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Director

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October 28, 2016

Mohave County Board of Supervisors  
P.O. Box 7000  
Kingman, Arizona 86402-7000

**RE: Hualapai Valley Groundwater Basin**

Mohave County Board of Supervisors:

On August 11, 2016, the Arizona Department of Water Resources (“ADWR”) received your letter dated August 8, 2016, requesting that the Director of ADWR “take whatever actions necessary” to designate the Hualapai Valley Groundwater Basin as an irrigation non-expansion area (“INA”). Under A.R.S. § 45-433(A), the procedures to designate an INA may be initiated by the Director or by petition to the Director containing the signature of a requisite number of irrigation users of groundwater or registered voters within the basin, in accordance with A.R.S. § 45-433(A)(1) or (2). If designation procedures are initiated, the Director may designate an INA only after following certain procedures set forth in A.R.S. § 45-435.

ADWR interprets your August 8<sup>th</sup> letter as a request for the Director to initiate procedures to designate the Hualapai Valley Groundwater Basin as an INA. In accordance with statute, when designation procedures are initiated, a temporary prohibition on the irrigation of new acres within the applicable groundwater basin or sub-basin becomes effective. Based on recent past experience, this temporary prohibition can be quite disruptive and economically burdensome to landowners within the relevant groundwater basin or sub-basin. Therefore, ADWR believes that INA designation procedures should be initiated by the Director (in the absence of a valid petition) only if ADWR has strong evidence in its possession in support of the designation of an INA.

As is explained more fully below, at this time ADWR lacks sufficient evidence to support initiation of procedures for the designation of the Hualapai Valley Groundwater Basin as an INA. Accordingly, the Director declines to initiate designation procedures.

## Hydrologic and Water Use Data in ADWR's Possession Does Not Support the Initiation of Designation Procedures.

The Director may designate an INA only if he determines that 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. See A.R.S. § 45-432(A).<sup>1</sup>

ADWR has compiled the following hydrologic and water use information relevant to whether there is sufficient groundwater within the Hualapai Valley Groundwater Basin to provide a reasonably safe supply for irrigation of the cultivated lands at the current rates of withdrawal:

1. The US Geological Survey has estimated the total cropped acreage in 2016 for the Hualapai Valley Groundwater Basin to be about 7,900 acres, with estimated agricultural groundwater withdrawals for all of 2016 to be about 32,600 acre-feet (USGS, 2016) (**Figure 1**).
2. ADWR Groundwater Site Inventory ("GWSI") water level data indicate the average water level change for "Index" wells measured by ADWR in 2006 and 2015 in the Hualapai Valley Groundwater Basin was -0.3 feet.
3. One index well, B-26-17 35AAA (55-600500), located in the agricultural area immediately south of Red Lake, had a water level decline of -8.9 feet from 2011 to 2015 (or about -2.2 feet/year) (**Figures 2 and 3**).
4. All other index wells located in the Red Lake and Stockton Hill Road farming areas showed minor water level fluctuations over their respective periods of record (**Figures 4-9**).
5. Depths to water in index wells and other wells measured in the Stockton Hill Road farming area range from about 400 to 500 feet below land surface.
6. Depths to water in index wells and other wells measured in the Red Lake farming area range from about 250 to 300 feet below land surface.
7. Arizona Geological Survey estimated depths to bedrock in the Red Lake farming area extend to 6,400 feet below land surface.
8. Arizona Geological Survey estimated depths to bedrock in the Stockton Hills Road farming area extend to 3,200 feet below land surface.

Considering current rates of withdrawal, and based upon ADWR's experience and monitoring data from other agricultural groundwater basins in Arizona, ADWR estimates a potential long-term groundwater level decline rate for the Hualapai Groundwater Basin in the range of -3 to -5

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<sup>1</sup> In addition, in order to designate an INA, the Director must determine that the establishment of an active management area is not necessary. A.R.S. § 45-432(A).

feet per year. This decline rate, when considered in connection with current depth to water measurements and overall thickness of basin-fill sediments in the basin's farming areas, does not support the initiation of procedures to designate the basin as an INA.

ADWR Cannot Consider Future Potential Increases to Rates of Withdrawal in Deciding Whether or Not to Designate an INA.

In your letter to ADWR dated August 8, 2016, you express concern that potential future increases to annual groundwater pumping will lead to significant overdraft in the basin. For instance, you note that an individual named Bob Saul representing Stockton Hill Farms stated that "Stockton Hill Farms investment plan[s] to withdraw from the Hualapai Valley Groundwater Basin annually somewhere between 60,000 and 70,000 acre-feet of water to irrigate about 12,000 acres of planted land by 2017." You also note that "Land within the Hualapai Valley Groundwater Basin is actively marketed to agricultural developers...." ADWR is also aware that there are a number of acres within the basin that the USGS notes have been cleared for irrigation but which have not yet been irrigated.

