

Luis Vega

Kingman, AZ

Arizona Department of Water Resources  
Phoenix, Arizona

RE: Comments on the Possible Formation of an INA for the Hualapai Basin, Mohave County Arizona

Dear Sirs:

I support the formation of an INA for the Hualapai Basin because of the following reasons:

1. Agricultural pumping has increased dramatically over the last few years and appears to be continuing without abatement.
2. As per ARS Title 45-432, the formation of new INAs must meet 2 criteria- 1) There is insufficient groundwater to provide a reasonably safe supply for irrigation of the cultivated lands in the area at the current rates of withdrawal and 2) The establishment of an active management area pursuant to section 45-412 is not necessary.

These reasons are based on "current rates of withdrawal" and not foreseeable rates which can be determined by the growth of agricultural pumping seen in the last few years. Criteria 1 is a reactionary response rather than a forward looking one to avert problems. Because the City of Kingman relies on the same groundwater that is being used by agriculture, once the groundwater is depleted, it will be the City of Kingman that will suffer greater damages.

Apparently, management decisions are being based on the MODFLOW study performed by the USGS, Scientific Investigations Report 2021-5077. Was the investigation reviewed by third-party investigators to ensure that the model was properly constructed? I believe the basic input data should be reviewed because the basin is complicated and certain factors may not have been taken into account such as the fact that there are impervious units in the basin that do not outcrop. If the static water levels of wells were taken as representing permeable units but the drilling of the well encountered an impervious unit then continued to a depth that encountered a pervious unit, the static water level would not represent that all of the basin fill contained water.

A specific case in point is the well drilled by the Valle Vista Homeowners Association, Well 55-913503, that hit an impervious volcanic flow at 600' depth and continued in the volcanic flow to a depth of 1,165'. At that depth, water was encountered. The water level rose within the well to the usual basin water level. If the cells in the MODFLOW model were coded as permeable units from 600' to 1,165' around this well, that would be incorrect. I believe the model may be as much as 10% off in its calculations due to errors in coding model cells that included impervious units as saturated alluvium.

Sincerely,  
Luis Vega

Retired Consulting Geologist

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