

## **ANTELOPE CREEK FCD GAGE ID# 55207**

### **STATION DESCRIPTION**

**LOCATION** – The gage is located in Yavapai County approximately 1.5 miles upstream of Martinez Creek gage, and about 2.5 miles southeast of milepost 261 at SR89. Access to the gage is by either driving downstream from the dirt road that takes off from SR89, or by driving upstream from the Martinez Creek gage. Either drive can be treacherous with deep sand and high clearance required. Latitude N34° 02' 55.5"; Longitude W112° 46' 46.1". Located in the NW1/4 NW1/4 SE1/4 S09 T8N R5W in the Flores 7.5-minute quadrangle.

**ESTABLISHMENT** – Gaging was established on July 9, 2003.

**DRAINAGE AREA** – The drainage area is approximately 65.1 mi<sup>2</sup>.

**GAGE** – The gage is a pressure transducer type instrument. The transducer diaphragm is at elevation 2.00 feet gage height, levels of February 5, 2019.

There are two crest stage gages at this location.

Crest gage #1 is located in the main channel on the right side of the far left channel. The pin elevation of the crest gage is at 3.34 feet gage height, levels of February 5, 2019.

Crest gage #2 is located on the next small channel right of the left main channel on the left bank. The pin elevation is 1.18 feet gage height, levels of September 6, 2017.

There is no staff gage at this location.

**ZERO GAGE HEIGHT** – Zero gage height is defined as a point below the current channel level. Zero gage height is equivalent to 2,406.00 feet NAVD 1988.

**HISTORY** – No previous history at this location. Gaging established on July 9, 2003. A precipitation gage, a stage gage (transducer), and two crest gages were installed at the site. Crest gages in the main left channel has been destroyed numerous times. Another crest gage was installed in the left main channel in August 2017. Transducer gage was raised on August 21, 2018.

### **REFERENCE MARKS** –

RM-ANTLP is an FCD brass cap located about 150 feet south and west of the gaging site. The brass cap is located on the right bank of the left most channel, just downstream of

the gage. Elevation 3.210 feet gage height or 2,409.210 feet NAVD 1988, levels of February 5, 2019.

BM-7168 is a FCDMC brass cap located on the far left bank near the station tube. It is at elevation 8.008 feet gage height and 2,414.008 feet NAVD88, levels of September 6, 2017.

RM-1 is a rebar located on the left bank approximately 10 feet upstream from the pressure transducer. It is at elevation 4.192 feet gage height and 2,410.192 feet NAVD88, levels of February 5, 2019.

RM-2 is a rebar located on the right bank of the left main channel across from the pressure transducer and about 15 feet upstream of crest gage number 1. It is at elevation 4.386 feet gage height and 2,410.386 feet NAVD88, levels of February 5, 2019.

**CHANNEL AND CONTROL** – The channel is separated and braided at the gage site, upstream several miles, and downstream to the confluence with Martinez Creek, approximately one mile. There are about six small channels that convey water. The two channels that convey the most water are on the extreme ends of the conveyance. The channel where the transducer is located is the second lowest. The lowest channel is approximately 1,100 feet to the right near the right bank of the conveyance area. Total channel width from high bank to high bank is about 1,200 feet.

Upstream where Antelope Creek meets Weaver Creek, the main channel of Antelope Creek is more confined to a small width before braiding significantly to where the gage cross section is. Based on a December 2020 survey, it is estimated that perhaps half the water upstream does not pass by the transducer on the left channel braid. If greater computation of the water in Antelope Creek is desired, then perhaps the stream gage station should be moved about one-half mile upstream. If there's an interest in knowing inflows of Weaver Creek, then the stream gage is in a decent location, with the caveat that half the water is likely not being detected.

The channel bottom is a mix of sand and cobbles. Both banks are vegetated with moderate mesquite, greasewood, and palo verde. Low flows are generally more controlled but because of the significant braiding and overbanks, spillage from the main channel produces areas of non-conveyance.

**RATING** – The current rating is Rating #1, applied as of gage installation. The rating is based on survey data from three cross sections. An HEC-RAS model was developed from the survey data. Hand computations were done for flows below 1,000 cfs for individual separated channels.

**DISCHARGE MEASUREMENTS** - An appropriate reach for each channel that had runoff will be necessary for computing a composite runoff for an event.

**POINT OF ZERO FLOW** – The PZF is at 1.8 feet gage height, levels of February 5, 2019.

**FLOODS** – A significant flow event occurred on October 20, 2015 with a peak discharge of 7,162 cfs and 5.42 feet gage height.

**REGULATION** – None

**DIVERSIONS** – None known

**ACCURACY** – Poor

**UPDATE** -       December 18, 2023  
                          ES Thomas