Under the relevant statute, ADWR is not authorized to consider future potential increases to annual withdrawal rates within the basin for purposes of assessing whether or not to designate an INA. Section 45-432(A)(1) is clear that in assessing whether a reasonable supply of groundwater exists for irrigation of the cultivated lands, ADWR may only consider "current rates of withdrawal." As discussed above, when considering current rates of withdrawal, ADWR lacks sufficient evidence to support the initiation of procedures to designate the Hualapai Valley Groundwater Basin as an INA.

Sincerely,



Thomas Buschatzke  
Director

cc: Michael Hendrix via email [Mike.Hendrix@mohavecounty.us](mailto:Mike.Hendrix@mohavecounty.us)

# 2016 USGS NW Basin Crop Survey

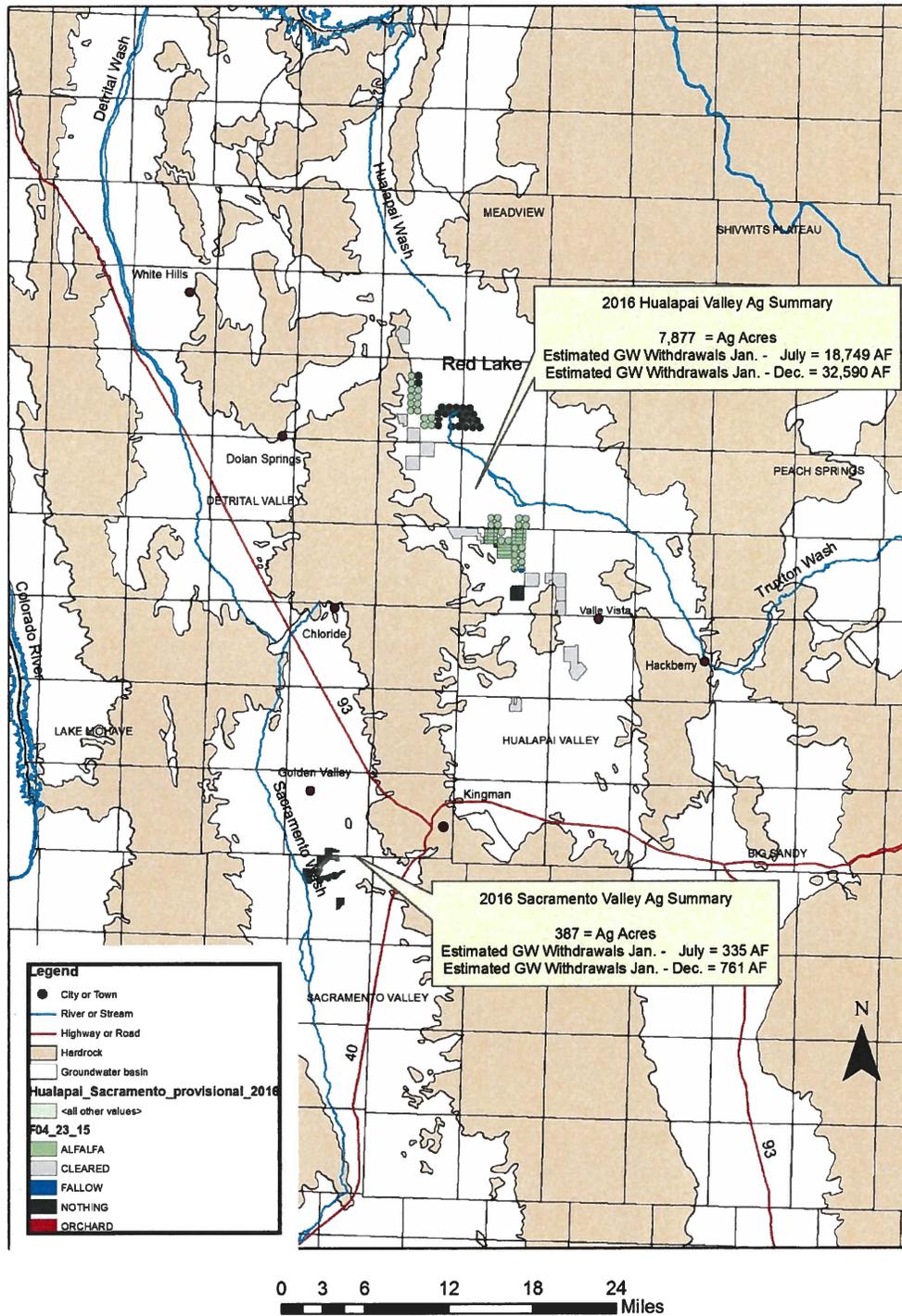
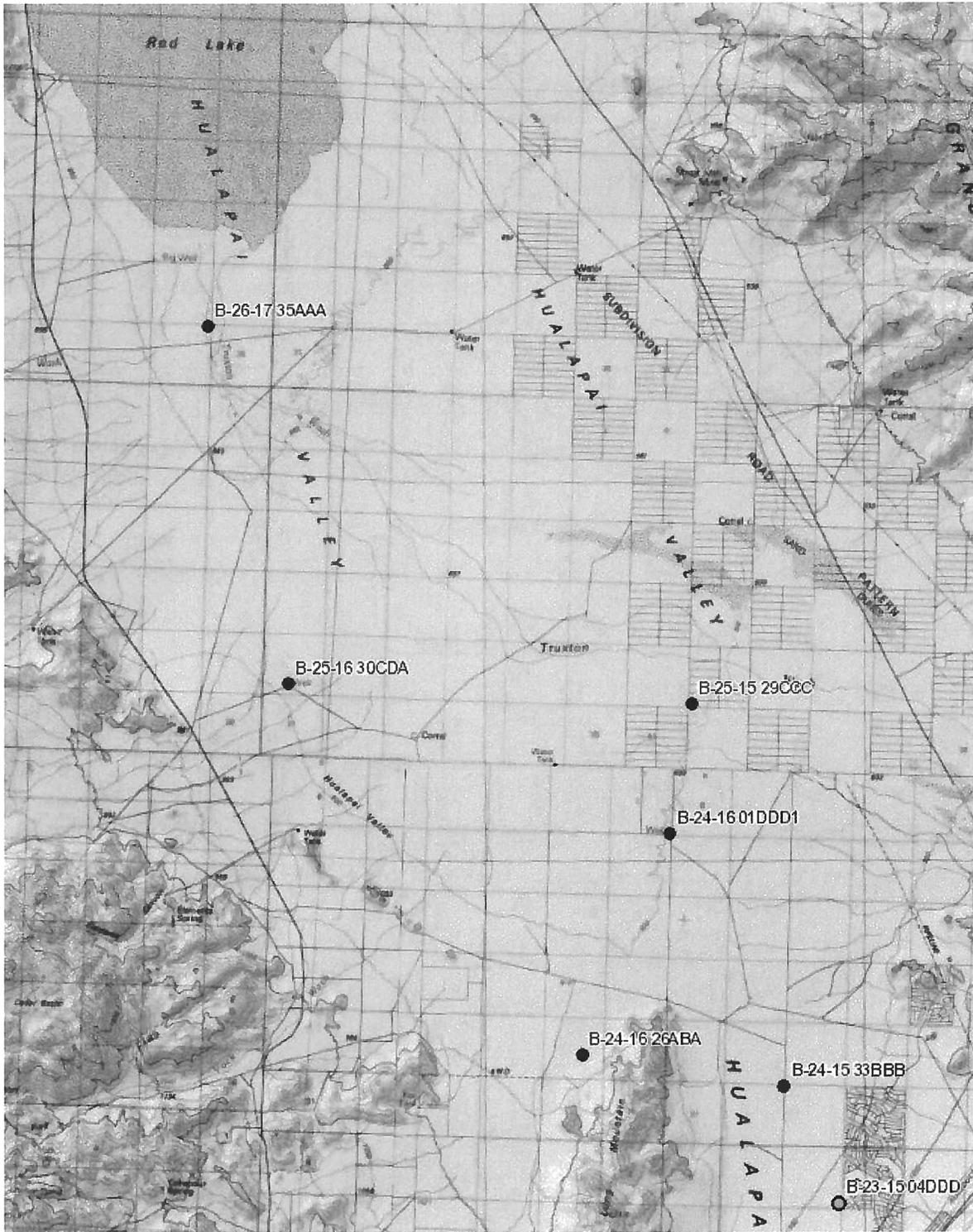


