



UPPER HUDSON RIVER FLOODPLAINS 2009  
FIELD SAMPLING PLAN ADDENDUM  
FINAL

**Prepared for**

General Electric Company  
Albany, NY

**Prepared by**

Anchor QEA, LLC  
305 West Grand Ave, Suite 300  
Montvale, New Jersey 07645

**In conjunction with**

ARCADIS of New York, Inc.

**July 2009**

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

AOC	Administrative Order on Consent
bgs	Below the Ground Surface
DSR	Data Summary Report
FSP	Field Sampling Plan
GE	General Electric Company
GPS	Geographical Positioning System
IDW	Investigation-Derived Wastes
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCB	Polychlorinated Biphenyl
QA/QC	Quality Assurance/Quality Control
RI/FS	Remedial Investigation/Feasibility Study
SGS	SGS Environmental Services, Inc.
SOP	standard operating procedure
TOC	Total Organic Carbon
UHR	Upper Hudson River
USEPA	United States Environmental Protection Agency

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## 1 INTRODUCTION

This Addendum to the Field Sampling Plan prepared for the 2008 General Electric Company (GE) investigation (FSP Addendum), describes the collection of additional data in 2009 to further characterize polychlorinated biphenyl (PCB) concentrations in select areas of the Upper Hudson River (UHR) floodplains. These areas have been selected based on previous sampling results, and as part of the overall Remedial Investigation/Feasibility Study (RI/FS) for the UHR floodplain. The 2009 floodplain sampling and laboratory analyses will be completed in accordance with this document and the methods and procedures described in the 2008 Upper Hudson River Floodplain Field Sampling Plan (2008 FSP; QEA and ARCADIS 2008).

This data collection effort is not intended to complete the sampling necessary to complete the full RI/FS. Subsequent sampling will be undertaken as appropriate and necessary for that purpose.<sup>1</sup>

### 1.1 Field Sampling Plan Addendum Organization

This FSP Addendum is organized as follows:

- **Section One** introduces the FSP Addendum, summarizes the 2008 UHR floodplain soil investigation, and presents the objectives of the 2009 sampling activities.
- **Section Two** presents the proposed sample locations for the 2009 sampling program.
- **Section Three** describes the 2009 sampling and analysis activities. These include property access procedures, field sampling reconnaissance, sample collection, record keeping, and laboratory procedures.
- **Section Four** describes the reporting activities associated with the 2009 sampling program.

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<sup>1</sup> The activities proposed in this FSP Addendum will be performed by GE, assuming negotiation of an acceptable agreement with the United States Environmental Protection Agency (USEPA). Nothing in this FSP Addendum, however, nor any activity or communication that may be carried out or held in connection with this FSP Addendum is, or should be construed as, any admission of law, fact or liability, as to any matter whatsoever, including but not limited to any response actions for UHR floodplain areas, or for implementation of the RI/FS proposed in this FSP Addendum. GE reserves all of its rights and defenses, including but not limited to rights and defenses under the 1976 settlement signed by GE and duly authorized representatives of the New York State Department of Environmental Conservation (NYSDEC).

- **Section Five** presents a preliminary schedule for the activities described in this FSP Addendum.

## 1.2 Summary of 2008 Investigations

This section describes investigations that were performed in 2008 by GE and USEPA.

