BTP-SMF-005: REV1 DRAFT

EXAMINATION OF SAMPLES BY PARTICIPANTS AT THE SAMPLE MANAGEMENT FACILITY

NOTES

This "Information Copy" indicates changes made to BTP-SMF-005 Rev 0, (approved 7/7/89) as a result of experience gained processing prototype core from Utah. All changes have been italicized in this copy.

KEY:

(+) Means the preceding phrase has been added to the original
(-) Means the peceding phrase has been deleted from the original
(#) Means the peceding phrase has been changed from the original

Some explanations regarding changes have been included.

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BTP-SMF-005

EXAMINATION OF SAMPLES BY PARTICIPANTS AT THE SAMPLE MANAGMENT FACILITY

1.0 PURPOSE AND SCOPE

This procedure describes the Yucca Mountain Project Office (Project Office) requirements and responsibilities for examination by Yucca Mountain Project (Project) participants of Project samples at the Sample Management Facility (SMF).

2.0 APPLICABILITY

This procedure applies to Technical and Management Support Services (T&MSS) contractor personnel and support staff coordinating examinations of Project samples by Project participants and other outside interests at the SMF.

3.0 DEFINITIONS

3.1 Sample Management

SM of the T&MSS contractor is the organization responsible for the collection, documentation, storage, and control of selected samples, remnants and records. SM includes the SMF and Field Operations. SM staff consists of management and operations personnel who ensure that SM operations and documentation satisfy applicable regulatory requirements.

3.2 Sample Management Facility

The SMF is the facility used for the documentation, storage, and control of samples and sample remnants collected and dispersed for analysis and evaluation by requesters. The SMF consists of a physical facility and equipment designed to effectively process and preserve collected samples. The SMF is operated by T&MSS contractor personnel for the Project.

3.3 Unqualified Sample

An unqualified sample is a geologic sample collected for the Project prior to implementation of the Project Office Quality Assurance Program Plan (QAPP; WMPO/88-1) and applicable, approved implementing procedures. Samples will be considered unqualified unless they have been designated Quality Assurance (QA) Level 1 as described in Project Administrative Procedure (AP) AP-5.9Q. An unqualified sample may also be referred to as an existing sample.

3.4 Sample

A sample is part of a population whose properties are studied to gain information about the whole or group. Examples of samples covered by this procedure include core, cuttings, fluids, and other geologic samples collected at Project field sites.

3.5 Core

A core is a cylindrical section of rock, or fragment, thereof taken as a sample of the interval

penetrated by a core bit and brought to the surface for examination and/or analysis.

3.6 Cuttings

Cuttings are chips of rock that are cut by a drill bit during drilling and are removed from the borehole in the drilling fluids (gas, foam, or liquid).

3.7 Specimen

A specimen is a subsection or portion which has been removed from a sample.

3.8 Curatorial Sample Inventory and Tracking System (CSITS)

The CSITS is a computer-based system designed to aid in the control and documentation of Project samples.

3.9 Requester

A Requester is an individual from a Project participant or outside interest who requests to visually examine samples and existing samples under control of the SMF.

3.10 Examiner

An Examiner is an individual from a Project participant or outside interest who is authorized to visually examine samples and existing samples under control of the SMF.

4.0 RESPONSIBILITIES

4.1 Curator

The Curator may authorize extensions of examination periods and determine the need to weigh a sample prior to examination.

4.2 Technical Staff (TS) Assistant

The TS Assistant shall assist Examiners during examination activities and shall ensure that activities performed during this procedure conform to QA guidelines.

4.3 Sample Management Facility Geologist

The SMF Geologist shall assist Examiners during examination activities.

4.4 Sample Management Facility Geotechnician

The SMF Geotechnician shall assist Examiners during examination activities and shall complete documentation and prepare samples for examination. The SMF Geotechnican shall also verify that samples have not been visibly altered or subsampled during examination.

4.5 Sample Management Facility Administrative Assistant

The SMF Administrative Assistant shall submit QA records resulting from implementation of

this procedure to the T&MSS Local Records Center (LRC).

