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CP4-ES-2700 **Rev. 0**	**TITLE:** Logbooks and Data Forms	Page 1 of 14
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TABLE OF CONTENTS

1.0 PURPOSE AND SCOPE 3
1.1 Purpose 3
1.2 Scope 3
2.0 REFERENCES 3
2.1 Use References 3
2.2 Source References 3
3.0 COMMITMENTS 3
4.0 PRECAUTIONS AND LIMITATIONS 3
4.1 Precautions 3
4.2 Limitations 4
5.0 PREREQUISITES 4
6.0 INSTRUCTIONS 4
6.1 Data Form Development 4
6.2 Data Form Storage and Control 6
6.3 Logbook Development 6
6.4 Logbook Entry Requirements 7
6.5 Logbook Storage and Control 9
6.6 Data Form and Logbook Reviews 10
7.0 ACCEPTANCE CRITERIA 10
8.0 POST PERFORMANCE WORK ACTIVITIES 10
9.0 RECORDS 11
9.1 Records Generated 11
9.2 Records Disposition 11
Appendix A – Acronyms/Definitions 12
Appendix B – PEMS Generated Sample Data Form 13
Appendix C - Example of Completed Logbook Pages 14

1.0 PURPOSE AND SCOPE

1.1 Purpose

The purpose of this procedure is to establish requirements for content and control of data forms and logbooks and to provide guidelines for accurate and complete documentation of environmental monitoring activities.

1.2 Scope

The requirements of this procedure apply to work performed for Fluor Federal Services, Inc. Paducah Deactivation Project (FPDP) employees and its subcontractors at the Department of Energy Paducah Site.

These requirements apply to all data forms that document data or other pertinent information related to, sample collection, field measurements, and data assessment checklists and logbooks that document an activity (e.g., site, project, sampling, field laboratory, equipment calibration and maintenance).

Data forms that are used to record sample collection information are referred to as Sample Data Forms. The reference to data form requirements throughout this procedure will also include sample data forms.

The requirements in this procedure **DO NOT** apply to personal or communication logbooks. Chain-of-custody and sample labels that are specifically discussed in CP4-ES-2708, *Chain-of-Custody Forms, Field Sample Logs, Sample Labels, and Custody Seals*.

2.0 REFERENCES

2.1 Use References

- CP3-OP-0207, *Use of Procedures*
- CP3-OP-0208, *Required Reading/Crew Briefing*
- CP3-RD-0010, *Records Management Process*
- CP3-OP-0025, *Document Control Process*

2.2 Source References

U.S. Environmental Protection Agency, May 2013. Field Branches Quality System and Technical Procedures. Region 4, Science and Ecosystem Support Division, Athens GA.

3.0 COMMITMENTS

None

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Precautions

4.1.1 Sample data forms are **NOT** required to be placed in a logbook.

4.1.2 Sample data forms shall be managed in the same manner as a chain-of-custody.

4.1.3 Data forms will be developed under a controlled process, such as a work plan, procedure, or Paducah Project Environmental Measurements System (PEMS).

4.1.4 Logbooks and data forms are a part of the permanent project records.

4.1.5 All entries shall be factual, detailed, and objective.

4.1.6 All entries shall be legible and made using black indelible ink.

4.1.7 Void entry errors by drawing a single line through the entry; and initial and date the correction.

4.1.8 Insertions after the initial entry should be initialed and dated.

4.2 Limitations

4.2.1 **DO NOT** record notes elsewhere for recopying of the information into the logbook at a later time.

4.2.2 **DO NOT** use correction tape or white-out to obliterate incorrect entries.

4.2.3 **DO NOT** remove any pages for any reason.

4.2.4 **DO NOT** skip lines or leave blank spaces or pages between entries.

5.0 PREREQUISITES

5.1 Prior to performing any action steps identified in CP4-ES-2700, *Logbooks and Data Forms*, for the first time, review this document based upon its level of use in accordance with CP3-OP-0207, *Use of Procedures*.

5.2 Prior to performing any action steps identified in this procedure, complete any required applicable training identified by the Training Position Description (TPD) for the position in accordance with CP4-TR-0102, *Conduct of Training*, and CP3-OP-0208, *Required Reading/Crew Briefing*.

