &amp; 2310'FEL</b>	Section <b>29</b>	TWP <b>33S</b>	RNG (E/W) <b>29W</b>	Acres Attributed			
Field <b>SINGLEY</b>		Reservoir <b>ST. LOUIS</b>		Gas Gathering Connection <b>DCP MIDSTREAM</b>				
Completion Date <b>4-8-11</b>		Plug Back Total Depth <b>6285</b>		Packer Set at <b>6215</b>				
Casing Size <b>4.5</b>	Weight <b>10.5</b>	Internal Diameter <b>4.052</b>	Set at <b>6400</b>	Perforations <b>6264</b>	To <b>6272</b>			
Tubing Size <b>2.375</b>	Weight <b>4.7</b>	Internal Diameter <b>1.995</b>	Set at <b>6215</b>	Perforations	To			
Type Completion (Describe) <b>SINGLE GAS</b>		Type Fluid Production <b>OIL</b>		Pump Unit or Traveling Plunger? Yes / No <b>NO</b>				
Producing Thru (Annulus / Tubing) <b>TUBING</b>		% Carbon Dioxide <b>0.063</b>		% Nitrogen <b>7.336</b>		Gas Gravity - G <sub>g</sub> <b>0.700</b>		
Vertical Depth(H) <b>6268</b>		Pressure Taps <b>FLANGE</b>				(Meter Run) (Prover) Size <b>3.068"</b>		
Pressure Buildup: Shut in <b>5-13-11</b> 20 at <b>0900</b> (AM) (PM) Taken <b>5-16-11</b> 20 at <b>0900</b> (AM) (PM)								
Well on Line: Started <b>5-16-11</b> 20 at <b>0900</b> (AM) (PM) Taken <b>5-17-11</b> 20 at <b>0900</b> (AM) (PM)								

### OBSERVED SURFACE DATA

Duration of Shut-in **72.0** Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter Prover Pressure psig (P <sub>m</sub> )	Pressure Differential in Inches H <sub>2</sub> O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In								1404.7	1419.1	72.0	
Flow	2.000	103.1	11.5		75			1054.7	1069.1	24.0	0

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>p</sub> ) (F <sub>o</sub> ) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>t</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
21.8627	117.50	36.76	1.1952	1.0632	1.017	1038.6	NONE	0.700

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>e</sub>)<sup>2</sup> = 2013.8 ; (P<sub>w</sub>)<sup>2</sup> = 1166.1 ; P<sub>d</sub> = 76.1 % (P<sub>e</sub> - 14.4) + 14.4 = 1419.1 ; (P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>o</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>e</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> or (P <sub>e</sub> ) <sup>2</sup> - (P <sub>o</sub> ) <sup>2</sup>	(P <sub>e</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>e</sub> <sup>2</sup> - P <sub>o</sub> <sup>2</sup> 2. P <sub>e</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> divided by: P <sub>e</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	LOG of formula 1. or 2. and divide by: $\frac{P_e^2 - P_w^2}{P_e^2 - P_w^2}$	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG $\left[ \frac{P_e^2 - P_w^2}{P_e^2 - P_w^2} \right]$	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
2013.64	847.72	2.375	0.3757	0.692	0.2600	1.8197	1890.00

Open Flow **1890** 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. RECEIVED \_\_\_\_\_ 17 day of MAY, 20 11

Copy to KCC Wichita  
Witness (if any)

JAN 23 2012

Precision Wireline & Testing  
For Company

Copy to KCC Dodge City  
For Commission

KCC WICHITA

Checked by \_\_\_\_\_

JLTIPOINT BACK PRESSURE TEST

TYPE TEST:  Initial  Annual  Special TEST DATE: 5-16-11

COMPANY: CLAASSEN OIL AND GAS LEASE: HEINSON WELL NO.: 10

COUNTY: MEAD LOCATION: 2230FSL&2310FEL SECTION: 29 TWP: 33S RNG (E/W): 29W ACRES:

API WELL NUMBER: 15-119-21284-00-0 RESERVOIR: ST. LOUIS PIPELINE CONNECTION: DCP MIDSTREAM

COMPLETION DATE: 4-8-11 PLUG BACK TOTAL DEPTH: 6285 PACKER SET AT: 6215

CASING SIZE: 4.5 WT: 10.5 ID: 4.052 SET AT: 6400 PERF. TO: 6264-6272

TUBING SIZE: 2.375 WT: 4.7 ID: 1.995 SET AT: 6215 PERF. TO:

TYPE COMPLETION (Describe): SINGLE GAS TYPE FLUID PRODUCTION: OIL

PRODUCING THRU: Tubing RESERVOIR TEMPERATURE F: 144 BAR PRESS - Pa: 14.4 Psia

GAS GRAVITY - Gg: .700 % CARBON DIOXIDE: 0.063 % NITROGEN: 7.336 API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): 6268 TYPE METER CONN.: Flange METER RUN SIZE: 3.068"

REMARKS:

OBSERVED DATA

DURATION OF SHUT-IN 72.0 HR.

RATE No.	ORIFICE SIZE in.	METER PRESSURE psig	DIFF. (h <sub>w</sub> )	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASING WELLHEAD PRESS.		TUBING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	psia	psig	(P <sub>t</sub> ) (P <sub>c</sub> ) psia		
SHUT IN								1,404.70	1,419.10	72.0	
1	2.000	78.3	3.0		75			1,350.70	1,365.10	1.0	0
2	2.000	97.3	8.5		75			1,270.90	1,285.30	1.0	0
3	2.000	121.0	14.5		75			1,164.00	1,178.40	1.0	0
4	2.000	138.2	20.5		75			1,036.80	1,051.20	1.0	0
5											

RATE OF FLOW CALCULATIONS

RATE No.	COEFFICIENT F <sub>b</sub> Mcfd	METER PRESSURE psia	EXTENSION $\sqrt{P_m \cdot h_w}$	GRAVITY FACTOR F <sub>g</sub>	FLOWING TEMP FACTOR F <sub>t</sub>	DEVIATION FACTOR F <sub>pv</sub>	RATE OF FLOW Q Mcfd	GOR (ft <sup>3</sup> /Bbl)	G <sub>m</sub>
1	21.8627	92.70	16.68	1.1952	1.0632	1.0133	469.5	None	0.7
2	21.8627	111.70	30.81	1.1952	1.0632	1.0161	869.9	None	0.7
3	21.8627	135.40	44.31	1.1952	1.0632	1.0197	1,255.3	None	0.7
4	21.8627	152.60	55.93	1.1952	1.0632	1.0223	1,588.6	None	0.7
5									

PRESSURE CALCULATIONS

RATE No.	P <sub>t</sub> psia	P <sub>c</sub> psia	P <sub>w</sub> psia	(P <sub>c</sub> ) <sup>2</sup> THOUSANDS	(P <sub>w</sub> ) <sup>2</sup> THOUSANDS	PLOTTING POINTS		% SHUT-IN $100 \left[ \frac{P_w - P_a}{P_c - P_a} \right]$
						(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> THOUSANDS	Q Mcfd	
1	1,365.1	1,419.1	1,366.8	2,013.8	1,868.0	145.80	469.5	96.27
2	1,285.3	1,419.1	1,291.4	2,013.8	1,667.8	346.08	869.9	90.91
3	1,178.4	1,419.1	1,192.4	2,013.8	1,421.9	591.94	1,255.3	83.86
4	1,051.2	1,419.1	1,076.7	2,013.8	1,159.3	854.59	1,588.6	75.62
5								

INDICATED WELLHEAD OPEN FLOW 2,874 Mcfd @ 14.65 psia  $\gamma = 0.6918$

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 16 day of May, 2011

Copy to KCC Wichita  
Witness (if any)

