



**STANDARD OPERATING PROCEDURE FOR:  
FIELD DOCUMENTATION**

TVA-KIF-SOP-06

Prepared by  
Environmental Standards, Inc.  
for  
Tennessee Valley Authority  
Office of Environment and Research  
Environmental Resources and Services

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## **1.0 PURPOSE**

This standard operation procedure (SOP) describes the requirements associated with documenting Kingston Fossil Plant (KIF) field investigation and remediation activities. The procedures described in this SOP are applicable to field logbooks, sample labels, and chain-of-custody documentation.

## **2.0 GENERAL CONSIDERATIONS**

Proper documentation of field activities is a crucial part of the field investigation and remediation process. Documentation must be maintained to trace the possession and handling of samples from the time of collection through submittal to the laboratory, to allow sampling locations to be located in the future, to record sampling methods and equipment, and to identify field personnel responsibilities (among other important information). Field documentation procedures are important both from both a technical and a legal perspective.

In addition, this procedure further describes the actions and protocols for field data entry into the field logbooks. These protocols are not typically discussed in recent regulatory guidance concerning field investigation activities because they were addressed in detail during early policy development periods of the environmental industry. Some examples of the early U.S. Environmental Protection Agency (EPA) publications that address field documentation are listed below.

- A Compendium of Superfund Field Operations Methods
- Compliance-Focused Environmental Management System - Enforcement Agreement Guidance
- Contract Laboratory Program Guidance for Field Samplers
- Guidance for Conducting Remedial Investigations and Feasibility Studies Under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Guidance for Performing Preliminary Assessments Under CERCLA
- Guidance for Performing Site Inspections Under CERCLA
- Logbook Operating Procedure

The complete references for these documents are provided in Section 4.0 of this SOP.

### 3.0 PROCEDURES

The following sections describe the procedures for field documentation. In the event these procedures cannot be performed as written in this SOP, field personnel must contact the immediate supervisor to get approval for the deviation to the procedure prior to conducting field activities.

#### 3.1 Field Logbook

Each field crew conducting sampling activities shall maintain a field logbook to document the activities conducted by the field crew every day that field work is conducted. At a minimum, the following information shall be recorded in the field logbook:

- Name and location of the site,
- Date(s) of sample collection or event,
- Name and affiliation of the Field Team Leader,
- Names of field team members and responsibilities,
- Daily time of arrival to the site,
- Daily weather conditions,
- Pertinent field observations,
- Daily summary of equipment preparation procedures, if appropriate,
- Time of sample collection,
- Numbers and types of samples collected and sample identification numbers,
- A description of sampling methodology by reference to the project control documents (such as TVA's Field Sampling Plan, Quality Assurance Project Plan, and SOPs),
- Specific sampling characteristics (such as depth, temperature, turbidity, etc.) as outlined in specific work control documents,
- Physical description and sketch of the sample collection location(s),
- Provide a reference to Global Positioning System (GPS) data collected, if applicable,
- Record of daily phone calls and/or contact with individuals at the site, and
- Management or disposal of investigation-derived wastes.

Key procedures of field documentation described in the reference documents (see Section 4.0) and other pertinent documents are provided below.

- a. Ensure logbooks are bound.
- b. Consecutively number each page of the logbook.
- c. Make entries into the logbook chronological so that a time notation introduces each entry.

- d. Use only indelible ink for logbook entries.
- e. Record data directly and legibly in the field logbook.
- f. Line out errors in the logbook (a single line strike-through) and initial and date the correction.
- g. Avoid leaving any blank line(s) between logbook entries. Cross out any blank spaces that exist with a single line and initial and date the cross out.
- h. Sign and date each page of the logbook (field team member responsible for keeping the logbook).

Field documentation is a crucial element of field activities and, therefore, field crew members shall strictly adhere to logbook entry protocol. Field logbook entries shall include the information requested in the project control documents and shall be recorded in a manner consistent with this procedure.

### **3.2 Sample Labels**

Sample labels should include the unique sample ID and sample location, parameter sampled, date and time sampled, sampler's initials, preservative, and site name or location. Sample containers must be pre-labeled with as much of this information as possible before departing for the field. Any remaining information (such as sample time) should be filled out immediately prior to sample collection. Once the labels are completely filled out, cover the labels with clear tape (prior to sample collection).

When completing sample labels, field personnel should employ the applicable field documentation techniques described previously for field logbooks.