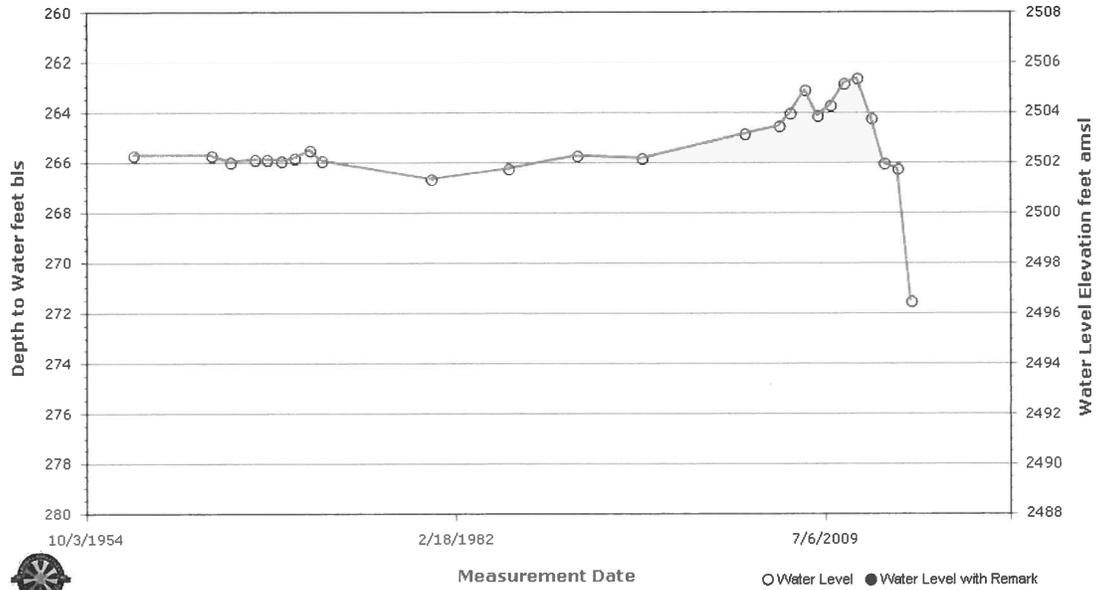
Figure 1: 2016 USGS Crop Survey of the Hualapai and Sacramento Valley Groundwater basins



