

KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow
 Deliverability

Test Date:
3/19 to 3/20/12

API No. 15
151-20388-00-01

Company L.D. Drilling, Inc.		Lease Koenemann "OWWO"		Well Number 1	
County Pratt	Location CSWNW	Section 28	TWP 26S	RNG (E/W) 11W	Acres Attributed
Field Haynesville		Reservoir Arbuckle		Gas Gathering Connection Lumen	
Completion Date 6/23/77		Plug Back Total Depth		Packer Set at none	
Casing Size 5.5	Weight	Internal Diameter	Set at 4344	Perforations 4278	To 4280
Tubing Size 2.375	Weight	Internal Diameter	Set at 4319	Perforations	To
Type Completion (Describe) single		Type Fluid Production none		Pump Unit or Traveling Plunger? Yes / No yes - pump unit	
Producing Thru (Annulus / Tubing) annulus		% Carbon Dioxide .194		% Nitrogen 6.852	Gas Gravity - G _g .679
Vertical Depth(H)		Pressure Taps flange		(Meter Run) (Prover) Size 2"	
Pressure Buildup: Shut in 3/16 20 12 at 9:15 am (AM) (PM) Taken 3/19 20 12 at 9:15 am (AM) (PM)					
Well on Line: Started 3/19 20 12 at 9:45 am (AM) (PM) Taken 3/20 20 12 at 9:45 am (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 ₂ O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P _{cs}) or (P ₁) or (P ₂)		Tubing Wellhead Pressure (P _{ts}) or (P ₁) or (P ₂)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-in						659	673.4			72	
Flow	.750	179	3.8	49		616	630.4			24	

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _p) (F _s) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F _g	Flowing Temperature Factor F _{tt}	Deviation Factor F _{pv}	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _w
2.779	193.4	27.11	1.214	1.011	1.019	94		.679

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_o)² = **453.467** ; (P_w)² = **397.404** ; P_e = _____ % (P_c - 14.4) + 14.4 = _____ ; (P_o)² = **0.207** ; (P_o)² = _____

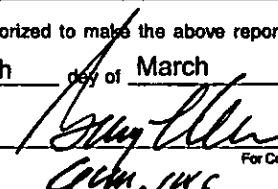
(P _o) ² - (P _w) ² or (P _c) ² - (P _w) ²	(P _o) ² - (P _w) ²	Choose formula 1 or 2: 1. P _o ² - P _w ² 2. P _c ² - P _w ² divided by: P _c ² - P _w ²	LOG of formula 1, or 2, and divide by: $\frac{P_o^2 - P_w^2}{P_c^2 - P_w^2}$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	n x LOG []	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
453.260	56.063	8.085	.9077	.740	.6717	4.70	442

Open Flow **442** Mcfd @ 14.65 psia X .50 = Deliverability **221** 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**, 20 **12**.

Witness (if any)

For Commission



For Company
Checked by _____

RECEIVED
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: 3/19/12

COMPANY: L.D. Drilling, Inc. LEASE: Koenemann "OWWO" WELL NO: 1

COUNTY: Pratt LOCATION: CSWNW SECTION: 28 TWP: 26S RNG (E/W): 11W ACRES: 1

API WELL NUMBER: 15-151-20388-00-01 RESERVOIR: Arbuckle PIPELINE CONNECTION: Lumen

COMPLETION DATE: 6/23/77 PLUG BACK: TOTAL DEPTH: PACKER SET AT: none

CASING SIZE: 5.5 WT. ID. SET AT: 4344 PERF. TO: 4278 TO: 4280

TUBING SIZE: 2.375 WT. ID. SET AT: 4319 PERF. TO: TO

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

PRODUCING THRU: casing RESERVOIR TEMPERATURE °F: BAR PRESS - P_s: 14.4 Psia

GAS GRAVITY - G: .679 % CARBON DIOXIDE: .194 % NITROGEN: 6.852 API GRAVITY OF LIQUID:

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

REMARKS

Tested into Lumen pipeline (250" FEM)

OBSERVED DATA

DURATION OF SHUT-IN 72 HR.

RATE NO.	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE Psig	DIFF. (h _w) (h _c)	FLOWING TEMP t	WELL-HEAD TEMP. t	CSG WELLHEAD PRESS. Psig		TBG WELLHEAD PRESS. Psig		FLOW DURATION (HOURS)	LIQUID PROD. Bbls.
						(P _w)(P _i)(P _c)	(P _w)(P _i)(P _c)	(P _w)(P _i)(P _c)	(P _w)(P _i)(P _c)		
SHUT IN						659	673.4			72	
1	.750	189	23.6	50		629	643.4			.75	0
2	"	200	50.8	49		610	624.4			.75	0
3	"	204	85.4	48		581	595.4			.75	0
4	"	207	136.0	48		552	566.4			.75	0

