Report

Field Implementation Plan for RFI Site Hazardous Waste Storage Area Waste Coolant Tank Santa Susana Field Laboratory, Ventura County, California

Prepared for:

The Boeing Company

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CH2MHILL

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Acronyms

FIP	Field Implementation Plan
GPS	Global Positioning System
HWSA	Hazardous Waste Storage Area
HSP	Health and Safety Plan
ID	location identification number
IDW	investigation-derived waste
JHA	job hazard analysis
LPO	loss prevention observation
MS/MSD	matrix spike/matrix spike duplicate
OSHA	Occupational Health and Safety Administration
PID	photo ionization detector
PPE	personal protective equipment
PTSP	Pre-Task Safety Plan
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RBSL	risk-based screening level
RCRA	Resource Conservation and Recovery Act
RFI	Resource Conservation and Recovery Act Facility Investigation
SHEA	Safety, Health, and Environmental Affairs
SOP	Standard Operating Procedures
SSFL	Santa Susana Field Laboratory
SWMU	Solid Waste Management Unit
WCT	Waste Coolant Tank
VOCs	Volatile Organic Constituents

Field Implementation Plan, RFI Site Hazardous Waste Storage Area Waste Coolant Tank Santa Susana Field Laboratory, Ventura County, California

This document presents the Field Implementation Plan (FIP) for the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) site Hazardous Waste Storage Area (HWSA) Waste Coolant Tank (WCT) in Group 3, Santa Susana Field Laboratory (SSFL) in Ventura County, California. The purpose of this report is to document how the field investigation proposed in the *Sampling and Analysis Plan for RFI Site Hazardous Waste Storage Area Waste Coolant Tank, Santa Susana Field Laboratory, Ventura County, California* (HWSA WCT SAP) (CH2M HILL, 2008a) will be implemented. This FIP also includes details regarding the schedule and costs for implementing the HWSA WCT SAP.

Scope of Work

Soil samples will be collected from five locations at the HWSA WCT Site. Sample locations are presented in Figure 1. The field investigation will be implemented in accordance with the Standard Operating Procedures (SOPs) described in the Group 1B FIP (CH2M HILL, 2008b).

Pre-Field Investigation Activities

Prior to conducting any sampling activities, all sample locations will be staked using wooden stakes and surveyed in accordance with SOP 2 of the Group 1B FIP, Surveying of Soil Borings. The sampling location identification number (ID) will be indicated on wooden stakes. During or immediately following staking, CH2M HILL will notify Boeing of the areas that may require removal of vegetation, materials, or equipment in order to access and sample those areas.

After sampling locations have been staked and cleared of obstructions that prevent access, the locations where subsurface sampling is planned will be cleared of utilities in accordance with SOPs 1 and 3 of the Group 1B FIP (Utility Clearance and Surface Geophysics). An area of approximately 10 feet by 10 feet around each sampling location will be cleared by USA Dig Alert and ULS Services Corporation. Any utilities or subsurface anomalies located during the utility clearance will be marked on the ground. In addition, CH2M HILL will consult with Boeing Plant Services to verify that the planned sample locations are not co-located with or adjacent to utilities shown on the Plant Services' maps. If the sampling location must be changed due to subsurface obstructions identified during the utility clearance or at the time of sampling, or due to sampling rig refusal, the new location will be placed as close as possible to the original location and surveyed using a Global Positioning System (GPS) at the time of sampling.

Sample Collection

Following staking and utility clearance, borings will be advanced to collect subsurface samples using a hand auger in accordance with SOP 7 of the Group 1B FIP. Shallow hand auger soil samples will be collected to a depth of 10 feet to assess human health and ecological risk.

In the event that field conditions (for example, soil thickness) at a planned sampling location are substantially different than planned, Figure 2 of the Group 1B FIP presents a decision tree that outlines the decision-making protocol for addressing changes to the planned sampling approach. As indicated in Figure 2 of the Group 1B FIP, if refusal above the target sampling depth is encountered, a sample will be collected from the deepest interval possible if the refusal depth is less than or equal to 2 feet above the target depth.

