

TES

**Site Investigation at
PG&E's Piedmont Substation "E"
Piedmont, California**

*SALC
STD 6691A*

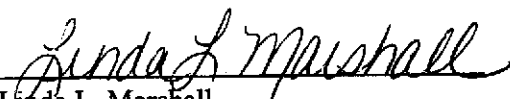
**Prepared by
Technical and Ecological Services**

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Section 1
INTRODUCTION

This report presents the results of an investigation performed by Pacific Gas & Electric Company's (PG&E's) Technical and Ecological Services Department (TES) at the Piedmont Former Substation "E." The purpose of this investigation was to determine whether hazardous materials associated with past utility operations at the property are present in the building and surrounding soil.

SITE DESCRIPTION

Substation "E" is located at 408 Linda Avenue in Piedmont, California (Figure 1). The substation contains a two-story building that formerly housed the electrical equipment. Some of the former substation equipment has been removed, and the remaining equipment is de-energized and inside the building. The property is located in a residential neighborhood and is partially surrounded by fencing.

BACKGROUND

The Piedmont Substation "E" was originally built in 1926 to supply direct current (DC) power to the trolley line in the area now known as the city of Piedmont. The substation was also used to convert 12kV to 4kV electric power for use by residents and businesses of Oakland between 1937 and 1991. It is not uncommon for substation facilities of this vintage to have at some time used equipment containing PCB insulating oil, lead-based paint (LBP), or asbestos.

PG&E contracted ESE to conduct a Phase I investigation of the Piedmont Substation "E" facility to identify issues of potential environmental concern. In their report, *Phase I Environmental Site Assessment* (October 5, 1995), ESE made the following findings with regard to hazardous materials at the property.

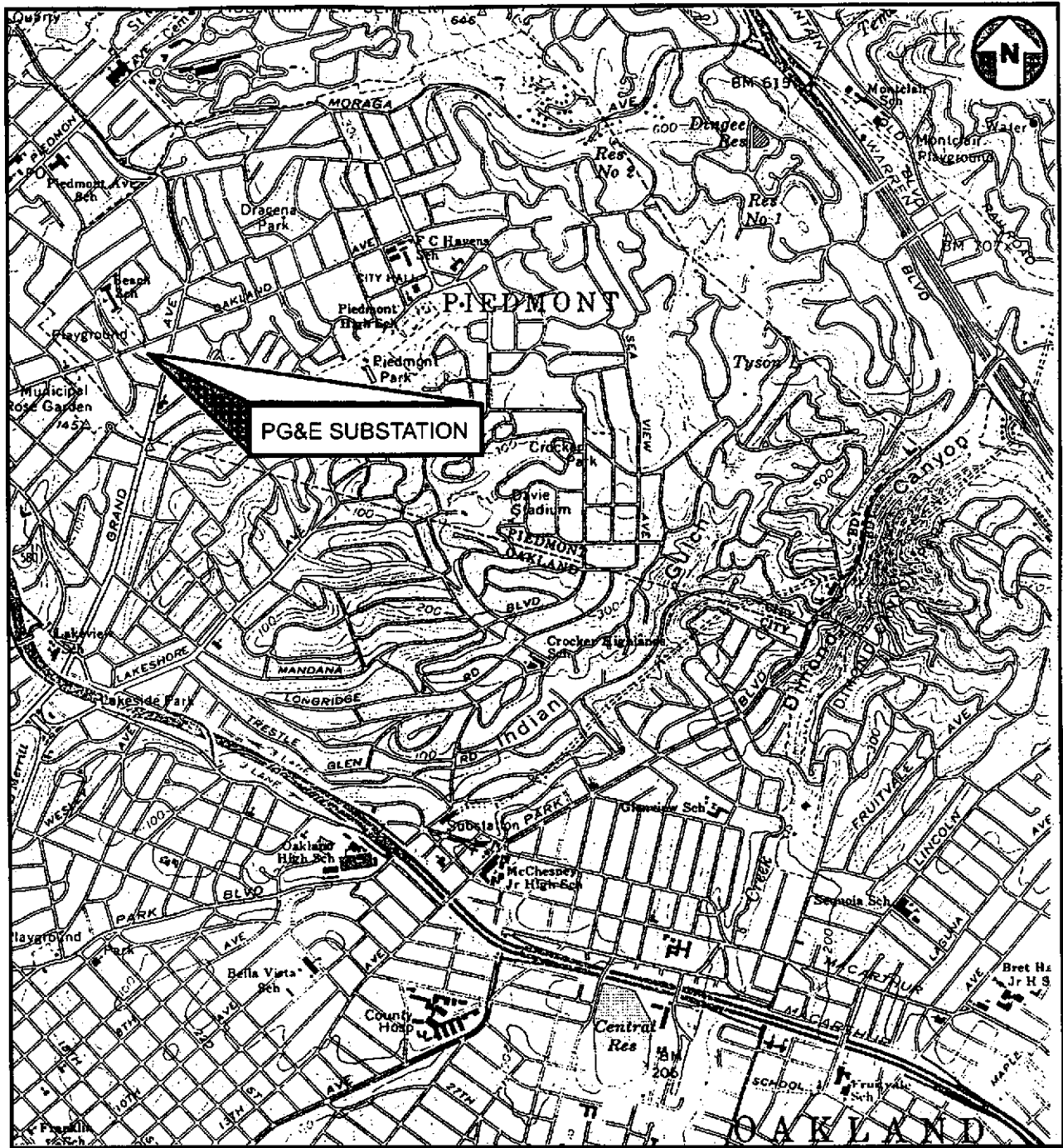
- **PCBs and Mineral Oil:** The former substation building historically housed electrical equipment including circuit breakers and transformers containing mineral oil, some of which contained PCBs. At the time of the Phase I investigation, on-site, oil-filled pieces of equipment were identified as potential sources of PCBs. ESE observed oily residues in the filter washing sink area and air filtration area. Oils containing PCBs were reportedly used on the filters in the past.
- **Lead-Based Paint (LBP):** The exterior painted portions of the building were identified as suspected LBP surfaces. Deteriorating paint and visible paint chips were observed around the exterior of the building. Paint chips were found in surface soil adjacent to the substation building.
- **Asbestos-containing materials (ACMs):** After reviewing Sanborn maps, ESE determined that the substation building was constructed to be fireproof and therefore, likely to have ACMs. The

presence of ACMs in building materials is considered likely because construction is pre-1979, when use of asbestos was common. Materials such as roof and floor tiles and electrical storage cabinets were identified as potential ACMs. Debris from interior walls and loose floor and roof tiles (possibly containing asbestos) was observed inside the building.

- Hazardous Materials: Battery banks were present on the second floor at the time of ESE's site assessment, but have since been removed. Although not noted by ESE, TES personnel observed two switches containing mercury on the control panel in the DC Motor Room (locations shown on Figure 3). These switches were not damaged and did not appear to be leaking any liquid.

Around the time of the ESE Phase I investigation, PG&E personnel collected wipe samples from the interior of the building for PCB analysis. Results are presented in an ESE document, *Cost Estimate for Removal of Potentially Hazardous Materials* (October 26, 1995). The wipe samples were analyzed for PCB content in the field using a Dexsil L2000 PCB-Chloride analyzer. The field test results indicated that PCB concentrations were elevated at a number of locations. However, the reliability of these results is currently considered suspect for the following reasons:

- No documentation of the 1995 wipe sampling procedures was located. Wipe sampling protocols have recently been prescribed in updates to the Toxic Substances Control Act (TSCA PCB Mega Rule—June 1998). These protocols did not exist at the time of the 1995 sampling.
- No documentation of the Dexsil field analysis was located. The field method used is designed as a field screen, and as a general rule does not follow the same rigorous QA/QC protocols as laboratory analyses. The Dexsil field kit used has a high bias when compared to laboratory analysis (USEPA Environmental Technology Verification Program Verification Statement, August 1998).
- No laboratory analytical reports were located.



0 1/2 1 Mile

Adapted from USGS Oakland East, California, 7.5 minute topographic quadrangle map, 1959, photorevised 1980.

Figure 1. Site location map of PG&E's Piedmont Substation "E".

Section 2

WORK APPROACH AND SCOPE

The Phase I Environmental Site Assessment (ESE, 1995) identified three types of hazardous materials associated with past substation operation: PCBs, lead and asbestos. Additional substances commonly used at substations include mineral and motor oils. During this Phase II investigation, sampling was designed to test for these chemicals so that sufficient information would be available to determine if remediation would be needed prior to future redevelopment of the property. Sampling was conducted on five separate occasions between October 1999 and March 2000. The sampling approach is described below for each substance of potential concern.

PCBS

Building Wipe Samples and Debris Samples

A total of 112 wipe samples were collected on floor and wall surfaces and equipment within the building. The locations of the first 92 wipe samples are shown on Figures 2 through 5 (samples 1 to 92). Figure 2 shows the Motor Room; Figure 3 shows the Exciter and Electrical Panel Rooms; Figure 4 shows the Filter Washing Room, and Figure 5 shows the Upper Level Rooms of the substation building. These 92 samples were collected on October 19, 1999 throughout the building, including some in the vicinity of the 1995 wipe sample locations. The wipe samples were transported to TES and analyzed for PCBs by EPA Method 8082. TES is certified under the California Environmental Laboratory Accreditation Program (ELAP) to perform this analysis.

On December 17, 1999, TES collected ten additional wipe samples to resample locations where 1995 wipe sample results were reportedly elevated (samples Piedmont-1 through Piedmont-10 on Figure 6). These samples were analyzed by TES for PCBs using EPA Method 8082.

On January 14, 2000, PG&E retained Allwaste to again collect wipe samples at the locations where the 1995 wipe sample results were reportedly elevated (samples PSS-1 through PSS-10, and PSS-9A, PSS-9B, locations shown on Figure 6). The wipe samples were transported to Sherwood Laboratories (Hilmar, CA), a certified analytical laboratory, and analyzed for PCBs by EPA Method 8082/3550.

All wipe samples were collected in accordance with the PCB Mega Rule outlined in 40 Code of Federal Regulations (CFR) 761.123, using cotton pads soaked with hexane.

Debris packed inside the drainpipe from the filter washing sink was collected November 23, 1999 and analyzed for PCBs by TES using EPA Method 8082.

On January 14, 2000, two samples (samples PSS-wall and PSS-floor) of building debris were collected from the interior of the Motor Room and analyzed for PCBs (locations shown on Figure 6).

Soil Samples

Eight surface soil samples (SESP-1 to SESP-8) were collected from the perimeter of the substation building and analyzed for PCBs by EPA Method 8080A/3550. One soil sample (SESP-9) was collected from the sump located in the Motor Room (locations shown on Figure 7). These samples were collected October 19, 1999 and transported to Chromalab, Inc. (Pleasanton, CA).

Dielectric Oil Samples

Oil samples were collected on October 19, 1999 from two pieces of oil-filled equipment that were not labeled with metal tags showing previous PCB test results. Oil samples were collected from one of fourteen 12kV motor-operated switches and a station bank transformer "C" located on the second floor of the substation building (locations shown on Figure 5). The samples were transported to TES and analyzed for PCBs by EPA Method 8082. According to George McClendon of PG&E's Substation Maintenance and Construction Department, the motors contain lubricating oil. Four additional untagged oil-filled pieces of equipment were encountered in the substation that were sealed and could not be sampled: station bank transformers "A" and "B" located in the upper Balcony Room, and 50- and 37-gallon station bank transformers located in the Exciter Room (locations shown on Figures 5 and 6). We understand that these will be sampled at the time of removal.

LEAD

Soil Samples

~~The nine surface soil samples collected October 1999 from around the property were also analyzed for lead by EPA Method 6010B/3050B.~~ The sample locations are shown on Figure 7. Four soil borings (B1 to B4) were advanced during November 1999 where October 1999 surface soil samples showed elevated concentrations of lead. Soil samples were collected at surface, 6, 12, 18, and 24 inches below grade surface (bgs) in borings B1 to B3, and at surface, 6, 12, 18, 24, and 30 inches bgs in boring B4 (locations shown on Figure 8). A total of 21 soil samples were collected in acetate sleeves using an Environmentalists' Soil Probe. Samples were transported to Chromalab and analyzed for lead by EPA Method 6010B.

Paint Samples

Four paint samples were collected on January 14, 2000 from random locations around the exterior of the building (PS-1-January 2000 to PS-4-January 2000) and analyzed by TES for lead by x-ray fluorescence spectrometry (locations shown on Figure 9).

ASBESTOS

Samples of readily available building materials were collected for asbestos analysis.

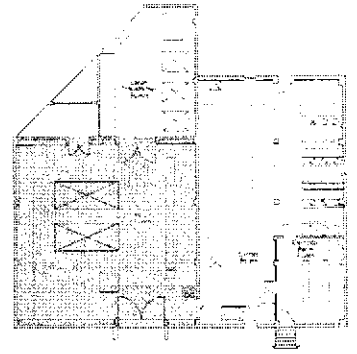
Five samples were collected on October 19, 1999 from roof tiles, floor tiles, chipped paint, loose debris from an interior masonry wall from the back of the building, and the roof outlet at the top of the building (samples PS-1-October1999 to PS-5-October1999, locations shown on Figure 9).

Five additional samples were collected on January 14, 2000 for asbestos analysis (samples PS-1-January 2000 to PS-5-January 2000, locations shown on Figure 9). Four paint samples were collected from the exterior of the building (PS-1-January 2000 to PS-4-January 2000) and one debris sample was collected from the conduit that feeds electrical wiring to the 4kV station banks on the second level (PS-5-January 2000) (locations shown on Figure 9). All samples were transported to TES and analyzed for asbestos in accordance with 40 CFR, Part 763, Subpart F, Appendix A, "Interim Method of the Determination of Asbestos in Bulk Insulation Samples."

During 1999, PG&E's Environmental Affairs Department coordinated asbestos sampling and analysis of paint collected on the exterior of the building. Due to the concentrations of asbestos in the paint samples, loose and flaking paint on the building's exterior was removed shortly after sampling (per Sandy Olson, Environmental Affairs Department).

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS (TEPH) AND MINERAL OIL

Eight surface soil samples (SESP-1A to SESP-8A) were collected on March 2, 2000 (locations shown on Figure 7). All samples were transported to Chromalab and analyzed for TEPH and mineral oil by EPA Method 3510/8015M.



