

# KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow  
 Deliverability

Test Date:  
3/08 to 3/09/12

API No. 15  
079-20685-00-00

(See Instructions on Reverse Side)

Company <b>Cyclone Petroleum, Inc.</b>		Lease <b>Flickenger</b>		Well Number <b>12-2</b>	
County <b>Harvey</b>	Location <b>NENWNWSW</b>	Section <b>12</b>	TWP <b>23S</b>	RNG (E/W) <b>03W</b>	Acres Attributed
Field		Reservoir <b>Miss.</b>	Gas Gathering Connection <b>American Energies</b>		
Completion Date <b>2/17/11</b>		Plug Back Total Depth		Packer Set at <b>none</b>	
Casing Size <b>4.5</b>	Weight	Internal Diameter	Set at <b>3345</b>	Perforations <b>3273</b>	To <b>3283</b>
Tubing Size <b>2.375</b>	Weight	Internal Diameter	Set at <b>3245</b>	Perforations	To
Type Completion (Describe) <b>single</b>		Type Fluid Production <b>Oil &amp; SW</b>		Pump Unit or Traveling Plunger? Yes / No <b>No</b>	
Producing Thru (Annulus / Tubing) <b>tubing</b>		% Carbon Dioxide <b>.0542</b>		% Nitrogen <b>4.7334</b>	
Vertical Depth(H)		Pressure Taps <b>flange</b>		(Meter Run) (Prover) Size <b>2"</b>	
Pressure Buildup:	Shut in <b>3/05</b>	20 <b>12</b>	at <b>9:30 am</b>	(AM) (PM) Taken <b>3/08</b>	20 <b>12</b> at <b>9:30 am</b> (AM) (PM)
Well on Line:	Started <b>3/08</b>	20 <b>12</b>	at <b>9:45 am</b>	(AM) (PM) Taken <b>3/09</b>	20 <b>12</b> at <b>9:45 am</b> (AM) (PM)

### OBSERVED SURFACE DATA

Duration of Shut-in **72** Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter Prover Pressure psig (Pm)	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>2</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>2</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-in						803	817.4	482	496.4	72	
Flow	.750	48	13.6	55		649	663.4	439	453.4	24	

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>p</sub> ) (F <sub>p</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>p</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/Barrel)	Flowing Fluid Gravity G <sub>m</sub>
2.779	62.4	29.13	1.220	1.005	---	99		.672

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

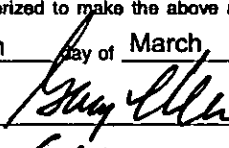
(P<sub>1</sub>)<sup>2</sup> = 668.142 ; (P<sub>w</sub>)<sup>2</sup> = 440.099 ; P<sub>w</sub> = \_\_\_\_\_ % (P<sub>w</sub> - 14.4) + 14.4 = \_\_\_\_\_ ; (P<sub>w</sub>)<sup>2</sup> = 0.207 ; (P<sub>1</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>1</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> or (P <sub>1</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	(P <sub>1</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>1</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> 2. P <sub>1</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> divided by: P <sub>1</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	LOG of formula 1. or 2. and divide by: $\frac{P_1^2 - P_w^2}{P_1^2 - P_w^2}$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG [ ]	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
667.935	228.043	2.929	.4667	.662	.3090	2.04	202

Open Flow **202** Mcfd @ 14.65 psia X .50 = Deliverability **101** 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 20th day of March, 2012.

\_\_\_\_\_  
Witness (if any)  
\_\_\_\_\_  
For Commission

  
\_\_\_\_\_  
For Company  
*GCM, INC*  
\_\_\_\_\_  
Checked by

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MAR 28 2012

KCC WICHITA

STATE OF KANSAS - CORPORATION COMMISSION  
MULTIPOINT BACK PRESSURE TEST

FORM CG-1 Rev.

TYPE TEST:  Initial  Annual  Special TEST DATE: 3/08/12

COMPANY: Cyclone Petroleum, Inc. Flickender LEASE: WELL NO: 12-2

COUNTY: Harvey LOCATION: NENWNWSW SECTION: 12 TWP: 23S RNG (E/W): 03W ACRES:

API WELL NUMBER: 15-079-20695-00-00 RESERVOIR: Miss. PIPELINE CONNECTION: American Energies

COMPLETION DATE: 2/17/11 PLUG BACK TOTAL DEPTH: none PACKER SET AT:

CASING SIZE: 4.5 WT. ID. SET AT: 3345 PERF. TO: 3283

TUBING SIZE: 2.375 WT. ID. SET AT: 3245 PERF. TO:

TYPE COMPLETION (Describe): single TYPE FLUID PRODUCTION: Oil & SW

PRODUCING THRU: tubing RESERVOIR TEMPERATURE °F: BAR PRESS - P<sub>s</sub>: 14.4 Psia

GAS GRAVITY - G<sub>s</sub>: .672 % CARBON DIOXIDE: .0542 % NITROGEN: 4.7334 API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): TYPE METER CONNECTION: flange (METER RUN) (PROVER) SIZE: 2"

REMARKS: Tested into Am. Energies pipeline (250" EEM)

OBSERVED DATA

DURATION OF SHUT-IN 72 HR.

RATE NO.	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE Psig	DIFF. (h <sub>w</sub> ) (h <sub>d</sub> )	FLOWING TEMP t	WELL-HEAD TEMP. t	CSG WELLHEAD PRESS. Psig (P <sub>w</sub> )(P <sub>s</sub> )(P <sub>c</sub> ) Psia	TBG WELLHEAD PRESS. Psig (P <sub>w</sub> )(P <sub>s</sub> )(P <sub>c</sub> ) Psia	FLOW DURATION (HOURS)	LIQUID PROD. Bbl.
SHUT IN						803	817.4	72	
1	.750	37	21.7	40		764	778.4	.75	
2	"	49	37.0	42		733	747.4	.75	
3	"	58	54.0	44		697	711.4	.75	
4	"	69	72.6	45		653	667.4	.75	

RATE OF FLOW CALCULATIONS

RATE NO.	COEFFICIENT (F <sub>w</sub> )(F <sub>p</sub> ) Mcfd	(METER) (PROVER) PRESSURE Psia	PRESS EXTENSION $\sqrt{P_w \cdot h_w}$	GRAVITY FACTOR F <sub>g</sub>	FLOWING TEMP FACTOR F <sub>t</sub>	DEVIATION FACTOR F <sub>v</sub>	RATE OF FLOW Q Mcfd	GOR (ft <sup>3</sup> /Bbl)	G <sub>s</sub>
1	2.779	51.4	33.39	1.220	1.020	--	115		
2	"	63.4	48.43	"	1.018	--	167		
3	"	72.4	62.52	"	1.016	--	215		
4	"	83.4	77.81	"	1.015	--	268		

PRESSURE CALCULATIONS

RATE NO.	P <sub>i</sub> Psia	P <sub>c</sub> Psia	P <sub>w</sub> Psia	(P <sub>w</sub> ) <sup>2</sup> THOUSANDS	(P <sub>c</sub> ) <sup>2</sup> THOUSANDS	PLOTTING POINTS		% SHUT-IN (P <sub>w</sub> - P <sub>c</sub> ) / (P <sub>c</sub> - P <sub>i</sub> )
						(P <sub>w</sub> ) <sup>2</sup> - (P <sub>c</sub> ) <sup>2</sup> THOUSANDS	Q Mcfd	
1	488.4	817.4	778.4	668.1	605.9	62.2	115	95.2
2	509.4	"	747.4	"	558.6	109.5	167	91.4
3	478.4	"	711.4	"	506.1	162.0	215	87.0
4	464.4	"	667.4	"	445.4	222.7	268	81.6