Soil samples will be collected in accordance with SOP 7 of the Group 1B FIP, Hand-Auger Sampling. The lithology of the boreholes will be logged in accordance with SOP 9 of the Group 1B FIP, Borehole and Trench Sampling Logging. No trench samples will be collected at the HWSA WCT site.

Based on the results of the sampling proposed in the HWSA WCT SAP, additional step-out sampling may be required to define the lateral and/or vertical extents of contamination at the HWSA WCT Site. Step-out sampling locations for sample concentrations that exceed RBSLs or background concentrations will be selected according to the criteria described in the HWSA WCT SAP. Figure 3 of the Group 1B FIP illustrate the sequence and timing of the steps for identifying and collecting step-out and step-down soil samples. If additional step-out sampling is required, proposed additional sampling locations will be hand marked on the appropriate color-coded site map(s) from the HWSA WCT SAP and provided to the Field Leader for field checking of accessibility.

Additional quality assurance/quality control (QA/QC) samples, including field duplicates (5 percent frequency), matrix spike/matrix spike duplicate (MS/MSD) (5 percent frequency), and equipment rinsate samples or blanks (1 per day per equipment type), will be collected in accordance with SOP 11 of the Group 1B FIP, Quality Control Sampling. QA/QC samples will also be collected in accordance with the *Quality Assurance Project Plan (QAPP), SSFL, RFI Surficial Media Operable Unit* (MECx, 2008).

Decontamination and Waste Management

Following all sampling, equipment will be decontaminated in accordance with SOP 12 of the Group 1B FIP, Decontamination of Personnel and Equipment. Waste Management will be managed in accordance with SOP 13 of the Group 1B FIP, Investigation-Derived Waste Management. Please refer to the Group 1B FIP for further information.

Sample Management

Samples will be tracked electronically using the SMART tool developed by CH2M HILL. Please refer to the Group 1B FIP for further information.

Samples will be shipped via Federal Express overnight delivery service to offsite laboratories for analysis. The nearest drop-off facility accepts packages for east coast delivery until 6:00 pm and is located at:

Federal Express
21300 Vanowen Street
Canoga Park, CA 91303

Field Documentation

Field activities will be documented in accordance with SOP 16 of the Group 1B FIP, Documentation and Records. Please refer to the Group 1B FIP to determine what documentation and records to include.

Health and Safety

The CH2M HILL Field Lead or designee will be the Safety Coordinator for the CH2M HILL project work. The Safety Coordinator will maintain copies of the training and medical monitoring records in a file onsite, which were collected prior to the Group 1B field sampling event for the subcontractors to be used at the Group 3 HWSA WCT Site.

Daily tailgate meetings will be conducted onsite with all project personnel prior to the start of activities to discuss field crew activities for the day and to conduct a safety meeting. The purpose of the safety meeting is to review the hazards posed and the required health and safety procedures/job hazard analyses (JHAs) that apply for each day's project activities, in accordance with the Health and Safety Plan (HSP) (CH2M HILL, 2008c). At the start of each day's activities, the CH2M HILL Safety Coordinator or designee will complete the Pre-Task Safety Plan (PTSP) provided in the HSP with input from the field crews during the daily safety meeting.

Each field vehicle will be required to have a CH2M HILL Health and Safety Dashboard Card placed visibly on the dashboard at all times while onsite. The Dashboard Card, intended to serve as the Boeing Emergency Notification Card specified in the Boeing Pre-Field Checklist, contains key safety contact information, procedures, and a map to the nearest hospital. A copy of a Dashboard Card is provided in Appendix C of the Group 1B FIP.

Each field sampling crew will conduct air monitoring during sampling activities using a photo ionization detector (PID). The PID will be calibrated on a daily basis according to the manufacturer's procedures, as described in the HSP and documented in the field notebook.

Field personnel will be required to wear Modified Level D PPE during sampling, decontamination, and waste management activities. Modified Level D PPE includes cotton coveralls or uncoated Tyvek, steel-toe chemical resistant or leather work boots, inner surgical-style nitrile gloves, outer chemical-resistant nitrile gloves, safety glasses, hardhat, and ear protection with the ability to upgrade if necessary, as described in the HSP and as determined in the field by the CH2M HILL Safety Coordinator. CH2M HILL will provide PPE for CH2M HILL employees. Subcontractor personnel and visitors to the SSFL site are expected to provide their own PPE.