- **2008 GE Investigation** – In 2008 GE conducted floodplain sampling in Reaches 1 through 8 as part of the UHR floodplain RI/FS (ARCADIS 2009). The floodplain soil investigation entailed collection and laboratory analysis of 2,236 soil samples (including quality assurance/quality control [QA/QC] samples) from 1,019 locations, from September to December. The soil sampling locations were selected in consideration of local topography, observed land use, and vegetation type. The sampling locations were reviewed jointly by representatives of GE, USEPA, NYSDEC, and New York State Department of Health (NYSDOH), and inspected and refined in the field in consultation with representatives from USEPA, NYSDEC and NYSDOH. Additional details related to the 2008 GE floodplain investigation activities are presented in the Final Data Summary Report (DSR), 2008 Floodplain Sampling Activities, Upper Hudson River Floodplains, June 2009 (ARCADIS 2009).
- **2008 USEPA Sampling** – In 2008 USEPA collected 153 soil samples from 57 locations in Reaches 1 through 8 (Weston Solutions 2009). The results of the 2008 USEPA sampling activities are tabulated in the DSR (ARCADIS 2009), and details pertaining to the 2008 USEPA investigation are presented in the Revised Sampling Trip Report – Hudson River PCBs (Floodplains) Site, Fort Edward, Saratoga County, New York (Weston Solutions 2009).

## 1.3 2009 Field Sampling Program Objectives

The overall objective of this investigation is to collect data in support of the UHR Floodplain RI/FS. Additionally the data will be used where appropriate to assist in the evaluation of potential interim remedial measures on select sites. The specific data quality objectives of the 2009 field sampling program are identified below.

- Further characterize floodplain soil PCB concentrations in select areas of the UHR that were previously sampled in 2008 by GE and/or the USEPA.
- Characterize floodplain soil PCB concentrations in newly identified potential human use areas.

## 2 SAMPLING DESIGN

This section describes the rationale for selecting the 2009 floodplain sampling locations and identifies the proposed number of samples to be collected.

### 2.1 Sample Location Selection

Two types of sampling locations have been selected for the 2009 sampling program: 1) sampling locations in a subset of areas that were sampled in 2008 by GE and/or the USEPA; and 2) sampling locations in areas that have been newly identified as having a potential for human exposure. Alternate locations are incorporated into the sampling design; if access is not obtained for a particular property, the locations for that property will be dropped and additional alternate locations will not be considered for sampling in 2009.

### 2.2 Proposed Sample Locations

A total of 291 sample locations are proposed for the 2009 sampling activities, as summarized in Table 2-1 below.

**Table 2-1  
Proposed Numbers of Locations and Samples by River Reach**

River Reach	Previously Sampled in 2008 <sup>1</sup>	Targeted for Initial Sampling in 2009 <sup>2</sup>	Total Targeted Sample Locations	Previously Sampled in 2008 <sup>1</sup>		Targeted for Initial Sampling in 2009 <sup>2</sup>		Total Targeted Samples 2009
				12 – 24 in. bgs	Total Samples	12 – 24 in. bgs	Total Samples	
8	8	22	30	8	24	11	55	79
7	14	16	30	14	42	8	40	82
6	1	16	17	1	3	8	40	43
5	58	51	109	58	174	26	128	302
4	6	2	8	6	18	1	5	23
3	13	21	34	13	39	11	53	92
2	6	23	29	6	18	12	58	76
1	18	16	34	18	54	8	40	94
<b>Total</b>	<b>124</b>	<b>167</b>	<b>291</b>	<b>124</b>	<b>372</b>	<b>84</b>	<b>419</b>	<b>791</b>

<sup>1</sup>Sampling locations in areas that were previously sampled in 2008.

<sup>2</sup>Sampling locations in newly identified areas.

The 2009 sampling locations have been selected in consultation with USEPA, NYSDEC, and NYSDOH. The locations of previous and currently proposed samples are presented in Figures 2-1 through 2-8. These figures depict the general location of where these samples are proposed to be collected. To ensure that the samples are collected on the targeted properties, the proposed sample locations have been placed a minimum of 10 to 15 ft. from property boundaries as determined by aerial photographs overlain on property tax parcel boundaries obtained from municipal authorities. In addition, as discussed further in Section 3.2, field personnel performing sample location survey and stake-out will be equipped with global positioning system (GPS) equipment capable of displaying property boundary information to ensure that samples are collected on the targeted property. Final sampling locations will be determined in the field based on discussions between GE, USEPA, NYSDEC, and NYSDOH during the field reconnaissance activities described in Section 3.2.

