

Bratcher, Mike, EMNRD

From: Hall, James <James_Hall@xtoenergy.com>
Sent: Thursday, December 13, 2018 10:40 AM
To: Bratcher, Mike, EMNRD
Cc: Littrell, Kyle; Sanders, Toady
Subject: [EXT] 101H Update

Hello Mike,

Good to talk to you this morning. As we discussed, here is an update and summary on what we know about the Remuda South 101H well status:

- Sept 30: While completing the fracking activity of the 101H, we observed issues with decreasing subsurface casing pressure during one of the final frac stages. No surface issues, spills, etc. at this time.
- Oct 1: Ongoing reviewing of data to evaluate the well status
- Oct 2: Ran temp log in 101H for due diligence, observed indication that there could be partial flow at about around 300 - 500 feet below surface into the formation
 - Well not drilled out, completion plugs still in place, so flow assumed to be limited
 - Immediately called both NMOCD (yourself) and BLM (Stovall) to notify as a courtesy
 - Also called Mosaic as a precaution to ensure transparency, agreed on Oct 2 with Mosaic to evacuate mine (about 2.5 miles north of 101H) for a couple of days to be extra safe and give us time to figure out the likely extent of any subsurface fluid migration
- Oct 4: XTO ran temp logs at multiple other pad locations and observed no indication of subsurface flow movement from 101H off pad. Mosaic comfortable with issue and mine staff redeployed underground
- Oct 12: Well confirmed killed using 188 ppg mud. XTO called NMOD and BLM to notify the well was now contained and dead and we were considering our well options
- Oct 12 to present: Running multiple downhole tools and designing a shallow seismic study of the well pad to evaluate casing integrity, and develop a plan for long term P&A or remediation of the well. Seismic study was started on Dec 11

As soon as the issue was identified on Oct 1, XTO immediately initiated subsidence monitoring of the area, and secured all offset wells on the pad to be ultra-precautionary, and we have seen no issues in any monitoring activity or XTO offset wells since.

We had assumed given the limited flow rate and continuous local monitoring of other XTO pads that the extent of any subsurface flow into the salt formation would be limited to the area around 101H on the well pad.

Late On Nov 27, we were notified by the BLM that there had been fluid observed (no longer flowing) on the surface around a P&A'd Potash geological core hole drilled to 700 feet in the 1970s (PCA-53). This is about 1 mile NE of 101H. XTO immediately deployed staff on Nov 28 to evaluate the location, safely secure the core hole location and obtain soil samples to try to identify the source of the fluid. This analysis is ongoing, and given this location is on BLM land, in addition to notifying NMOCD, we have also recently met with BLM and Mosaic to discuss as we continue our investigation.

Happy to discuss or provide additional information Mike, and of course as we make progress with our investigation and planning for any spill remediation and 101H, we will update the NMOCD on our proposed path forward. Thanks again for your time today.

James

James A. Hall Ph.D.

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