The CH2M HILL Safety Coordinator will conduct loss prevention observations (LPOs) for specific work tasks or operations by comparing the actual work process to established safe work procedures identified in the HSP and JHAs. LPOs are a tool used by the CH2M HILL Safety Coordinator to provide positive reinforcement for work practices performed

correctly, while eliminating deviations from safe work practices that could result in a loss. The LPOs will be performed and documented as described in the HSP.

Field Staff and Field Equipment and Supplies

The personnel who will be assisting with the field investigation in HWSA WCT Site are listed in Table 1 of the Group 1B FIP. All personnel are U.S. citizens or permanent residents of the U.S., have at least 3 years of relevant field experience, and have satisfied the necessary health and safety requirements. Both the field lead and the field lead alternate are registered professionals. The field lead and/or the field lead alternate will be present during conduct of all field activities.

Table 1 of the Group 1B FIP also provides information on the dimensions and type of field vehicles to be used by field personnel during the field investigation in the HWSA WCT Site. CH2M HILL will communicate with Boeing if additional or different field staff, beyond those identified in Table 1 of the Group 1B FIP, are needed to support the HWSA WCT Site field investigation.

Field equipment and supplies that will be provided by CH2M HILL and/or its subcontractors are listed in Table 2 of the Group 1B FIP, along with equipment and supplies that Boeing has offered to provide. For any digital camera equipment, Boeing requires CH2M HILL to provide the camera brand, its serial number, and the name of the person who possesses the appropriate SSFL security badge and is designated to use the camera. The camera information will be included on that person's security badge. CH2M HILL understands that Boeing will provide shared office space with electrical power, wireless internet network access, and a limited amount of office furniture in Boeing's Safety, Health, and Environmental Affairs (SHEA) Building 436.

Communication

Please refer to the Group 1B FIP.

Schedule

Presampling Activities

- Staking of the five sample locations will be performed by one crew on January 6, 2009.
- Sampling locations will be surveyed by the field crew using a GPS with submeter accuracy during marking and staking the sampling locations on January 6, 2009.
- Utility clearance of five sample locations will be completed by one utility clearance crew on January 7, 2009. CH2M HILL understands that Boeing will not require a CH2M HILL escort for utility clearance crews.

Sampling Strategy

- One field sampling crew, equipped with a hand auger, will collect the samples scoped in the HWSA WCT SAP on January 8 and/or January 9, 2009. Additional step-out samples will be collected as required.

Numbers of Samples and Locations

The numbers of samples to be collected during the field investigation in The HWSA WCT Site are shown below and are consistent with the HWSA WCT SAP (CH2M HILL, 2008a).

- Total Number of Sampling Locations = 5
- Total Number of Samples to be collected including hold samples = 15
- Additional QA/QC samples will be collected in accordance with SOP 6, including field duplicates (5 percent frequency), MS/MSD (5 percent frequency), and Equipment Rinsate Blanks (1 per day per equipment type). The time for collecting these additional samples is included in the sampling rate.

Fieldwork Duration

- Total duration of pre-field activities, including staking and utility survey is estimated to be 2 days (January 6, 2009 and January 7, 2009). Based on the judgment of the CH2M HILL field lead, vegetation clearance may be necessary and can extend the duration of the pre-field activities.
- Total duration of sampling is estimated to be 2 days (January 8, 2009 and January 9, 2009).
- Duration of Field Days = 8 hours.

Sampling and Analysis Rates

- Average sampling rate of 10 samples per day per field sampling crew.
- Offsite laboratory turnaround time for soil samples will be 5 days.

Costs

The estimated costs for implementing the HWSA WCT Site fieldwork are provided in Appendix A. The costs are based on the assumptions provided above for the schedule and as shown in the cost estimate table.