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### **3 2009 FLOODPLAIN SAMPLING ACTIVITIES**

This section provides the protocols that will be followed for the 2009 floodplain sampling activities for property access, field survey and sample stakeout, sample location inspection, soil sample collection, sample processing, and laboratory analyses. QA/QC activities and procedures are presented in the 2008 FSP.

The 2009 field sampling activities will be completed in two phases beginning with the properties targeted for additional sampling (i.e., properties previously sampled by GE and/or USEPA in 2008). The field activities on properties targeted for initial sampling (i.e., properties not previously sampled by GE or USEPA) will be initiated approximately three weeks following completion of all field activities for properties that were previously sampled in 2008 and receipt of all access agreements (access granted or denied), as described in Section 5. To maximize efficiency, the activities for both phases will proceed from north to south (i.e., from Reach 8 to Reach 1).

#### **3.1 Property Access**

There are two types of properties targeted for sampling: a select group of properties previously sampled in 2008 by GE and/or the USEPA, and new properties targeted for initial sampling in 2009. Access must be granted prior to conducting any field activities on the respective property.

As signed access agreements were previously received for properties sampled in 2008, GE will contact the respective property owners via telephone to obtain verbal authorization to collect additional samples in 2009. If owners of properties previously sampled in 2008 do not provide access to conduct additional sampling in 2009, alternate locations on nearby properties will not be proposed. Rather, the USEPA will be given the opportunity to seek access. If access is not obtained by GE or USEPA the proposed additional sampling locations on the properties sampled in 2008 will be removed from consideration for sampling in 2009 without substitute.

For properties targeted for initial sampling in 2009, GE will use its best efforts to obtain site access and sampling permission from the respective property owners of all tax parcels

containing proposed sample locations, but GE will not be required to provide payment to property owners in order to obtain access. GE will attempt to obtain site access and sampling permission not only for its authorized representatives, but also for USEPA, NYSDEC, NYSDOH, and their contractors and oversight officials.

In an effort to obtain access to sample properties targeted for initial sampling in 2009, an initial mailing containing the access agreement form will be sent within one week of EPA approval of the FSP and execution of an Administrative Order on Consent (AOC).

Approximately ten days following the initial mailing, GE will attempt to contact (via telephone) and obtain the signed access forms from property owners that do not respond to the initial mailing. If GE is unsuccessful in contacting the targeted property owner or the property owner is nonresponsive to GE's second attempt to obtain access, a final telephone call will be made within 1 week of the initial telephone call. If after GE's third attempt to contact the property owner, the property owner refuses access, seeks payment from GE, or is non-responsive to GE's attempts to obtain access as described above, GE shall notify USEPA. At its discretion, USEPA may seek access from such property owners. Should owners of properties targeted for initial sampling in 2009 refuse to provide access for sampling, or are unresponsive to property access outreach efforts by GE and USEPA, the respective property will be removed from consideration for sampling in 2009. Since alternate properties and sampling locations have been identified and are included in this FSP Addendum, permission to sample those properties will be requested during the initial round of requests. Therefore, if access is denied to any property, no alternate will be identified. Conversely, samples will be collected from all properties where access is granted.

Copies of all signed access agreements will be provided to USEPA upon request. GE will also provide weekly updates to USEPA on properties with non-responsive or non-cooperative owners, as part of the effort between GE and USEPA to coordinate access.

