Field Data Collection Documents, Content, and Control

SSFL SOP 8
Revision: 1
Date: December 2012

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Signature/Date

1.0 Objective

The objective of this technical standard operating procedure (SOP) is to set criteria for content entry and form of field logbooks and the SSFL Field Sample Data Sheet (FSDS) used to document field work at the Santa Susana Field Laboratory (SSFL) site. The FSDS is also used for data entry into the Scribe database.

2.0 Background

A permanently bound and consecutively paginated field logbook will be maintained daily by the CDM Smith field team in accordance with the procedures below.

2.1 Discussion

Information recorded in field logbooks includes field team member names, visitors, observations, data, calculations made onsite, date/time, weather, and description of the data collection activity, methods, instruments, and results. Additionally, the logbook must contain deviations from plans, observations of fill, and site features including sketches, maps, or drawings as appropriate. In addition, all SOPs will be on hand with the field sampling team.

2.2 Associated Procedures

- SSFL SOP 1, *Procedures for Locating and Clearing Phase 3 Samples*
- SSFL SOP 2, *Surface Soil Sampling*
- SSFL SOP 3, *Subsurface Soil Sampling with Hand Auger*
- SSFL SOP 4, *Direct Push Technology Sampling*
- SSFL SOP 5, *Backhoe Trenching/Test Pits for Sample Collection*
- SSFL SOP 9, *Lithologic Logging*
- SSFL SOP 14, *Geophysical Survey*
- SSFL SOP 15, *Photographic Documentation of Field Activities*
- SSFL SOP 16, *Control of Measurement and Test Equipment*

3.0 General Responsibilities

Field Team Leader (FTL)–The FTL is responsible for ensuring that the format and content of data entries are in accordance with this procedure. The FTL will provide field logbooks and FSDSs to the site geologist who will be responsible for their care and maintenance while in his or her possession.

Site Geologist–The site geologist is responsible for documenting site activities into the logbook and completing a FSDF for each soil sample collected. .

Other Site Personnel–All CDM Smith employees who make entries in field logbooks during onsite activities are required to read this procedure before engaging in this activity. Site personnel will return field logbooks to the FTL at the end of the assignment.

4.0 Required Equipment

- Site-specific plans (Field Sampling Plan [FSP] Addendum, health and safety plan, and all SSFL SOPs)
- Field logbook
- Scribe Version 3.8 (or later)
- Indelible black or blue ink pen
- SSFL Field Sample Data Sheet (FSDS)

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5.0 Procedures

5.1 Preparation

In addition to this SOP, site personnel responsible for maintaining logbooks must be familiar with all procedures applicable to the field activity being performed. These procedures should be consulted as necessary to obtain specific information about equipment and supplies, health and safety, sample collection, packaging, decontamination, and documentation. These procedures should be located at the field office and field vehicle for easy reference.

Field logbooks are bound, with lined and consecutively numbered pages. All markings and notes will be made with indelible black or blue ink pen. All pages must be numbered before initial use of the logbook. Before use in the field, the FTL will title and sequentially number each page of each logbook and set up the table of contents (TOC). Record the following information on the cover of the logbook:

- Field logbook number (if applicable).
- Site name and location.
- Activity (if the logbook is to be activity-specific).
- Start date of entries.
- End date of entries.
- Name of CDM Smith contact and phone number(s) (typically the project manager).

The first few (approximately two) pages of the logbook will be reserved for a TOC. Mark the first page with the heading "Table of Contents" and enter the following:

Table of Contents

Date/Description	Pages
(Start Date)/Reserved for TOC	1-2

The remaining pages of the TOC will also be designated as such with "Table of Contents" written on the top center of each page. The TOC should be completed as activities are completed and before returning the logbook back to the FTL.

5.2 Log Book Requirements

Documentation requirements for logbooks are:

- Record work, observations, quantity of materials, field calculations and drawings, and related information directly in the logbook. If data collection forms are specified by an activity-specific plan, this information does not need to be duplicated in the logbook. However, forms (e.g., SSFL-FSDSs) used to record site information must be referenced in the logbook.
- Do not start a new page until the previous one is full or has been marked with a single diagonal line so that additional entries cannot be made. Use both sides of each page.
- Do not erase or blot out any entry at any time. Indicate any deletion by a single line through the material to be deleted. Initial and date each deletion. Take care to not obliterate what was written previously.
- Do not remove any pages from the book.

Specific requirements for field logbook entries include:

- Initial and date each page.
- Sign and date the final page of entries for each day.
- Initial and date all changes.
- If authors change within the course of the day, the original author must insert the following:
  Above notes authored by:
  - (Sign name)
  - (Print name)
  - (Date)
- The new author must sign and print his/her name before additional entries are made.
- Draw a diagonal line through the remainder of the final page at the end of the day.