RATE OF FLOW CALCULATIONS

RATE NO.	COEFFICIENT (F ₁)(F ₂) Mcfd	(METER) (PROVER) PRESSURE Psia	PRESS EXTENSION $\sqrt{P_w \cdot h_w}$	GRAVITY FACTOR F _g	FLOWING TEMP FACTOR F _t	DEVIATION FACTOR F _{pv}	RATE OF FLOW Q Mcfd	GOR (ft ³ /Bbl)	G _w
1	2.779	203.4	69.28	1.214	1.010	1.021	241		
2	"	214.4	104.36	"	1.011	1.022	354		
3	"	218.4	136.57	"	1.012	1.022	477		
4	"	221.4	173.52	"	1.012	1.024	606		

PRESSURE CALCULATIONS

RATE NO.	P _i Psia	P _c Psia	P _w Psia	(P _i) ² THOUSANDS	(P _w) ² THOUSANDS	PLOTTING POINTS		% SHUT-IN (P _w - P _c) / (P _i - P _c)
						(P _i) ² - (P _w) ² THOUSANDS	Q Mcfd	
1		673.4	643.4	453.5	413.9	39.6	241	95.5
2		"	624.4	"	389.8	63.7	354	92.7
3		"	595.4	"	354.5	99.0	477	88.4
4		"	566.4	"	320.8	132.7	606	84.1

INDICATED WELLHEAD OPEN FLOW 1500

Mcfd @ 14.65 Psia

"n" = .740

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 23rd day of March 2012

Witness (if any)

For Commission

[Signature]
For Company

LDW, INC.

Checked By (Rev. 10/96)

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KCC WICHITA

L.D.Drilling, Inc. - Koenemann "OWWO" #1
CSWNW 28 - 26S - 11W
Pratt County
Tested 3/19/12