4.6 Reynolds Electrical & Engineering Company, Inc.

Reynolds Electrical & Engineering Company, Inc. Teamsters and Laborers (Support Staff) shall assist the SMF Geotechnicians in handling and shelving of sample containers and shall operate trucks and other material-handling equipment.

4.7 Sample Overview Committee (SOC)

The SOC is comprised of representatives from Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Sandia National Laboratories, the U.S. Geological Survey, SM, T&MSS, and the Project Office. It was formed to ensure a balance between Project sample needs, acquisition, and use, and the need to curate samples for posterity. The SOC shall recommend the allocation of whole core and other specimens to the Director of the Regulatory and Site Evaluation Division (RSED) of the Project Office. The RSED Director will approve or disapprove the SOC recommendation. The Curator shall distribute samples only when so approved by the RSED Director.

5.0 PROCEDURES

5.1 Introduction

The geologic samples acquired during the Project are the primary sources of echnical data used in site characterization at Yucca Mountain. Although many specimens may be removed for detailed analysis, significant site-specific information can be gained by visual examination alone. New samples that have undergone processing at the SMF will be available for examination there. Unqualified samples will also be available for examination. Examinations of cores by the Requester may be necessary to select specific pieces of whole core samples for removal prior to core slabbing. Selected specimens shall be segregated subsequent to verification of field logging.

5.2 Authorization for Examination

Requesters who want to visually examine samples at the SMF shall submit a completed Sample Examination Request (Figure 1). This request must be approved by the Chief of the Site Investigations Branch (SIB), Project Office, and received by the SMF prior to the visit. The SMF Geotechnician will use this form to schedule examination of verified whole core, processed samples, and unqualified samples by the Requester. It is important for the Requester to include the requested date, time and duration of examination to enable the SMF to schedule the requested examination times with the minimum of conflict. *Information from...* (-) Authorization for visual examination includes the following restrictions: no specimens will be removed; no destructive actions (e.g., scraping) will be performed; and no foreign materials (e.g., hydrochloric acid) will be applied to samples or left in the container.

5.3 Examination of Whole Core Prior to Core Examination Meeting

If a Requester needs to examine core prior to a Core Examination Meeting (Section 5.4), the Requester will be allowed sufficient time to complete the necessary examination. Specimen requests may be submitted to the SOC at this time; however, no requests will be filled by the SMF until after the Core Examination Meeting.

5.4 Core Examination Meeting

5.4.1 If more than one Requester expresses interest in examining and collecting specimens of core, a Core Examination Meeting will be scheduled subsequent to verification of field logging, but prior to core processing. Core Examination Meetings will occur as soon as practicably possible after verification of core (Project Office Branch Technical Procedure [BTP] BTP-SMF-003). In the event that the proposed total depth of the borehole is not reached or is considerably delayed (rig breakdown, change of scope of study plan, mobilizing rig to another location, etc.), the meeting will be scheduled to examine all available core. Requesters will be notified of the Core Examination Meeting by the SMF.

5.4.2 Data from the Sample Examination Request will be used to complete a Sample Examination Record (Figure 2). The Sample Examination Record includes the following information: Examiner, organization, address, telephone number, SIB Chief authorization, borehole or field site, container identification number, sample interval, weights, SMF Geotechnician's initials, and date.

5.4.3 The Support Staff will lay out sequential boxes of core from a borehole in the Core Examination Room on or before the scheduled meeting date. A core review packet containing copies of borehole information and a general overview of the core will be available for Examiners during the Core Examination Meeting.

5.4.4 Examiners will examine samples, record requested intervals, and place temporary markers on core to indicate the Examiner and requested interval. If there are intervals of core that two or more Examiners request, an attempt will be made to resolve the conflict during the Core Examination Meeting. If Examiners are unable to resolve the problem, assignment of specimen intervals will be determined by the RSED Director.