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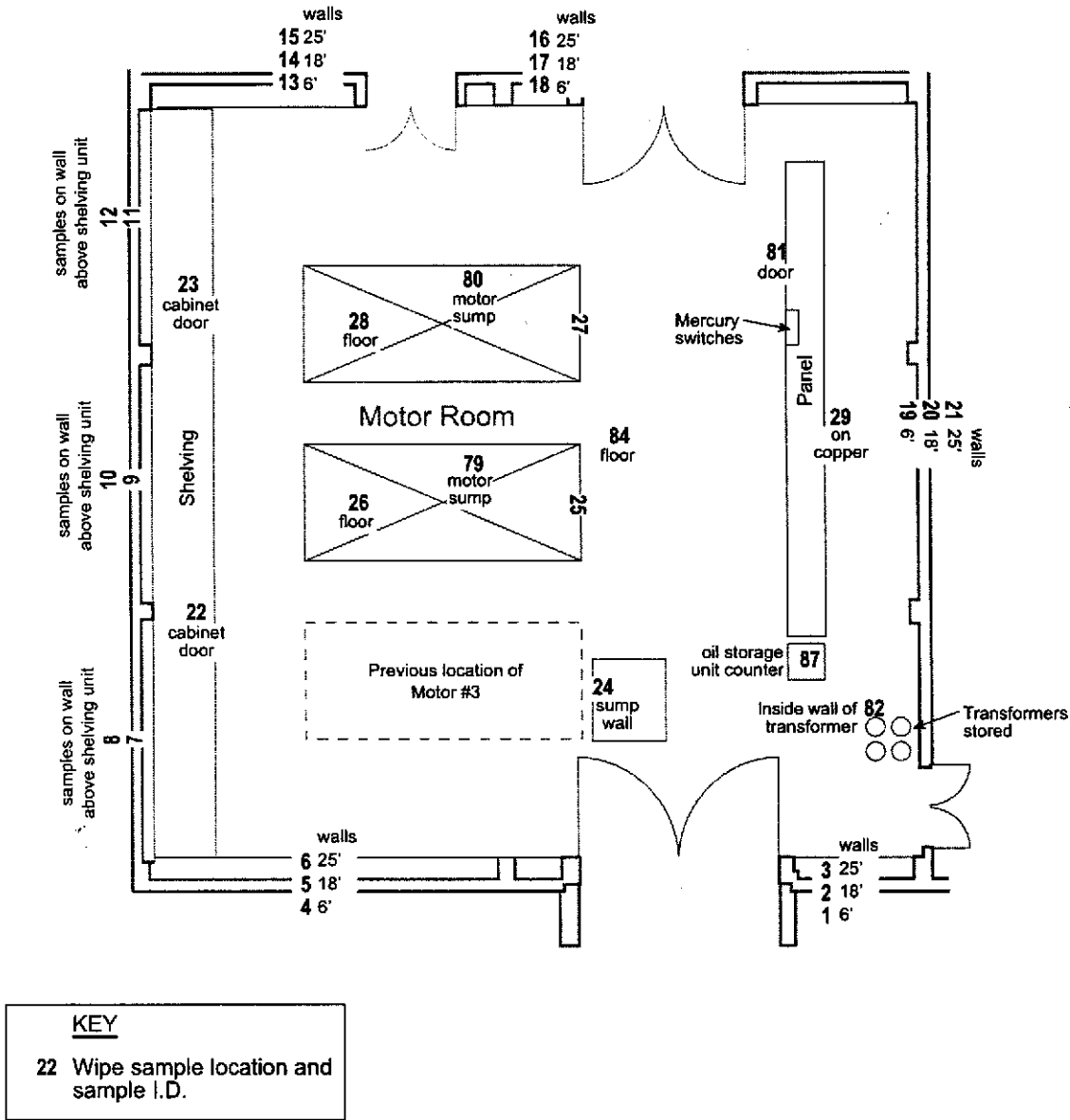


Figure 2. Wipe samples and mercury switch locations in Motor Room at Piedmont Substation "E", October 19, 1999.

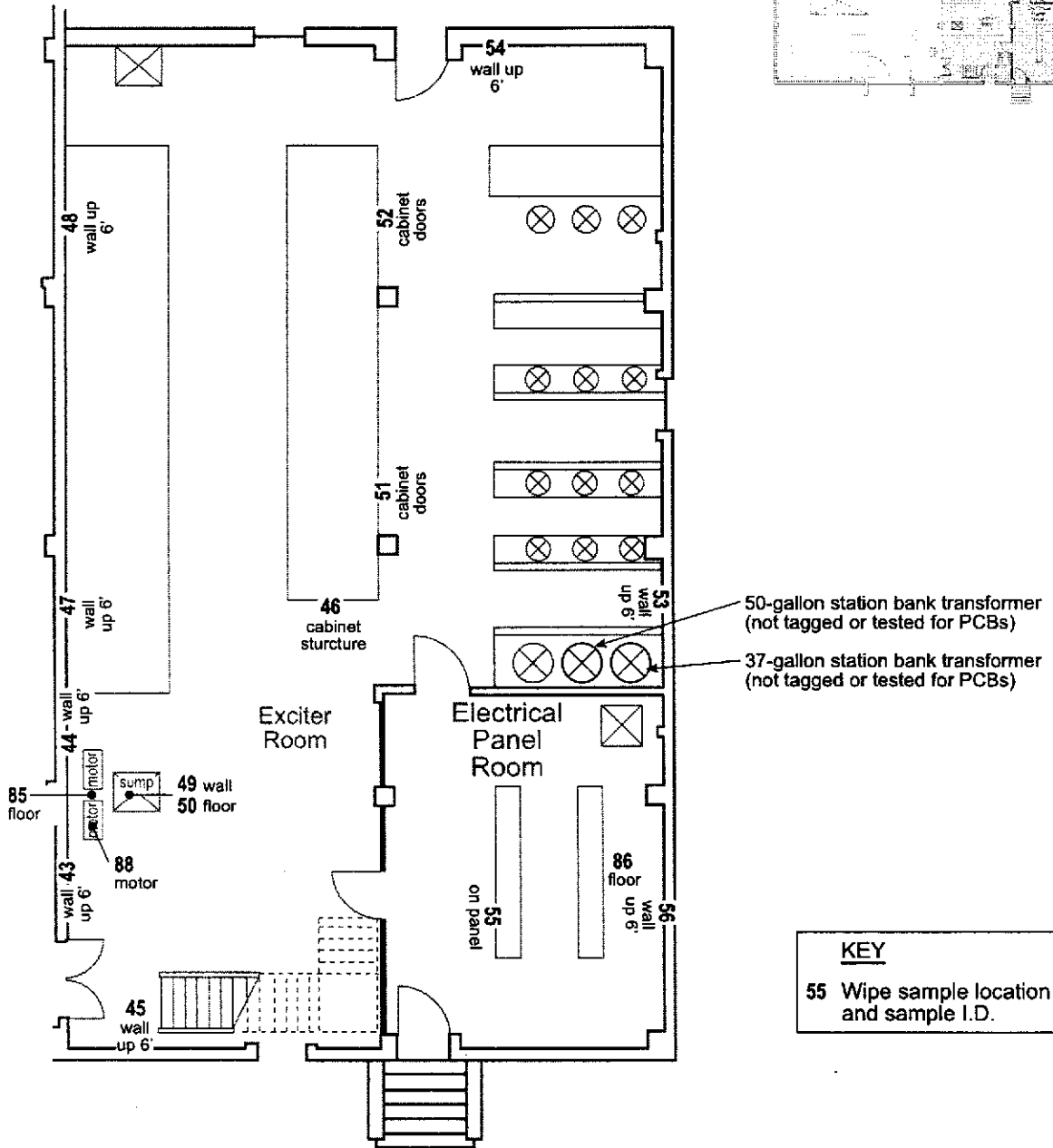
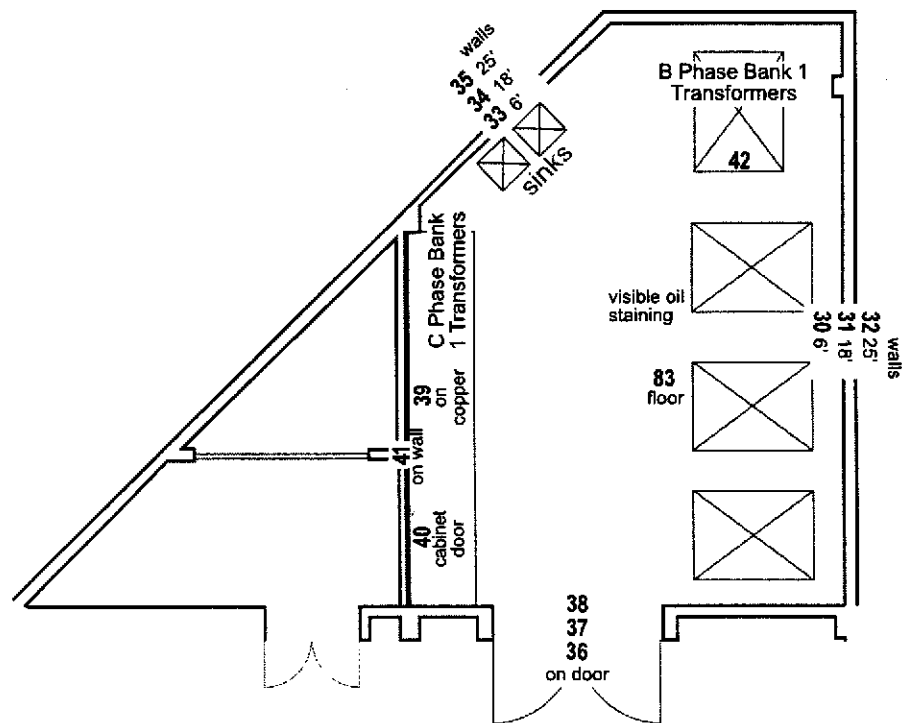
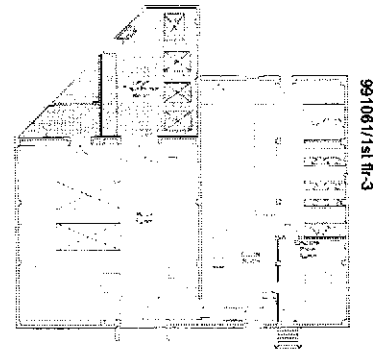


Figure 3. Wipe sample locations in Exciter Room at Piedmont Substation "E", October 19, 1999.



KEY
 22 Wipe sample location and sample I.D.

Figure 4. Wipe sample locations in Filter Washing Room at Piedmont Substation "E", October 19, 1999.

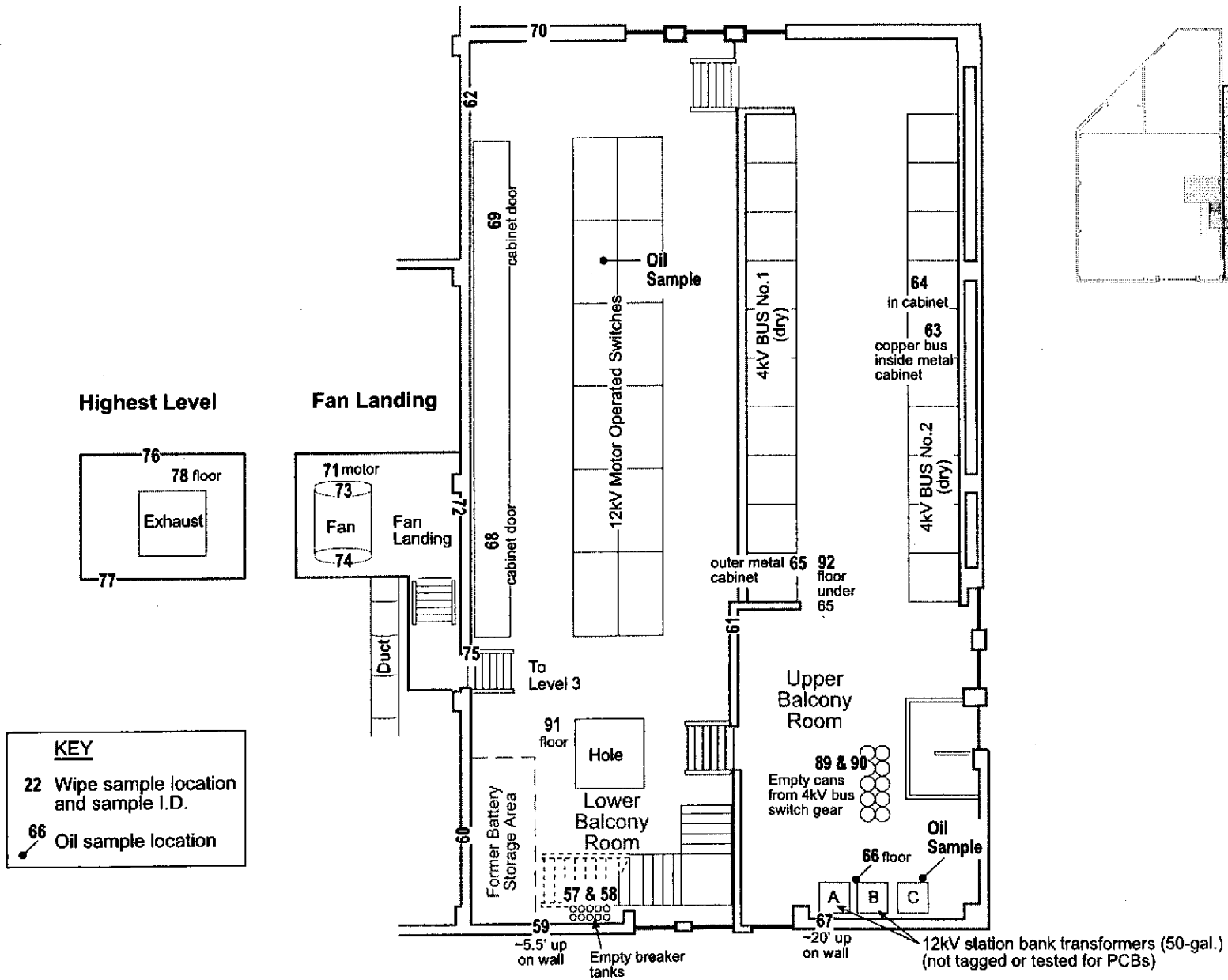


Figure 5. Wipe and oil sample locations on second floor of Piedmont Substation "E", October 19, 1999.

