

**STATE OF KANSAS - CORPORATION COMMISSION**  
**ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST**

FORM NO. 8-7-58

15-023-20145-0000-29  
11-26-90

TYPE TEST:  Deliverability  Open Flow TEST DATE: 8/21/90

COMPANY: Harvest Energy Company LEASE: Sherlock WELL NO.: #1-4

COUNTY: Cheyenne LOCATION: CSE SECTION: 4 TWP: T3S R90 ACRES: R39W

FIELD: Bird City RESERVOIR: Niobrara PIPELINE CONNECTION: Williams Natural Gas

COMPLETION DATE: 1/8/81 PLUG BACK TOTAL DEPTH: 1377' PACKER SET AT: N/A

CASING SIZE: 4 1/2" WT. L.D. SET AT: 1415' PERF. TO: 222'

TUBING SIZE: 1 1/4" WT. L.D. SET AT: 1261' PERF. TO: open

TYPE COMPLETION (Describe): Single gas TYPE FLUID PRODUCTION: Single gas

PRODUCING THRU: Tubing RESERVOIR TEMPERATURE F: 80 BAR. PRESS - P<sub>a</sub>: 14.4 Psia

GAS GRAVITY - G<sub>g</sub>: .5897 % CARBON DIOXIDE: 1.609 % NITROGEN: 4.513 API GRAVITY OF LIQUID: \_\_\_\_\_

VERTICAL DEPTH (ft): 1291' TYPE METER CONN.: orifice (METER RUN)(PROVER) SIZE: 2"

SHUT-IN PRESSURE: SHUT IN 6/3 1981 AT (AM)(PM) TAKEN 8/16 1990 AT (AM)(PM)

FLOW TEST: STARTED 8/20 1990 AT (AM)(PM) TAKEN 8/21 1990 AT (AM)(PM)

**OBSERVED DATA**

| SHUT-IN OR FLOW | ORIFICE SIZE in. | (METER) (PROVER) PRESSURE psig | DIFF. in. (h <sub>w</sub> )(h <sub>d</sub> ) | FLOWING TEMP. °F | WELL-HEAD TEMP. °F | CASING WELLHEAD PRESS. |  | TUBING WELLHEAD PRESS. |  | DURATION HOURS | LIQUID PROD. Bbls. |
|-----------------|------------------|--------------------------------|--|------------------|--------------------|------------------------|--|------------------------|--|----------------|--------------------|
|                 |                  |                                |  |                  |                    | psig                   | (P <sub>w</sub> )(P <sub>e</sub> )(P <sub>d</sub> ) psia | psig                   | (P <sub>w</sub> )(P <sub>e</sub> )(P <sub>d</sub> ) psia |                |                    |
| SHUT-IN         |                  |                                |  |                  |                    | 285                    |  | 285                    |  |                |                    |
| FLOW            | .875             | 43                             | 40   | 60               | 60                 | 130                    |  | 37                     |  | 24             |                    |

**RATE OF FLOW CALCULATIONS**

| COEFFICIENT (P <sub>e</sub> ) <sup>2</sup> (P <sub>d</sub> ) <sup>2</sup> Mold | (METER) (PROVER) PRESSURE psia | EXTENSION √P <sub>m</sub> h <sub>w</sub> | GRAVITY FACTOR P <sub>g</sub> | FLOWING TEMP. FACTOR P <sub>L</sub> | DEVIATION FACTOR P <sub>pv</sub> | RATE OF FLOW R Mold | GOR | Q <sub>m</sub> |
|--|--------------------------------|--|-------------------------------|-------------------------------------|----------------------------------|---------------------|-----|----------------|
| 3.8629001  | 57.4                           | 47.916594                                | 1.3019                        | 1.0                                 | 1.0047                           | 242.11              |     |                |

**(OPEN FLOW) (DELIVERABILITY) CALCULATIONS**

(P<sub>e</sub>)<sup>2</sup> = 89.64036 (P<sub>w</sub>)<sup>2</sup> = 264196 P<sub>d</sub><sup>2</sup> = \_\_\_\_\_ % (P<sub>e</sub> - 14.4) + 14.4 = \_\_\_\_\_ (P<sub>d</sub>)<sup>2</sup> = 0.207

| (P <sub>e</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup> | (P <sub>e</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> | $\frac{P_e^2 - P_d^2}{P_e^2 - P_w^2}$ | LOG [ ]  | "n" | n x LOG [ ] | ANTILOG   | OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mold |
|---|---|---------------------------------------|----------|-----|-------------|-----------|--|
| 89.43336  | 86.9984   | 1.0279886                             | .0119882 | .85 | .01019      | 1.0237409 | 247.86   |

OPEN FLOW 247.86 Mold @ 14.65 psia DELIVERABILITY Mold @ 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 November, 1990.

