

VEKOL WASH
FCD GAGE ID# 74507 (6983)

STATION DESCRIPTION

LOCATION – Vekol Wash is located approximately 30 miles west of Casa Grande. The gage site is about 400 feet downstream of the westbound Interstate 8 bridge. The pressure transducer is located on the left bank just downstream of the USGS crest gage. Latitude N 32° 50' 35.1", Longitude W 112° 15' 07.1". Located in the SW1/4 SW1/4 S03 T7S R1E in the Lost Horse Peak 7.5-minute quadrangle.

ESTABLISHMENT – The gage was established at the bridge by the District on March 7, 1990. The gage was moved and reestablished 400 feet downstream of the bridge on August 14, 2000.

DRAINAGE AREA – 147.7 mi²

GAGE – The recording gage is a pressure transducer type instrument. The PT is at 4.95 feet gage height, levels of February 4, 2019. Levels were determined with a hand level from the TBM rebar given below.

There are no staff gages at this location.

The USGS maintains six crest gages at this location. Only the crest gages at the gage cross section are provided here.

The left bank crest gage has a pin elevation of 5.12 feet gage height, levels of January 10, 2019.

The right bank crest gage has a pin elevation of 6.05 feet gage height, levels of January 10, 2019.

ZERO GAGE HEIGHT – Zero gage height is established as an arbitrary point below the current channel bed. Zero elevation is 1,719.892 feet NAVD88.

HISTORY – The District began gaging at this location on March 7, 1990. The USGS began a continuous recording station at this location on June 12, 1990. The USGS discontinued continuous gaging on September 3, 1996. The crest gage is located approximately 500 feet downstream from the I-8 bridge. The PT was originally at 1.8 feet gage height. The PT was lowered to 0.00 feet gage height on July 14, 1993. The gage was physically moved from the stilling well to the USGS crest gage site approximately 400 feet downstream from the I-8 bridge on August 14, 2000. The new gage site is on the left bank of the channel. The USGS datum is used at this site. The datum at the bridge gage

site is 4.05 feet higher than at the crest gage site. Brass cap RM-VEKOL was established on May 1, 2001. PT lowered by 0.8 feet on August 7, 2002. PT moved on January 26, 2009 to 4.89 feet, and it was moved closer to the left bank. Transducer was lowered on September 15, 2010 to 3.23 feet gage height, levels of January 4, 2011. Transducer gage was moved to its current location on January 14, 2019.

REFERENCE MARKS –

RM-VEKOL is an FCD brass cap located approximately 50 feet west of the left bank of the channel at the gage. Elevation 1,733.822 feet NAVD 1988. Northing = 670573.089 feet, Easting = 596944.939 feet, levels of May 1, 2001. RM is at 13.930 feet gage height, levels of January 10, 2019.

RM-1 is a rebar about 12 feet north of the station tube on the left bank. It is at elevation 11.871 feet gage height and 1,731.763 feet NAVD88, levels of January 10, 2019.

RM-2 is a sign channel post mid-way up the left bank securing the transducer conduit (buried.) It is at elevation 9.508 feet gage height and 1,729.400 feet NAVD88, levels of January 10, 2019.

RM-3 is a USGS gaging station brass cap cemented in a 5-inch steel pipe anchored in concrete on the left bank, 20 feet shoreward from the crest gage. Elevation 12.071 feet gage height and 1,731.963 feet NAVD88, levels of January 10, 2019.

RM-4 is the USGS right bank gage cross section marker. It is at elevation 12.277 feet gage height and 1,732.169 feet NAVD88, levels of January 10, 2019.

RM-5 is an FCDMC right bank rebar in the transducer gage cross section. It is at elevation 12.773 feet gage height and 1,732.665 feet NAVD88, levels of January 10, 2019.

RP-1 is the high point on a 5/8-inch lag bolt in the north side, base of a mostly dead mesquite tree 6 feet upstream from the crest gage. Elevation 8.203 feet gage height, levels of January 10, 2019.

RP-2 is an older 3/8 inch rebar located on the right bank about 12 feet streamward from RM-5. It is at elevation 12.616 feet gage height, levels of January 10, 2019.

CHANNEL AND CONTROL – The channel is straight and mostly uniform for about 500 feet above the gage and for about 2,000 feet below the gage. The channel is confined to a width of 180 feet and for the most part clear of vegetation. The main channel bed is made up of coarse sand and gravel. The banks are 8-12 feet high and mostly covered with large Palo Verde and Mesquite trees. The channel is subject to great amounts of debris flow that changes the channel elevation after almost each flow.

Control at low flows is riffle control in the channel. At higher flows the channel is the control. Water flows north to the Santa Cruz River near its confluence with the Gila River.

RATING – The current rating is USGS Rating #3, following the move of the gage downstream. The rating at the stilling well is FCD Rating #1 applied as of July 7, 1998. FCD Rating #1 was developed from an HEC-RAS model of surveyed cross sections at the gage, the bridges and the USGS crest gage location. Previous ratings were developed by the USGS.

DISCHARGE MEASUREMENTS – Wading measurements could be made downstream of the gage. Higher flow measurements should be computed from indirect methods.

POINT OF ZERO FLOW – The PZF at the gage cross section is about 4.0 feet gage height, as surveyed January 10, 2019.

FLOODS – A flood of 10,100 cfs and 10.25 feet gage height occurred on August 27, 2010.

REGULATION – None known

DIVERSIONS – None known

ACCURACY – Fair

JUSTIFICATION – Monitor high flows in Vekol Wash as an input to Santa Cruz River and Gila River downstream.

UPDATE – February 4, 2019
D E Gardner