

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

Type Test:

- Open Flow  
 Deliverability

Test Date:  
July 6, 2012

API No. 15  
151-22388 - 00-00

(See Instructions on Reverse Side)

Company American Energies		Lease Murphy		Well Number 2-25	
County Pratt	Location	Section 25	TWP 29	RNG (E/W) 12W	Acres Attributed
Field		Reservoir Miss	Gas Gathering Connection Lumen Energy		
Completion Date July 1, 2012		Plug Back Total Depth 4600		Packer Set at N/A	
Casing Size 4 1/2	Weight	Internal Diameter	Set at	Perforations 4016	To 4050
Tubing Size 2 3/8	Weight	Internal Diameter	Set at 4010	Perforations	To
Type Completion (Describe) Single (Gas)		Type Fluid Production None		Pump Unit or Traveling Plunger? Yes / <input checked="" type="checkbox"/> No	
Producing Thru (Annulus / Tubing) Tubing		% Carbon Dioxide .044		% Nitrogen 14.491	Gas Gravity - G <sub>g</sub> .7267
Vertical Depth(H)		Pressure Taps Flange		(Meter Run) (Prover) Size 3 Meter Run	
Pressure Buildup: Shut in		7/3	20 12	at (AM) (PM) Taken 7/6 20 12 at (AM) (PM)	
Well on Line: Started		7/6	20 12	at (AM) (PM) Taken 7/6 20 12 at (AM) (PM)	

### OBSERVED SURFACE DATA

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>t</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>t</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-In						1270	1285	1270	1285	72	
Flow	1.5	125	25			1060	1075	950	965	1	2

### 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>
11.41	140	59.16	1.173		1.000	770 791		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

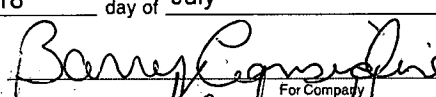
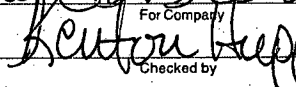
(P<sub>c</sub>)<sup>2</sup> = 1651 : (P<sub>w</sub>)<sup>2</sup> = 931 : P<sub>d</sub> = \_\_\_\_\_ % : (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ : (P<sub>d</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>c</sub> ) <sup>2</sup> - (P <sub>a</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup>	(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>c</sub> <sup>2</sup> - P <sub>a</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>d</sub> <sup>2</sup> divided by: P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	LOG of formula 1. or 2. and divide by: P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	Backpressure Curve Slope = "n" ----- or Assigned Standard Slope	n x LOG [ ]	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
1651	720	2.29	.36	.89 0.55	.38 0.198	2.09 1.578	1647 1249

Open Flow **1647 1249** 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 18 day of July, 2012

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

  
 For Company  
  
 Checked by  
RECEIVED  
JUL 19 2012  
KCC WICHITA

STATE OF KANSAS - CORPORATION COMMISSION  
MULTIPOINT BACK PRESSURE TEST

FORM CG-1 Rev.

TYPE TEST:  Initial  Annual  Special TEST DATE: July 6, 2012  
 COMPANY American Energies LEASE Murphy WELL NO: 2-25  
 COUNTY Pratt LOCATION SECTION 25 TWP 29 RNG 12W ACRES  
 API WELL NUMBER 15-151-22388 RESERVOIR Miss PIPELINE CONNECTION Lumen Energy  
 COMPLETION DATE July 1, 2012 PLUG BACK TOTAL DEPTH 4600' PACKER SET AT 3720  
 CASING SIZE 4 1/2 WT. ID. SET AT PERF. 4016 TO 4050  
 TUBING SIZE 2 3/8 WT. ID. SET AT 4010 PERF. TO  
 TYPE COMPLETION (Describe) TYPE FLUID PRODUCTION  
 PRODUCING THRU Tubing RESERVOIR TEMPERATURE °F BAR PRESS - P<sub>s</sub> 14.4 Psia  
 GAS GRAVITY - G<sub>s</sub> .7267 % CARBON DIOXIDE .044 % NITROGEN 14.491 API GRAVITY OF LIQUID  
 VERTICAL DEPTH (H) 4050 TYPE METER CONNECTION Flange 3" METER RUN (PROVER) SIZE  
 REMARKS

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.		TBG WELLHEAD PRESS.		FLOW DURATION (HOURS)	LIQUID PROD. Bbls.
						Psig	(P <sub>w</sub> )(P <sub>i</sub> )(P <sub>e</sub> ) Psia	Psig	(P <sub>w</sub> )(P <sub>i</sub> )(P <sub>e</sub> ) Psia		
SHUT IN	1 1/2					1270	1285	1270	1285		
1	1 1/2	125	25"			1060	1075	950	965	1	2
2	1 1/2	125	46"			900	915	700	715	1	2
3	1 1/2	125	55"			700	715	600	615	1	2
4	1 1/2	125	66"			720	735	490	505	1	3
5											

RATE OF FLOW CALCULATIONS

RATE NO.	COEFFICIENT (F <sub>o</sub> )(F <sub>p</sub> ) Mcfd	(METER) (PROVER) PRESSURE Psia	PRESS EXTENSION $\sqrt{P_w * h_w}$	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 (r <sup>3</sup> /Bbl)	G <sub>m</sub>
1	11.41	140	59.16	1.173		792	770,000		
2	11.41	140	80.25	1.173		1074	1,150,000		
3	11.41	140	87.75	1.173		1174	1,275,000		
4	11.41	140	96.125	1.173		1286	1,375,000		
5									

