START 9613390.2239 0042764

14/2

RELEASE INSTRUCTIONS (RI)

DOCUMENT NO.: WHC-CM-7-7

PAGE 1 OF 1

TO: DEBRA A ISOM
H6-08

0176

TITLE: Environmental Investigations and Site Characterization Manual

RELEASE NO.: 101

DATE PREPARED: January 2, 1996

I have entered this release into the document per instructions.

Debra A. Isom 1/8/96
Signature Date

If you have any questions about this release contact:

Jean Feaster
Phone: 372-2340

INSTRUCTIONS

1. REMOVE AND/OR INSERT INDICATED SECTIONS INTO DOCUMENT AS SHOWN BELOW.
2. UPDATE THE RELEASE RECORD AT THE FRONT OF THE DOCUMENT.
3. SIGN THIS FORM AND RETURN IT TO UNCLASSIFIED DOCUMENT CONTROL WITHIN 5 WORKING DAYS.

SECTION NO. AND TITLE(S)	REMOVE			INSERT		
	PAGES	REV	DATE	PAGES	REV	DATE
Table of Contents	1 - 4	100	12/19/95	1 - 4	101	01/09/96
EII 5.7A, Hanford Geotechnical Sample Control	1 - 12	4	01/31/94	1 - 9	4, Chg 1	01/09/96

IMPLEMENTATION NOTICE

(ROUTE A COPY OF THE IMPLEMENTATION NOTICE TO ALL USERS OF THIS COPY OF THE MANUAL)

EII 5.7A, Hanford Geotechnical Sample Control, Rev 4, Change 1:

- Procedure reformatted to current controlled manual (CM) standards.
- Procedure revised to account for the 200E pipeyard storage area and organizational name changes.

Impact: This version reflects current operating practices.

RETURN TO

POSTAL MAIL:
Westinghouse Hanford Co.
P.O. Box 1970/A3-95
Richland, WA 99352

PLANT MAIL:
UNCLASSIFIED DOCUMENT CONTROL
A3-95
376-6831

A-6001-683 (10/95) GEF307

PLEASE DO NOT STAPLE OR TAPE

A3-95

9613390.2240

Table of Contents

9613390.2241

9613390.2242

9613390.2243

ICA = INSTRUCTION CHANGE AUTHORIZATION, (P) = PERMANENT (BLUE SHEET), (T) = ONE TIME (GOLDENROD SHEET)

9613390.2244

1.0 PURPOSE

This Environmental Investigations Instruction (EII) establishes controls for the receipt, storage, and removal of geotechnical samples within the Hanford Geotechnical Sample Library (HGSL). The HGSL consists of two facilities, one at the 2101M Building (referred to as 2101M) and one at *200-E, Hanford Technical Service's (HTS) Pipeyard.*

2.0 SCOPE

This EII applies to all nonhazardous and nonradioactive geotechnical samples collected in support of siting, construction, environmental, and/or waste management activities.

3.0 REQUIREMENTS

3.1 Security

Access to the 2101M facility and *HTS* Pipeyard is controlled by the file custodian. A sign-in book will be kept at each facility to record visitors' name, company, time in and out, date of visit, and reason for visit.

3.2 Safety

1. Personnel lifting core boxes or heavy sample containers (or any other heavy and/or unwieldy object) at the HGSL must wear protective toe shoes/boots.

2. Individuals performing sampling in the HGSL must wear safety glasses.

3. Personnel handling sample containers at the HGSL must check the integrity of each sample container and box of sample containers before lifting.