### **3.2 Survey, Stake-Out and Sample Location Inspection Activities**

For the 2009 sampling program, all field activities (surveying, stake-out, sample location inspection, and sampling) will be completed in a single site visit to the extent practicable. Upon mobilization to each property targeted for sampling, representatives from GE will

survey and stake-out the proposed sampling locations (as well as any previous sampling locations as applicable and appropriate). The surveying will be performed using survey-grade GPS equipment. Additionally, the field sampling crew will be equipped with a GPS unit (Trimble GEO XH or similar) with sufficient accuracy (e.g., within 1 foot) to locate and verify property boundaries. The appropriate data layers (e.g., aerial photographs, property tax maps) will be uploaded to the GPS unit as necessary to determine approximate property boundaries enabling the field crews to verify that the appropriate property is sampled. In the event that GPS cannot be used, conventional survey techniques may be used in conjunction with aerial photography and other available data to locate property boundaries, consistent with previous sampling events.

Once the sample locations have been staked out, GE and the USEPA representatives will review the proposed sample locations in the field. The representatives will make a determination as to whether any of the proposed locations should be moved or eliminated, or whether additional locations should be added. The criteria for moving sample locations will be site topography/targeted elevation, the representativeness of the proposed locations relative to the locations of perceived human use areas, the presence of subsurface utilities (if any) or other at-grade structures, and/or property-specific information provided by the respective property owner/user. Both GE and the USEPA will have a representative present during all of the sample location inspections, who will have decision-making authority to add, move, or exclude sample locations.

Following the above field reconnaissance procedures, final sample locations will be documented using a survey-grade GPS unit (or conventional survey equipment), and sample elevation will be recorded.

As described above, sampling locations may be moved, added, or excluded based on field observations and discussions during the field reconnaissance with USEPA. Any such changes will be documented, including the reason(s) for sample relocation, addition, or elimination. All documentation of the moved, added, or eliminated locations will also be uploaded to the field database to ensure that location changes will be accurately tracked. The final sample location coordinates, as agreed upon by GE and USEPA, will also be uploaded to the UHR Floodplains Field Database (Field Database) on a daily basis. Prior to leaving each sampling

site, representatives from GE and the USEPA will compare field notes and resolve any apparent discrepancies.

### **3.3 Soil Sample Collection**

This section presents the sample collection and handling procedures to be implemented for the 2009 floodplain sampling activities.

#### **3.3.1 Sample Collection Methods and Equipment**

Consistent with previous GE UHR floodplain sampling events, the 2009 floodplain soil samples will be collected from the locations depicted on Figures 2-1 through 2-8 using a Macro-Core™ sampling device advanced with a slide hammer. The Macro-core™ device consists of an outer steel barrel with an inner acetate liner (1.5-inch inside diameter).

Attempts will be made to advance the Macro-core™ sampling device to the targeted sampling depth (i.e., two feet below the ground surface [bgs]). If refusal is encountered before reaching the targeted sampling depth, two additional attempts will be made within three feet of the original sample location. If refusal is still encountered or if the measured recovery is less than 75 percent of the targeted sample depth, one additional attempt to collect a soil core will be made using one of the following alternative sample collection methods, as appropriate:

- **Stainless steel hand auger** – In areas where poor sample recovery is obtained due to obstructions (roots, large cobbles and rocks), a three-inch diameter, six-inch long stainless steel hand auger will be utilized to attempt to collect the soil samples from the targeted depth intervals. The 0- to 6-inch sample depth interval and 6- to 12-inch sample depth interval will be containerized separately. Soil obtained from the 12- to 18-inch and 18- to 24-inch sample depth interval will be containerized together to represent the 12- to 24-inch sample interval. The recovered soil will be placed into aluminum sampling pans, covered and sealed, and marked with the sample location and depth interval.

- **Lexan Tubing** – Lexan tubing will be used in areas of soft sediments such as in swampy/marshy areas. The Lexan tubing will be pre-cut to the appropriate length and advanced to the target sampling depth using a slide hammer. Once the target sampling depth is reached, the exposed Lexan tubing will be filled with water and capped prior to extracting the soil core. By filling the exposed tubing with water and capping it, a vacuum is created which minimizes sample loss during extraction.