5.5 Examination of Samples Subsequent to Processing

5.5.1 If an Examiner requests to examine samples after processing, a Sample Examination Record will be generated as described in Section 5.4.2. Prior to or at the time of an Examiner's scheduled examination, the Support Staff will remove the requested samples from storage. Sample weighing and recording of sample weights may be carried out at the discretion of the Curator as a quality control measure. The sample weights may be recorded on the Sample Examination Record. The Support Staff may weigh the sample and container individually or together. The containers of samples will then be placed on examination tables. Core samples may be compared to photographs prior to examination as an additional quality control activity.

5.5.2 The SMF staff will be on hand to work with the Examiners during specimen selection. After each specimen has been selected, measured, and marked, the SMF staff member assisting the Examiner will make a listing of the specimen request information. When all the specimens from a particular borehole have been selected, the list will be sent to the SOC Chairman and each SOC representative for review and evaluation of the specimen request.

5.5.3 Upon completion of viewing by the Examiner, the SMF Geotechnician may again compare core samples viewed to the core photographs and reweigh the core boxes to determine if the core is the same weight and in the same visual condition as when it was released for examination. If there are no discrepancies, the SMF Geotechnician will then complete the Sample Examination Record and initial this action. Any weight discrepancy in excess of the precision of the scale used will be investigated and accounted for. The SMF Geotechnician will sign the form and submit it to the TS Assistant for verification. *The TS Assistant will review the form, and sign and date it when satisfied that the information is correct.* (+)

5.6 Examination of Unqualified Samples

A Requester may want to examine unqualified samples at the SMF. In addition to the Sample

Examination Request, a Requester shall submit a completed Unqualified Samples Examination Agreement (Figure 3) prior to examination of existing samples. Sample weighing and recording of sample weights will be conducted as described in Section *5.5.1.* (#) Sample containers will then be placed on examination tables, and the seals will be broken if the core has not been previously examined. **- -Correction of typographical error.**

5.7 Reshelving of Samples

The Support Staff will reseal all containers with filament tape, remove them from the examination room, and replace them in the appropriate storage location. *using the...* (-)

5.8 Identification and Resolution of Discrepancies

A discrepancy exists when there is incorrect information that significantly affects documentation or notation that is beyond the scope of the immediate activity or form being completed. Any discrepancies shall be resolved upon discovery by crossing through the error, correcting it in the original document, and initialing and dating the correction. If the correction is not self-explanatory, the individual shall assign a number to the correction and attach a sheet to the original record that fully describes the correction performed. Discrepancies discovered after an activity or form has been completed will be handled according to the procedure outlined in Quality Management Procedure (QMP) QMP-17-01 Section 5.7.

5.9 Nonconformance Reporting

A nonconformance exists when there is a deficiency in characteristic, documentation, or procedure that renders the quality of an item or activity unacceptable or indeterminate. The intent of nonconformance reporting is to assure the resolution of the conditions not meeting the requirements or to assure that undefined conditions are defined. If there are any nonconformances to this procedure noted during or after associated activities, SMD staff members shall report them to the Project Quality Manager or another individual in the Project Office QA organization. Segregation of a nonconforming item or termination of a nonconforming activity will be done according to Quality Management Procedure (QMP) QMP-15-01.

6.0 REFERENCES

AP-5.9Q, Requalification of Existing Yucca Mountain Project Data.

QMP-17-01, Records Management: Record Source Implementation

BTP-SMF-003, Verification of Field Logging and Documentation of Core and Cuttings.

QMP-15-01, Rev. 1, Control of Nonconformances.

7.0 FIGURES

Figure 1 - Sample Examination Request.
Figure 2 - Sample Examination Record.
Figure 3 - Unqualified Samples Examination Agreement.

8.0 QA RECORDS

The SMF Administrative Assistant shall ensure that the following QA records resulting from

implementation of this procedure are turned over to the T&MSS LRC within 10 business days. Copies of these QA records will be retained by the SMF and stored at the SMF Documents Center.

1. Sample Examination Request.
2. Sample Examination Record.
3. Unqualified Samples Examination Agreement.