

**USGS TECHNICAL PROCEDURE GCP-02, R1****Labeling, Identification and Control of Samples  
for Geochemistry and Isotope Geology****1.0 PURPOSE.**

- 1.1 To assure the accuracy, validity, and applicability of the methods used to establish a system for the labeling of samples for geochemistry and isotope geology, this procedure provides a guide for USGS personnel and contractors to perform the described activity. From this procedure, the Department of Energy (DOE) and the Nuclear Regulatory Commission (NRC) can evaluate these activities for meeting requirements of the NNWSI Project, and competent, trained personnel can reproduce the work.
- 1.2 This procedure describes the components of the work, the principles of the methods used, and their limits. It also describes the detailed methods to be used for calibration, operation and performance verification of any equipment. In addition, it defines the requirements for data acceptance, documentation, and control; and it provides a means of data traceability.

**2.0 SCOPE OF COMPLIANCE.**

- 2.1 This procedure applies to all USGS personnel and their contractors who may perform work referred to in Para. 1.1, or use data obtained from this procedure if it is deemed to potentially affect public health and safety as related to a nuclear waste repository.
- 2.2 All data derived from this procedure that are presented to support licensing of the NNWSI Project repository, and any equipment calibrations or recalibrations that may be required shall be in accordance with this technical procedure. Variations are allowed only if and when this procedure is formally revised, or otherwise modified, as described in Section 8.

- 3.0 **PERSONNEL RESPONSIBILITIES.** The Principal Investigator (PI) is responsible for assuring full compliance with this procedure. Per QMP-2.02 and QMP-2.03, the PI shall require that all personnel assigned to work under this procedure shall have the necessary technical training, experience, and personal skills, to adequately perform this procedure; and they shall have a working knowledge of the USGS QA Manual. Responsibilities of others including the reviewer(s), contributing investigators, Branch/NHP Chief, QA Office and the Chief, Branch of NNWSI are as described in Para. 4.3, QMP-5.01.

**4.0 DETAILED PROCEDURE.**

The identification, traceability, and accountability of samples for geochemistry and isotope geology can be maintained and controlled by use of this procedure.

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- 4.1 Objective: To establish a method for the traceability of samples submitted for geochemical or isotopic analysis during processing and storage.
- 4.2 Methods Used: Each sample submitted for geochemical or isotopic analysis, is to be identified by labeling in a distinguishing manner from the time that the sample is collected to its eventual disposition.
- 4.2.1 When the sample is received at the Branch of Isotope Geology, the individual investigator responsible for the geochemical or isotopic analysis will assign the sample a unique identification code which will be logged in an appropriate sample record notebook. This unique identification code will be traceable to the field labeling information.
- 4.2.2 From this point on, the samples shall be identified by its unique identification code.
- 4.2.3 After analysis, any remaining sample shall be labeled and stored.
- 4.3 Alternative Method(s) Considered: Other inventorying systems might have been used, but the described procedure fills the need.
- 4.4 Materials/Equipment Required: Each sample shall be kept in an appropriate container approved by the Principal Investigator or designee.
- 4.5 Assumptions Affecting the Procedure: There are no assumptions pertinent to this procedure.
- 4.6 Data Information: The notebook in which a unique identification code assigned to a sample was recorded comprises the data generated by this procedure.
- 4.6.1 Quantitative/Qualitative Criteria: Not applicable.
- 4.7 Limitations: This procedure has no foundation for limitations outside the usual chances for human mistakes.
- 4.8 Other: None.
- 5.0 CALIBRATION REQUIREMENTS. Calibration is not required as a part of this technical procedure.
- 6.0 IDENTIFICATION AND CONTROL OF SAMPLES. Samples will be collected as part of this procedure.
- 6.1 Sample Identification: As part of the data records and documentation, and in compliance with QMP-8.01, all samples will be identified as described in Para 4.2, et seq.

- 6.2 Control and Storage: In compliance with QMP-8.01, the collected and identified samples shall reside in the custody of the Branch of Isotope Geology.
- 6.3 Special Treatment: As described in Para 4.4.
- 7.0 QUALITY ASSURANCE RECORDS. All information collected and recorded under this procedure that is to be used in support of the NNWSI Project licensing process is required to be a part of the official USGS record. Input needed to process the information as a record includes: title or description, subject, originator, date of the document, and whether it is an original, a revision or an addendum. Specific items from this procedure that will constitute a record are copies of completed pages of the notebook.
- 7.1 Notebooks or other organized documentation will be prepared as appropriate by the PI or a contributing investigator to record data from this procedure and shall include any information considered by the originator to be pertinent. When data are kept in loose-leaf form, each page will be numbered consecutively and chronologically. All documents will be signed or initialed and dated by the investigator on a daily basis when entries are made. Any revisions will be lined out, initialed, and dated.
- 7.2 All data collected and the applicability of methods used in this procedure will be reviewed and cosigned by a peer or supervisor of the investigator knowledgeable with the objectives of this procedure in accordance with NNWSI-USGS-QMP-6.01, Para. 4.2.2; and as such are acknowledged by both the investigator and the reviewer to be acceptable and meaningful data that meet appropriate quantitative and qualitative acceptance criteria. Unacceptable data shall be identified appropriate to the form of the data.
- 8.0 MODIFICATIONS. When modifications become necessary, per Para. 4.8, QMP-5.01, the PI shall fully document the changes, submit the documentation for the same review signature and distribution process as for the original procedure, and indicate whether the change should result in a subsequent revision to the technical procedure. The documentation will be reviewed within 30 days.
- 9.0 REFERENCES CITED. There are no references cited for this procedure.
- 10.0 ATTACHMENTS. There are no attachments to this procedure.

11.0 APPROVAL. This technical procedure shall become effective upon its approval as noted by completion of all the following signatures and dates.

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23 October 1986  
Date

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23 Oct 86  
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