Use of Sample Storage Units

Tank Farm Plant Operating Procedure

Sampling

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Use of Sample Storage Units

1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for maintaining and operating temperature-controlled sample storage units (SSUs). These units are used to store samples within certain temperature parameters. The criteria established include: frequency of monitoring, certification of monitoring equipment, and proper logging of data/information.

1.2 Scope

This procedure applies only to SSUs used to store samples. The SSUs will be used to store samples for the Tank Farm Vadose Zone and Multi-Media Sampling Projects. The data gathered through monitoring will be used to ensure quality assurance/quality control (QA/QC) of the samples stored in these units by providing constant monitoring and periodic reporting of temperature conditions. This will be achieved through calibrated monitoring instruments and documentation of any deviations from normal operating parameters.

A work area and/or location specific hazard analysis must be performed in the event of a spill or breakage of samples per TFC-ESHQ-S_SAF-C-02.

2.0 INFORMATION

2.1 Terms and Definitions

- COC – Chain of Custody
- RMA - Radioactive Material Area
- RSR - Radiological Survey Report
- SSU – Sample Storage Unit.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 Job-specific protective equipment requirements should be addressed during the pre-job brief and be in accordance with TFC-ESHQ-S_IS-C-02.

3.2 Environmental

3.2.1 All SSUs shall be locked or maintained inside an area that is considered to be under the custody of the samplers.

3.2.2 Environmental samples shall be stored in a manner that maintains sample Chain of Custody (COC) in accordance with TFC-OPS-WM-C-22.

3.2.3 The SSU may be segregated to contain different categories of environmental samples (e.g., radioactive, hazardous, etc.).

3.2.4 Storage areas shall be dedicated to samples only.

3.2.5 Sample storage units will be monitored when sampling occurs or when samples are stored in unit(s) during normal work days (Monday through Thursday, excluding holidays).
3.3 Radiation and Contamination Control

3.3.1 Radiological surveys performed in support of this work shall be documented on Radiological Survey Report(s) (RSR).

3.3.2 When performed without a work package, this procedure is limited to radiological areas and work activities permitted by a radiological work permit.

3.3.3 When work is performed in, or when work will result in, a high contamination, high radiation, or an airborne radioactivity area, an approved work package must be developed which is reviewed by Radiological Control per ALARA Work Planning procedure TFC-ESHQ-RP_RWP-C-03.

3.3.3.1 RSRs shall be documented on the Radiological Survey Report Tracking Table (Site Form A-6006-444) associated with the work package.

3.3.4 Entry/access to a radiological location of the storage unit shall be limited to ensure radiological control of the unit is maintained.

3.3.5 All employees shall comply with any posted access requirements.

3.3.6 All postings shall be attached to the front access of the storage unit as a minimum to ensure worker safety.

3.3.7 Contamination surveys (minimum) shall be performed to verify sample/package integrity.
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

The following supplies may be needed to perform this procedure:

- Calibrated thermometer capable of accurate readings within a specified range (e.g., 0 °C to 6 °C)
- Calibrated Backup Thermometers
- SSU logbook
- SSU (e.g., refrigerator)
- Other tools, equipment and supplies as identified by Shift Manager/OE/FWS/User.

4.2 Performance Documents

The following documents may be needed to perform this procedure:

- TFC-OPS-WM-C-22, Chain of Custody for Tank Farm Vadose and Multi-Media Sampling
- TFC-OPS-OPER-C-17, Operating Logbooks.
4.3 Field Preparations

4.3.1 IF radioactive material is to be stored, CONTACT Radiological Control Organization to establish a Radioactive Material Area (RMA).

4.3.2 IF sample(s) to be stored requires refrigeration at 0°C to 6°C CHECK the following:
- A temperature monitoring device (with current calibration) is present in the SSU to verify the temperature is maintained at 0°C to 6°C
- SSU is capable of maintaining 0°C to 6°C.

4.3.3 IF sample(s) to be stored requires refrigeration/freezing at -7°C to -20°C CHECK the following:
- A temperature monitoring device (with current calibration) is present in the SSU to verify the temperature is maintained at -7°C to -20°C
- SSU is capable of maintaining -7°C to -20°C.

4.3.4 CHECK each SSU is equipped with the following:
- Its own temperature monitoring device of accurate recording within a specified range (e.g., 0°C to 6°C, -7°C to -20°C) for tracking temperature readings over time
- Its own controlled logbook for recording samples stored in the unit, temperature, anomalies, and other QA data as may be required.
5.0 PROCEDURE

5.1 Storing Samples

5.1.1 PRIOR to opening SSU, CHECK SSU is custody-locked or behind a custody-locked door or gate.

5.1.1.1 IF SSU is not locked, REPORT incident to FWS.

5.1.2 TAKE AND RECORD temperature readings once daily in SSU logbook (normal working days only).

5.1.3 CHECK temperature monitoring device to verify temperature did not deviate outside the acceptable MIN/MAX range during the time since the temperature was last verified.

