CERES Associates

5040 Commercial Circle, Suite F
Concord, CA 94520
(510) 825-4466 / fax (510) 825-4441

April 22, 1998
Project CA236-1

WFB Env. #11481A

Keith Hushka
Wells Fargo Bank, RETECHS
707 Wilshire Blvd., 11th floor
Los Angeles, CA 90017

Soil and Groundwater Sampling Report
Papermill Project
1255 Powell Street
Emeryville, California

Dear Mr. Hushka:

On April 10, 1998, CERES Associates (CERES) conducted soil and groundwater sampling at the Papermill Project site located at 1255 Powell Street in Emeryville, California (Property)(see Figure 1 in Appendix A). The sampling was conducted to assess whether or not subsurface soil and groundwater beneath the Property has been affected by the contents of potential underground storage tanks (USTs), which are shown in City of Emeryville building department records, dated 1969.

BACKGROUND

In January 1994, CERES conducted a Phase I Environmental Site Assessment (ESA) of the Property. City of Emeryville building department records found during the ESA indicated that there were two (2) gasoline USTs removed from the Property in 1969 (a copy of the building permit application is provided in Appendix B). Additional information concerning the USTs was not found and the disposition of the USTs is unknown.

Based on the potential environmental threat posed by USTs, Wells Fargo Bank has elected to conduct subsurface soil and groundwater sampling in and around the identified location of the former USTs to assess potential future environmental costs associated with the Property.

SCOPE OF WORK

CERES conducted the following scope of work on April 8 and 10, 1998 to assess soil and groundwater quality conditions beneath the northwest portion of the Property, where building department records show two USTs to have been situated:

- Outline proposed sample areas for underground services alert (USA), conduct utility clearance and geophysical survey;
- Install five (5) Geoprobe borings in and around the former UST excavation;

- Collect soil and grab groundwater samples and submit for laboratory analysis; and
- Prepare Soil and Groundwater Sampling Report.

ASSESSMENT ACTIVITIES

Mobilization for field investigation activities included: notification of Underground Services Alert (USA) regarding field operations at the Property; soil boring permit acquisition from the Alameda Public Works Agency; preparation of a site specific health and safety plan; and scheduling the field activities with the appropriate subcontractors and Alameda Public Works Agency officials. A copy of the drilling permit is provided in Appendix B.

SAMPLE METHODOLOGY

Soil and groundwater samples were collected using Geoprobe sampling equipment provided by Kvilhaug Well Drilling and Pump Company. The Geoprobe sampler utilizes direct push technology to collect soil and groundwater samples from specific subsurface depths without generating soil cuttings. The Geoprobe sampling system consists of a series of 1.5-inch diameter hollow stainless steel rods which are hydraulically driven into the ground using a truck-mounted pneumatic hammer. Soil samples are collected by driving a 2-foot long stainless steel sample sleeve attached to the end of the steel rods into soil at a specified sample depth. Soil samples are then collected in an acetate sample tube installed inside the sample sleeve. After the rod assembly has been hydraulically extended to the target sample depth, the sample sleeve is retrieved to ground surface and the acetate sample tube containing soil from the appropriate sample interval is capped with Teflon-lined plastic end caps, placed in a ziploc bag and stored in a chest cooled with ice. Excess soil from each sample interval was used for lithologic description and field screening purposes.

Excess soil from each sample interval was field screened for the presence of volatile organic compounds (VOCs) using a Mini Rae photoionization detector (PID). Field screening was conducted by placing soil in a plastic ziploc bag and monitoring the atmosphere inside the bag with the PID. The PID readings were digitally displayed on the PID in parts per million (ppm) and recorded on the soil boring logs provided in Appendix C.

Groundwater samples were collected using a ⅜-inch diameter stainless steel bailer which was lowered into groundwater through either a hydropunch sampler or PVC well casing after groundwater had been encountered in each borehole.

After the soil borings had been completed each borehole was backfilled to within 3 or 4-inches of ground surface with Portland cement, and the rest of the hole was compacted with asphalt patch.

GEOPHYSICAL SURVEY

On April 8, 1998, CERES contracted with Subtronic Corporation to conduct a geophysical survey

to identify the location of the former UST excavation at the Property. A copy of Subtronic's geophysical survey report is provided in Appendix B. Subtronic basically confirmed the location of the former USTs as outlined in the City of Emeryville building department permit application. The excavation appears to be about 30 feet long and 20 to 25 feet wide, which is consistent with the size of an excavation which formerly contained a 10,000-gallon and 2,000-gallon UST. The estimated outline of the excavation is shown in Figure 2 in Appendix A.

SAMPLE LOCATIONS

Soil boring SB-1 was the first boring installed at the Property. The boring was positioned south-southwest of the estimated location of the former UST excavation for the purpose of comparing native soil conditions beneath the Property with potential excavation fill soil, and to assess the soil and groundwater quality conditions in the estimated down gradient groundwater flow direction from the former UST excavation. Soil samples were collected from SB-1 at sample intervals of 4 to 6 feet below ground surface (bgs) and 10 to 12 feet bgs. As it turned out, groundwater was located at 11 feet below ground surface in SB-1, so the soil interval between 10 and 10.5 feet bgs was submitted for laboratory analysis. A grab groundwater sample was collected from SB-1 by installing a hydropunch well screen in the borehole between 10 and 14 feet bgs.

Soil boring SB-2 was placed east of the estimated UST excavation area to confirm the native soil type encountered in the SB-1 borehole, and assess soil and groundwater quality conditions in the suspected upgradient groundwater flow direction from the former USTs. Expecting to encounter groundwater around 11 feet bgs, soil samples were again collected from 4 to 6 feet bgs and 10 to 12 feet bgs in SB-2. However, after the 10 to 12 foot soil sample had been collected from this boring groundwater was not present in the borehole, so an additional soil sample was collected between 14 and 16 feet bgs. At this point groundwater had still not been encountered, so the 14 to 15 soil sample interval was kept for laboratory analysis and the borehole was extended down to 18 feet bgs for the purpose of collecting a grab groundwater sample. Once again, groundwater was still not present in the borehole, so the boring was extended down to 22 feet bgs. This time groundwater was encountered in the boring and a ¾-inch diameter temporary PVC well casing screened from 10 to 20 feet bgs was placed in the borehole and grab groundwater sample was collected from a depth of about 18 feet bgs.

Soil boring SB-3 was placed within the estimated boundary of the former UST excavation. Soil samples were collected between 4 to 6 feet bgs, 10 to 12 feet bgs and 14 to 16 feet bgs. After collecting the 4 to 6 foot soil sample it was obvious that the SB-3 soil boring was situated within the UST excavation. The former UST excavation was backfilled with sand and a distinct gasoline type odor was observed. The 10 to 12-foot soil sample also consisted of backfill soil, however this sample interval was saturated. Soil recovery was poor in both the 4 to 6 and 10 to 12-foot soil sample intervals, so a ¾-inch diameter temporary PVC well casing screened from 5 to 10 feet bgs was placed in the open borehole and a grab groundwater sample was collected for laboratory analysis. The depth to groundwater was measured at just below 8 feet bgs in the excavation.