6.0 INSTRUCTIONS

6.1 Data Form Development

<u>Project Manager/Database Specialist/Scientist</u>

6.1.1 Identify data forms that are required to support planned activity or determine if logbooks are required for sampling per project work plans.

6.1.2 **If** the use of logbooks is required for sampling, **then** proceed to Section **6.3**.

6.1.3 Provide project specific requirements for sample data forms in a timely manner to the Sample Management Office (SMO) in order to provide adequate time for preparation, review and approval.

6.1.4 Include on sample data forms, or any form generated from PEMS, an identifier on the bottom left hand corner of the form referencing the database source from which the form was generated.

<u>Sample Management Office</u>

6.1.5 **If** there are no project specific requirements for sample data forms, **then** provide the requestor with the existing sample data forms for the required matrix.

6.1.6 Sample data forms, at a minimum, shall include the following information:

- Project Identification Number

- Sample Identification Number
- Sample Location
- Sample Type
- Required field measurements to be collected, if applicable

6.1.7 In the event that PEMS is **NOT** available for sample data form generation, utilize a blank form to record the required information.

6.1.8 **If** a blank sample data form is used, **then** record the information listed in Section **6.1.14** Appendix B, *Example of PEMS Generated Sample Data Form*

NOTE(s):

The use of correction tape or white-out is **NOT** permitted.

Any error on a data form entry should be corrected by the same person who made the original entry, whenever feasible.

Obliteration of incorrect entries, including correction tape or fluid, is **NOT** allowed.

6.1.9 Indicate any deletions or corrections by marking through the original material with a single line; then initial **and** date the change

6.1.10 Indicate any insertion by initialing and dating the insertion.

6.1.11 **If** any blank lines within the data entries on a form are **NOT** used, **then** write "N/A" (**NOT** applicable) in the blank line or empty space.

6.1.12 Identify each unused section by filling in the unused area with a "Z" line, initials, and date.

6.1.13 Include the date and signature of the person recording the information.

NOTE:

Items **A** thru **C** may be pre-printed on the sample data form generated from PEMS.

6.1.14 Record the following information during field activities:

A. Station identification number

B. Sample identification number

C. Physical description of sample

D. Date (Month/Day/Year) at the top of the form.

E. Names of personnel assigned to the task.

F. Field measurements, with appropriate units of measure, collected prior to sample collection.

G. Time of sample collection.

H. Decontamination activities (BOX to CHECK), specifying decontamination practices used.

6.1.15 Record the following information in the comment section as necessary to describe the activity.

- Observations of field and/or sampling conditions that may be beneficial to recreating field activities.
- Descriptions of any problems encountered and resolutions found.
- Names, affiliations, and times of all visitors or observers to the work site.
- Start and stop times (24 hour clock) of field activities. The time should be recorded frequently and at the point of events or measurements that are critical to the activity being logged.
- Any deviations or difficulties encountered in the field activities in sufficient detail to completely describe the activity.

6.1.16 **If** additional information is necessary for documentation purposes and no additional space is available on the sample data form, **then** record the additional information on a approved pre-generated comment sheet, along with the date, corresponding project number, sampling location, and sample identification, as applicable.

6.2 Data Form Storage and Control

Project Personnel

6.2.1 Store data forms in accordance with CP3-RD-0010, *Records Management Process*.

6.2.2 Confirm the form used is the most current form from the current controlled process, such as a work plan, procedure, or PEMS to maintain control of blank data forms.

6.3 Logbook Development

Project Personnel

6.3.1 Record the following information, as applicable, on the outside of the front cover of each logbook using indelible ink (paint pen.)

- Project name and number
- Unique logbook name and number
- Document control number
- Activity or site name
- Start date of the logbook
- Completion date of the logbook

NOTE:
A pre-generated adhesive label may be used to record this information inside the logbook front cover.

