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NUCLEAR WASTE MANAGEMENT PROGRAM PROCEDURE

SP 13-1 CHAIN OF CUSTODY Revision 2

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1.0 Purpose and Scope

This procedure prescribes the Sandia National Laboratories (SNL) Nuclear Waste Management Program (NWMP) process for ensuring that possession of samples (chain of custody) is maintained and controlled. Basic requirements for the identification and control of samples from the time of collection through ultimate disposition are contained in NP 13-1 (Sample Control). This procedure (SP 13-1) provides controls for tracking chain-of-custody (CoC) when samples are transferred from one custodian to another.

Note: Additional requirements may need to be addressed i.e., corporate, site specific, and Environment, Health and Safety policies. For packaging and shipping of hazardous materials, consult the SNL ES&H Manual, Chapter 12 "Packaging and Transportation of Hazardous Materials," MN471001, www-irm.sandia.gov/corpdata/esh-manuals/mn471001/c12.htm or contact Center 6800 ES&H Coordinator.

Acronyms and definitions for terms used in this procedure may be found in the NWMP Glossary located at the Sandia National Laboratories (SNL) NWMP On-line Documents web site.

2.0 Implementation Actions

2.1 Sample Identification/ Initiating Chain of Custody

Samples should be collected or created in accordance with appropriate work controlling documents, such as Test Plans (NP 20-1), Activity/Project Specific Procedures (SP) or other implementing procedures.

To initiate the SNL WIPP Chain of Custody form (Form SP 13-1-1), the Initial Sample Custodian prints their name, organization, and the date in block 1. The unique sample number/identifier (nomenclature should be explained in Test Plan, SP or Scientific Notebook), date collected, sample container type (e.g., glass, amber glass, polyethylene, etc.), sample container volume

(e.g., 3 x 20ml, 1-L, etc.), sample preservative (e.g., nitric acid [HNO₃], sodium hydroxide [NaOH], ice, etc.), and sample description are recorded as appropriate. As specified in NP 13-1, additional or supplemental sampling information may be recorded in other quality assurance (QA) record formats such as, drilling logs, scientific notebooks, sample information forms, or other appropriate record formats.

If a sample has a maximum life expectancy or expiration date, that date shall be documented on the sample or sample container whenever possible to preclude the use of the sample beyond its specified life. As a minimum, the sample shall be marked or tagged as "limited-life" material. This should be recorded in the Disposition block. If the sample is from difficult to repeat sample collection activities, such as principal boreholes, it shall be maintained as an archive sample. This designation shall be marked in the Disposition block. Form SP 13-1-1 should reference any applicable planning documents to enhance sample traceability in the Scientific Notebook and/or the Test Plan ID blocks.

Sample markings and labels shall indicate the need for special environments or other special controls. Specific requirements for critical, sensitive, perishable or high-value samples and their handling, storage, cleaning, packaging, shipping, and preservation will be identified in controlling documents. These controls should be documented in the following: Sample Handling (e.g., glass-Handle w/Care), Sample Storage and Preservation (e.g., locked cabinet, humidity range), and Sample Shipping (e.g., hazardous/radioactive sample must comply with DOT regulations) Requirements blocks. If samples are sub-divided or sub-sampled, the unique identification must be transferred to each sub-sample part or sub-sample container part, which requires identification. A second chain of custody form may be required to track sub-divided samples or sub-samples. If a second chain of custody form is required, the original form, or a copy of the original form, should be attached to the second form to maintain sample tracking and traceability.

2.2 Sample Transfer

Each time a sample is transferred, the persons relinquishing and receiving the sample shall sign Form SP 13-1-1 in the Custody Transfer section. The individual receiving the samples must inventory the samples, assess the condition of the samples. All concerns regarding sample condition and integrity should be noted in the Sample Condition block. The individual receiving samples shall maintain Form SP 13-1-1 with the samples, and send *a copy* (as soon as possible) to the NWMP Records Center. If this is the final sample transfer and/or sample ultimate disposition, the individual shall send the original Form SP 13-1-1 to the NWMP Records Center and *keep a copy* for their files.

Additional explanatory information may be provided in the project specific Scientific Notebook or sheet(s) appended to the form as appropriate. If additional sheets are used, this should be noted on Form SP 13-1-1, and the attached sheet titled so that there is no doubt which Form SP 13-1-1 it accompanies.

2.3 Conditions Adverse to Quality or Significant Conditions Adverse to Quality Samples

Deviations from sample management requirements must be documented as a Condition Adverse to Quality (CAQ) or Significant Condition Adverse to Quality (SCAQ) in accordance with the Corrective Action process specified in NP 16-1. Deviations include, but are not limited to, the following:

- Improper handling and/or shipping
- Loss of traceability
- Loss of identity (sample shall not be used in this case)
- Lost samples
- Use of samples after expired lifetimes
- Chain of custody violations
- Damaged samples (e.g., from temperature extreme)

A CAQ or SCAQ sample may be used after evaluation by the person responsible for sample data, but the sample's deviation status must accompany the sample data and noted in the Disposition block on Form SP 13-1-1 to facilitate sample tracking and traceability. The result of the evaluation is to classify the sample into one of three categories: "Use-As-Is," "Limited Use," or "Discard," and document this as part of the deviation and this classification is recorded on Form SP 13-1-1. Samples that have lost their identity *shall not be used* and documented as a deviation through the Corrective Action process.

2.4 Sample Archiving/Storage/Disposition

Information regarding archiving and expiration of samples shall be recorded on Form SP 13-1-1 in the Storage and Preservation block. Sample storage is the routine storing of samples between the time of receipt, use and disposition. Samples that have been analyzed or tested shall be identified and maintained in a separate part of the storage area. Archiving of samples is done to preserve the samples for future investigation or review. When samples are not in the possession of the individual designated with custody of the samples, the samples shall be stored in a secure area. A secure area is defined as an area where the access to the samples is limited and controlled, e.g., locked rooms, cabinets, desks, drawers, etc. Samples shall be controlled to preclude the mixing of like samples. Samples on which analyses or tests have been performed shall be identified and maintained in a separate part of the storage area.

Samples shall be stored in areas where the environment is controlled, and will not cause degradation in the samples. Samples must be periodically assessed to monitor sample expiration dates. Upon expiration of limited lifetime samples, the sample shall be properly disposed (if hazardous and/or radioactive, contact Center 6800 ES&H Coordinator for guidance). Controlling documents should provide specifications for sample disposition. This information shall be transferred to Form SP 13-1-1, and recorded in the Disposition block. Disposing of the samples shall document the method of disposal, place of disposal, and date, and enter this information on Form SP 13-1-1, or provide an appended sheet.

3.0 Records

The following QA records, generated through implementation of this procedure, shall be prepared and submitted to the NWMP Records Center in accordance with NP 17-1 (Records):

<u>QA Record</u>	<u>Preparer</u>	<u>Records Submitter</u>
• Chain of Custody forms (Form SP 13-1-1)	Sample Custodian	Sample Custodian
• Deviation (CAQ or SCAQ) documentation (if any)	per NP 16-1	per NP 16-1

4.0 Appendices

Appendix A: Form SP 13-1-1 (Chain of Custody Form)