5.1.4 IF current SSU temperature readings are, or temperature chart records indicate temperature was, outside acceptable MIN/MAX range during the time since temperature was last verified, PERFORM the following:

5.1.4.1 PROMPTLY NOTIFY FWS.

5.1.4.2 TAKE all necessary steps to maintain target temperature for samples, including ice packing.

5.1.4.3 RECORD anomaly and all adjustments/repairs deemed necessary to bring SSU back to a conforming condition in SSU logbook.

5.1.4.4 RECORD time and date of discovery of anomaly in SSU logbook.

5.1.4.5 AS they occur, RECORD completion of all necessary actions in SSU logbook.
5.1 Storing Samples (Cont.)

5.1.5 CHECK samples are properly segregated (e.g., radioactive materials, hazardous materials, non-refrigerated samples, etc.)

5.1.6 SIGN AND DATE all SSU logbook entries.

5.1.7 RECORD the following information in SSU logbook maintained with the storage unit, or within the custody-locked area:

- Sample number and/or chain of custody number, one per logbook line
- Number of bottles included in sample set
- Radiation readings or radiological exemption
- Temperature readings from thermometer inside unit and thermometer calibration date
- Date samples are placed in the unit
- Name of person storing samples.

NOTE - Date and time that the sample is relinquished by being placed in SSU and date and time that the sample is received, are the same.

5.1.8 RELINQUISH custody of sample into SSU by performing the following:

5.1.8.1 RECORD the following in the “Relinquished By” block on the COC:

- Printed name of person placing sample in SSU
- Signature of person placing sample in SSU
- Date and Time sample was relinquished by being placed in SSU.

5.1.8.2 RECORD the following in the “Received By” block on the COC:

- SSU identification # or location
- Date and time sample was placed in SSU.

5.1.9 CONFIRM original COC remains with samples.

5.1.10 UPON exiting, LOCK SSU or custody-area (access paths to SSU).
5.2 Removing Samples from the Sample Storage Unit

5.2.1 PRIOR to opening SSU, CHECK SSU is custody locked or behind a custody-locked door or gate.

5.2.1.1 IF SSU is not locked, REPORT incident to FWS.

5.2.2 SIGN AND DATE all SSU logbook entries as they are entered into the logbook.

5.2.3 TAKE AND RECORD SSU temperature readings once daily, in logbook (normal working days only).

5.2.4 CHECK temperature monitoring device to verify temperature did not deviate outside the acceptable MIN/MAX range during the time since the temperature was last verified.

5.2.5 IF current SSU temperature readings are, or temperature chart records indicate temperature was, outside acceptable MIN/MAX range during the time since temperature was last verified, PERFORM the following:

5.2.5.1 PROMPTLY NOTIFY FWS.

5.2.5.2 TAKE all necessary steps to maintain target temperature for samples, including ice packing.

5.2.5.3 RECORD anomaly and all adjustments/repairs deemed necessary to bring SSU back to a conforming condition in SSU logbook.

5.2.5.4 RECORD time and date of discovery of anomaly in SSU logbook.

5.2.5.5 AS they occur, RECORD completion of all necessary actions in SSU logbook.
5.2 Removing Samples from the Sample Storage Unit (Cont.)

5.2.6 REMOVE samples from SSU.

5.2.7 RECORD the following information in SSU logbook maintained with the storage unit, or within the custody-locked area:
   • Date samples were removed from the storage unit
   • Initials of the person removing the samples
   • Temperature of the unit and thermometer calibration date.

5.2.8 SIGN AND DATE all SSU logbook entries as they are entered into the logbook.

NOTE - Date and time that the sample is removed from SSU and date and time that the sample is received, are the same.

5.2.9 TAKE custody of the sample by performing the following:

5.2.9.1 RECORD the following in the “Relinquished By” block on the COC:
   • Storage Location of sample
   • Date and Time sample was removed from SSU.

5.2.9.2 RECORD the following in the “Received By” block on the COC:
   • Date and time sample was received into custody
   • Printed name of person receiving sample from SSU
   • Signature of person receiving sample from SSU.

5.2.10 UPON exiting, LOCK SSU or custody-area (access paths to SSU).
5.3 Records

No documents are generated during the performance of this procedure.

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.