Since it was obvious that some contamination was present within the former excavation, CERES

installed another borehole within 1 or 2 feet of the initial SB-3 borehole for the purpose of collecting shallow soil samples for health risk assessment purposes, and assessing soil conditions below the bottom of the excavation. Soil samples were collected for laboratory analysis from 1 to 1.5 feet bgs, 5 to 5.5 feet bgs and 14 to 15 feet bgs.

Soil borings SB-4 and SB-5 were installed in potential down gradient groundwater flow directions from the former UST excavation. Groundwater in the Emeryville area generally flows west to southwest towards San Francisco Bay. Soil samples were collected from SB-4 and SB-5 between 7 and 9 feet bgs and 14 and 16 feet bgs. The soil sample depth of 7 to 9 feet bgs was chosen since groundwater in boreholes SB-1 through SB-3 had now stabilized just below 8 feet bgs in all three of these locations. The 14 to 16 foot soil intervals were sampled for analytical purposes since groundwater was not present in the shallower depth soils and the bottom of the former USTs would have likely been between 10 and 12 feet bgs. Groundwater was encountered in SB-4 at approximately 27 feet bgs, after the borehole had been extended to 22, 26 and 30 feet bgs in several attempts to find groundwater at a shallower depth. Groundwater in the SB-5 borehole was situated somewhere between 22 and 30 feet bgs, however, after extending the depth of the boring to 30 feet bgs, it immediately rose to within about 8 feet of ground surface after the Geoprobe rods had been removed from the borehole. A ¾-inch diameter temporary PVC well casing screened from 17 to 27 feet bgs was placed in SB-4 and a grab groundwater sample was collected after groundwater rose to within 21 feet of ground surface. A grab groundwater sample was collected from SB-5 by installing a ¾-inch diameter temporary PVC well casing screened from 10 to 15 feet bgs.

SAMPLE ANALYSIS

Soil and groundwater samples collected for laboratory analysis from SB-1 through SB-5 were submitted to McCambell Analytical Laboratory, a State of California-certified laboratory located in Pacheco, California. The soil and groundwater samples were analyzed for total petroleum hydrocarbon compounds in the gasoline range (TPH-g) using United States Environmental Protection Agency (U.S. EPA) Method 8015 modified, and benzene, toluene, ethylbenzene, xylenes (BTEX compounds) and methyl tertiary butyl ether (MTBE) using U.S. EPA Method 8020/602.

LITHOLOGIC CONDITIONS

Based on the soil types encountered during this investigation, native soils underlying the Property consist of firm to stiff relatively impermeable clays, interbedded with discontinuous silty and clayey sand and gravel sequences. The former UST excavation is backfilled with fine sand which displays an obvious gasoline type odor from near ground surface (below the asphalt paving) to the total depth of the excavation, which is estimated at about 12 feet bgs. However, native clayey soils which surround the excavated area (and most likely underlie most of the area) appear to have confined the bulk of the soil and groundwater contamination to within the limits of the excavation itself, since field observations such as odors, significant PID readings, and/or staining were not observed in soils located around or below the former UST excavation.

Confined groundwater conditions exist beneath the Property. Groundwater was encountered anywhere from 11 to 27 feet bgs, and it stabilized just below 8-feet bgs in all soil borings prior to leaving the Property, except SB-4.

A copy of the soil boring logs from each sample location are provided in Appendix C.

ANALYTICAL LABORATORY RESULTS

Target analytes were not reported above laboratory method detection limit concentrations in soil samples submitted for laboratory analysis from SB-1, SB-2, SB-4 and SB-5, the soil borings positioned around the perimeter of the former UST excavation. Target analytes were also not reported above laboratory method detection limit concentrations in the near surface soil sample collected at SB-3 from 1 to 1.5 feet bgs or the soil sample collected below the former excavation at a sample depth of 14 to 15 feet bgs. The only soil sample in which target analytes were reported above method detection limit concentrations was the 5 to 5.5-foot soil sample collected from SB-3. The sample was reported to contain TPH-g at a concentration of 46 milligrams per kilogram (mg/kg), and toluene and xylene compounds at concentrations of 0.12 mg/kg and 0.46 mg/kg, respectively. Benzene and ethylbenzene were not reported above the detection limit concentration of 0.005 mg/kg.

The only grab groundwater sample which did not contain target analytes above method detection limit concentrations was the groundwater sample collected from SB-5. Grab groundwater samples collected from soil borings SB-1 through SB-4 were reported to contain low BTEX concentrations which ranged from 0.12 μg/l of toluene in the SB-3 groundwater sample to 22 μg/l of toluene in the SB-1 groundwater sample. Benzene and MTBE were not reported above the laboratory method detection limit concentrations in any of the five grab groundwater samples, and toluene, ethylbenzene and xylene compounds were not reported at concentrations which exceeded their respective drinking water maximum contaminant levels (MCLs).

Analytical laboratory results of soil and groundwater samples collected and analyzed during this investigation are tabulated in Table 1 below, and copies of the analytical laboratory data sheets are provided in Appendix D.

Table 1

Analytical Laboratory Results

Sample Location	Sample Date	Sample Depth	Matrix	Analytical Laboratory Results					
				TPH-gas	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
SB-1	4/10/98	10-10.5	soil	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SB-1	4/10/98	11	water	**140**	<0.5	**22**	**0.67**	**3.6**	<5.0
SB-2	4/10/98	14-15	soil	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SB-2	4/10/98	20	water	<50	<0.5	**2.0**	<0.5	**2.0**	<5.0
SB-3	4/10/98	1-1.5	soil	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SB-3	4/10/98	5-5.5	soil	**46**	<0.005	**0.12**	<0.005	**0.46**	<0.05
SB-3	4/10/98	14-15	soil	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SB-3	4/10/98	8	water	**560**	<0.5	**0.98**	**0.68**	**2.4**	<5.0
SB-4	4/10/98	15-16	soil	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05

SB-4	4/10/98	27	water	<50	<0.5	**1.8**	<0.5	<0.5	<5.0
SB-5	4/10/98	15-16	soil	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SB-5	4/10/98	20	water	<50	<0.5	<0.5	<0.5	<0.5	<5.0

Soil samples are reported in milligrams per kilogram (mg/kg), which is equivalent to parts per million (ppm).
Groundwater samples are reported in micrograms per liter (μg/l), which is equivalent to parts per billion (ppb).
Bold type indicates detected above laboratory reporting concentration.