6.3.2 Record the following information on the inside of the front cover of each logbook using black, indelible ink.

- Logbook number
- Project manager’s name

- Return address
- Important phone numbers, as applicable
- Radio call numbers, as applicable
- Emergency contacts, as applicable

6.3.3 **If** pages have **NOT** already been pre-numbered, **then** manually number all of the pages before the initial use of the logbook.

6.3.4 Reserve the first three pages of the logbook for a table of contents.

6.3.5 Mark the first page with the following:

- TABLE OF CONTENTS
- EXAMPLE:

Page(s)	Description of Activity	Date
1-8	Sonic Drilling BRW-108	07/27/04

6.4 Logbook Entry Requirements

Project Personnel

NOTE(s):

Appendix C, *Example of Completed Logbook Pages*, is used as an example of logbook entry.

The intent of keeping a logbook is for the reader to be able to recreate an event as accurately and completely as possible based on the written information. A logbook is a factual, chronological record of the activities throughout the day. The logbook author must include observations and descriptive notations. However, the author must take care to be objective and record no opinions or subjective comments.

6.4.1 Pages are **NOT** removed for any reason.

6.4.2 The use of correction tape or white-out is **NOT** permitted.

6.4.3 Any error on a logbook entry should be corrected by the same person who made the original entry, whenever feasible.

6.4.4 Notes are **NOT** recorded elsewhere for recopying of the information into the logbook at a later time.

6.4.5 There shall be no blank spaces or pages between entries or skipped lines.

6.4.6 Record the information directly into the logbook.

6.4.7 Record legible entries in black, indelible ink, **and** enter on consecutive lines and pages.

NOTE:

Obliteration of incorrect entries, including correction tape or fluid, is **NOT** allowed.

6.4.8 Indicate any deletions or changes by marking through the original material with a single line; then initial **and** date the change.

6.4.9 Indicate any insertion by initialing and dating the insertion.

6.4.10 Precede each entry with the time (24-hour clock).

6.4.11 Start each day in the logbook on a new page.

6.4.12 Record the following information each day on the first page of the section of the logbook to be used for the

- Description of task to be performed
- Location of task
- Project Manager Name

6.4.13 Document relevant correspondence (e.g.,written, personal, and telephone conversations).

NOTE:

Items **A** through **N** are general information for sampling logbooks, that is used for a specific project where sampling data forms are **NOT** approved. Other logbooks also governed by this procedure (e.g., Geologist logbooks, Supervisor logs, Project logs, Field Lab Analysis logbooks, etc.) will **NOT** be required to present all the information listed here.

6.4.14 Record the applicable information during field activities, such as:

A. Station Identification Number.

B. Sample Identification Number.

C. Physical description of sample.

D. Date (month/day/year) at the top and bottom of each page.

E. Identification of personnel assigned to the task, including subcontractors.

F. A list of all field equipment that will be used and identifying or serial numbers.

G. Any observations or conditions that could affect sample quality, changes to the sample location (monitoring well damage, stream sampling point changes) or unsafe work conditions.

H. Names, affiliations, and times of arrival and departure of all visitors or observers to the work site. **If** unsure, **then** ask purpose of the visit **and** record.

I. Start and stop times (24-hour clock) of field activities. The time should be recorded frequently and at the point of events or measurements that are critical to the activity being logged.

J. Any deviations or one-time difficulties encountered in the field activities in sufficient detail to completely describe the activity or event.

K. Description of any issues, concerns, or problems and their resolution, including any equipment failures with a description of downtime, standby time, repairs, replacements, and/or recalibrations, as applicable.

L. Decontamination activities (if any), noting procedures used or reference to a project-specific plan specifying decontamination practices used.

M. Field measurements taken using instruments, if sample data forms are **NOT** approved to be used for a specific project, which may include the following:

1. Name of technician

2. Instrument(s) utilized

3. Calculations and results

4. Media that were measured

5. Type of measurement (e.g., temperature, turbidity, conductivity, pH)

6. Sample identification number from which the measurement was taken

7. Time of sample collection

8. Measurement results with appropriate units of measure

9. Any special comments/observations

N. Results of health and safety monitoring, including instrument make, model, serial number, and calibration standards used.

