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November 8, 1996

VIA U.S. MAIL

Ms. Susan Hugo
Alameda County Health Care Services
Hazardous Materials Division
1131 Harbour Bay Parkway
Alameda, California 94502

Re: F. P. Lathrop Property at 5813 Shellmound Street, Emeryville, CA.

Dear Ms. Hugo:

Please find enclosed the Investigation Work Plan addressing the issues in your September 20, 1996 letter. We hope that it meets your needs and we can proceed with the necessary investigation in an efficient manner.

When you have reviewed the Investigation Work Plan, we would like to meet with you. A meeting will serve as an opportunity for us to discuss the future actions that can be anticipated with regard to this property. Additionally, we can address the outstanding issue of a "No Further Action" letter regarding the VOC contamination on this property and the former underground storage tank. Please contact us to set up that meeting as soon as possible. If we do not hear from you by November 25, 1996, we will contact you to follow up on this issue.

If you have any questions, or need any further information, please feel free to contact me at (510) 466-6826. We look forward to hearing from you soon.

Sincerely yours,

Susan Beth Bowden

Susan Beth Bowden

SBB:
Enclosure

CAMBRIA

November 7, 1996

Susan L. Hugo
Alameda County Department of Health Services
1131 Harbor Bay Parkway, Ste. 250
Alameda, CA 94502-6577

Re: **Investigation Workplan**
Lathrop Property
5813-15 Shellmound Street
Emeryville, California
Project No. 19-122

Dear Ms. Hugo:

Cambria Environmental Technology (Cambria) is submitting this work plan to complete additional site assessment tasks at the above site on behalf of Mr. F.P. Lathrop. This work plan is designed to satisfy the requests made by Alameda County Department of Health Services (ACDEH) in their September 20, 1996 letter to Mr. F.P. Lathrop. The objectives of the investigation are to: 1) determine the extent of detected contaminants along and beyond the southwestern/downgradient portion of the site and 2) implement a quarterly ground water monitoring program. To achieve these objectives Cambria recommends drilling two soil borings and installing a fourth ground water monitoring well beyond the southern edge of the property. All work will be conducted in accordance with the Tri-Regional Guidelines and pertinent state regulations including Title 23, Subchapter 16, Article 7 UST Closure Requirements. The proposed scope of work is presented below.

PROPOSED INVESTIGATION SCOPE OF WORK

Soil Borings: To determine the extent of contaminants along and beyond the southwestern portion of the site, we propose drilling 2 soil borings in the sidewalk beyond the southern edge of the property. Cambria's Standard Field Procedures are included as Attachment A. One of the borings will be drilled to a depth of 10 feet and the other will be drilled to 15 feet. One soil and one grab groundwater sample will be collected from the shallow boring and two soil samples will be collected from the deeper boring. Proposed boring locations are shown on Figure 1. If the initial work progresses smoothly and we have adequate budget, a third boring may be drilled to further define the horizontal extent of contamination.

All three soil samples and the grab ground water sample collected from the shallow boring will be analyzed for TPHg, benzene, toluene, ethyl benzene and xylenes (BTEX), TPH creosote, TPH motor oil, and TPH diesel. These analyses will be completed using EPA Methods 8015M/8020. One soil sample

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from each boring will also be analyzed for VOCs using EPA Method 8010 and SVOCs using EPA Method 8270. If a third boring is drilled, we will not expand the number of analyses performed, but will allocate a portion of our analytical budget to the third boring.

Well Installation: Cambria will install a ground water monitoring well in one of the two/three borings drilled, and will develop and survey the Top of Casing elevation of the well. Following installation of the well, a quarterly groundwater monitoring program will be implemented to confirm groundwater quality at the site. The newly installed well and three existing wells will be sampled for four quarters. The first quarterly sampling event will include analyses for TPHg, BETX, (using EPA Method 8015M/602), TPH creosote, TPH motor oil, TPH diesel (using EPA Method 8015M), VOCs (using EPA Method 601) and SVOCs (using EPA Method 8270). Subsequent quarters will not include VOC analysis. See Table 1 for a summary of the analyses to be conducted as part of this additional site assessment.