**Figure 2: Map Showing Locations of ADWR GWSI Index Wells in the Hualapai Valley Groundwater Basin Agricultural Area**

### Arizona GroundWater Monitoring Site Hydrograph

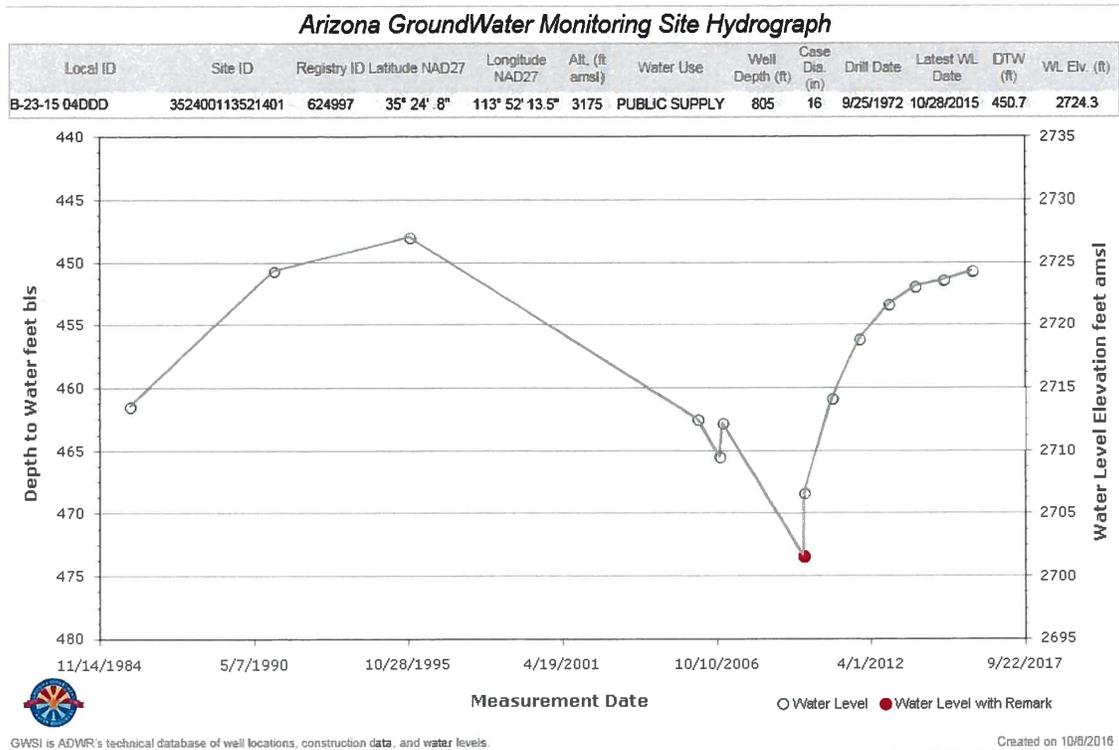
Local ID	Site ID	Registry ID	Latitude NAD27	Longitude NAD27	Alt. (ft amsl)	Water Use	Well Depth (ft)	Case Dia (in)	Drill Date	Latest WL Date	DTW (ft)	WL Elev. (ft)
B-26-17 35AAA	353610114033501	600500	35° 36' 12.4"	114° 3' 39.2"	2768	STOCK	700	14	6/1/1957	10/26/2015	271.5	2496.5