CONCLUSIONS

The results of this investigation confirm that gasoline USTs were once located beneath the northwest portion of the Property, and that a limited release occurred at least 30 years ago. Field observations and analytical laboratory results of soil and groundwater samples collected from soil borings positioned in and around the former UST excavation indicate that low TPH-g concentrations exist in soil and groundwater located within the former UST excavation and that clayey soils underlying the Property have in large part restricted the migration of contaminants in soil and groundwater beyond the perimeter of the excavation.

BTEX concentrations reported in groundwater samples collected within and immediately around the former UST excavation do not exceed State of California drinking water MCLs, and MTBE was not reported above the method detection limit concentration of 5.0 μg/l (which is equal to 5 parts per billion [ppb]). Additionally, the contaminant concentrations reported in soil and groundwater are well within Tier 1 Risk-based Screening Levels (RSBLs) established by the San Francisco Bay Regional Water Quality Control Board for the health risk assessment purposes.

Based on the results of this assessment CERES does not recommend additional investigation at this time. However, we do recommend that the findings of this investigation be reported to the San Francisco Bay Regional Water Quality Control Board (RWQCB) to facilitate formal closure of the UST issue at the Property. It is our experience that the RWQCB will likely consider this site a low risk groundwater case and grant case closure with no further action.

LIMITATIONS

The conclusions and recommendations presented in this report are limited by the scope of work conducted for this assessment and are based on information provided by:

- Wells Fargo Bank;
- City of Emeryville building department
- Subtronic Corporation;
- McCambell Analytical Laboratory, and;
- Observations of CERES personnel.

Much of the information on which the conclusions and recommendations of this report are based, comes from data provided by others. CERES is not responsible for the accuracy or completeness of this information. Inaccurate data provided by others, as well as information that was not found or made available to CERES, may result in a modification of the conclusions presented in this report.

It is possible unpermitted, undocumented or concealed improvements or alterations to the Property could exist beyond what was found during assessment activities. Variations in Property specific soil and groundwater conditions are probable beyond what field characterization can record. Changes in the conditions found on the Property could occur at some time in the future due to variations in environmental and physical conditions.

In today's technology, no amount of assessment can ascertain that the Property is completely free of environmental concern.

Any geologic and hydrogeologic data are for drawing conclusions, by CERES, within the context and timing of this report only.

This report was prepared for the sole use and benefit of Wells Fargo Bank. This report is not a legal opinion and does not offer warranties or guarantees.

If you have any questions regarding this report, please give me a call at (925) 825-4466.

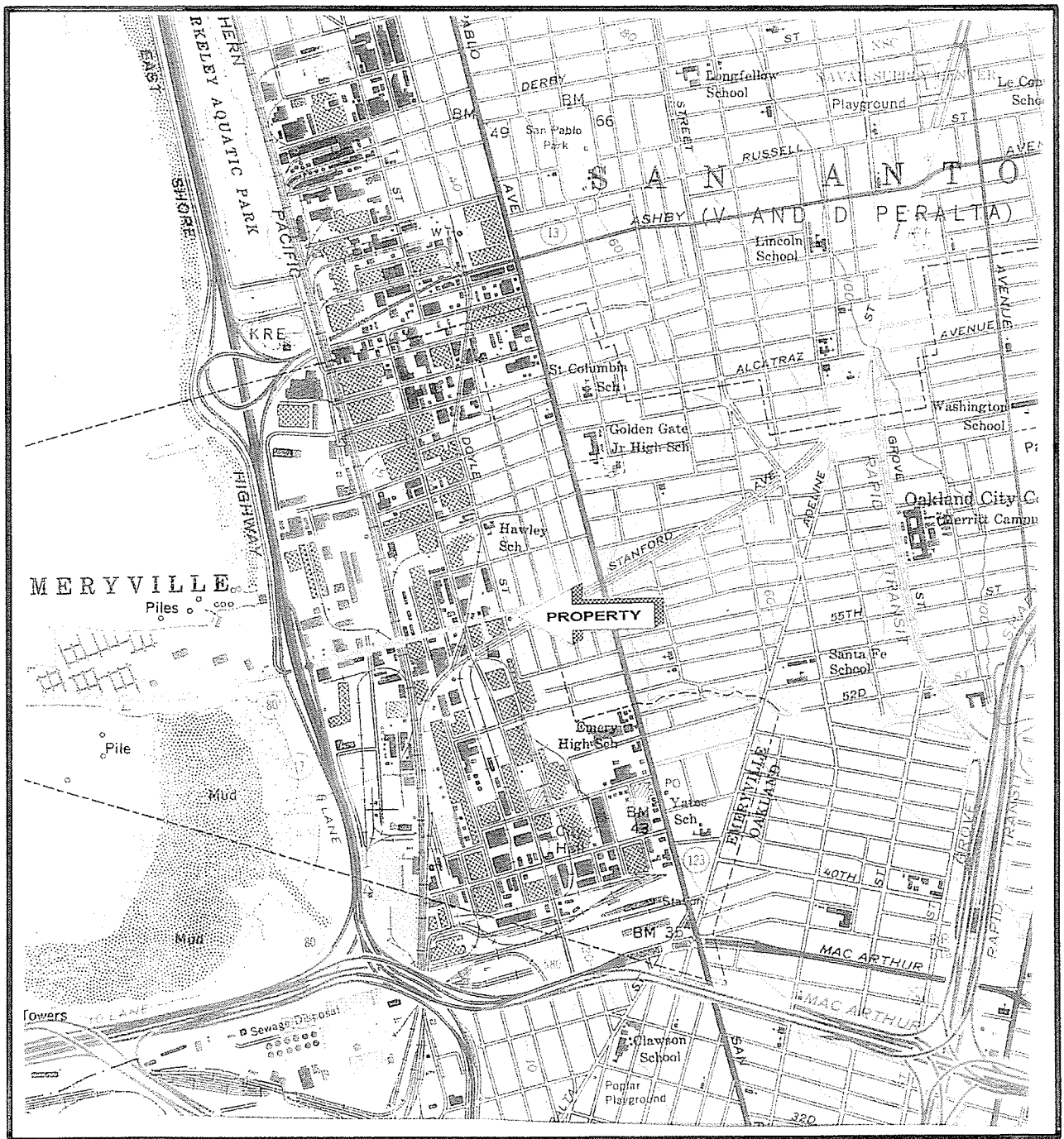
Sincerely,

CERES

Expires 11-30-98

John Love, RG 6315
Project Geologist

Appendix A
Figures and Property Photographs



Papermill Project
1255 powell Street
Emeryville, California

Project CA236-1

CERES Associates

United States Geological Survey
7.5 Minute Series, Topographic Map
Oakland West, California
Quadrangle 1959, photorevised 1980