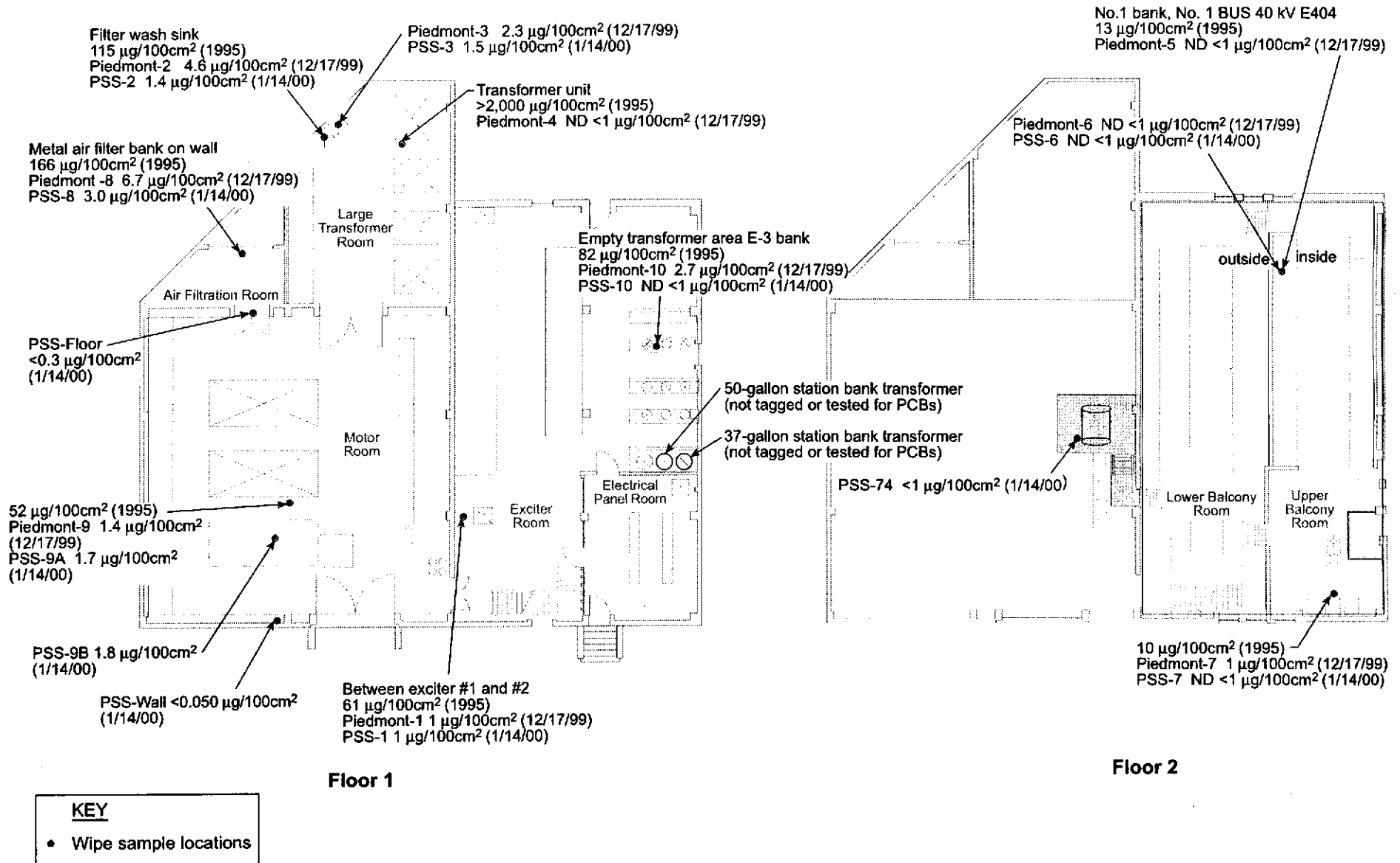


Figure 6. PCB wipe and debris sample results, 1995, December 17, 1999, and January 14, 2000, Piedmont Substation "E".

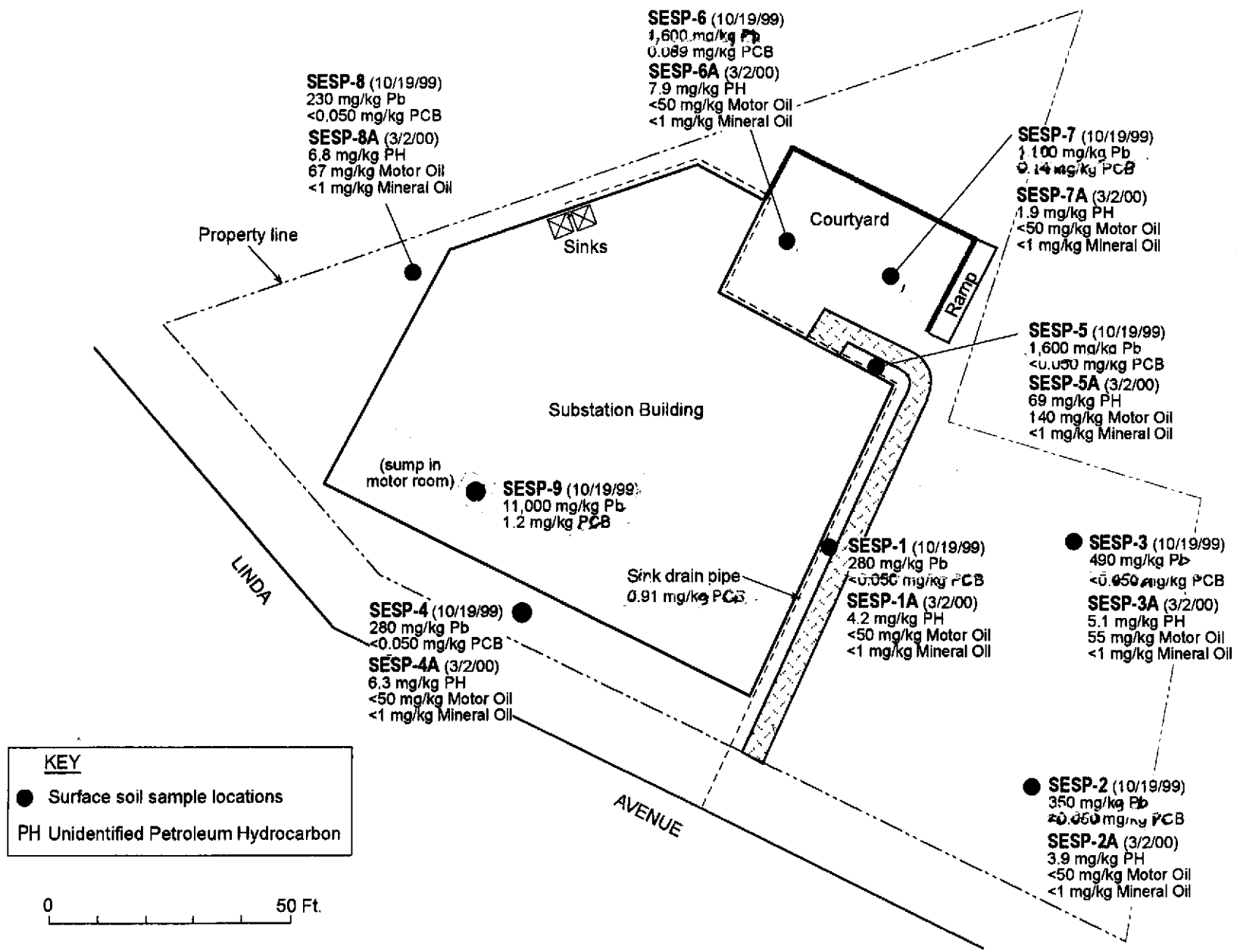


Figure 7. Surface soil samples, sink drain pipe locations and analytical results, Piedmont Substation "E", October 19, 1999 and March 2, 2000.

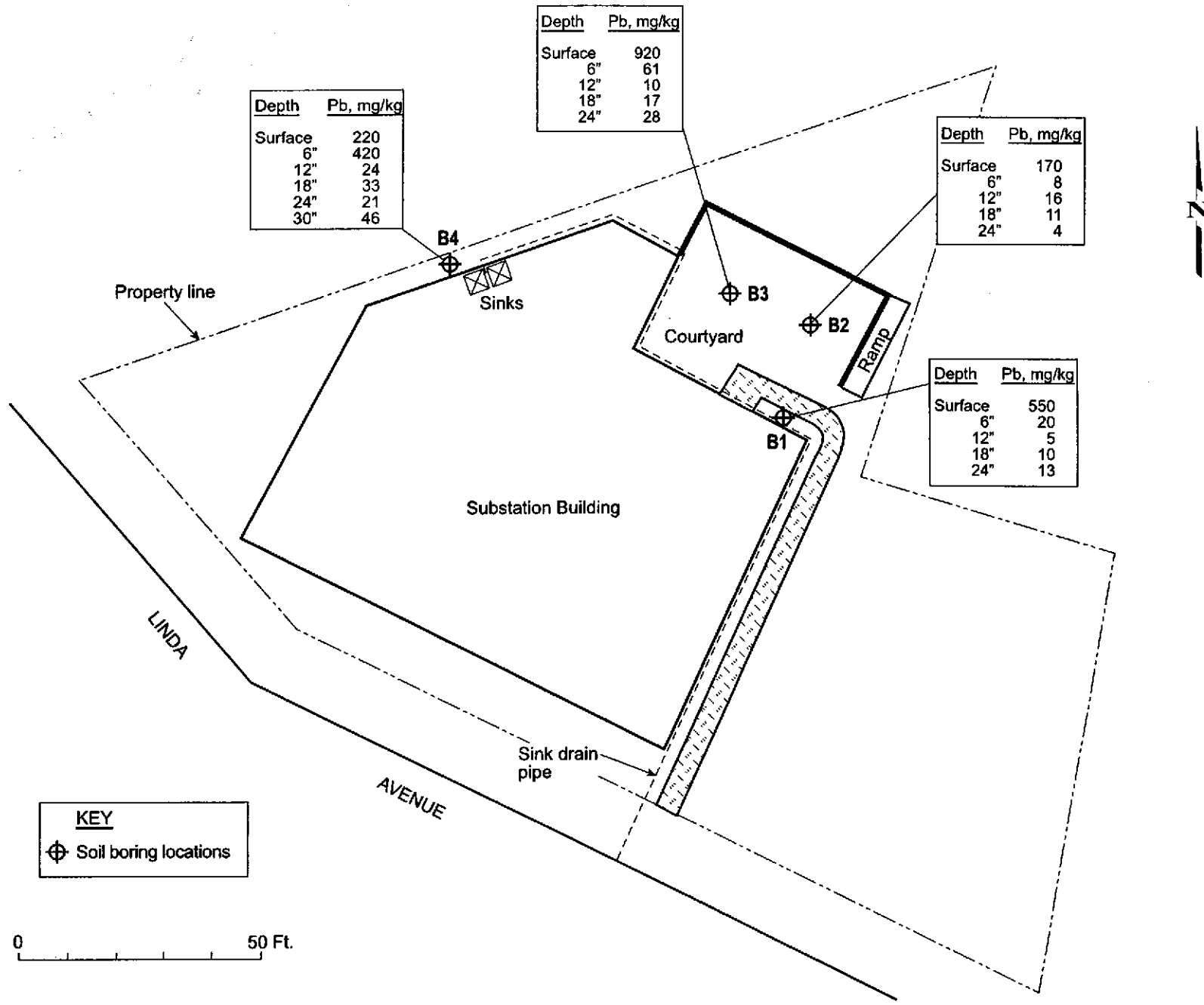
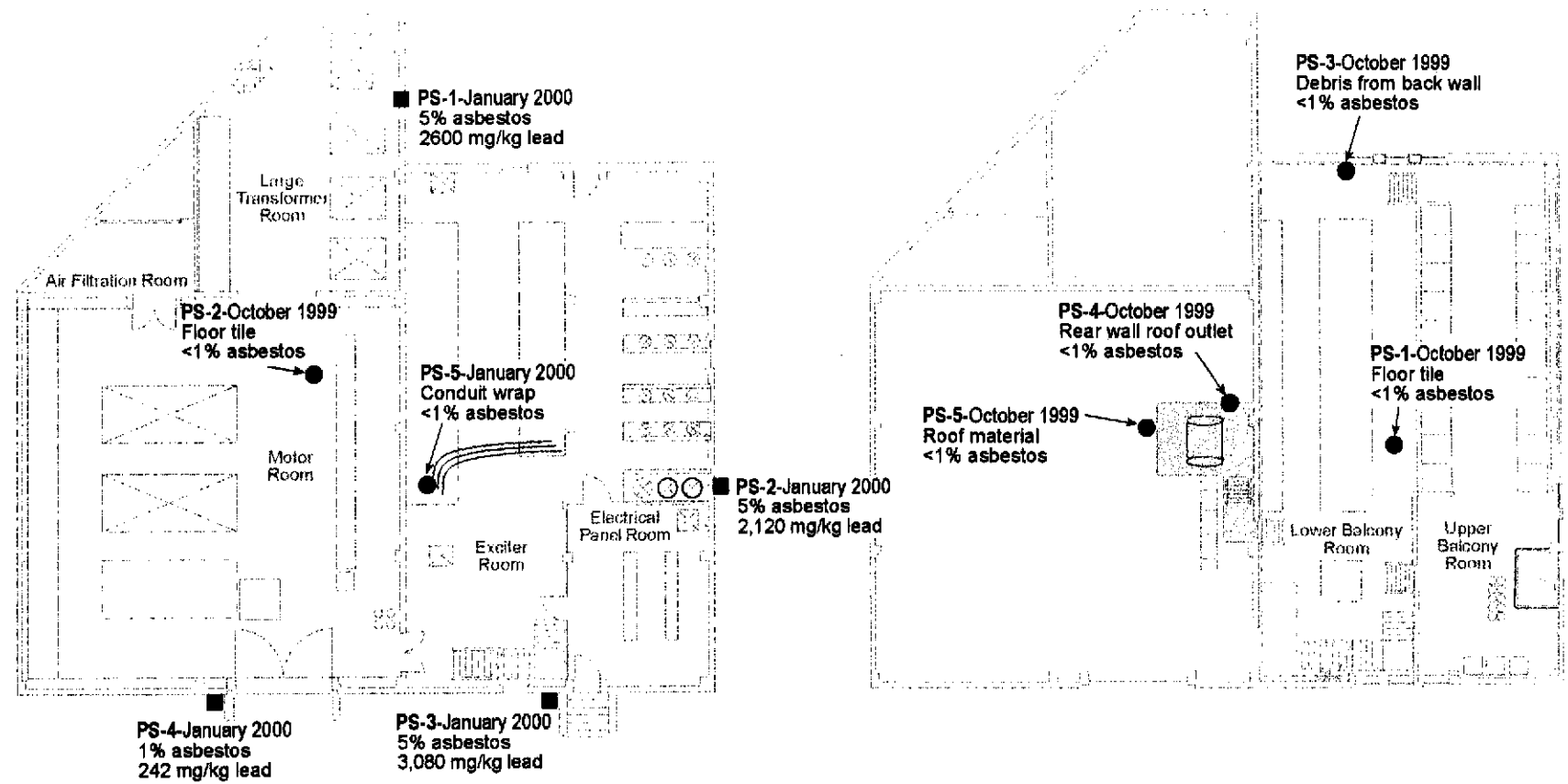


Figure 8. Soil boring locations and analytical results, Piedmont Substation "E", November 23, 1999.



KEY and Analytical Results for

- Exterior paint sample locations and analytical results for asbestos and lead
- Asbestos sample locations and analytical results

Figure 9. Paint and asbestos sample locations and analytical results, October 1999 and January 2000, Piedmont Substation "E".

