



IN REPLY REFER TO:

United States Department of the Interior

U.S. GEOLOGICAL SURVEY

Box 25046 M.S. 407

Denver Federal Center

Denver, Colorado 80225

NATIONAL WATER QUALITY LABORATORY TECHNICAL MEMORANDUM 1993.06

March 11, 1993

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
Chief, Branch of Quality Assurance
Employees, National Water Quality Laboratory

From: Chief, National Water Quality Laboratory

Subject: Raising the method detection limit for gross alpha and gross beta

Author: Ann Mullin (303) 467-8235

Revision: No

The method detection limit (MDL) for both gross alpha and gross beta will be raised. Effective immediately, the required MDL's for gross alpha and gross beta will be 3 and 4 pCi/L, respectively. The higher MDL's more accurately represent the levels achieved by current analytical procedures and do not reflect change in laboratory procedures.

The change, which was recommended by the Radiochemistry Advisory Committee, is based on several considerations. These considerations include:

- The current 0.6 pCi/L MDL's do not, in many cases, reflect the true levels achieved by the current EPA and ASTM approved procedures. Other laboratories recognize the limitations of the procedures and do not generally believe the procedures can attain MDL's of 0.6 pCi/L.

- Gross alpha and gross beta are screening tools designed for use at nuclear facilities. Accordingly, the low MDL's are not considered necessary.

- The higher levels are sufficient for screening that may be required by the proposed drinking-water standards for radionuclides.

The change does not reflect a change in the procedures. Accordingly, the data produced in the future is fully consistent with previously reported analyses.

A more time-consuming and costly procedure would be required to achieve the lower levels. The lower MDL's, however, probably would provide little or no real information on environmental concentrations of gross alpha- and gross beta-emitting radionuclides.

/signed/

Peter F. Rogerson

Supersedes: None

Key Words: Radiochemistry, beta, alpha

Distribution: See above plus QWTALK