

Wyoming BLM Quality Assurance Program
for the 1997 Water Quality Contract

BACKGROUND - The Wyoming BLM collects a large amount of water quality data each year. Analysis of the water samples is conducted by an outside laboratory under contract to the BLM. Historically, the contract lab changes from year to year, and analysis procedures may not remain consistent. A Quality Assurance (QA) program is essential to evaluate the accuracy of BLM water quality data. As a result, a QA program will be continued in FY 97 to monitor contract lab performance and provide consistency in BLM water quality data from year to year.

PROGRAM DETAIL - Three basic areas need quality assurance procedures, mineral analysis, metal analysis, and suspended solids analysis. Quality assurance will consist of submission of stabilized samples of known constituent concentration, and evaluation of lab performance on these samples.

Quality assurance samples for mineral and metal analysis will be purchased from an EPA certified laboratory. A minimum of 15 one liter mineral samples will be purchased. The samples will cover a range of concentrations consistent with natural waters occurring in the State of Wyoming. One QA minerals sample will be submitted with normal water samples every two weeks. The QA samples will be submitted as a "blind" sample and the lab will not know which sample is the quality assurance sample. Lab performance will be evaluated based on the advisory ranges (95 percent confidence interval) provided with the QA samples obtained from the EPA certified laboratory.

At a minimum, 5 one liter metal samples will be purchased, and submitted monthly when metal samples are being collected (May-Sept.). Lab performance will be evaluated based on the advisory ranges (95 percent confidence interval) provided with the QA samples obtained from the EPA certified laboratory.

Quality assurance samples for total suspended solids will be prepared by BLM and submitted with each batch of regular samples. The QA samples will be submitted as "blind" samples and the lab will not know which sample is the quality assurance sample. Lab performance will be evaluated based on an advisory range computed by the BLM using +/- 5 percent of the known concentration.

In addition to purchased and prepared QA samples, District Project Inspectors (PIs) are encouraged to submit splits (several duplicate sub-samples drawn from on large sample) and blanks (sample bottles filled with distilled water) with each batch sent to the lab. Lab performance standards cannot be established for splits and blanks since constituent concentrations cannot be documented. However, splits and blanks are a useful tool for evaluating sample handling procedures, and possible sources of contamination.

Lab performance for purchased and prepared QA samples will be evaluated by the Quality Assurance Coordinator (PI at the Casper District Office). Any failure of the lab to meet the advisory range will be reported to each District PI and to the state Contracting Officer's Representative (COR). Failures of the lab to meet acceptable performance standards should be documented in the MIDAS laboratory data base. Appropriate corrective measures (non payment, re-analysis of an entire batch, etc.) will be determined on a case by case basis by the Contracting Officer, based upon recommendations from the PIs and COR.