Section 3

ANALYTICAL RESULTS

PCBs

Analytical results for PCBs in wipe samples are summarized in Table 1; soil and debris sample analytical results for PCBs are summarized in Table 2; and oil sample analytical results for PCBs are summarized in Table 3.

Wipe Samples

Wipe sample analyses indicated that PCBs were present in five of the 92 wipe samples collected in October 1999: PS-26 (1.2 micrograms per 100 square centimeters [$\mu\text{g}/100\text{cm}^2$]), PS-71 (4.4 $\mu\text{g}/100\text{cm}^2$), PS-74 (15 $\mu\text{g}/100\text{cm}^2$), PS-87 (4.4 $\mu\text{g}/100\text{cm}^2$), PS-91 (4.4 $\mu\text{g}/100\text{cm}^2$) (locations shown on Figures 2 through 5). Only sample PS-74 exceeded the clean up criteria of 10 $\mu\text{g}/100\text{cm}^2$ established under the PCB Mega Rule. All other sample results were below the detection limit of 1 $\mu\text{g}/100\text{cm}^2$.

Seven of the ten wipe samples collected in December 1999 were found to contain detectable PCBs: Piedmont-1 (1 $\mu\text{g}/100\text{cm}^2$), Piedmont-2 (4.6 $\mu\text{g}/100\text{cm}^2$), Piedmont-3 (2.3 $\mu\text{g}/100\text{cm}^2$), Piedmont-7 (1 $\mu\text{g}/100\text{cm}^2$), Piedmont-8 (6.7 $\mu\text{g}/100\text{cm}^2$), Piedmont-9 (1.4 $\mu\text{g}/100\text{cm}^2$), and Piedmont-10 (2.7 $\mu\text{g}/100\text{cm}^2$) (locations shown on Figure 6). All of these results were below the clean up criteria of 10 $\mu\text{g}/100\text{cm}^2$ established under the PCB Mega Rule. All other sample results were below the detection limit of 1 $\mu\text{g}/100\text{cm}^2$. These results were not consistent with the 1995 field tests for PCBs that were considered suspect, but were consistent with the overall results of the other extensive 1999 wipe samples described above. Additional wipe samples were collected in January 2000 to independently evaluate the difference between the 1995 field tests and new results.

Five of the ten wipe samples collected in January 2000 were found to contain detectable PCBs: PSS-2 (1.4 $\mu\text{g}/100\text{cm}^2$), PSS-3 (1.5 $\mu\text{g}/100\text{cm}^2$), PSS-8 (3.0 $\mu\text{g}/100\text{cm}^2$), PSS-9A (1.7 $\mu\text{g}/100\text{cm}^2$), and PSS-9B (1.8 $\mu\text{g}/100\text{cm}^2$) (locations shown on Figure 6). Analytical results are generally consistent with the December 17, 1999 results and confirm that these locations have PCBs well below the clean up criteria of 10 $\mu\text{g}/100\text{cm}^2$ established under the PCB Mega Rule. These results confirm that the 1995 wipe sample field tests were inaccurate, and should not be used in planning the future disposition of the building. A comparison of the 1995 wipe sample and subsequent resample results is presented in Figure 6.

Debris Samples

As shown in Table 2, PCBs were detected in the debris sample collected in November 1999 from the sink drainpipe (see Figure 7) at a concentration of 0.91 milligrams per kilogram (mg/kg). The debris samples collected in January 2000 from the Motor Room floor and wall (PSS-Floor and PSS-Wall) did not contain detectable PCBs (locations shown on Figure 6).

Soil Samples

PCBs were detected in surface soil samples SESP-6 (0.089 mg/kg), SESP-7 (0.14 mg/kg), and SESP-9 (1.2 mg/kg) collected in October 1999. PCBs were not detected in the other six surface soil samples (Table 2, locations shown on Figure 7). The PCB concentrations in soil samples collected outside the building (SESP-1 to SESP-8) were uniformly below the USEPA Region 9 Preliminary Remediation Goals (PRG) for residential use of 0.22 mg/kg. Soil in the Motor Room sump sample (SESP-9) exceeded the residential PRG of 0.22 and the industrial PRG of 1.0 mg/kg.

Oil Samples

PCBs were not detected in the two oil samples collected from the 12kV motor and station bank transformer "C" (Table 3, locations shown on Figure 5).

LEAD

Soil Samples

Analytical results for lead concentrations in soil are summarized in Table 4 and the sample locations shown on Figure 7. Lead was detected in all of the initial surface soil samples collected October 19, 1999 as follows: SESP-1 (280 mg/kg), SESP-2 (350 mg/kg), SESP-3 (490 mg/kg), SESP-4 (280 mg/kg), SESP-5 (1,600 mg/kg), SESP-6 (1,600 mg/kg), SESP-7 (1,100 mg/kg), SESP-8 (230 mg/kg), and SESP-9 (11,000 mg/kg). All samples contained lead in concentrations exceeding the California residential PRG of 130 mg/kg.

Lead was detected in all of the soil samples collected from borings B-1 to B-4 advanced in November 1999, at concentrations ranging from 5 mg/kg to 920 mg/kg (locations shown on Figure 9). Lead was detected in concentrations above the residential PRG of 130 mg/kg in the surface samples collected from borings B1, B2, B3, and B4. Lead was also detected in concentrations exceeding the residential PRG at a depth of six inches bgs in one sample (B4-2). None of the samples collected from any of the four borings at depths greater than six inches bgs were found to contain lead in concentrations exceeding the residential PRG.

Paint

Analytical results for lead in paint samples are summarized in Table 5 and the sample locations are shown on Figure 9. Lead was detected in paint samples PS-1-January 2000 (2,600 mg/kg), PS-2-January 2000 (2,120 mg/kg), PS-3-January 2000 (3,080 mg/kg), and PS-4-January 2000 (242 mg/kg) collected in January 2000.

ASBESTOS

Analytical results for asbestos are summarized in Table 6 and the sample locations are shown on Figure 9. Asbestos concentrations were below the detection limit of one percent in the five samples taken in October 1999 from the floor tiles, roof outlet tiles (highest level-very top of the building), and dust located on the back wall.

Asbestos was detected in paint samples PS-1-January 2000 to PS-4-January 2000 collected in January 2000 from the exterior of the building, at concentrations of 5% in samples PS-1-January 2000 to PS-3-January 2000 and 1% in PS-4-January 2000. Asbestos was not detected in sample PS-5-January 2000 collected from the conduit wrap located on the second floor.

TEPH AND MINERAL OIL

Analytical results for TEPH and mineral oil in surface soil samples are summarized in Table 7. Sample locations are shown on Figure 7. Mineral oil was not detected in any of the eight samples collected in March 2000. Motor oil was detected in three soil samples: SESP-3A (55 mg/kg), SESP-5A (140 mg/kg), and SESP-8A (67 mg/kg). Petroleum hydrocarbons in the diesel range were found in all eight soil samples: SESP-1A (4.2 mg/kg), SESP-2A (3.9 mg/kg), SESP-3A (5.1 mg/kg), SESP-4A (6.3 mg/kg), SESP-5A (69 mg/kg), SESP-6A (7.9 mg/kg), SESP-7A (1.9 mg/kg), SESP-8A (6.8 mg/kg). Although present in the diesel range, these hydrocarbons did not match the pattern of the standard and are therefore described as "unidentified" petroleum hydrocarbons.

Table 1

**Analytical Results for PCBs in Wipe Samples
Piedmont Substation "E"**

Results for PCBs Detected in Samples Collected on October 19, 1999

Sample	PCB Concentration		Location
	$\mu\text{g}/100\text{cm}^2$	AROCHLOR	
PS-26	1.2	1260	Motor sump floor, motor room
PS-71	4.4	1254	Fan grate, third level
PS-74	15	1254	Fan cylinder, third level
PS-87	4.4	1254	Oil storage unit, motor room
PS-91	4.4	1254	Floor in motor room

Results for Samples Collected on December 17, 1999

Sample	PCB Concentration		Location
	$\mu\text{g}/100\text{cm}^2$	AROCHLOR	
Piedmont 1	1	1254	Exciter room behind sump
Piedmont 2	4.6	1260	Filter wash sink (inside)
Piedmont 3	2.3	1260	Filter wash sink (inside/bottom)
Piedmont 4	< 1	---	Floor in large transformer storage room
Piedmont 5	< 1	---	On 4kV bus bank, second level
Piedmont 6	< 1	---	On 4kV bus bank, second level
Piedmont 7	1	1254	Upper balcony room near transformer bank #2
Piedmont 8	6.7	1260	Air filtration room on air filter
Piedmont 9	1.4	1260	Motor room floor
Piedmont 10	2.7	1260	Floor in empty transformer area (E-3 Bank)

Results for Samples Collected on January 14, 2000

Sample	PCB Concentration		Location
	$\mu\text{g}/100\text{cm}^2$	AROCHLOR	
PSS-1	< 1	---	Exciter room
PSS-2	1.4	1221	Sink in filter wash room
PSS-3	1.5	1221	Sink in filter wash room
PSS-6	< 1	---	Door outside upper balcony
PSS-7	< 1	---	Floor on second level
PSS-8	3.0	1221	Filtration room
PSS-9A	1.7	1221	Motor room (near motor)
PSS-9B	1.8	1221	Motor room (away from motors)
PSS-10	< 1	---	Transformer area
PSS-74	< 1	---	Fan housing on third level

Table 2

**Analytical Results for PCBs in Surface Soil and Debris Samples
Piedmont Substation "E"**

Sample ID	Sample Type	Sample Date	PCB Concentration (mg/kg)	AROCHLOR
SESP-1	Soil	10/14/1999	<0.050	---
SESP-2	Soil	10/14/1999	<0.050	---
SESP-3	Soil	10/14/1999	<0.050	---
SESP-4	Soil	10/14/1999	<0.050	---
SESP-5	Soil	10/14/1999	<0.050	---
SESP-6	Soil	10/14/1999	0.089	1260
SESP-7	Soil	10/14/1999	0.14	1260
SESP-8	Soil	10/14/1999	<0.050	---
SESP-9	Soil	10/14/1999	1.2	1260
Piedmont Pipe	Debris	11/23/1999	0.91	1260
PSS-Floor	Debris	1/14/2000	<0.3	---
PSS-Wall	Debris	1/14/2000	<0.050	---

Table 3

**Analytical Results for PCBs in Oil Samples
Piedmont Substation "E"**

Results for Samples Collected on October 19, 1999

Sample	PCB Concentration		Location
	<i>ug/100cm²</i>	AROCHLOR	
Sample 1	<1	---	12kV Motor - level two
Sample 2	<1	---	Station Bank Transformer "C" - level two

Table 4

**Analytical Results for Lead in Soil Samples
Piedmont Substation "E"**

Results for Samples Collected on October 19, 1999

Sample	Location (see Figure 7)	Lead Concentration (mg/kg)
SESP-1	Surface Soil around exterior of building	280
SESP-2	Surface Soil around exterior of building	350
SESP-3	Surface Soil around exterior of building	490
SESP-4	Surface Soil around exterior of building	280
SESP-5	Surface Soil around exterior of building	1,600
SESP-6	Surface Soil around exterior of building	1,600
SESP-7	Surface Soil around exterior of building	1,100
SESP-8	Surface Soil around exterior of building	230
SESP-9	Motor Room Sump	11,000

Results for Samples Collected on November 23, 1999

Sample	Location (See Figure 8)	Lead Concentration (mg/kg)
B1-1	Courtyard North Side Surface	550
B1-2	6"	20
B1-3	12"	5
B1-4	18"	10
B1-5	24"	13
B2-1	Courtyard South Side Surface	170
B2-2	6"	8
B2-3	12"	16
B2-4	18"	11
B2-5	24"	4
B3-1	Courtyard Next to wall 5 feet from door Surface	920
B3-2	6"	61
B3-3	12"	10
B3-4	18"	17
B3-5	24"	28
B4-1	North Side of Building Surface	220
B4-2	6"	420
B4-3	12"	24
B4-4	18"	33
B4-5	24"	21
B4-6	30"	46

3-7

Table 5

**Analytical Results for Lead in Paint Samples
Piedmont Substation "E"
January 14, 2000**

Sample	Location (see Figure 9)	Lead Concentration (mg/kg)
PS-1-January 2000	Paint from exterior of building - rear	2,600
PS-2-January 2000	Paint from exterior of building - side	2,120
PS-3-January 2000	Paint from exterior of building - front	3,080
PS-4-January 2000	Paint from front door of building - front	242

Table 6

**Analytical Results for Asbestos Samples
Piedmont Substation "E"**

Results of Samples Collected on October 19, 1999

Sample	Location (see Figure 9)	Asbestos Concentration
PS-1- October 1999	Floor tile - level 2	<1%
PS-2 - October 1999	Floor tile - motor room	<1%
PS-3 - October 1999	Southwest facing wall	<1%
PS-4 - October 1999	Rear wall - fan housing	<1%
PS-5 - October 1999	Roof material	<1%

Results of Samples Collected on January 14, 2000

Sample	Location (see Figure 9)	Asbestos Concentration
PS-1-January 2000	Paint from exterior of building - rear	5%
PS-2-January 2000	Paint from exterior of building - side	5%
PS-3- January 2000	Paint from exterior of building - front	5%
PS-4- January 2000	Paint from front door of building - front	1%
PS-5- January 2000	Conduit wrap - level 2	<1%

3-9

Table 7

**Analytical Results for TEPH and Mineral Oil in Surface Soil Samples
Piedmont Substation "E"
Results of Samples Collected on March 2, 2000**

Sample	Unidentified Petroleum Hydrocarbon (mg/kg)	Motor Oil (mg/kg)	Mineral Oil (mg/kg)
SESP-1A	4.2	<50	<1
SESP-2A	3.9	<50	<1
SESP-3A	5.1	55	<1
SESP-4A	6.3	<50	<1
SESP-5A	69	140	<1
SESP-6A	7.9	<50	<1
SESP-7A	1.9	<50	<1
SESP-8A	6.8	67	<1

3-10

SUMMARY AND CONCLUSIONS

The purpose of this investigation was to evaluate if hazardous materials were present from former substation operations at the property. Former hazardous materials usage at the property was previously evaluated by ESE in a Phase 1 Environmental Site Assessment (October 5, 1995), and TES obtained additional information during this current study. The principal hazardous materials identified as being known or potentially of concern at the site are:

- PCBs, TEPH and mineral oil
- Lead in paint and soil
- ACMs in building materials

The findings and conclusions of this investigation are summarized below.

