

1:55 pm, Aug 16, 2007

Alameda County
Environmental Health

August 13, 2007

Steven Plunkett
Alameda County
Department of Environmental Health
Local Oversight Program
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Re: ACEH Project No. RO0000376

Dear Steven:

Enclosed please find a copy of The Work Plan for Soil And Groundwater Investigation, 5515 Doyle Street, Emeryville, CA prepared for Ronald Silberman of Fordham Properties
If you have any questions, please call me at (510) 420-2584.

Sincerely,



Norman T. Ozaki
Principal

CC: Ron Silberman

**WORK PLAN FOR
SOIL AND GROUNDWATER INVESTIGATION
5515 DOYLE STREET
EMERYVILLE, CALIFORNIA
ACEH Project No. RO0000376**

Prepared for:

Mr. Ronald Silberman
Fordham Properties
5515 Doyle Street
Emeryville, California 94608

Prepared by:

ENVIRON International Corporation
Emeryville, California

August 10, 2007
Project No. 03-18392A

Prepared by:

ENVIRON International Corporation
6001 Shellmound Street, Suite 700
Emeryville, California 94608



Norman T. Ozaki, Ph.D.
Principal



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1.0 INTRODUCTION

On behalf of Mr. Ronald Silberman of Fordham Properties, ENVIRON International Corporation (“ENVIRON”) has prepared this work plan for additional soil and groundwater investigation at the property located at 5515 Doyle Street, Emeryville, California (the Site), as shown on Figure 1. This work plan has been prepared in response to a letter to Fordham Properties from the Alameda County Department of Environmental Health (ACDEH) dated January 18, 2007, in which the ACDEH requested additional site characterization to be completed for consideration of site closure.

A 550-gallon underground storage tank (UST) was removed previously by Cottle Engineering in 1994. In 1995, SOMA Corporation (SOMA) performed soil removal at the Site by excavating approximately 90 cubic yards (yd³) of soil. Following the submittal of a soil removal completion report (SOMA, 1995), the ACDEH requested a grab groundwater sample be collected from the down-gradient direction of the former UST location. Although a work plan was submitted to the ACDEH pursuant to this request, a groundwater investigation report was not submitted. This work plan describes the activities associated with the proposed supplemental soil and groundwater investigation.

1.1 SITE DESCRIPTION

The Site is located just south of the southwest corner of Doyle Street and Stanford Avenue in Emeryville, California (Figure 1). The property is essentially flat. The rear of the property abuts an inactive railroad spur that has been redeveloped into a mixed use pedestrian walkway and off-street parking, known as “Spur Alley”. The property line along the former railroad spur is delineated by a retaining wall. The height of the retaining wall is 2 feet 6 inches at the northern boundary of the Site and 4 feet 5 inches at the southern boundary of the Site. These dimensions reflect the elevation of the rear boundary of the property along the former railroad spur. A warehouse covers most of the property. The portion of the warehouse immediately adjacent to the location of the former UST is subdivided into suites that are currently occupied by approximately ten businesses.

1.2 SITE BACKGROUND

Based on ENVIRON’S review of a previous subsurface investigation conducted by SOMA Corporation (SOMA), Cottle Engineering excavated and removed one 550-gallon UST located at the rear of the Site in August, 1994 (SOMA 1995). Prior to initiation of UST excavation activities, an Underground Storage Tank Closure Plan was submitted to the ACDEH. Due to the detection of petroleum hydrocarbons in the soil collected from beneath the UST, the excavation was not backfilled after the tank was removed.

In April 1995, soil removal activities were performed by SOMA. Approximately 90 yd³ of soil

was excavated from the UST pit to a depth of 9.5 feet below grade. Excavated soil was classified as non-hazardous and disposed of at Forward Landfill, Inc. in Manteca, California.

Confirmation soil samples were collected from the excavation sidewalls and bottom following the SOMA soil removal activities in 1995. Elevated levels of Total Petroleum Hydrocarbons (TPH) as gasoline (TPHg), diesel (TPHd), and benzene, toluene, ethylbenzene, and xylene (BTEX) compounds were detected in the soil samples collected from the south excavation sidewall and bottom of the excavation site (Table 1 and Figure 2). Groundwater was not encountered during the removal of the UST or during the April 1995 soil removal activities, but is expected to be at a present depth of approximately 10 to 12 feet below ground surface (bgs).