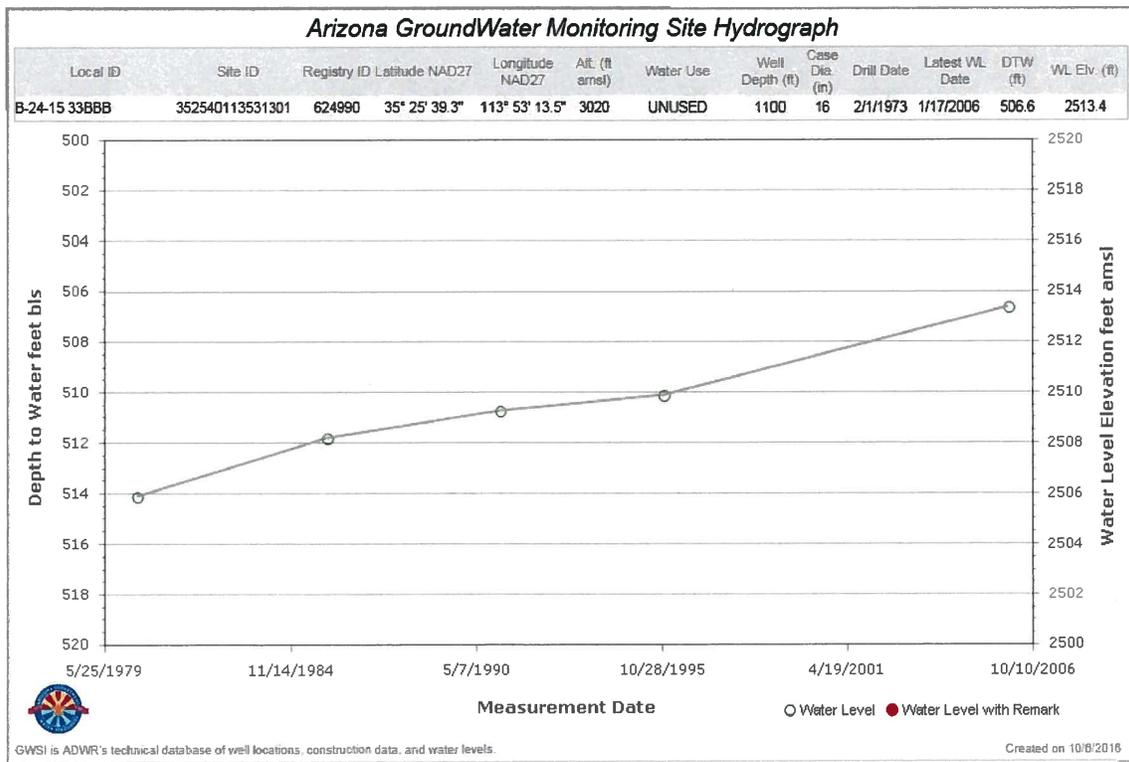
GWSI is ADWR's technical database of well locations, construction data, and water levels

Created on 10/08/2016

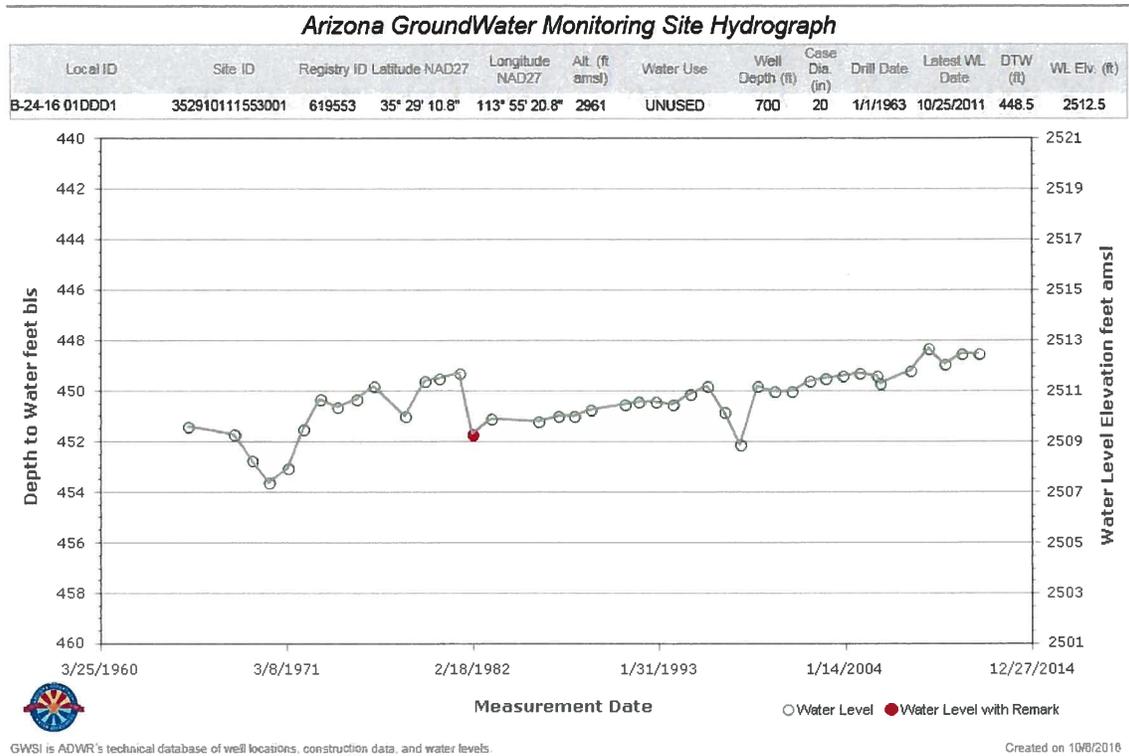
**Figure 3: Hydrograph of index well B-26-17 35AAA (Red Lake farming area)**



