

**TAT MOMOLIKOT DAM  
FCD GAGE ID# 773**

**STATION DESCRIPTION**

**LOCATION** – Tat Momolikot Dam is located on Santa Rosa Wash in Pinal County south of Casa Grande. The gage is located in a stilling well at the damsite near the principal outlet. Latitude N 32° 39' 01"; Longitude W 111° 55' 49". Located in the NW1/4 NW1/4 S14 T9S R4E in the Vaiva Vo 7.5-minute quadrangle.

**ESTABLISHMENT** – The District began gaging the dam on January 21, 1998. The Corps of Engineers and the Bureau of Indian Affairs have gaged the site since construction was completed.

**DRAINAGE AREA** – 1,780 mi<sup>2</sup>

**GAGE** – The gage is a pressure transducer type instrument. The PT diaphragm is at elevation 0.81 feet gage height or 1,485.81 feet M.S.L, relative to 0.00 feet gage height or 1,485.00 feet M.S.L. defined as the bottom of the stilling well, levels of February 16, 2000.

**ZERO GAGE HEIGHT** - Zero gage height is based bottom of the stilling well. Elevation is 1,485.00 feet M.S.L.

**HISTORY** – The Corps of Engineers established a float gage upon completion of the dam. The Flood Control District connected ALERT equipment to the float equipment as of January 21, 1998. On January 19, 2000, the float gage was removed by the District and replaced with a pressure transducer. The gage ID number was changed from 769 to 773, due to instrumentation change.

**REFERENCE MARKS** –

NOTE: All levels are referenced from the bottom of the stilling well defined as 1,485.00 feet M.S.L. or 0.00 feet gage height. This is based on an adjustment to the surveyed data that was based on survey of a staff gage at 1,492 feet M.S.L. The elevation of the bottom of the stilling well was reduced by 0.25 feet, because it was assumed that the staff gage is not exactly 1,492, since other staff gages were off by 0.20 to 0.40 feet.

RM1 is a '+' chiseled into the headwall next to the stilling well. It was established on February 16, 2000. Elevation 1,489.57 feet M.S.L. or 4.57 feet gage height, levels of February 16, 2000.

**CHANNEL AND CONTROL** – There are three primary outlets at the dam outlet works. There are two outlets that put water into Santa Rosa Wash channel, and the third outlet directs water to supplement irrigation for the Vaiva Vo Farms. There is an auxiliary spillway to the east of the main dam.

**PRIMARY / AUXILIARY OUTLET** – The primary outlet is the inlet tower. There are three 42-inch square slide gates. The lower is at elevation 1,485 feet, the middle at 1,493 feet and the upper on the west wall at 1,501 feet. A conduit inside the tower and through the dam conducts water to the downstream side of the dam. The upstream elevation of the conduit is 1,485 feet and the downstream elevation is 14,83.85 feet, with a slope of 0.0025 ft/ft.

The auxiliary spillway is located to the east of the main dam. It is a broadcrested weir with crest elevation 1,539 feet and weir length of 1,000 feet. Within the weir itself is a culvert 12-foot high by 13-foot wide and 79.12 feet in length, from the design report.

Top of dam elevation is 1,559.5 feet M.S.L. in the middle and 1,557.5 feet at the ends.

**RATING** – The discharge rating is from the design, included in the publication Tat Momolikot Dam and Lake Saint Clair Water Control Manual. Similarly, the capacity rating is from the design. Both are rating #1.

**DISCHARGE MEASUREMENTS** – Direct measurements could be made from the principal outlet, if it is opened.

**POINT OF ZERO FLOW** – Flow begins at 0.00 feet gage height through the lower gate, or 8.00 feet gage height through the middle gate, or 16.00 feet gage height through the upper gate, depending upon which is opened.

**FLOODS / SIGNIFICANT IMPOUNDMENTS** – There have been no significant impoundments since the District has been monitoring the dam. From water lines, it appears that the maximum impoundment was near 15.00 feet gage height, at an unknown date. The USGS gaged Santa Rosa Wash near Cockleburr prior to dam closure. The peak discharge was 53,100 cfs on September 27, 1962.

**REGULATION** – The dam is a regulation of natural flows in Santa Rosa Wash.

**DIVERSIONS** – None known upstream, however, the dam is capable of diverting water to the Vaiva Vo irrigation project.

**ACCURACY** – Good

**JUSTIFICATION** – Monitor Tat Momolikot dam for failure and possible inputs into the Gila River.

**UPDATE** -

December 27, 2005

D. E. Gardner