Based on the confirmation soil sample results, the ACDEH requested a groundwater grab sample be collected from the down gradient direction of the former UST location to assess the possible presence of petroleum hydrocarbons in groundwater. A work plan for a limited groundwater investigation was submitted to ACDEH, dated January 27, 1998 (SOMA 1998); however, a groundwater investigation report was never submitted.

2.0 PROPOSED SCOPE OF WORK

The proposed investigation includes the following tasks:

- Task 1 – Field Mobilization
- Task 2 – Soil and Groundwater Sampling
- Task 3 – Laboratory Analyses
- Task 4 - Reporting

Each task is described in the following sections.

2.1 TASK 1 – FIELD MOBILIZATION

Prior to the start of field work, ENVIRON will prepare a site-specific Health and Safety (H&S) plan to minimize exposure of ENVIRON field personnel to potentially hazardous materials. ENVIRON will file a permit application with the Alameda County Public Works Agency, Water Resources Section (required for advancing soil borings); the County requires ten days to review such applications and issue a permit for subsurface investigations. ENVIRON will also mark boring locations at the Property and notify Underground Services Alert (USA).

As part of this task, ENVIRON will retain subcontractors to conduct the field work (e.g., private utility locator and driller) and to perform laboratory analyses. ENVIRON will retain and monitor a subcontractor to clear the proposed boring locations for underground utilities such as gas, water, phone, and sewer lines. This task is performed to minimize the possibility of damaging subsurface utilities encountered during the investigation.

2.2 TASK 2 – SOIL AND GROUNDWATER SAMPLING

The overall purpose of this proposed soil and groundwater investigation is to obtain additional data in order to characterize the soil and groundwater at the Site in the vicinity of the former UST.

Direct push drilling methods will be used to collect additional soil samples and one-time groundwater samples at the six locations shown on Figure 2. Groundwater samples will be collected at all 6 sampling locations. Soil samples will be collected at three of the sampling locations, SGW-2, SGW-3, and SGW-5. The placement of these proposed sample locations are based on ENVIRON's current understanding of the former UST excavation location, groundwater flow direction, and existing soil analytical data. As the most recent analytical data available is greater than 10 years old, ENVIRON proposes to advance soil borings both up and down gradient of the former UST (SGW-1, SGW-3, and SGW-4). An attempt will be made to

collect a groundwater sample from the approximate center of the UST excavation, adjacent to confirmation sample S-5 (SGW-2). In addition, one boring (SGW-5) will be advanced east of the excavation between the former UST and Site building to investigate potential residual effects from a pipe indicated by Cottle (SOMA 1998). Cottle does not discuss the nature of this pipe, but it may have been a vent pipe for the UST. Cottle has indicated that they removed 15 linear feet of pipe from the Site. Based on the possible limited access to several of the proposed boring locations, a limited access drilling rig may be used.

2.2.1 One-Time Groundwater Sample Collection Procedures

One-time groundwater samples will be collected from the 6 direct push soil borings (SGW-1 through SGW-6, shown on Figure 2). The samples will be collected from first encountered groundwater, which is expected at an approximate depth of 10 to 12 feet bgs. Groundwater samples will be collected either by placing a temporary PVC well screen in the boring or by advancing a discrete depth screen point sampler immediately adjacent to the initial soil boring. When the screen point sampler is at the desired sampling depth, the sampler will be opened, allowing groundwater to flow into the open screen. Sufficient quantities of groundwater for laboratory analysis will be collected using dedicated disposable bailers. Field pH, temperature, and conductivity measurements will be collected from the groundwater in each boring using a hand-held meter. One equipment rinse blank sample will be collected and analyzed to evaluate potential bias introduced to the sample during decontamination procedures, sample collection, and analysis. One duplicate groundwater sample will be collected to evaluate potential bias introduced to the sample during laboratory analysis. The equipment blank and duplicate samples will be analyzed for the same constituents as the groundwater samples. In addition, one trip blank provided by the laboratory will be kept with the sample containers continually and analyzed for BTEX and TPHg.

In the event that refusal is experienced at location SGW-2 due to the backfill material of the UST excavation, an alternate location will be sought on the southern end of the excavation in the vicinity of where conformation sample S-3 was sampled.