4. Two people are required for lifting sample containers that exceed 40 lbs.

3.3 Sample Control

1. Geotechnical samples shall be afforded archival controls and protection for the period during which additional examination or analysis by *Hanford Site contractors,* the U.S. Department of Energy (DOE), or authorized regulatory agencies (e.g., Nuclear Regulatory Commission [NRC], U.S. Environmental Protection Agency [EPA]) may be needed. Sample shelf lives and the disposition of destroyed or substantially changed samples are to be determined by cognizant technical personnel on a sample-by-sample basis in accordance with applicable work plans and procedures. No sample stored in the HGSL can be disposed of without written approval from the *HTS Manager or designee.*

9613390.2245

2. The database is maintained current by the File Custodian to reflect any conditions or changes in characteristics or documentation for the geotechnical samples while in storage. Examples of conditions or changes to be reflected in the database include contamination of the sample or incorrect or inadequate documentation to the extent that the sample or data may not be useable for the intended purpose.

3. Individuals/organizations removing specimens shall ensure the return of subspecimens.

4. If any chemicals or other hazardous materials were added to the sample during testing, the testing organization shall dispose of the subspecimen.

3.4 Recording Entries

1. Every time a written entry (e.g., on a record form or specimen container) is required, personnel shall write legibly using permanent black ink.

4.0 PROCEDURE

4.1 Submitting Samples to the HGSL

Individuals/orgs collecting samples

1. Select, collect, identify, handle, package, store, and transport samples in accordance with applicable test documents, work plans and procedures.

2. Perform and document all sampling activities in accordance with applicable procedures.

3. Document all analyses performed on samples before submittal in the comments column of the Geotechnical Sample Transfer Record. Use the continuation page to list additional samples.

4. Do not transport water samples to the HGSL and ensure that the sample jars contain less than 1/4 inch standing water.

9613390.2246

5. Ensure that a radiation survey is performed on each sample container before submittal to HGSL and that the Health Physics Release block has been completed. The *Radiation Control Technician (RCT)* has the option of either signing, dating and entering the Radiological Survey Report number on the Geotechnical Sample Transfer Record or entering the Radiological Survey Report number and attaching a copy of the Radiological Survey Report.

   NOTE: The Radiological Survey Report is required unless prior written exemption has been granted by the Occupational Health and Safety (OHS) organization.

6. Mark or label the sample container with the Sample Container Label to identify their contents. To maintain traceability, all sample container lids will also be labeled with the following as a minimum:

   a. Sample identification number
   b. Printed initials of collector
   c. Date of collection
   d. Sample number.

7. Prepare and sign appropriate portions of the Geotechnical Sample Transfer Record.

8. Transport or schedule transport of samples to the HGSL and notify the File Custodian, whenever possible, 24 hours before each delivery.

4.2 Sample Receipt

File Custodian

1. Verify that the RCT Release block has been completed in accordance with Section 4.1, item 5.

   NOTE: The Radiological Survey Report is required unless prior written exemption has been granted by the OHS organization.

   a. If the Health Physics Release block has not been completed and no exemption is in effect, do not pick up or accept the samples and inform the geologist or point of contact immediately for action.

   b. If the block is complete, the File Custodian may pick up samples from lock boxes at each site and transport to the HGSL.

2. Sign and date the "Received By" block on the Geotechnical Sample Transfer Record verifying the following:

   a. All samples specified on the Geotechnical Sample Transfer Record have been received.

9613390.2247

b. The "Initiated By" block on the Geotechnical Sample Transfer Record has been signed and dated by the geologist submitting the samples.

c. The Geotechnical Sample Transfer Record is legible, accurate, and complete.

3. Verify that all sample containers are marked or labeled with the Sample Container Label to identify their contents. To maintain traceability, all sample container lids will also be labeled with the following as a minimum:

   a. Sample identification number
   b. Printed name of collector
   c. Date of collection
   d. Sample number.

4. Do not accept any sample container not properly marked. Contact the geologist who submitted the sample, obtain the missing information, add that information to the label on the sample container and on the lid, then initial and date all added information.

4.3 Storing Samples

File Custodian

1. Place the samples and/or their storage containers in a permanent storage location within the HGSL.

2. *Place the core samples in the designated area at the 200 East Pipeyard. Place the samples on a cement pad and cover with plywood to provide protection from the weather.*

3. Enter the storage location of the samples, specimens, and/or subspecimens and any other pertinent information into the computerized data retrieval system.