INDICATED WELLHEAD OPEN FLOW 550 Mcfd @ 14.65 Psia n = .662

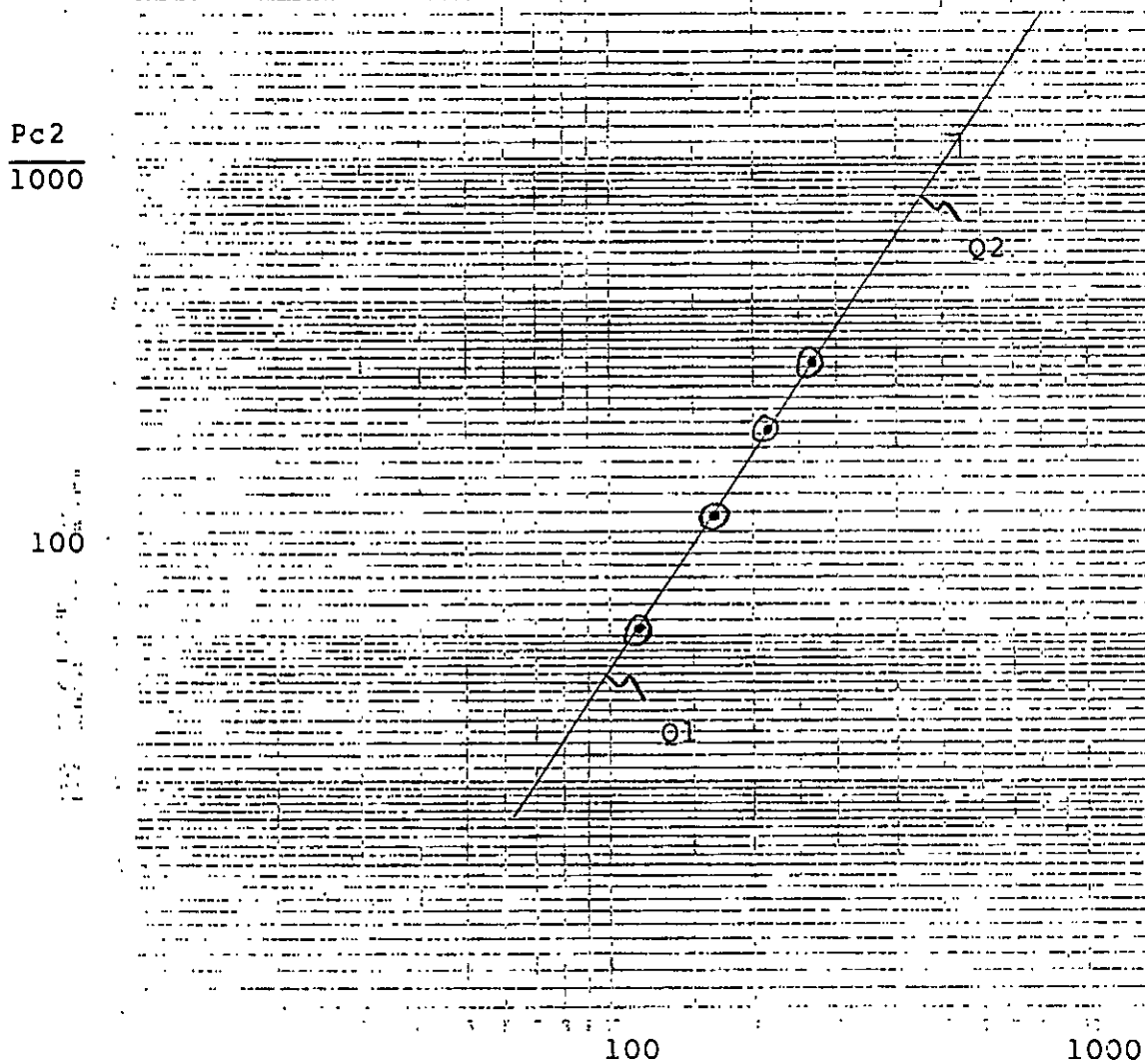
The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein, and that said report is true and correct. Executed this the 23rd day of March 2012

Witness (if any)  
\_\_\_\_\_  
For Commission

*[Signature]*  
For Company  
GCM, INC.  
Checked By  
RECEIVED  
(Rev. 10/96)  
MAR 28 2012

KCC WICHITA

Cyclone Petroleum, Inc. - Flickenger 12-2  
NENWNWSW 12-23S-03W  
Harvey County  
Tested 3/08/12



Q2 - 450 - Log: 2.653  
Q1 - 98 - Log: 1.991

"n" = .662

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# FIELD DATA SHEET

Pumper:

Phone#:

Type Test:  Initial     Annual     Special    Test Date: 3/8/12

Company: CYCLONE PETR.    Connection: AE/MK66

Field: Reservoir    Location: SW/4

Completion Date:    Total Depth:    Plug Back TD:    Elevation:    Form or Lease Name: FLICKENGER

Csg. Size: W. 4    Set At:    Perforations: From:    To:    Well No.: 12-2

Tbg. Size: W. 4    Set At:    Perforations: From:    To:    Sec.: 12    Top - Blk: 235    Rgs - Sur: 03W

Type Completion (Describe): SINGLE    Packer Set At:    County or Parish: HANWY

Producing Thru: TB6    Reservoir Temp. F:    Mean Annual Temp. F: 60    Dero. Press. - P: 14.4    State: KS

G<sub>v</sub>: .672    % CO<sub>2</sub>: .0542    % N<sub>2</sub>: 4.7334    % H<sub>2</sub>S:    Prover:    Meter Run: 2    Tops: FL6

