

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

(See Instructions on Reverse Side)

Type Test:

- Open Flow  
 Deliverability

Test Date:  
12/29/2009

API No. 15  
185-23495 - 0000

Company Gra Ex, LLC		Lease Chappell		Well Number #1	
County Stafford	Location E/2 E/2 NW	Section 2	TWP 25(S)	RNG (E/W) 14 (W)	Acres Attributed
Field Cephas		Reservoir Mississippi		Gas Gathering Connection	
Completion Date 01/29/08		Plug Back Total Depth 4439'		Packer Set at	
Casing Size 5 1/2	Weight 15.5	Internal Diameter	Set at 4367'	Perforations 4023	To 4027
Tubing Size 2 3/8"	Weight	Internal Diameter	Set at 4023'	Perforations	To
Type Completion (Describe)		Type Fluid Production		Pump Unit or Traveling Plunger? Yes / No Pumping	
Producing Thru (Annulus / Tubing) Annulus		% Carbon Dioxide N/A		% Nitrogen N/A	
Vertical Depth(H)		Pressure Taps Flange		Gas Gravity - G <sub>g</sub> .65 (e) (Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 12/29 20 09 at 2:00PM (AM) (PM) Taken _____ 20 _____ at _____ (AM) (PM)					
Well on Line: Started 12/29 20 09 at 1:00PM (AM) (PM) Taken _____ 20 _____ at _____ (AM) (PM)					

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### OBSERVED SURFACE DATA

Duration of Shut-in \_\_\_\_\_ 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>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						92	106.4			72	
Flow	0.5	56	4	47						24	

### FLOW STREAM ATTRIBUTES

Plate Coefficient (F <sub>v</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>dv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
1.219	70.4	16.78	1.24	1.013	1.054 (e)	27.1		

### (OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>c</sub>)<sup>2</sup> = 11.32 : (P<sub>w</sub>)<sup>2</sup> = 4.96 : P<sub>d</sub> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ : (P<sub>a</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: $\frac{P_c^2 - P_w^2}{P_c^2 - P_a^2}$	Backpressure Curve Slope = "n" or Assigned Standard Slope	n x LOG [ ]	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
11.11	6.36	1.75	0.24	.65(e)	.16	1.44	38.9

Open Flow **38.9** 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 29 day of January, 20 10

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

\_\_\_\_\_  
For Company  
*Keaton Hupp*  
Checked by \_\_\_\_\_