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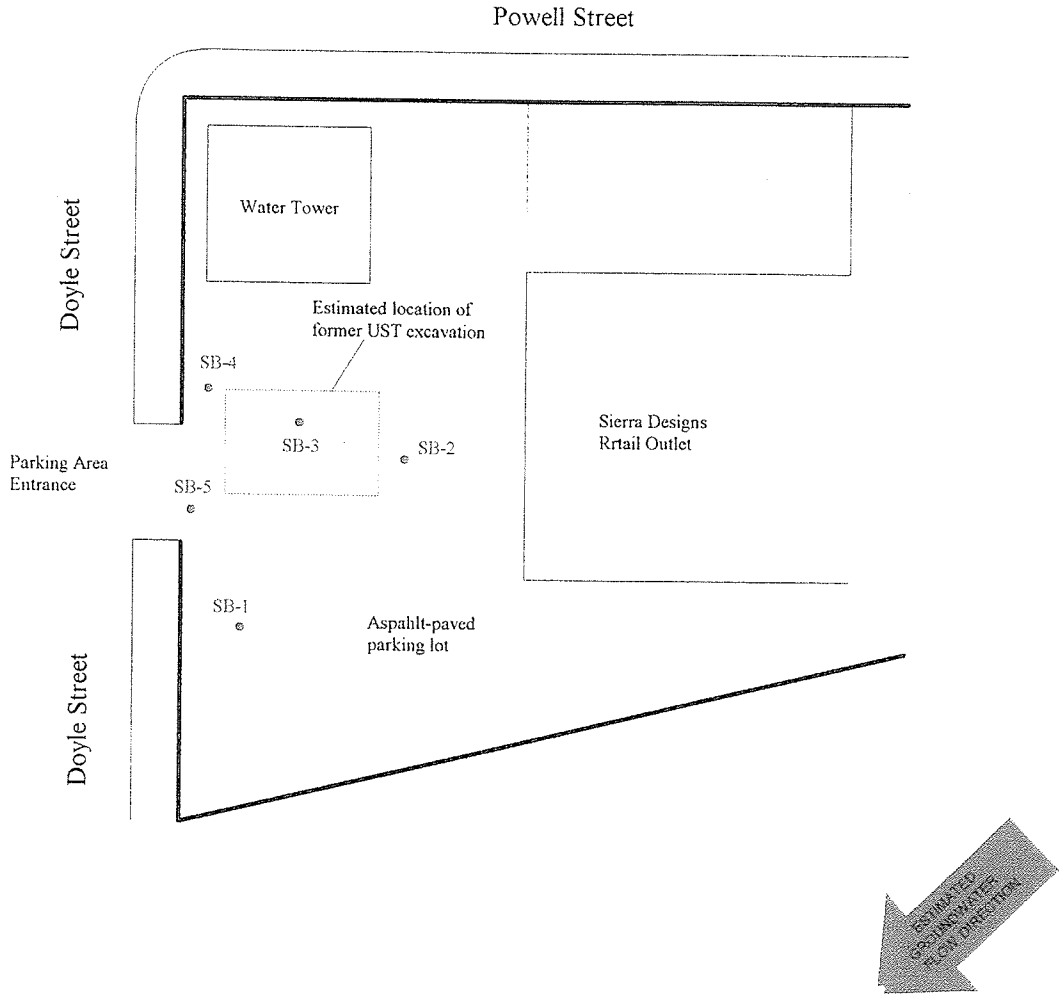
FIGURE 1 - PROPERTY LOCATION MAP



Papermill Project
1255 powell Street
Emeryville, California

Project CA236-1

CERES Associates

Property border

SB-1 Soil boring location

Estimated outline of former UST excavation

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FIGURE 2 - SAMPLE LOCATION MAP

Photograph 1 View of Property from Doyle Street. Geoprobe rig is set up on SB-2.

Photograph 2 View looking east at Geoprobe setup on SB-3, which was installed in the former UST excavation.

Appendix B
Regulatory Agency Documentation and Geophysical Survey Report

TOWN OF EMERYVILLE
BUILDING DEPARTMENT

TELEPHONE 654-6161

APPLICATION FOR
BUILDING PERMIT No. B 99

DATE FILED 11/13/69 DATE ISSUED / /

JOB LOCATION Rear of 5750 - HOLLIS ST.

If Extra Work, Original Permit No.

OWNER'S NAME MOORE BUSINESS FORMS PHONE NO.

OWNER'S ADDRESS P.O. Box 4787 - BAYSHORE STATION OAKLAND, CALIF

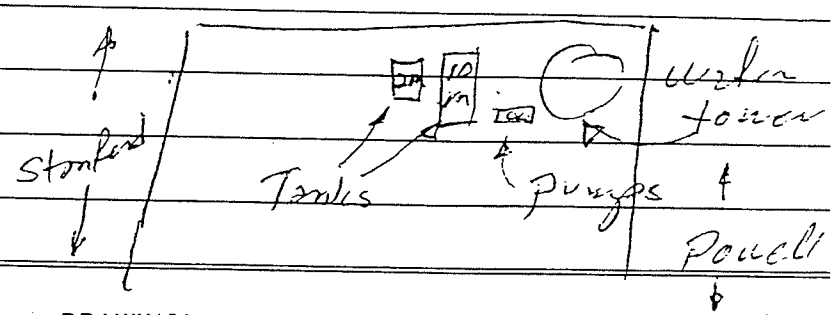
CONTRACTOR'S NAME Robert J. Miller LICENSE NO. PHONE NO. OL-355

CONTRACTOR'S ADDRESS 3261 - GROVE ST. CITY Oakland STATE Calif.

ARCHITECT AND/OR ENGINEER

DESCRIPTION OF PROPOSED WORK

Removal of (1) 2000 gal gasoline tank and (1) 10,000 " "



VALUATION OF PROPOSED WORK $800.00
(Includes all labor and material and all permanent lighting, heating, ventilating, water supply, plumbing, fire sprinkler, electric wiring and elevator equipment).

DRAWINGS SUBMITTED: YES ____ NO X

PERMIT FEE $ 8.00

PLAN CHECKING FEE $ —

TOTAL FEE $ 8.00

I hereby agree to save, indemnify and keep harmless the Town of Emeryville and its officers, employees and agents against all liabilities, judgments, costs and expenses which may in any wise accrue against the Town in consequence of the granting of this permit or from the use or occupancy of any sidewalk, street or sub-sidewalk, or otherwise by virtue thereof, and will in all things strictly comply with the conditions under which this permit is granted.

RECEIVED BY R. Horton DATE 11/13/69

SIGNATURE OF APPLICANT X Kendall K. Miller

CONSTRUCTION LENDER (If none, write None)

NAME

BRANCH

ADDRESS

CITY STATE

TO BE SIGNED ONLY WHEN ISSUED TO OWNER:

I hereby certify that I am the applicant for a Building Permit, and that in the performance of the work for which such permit is issued, I will not employ any person or persons in any manner so as to become subject to the provisions of the Labor Code of the State of Calif., relating to workmens compensation insurance.