NOV 26 1990  
11-26-90  
For Company: *[Signature]*  
Wichita, Kansas

Witness (if any)

For Commission

For Company

Checked by

**Jim Hemmen**

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**From:** Jamie [jamie@lonewolfop.com]  
**Sent:** Friday, July 31, 2009 10:07 AM  
**To:** Jim Hemmen  
**Subject:** RE: Lack of Response To Earlier Letter

Mr. Hemmen,

Due to low gas prices, it was determined that it would not be economically feasible to re-work the well at this juncture. I will be certain to keep you apprised of any changes in status.

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**From:** Jim Hemmen [mailto:j.hemmen@kcc.ks.gov]  
**Sent:** Monday, July 27, 2009 7:59 AM  
**To:** Jamie  
**Subject:** RE: Lack of Response To Earlier Letter

Jamie: No, I didn't know that that would be what Lone Wolf would do as a response to my inquiry about the current status of that well. So, I never thought to even check on that possibility. You have to **tell** me whenever Lone Wolf is planning on doing something like that.

For all I knew, at the time, this Sherlock well could have been in production and just been overlooked with respect to the annual testing requirement for calendar year **2008**.

Similarly, I need you to inform me of the change in the well's status if Lone Wolf ever returns the well to commercial production. I probably won't be able to see that change. And, also if Lone Wolf should ever assign the Sherlock lease back to the current landowner.

Anyway, I can't see the actual **CP-111 Temporarily Abandonment** application form pertaining to this well. Could you tell me what Lone Wolf put on the form as the reason for needing the Corporation Commission to grant the **Temporarily Abandoned** status to this well, instead of moving ahead with either plugging the well or putting it back in production ??????

I kind of need to know that.

I guess that you already know that the **Temporarily Abandoned** status only buys enough time for Lone Wolf to get you to July of next year.

Thanks, Jamie.

Jim Hemmen  
(316)-337-6224  
Kansas Corporation Commission  
Conservation Division

-----Original Message-----

**From:** Jamie [mailto:jamie@lonewolfop.com]  
**Sent:** Saturday, July 25, 2009 10:56 AM  
**To:** Jim Hemmen  
**Subject:** RE: Lack of Response To Earlier Letter

Mr. Hemmen,

I am not sure where the confusion has come from, but I have responded to your emails and I have filed an application to temporarily abandon and it has been granted. It was approved July 2<sup>nd</sup>. It was my assumption that if the application was granted you would be able to access that information and see that I have complied with your request. If you need me to fax, scan or mail the approval for your records, I would be happy to do so. If you have difficulty reaching me via email in the future I can be reached @970.774.7686 or 970.412.2540.

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**From:** Jim Hemmen [mailto:j.hemmen@kcc.ks.gov]  
**Sent:** Tuesday, July 14, 2009 8:16 AM  
**To:** jamie@lonewolfop.com  
**Cc:** Case Morris  
**Subject:** Lack of Response To Earlier Letter

Jamie: Back when I sent you acknowledgement letters informing Lone Wolf that they had been granted the automatic testing exemptions for **2009** to those Niobrara gas wells for which you filed the annually-required G-2 forms, I included a note that inquired into the status of a well named the **Sherlock #1-4**.

It's located in **Section 04-03S-39W** and my database shows Lone Wolf as being the current operator of this lease.

You never responded to that note.

If you fail to respond to this E-mail inquiry, I will be forced to seek imposition of a penalty fine and perhaps even a plugging order that will force Lone Wolf to have to immediately plug and abandon this well.

Please reply as to whether or not this particular gas well is currently in production and, if it is, how soon Lone Wolf can furnish this office with a **2009** exemption claim having the well's most recent measured shut-in pressure reading on it. If it's currently not active, then please indicate that this is the case and proceed with filing the mandated **CP-111 Temporary Abandoned** application form with the District 4 Office in Hays, KS.

If granted by the District Supervisor, this will buy Lone Wolf Operating a full year's worth of time within which to evaluate the well and to make decisions regarding whether to return the well to commercial production or to plug and abandon it or to convert it to a service well (i.e. saltwater disposal well).

If the Temporary Abandoned status is denied by the District Supervisor, then Lone Wolf will have to proceed with either putting the well back into production, as soon as possible, or with plugging it.

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Jim Hemmen  
Research Analyst  
(316)-337-6224  
Kansas Corporation Commission  
Conservation Division  
[www.kcc.ks.gov](http://www.kcc.ks.gov)



## LONE WOLF NEW MEXICO, LLC

Kansas Corporation Commission  
Conservation Division  
130 S. Market – Room 2078  
Wichita, KS 67202

April 16, 2009

Dear Mr. Hemmen:

Please find enclosed the corrected G-2 forms that you have requested. I apologize for not having them completed properly. I hope that they are now satisfactorily filled in. If you have any further questions or need any additional information please let me know. I can be reached @ (970)774-7686 or via e-mail @ [jamie@lonewolfop.com](mailto:jamie@lonewolfop.com). I appreciate all of the help you have given me throughout this process.

Sincerely,

Jamie Brundige-Tori  
Regulatory Compliance Manager

Enclosure

RECEIVED  
APR 20 2009  
KCC WICHITA