PCBS, TEPH AND MINERAL OIL

- A total of 112 wipe samples were collected from walls, floors, and miscellaneous equipment located within the substation building. PCBs were detected in 16 of the 112 wipe samples. Only one of the 112 wipe samples, PS-74 (base of fan on third level, see Figure 5), contained PCBs at a level ($15 \mu\text{g}/100\text{cm}^2$) exceeding the cleanup criteria established under the PCB Mega Rule of ($10 \mu\text{g}/100\text{cm}^2$).
- Twenty of the 112 wipe samples were collected specifically to resample eight locations where 1995 field analysis indicated that PCBs were present at elevated concentrations. Wipe samples were re-collected at each of the eight locations on two occasions by different samplers and analyzed by separate labs. These results did not confirm the 1995 field screening results, and no results at these locations exceeded the PCB Mega Rule cleanup criteria of $10 \mu\text{g}/100\text{cm}^2$. Therefore, the 1995 field analyses are considered invalid.
- A debris sample collected from the filter washing sink drainpipe was found to contain a PCB concentration of 0.91 mg/kg, which is above the residential PRG of 0.22 mg/kg.
- The oil samples collected from the oil-filled equipment (one 12kV motor-operated switch and station bank transformer "C") did not contain detectable concentrations of PCBs. However, four sealed, oil-filled transformers and 13 motor-operated switches were not sampled nor was the quantity of oil within them determined during this investigation.
- PCBs were detected in two of eight surface soil samples surrounding the building (SESP-6 and SESP-7, see Figure 7) at concentrations below the residential PRG of 0.22 mg/kg. These results indicate that PCBs are not a concern in soil outside the building except for within the filter washing sink drainpipe.
- Mineral oil was not detected in any surface soil samples. Motor oil was detected in three surface soil samples: SESP-3A, SESP-5A and SESP-8A in concentrations ranging from 55 to 140 mg/kg (see Figure 7). Unidentified petroleum hydrocarbons were detected in trace amounts in all eight surface soil samples. All soil samples collected contain concentrations of extractable petroleum hydrocarbons below the typical cleanup level of 1,000 mg/kg accepted by the

San Francisco Regional Water Quality Control Board (SFRWQCB).

LEAD

- Lead concentrations exceed the Cal-EPA residential PRG (130 mg/kg) for soil in all near-surface samples surrounding the building (locations shown on Figure 7). Lead concentrations in soil samples collected deeper than six inches were all below the residential PRG. Depending on future site use, remediation of surface soil may be needed to remove lead contamination to acceptable levels.
- Lead was detected in all four paint samples taken from the exterior of the substation building at concentrations ranging from 242 to 3,080 mg/kg (locations shown on Figure 9).

ASBESTOS

- Asbestos was not found in any of the samples collected from the roof tiles, floor tiles, mortar, wall debris, or conduit wrap (locations shown on Figure 9). Asbestos was found in three of the four paint samples (PS-1 to PS-3, see Figure 9) collected from the exterior of the building, at concentrations of 1% to 5%. This survey of readily accessible materials provides information about surface building materials only. No intrusive sampling was conducted on structural materials or materials contained with the structure.

MOTOR ROOM SUMP

- A sump in the Motor Room floor is damaged at the base, exposing underlying soil. One sample was collected from the soil exposed in this sump (SESP-9) and analyzed for PCBs and lead. The soil was found to contain PCBs at a concentration of 1.2 mg/kg. This is above the USEPA residential PRG of 0.22 mg/kg. The PCB concentration also exceeds the USEPA industrial PRG of 1.0 mg/kg. Lead was reported in the same soil sample at 11,000 mg/kg, exceeding the California hazardous waste criteria of 350 mg/kg. The extent of migration of lead and PCBs in soil beneath the sump was not determined in this study, but would likely be localized.

Appendix A

**ANALYTICAL DATA SHEETS
AND
CHAIN-OF-CUSTODY FORMS**

PCBs

P.G.& E TES



3400 Crow Canyon Road
San Ramon, CA 94583-1393

Attn: Bryan Nicholson

Phone: (925) 866-5477 Fax: (925) 866-5681

Project #:

Project: Piedmont Sub E

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
Piedmont Pipe	Soil	11/29/1999	1

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0465

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

PCBs

Sample ID: Piedmont Pipe	Lab Sample ID: 1999-11-0465-001
Project: Piedmont Sub E	Received: 11/29/1999 10:13
Sampled: 11/29/1999	Extracted: 12/01/1999
Matrix: Soil	QC-Batch: 1999/12/01-02.14
Sample/Analysis Flag: sdo (See Legend & Note section)	

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aroclor 1016	ND	0.50	mg/Kg	10.00	12/02/1999 14:18	
Aroclor 1221	ND	0.50	mg/Kg	10.00	12/02/1999 14:18	
Aroclor 1232	ND	0.50	mg/Kg	10.00	12/02/1999 14:18	
Aroclor 1242	ND	0.50	mg/Kg	10.00	12/02/1999 14:18	
Aroclor 1248	ND	0.50	mg/Kg	10.00	12/02/1999 14:18	
Aroclor 1254	ND	0.50	mg/Kg	10.00	12/02/1999 14:18	
Aroclor 1260	0.91	0.50	mg/Kg	10.00	12/02/1999 14:18	
Surrogate(s)						
2,4,5,6-Tetrachloro-m-xylene	ND	50-125	mg/Kg	10.00	12/02/1999 14:18	
Decachlorobiphenyl	ND	46-142	mg/Kg	10.00	12/02/1999 14:18	

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

Environmental Services (SDB)

To: P.G.& E TES
Attn.: Bryan NicholsonTest Method: 8080A
Prep Method: 3550/8080ABatch QC Report
PCBs

Method Blank	Soil	QC Batch # 1999/12/01-02.14
MB: 1999/12/01-02.14-001		Date Extracted: 12/01/1999

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Aroclor 1016	ND	0.05	mg/Kg	12/01/1999 17:23	
Aroclor 1221	ND	0.05	mg/Kg	12/01/1999 17:23	
Aroclor 1232	ND	0.05	mg/Kg	12/01/1999 17:23	
Aroclor 1242	ND	0.05	mg/Kg	12/01/1999 17:23	
Aroclor 1248	ND	0.05	mg/Kg	12/01/1999 17:23	
Aroclor 1254	ND	0.05	mg/Kg	12/01/1999 17:23	
Aroclor 1260	ND	0.05	mg/Kg	12/01/1999 17:23	
Surrogate(s)					
2,4,5,6-Tetrachloro-m-xylene	86.6	50-125	%	12/01/1999 17:23	
Decachlorobiphenyl	87.6	46-142	%	12/01/1999 17:23	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0465

To: P.G.& E TES
Attn: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

Batch QC Report

PCBs

Laboratory Control Spike (LCS/LCSD)	Soil	QC Batch # 1999/12/01-02.14
LCS: 1999/12/01-02.14-002	Extracted: 12/01/1999	Analyzed: 12/01/1999 17:53
LCSD: 1999/12/01-02.14-003	Extracted: 12/01/1999	Analyzed: 12/01/1999 18:23

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD [%]	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Aroclor 1016	0.0603	0.0623	0.0667	0.0667	90.4	93.4	3.3	65-135	30		
Aroclor 1260	0.0659	0.0675	0.0667	0.0667	98.8	101.2	2.4	65-135	30		
Surrogate(s)											
2,4,5,6-Tetrachloro-m-xyl	50.4	50.9	50	50	100.8	101.8		50-125			
Decachlorobiphenyl	64.1	63.1	50	50	128.2	126.2		46-142			

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Submission #: 1999-11-0465

Environmental Services (SDB)

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

Batch QC Report

PCBs

Matrix Spike (MS / MSD)	Soil	QC Batch # 1999/12/01-02.14
Sample ID: Tank4-Center (A)		Lab Sample ID: 1999-11-0455-007
MS: 1999/12/01-02.14-004 Extracted: 12/01/1999	Analyzed: 12/02/1999 14:18	Dilution: 1.0
MSD: 1999/12/01-02.14-005 Extracted: 12/01/1999	Analyzed: 12/02/1999 14:59	Dilution: 1.0

Compound	Conc. [mg/Kg]			Exp. Conc. [mg/Kg]		Recovery [%]		RPD [%]	Ctr. Limits [%]		Flags	
	MS	MSD	Sample	MS	MSD	MS	MSD		Recovery	RPD	MS	MSD
Aroclor 1016	0.0546	0.0518	ND	0.0666	0.0666	82.0	77.8	5.3	65-135	30		
Aroclor 1260	0.0500	0.0492	ND	0.0666	0.0666	75.1	73.9	1.6	65-135	30		
Surrogate(s)												
2,4,5,6-Tetrachloro-m-xy	40.0	40.2		50	50	80.0	80.4		50-125			
Decachlorobiphenyl	37.3	36.9		50	50	74.6	73.8		46-142			

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

Environmental Services (SDB)

To: P.G.& E TES
Attn: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

Legend & Notes

PCBs

Analysis Flags

sdo

Surrogate(s) diluted out

Total Lead

P.G. & E TES

✉ 3400 Crow Canyon Road
San Ramon, CA 94583-1393

Attn: Bryan Nicholson

Phone: (925) 866-5477 Fax: (925) 866-5681

Project #:

Project: Station E Piedmont

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
SESP-1	Soil	10/19/1999	1
SESP-2	Soil	10/19/1999	2
SESP-3	Soil	10/19/1999	3
SESP-4	Soil	10/19/1999	4
SESP-5	Soil	10/19/1999	5
SESP-6	Soil	10/19/1999	6
SESP-7	Soil	10/19/1999	7
SESP-8	Soil	10/19/1999	8
SESP-9	Soil	10/19/1999	9

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: SESP-1	Lab Sample ID: 1999-11-0041-001
Project: Sation E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999 08:32
Matrix: Soil	QC-Batch: 1999/11/02-05.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	280	5.0	mg/Kg	1.00	11/02/1999 19:07	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: SESP-2	Lab Sample ID: 1999-11-0041-002
Project: Station E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999 08:32
Matrix: Soil	QC-Batch: 1999/11/02-05.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	350	5.0	mg/Kg	1.00	11/02/1999 19:10	

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Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: SESP-3	Lab Sample ID: 1999-11-0041-003
Project: Sation E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999 08:32
Matrix: Soil	QC-Batch: 1999/11/02-05.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	490	5.0	mg/Kg	1.00	11/02/1999 19:13	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: SESP-4	Lab Sample ID: 1999-11-0041-004
Project: Station E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999 08:32
Matrix: Soil	QC-Batch: 1999/11/02-05.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	280	5.0	mg/Kg	1.00	11/02/1999 19:16	

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Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: SESP-5	Lab Sample ID: 1999-11-0041-005
Project: Station E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999 08:32
Matrix: Soil	QC-Batch: 1999/11/02-05.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	1600	5.0	mg/Kg	1.00	11/02/1999 19:19	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: SESP-6	Lab Sample ID: 1999-11-0041-006
Project: Station E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999 08:32
Matrix: Soil	QC-Batch: 1999/11/02-05.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	1600	5.0	mg/Kg	1.00	11/02/1999 19:23	

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Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: SESP-7	Lab Sample ID: 1999-11-0041-007
Project: Station E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999 08:32
Matrix: Soil	QC-Batch: 1999/11/02-05.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	1100	5.0	mg/Kg	1.00	11/02/1999 19:27	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: SESP-8	Lab Sample ID: 1999-11-0041-008
Project: Station E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999 08:32
Matrix: Soil	QC-Batch: 1999/11/02-05.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	230	5.0	mg/Kg	1.00	11/02/1999 19:30	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Total Lead

Sample ID: SESP-9	Lab Sample ID: 1999-11-0041-009
Project: Station E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999 18:02
Matrix: Soil	QC-Batch: 1999/11/03-01.15

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	11000	250	mg/Kg	50.00	11/03/1999 14:24	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Batch QC Report Total Lead

Method Blank	Soil	QC Batch # 1999/11/02-05.15
MB: 1999/11/02-05.15-031		Date Extracted: 11/02/1999 08:32

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Lead	ND	1.0	mg/Kg	11/02/1999 11:29	

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn: Bryan Nicholson

Test Method: 6010B
Prep Method: 3050B

Batch QC Report

Total Lead

Laboratory Control Spike (LCS/LCSD)	Soil	QC Batch # 1999/11/02-05.15
LCS: 1999/11/02-05.15-032	Extracted: 11/02/1999 08:32	Analyzed: 11/02/1999 11:33
LCSD: 1999/11/02-05.15-033	Extracted: 11/02/1999 08:32	Analyzed: 11/02/1999 11:37

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Lead	94.8	95.2	100.0	100.0	94.8	95.2	0.4	80-120	20		

PCBs

P.G. & E TES

✉ 3400 Crow Canyon Road
San Ramon, CA 94583-1393

Attn: Bryan Nicholson

Phone: (925) 866-5477 Fax: (925) 866-5681

Project #:

Project: Station E Piedmont

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
SESP-1	Soil	10/19/1999	1
SESP-2	Soil	10/19/1999	2
SESP-3	Soil	10/19/1999	3
SESP-4	Soil	10/19/1999	4
SESP-5	Soil	10/19/1999	5
SESP-6	Soil	10/19/1999	6
SESP-7	Soil	10/19/1999	7
SESP-8	Soil	10/19/1999	8
SESP-9	Soil	10/19/1999	9

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

PCBs

Sample ID: SESP-1	Lab Sample ID: 1999-11-0041-001
Project: Sation E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999
Matrix: Soil	QC-Batch: 1999/11/02-02.14

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aroclor 1016	ND	0.050	mg/Kg	1.00	11/03/1999 13:14	
Aroclor 1221	ND	0.050	mg/Kg	1.00	11/03/1999 13:14	
Aroclor 1232	ND	0.050	mg/Kg	1.00	11/03/1999 13:14	
Aroclor 1242	ND	0.050	mg/Kg	1.00	11/03/1999 13:14	
Aroclor 1248	ND	0.050	mg/Kg	1.00	11/03/1999 13:14	
Aroclor 1254	ND	0.050	mg/Kg	1.00	11/03/1999 13:14	
Aroclor 1260	ND	0.050	mg/Kg	1.00	11/03/1999 13:14	
<i>Surrogate(s)</i>						
2,4,5,6-Tetrachloro-m-xylene	59.9	50-125	%	1.00	11/03/1999 13:14	
Decachlorobiphenyl	41.4	46-142	%	1.00	11/03/1999 13:14	s

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

PCBs

Sample ID: SESP-2	Lab Sample ID: 1999-11-0041-002
Project: Sation E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999
Matrix: Soil	QC-Batch: 1999/11/02-02.14

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aroclor 1016	ND	0.050	mg/Kg	1.00	11/03/1999 20:02	
Aroclor 1221	ND	0.050	mg/Kg	1.00	11/03/1999 20:02	
Aroclor 1232	ND	0.050	mg/Kg	1.00	11/03/1999 20:02	
Aroclor 1242	ND	0.050	mg/Kg	1.00	11/03/1999 20:02	
Aroclor 1248	ND	0.050	mg/Kg	1.00	11/03/1999 20:02	
Aroclor 1254	ND	0.050	mg/Kg	1.00	11/03/1999 20:02	
Aroclor 1260	ND	0.050	mg/Kg	1.00	11/03/1999 20:02	
<i>Surrogate(s)</i>						
2,4,5,6-Tetrachloro-m-xylene	95.6	50-125	%	1.00	11/03/1999 20:02	
Decachlorobiphenyl	97.2	46-142	%	1.00	11/03/1999 20:02	