X

SIGNATURE OF OWNER

CITY COUNCIL REVIEW PURSUANT TO ORD.

ACTION RECOMMENDED BY STREETS. HWYS. & BLDGS. COMMITTEE:

BY: BY: DATE / /

COUNCIL ACTION:

DATE / / CITY CLERK

Permission is hereby granted to do the work described in this application in accordance with the provisions of the Emeryville Building Code and related ordinances.

FOR BUILDING OFFICIAL, TOWN OF EMERYVILLE

APPLICATION RECEIVED BY: Barbara Whitworth

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5268 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1255 Powell St. Emeryville, CA

site is located at the SE corner of the intersection of Powell St and Doyle St. in Emeryville.

California Coordinates Source _____ ft. Accuracy ± ___ ft.
CCN _____ ft. CCE _____ ft.
APN _____

CLIENT
Name Wells Fargo Bank
Address 707 Wilshire Blvd. Phone (714) 374-8922
City Los Angeles Zip 90017

APPLICANT
Name CERES Associates
Address 5040 Commercial Circle Ste F Fax (925) 825-4441 Phone (925) 825-4466
City Concord Zip 94520

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☑
Water Supply	☐	Contamination	☐
Monitoring	☐	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other _____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☑ Geoprobe		

DRILLER'S LICENSE NO. 482390

WELL PROJECTS
Drill Hole Diameter _____ in. Maximum
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

GEOTECHNICAL PROJECTS
Number of Borings 5 Maximum
Hole Diameter 1.5 in. Depth 15 ft

ESTIMATED STARTING DATE 4/10/98
ESTIMATED COMPLETION DATE same

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73 68.

APPLICANT'S SIGNATURE _____ DATE 4/6/98

FOR OFFICE USE

PERMIT NUMBER 98WR154
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
(2.) Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(D.) GEOTECHNICAL
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, neat cement grout shall be used in place of compacted cuttings.

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

APPROVED _____ DATE 4/6/98

Post-it® Fax Note 7671	Date 4/6/98	# of pages ▶ 1
To Andreas or Alvin	From John Love	
Co./Dept. ACPWA	Co. CERES Associates	
Phone #	Phone # (925) 825-4466	
Fax # 670-5262	Fax # (925) 825-4441	

subtronic corp.

Complete Professionals for Utilities.
Location, Mapping, Inspection & Leaks.

2099-C Arnold Industrial Way
Concord, California 94520
Telephone (510) 686-3747
FAX No. (510) 686-5281

GEOPHYSICAL SUBSURFACE INVESTIGATION FOR POSSIBLE UNDERGROUND STORAGE TANKS SIERRA DESIGN PARKING LOT CORNER OF DOYLE STREET AND POWELL ST. EMERYVILLE, CALIFORNIA

Subject

On April 8, 1998, Subtronic Corporation completed a geophysical subsurface investigation for Ceres Environmental. The purpose of the investigation was to search for possible underground storage tanks in the parking lot for Sierra Designs, on the corner of Doyle and Powell street in the city of Emeryville, California. The portion of the parking lot surveyed is 50 feet by 50 feet and is paved with asphalt.

Equipment

The specialized equipment used on site included a Fisher M-SCOPE, RD 400, Schonstedt Magnetic Locator and Ground Penetrating Radar (GPR).

Fisher M-SCOPE

The Fisher M-SCOPE is a hand-held instrument designed to detect buried metal and to trace buried lines. The M-SCOPE induces an electric field over the ground. When the M-SCOPE passes over a buried metallic object, such as a pipe, an audio signal is produced from the instrument.

Primary applications of the M-SCOPE include locating UST's, buried drums and underground pipes. The maximum detection depth of metallic objects is approximately five (5) feet.

Magnetic Locator

The Schonstedt Instrument Company's GA 72 CV Magnetic Locator is a hand held instrument designed to detect buried iron and steel objects up to eight (8) feet deep. The Schonstedt responds to the difference in magnetic field between two sensors spaced 14 inches apart. A change in audio signal indicates the presence of ferromagnetic objects below the instrument.

Primary applications of the Magnetic Locator include locating UST's, buried drums and underground pipes.

Radiodetection Pipe Tracer (Tracer)
The RD 400 is a hand-held instrument used to trace utilities. An electrical signal is applied to the pipe from the transmitter by direct connecting; using a coupler around the pipe circumference or placing the transmitter over the assumed pipe location. The electrical signal on the pipe is traced with the RD receiver.

Ground Penetrating Radar (GPR)
A ground penetrating radar system graphically records subsurface structures. Both geological and manmade structures are recorded by the introduction of a pulse of electromagnetic energy into the ground. Reflected pulses received by the antenna are then processed for measurable contrast in electrical properties. The result is a visual pseudo-cross-sectional profile.

Primary applications of the GPR are detecting UST's, buried drums, previously excavated areas, i.e., UST excavations, and detecting metallic and non-metallic utilities.
The GPR depth penetration is severely limited by clay-rich soil. Radar waves penetrate deeper in sandy and gravely soils.

Survey Methodology

A visual inspection at the site was conducted for utility covers, fill ports, and any UST-related piping. The site was traversed on 5 foot centers with both the Magnetic Locator and the M-SCOPE for anomalies. The M-SCOPE was surveyed in both north-south and east-west traverses. Anomalies detected were marked on the ground. GPR data was collected over the suspected anomalies. The GPR profiles were interpreted in the field for any UST-type anomalies.

Results of the Subsurface Investigation

The results of the magnetic locator and the M-SCOPE survey reveal many small subsurface anomalies (See site sketch). The anomalies detected are interpreted remnants of the building previously on site.

GPR depth of penetration is interpreted to be approximately two to three feet. The GPR records show disturbed areas suggesting foundations, abandoned utitlities and an area which appears to have been excavated. The excavated area suggests that the tanks may have been removed.

Limitations

The subsurface geology, object size and composition, burial depth, and surface interference are all major factors as to whether an object will be detected by surface geophysical methods. These are all factors beyond Subtronic's control. The results of geophysical surveys may not represent unique solutions. Apparently similar anomalies may be created by different subsurface phenomena.

