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MEMORANDUM

DATE: March 25, 1993

TO: E.C. Mast, RPM, Bldg. 080, X8589

FROM: G.A. Wetherbee, EPM/SWD, Bldg. 080, X8685

SUBJECT: OU5 RFI BASEFLOW SAMPLING EVENT NUMBER 2

Attached for your records are the original discharge measurement notes from the synoptic baseflow sampling event on March 24, 1993 for the Phase I OU5 RFI. George Jansen (Jacobs Engineering Group (JEG)) and I have photocopies of these notes. I put the data on the cartoon map for OU5 and provided water balances for selected stream reaches on the map. The stream appears to have been gaining flow with downstream distance.

Some small patches of snow were observed on the stream banks, but the stream channel was not particularly wetted by recent snow melt. Tyler Smart (ASI) and I measured different flows at different times of the day at selected locations. High-water marks approximately equal to 1/10 of one foot in stage were observed in the early afternoon; indicating that the stream stage rose and fell around mid-day. Jeb Love (CDH) accompanied JEG personnel, Mr. Smart, and myself during the sampling event. Mr. Love and I walked to the point where the South Boulder Diversion Canal crosses over the Kinnear Ditch/Woman Creek confluence. No water was leaking out of the South Boulder Diversion Ditch into Woman Creek, but the Kinnear ditch appeared to be wet with very little flow entering Woman Creek. This suggests that the flow in Woman Creek on March 24, 1993 was predominantly baseflow combined with some snowmelt and bank storage released due to thawing stream banks. The very low flow combined with the fact that the stream was gaining flow downstream provides an excellent hydrologic condition for analysis of contaminant loading during low flow.

JEG performed exceptionally well in obtaining all the required samples. No sample was collected at station SW027, located at the east end of the South Interceptor Ditch (SID), because the SID was dry at this location. All other required samples were collected including samples from a seep issuing in the historical Woman Creek channel adjacent to the Old Landfill IHSS and another seep issuing from the old apple orchard seep on the south side of the Woman Creek drainage. Acute toxicity samples were collected at both seep locations, because they have never been sampled before for OU5, as well as for stations SW127 and SW041 because these sites were dry during the previous OU5 synoptic sampling in the fall of 1992.

Wes Goodwin (SWD) and I are working to get the Woman Creek temporary flumes instrumented with automated sampling equipment to sample two storm events for the OU5 RFI in April and May 1993. One problem is that ISCO is taking a long time to provide us with parts needed to repair our flow meters for two of the OU5 stations. If necessary, we will instrument the flumes with different equipment or manually collect the samples by mobilizing JEG personnel during the storms. I will keep you informed of our progress.

Please contact me at extension 8685 or digital pager 4682 if you have questions regarding the progress of the OU5 RFI surface-water sampling. I have faxed the completed discharge measurement notes to Tyler Smart at ASI.

cc. J. Pepe DOE,RFO
T. Smart ASI