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

PCBs

Sample ID: SESP-4	Lab Sample ID: 1999-11-0041-004
Project: Sation E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999
Matrix: Soil	QC-Batch: 1999/11/02-02.14

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aroclor 1016	ND	0.050	mg/Kg	1.00	11/03/1999 21:09	
Aroclor 1221	ND	0.050	mg/Kg	1.00	11/03/1999 21:09	
Aroclor 1232	ND	0.050	mg/Kg	1.00	11/03/1999 21:09	
Aroclor 1242	ND	0.050	mg/Kg	1.00	11/03/1999 21:09	
Aroclor 1248	ND	0.050	mg/Kg	1.00	11/03/1999 21:09	
Aroclor 1254	ND	0.050	mg/Kg	1.00	11/03/1999 21:09	
Aroclor 1260	ND	0.050	mg/Kg	1.00	11/03/1999 21:09	
Surrogate(s)						
2,4,5,6-Tetrachloro-m-xylene	106.8	50-125	%	1.00	11/03/1999 21:09	
Decachlorobiphenyl	89.7	46-142	%	1.00	11/03/1999 21:09	

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Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

PCBs

Sample ID: SESP-5	Lab Sample ID: 1999-11-0041-005
Project: Sation E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999
Matrix: Soil	QC-Batch: 1999/11/02-02.14
Sample/Analysis Flag: Im (See Legend & Note section)	

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aroclor 1016	ND	0.25	mg/Kg	5.00	11/04/1999 16:26	
Aroclor 1221	ND	0.25	mg/Kg	5.00	11/04/1999 16:26	
Aroclor 1232	ND	0.25	mg/Kg	5.00	11/04/1999 16:26	
Aroclor 1242	ND	0.25	mg/Kg	5.00	11/04/1999 16:26	
Aroclor 1248	ND	0.25	mg/Kg	5.00	11/04/1999 16:26	
Aroclor 1254	ND	0.25	mg/Kg	5.00	11/04/1999 16:26	
Aroclor 1260	ND	0.25	mg/Kg	5.00	11/04/1999 16:26	
Surrogate(s)						
2,4,5,6-Tetrachloro-m-xylene	63.0	50-125	%	5.00	11/04/1999 16:26	
Decachlorobiphenyl	85.4	46-142	%	5.00	11/04/1999 16:26	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

PCBs

Sample ID: SESP-6	Lab Sample ID: 1999-11-0041-008
Project: Sation E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999
Matrix: Soil	QC-Batch: 1999/11/02-02.14

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aroclor 1016	ND	0.050	mg/Kg	1.00	11/04/1999 15:18	
Aroclor 1221	ND	0.050	mg/Kg	1.00	11/04/1999 15:18	
Aroclor 1232	ND	0.050	mg/Kg	1.00	11/04/1999 15:18	
Aroclor 1242	ND	0.050	mg/Kg	1.00	11/04/1999 15:18	
Aroclor 1248	ND	0.050	mg/Kg	1.00	11/04/1999 15:18	
Aroclor 1254	ND	0.050	mg/Kg	1.00	11/04/1999 15:18	
Aroclor 1260	0.089	0.050	mg/Kg	1.00	11/04/1999 15:18	
<i>Surrogate(s)</i>						
2,4,5,6-Tetrachloro-m-xylene	103.6	50-125	%	1.00	11/04/1999 15:18	
Decachlorobiphenyl	108.7	46-142	%	1.00	11/04/1999 15:18	

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Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

PCBs

Sample ID: SESP-7	Lab Sample ID: 1999-11-0041-007
Project: Station E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999
Matrix: Soil	QC-Batch: 1999/11/02-02.14

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aroclor 1016	ND	0.050	mg/Kg	1.00	11/03/1999 22:50	
Aroclor 1221	ND	0.050	mg/Kg	1.00	11/03/1999 22:50	
Aroclor 1232	ND	0.050	mg/Kg	1.00	11/03/1999 22:50	
Aroclor 1242	ND	0.050	mg/Kg	1.00	11/03/1999 22:50	
Aroclor 1248	ND	0.050	mg/Kg	1.00	11/03/1999 22:50	
Aroclor 1254	ND	0.050	mg/Kg	1.00	11/03/1999 22:50	
Aroclor 1260	0.14	0.050	mg/Kg	1.00	11/03/1999 22:50	
Surrogate(s)						
2,4,5,6-Tetrachloro-m-xylene	97.1	50-125	%	1.00	11/03/1999 22:50	
Decachlorobiphenyl	98.2	46-142	%	1.00	11/03/1999 22:50	

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

PCBs

Sample ID: SESP-8	Lab Sample ID: 1999-11-0041-008
Project: Sation E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999
Matrix: Soil	QC-Batch: 1999/11/02-02.14

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aroclor 1016	ND	0.050	mg/Kg	1.00	11/03/1999 23:24	
Aroclor 1221	ND	0.050	mg/Kg	1.00	11/03/1999 23:24	
Aroclor 1232	ND	0.050	mg/Kg	1.00	11/03/1999 23:24	
Aroclor 1242	ND	0.050	mg/Kg	1.00	11/03/1999 23:24	
Aroclor 1248	ND	0.050	mg/Kg	1.00	11/03/1999 23:24	
Aroclor 1254	ND	0.050	mg/Kg	1.00	11/03/1999 23:24	
Aroclor 1260	ND	0.050	mg/Kg	1.00	11/03/1999 23:24	
Surrogate(s)						
2,4,5,6-Tetrachloro-m-xylene	100.5	50-125	%	1.00	11/03/1999 23:24	
Decachlorobiphenyl	117.5	46-142	%	1.00	11/03/1999 23:24	

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Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

PCBs

Sample ID: SESP-9	Lab Sample ID: 1999-11-0041-009
Project: Station E Piedmont	Received: 11/02/1999 13:34
Sampled: 10/19/1999	Extracted: 11/02/1999
Matrix: Soil	QC-Batch: 1999/11/02-02.14
Sample/Analysis Flag: sdo (See Legend & Note section)	

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Aroclor 1016	ND	0.50	mg/Kg	10.00	11/04/1999 16:59	
Aroclor 1221	ND	0.50	mg/Kg	10.00	11/04/1999 16:59	
Aroclor 1232	ND	0.50	mg/Kg	10.00	11/04/1999 16:59	
Aroclor 1242	ND	0.50	mg/Kg	10.00	11/04/1999 16:59	
Aroclor 1248	ND	0.50	mg/Kg	10.00	11/04/1999 16:59	
Aroclor 1254	ND	0.50	mg/Kg	10.00	11/04/1999 16:59	
Aroclor 1260	1.2	0.50	mg/Kg	10.00	11/04/1999 16:59	
Surrogate(s)						
2,4,5,6-Tetrachloro-m-xylene	ND	50-125	mg/Kg	10.00	11/04/1999 16:59	
Decachlorobiphenyl	ND	46-142	mg/Kg	10.00	11/04/1999 16:59	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G.& E TES
Attn.: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

Batch QC Report PCBs

Method Blank

Soil

QC Batch # 1999/11/02-02.14

MB: 1999/11/02-02.14-001

Date Extracted: 11/02/1999

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Aroclor 1016	ND	0.05	mg/Kg	11/03/1999 13:10	
Aroclor 1221	ND	0.05	mg/Kg	11/03/1999 13:10	
Aroclor 1232	ND	0.05	mg/Kg	11/03/1999 13:10	
Aroclor 1242	ND	0.05	mg/Kg	11/03/1999 13:10	
Aroclor 1248	ND	0.05	mg/Kg	11/03/1999 13:10	
Aroclor 1254	ND	0.05	mg/Kg	11/03/1999 13:10	
Aroclor 1260	ND	0.05	mg/Kg	11/03/1999 13:10	
Surrogate(s)					
2,4,5,6-Tetrachloro-m-xylene	93.0	50-125	%	11/03/1999 13:10	
Decachlorobiphenyl	101.8	46-142	%	11/03/1999 13:10	

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-11-0041

To: P.G. & E TES
Attn: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

Batch QC Report

PCBs

Laboratory Control Spike (LCS/LCSD)

Soil

QC Batch # 1999/11/02-02.14

LCS: 1999/11/02-02.14-002

Extracted: 11/02/1999

Analyzed: 11/03/1999 13:40

LCSD: 1999/11/02-02.14-003

Extracted: 11/03/1999

Analyzed: 11/03/1999 14:09

Compound	Conc. [mg/Kg]		Exp. Conc. [mg/Kg]		Recovery [%]		RPD [%]	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Aroclor 1016	0.0543	0.0573	0.0667	0.0667	81.4	85.9	5.4	65-135	30		
Aroclor 1260	0.0605	0.0641	0.0667	0.0667	90.7	96.1	5.8	65-135	30		
Surrogate(s)											
2,4,5,6-Tetrachloro-m-xyI	45.9	46.8	50	50	91.8	93.6		50-125			
Decachlorobiphenyl	51.7	55.3	50	50	103.4	110.6		46-142			

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

To: P.G.& E TES
Attn: Bryan Nicholson

Test Method: 8080A
Prep Method: 3550/8080A

Legend & Notes

PCBs

Analysis Flags

lm

Reporting limits raised due to high level of non-target analyte materials.

sdo

Surrogate(s) diluted out

Analyte Flags

s

One surrogate recovery out of control, but second surrogate within QC limits confirms test performance.



9911 0465

49272

Chain of Custody Record

From: Pacific Gas & Electric Company PG&E Facility Sample Site
 Address or Location: 3400 Crow Canyon Rd
 City: San Ramon, CA (Zip)
 Contact Name/Phone No.: Bryan Nicholson 866-5477

Ship To: Lab Name: Chrom-lab Inc
 Address: Quarry Ln
 City: Pleasanton, CA (Zip)
 Phone No. 484-1919
 Contact Name: Gary Cook

Turnaround Time
 NORMAL (10 days or less) RUSH OTHER, Specify
 Due Date & Time
 TELEPHONE FAX Give Results to: Name P/FAX

Analysis Requested

PCB

Project Name: Piedmont Sub E Project Supervisor (Name/Phone No.):
 Sampled by: (Signature) Bryan Nicholson (Print Name)

Sample No./ Equipment Serial No.	Sampled		Sample Type/Description	Containers		Remarks
	Date	Time		No.	Size	
1. Piedmont pipe	11/23	10:00	Soil. Solid	1		* Analyze material inside of pipe
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						

Relinquished by (Name&Dept.): Bryan Nicholson	Date&Time: 11/23/99	Received by (Name&Dept.): Gary Cook	Date&Time: 11/23/99	Ship Via:
Relinquished by (Name&Dept.): Bryan Nicholson	Date&Time: 11-29-99 1701	Received by (Name&Dept.): Gary Cook	Date&Time:	Bill of Lading/Airbill No.:
Relinquished by (Name&Dept.): Bryan Nicholson	Date&Time:	Received by (Name&Dept.): Gary Cook	Date&Time: 11-29-99	

SAP Accounting Data: Billing Contact: Billing Address:

- Notes:
1. Samples are discarded by the laboratory 90 days after results are reported unless other arrangements are made.
 2. File a copy of this Chain of Custody Record, complete with appropriate laboratory signatures, with the test analysis results.
 3. The first "Relinquished by/Date" is the shipping date unless otherwise noted.
 4. The final PCB results will be the cumulative results added together for each PCB.
 5. When this form is computer-generated, send the completed original to the laboratory, and make copies for the originator and sampler.

Distribution (See note #5)
 White: Laboratory
 Canary: Originator
 Pink: Sampler



1999-11-0041

RUSH

48863

02-1174 (Rev 2/95)
Environmental Affairs

Chain of Custody Record

From: Pacific Gas & Electric Company PG&E Facility Sample Site
 Address or Location: 3400 Crow Canyon Rd.
 City: San Ramon CA, CA (Zip) 94583
 Contact Name/Phone No.:

Ship To: Lab Name: Chromelab Inc.
 Address: Quarry Ln
 City: Pleasanton, CA (Zip)
 Phone No. 484-1917
 Contact Name: Sample Control

Turnaround Time: NOV 5th 2:00 PM
 NORMAL (10 days or less) RUSH 72 hr OTHER, Specify _____
 Due Date & Time
 TELEPHONE FAX Give Results to: Bryan Nicholson 866-5621
 Name P/FAX

Project Name: Section E Piedmont
 Project Supervisor (Name/Phone No.):
 Sampled by: (Signature) [Signature] (Print Name) Bryan Nicholson

Sample No/ Equipment Serial No.	Sampled		Sample Type/Description	Containers		Analysis Requested						Remarks	
	Date	Time		No.	Size								
1. SESP-1	10/19		Soil	1		X	X						
2. SESP-2				1									
3. SESP-3				1									
4. SESP-4				1									
5. SESP-5				1									
6. SESP-6				1									
7. SESP-7				1									
8. SESP-8				1									
9. SESP-9				1									
10.				1									
11.				1									
12.				1									

Relinquished by (Name&Dept.): [Signature] Date&Time: 11/2/99
 Received by (Name&Dept.): [Signature] Date&Time: 11/02/99 13:35
 Ship Via: _____
 Bill of Lading/Airbill No.: _____
 SAP Accounting Data: _____ Billing Contact: _____ Billing Address: _____

- Notes:
1. Samples are discarded by the laboratory 90 days after results are reported unless other arrangements are made.
 2. File a copy of this Chain of Custody Record, complete with appropriate laboratory signatures, with the test analysis results.
 3. The first "Relinquished by/Date" is the shipping date unless otherwise noted.
 4. The final PCB results will be the cumulative results added together for each PCB.
 5. When this form is computer-generated, send the completed original to the laboratory, and make copies for the originator and sampler.