Sample Handling Procedures: For groundwater samples collected in glass VOA vials, an attempt will be made to seal the bottles with zero head space in the bottles. All sample bottles will be labeled with the sample name, date and time collected, and sampler's initials and placed in Ziploc™-type bags prior to storing on ice in coolers. The groundwater samples will be submitted for analysis to a California certified analytical laboratory under chain-of-custody protocol. The groundwater samples will be tested for BTEX, MTBE, TPHg, and TPHd.

2.2.2 Soil Sample Collection Procedures

Continuous soil cores will be collected, logged according to the Unified soil Classification System (USCS), and screened in the field by an ENVIRON geologist or engineer for organic vapors using a photoionization detector (PID) such as a MiniRae 2000 or similar model. The direct-push sampling system uses stainless-steel probes to collect soil cores in four-foot acetate

liners, from which soil sample(s) will be collected. At proposed boring locations SGW-2 and SGW-3, where historical analytical data has indicated petroleum impacted soil, samples will be collected from a six-inch interval at approximately 9 ft. below ground surface (bgs) and immediately above first encountered groundwater. At location SG-5, samples will be collected at 3 ft., 6 ft, 9 ft. bgs, and immediately above groundwater. Additional soil samples may be collected from the remaining 3 borings if there is evidence of contamination based on field screening (visual, olfactory, or PID readings above background concentrations). In the event that observed contamination extends to the depth at which ground water is first encountered, a soil sample will be collected from the six-inch interval above the water table interface. Selected soil samples will be analyzed for the designated chemical compounds.

Sample Handling Procedures: After sample tubes are extracted from the ground, the ends will be covered with Teflon™ tape and sealed with plastic end caps and silicone tape. The soil samples will be labeled indicating the project number, sample identification number, date and time of sample collection, and initials of the sampler. The label will be placed directly onto the side of the sampling sleeve. Each sample will then be placed in a re-sealable Ziploc™ type plastic bag and sealed. Samples will be packed in insulated coolers containing ice and shipped to a California certified analytical laboratory under chain of custody protocol. The selected soil samples will be analyzed for BTEX, MTBE, TPHg, and TPHd.

2.2.3 Borehole Abandonment

Following collection of the groundwater samples, the soil borings will be grouted to ground surface using a neat cement grout or bentonite pellets. In the event standing water is present, the neat cement grout will be placed by means of a tremie pipe lowered to within three feet of the underlying layer of material or bottom of the soil boring. The tremie pipe will remain in place in the neat cement grout until placement is complete. The surface will be patched to match the surrounding pavement.

2.2.4 Equipment Decontamination Procedures

Decontamination of non-dedicated sampling equipment will be conducted by the sampling subcontractor prior to and in between collection of each sample. Decontamination of any reusable sampling equipment will consist of an Alconox wash, double rinse with de-ionized water, and a final steam cleaning. Decontamination rinse water or other investigation-derived wastes will be stored in a labeled 55-gallon drum or 5-gallon bucket(s) at the Site for future characterization and disposal.

2.3 TASK 3 – LABORATORY ANALYSES

The soil and groundwater samples will be analyzed by a California State certified laboratory for:

- TPHd using EPA Method 8015M;
- TPHg using EPA Method 8015M;

- BTEX and MTBE using EPA Method 8020

ENVIRON will retain a California State-Certified laboratory as a subcontractor to provide the aforementioned analyses.

2.4 TASK 4 – REPORTING

Upon completion of field work and receipt of laboratory results, ENVIRON will prepare a letter report summarizing the field activities described above. The report will include a description of field activities, a site map depicting investigative locations, tables and figures summarizing analytical results, a discussion an interpretation of results, and conclusions. The letter will also include laboratory reports and chain-of-custody forms.

This report will be prepared and submitted to ACDEH following review by a California Professional Geologist or Professional Civil Engineer within two weeks following receipt of laboratory analytical results.

3.0 IMPLEMENTATION SCHEDULE

The approximate estimated duration for each task and the schedule for the work at the Site are presented below. The estimated durations and proposed schedule do not include work delays due to events beyond the control of Fordham Properties and ENVIRON.

