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Jim Bennett,
County Groundwater Geologist
County of San Diego
Planning and Development Services
5510 Overland Ave, First Floor Suite 110
San Diego CA 92123

Trey Driscoll
Dudek and Associates
605 Third Street
Encinitas CA 92024

Geoff Poole
Borrego Water District
806 Palm Canyon Dr.
Borrego Springs CA 92004

Borrego Sun
P.O. Box 249
Borrego Springs CA 92004

Subject: Inadequate Distribution of Monitoring Wells, Borrego Valley GSP

Dear Sirs.

As part of the ongoing geotechnical work of the Borrego Valley GSP, the technical team has established a groundwater quality monitoring network. Groundwater quality is a required element of the GSP plan. From the most recent information that I have received (which is Figure 2 of the June update) there are currently 28 wells in the plan with an additional 4 wells having access granted and one with access pending, for a grand total of 33 wells. (This plan might have been modified; however, I have not been successful in getting any new updates on the program.)

It is my professional opinion that while the gross number of wells is more than adequate for the GSP, the distribution of wells is not sufficient and provides for a significant data gap within the plan.

Specifically, the vast number of wells (64%) are located in the southern third of the basin and only 4 wells or 12% are located in the northern and northeastern portion of the Basin. The density of wells in the southern portion is approximately 1 well per .8 square miles, while the density of wells in the northern portions is 1 well in 5.3 square miles. I believe that the high concentration of monitoring wells in the south is not necessary and the extremely low concentration of wells in the northern portions is inadequate.

I have been concerned about this well distribution for some time and myself and others in the Valley (such as Rebecca Falk) have been questioning this element of the technical work. Overall the response to these concerns have been:

- 1) The GSP only requires a certain number of wells and the current monitoring plan meets this requirement, and
- 2) **If** there is a plume of low quality of groundwater in the northern part of the basin it is “**likely**” moving north and not south, due to an artificial cone of depression caused by a high volume of water extraction in the northern portion of the valley.

I do not believe that these two stated justifications for well distributions are adequate. This is due to the following three reasons:

- 1) While the GSP does include an anticipated number of wells, I believe that the plan also calls for the development of a technical understanding of groundwater quality. In reality a large number of wells is not important while the distribution of wells is vitally important.
- 2) A cone of depression in the northern portion of the valley has been shown to exist within the Borrego Valley groundwater level contour map. However using this as a justification for the monitoring well data gap only reflects **current** hydrogeological conditions. What about **past** groundwater quality effects and trends? As an example the grape growing fields in the 1950’s and 1960’s were located south of the current groundwater level depression. During this period groundwater was likely flowing south since the groundwater cone of depression did not occur during this period of time. In this case where is the potentially degraded water located and which direction is it moving to?
- 3) The rationale that we don’t need to worry about any potential bad groundwater quality in this area due to a reversed groundwater flow pattern is also not justified, because it does not take into account **future** groundwater conditions. The whole reason for the technical work and the GSP is to develop a plan to correct the groundwater overdraft condition in the basin. If we are successful and the artificial reversed flow pattern is corrected, then the basin will return to the normal groundwater flow (north to south) pattern. In this case, if we have a plume of degraded groundwater in the northern portion of the valley, where will that water flow?

In summary a technical study is designed to answer questions and not conclude that it is probably okay due to an artificial flow condition caused by a reversed flow condition that we are trying to correct. It is my opinion that the distribution of monitoring wells in the current plan does not provide for a basic understanding of groundwater quality in the basin. An average density of one monitoring well per 5.3 square miles in the northern portion of the basin is clearly not adequate.

This issue has been raised previously and Harry Ehrlich and I have voluntarily made some contacts and were able to get additional wells into the system that are located in the northern portions of the basin. (Specifically at the De Anza Golf Club and the Roadrunner Club). However the overall data gap still exists and I believe that it is the obligation of the technical team to complete an adequate groundwater quality monitoring network.

I, as well as other Borregans, stand ready to assist in this effort. But I do not appreciate the response of “don’t worry about it, since we likely have a reversed groundwater flow pattern” or we have an adequate number of wells that meets the GSP requirements. This is clearly not a technical justification to have an inadequate groundwater monitoring network. I am requesting immediate action to address this situation (before the next monitoring sampling round) to improve on the GSP analyses.

Sincerely

John Peterson
California Certified Hydrogeologist #90
P.O. Box 512
Borrego Springs CA 92004

Cc:

Dr. Tim Ross, Department of Water Resources, 770 Fairmont Ave. Suite 102,
Glendale CA 91203

Dr. Jay Jones, ENSI, POB 231026, Encinitas, CA 92023-1026

Rebecca Falk, P.O. Box 922 Borrego Springs CA 92004