Message

From: d'Almeida, Carolyn K. [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9EC4401AFA1846DD93D52A0DDA973581-CDALMEID]
Sent: 2/15/2018 5:17:21 PM
To: Davis, Eva [Davis.Eva@epa.gov]; Dan Pope [DPope@css-inc.com]; Brasaemle, Karla [KBrasaemle@TechLawInc.com]
Subject: FW: Wells downgradient of Williams
Attachments: Wells east of ST012.pdf; Figure1_1995-2016_FlowDirection.pdf; WELL FIGURE ADWR.pptx

Thoughts?

Carolyn d'Almeida
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"Because a waste is a terrible thing to mind…"

-----Original Message-----
From: JERRARD, CATHERINE V CIV USAF HAF AFCEC/CIBW [mailto:catherine.jerrard@us.af.mil]
Sent: Thursday, February 15, 2018 9:01 AM
To: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Wayne Miller <Miller.Wayne@azdeq.gov>; steve@uxopro.com
Cc: Smallbeck, Donald R. <donald.smallbeck@woodplc.com>; Pearson, Stuart C. <stuart.pearson@woodplc.com>; Geoff Watkin <Geoff.Watkin@SpecProSvcs.com>; William Hughes <William.Hughes@SpecProSvcs.com>
Subject: Wells downgradient of Williams

Carolyn raised a question about 5 public supply wells within 5 miles downgradient of former Williams AFB, and their potential impact on groundwater flow direction. AmecFW researched the well database and provided the information below and attached. The research does not indicate any impacts. In addition, the existing monitoring networks for Williams AFB sites provide appropriate and sufficient data for evaluating contaminant plumes, groundwater levels and groundwater flow direction. There is no current information that supports a conclusion of groundwater migration.

The attached excel spreadsheet is a brief compilation of well data from the five downgradient municipal wells. The information was developed from the Arizona Department of Water Resources (ADWR) website.

All five wells are drinking water wells and were installed between 1997 and 2008, with four of the five installed after 2003. They are between 1000 and 1100 feet deep and are screened below 500 feet below ground surface. Available pumping data indicates high gallon per minute capacity (1200-2000 gpm) but lower actual pumping data (around 925 gpm). Depth to groundwater for these wells ranges from 368 to 450 feet below ground surface.

Included in the imaged records for each well (with one exception, well #215425 did not have the correct documents; they were for another well with a different 55 number) are calculations for radius of influence/drawdown. These 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). Because the wells are approximately 4-5 miles from ST012, their effect, if any, is negligible.

Additionally, AmecFW evaluated groundwater flow direction at ST012 over a 21-year period. The attached figure shows groundwater flow directions for selected years, including 1995, 2003, 2005, 2006, 2011, 2012, 2014 and 2016. While the flow direction does vary slightly from year to year, the overall flow direction is easterly and it has not changed more than a few degrees in that time.

For the well west of Site 17 and the two wells to the east/southeast of WAFB, AmecFW extracted the following information:

55-618436: West of SS017
Drilled in 1957; well owner changed from Williams AFB to City of Mesa in 2005
1000 ft deep, screened from 300-1000 ft bgs

ADWR records show that no pumping from this well has occurred since 2000
No ROI data available

55-585924: East/southeast of site
Drilled in 2005. ADWR deemed no impact of this well on ST012.
1510 ft deep; screened from 650-1430 ft bgs
ADWR records show no pumping from this well has occurred since 2013
ROI determined to be approximately 1 mile

55-575995: Farther east/southeast of site
Drilled in 2000
1400 ft deep; screened from 650-1330 ft bgs
ADWR records show that no pumping from this well has occurred since 2012
ROI determined to be approximately 3400 ft.Please let me know if you need more information or if you have questions.

Cathy

//SIGNED//
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