3.1 SCHEDULE

Once we have received approval of the Workplan from ACDEH, it is estimated that the total time to complete this limited ground-water investigation is 6 to 8 weeks. It is anticipated that Tasks 1 through 3 could be completed within about 4 to 6 weeks of receiving the ACDEH's approval of the Workplan, assuming a normal two- week laboratory turnaround time for sample analysis. A technical report of the results of the limited ground-water investigation (Task 5) can be prepared within 2 weeks of ENVIRONs' receipt of the laboratory data.

4.0 REFERENCES


SOMA. 1995. Soil Remediation Activities: Fordham Property, 5515 Doyle Street, Emeryville, California. Prepared for Mr. Ronald Silberman, Fordham Properties.

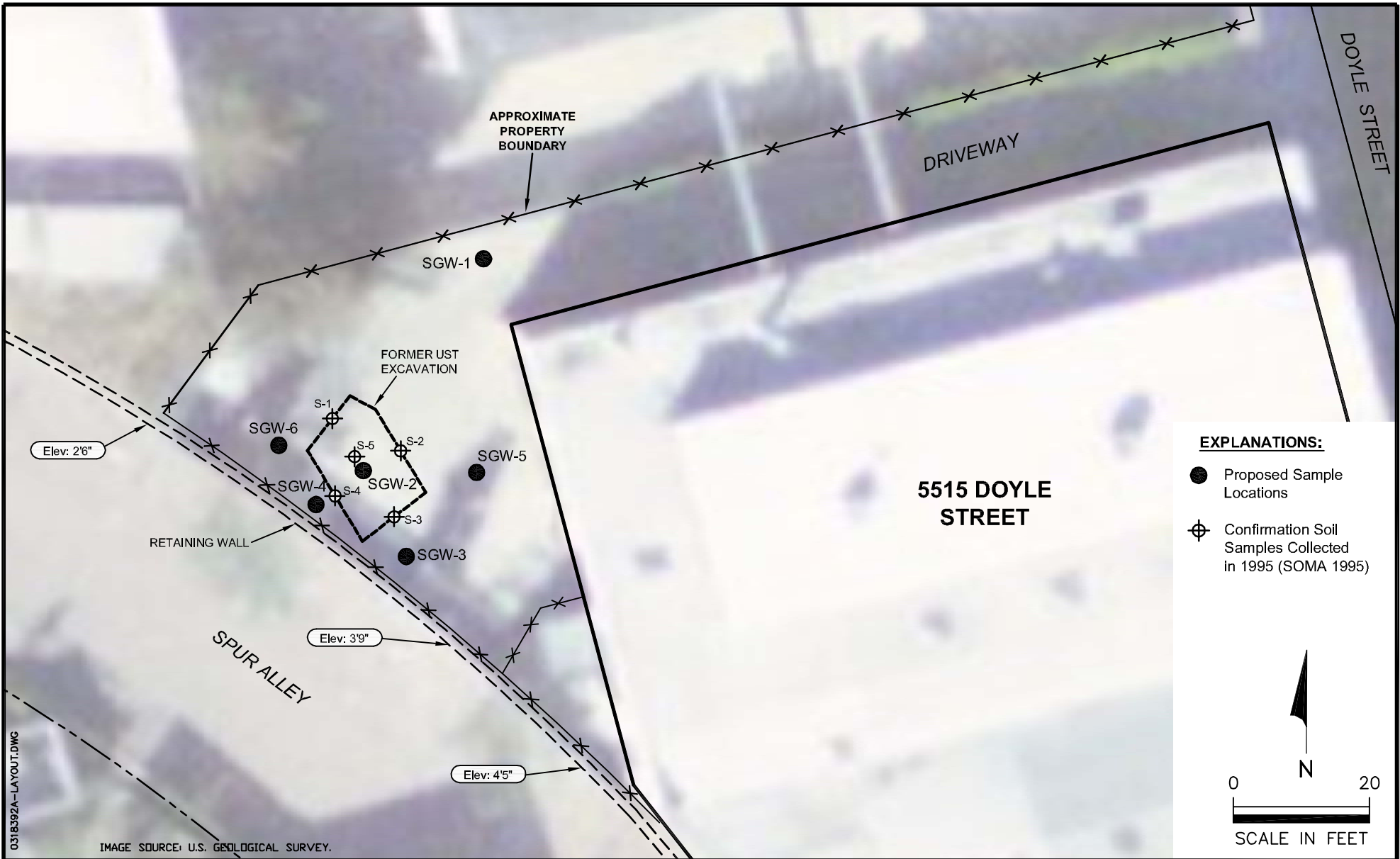
SOMA. 1998. Workplan for Limited Groundwater Investigation: 5515 Doyle Street Property, Emeryville, California. Prepared for Mr. Ronald Silberman, Fordham Properties.