Summary: The specific tasks for this investigation will include:

1. Preparing a site safety plan and coordinating field activities;

2. Obtaining well/boring permits and an encroachment permit to drill in the sidewalk beyond the property boundary;

3. Notifying Underground Service Alert of our drilling activities to locate underground utilities at the site boundaries prior to drilling;

4. Drilling at least two soil borings (one to a depth of 10 ft. and the other to a depth of 15 ft.) and collecting soil samples for lithologic description;

5. Collecting one soil and one grab ground water sample from the shallow boring and two soil samples from the deeper boring; Analyzing samples according to the analytic schedule shown on Table 1;

7. Installing a ground water monitoring well in the 15 ft. boring;

8. Developing and surveying the Top of Casing elevation of the well;

9. Collecting ground water samples from the new and three existing wells and analyzing the samples according to the the analytic schedule shown on Table 1;

10. Grouting the 10 ft. boring; and

11. Reporting the results of the drilling and sampling in a combined site investigation and ground water monitoring report that, at a minimum, will contain:

- A summary of the site background and history;
- Descriptions of the drilling and soil sampling methods;
- Boring logs;
- Tabulated soil and ground water analytic results;
- Analytic reports and chain-of-custody forms; and
- A discussion of the analytic results.

CLOSING

We are pleased to submit this work plan on behalf of Mr. F. P. Lathrop. Please call if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

Ann M. Crum
Project Engineer

Joseph P. Theisen, C.E.G.
Principal Hydrogeologist

REGISTERED GEOLOGIST
JOSEPH P. THEISEN
No. EG-1645
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

cc: Ms. Susan Beth Bowden; Crosby, Heafey, Roach and May
Mr. Sum Arigala; RWQCB-SFBR
Ms. Susan Hyde; Goldsmith Lathrop

