



COLORADO

Department of Public Health & Environment

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January 8, 2019

LYNN WILLOW, ADMINISTRATOR
ARABIAN ACRES MD, PWSID CO0160075
5305 WHIMSICAL DR
COLORADO SPRINGS, CO 80917

RE: Notification of Final Evaluation of Surface Water Influence to No. 1 Well (WL001), No. 2 Well (WL002), No. 3 Well (WL004), No. 4 Well (WL005), No. 6 Well (WL007), No. 7 Well (WL009), No. 8 Well (WL011), No. 5R Well (WL012) and No. 9 Well (WL0019) for the Arabian Acres MD, PWSID CO0160075, Teller County

Dear Mr. Willow:

The Water Quality Control Division (Division) has completed an evaluation of the Arabian Acres MD (the system) No. 1 Well, No. 2 Well, No. 3 Well, No. 4 Well, No. 6 Well, No. 7 Well, No. 8 Well, No. 5R Well and No. 9 Well in accordance with Drinking Water Program Policy 3, *Evaluation of Ground Water Sources to Determine Direct Influence of Surface Water*. The result of this analysis is that the sources will be classified as groundwater.

This evaluation of the source as Groundwater Under the Direct Influence of Surface Water (GWUDI) was conducted by the Division utilizing data collected by the system 2015, 2016 and 2018. The specific information for each water source evaluated for the system is presented in Table 1.

Table 1: Result of Initial GWUDI Evaluation for Arabian Acres MD (PWSID CO0160075)

WSF Number	Water System Facility (WSF) Name	Recommended Classification	Current Classification	Primary Justification	Suggested Additional Requirements
WL001	No. 1 Well	Conditional GW	GW	Well lithology	See Table 2
WL002	No. 2 Well	Conditional GW	GW	Well lithology	See Table 2
WL004	No. 3 Well	Conditional GW	GW	Well depth and well lithology	See Table 2



WL005	No. 4 Well	Conditional GW	GW	Shallow screening interval and well lithology	See Table 2
WL007	No. 6 Well	Conditional GW	GW	Location near surface water, shallow screening interval and well lithology	See Table 2
WL009	No. 7 Well	Conditional GW	GW	Location near surface water and well lithology	See Table 2
WL011	No. 8 Well	Conditional GW	GW	Shallow screening interval and well lithology	See Table 2
WL012	No. 5R Well	Conditional GW	GW	Well lithology	See Table 2
WL019	No. 9 Well	Conditional GW	GW	Well lithology	See Table 2

Due to the fact that insufficient data was present to make a final GWUDI determination, the Division required the data presented in Table 2 to be collected.

Table 2: Conditional Groundwater Minimal Monitoring Requirements

Parameter	Location	Frequency	Sampling Dates
Conductivity and Temperature	WL004, WL007 and Unnamed Stream	2X per 7-day week	April through October
Raw Water Total coliform (w/ <i>E. coli</i>)	WL004 and WL007	1X month	April through October
Microscopic Particulate Analysis (MPA)	WL004 and WL007	3X as specified	1 st in Apr/May, 2 nd in June/July, 3 rd in Aug/Sept
Aerobic Spores	WL004, WL007 and Unnamed Stream	3X as specified	1 st in Apr/May, 2 nd in June/July, 3 rd in Aug/Sept Concurrent with MPAs



Please note that WL004 and WL007 are considered the worst case scenario for surface water influence and the data collected from those wells is considered representative of the water quality of the remaining seven wells. Additionally, surface water was unavailable for sampling and therefore only two aerobic spore samples were collected.

Results of Evaluation

The Division analyzed the data collected as well as took into account the history of the wells, the well completion logs, the proximity to surface water, and the overall pumping rate of the wells in order to make a final determination of GWUDI. Table 3 summarizes the data collected by the system and analyzed by the Division. Figures 1 through 4 further show the results of the data collection for temperature and conductivity.