After a total of four attempts have been made to achieve the targeted sample depth or obtain sufficient soil recovery, the core with the greatest recovery will be retained for subsequent core processing and sampling. Once extracted, the recovered soil cores will be labeled with the appropriate sample nomenclature, and transported to the designated processing area for characterization, segmentation, and sample collection as described in Section 3.3.2.

Documentation pertaining to the nature and condition of the ground surface at each soil sampling location will be recorded in the field logbook. Logbook entries may include statements such as: disturbed soils, evidence of erosion or deposition, evidence of cultivation, riparian vegetation, grassland, etc. In addition, photographs documenting the sample locations will also be taken.

### **3.3.2 Sample Core Processing**

At the sample processing area, the soil cores will be opened and visually characterized. Observations relative to the soil type (e.g., gravel coarse sand, fine sand, etc.) and grain size characteristics (e.g., size, sorting, texture, etc.) will be noted. Other observations, including sedimentary structures, organic matter, and moisture will also be documented, as appropriate. The soil cores will be described using the following designations: Primary, Some, Little, and or Trace types of grain sizes present. The soil observations for each sample depth increment, as well as the sample penetration depth and sample recovery, will be entered into the Field Database for upload into the UHR Floodplain Data Management System (UHR Floodplain DMS).

Once the cores are visually characterized and observations are logged into the Field Database, the soil cores will be segmented into the desired sample depth intervals, as

presented below, using disposable equipment, in accordance with the Soil Core Processing SOP (Appendix A).

- 0 to 6 in. bgs
- 6 to 12 in. bgs

Additionally, at all locations on previously sampled properties, a sample will be collected from the 12 to 24 in. bgs interval. For the newly selected properties, 50% of the locations will be sampled at the 12 to 24 in. bgs interval. The number of samples to be collected from the 12 to 24 in. bgs interval is summarized on Table 2.1

The entire sample depth interval will be placed in an aluminum sampling pan and mixed thoroughly to obtain a homogeneous sample. Debris and rocks greater than ½-inch in size will be removed from the soil and the samples will be containerized in clean laboratory-supplied glassware. The sample containers will be identified using the alpha-numeric designation system described in the 2008 FSP and shipped under chain-of-custody to SGS Environmental Services, Inc. (SGS) for analysis for PCBs and total organic carbon (TOC) in accordance with EPA SW846 Method 8082 and the Lloyd Kahn Method, respectively. The soil samples will be packaged with sufficient ice to maintain the sample temperature at approximately 4 degrees centigrade during shipment to SGS.

Field personnel will follow the decontamination procedures outlined in the 2008 FSP; non-disposable equipment will be cleaned with Alconox detergent, rinsed with deionized water, and dried with disposable towels (as applicable) between each sample location. Disposal nitrile gloves will be worn by sampling personnel and will be changed between activities at each discrete sample collection location. Dedicated acetate liners will also be changed between sampling locations to prevent cross contamination of samples.

Field personnel will collect and document the appropriate amount of quality control samples (blind duplicates, matrix spikes and matrix spike duplicates at a rate of one per twenty samples, field blanks at a rate of one per day or one per twenty samples), as described in the 2008 FSP. Data received from the laboratory will undergo data reduction, verification, and validation in accordance with the 2008 FSP. Remaining QA/QC elements and procedures, not specifically discussed herein, will be followed as specified in Section 4.0 of the 2008 FSP.

### **3.3.3 Containerization, Staging and Management of Investigation-Derived Wastes (IDW)**

Excess soil, disposable sampling equipment, used personal protective equipment, and decontamination water and debris generated during the 2009 field sampling activities will be containerized in 55-gallon drums. The drums will be labeled appropriately based on their contents and will be staged temporarily for subsequent waste profiling, transportation, and off-Site disposal, as appropriate. Waste disposal documentation will be retained and included in the 2009 Data Summary Report, described in Section 4.

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## **4 PROJECT COMMUNICATIONS AND REPORTING**

This section describes the project communication and reporting activities that will be undertaken by GE to facilitate the exchange of information related to the 2009 field sampling activities.