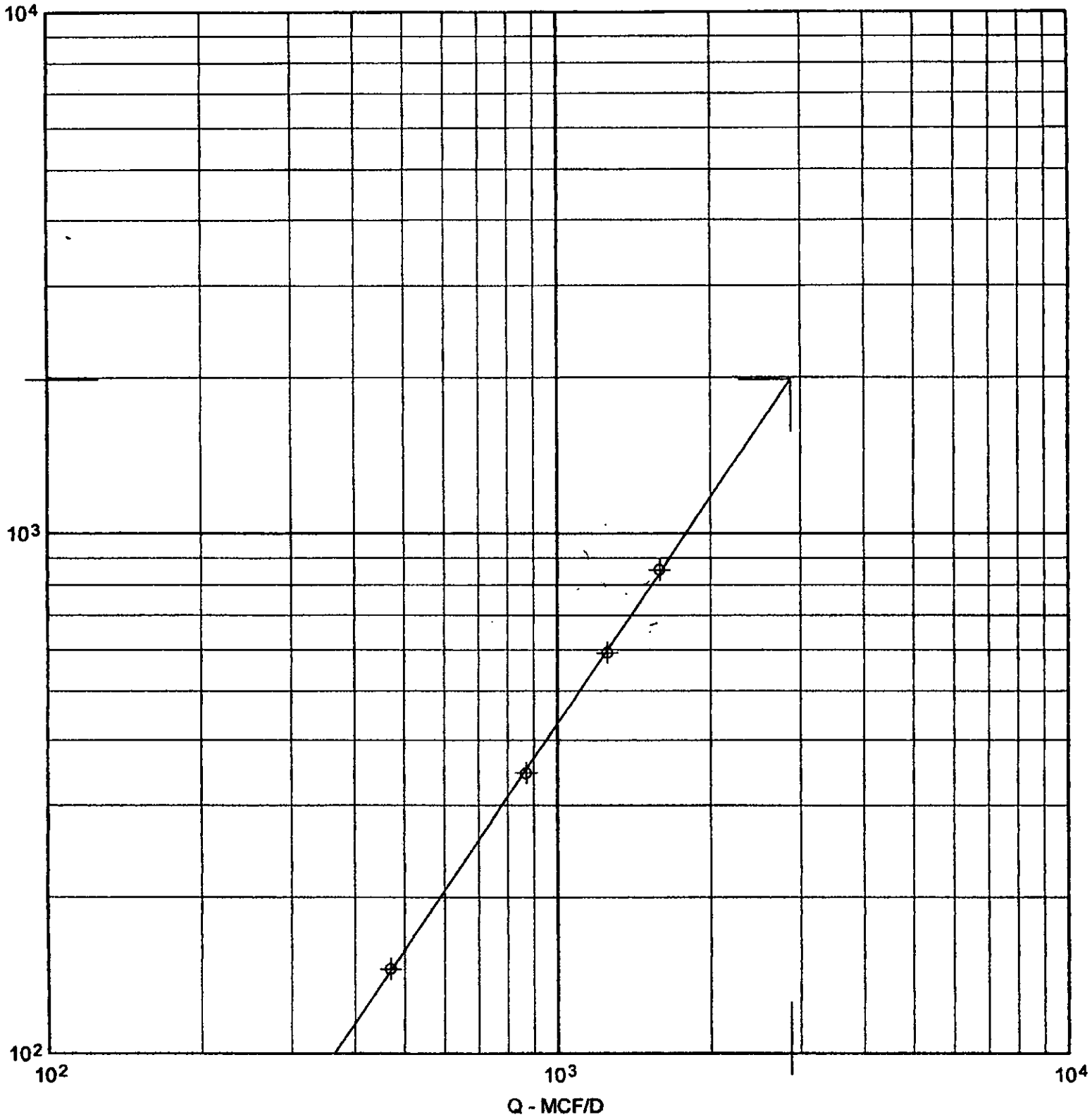
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For Commission