Table 3: Summary of Data Evaluation

Parameter	Result	Conclusion
Temperature and Conductivity	The data does not show significant variations of temperature and conductivity over short periods of time.	The temperature and conductivity data indicates a low risk of surface water influence on WL004 and WL007.
Total coliform (w/ <i>E. coli</i>)	All results showed no presence of total coliform or <i>E. coli</i> .	The total coliform and <i>E. coli</i> results indicate a low risk of surface water influence on WL004 and WL007.
MPA	WL004 4/20/15 Score 0, Low Risk 8/9/16 Score 0, Low Risk 7/19/18 Score 0, Low Risk WL007 4/20/15 Score 5, Low Risk 8/9/16 Score 0, Low Risk 7/19/18 Score 0, Low Risk	The MPA results indicate a low risk of surface water influence on WL004 and WL007.
Aerobic Spores	WL004 4/21/15: <1 CFU/100 mL WL007 4/21/15: 1 CFU/100 mL	The MPA results indicate a low risk of surface water influence on WL004 and WL007



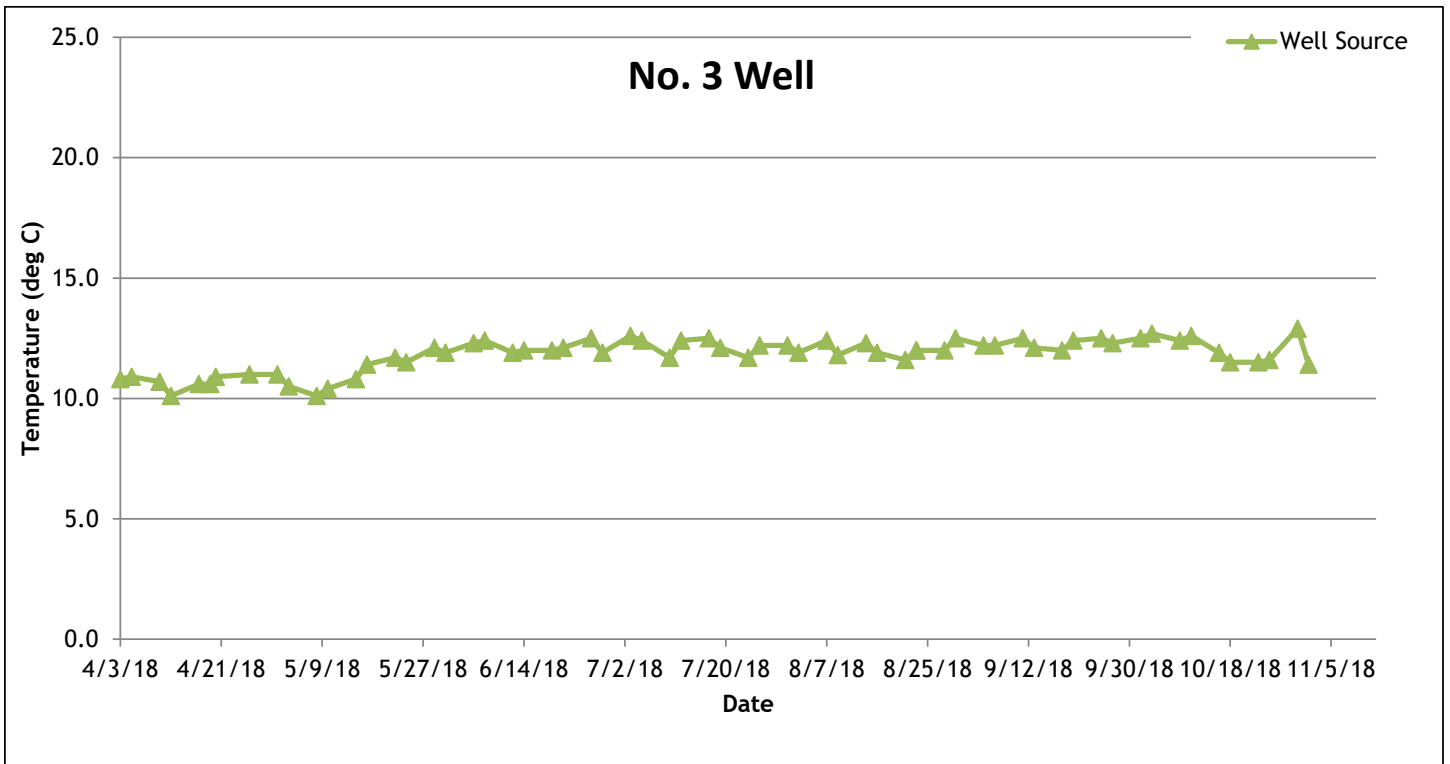


Figure 1: Temperature monitoring on No. 3 Well

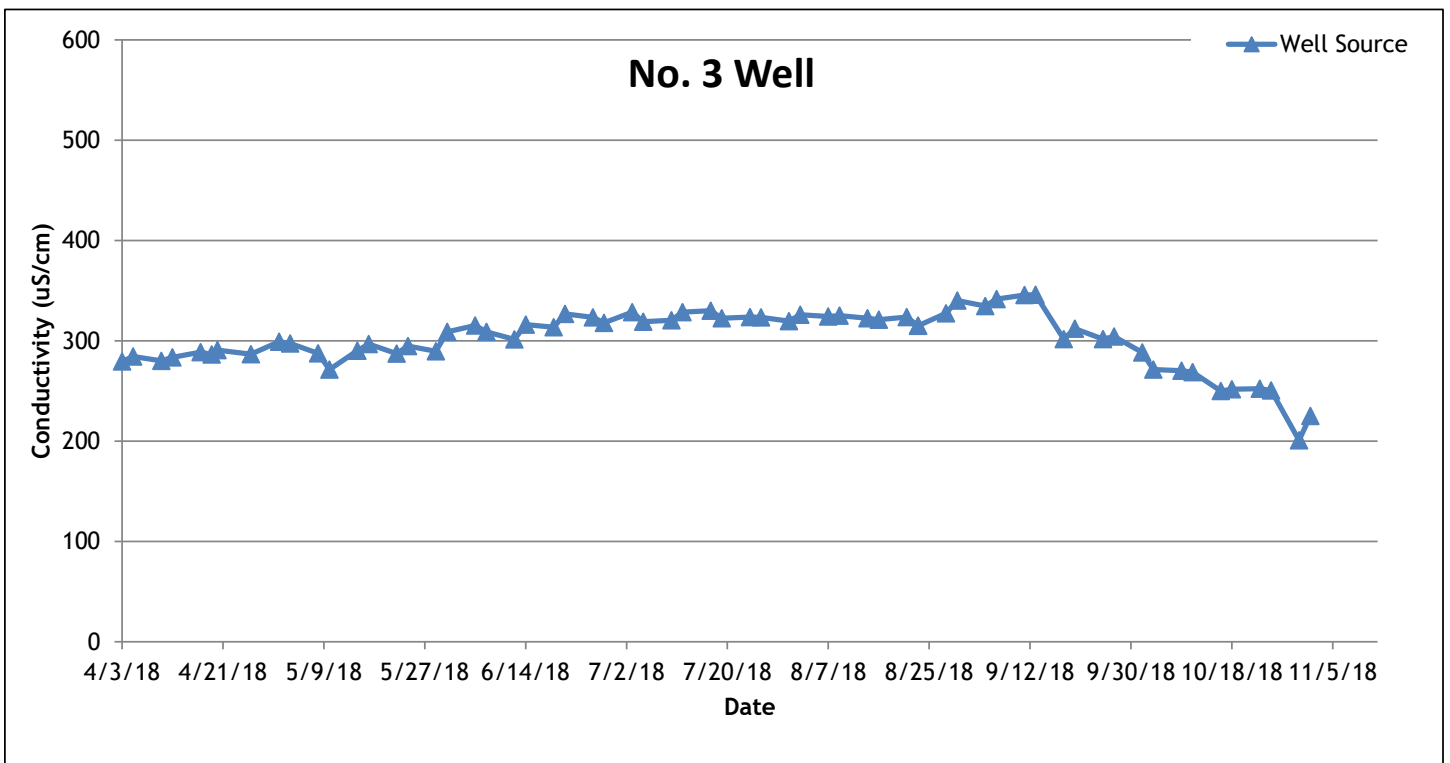


Figure 2: Conductivity monitoring on No. 3 Well