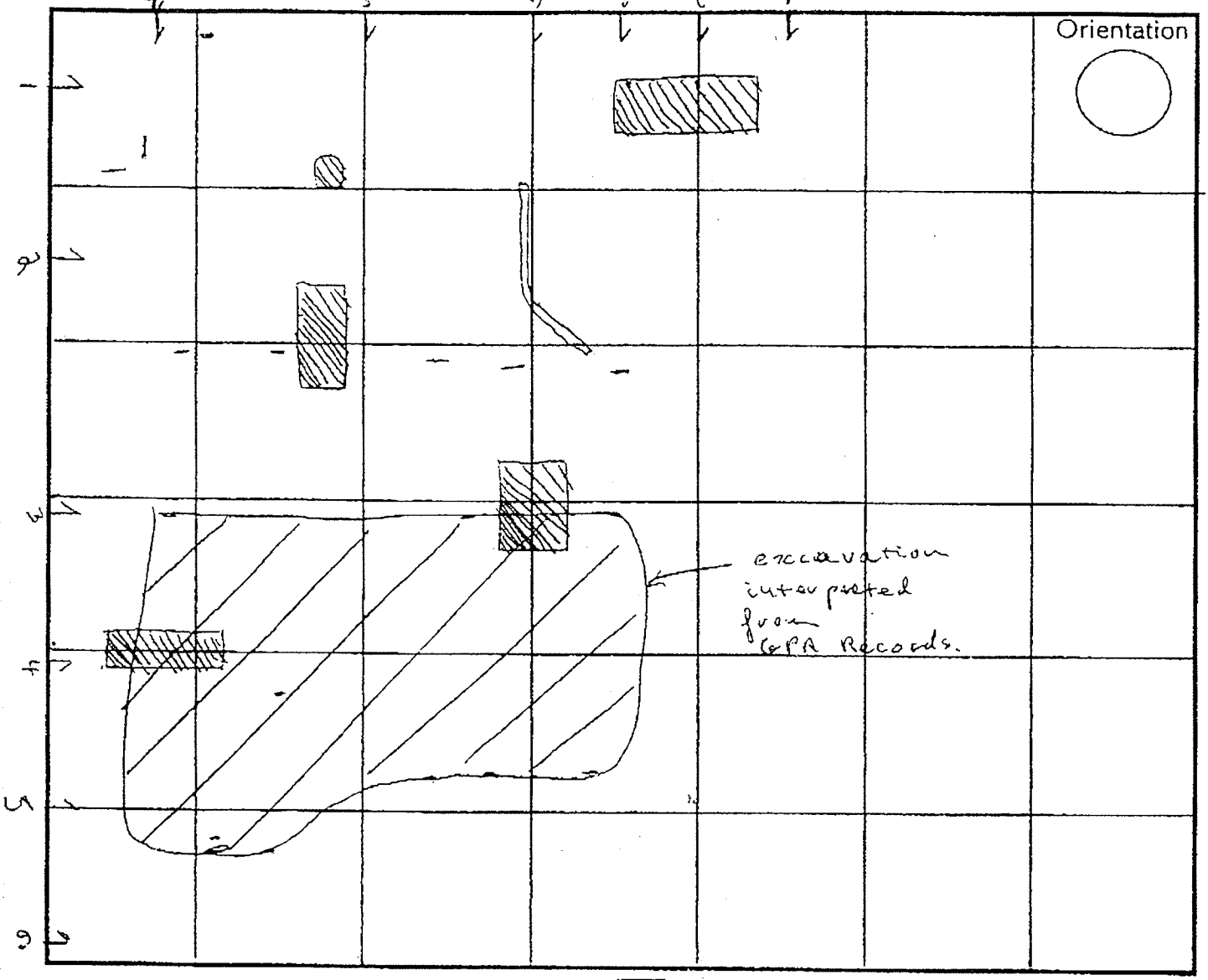
Report Prepared By:Pierre S. Armand **Report Checked By**: Cheri Aubert
Cheri Aubert

SUBTRONIC UTILITY SURVEY

Client: Caves Environmental **Date:** 4/8/98

Project: _____ **Subtronic Job No:** 510477

Borehole/Site I.D. Sierra Design, Emeryville **Client Job Ref:** _____



Utility drawings used: _____ = anomalies detected by magnetic locator + ll-scope

Utilities which were not located and why? _____ = excavated area & interpreted from UPR records

Scanned a 50 x 50' area for UST

Notes: _____

Client's Signature. _____ Print Name _____

Surveyor _____ Copy given/faxed to Client on? _____

SUBTRONIC CORPORATION

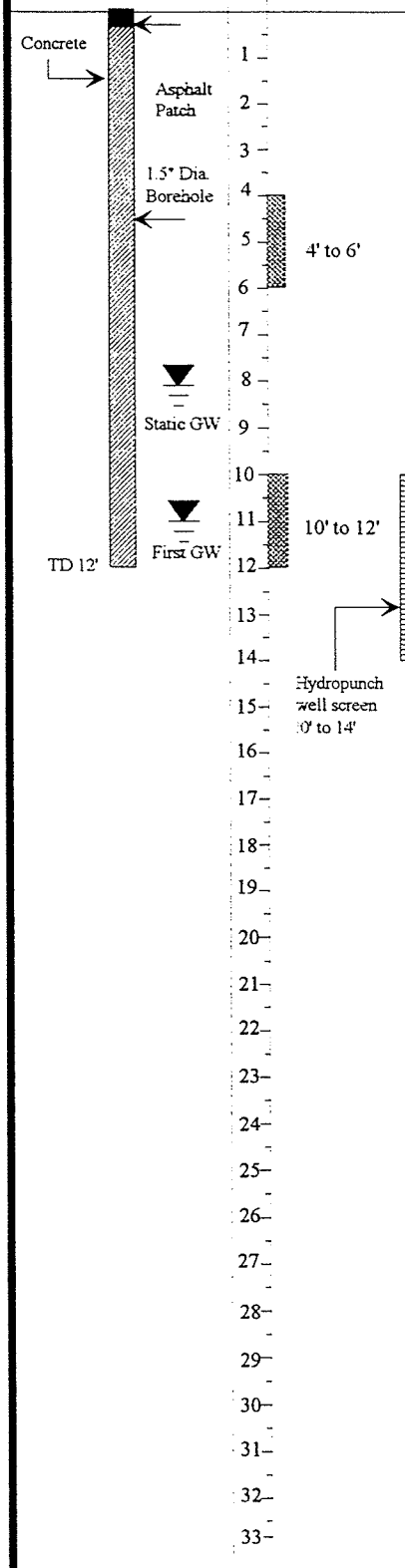
2099C Arnold Industrial Way, Concord, CA 94520 Tel: 510-686-3747

Appendix C
Soil Boring Logs

CERES ASSOCIATES

Logged by: John Love RG 6315

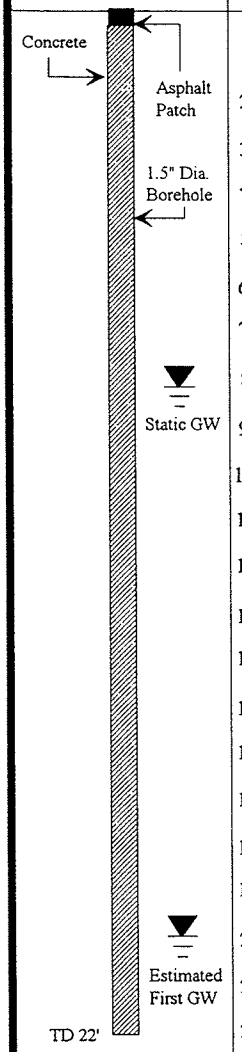
HOLE NO.	PROJECT NAME:	PROJECT ADDRESS:	DATE:	SHEET
SB–1	Papermill Project	1255 Powell Street, Emeryville, CA	April 10, 1998	1 OF 1