Distribution (See note #5)
 White: Laboratory
 Canary: Originator
 Pink: Sampler

#813 H0011712

Allwaste Philip Services Corporation		(800) 321 1030 or Fax (408) 683-0485 P.O. Box 150, San Martin, CA 95048		Number of Containers	Type of Containers	CHAIN-OF-CUSTODY RECORD										Condition of Samples	Preservative																		
Project Number	Project Name					Type of Analysis																													
	Piedmont Sub Station			Type of Analysis: <table border="1"> <tr> <td>Asbestos</td><td>Lead</td><td>Mercury</td><td>PCB's</td><td>PCP's</td><td>PHAL'S</td><td>PHENOL'S</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td><td>PHOSPHORUS</td> </tr> </table>										Asbestos	Lead	Mercury	PCB's	PCP's	PHAL'S	PHENOL'S	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	Condition of Samples	Preservative
Asbestos	Lead	Mercury	PCB's	PCP's	PHAL'S	PHENOL'S	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS	PHOSPHORUS																
Send Report Attention of:	Date	Time	Comp	Matrix	Station Location	1	2	3	4	5	6	7	8	9	10	11	12	13	14																
PSS-1	1/14/00	11:37		Wt	#1 Location Exciter Room														X	N															
PSS-2		11:46		Wt	sink														X	N															
PSS-3		11:49		Wt	sink														X	N															
PSS-8		11:54		Wt	Filtration Room														X	N															
PSS-9A		11:57		Wt	Motor Room														X	N															
PSS-9B		12:03		Wt	Motor Room														X	N															
PSS-10		12:07		Wt	Transformer Area														X	N															
PSS-6		12:15		Wt	Door - Outside upper balcony														X	N															
PSS-7		12:17		Wt	Floor - upper balcony														X	N															
PSS-74		12:22		Wt	Fan Housing 2nd deck														X	N															
PSS-Floor		1:03		Chip	Motor room Floor														X	N															
PSS-Wall		1:10		Chip	Motor room Wall														X	N															

by: ATR SAN MARTIN CA
 Date: 1/20/00 17:41
 408 683 0485
 01/20/00 17:41
 2000072581 - 7
 PHILIP SERVICES
 Page 2
 2000072581 P.02
 01/25/00 11:31AM; JEFF #86; Page 3/3

Analyzed by: (Signature) Date/Time: 1/14/00 11:37
 Collected by: (Signature) Date/Time: 1/14/00 11:37
 Released by: (Signature) Date/Time: 1/14/00 11:37

Instructions: Report concentration per 100 cm³
 Turn around time:
 N = Nil
 M = MCL
 C = Other
 Container type: V = 20 ml glass vial, SL = 1 liter glass bottle
 W = 500 ml plastic bottle, T = metal tube (1" - 2" diam), SS = stainless steel, P = plastic, G = glass jar
 Preservative: N = Nil, M = MCL, C = C, D = D, A = A, W = W



Laboratory Test Report

Technical and Ecological Services
 3400 Crow Canyon Road
 San Ramon, CA 94583
 TES 24-Hr. Service Line: 8-251-3197 or (925) 866-3197

SUBJECT: PIEDMONT SUBSTATION E PAINT CHIP SAMPLES FOR LEAD CONTENT

Ms. Linda Marshall submitted on January 14, 2000 four paint samples for testing. The samples consisted of paint chips which were collected on January 14, 2000, from various locations at Piedmont Substation E. We were asked to determine the total lead content in each paint sample.

The paint chips were ground using a shaker mill until visually uniform then analyzed for total lead using energy dispersive x-ray fluorescence spectrometry (XRF). Two of the paint samples were split into two portions and analyzed in order to estimate preparation variability. Several paint standards were analyzed along with the samples in order to measure analyte recovery. The sample identification, measured lead content reported as milligrams per kilogram (mg/kg), and quality control data are summarized below.

Piedmont Substation E Paint Chip Total Lead Content (reported as mg/kg)

Sample Identification	Total Lead
PS-1, Ext. Wall of Bldg. In Courtyard	2,600
PS-2, Ext. Wall near Grass	2,120
PS-3, Front of Building	3,080
PS-4, Front of Building bet. Small & Large Doors	242
Quality Control Data	
Sample PS-1 and PS-1 Duplicate	RPD ¹ 14.7%
Sample PS-2 and PS-2 Duplicate	4.1%
Recovery	
NIST SRM 2582 certified at 208.8 ± 4.9 mg/kg.	90.8%
In House Standard, nominal concentration 2,180 mg/kg	93.4%
In House Standard, nominal concentration 5,200 mg/kg	104%

¹ RPD is the relative percent difference. The RPD is calculated by dividing the difference between the sample and duplicate results by the average of the two results.

Please contact Marek Waligora (251-5401) regarding the analytical method and results and field testing capabilities.

✓pc: Linda Marshall

Date: January 31, 2000

Tested by: Marek K. Waligora
 Marek K. Waligora

Approved by: JM Henderson
 J M. Henderson



Laboratory Test Report

Technical and Ecological Services
 3400 Crow Canyon Road
 San Ramon, CA 94583
 TES 24-Hr. Service Line: 8-251-3197 or (925) 866-3197

SUBJECT: PIEDMONT SUBSTATION E SOIL SAMPLES FOR LEAD CONTENT

Mr. Bryan Nicholson submitted four three-foot length, one-inch diameter core samples for testing. The samples were collected on November 23, 1999, from various locations at Piedmont Substation E. We were asked to subsample each core at 6" intervals and determine the total lead content in the soil.

Samples were collected from each core, dried, ground until visually uniform, then analyzed for total lead using energy dispersive x-ray fluorescence spectrometry (XRF). The results are listed below and are reported as milligrams per kilogram corrected to the as-received sample. The reported sample depths indicate the compacted soil level in the core since three of the four cores contained approximately two feet of soil.

Piedmont Substation E Soil Total Lead Content (reported as mg/kg)

Location	Total Lead
Courtyard North Side, Surface	550
Courtyard North Side, 6" depth	20
Courtyard North Side, 12" depth	5
Courtyard North Side, 18" depth	10
Courtyard North Side, 24" depth	13
Courtyard South Side, Surface	170
Courtyard South Side, 6" depth	8
Courtyard South Side, 12" depth	16
Courtyard South Side, 18" depth	11
Courtyard South Side, 24" depth	4
Courtyard Next to Wall, 5' from Door, Surface	920
Courtyard Next to Wall, 5' from Door, 6" depth	61
Courtyard Next to Wall, 5' from Door, 12" depth	10
Courtyard Next to Wall, 5' from Door, 18" depth	17
Courtyard Next to Wall, 5' from Door, 24" depth	28

Date:

December 21, 1999

Tested by:

Marek K. Waligofa
Marek K. Waligofa

Approved by:

Jim Henderson for RAM
Richard M. McCurdy

Piedmont Substation E, Soil Samples for Lead Content
Page 2

<u>Location (cont'd)</u>	<u>Total Lead (cont'd)</u>
North Side of Building, Surface	220
North Side of Building, 6" depth	420
North Side of Building, 12" depth	24
North Side of Building, 18" depth	33
North Side of Building, 24" depth	21
North Side of Building, 30" depth	46

Questions regarding the sampling activities should be directed to Bryan Nicholson (251-4377). Please contact Marek Waligora (251-5401) regarding the analytical method and results and field testing capabilities.

pc: Bryan C. Nicholson
Sandy Olson



Laboratory Test Report

Technical and Ecological Services
 3400 Crow Canyon Road
 San Ramon, CA 94583
 TES 24-Hr. Service Line: 8-251-3197 or (925) 866-3197

**SUBJECT: PIEDMONT SUBSTATION E
 PAINT CHIP SAMPLES FOR LEAD CONTENT**

Ms. Linda Marshall submitted on January 14, 2000 four paint samples for testing. The samples consisted of paint chips which were collected on January 14, 2000, from various locations at Piedmont Substation E. We were asked to determine the total lead content in each paint sample.

The paint chips were ground using a shaker mill until visually uniform then analyzed for total lead using energy dispersive x-ray fluorescence spectrometry (XRF). Two of the paint samples were split into two portions and analyzed in order to estimate preparation variability. Several paint standards were analyzed along with the samples in order to measure analyte recovery. The sample identification, measured lead content reported as milligrams per kilogram (mg/kg), and quality control data are summarized below.

**Piedmont Substation E
 Paint Chip Total Lead Content
 (reported as mg/kg)**

<u>Sample Identification</u>	<u>Total Lead</u>
PS-1, Ext. Wall of Bldg. In Courtyard	2,600
PS-2, Ext. Wall near Grass	2,120
PS-3, Front of Building	3,080
PS-4, Front of Building bet. Small & Large Doors	242
<u>Quality Control Data</u>	<u>RPD¹</u>
Sample PS-1 and PS-1 Duplicate	14.7%
Sample PS-2 and PS-2 Duplicate	4.1%
	<u>Recovery</u>
NIST SRM 2582 certified at 208.8 ± 4.9 mg/kg.	90.8%
In House Standard, nominal concentration 2,180 mg/kg	93.4%
In House Standard, nominal concentration 5,200 mg/kg	104%

¹ RPD is the relative percent difference. The RPD is calculated by dividing the difference between the sample and duplicate results by the average of the two results.

Date: _____

Tested by: _____
 Marek K. Waligora

Approved by: _____
 J. M. Henderson

Piedmont Substation E, Paint Chip Samples for Lead Content
Page 2

Please contact Marek Waligora (251-5401) regarding the analytical method and results and field testing capabilities.

pc: Linda Marshall



Laboratory Test Report

Technical and Ecological Services
 3400 Crow Canyon Road
 San Ramon, CA 94583
 TES 24-Hr. Service Line: 8-251-3197 or (925) 866-3197

SUBJECT:

ASBESTOS ANALYSIS
 ENVIRONMENTAL AFFAIRS
 PIEDMONT SUBSTATION
 TES LAB FILE NO. 99-10-029(1-5)

Sample Date: 10/19/99
 Receipt date: 10/19/99
 Analysis date: 10/20/99

No asbestos was found in any sample.

Identification:	Composition	Volume %
PS-1 floor tile station bank 12KV No.2 Bus	cellulose fibrous glass non-fibrous	5 1 94
PS-2 Motor Generator Room	cellulose	>99
PS-3 SW wall	cellulose polyester paint chips/mortar nonfibrous	1 <1 99
PS-4 upstairs rear wall NE side	mortar nonfibrous	>99
PS-5 roof penthouse	mortar nonfibrous	>99

PS-1 was a brown floor tile with coarse fibers.

PS-2 was a brown tile composed of very coarse compressed wood fiber.

PS-3 was beige paint chips and mortar with few fibers.

Date: 11/10/99

Tested by: Lawrence Wong
 Lansing/W. Wong

Approved by: J.M. Henderson
 J.M. Henderson

PS-4 was a beige powder.

PS-5 was two layered light/dark gray mortar with a harvest gold paint coat on the dark gray face.

Asbestos would have been reported had it appeared at or above the detection limit of one percent.

Analysis was performed according to 40CFR, Part 763, Subpart F, Appendix A, "Interim Method of the Determination of Asbestos in Bulk Insulation Samples".

This analysis is only representative of the sample received for analysis.

A copy of your chain-of-custody form is attached

pc: Linda Marshall
Bryan C. Nicholson
Sandra E. Olson



Laboratory Test Report

Technical and Ecological Services
 3400 Crow Canyon Road
 San Ramon, CA 94583
 TES 24-Hr. Service Line: 8-251-3197 or (925) 866-3197

SUBJECT:

PCB ANALYSIS WIPES AND OILS
 ENVIRONMENTAL AFFAIRS
 PIEDMONT SUBSTATION
 TES LAB FILE NO. 99-10-031(1-92), 99-10-032(1-2)

Sample date: 10/19/99

Receipt date: 10/20/99

Sample Identification: Piedmont Sub

Ninety-two wipes numbered PS1 through PS92 and two oil samples numbered OSPS-1 through OSPS-2 were received. Unless listed below, Aroclor concentration was less than the detection limit.

PS-26	1.2 $\mu\text{g}/100\text{cm}^2$
PS-71	4.4 $\mu\text{g}/100\text{cm}^2$ ✓
PS-74	15.0 $\mu\text{g}/100\text{cm}^2$ ✓
PS-87	4.4 $\mu\text{g}/100\text{cm}^2$
PS-91	4.4 $\mu\text{g}/100\text{cm}^2$

No PCB was found in the oil samples.

Aroclors 1016 through 1268 would have been reported had they appeared at or above the detection limit of 1 $\mu\text{g}/100\text{cm}^2$ for the wipe samples and 1 ppm for the oil samples. Analysis was performed according to EPA Method 8082.

Date: 11/10/99

Tested by: L. Wong, J. Rubin, G. Usechak, S. Williams

Approved by: J.M. Henderson
 J.M. Henderson

TEPH w/ Silica Gel Clean-up

P.G.& E TES

✉ 3400 Crow Canyon Road
San Ramon, CA 94583-1393

Attn: Linda Marshall

Phone: (925) 866-5883 Fax: (925) 866-5681

Project #:

Project: PIEDMONT SUB

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
SESP-1A	Soil	03/02/2000	1
SESP-2A	Soil	03/02/2000	2
SESP-3A	Soil	03/02/2000	3
SESP-4A	Soil	03/02/2000	4
SESP-5A	Soil	03/02/2000	5
SESP-6A	Soil	03/02/2000	6
SESP-7A	Soil	03/02/2000	7
SESP-8A	Soil	03/02/2000	8

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: **P.G.& E TES**
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-1A	Lab Sample ID: 2000-03-0056-001
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	4.2	1.0	mg/Kg	1.00	03/08/2000 23:44	ndp
Motor Oil	ND	50	mg/Kg	1.00	03/08/2000 23:44	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/08/2000 23:44	
Surrogate(s) o-Terphenyl	130.0	60-130	%	1.00	03/08/2000 23:44	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-2A	Lab Sample ID: 2000-03-0056-002
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	3.9	1.0	mg/Kg	1.00	03/09/2000 00:28	ndp
Motor Oil	ND	50	mg/Kg	1.00	03/09/2000 00:28	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 00:28	
Surrogate(s) o-Terphenyl	130.0	60-130	%	1.00	03/09/2000 00:28	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: **P.G.& E TES**
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-3A	Lab Sample ID: 2000-03-0056-003
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	5.1	1.0	mg/Kg	1.00	03/09/2000 01:11	ndp
Motor Oil	55	50	mg/Kg	1.00	03/09/2000 01:11	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 01:11	
Surrogate(s) o-Terphenyl	122.3	60-130	%	1.00	03/09/2000 01:11	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: **P.G.& E TES**
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-4A	Lab Sample ID: 2000-03-0056-004
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	6.3	1.0	mg/Kg	1.00	03/09/2000 01:54	ndp
Motor Oil	ND	50	mg/Kg	1.00	03/09/2000 01:54	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 01:54	
Surrogate(s) o-Terphenyl	127.7	60-130	%	1.00	03/09/2000 01:54	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-5A	Lab Sample ID: 2000-03-0056-005
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	69	1.0	mg/Kg	1.00	03/09/2000 02:37	ndp
Motor Oil	140	50	mg/Kg	1.00	03/09/2000 02:37	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 02:37	
Surrogate(s) o-Terphenyl	130.0	60-130	%	1.00	03/09/2000 02:37	

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CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-6A	Lab Sample ID: 2000-03-0056-006
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	7.9	1.0	mg/Kg	1.00	03/09/2000 03:20	ldr
Motor Oil	ND	50	mg/Kg	1.00	03/09/2000 03:20	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 03:20	
Surrogate(s) o-Terphenyl	121.4	60-130	%	1.00	03/09/2000 03:20	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G. & E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-7A	Lab Sample ID: 2000-03-0056-007
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	1.9	1.0	mg/Kg	1.00	03/09/2000 04:02	ndp
Motor Oil	ND	50	mg/Kg	1.00	03/09/2000 04:02	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 04:02	
Surrogate(s) o-Terphenyl	115.6	60-130	%	1.00	03/09/2000 04:02	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-8A	Lab Sample ID: 2000-03-0056-008
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	6.8	1.0	mg/Kg	1.00	03/09/2000 04:46	ldr
Motor Oil	67	50	mg/Kg	1.00	03/09/2000 04:46	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 04:46	
Surrogate(s) o-Terphenyl	95.4	60-130	%	1.00	03/09/2000 04:46	

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G. & E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

Batch QC Report TEPH w/ Silica Gel Clean-up

Method Blank	Soil	QC Batch # 2000/03/07-03.10
MB: 2000/03/07-03.10-001		Date Extracted: 03/07/2000 11:04

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Diesel	ND	1	mg/Kg	03/08/2000 11:43	
Motor Oil	ND	50	mg/Kg	03/08/2000 11:43	
Mineral Oil	ND	1	mg/Kg	03/08/2000 11:43	
Surrogate(s) o-Terphenyl	86.5	60-130	%	03/08/2000 11:43	

CHROMALAB, INC.