6.4.15 At the end of all entries for each day, or at the end of a particular event, if appropriate, draw a "Z" line through any blank space remaining at the bottom of each page **and** initial and date by the individual making the entry.

6.4.16 Identify each unused logbook page by filling in the unused area with a "Z" line, signature, and a date.

NOTE:
If a "Z" line and signature and date are used to void a blank page, **then** an additional signature and date at the bottom of the page are **NOT** required.

6.4.17 Sign **and** date the bottom of each page.

6.5 Logbook Storage and Control

<u>Project Personnel</u>

6.5.1 Store logbooks in accordance with CP3-RD-0010, *Records Management Process*.

6.5.2 Control logbooks to ensure tracking, handling, and usage so these are **NOT** lost or damaged.

6.5.3 **If** multiple logbooks are used for a project, **then** maintain a project logbook inventory.

6.5.4 Assign a sequential document control number to each logbook.

6.5.5 Keep logbooks on-site unless written permission has been given in advance by a project manager or designee to take a logbook off-site.

6.5.6 Use CP4-ES-2700-F01-*Logbook Sign In/Out Sheet* to identify the individual responsible for the logbooks care and custody.

6.5.7 Utilize CP4-ES-2700-F01 to identify the individual making entries into the logbook and to

provide a reference for unique initials.

6.5.8 Maintain responsibility for the logbook until such time that either custody is transferred to another team member, or the logbook has been returned to its designated storage location upon completion of the daily activities.

6.5.9 **If** the person maintaining custody of the logbook is present, **and** is being aided by a second person, **then** transfer of custody is **NOT** required.

6.5.10 **If** the custody of the logbook is transferred, **then** place an entry in the logbook that documents the change in custody.

6.5.11 Record full name of the person releasing custody **and** date in the logbook.

6.5.12 Record full name of the person receiving custody **and** date in the logbook.

6.6 Data Form and Logbook Reviews

Project Personnel

6.6.1 Conduct periodic reviews, at least monthly during field operations, of data forms and logbooks to verify the following:

- Accuracy of entries
- Legibility and clarity of entries
- Completeness to ensure that at least the minimum required information is recorded
- Consistency of information recorded
- Signature and date of entries by the designated team member
- Compliance to the requirements in this procedure

6.6.2 Notify appropriate personnel of corrections or clarifications that may be needed. **If** any discrepancies or deviations from this procedure are found, **then** inform the project manager as soon as practicable **and** obtain resolution before signing the logbook page or data form.

NOTE:

For a sample data form, reviews shall be performed by personnel, other than the original transcriber, involved in the sampling event.

Reviewer

6.6.3 **When** a logbook or data form review has been completed, sign **and** date the bottom right-hand corner of the logbook or data form page.

7.0 ACCEPTANCE CRITERIA

None

8.0 POST PERFORMANCE WORK ACTIVITIES

Submit logbooks and data forms to the SMO upon completion of the task.

9.0 RECORDS

9.1 Records Generated

The following records may be generated by this procedure:

- CP4-ES-2700-F01, *Sampling Logbook Sign In/Out Sheet*
- Logbooks
- Sample Data Forms

9.2 Records Disposition

The records are to be maintained in accordance with CP3-RD-0010, *Records Management Process* and CP3-OP-0025 *Document Control Process* .

Appendix A – Acronyms/Definitions

ACRONYMS

FPDP – Fluor Federal Services, Inc. Paducah Deactivation Project

PEMS – Project Environmental Measurements System

SMO – Sample Management Office

TPD – Training Position Description

DEFINITIONS

Data Forms – A loose, unbound, uniquely identified, single-sided or double-sided page(s) usually with pre-printed table for convenient, manual data entry. Data forms may be printed on sticker paper to be placed in a logbook. Forms are used for the permanent recording of information pertaining to various data collection activities (e.g., data assessment checklists, calibration forms, etc.).

Sample Data Forms – A loose, unbound, uniquely identified, single-sided page(s) with pre-printed information from PEMS for convenient, manual data entry of data pertaining to a sampling event.

Logbook – A bound book with sequentially numbered pages used to create a permanent, near real-time record of activities and conditions, significant events, observations, and measurements that occur during each day of field activities.