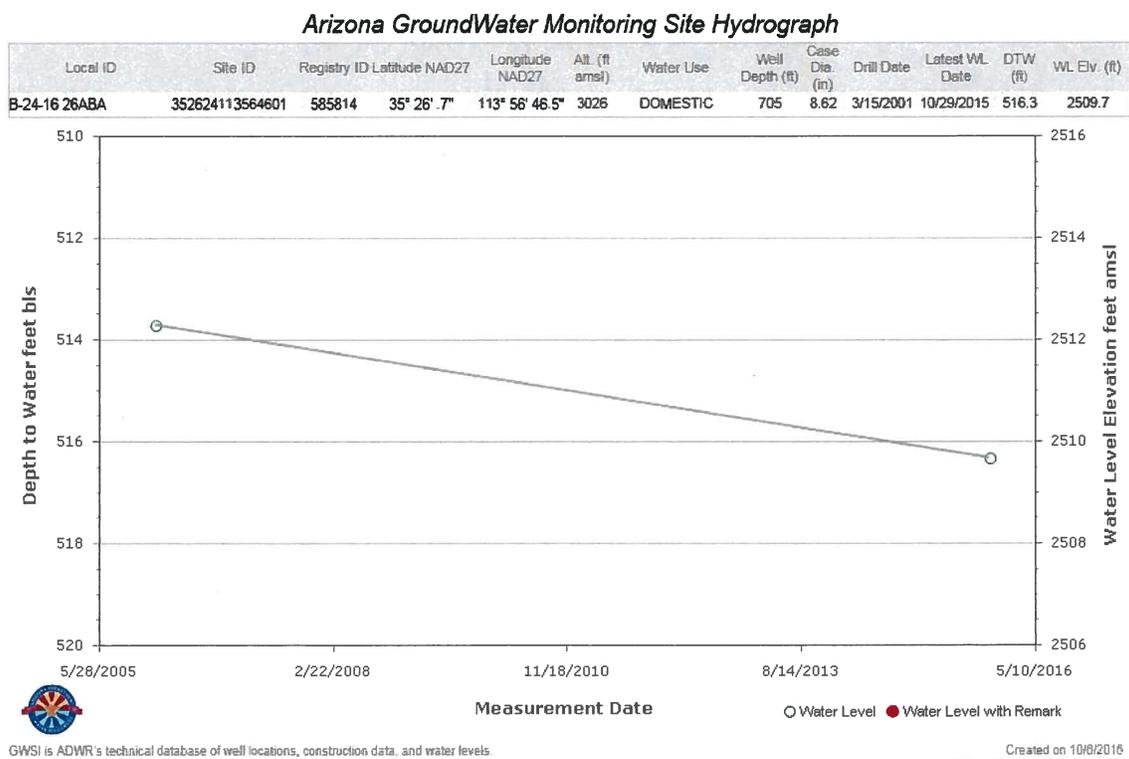
**Figure 4: Hydrograph of index well B-23-15 04DDD (Valle Vista area)**