PRESSURE CALCULATIONS

RATE NO.	P <sub>i</sub> Psia	P <sub>c</sub> Psia	P <sub>w</sub> Psia	(P <sub>i</sub> ) <sup>2</sup> THOUSANDS	(P <sub>w</sub> ) <sup>2</sup> THOUSANDS	PLOTING POINTS		% SHUT-IN (P <sub>w</sub> - P <sub>i</sub> ) / 100 (P <sub>c</sub> - P <sub>i</sub> )
						(P <sub>i</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> THOUSANDS	Q Mcfd	
1	965	1285	965	1651	931	720	770-792	75
2	715	1285	715	1651	511	1140	1150-1074	56
3	615	1285	615	1651	378	1273	1275-1174	48
4	505	1285	505	1651	255	1396	1375-1286	39
5								

INDICATED WELLHEAD OPEN FLOW

Mcfd @ 14.65 Psia

"n" = .89 0.55

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 18 day of July 2012

Witness (if any)

For Commission

Barry Conner  
For Company  
Kerston Hupp  
Checked By

(Rev.10/96)

RECEIVED

JUL 1

KCC WICHITA

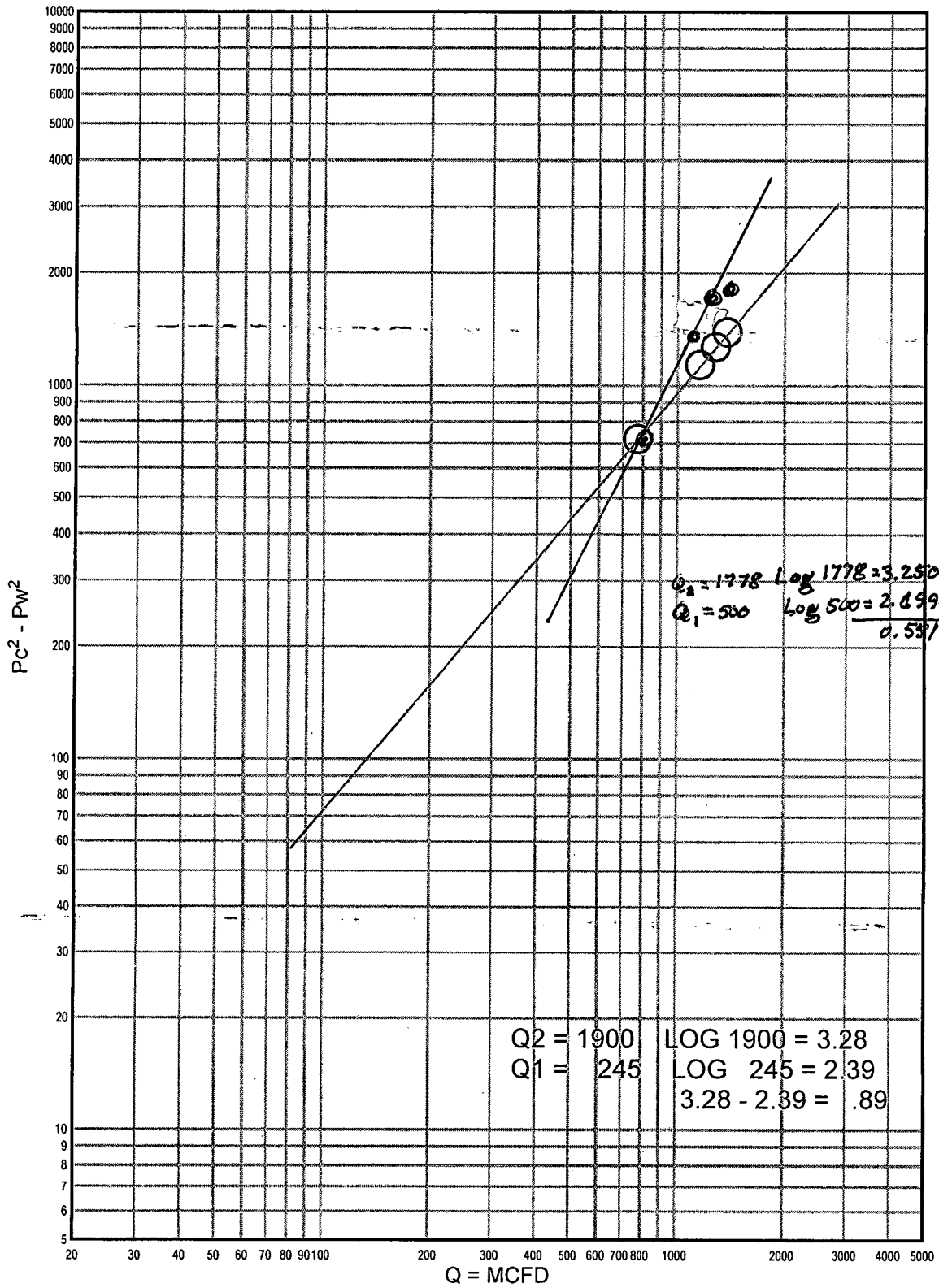
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# AMERICAN ENERGIES CORPORATION

## MURPHY 2-25



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