United States Department of the Interior

U.S. GEOLOGICAL SURVEY
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IN REPLY REFER TO:

NATIONAL WATER QUALITY LABORATORY TECHNICAL MEMORANDUM 1992.07

August 12, 1992

To: Assistant Chief Hydrologist, PC&TS
Regional Hydrologists
Chief, Office of Water Quality
Assistant Chief, Office of Water Quality
Deputy ACH for PC&TS for NAWQA
Area Assistant Regional Hydrologists
District Chiefs
Regional Water-Quality Specialists
Area Assistant Regional Hydrologists for NAWQA
District Water-Quality Specialists
Chiefs, NAWQA Study-Units
Chief, Ocala Project Office
Chief, Yucca Mtn. QA Group
Employees, National Water Quality Laboratory

From: Chief, National Water Quality Laboratory

Subject: Change of Sample Type Requirement for Ion Chromatography Analysis

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Revision: No

This memorandum addresses the inappropriate use of an RU (raw, untreated) sample instead of an FU (filtered, untreated) sample for the determination of chloride, fluoride, and sulfate by ion chromatography at the National Water Quality Laboratory (NWQL). This practice often results in analytical column degradation, analytical degradation of subsequent samples, and unnecessary increases in analytical operational costs.

As stated in NWQL's electronic catalog of schedules, parameters, and network files (SPN), the analysis of chloride, fluoride, and sulfate requires the use of an FU sample. It has been a common practice at the NWQL to substitute an RU sample if no FU was received or in response to a district request. In the past, particulate matter in a water sample could be handled by the analytical system used; however, on the present ion chromatography system, this results in analytical column

degradation and seriously affects subsequent analytical results. Premature column degradation results in higher operating costs that can be significantly reduced by using only filtered samples.

In order to better meet our customers' needs of quality, cost, and timely analysis, the NWQL will stop analytical chloride, fluoride, and sulfate on RU samples and will use only FU samples as of the date of this memorandum.

Key Words: Ion chromatography, chloride, fluoride, sulfate.

Distribution: See above plus QWTALK