

**ADOBE DAM OUTLET
FCD GAGE ID# 65007**

STATION DESCRIPTION

LOCATION – The dam is located between Deer Valley and Pinnacle Peak Roads and west of 35th Avenue. The gage is located at the approximate intersection of Deer Valley Road and 43rd Avenue. The gaging equipment is located at the outlet channel on the downstream side of the dam. Latitude N33° 40' 37", Longitude W112° 09' 12". Located in the SW1/4 SW1/4 SE1/4 S21 T4N R2E in the Hedgpeth Hills 7.5-minute quadrangle.

ESTABLISHMENT – October 28, 1982

DRAINAGE AREA – 87.3 mi²

GAGE – The gage is a non-submersible pressure transducer connected to an orifice line. The orifice line elevation is 0.22 feet gage height, levels of January 23, 2025.

There is two staff gage at this location. They are located just downstream of the footbridge on the left and right bank. The following are levels of January 23, 2025.

Left Bank		Right Bank	
STAFF READING	GAGE HEIGHT	STAFF READING	GAGE HEIGHT
3.00	2.99	3.00	3.21
6.00	6.00	6.00	6.05
10.00	9.99	10.00	10.10

There is one crest gage at this location. It is bent and inoperable.

ZERO GAGE HEIGHT – Zero gage height is along the sill of the outlet channel at the orifice line. Zero is defined as 1,330.266 feet NAVD 1988, levels of January 31, 2012.

HISTORY – No previous gaging at this location prior to gage installation. Gage initially established as a float gage. Float replaced in March 1993 with a pressure transducer. Gage datum shifted for Water Year 1997 by 0.32 feet. This allowed the orifice zero to match the staff gage zero. A crest gage was installed in June 2000. Crest stage gage was found bent and inoperable in 2009.

REFERENCE MARKS –

RM-2016 is a chiseled 'X' in the upstream concrete sill of the outlet structure. It is located about one foot from the right wingwall of the outlet structure. Elevation is 1,322.738 feet NAVD 1988, or -7.528 feet gage height, levels of January 31, 2012.

RP-1 is a chiseled 'X' on the left, downstream top of the footbridge. Elevation 1,344.471 feet NAVD 1988, or 14.205 feet gage height, levels of January 31, 2012.

RP-2 is a chiseled 'X' at the center of the concrete control in the outlet channel which also the location of the instrumentation. It is at elevation 0.07 feet gage height and 1,330.342 feet NAVD88, levels of November 20, 2017. Survey via GPS.

RM-1 is a new rebar on the top of the right bank near the control section. It is at elevation 11.760 feet gage height, and 1,342.030 feet NAVD88, levels of November 20, 2017. Survey via GPS.

CHANNEL AND CONTROL – The channel is generally earth lined downstream from the footbridge and orifice. It has an approximate trapezoidal shape. The channel is control for all stages. Maximum discharge in the channel is about 3,000 cfs at top of bank.

RATING – The current rating is Rating #3 which is a modification of Rating #2 to shift gage datum to match the staff gage. Rating #2 was modified from Rating #1 using discharge measurements in January 1993. Rating #1 was developed by R. W. Cruff using surveyed cross sections in an HEC-2 model.

DISCHARGE MEASUREMENTS – For stages below about 2.7 feet gage height, measurements could be made by wading 20 – 50 feet downstream of the footbridge. Higher stages can be measured from the footbridge.

FLOODS – The peak discharge recorded at this gage occurred on January 22, 2010 with a peak stage of 7.01 feet gage height and 1,239 cfs.

POINT OF ZERO FLOW – The point of zero flow is at the sill at the orifice. Elevation is 0.0 feet gage height, as of November 20, 2017.

REGULATION – Adobe Dam regulates natural flow in Skunk Creek

DIVERSIONS – None known

ACCURACY – Good

JUSTIFICATION – Monitor flows out of Adobe Dam for Operations and Maintenance and public safety.

UPDATE – January 27, 2025
E S Thomas