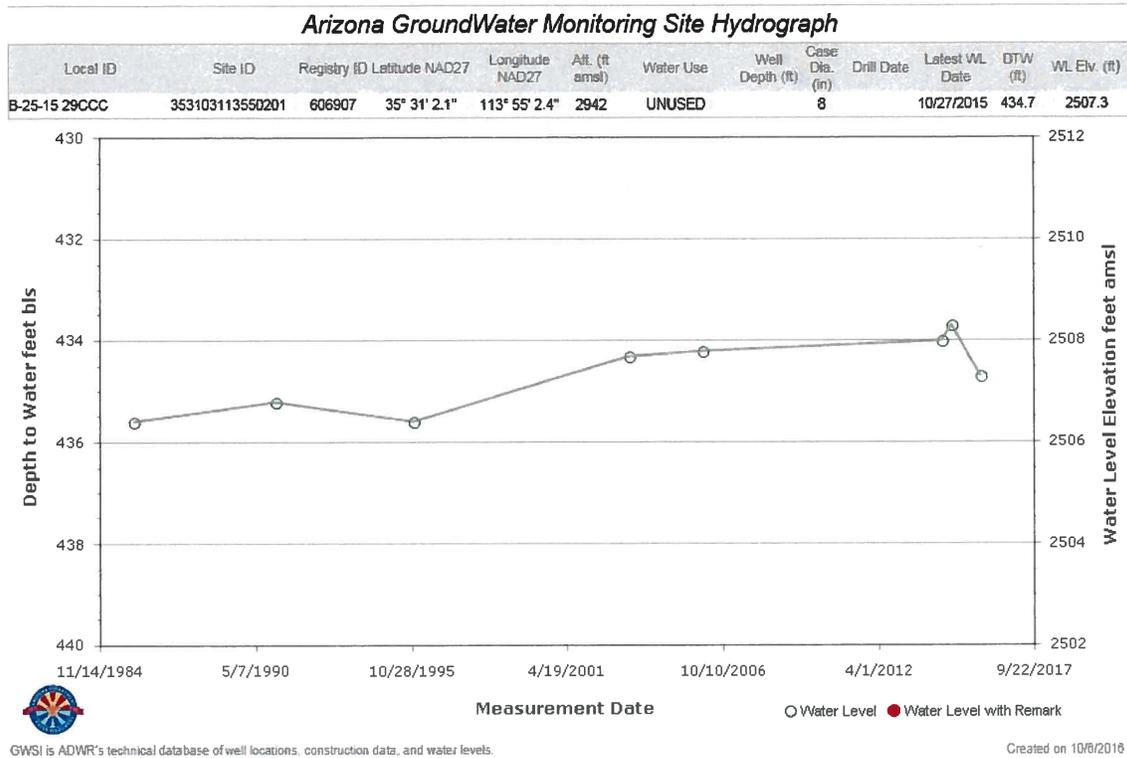
**Figure 5: Hydrograph of index well B-24-15 33BBB (Long Mtn. - Valle Vista area)**



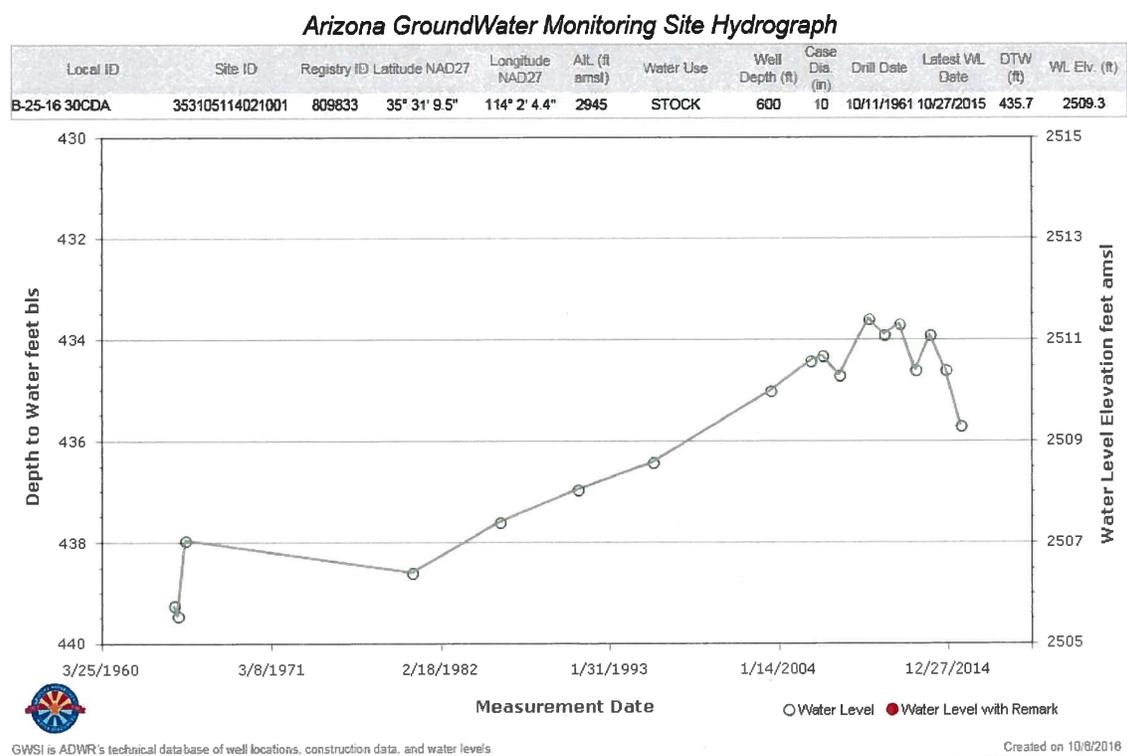
**Figure 6: Hydrograph of index well B-24-16 01DDD1 (3 miles east of Stockton Hills Road farming area)**