References

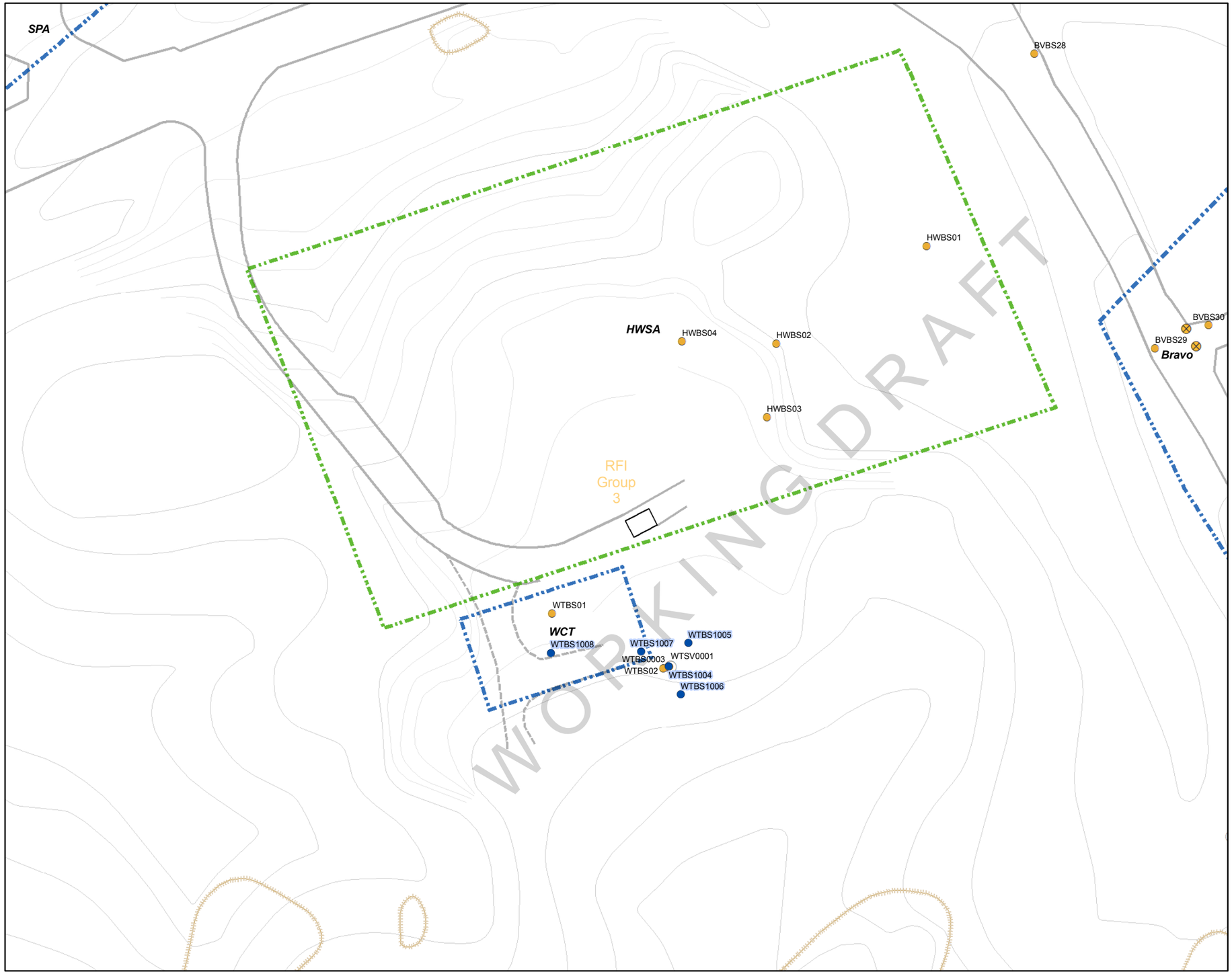
CH2M HILL. 2008a. *Sampling and Analysis Plan for Hazardous Waste Storage Area Waste Coolant Tank, Santa Susana Field Laboratory, Ventura County, California.* December.

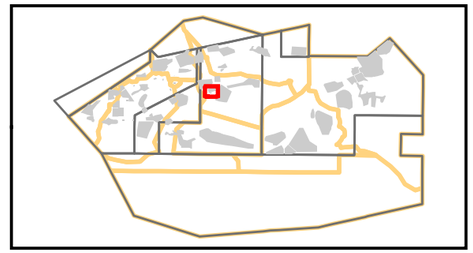
_____. 2008b. *Field Implementation Plan for RFI Group 1B, Santa Susana Field Laboratory, Ventura County, California.* August.