Pc2
1000

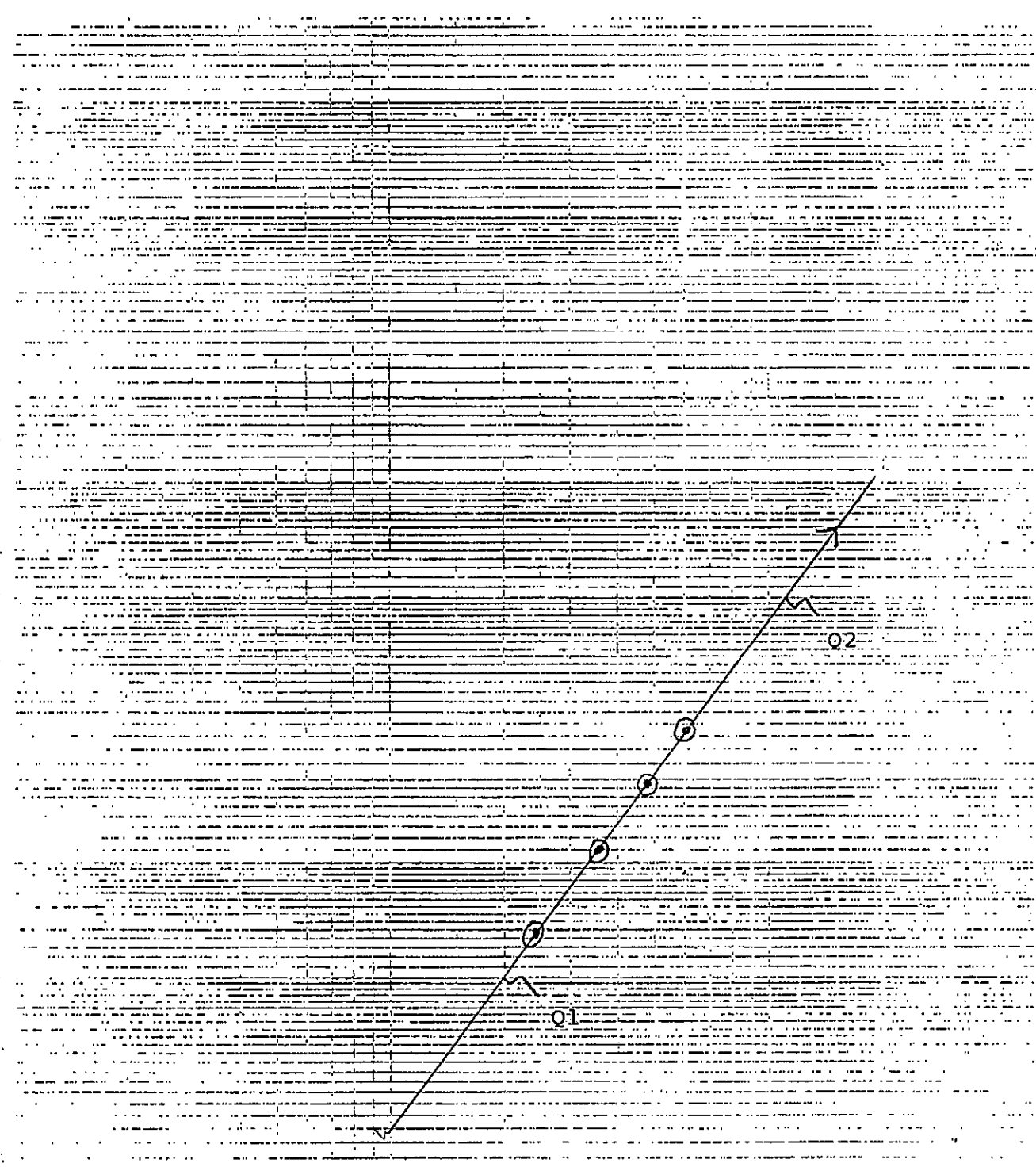
100

100

1000

Q2 - 1100 - Log: 3.041
Q1 - 200 - Log: 2.301
"n" = .740

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FIELD DATA SHEET

Pumper: _____

Phone#: _____

 Type Test: Initial Annual Special Test Date
3/19/12

 Company **LD DRLL** Connection **LUMEN**

 Field _____ Reservoir _____ Location **CSWNW**

 Completion Date _____ Total Depth _____ Plug Back TD _____ Elevation _____ Form or Lease Name
KOENIGMANN TRUST

 Csg. Size _____ Wt. _____ d _____ Set At _____ Perforations: From _____ To _____ Well No.
1

 Tbg. Size _____ Wt. _____ d _____ Set At _____ Perforations: From _____ To _____ Sec. **28** Top - Rlb **265** Rgs - Sw **11W**

 Type Completion (Describe) **SINGLE** Packer Set At **NONE** County or Parish
PART

 Producing Thru **CSG** Reservoir Temp. F _____ Mean Annual Temp. F **60** Baro. Press. - P **14.4** State _____

 G **.679** % CO₂ **.194** % N₂ **6.852** % H₂S _____ Prover _____ Meter Run **2** Taps **1A**

DATE	ELAP. TIME	WELLHEAD WORKING PRESSURE			METER OR PROVER				REMARKS <small>(Include liquid production data: Type - API Gravity - Amount)</small>
		Tbg. Psig	Csg. Psig	Δ P	Pressure Psig	Diff.	Temp. F	Orifice	
9:15	72		659						
9:45								1750	COMMENCE TEST
:00			646		174	18.8	51		
:15			638		188	23.9	50		
:30			629		189	23.6	50		
:45			620		198	52.3	49		
:00			614		199	51.1	49		
:15			610		200	50.8	49		
:30			598		202	87.1	49		2.590 643
:45			589		203	86.3	48		5.090 626
:00			581		204	85.4	48		7.590 610
									10.090 593
:15			570		205	139.2	48		12.590 577
:30			561		206	137.7	48		15.090 560
:45			552		207	136.0	48		17.590 544
									20.090 527
									25.090 494
1:00			609						SET FLOW RATE FOR IPT TEST
9:45			616		179	3.8	49		@ 325 McF/D
	0.0								BALL VALVE CONTROLLING FLOW
	0.5								PARTIALLY FROZE OFF.
	1.0								Begin 30 minute wellhead buildup
	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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12/7/2011

GAS ANALYSIS REPORT

METER NUMBER : 22205 SAMPLE TYPE : SPOT
METER NAME : KONEMANN SAMPLE DATE : 11/29/2011
METER ID : LD DRILLING SAMPLE PRES / TEMP : 163 / 62
PRODUCER : SAMPLED BY : MM
COMPANY LD DRILLING EFFECTIVE DATE : 11/01/2011

LOCATION : SEC. 28-26 S-11W PRATT COUNTY

<u>COMPONENT</u>		<u>PERCENT</u>	<u>BTU VALUES @ 14.65</u>		<u>BTU VALUES @ 14.73</u>	
Helium	He	0.2162	REAL DRY	1082.35	REAL DRY	1088.26
Oxygen	O2	0.0000	REAL WET	1063.40	REAL WET	1069.21
Hydrogen Sulfide	H2S	0.0000				
Carbon Dioxide	CO2	0.1937				
Nitrogen	N2	6.8523				
Methane	C1	82.4822	<u>GPM VALUES @ 14.65</u>		<u>GPM VALUES @ 14.73</u>	
Ethane	C2	4.9705	C2	1.3214	C2	1.3286
Propane	C3	2.8206	C3	0.7724	C3	0.7766
I-Butane	IC4	0.4019	IC4	0.1307	IC4	0.1315
N-Butane	nC4	1.1527	nC4	0.3614	nC4	0.3634
I-Pentane	IC5	0.2401	IC5	0.0874	IC5	0.0879
N-Pentane	nC5	0.3284	nC5	0.1183	nC5	0.1189
Hexane Plus	C6+	0.3414	C6+	0.1481	C6+	0.1489
TOTALS		100.0000		2.9397		2.9558

SPECIFIC GRAVITY

REAL DRY 0.6790
REAL WET 0.6781

COMPRESSIBILITY FACTOR

Z FACTOR DRY 0.9974
Z FACTOR WET 0.9974

GALLONS PER THOUSAND

GPM TOTALS @ 14.65
C2 + GPM 2.9397
C3 + PGM 1.6183
C4 + GPM 0.8459
C5 + GPM 0.3538

GPM TOTALS @ 14.73
C2 + GPM 2.9558
C3 + PGM 1.6272
C4 + GPM 0.8506
C5 + GPM 0.3557

COMMENTS :

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