

BUREAU OF RECLAMATION  
Technical Service Center  
Denver, Colorado

**TRAVEL REPORT**

Code : 86-68560

Date: September 6, 2006

To : Manager, Water Resources Research Laboratory

From : Tracy Vermeyen, Hydraulic Engineer

Subject : Millerton Reservoir Temperature Monitoring Program (Friant Dam)

1. **Travel period:** August 29-31, 2006
2. **Places or offices visited:** Friant Dam and Millerton Reservoir near Fresno, CA.
3. **Purpose of trip:** To service temperature monitoring instrumentation in Millerton Reservoir, Friant-Kern and Madera canals, and the San Joaquin River.
4. **Synopsis of trip:** On Tuesday afternoon, August 29, 2006, I traveled from Denver, Colorado to Fresno, California. At 8:00 a.m. Wednesday morning I met Mike Wolfe (SCC-439), Doug DeFlicht (SCC-439), and Darrin Williams (SCC-434) at the Friant Dam Office. Mike had arranged to borrow a barge from the Winchell Cove Marina to service the temperature monitoring buoys. We traveled via barge to the Finegold Bay buoy and downloaded the temperature profile string. All 13 loggers were successfully readout and re-deployed. **The Finegold loggers were checked for remaining battery life and 6 loggers (#2, 3,5,6,8,9) will need to be replaced the next time the string is serviced.** The Finegold buoy was found disconnected from the two anchor buoys. The buoy will be re-attached by Michael Wolfe during the next monthly water quality profiling visit.

We traveled via barge to the Friant Dam forebay buoy and downloaded the temperature profile string. All 16 loggers were successfully readout. Loggers 4, 11, and 12 were replaced when they could not be re-deployed. It seems that the heat affected the logger's optical communication. As a result, it is recommended that logger service be done in the spring and fall when temperatures are not so hot. It may also help to submerge the loggers to cool them off prior to trying to readout/launch them. The rest of the temperature loggers were successfully re-deployed. The forebay loggers were checked for remaining battery life and all have at least 2 years of battery life remaining. The forebay buoy and anchor buoys were in good condition and have not moved. We returned the barge to Winchell Cove Marina around 2:00 p.m. and returned to the Friant Dam Office. I checked the temperature logger data and gave a copy of all the data to Darrin Williams. I left the project at 3:30 p.m.

On Thursday morning, August 31, 2006, I met Darrin at the Friant Dam Office around 9:00 a.m. We visited the Millerton weather station on top of the steel water tower at the Crow's Nest enclosure to replace the batteries and download the weather data. All the weather station components are in good condition and appeared to be functioning properly. A wireless transmitter was added to the weather station to allow the data and battery status to be accessed on the internet. The transmitter is solar powered and has been working properly since it was installed in May 2006. The weather station data can be view at <http://datagarrison.com/users/1461472/1461472/plots.php>. Next we visited the Friant-Kern and Madera Canal temperature monitoring sites and both are functioning properly. We also checked the Friant Dam tailwater and worm farm temperature monitoring sites and they were in good working condition. I left the project at 11:00 a.m. and went to the Fresno airport. I returned to Denver at 5:00 p.m.

**5. Conclusions:**

The servicing of the temperature monitoring instrumentation for Millerton reservoir went smoothly. The use of the Winchell Cove Marina's barge was helpful while servicing the temperature profile buoys. Continuous (30 minute samples) temperature profiles from November 16, 2005 to August 30, 2006 were successfully collected in Millerton reservoir. The temperature profiling buoy at Finegold Bay requires some maintenance to secure it to the existing anchor buoys. Finegold bay temperature loggers #2, 3,5,6,8,9 will need to be replaced during the next service visit. Darrin William will continue to be responsible for periodic inspections, maintenance of the hardware, and downloading data. The assistance of Darrin Williams, Michael Wolfe, and Doug DeFlitch during this field visit was much appreciated.

**6. Action correspondence initiated or required:** None

**7. Client feedback received:** (Include as appropriate.) None.

Cc by email: Valerie Curley (SCC-106), Darrin Williams (SCC-434), Jerry Pretzer (SCC-439), Nigel Quinn (MP-700), Russell Yaworsky (MP-700), Claire Hsu (MP-700), Michael Wolfe (SCC-439), Doug DeFlitch (SCC-439), Stephen Lee, (SCC-111)

bc: 86-68560(T. Vermeyen, files)

**SIGNATURES AND SURNAMES FOR:**

**Travel to:** Friant Dam and Millerton Reservoir near Fresno, CA.

**Date or Dates of Travel:** August 29-31, 2006

**Names and Codes of Travelers:**

**Traveler**

**Date**

Tracy Vermeyen, 86-68560

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**Noted and Dated by:**

\_\_\_\_\_  
Signature

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Date