### **3.3 Chain-of-Custody Documentation**

The Chain-of-Custody (COC) form is intended to be a legal record of possession of samples for laboratory analysis. The COC will be created during pre-job preparations using the Sample Planning Module (SPM) of Equis®. The COC will be provided to the field sampling personnel prior to sampling activities and should accompany the sample bottles through transport to the field site. The COC should be completed by the field sampling personnel at the time of sample collection and should bear the name of the person responsible for the secure and appropriate handling of the samples.

The Field Team Leader should maintain the COC during sample collection activities. The following is the minimum information required for COC documentation:

- Name and location of the site,
- Name and affiliation of samplers,

- Sample identification number,
- Date and time of sample collection,
- Matrix and type of sample collected (such as grab or composite),
- Number of containers per sample,
- Preservatives and fixatives,
- Parameters to be analyzed,
- Identification of couriers, and
- Identification of laboratory.

When completing COCs, field personnel shall employ the applicable field documentation techniques described previously for field logbooks. Blank spaces should be lined through unless it is obvious from the nature of the form that they may be left blank or are intended to be utilized during a subsequent step of the shipping and receiving process.

### **3.4 Field Records Management**

Records associated with field sampling must be managed in accordance with TVA document GLP-0002 *Records Management*.

In addition to the original COC that accompanies each sample shipment, a copy of each COC must be provided to Project Files. A working copy of the COC shall be retained in working files in the field sampling work area for reference. The Field Sampling Manager will maintain a list of people requiring courtesy copies of the COC. Courtesy copies may be distributed by either hard copy (mail) or electronic copy (email) and shall be distributed the next working day after sample collection.

The receiving laboratory may provide a completed copy of the COC as part of data deliverables or as part of routine sample receipt notification (usually by email). A copy released as part of data deliverables will become part of Project Files. Any electronic copy may be printed and retained as a working copy in the field sampling work area for reference (such as a cross-reference to the laboratory identifier).

Field logbooks shall have a unique identifier and shall have pre-numbered pages. Logbooks that are carried into the field shall have completed pages copied to Project Files on at least a weekly basis so that loss or accidental destruction in the field will involve a minimum of lost data. The copies shall be reviewed to ensure they are entirely legible. Filled logbooks, once completely duplicated to Project Files, may be retained in the field sampling work area for reference. The copy in Project Files becomes the primary record, and the filled logbook becomes a working copy. At the end of the project, the field logbooks shall also be filed in Project Files.

#### 4.0 REFERENCES

- Tennessee Valley Authority (TVA). *Field Sampling Plan (FSP)*, 2009.
- TVA. *Quality Assurance Project Plan (QAPP)*, TVA, 2009.
- TVA. *Records Management*, TVA GLP-0002.
- U.S. EPA. *A Compendium of Superfund Field Operations Methods*. Office of Solid Waste and Emergency Response. Directive 9355.0-14, 1987. <http://www.hanford.gov/dqo/project/level5/Sfcompnd.pdf>.
- U.S. EPA. *Compliance-Focused Environmental Management System - Enforcement Agreement Guidance*. National Enforcement Investigations Center. EPA-330/9-97-002R, 2005. [http://www.epa.gov/oecaerth/resources/policies/neic/cfems\\_05.pdf](http://www.epa.gov/oecaerth/resources/policies/neic/cfems_05.pdf).
- U.S. EPA. *Contract Laboratory Program Guidance for Field Samplers*. Office of Superfund Remediation and Technology Innovation. OSWER 9240.0-44, EPA 540-R-17-06, July 2007: [http://www.epa.gov/superfund/programs/clp/download/sampler/clp\\_sampler\\_guidance.pdf](http://www.epa.gov/superfund/programs/clp/download/sampler/clp_sampler_guidance.pdf).
- U.S. EPA. *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*. Office of Solid Waste and Emergency Response. Directive 9355.3-01, 1988. <http://www.epa.gov/superfund/policy/remedy/pdfs/540g-89004-s.pdf>.
- U.S. EPA. *Guidance for Performing Preliminary Assessments Under CERCLA*. Office of Solid Waste and Emergency Response. Directive 9345.0-01A, 1991. <http://www.epa.gov/superfund/sites/npl/hrsres/#PA%20Guidance>.
- U.S. EPA. *Guidance for Performing Site Inspections Under CERCLA*. Office of Solid Waste and Emergency Response. Directive 9345.1-05, 1991. <http://www.epa.gov/superfund/sites/npl/hrsres/#PA%20Guidance>.
- U.S. EPA. Region 4, *Logbook Operating Procedure*. Document # SESDPROC-010-R3, November 2007.

**End of Procedure**