

**SADDLEBACK FRS  
FCD GAGE ID# 5113**

**STATION DESCRIPTION**

**LOCATION** – The structure is located on the east end of the Harquahala Valley and approximately eight miles west of Tonopah. The dam is downstream of Harquahala FRS and receives inflow from that structure, and natural runoff from the north and east. Access to the structure is from Courthouse Road from either Harquahala Valley Road on the west or Salome Road from the east. Latitude N 33° 27' 55", Longitude W 113° 04' 21". Located in the SE1/4 SW1/4 SW1/4 S34 T2N R8W in the Saddle Mountain 7.5-minute quadrangle.

**ESTABLISHMENT** – December 16, 1988

**DRAINAGE AREA** – 29.6 mi<sup>2</sup> excluding the area from Harquahala FRS

**GAGE** – The gage is a pressure transducer type instrument. The PT is at elevation 0.30 feet gage height, or 1,179.23 feet NAVD 1988, levels of January 7, 2015.

There are three staff gages at this location. The gages are in five-foot intervals. Both the 0 – 5 foot gage and the 5 – 10 foot gage read within 0.04 feet of the actual values. The 10 – 15 foot gage reads about 0.5 feet low.

There is no crest gage at this location.

**ZERO GAGE HEIGHT** – Zero gage height is defined as the inlet invert of the outlet culvert, or 1,178.93 feet NAVD 1988, levels of January 7, 2015.

**HISTORY** – No gaging at this site prior to gage installation. In 1991, instrument elevation changed from 0.00 to 0.30 feet gage height. Unsure if this represents an actual movement of the instrument or a change in definition of zero gage height. Datum changed from NGVD 1929 to NAVD 1988 in April 1997. In December 2011, the NAVD88 elevations were updated to reflect more current information. NAVD88 elevations in the January 2015 survey are based on a 2012 survey provided by the FCDMC Dam Safety group, using point 'A-2' as the primary reference.

**REFERENCE MARKS** –

BM 'A-2' is an FCDMC brass cap located north of the outlet near station 20+00 on top of the dam. It is at elevation 15.706 feet gage height and 1,194.634 feet NAVD88, levels of January 7, 2015.

RM276 is an FCD brass cap in concrete located approximately 250 feet north of the outlet near the bend of the structure. It is not located on the dam but about 50 feet west of it. The BC is stamped with elevation 1,178.89 feet. It is at elevation 1.953 feet gage height, and 1,180.881 feet NAVD88, levels of January 7, 2015.

RP-1 is the top of the headwall on outlet side north corner near fence post. Elevation 8.57 feet gage height, levels of April 1, 1997.

RP-2 is the top of headwall on inlet side just above '+' in Station 15+83 paint. It is also the same point in a later survey called '10056'. Elevation 9.810 feet gage height, and 1,188.738 feet NAVD88, levels of January 7, 2015.

RP-3 is a chiseled X at the edge of the left wingwall on the pool side of the dam. It has elevation 4.691 feet gage height, and 1,183.619 feet NAVD88, levels of January 7, 2015.

**CHANNEL AND CONTROL** – The primary outlet of the dam is an ungated 8-foot by 10 foot rectangular box culvert that is 65 feet in length. There is no auxiliary spillway at this location.

**PRINCIPAL OUTLET / EMERGENCY SPILLWAY** –

The principal outlet is a rectangular box culvert that has dimensions 8 foot high by 10 foot wide. The invert at the inlet has elevation 0.00 feet. The invert at the outlet has elevation –0.30 feet (estimated from 1993 survey). The length of the culvert is 65 feet.

There is no emergency spillway at this structure.

The dam crest elevation is at about 16.1 feet gage height.

**RATING** – The current discharge rating is Rating #2 developed by H. Hussein using an HY-8 model.

The current capacity rating is Rating #2 developed from DTM data from the FCD93-51 McLain Harbers survey.

**DISCHARGE MEASUREMENTS** – Direct measurements could be made in the outlet channel downstream from the structure.

**POINT OF ZERO FLOW** – Flow begins through the outlet at 0.00 feet gage height.

**FLOODS / SIGNIFICANT IMPOUNDMENTS** – The largest event on record occurred on July 15, 1996 when the structure was 1.5 percent full, at 2.50 feet gage height, and 102 acre-feet of water.

**REGULATION** – Some regulation from Harquahala FRS upstream which discharges to Saddleback FRS.

**DIVERSIONS** – None known

**ACCURACY** – Good

**JUSTIFICATION** – Monitor water levels behind Saddleback FRS for public safety.

**UPDATE** – December 22, 2016  
D E Gardner