**Figure 7: Hydrograph of index well B-24-16 26ABA (Stockton Hill Road farming area)**



**Figure 8: Hydrograph of index well B-25-15 29CCC (3 miles east of Stockton Hills Road farming area)**



**Figure 9: Hydrograph of index well B-25-16 30CDA (1 mile northwest of Stockton Hills Road farming area)**

# 2016 USGS NW Basin Crop Survey

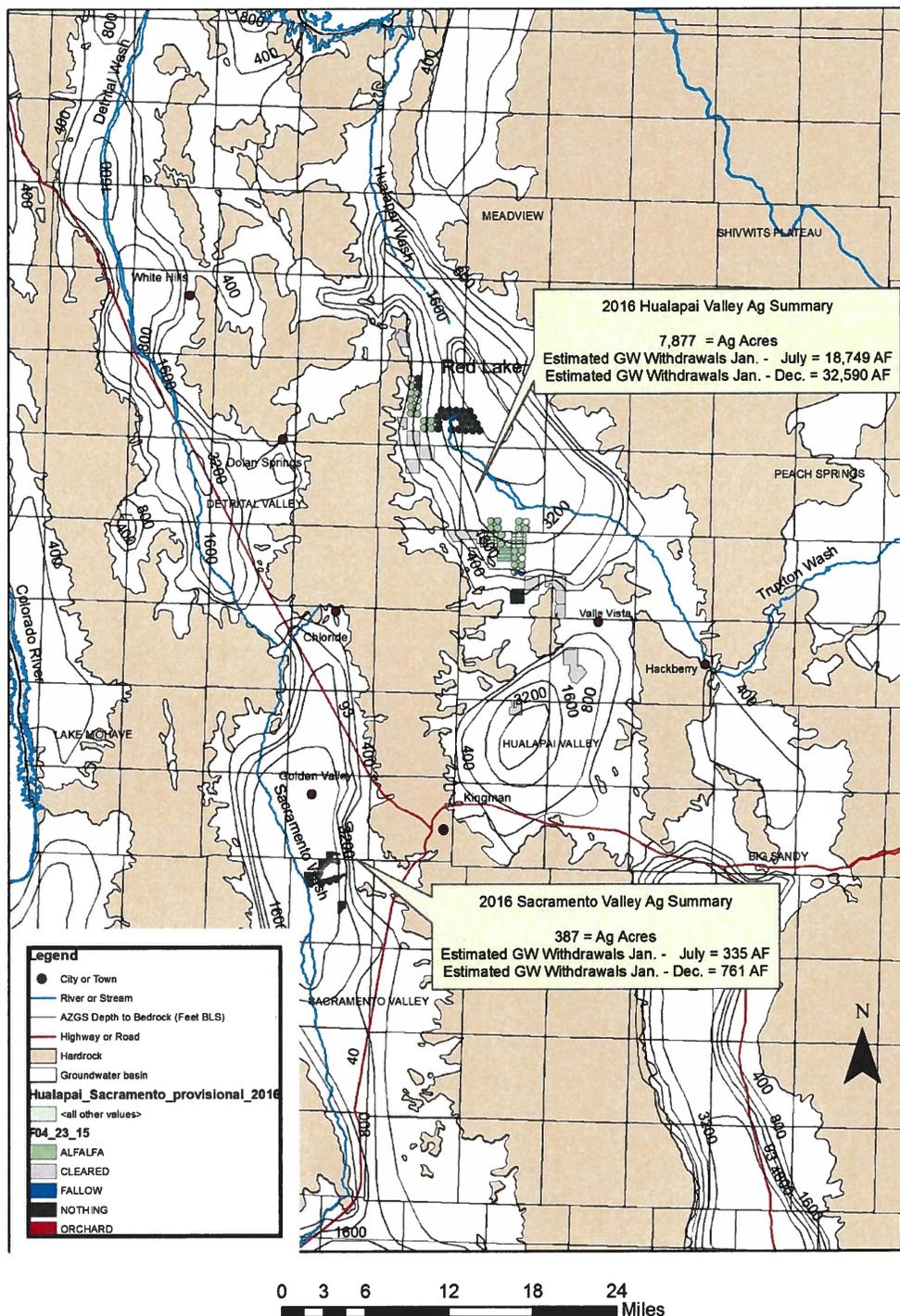


Figure 10: Arizona Geological Survey Estimated Depth to Bedrock in Hualapai Valley Basin Agricultural Areas