

Fortuna Explains Injection Testing of Mallula Well in Van Etten

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Fortuna's second attempt to explain the injection testing at Mallula Well answered some questions, but left many Van Etten residents unconvinced that the company could guarantee groundwater safety. On Wednesday, March 4, operations engineer Mike Brown and operations manager Rick Kessy outlined Fortuna's plans for the well drilled up on Rumsey Hill Road.

"The Mallula Well has produced as much gas as it can," Brown said. He explained that Fortuna wants to run an "injection test" on the no-longer producing well to determine whether it might serve as an underground injection well for produced "brine" and, perhaps, frack water from Marcellus wells. Data gathered during an injection test will let the Fortuna engineers know how much water – or brine – the well can hold, if indeed it can accept brine.

Injection Test

"We'll start by injecting a small amount of water (brine) – about 2,000 barrels – into the well and record the downhole pressures during injection and for a month following," Brown said. Once the wastewater has been pumped in, the engineers will shut in the well. Gauges and recording devices left inside the borehole will continue to record information for a "fall-off" test.

After a month, the engineers will remove the gauges and study the data. By analyzing how pressure decreases, the engineers can determine how permeable the well is, and whether it is suitable for use as an underground injection (disposal) well.

One of the questions they hope to answer is the storage capacity available in the Mallula Well. Fortuna began drilling the well in May, 2005, aiming for the Trenton-Black River formation. The natural gas in that formation is trapped in small pockets in the narrow grabens found in the dolomite and limestone about 10,000 feet down. The point of the injection test is to see whether Fortuna can fill those empty pockets with wastewater.

Brine will be injected into the well under pressure, but not enough pressure to fracture the rock, the Fortuna engineers explained. "The primary thing we are looking for is to see whether the well will accept water (brine) without having to go to high pressure," Kessy said. If the pressure did get high enough to fracture the rock, Fortuna engineers would halt the testing. This answer did little to relieve the anxieties of some people who fear that injection of water into the well may indeed fracture rock, allowing salts, heavy metals and other constituents of the brine to migrate through fractures into groundwater.

Seeking Common Language

When asked about whether Fortuna could do the testing, given that some leaseholders had stricken storage clauses from their leases, Kessy emphasized that Fortuna is only "testing" the well.

“We’re not actually into storage at this point,” Kessy said. “In the event that we were able to meet all the conditions, regulatory-wise, then we would get all the stakeholders together to agree that we could use it for that,” he added. The implication is that at that point, Fortuna would be seeking storage permission from landowners who had not expressly permitted that in their leases.

In order to test the Mallula Well, Fortuna applied for a State Pollutant Discharge Elimination System (SPDES) permit through the NY State DEC. If their test data indicate that the Mallula well could serve as a disposal well, then Fortuna will have to make an additional application for another SPDES permit. In addition, they’ll have to apply for a UIC [underground injection control] permit through the EPA.

During the evening, Kessy and others made a clear distinction between testing and storage. Although one citizen pointed out that the brine pumped into the Mallula Well during injection tests would remain in the well, Kessy did not define this as storage. When asked about Marcellus frack water the Fortuna engineers emphasized that they were testing brine from Trenton-Black River wells.

Fortuna declined to rule out underground disposal of Marcellus wastewater, explaining that if they wish to inject that into the Mallula Well they will have to include it in future SPDES permit applications. The engineers also insisted that Fortuna is not planning on drilling any Marcellus wells in this area.

However, according to the DEC website, Fortuna is awaiting decision on 11 permit applications, listing Marcellus as their objective formation. Seven of these are vertical wells, with one located in Elmira. The remaining four are horizontal wells in Candor.

On Monday, March 9, Fortuna media spokesperson Mark Scheurman clarified that the company has “no plans to conduct any Marcellus horizontal drilling activities anywhere in NY” until the DEC concludes their Supplemental Generic Environmental Impact Statement (SGEIS). Once that is complete, and reliable drilling permits can be obtained Fortuna will evaluate a number of factors to determine “if and where any future Marcellus Shale activities in New York are to occur.”

Other problematic language was the distinction between “storage” and “disposal”. Citizens who will be impacted by the use of Mallula Well referred to the proposed underground injection as “disposal”, consistent with EPA’s use of the term. The Fortuna engineers, however, stressed that it was “storage”, albeit very long-term.

Safe Drinking Water

As with previous meetings, there were many questions about how – and whether – Fortuna could insure the safety of the aquifer and home wells. Kessy assured people that Fortuna would be responsible for any disposal wells, and that through DEC oversight, funds would be in place to make sure that any damage was remedied. That responsibility would transfer to any future company that inherits Fortuna’s assets.

One concern is that exploration of other strata near the disposal well might cause environmental damage. “The storage would not disqualify any development for other exploration,” Kessy said, a statement that did nothing to ease the concern.

Both Brown and Kessy went through detailed explanations of the types of casings used when drilling the well. When asked whether the Mallula well might leak, Kessy pointed out that there are layers of steel encased in layers of cement (see diagrams at www.fortunaenergy.com/how_we_operate/protecting_the_environment.html).

“I am fully confident it will not leak,” Kessy said about the casing.

“What about deeper?” someone asked, expressing concern over vertical cracks.

“We know how much pressure we can apply to avoid artificially inducing fractures in the Trenton-Black River formation,” Kessy said. The pressures at 9500 to 10,000 feet below the surface are sufficient to hold the brine in the formation but not enough to crack the rock. “It’s not shale,” Kessy reminded people.

Kessy also promised to post a new analysis of the brine that will be used in the injection test on the company’s website (www.fortunaenergy.com). Sometime after the last community meeting they submitted the brine for a second analysis that would include some of the metals and chemicals people had expressed concern about. As of press time the test results have not been posted.