Project Manager – The person (or designee) responsible for ensuring that sampling activities are performed in accordance with the current, approved plans or other governing documents and associated procedures. The project manager approves (or coordinates the approval of) deviations from the approved plans or other governing documents.

Reviewer – A person who is knowledgeable about, but independent from, the tasks being performed and is responsible for verifying conformance to procedural requirements.

Appendix B – PEMS Generated Sample Data Form

MW GROUNDWATER DATA FORM

LOCATION: MW165A FREQUENCY: Semiannual DATE: _____

ARRIVAL TIME: _____ SAMPLE TIME: _____ DEPARTURE TIME: _____

SAMPLE ID(S): MW165SA1-16 TRIP BLANK: _____

LCOC NUMBER: GWACO16-05 PROJECT ID: GWACO16-05

SAMPLED BY: _____

WELL DEPTH: 68 POINT DATUM: TOC PURGE VOLUME: _____

WATER LEVEL(START): _____ WATER LEVEL(END): _____ BAROMETRIC PRESSURE: _____

PURGE START TIME: _____ PURGE END TIME: _____

Time	COND mS/cm / umhos/cm	D.O. (mg/L)	TEMP (deg F)	pH (su)	ORP (mV)	Turbidity (NTU)
	/					
	/					
	/					
	/					
	/					
	/					

EQUIPMENT INFORMATION:

HYDROLAB DISPLAY #: _____ HYDROLAB TRANSMITTER #: _____

SAMPLE BOX #: _____ DEPTH INDICATOR #: _____ DI WATER SOURCE: _____

EQUIPMENT DECONTAMINATION DESCRIPTION:
Decon sample control box, 600mL of DI Water.

FIELD COMMENTS AND OBSERVATIONS:

SIGNATURE: _____ DATE: _____

Data Form Verification
SIGNATURE: _____ DATE: _____

PEMS Entry Initials: _____ DATE: _____

MW Groundwater Data Form generated from ESPEMS database

EXAMPLE

Appendix C - Example of Completed Logbook Pages

20

C-400 RDSI Thursday 6/15/06

0630	Arrive on site and begin setting up at soil boring 001
0940	Start drilling soil boring 001
0648	Collect soil sample SB001-00-05
0700	Collect soil sample SB001-05-10
0708	Collect soil sample SB001-10-15, sweet odor was noticed coming from soil before the sample was placed in the jar.
0710	ES&H performed monitoring of the area and detected 50 ppm VOCs. Project manager was contacted and PPE was increased from level D to level B. See ES&H logbook for more info.
0730	Re-start drilling efforts
0740	Collect sample soil SB001-15-20
0750	Completed sampling activities at soil boring 001.
0755	Decontaminate sampling and drilling equipment.
0845	Collect ground water sample at MW-12 see page 22 for details on parameters.
0859	Begin setting up at soil boring 002
0900	Jim Johnson and Julie Smith arrive from DOE. They talked with Mike Clark.
0905	Start drilling soil boring 002
0915	Collect soil sample SB002-00-05
0921	Collect soil sample SB002-05-10
0930	Collect soil sample SB002-10-15

Tracy Kulik 6-15-06

21

C-400 RDSI Thursday 6/15/06

0942	Collect soil sample SB002-15-20
1000	Completed sampling activities at soil boring 002.
1010	Decontaminate sampling and drilling equipment and break for lunch.
1145	Begin setting up at soil boring 003
1155	Start drilling soil boring 003
1201	Collect soil sample SB003-00-05
1215	Collect soil sample SB003-05-10
1218	Hit refusal and decide to offset the boring.
1230	Begin setting up at offset soil boring 003 approximately 12 in south of the original location
1245	Begin drilling offset boring 003
1250	At approximately 9 feet BGS, hit refusal. A second attempt was made to continue down, and the Geoprobe broke down.
1300	Geoprobe will require extensive repairs and will need to be taken offsite.
1310	Decontaminate sampling and drilling equipment and stop for the day.

TCK 6-15-06

Tracy Kulik 6-15-06