Message (Digitally Signed)

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Sent: 6/28/2018 4:06:40 PM
To: MOOK, PHILIP H JR GS-15 USAF AFCEC AFCEC/CIBW [philip.mook@us.af.mil]
CC: Geoff Watkin [Geoff.Watkin@SpecProSvcs.com]; William Hughes [William.Hughes@SpecProSvcs.com]
Subject: COM Drinking Water wells near Former Williams AFB
Attachments: WELL FIGURE ADWR.pptx; Capture future buildout plan city of mesa zoom.JPG; image006city figure 2018 existing.pdf; smime.p7s

Phil-

I consolidated information from several sources on existing and proposed wells located east of the southern portion of former Williams AFB in the email below. Amec, Geoff and Bill provided input and the sources are the ADWR website and City of Mesa information.

Information on existing drinking water wells located east of former Williams AFB was provided to EPA and ADEQ in February 2018 documenting that the existing wells do not have any impact on the Wiliams AFB wells. Based on the data provided by ADWR for the existing wells (provided in the Feb 2018 email) the existing wells show an influence over a 5-year period, of 4700 to 6500 feet. This means that the wells, when pumping at capacity, may result in a 10-foot drawdown of groundwater for a radius of up to 6500 hundred feet or 1.23 miles. The ADWR website also has calculations that pertain to a 25-year period, and that radius in all cases is much smaller (measured in hundreds of feet rather than thousands). DW12 was permitted in 2002 and completed in 2005; there has been no pumping since 2013. Based on groundwater elevations collected at Williams AFB wells, DW12 and other existing wells have had no impact on the Williams AFB wells.

Existing well DW12 is located near the corner of Ellsworth and Pecos Road, near the south east corner of the base, approximately 2-1/2 miles from Williams site ST012. In 2001, ADEQ raised a concern that there would be adverse impacts on this well from Williams site ST012. ADWR evaluated the information at the time and determined that the drinking water aquifer (lower Middle Alluvial Unit) and the Upper Alluvial Unit aquifer (where the contamination is located) have several intervening low permeable geologic layers that would prevent downward migration. AWDR could not conclude with certainty that the proposed well would have an unreasonable and adverse impact. The projected impacts were deemed to be less than, and counteracted by, the regional changes that had been observed and were projected. ADWR noted that they would continue to monitor the issue and that future production wells may require additional hydrologic studies or monitoring. Well D12 is sampled annually – results have always been Non Detect for VOCs and other contaminants.

The proposed five new City of Mesa wells would be located further east from Williams AFB, approximately 3-4 miles from Williams site ST012. Two of the wells are scheduled to be funded in 2020, two in 2024 and one in 2028. The City of Mesa engineer verbally estimated a minimum of 5 years before installation would occur for any of these wells. The wells would be similar flow rates and depths as existing wells in the vicinity, 1000-1400 feet deep.

Similar to existing City of Mesa wells, the proposed new wells would be screened in a significantly lower portion of the aquifer (lower part of the Middle Alluvial Unit) than where the current ST012 contamination resides (shallow Upper Alluvial Unit) and there are several intervening low permeable geologic layers that would prevent downward migration.

Because the proposed wells will be approximately 3-4 miles from ST012, and ½-3 miles farther away than existing well DW12 that has no influence, the hydraulic effect from the future five wells, if any, would be negligible. Additionally, ADWR will perform a pumping and radius of influence evaluation as part of the permitting process for the proposed well installation.

In summary, the existing and proposed new wells are not anticipated to have any adverse impacts on Williams site ST012. The ADWR's evaluation identified no unreasonable or adverse impact from ST012. Also, the planned phased construction for the proposed new wells over a 5-8 year period will allow ample time for evaluation of regional conditions.

Please let me know if you have questions or would like additional information.

Cathy

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