4. Provide annual database reports of core/sediment sampling activity to the Manager, Well Services.

5. Should an event occur in the HGSL that could adversely impact sample analysis results (e.g., dropping and mixing of sample contents), notify the Manager of *Well Services* in writing and update the database to reflect current sample conditions.

4.4 Sampling and Controlling Geotechnical Samples

4.4.1 Initiation of sampling at HGSL

Sampling Personnel

1. Inspect geotechnical samples in a manner that does not alter the physical or chemical properties/integrity of the sample. If examination requires that a sam ple be removed from its container, the sample must be replaced in the same orientation as removed. No special equipment is necessary to examine samples, specimens, or subspecimens.

2. Before removing any specimens, obtain approval from the Manager, *Well Services* or designated individual, on a Geotechnical Sampling Record.

3. Notify the File Custodian of the intent to examine samples, specimens, or subspecimens; establish a time to obtain specimens or subspecimens at the HGSL.

4. Complete the Geotechnical Sampling Record, verifying/documenting the selection, removal, and identification of specimens from the HGSL.

5. Ensure that subspecimens are returned to the HGSL following analysis if there is any material remaining after analysis (using the Geotechnical Sample Transfer Record). If any chemicals or other hazardous materials were added to the sam ple during the testing, the testing organization disposes of the subspecimen.

6. Ensure that data resulting from the analysis of a specimen is traceable to the sample/specimen from which it was obtained.

7. Complete the following portions of the Geotechnical Sampling Record:

   - Type of Geotechnical Specimen. If more than one type of geotechnical specimen is removed, enter the specimen types in each block of the "Comments" column.

8. Submit the completed Geotechnical Sampling Record to the File Custodian.

File Custodian

9. Assign a consecutive notebook number to the Geotechnical Sampling Record, sign and date in the HGSL Release Block.

4.4.2 Sampling core

Sampling Personnel

1. As the specimens are being removed, record the following information on the Geotechnical Sampling Record:

   a. Record the designation of the borehole from which the specimens are derived in the "Borehole Designation/Sample No." column.

b. Record the number of the core box containing the interval approved for sampling in the "Box No." column.

c. Record the beginning and ending footage of the specimen interval in the "Specimen Interval" column. Obtain beginning and ending footage of all specimen intervals by measuring the distance from the previous core box block (+ 0.1 foot) used to identify the beginning of a drill run. If footage stickers have been applied previously to the core, they are used to obtain sampling interval footage.

d. Enter N/A (Not Applicable) in the "Quantity Removed" column.

e. Enter the type(s) of test(s) to be performed on the specimen in the "Test Type" and/or comments column.

2. Assign a unique identification number to each specimen that is traceable to the original sample. (Example: In the identification number DH4-3325-X, DH4-3325 is the original sample number, and "X" is the number assigned to the specimen.) Give sequential numbers to subsequent specimens for that sample. Write this number on the specimen and/or the shipping container (e.g., sample bag) and record on the Geotechnical Sampling Record in the "Borehole Designation/Sample No." column.

3. Replace the specimens from the core boxes with cardboard tube or other spacers cut to the approximate length of the specimen. Record the following information on the spacer:

   a. Beginning and ending footage of the specimen interval.

   b. The unique sample number assigned by the sampler.

   c. The sampler's initials.

   d. The date the sampling was performed.

4. Mark the appropriate core photographic overlays, if available, to show which pieces or sections of core are removed. Use brackets to indicate sampled intervals, with an "S" for sample.

   NOTE: The core photographs are of cores from the BWIP. This part of the instruction may be omitted for cores without photographs.