_____. 2008c. *Final Health and Safety Plan, Resource Conservation and Recovery Act Facility Investigation Reporting, Santa Susana Field Laboratory*. September 14.

MECx. 2008. *Quality Assurance Project Plan (QAPP), SSFL, RFI Surficial Media Operable Unit, Revision 2*. October 2008.

Figures





Proposed Sampling

- Soil Matrix/Boring Sample
- Soil Matrix/Boring Transformer Sample
- Soil Vapor
- Soil Matrix/Berm or Leach Field Trench Sample

Basemap Legend

Building - Existing	RFI Site - Boeing	Surface Drainage Divide
Building - Removed	RFI Site - DOE	Road - Asphalt
Building - Not Yet Determined	RFI Site - NASA	Roads - Dirt
Transformer - Existing	RFI Site Buffer	Rocks
Transformer - Removed	RFI Group Boundary	Streams
Transformer - Not Yet Determined	Administrative Area	Pond
	Property Boundary	

Soil	Groundwater	Water - Surface (Seep)
Soil - Composite	Groundwater - Lysimeter	Biological
Soil - Sediment	Groundwater - Spring	Other
Soil - Surface	Water - Artificial	Sump
Air - Soil Vapor	Water - Discharge	
Air	Water - Surface	

Sample Location Map
HWSA Waste Coolant Tank

Date: January 5, 2009

WORKING DRAFT

Document: \\..MapFiles\RFI_03\RFIGrp3_HWSA_WCT_BL.mxd

1 inch equals 50 feet

0 50 100 Feet

SANTA SUSANA FIELD LABORATORY

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Figure 1

Appendix A
Cost Estimate

Appendix D

Hazardous Waste Storage Area Waste Coolant Tank RFI Site- BOEING FIELDWORK AND LABORATORY COST ESTIMATE SUMMARY

Basis of Estimate

1)	Number of Soil Samples Planned (incl. holds, and contingency for stepouts)	21
2)	Number of Soil Vapor Samples Planned (with contingency for stepouts)	-
3)	Assumed number of total locations (for staking, geophysical and GPS survey)	5
4)	Average Sample Production Rate (per 2-Person Crew per Day)	10
5)	Location Survey and Geophysical Survey Rate (average # of locations per day)	40
6)	Number of Field Days for Soil Sampling	1
7)	Number of Field Crews for Soil Sampling	1
8)	Number of Field Days for Soil-gas Sampling	-
9)	Number of Field Crews for Soil-gas Sampling	-
10)	Number of Field Crews for Staking/Surveying	1
11)	Number of Drill Rigs Needed	-
12)	Number of Mobile Labs Needed	-

Contingencies	
For Stepout and QC Sampling =	**5%**
Analytical QA/QC % =	**30%**
Analytical Work on stepouts =	**5%**

No.	Task	Description	Activity Type	Quantity	Average Unit Rate	Units	Cost	Notes
1	Geophysical clearance	Utility clearance of all sampling locations	Field	1	$ 750	per day	$ 750	Geophysical clearance will begin prior to field sampling and will occur simultaneously but ahead of field sampling
2	Field work implementation	Labor costs for Sample collection and field data collection	Field	1	$ 3,738	per day	$ 3,738	Assumes 1 field crew and a CH2M HILL field lead will be needed to oversee and perform hand augering at sample locations.
3	Fixed Lab	Analytical soil sampling costs	Field	1	$ 11,250	LS	$ 11,250	
4	Miscellaneous Expenses not included in Daily Rate	Miscellaneous field expenses include : a) SS sleeves (6" x 2" dia) with end caps for soil samples , b) Two-way Radios, c) GPS rental, d) Dust monitor, e) Cameras, f) printer/ scanner/ copier/ fax, etc.	Field	1	$ 100	LS	$ 100	Accounts for miscellaneous expenses related to field work implementation that are not included in daily field rates.
						Total Cost	**$ 15,838**	

Total Field work costs excluding Analytical	$ 4,588