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United States Department of the Interior

U.S. GEOLOGICAL SURVEY

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NATIONAL WATER QUALITY LABORATORY TECHNICAL MEMORANDUM 1995.07

May 25, 1995

To: Assistant Chief Hydrologist for Technical Support
Regional Hydrologists
Chief, Office of Water Quality
Assistant Chief, Office of Water Quality
Acting Chief, NAWQA
Area Hydrologists
District Chiefs
Regional Water-Quality Specialists
Assistant Regional Hydrologists for NAWQA
District Water-Quality Specialists
Chiefs, NAWQA Study-Units
Chief, Ocala Project Office
Chief, Yucca Mountain HIP
QA Manager, Yucca Mountain Project
Chief, Branch of Technical Development & Quality Systems
Employees, National Water Quality Laboratory

From: Peter F. Rogerson, Chief
National Water Quality Laboratory
Branch of Analytical Services

Subject: Submission of samples for analysis by the NRP Isotope Fractionation Project in Reston

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Revision: NWQL Technical Memorandum 94-11

SCOPE

Changes have been made by the National Water Quality Laboratory (NWQL) and the National Research Program (NRP) in Reston concerning the submission of samples for oxygen (O-18/O-16), deuterium (D/H), sulfur (S-34/S-32), as well as calcite and CO₂ samples for both C-13/C-12 and O-18/O-16 analyses. These new arrangements will result in considerable savings of both time and money for the districts.

Effective June 1, 1995, all samples for the analyses listed above are to be sent directly to U.S. Geological Survey, Attn: Jeanne Jaeschke, MS 431, Room 5B127B, 12201 Sunrise Valley Drive, Reston, Virginia 22092. The Analytical Services Request (ASR) forms are to be sent with the samples. After logging in the samples in Reston, copies of the ASR forms will be sent to the NWQL. Districts that ship their samples in coolers will have the cost of returning their coolers charged to their account. Any samples sent to the incorrect lab will be forwarded to the correct lab. The cost for this shipping will be charged to the district.

The NWQL will continue to process billings and report results. These will be done through the NWQL in the same manner as is done for all other samples.

All requests for reruns and all questions pertaining to analytical and/or sampling procedures are to be sent to the Isotope Fractionation Project in Reston. Likewise, requests for sample bottles for oxygen and deuterium as well as for ion exchange resin columns for sulfur LC 1949 are to be directed to the Isotope Fractionation Project. These bottles and resin columns will be furnished free to the districts and will have undergone the quality control (QC) procedure by the Isotope Fractionation Project in Reston. If resin columns have not been submitted for analysis within 6 months, NRP will bill the districts for them to recover costs of the columns and QC. The EMAIL user ID "ISOTOPES" has been set up at NRP to receive all correspondence.

The arrangement described above applies only to the stable isotope analyses provided by the NRP laboratory in Reston. No changes have been made concerning samples for tritium analyses which are analyzed by the NRP laboratory in Menlo Park.

Oxygen and Deuterium

Schedule 1142, analysis of O-18/O-16 & deuterium in water

LC 489 Analysis of O-18/O-16 in water

LC 1574 Analysis of deuterium in water

Sulfur-34/Sulfur-32

LC 1951 as dissolved sulfate >20 mg/L

LC 1949 as dissolved sulfate <20 mg/L

LC 1948 as dissolved sulfide, pure Ag₂S

LC 1950 as sulfate in rock or sediment

LC 1947 as total sulfide in rock or sediment

Schedule 921 consisting of -

LC 1952 Sulfur isotopic analysis of sulfate

LC 1953 Sulfur isotopic analysis of disulfide

LC 1954 Sulfur isotopic analysis of monosulfide

All add-on costs for extra handling and/or clean-up of sulfur samples will be the same as listed in NWQL Tech Memo 94-11.

C-13/C-12 and O-18/O-16

LC 1135 C-13/C-12 (calcite)
and
LC 1137 O-18/O-16 (calcite)

LC 1243 O-18/O-16 high purity (CO₂)
and
LC 1244 C-13/C-12 high purity (CO₂)

There is one cost for LC 1135 and for LC 1137; both analyses are performed on the same sample. There is one cost for LC 1243 and for LC 1244; both analyses are performed on the same sample. Samples for LC 1135 and for LC 1137 must be crushed to a powder which passes through a 200-mesh screen. If these samples are not submitted properly prepared, there is an additional charge of \$25.00.

Any questions pertaining to the changes outlined above should be addressed to Tom Maloney or Tyler Coplen.

Supersedes: NWQL Technical Memorandum 94-11 (prices only)

Key Words: Stable isotopes, tritium, O-18/O-16, deuterium, S-34/S-32, C-13/C-12

Impact on Database: None

Distribution: See above plus the continua USGS.labnews, .waterquality &.radchem; WRD Secretaries; Field and Project Offices