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JAN 23 2012  
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PRECISION WIRELINE AND TESTING  
For Company  
MARK BROCK  
Checked by (Rev. 10/96)

Operator : CLAASSEN OIL AND GAS  
Well/Lease Name & No. : HEINSON 10  
API Well Number : 15 - 119-21284-00-0  
County : MEAD

Report Date : May, 16, 2011  
Test Date : 5-16-11  
Sec/Twp/Rge : 29 - 33S - 29W



WHAOF = 2,874 MCF/D  
(Pc2 - Pw2) = 1,980.55 (Thousands)

Slope = 1.4454  
N = 0.6918

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

PRODUCER CLAASSEN OIL AND GAS CSG 4.5 WT 10.5 SET @ 6400 TD 6400 PBD 6285 GL \_\_\_\_\_  
WELL NAME HEINSON #10 TBG 2.375 WT 4.7 SET @ 6215 SN \_\_\_\_\_ PKR 6215 KB \_\_\_\_\_  
LOCATION 2230 ESL & 2310 FEL 29-33S-29W PERFS 6264 TO 6272 TO \_\_\_\_\_ TO \_\_\_\_\_ TO \_\_\_\_\_  
COUNTY MEAD STATE KS PROVER \_\_\_\_\_ METER 3" TAPS FLANG ORIFICE 2.000 PCR \_\_\_\_\_ TCR \_\_\_\_\_  
GG 700 API \_\_\_\_\_ @ \_\_\_\_\_ GM \_\_\_\_\_ RESERVOIR ST. LOUIS

DATE TIME OF READING	ELAP TIME HOUR	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE INITIAL _____ SPEICAL _____ ENDING _____ TEST: ANNUAL _____ RETEST _____ DATE <u>5-17-11</u>				
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIA	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL.S.	WATER BBL.S.	REMARKS PERTINENT TO TEST DATA QUALITY				
MONDAY																		
5/16/2011																		
0900		PKR		1404.7														500# 50" % CHART
0915				1372.8	-31.9			76.0	3.0		464							1ST RATE OF MULTI-PT. TEST THROUGH METER RUN 8/64
0930	0.5			1363.6	-9.2			77.0	3.2		481							
0945				1356.3	-7.3			78.1	3.0		469							
1000	1.0	PKR		1350.7	-5.6			78.3	3.0		470	0.0	0.0					
1000																		2ND RATE OF MULTI-PT. TEST THROUGH METER RUN 12/64
1015				1302.9	-47.8			97.7	10.0		945							
1030	1.5			1286.1	-16.8			97.2	9.2		905							
1045				1278.0	-8.1			96.8	9.0		893							
1100	2.0	PKR		1270.9	-7.1			97.3	8.5		870	0.0	0.0					
1100																		3RD RATE OF MULTI-PT. TEST THROUGH METER RUN 15/64
1115				1201.5	-69.4			124.1	17.0		1374							
1130	2.5			1174.1	-27.4			124.7	16.5		1357							
1145				1166.2	-7.9			121.4	15.5		1300							
1200	3.0	PKR		1164.0	-2.2			121.0	14.5		1255	0.0	0.0					
1200																		4TH RATE OF MULTI-PT. TEST THROUGH METER RUN 18/64
1215				1066.0	-9.8			145.8	23.0		1724							
1230	3.5			1052.9	-13.1			140.7	22.5		1678							
1245				1042.0	-10.9			140.7	22.0		1659							
1300	4.0	PKR		1036.8	-5.2			138.2	20.5		1589	0.0	0.0					OBTAIN GAS SAMPLE
1300																		WELL ON IPT. TEST 13/64
TUESDAY																		
5/17/2011																		
0900	24.0	PKR		1054.7				103.1	11.5		1039							SPOT
								21%	23%									
								21%	24%		1061							1 DAY AVERAGE

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