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NATIONAL WATER QUALITY LABORATORY TECHNICAL MEMORANDUM 1997-06

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From: Peter F. Rogerson, Chief
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Subject: Retrieving Data from the National Water Quality Laboratory--PRIME Version

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Revision: None

Supplemental: None

This technical memorandum clarifies the processes involved in the PRIME system for the distribution of analytical results from the National Water Quality Laboratory (NWQL) to the Districts. Also addressed is the process initiated by the Districts to retrieve data from the NWQL. Two problem areas most frequently identified--ASR information matching the bottle information and Districts receiving multiple data--are also discussed.

I. Laboratory Operations

A. Overview.-

Due to the recent buyouts, personnel retiring, and movement or reassignment of employees responsible for retrieving data from the NWQL, we have received several queries from District personnel concerning the process of data retrieval. The following information is intended to aid in understanding the movement of data between the NWQL and District personnel responsible for the data retrieval. Additional information on this topic is available from NWIS personnel.

B. Data Distribution.-

The NWQL distributes analytical results based on the user code (UC) which is provided on the Analytical Services Request (ASR) form sent in with all samples. Some Districts may use multiple user codes to aid in separating results according to program or project. The NWQL delivers completed results to different UC-specific areas on the Colorado District PRIME (DCOLKA) computer for retrieval by each District. The data are in a PRIME directory called DISTRICT>districtname>ANAL.RESULTS in a file called DENVER.DATA.

The DENVER.DATA file contains encoded analytical information in "1, *, 5, 7, X, #, D, and N" cards as described in the QW Users Manual (this is an old format left over from when decks of cards were actually read into the computer). An electronic version of the QW Users Manual, Chapter 4.1, can be found on each District PRIME in a directory called: WATSTORE>QW_PM>DOC in a file called QW-USERS.DOC.

Depending on whether or not the data have been retrieved, the NWQL will either create a new DENVER.DATA file or append the existing file. The program that loads the data on DCOLKA (SEND-RES) looks for a flag in a file called LAB.DATA.INDICATOR that contains an "O" (old data, District has retrieved) or an "N" (new data, District has NOT retrieved) and processes the new data accordingly. If the flag is "O", the DENVER.DATA file is renamed to a DATA.REPLACED.<date>.<time> file, a new DENVER.DATA file created, and the LAB.DATA.INDICATOR flag is again set to "N".

II. District Operations

A. Overview.-

Districts generally retrieve the NWQL analytical data one to two times each week. Retrievals are typically performed during the evenings or early mornings to minimize the risk of losing or misloading the data. Most Districts have the retrieval process set up in the PRIME Job Timer.

B. Data Retrieval.-

Districts can retrieve the DENVER.DATA file by executing the QWLAB.CPL. Option 1 will start the program GETLAB.CPL which will retrieve the data. As an alternative, the user could set up this program in the job timer which would execute the GETLAB.CPL. This program connects to DCOLKA and retrieves available analytical results. GETLAB tasks are performed in the following order:

1. Creates an FTR connection to DCOLKA for file transfers (connections are to the specific path/directory in the CPL)
2. Retrieves a copy of the LAB.DATA.INDICATOR file from DCOLKA

3. Looks at the content of the file:
 "O" = No new data to retrieve -- GETLAB terminates
 "N" = New data can be retrieved -- GETLAB continues on
4. Checks to see if a QWCARDS file already exists in the District's directory and deletes the file if it does exist
5. Retrieves a copy of the DENVER.DATA file and renames it QWCARDS during the file transfer
6. Copies the QWCARDS file with a date/time stamp
7. Upon completion of the file transfer, sends back to DCOLKA a file called OLD.INDICATOR which is located in the WATSTORE>TRANSFER>LAB directory and contains an "O". This overwrites the file LAB.DATA.INDICATOR "N" with an "O" to indicate the data have been retrieved on DCOLKA.
8. Optional: At this point, some Districts continue to process the data with either the QWCARDSIN or QWENTER program to place the data into their respective databases. This also generates the WATLIST report. Some Districts elect to review the new QWCARDS prior to processing.

III. Frequent Data Retrieval Problem Areas

A. QWCARDSIN.-

The NWIS-I software QWCARDSIN matches data coming from the NWQL with samples logged into the District database by using the station_id, collection date(s), time, and medium code. If any one of these do not match identically, the sample data will end up in the BADQW.<date>.<time> file. This problem occurs frequently when collection times on the bottles do not exactly match the collection times on the ASRs.

B. QWENTER.-

The NWIS-I software QWENTER does NOT match data coming from the NWQL with samples logged into the District data base. The data are input into the data base without verifying an existing record. The sample will end up in the BADQW.QWENTER.<date>.<time> file if the site is not in the District site file, if invalid sample medium is sent, or if an invalid date is in the file.

C. Data Duplication.-

If the file OLD.INDICATOR is not sent back to the NWQL after a retrieval, Districts will receive the same data multiple times, as well as any new data since the last retrieval. This can occur if a District inadvertently deletes the file OLD.INDICATOR in the WATSTORE>TRANSFER>LAB directory. If a District notices they are receiving old as well as new analyses, verify the file is present. If it isn't, create it using the editor of your choice. The file needs to contain only an uppercase letter O.

See II.B.7 above.

Impact on Data Base: None

Supersedes: None

Supplementary Info: None

Key words: data transfer, PR1ME, GETLAB, data retrieval, WATSTORE, QWCARDS

Distribution: See above plus the Netnews usgs.labnews & .water.quality, WRD Secretaries; Field and Project Offices; Hydrologic Technicians; and <http://wwwnwql.cr.usgs.gov/>