- Record the following information on a daily basis:
  -Date and time
  -Name of individual making entry
  -Names of field team and other persons onsite
  -Description of activity being conducted including station or location (i.e., boring, sampling location number) if appropriate
  -Weather conditions (i.e., temperature, cloud cover, precipitation, wind direction and speed) and other pertinent data
  -Level of personal protection used
  -Serial numbers of instruments
  -Equipment calibration information (initial and ongoing date and time activity)
  -Serial/tracking numbers on documentation (e.g., carrier air bills)

Entries into the field logbook shall be preceded with the time (written in military units) of the observation. The time should be recorded frequently and at the point of events or measurements that are critical to the activity being logged. All measurements made and samples collected must be recorded.

A sketch of station location may be warranted. All maps or sketches made in the logbook should have descriptions of the features shown and a direction indicator.

Other events and observations that should be recorded include:
- Changes in weather that impact field activities.
- Deviations from procedures outlined in any governing documents. Also, record the reason for any noted deviation.
- Problems, downtime, or delays.
- Upgrade or downgrade of personal protection equipment.
- Visitors to the site.

5.3 Field Sample Data Sheets

- An example FSDS that will be use to record the sample details and subsurface conditions is included as Attachment 1 to SOP 8.
- The FSDS will be completed by the Site Geologist and include general from observations of the soil core, cuttings, and sidewalls of trenches and test pits.
- The FSDS is a single page, double-sided form that will be completed in indelible ink.
- All portions of the form will be completed. If any portion is not applicable to the activity being recorded, that portion will be crossed out with a single line and initialed by the Site Geologist.
- The FSDS must be reviewed and signed by another field team member before being copied into a pdf file.
- The pdf file will be transferred to CDM Smith's main database weekly by the sample coordinator. The original of the FSDS will be maintained in a binder at the site office until completion of all field activities.
- Sample description information (sample characteristics, presence of fill, staining, odor, etc.) will be transferred to the electronic database on a weekly basis by the FTL or sample coordinator or his/her designee.
- Copies of the FSDS documents will be included in the data report presenting the findings of the investigation.
- The completed FSDS form will be kept as a quality record in CDM Smith's SSFL project file for period of 10 years as stated in Section 7.9 of the Administrative Order on Consent.

5.4 Scribe Database Requirements

The Scribe database will be used to capture the data from the FSDS and perform the following tasks (at a minimum):
- Document field sample collection
- Generate chain of custody forms
- Track field samples to laboratories
- Query database and produce reports

- The FSDS information is entered into the field database, Scribe.
- The Scribe data entry is reviewed by another staff.
- The Scribe database is backed up daily off-site to CDM Smith servers. In the event of internet outages, the backups will

be made to an external device such as an external hard-drive, thumb drive or CD/DVD. Once internet service is restored the most current backup will be used and placed on the CDM Smith servers.
- Changes to the finalized FSDS are documented on the FSDS and Scribe.

5.5 Photographs

Photography is restricted at SSFL. All cameras require permits from The Boeing Company (Boeing) to be onsite. Photographs may be taken at the site to visually document field activities and site features, as needed and in accordance with SSFL SOP 15. Digital photographs will be submitted to the electronic project files.

All digital photographs will be documented on a photographic log in the logbook or on a separate form (reference in the logbook). Captions must be added to the file name after the photographs are downloaded. The caption should be a unique identifier – number or date and short description. The photographic log should contain the following information:

- Photograph sequence number
- Description of activity/item shown (e.g., SSFL and sampling activity)
- Date and time
- Direction (if applicable)
- Name of photographer

5.6 Post-Operation

To guard against loss of data as a result of damage or disappearance of logbooks, photocopy or scan completed pages daily and forward to the field or project office weekly (at a minimum). Photocopy or scan other field records (e.g., Field Sample Data Sheets, photographic logs) weekly and upload to CDM Smith servers weekly (at a minimum), or as requested.

At the conclusion of each day, the individual responsible for the logbook will ensure that all entries have been appropriately signed and dated and that corrections were made properly (single lines drawn through incorrect information then initialed and dated). Completed logbooks will be returned to the FTL.

6.0 Restrictions/Limitations

Field logbooks constitute the official record of onsite technical work, investigations, and data collection activities. Their use, control, and ownership are restricted to activities pertaining to specific field operations carried out by CDM Smith personnel and their subcontractors. They may be used in court to indicate dates, personnel, procedures, and techniques employed during site activities. Entries made in these logbooks should be factual, clear, precise, and non-subjective. Field logbooks, and entries within, are not to be used for personal use.

7.0 References

No references used.

8.0 Attachments

Attachment A – SSFL Phase 3 – Field Sample Data Sheet

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID _____ **Date/Time** _____

Matrix (circle one)
Soil Sediment Water

Start Depth _____

End Depth _____

Depth Units (circle one)
Inches Feet

Check if Composite ☐

Collection Method (circle one)
DPT Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one)
N FD FB RB

Parent Sample ID _____

Field Geologist _____

Sampler _____

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No

2. Percentage Fill (%) _____

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color _____

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature _____ **PG Registration #** _____

Additional Comments _____

NA – Not Applicable