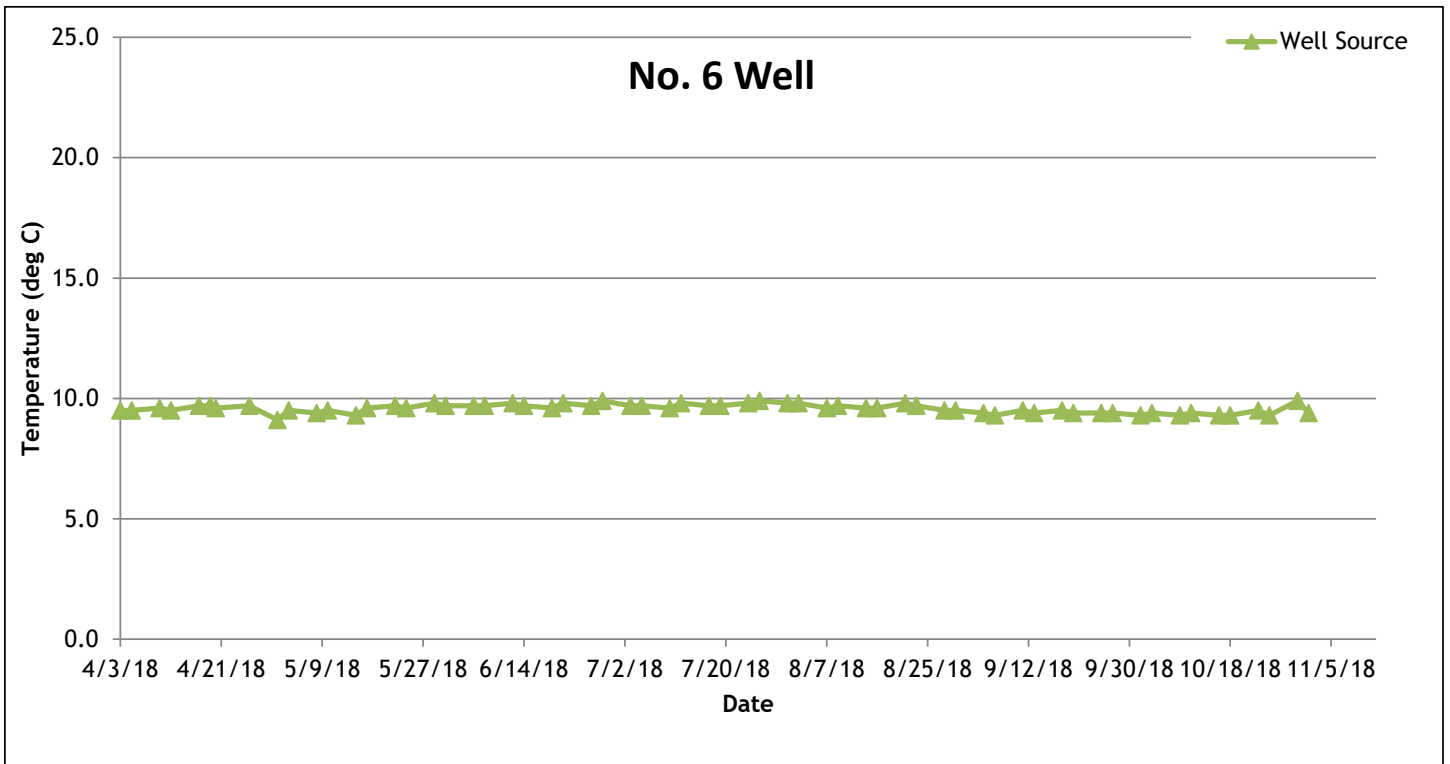


Figure 3: Temperature monitoring on No. 6 Well

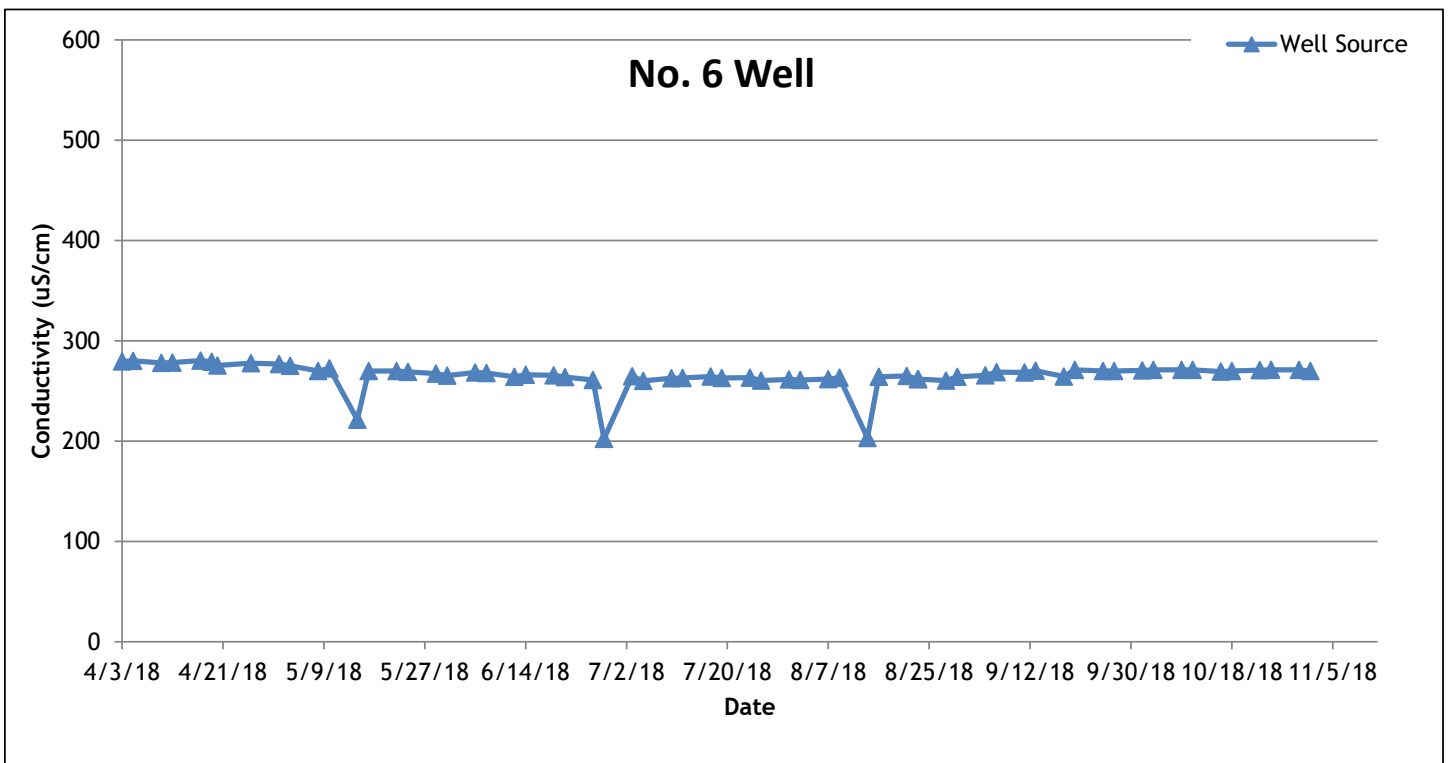


Figure 4: Conductivity monitoring on No. 6 Well



Evaluation Conclusions

Based upon the data collected by the system and evaluated by the Division, the Division finds that the Arabian Acres MD water sources (No. 1 Well, No. 2 Well, No. 3 Well, No. 4 Well, No. 6 Well, No. 7 Well, No. 8 Well, No. 5R Well and No. 9 Well) will be regulated by the Division as a groundwater (GW) source. The Division will consider this evaluation final unless evidence is presented that conditions with the wells have changed to warrant further investigation with regard to the influence of surface water to the wells.

If you have any questions, please contact me by phone at 303-692-3527 or via e-mail at bryan.pickle@state.co.us.

Sincerely,



Bryan Pickle
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Compliance Assurance Section
Water Quality Control Division
Colorado Department of Public Health and Environment

ec:
Amy Zimmerman, ES, WQCD, CDPHE

File: PWSID No. CO0160075, Teller County, Community - Groundwater