CERES ASSOCIATES

Logged by: John Love RG 6315

HOLE NO.	PROJECT NAME:	PROJECT ADDRESS:	DATE:	SHEET
SB-2	Papermill Project	1255 Powell Street, Emeryville, CA	April 10, 1998	1 OF 1



DEPTH	Sampler Interval	PID Reading	USCS	LOG OF MATERIAL
0				Asphalt and base material.
4	4' to 6'	0	CL	**(4'-6')** Sandy Clay: Grsy (5Y 5/1); firm; medium plasticity; fine to coarse sand; moist; no odors.
10	10' to 12'	0	CL	**(10'-12')** Sandy Clay: Light yellowish brown (2.5Y 6/4) to greenish gray (5GY 6/1); soft; medium plasticity; fine sand; moist; no odor.
14	14' to 16'	0	CL	**(14'-16')** Sandy Clay: Light yellowish brown (2.5Y 6/4) to light olive brown (2.5Y 5/6); stiff; well graded sand; some angular fine gravel; moist; no odor.

Temporary 3/4-in. PVC well screen set 10' to 20'

CERES ASSOCIATES

Logged by: John Love RG 6315

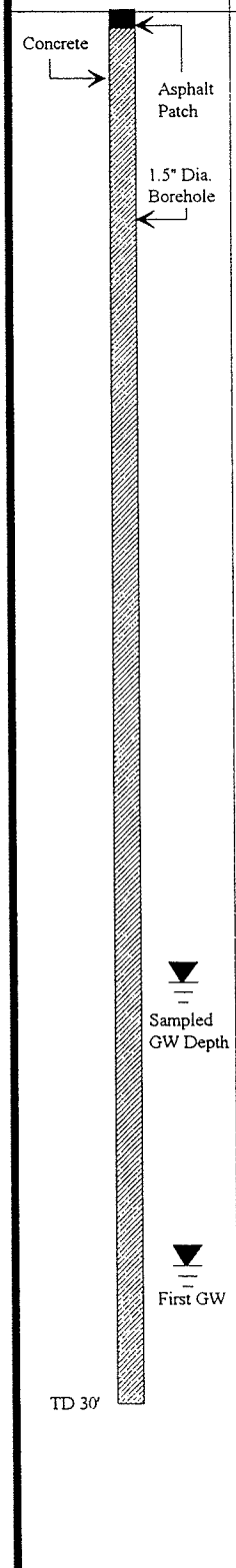
HOLE NO.	PROJECT NAME:	PROJECT ADDRESS:	DATE:	SHEET
SB-3	Papermill Project	1255 Powell Street, Emeryville, CA	April 10, 1998	1 OF 1

Soil Boring Completion Details	DEPTH / Sampler Interval	PID Reading	USCS	LOG OF MATERIAL
Concrete; Asphalt Patch; 1.5" Dia. Borehole; First & Static GW; TD 16'	1' to 3'		SM/ SP	Asphalt and base material. **(1'-3')** Silty Sand/Sand (fill soil) : Dark greenish gray (5GY 4/1); firm; fine sand; shell fragments; moist; hydrocarbon odor.
	4' to 6'	30	SM/ SP	**(4'-6')** Silty Sand/Sand (fill soil) : Dark greenish gray (5GY 4/1); firm; fine sand; shell fragments; moist; hydrocarbon odor.
Temporary 3/4-in PVC well screen set 5' to 10'				
	10' to 12'	2.0	SM/ SP	**(10'-12')** Silty Sand/Sand (fill soil) : Dark greenish gray (5GY 4/1); firm; fine sand; shell fragments; saturated; hydrocarbon odor.
	14' to 16'	0	CL	**(14'-16')** Sandy Clay: Light olive brown (2.5Y 5/6) to pale yellow (5Y 7/3) blebs: fine sand; medium plasticity; stiff; moist; no odor.

CERES ASSOCIATES

Logged by: John Love RG 6315

HOLE NO. SB-4	PROJECT NAME: Papermill Project	PROJECT ADDRESS: 1255 Powell Street, Emeryville, CA	DATE: April 10, 1998	SHEET 1 OF 1



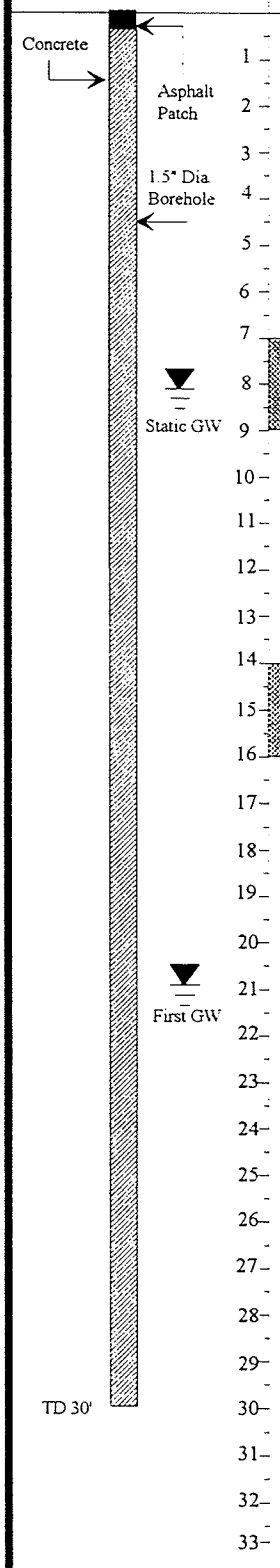
DEPTH	Sampler Interval	PID Reading	USCS	LOG OF MATERIAL
1				Asphalt and base material.
7	7' to 9'	0	CL	**(7'-9')** Sandy Clay: Light olive brown (2.5Y 5/4) with greenish gray (5GY 5/1); stiff; medium plasticity; fine sand; moist; no odor.
14	14' to 16'	0	CL	**(14'-15')** Sandy Clay: Light olive brown (2.5Y 5/4) with greenish gray (5GY 5/1); stiff; medium plasticity; fine sand; moist; no odor.
15			SC	**(15'-16')** Clayey Sand: Light olive brown (2.5Y 5/4) with greenish gray (5GY 5/1); firm; predominantly fine sand with some coarse sand; moist; no odor.