### **4.1 Weekly Project Teleconference Calls**

Following initiation of the property access activities described in Section 3.1, GE will initiate weekly project teleconference calls with USEPA, NYSDEC, and NYSDOH. The purpose of the weekly teleconference calls will be to discuss the progress to date, the activities planned for the week, any issues related to property access, and to facilitate the timely exchange of information between GE and the regulatory agencies. The weekly project teleconference calls will be held throughout the duration of the property access outreach and field sampling activities.

### **4.2 Monthly Progress Reports**

Through the duration of the 2009 field sampling activities, GE will prepare Monthly Progress Reports to describe the activities completed. The Monthly Progress Reports will be initiated upon USEPA approval of this FSP Addendum and the AOC, and will continue through submittal of a draft Data Summary Report. The Monthly Progress Reports will include the following:

- A summary of the activities completed during the reporting period
- Results of sampling, tests, and data received during the reporting period
- A summary of planned/scheduled activities for the next reporting period
- Other information related to the progress of the work
- Project percent complete
- A description of any delays encountered or anticipated, and efforts to mitigate those delays

### **4.3 Data Summary Report**

Within 90 days following receipt of all hard-copy analytical results from the laboratory, a Draft DSR will be submitted to USEPA to present the results of the 2009 field sampling activities. Supporting data, including figures containing all data collected as part of the

project to date, data summary tables, laboratory analytical reports, data verification and validation reports, and waste disposal documentation (if available) will be presented in the Draft DSR. Within 30 days following receipt of final written comments from USEPA on the Draft DSR, a Final DSR will be submitted to USEPA that addresses USEPA's comments on the Draft DSR.

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## 5 SCHEDULE

The schedule for the activities discussed in this FSP is presented in Table 5-1 below.

**Table 5-1  
Project Schedule**

<b>Activity</b>	<b>Timeframe/Comments</b>
Initiate property access outreach for properties previously sampled by GE and/or USEPA in 2008.	Ongoing
Mobilization of the field survey and sampling crew to initiate field activities on properties previously sampled by GE and/or USEPA in 2008.	Within 14 days of USEPA approval of this FSP Addendum, execution of an AOC, or receipt of all responses (granted or denied) to the property access outreach effort, whichever occurs last.
Initiate property access outreach for properties targeted for initial sampling in 2009.	Within 7 days of USEPA approval of this FSP Addendum and execution of the AOC.
Initiate field survey, sample location inspection, and sample collection on properties targeted for initial sampling in 2009.	Within 21 days following receipt of all responses (granted or denied) to the property access outreach effort for properties targeted for initial sampling in 2009 and completion of field activities on properties previously sampled in 2008. Although it is anticipated that sampling will be complete well before December 15, sampling will be stopped by December 15, 2009 or sooner if weather conditions do not allow field work to be conducted.
Laboratory Data Validation	Data validation will be completed within 45 days following receipt of the last hard-copy data package from the laboratory.
Submit Draft Data Summary Report	Within 90 days following receipt of the last hard-copy data package from the analytical laboratory.
Submit Final Data Summary Report	Within 30 days following receipt of final written comments from the USEPA on the Draft DSR.

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## 6 REFERENCES

ARCADIS, 2009. *Final Data Summary Report, 2008 Floodplain Sampling Activities, Upper Hudson River*. Prepared by ARCADIS, Albany, NY. April 2009.

QEA and ARCADIS, 2008. Upper Hudson River Field Sampling Plan, Final. Prepared for General Electric Company. September 2008.

Weston Solutions, Inc., 2009. *Sampling Trip Report – Hudson River PCBs (Floodplains) Site, Fort Edward, Saratoga County, New York*. Prepared for EPA under EPA Contract No. EP-W-06-072. May 4, 2009.