SOURCE: USGS Map 7.5 Min Series (Topographic) OAKLAND WEST QUAD, California, Terraserver.

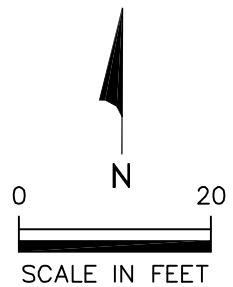
0318392A-VICMAP.DWG

	<p>Site Location 5515 Doyle Street Emeryville, California</p>	<p>Figure 1</p>		
<p>Drafter: RS</p>	<p>Date: 8/1/07</p>	<p>Contract Number: 03-18392A</p>	<p>Approved:</p>	<p>Revised:</p>



EXPLANATIONS:

- Proposed Sample Locations
- ⊕ Confirmation Soil Samples Collected in 1995 (SOMA 1995)



0318392A-LAYOUT.DWG

IMAGE SOURCE: U.S. GEOLOGICAL SURVEY.

ENVIRON

Proposed Sample Locations
 5515 Doyle Street
 Emeryville, California

Figure
2

Drafter: RS Date: 8/1/07 Contract Number: 03-18392A Approved: Revised:

**Table 1. Historical Soil Data (mg/kg).
Fordham Properties, 5515 Doyle Street**

Sample ID	Sample Date	Location	Depth (ft)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
UST Removal										
Bottom	8/94	UST Bottom	--	4,200	NA	0.22	87	90	540	NA
Excavation Confirmation Samples (S-1 to S-5)										
S-1	04/03/95	North	<9	<0.2	<1	<0.005	<0.005	<0.005	<0.005	5
S-2	04/03/95	East	<9	4.9	10	<0.005	<0.005	0.071	0.016	6
S-3	04/03/95	South	<9	370	260	0.29	<0.005	0.35	0.64	7
S-4	04/03/95	West	<9	<0.2	<1	<0.005	<0.005	<0.005	<0.005	4
S-5	04/03/95	Bottom	9.5	5,200	580	24	180	120	590	11
GSW-3-4	6/10/98	--	4	<1	<1	<0.005	<0.010	<0.010	<0.010	NA
SW-4-4	6/10/98	--	4	13	190	<0.010	<0.010	<0.010	<0.010	NA

Notes:

NA = Not analyzed

-- = Unknown

SAMPLE DOCUMENTATION AND CUSTODY PROCEDURES

DOCUMENTATION

The following information will be entered on the sample collection data forms at the time of sampling:

- Project name and number
- Sampler's name
- Time and date of sampling
- Sampling location
- Sampling method
- Sample number
- Sample condition (disturbed/undisturbed)
- Laboratory analyses requested
- Type of preservative, if any

Each sample will be packaged and transported appropriately, as described in the following protocol:

- Collect samples in appropriately-sized and prepared containers
- Properly seal and package sample containers.
- Fill out field sample log and chain-of-custody and analyses request forms.
- Separate and place samples into coolers according to laboratory destination. Samples will be packaged so that the potential for shipping damage is minimized.
- Chill samples to approximately 4°C. Blue ice or regular crushed ice used in the coolers will be sealed in a plastic bag other than the one in which it was purchased.
- Seal the top two copies of the chain-of-custody form inside a zip-lock bag.
- Seal cooler with several strips of strapping tape.

SAMPLE CUSTODY

In order to check and link each reported datum with its associated sample, sample custody and documentation tracking procedures were established. Three separate, interlinking documentation and custody procedures for field, office, and laboratory can be described. The chain-of-custody (COC) forms, which are central to these procedures, are attached to all samples and their associated data throughout the tracking process.