Submission #: 2000-03-0056

Environmental Services (SDB)

To: **P.G.& E TES**
 Attn: Linda Marshall

Test Method: 8015M
 Prep Method: 3550/8015M

Batch QC Report

TEPH w/ Silica Gel Clean-up

Laboratory Control Spike (LCS/LCSD)		Soil		QC Batch # 2000/03/07-03.10	
LCS:	2000/03/07-03.10-002	Extracted:	03/08/2000 11:04	Analyzed:	03/08/2000 12:22
LCSD:	2000/03/07-03.10-003	Extracted:	03/07/2000 11:04	Analyzed:	03/08/2000 13:02

Compound	Conc. [mg/Kg]		Exp. Conc. [mg/Kg]		Recovery [%] RPD			Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%] RPD	Recovery	RPD	LCS	LCSD
Diesel	38.7	41.1	41.7	41.7	92.8	98.6	5.1	60-130	25		
Surrogate(s)											
o-Terphenyl	19.9	20.0	20.0	20.0	99.5	100.0		60-130			

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

To: P.G.& E TES
Attn:Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

Legend & Notes

TEPH w/ Silica Gel Clean-up

Analyte Flags

ldr

Hydrocarbon reported is in the late Diesel range, and does not match our Diesel standard

ndp

Hydrocarbon reported does not match the pattern of our Diesel standard

Chain of Custody Record

From: Pacific Gas & Electric Company PG&E Facility Sample Site
 Address or Location: 3400 Blvd Canyon Rd
 City: San Ramon, CA (Zip)
 Contact Name/Phone No.: Linda Marshall 866-5883

Ship To: Lab Name: CHORVILAB
 Address: 1220 QUAMBY LANE
 City: Pleasanton, CA (Zip) 94566
 Phone No. (925) 484-1919
 Contact Name: GARY COOK

Turnaround Time NORMAL (10 days or less) RUSH OTHER, Specify 5-day
 Give Results to: Linda Marshall 866-5883
Due Date & Time Name P/FAX

Project Name: Plantmont Sub Project Supervisor (Name/Phone No.): Linda Marshall 866-5883
 Sampled by: (Signature) Linda Marshall (Print Name) Linda Marshall

Sample No./ Equipment Serial No.	Sampled		Sample Type/Description	Containers		Analysis Requested	Remarks
	Date	Time		No.	Size		
1. SESP-1A			SOIL SURFACE			X	Silica-Gel Clean-up
2. SESP-2A						X	
3. SESP-3A						X	
4. SESP-4A						X	
5. SESP-5A						X	
6. SESP-6A						X	
7. SESP-7A						X	
8. SESP-8A						X	
9.							
10.							
11.							
12.							

Relinquished by (Name&Dept.):	Date&Time:	Received by (Name&Dept.):	Date&Time:	Ship Via:
Relinquished by (Name&Dept.):	Date&Time:	Received by (Name&Dept.):	Date&Time:	Bill of Lading/Airbill No.:
Relinquished by (Name&Dept.):	Date&Time:	Received by (Name&Dept.):	Date&Time:	
SAP Accounting Data:	Billing Contact:	Billing Address:		

- Notes:
1. Samples are discarded by the laboratory 90 days after results are reported unless other arrangements are made.
 2. File a copy of this Chain of Custody Record, complete with appropriate laboratory signatures, with the test analysis results.
 3. The first "Relinquished by/Date" is the shipping date unless otherwise noted.
 4. The final PCB results will be the cumulative results added together for each PCB.
 5. When this form is computer-generated, send the completed original to the laboratory, and make copies for the originator and sampler.

Distribution (See note #5)
 White: Laboratory
 Canary: Originator
 Pink: Sampler

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

TEPH w/ Silica Gel Clean-up

P.G. & E TES

☒ 3400 Crow Canyon Road
San Ramon, CA 94583-1393

Attn: Linda Marshall

Phone: (925) 866-5883 Fax: (925) 866-5681

Project #:

Project: PIEDMONT SUB

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
SESP-1A	Soil	03/02/2000	1
SESP-2A	Soil	03/02/2000	2
SESP-3A	Soil	03/02/2000	3
SESP-4A	Soil	03/02/2000	4
SESP-5A	Soil	03/02/2000	5
SESP-6A	Soil	03/02/2000	6
SESP-7A	Soil	03/02/2000	7
SESP-8A	Soil	03/02/2000	8

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES

Attn.: Linda Marshall

Test Method: 8015M

Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-1A	Lab Sample ID: 2000-03-0056-001
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	4.2	1.0	mg/Kg	1.00	03/08/2000 23:44	ndp
Motor Oil	ND	50	mg/Kg	1.00	03/08/2000 23:44	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/08/2000 23:44	
Surrogate(s) o-Terphenyl	130.0	60-130	%	1.00	03/08/2000 23:44	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G. & E TES

Test Method: 8015M

Attn.: Linda Marshall

Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-2A	Lab Sample ID: 2000-03-0056-002
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	3.9	1.0	mg/Kg	1.00	03/09/2000 00:28	ndp
Motor Oil	ND	50	mg/Kg	1.00	03/09/2000 00:28	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 00:28	
Surrogate(s) o-Terphenyl	130.0	60-130	%	1.00	03/09/2000 00:28	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES

Test Method: 8015M

Attn.: Linda Marshall

Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-3A	Lab Sample ID: 2000-03-0056-003
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	5.1	1.0	mg/Kg	1.00	03/09/2000 01:11	ndp
Motor Oil	55	50	mg/Kg	1.00	03/09/2000 01:11	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 01:11	
Surrogate(s) o-Terphenyl	122.3	60-130	%	1.00	03/09/2000 01:11	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES

Test Method: 8015M

Attn.: Linda Marshall

Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-4A	Lab Sample ID: 2000-03-0056-004
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	6.3	1.0	mg/Kg	1.00	03/09/2000 01:54	ndp
Motor Oil	ND	50	mg/Kg	1.00	03/09/2000 01:54	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 01:54	
Surrogate(s) o-Terphenyl	127.7	60-130	%	1.00	03/09/2000 01:54	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-5A	Lab Sample ID: 2000-03-0056-005
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	69	1.0	mg/Kg	1.00	03/09/2000 02:37	ndp
Motor Oil	140	50	mg/Kg	1.00	03/09/2000 02:37	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 02:37	
Surrogate(s) o-Terphenyl	130.0	60-130	%	1.00	03/09/2000 02:37	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G. & E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-6A	Lab Sample ID: 2000-03-0056-006
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	7.9	1.0	mg/Kg	1.00	03/09/2000 03:20	ldr
Motor Oil	ND	50	mg/Kg	1.00	03/09/2000 03:20	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 03:20	
Surrogate(s) o-Terphenyl	121.4	60-130	%	1.00	03/09/2000 03:20	

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-7A	Lab Sample ID: 2000-03-0056-007
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	1.9	1.0	mg/Kg	1.00	03/09/2000 04:02	ndp
Motor Oil	ND	50	mg/Kg	1.00	03/09/2000 04:02	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 04:02	
Surrogate(s) o-Terphenyl	115.6	60-130	%	1.00	03/09/2000 04:02	

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CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G. & E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

TEPH w/ Silica Gel Clean-up

Sample ID: SESP-8A	Lab Sample ID: 2000-03-0056-008
Project: PIEDMONT SUB	Received: 03/02/2000 16:11
Sampled: 03/02/2000	Extracted: 03/07/2000 09:30
Matrix: Soil	QC-Batch: 2000/03/07-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	6.8	1.0	mg/Kg	1.00	03/09/2000 04:46	ldr
Motor Oil	67	50	mg/Kg	1.00	03/09/2000 04:46	
Mineral Oil	ND	1.0	mg/Kg	1.00	03/09/2000 04:46	
Surrogate(s) o-Terphenyl	95.4	60-130	%	1.00	03/09/2000 04:46	

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CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G. & E TES
Attn.: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

Batch QC Report
TEPH w/ Silica Gel Clean-up

Method Blank	Soil	QC Batch # 2000/03/07-03.10
MB: 2000/03/07-03.10-001		Date Extracted: 03/07/2000 11:04

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Diesel	ND	1	mg/Kg	03/08/2000 11:43	
Motor Oil	ND	50	mg/Kg	03/08/2000 11:43	
Mineral Oil	ND	1	mg/Kg	03/08/2000 11:43	
Surrogate(s) o-Terphenyl	86.5	60-130	%	03/08/2000 11:43	

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CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

To: P.G.& E TES
Attn: Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

Batch QC Report

TEPH w/ Silica Gel Clean-up

Laboratory Control Spike (LCS/LCSD)	Soil	QC Batch # 2000/03/07-03.10
LCS: 2000/03/07-03.10-002	Extracted: 03/08/2000 11:04	Analyzed 03/08/2000 12:22
LCSD: 2000/03/07-03.10-003	Extracted: 03/07/2000 11:04	Analyzed 03/08/2000 13:02

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Diesel	38.7	41.1	41.7	41.7	92.8	98.6	6.1	60-130	25		
Surrogate(s) o-Terphenyl	19.9	20.0	20.0	20.0	99.5	100.0		60-130			

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To: P.G.& E TES
Attn:Linda Marshall

Test Method: 8015M
Prep Method: 3550/8015M

Legend & Notes

TEPH w/ Silica Gel Clean-up

Analyte Flags

ldr

Hydrocarbon reported is in the late Diesel range, and does not match our Diesel standard

ndp

Hydrocarbon reported does not match the pattern of our Diesel standard

2000-03-0056

50772

Chain of Custody Record

From: Pacific Gas & Electric Company PG&E Facility Sample Site
 Address or Location: 3400 Crow Canyon Rd
 City: San Ramon, CA (Zip)
 Contact Name/Phone No.: Linda Marshall 866-5883

Ship To: Lab Name: Chromalab
 Address: 220 Quamy Lane
 City: Pleasanton, CA (Zip) 94566
 Phone No. (925) 484-1919
 Contact Name: Gary Cook

Turnaround Time
 NORMAL (10 days or less) RUSH OTHER, Specify 5-day
 Give Results to: Linda Marshall 866-5883
 Name: Linda Marshall PH/FAX

Project Name: Piedmont Sub Project Supervisor (Name/Phone No.): Linda Marshall 866-5883
 Sampled by: (Signature) Linda Marshall (Print Name) Linda Marshall

Sample No./ Equipment Serial No.	Sampled		Sample Type/Description	Containers		Analysis Requested	Remarks
	Date	Time		No.	Size		
1. SESP-1A	3/2/00		SOIL SURFACE			X	Silica-Gel Clean-up 3.8
2. SESP-2A						X	
3. SESP-3A						X	
4. SESP-4A						X	
5. SESP-5A						X	
6. SESP-6A						X	
7. SESP-7A						X	
8. SESP-8A						X	
9.							
10.							
11.							
12.							

Relinquished by (Name&Dept.): Linda Marshall	Date&Time: 3/2/00 3:00pm	Received by (Name&Dept.): [Signature]	Date&Time: 3-2-00 1:30	Ship Via:
Relinquished by (Name&Dept.): [Signature]	Date&Time: 3/2/00 1611	Received by (Name&Dept.): Newsett Harrington	Date&Time: 3/2/00 @	Bill of Lading/Airbill No.:
Relinquished by (Name&Dept.): [Signature]	Date&Time:	Received by (Name&Dept.):	Date&Time: 1611	

SAP Accounting Data: Billing Contact: Billing Address:

- Notes:
1. Samples are discarded by the laboratory 90 days after results are reported unless other arrangements are made.
 2. File a copy of this Chain of Custody Record, complete with appropriate laboratory signatures, with the test analysis results.
 3. The first "Relinquished by/Date" is the shipping date unless otherwise noted.
 4. The final PCB results will be the cumulative results added together for each PCB.
 5. When this form is computer-generated, send the completed original to the laboratory, and make copies for the originator and sampler.

Distribution (See note #5)
 White: Laboratory
 Canary: Originator
 Pink: Sampler
 OPG&E November, 1998

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 2000-03-0056

Date: March 9, 2000

P.G. & E TES

3400 Crow Canyon Road
San Ramon, CA 94583-1393

Attn.: Linda Marshall

Project: PIEDMONT SUB

Attached is our report for your samples received on Thursday March 2, 2000
This report has been reviewed and approved for release. Reproduction of this report
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after April 1, 2000
unless you have requested otherwise. We appreciate the opportunity to be of service to you.
If you have any questions, please call me at (925) 484-1919. You can also contact me via email.
My email address is: gcook@chromalab.com

Sincerely,



Gary Cook

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

Project Manager: Gary Cook

COPY

Invoice#: 2000-03-0056

Invoice Date: March 16, 2000

INVOICE

Samples Received From		Report Results To	
P.G.& E TES Contact: Linda Marshall 3400 Crow Canyon Road San Ramon, CA 94583-1393		P.G.& E TES Contact: Linda Marshall 3400 Crow Canyon Road San Ramon, CA 94583-1393	
Bill To		PGE-WAT	
P.G.& E. Water Quality Group Attn: Contract Invoice Desk 3400 Crow Canyon Rd. San Ramon, CA 94583-1393		Received:	March 02, 2000 04:11 PM
Project: PIEDMONT SUB			

Qty	Matrix	Analysis	TAT	Unit Price	Total
8	Soil	TEPH w/ Silica Gel Clean-up	5 Day	\$75.00	\$600.00
					\$600.00

Terms and conditions:
Net30

Please Send Payment to: ChromaLab, Inc.
1220 Quarry Lane
Pleasanton, CA 94566-4756
Phone: (925) 484-1919 Fax: (925) 484-1096

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096
Federal ID# 68-0140157