

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD
Sent: Wednesday, March 27, 2019 3:37 PM
To: 'Krysten Moore'
Cc: Kuehling, Monica, EMNRD; Jones, William V, EMNRD; Sanchez, Daniel J., EMNRD; Powell, Brandon, EMNRD; McMillan, Michael, EMNRD
Subject: RE: [EXT] Re: SWD Questions API 3004524242

RE: Un-numbered IPI order dated June 9, 1998 (PSI-X 4th QTR98)
SWD Well No. 3 (formerly New Mexico Federal "N" No. 5E); API 30-045-24242; administrative order SWD-698

Ms. Moore:

I am reviewing the information for the referenced well and the related orders of the well. As part of this review, I am replotting the step-rate test (SRT) data submitted by Bayless in their correspondence dated April 29, 1998. There are inconsistencies in this document which raise concern. The first paragraph cites:

"The data from the bottom hole pressure bomb indicates that an injection rate of 2.65 BPM at 940 psi surface pressure (2542 psi bottom hole pressure) can be achieved without breakover. Therefore, injection up to a surface pressure of 940 psi in this well will not result in migration of the injected fluid from the Point Lookout formation. As a result of this test, Robert L Bayless requests that the NMOCD administratively approve an increase in the limiting injection pressure for this well to a pressure of 940 psi."

While the second paragraph states:

"Graph #1 shows the overall data, while Graph #2 is an expanded view of the calculated bottom hole pressure (surface readings) and the actual bottom hole pressure (downhole pressure bomb). These graphs show a very close agreement in these two types of bottom hole pressure measurement. Graph #4 and Graph #5 show the bottom hole pressure-rate trends for calculated and actual bottom hole pressure data. The breakover shown for the calculated data is 2.62 BPM at 2530 psi bottom hole pressure, while breakover occurs for the actual data at 2.65 BPM at 2542 psi bottom hole pressure. Graph #5 expands the actual bottom hole breakover data to a surface pressure measurement. This graph shows breakover occurring at 2.65 BPM at 940 psi surface pressure. The close agreement between calculated bottom hole and actual bottom hole pressures demonstrates that data with sufficient accuracy can be obtained using surface measurement only, making actual bottom hole measurement unnecessary to obtain adequate results."

Since these two statements contradict each other, the statement in the second paragraph must be accepted as fact since Graph #5 is an analysis based on actual bottom-hole measurements. As such, the Division's accepted protocol (as established under the Primacy Demonstration with USEPA) to calculate a maximum surface injection pressure (MSIP) is to reduce the measured formation parting pressure (at surface) by 50 psi as a buffer. Since the parting pressure (at surface) was measured at 940 psi, the approved MSIP should be 890 psi.

Based on this information, the District compliance personnel are quite correct in their restriction of the MSIP to 890 psi. They have identified this inconsistency of the IPI order (as created by the Engineering Bureau staff) and have properly applied the correct methodology to ensure that the UIC program guidelines have been followed by the Division (specifically 40 CFR 146.23).

I will continue with the review of the SRT data and will make recommendations to the Director. This may include the issuance of a corrected IPI order based on my findings. Meanwhile, the limit of 890 psi, as established by the Aztec District for this well, is proper and will remain in effect.

Please contact me with any questions regarding the content of this e-mail or the requirements of the Division under Rule 19.15.26 NMAC. PRG

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From: Krysten Moore <krysten@advancedwirelessllc.com>
Sent: Wednesday, March 27, 2019 1:59 PM
To: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Subject: [EXT] Re: SWD Questions API 3004524242

Good afternoon,
Just checking in to see if there has been any progress figuring out the discrepancy of what the true max surface pressure is.

thanks,

Krysten Moore
Vice President
Advanced Wireless Communications, LLC
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On Fri, Mar 22, 2019 at 9:56 AM Krysten Moore <krysten@advancedwirelessllc.com> wrote:

Good morning, Phillip

Pleasure speaking with you earlier. The SWD that I am gathering data on, of which we are current operator, is the SWD #3 API 30-045-24242.

One thing I would definitely like cleared up is to have our true max surface pressure clarified. We have been told by our local OCD office that max pressure is 890 but as I was looking through the Administrative Orders, I found an IPI that states it is actually 940. Identifying which is correct will of course help me to correctly evaluate the safe capacity and injection time/rate for this SWD.

I know that you are able to look all this data up but since I have it readily available I have attached a few of the PDFs that I accessed online for quick reference.

Thank you for your assistance,

Krysten Moore
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