GEOSCIENCES AND ENGINEERING DIVISION TECHNICAL OPERATING PROCEDURE	Proc. TOP–012 Rev. 5 Chg 1 Page 1 of 4

Title: **IDENTIFICATION AND CONTROL OF SAMPLES AND CHEMICAL REAGENTS AND STANDARDS**

EFFECTIVITY AND APPROVAL

Revision 5 of this procedure became effective on 08/13/2008. This procedure consists of the pages and changes listed below.

Page No.	Change	Date Effective
1	1	06/26/2009
2-3	0	08/13/2008
4	1	06/26/2009

Change 1 – Deletion of Sample Control Database

Supersedes Procedure No. TOP–012, Rev. 5, Chg 0, dated 08/13/2008

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IDENTIFICATION AND CONTROL OF SAMPLES AND CHEMICAL REAGENTS AND STANDARDS

1. PURPOSE

This procedure provides methods for identifying (including labeling), controlling, storing, handling, and shipping samples and for identifying and labeling chemical reagents. This procedure establishes controls required by Geosciences and Engineering Division (Division) Quality Assurance Manual Sections 8 and 13.

2. RESPONSIBILITY

Personnel performing tasks described in this procedure are responsible for complying with its requirements.

3. DEFINITION

Samples take many different forms, including manufactured or fabricated samples, natural geological samples, and synthesized samples. Sub-samples are physically separate from the original or base sample and may have been modified (e.g., polished, crushed, or chemically treated) for a specific use or analysis. Aliquots removed from samples or sub-samples that are otherwise identical to their sources do not require identification different from their sources.

4. PROCEDURE

4.1 Sample Identification

4.1.1 Samples and sub-samples shall be given a unique sample identification that is maintained throughout the life of the sample. Samples and sub-samples shall be identified as described in Section 4.2 of this procedure. In addition to the sample identification number, the scientific notebook number containing the information specified in Section 4.3 shall be identified (e.g., SN 3). Referenced notebooks shall be controlled in accordance with QAP–001, Scientific Notebook Control.

4.1.2 Any sample identification scheme may be used provided that a unique identification is provided. For example, the identification scheme may be based on the manufacturer's lot or heat number (for purchased samples) or a code relating to the sample collection location, date, or person collecting the sample.

4.1.3 Sub-samples, as defined in Section 3, shall be given a unique identification traceable to scientific notebook entries as described in Section 4.1.1 and to the original sample as described in Section 4.1.2. In general, sub-sample identification will use the base sample identification with an added suffix.

4.1.4 While being analyzed, examined, or tested, samples, sub-samples, or aliquots need not maintain the formal identification provided that the investigator is able to maintain identification through alternative means (i.e., using an abbreviated identification, location in a sample holder, etc.).

4.1.5 As determined by the principal investigator (PI) or as required by contract, samples or sub-samples with no near-term anticipated use shall be retained for archival purposes. Archived samples and sub-samples shall retain their identification in accordance with this procedure.

4.2 Identification Methods

4.2.1 Large samples or sub-samples, such as plates, rock specimens, and containers of solutions, may be directly marked by indelible markers, indentation (punches, vibrating tools, etc.), or tags. Direct marking shall be such that the properties, characteristics, and eventual use of the item is not adversely affected.

4.2.2 Samples or sub-samples on which direct marking is not possible or is impractical shall be identified by marking on the bottle, jar, bag, or other means used to contain and segregate the sample or sub-sample.

4.3 Sample Information

Scientific notebook entries relating to and traceable to a sample or sub-sample shall include, as appropriate

- Identification
- General description (including sample collection location if applicable)
- Date of receipt, collection, or synthesis

4.4 Sample Shipping, Storing, and Handling

4.4.1 Samples shall be shipped and handled in accordance with industry accepted or customary practices unless special requirements are identified by the contract or PI. Any special shipping requirements shall be noted on the sample container or in scientific notebooks traceable to the sample.

4.4.2 Routine storage shall protect from environmental extremes, prevent or mitigate deterioration, and minimize the potential loss of samples.

4.4.3 Samples requiring storage conditions beyond those provided in Section 4.4.2 shall have their special storage requirements clearly identified on a tag or label affixed to the sample or sub-sample.

4.5 Identification of Chemical Reagents and Standards

4.5.1 To the extent applicable to the materials and related health and safety requirements, chemical reagents and standards shall be labeled as required by AP–016, Hazard Communication Plan. Furthermore, a composite record of chemical reagents and standards shall be maintained as required by AP–010, Laboratory Chemical Hygiene Plan.

4.5.2 Scientific notebook entries shall document the use of chemical reagents and standards. Entries shall identify the lot numbers of the source reagents or standards.

4.5.3 Solutions prepared from chemical reagents and diluted solution standards that are retained for use beyond the day of preparation shall be labeled with the following information.

- Appropriate identification of the chemical solution or diluted solution standard corresponding to the entry in the scientific notebook
- Date of preparation, and as applicable, date of expiration
- Reference to the scientific notebook entry for the preparation by notebook control number and page number

Solutions to be used the same day as prepared shall be sufficiently identified to assure appropriate use that day.

4.5.4 Chemical reagents and standards with expiration dates shall not be used after the expiration date unless approved by the PI. In such cases, the PI shall indicate a revised date on the container, annotate with a scientific notebook number and page containing the rationale for such extension, and initial the revised date. Containers of expired chemical reagents and standards shall be properly disposed or shall be marked with the PI initials, date, and by striking out the original expiration date and identifying the container as “EXPIRED.”

5. RECORDS

Scientific notebooks containing sample information shall be controlled in accordance with QAP–001, Scientific Notebook Control.