Temporary 3/4-in PVC well screen set 5' to 10'

CERES ASSOCIATES

Logged by: John Love RG 6315

HOLE NO.	PROJECT NAME:	PROJECT ADDRESS:	DATE:	SHEET
SB-5	Papermill Project	1255 Powell Street, Emeryville, CA	April 10, 1998	1 OF 1



Appendix D
Analytical Laboratory Data Sheets

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Ceres Associates 5040 Commercial Circle, Ste F Concord, CA 94520	Client Project ID: CA-136-1	Date Sampled: 04/10/98
		Date Received: 04/13/98
	Client Contact: John Love	Date Extracted: 04/13/98
	Client P.O:	Date Analyzed: 04/13/98

04/20/97

Dear John:

Enclosed are:

1). the results of **12** samples from your **CA236-1** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
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Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Ceres Associates	Client Project ID: CA-136-1	Date Sampled: 04/10/98
5040 Commercial Circle, Ste F		Date Received: 04/13/98
Concord, CA 94520	Client Contact: John Love	Date Extracted: 04/13-04/15/98
	Client P.O:	Date Analyzed: 04/13-04/15/98

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
88015	SB1 (10-10.5')	S	ND	ND	ND	ND	ND	ND	96
88016	SB2 (15-16')	S	ND	ND	ND	ND	ND	ND	103
88017	SB-1	W	140,b,i	ND	ND	22	0.67	3.6	95
88018	SB-2	W	ND,i	ND	ND	2.0	ND	2.0	103
88019	SB3 (14-15')	S	ND	ND	ND	ND	ND	ND	96
88020	SB3	W	560,b,j,h,i	ND	ND	0.98	0.68	2.4	103
88021	SB3 (1-1.5')	S	ND	ND	ND	ND	ND	ND	98
88022	SB3 (5-5.5')	S	46,j	ND	ND	0.12	ND	0.46	105
88023	SB4 (15-16')	S	ND	ND	ND	ND	ND	ND	97
88024	SB5 (15-16')	S	ND	ND	ND	ND	ND	ND	99
88025	SB4	W	ND,i	ND	ND	1.8	ND	ND	102
88026	SB5	W	ND,i	ND	ND	ND	ND	ND	105
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

[a] cluttered chromatogram; sample peak coelutes with surrogate peak

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/13/98-04/14/98 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#87970)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	95.4	104.0	100.0	95.4	104.0	8.6
Benzene	0.0	10.1	10.1	10.0	101.0	101.0	0.0
Toluene	0.0	10.2	10.3	10.0	102.0	103.0	1.0
Ethyl Benzene	0.0	10.3	11.2	10.0	103.0	112.0	8.4
Xylenes	0.0	31.0	32.1	30.0	103.3	107.0	3.5
TPH(diesel)	0	173	168	150	115	112	2.7
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
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QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/14/98-04/15/98 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#88054)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	95.9	95.2	100.0	95.9	95.2	0.7
Benzene	0.0	9.9	9.9	10.0	99.0	99.0	0.0
Toluene	0.0	10.1	10.1	10.0	101.0	101.0	0.0
Ethyl Benzene	0.0	10.2	10.3	10.0	102.0	103.0	1.0
Xylenes	0.0	30.7	31.0	30.0	102.3	103.3	1.0
TPH(diesel)	0	144	145	150	96	97	0.8
TRPH (oil & grease)	0	24300	24300	23700	103	103	0.0

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/13/98 Matrix: SOIL

Analyte	Concentration (mg/kg) Sample (#80336)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.927	2.062	2.03	95	102	6.8
Benzene	0.000	0.190	0.186	0.2	95	93	2.1
Toluene	0.000	0.202	0.200	0.2	101	100	1.0
Ethylbenzene	0.000	0.190	0.192	0.2	95	96	1.0
Xylenes	0.000	0.576	0.576	0.6	96	96	0.0
TPH(diesel)	0	317	309	300	106	103	2.7
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/15/98 Matrix: SOIL

Analyte	Concentration (mg/kg) Sample (#80338)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.999	1.946	2.03	98	96	2.7
Benzene	0.000	0.198	0.174	0.2	99	87	12.9
Toluene	0.000	0.218	0.184	0.2	109	92	16.9
Ethylbenzene	0.000	0.204	0.182	0.2	102	91	11.4
Xylenes	0.000	0.594	0.552	0.6	99	92	7.3
TPH(diesel)	0	288	292	300	96	97	1.4
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

CERES Associates
~~ENVIRONMENTAL~~
11823 East Slauson Avenue, Suite 16
Santa Fe Springs, CA 90607
Office (310) 907-4088
Fax (310) 907-4092

5040 Commercial Circle, Ste F
~~2221 Commerce Avenue, Suite D1~~
Concord, CA 94520
Office (510) 825-4466
Fax (510) 825-4441

3530 Camino del Rio North
Suite 107
San Diego, CA 92108
Office (619) 584-3555
Fax (619) 584-2105

CHAIN OF CUSTODY

10954 XCER71.doc Page 1 of 1

CERES Project CA236-1 Purchase Order _____ Laboratory: McCampbell

Send Results to: _____

Sampler's Signature _____ Attention _____

Standard TAT

SAMPLE	Sample Collection Date/ Time	MATRIX		TPH-g/BTEX/MTBE																Preservative (yes/no)	(Lab)	COMMENTS
SB-1 (10'-10.5')	4/10/98 9:40	soil		X																	88015	H2O samples preserved w/HCl.
SB-2 (15'-16')	11:25	↓		X																	88016	
+5 SB-1	11:35	H2O		X																	88017	
+10 SB-2	11:40	↓		X																	88018	
SB-3 (14'-15')	13:45	soil		X																	88019	
+10 SB-3	13:50	H2O		X																	88020	
SB-3 (1'-1.5')	14:05	soil		X																	88021	
SB-3 (5'-5.5')	14:10			X																	88022	
SB-4 (15'-16')	14:40			X																		
~~SB-5~~ (15'-16')	16:45	↓		X																	88023	
+10 SB-4	17:50	H2O		X																		
+10 SB-5	17:55	↓		X																	88024	
																					88025	
																					88026	

ICE/® ✓ PRESERVATION ✓
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ✓ CONTAINERS ✓

VOAS | O&G | METALS | OTHER

Relinquished by: _____ of CERES Environmental Date / Time 4/13/98 / 830am

Received by: Angela Rydelius of MAI Date / Time 4/13/98 830am

Relinquished by: _____ Date / Time ____ / ____

Received by: _____ Date / Time ____ / ____

RETURN WHITE COPY TO CERES WITH FINAL LAB REPORT.
Yellow copy is for laboroatory. Pink copy is to remain with CERES at sample pickup.

Relinquished by: _____ of _____ Date / Time ____ / ____

Received by: _____ of _____ Date / Time ____ / ____