5. Establish and mark archival samples on the core photos.

NOTE: **The archival interval is a split of the core removed. This split should be a vertical section of the core (not just an end or partial section); however, certain tests may require a full core. If a vertical split is inappropriate, a section of the core adjace nt to the specimen shall be substituted. The archival core section is to be marked with permanent ink using an "A" and is not to be removed from the core box at any future date. The archival interval shall be marked on the core photographs as an "A" with brackets showing the archival interval. A specimen of the archival sample may be taken upon written permission from the Manager, *Well Services* or designated individual. In that event, a copy of the letter shall be attached to the sampling record, and an alternate archival interval shall be chosen.**

4.4.3 Sampling drill cuttings

Sampling Personnel

1. As each specimen is being removed, record the following information on a Geotechnical Sampling Record:

   a. Record the designation of the borehole from which the specimen was derived in the "Borehole Designation/Sample No." column.

   b. Enter N/A (Not Applicable) in the "Box No." column.

   c. Record the beginning and ending footage of the specimen interval (as read from the container from which the specimens were removed) in the "Specimen Interval" column.

   d. Enter the type(s) of test(s) to be performed on the specimen in the "Test Type" and/or comments column.

2. Assign a unique identification number to each specimen that is traceable to the original sample. (Example: In the identification number DH4-3325-X, DH4-3325 is the original sample number, and "X" is the number assigned to the specimen.) Give sequential numbers to subsequent specimens for that sample. Write this number on the specimen container.

3. Keep a portion of the drill cuttings (at least one-half of the original sample) in the container for archival purposes.

4.4.4 Sampling grab samples/subspecimens

Sampling Personnel

1. As each specimen is being removed, record the following information for each specimen on the Geotechnical Sampling Record:

9613390.2251

a. Record the grab sample number in the "Borehole Designation/Sample No." column.

b. Enter N/A (Not Applicable) in the "Box Number" and "Specimen Interval" column.

c. Enter the type(s) of test(s) to be performed on the specimen in the "Test Type" and/or comments column.

d. Enter the project number or title that the specimen was taken for in the comment column.

2. Assign a unique identification number to each specimen that is traceable to the original grab sample. (Example: In identification number SR891-X, SR891 is the original grab sample number, and "X" is the number assigned to the specimen.) Give sequential numbers to subsequent specimens for that sample. Write this number on the specimen and/or the shipping container.

3. Replace the specimen in the container from which it was removed; record the following information:

a. Specimen number.

b. Number of the Geotechnical Sampling Record used to document removal of the specimen.

4.4.5 Completion of sampling

Before removing specimens from the HGSL, perform the following:

Sampling Personnel

1. Sign and date the "Sampled By" block on the Geotechnical Sampling Record.

File Custodian

2. Sign and date the "Authorized By" block on the Geotechnical Sampling Record and verify the following:

a. That intervals/amounts of samples removed as specimens were identified on the Geotechnical Sampling Record in the containers from which they were removed.

b. That specimens and/or their shipping containers were identified.

c. That the Geotechnical Sampling Record is legible and complete.

9613590.2252

5.0 RECORDS

Record processing and disposition is in accordance with the following table.

Name, File Unit Title or Description	Record Type*	Retention Period	Disposal Authority	Cut-off and Retirement Instructions
Database file and other relevant information	R	TBD	GRS 23.3	Delete information in databases when no longer needed.
Geotechnical Sample Transfer and Sampling forms	R	TBD	TBD	May be destroyed when data entry and verification are complete and shall be reviewed annually in accordance with approved RIDS.
Core photographs	R	TBD	TBD	Stored in a locked cabinet.
Visitor sign-in book/sheets	N/R	Nonrecord	Nonrecord	Destroy when no longer useful.

* R = Record N/R = Nonrecord TBD = To be determined

6.0 DESIGNATED REVIEWING ORGANIZATION

The organization designated to review changes to this document is Hanford Technical Services, the process owner. Comments from other organizations are welcome, however, such comments are dispositioned at the option of the HTS organization.

7.0 FORMS

Geotechnical Sample Transfer Record (BC-6000-291)

Geotechnical Sample Transfer Record Continuation Page (BC-6000-286)

Geotechnical Sampling Record (BC-6000-284)

Geotechnical Sampling Record Continuation Page (BC-6000-285)

Sample Container Label (BL-6000-610)

8.0 REFERENCES

Not applicable.