APPENDIX A  
CORE PROCESSING STANDARD  
OPERATING PROCEDURE (SOP)

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## Standard Operating Procedure for Soil Core Processing

### I. Introduction

This Standard Operating Procedure (SOP) describes the soil core processing procedures for the 2009 Upper Hudson River Floodplain field sampling activities. Soil samples will be collected manually using a stainless steel Macro-core™ sampling device equipped with an inner acetate liner, stainless steel hand auger, or Lexan tubing.

Field personnel will be responsible for documenting soil sampling activities in the field logbook, as described in the final Upper Hudson River Field Sampling Plan (FSP; QEA and ARCADIS, 2008), and Upper Hudson River 2009 Field Sampling Plan Addendum (FSP Addendum; QEA and ARCADIS, 2009). Qualified personnel will process cores as described in the following sections.

### II. Materials

- Personal protective equipment (as required by the Health and Safety Plan)
- Cleaning and decontamination equipment (as described in the FSP)
- Tape measure
- Cutting shears or specialized core opening device
- Plastic sheeting
- Paper towels
- Aluminum pans
- Sterile wooden tongue depressors
- Dry erase board
- Laboratory-supplied sample containers and labels
- Indelible ink marker
- Packing tape
- Plastic bags
- Ice
- Coolers
- Digital camera
- 55-gallon drums
- Field note book

## Standard Operating Procedure for Soil Core Processing

### III. Procedures for Sediment Core Processing

1. Upon delivery of the soil cores to the processing area, a hard copy of the corresponding field data will be provided to the processing coordinator. If soil samples collected using a hand auger, skip steps 2 through 4.
2. Measure the recovered soil in the acetate liner using a tape measure.
3. Prepare a set of disposable aluminum pans for sectioned soil core segments. Mark each pan with location and corresponding sample depth (i.e., 0 – 6 inches, 6 – 12 inches, and 12 – 24 inches), as appropriate.
4. Place the soil core in a horizontal position and open the soil core using cutting shears or specialized core opening device; cut the tube lengthwise to expose the full intact core.
5. Obtain digital photographs of each core prior to sample processing.
6. Record physical descriptions of each core relative to the soil type (e.g., gravel, coarse sand, fine sand, etc.) and grain size characteristics (e.g., size, sorting, texture, etc.). Soil cores will be described using the following designations: Primary, Some, Little, and/or trace types of grain sizes present.
7. Enter soil observations for each sample depth increment, including sample penetration depth and measured sample recovery into the UHR Floodplains Field Database.
8. Remove representative samples from the core tube in approximately six-inch intervals and transfer the corresponding soil to the respective labeled aluminum pan using sterilized wooden tongue depressors.
9. Remove rocks greater than ½-inch in diameter and other debris (e.g., twigs, grass, and roots) from each sample.
10. Thoroughly blend the soils in each respective pan to obtain a homogeneous mixture.
11. Inspect glassware for evidence of cracks, broken seals, and cleanliness prior to containerizing samples. Discard any unserviceable glassware.
12. Label sample containers with the following information:
  - Site
  - Project Number
  - Sample Identification No. (in accordance with the FSP Addendum)
  - Sample interval
  - Date of sample collection
  - Time of sample collection
  - Initials of sampling personnel
13. Cover the sample label with clear packaging tape to secure the label to the sample container.
14. Containerize the sample in appropriately-sized laboratory-supplied glassware. Seal and store the sample on-ice under chain of custody for subsequent shipment to the laboratory. Samples will be shipped to the laboratory at the end of each day.

## **Standard Operating Procedure for Soil Core Processing**

15. Duplicate samples will be prepared at the same time as the parent sample. Duplicate samples will be labeled as described in the FSP. Information concerning the source of the sample duplicates will be documented in the field notebook for future identification of the duplicate sample.
16. Excess soil, disposable sampling equipment, and used personal protective equipment will be segregated and containerized in separate 55-gallon drums. The drums will be labeled appropriately based on their contents.