FIELD CUSTODY PROCEDURES

Field documentation will include sample labels, field investigation daily log, and chain-of-custody and analyses request forms. These documents will be filled out in indelible ink. Any corrections to the document will be made by drawing a line through the error and entering the correct value without obliterating the original entry. Persons correcting the original document will be expected to initial any changes made.

Sample Labels

Labels will be used to identify samples. The label is made of a waterproof material with a water-resistant adhesive. The sample label, to be filled out using waterproof ink, will contain at least the following information:

- Sampler's name
- Sample number
- Date
- Time
- Sample location
- Preservative used

Field Investigation Daily Log

A field log will be used to record daily field activities. The field geologist/engineer is responsible for making sure that a copy of the field log is sent to the project file as soon as each sampling round is completed. Field log entries will include the following:

- Field worker's name
- Field log number
- Date and time data are entered
- Location of activity
- Personnel present on-site
- Sampling and measurement methods
- Total number of samples collected
- Sample numbers
- Sample distribution (laboratory)
- Field observations, comments
- Sample preservation methods used, if any

Chain-of-Custody (and Analysis Request) Form

The chain-of-custody (COC) form is filled out for groups of samples collected at a given location on a given day. The COC will be filled out in triplicate form, and will accompany every shipment of samples to the respective analytical laboratories.

Two copies will accompany the samples to the analytical laboratory. The third copy is kept in the ENVIRON QA/QC file. The COC makes provision for documenting sample integrity and the identity of any persons involved in sample transfer. Other information entered on the COC includes:

- Project name and number
- COC serial number
- Project location
- Sample number
- Sampler's/recorder's signature
- Date and time of collection
- Collection location
- Sample type
- Number of sample containers for each sample
- Analyses requested
- Inclusive dates of possession
- Name of person receiving the sample

- Laboratory sample number
- Date of sample receipt
- Address of analytical laboratory

Attachments: Field Investigation Daily Log

Field Soil Boring Log

Chain-of-Custody



6001 Shellmound St., Suite 700
 Emeryville, California 94608
 (510) 655-7400
 (510) 655-9517 (FAX)

FIELD SOIL BORING LOG

PRELIMINARY FIELD DRAFT - REVIEW PENDING

(CONT'D)

SAMPLE DEPTH	SAMPLER TYPE	BLOWS IN 6 INCHES	FEET DRIVEN	FEET RECOVERED	PID/FID (TOVs)	SAMPLE NUMBER	TIME	DEPTH IN FEET	USGS CODE/CONTACT	DEPTH IN FEET	BORING NUMBER: _____	
											PROJECT NAME/NUMBER: _____	
SAMPLE DESCRIPTION												
								1				
								2				
								3				
								4				
								5				
								6				
								7				
								8				
								9				
								0				
								1				
								2				
								3				
								4				
								5				
								6				
								7				
								8				
								9				
								0				

CHAIN-of-CUSTODY

PROJECT NAME / FACILITY ID: _____ FIELD PERSON: _____

PROJECT NUMBER: _____ DATE: _____ PROJECT MANAGER: _____

PROJECT LOCATION: _____ LABORATORY: _____

IS THIS A UST PROJECT OR IS EDF REQUIRED? Y N IF YES, GLOBAL ID #: _____ WO#: _____

SAMPLER:	YEAR	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH	MATRIX (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED							COMMENTS	
SIGNATURE:																	
SAMPLE I.D. NUMBER																	
TOTAL		X	X	X													

RELINQUISHED BY: _____	TIME/DATE: _____	RECEIVED BY: _____	TIME/DATE: _____	TURNAROUND TIME (CIRCLE ONE)	SAMEDAY	72 HOURS
RELINQUISHED BY: _____	TIME/DATE: _____	(COMPANY): _____	RECEIVED BY: _____		24 HOURS	5 DAYS
RELINQUISHED BY: _____	TIME/DATE: _____	(COMPANY): _____	RECEIVED BY: _____		48 HOURS	NORMAL
RELINQUISHED BY: _____	TIME/DATE: _____	(COMPANY): _____	RECEIVED BY: _____	SAMPLE INTEGRITY	IF SEALED, SEAL INTEGRITY	
				INTACT: Y N Temp _____	INTACT: Y N	

H = HCL; N = HNO3; S = H2SO4; U = UNKNOWN; NO = NONE; O = OTHER