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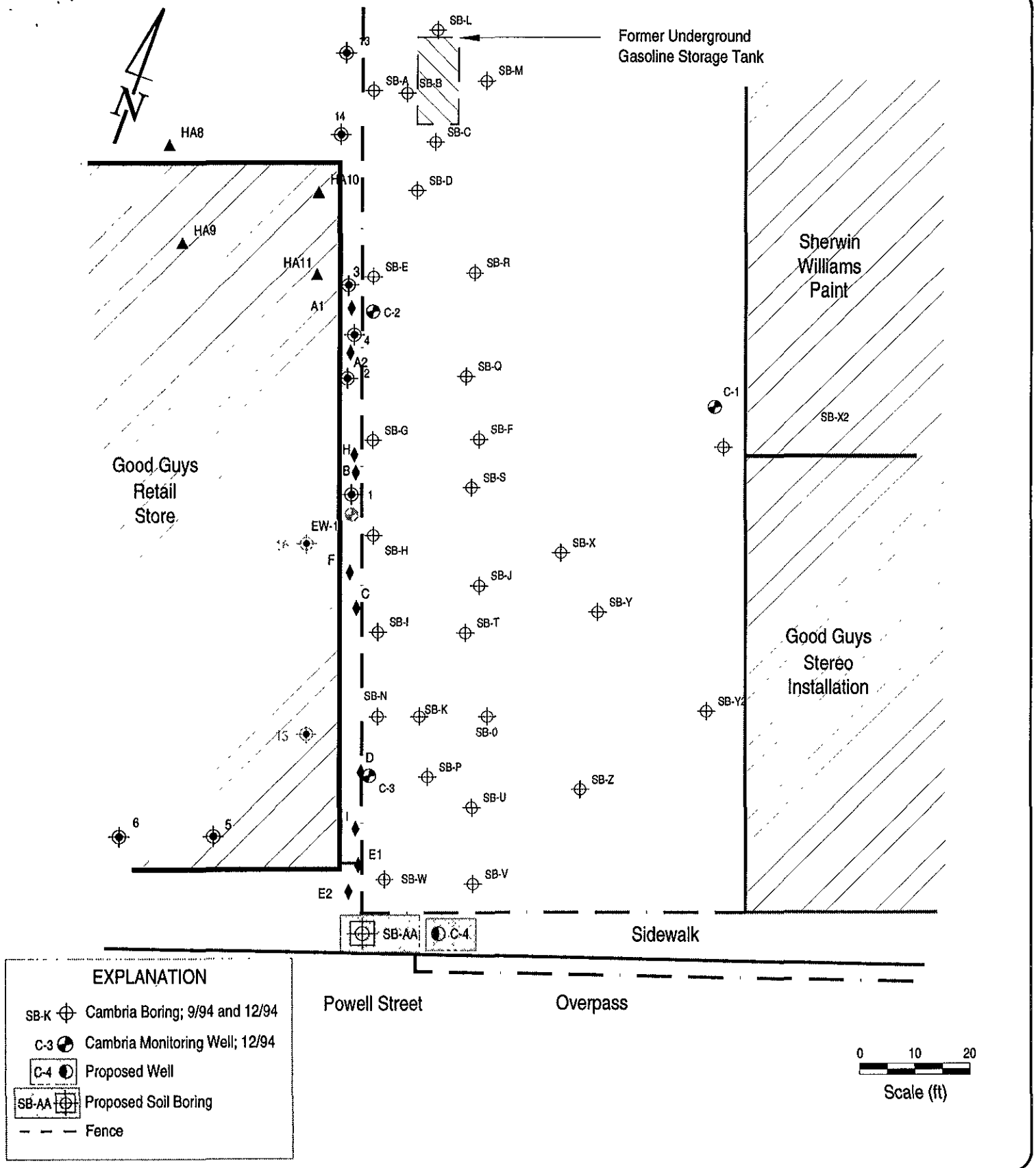
Attachment: A - Standard Operating Procedures



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Environmental Technology, Inc.

Lathrop Property
5813-15 Shellmound Street
Emeryville, CA 94608

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Investigation Workplan

FIGURE
1

Table 1 - Analytic Schedule						
Analyte	Number of Analyses					
	Initial Investigation			Quarterly Monitoring		Total
	Soil	*Grab*	*Water*	*Per Episode*	*3 Episodes*	
TPHg/BETX	3	1	4	4	12	20
TPH creosote/TPH motor oil/TPH diesel	3	1	4	4	12	20
VOCs by EPA 8010	2	-	4	--	--	6
SVOCs (incl. PNAs) by EPA 8270	2	-	4	4	12	18
Total	**10**	**2**	**16**	**12**	**36**	**64**

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ATTACHMENT A

Standard Operating Procedures

STANDARD FIELD PROCEDURES FOR MONITORING WELLS

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling ground water monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

SOIL BORINGS

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG).

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or push technologies such as the Geoprobe. Soil samples are collected at least every five ft to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Analysis

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable photoionization detector (PID) measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. PID measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch type sampler or are collected from the open borehole using bailers. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Well Construction and Surveying

Ground water monitoring wells are installed to monitor ground water quality and determine the ground water elevation, flow direction and gradient. Well depths and screen lengths are based on ground water depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 ft below and 5 ft above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three ft thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two ft above the well screen. A two ft thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development

Wells are generally developed using a combination of ground water surging and extraction. Surging agitates the ground water and dislodges fine sediments from the sand pack. After about ten minutes of surging, ground water is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of ground water are extracted and the sediment volume in the ground water is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Ground Water Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of ground water are purged prior to sampling. Purging continues until ground water pH, conductivity, and temperature have stabilized. Ground water samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.