DATE	ELAP. TIME	WELLHEAD WORKING PRESSURE			METER OR PROVER				REMARKS
		Tbg. Psig	Csg. Psig	Δ P	Pressure Psig	Diff.	Temp. F	Orifice	
9:30	72	482	803						
9:45								.750	COMMENCE TEST.
1:00		460	786		30	13.9	38		NO LINE HEATER / PHONE -
1:15		471	777		29	8.9	38		CONTROLLED FLOW RATE w/ BALL
1:30		474	764		37	21.7	40		VALVE - FLUID FROM VERTICAL
									GAS SEP. DIRECT TO SAND
1:45		492	709		51	32.8	42		
2:00		497	740		49	37.8	42		
2:15		495	733		49	37.0	42		
2:30		468	722		57	52.3	43		2.5 <sup>90</sup> 783
2:45		470	709		58	54.6	44		5.0 <sup>90</sup> 763
3:00		464	697		58	54.0	44		7.5 <sup>90</sup> 743
3:15		458	680		63	73.5	44		10.0 <sup>90</sup> 723
3:30		454	668		67	73.0	45		12.5 <sup>90</sup> 703
3:45		450	653		69	72.6	45		15.0 <sup>90</sup> 683
4:00		458	659		45	20.2	50		17.5 <sup>90</sup> 663
4:15		439	644.2		49.4	13.6	55		20.0 <sup>90</sup> 643
4:30									25.0 <sup>90</sup> 603
4:45									75.0 <sup>90</sup> 603
1:00		458	659		45	20.2	50		SET FLOW RATE FOR 1 PT TEST - 120 mcf
9:45		439	644.2		49.4	13.6	55		3/9/12 87.3 mcf/d
0.0									
0.5									Begin 30 minute wellhead buildup
1.0									
1.5									
2.0									
3.0									
4.0									
5.0									
6.0									
7.0									
8.0									
9.0									
10.0									
15.0									
20.0									
25.0									
30.0									

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KCC WICHITA

# MEASUREMENT SOLUTIONS INC.

6705 East 81st Street Suite 155 Tulsa, OK 74133  
Telephone 918-493-2700 Fax 918-493-2704

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10/24/2011

## GAS ANALYSIS REPORT

**METER NUMBER :** 2200      **SAMPLE TYPE :** SPOT  
**METER NAME :** FLICKENGER 12-2      **SAMPLE DATE :** 10/06/2011  
**METER ID :** CYCLONE      **SAMPLE PRES / TEMP :** 85 / 86  
**PRODUCER :**      **SAMPLED BY :** CW  
**COMPANY :** CYCLONE PETROLEUM      **EFFECTIVE DATE :** 10/01/2011  
**LOCATION:** SEC. 12-23S-03W HARVEY COUNTY

<u>COMPONENT</u>	<u>PERCENT</u>	<u>BTU VALUES @ 14.65</u>		<u>BTU VALUES @ 14.73</u>		
Helium	He	0.3034	REAL DRY	1110.39	REAL DRY	1116.45
Oxygen	O2	0.0000	REAL WET	1090.96	REAL WET	1096.91
Hydrogen Sulfide	H2S	0.0000				
Carbon Dioxide	CO2	0.0542				
Nitrogen	N2	4.7334				
Methane	C1	83.4573	<u>GPM VALUES @ 14.65</u>		<u>GPM VALUES @ 14.73</u>	
Ethane	C2	6.2333	C2	1.6571	C2	1.6661
Propane	C3	3.0107	C3	0.8245	C3	0.8290
I-Butane	iC4	0.4334	iC4	0.1410	iC4	0.1418
N-Butane	nC4	0.9439	nC4	0.2960	nC4	0.2976
I-Pentane	iC5	0.2312	iC5	0.0842	iC5	0.0846
N-Pentane	nC5	0.2618	nC5	0.0943	nC5	0.0948
Hexane Plus	C6+	0.3374	C6+	0.1464	C6+	0.1472
TOTALS		100.0000		3.2435		3.2611

### SPECIFIC GRAVITY

REAL DRY 0.6724  
REAL WET 0.6716

### COMPRESSIBILITY FACTOR

Z FACTOR DRY 0.9973  
Z FACTOR WET 0.9973

### GALLONS PER THOUSAND

GPM TOTALS @ 14.65  
C2 + GPM 3.2435  
C3 + PGM 1.5864  
C4 + GPM 0.7619  
C5 + GPM 0.3249

GPM TOTALS @ 14.73  
C2 + GPM 3.2611  
C3 + PGM 1.5950  
C4 + GPM 0.7660  
C5 + GPM 0.3266

COMMENTS :

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