

**WHITLOW RANCH DAM**  
**FCD GAGE ID# 6739**

**STATION DESCRIPTION**

**LOCATION** – The dam is located in Pinal County approximately 20 miles east of Apache Junction and 11 miles west of Superior. The dam is upstream of Queen Valley on Queen Creek. Latitude N 33° 17' 57", Longitude W 111° 16' 13". Located in the NW1/4 NW1/4 SE1/4 S36 T1S R10E in the Florence Junction 7.5-minute quadrangle.

**ESTABLISHMENT** – The District established gaging on January 8, 1998. The COE collected stage data at the dam since it was completed in 1960.

**DRAINAGE AREA** – 143 mi<sup>2</sup>

**GAGE** – The gage is a non-submersible pressure transducer set up as a float gage. The orifice elevation is 3.30 feet gage height, or 2,059.30 feet M.S.L.

There are staff gages at this location that read in Mean Sea Level elevations. Assuming the elevations are correct, subtract 2,056.0 feet to get gage height.

There are no crest gages at this location.

**ZERO GAGE HEIGHT** – Zero gage height is defined as the elevation of the inlet invert of the outlet. Elevation 2,056.00 feet M.S.L.

**HISTORY** – The dam was completed on August 18, 1960. The District began gaging with the outlet on January 8, 1998. The gage was originally a float gage. The current gage is a non-submersible pressure transducer. The base value was set in M.S.L. when the gage was a float. The non-submersible PT base value is in gage height.

**REFERENCE MARKS** –

None – need to establish one or two

**CHANNEL AND CONTROL** – The primary outlet is a 66 inch concrete pipe under the dam, 700 feet in length. There is an auxiliary spillway located to the north of the main structure.

**PRIMARY / AUXILIARY OUTLET** – The primary outlet consists of an intake tower and a culvert pipe. The intake tower is 22 feet wide, 16 feet long and 20 feet high. The surface area of the openings in the tower equal 337 square feet. The elevation of the invert of the inlet is 0.00 feet gage height, or 2,056.0 feet M.S.L. The elevation of the invert of the

outlet is –6.0 feet gage height, or 2,050.0 feet M.S.L. The length of the outlet culvert is 700 feet.

The auxiliary spillway is located approximately 4,000 feet north of the main dam. The spillway is a broad crested weir with a 355 foot crest length. The elevation of the spillway crest is 110 feet gage height or 2,166 feet M.S.L., all levels from the design report.

The top of dam elevation is approximately 143 feet gage height.

**RATING** – The current discharge rating is Rating #1 and is taken from the design manual for the dam.

The current capacity rating is Rating #1 and is taken from the design manual for the dam.

**DISCHARGE MEASUREMENTS** – Not practical given the outlet works.

**POINT OF ZERO FLOW** – The PZF for the main outlet is 0.00 feet gage height at the invert of the inlet to the outlet. The PZF for the auxiliary spillway is at 110 feet gage height.

**FLOODS / SIGNIFICANT IMPOUNDMENTS** – Peak recorded by our gage was on February 12, 2005 with a peak stage of 58.2 feet and 6,965 acre-feet.

**REGULATION** – Whitlow Ranch Dam regulates natural flows of Queen Creek.

**DIVERSIONS** – None known

**ACCURACY** – Fair to good

**JUSTIFICATION** – Monitor levels at the dam for public safety

**UPDATE** – August 22, 2011  
D E Gardner